2014-2015
National Survey on Drug Use and Health: Guide to State Tables and Summary of Small Area Estimation Methodology

Section A: Overview of NSDUH and Model-Based State Estimates

A.1 Introduction

This document provides information on the model-based small area estimates of substance use and mental disorders in states based on data from the combined 2014-2015 National Surveys on Drug Use and Health (NSDUHs). These estimates are available online along with other related information.[1] NSDUH is an annual survey conducted from January through December of the civilian, noninstitutionalized population aged 12 or older and is sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA). The survey collects information from individuals residing in households, noninstitutionalized group quarters (e.g., shelters, rooming houses, dormitories), and civilians living on military bases. In 2014-2015, NSDUH collected data from 135,974 respondents aged 12 or older and was designed to obtain representative samples from the 50 states and the District of Columbia. NSDUH is planned and managed by SAMHSA's Center for Behavioral Health Statistics and Quality (CBHSQ). Data collection and analysis are conducted under contract with RTI International.[2] A summary of NSDUH's methodology is given in Section A.2. Section A.3 lists all of the tables and files associated with the 2014-2015 state small area estimates and when and where they can be found. Information is given in Section A.4 on the confidence intervals and margins of error and how to make interpretations with respect to the small area estimates. Section A.5 discusses related substance use measures and warns users about not drawing conclusions by subtracting small area estimates from two different measures. Section A.6 discusses NSDUH questionnaire changes from 2015 and how these changes affect the 2014-2015 small area estimates.

The survey-weighted hierarchical Bayes (SWHB) estimation methodology used in the production of state estimates from the 1999 to 2014 surveys also was used in the production of the 2014-2015 state estimates. The SWHB methodology is described in Appendix E of the 2001 state report (Wright, 2003b) and in Folsom, Shah, and Vaish (1999). The goals and implementation of small area estimation (SAE) modeling remain the same and are described in Appendix E of the 2001 state report (Wright, 2003b). A general model description is given in Section B.1 of this document. A list of measures for which small area estimates are produced is given in Section B.2. Predictors used in the 2014-2015 SAE modeling are listed and described in Section B.3.

Small area estimates obtained using the SWHB methodology are design consistent (i.e., the small area estimates for states with large sample sizes are close to the robust design-based estimates). The state small area estimates when aggregated using the appropriate population totals result in national small area estimates that are very close to the national design-based

[1] See http://www.samhsa.gov/data/.

[2] RTI International is a registered trademark and a trade name of Research Triangle Institute, Research Triangle Park, North Carolina.

estimates. However, to ensure internal consistency, it is desirable to have national small area estimates[3] exactly match the national design-based estimates. The benchmarked state-level estimates are also potentially less biased than the unbenchmarked state-level estimates. Beginning in 2002, exact benchmarking was introduced, as described in Section B.4.[4] Tables of the estimated numbers of individuals associated with each measure are available online,[5] and an explanation of how these counts and their respective Bayesian confidence intervals[6] are calculated can be found in Section B.5. Section B.6 discusses the method to compute aggregate estimates by combining two age groups. Section B.7 discusses the method to compare the estimates of a particular measure between two states. For all measures except major depressive episode (MDE, i.e., depression), serious mental illness (SMI), any mental illness (AMI), and past year serious thoughts of suicide, the age groups for which estimates are provided are 12 to 17, 18 to 25, 26 or older, 18 or older, and 12 or older.[7] Estimates of underage (aged 12 to 20) alcohol use were also produced. Alcohol consumption is expected to differ significantly across the 18 to 25 age group because of the legalization of alcohol at age 21. Therefore, it was decided that it would be useful to produce small area estimates for individuals aged 12 to 20.

In Section C, the 2013, 2014, 2015, pooled 2013-2014, and pooled 2014-2015 survey sample sizes, population estimates, and response rates are included in Tables C.1 to C.14, respectively. Table C.15 lists all of the measures and the years for which small area estimates were produced going back to the 2002 NSDUH, and Table C.16 lists all of the measures by age groups for which small area estimates were produced. In addition, Table C.17 provides a summary of milestones implemented in the SAE production process from 2002 to 2015.

A.2 Summary of NSDUH Methodology

This section provides a brief overview of the NSDUH methodology, specifically the sample design. For additional details on NSDUH's methodology, see Section A.2 of the 2011-2012 state SAE methodology document.[8]

The 1999 through 2001 National Household Surveys on Drug Abuse (NHSDAs)[9] and the 2002 through 2013 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,

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[3] *National small area estimates = Population-weighted averages of state-level small area estimates*.

[4] The census region-level estimates in the tables are population-weighted aggregates of the state estimates. The national estimates, however, are benchmarked to exactly match the design-based estimates.

[5] At http://www.samhsa.gov/data/, see Tables 1 to 15 in "2014-2015 NSDUHs: Model-Based Estimated Totals (in Thousands) (50 States and the District of Columbia)."

[6] Note that in the 2004-2005 NSDUH state report (Wright, Sathe, & Spagnola, 2007) and prior reports, the term "prediction interval" (PI) was used to represent uncertainty in the state and regional estimates. However, that term also is used in other applications to estimate future values of a parameter of interest. That interpretation does not apply to NSDUH state report estimates; thus, "prediction interval" was dropped and replaced with "Bayesian confidence interval."

[7] For MDE, estimates for individuals 12 or older are not included. For AMI, SMI, and thoughts of suicide, estimates for youths aged 12 to17 and individuals aged 12 or older are not included.

[8] At http://www.samhsa.gov/data/, see "2011-2012 National Surveys on Drug Use and Health: Guide to State Tables and Summary of Small Area Estimation Methodology."

[9] In 2002, the survey's name changed from the National Household Survey on Drug Abuse (NHSDA) to the National Survey on Drug Use and Health (NSDUH).

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. For the remaining 42 states and the District of Columbia, the target sample size was 900 per year. This approach ensured that there was sufficient sample in every state to support 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.

A coordinated design was developed for the 2014 through 2017 NSDUHs. Similar to the 1999 through 2013 surveys, the coordinated 4-year design is state-based with an independent, multistage area probability sample within each state and the District of Columbia. This design designates 12 states as large sample states. These 12 states have the following target sample sizes per year: 4,560 interviews in California; 3,300 interviews in Florida, New York, and Texas; 2,400 interviews in Illinois, Michigan, Ohio, and Pennsylvania; and 1,500 interviews in Georgia, New Jersey, North Carolina, and Virginia. Making the sample sizes more proportional to the state population sizes improves the precision of national NSDUH estimates. This change also allows for a more cost-efficient sample allocation to the largest states while slightly increasing the sample sizes in smaller states to improve the precision of state estimates (note that the target sample size per year in the small states is 960 interviews with the exception of Hawaii where the target sample size is 967 interviews). The fielded sample sizes for each state in 2015 are provided in Table C.5, and the combined 2014-2015 sample sizes are provided in Table C.9.

Starting in 2014, the allocation of the NSDUH sample is 25 percent for adolescents aged 12 to 17, 25 percent for adults aged 18 to 25, and 50 percent for adults aged 26 or older. The sample of adults aged 26 or older is further divided into three subgroups: aged 26 to 34 (15 percent), aged 35 to 49 (20 percent), and aged 50 or older (15 percent). For more information on the 2014 through the 2017 NSDUH sample design and for differences between the 2013 and 2014 surveys, refer to the 2014 NSDUH sample design report (CBHSQ, 2015b).

Nationally in 2014-2015, 259,815 addresses were screened, and 135,974 individuals responded within the screened addresses (see Table C.9). The screening response rate (SRR) for 2014-2015 combined averaged 80.8 percent, and the interview response rate (IRR) averaged 70.2 percent, for an overall response rate (ORR) of 56.8 percent (Table C.9). The ORRs for 2014-2015 ranged from 42.7 percent in New York to 72.8 percent in Utah. Estimates have been adjusted to reflect the probability of selection, unit nonresponse, poststratification to known census population estimates, item imputation, and other aspects of the estimation process. These procedures are described in detail in the 2013, 2014, and 2015 NSDUHs' methodological resource books (MRBs) (CBHSQ, 2014, 2015a, in press).

A.3 Presentation of Data

In addition to this methodology document for the 2014-2015 state SAE results, the following files are available at http://www.samhsa.gov/data/:

- **2014-2015 NSDUH: Model-Based Prevalence Estimates (50 States and the District of Columbia) (Tables 1 to 15, by Age Group)**: Tables of percentages and associated 95 percent Bayesian confidence intervals are included for youths aged 12 to 17, young adults

aged 18 to 25, adults aged 26 or older, adults 18 or older, and all individuals aged 12 or older. Also included are tables for underage (12 to 20) use of alcohol. These tables are available in Excel and PDF format. In order to increase the precision of small area estimates and rankings especially for small sample states and to detect year-to-year changes more efficiently, an SAE expert panel[10] recommended producing annual state estimates based on 2 consecutive years of pooled NSDUH data and to base comparisons of estimates (to measure change) on 2-year moving averages.

- **2014-2015 NSDUH National Maps of Prevalence Estimates, by State (Figures 1a to 15d)**: The color of each state on these 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 51 states were ranked for each measure, the middle quintile was assigned to 11 states, and the remaining quintiles were assigned 10 states each. In some cases, a "quintile" could have more or fewer states than desired because two (or more) states had the same estimate (to two decimal places). When such ties occurred at the "boundary" between two quintiles, all of the states with the same estimate were conservatively assigned to the lower quintile. Those states with the highest rates for a given measure are in red, and those states with the lowest estimates are in white.

  Note that because the average annual incidence of marijuana for the 26 or older age group and past year heroin use for youths aged 12 to 17 was so low and had such an abbreviated range, no U.S. map was included for them.

- **2014-2015 NSDUH State Estimates Categorized into Five Groups, by Age Group**: This Excel table shows the ranges of percentages for each outcome categorized into five groups (used to form the U.S. maps described above) from the lowest to highest estimate for youths aged 12 to 17, young adults aged 18 to 25, adults aged 26 or older, adults aged 18 or older, and all individuals aged 12 or older. Also included are ranges for underage (12 to 20) alcohol use.

- **2014-2015 NSDUHs: Model-Based Estimated Totals (in Thousands) (50 States and the District of Columbia) (Tables 1 to 15)**: Tables showing estimated numbers (counts in thousands) and confidence intervals are included for youths aged 12 to 17, young adults aged 18 to 25, adults aged 26 or older, adults aged 18 or older, and all individuals aged 12 or older. Also included are tables for underage (12 to 20) alcohol use. These tables are available in Excel and PDF format.

- **2014-2015 NSDUH State-Specific Tables (Tables 1 to 112)**: Tables are provided for each individual state and the District of Columbia, as well as for the total United States and the four census regions (i.e., Northeast, Midwest, South, and West). The tables (two per area) show the percentages and the numbers of individuals (counts in thousands).

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[10] The SAE expert panel, convened in April 2002, had six members: Dr. William Bell of the U.S. Bureau of the Census; Partha Lahiri, Professor of the Joint Program in Survey Methodology at the University of Maryland at College Park; Professor Balgobin Nandram of Worcester Polytechnic Institute; Wesley Schaible, formerly Associate Commissioner for Research and Evaluation at the Bureau of Labor Statistics; Professor J. N. K. Rao of Carleton University; and Professor Alan Zaslavsky of Harvard University.

- **NSDUH: Comparison of 2013-2014 and 2014-2015 Population Percentages (50 States and the District of Columbia) (Tables 1 to 15)**: Tables are presented that show the 2013-2014 (previously published data) and 2014-2015 NSDUH state estimates and an indication of the statistical significance of the difference or change (*p* value). Estimates are shown for youths aged 12 to 17, young adults aged 18 to 25, adults aged 26 or older, adults aged 18 or older, and all individuals aged 12 or older. Also included are tables for underage (12 to 20) alcohol use. Because annual state-level estimates are based on 2 years of pooled NSDUH data, two consecutive sets of estimates have a 1-year overlap (e.g., 2013-2014 and 2014-2015). If the population totals across the 3 years (e.g., 2013, 2014, and 2015) were the same, then the null hypothesis of no difference between the log odds of the 2013-2014 and 2014-2015 prevalence rates would be equivalent to testing the null hypothesis that the difference between the 2013-2014 and 2014-2015 prevalence rates is zero, which in turn would be equivalent to testing that the difference between the 2013 and 2015 prevalence rates is zero. The methodology used to compare these percentages is provided at the end of the tables.

- **NSDUH: Comparison of 2008-2009 and 2014-2015 Population Percentages (50 States and the District of Columbia) (Tables 1 to 14)**: Tables are presented that show the 2008-2009 and 2014-2015 NSDUH state estimates and an indication of the statistical significance of the difference or change (*p* value). Estimates are shown for youths aged 12 to 17, young adults aged 18 to 25, adults aged 26 or older, adults aged 18 or older, and all individuals aged 12 or older. Also included are tables for underage (12 to 20) alcohol use. This comparison is done between the most recent estimates (in this case, 2014-2015) and the earliest comparable estimates for all outcomes including mental health (based on 2008-2009 NSDUH data). Note that for earlier comparison tables, current small area estimates were compared with small area estimates from 2002-2003. However, because NSDUH estimates for AMI, SMI, and past year thoughts of suicide were not generated until 2008-2009, it was decided to establish 2008-2009 as the new baseline for comparisons with 2014-2015 data and beyond in order to include them in these tables. The methodology used to compare these percentages is provided at the end of the tables.

- **2014-2015 NSDUH: Other Sources of State-Level Data**: This document compares two outcomes (cigarette and alcohol use) from NSDUH with data from the Behavioral Risk Factor Surveillance System (BRFSS).

A.4 Confidence Intervals and Margins of Error

At the top of each of the 15 state model-based estimate tables[11] is the design-based national estimate along with a 95 percent design-based confidence interval, all of which are based on the survey design, the survey weights, and the reported data. The state estimates are model-based statistics (using SAE methodology) that have been adjusted (benchmarked) such that the population-weighted mean of the estimates across the 50 states and the District of Columbia equals the design-based national estimate. For more details on this benchmarking, see Section B.4. The region-level estimates are also benchmarked and are obtained by taking the

[11] At http://www.samhsa.gov/data/, see "2014-2015 NSDUH: Model-Based Prevalence Estimates (50 States and the District of Columbia)" (Tables 1 to 15, by Age Group).

population-weighted mean of the associated state-level benchmarked estimates. Associated with each state and regional estimate is a 95 percent Bayesian confidence interval. These intervals indicate the uncertainty in the estimate due to both sampling variability and model fit. For example, the state with the highest estimate of past month use of marijuana for young adults aged 18 to 25 was Vermont, with an estimate of 35.0 percent and a 95 percent confidence interval that ranged from 30.8 to 39.3 percent (see Table 2 of the state model-based estimates' tables). Assuming that sampling and modeling conditions held, the Bayes posterior probability was 0.95 that the true percentage of past month marijuana use in Vermont for young adults aged 18 to 25 in 2014-2015 was between 30.8 and 39.3 percent. As noted earlier in a Section A.1 footnote, the term "prediction interval" (PI) was used in the 2004-2005 NSDUH state report and prior reports to represent uncertainty in the state and regional estimates. However, that term also is used in other applications to estimate future values of a parameter of interest. That interpretation does not apply to NSDUH state model-based estimates, so PI was replaced with "Bayesian confidence interval."

Margin of error is another term used to describe uncertainty in the estimates. For example, if (l, u) is a 95 percent symmetric confidence interval for the population proportion (p) and $\hat{p}$ is an estimate of p obtained from the survey data, then the margin of error of $\hat{p}$ is given by $(u - \hat{p})$ or $(\hat{p} - l)$. Because (l, u) is a symmetric confidence interval, $(u - \hat{p})$ will be the same as $(\hat{p} - l)$. In this case, the probability is 0.95 that the interval $\pm (u - \hat{p})$ or $\pm (\hat{p} - l)$ will contain the true population value (p). The margin of error defined above will vary for each estimate and will be affected not only by the sample size (e.g., the larger the sample, the smaller the margin of error), but also by the sample design (e.g., telephone surveys using random digit dialing and surveys employing a stratified multistage cluster design will, more than likely, produce a different margin of error) (Scheuren, 2004).

The confidence intervals shown in NSDUH reports are asymmetric, meaning that the distance between the estimate and the lower confidence limit will not be the same as the distance between the upper confidence limit and the estimate. For example, Utah's past month marijuana use estimate is 11.1 percent for adults aged 18 to 25 years, with a 95 percent confidence interval equal to (8.9 – 13.7) (see Table 2 of the state model-based estimates' tables). Therefore, Utah's estimate is 2.2 (i.e., 11.1 – 8.9) percentage points from the lower 95 percent confidence limit and 2.6 (i.e., 13.7 – 11.1) percentage points from the upper limit. These asymmetric confidence intervals work well for small percentages often found in NSDUH tables and reports while still being appropriate for larger percentages. Some surveys or polls provide only one margin of error for all reported percentages. This single number is usually calculated by setting the sample percentage estimate $(\hat{p})$ equal to 50 percent, which will produce an upper bound or maximum margin of error. Such an approach would not be feasible in NSDUH because the estimates vary from less than 1 percent to over 75 percent; hence, applying a single margin of error to these estimates could significantly overstate or understate the actual precision levels. Therefore, given the differences mentioned above, it is more useful and informative to report the confidence interval for each estimate instead of a margin of error.

When it is indicated that a state has the highest or lowest estimate, it does not imply that the state's estimate is significantly higher or lower than the next highest or lowest state's estimate. Additionally, two significantly different state estimates (at the 5 percent level of

significance) may have overlapping 95 percent confidence intervals. For details on a more accurate test to compare state estimates, see Section B.6.

A.5 Related Substance Use Measures

Small area estimates are produced for a number of related drug measures, such as marijuana use and illicit drug use. It might appear that one could draw conclusions by subtracting one from the other (e.g., subtracting the percentage who used illicit drugs other than marijuana in the past month from the percentage who used illicit drugs in the past month to find the percentage who only used marijuana in the past month). Because related measures have been estimated with different models (i.e., separate models by age group and outcome), subtracting one measure from another related measure at the state or census region level can give misleading results, perhaps even a "negative" estimate, and should be avoided. However, these comparisons can be made at the national level because these estimates are design-based estimates. For example, at the national level, subtracting cigarette use estimates from tobacco use estimates will give the estimate of individuals who did not use cigarettes, but used other forms of tobacco, such as cigars, pipes, and smokeless tobacco.

A.6 2015 NSDUH Changes and Their Effects on Small Area Estimates

In 2015, a number of changes were made to the NSDUH questionnaire and data collection procedures. These changes were intended to improve the quality of the data that were collected and to address the changing needs of substance use and mental health policy and research.[12] This section briefly summarizes the effect of the redesign on the comparability between the 2015 NSDUH and earlier NSDUHs, specifically related to the SAE outcomes. For a more detailed discussion of the questionnaire redesign and its effect, see Section C of the 2015 NSDUH's methodological summary and definitions report (CBHSQ, 2016a) and a brief report summarizing the implications of the changes for data users (CBHSQ, 2016b).

In the alcohol section of the questionnaire, the threshold for defining binge alcohol use among females was revised from five or more drinks on an occasion to four or more drinks on an occasion to ensure consistency with federal definitions.[13] The threshold for males in 2015 remained at five or more drinks on an occasion. Consequently, a new baseline was established in 2015 for estimates of binge alcohol for the overall population. Thus, small area estimates for past month binge alcohol use using combined 2014 and 2015 data were not produced. Note that this change did not affect estimates for alcohol use or alcohol use disorder.

Several changes were made to the various illicit drug modules. Specifically, changes were made to the hallucinogen, inhalant, methamphetamine, and prescription psychotherapeutic modules. For details on these specific changes, see Section C.1 of the 2015 NSDUH

[12] The exact changes are documented in the 2015 NSDUH's Office of Management and Budget (OMB) clearance package and in a summary report (CBHSQ, 2015c). The summary report and the 2015 NSDUH questionnaire are available on the SAMHSA website at http://www.samhsa.gov/data/.

[13] The National Institute on Alcohol Abuse and Alcoholism (NIAAA, 2016) defines binge drinking as a pattern of drinking that brings blood alcohol concentration (BAC) levels to 0.08 grams per deciliter (g/dL). This typically occurs after four drinks for women and five drinks for men in about 2 hours.

methodological summary and definitions report (CBHSQ, 2016a). These changes resulted in the need to revise the baseline for the following SAE outcomes: illicit drug use in the past month, nonmedical use of pain relievers in the past year,[14] illicit drug use disorder, and needing but not receiving treatment for illicit drugs.

Additionally, changes to some of the drug modules might have affected the set of respondents in 2015 who were eligible to be asked questions about treatment for substance use. Hence, SAE outcomes on needing but not receiving treatment (for illicit drugs and alcohol) were potentially affected. Thus, substance use treatment estimates were not produced using combined 2014 and 2015 NSDUH data.

Finally, although questions on the perceptions of risk of harm from using different substances did not change in 2015, data quality checks on preliminary data and the full 2015 data showed deviations from the expected trends for these measures. A survey redesign carries the risk that preceding changes to the questionnaire will affect how respondents answer later questions (e.g., context effects). A context effect may be said to take place when the response to a question is affected by information that is not part of the question itself. For example, the content of a preceding question may affect the interpretation of a subsequent question. Or a respondent may answer a subsequent question in a manner that is consistent with responses to a preceding question if the two questions are closely related to each other. The set of questions preceding the risk and availability module in the 2015 questionnaire had undergone a number of significant changes that could have affected the way in which respondents answered the perceived risk and availability questions. Because of these deviations, the perception of risk estimates were not produced using combined 2014 and 2015 NSDUH data.

To summarize, several changes in the 2015 questionnaire had impacts on the comparability of the 2014 and 2015 NSDUH data. It was decided, therefore, that for those measures data across those 2 years could not be pooled, and estimates for those measures could not be produced using 2014 and 2015 NSDUH data. For a complete list of outcomes for which small area estimates are available using 2014-2015 NSDUH data, refer to Section B.2.

[14] Prior to 2015, NSDUH referred to "nonmedical" use of prescription drugs. See Section C of the 2015 NSDUH methodological summary and definitions report (CBHSQ, 2016a) for further discussion about the change in terminology from nonmedical use to misuse of prescription drugs in 2015. Specifically, the approach and definition for measuring the misuse of prescription drugs were revised to include questions about any use of prescription drugs in addition to questions about misuse (previously called "nonmedical use"). Also, the definition for misuse was revised to focus on specific behaviors that indicate misuse (i.e., use in any way a doctor did not direct respondents to use prescription drugs, including use without a prescription of one's own; use in greater amounts, more often, or longer than told to take a drug; and use in any other way not directed by a doctor). Moreover, questions pertaining to specific prescription drugs focused on the past 12 months instead of the lifetime period that was used in the 2014 and prior questionnaires.

Section B: State Model-Based Estimation Methodology

B.1 General Model Description

The model can be characterized as a complex mixed[15] model (including both fixed and random effects) of the following form:

$$\log[\pi_{aijk} / (1-\pi_{aijk})] = x'_{aijk}\beta_a + \eta_{ai} + \nu_{aij},$$

where π_{aijk} is the probability of engaging in the behavior of interest (e.g., using marijuana in the past month) for person-*k* belonging to age group-*a* in grouped state sampling region (SSR)-*j* of state-*i*.[16] Let x_{aijk} denote a $p_a \times 1$ vector of auxiliary (predictor) variables associated with age group-*a* (12 to 17, 18 to 25, 26 to 34, and 35 or older) and β_a denote the associated vector of the regression parameters. The age group-specific vectors of the auxiliary variables are defined for every block group in the nation and also include person-level demographic variables, such as race/ethnicity and gender. The vectors of state-level random effects $\eta_i = (\eta_{1i}, \cdots, \eta_{Ai})'$ and grouped SSR-level random effects $\nu_{ij} = (\nu_{1ij}, \cdots, \nu_{Aij})'$ are assumed to be mutually independent with $\eta_i \sim N_A(0, D_\eta)$ and $\nu_{ij} \sim N_A(0, D_\nu)$, where A is the total number of individual age groups modeled (generally, $A = 4$). For hierarchical Bayes (HB) estimation purposes, an improper uniform prior distribution is assumed for β_a, and proper Wishart prior distributions are assumed for D_η^{-1} and D_ν^{-1}. The HB solution for π_{aijk} involves a series of complex Markov Chain Monte Carlo (MCMC) steps to generate values of the desired fixed and

[15] The use of mixed models (fixed and random effects) allows additional error components (random effects) to be included. These account for differences between states and within-state variations that are not taken into account by the predictor variables (fixed effects) alone. It is also difficult (if not impossible) to produce valid mean squared errors (MSEs) for small area estimates based solely on a fixed-effect national regression model (i.e., synthetic estimation) (Rao, 2003, p. 52). The mixed models produce estimates that are approximately represented by a weighted combination of the direct estimate from the state data and a regression estimate from the national model. The regression coefficients of the national model are estimated using data from all of the states (i.e., borrowing strength), and the regression estimate for a particular state is obtained by applying the national model to the state-specific predictor data. The regression estimate for the state is then combined with the direct estimate from the state data in a weighted combination where the weights are obtained by minimizing the MSE (variance + squared bias) of the small area estimate.

[16] To increase the precision of the estimated random effects at the within-state level, three SSRs were grouped together. California had 12 grouped SSRs; Florida, New York, and Texas each had 10 grouped SSRs; Illinois, Michigan, Ohio, and Pennsylvania each had 8 grouped SSRs; Georgia, New Jersey, North Carolina, and Virginia each had 5 grouped SSRs; and the rest of the states and the District of Columbia each had 4 grouped SSRs. Note that these 250 grouped SSRs were used on both the 2014 and 2015 samples.

random effects from the underlying joint posterior distribution. The basic process is described in Folsom et al. (1999), Shah, Barnwell, Folsom, and Vaish (2000), and Wright (2003a, 2003b).

Once the required number of MCMC samples (1,250 in all) for the parameters of interest are generated and tested for convergence properties (see Raftery & Lewis, 1992), the small area estimates for each race/ethnicity × gender cell within a block group can be obtained for each age group. These block group-level small area estimates then can be aggregated using the appropriate population count projections for the desired age group(s) to form state-level small area estimates. These state-level small area estimates are benchmarked to the national design-based estimates as described in Section B.4.

B.2 Variables Modeled

The 2015 National Survey on Drug Use and Health (NSDUH) data were pooled with the 2014 NSDUH data, and age group-specific state estimates for 14 binary (0, 1) measures were produced for the following outcomes:

1. past year use of marijuana,
2. past month use of marijuana,
3. average annual rate of first use of marijuana,[17]
4. past year use of cocaine,
5. past year use of heroin,
6. past month use of alcohol,[18]
7. past month use of tobacco products,
8. past month use of cigarettes,
9. past year alcohol use disorder,
10. past year alcohol dependence,

[17] For details on how the average annual rate of marijuana (incidence of marijuana) is calculated, see Section B.8 of "2011-2012 National Surveys on Drug Use and Health: Guide to State Tables and Summary of Small Area Estimation Methodology" at http://www.samhsa.gov/data/.

[18] Estimates of underage (aged 12 to 20) alcohol use were also produced.

11. serious mental illness (SMI) in the past year,[19]

12. any mental illness (AMI) in the past year,

13. serious thoughts of suicide in the past year, and

14. past year major depressive episode (MDE, i.e., depression).

Comparisons between the 2013-2014 and the 2014-2015 state estimates also were produced for all of these measures. For details on how measures on mental illness, dependence or abuse, and average annual rate of first use of marijuana are defined, see "2011-2012 National Surveys on Drug Use and Health: Guide to State Tables and Summary of Small Area Estimation Methodology" at http://www.samhsa.gov/data/. Note that data on past year heroin use are presented in the 2014-2015 state small area estimation (SAE) tables and maps for the first time. Also, as discussed in Section A.6, some measures are not comparable between 2014 and 2015 because of questionnaire changes in 2015. Therefore, these measures are omitted from this report. Table C.15 shows all of the SAE outcomes and the years they are available; thus, this table can be used to see outcomes for which small area estimates were produced using 2013-2014 NSDUH data, but are not available based on 2014-2015 data.

B.3 Predictors Used in Mixed Logistic Regression Models

Local area data used as potential predictor variables in the mixed logistic regression models were obtained from a number of sources, as noted in the following discussion. Note that the predictors used to produce the 2014-2015 state small area estimates were the same as the predictors used to produce the 2013-2014 state small area estimates; however, values of the data were updated when possible. No new variable selection was done for 2014-2015, with the exception of the heroin use outcome. Variable selection was done using combined 2014 and 2015 data for past year heroin use. Fixed-effect predictors for this new outcome variable were selected using the method described by Wright and Sathe (2005).

Sources and potential data items used in the 2014-2015 modeling are provided in the following text and lists.

[19] The SMI definition was updated by the Substance Abuse and Mental Health Services Administration (SAMHSA) in August 2016 for use in mental health block grants to include mental disorders as specified in the American Psychiatric Association (APA) *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition (DSM-5) (APA, 2013). However, the methodology for estimating SMI in NSDUH did not change. SMI is defined in NSDUH as adults aged 18 or older who currently or at any time in the past year have had a diagnosable mental, behavioral, or emotional disorder (excluding developmental and substance use disorders) of sufficient duration to meet diagnostic criteria specified in the DSM-IV (APA, 1994) and has resulted in serious functional impairment that substantially interferes with or limits one or more major life activities. SMI estimates are based on a predictive model applied to NSDUH data and are not direct measures of diagnostic status. The estimation of SMI covers any mental disorder that results in serious impairment in functioning, such as major depression, schizophrenia, and bipolar disorders. However, NSDUH data cannot be used to estimate the prevalence of specific mental disorders in adults. For details on the methodology used in NSDUH to estimate serious and other levels of mental illness, see Section B.4.7 in Appendix B of the 2015 NSDUH methodological summary and definitions report (Center for Behavioral Health Statistics and Quality [CBHSQ], 2016a).

- *Nielsen Claritas*. This demographic data package from Nielsen Claritas, a market research firm headquartered in San Diego, California, contains data for 2013 with projections to 2018. The population projections are used to update these predictor variables each year. The 2014 and 2015 population projections were used for producing the 2014-2015 state small area estimates.

- *U.S. Census Bureau*. The 2010 census (demographic and geographic variables) and 2013 food stamp participation estimates were used (http://www.census.gov/did/www/saipe/inputdata/cntysnap.xls). The Census Bureau's Small Area Income and Poverty Estimates (SAIPE) program obtains Food Stamp program (now known as the Supplemental Nutrition Assistance Program [SNAP]) participation estimates from the U.S. Department of Agriculture, Food and Nutrition Service. Also, the Census Bureau's 2010-2014 American Community Survey (ACS) 5-year ACS demographic and socioeconomic variables at the tract level and poverty variable at the county level were used (http://www.census.gov/programs-surveys/acs/).

- *Federal Bureau of Investigation (FBI)*. Uniform Crime Report (UCR) arrest totals were obtained from http://www.icpsr.umich.edu/icpsrweb/NACJD/archive.jsp. The most current data used are from 2012 for most counties, with previous years' data substituted in a few cases.

- *Bureau of Labor Statistics (BLS)*. The 2015 county-level unemployment estimates were used (http://www.bls.gov/lau/tables.htm). The BLS uses results from the Current Population Survey (CPS) to provide county-level unemployment estimates. The CPS is a monthly survey of households conducted by the Census Bureau for the BLS.

- *Bureau of Economic Analysis (BEA)*. The 2014 county-level per capita income estimates were used (http://bea.gov/iTable/index.cfm). These county-level per capita income estimates are produced by the Regional Income Division of the BEA.

- *National Center for Health Statistics (NCHS)*. Mortality data using International Classification of Diseases, 10th revision (ICD-10), 2007-2012, were used. The ICD-10 death data are from the NCHS at the Centers for Disease Control and Prevention (CDC).

- *SAMHSA, Center for Behavioral Health Statistics and Quality (CBHSQ, formerly the Office of Applied Studies [OAS])*. Data were used from the National Survey of Substance Abuse Treatment Services (N-SSATS), formerly known as the Uniform Facility Data Set (UFDS). The 2012-2013 data on drug and alcohol treatment estimates were obtained. Maintenance of effort expenditures, block grant awards, cost of services, and total taxable resources data were also used.

The following lists provide the specific independent variables that were potential predictors in the models.

***Nielsen Claritas Data* (Description)**	***Nielsen Claritas Data* (Level)**
% Population Aged 0 to 19 in Block Group	Block Group
% Population Aged 20 to 24 in Block Group	Block Group

Nielsen Claritas Data (Description)	*Nielsen Claritas Data* (Level)
% Population Aged 25 to 34 in Block Group	Block Group
% Population Aged 35 to 44 in Block Group	Block Group
% Population Aged 45 to 54 in Block Group	Block Group
% Population Aged 55 to 64 in Block Group	Block Group
% Population Aged 65 or Older in Block Group	Block Group
% Non-Hispanic Blacks in Block Group	Block Group
% Hispanics in Block Group	Block Group
% Non-Hispanic Other Races in Block Group	Block Group
% Non-Hispanic Whites in Block Group	Block Group
% Males in Block Group	Block Group
% American Indians, Eskimos, Aleuts in Tract	Tract
% Asians, Pacific Islanders in Tract	Tract
% Population Aged 0 to 19 in Tract	Tract
% Population Aged 20 to 24 in Tract	Tract
% Population Aged 25 to 34 in Tract	Tract
% Population Aged 35 to 44 in Tract	Tract
% Population Aged 45 to 54 in Tract	Tract
% Population Aged 55 to 64 in Tract	Tract
% Population Aged 65 or Older in Tract	Tract
% Non-Hispanic Blacks in Tract	Tract
% Hispanics in Tract	Tract
% Non-Hispanic Other Races in Tract	Tract
% Non-Hispanic Whites in Tract	Tract
% Males in Tract	Tract
% Population Aged 0 to 19 in County	County
% Population Aged 20 to 24 in County	County
% Population Aged 25 to 34 in County	County
% Population Aged 35 to 44 in County	County
% Population Aged 45 to 54 in County	County
% Population Aged 55 to 64 in County	County
% Population Aged 65 or Older in County	County
% Non-Hispanic Blacks in County	County
% Hispanics in County	County
% Non-Hispanic Other Races in County	County
% Non-Hispanic Whites in County	County
% Males in County	County

American Community Survey (ACS) (Description)	*ACS Data* (Level)
% Population Who Dropped Out of High School	Tract
% Housing Units Built in 1940 to 1949	Tract
% Females 16 Years or Older in Labor Force	Tract
% Females Never Married	Tract
% Females Separated, Divorced, Widowed, or Other	Tract
% One-Person Households	Tract
% Males 16 Years or Older in Labor Force	Tract

American Community Survey (ACS) (Description)	*ACS Data* (Level)
% Males Never Married	Tract
% Males Separated, Divorced, Widowed, or Other	Tract
% Housing Units Built in 1939 or Earlier	Tract
Average Number of Persons per Room	Tract
% Families below Poverty Level	Tract
% Households with Public Assistance Income	Tract
% Housing Units Rented	Tract
% Population with 9 to 12 Years of School, No High School Diploma	Tract
% Population with 0 to 8 Years of School	Tract
% Population with Associate's Degree	Tract
% Population with Some College and No Degree	Tract
% Population with Bachelor's, Graduate, Professional Degree	Tract
% Housing Units with No Telephone Service Available	Tract
% Households with No Vehicle Available	Tract
Median Rents for Rental Units	Tract
Median Value of Owner-Occupied Housing Units	Tract
Median Household Income	Tract
% Families below the Poverty Level	County

Uniform Crime Report (UCR) Data (Description)	*UCR Data* (Level)
Drug Possession Arrest Rate	County
Drug Sale or Manufacture Arrest Rate	County
Drug Violations' Arrest Rate	County
Marijuana Possession Arrest Rate	County
Marijuana Sale or Manufacture Arrest Rate	County
Opium or Cocaine Possession Arrest Rate	County
Opium or Cocaine Sale or Manufacture Arrest Rate	County
Other Drug Possession Arrest Rate	County
Other Dangerous Non-Narcotics Arrest Rate	County
Serious Crime Arrest Rate	County
Violent Crime Arrest Rate	County
Driving under Influence Arrest Rate	County

Other Categorical Data (Description)	*Other Categorical Data* (Source)	*Other Categorical Data* (Level)
= 1 if Hispanic, = 0 Otherwise	National Survey on Drug Use and Health (NSDUH) Sample	Person
= 1 if Non-Hispanic Black, = 0 Otherwise	NSDUH Sample	Person
= 1 if Non-Hispanic Other, = 0 Otherwise	NSDUH Sample	Person
= 1 if Male, = 0 if Female	NSDUH Sample	Person
= 1 if Metropolitan Statistical Area (MSA) with ≥ 1 Million, = 0 Otherwise	2010 Census	County
= 1 if MSA with < 1 Million, = 0 Otherwise	2010 Census	County
= 1 if Non-MSA Urban, = 0 Otherwise	2010 Census	Tract
= 1 if Urban Area, = 0 if Rural Area	2010 Census	Tract

Other Categorical Data (Description)	*Other Categorical Data* (Source)	*Other Categorical Data* (Level)
= 1 if No Cubans in Tract, = 0 Otherwise	2010 Census	Tract
= 1 if No Arrests for Dangerous Non-Narcotics, = 0 Otherwise	Uniform Crime Report (UCR)	County
= 1 if No Arrests for Opium or Cocaine Possession = 0 Otherwise	UCR	County
= 1 if No Housing Units Built in 1939 or Earlier, = 0 Otherwise	American Community Survey (ACS)	Tract
=1 if No Housing Units Built in 1940 to 1949, = 0 Otherwise	ACS	Tract
= 1 if No Households with Public Assistance Income, = 0 Otherwise	ACS	Tract

Miscellaneous Data (Description)	*Miscellaneous Data* (Source)	*Miscellaneous Data* (Level)
Alcohol Death Rate, Underlying Cause	National Center for Health Statistics' International Classification of Diseases, 10th revision (NCHS-ICD-10)	County
Cigarette Death Rate, Underlying Cause	NCHS-ICD-10	County
Drug Death Rate, Underlying Cause	NCHS-ICD-10	County
Alcohol Treatment Rate	National Survey of Substance Abuse Treatment Services (N-SSATS) (Formerly Called Uniform Facility Data Set [UFDS])	County
Alcohol and Drug Treatment Rate	N-SSATS (Formerly Called UFDS)	County
Drug Treatment Rate	N-SSATS (Formerly Called UFDS)	County
Unemployment Rate	Bureau of Labor Statistics (BLS)	County
Per Capita Income (in Thousands)	Bureau of Economic Analysis (BEA)	County
Average Suicide Rate (per 10,000)	NCHS-ICD-10	County
Food Stamp Participation Rate	Census Bureau	County
Single State Agency Maintenance of Effort	National Association of State Alcohol and Drug Abuse Directors (NASADAD)	State
Block Grant Awards	Substance Abuse and Mental Health Services Administration (SAMHSA)	State
Cost of Services Factor Index	SAMHSA	State
Total Taxable Resources per Capita Index	U.S. Department of Treasury	State
% Hispanics Who Are Cuban	2010 Census	Tract

B.4 Benchmarking the Age Group-Specific Small Area Estimates

The self-calibration built into the survey-weighted hierarchical Bayes (SWHB) solution ensures that the population-weighted average of the state small area estimates will closely match the national design-based estimates. The national design-based estimates in NSDUH are based entirely on survey-weighted data using a direct estimation approach, whereas the state and census region estimates are model-based. Given the self-calibration ensured by the SWHB solution, for state reports prior to 2002, the standard Bayes prescription was followed;

specifically, the posterior mean was used for the point estimate, and the tail percentiles of the posterior distribution were used for the Bayesian confidence interval limits.

Singh and Folsom (2001) extended Ghosh's (1992) results on constrained Bayes estimation to include exact benchmarking to design-based national estimates. In the simplest version of this constrained Bayes solution where only the design-based mean is imposed as a benchmarking constraint, each of the 2014-2015 state-by-age group small area estimates is adjusted by adding the common factor $\Delta_a = (D_a - P_a)$, where D_a is the design-based national estimate and P_a is the population-weighted mean of the state small area estimates (P_{sa}) for age group-*a*. The exactly benchmarked state-*s* and age group-*a* small area estimates then are given by $\theta_{sa} = P_{sa} + \Delta_a$. Experience with such additive adjustments suggests that the resulting exactly benchmarked state small area estimates will always be between 0 percent and 100 percent because the SWHB self-calibration ensures that the adjustment factor is small relative to the size of the state-level small area estimates.

Relative to the Bayes posterior mean, these benchmark-constrained state small area estimates are biased by the common additive adjustment factor. Therefore, the posterior mean squared error (MSE) for each benchmarked state small area estimate has the square of this adjustment factor added to its posterior variance. To achieve the desirable feature of exact benchmarking, this constrained Bayes adjustment factor was implemented for the state-by-age group small area estimates. The associated Bayesian confidence (credible) intervals can be recentered at the benchmarked small area estimates on the logit scale with the symmetric interval end points based on the posterior root mean squared errors (RMSEs). The adjusted 95 percent Bayesian confidence intervals $(Lower_{sa}, Upper_{sa})$ are defined below:

$$Lower_{sa} = \exp(L_{sa}) / [1 + \exp(L_{sa})] \text{ and } Upper_{sa} = \exp(U_{sa}) / [1 + \exp(U_{sa})],$$

where

$$L_{sa} = \ln[\theta_{sa} / (1 - \theta_{sa})] - 1.96 * \sqrt{MSE_{sa}},$$

$$U_{sa} = \ln[\theta_{sa} / (1 - \theta_{sa})] + 1.96 * \sqrt{MSE_{sa}}, \text{ and}$$

$$MSE_{sa} = (\ln[P_{sa} / (1 - P_{sa})] - \ln[\theta_{sa} / (1 - \theta_{sa})])^2 + \text{posterior variance of } \ln[P_{sa} / (1 - P_{sa})].$$

The associated posterior coverage probabilities for these benchmarked intervals are very close to the prescribed 0.95 value because the state small area estimates have posterior distributions that can be approximated exceptionally well by a Gaussian distribution.

B.5 Calculation of Estimated Number of Individuals Associated with Each Outcome

Tables 1 to 15 of "2014-2015 NSDUHs: Model-Based Estimated Totals (in Thousands) (50 States and the District of Columbia)" show the estimated numbers of individuals associated

with each of the 14 outcomes of interest.[20] To calculate these numbers, the benchmarked small area estimates and the associated 95 percent Bayesian confidence intervals are multiplied by the average population across the 2 years (in this case, 2014 and 2015) of the state by the age group of interest.

For example, past month use of alcohol among 18 to 25 year olds in Alabama was 51.99 percent.[21] The corresponding Bayesian confidence intervals ranged from 48.05 to 55.90 percent. The population count for 18 to 25 year olds averaged across 2014 and 2015 in Alabama was 530,600 (see Table C.10 in Section C of this methodology document). Hence, the estimated number of 18 to 25 year olds using alcohol in the past month in Alabama was 0.5199 × 530,600, which is 275,859.[22] The associated Bayesian confidence intervals ranged from 0.4805 × 530,600 (i.e., 254,953) to 0.5590 × 530,600 (i.e., 296,605). Note that when estimates of the number of individuals are calculated for Tables 1 to 15 in "2014-2015 NSDUHs: Model-Based Estimated Totals (in Thousands) (50 States and the District of Columbia)" (follow the link in footnote 23), the unrounded percentages and population counts are used, then the numbers are reported to the nearest thousand. Hence, the number obtained by multiplying the published estimate with the published population estimate may not exactly match the counts that are published in these tables because of rounding differences.

The only exception to this calculation is the production of the estimated numbers of marijuana initiates. Those estimates cannot be directly calculated as the product of the percentage estimate of first use of marijuana and the population counts available in Section C. That is because the denominator of that percentage estimate is defined as the number of person years at risk for marijuana initiation, which is a combination of individuals who never used marijuana and one half of the individuals who initiated in the past 24 months.

B.6 Calculation of Aggregate Age Group Estimates and Limitations

Tables 1 to 15 of "2014-2015 NSDUHs: Model-Based Prevalence Estimates (50 States and the District of Columbia)" show estimates for the following age groups: 12 to 17, 18 to 25, 26 or older, 18 or older, and 12 or older.[23] If a user was interested in producing aggregated estimates, such as for those aged 12 to 25, the aggregated estimates could be calculated using prevalence estimates along with the population totals shown in Section C of this document. However, with the information that is provided in the tables, the confidence intervals cannot be calculated. Below is an example of this calculation for a given state.

For example, past month use of alcohol in Alabama among youths 12 to 17 was 8.76 percent, and among young adults 18 to 25 it was 51.99 percent.[24] The population counts for

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[20] This file is available at http://www.samhsa.gov/data/.

[21] See Table 6 of the "2014-2015 NSDUH: Model-Based Prevalence Estimates (50 States and the District of Columbia)" at http://www.samhsa.gov/data/.

[22] See Table 6 of "2014-2015 NSDUHs: Model-Based Estimated Totals (in Thousands) (50 States and the District of Columbia)" at http://www.samhsa.gov/data/.

[23] This file is available at http://www.samhsa.gov/data/.

[24] See Table 6 of the "2014-2015 NSDUH: Model-Based Prevalence Estimates (50 States and the District of Columbia)" at http://www.samhsa.gov/data/.

12 to 17 year olds and 18 to 25 year olds averaged across 2014 and 2015 in Alabama were 380,801 and 530,600, respectively (see Table C.10 in Section C of this methodology document). Hence, one would calculate the estimate for individuals aged 12 to 25 by first finding the number of users aged 12 to 25, which is 309,217 ([0.0876 × 380,801] + [0.5199 × 530,600]), then dividing that number by the population aged 12 to 25, which results in a rate of 33.93 percent (309,217 / [380,801 + 530,600]).

B.7 Comparison of Two 2014-2015 Small Area Estimates

This section describes a method for determining whether differences between two 2014-2015 state population percentages are statistically significant. This procedure can be used for any two state population percentages representing the same age group (e.g., young adults aged 18 to 25) and time period (e.g., 2014-2015).

Let π_{1a} and π_{2a} denote the 2014-2015 age group-a specific prevalence rates for two different states, $s1$ and $s2$, respectively. The null hypothesis of no difference, that is, $\pi_{1a} = \pi_{2a}$, is equivalent to the log-odds ratio equal to zero, that is, $lor_a = 0$, where lor_a is defined as $lor_a = \ln\left[\dfrac{\pi_{2a}/(1-\pi_{2a})}{\pi_{1a}/(1-\pi_{1a})}\right]$, where ln denotes the natural logarithm. An estimate of lor_a is given by $\hat{l}or_a = \ln\left[\dfrac{p_{2a}/(1-p_{2a})}{p_{1a}/(1-p_{1a})}\right]$, where p_{1a} and p_{2a} are the 2014-2015 state estimates given in the "2014-2015 NSDUH: Model-Based Prevalence Estimates (50 States and the District of Columbia) (Tables 1 to 15, by Age Group)" (follow the link in footnote 24). To compute the variance of $\hat{l}or_a$, that is, $v(\hat{l}or_a)$, let $\hat{\theta}_1 = \dfrac{p_{1a}}{1-p_{1a}}$ and $\hat{\theta}_2 = \dfrac{p_{2a}}{1-p_{2a}}$, then $v(\hat{l}or_a) = v[\ln(\hat{\theta}_1)] + v[\ln(\hat{\theta}_2)] - 2\,\mathrm{cov}[\ln(\hat{\theta}_1), \ln(\hat{\theta}_2)]$, where $\mathrm{cov}[\ln(\hat{\theta}_1), \ln(\hat{\theta}_2)]$ denotes the covariance between $\ln(\hat{\theta}_1)$ and $\ln(\hat{\theta}_2)$. This covariance is defined in terms of the associated correlation as follows:

$$\mathrm{cov}[\ln(\hat{\theta}_1), \ln(\hat{\theta}_2)] = \text{correlation}\,[\ln(\hat{\theta}_1), \ln(\hat{\theta}_2)] \times \sqrt{v[\ln(\hat{\theta}_1)] \times v[\ln(\hat{\theta}_2)]}\,.$$

The quantities $v[\ln(\hat{\theta}_1)]$ and $v[\ln(\hat{\theta}_2)]$ can be obtained by using the 95 percent Bayesian confidence intervals given in the "2014-2015 NSDUH: Model-Based Prevalence Estimates (50 States and the District of Columbia) (Tables 1 to 15, by Age Group)" (follow the link in footnote 24). For this purpose, let $(lower_1, upper_1)$ and $(lower_2, upper_2)$ denote the 95 percent Bayesian confidence intervals for the two states, $s1$ and $s2$, respectively. Then

$$v[\ln(\hat{\theta}_i)] = \left(\frac{U_i - L_i}{2 \times 1.96}\right)^2 \quad \text{for } i = 1, 2,$$

where $U_i = \ln\frac{upper_i}{1-upper_i}$ and $L_i = \ln\frac{lower_i}{1-lower_i}$.

For all practical purposes, the correlation between $\ln(\hat{\theta}_1)$ and $\ln(\hat{\theta}_2)$ is assumed to be negligible; hence, $v(\hat{lor}_a)$ can be approximated by $v[\ln(\hat{\theta}_1)] + v[\ln(\hat{\theta}_2)]$. The correlation is assumed to be negligible because each state was a stratum in the first level of stratification; therefore, each state sample is selected independently. However, the correlation between the two state estimates is theoretically nonzero because state estimates share common fixed-effect parameters in the SAE models. Hence, the test statistic z (defined below) might result in a different conclusion in a few cases when the correlation between the state estimates is incorporated in calculating $v(\hat{lor}_a)$. To calculate the *p* value for testing the null hypothesis of no difference ($lor_a = 0$), it is assumed that the posterior distribution of lor_a is normal with $mean = \hat{lor}_a$ and $variance = v(\hat{lor}_a)$. With the null value of $lor_a = 0$, the Bayes *p* value or significance level for the null hypothesis of no difference is $p\ value = 2 * P[Z \geq abs(z)]$, where Z is a standard normal random variate, $z = \frac{\hat{lor}_a}{\sqrt{v[\ln(\hat{\theta}_1)] + v[\ln(\hat{\theta}_2)]}}$, and $abs(z)$ denotes the absolute value of z. This Bayesian significance level (or *p* value) for the null value of lor, say lor_0, is defined following Rubin (1987) as the posterior probability for the collection of the lor values that are less likely or have smaller posterior density $d(lor)$ than the null (no change) value lor_0. That is, $p\ value(lor_0) = probability[d(lor) \leq d(lor_0)]$. With the posterior distribution of lor approximately normal, $p\ value(lor_0)$ is given by the above expression.

Hence, to test whether differences between two 2014-2015 state estimates are statistically significant, the test statistic z and the associated *p* value can be used. If $p \leq 0.05$, then the two state estimates can be considered different at the 5 percent level of significance. Because age group estimates within a state are correlated, the method described here cannot be used to test whether differences between two age group estimates within a state are statistically significant.

When comparing estimates for two states, it is tempting and often convenient to look at their 95 percent Bayesian confidence intervals to decide whether the difference in the state estimates is significant. If the two Bayesian confidence intervals overlap, one would conclude that the difference is not statistically significant. If the two Bayesian confidence intervals do not overlap, it implies that the state estimates are significantly different from each other. However, the type-I error for the overlapping 95 percent Bayesian confidence intervals test may be as low as 0.6 percent (assuming that the two state estimates are uncorrelated and have the same variances) as compared with the 5 percent type-I error of the test based on the z statistics defined above (Payton, Greenstone, & Schenker, 2003).

As discussed in Schenker and Gentleman (2001), the method of overlapping Bayesian confidence intervals is more conservative (i.e., it rejects the null hypothesis of no difference less often) than the standard method based on z statistics when the null hypothesis is true. Even if Bayesian confidence intervals for two states overlap, the two estimates may be declared

significantly different by the test based on z statistics. Hence, the method of overlapping Bayesian confidence intervals is not recommended to test the difference of two state estimates. A detailed description of the method of overlapping confidence intervals and its comparison with the standard methods for testing of a hypothesis is given in Schenker and Gentleman (2001) and Payton et al. (2003).

Example. The percentages for past month alcohol use among 12 to 17 year olds in New Jersey and Oklahoma are shown in the following exhibit and also in Table 6 of the "2014-2015 NSDUH: Model-Based Prevalence Estimates (50 States and the District of Columbia)" at http://www.samhsa.gov/data/. Looking at the two 95 percent Bayesian confidence intervals, it would appear that the Oklahoma and New Jersey percentages for past month alcohol use are not statistically different at the 5 percent level of significance because the two Bayesian confidence intervals overlap:

State	Point Estimate (%)	95% Bayesian Confidence Interval (%)
New Jersey	13.88	(11.77, 16.29)
Oklahoma	10.22	(8.31, 12.52)

However, in the following example, the test based on the z statistic described earlier concludes that they are significantly different at the 5 percent level of significance.

Let $p_{1a} = 0.1388$, $lower_1 = 0.1177$, $upper_1 = 0.1629$, $p_{2a} = 0.1022$, $lower_2 = 0.0831$, $upper_2 = 0.1252$. Then,

$$U_1 = \ln\frac{0.1629}{1-0.1629} = \text{-}1.6368,\ L_1 = \ln\frac{0.1177}{1-0.1177} = \text{-}2.0144,$$

$$U_2 = \ln\frac{0.1252}{1-0.1252} = \text{-}1.9441,\ L_2 = \ln\frac{0.0831}{1-0.0831} = \text{-}2.4010,$$

$$\hat{lor}_a = \ln\left[\frac{p_{2a}/(1-p_{2a})}{p_{1a}/(1-p_{1a})}\right] = \ln\left[\frac{0.1022/(1-0.1022)}{0.1388/(1-0.1388)}\right] = -0.3477,$$

$$v[\ln(\hat{\theta}_1)] = \left(\frac{U_1 - L_1}{2\times 1.96}\right)^2 = \left(\frac{-1.6368 + 2.0144}{2\times 1.96}\right)^2 = 0.00928,$$

$$v[\ln(\hat{\theta}_2)] = \left(\frac{U_2 - L_2}{2\times 1.96}\right)^2 = \left(\frac{-1.9441 + 2.4010}{2\times 1.96}\right)^2 = 0.01358, \text{ and}$$

$$z = \frac{\hat{lor}_a}{\sqrt{v[\ln(\hat{\theta}_1)] + v[\ln(\hat{\theta}_2)]}} = \frac{0.3477}{\sqrt{0.00928 + 0.01358}} = -2.2997.$$

Because the computed absolute value of z is greater than or equal to 1.96 (the critical value of the z statistic), then at the 5 percent level of significance, the hypothesis of no difference (Oklahoma prevalence rate = New Jersey prevalence rate) is rejected. Thus, the two

state prevalence rates are statistically different. The Bayes p value or significance level for the null hypothesis of no difference is calculated as follows:

$$p \text{ value} = 2 \times P\left[Z \geq abs\left(-2.2997\right)\right] = 0.0215 .$$

Section C: Sample Sizes, Response Rates, and Population Estimates

Table C.1 Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by State, for Individuals Aged 12 or Older: 2013

State	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate	Weighted Overall Response Rate
Total U.S.	227,075	190,067	160,325	83.93%	88,742	67,838	262,391,455	71.69%	60.18%
Northeast	51,312	43,608	34,787	78.54%	18,334	13,661	47,388,235	68.75%	54.00%
Midwest	61,705	51,906	44,380	85.68%	24,842	18,822	56,214,652	71.54%	61.30%
South	69,936	57,463	49,288	85.67%	26,758	20,782	97,513,014	73.32%	62.81%
West	44,122	37,090	31,870	83.74%	18,808	14,573	61,275,553	71.48%	59.86%
Alabama	3,110	2,522	2,141	84.04%	1,156	900	4,025,044	69.26%	58.21%
Alaska	3,177	2,347	2,044	87.05%	1,122	863	577,309	74.91%	65.21%
Arizona	3,013	2,324	1,991	85.43%	1,170	882	5,443,545	69.25%	59.16%
Arkansas	2,721	2,189	1,984	90.66%	1,193	908	2,435,182	73.21%	66.38%
California	9,994	8,965	7,211	80.33%	4,864	3,729	31,739,919	70.45%	56.60%
Colorado	2,790	2,436	2,016	82.93%	1,173	885	4,339,337	71.19%	59.04%
Connecticut	2,989	2,691	2,294	85.25%	1,198	893	3,045,630	70.24%	59.88%
Delaware	3,042	2,485	2,073	83.64%	1,113	862	774,640	72.21%	60.40%
District of Columbia	5,466	4,554	3,700	80.83%	1,142	907	555,335	75.40%	60.95%
Florida	14,174	11,056	9,176	81.41%	4,792	3,649	16,599,656	71.63%	58.31%
Georgia	2,660	2,218	1,836	82.63%	1,093	852	8,133,541	73.03%	60.34%
Hawaii	3,294	2,861	2,235	77.45%	1,240	924	1,135,919	66.79%	51.73%
Idaho	2,388	2,020	1,863	92.19%	1,163	907	1,305,833	75.66%	69.75%
Illinois	11,767	10,379	7,912	76.19%	4,935	3,503	10,713,667	65.98%	50.27%
Indiana	2,992	2,513	2,182	86.71%	1,165	894	5,430,975	71.51%	62.00%
Iowa	2,700	2,318	2,120	91.46%	1,164	900	2,566,989	71.34%	65.25%
Kansas	2,608	2,191	1,944	88.60%	1,165	887	2,344,171	73.15%	64.81%
Kentucky	3,085	2,556	2,341	91.53%	1,160	904	3,633,237	73.51%	67.28%
Louisiana	2,877	2,321	2,096	90.32%	1,160	903	3,774,189	73.28%	66.19%
Maine	3,624	2,708	2,444	90.02%	1,125	926	1,147,984	78.25%	70.44%
Maryland	2,759	2,430	1,919	79.18%	1,183	925	4,947,041	76.85%	60.85%
Massachusetts	3,007	2,692	2,189	80.96%	1,240	897	5,711,595	69.49%	56.26%
Michigan	12,080	9,938	8,310	83.39%	4,716	3,636	8,346,148	72.79%	60.70%
Minnesota	2,595	2,272	2,056	90.74%	1,126	906	4,509,704	77.38%	70.21%
Mississippi	2,441	2,019	1,829	90.55%	1,088	918	2,428,802	79.27%	71.77%

(continued)

Table C.1 Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by State, for Individuals Aged 12 or Older: 2013 (continued)

State	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate	Weighted Overall Response Rate
Missouri	3,144	2,586	2,330	89.93%	1,183	917	5,009,791	73.20%	65.83%
Montana	2,991	2,429	2,251	92.54%	1,177	910	850,469	74.42%	68.87%
Nebraska	3,052	2,500	2,279	91.03%	1,146	910	1,524,399	74.27%	67.61%
Nevada	2,753	2,285	2,004	87.68%	1,137	932	2,312,257	74.64%	65.44%
New Hampshire	3,488	2,919	2,498	85.43%	1,243	953	1,137,904	76.03%	64.95%
New Jersey	3,164	2,774	2,281	82.31%	1,238	913	7,476,944	68.88%	56.70%
New Mexico	2,868	2,254	2,038	90.20%	1,168	922	1,707,564	73.84%	66.60%
New York	15,157	12,992	9,243	71.27%	5,248	3,637	16,619,482	63.66%	45.36%
North Carolina	2,872	2,382	2,090	87.63%	1,103	880	8,114,142	75.94%	66.55%
North Dakota	3,634	2,767	2,562	92.58%	1,257	945	593,987	68.81%	63.71%
Ohio	11,540	9,824	8,450	85.92%	4,734	3,568	9,677,958	71.01%	61.01%
Oklahoma	2,830	2,326	2,100	90.39%	1,250	950	3,130,656	68.89%	62.27%
Oregon	2,770	2,458	2,153	87.44%	1,093	861	3,327,918	76.84%	67.19%
Pennsylvania	13,292	11,490	9,213	80.00%	4,760	3,663	10,808,879	73.13%	58.50%
Rhode Island	2,969	2,515	2,205	87.59%	1,167	904	897,301	71.97%	63.04%
South Carolina	3,291	2,763	2,308	83.36%	1,134	908	3,952,463	76.40%	63.69%
South Dakota	2,728	2,204	2,059	93.35%	1,106	889	685,112	76.78%	71.68%
Tennessee	2,967	2,431	2,152	88.53%	1,121	894	5,407,982	73.11%	64.72%
Texas	9,323	7,887	6,873	87.12%	4,743	3,604	21,223,105	72.07%	62.79%
Utah	2,032	1,771	1,678	95.05%	1,150	930	2,258,561	75.09%	71.37%
Vermont	3,622	2,827	2,420	85.51%	1,115	875	542,516	76.92%	65.78%
Virginia	2,792	2,413	2,072	85.14%	1,148	902	6,803,508	76.51%	65.15%
Washington	2,598	2,235	1,937	86.55%	1,175	900	5,797,644	71.56%	61.93%
West Virginia	3,526	2,911	2,598	89.32%	1,179	916	1,574,493	76.28%	68.13%
Wisconsin	2,865	2,414	2,176	90.41%	1,145	867	4,811,751	73.66%	66.60%
Wyoming	3,454	2,705	2,449	90.40%	1,176	928	479,279	78.69%	71.14%

DU = dwelling unit.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013.

Table C.2 Sample Sizes, Weighted Interview Response Rates, and Population Estimates, by State and Three Age Groups: 2013

State	12-17 Total Selected	12-17 Total Responded	12-17 Population Estimate	12-17 Weighted Interview Response Rate	18-25 Total Selected	18-25 Total Responded	18-25 Population Estimate	18-25 Weighted Interview Response Rate	26+ Total Selected	26+ Total Responded	26+ Population Estimate	26+ Weighted Interview Response Rate
Total U.S.	27,630	22,532	24,892,618	81.95%	28,921	22,458	34,785,501	77.34%	32,191	22,848	202,713,336	69.45%
Northeast	5,700	4,561	4,187,318	79.38%	5,915	4,465	6,149,025	74.20%	6,719	4,635	37,051,892	66.60%
Midwest	7,730	6,220	5,398,028	80.27%	8,236	6,328	7,406,554	76.24%	8,876	6,274	43,410,071	69.65%
South	8,368	6,904	9,356,405	82.51%	8,566	6,762	12,857,518	78.55%	9,824	7,116	75,299,092	71.29%
West	5,832	4,847	5,950,868	84.38%	6,204	4,903	8,372,403	78.74%	6,772	4,823	46,952,282	68.53%
Alabama	381	322	382,694	82.54%	377	304	536,933	78.79%	398	274	3,105,417	66.03%
Alaska	364	276	60,220	76.37%	380	301	83,264	77.91%	378	286	433,826	74.16%
Arizona	396	323	541,841	81.38%	385	293	727,937	76.31%	389	266	4,173,767	66.25%
Arkansas	327	255	236,968	78.23%	454	350	319,725	76.45%	412	303	1,878,489	72.01%
California	1,490	1,263	3,095,715	85.24%	1,571	1,236	4,464,898	78.73%	1,803	1,230	24,179,306	66.97%
Colorado	322	259	405,187	80.90%	399	304	570,429	75.38%	452	322	3,363,721	69.41%
Connecticut	391	316	287,546	82.74%	351	271	378,789	78.01%	456	306	2,379,294	67.41%
Delaware	334	281	67,694	82.04%	396	309	102,069	78.44%	383	272	604,877	70.04%
District of Columbia	374	327	30,375	88.49%	304	237	93,799	80.28%	464	343	431,161	73.41%
Florida	1,407	1,156	1,387,520	82.81%	1,513	1,184	1,973,936	77.89%	1,872	1,309	13,238,200	69.64%
Georgia	358	291	834,836	82.28%	384	306	1,103,523	79.41%	351	255	6,195,182	70.39%
Hawaii	368	306	97,238	81.23%	417	321	140,183	75.08%	455	297	898,498	64.16%
Idaho	337	280	142,022	84.51%	429	341	172,682	82.06%	397	286	991,129	73.13%
Illinois	1,460	1,145	1,039,658	79.14%	1,661	1,201	1,395,665	71.65%	1,814	1,157	8,278,344	63.39%
Indiana	366	292	541,496	78.05%	365	288	738,003	77.25%	434	314	4,151,475	69.66%
Iowa	357	287	242,247	79.14%	395	315	350,483	80.07%	412	298	1,974,259	68.83%
Kansas	369	296	237,924	80.42%	386	295	324,627	77.64%	410	296	1,781,619	71.39%
Kentucky	366	300	340,478	82.34%	365	296	468,033	81.37%	429	308	2,824,726	71.05%
Louisiana	370	297	367,993	78.65%	340	276	520,801	79.72%	450	330	2,885,395	71.59%
Maine	390	328	94,311	82.76%	361	306	127,972	84.65%	374	292	925,702	76.97%
Maryland	375	302	455,935	81.11%	389	306	630,762	76.22%	419	317	3,860,344	76.45%
Massachusetts	370	285	489,152	76.58%	427	311	777,767	73.11%	443	301	4,444,677	68.04%
Michigan	1,488	1,194	802,126	80.07%	1,550	1,220	1,112,833	78.07%	1,678	1,222	6,431,190	70.93%
Minnesota	335	287	424,921	87.36%	391	307	571,675	76.12%	400	312	3,513,108	76.46%
Mississippi	377	337	246,305	88.95%	328	287	338,137	87.14%	383	294	1,844,359	76.42%

(continued)

Table C.2 Sample Sizes, Weighted Interview Response Rates, and Population Estimates, by State and Three Age Groups: 2013 (continued)

State	12-17 Total Selected	12-17 Total Responded	12-17 Population Estimate	12-17 Weighted Interview Response Rate	18-25 Total Selected	18-25 Total Responded	18-25 Population Estimate	18-25 Weighted Interview Response Rate	26+ Total Selected	26+ Total Responded	26+ Population Estimate	26+ Weighted Interview Response Rate
Missouri	358	302	471,719	82.66%	381	292	655,369	76.22%	444	323	3,882,703	71.61%
Montana	394	314	74,018	79.63%	397	309	110,155	77.44%	386	287	666,296	73.30%
Nebraska	390	321	148,681	80.79%	371	309	208,331	82.84%	385	280	1,167,387	71.59%
Nevada	355	310	221,435	88.57%	351	314	286,394	87.34%	431	308	1,804,427	70.98%
New Hampshire	393	304	100,312	76.63%	414	319	140,525	77.94%	436	330	897,067	75.64%
New Jersey	380	293	703,594	78.88%	404	313	887,966	77.36%	454	307	5,885,384	66.32%
New Mexico	340	297	167,385	87.52%	378	297	229,365	77.50%	450	328	1,310,813	71.52%
New York	1,685	1,303	1,446,714	77.33%	1,649	1,136	2,239,850	68.87%	1,914	1,198	12,932,918	61.18%
North Carolina	310	266	768,619	87.00%	368	290	1,050,264	77.57%	425	324	6,295,258	74.28%
North Dakota	368	297	50,250	78.97%	402	315	99,046	78.91%	487	333	444,691	65.58%
Ohio	1,542	1,220	924,863	78.72%	1,525	1,173	1,238,671	78.36%	1,667	1,175	7,514,424	68.82%
Oklahoma	423	346	308,182	82.96%	412	319	428,032	77.07%	415	285	2,394,443	65.70%
Oregon	321	263	291,705	80.87%	361	289	413,732	79.98%	411	309	2,622,480	75.89%
Pennsylvania	1,383	1,146	945,209	82.78%	1,575	1,220	1,391,012	77.81%	1,802	1,297	8,472,657	71.23%
Rhode Island	372	312	75,840	84.51%	360	289	131,461	79.12%	435	303	690,001	69.39%
South Carolina	392	319	360,578	80.86%	345	285	522,722	82.89%	397	304	3,069,164	74.75%
South Dakota	359	304	65,259	84.23%	361	286	93,194	78.68%	386	299	526,659	75.61%
Tennessee	371	317	505,527	85.19%	359	292	697,396	81.65%	391	285	4,205,059	70.31%
Texas	1,404	1,139	2,311,623	80.63%	1,588	1,219	2,985,606	76.39%	1,751	1,246	15,925,876	70.06%
Utah	371	318	279,317	86.38%	419	340	370,856	81.41%	360	272	1,608,388	71.37%
Vermont	336	274	44,641	81.36%	374	300	73,683	80.65%	405	301	424,193	75.81%
Virginia	394	331	620,869	85.27%	322	247	895,156	79.29%	432	324	5,287,483	74.84%
Washington	353	297	530,892	85.62%	365	289	738,379	78.95%	457	314	4,528,373	68.85%
West Virginia	405	318	130,210	78.65%	322	255	190,624	79.31%	452	343	1,253,658	75.55%
Wisconsin	338	275	448,884	80.11%	448	327	618,657	71.94%	359	265	3,744,210	73.13%
Wyoming	421	341	43,892	80.89%	352	269	64,129	78.38%	403	318	371,258	78.50%

NOTE: Computations in this table are based on a respondent's age at screening. Thus, the data in the Total Responded column(s) could differ from data in other NSDUH tables that use the respondent's age recorded during the interview.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013.

Table C.3 Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by State, for Individuals Aged 12 or Older: 2014

State	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate	Weighted Overall Response Rate
Total U.S.	185,013	154,533	127,605	81.94%	91,640	67,901	265,122,865	71.20%	58.34%
Northeast	40,667	34,065	26,744	76.59%	18,175	12,999	47,631,944	67.54%	51.73%
Midwest	42,681	35,695	30,189	83.61%	21,523	15,825	56,462,258	71.17%	59.51%
South	61,543	50,983	42,788	84.59%	30,192	22,781	98,843,935	72.44%	61.27%
West	40,122	33,790	27,884	80.21%	21,750	16,296	62,184,728	72.05%	57.79%
Alabama	2,640	2,083	1,730	82.92%	1,272	964	4,042,640	71.97%	59.67%
Alaska	2,985	2,346	1,950	83.13%	1,386	947	580,556	67.80%	56.37%
Arizona	2,514	1,912	1,659	86.87%	1,269	971	5,545,689	74.84%	65.01%
Arkansas	2,674	2,203	1,946	88.05%	1,262	964	2,443,636	72.68%	63.99%
California	10,239	9,203	7,083	76.31%	6,403	4,664	32,201,663	69.82%	53.28%
Colorado	2,607	2,254	1,843	81.83%	1,357	1,008	4,426,093	72.95%	59.70%
Connecticut	2,790	2,484	1,997	80.29%	1,438	980	3,054,946	64.87%	52.08%
Delaware	2,772	2,401	1,855	77.44%	1,264	951	784,117	73.66%	57.05%
District of Columbia	4,330	3,706	2,802	75.60%	1,219	935	564,072	72.83%	55.06%
Florida	10,269	8,222	6,823	82.44%	4,385	3,331	16,916,262	70.33%	57.98%
Georgia	3,693	3,089	2,567	83.01%	2,029	1,549	8,240,647	74.40%	61.76%
Hawaii	2,942	2,469	1,934	77.80%	1,339	968	1,149,245	71.50%	55.63%
Idaho	1,932	1,690	1,477	87.33%	1,267	987	1,326,157	75.54%	65.97%
Illinois	6,904	5,866	4,407	75.00%	3,488	2,397	10,738,476	67.24%	50.43%
Indiana	2,504	2,078	1,782	85.70%	1,294	967	5,460,095	72.26%	61.93%
Iowa	2,496	2,101	1,851	87.94%	1,240	912	2,582,849	71.52%	62.89%
Kansas	2,304	1,990	1,705	85.58%	1,296	982	2,356,686	73.83%	63.19%
Kentucky	2,556	2,080	1,827	87.74%	1,284	946	3,653,138	69.25%	60.76%
Louisiana	2,435	1,987	1,742	87.36%	1,302	992	3,798,948	73.51%	64.22%
Maine	3,342	2,364	2,106	89.08%	1,230	940	1,151,035	75.33%	67.10%
Maryland	2,483	2,251	1,757	77.14%	1,297	971	4,988,662	72.12%	55.63%
Massachusetts	2,948	2,541	2,068	81.37%	1,437	1,000	5,769,623	66.32%	53.97%
Michigan	6,609	5,404	4,498	83.31%	3,269	2,418	8,372,529	70.92%	59.08%
Minnesota	2,375	2,111	1,825	86.44%	1,266	967	4,544,275	75.42%	65.20%
Mississippi	2,199	1,714	1,498	87.30%	1,170	909	2,438,813	76.34%	66.64%

(continued)

Table C.3 Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by State, for Individuals Aged 12 or Older: 2014 (continued)

State	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate	Weighted Overall Response Rate
Missouri	2,578	2,116	1,839	86.82%	1,218	934	5,033,932	75.64%	65.67%
Montana	2,829	2,270	2,036	89.64%	1,287	977	857,904	72.51%	65.00%
Nebraska	2,459	2,102	1,842	87.61%	1,268	938	1,536,175	73.47%	64.36%
Nevada	2,421	2,047	1,592	77.33%	1,279	961	2,359,905	72.75%	56.25%
New Hampshire	3,044	2,439	2,055	84.32%	1,288	932	1,144,239	68.75%	57.97%
New Jersey	4,403	3,745	2,951	78.97%	2,167	1,536	7,522,494	69.70%	55.05%
New Mexico	2,313	1,746	1,555	89.09%	1,172	959	1,712,519	80.40%	71.62%
New York	11,063	9,562	6,603	68.76%	4,835	3,284	16,716,169	64.15%	44.11%
North Carolina	4,185	3,443	2,972	86.23%	1,956	1,533	8,216,513	76.58%	66.03%
North Dakota	3,043	2,363	2,136	90.40%	1,240	969	605,994	77.32%	69.89%
Ohio	6,322	5,307	4,531	85.14%	3,337	2,415	9,706,544	69.80%	59.43%
Oklahoma	2,259	1,828	1,609	88.21%	1,284	937	3,156,090	68.47%	60.40%
Oregon	2,529	2,207	1,877	85.36%	1,318	992	3,365,496	72.93%	62.26%
Pennsylvania	7,101	6,028	4,875	80.53%	3,186	2,388	10,828,027	70.81%	57.02%
Rhode Island	2,681	2,251	1,859	82.83%	1,334	991	902,080	72.13%	59.74%
South Carolina	2,843	2,307	1,958	84.71%	1,308	998	4,008,720	75.19%	63.69%
South Dakota	2,163	1,779	1,679	94.39%	1,275	981	691,583	75.06%	70.85%
Tennessee	2,326	1,939	1,676	86.31%	1,204	946	5,459,207	78.68%	67.91%
Texas	7,004	5,857	5,066	86.53%	4,581	3,383	21,690,765	70.38%	60.90%
Utah	1,534	1,344	1,275	94.87%	1,186	972	2,299,458	80.57%	76.44%
Vermont	3,295	2,651	2,230	83.96%	1,260	948	543,332	73.63%	61.82%
Virginia	3,671	3,261	2,678	82.32%	2,020	1,539	6,870,308	73.13%	60.20%
Washington	2,449	2,173	1,705	78.75%	1,241	935	5,879,524	74.01%	58.28%
West Virginia	3,204	2,612	2,282	87.55%	1,355	933	1,571,398	67.70%	59.27%
Wisconsin	2,924	2,478	2,094	84.25%	1,332	945	4,833,121	69.67%	58.70%
Wyoming	2,828	2,129	1,898	89.09%	1,246	955	480,520	74.19%	66.10%

DU = dwelling unit.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table C.4 Sample Sizes, Weighted Interview Response Rates, and Population Estimates, by State and Three Age Groups: 2014

State	12-17 Total Selected	12-17 Total Responded	12-17 Population Estimate	12-17 Weighted Interview Response Rate	18-25 Total Selected	18-25 Total Responded	18-25 Population Estimate	18-25 Weighted Interview Response Rate	26+ Total Selected	26+ Total Responded	26+ Population Estimate	26+ Weighted Interview Response Rate
Total U.S.	21,392	17,046	24,874,753	80.03%	21,726	16,570	34,934,626	75.88%	48,522	34,285	205,313,486	69.34%
Northeast	4,205	3,276	4,156,404	77.70%	4,204	3,117	6,150,189	71.74%	9,766	6,606	37,325,350	65.72%
Midwest	4,989	3,919	5,371,702	78.29%	5,143	3,820	7,427,562	73.42%	11,391	8,086	43,662,994	69.94%
South	7,210	5,824	9,410,988	81.01%	7,124	5,622	12,942,634	79.34%	15,858	11,335	76,490,313	70.20%
West	4,988	4,027	5,935,659	81.65%	5,255	4,011	8,414,241	75.77%	11,507	8,258	47,834,829	70.22%
Alabama	282	231	381,574	84.31%	291	236	533,886	80.90%	699	497	3,127,180	69.01%
Alaska	365	253	59,580	67.20%	314	222	83,648	68.72%	707	472	437,329	67.72%
Arizona	270	230	545,127	85.91%	311	244	737,788	78.17%	688	497	4,262,775	72.91%
Arkansas	308	249	236,364	78.53%	257	211	319,018	81.55%	697	504	1,888,254	70.65%
California	1,373	1,115	3,065,381	80.92%	1,531	1,151	4,473,314	74.54%	3,499	2,398	24,662,968	67.62%
Colorado	322	256	411,672	79.70%	409	311	580,685	76.85%	626	441	3,433,735	71.35%
Connecticut	335	256	285,016	78.02%	306	219	384,157	68.85%	797	505	2,385,774	62.71%
Delaware	330	264	68,288	78.60%	302	233	100,409	79.53%	632	454	615,419	72.13%
District of Columbia	273	233	30,727	85.77%	289	235	93,220	81.11%	657	467	440,125	70.19%
Florida	1,060	869	1,392,741	82.44%	1,062	847	1,987,479	79.44%	2,263	1,615	13,536,042	67.74%
Georgia	463	367	841,562	78.40%	543	438	1,112,868	81.03%	1,023	744	6,286,218	72.63%
Hawaii	312	249	96,703	81.76%	298	213	141,189	71.89%	729	506	911,353	70.37%
Idaho	276	233	143,867	84.58%	327	246	174,040	74.71%	664	508	1,008,249	74.52%
Illinois	749	558	1,027,930	74.50%	802	561	1,394,050	71.84%	1,937	1,278	8,316,496	65.66%
Indiana	314	249	540,851	80.33%	301	229	742,327	75.03%	679	489	4,176,917	70.77%
Iowa	268	203	242,540	75.35%	331	256	355,200	78.64%	641	453	1,985,109	69.65%
Kansas	275	213	237,294	78.08%	347	280	327,370	81.11%	674	489	1,792,022	71.94%
Kentucky	319	257	339,725	80.59%	324	243	473,910	75.27%	641	446	2,839,503	66.80%
Louisiana	312	255	367,731	81.26%	353	270	517,271	74.77%	637	467	2,913,946	72.28%
Maine	258	196	93,311	75.75%	278	225	126,789	80.17%	694	519	930,936	74.68%
Maryland	330	262	455,432	79.30%	297	229	628,947	75.83%	670	480	3,904,284	70.56%
Massachusetts	338	268	488,379	78.17%	375	273	786,469	72.66%	724	459	4,494,775	64.05%
Michigan	769	597	793,168	76.39%	730	558	1,116,715	75.04%	1,770	1,263	6,462,646	69.61%
Minnesota	309	252	425,574	81.06%	337	251	571,957	76.87%	620	464	3,546,745	74.56%
Mississippi	262	216	244,895	82.71%	272	231	339,299	85.28%	636	462	1,854,619	73.88%

(continued)

Table C.4 Sample Sizes, Weighted Interview Response Rates, and Population Estimates, by State and Three Age Groups: 2014 (continued)

State	12-17 Total Selected	12-17 Total Responded	12-17 Population Estimate	12-17 Weighted Interview Response Rate	18-25 Total Selected	18-25 Total Responded	18-25 Population Estimate	18-25 Weighted Interview Response Rate	26+ Total Selected	26+ Total Responded	26+ Population Estimate	26+ Weighted Interview Response Rate
Missouri	296	239	470,232	82.31%	282	208	657,419	74.23%	640	487	3,906,282	75.09%
Montana	284	222	74,224	79.69%	323	265	111,155	80.21%	680	490	672,526	70.24%
Nebraska	306	242	149,974	79.31%	296	219	210,685	74.17%	666	477	1,175,517	72.54%
Nevada	270	224	221,973	84.05%	318	240	288,475	74.94%	691	497	1,849,457	71.04%
New Hampshire	338	258	99,122	76.99%	294	234	141,805	80.62%	656	440	903,312	65.99%
New Jersey	517	391	699,694	75.24%	533	388	893,781	72.67%	1,117	757	5,929,018	68.64%
New Mexico	308	259	165,894	85.61%	262	220	227,928	84.46%	602	480	1,318,698	78.99%
New York	1,060	817	1,433,846	75.80%	1,077	737	2,238,419	66.42%	2,698	1,730	13,043,905	62.41%
North Carolina	461	380	774,595	82.08%	495	391	1,059,045	80.37%	1,000	762	6,382,874	75.24%
North Dakota	281	228	51,216	81.17%	341	271	102,157	78.81%	618	470	452,621	76.52%
Ohio	764	608	919,721	79.36%	777	550	1,232,774	70.07%	1,796	1,257	7,554,049	68.60%
Oklahoma	265	198	310,671	69.71%	298	235	430,351	77.68%	721	504	2,415,068	66.67%
Oregon	352	284	290,940	82.48%	334	242	413,519	71.42%	632	466	2,661,037	72.14%
Pennsylvania	738	608	937,266	82.54%	760	598	1,374,219	77.83%	1,688	1,182	8,516,542	68.46%
Rhode Island	325	250	75,595	75.22%	288	218	130,594	76.26%	721	523	695,890	70.92%
South Carolina	295	239	363,511	82.24%	304	245	521,002	82.04%	709	514	3,124,207	73.31%
South Dakota	300	251	65,995	83.07%	304	237	93,613	79.14%	671	493	531,976	73.42%
Tennessee	295	238	507,431	80.67%	233	188	703,094	82.76%	676	520	4,248,682	77.82%
Texas	1,137	929	2,342,547	81.93%	1,021	791	3,034,761	78.37%	2,423	1,663	16,313,458	67.20%
Utah	280	242	285,236	87.27%	252	217	374,751	84.88%	654	513	1,639,471	78.58%
Vermont	296	232	44,175	78.65%	293	225	73,958	77.65%	671	491	425,199	72.46%
Virginia	476	391	623,660	83.06%	496	398	897,977	80.79%	1,048	750	5,348,672	70.66%
Washington	272	214	530,698	78.46%	292	224	744,057	76.84%	677	497	4,604,769	73.01%
West Virginia	342	246	129,536	72.19%	287	201	190,099	70.22%	726	486	1,251,764	66.88%
Wisconsin	358	279	447,209	79.03%	295	200	623,296	65.36%	679	466	3,762,616	69.19%
Wyoming	304	246	44,364	79.39%	284	216	63,692	76.18%	658	493	372,464	73.23%

NOTE: Computations in this table are based on a respondent's age at screening. Thus, the data in the Total Responded column(s) could differ from data in other NSDUH tables that use the respondent's age recorded during the interview.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table C.5 Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by State, for Individuals Aged 12 or Older: 2015

State	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate	Weighted Overall Response Rate
Total U.S.	197,962	165,328	132,210	79.69%	94,499	68,073	267,694,489	69.25%	55.19%
Northeast	44,157	37,292	28,065	73.23%	18,988	13,026	47,810,263	65.61%	48.04%
Midwest	46,269	38,853	32,108	81.52%	22,352	15,890	56,662,334	68.39%	55.75%
South	64,177	52,861	43,064	82.87%	30,920	22,768	100,182,409	70.93%	58.78%
West	43,359	36,322	28,973	77.73%	22,239	16,389	63,039,483	70.09%	54.48%
Alabama	2,797	2,185	1,831	83.26%	1,328	953	4,056,416	67.99%	56.61%
Alaska	3,289	2,381	1,892	79.18%	1,373	981	581,652	71.59%	56.68%
Arizona	3,022	2,314	1,949	84.15%	1,363	996	5,645,911	70.73%	59.52%
Arkansas	2,875	2,344	2,005	85.49%	1,343	981	2,457,367	68.96%	58.95%
California	11,282	10,153	7,564	73.80%	6,445	4,671	32,556,837	68.69%	50.69%
Colorado	2,637	2,240	1,795	80.03%	1,328	994	4,526,726	72.42%	57.96%
Connecticut	2,872	2,518	1,936	76.95%	1,411	964	3,058,139	66.21%	50.94%
Delaware	2,701	2,339	1,756	75.03%	1,323	945	795,351	71.21%	53.43%
District of Columbia	5,177	4,341	3,118	71.43%	1,231	924	574,552	74.47%	53.19%
Florida	10,530	8,387	6,793	80.63%	4,665	3,386	17,257,952	70.07%	56.50%
Georgia	4,015	3,307	2,603	78.78%	1,992	1,498	8,359,362	71.79%	56.56%
Hawaii	3,139	2,630	1,959	74.23%	1,389	1,020	1,158,550	70.76%	52.53%
Idaho	2,020	1,813	1,530	84.44%	1,277	949	1,347,084	72.78%	61.46%
Illinois	7,103	6,286	4,639	73.92%	3,592	2,365	10,737,272	63.14%	46.67%
Indiana	2,729	2,292	1,819	79.34%	1,376	973	5,486,199	68.00%	53.95%
Iowa	3,068	2,668	2,265	84.66%	1,357	962	2,597,548	68.53%	58.02%
Kansas	2,640	2,283	1,962	85.92%	1,351	986	2,367,256	71.42%	61.37%
Kentucky	2,469	2,000	1,695	84.66%	1,271	938	3,667,827	72.06%	61.01%
Louisiana	2,618	2,170	1,804	83.66%	1,282	957	3,819,762	73.03%	61.10%
Maine	4,277	3,140	2,643	84.00%	1,400	994	1,151,684	68.79%	57.78%
Maryland	2,308	2,018	1,513	75.20%	1,290	946	5,018,659	69.83%	52.52%
Massachusetts	3,366	2,960	2,131	72.27%	1,591	948	5,822,667	57.99%	41.91%
Michigan	7,166	5,787	4,853	83.66%	3,383	2,441	8,392,983	69.43%	58.08%
Minnesota	2,490	2,149	1,766	82.05%	1,286	951	4,575,592	73.16%	60.02%
Mississippi	2,554	2,060	1,741	84.80%	1,257	921	2,443,849	70.17%	59.51%

(continued)

Table C.5 Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by State, for Individuals Aged 12 or Older: 2015 (continued)

State	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate	Weighted Overall Response Rate
Missouri	2,582	2,094	1,846	88.22%	1,342	986	5,057,574	70.25%	61.98%
Montana	3,195	2,528	2,159	85.62%	1,329	977	866,257	69.44%	59.45%
Nebraska	2,510	2,156	1,794	82.82%	1,301	945	1,548,885	71.21%	58.97%
Nevada	2,676	2,287	1,746	76.61%	1,317	997	2,408,267	69.97%	53.60%
New Hampshire	3,324	2,763	2,191	79.00%	1,435	995	1,148,726	68.23%	53.90%
New Jersey	4,076	3,647	2,807	75.90%	2,247	1,517	7,552,211	65.39%	49.63%
New Mexico	2,568	1,853	1,644	88.94%	1,260	959	1,717,549	73.85%	65.68%
New York	12,117	10,496	6,863	64.83%	4,963	3,310	16,779,910	63.60%	41.23%
North Carolina	4,251	3,606	2,990	82.87%	2,125	1,576	8,320,518	69.99%	58.00%
North Dakota	3,425	2,758	2,484	89.86%	1,342	988	618,680	72.44%	65.09%
Ohio	7,032	5,899	4,773	80.86%	3,458	2,428	9,732,558	68.48%	55.38%
Oklahoma	2,857	2,285	1,918	84.37%	1,359	971	3,185,569	67.59%	57.02%
Oregon	2,526	2,195	1,803	82.11%	1,333	962	3,420,080	71.04%	58.33%
Pennsylvania	7,429	6,257	5,054	80.80%	3,232	2,374	10,849,493	71.72%	57.95%
Rhode Island	2,901	2,461	1,915	77.81%	1,354	964	903,886	69.45%	54.04%
South Carolina	2,944	2,436	2,040	83.70%	1,304	987	4,070,523	72.52%	60.70%
South Dakota	2,354	1,968	1,799	91.69%	1,199	904	695,959	74.77%	68.56%
Tennessee	2,670	2,172	1,846	84.96%	1,352	1,004	5,507,975	69.71%	59.22%
Texas	6,227	5,184	4,538	87.56%	4,358	3,308	22,151,524	73.28%	64.16%
Utah	1,506	1,316	1,176	89.31%	1,204	968	2,350,775	77.43%	69.16%
Vermont	3,795	3,050	2,525	82.82%	1,355	960	543,548	68.96%	57.11%
Virginia	3,934	3,410	2,754	80.78%	2,113	1,526	6,928,628	69.71%	56.32%
Washington	2,692	2,423	1,867	76.82%	1,306	944	5,978,195	69.98%	53.76%
West Virginia	3,250	2,617	2,119	80.92%	1,327	947	1,566,577	66.77%	54.03%
Wisconsin	3,170	2,513	2,108	84.08%	1,365	961	4,851,828	68.35%	57.47%
Wyoming	2,807	2,189	1,889	86.02%	1,315	971	481,602	72.26%	62.16%

DU = dwelling unit.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2015.

Table C.6 Sample Sizes, Weighted Interview Response Rates, and Population Estimates, by State and Three Age Groups: 2015

State	12-17 Total Selected	12-17 Total Responded	12-17 Population Estimate	12-17 Weighted Interview Response Rate	18-25 Total Selected	18-25 Total Responded	18-25 Population Estimate	18-25 Weighted Interview Response Rate	26+ Total Selected	26+ Total Responded	26+ Population Estimate	26+ Weighted Interview Response Rate
Total U.S.	21,859	16,955	24,893,417	77.66%	23,211	17,215	34,907,162	74.45%	49,429	33,903	207,893,910	67.36%
Northeast	4,308	3,228	4,124,414	72.98%	4,651	3,233	6,117,578	68.66%	10,029	6,565	37,568,270	64.28%
Midwest	5,296	3,955	5,351,313	73.95%	5,509	4,106	7,415,255	74.10%	11,547	7,829	43,895,766	66.73%
South	7,267	5,767	9,483,323	79.64%	7,496	5,676	12,959,382	76.41%	16,157	11,325	77,739,704	68.96%
West	4,988	4,005	5,934,367	81.09%	5,555	4,200	8,414,946	75.99%	11,696	8,184	48,690,170	67.73%
Alabama	289	229	380,027	78.20%	338	251	527,315	74.78%	701	473	3,149,075	65.56%
Alaska	322	227	58,808	69.67%	331	247	82,845	73.61%	720	507	439,999	71.46%
Arizona	296	239	547,813	80.67%	324	248	745,197	76.07%	743	509	4,352,901	68.60%
Arkansas	323	256	236,353	77.64%	329	245	318,810	74.57%	691	480	1,902,203	66.87%
California	1,411	1,148	3,044,310	80.84%	1,603	1,224	4,441,883	76.89%	3,431	2,299	25,070,645	65.77%
Colorado	320	269	419,211	84.39%	327	241	593,941	73.82%	681	484	3,513,574	70.56%
Connecticut	305	241	281,090	79.35%	347	227	387,506	64.40%	759	496	2,389,542	64.87%
Delaware	302	238	68,905	79.72%	325	221	98,641	67.69%	696	486	627,805	70.81%
District of Columbia	264	210	30,686	80.79%	257	190	94,114	73.72%	710	524	449,752	74.18%
Florida	1,072	844	1,406,795	78.55%	1,159	889	1,981,426	77.16%	2,434	1,653	13,869,730	68.21%
Georgia	524	420	851,391	80.68%	447	358	1,116,369	79.67%	1,021	720	6,391,602	69.17%
Hawaii	286	226	97,117	75.80%	360	275	139,707	76.77%	743	519	921,726	69.35%
Idaho	281	220	145,770	80.39%	346	260	174,661	76.34%	650	469	1,026,653	71.02%
Illinois	887	648	1,018,545	72.96%	809	561	1,382,295	68.56%	1,896	1,156	8,336,432	61.04%
Indiana	316	242	540,488	73.99%	352	256	743,142	73.45%	708	475	4,202,568	66.29%
Iowa	346	253	243,085	73.21%	346	249	358,657	72.25%	665	460	1,995,806	67.26%
Kansas	347	251	237,829	71.04%	296	242	329,951	83.24%	708	493	1,799,476	69.27%
Kentucky	296	232	339,561	77.14%	297	224	471,843	75.59%	678	482	2,856,423	70.90%
Louisiana	311	244	367,609	79.34%	319	233	509,882	73.11%	652	480	2,942,271	72.13%
Maine	382	293	91,980	75.70%	309	217	125,074	69.44%	709	484	934,630	67.99%
Maryland	307	238	453,696	78.67%	326	247	622,611	75.45%	657	461	3,942,353	68.06%
Massachusetts	337	228	487,806	67.52%	375	221	791,046	57.80%	879	499	4,543,815	56.96%
Michigan	798	601	784,266	74.15%	847	653	1,112,424	77.93%	1,738	1,187	6,496,293	67.36%
Minnesota	319	247	426,424	76.74%	304	230	571,849	77.88%	663	474	3,577,318	71.96%
Mississippi	287	231	244,034	81.89%	289	226	335,131	77.47%	681	464	1,864,684	67.41%

(continued)

Table C.6 Sample Sizes, Weighted Interview Response Rates, and Population Estimates, by State and Three Age Groups: 2015 (continued)

State	12-17 Total Selected	12-17 Total Responded	12-17 Population Estimate	12-17 Weighted Interview Response Rate	18-25 Total Selected	18-25 Total Responded	18-25 Population Estimate	18-25 Weighted Interview Response Rate	26+ Total Selected	26+ Total Responded	26+ Population Estimate	26+ Weighted Interview Response Rate
Missouri	308	244	470,294	77.78%	384	293	655,956	76.45%	650	449	3,931,325	68.27%
Montana	300	230	74,532	77.20%	302	229	111,838	73.93%	727	518	679,888	67.95%
Nebraska	289	220	152,144	76.73%	338	248	212,640	71.16%	674	477	1,184,101	70.52%
Nevada	324	271	223,603	84.13%	334	254	288,923	75.66%	659	472	1,895,740	67.17%
New Hampshire	322	238	97,633	75.02%	325	235	143,062	74.78%	788	522	908,031	66.49%
New Jersey	527	387	695,324	72.89%	588	411	894,807	69.65%	1,132	719	5,962,081	63.92%
New Mexico	255	215	164,982	84.38%	304	237	226,226	78.86%	701	507	1,326,341	71.89%
New York	1,065	766	1,421,217	69.93%	1,302	909	2,218,443	67.76%	2,596	1,635	13,140,250	62.15%
North Carolina	539	438	780,506	82.17%	515	397	1,065,839	77.39%	1,071	741	6,474,173	67.38%
North Dakota	318	231	52,164	71.69%	328	259	104,459	77.80%	696	498	462,057	71.27%
Ohio	803	589	914,823	72.84%	827	599	1,225,255	73.19%	1,828	1,240	7,592,481	67.22%
Oklahoma	349	260	313,866	75.40%	289	215	431,841	71.97%	721	496	2,439,862	65.76%
Oregon	281	214	291,606	77.27%	335	244	415,900	72.61%	717	504	2,712,575	70.12%
Pennsylvania	742	574	931,284	77.42%	794	596	1,354,815	76.16%	1,696	1,204	8,563,393	70.38%
Rhode Island	286	228	74,717	79.60%	332	235	128,339	71.08%	736	501	700,830	68.02%
South Carolina	344	282	366,745	82.77%	274	219	519,107	79.59%	686	486	3,184,672	70.29%
South Dakota	300	230	65,584	77.20%	297	233	93,003	77.41%	602	441	537,373	73.96%
Tennessee	295	230	508,351	77.48%	414	318	703,173	74.53%	643	456	4,296,451	67.99%
Texas	959	780	2,380,293	80.39%	1,085	849	3,080,905	78.32%	2,314	1,679	16,690,326	71.33%
Utah	299	262	292,037	88.19%	308	250	383,514	81.11%	597	456	1,675,224	74.73%
Vermont	342	273	43,364	79.72%	279	182	74,485	66.68%	734	505	425,699	68.21%
Virginia	490	392	625,315	79.95%	504	357	895,251	70.76%	1,119	777	5,408,062	68.32%
Washington	285	227	530,641	79.31%	350	250	747,302	71.32%	671	467	4,700,252	68.75%
West Virginia	316	243	129,191	78.60%	329	237	187,125	73.58%	682	467	1,250,260	64.34%
Wisconsin	265	199	445,668	72.18%	381	283	625,624	72.36%	719	479	3,780,537	67.14%
Wyoming	328	257	43,939	77.94%	331	241	63,010	74.06%	656	473	374,652	71.28%

NOTE: Computations in this table are based on a respondent's age at screening. Thus, the data in the Total Responded column(s) could differ from data in other NSDUH tables that use the respondent's age recorded during the interview.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2015.

Table C.7 Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by State, for Individuals Aged 12 or Older: 2013 and 2014

State	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate	Weighted Overall Response Rate
Total U.S.	412,088	344,600	287,930	82.92%	180,382	135,739	263,757,160	71.44%	59.24%
Northeast	91,979	77,673	61,531	77.56%	36,509	26,660	47,510,090	68.14%	52.85%
Midwest	104,386	87,601	74,569	84.64%	46,365	34,647	56,338,455	71.36%	60.39%
South	131,479	108,446	92,076	85.12%	56,950	43,563	98,178,474	72.88%	62.04%
West	84,244	70,880	59,754	81.92%	40,558	30,869	61,730,140	71.77%	58.80%
Alabama	5,750	4,605	3,871	83.48%	2,428	1,864	4,033,842	70.62%	58.95%
Alaska	6,162	4,693	3,994	85.07%	2,508	1,810	578,933	71.30%	60.65%
Arizona	5,527	4,236	3,650	86.20%	2,439	1,853	5,494,617	72.15%	62.20%
Arkansas	5,395	4,392	3,930	89.35%	2,455	1,872	2,439,409	72.94%	65.17%
California	20,233	18,168	14,294	78.27%	11,267	8,393	31,970,791	70.13%	54.89%
Colorado	5,397	4,690	3,859	82.35%	2,530	1,893	4,382,715	72.05%	59.33%
Connecticut	5,779	5,175	4,291	82.79%	2,636	1,873	3,050,288	67.55%	55.92%
Delaware	5,814	4,886	3,928	80.36%	2,377	1,813	779,378	72.94%	58.62%
District of Columbia	9,796	8,260	6,502	78.17%	2,361	1,842	559,703	74.11%	57.93%
Florida	24,443	19,278	15,999	81.93%	9,177	6,980	16,757,959	70.99%	58.16%
Georgia	6,353	5,307	4,403	82.83%	3,122	2,401	8,187,094	73.74%	61.08%
Hawaii	6,236	5,330	4,169	77.63%	2,579	1,892	1,142,582	69.15%	53.68%
Idaho	4,320	3,710	3,340	89.78%	2,430	1,894	1,315,995	75.60%	67.87%
Illinois	18,671	16,245	12,319	75.59%	8,423	5,900	10,726,071	66.62%	50.35%
Indiana	5,496	4,591	3,964	86.19%	2,459	1,861	5,445,535	71.89%	61.97%
Iowa	5,196	4,419	3,971	89.78%	2,404	1,812	2,574,919	71.43%	64.13%
Kansas	4,912	4,181	3,649	87.08%	2,461	1,869	2,350,428	73.49%	64.00%
Kentucky	5,641	4,636	4,168	89.66%	2,444	1,850	3,643,187	71.36%	63.98%
Louisiana	5,312	4,308	3,838	88.65%	2,462	1,895	3,786,568	73.39%	65.06%
Maine	6,966	5,072	4,550	89.55%	2,355	1,866	1,149,510	76.78%	68.75%
Maryland	5,242	4,681	3,676	78.18%	2,480	1,896	4,967,852	74.52%	58.26%
Massachusetts	5,955	5,233	4,257	81.16%	2,677	1,897	5,740,609	67.87%	55.08%
Michigan	18,689	15,342	12,808	83.35%	7,985	6,054	8,359,339	71.83%	59.87%
Minnesota	4,970	4,383	3,881	88.66%	2,392	1,873	4,526,990	76.40%	67.74%
Mississippi	4,640	3,733	3,327	88.96%	2,258	1,827	2,433,807	77.78%	69.19%

(continued)

Table C.7 Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by State, for Individuals Aged 12 or Older: 2013 and 2014 (continued)

State	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate	Weighted Overall Response Rate
Missouri	5,722	4,702	4,169	88.41%	2,401	1,851	5,021,862	74.42%	65.79%
Montana	5,820	4,699	4,287	91.06%	2,464	1,887	854,187	73.49%	66.92%
Nebraska	5,511	4,602	4,121	89.28%	2,414	1,848	1,530,287	73.85%	65.94%
Nevada	5,174	4,332	3,596	82.06%	2,416	1,893	2,336,081	73.68%	60.46%
New Hampshire	6,532	5,358	4,553	84.88%	2,531	1,885	1,141,071	72.29%	61.36%
New Jersey	7,567	6,519	5,232	80.70%	3,405	2,449	7,499,719	69.30%	55.92%
New Mexico	5,181	4,000	3,593	89.62%	2,340	1,881	1,710,041	77.04%	69.04%
New York	26,220	22,554	15,846	69.96%	10,083	6,921	16,667,826	63.90%	44.71%
North Carolina	7,057	5,825	5,062	86.93%	3,059	2,413	8,165,327	76.26%	66.30%
North Dakota	6,677	5,130	4,698	91.45%	2,497	1,914	599,990	72.95%	66.71%
Ohio	17,862	15,131	12,981	85.53%	8,071	5,983	9,692,251	70.40%	60.21%
Oklahoma	5,089	4,154	3,709	89.32%	2,534	1,887	3,143,373	68.68%	61.35%
Oregon	5,299	4,665	4,030	86.40%	2,411	1,853	3,346,707	74.87%	64.69%
Pennsylvania	20,393	17,518	14,088	80.26%	7,946	6,051	10,818,453	71.95%	57.75%
Rhode Island	5,650	4,766	4,064	85.14%	2,501	1,895	899,690	72.04%	61.34%
South Carolina	6,134	5,070	4,266	84.02%	2,442	1,906	3,980,592	75.79%	63.68%
South Dakota	4,891	3,983	3,738	93.89%	2,381	1,870	688,348	75.92%	71.28%
Tennessee	5,293	4,370	3,828	87.37%	2,325	1,840	5,433,594	75.87%	66.29%
Texas	16,327	13,744	11,939	86.84%	9,324	6,987	21,456,935	71.22%	61.84%
Utah	3,566	3,115	2,953	94.96%	2,336	1,902	2,279,009	77.97%	74.04%
Vermont	6,917	5,478	4,650	84.72%	2,375	1,823	542,924	75.24%	63.74%
Virginia	6,463	5,674	4,750	83.72%	3,168	2,441	6,836,908	74.75%	62.58%
Washington	5,047	4,408	3,642	82.59%	2,416	1,835	5,838,584	72.75%	60.09%
West Virginia	6,730	5,523	4,880	88.41%	2,534	1,849	1,572,945	71.93%	63.59%
Wisconsin	5,789	4,892	4,270	87.10%	2,477	1,812	4,822,436	71.62%	62.38%
Wyoming	6,282	4,834	4,347	89.73%	2,422	1,883	479,899	76.43%	68.58%

DU = dwelling unit.

NOTE: To compute the pooled 2013-2014 weighted response rates, two samples were combined, and the individual year weights were used for the pooled sample. Thus, the response rates presented here are weighted across 2 years of data rather than being a simple average of the 2013 and 2014 individual response rates. The 2013-2014 population estimate is the average of the 2013 and the 2014 population.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013 and 2014.

Table C.8 Sample Sizes, Weighted Interview Response Rates, and Population Estimates, by State and Three Age Groups: 2013 and 2014

State	12-17 Total Selected	12-17 Total Responded	12-17 Population Estimate	12-17 Weighted Interview Response Rate	18-25 Total Selected	18-25 Total Responded	18-25 Population Estimate	18-25 Weighted Interview Response Rate	26+ Total Selected	26+ Total Responded	26+ Population Estimate	26+ Weighted Interview Response Rate
Total U.S.	49,022	39,578	24,883,686	80.99%	50,647	39,028	34,860,063	76.61%	80,713	57,133	204,013,411	69.39%
Northeast	9,905	7,837	4,171,861	78.55%	10,119	7,582	6,149,607	72.98%	16,485	11,241	37,188,621	66.16%
Midwest	12,719	10,139	5,384,865	79.29%	13,379	10,148	7,417,058	74.82%	20,267	14,360	43,536,532	69.79%
South	15,578	12,728	9,383,697	81.75%	15,690	12,384	12,900,076	78.95%	25,682	18,451	75,894,702	70.74%
West	10,820	8,874	5,943,263	83.02%	11,459	8,914	8,393,322	77.24%	18,279	13,081	47,393,555	69.39%
Alabama	663	553	382,134	83.41%	668	540	535,409	79.84%	1,097	771	3,116,298	67.52%
Alaska	729	529	59,900	71.89%	694	523	83,456	73.24%	1,085	758	435,577	70.87%
Arizona	666	553	543,484	83.67%	696	537	732,863	77.21%	1,077	763	4,218,271	69.76%
Arkansas	635	504	236,666	78.38%	711	561	319,372	78.89%	1,109	807	1,883,371	71.31%
California	2,863	2,378	3,080,548	83.11%	3,102	2,387	4,469,106	76.62%	5,302	3,628	24,421,137	67.30%
Colorado	644	515	408,429	80.29%	808	615	575,557	76.15%	1,078	763	3,398,728	70.34%
Connecticut	726	572	286,281	80.43%	657	490	381,473	73.50%	1,253	811	2,382,534	65.04%
Delaware	664	545	67,991	80.28%	698	542	101,239	78.97%	1,015	726	610,148	71.09%
District of Columbia	647	560	30,551	87.12%	593	472	93,509	80.69%	1,121	810	435,643	71.78%
Florida	2,467	2,025	1,390,131	82.62%	2,575	2,031	1,980,707	78.66%	4,135	2,924	13,387,121	68.71%
Georgia	821	658	838,199	80.33%	927	744	1,108,195	80.23%	1,374	999	6,240,700	71.56%
Hawaii	680	555	96,971	81.50%	715	534	140,686	73.43%	1,184	803	904,925	67.25%
Idaho	613	513	142,945	84.55%	756	587	173,361	78.38%	1,061	794	999,689	73.87%
Illinois	2,209	1,703	1,033,794	76.86%	2,463	1,762	1,394,857	71.74%	3,751	2,435	8,297,420	64.55%
Indiana	680	541	541,174	79.19%	666	517	740,165	76.12%	1,113	803	4,164,196	70.23%
Iowa	625	490	242,393	77.21%	726	571	352,842	79.35%	1,053	751	1,979,684	69.23%
Kansas	644	509	237,609	79.26%	733	575	325,999	79.43%	1,084	785	1,786,820	71.67%
Kentucky	685	557	340,101	81.45%	689	539	470,972	78.33%	1,070	754	2,832,115	68.90%
Louisiana	682	552	367,862	79.96%	693	546	519,036	77.25%	1,087	797	2,899,670	71.93%
Maine	648	524	93,811	79.34%	639	531	127,380	82.41%	1,068	811	928,319	75.81%
Maryland	705	564	455,684	80.19%	686	535	629,854	76.02%	1,089	797	3,882,314	73.58%
Massachusetts	708	553	488,765	77.37%	802	584	782,118	72.88%	1,167	760	4,469,726	65.98%
Michigan	2,257	1,791	797,647	78.27%	2,280	1,778	1,114,774	76.55%	3,448	2,485	6,446,918	70.25%
Minnesota	644	539	425,247	84.20%	728	558	571,816	76.50%	1,020	776	3,529,926	75.52%
Mississippi	639	553	245,600	85.82%	600	518	338,718	86.22%	1,019	756	1,849,489	75.13%

(continued)

Table C.8 Sample Sizes, Weighted Interview Response Rates, and Population Estimates, by State and Three Age Groups: 2013 and 2014 (continued)

State	12-17 Total Selected	12-17 Total Responded	12-17 Population Estimate	12-17 Weighted Interview Response Rate	18-25 Total Selected	18-25 Total Responded	18-25 Population Estimate	18-25 Weighted Interview Response Rate	26+ Total Selected	26+ Total Responded	26+ Population Estimate	26+ Weighted Interview Response Rate
Missouri	654	541	470,976	82.48%	663	500	656,394	75.21%	1,084	810	3,894,492	73.34%
Montana	678	536	74,121	79.66%	720	574	110,655	78.84%	1,066	777	669,411	71.82%
Nebraska	696	563	149,327	80.04%	667	528	209,508	78.45%	1,051	757	1,171,452	72.08%
Nevada	625	534	221,704	86.30%	669	554	287,435	80.89%	1,122	805	1,826,942	71.01%
New Hampshire	731	562	99,717	76.82%	708	553	141,165	79.27%	1,092	770	900,190	70.65%
New Jersey	897	684	701,644	77.06%	937	701	890,874	75.11%	1,571	1,064	5,907,201	67.49%
New Mexico	648	556	166,639	86.54%	640	517	228,647	80.87%	1,052	808	1,314,755	75.15%
New York	2,745	2,120	1,440,280	76.57%	2,726	1,873	2,239,134	67.62%	4,612	2,928	12,988,411	61.79%
North Carolina	771	646	771,607	84.54%	863	681	1,054,654	78.99%	1,425	1,086	6,339,066	74.77%
North Dakota	649	525	50,733	80.11%	743	586	100,601	78.86%	1,105	803	448,656	70.85%
Ohio	2,306	1,828	922,292	79.04%	2,302	1,723	1,235,723	74.20%	3,463	2,432	7,534,236	68.71%
Oklahoma	688	544	309,426	76.31%	710	554	429,192	77.37%	1,136	789	2,404,755	66.18%
Oregon	673	547	291,323	81.68%	695	531	413,626	75.68%	1,043	775	2,641,759	74.00%
Pennsylvania	2,121	1,754	941,238	82.66%	2,335	1,818	1,382,616	77.82%	3,490	2,479	8,494,600	69.81%
Rhode Island	697	562	75,717	79.86%	648	507	131,028	77.69%	1,156	826	692,945	70.11%
South Carolina	687	558	362,044	81.55%	649	530	521,862	82.47%	1,106	818	3,096,686	74.02%
South Dakota	659	555	65,627	83.65%	665	523	93,403	78.92%	1,057	792	529,318	74.53%
Tennessee	666	555	506,479	82.84%	592	480	700,245	82.17%	1,067	805	4,226,870	74.05%
Texas	2,541	2,068	2,327,085	81.29%	2,609	2,010	3,010,183	77.38%	4,174	2,909	16,119,667	68.63%
Utah	651	560	282,277	86.82%	671	557	372,803	83.11%	1,014	785	1,623,929	75.24%
Vermont	632	506	44,408	80.00%	667	525	73,820	79.15%	1,076	792	424,696	74.09%
Virginia	870	722	622,264	84.16%	818	645	896,567	80.03%	1,480	1,074	5,318,077	72.63%
Washington	625	511	530,795	82.05%	657	513	741,218	77.88%	1,134	811	4,566,571	70.86%
West Virginia	747	564	129,873	75.44%	609	456	190,362	74.84%	1,178	829	1,252,711	71.12%
Wisconsin	696	554	448,046	79.56%	743	527	620,976	68.68%	1,038	731	3,753,413	71.10%
Wyoming	725	587	44,128	80.13%	636	485	63,910	77.28%	1,061	811	371,861	75.86%

NOTE: Computations in this table are based on a respondent's age at screening. Thus, the data in the Total Responded column(s) could differ from data in other NSDUH tables that use the respondent's age recorded during the interview.

NOTE: To compute the pooled 2013-2014 weighted response rates, two samples were combined, and the individual year weights were used for the pooled sample. Thus, the response rates presented here are weighted across 2 years of data rather than being a simple average of the 2013 and 2014 individual response rates. The 2013-2014 population estimate is the average of the 2013 and the 2014 population.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013 and 2014.

Table C.9 Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by State, for Individuals Aged 12 or Older: 2014 and 2015

State	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate	Weighted Overall Response Rate
Total U.S.	382,975	319,861	259,815	80.81%	186,139	135,974	266,408,677	70.22%	56.75%
Northeast	84,824	71,357	54,809	74.92%	37,163	26,025	47,721,103	66.57%	49.88%
Midwest	88,950	74,548	62,297	82.56%	43,875	31,715	56,562,296	69.79%	57.62%
South	125,720	103,844	85,852	83.72%	61,112	45,549	99,513,172	71.68%	60.01%
West	83,481	70,112	56,857	78.97%	43,989	32,685	62,612,105	71.07%	56.12%
Alabama	5,437	4,268	3,561	83.09%	2,600	1,917	4,049,528	70.00%	58.17%
Alaska	6,274	4,727	3,842	81.18%	2,759	1,928	581,104	69.70%	56.59%
Arizona	5,536	4,226	3,608	85.51%	2,632	1,967	5,595,800	72.80%	62.25%
Arkansas	5,549	4,547	3,951	86.78%	2,605	1,945	2,450,501	70.86%	61.50%
California	21,521	19,356	14,647	75.06%	12,848	9,335	32,379,250	69.25%	51.98%
Colorado	5,244	4,494	3,638	80.95%	2,685	2,002	4,476,409	72.69%	58.84%
Connecticut	5,662	5,002	3,933	78.65%	2,849	1,944	3,056,542	65.54%	51.54%
Delaware	5,473	4,740	3,611	76.24%	2,587	1,896	789,734	72.42%	55.21%
District of Columbia	9,507	8,047	5,920	73.51%	2,450	1,859	569,312	73.67%	54.16%
Florida	20,799	16,609	13,616	81.52%	9,050	6,717	17,087,107	70.19%	57.22%
Georgia	7,708	6,396	5,170	80.87%	4,021	3,047	8,300,005	73.09%	59.11%
Hawaii	6,081	5,099	3,893	76.04%	2,728	1,988	1,153,898	71.14%	54.09%
Idaho	3,952	3,503	3,007	85.87%	2,544	1,936	1,336,620	74.19%	63.71%
Illinois	14,007	12,152	9,046	74.45%	7,080	4,762	10,737,874	65.21%	48.55%
Indiana	5,233	4,370	3,601	82.54%	2,670	1,940	5,473,147	70.16%	57.91%
Iowa	5,564	4,769	4,116	86.27%	2,597	1,874	2,590,199	69.99%	60.38%
Kansas	4,944	4,273	3,667	85.75%	2,647	1,968	2,361,971	72.63%	62.28%
Kentucky	5,025	4,080	3,522	86.20%	2,555	1,884	3,660,483	70.68%	60.92%
Louisiana	5,053	4,157	3,546	85.63%	2,584	1,949	3,809,355	73.28%	62.75%
Maine	7,619	5,504	4,749	86.51%	2,630	1,934	1,151,360	72.09%	62.37%
Maryland	4,791	4,269	3,270	76.18%	2,587	1,917	5,003,661	70.91%	54.02%
Massachusetts	6,314	5,501	4,199	76.88%	3,028	1,948	5,796,145	62.17%	47.79%
Michigan	13,775	11,191	9,351	83.49%	6,652	4,859	8,382,756	70.19%	58.60%
Minnesota	4,865	4,260	3,591	84.26%	2,552	1,918	4,559,933	74.31%	62.62%
Mississippi	4,753	3,774	3,239	86.02%	2,427	1,830	2,441,331	73.26%	63.02%

(continued)

Table C.9 Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by State, for Individuals Aged 12 or Older: 2014 and 2015 (continued)

State	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate	Weighted Overall Response Rate
Missouri	5,160	4,210	3,685	87.52%	2,560	1,920	5,045,753	72.95%	63.85%
Montana	6,024	4,798	4,195	87.66%	2,616	1,954	862,081	70.88%	62.14%
Nebraska	4,969	4,258	3,636	85.24%	2,569	1,883	1,542,530	72.31%	61.64%
Nevada	5,097	4,334	3,338	76.96%	2,596	1,958	2,384,086	71.41%	54.96%
New Hampshire	6,368	5,202	4,246	81.65%	2,723	1,927	1,146,483	68.49%	55.92%
New Jersey	8,479	7,392	5,758	77.41%	4,414	3,053	7,537,352	67.53%	52.28%
New Mexico	4,881	3,599	3,199	89.01%	2,432	1,918	1,715,034	76.99%	68.53%
New York	23,180	20,058	13,466	66.83%	9,798	6,594	16,748,040	63.87%	42.69%
North Carolina	8,436	7,049	5,962	84.53%	4,081	3,109	8,268,515	73.18%	61.86%
North Dakota	6,468	5,121	4,620	90.12%	2,582	1,957	612,337	74.86%	67.46%
Ohio	13,354	11,206	9,304	82.99%	6,795	4,843	9,719,551	69.14%	57.38%
Oklahoma	5,116	4,113	3,527	86.27%	2,643	1,908	3,170,829	68.03%	58.69%
Oregon	5,055	4,402	3,680	83.70%	2,651	1,954	3,392,788	71.97%	60.24%
Pennsylvania	14,530	12,285	9,929	80.66%	6,418	4,762	10,838,760	71.26%	57.48%
Rhode Island	5,582	4,712	3,774	80.29%	2,688	1,955	902,983	70.75%	56.80%
South Carolina	5,787	4,743	3,998	84.19%	2,612	1,985	4,039,622	73.83%	62.15%
South Dakota	4,517	3,747	3,478	93.04%	2,474	1,885	693,771	74.92%	69.70%
Tennessee	4,996	4,111	3,522	85.64%	2,556	1,950	5,483,591	74.16%	63.51%
Texas	13,231	11,041	9,604	87.06%	8,939	6,691	21,921,145	71.84%	62.54%
Utah	3,040	2,660	2,451	92.12%	2,390	1,940	2,325,116	79.00%	72.78%
Vermont	7,090	5,701	4,755	83.39%	2,615	1,908	543,440	71.33%	59.48%
Virginia	7,605	6,671	5,432	81.58%	4,133	3,065	6,899,468	71.42%	58.27%
Washington	5,141	4,596	3,572	77.76%	2,547	1,879	5,928,859	71.97%	55.97%
West Virginia	6,454	5,229	4,401	84.30%	2,682	1,880	1,568,988	67.25%	56.70%
Wisconsin	6,094	4,991	4,202	84.17%	2,697	1,906	4,842,475	69.01%	58.08%
Wyoming	5,635	4,318	3,787	87.57%	2,561	1,926	481,061	73.23%	64.13%

DU = dwelling unit.

NOTE: To compute the pooled 2014-2015 weighted response rates, two samples were combined, and the individual year weights were used for the pooled sample. Thus, the response rates presented here are weighted across 2 years of data rather than being a simple average of the 2014 and 2015 individual response rates. The 2014-2015 population estimate is the average of the 2014 and the 2015 population.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014 and 2015.

Table C.10 Sample Sizes, Weighted Interview Response Rates, and Population Estimates, by State and Three Age Groups: 2014 and 2015

State	12-17 Total Selected	12-17 Total Responded	12-17 Population Estimate	12-17 Weighted Interview Response Rate	18-25 Total Selected	18-25 Total Responded	18-25 Population Estimate	18-25 Weighted Interview Response Rate	26+ Total Selected	26+ Total Responded	26+ Population Estimate	26+ Weighted Interview Response Rate
Total U.S.	43,251	34,001	24,884,085	78.85%	44,937	33,785	34,920,893	75.16%	97,951	68,188	206,603,698	68.35%
Northeast	8,513	6,504	4,140,409	75.34%	8,855	6,350	6,133,884	70.19%	19,795	13,171	37,446,810	65.00%
Midwest	10,285	7,874	5,361,507	76.13%	10,652	7,926	7,421,409	73.76%	22,938	15,915	43,779,380	68.35%
South	14,477	11,591	9,447,156	80.32%	14,620	11,298	12,951,008	77.86%	32,015	22,660	77,115,008	69.57%
West	9,976	8,032	5,935,013	81.37%	10,810	8,211	8,414,593	75.88%	23,203	16,442	48,262,499	68.97%
Alabama	571	460	380,801	81.22%	629	487	530,600	77.87%	1,400	970	3,138,127	67.31%
Alaska	687	480	59,194	68.45%	645	469	83,247	71.20%	1,427	979	438,664	69.59%
Arizona	566	469	546,470	83.32%	635	492	741,492	77.11%	1,431	1,006	4,307,838	70.77%
Arkansas	631	505	236,359	78.09%	586	456	318,914	77.91%	1,388	984	1,895,228	68.83%
California	2,784	2,263	3,054,845	80.88%	3,134	2,375	4,457,598	75.71%	6,930	4,697	24,866,806	66.69%
Colorado	642	525	415,441	82.10%	736	552	587,313	75.37%	1,307	925	3,473,655	70.95%
Connecticut	640	497	283,053	78.71%	653	446	385,831	66.63%	1,556	1,001	2,387,658	63.79%
Delaware	632	502	68,597	79.16%	627	454	99,525	73.56%	1,328	940	621,612	71.46%
District of Columbia	537	443	30,707	83.27%	546	425	93,667	77.48%	1,367	991	444,939	72.25%
Florida	2,132	1,713	1,399,768	80.50%	2,221	1,736	1,984,453	78.28%	4,697	3,268	13,702,886	67.98%
Georgia	987	787	846,476	79.53%	990	796	1,114,618	80.35%	2,044	1,464	6,338,910	70.90%
Hawaii	598	475	96,910	78.81%	658	488	140,448	74.29%	1,472	1,025	916,539	69.86%
Idaho	557	453	144,818	82.39%	673	506	174,351	75.52%	1,314	977	1,017,451	72.83%
Illinois	1,636	1,206	1,023,238	73.72%	1,611	1,122	1,388,172	70.17%	3,833	2,434	8,326,464	63.39%
Indiana	630	491	540,670	77.25%	653	485	742,735	74.23%	1,387	964	4,189,743	68.56%
Iowa	614	456	242,812	74.29%	677	505	356,929	75.39%	1,306	913	1,990,458	68.43%
Kansas	622	464	237,562	74.56%	643	522	328,661	82.18%	1,382	982	1,795,749	70.61%
Kentucky	615	489	339,643	78.88%	621	467	472,877	75.43%	1,319	928	2,847,963	68.89%
Louisiana	623	499	367,670	80.31%	672	503	513,576	73.93%	1,289	947	2,928,109	72.21%
Maine	640	489	92,645	75.72%	587	442	125,931	74.65%	1,403	1,003	932,783	71.40%
Maryland	637	500	454,564	79.00%	623	476	625,779	75.64%	1,327	941	3,923,318	69.22%
Massachusetts	675	496	488,093	72.67%	750	494	788,758	65.15%	1,603	958	4,519,295	60.54%
Michigan	1,567	1,198	788,717	75.26%	1,577	1,211	1,114,570	76.49%	3,508	2,450	6,479,469	68.51%
Minnesota	628	499	425,999	78.88%	641	481	571,903	77.37%	1,283	938	3,562,031	73.29%
Mississippi	549	447	244,465	82.33%	561	457	337,215	81.26%	1,317	926	1,859,652	70.64%

(continued)

Table C.10 Sample Sizes, Weighted Interview Response Rates, and Population Estimates, by State and Three Age Groups: 2014 and 2015 (continued)

State	12-17 Total Selected	12-17 Total Responded	12-17 Population Estimate	12-17 Weighted Interview Response Rate	18-25 Total Selected	18-25 Total Responded	18-25 Population Estimate	18-25 Weighted Interview Response Rate	26+ Total Selected	26+ Total Responded	26+ Population Estimate	26+ Weighted Interview Response Rate
Missouri	604	483	470,263	80.03%	666	501	656,687	75.35%	1,290	936	3,918,803	71.70%
Montana	584	452	74,378	78.48%	625	494	111,496	77.00%	1,407	1,008	676,207	69.01%
Nebraska	595	462	151,059	78.03%	634	467	211,662	72.60%	1,340	954	1,179,809	71.51%
Nevada	594	495	222,788	84.09%	652	494	288,699	75.29%	1,350	969	1,872,598	69.19%
New Hampshire	660	496	98,378	76.04%	619	469	142,433	77.73%	1,444	962	905,672	66.24%
New Jersey	1,044	778	697,509	74.07%	1,121	799	894,294	71.13%	2,249	1,476	5,945,550	66.26%
New Mexico	563	474	165,438	85.01%	566	457	227,077	81.69%	1,303	987	1,322,519	75.24%
New York	2,125	1,583	1,427,531	72.87%	2,379	1,646	2,228,431	67.09%	5,294	3,365	13,092,078	62.28%
North Carolina	1,000	818	777,550	82.13%	1,010	788	1,062,442	78.88%	2,071	1,503	6,428,523	71.17%
North Dakota	599	459	51,690	76.55%	669	530	103,308	78.29%	1,314	968	457,339	73.87%
Ohio	1,567	1,197	917,272	76.13%	1,604	1,149	1,229,015	71.61%	3,624	2,497	7,573,265	67.91%
Oklahoma	614	458	312,268	72.62%	587	450	431,096	74.87%	1,442	1,000	2,427,465	66.22%
Oregon	633	498	291,273	79.81%	669	486	414,709	72.00%	1,349	970	2,686,806	71.11%
Pennsylvania	1,480	1,182	934,275	80.00%	1,554	1,194	1,364,517	77.00%	3,384	2,386	8,539,968	69.41%
Rhode Island	611	478	75,156	77.41%	620	453	129,467	73.65%	1,457	1,024	698,360	69.42%
South Carolina	639	521	365,128	82.51%	578	464	520,055	80.79%	1,395	1,000	3,154,439	71.77%
South Dakota	600	481	65,789	80.12%	601	470	93,308	78.30%	1,273	934	534,674	73.67%
Tennessee	590	468	507,891	79.10%	647	506	703,134	78.42%	1,319	976	4,272,566	72.89%
Texas	2,096	1,709	2,361,420	81.17%	2,106	1,640	3,057,833	78.34%	4,737	3,342	16,501,892	69.29%
Utah	579	504	288,637	87.75%	560	467	379,132	82.96%	1,251	969	1,657,347	76.68%
Vermont	638	505	43,770	79.19%	572	407	74,221	72.16%	1,405	996	425,449	70.38%
Virginia	966	783	624,487	81.50%	1,000	755	896,614	75.80%	2,167	1,527	5,378,367	69.49%
Washington	557	441	530,669	78.87%	642	474	745,679	74.11%	1,348	964	4,652,511	70.84%
West Virginia	658	489	129,363	75.39%	616	438	188,612	71.91%	1,408	953	1,251,012	65.67%
Wisconsin	623	478	446,438	75.68%	676	483	624,460	68.97%	1,398	945	3,771,577	68.16%
Wyoming	632	503	44,151	78.66%	615	457	63,351	75.14%	1,314	966	373,558	72.26%

NOTE: Computations in this table are based on a respondent's age at screening. Thus, the data in the Total Responded column(s) could differ from data in other NSDUH tables that use the respondent's age recorded during the interview.

NOTE: To compute the pooled 2014-2015 weighted response rates, two samples were combined, and the individual year weights were used for the pooled sample. Thus, the response rates presented here are weighted across 2 years of data rather than being a simple average of the 2014 and 2015 individual response rates. The 2014-2015 population estimate is the average of the 2014 and the 2015 population.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014 and 2015.

Table C.11 Sample Sizes, Weighted Interview Response Rates, and Population Estimates among Individuals Aged 12 to 20, by State: 2013, 2014, and 2015

State	2013 Total Selected	2013 Total Responded	2013 Population Estimate	2013 Weighted Interview Response Rate	2014 Total Selected	2014 Total Responded	2014 Population Estimate	2014 Weighted Interview Response Rate	2015 Total Selected	2015 Total Responded	2015 Population Estimate	2015 Weighted Interview Response Rate
Total U.S.	37,820	30,801	38,086,579	81.70%	28,949	23,033	37,981,012	79.64%	29,838	23,169	37,885,089	78.03%
Northeast	7,770	6,238	6,379,509	79.42%	5,713	4,457	6,502,814	77.38%	5,906	4,435	6,451,797	73.79%
Midwest	10,686	8,592	8,217,933	80.04%	6,763	5,275	8,114,553	77.28%	7,212	5,457	8,034,193	75.02%
South	11,306	9,274	14,070,964	81.83%	9,646	7,800	14,076,323	81.03%	9,864	7,822	14,395,593	79.87%
West	8,058	6,697	9,418,173	84.56%	6,827	5,501	9,287,322	81.13%	6,856	5,455	9,003,507	80.76%
Alabama	497	421	570,714	82.97%	375	306	564,703	83.74%	432	339	614,743	78.20%
Alaska	490	383	91,357	77.84%	467	330	91,021	69.24%	442	316	89,171	71.95%
Arizona	526	428	816,730	81.20%	375	308	796,228	82.79%	392	314	760,931	79.70%
Arkansas	457	357	334,342	77.85%	405	328	352,450	79.72%	428	333	340,447	76.62%
California	2,070	1,767	5,008,517	85.96%	1,941	1,570	4,913,481	80.22%	1,988	1,612	4,728,513	81.28%
Colorado	450	367	609,754	82.09%	457	365	626,186	80.80%	422	351	635,534	83.50%
Connecticut	534	431	421,506	81.80%	449	343	438,741	77.16%	437	337	454,732	77.38%
Delaware	460	379	99,907	80.87%	444	358	108,885	80.32%	417	317	105,967	76.38%
District of Columbia	452	387	54,486	84.22%	342	295	52,520	87.27%	326	264	58,167	82.81%
Florida	1,929	1,574	2,127,386	81.54%	1,390	1,140	2,041,554	82.35%	1,473	1,171	2,168,609	79.65%
Georgia	502	405	1,278,777	81.65%	631	506	1,218,390	79.90%	672	542	1,239,168	81.30%
Hawaii	508	416	146,388	80.45%	398	317	146,275	81.78%	415	322	149,563	75.82%
Idaho	483	398	202,212	84.41%	403	329	217,741	80.74%	387	297	205,902	80.07%
Illinois	2,048	1,582	1,571,014	77.50%	1,016	766	1,561,804	75.84%	1,186	869	1,554,110	72.36%
Indiana	490	392	794,141	77.86%	420	327	810,033	77.67%	417	320	794,923	74.93%
Iowa	484	396	365,893	81.48%	395	305	406,568	77.47%	439	321	338,260	73.31%
Kansas	499	404	360,191	81.57%	391	307	341,647	78.63%	466	350	372,398	75.71%
Kentucky	491	400	507,396	81.31%	439	354	536,524	80.24%	392	303	491,135	76.70%
Louisiana	487	399	574,885	80.70%	457	379	597,123	82.46%	427	339	572,954	79.92%
Maine	523	448	146,805	85.44%	365	281	140,376	76.29%	504	383	144,861	74.75%
Maryland	505	403	653,828	79.02%	434	343	684,058	77.90%	417	325	697,838	79.23%
Massachusetts	499	385	723,842	76.61%	489	395	859,796	80.58%	451	302	762,945	66.67%
Michigan	2,054	1,654	1,239,358	80.23%	1,015	786	1,180,278	76.23%	1,085	831	1,181,367	76.19%
Minnesota	456	393	626,747	86.71%	423	341	647,983	81.36%	422	330	623,094	78.55%
Mississippi	493	437	363,901	88.44%	357	302	379,058	85.68%	394	317	369,439	81.70%

(continued)

Table C.11 Sample Sizes, Weighted Interview Response Rates, and Population Estimates among Individuals Aged 12 to 20, by State: 2013, 2014, and 2015 (continued)

State	2013 Total Selected	2013 Total Responded	2013 Population Estimate	2013 Weighted Interview Response Rate	2014 Total Selected	2014 Total Responded	2014 Population Estimate	2014 Weighted Interview Response Rate	2015 Total Selected	2015 Total Responded	2015 Population Estimate	2015 Weighted Interview Response Rate
Missouri	493	412	714,528	81.35%	379	304	694,435	81.24%	440	347	707,841	78.13%
Montana	550	440	120,530	79.55%	385	305	109,111	80.01%	411	315	121,408	76.44%
Nebraska	539	452	240,691	82.96%	405	315	217,731	77.42%	432	340	243,776	79.28%
Nevada	486	431	343,860	89.80%	386	320	336,291	83.66%	429	352	328,354	82.07%
New Hampshire	556	444	173,109	80.69%	442	335	143,093	76.34%	449	336	162,150	76.55%
New Jersey	506	400	1,028,297	80.63%	721	548	1,062,607	75.32%	749	552	1,053,116	73.28%
New Mexico	477	403	252,940	83.62%	402	340	247,286	86.06%	355	299	249,393	85.28%
New York	2,218	1,701	2,191,460	76.54%	1,399	1,062	2,204,778	74.39%	1,472	1,086	2,225,741	72.22%
North Carolina	438	365	1,101,838	83.46%	626	516	1,161,827	83.03%	699	568	1,144,808	81.59%
North Dakota	497	397	82,751	78.48%	393	319	88,056	81.64%	456	343	97,216	74.74%
Ohio	2,130	1,697	1,449,529	80.13%	1,026	799	1,394,953	77.07%	1,086	806	1,380,951	73.71%
Oklahoma	601	482	497,668	80.37%	356	270	451,557	73.23%	455	339	482,049	75.21%
Oregon	458	372	456,806	80.22%	462	369	449,656	81.64%	383	286	428,705	75.19%
Pennsylvania	1,967	1,623	1,484,560	82.08%	1,007	829	1,451,933	81.73%	1,023	793	1,461,386	78.06%
Rhode Island	508	430	139,658	85.71%	434	339	129,450	77.79%	393	314	118,022	80.14%
South Carolina	507	411	539,469	81.31%	398	323	542,758	81.86%	430	357	556,176	84.04%
South Dakota	506	425	103,606	82.80%	433	359	109,010	82.94%	411	321	103,040	79.00%
Tennessee	495	425	773,131	85.93%	371	298	768,150	81.06%	455	356	801,826	76.98%
Texas	1,968	1,591	3,455,065	80.21%	1,521	1,223	3,470,196	80.39%	1,350	1,102	3,629,329	81.14%
Utah	511	434	420,269	85.51%	376	327	433,820	87.10%	392	337	407,524	85.58%
Vermont	459	376	70,271	81.84%	407	325	72,041	80.91%	428	332	68,842	75.76%
Virginia	502	421	933,932	85.76%	657	542	947,201	83.34%	644	508	909,340	78.71%
Washington	503	417	880,808	84.01%	385	309	858,442	80.73%	406	318	832,648	78.18%
West Virginia	522	417	204,238	80.45%	443	317	199,369	71.92%	453	342	213,596	76.74%
Wisconsin	490	388	669,485	77.88%	467	347	662,055	72.36%	372	279	637,216	73.65%
Wyoming	546	441	68,002	81.58%	390	312	61,784	78.08%	434	336	65,860	77.27%

NOTE: Computations in this table are based on a respondent's age at screening. Thus, the data in the Total Responded column(s) could differ from data in other NSDUH tables that use the respondent's age recorded during the interview.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013, 2014, and 2015.

Table C.12 Sample Sizes, Weighted Interview Response Rates, and Population Estimates among Individuals Aged 12 to 20, by State: 2013-2014 and 2014-2015

State	2013-2014 Total Selected	2013-2014 Total Responded	2013-2014 Population Estimate	2013-2014 Weighted Interview Response Rate	2014-2015 Total Selected	2014-2015 Total Responded	2014-2015 Population Estimate	2014-2015 Weighted Interview Response Rate
Total U.S.	66,769	53,834	38,033,795	80.67%	58,787	46,202	37,933,051	78.84%
Northeast	13,483	10,695	6,441,162	78.40%	11,619	8,892	6,477,306	75.59%
Midwest	17,449	13,867	8,166,243	78.66%	13,975	10,732	8,074,373	76.15%
South	20,952	17,074	14,073,644	81.43%	19,510	15,622	14,235,958	80.45%
West	14,885	12,198	9,352,747	82.84%	13,683	10,956	9,145,414	80.95%
Alabama	872	727	567,708	83.35%	807	645	589,723	80.80%
Alaska	957	713	91,189	73.59%	909	646	90,096	70.63%
Arizona	901	736	806,479	81.99%	767	622	778,580	81.28%
Arkansas	862	685	343,396	78.80%	833	661	346,449	78.18%
California	4,011	3,337	4,960,999	83.09%	3,929	3,182	4,820,997	80.75%
Colorado	907	732	617,970	81.42%	879	716	630,860	82.15%
Connecticut	983	774	430,123	79.53%	886	680	446,736	77.27%
Delaware	904	737	104,396	80.58%	861	675	107,426	78.36%
District of Columbia	794	682	53,503	85.74%	668	559	55,344	84.99%
Florida	3,319	2,714	2,084,470	81.94%	2,863	2,311	2,105,081	80.97%
Georgia	1,133	911	1,248,584	80.79%	1,303	1,048	1,228,779	80.60%
Hawaii	906	733	146,331	81.12%	813	639	147,919	78.69%
Idaho	886	727	209,977	82.54%	790	626	211,822	80.40%
Illinois	3,064	2,348	1,566,409	76.68%	2,202	1,635	1,557,957	74.06%
Indiana	910	719	802,087	77.76%	837	647	802,478	76.36%
Iowa	879	701	386,230	79.32%	834	626	372,414	75.57%
Kansas	890	711	350,919	80.10%	857	657	357,023	77.11%
Kentucky	930	754	521,960	80.76%	831	657	513,830	78.53%
Louisiana	944	778	586,004	81.60%	884	718	585,038	81.21%
Maine	888	729	143,591	80.88%	869	664	142,619	75.50%
Maryland	939	746	668,943	78.44%	851	668	690,948	78.55%
Massachusetts	988	780	791,819	78.67%	940	697	811,370	73.81%
Michigan	3,069	2,440	1,209,818	78.30%	2,100	1,617	1,180,823	76.21%
Minnesota	879	734	637,365	83.93%	845	671	635,539	79.97%
Mississippi	850	739	371,479	87.05%	751	619	374,248	83.75%

(continued)

Table C.12 Sample Sizes, Weighted Interview Response Rates, and Population Estimates among Individuals Aged 12 to 20, by State: 2013-2014 and 2014-2015 (continued)

State	2013-2014 Total Selected	2013-2014 Total Responded	2013-2014 Population Estimate	2013-2014 Weighted Interview Response Rate	2014-2015 Total Selected	2014-2015 Total Responded	2014-2015 Population Estimate	2014-2015 Weighted Interview Response Rate
Missouri	872	716	704,482	81.30%	819	651	701,138	79.63%
Montana	935	745	114,821	79.77%	796	620	115,260	78.19%
Nebraska	944	767	229,211	80.23%	837	655	230,754	78.37%
Nevada	872	751	340,076	86.67%	815	672	332,323	82.89%
New Hampshire	998	779	158,101	78.58%	891	671	152,622	76.45%
New Jersey	1,227	948	1,045,452	77.94%	1,470	1,100	1,057,862	74.30%
New Mexico	879	743	250,113	84.84%	757	639	248,340	85.68%
New York	3,617	2,763	2,198,119	75.46%	2,871	2,148	2,215,259	73.31%
North Carolina	1,064	881	1,131,833	83.24%	1,325	1,084	1,153,318	82.31%
North Dakota	890	716	85,403	80.09%	849	662	92,636	78.06%
Ohio	3,156	2,496	1,422,241	78.63%	2,112	1,605	1,387,952	75.42%
Oklahoma	957	752	474,613	77.05%	811	609	466,803	74.26%
Oregon	920	741	453,231	80.91%	845	655	439,180	78.35%
Pennsylvania	2,974	2,452	1,468,246	81.91%	2,030	1,622	1,456,660	79.89%
Rhode Island	942	769	134,554	81.79%	827	653	123,736	78.91%
South Carolina	905	734	541,114	81.59%	828	680	549,467	82.94%
South Dakota	939	784	106,308	82.87%	844	680	106,025	81.02%
Tennessee	866	723	770,640	83.48%	826	654	784,988	78.97%
Texas	3,489	2,814	3,462,630	80.30%	2,871	2,325	3,549,762	80.76%
Utah	887	761	427,044	86.31%	768	664	420,672	86.34%
Vermont	866	701	71,156	81.37%	835	657	70,442	78.40%
Virginia	1,159	963	940,566	84.53%	1,301	1,050	928,271	81.09%
Washington	888	726	869,625	82.38%	791	627	845,545	79.50%
West Virginia	965	734	201,803	76.23%	896	659	206,483	74.39%
Wisconsin	957	735	665,770	75.06%	839	626	649,635	72.97%
Wyoming	936	753	64,893	79.88%	824	648	63,822	77.67%

NOTE: Computations in this table are based on a respondent's age at screening. Thus, the data in the Total Responded column(s) could differ from data in other NSDUH tables that use the respondent's age recorded during the interview.

NOTE: To compute the pooled weighted response rates, the two samples were combined, and the individual-year weights were used for the pooled sample. Thus, the response rates presented here are weighted across 2 years of data rather than being a simple average of the individual response rates. The population estimate is the average of the population across the 2 years.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013, 2014, and 2015.

Table C.13 Sample Sizes, Weighted Interview Response Rates, and Population Estimates among Adults Aged 18 or Older, by State: 2013, 2014, and 2015

State	2013 Total Selected	2013 Total Responded	2013 Population Estimate	2013 Weighted Interview Response Rate	2014 Total Selected	2014 Total Responded	2014 Population Estimate	2014 Weighted Interview Response Rate	2015 Total Selected	2015 Total Responded	2015 Population Estimate	2015 Weighted Interview Response Rate
Total U.S.	61,112	45,306	237,498,837	70.61%	70,248	50,855	240,248,111	70.28%	72,640	51,118	242,801,072	68.39%
Northeast	12,634	9,100	43,200,918	67.70%	13,970	9,723	43,475,540	66.57%	14,680	9,798	43,685,848	64.90%
Midwest	17,112	12,602	50,816,624	70.61%	16,534	11,906	51,090,556	70.44%	17,056	11,935	51,311,021	67.82%
South	18,390	13,878	88,156,610	72.35%	22,982	16,957	89,432,946	71.51%	23,653	17,001	90,699,086	70.03%
West	12,976	9,726	55,324,685	70.09%	16,762	12,269	56,249,069	71.05%	17,251	12,384	57,105,116	68.94%
Alabama	775	578	3,642,350	67.91%	990	733	3,661,065	70.74%	1,039	724	3,676,390	66.92%
Alaska	758	587	517,089	74.74%	1,021	694	520,976	67.87%	1,051	754	522,844	71.80%
Arizona	774	559	4,901,704	67.86%	999	741	5,000,562	73.63%	1,067	757	5,098,098	69.66%
Arkansas	866	653	2,198,214	72.67%	954	715	2,207,272	72.07%	1,020	725	2,221,013	68.03%
California	3,374	2,466	28,644,204	68.82%	5,030	3,549	29,136,282	68.68%	5,034	3,523	29,512,527	67.44%
Colorado	851	626	3,934,150	70.24%	1,035	752	4,014,421	72.22%	1,008	725	4,107,515	71.05%
Connecticut	807	577	2,758,083	68.93%	1,103	724	2,769,930	63.56%	1,106	723	2,777,048	64.80%
Delaware	779	581	706,947	71.27%	934	687	715,829	73.17%	1,021	707	726,446	70.38%
District of Columbia	768	580	524,960	74.63%	946	702	533,345	72.06%	967	714	543,866	74.11%
Florida	3,385	2,493	15,212,136	70.67%	3,325	2,462	15,523,521	69.21%	3,593	2,542	15,851,157	69.33%
Georgia	735	561	7,298,705	71.87%	1,566	1,182	7,399,085	73.93%	1,468	1,078	7,507,971	70.76%
Hawaii	872	618	1,038,681	65.50%	1,027	719	1,052,542	70.56%	1,103	794	1,061,433	70.30%
Idaho	826	627	1,163,811	74.54%	991	754	1,182,290	74.54%	996	729	1,201,314	71.81%
Illinois	3,475	2,358	9,674,009	64.56%	2,739	1,839	9,710,545	66.51%	2,705	1,717	9,718,727	62.12%
Indiana	799	602	4,889,478	70.78%	980	718	4,919,244	71.40%	1,060	731	4,945,710	67.38%
Iowa	807	613	2,324,742	70.53%	972	709	2,340,310	71.09%	1,011	709	2,354,463	68.05%
Kansas	796	591	2,106,246	72.33%	1,021	769	2,119,391	73.37%	1,004	735	2,129,427	71.46%
Kentucky	794	604	3,292,759	72.57%	965	689	3,313,413	68.02%	975	706	3,328,266	71.53%
Louisiana	790	606	3,406,196	72.72%	990	737	3,431,217	72.65%	971	713	3,452,153	72.29%
Maine	735	598	1,053,674	77.84%	972	744	1,057,725	75.29%	1,018	701	1,059,704	68.17%
Maryland	808	623	4,491,106	76.42%	967	709	4,533,230	71.33%	983	708	4,564,964	69.04%
Massachusetts	870	612	5,222,444	68.82%	1,099	732	5,281,244	65.28%	1,254	720	5,334,861	57.09%
Michigan	3,228	2,442	7,544,022	72.00%	2,500	1,821	7,579,361	70.38%	2,585	1,840	7,608,717	68.93%
Minnesota	791	619	4,084,784	76.42%	957	715	4,118,701	74.87%	967	704	4,149,168	72.79%
Mississippi	711	581	2,182,497	78.14%	908	693	2,193,918	75.62%	970	690	2,199,815	69.02%

(continued)

Table C.13 Sample Sizes, Weighted Interview Response Rates, and Population Estimates among Adults Aged 18 or Older, by State: 2013, 2014, and 2015 (continued)

State	2013 Total Selected	2013 Total Responded	2013 Population Estimate	2013 Weighted Interview Response Rate	2014 Total Selected	2014 Total Responded	2014 Population Estimate	2014 Weighted Interview Response Rate	2015 Total Selected	2015 Total Responded	2015 Population Estimate	2015 Weighted Interview Response Rate
Missouri	825	615	4,538,072	72.25%	922	695	4,563,701	74.97%	1,034	742	4,587,280	69.47%
Montana	783	596	776,451	73.89%	1,003	755	783,681	71.77%	1,029	747	791,726	68.78%
Nebraska	756	589	1,375,718	73.48%	962	696	1,386,201	72.80%	1,012	725	1,396,741	70.63%
Nevada	782	622	2,090,821	73.20%	1,009	737	2,137,932	71.60%	993	726	2,184,663	68.41%
New Hampshire	850	649	1,037,592	75.97%	950	674	1,045,117	67.96%	1,113	757	1,051,093	67.61%
New Jersey	858	620	6,773,350	67.83%	1,650	1,145	6,822,800	69.14%	1,720	1,130	6,856,888	64.65%
New Mexico	828	625	1,540,178	72.40%	864	700	1,546,626	79.79%	1,005	744	1,552,567	72.80%
New York	3,563	2,334	15,172,768	62.31%	3,775	2,467	15,282,323	63.02%	3,898	2,544	15,358,693	63.00%
North Carolina	793	614	7,345,522	74.76%	1,495	1,153	7,441,918	76.00%	1,586	1,138	7,540,012	68.76%
North Dakota	889	648	543,737	67.93%	959	741	554,778	76.94%	1,024	757	566,516	72.51%
Ohio	3,192	2,348	8,753,095	70.18%	2,573	1,807	8,786,823	68.81%	2,655	1,839	8,817,736	68.04%
Oklahoma	827	604	2,822,475	67.42%	1,019	739	2,845,419	68.34%	1,010	711	2,871,703	66.69%
Oregon	772	598	3,036,213	76.46%	966	708	3,074,556	72.04%	1,052	748	3,128,475	70.44%
Pennsylvania	3,377	2,517	9,863,670	72.18%	2,448	1,780	9,890,761	69.72%	2,490	1,800	9,918,209	71.18%
Rhode Island	795	592	821,462	70.88%	1,009	741	826,484	71.83%	1,068	736	829,169	68.52%
South Carolina	742	589	3,591,886	75.96%	1,013	759	3,645,209	74.51%	960	705	3,703,779	71.56%
South Dakota	747	585	619,853	76.03%	975	730	625,589	74.25%	899	674	630,375	74.49%
Tennessee	750	577	4,902,455	71.95%	909	708	4,951,776	78.47%	1,057	774	4,999,624	68.92%
Texas	3,339	2,465	18,911,482	71.04%	3,444	2,454	19,348,218	68.93%	3,399	2,528	19,771,231	72.42%
Utah	779	612	1,979,244	73.43%	906	730	2,014,221	79.69%	905	706	2,058,738	75.91%
Vermont	779	601	497,875	76.52%	964	716	499,157	73.19%	1,013	687	500,184	67.99%
Virginia	754	571	6,182,639	75.56%	1,544	1,148	6,246,649	72.13%	1,623	1,134	6,303,312	68.67%
Washington	822	603	5,266,752	70.21%	969	721	5,348,826	73.56%	1,021	717	5,447,554	69.10%
West Virginia	774	598	1,444,283	76.05%	1,013	687	1,441,863	67.30%	1,011	704	1,437,385	65.62%
Wisconsin	807	592	4,362,867	72.94%	974	666	4,385,912	68.63%	1,100	762	4,406,160	67.95%
Wyoming	755	587	435,387	78.48%	942	709	436,156	73.66%	987	714	437,663	71.68%

NOTE: Computations in this table are based on a respondent's age at screening. Thus, the data in the Total Responded column(s) could differ from data in other NSDUH tables that use the respondent's age recorded during the interview.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013, 2014, and 2015.

Table C.14 Sample Sizes, Weighted Interview Response Rates, and Population Estimates among Adults Aged 18 or Older, by State: 2013-2014 and 2014-2015

State	2013-2014 Total Selected	2013-2014 Total Responded	2013-2014 Population Estimate	2013-2014 Weighted Interview Response Rate	2014-2015 Total Selected	2014-2015 Total Responded	2014-2015 Population Estimate	2014-2015 Weighted Interview Response Rate
Total U.S.	131,360	96,161	238,873,474	70.45%	142,888	101,973	241,524,592	69.33%
Northeast	26,604	18,823	43,338,229	67.13%	28,650	19,521	43,580,694	65.73%
Midwest	33,646	24,508	50,953,590	70.52%	33,590	23,841	51,200,789	69.13%
South	41,372	30,835	88,794,778	71.93%	46,635	33,958	90,066,016	70.76%
West	29,738	21,995	55,786,877	70.58%	34,013	24,653	56,677,093	70.00%
Alabama	1,765	1,311	3,651,708	69.33%	2,029	1,457	3,668,727	68.86%
Alaska	1,779	1,281	519,033	71.23%	2,072	1,448	521,910	69.84%
Arizona	1,773	1,300	4,951,133	70.86%	2,066	1,498	5,049,330	71.65%
Arkansas	1,820	1,368	2,202,743	72.37%	1,974	1,440	2,214,143	70.11%
California	8,404	6,015	28,890,243	68.74%	10,064	7,072	29,324,405	68.06%
Colorado	1,886	1,378	3,974,285	71.21%	2,043	1,477	4,060,968	71.64%
Connecticut	1,910	1,301	2,764,007	66.24%	2,209	1,447	2,773,489	64.18%
Delaware	1,713	1,268	711,388	72.22%	1,955	1,394	721,137	71.75%
District of Columbia	1,714	1,282	529,152	73.34%	1,913	1,416	538,605	73.11%
Florida	6,710	4,955	15,367,828	69.95%	6,918	5,004	15,687,339	69.27%
Georgia	2,301	1,743	7,348,895	72.94%	3,034	2,260	7,453,528	72.34%
Hawaii	1,899	1,337	1,045,611	68.03%	2,130	1,513	1,056,988	70.43%
Idaho	1,817	1,381	1,173,050	74.54%	1,987	1,483	1,191,802	73.22%
Illinois	6,214	4,197	9,692,277	65.55%	5,444	3,556	9,714,636	64.34%
Indiana	1,779	1,320	4,904,361	71.10%	2,040	1,449	4,932,477	69.41%
Iowa	1,779	1,322	2,332,526	70.80%	1,983	1,418	2,347,386	69.53%
Kansas	1,817	1,360	2,112,819	72.85%	2,025	1,504	2,124,409	72.42%
Kentucky	1,759	1,293	3,303,086	70.27%	1,940	1,395	3,320,840	69.80%
Louisiana	1,780	1,343	3,418,706	72.68%	1,961	1,450	3,441,685	72.47%
Maine	1,707	1,342	1,055,699	76.56%	1,990	1,445	1,058,714	71.78%
Maryland	1,775	1,332	4,512,168	73.92%	1,950	1,417	4,549,097	70.11%
Massachusetts	1,969	1,344	5,251,844	67.00%	2,353	1,452	5,308,052	61.21%
Michigan	5,728	4,263	7,561,692	71.17%	5,085	3,661	7,594,039	69.67%
Minnesota	1,748	1,334	4,101,742	75.65%	1,924	1,419	4,133,934	73.85%
Mississippi	1,619	1,274	2,188,207	76.86%	1,878	1,383	2,196,866	72.30%

(continued)

Table C.14 Sample Sizes, Weighted Interview Response Rates, and Population Estimates among Adults Aged 18 or Older, by State: 2013-2014 and 2014-2015 (continued)

State	2013-2014 Total Selected	2013-2014 Total Responded	2013-2014 Population Estimate	2013-2014 Weighted Interview Response Rate	2014-2015 Total Selected	2014-2015 Total Responded	2014-2015 Population Estimate	2014-2015 Weighted Interview Response Rate
Missouri	1,747	1,310	4,550,886	73.61%	1,956	1,437	4,575,490	72.23%
Montana	1,786	1,351	780,066	72.86%	2,032	1,502	787,703	70.17%
Nebraska	1,718	1,285	1,380,960	73.13%	1,974	1,421	1,391,471	71.68%
Nevada	1,791	1,359	2,114,376	72.39%	2,002	1,463	2,161,298	70.07%
New Hampshire	1,800	1,323	1,041,354	71.85%	2,063	1,431	1,048,105	67.78%
New Jersey	2,508	1,765	6,798,075	68.49%	3,370	2,275	6,839,844	66.87%
New Mexico	1,692	1,325	1,543,402	75.99%	1,869	1,444	1,549,596	76.12%
New York	7,338	4,801	15,227,546	62.66%	7,673	5,011	15,320,508	63.01%
North Carolina	2,288	1,767	7,393,720	75.38%	3,081	2,291	7,490,965	72.26%
North Dakota	1,848	1,389	549,258	72.29%	1,983	1,498	560,647	74.70%
Ohio	5,765	4,155	8,769,959	69.49%	5,228	3,646	8,802,279	68.42%
Oklahoma	1,846	1,343	2,833,947	67.87%	2,029	1,450	2,858,561	67.52%
Oregon	1,738	1,306	3,055,384	74.23%	2,018	1,456	3,101,515	71.23%
Pennsylvania	5,825	4,297	9,877,215	70.93%	4,938	3,580	9,904,485	70.44%
Rhode Island	1,804	1,333	823,973	71.33%	2,077	1,477	827,827	70.12%
South Carolina	1,755	1,348	3,618,547	75.22%	1,973	1,464	3,674,494	73.00%
South Dakota	1,722	1,315	622,721	75.15%	1,874	1,404	627,982	74.37%
Tennessee	1,659	1,285	4,927,115	75.16%	1,966	1,482	4,975,700	73.65%
Texas	6,783	4,919	19,129,850	69.98%	6,843	4,982	19,559,725	70.70%
Utah	1,685	1,342	1,996,733	76.74%	1,811	1,436	2,036,479	77.81%
Vermont	1,743	1,317	498,516	74.81%	1,977	1,403	499,670	70.63%
Virginia	2,298	1,719	6,214,644	73.77%	3,167	2,282	6,274,981	70.40%
Washington	1,791	1,324	5,307,789	71.84%	1,990	1,438	5,398,190	71.30%
West Virginia	1,787	1,285	1,443,073	71.61%	2,024	1,391	1,439,624	66.50%
Wisconsin	1,781	1,258	4,374,390	70.73%	2,074	1,428	4,396,036	68.29%
Wyoming	1,697	1,296	435,772	76.07%	1,929	1,423	436,909	72.68%

NOTE: Computations in this table are based on a respondent's age at screening. Thus, the data in the Total Responded column(s) could differ from data in other NSDUH tables that use the respondent's age recorded during the interview.

NOTE: To compute the pooled weighted response rates, the two samples were combined, and the individual-year weights were used for the pooled sample. Thus, the response rates presented here are weighted across 2 years of data rather than being a simple average of the individual response rates. The population estimate is the average of the population across the 2 years.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013, 2014, and 2015.

Table C.15 NSDUH Outcomes, by Survey Year, for Which Small Area Estimates Are Available

Measure	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Illicit Drug Use in the Past Month	X	X	X	X	X	X	X	X	X	X	X	X	--
Marijuana Use in the Past Year	X	X	X	X	X	X	X	X	X	X	X	X	X
Marijuana Use in the Past Month	X	X	X	X	X	X	X	X	X	X	X	X	X
Perceptions of Great Risk from Smoking Marijuana Once a Month	X	X	X	X	X	X	X	X	X	X	X	X	--
First Use of Marijuana (Marijuana Incidence)	X	X	X	X	X	X	X	X	X	X	X	X	X
Illicit Drug Use Other Than Marijuana in the Past Month	X	X	X	X	X	X	X	X	X	X	X	X	--
Cocaine Use in the Past Year	X	X	X	X	X	X	X	X	X	X	X	X	X
Nonmedical Use of Pain Relievers in the Past Year	--[1]	X	X	X	X	X	X	X	X	X	X	X	--
Heroin Use in the Past Year	--	--	--	--	--	--	--	--	--	--	--	--[2]	X
Alcohol Use in the Past Month	X	X	X	X	X	X	X	X	X	X	X	X	X
Underage Past Month Use of Alcohol	--[1]	X	X	X	X	X	X	X	X	X	X	X	X
Binge Alcohol Use in the Past Month	X	X	X	X	X	X	X	X	X	X	X	X	--
Underage Past Month Binge Alcohol Use	--[1]	X	X	X	X	X	X	X	X	X	X	X	--
Perceptions of Great Risk from Having Five or More Drinks of an Alcoholic Beverage Once or Twice a Week	X	X	X	X	X	X	X	X	X	X	X	X	--
Tobacco Product Use in the Past Month	X	X	X	X	X	X	X	X	X	X	X	X	X
Cigarette Use in the Past Month	X	X	X	X	X	X	X	X	X	X	X	X	X
Perceptions of Great Risk from Smoking One or More Packs of Cigarettes per Day	X	X	X	X	X	X	X	X	X	X	X	X	--
Alcohol Use Disorder in the Past Year	X	X	X	X	X	X	X	X	X	X	X	X	X
Alcohol Dependence in the Past Year	X	X	X	X	X	X	X	X	X	X	X	X	X
Illicit Drug Use Disorder in the Past Year	X	X	X	X	X	X	X	X	X	X	X	X	--
Illicit Drug Dependence in the Past Year	X	X	X	X	X	X	X	X	X	X	X	X	--
Substance Use Disorder in the Past Year	X	X	X	X	X	X	X	X	X	X	X	X	--
Needing But Not Receiving Treatment for Illicit Drug Use in the Past Year	X	X	X	X	X	X	X	X	X	X	X	X	--
Needing But Not Receiving Treatment for Alcohol Use in the Past Year	X	X	X	X	X	X	X	X	X	X	X	X	--
Serious Psychological Distress (SPD) in the Past Year[3]	X	X	X	--	--	--	--	--	--	--	--	--	--
Had at Least One Major Depressive Episode (MDE) in the Past Year[4]	--	--	X	X	X	X	X	X	X	X	X	X	X
Serious Mental Illness (SMI) in the Past Year	--	--	--	--	--	--	X	X	X	X	X	X	X
Any Mental Illness (AMI) in the Past Year	--	--	--	--	--	--	X	X	X	X	X	X	X
Had Serious Thoughts of Suicide in the Past Year	--	--	--	--	--	--	X	X	X	X	X	X	X

X = available; -- = not available.

[1] Estimates for these outcomes were not included in the 2002-2003 state report (Wright & Sathe, 2005), but the 2002-2003 estimates are included in the 2003-2004 state report as part of the comparison tables (see Wright & Sathe, 2006). However, the Bayesian confidence intervals associated with these were not published.

[2] Estimates for this outcome were not included in the 2013-2014 state documents at http://www.samhsa.gov/data/, but the 2013-2014 estimates are included in the 2014-2015 state documents as part of the comparison tables. However, the Bayesian confidence intervals associated with these were not published.

[3] Estimates for SPD in the years 2002-2003 and 2003-2004 are not comparable with the 2004-2005 SPD estimates. For more details, see Section A.7 in Appendix A of the 2004-2005 state report (Wright, Sathe, & Spagnola, 2007). Note that, in 2002-2003, SPD was referred to as "serious mental illness."

[4] Questions that were used to determine an MDE were added in 2004. Note that the adult MDE estimates shown in the 2004-2005 state report (Wright & Sathe, 2006) are not comparable with the adult MDE estimates for later years.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002-2015.

Table C.16 NSDUH Outcomes, by Age Groups, for Which Small Area Estimates Are Available

Measure	Age Group					
	12+	12-17	12-20	18-25	26+	18+
Illicit Drug Use in the Past Month	X	X	--	X	X	X
Marijuana Use in the Past Year	X	X	--	X	X	X
Marijuana Use in the Past Month	X	X	--	X	X	X
Perceptions of Great Risk from Smoking Marijuana Once a Month	X	X	--	X	X	X
First Use of Marijuana (Marijuana Incidence)	X	X	--	X	X	X
Illicit Drug Use Other Than Marijuana in the Past Month	X	X	--	X	X	X
Cocaine Use in the Past Year	X	X	--	X	X	X
Nonmedical Use of Pain Relievers in the Past Year	X	X	--	X	X	X
Heroin Use in the Past Year	X	X	--	X	X	X
Alcohol Use in the Past Month	X	X	X	X	X	X
Binge Alcohol Use in the Past Month	X	X	X	X	X	X
Perceptions of Great Risk from Having Five or More Drinks of an Alcoholic Beverage Once or Twice a Week	X	X	--	X	X	X
Tobacco Product Use in the Past Month	X	X	--	X	X	X
Cigarette Use in the Past Month	X	X	--	X	X	X
Perceptions of Great Risk from Smoking One or More Packs of Cigarettes per Day	X	X	--	X	X	X
Alcohol Use Disorder in the Past Year	X	X	--	X	X	X
Alcohol Dependence in the Past Year	X	X	--	X	X	X
Illicit Drug Use Disorder in the Past Year	X	X	--	X	X	X
Illicit Drug Dependence in the Past Year	X	X	--	X	X	X
Substance Use Disorder the Past Year	X	X	--	X	X	X
Needing But Not Receiving Treatment for Illicit Drug Use in the Past Year	X	X	--	X	X	X
Needing But Not Receiving Treatment for Alcohol Use in the Past Year	X	X	--	X	X	X
Serious Psychological Distress (SPD) in the Past Year	--	--	--	X	X	X
Had at Least One Major Depressive Episode (MDE) in the Past Year[1]	--	X	--	X	X	X
Serious Mental Illness (SMI) in the Past Year	--	--	--	X	X	X
Any Mental Illness (AMI) in the Past Year	--	--	--	X	X	X
Had Serious Thoughts of Suicide in the Past Year	--	--	--	X	X	X

X = available; -- = not available.

NOTE: For details on which years small area estimates are available for these outcomes, see Table C.15.

NOTE: Tables containing estimates for adults aged 18 or older were first presented with the 2005-2006 small area estimation (SAE) tables.

NOTE: Estimates for those aged 18 to 25, 26 or older, and 18 or older are available for all outcomes.

[1] There are minor wording differences in the questions for the adult and adolescent MDE modules. Therefore, data from youths aged 12 to 17 were not combined with data from adults aged 18 or older to get an overall MDE estimate (12 or older).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002-2015.

Table C.17 Summary of Milestones Implemented in NSDUH's SAE Production Process, 2002-2015

SAE Production Milestone	Years for Which Pooled 2-Year Small Area Estimates Were Published												
	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Weights Based on Projections from 2000 Census Control Totals	✓	✓	✓	✓	✓	✓	✓	✓	✓[1]	--	--	--	--
Weights Based on Projections from 2010 Census Control Totals	--	--	--	--	--	--	--	--	✓[1]	✓	✓	✓	✓
Small Area Estimates Produced Based on Variable Selection Done Using 2002-2003 Data[2]	✓	✓	✓	✓	✓	✓	✓	✓	✓[3]	--	--	--	--
Small Area Estimates Produced Based on Variable Selection Done Using 2010-2011 Data[4]	--	--	--	--	--	--	--	--	✓[3]	✓	✓	✓	✓
Small Area Estimates Reproduced Using Data Omitting Falsified Data[5]	--	--	--	✓	✓	✓	✓	--	--	--	--	--	--
SMI and AMI Small Area Estimates Based on Updated 2013 Model[6]	--	--	--	--	--	--	✓	✓	✓	✓	✓	✓	✓
MDE Small Area Estimates Based on Adjusted MDE Variable[7]	--	--	--	✓	✓	✓	✓	--	--	--	--	--	--

✓ = SAE production milestone implemented; -- = SAE production milestone not implemented; AMI = any mental illness; MDE = major depressive episode; NSDUH = National Survey on Drug Use and Health; SAE = small area estimation; SMI = serious mental illness.

[1] The weight used for 2010 was based on projections from the 2000 census control totals, and the 2011 weight was based on projections from the 2010 census control totals. For SMI and AMI, the weights used for both years were based on the 2010 census control totals.

[2] Variable selection was done using 2002-2003 NSDUH data for all outcomes with the following exception: For SMI, AMI, suicidal thoughts in the past year, and MDE, variable selection was done using 2008-2009 NSDUH data. Note that the 2005-2006, 2006-2007, and 2007-2008 MDE small area estimates were based on the variable selection done in 2008-2009.

[3] For all outcomes except SMI and AMI, the 2010-2011 small area estimates were produced based on 2002-2003 variable selection (see footnote 2 for an exception). For SMI and AMI, variable selection was done using 2010-2011 NSDUH data.

[4] When new variable selection was done using 2010-2011 NSDUH data, one source of predictor data was revised: The American Community Survey (ACS) estimates were used in place of 2000 long-form census estimates, which resulted in dropping several predictors and adding several new predictors. For past year heroin use, variable selection was done using 2014-2015 data.

[5] The 2005-2006 through 2008-2009 small area estimates were revised and republished with falsified data removed. For more information, see Section A.7 of "2011-2012 NSDUH: Guide to State Tables and Summary of Small Area Estimation Methodology" at http://www.samhsa.gov/data/.

[6] The 2008-2009, 2009-2010, and 2010-2011 small area estimates were revised and republished based on the new SMI and AMI variables. These new variables will continue to be used to produce SMI and AMI small area estimates. For more information, see Section B.11.1 of the document mentioned in this table's footnote 5.

[7] An adjusted MDE variable was created for 2005-2008 that is comparable with the 2009-2013 MDE variables. Hence, MDE small area estimates were produced using the adjusted variable. For more information, see Section B.11.3 of the document mentioned in this table's footnote 5.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002-2015.

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Section E: List of Contributors

This National Survey on Drug Use and Health (NSDUH) document was prepared by the Center for Behavioral Health Statistics and Quality (CBHSQ), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (HHS), and by RTI International (a registered trademark and a trade name of Research Triangle Institute), Research Triangle Park, North Carolina. Work by RTI was performed under Contract No. HHSS283201300001C.

At SAMHSA, Arthur Hughes reviewed the document and provided substantive revisions. At RTI, Neeraja S. Sathe and Kathryn Spagnola were responsible for the writing of the document, and Ralph E. Folsom and Akhil K. Vaish were responsible for the overall methodology and estimation for the model-based Bayes estimates and confidence intervals.

The following staff were responsible for generating the estimates and providing other support and analysis: Akhil K. Vaish, Neeraja S. Sathe, Kathryn Spagnola, and Brenda K. Porter. Ms. Spagnola provided oversight for production of the document. Richard S. Straw edited it; Debbie Bond formatted its text and tables; and Teresa F. Bass, Kimberly H. Cone, Danny Occoquan, and Margaret A. Smith prepared the web versions. Justine L. Allpress, Valerie Garner, and E. Andrew Jessup prepared and processed the maps used in the associated files.