2010-2012 National Surveys on Drug Use and Health: Guide to Substate Tables and Summary of Small Area Estimation Methodology

Section A: Overview

A.1. Introduction

This document provides a guide on the development and presentation of model-based small area estimates of the prevalence of substance use and mental disorders in substate regions based on data from the combined 2010-2012 National Surveys on Drug Use and Health (NSDUHs). The estimates along with this document and other related information are available at http://www.samhsa.gov/data/NSDUH/substate2k12/toc.aspx.

An annual survey of the civilian, noninstitutionalized population aged 12 or older, NSDUH is sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA). It collects information from persons residing in households, noninstitutionalized group quarters (e.g., shelters, rooming houses, dormitories), and civilians living on military bases. In 2010-2012, NSDUH collected data from 206,222 respondents aged 12 or older and was designed to obtain representative samples from the 50 States and the District of Columbia. The survey is planned and managed by SAMHSA's Center for Behavioral Health Statistics and Quality (CBHSQ). Data collection and analysis were conducted under contract with RTI International.[1]

This marks the sixth time[2] that estimates for substate regions (also referred to as planning regions or substate areas) in all 50 States and the District of Columbia have been presented by SAMHSA. Here, substate-level small area estimates are provided for 25 binary (0, 1) substance use or mental health measures, using combined data from the 2010-2012 NSDUHs for persons aged 12 or older (or persons 18 or older for the four mental disorders, and persons aged 12 to 20 for underage alcohol and binge alcohol use). For a list of outcomes for which substate level estimates are available, refer to Table A1 in Appendix A. These substate estimates are available at http://www.samhsa.gov/data/NSDUH/substate2k12/toc.aspx. The list of products (e.g., tables, maps, substate region definitions) related to the 2010-2012 substate estimates is provided in Section A.2.

Estimates for 384 substate regions were generated using the 2010-2012 NSDUH data. These substate regions were defined by officials from each of the 50 States and the District of Columbia and were typically based on the substance abuse treatment planning regions specified by the States in their applications for the Substance Abuse Prevention and Treatment Block Grant (SABG) administered by SAMHSA. The SABG program provides financial and technical assistance to the 50 States, the District of Columbia, and other jurisdictions to support substance abuse prevention and treatment programs and to promote public health. States use NSDUH substate estimates for a variety of purposes, including strategic planning and program development, production of epidemiological profiles for briefing State legislatures and informing

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[1] RTI International is a trade name of Research Triangle Institute, Research Triangle Park, North Carolina.
[2] Prior to this effort, substate small area estimates using the combined 1999-2001, 2002-2004, 2004-2006, 2006-2008, and 2008-2010 data have been produced by SAMHSA. These estimates can be found at http://samhsa.gov/data/NSDUH.aspx.

informing the public, allocating funds to substate areas based on the need for services, and other uses. More information on defining these regions is available in Section A.3.

Section A.4 discusses the methodological changes that were introduced in the 2002 NSDUH. An unanticipated result of these changes was that the prevalence rates for 2002 were in general substantially higher than those for 2001. As a result, the 1999-2001 substate estimates are not comparable with the other substate estimates.

Section B provides information on the small area estimation (SAE) methodology used to produce substate estimates. *Section C* includes the population estimates and the combined 2010, 2011, and 2012 NSDUH sample sizes and response rates for each substate region. Users may find the population estimates helpful in calculating the prevalence estimate for any combination of substate regions or to determine the number of people using a particular substance in a substate region. For example, the number of persons aged 12 or older who used marijuana in the past month in Alabama's Region 1 (56,612 persons) can be obtained by multiplying the prevalence rate (5.07 percent from Table 3) in the "2010-2012 NSDUH Substate Regions: Excel Tables" (see http://www.samhsa.gov/data/NSDUH/substate2k12/toc.aspx) and the population estimate from Table C1 (1,116,614) in this document. *Section D* lists the references cited in this document, and *Section E* provides a list of contributors to the production of the 2010-2012 substate estimates.

A.2. Presentation of Findings

The following products associated with the 2010-2012 substate estimates are available at http://www.samhsa.gov/data/NSDUH/substate2k12/toc.aspx:

- **NSDUH Substate Region Estimates: Excel Tables**: These Excel tables for each outcome show the prevalence estimates and confidence intervals (CIs) for persons aged 12 or older (12 to 20 for underage alcohol and 18 or older for the four mental health outcomes).

- **2010-2012 NSDUH National Maps of Prevalence Estimates, by Substate Region**: More information about these maps is provided in Section A.3.

- **2010-2012 NSDUH Substate Region Definitions**: This document includes maps and tables that show the substate region definitions in terms of census tracts or counties.

- **2010-2012 NSDUH Substate Region Shapefile**: This shapefile includes geographic boundaries of the substate regions and associated prevalence rates. It also includes the map group (1 to 7) and associated lower and upper bounds of the group for each substate region. It can be used for analysis and data display with Geographic Information System (GIS) software.

- **2010-2012 NSDUH Substate Age Group Tables**: Tables of prevalence estimates for youths aged 12 to 17, young adults aged 18 to 25, adults aged 26 or older, and persons aged 18 or older are provided for each measure and for substate regions having sufficient precision.

- **2010-2012 NSDUH Substate Region Estimates Categorized into Seven Groups, by Age Group**: This table shows the ranges of prevalence estimates for each outcome categorized

into seven groups from lowest to highest estimate for age groups 12 to 17, 18 to 25, 26 or older, and 18 or older. Information from this table can be used by users who wish to develop State or national maps similar to those produced for the 12 or older age group.

- **2010-2012 NSDUH State-Specific Substate Region Tables and Maps**: These State-specific tables and maps show substate region estimates for each State separately for persons aged 12 or older (18 or older for the mental health outcomes and 12 to 20 for the two underage alcohol outcomes). Note that the seven groups shown on each State-level map are taken from the national maps.

- **Comparison of 2008-2010 and 2010-2012 NSDUH Substate Region Estimates**: These tables show the 2008-2010 and 2010-2012 substate estimates and 95 percent Bayesian CIs, along with an indication of the statistical significance of the difference (*p* value). The methodology used to conduct significance tests is provided below the last table. The 2008-2010 estimates are compared with the 2010-2012 estimates for the 371 regions that remained the same over these two time periods (see Table A2 for the number of regions that remained the same between 2008-2010 and 2010-2012 for each State).

- **Comparison of 2002-2004 and 2010-2012 NSDUH Substate Region Estimates**: These tables show the 2002-2004 and 2010-2012 substate estimates and 95 percent Bayesian CIs, along with an indication of the statistical significance of the difference (*p* value). The methodology used to conduct significance tests is provided below the last table. The 2002-2004 estimates are compared with the 2010-2012 estimates for the 283 regions and the outcome measures that remained the same over these two time periods (for the list of outcome measures, see Table A1, and for the number of regions that remained the same between 2002-2004 and 2010-2012 for each State, see Table A2).

Note that other products may be added to the 2010-2012 NSDUH substate homepage at a later date.

A.3. Formation and Ranking of Substate Regions

The substate regions for each State were developed in a series of communications during the fall of 2013 between SAMHSA staff and State officials responsible for the SABG application. There is extensive variation in the size and use of substate regions across States. In some States, the substate regions are used more for administrative purposes rather than for planning purposes. The goal of the project was to provide substate-level estimates showing the geographic distribution of substance use prevalence for regions that States would find useful for planning and reporting purposes. The final substate region boundaries were based on the State's recommendations, assuming that the NSDUH sample sizes were large enough to provide estimates with adequate precision. Most States defined regions in terms of counties or groups of counties. A few States defined the regions in terms of census tracts. Several States also requested estimates for aggregate substate regions, along with the estimates for their substate regions. An aggregate substate region is made up of two or more substate regions. These substate region definitions are available in a document titled "2010-2012 NSDUH Substate Region Definitions" (see http://www.samhsa.gov/data/NSDUH/substate2k12/toc.aspx as listed above in Section A.2). Some of the States (specifically, New Hampshire, New York, North Carolina, Texas, and

Washington) wanted the maps to be produced only for the aggregate regions. For example, New York has 15 substate regions, and those 15 regions were combined to create 4 aggregate regions that are used in the maps. Hence, for each measure, maps were produced for 363 regions and not for 384 regions.

These 363 substate regions used in the maps were ranked from lowest to highest for each measure and were divided into seven categories designed to represent distributions that are somewhat symmetric, like a normal distribution. Colors were assigned to all substate regions such that the third having the lowest prevalence are in blue (121 substate regions), the middle third are in white (121 substate regions), and the third with the highest prevalence are in red (121 substate regions). The only exceptions were the three perception-of-risk outcomes shown in Figure 4 (marijuana), Figure 11 (alcohol), and Figure 16 (cigarettes) of the national maps, which have the highest estimates represented in blue and the lowest represented in red. To further distinguish among the substate regions that display relatively higher prevalence, the "highest" third in red has been further subdivided into (a) dark red for the 16 substate regions with the highest estimates, (b) medium red for the 33 substate regions with the next highest estimates, and (c) light red for the 72 substate regions in the third highest group. The "lowest" third is categorized in a similar way using three distinct shades of blue. In some cases, a group (or category) could have more or fewer substate regions because two (or more) substate regions have the same estimate (to two decimal places). When such ties occurred at the "boundary" between two groups, all substate regions with the same estimate were assigned to the lower group. These national maps are available at http://www.samhsa.gov/data/NSDUH/substate2k12/toc.aspx as listed in Section A.2.

The 2010-2012 substate estimates and corresponding Bayesian CIs are available in the "2010-2012 NSDUH Substate Regions: Excel Tables" (as mentioned in Section A.2, see http://www.samhsa.gov/data/NSDUH/substate2k12/toc.aspx). These tables also contain a sort order number and a map-group indicator (= 1 for the Nation, = 2 for census regions, = 3 for States, = 4 if a region is part of the 363 mapping regions, and = 5 for all other substate/aggregate regions not included on the maps).

In addition to the substate region estimates, comparable estimates are provided for the 50 States and the District of Columbia and also for the four census regions. Design-based estimates and corresponding CIs for the Nation are also included. Because these estimates are based on 3 consecutive years of data, they are not directly comparable with the annually published State, census region, or national estimates that are based on only 2 consecutive years of NSDUH data. The U.S. Census Bureau defines the census regions as follows:

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

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

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

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

A.4.   Comparability with Past Estimates

For the 2002 NSDUH, a number of methodological changes were introduced, including a $30 incentive for participating in the survey, additional training for interviewers to encourage adherence to survey protocols, a change in the survey name, and a shift to the 2000 decennial census (from the 1990 census) as a basis for population counts used in sample selection, weighting, and estimation. Additional information on these methodological changes is available in a report by the Office of Applied Studies (OAS, 2005a).[3] An unanticipated result of these changes was that the prevalence rates for 2002 were in general substantially higher than the 2001 prevalence rates. The jump in the prevalence rates between 2001 and 2002 was more than the usual year-to-year change. Because of the changes in the survey that took place in 2002, substate estimates for 1999-2001 are not comparable with the other substate estimates. It is not possible to separate the effect of the methodological changes from the true trends in substance use.

However, estimates from 2002-2004, 2004-2006, 2006-2008, 2008-2010, and 2010-2012 are comparable for outcome measures that were defined in a similar manner and for substate regions defined consistently across these time periods. Table A1 in Appendix A lists the outcome measures for which substate estimates were produced using 2010-2012 NSDUH data and shows the outcome measures that remained comparable over time (indicated as "Yes" in the table) since 2002-2004.

It is useful to note that the 2002-2004 to 2008-2010 substate estimates were produced using predictors from the 2000 census; also, the survey weights used population projections from the 2000 census. The 2010-2012 estimates, on the other hand, were produced using 2010 census data. Hence, when reviewing changes between 2008-2010 and 2010-2012, it is important to note that they may be confounded with changes due to differences in the source of predictors and population projections (referred to as "census effects"). Similar caution should be used when reviewing changes between 2002-2004 and 2010-2012. The impact of such census effects on national and State estimates is discussed in Section B.4.3 in Appendix B of the 2011 NSDUH national findings report (CBHSQ, 2012) and the "2011-2012 NSDUH: Impact of Using 2010 Census Data on 2010-2011 Small Area Estimates" at http://samhsa.gov/data/NSDUH/2k12State/NSDUHsae2012/Index.aspx.

During regular data collection and processing checks for the 2011 NSDUH, data errors were identified. These errors were falsified cases submitted by field interviewers that affected the data for Pennsylvania (2006 to 2010) and Maryland (2008 and 2009). Cases with erroneous data were removed from the data files, and the remaining cases were reweighted to provide representative estimates (for more details on this data error, refer to Section A.7 of the "2011-2012 NSDUH Guide to State Tables and Summary of Small Area Estimation Methodology" at http://samhsa.gov/data/NSDUH/2k12State/NSDUHsae2012/Index.aspx). The 2008-2010 and the 2010-2012 substate estimates exclude data based on falsified cases.

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[3] OAS is the former name of SAMHSA's CBHSQ.

Table A1. Outcomes, by Survey Year, for Which Substate Small Area Estimates Are Available

Measure	2002-2004	2004-2006	2006-2008	2008-2010	2010-2012
Illicit Drug Use in the Past Month	Yes	Yes	Yes	Yes	Yes
Marijuana Use in the Past Year	Yes	Yes	Yes	Yes	Yes
Marijuana Use in the Past Month	Yes	Yes	Yes	Yes	Yes
Perceptions of Great Risk of Smoking Marijuana Once a Month	Yes	Yes	Yes	Yes	Yes
First Use of Marijuana[1]	Yes	Yes	Yes	Yes	Yes
Illicit Drug Use Other Than Marijuana in the Past Month	Yes	Yes	Yes	Yes	Yes
Cocaine Use in the Past Year	Yes	Yes	Yes	Yes	Yes
Nonmedical Use of Pain Relievers in the Past Year	Yes	Yes	Yes	Yes	Yes
Alcohol Use in the Past Month	Yes	Yes	Yes	Yes	Yes
Underage Past Month Use of Alcohol (among Persons Aged 12 to 20)	Yes	Yes	Yes	Yes	Yes
Binge Alcohol Use in the Past Month	Yes	Yes	Yes	Yes	Yes
Underage Past Month Binge Alcohol Use (among Persons Aged 12 to 20)	Yes	Yes	Yes	Yes	Yes
Perceptions of Great Risk of Having Five or More Drinks of an Alcoholic Beverage Once or Twice a Week	Yes	Yes	Yes	Yes	Yes
Tobacco Product Use in the Past Month	Yes	Yes	Yes	Yes	Yes
Cigarette Use in the Past Month	Yes	Yes	Yes	Yes	Yes
Perceptions of Great Risk of Smoking One or More Packs of Cigarettes per Day	Yes	Yes	Yes	Yes	Yes
Alcohol Dependence or Abuse in the Past Year[2]	Yes	Yes	Yes	Yes	Yes
Alcohol Dependence in the Past Year[2]	Yes	Yes	Yes	Yes	Yes
Illicit Drug Dependence or Abuse in the Past Year[2]	Yes	Yes	Yes	Yes	Yes
Illicit Drug Dependence in the Past Year[2]	Yes	Yes	Yes	Yes	Yes
Dependence or Abuse of Illicit Drugs or Alcohol in the Past Year[2]	Yes	Yes	Yes	Yes	Yes
Needing But Not Receiving Treatment for Illicit Drug Use in the Past Year	Yes	Yes	Yes	Yes	Yes
Needing But Not Receiving Treatment for Alcohol Use in the Past Year	Yes	Yes	Yes	Yes	Yes
Serious Psychological Distress (SPD) in the Past Year[3]	Yes	Yes	No	No	No
Had at Least One Major Depressive Episode (MDE) in the Past Year[4]	No	Yes	Yes	Yes	Yes
Serious Mental Illness (SMI) in the Past Year[5]	No	No	No	Yes	Yes
Any Mental Illness (AMI) in the Past Year[5]	No	No	No	Yes	Yes
Had Serious Thoughts of Suicide in the Past Year	No	No	No	Yes	Yes

Yes = available; No = not available.

NOTE: The measures included in the 1999-2001 substate small area estimation (SAE) report are not included here. Because of the changes in the survey that took place in 2002, the 1999-2001 estimates are not comparable with the 2002-2004 or subsequent year estimates. Estimates using the combined 2002-2004, 2004-2006, 2006-2008, and 2008-2010 data can be found at http://samhsa.gov/data/NSDUH.aspx.

[1] The marijuana incidence definition used here employs a simpler form of the at-risk population based on the model-based methodology. This model-based average annual incidence rate for first use of marijuana is defined as follows: *Average annual marijuana initiation rate* = 100 * $\{[X_1 \div (0.5 * X_1 + X_2)] \div 2\}$, where X_1 is the number of marijuana initiates in the past 24 months and X_2 is the number of persons who never used marijuana. Both X_1 and X_2 are based on binary measures that correspond to questions with a "yes" or "no" response option. For details on calculating the average annual rate of first use of marijuana from NSDUH data, see Section A.8 in Appendix A of the 2009-2010 State estimates report (Hughes, Muhuri, Sathe, & Spagnola, 2012).

[2] Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). For more details on these measures, see Section B.4.2 in Appendix B of the 2012 NSDUH national findings report (Center for Behavioral Health Statistics and Quality [CBHSQ], 2013b).

[3] Because of questionnaire changes, SPD estimates in 2002-2004 are not comparable with the 2004-2006 SPD estimates. For details, see Section B.7 of the report on *Substate Estimates from the 2004-2006 National Surveys on Drug Use and Health* (Office of Applied Studies [OAS], 2008). Additional questionnaire changes were made in 2008 that affected past year SPD trends. However, revised past year SPD measures were created for 2005 through 2007 that are comparable with the 2008 through 2012 past year SPD measure. Substate small area estimates for 2006-2008, 2008-2010, and 2010-2012 were not created for this measure.

[4] Questions used to determine MDE were added in 2004. The 2004-2006 MDE estimates are not comparable with the 2006-2008 and subsequent year estimates. For details on MDE, see Sections B.4.2 and B.4.4 in Appendix B of the 2012 NSDUH mental health findings report (CBHSQ, 2013a).

[5] The mental illness measures are based on a predictive model and are not direct measures of diagnostic status (i.e., a small subsample of the respondents received a clinical follow-up, and these responses along with questionnaire data were used to create predictive models for all of the respondents). For details about these measures and the predictive models, see Section B.4.3 in Appendix B of the 2012 NSDUH mental health findings report (CBHSQ, 2013a).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2002-2012.

Table A2. NSDUH Substate Region Counts and Overlap, by State and Estimation Period

State	2002-2004		2008-2010		2010-2012			
	Number of Substate Regions[1]	Number of Map Regions[2]	Number of Substate Regions[1]	Number of Map Regions[2]	Number of Substate Regions[1]	Number of Map Regions[2]	Number of Substate Regions Overlapping with 2002-2004[3]	Number of Substate Regions Overlapping with 2008-2010[3]
Total U.S.	357	340	383	362	384	363	283	371
Alabama	4	4	4	4	4	4	4	4
Alaska	4	4	4	4	4	4	1	4
Arizona	4	4	4	4	4	4	4	4
Arkansas	7	7	8	8	8	8	3	8
California	15	15	27	27	27	27	4	27
Colorado	5	5	5	5	5	5	5	5
Connecticut	5	5	5	5	5	5	5	5
Delaware	4	4	4	4	4	4	4	4
District of Columbia	8	8	8	8	8	8	8	8
Florida	14	14	18	18	18	18	8	18
Georgia	5	5	6	6	6	6	0	6
Hawaii	3	3	4	4	4	4	2	4
Idaho	7	7	7	7	7	7	7	7
Illinois	5	5	5	5	5	5	5	5
Indiana	8	8	8	8	8	8	8	8
Iowa	6	6	6	6	6	6	6	6
Kansas	6	6	6	6	6	6	6	6
Kentucky	6	6	6	6	6	6	6	6
Louisiana	7	7	5	5	6	6	5	4
Maine	7	7	7	7	8	8	3	6
Maryland	7	7	9	9	9	9	4	9
Massachusetts	6	6	6	6	6	6	6	6
Michigan	16	16	15	15	15	15	11	15
Minnesota	6	6	6	6	6	6	6	6
Mississippi	7	7	7	7	7	7	7	7
Missouri	7	7	7	7	7	7	7	7
Montana	5	5	5	5	5	5	5	5
Nebraska	5	5	6	6	6	6	4	6
Nevada	3	3	3	3	4	4	2	2
New Hampshire	5	3	5	3	5	3	5	5
New Jersey	4	4	4	4	4	4	4	4
New Mexico	5	5	5	5	5	5	5	5
New York	15	4	15	4	15	4	15	15
North Carolina	4	4	12	11	12	11	0	12

See notes at end of table. (continued)

Table A2. NSDUH Substate Region Counts and Overlap, by State and Estimation Period (continued)

State	2002-2004		2008-2010		2010-2012			
	Number of Substate Regions[1]	Number of Map Regions[2]	Number of Substate Regions[1]	Number of Map Regions[2]	Number of Substate Regions[1]	Number of Map Regions[2]	Number of Substate Regions Overlapping with 2002-2004[3]	Number of Substate Regions Overlapping with 2008-2010[3]
North Dakota	5	5	5	5	5	5	5	5
Ohio	21	21	21	21	21	21	21	21
Oklahoma	7	7	7	7	7	7	7	7
Oregon	5	5	6	6	6	6	4	6
Pennsylvania	13	13	13	13	13	13	9	13
Rhode Island	4	4	4	4	4	4	4	4
South Carolina	4	4	4	4	4	4	4	4
South Dakota	7	7	7	7	5	5	0	0
Tennessee	7	7	7	7	7	7	5	5
Texas	15	11	15	11	15	11	15	15
Utah	6	6	6	6	6	6	6	6
Vermont	4	4	4	4	4	4	4	4
Virginia	5	5	5	5	5	5	3	5
Washington	6	6	6	3	6	3	6	6
West Virginia	8	8	6	6	6	6	2	6
Wisconsin	6	6	6	6	6	6	4	6
Wyoming	9	9	9	9	9	9	9	9

[1] Number of regions only include the main substate regions and not the aggregate regions.

[2] More information on the map regions can be found in Section A.3.

[3] The names of some of the substate regions have changed across the time periods. However, as long as the two regions are made of the same counties or tracts, they are included in the count of overlapping regions.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health, 2002-2012.

Section B: Substate Region Estimation Methodology

The survey-weighted hierarchical Bayes (SWHB) methodology used in the production of State estimates from the 1999 to 2012 National Surveys on Drug Use and Health (NSDUHs) also was used in the production of the 2010-2012 substate estimates. The SWHB methodology is described by Folsom, Shah, and Vaish (1999). A general model description is given in Section B.1. A brief discussion of the precision of the estimates and interpretation of the Bayesian confidence intervals (CIs) is given in Section B.2. The goals of the small area estimation (SAE) modeling, the general model description, and the implementation of SAE modeling remain the same and are described in Appendix E of the 2001 State report (Wright, 2003).

Small area estimates obtained using the SWHB methodology are design consistent (i.e., for States or substate areas with large sample sizes, the small area estimates are close to the corresponding robust design-based estimates). The substate small area estimates when aggregated by using the appropriate population totals result in national small area estimates that are very close to the national design-based estimates. However, for many reasons, including internal consistency, it is desirable to have the national small area estimates exactly match the national design-based estimates. Beginning in 2002, exact benchmarking was introduced (see Appendix A, Section A.4, in Wright & Sathe, 2005). The 2010-2012 substate small area estimates have been benchmarked to the national design-based estimates.

B.1. General SAE Model Description

The model described here to produce the 2010-2012 substate small area estimates is the same logistic mixed[4] hierarchical Bayes (HB) model that was used to produce the 2008-2010 substate small area estimates (see "2008-2010 National Survey on Drug Use and Health: Overview and Summary of Substate Region Estimation Methodology" at http://www.samhsa.gov/data/NSDUH/substate2k10/toc.aspx). The following model was used:

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

where π_{aijk} is the probability of engaging in the behavior of interest (e.g., using marijuana in the past month, or cocaine use in past year) for person-k belonging to age group-a in substate region-j of State-i.

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[4] 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. These models produce estimates that are approximately represented by a weighted combination of the direct estimate from the substate data and a regression estimate from the national model, where the weights are obtained by minimizing the mean squared error of the small area estimate. It is also difficult if not impossible to produce valid mean squared errors for small area estimates based solely on a fixed-effect national regression model.

Let x_{aijk} denote a $p_a \times 1$ vector of the 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 auxiliary variables include block group, census tract, county, and State-level data. These predictor variables include demographic and socioeconomic data from the American Community Survey, population projections obtained from Claritas, food stamp participation rates from the U.S. Census Bureau, Uniform Crime Report arrest totals from the Federal Bureau of Investigation, per capita income from the Bureau of Economic Analysis, unemployment rates from the Bureau of Labor Statistics, mortality rates from the National Center for Health Statistics, treatment rates from the National Survey of Substance Abuse Treatment Service, and Block Grant awards, cost of services, and total taxable resources from the Substance Abuse and Mental Health Services Administration. For a complete list of predictors, refer to Section B of the "2011-2012 NSDUH Guide to State Tables and Summary of Small Area Estimation Methodology" at http://samhsa.gov/data/NSDUH/2k12State/NSDUHsae2012/Index.aspx.

The vectors $\eta_i = (\eta_{1i}, \cdots, \eta_{Ai})'$ and $v_{ij} = (v_{1ij}, \cdots, v_{Aij})'$, defined as State- and substate-level random effects, respectively, are assumed to be mutually independent with $\eta_i \sim N_A(0, D_\eta)$ and $v_{ij} \sim N_A(0, D_V)$, where A is the total number of individual age groups modeled (generally, $A = 4$). For 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_V^{-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 random effects from the underlying joint distribution. The basic process is described in Folsom et al. (1999), Shah, Barnwell, Folsom, and Vaish (2000), and Wright (2003). Once the required number of MCMC samples for the parameters of interest are generated and tested for convergence properties (see Raftery & Lewis, 1992), the small area estimates for each age group × race/ethnicity × gender cell within a block group can be obtained. These block group-level small area estimates then can be aggregated using the appropriate population projections to form substate- and State-level small area estimates for the desired age group(s). These small area estimates then are benchmarked to the national design-based estimates (for details on exact benchmarking, see Section B.6 of the "2011-2012 NSDUH Guide to State Tables and Summary of Small Area Estimation Methodology" at http://samhsa.gov/data/NSDUH/2k12State/NSDUHsae2012/Index.aspx).

Because the objective here was to produce small area estimates for substate regions, it was decided to ratio adjust the person-level sampling weights to match population projections available from Claritas at the substate × age group × gender level. These adjusted sampling weights are used in the estimation because they reflect the demography of the substate regions better than the unadjusted weights. This ratio adjustment was done at the substate region (384 regions) × age group (12 to 17, 18 to 25, 26 to 34, and 35 or older) × gender (male and female) level collectively over 3 years (2010, 2011, and 2012) of data.

The SAE methodology used here tends to borrow strength from both the national model and the State-level random effects. Estimates for substate regions with smaller sample sizes tend to be shrunk more toward the corresponding State and national prevalence estimates than substate regions with larger sample sizes. This methodology tends to cluster the small sample substate estimates around their State prevalence estimates. Thus, relatively high estimates for substate regions with small sample sizes tend to shrink toward the State prevalence estimates, while relatively low estimates tend to increase toward the State prevalence estimates. On the other hand, for substate regions with large sample sizes, the methodology produces estimates that are close to the weighted average of the sample data in that substate region. In addition, these estimates are design consistent so that, as the sample size for a substate region increases, the estimate approaches the corresponding design-based estimate.

B.2.   Precision, Comparison, and Validation of the Estimates

The primary purpose of producing substate estimates is to give policy officials and data users a better perspective on the range of prevalence estimates within and across States. Because the data were collected in a consistent manner by field interviewers who adhered to the same procedures and administered the same questions across all States and substate regions, the results are comparable within and across the 50 States and the District of Columbia.

The 95 percent Bayesian CI associated with each estimate provides a measure of the accuracy of the estimate. It defines the range within which the true value can be expected to fall 95 percent of the time. For example, the estimated prevalence of past month use of marijuana in Region 1 in Alabama is 5.1 percent, and the 95 percent CI ranges from 3.8 to 6.7 percent.[5] Therefore, the probability is 0.95 that the true value is within that range. The CI indicates the uncertainty due to both sampling variability and model bias. The key assumption underlying the validity of the CIs is that the State- and substate-level error (or bias correction) terms in the models behave like random effects with zero means and common variance components.

When comparing prevalence rates for two substate regions, it is tempting and often convenient to look at their 95 percent Bayesian CIs to decide whether the difference in the two substate regions' prevalence rates is significant. If the two Bayesian CIs overlap, one would conclude that the difference is not statistically significant. If the two Bayesian CIs do not overlap, it implies that the two substate regions prevalence rates are significantly different from each other. However, as discussed in Schenker and Gentleman (2001), the method of overlapping Bayesian CIs 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. For details on the z statistics method to test the differences between the estimates of two substate regions, refer to Section B.12 (which describes the test for two State estimates) of the "2011-2012 NSDUH Guide to State Tables and Summary of Small Area Estimation Methodology" at http://samhsa.gov/data/NSDUH/2k12State/NSDUHsae2012/Index.aspx. The same test can be extended to test the differences between two substate regions' prevalence rates. Note that the referenced test assumes zero correlation between the two estimates. Two substate regions in one State (or across States) are likely correlated, but the test can still be used

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[5] See Table 3 in the "2010-2012 NSDUH Substate Region Estimates: Excel Tables" at http://www.samhsa.gov/data/NSDUH/substate2k12/toc.aspx.

knowing that the resulting test will be more conservative than if the correlation was accounted for. This is still a better alternative than using the overlapping CI test. Even if Bayesian CIs for two substate regions overlap, the two prevalence rates may be declared significantly different by the test based on z statistics. Hence, the method of overlapping Bayesian CIs is not recommended to test the equivalence of two substate prevalence rates. A detailed description of the method of overlapping CIs and its comparison with the standard methods for testing of a hypothesis is given in Schenker and Gentleman (2001) and Payton, Greenstone, and Schenker (2003).

A comparison of the standard errors (SEs) among substate regions with small ($n \leq 500$), medium ($500 < n \leq 1,000$), and large ($n > 1,000$) sample sizes for certain measures shows that the small area estimates behave in predictable ways. Regardless of whether the substate region is from 1 of the 8 States with a large annual sample size (3,000 to 4,000) or 1 of the 43 other States ($n = 900$ annually), the sizes of the CIs are very similar and are primarily a function of the sample size of the substate region and the prevalence estimate of the measure. Substate regions with large sample sizes had the smallest SEs. For past month use of alcohol, where the national prevalence for all persons aged 12 or older was 51.8 percent (for 2010-2012), the average relative standard error (RSE)[6] was about 5.1 percent, and the RSE for substate regions with a large sample size was about 3.2 percent. For substate regions with a medium sample size, the average RSE was 4.4 percent; for small sample sizes, the average RSE was 5.8 percent. For past month use of marijuana (with a national prevalence of 7.0 percent), the average RSE was 9.4 percent for substate regions with large samples. For medium sample sizes, the average RSE was 12.5 percent, and for small samples, the RSE was 15.7 percent, whereas the overall national average RSE was 14.2 percent. Substance use measures with lower prevalence rates, such as past year use of cocaine (1.7 percent nationally), displayed larger average RSEs. For substate regions with large sample sizes, the average RSE was 15.2 percent. For those with medium sample sizes, the average RSE was 18.5 percent, and for those with small sample sizes, the average RSE was 20.6 percent.

The SAE methodology used for producing the 2010-2012 substate region estimates was previously validated for the NSDUH State-by-age group small area estimates (Wright, 2002). This validation exercise used direct estimates from pairs of large sample States ($n = 7,200$) as internal benchmarks. These internal benchmarks were compared with small area estimates based on random subsamples ($n = 900$) that mimicked a single year small State sample. The associated age group-specific small area estimates were based on sample sizes targeted at $n = 300$. Therefore, validation of the State-by-age group small area estimates should lend some validity to the small sample size substate small area estimates.

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[6] The RSE of an estimate is the posterior SE divided by the estimate itself. Note that the RSEs have been calculated based on the unbenchmarked small area estimates.

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

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 NSDUHs

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
Total United States	632,660	524,411	456,931	87.15%	261,189	206,222	258,022,633	73.99%	64.48%
Northeast	137,629	115,246	94,082	80.55%	52,334	39,880	46,933,885	70.75%	56.99%
Midwest	171,491	144,090	126,933	88.54%	73,208	57,701	55,781,496	74.33%	65.81%
South	200,775	163,105	145,011	89.38%	79,998	64,635	95,354,570	75.77%	67.72%
West	122,765	101,970	90,905	87.47%	55,649	44,006	59,952,682	73.43%	64.23%
Alabama	10,229	8,016	7,272	90.73%	3,974	3,162	3,984,825	73.68%	66.85%
Region 1	2,486	1,995	1,801	90.34%	915	703	1,116,614	72.44%	65.44%
Region 2	2,892	2,311	2,084	90.20%	1,174	904	1,279,889	69.96%	63.10%
Region 3	1,983	1,566	1,425	91.15%	817	670	708,318	78.19%	71.26%
Region 4	2,868	2,144	1,962	91.60%	1,068	885	880,003	76.36%	69.94%
Alaska	7,109	5,499	4,925	89.59%	3,254	2,602	569,188	76.75%	68.76%
Anchorage	2,776	2,452	2,205	89.90%	1,420	1,154	233,365	77.75%	69.90%
Northern	1,592	1,110	997	89.83%	759	591	126,422	75.23%	67.58%
South Central	1,780	1,246	1,079	86.72%	681	523	149,601	72.61%	62.96%
Southeast	961	691	644	93.38%	394	334	59,801	84.02%	78.45%
Arizona	8,157	6,351	5,704	89.91%	3,414	2,775	5,315,250	77.20%	69.41%
Maricopa	4,704	3,927	3,515	89.72%	2,187	1,744	3,157,764	74.47%	66.82%
Pima	1,233	984	875	88.97%	482	393	828,236	80.60%	71.71%
Rural North	1,440	926	841	90.66%	432	366	611,131	84.60%	76.70%
Rural South	780	514	473	92.10%	313	272	718,119	81.67%	75.22%
Arkansas	8,058	6,580	6,046	91.84%	3,495	2,731	2,411,712	72.45%	66.53%
Catchment Area 1	1,335	1,146	1,038	90.66%	632	470	383,659	68.68%	62.27%
Catchment Area 2	933	723	670	92.73%	320	250	295,424	74.20%	68.80%
Catchment Area 3	1,008	834	787	94.42%	465	345	325,678	62.40%	58.92%
Catchment Area 4	648	545	488	89.36%	314	246	213,032	75.37%	67.36%
Catchment Area 5	1,109	868	808	93.19%	504	397	358,876	73.85%	68.82%
Catchment Area 6	580	451	428	94.67%	235	204	175,272	82.92%	78.50%
Catchment Area 7	669	548	531	96.82%	271	220	190,213	75.69%	73.28%
Catchment Area 8	1,776	1,465	1,296	88.35%	754	599	469,558	74.89%	66.17%

See notes at end of table. (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
California	28,235	24,624	20,631	83.78%	14,210	10,963	31,072,295	71.45%	59.87%
Region 1R	887	694	597	86.10%	323	252	810,075	74.64%	64.26%
Region 2R	1,037	683	581	85.31%	378	300	843,954	77.90%	66.46%
Region 3R (Sacramento)	1,037	923	765	83.11%	461	364	1,175,383	74.68%	62.07%
Region 4R	1,342	1,168	991	84.91%	538	402	1,091,126	71.19%	60.45%
Region 5R (San Francisco)	685	632	485	76.83%	280	199	724,726	59.76%	45.91%
Region 6 (Santa Clara)	1,381	1,263	1,030	81.12%	575	410	1,486,034	67.65%	54.87%
Region 7R (Contra Costa)	771	704	589	83.72%	350	271	881,890	70.25%	58.81%
Region 8R (Alameda)	1,174	1,039	860	82.99%	587	444	1,273,423	68.04%	56.46%
Region 9R (San Mateo)	574	520	416	79.75%	250	157	607,111	56.13%	44.76%
Region 10	788	709	622	87.87%	445	325	1,042,670	66.57%	58.49%
Region 11 (Los Angeles)	7,026	6,401	5,279	82.58%	3,828	2,912	8,191,257	70.71%	58.39%
LA SPA 1 and 5	814	731	542	74.07%	337	248	873,845	68.61%	50.82%
LA SPA 2	1,516	1,393	1,071	76.93%	728	528	1,795,788	68.46%	52.67%
LA SPA 3	1,234	1,137	1,005	88.44%	711	538	1,465,076	69.84%	61.77%
LA SPA 4	808	724	551	76.92%	389	299	957,493	73.29%	56.38%
LA SPA 6	671	612	554	90.31%	477	366	785,175	68.97%	62.28%
LA SPA 7	735	678	598	88.23%	531	423	1,050,390	73.87%	65.18%
LA SPA 8	1,248	1,126	958	85.09%	655	510	1,263,490	72.87%	62.01%
Region 12R	474	420	378	89.74%	267	224	688,579	76.43%	68.60%
Regions 13 and 19R	1,669	1,220	1,041	85.28%	917	740	1,945,003	75.31%	64.22%
Region 13 (Riverside)	1,543	1,114	937	84.08%	805	632	1,803,111	73.23%	61.58%
Region 19R (Imperial)	126	106	104	98.05%	112	108	141,892	96.42%	94.54%
Region 14 (Orange)	2,259	2,064	1,745	84.45%	1,185	902	2,539,281	70.18%	59.27%
Region 15R (Fresno)	702	622	512	82.34%	378	311	745,539	72.07%	59.35%
Region 16R (San Diego)	2,537	2,110	1,752	83.04%	1,210	924	2,615,099	72.28%	60.02%
Region 17R	1,082	952	784	81.66%	610	501	1,155,052	78.98%	64.50%
Region 18R (San Bernardino)	1,252	1,127	1,025	90.82%	890	722	1,652,267	74.64%	67.79%
Region 20R	686	612	539	88.16%	373	311	758,116	74.66%	65.83%
Region 21R	872	761	640	83.99%	365	292	845,712	75.18%	63.14%

See notes at end of table.   (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
Colorado	8,727	7,234	6,413	88.77%	3,458	2,752	4,212,300	76.71%	68.10%
Region 1	1,098	922	814	88.39%	469	375	556,709	77.73%	68.70%
Regions 2 and 7	4,468	3,839	3,336	87.47%	1,843	1,439	2,346,846	74.76%	65.39%
Region 3	1,573	1,344	1,204	88.25%	660	528	620,341	77.22%	68.15%
Region 4	712	449	420	94.05%	190	163	229,033	82.95%	78.01%
Regions 5 and 6	876	680	639	93.99%	296	247	459,371	80.69%	75.84%
Connecticut	8,134	7,091	5,944	83.61%	3,612	2,841	3,016,679	73.30%	61.29%
Eastern	1,078	944	808	85.35%	548	460	372,544	80.11%	68.38%
North Central	2,206	1,997	1,694	84.73%	981	764	845,229	69.92%	59.25%
Northwestern	1,396	1,152	889	75.46%	582	475	521,628	72.12%	54.42%
South Central	1,942	1,682	1,495	88.97%	816	615	710,013	72.53%	64.53%
Southwest	1,512	1,316	1,058	80.72%	685	527	567,265	75.46%	60.92%
Delaware	8,313	6,744	5,919	87.71%	3,318	2,682	759,824	78.03%	68.44%
Kent	1,413	1,222	1,058	86.55%	632	501	135,887	74.78%	64.73%
New Castle (excluding Wilmington City)	3,803	3,325	2,922	87.76%	1,691	1,364	392,016	79.95%	70.17%
Sussex	2,204	1,479	1,297	87.65%	657	521	169,909	73.99%	64.85%
Wilmington City	893	718	642	89.58%	338	296	62,012	85.13%	76.26%
District of Columbia	14,795	12,104	9,849	80.56%	3,302	2,797	534,932	81.73%	65.84%
Ward 1	1,769	1,499	1,268	85.09%	390	337	66,156	84.80%	72.16%
Ward 2	2,342	1,856	1,468	78.22%	457	357	71,591	78.30%	61.24%
Ward 3	1,946	1,598	1,284	78.07%	407	338	72,323	82.34%	64.28%
Ward 4	1,544	1,361	1,102	80.76%	400	317	66,318	72.95%	58.91%
Ward 5	2,053	1,729	1,355	78.30%	473	407	66,618	81.58%	63.87%
Ward 6	1,677	1,331	1,125	81.62%	315	266	70,782	80.84%	65.98%
Ward 7	1,585	1,251	1,048	83.90%	361	315	61,063	88.20%	74.00%
Ward 8	1,879	1,479	1,199	81.34%	499	460	60,081	89.14%	72.51%

See notes at end of table.   (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
Florida	39,928	30,967	27,009	86.88%	13,980	11,228	16,144,570	74.26%	64.52%
Region A - Northwest	4,191	3,279	2,994	90.98%	1,608	1,332	1,165,069	80.71%	73.43%
Circuit 1	2,397	1,943	1,768	90.63%	956	791	583,155	80.71%	73.14%
Circuit 2	929	717	650	90.58%	375	314	331,657	83.20%	75.36%
Circuit 14	865	619	576	92.52%	277	227	250,257	76.21%	70.51%
Region B - Northeast	5,406	4,314	3,878	89.79%	1,871	1,461	2,167,074	72.89%	65.45%
Circuits 3 and 8	1,369	1,085	987	91.07%	525	411	485,319	75.44%	68.70%
Circuit 4	2,116	1,703	1,504	88.26%	766	595	939,667	71.67%	63.25%
Circuit 7	1,921	1,526	1,387	90.75%	580	455	742,089	72.35%	65.66%
Region C - Central	8,995	7,232	6,383	88.17%	3,405	2,729	4,067,448	72.47%	63.89%
Circuit 5	1,563	1,271	1,130	89.18%	500	386	910,345	70.02%	62.44%
Circuit 9	2,388	2,020	1,840	91.19%	1,151	953	1,189,884	74.70%	68.12%
Circuit 10	1,823	1,348	1,206	89.06%	646	529	614,499	76.48%	68.11%
Circuit 18	1,931	1,614	1,372	84.96%	724	552	831,879	66.57%	56.55%
Circuit 19	1,290	979	835	84.94%	384	309	520,841	73.69%	62.59%
Region D - Southeast	6,691	4,986	4,204	83.83%	2,208	1,744	2,629,793	72.35%	60.64%
Circuit 15 (Palm Beach)	3,187	2,225	1,827	81.38%	962	729	1,140,784	68.62%	55.84%
Circuit 17 (Broward)	3,504	2,761	2,377	85.91%	1,246	1,015	1,489,009	75.11%	64.53%
Region E - Sun Coast	10,039	7,319	6,228	84.94%	2,893	2,302	3,908,836	73.51%	62.44%
Circuit 6	2,998	2,192	1,813	82.62%	743	570	1,204,274	69.05%	57.04%
Circuit 12	1,811	1,334	1,152	86.44%	456	356	649,671	71.13%	61.49%
Circuit 13 (Hillsborough)	2,425	2,114	1,813	85.93%	1,095	895	1,043,373	76.64%	65.86%
Circuit 20	2,805	1,679	1,450	85.42%	599	481	1,011,517	77.03%	65.80%
Region F - Southern (Circuits 11 and 16)	4,606	3,837	3,322	86.53%	1,995	1,660	2,206,350	79.17%	68.50%
Georgia	7,005	5,929	5,345	90.28%	3,357	2,673	7,937,335	75.32%	68.00%
Region 1	1,742	1,459	1,288	88.57%	861	693	2,053,597	77.03%	68.23%
Region 2	1,082	915	852	93.33%	512	432	1,035,486	80.90%	75.50%
Region 3	2,022	1,737	1,549	89.24%	995	786	2,342,663	74.20%	66.22%
Region 4	585	502	462	92.34%	277	207	495,344	68.73%	63.47%
Region 5	622	531	478	90.07%	228	177	898,897	71.11%	64.05%
Region 6	952	785	716	91.15%	484	378	1,111,348	73.67%	67.15%

See notes at end of table. (continued)

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Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
Hawaii	8,908	7,674	6,352	82.41%	3,841	2,862	1,123,500	69.34%	57.14%
Hawaii Island	1,455	1,201	975	81.23%	518	396	152,588	72.68%	59.04%
Honolulu	6,147	5,407	4,444	81.71%	2,759	2,039	787,623	67.87%	55.46%
Kauai and Maui	1,306	1,066	933	87.61%	564	427	183,289	73.16%	64.10%
Kauai	516	367	338	92.16%	185	140	55,634	75.51%	69.59%
Maui	790	699	595	85.30%	379	287	127,655	71.93%	61.36%
Idaho	7,161	5,827	5,488	94.13%	3,373	2,749	1,279,209	77.83%	73.26%
Region 1	1,071	754	699	92.54%	416	313	179,896	74.64%	69.07%
Region 2	673	530	506	95.46%	265	218	91,191	81.52%	77.81%
Region 3	1,020	882	839	94.45%	546	446	201,505	78.30%	73.95%
Region 4	1,815	1,592	1,477	93.06%	810	677	362,848	77.46%	72.08%
Region 5	1,059	829	787	94.86%	523	432	148,586	80.95%	76.79%
Region 6	725	633	591	93.41%	368	305	131,646	77.74%	72.62%
Region 7	798	607	589	97.17%	445	358	163,537	75.87%	73.73%
Illinois	33,771	29,280	22,982	78.50%	14,562	10,936	10,646,439	70.22%	55.13%
Region I (Cook)	13,810	12,098	8,402	69.47%	5,537	4,070	4,318,958	68.29%	47.44%
Region II	9,529	8,485	6,956	81.94%	4,793	3,616	3,348,716	71.02%	58.19%
Region III	4,098	3,444	3,011	87.64%	1,769	1,383	1,214,045	73.78%	64.66%
Region IV	2,661	2,271	1,956	86.15%	1,052	787	758,857	71.55%	61.64%
Region V	3,673	2,982	2,657	89.04%	1,411	1,080	1,005,862	70.54%	62.81%
Indiana	7,709	6,406	5,900	92.07%	3,417	2,723	5,373,546	73.56%	67.72%
Central	1,602	1,367	1,245	90.71%	709	534	1,400,214	67.02%	60.79%
East	733	622	581	93.54%	307	245	459,963	78.32%	73.26%
North Central	998	822	753	91.93%	465	395	763,903	82.45%	75.80%
Northeast	793	622	567	90.96%	363	277	529,213	72.21%	65.68%
Northwest	972	854	764	89.17%	485	393	612,011	77.27%	68.90%
Southeast	1,008	855	805	94.04%	412	330	579,681	69.94%	65.77%
Southwest	692	580	540	93.17%	269	211	424,148	73.52%	68.49%
West	911	684	645	94.54%	407	338	604,412	72.67%	68.70%

See notes at end of table. (continued)

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Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
Iowa	7,762	6,681	6,228	93.06%	3,387	2,758	2,556,633	77.59%	72.21%
Central	1,527	1,377	1,262	91.39%	659	513	456,906	73.98%	67.61%
North Central	870	741	697	93.98%	342	268	286,330	73.63%	69.20%
Northeast	1,804	1,591	1,465	92.08%	840	700	622,007	80.02%	73.68%
Northwest	1,233	972	925	94.86%	520	428	394,323	78.71%	74.67%
Southeast	1,619	1,402	1,315	93.82%	713	582	541,877	77.74%	72.93%
Southwest	709	598	564	93.90%	313	267	255,190	80.93%	76.00%
Kansas	7,517	6,429	5,844	90.94%	3,374	2,712	2,323,227	76.02%	69.14%
Kansas City Metro	2,490	2,245	2,020	90.04%	1,213	951	774,604	73.00%	65.73%
Northeast	1,246	1,033	927	89.90%	530	429	448,227	77.70%	69.85%
South Central	849	717	665	92.75%	395	318	291,521	80.08%	74.27%
Southeast	631	472	437	92.43%	233	194	157,848	78.46%	72.52%
West	1,005	828	771	93.03%	412	321	252,511	72.33%	67.29%
Wichita (Sedgwick)	1,296	1,134	1,024	90.43%	591	499	398,515	80.17%	72.50%
Kentucky	8,054	6,742	6,241	92.57%	3,406	2,726	3,627,784	75.51%	69.90%
Adanta, Cumberland River, and Lifeskills	1,611	1,297	1,212	93.44%	648	515	610,387	74.33%	69.45%
Bluegrass, Comprehend, and North Key	2,256	1,915	1,762	91.95%	965	756	1,059,413	73.76%	67.82%
Communicare and River Valley	861	745	687	92.32%	370	306	401,238	77.75%	71.77%
Four Rivers and Pennyroyal	655	531	500	94.29%	303	259	345,240	83.20%	78.44%
Kentucky River, Mountain, and Pathways	950	701	650	92.45%	319	252	410,202	69.40%	64.17%
Seven Counties	1,721	1,553	1,430	92.20%	801	638	801,303	77.03%	71.02%

See notes at end of table.   (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
Louisiana	10,460	8,274	7,700	93.06%	4,338	3,553	3,722,105	77.83%	72.43%
Regions 1 and 10	2,543	1,919	1,729	89.88%	932	710	706,411	72.51%	65.17%
Region 1	1,368	889	825	91.95%	498	394	352,062	76.94%	70.75%
Region 10 (Jefferson)	1,175	1,030	904	88.22%	434	316	354,349	68.49%	60.42%
Regions 2 and 9	2,168	1,801	1,698	94.29%	1,050	885	987,733	80.14%	75.57%
Region 3	1,111	963	905	93.14%	557	471	328,132	78.24%	72.87%
Regions 4, 5, and 6	2,751	2,173	2,044	93.77%	1,061	851	963,590	75.50%	70.80%
Regions 7 and 8	1,887	1,418	1,324	93.44%	738	636	736,239	82.29%	76.90%
Maine	10,761	7,779	7,095	91.09%	3,273	2,727	1,148,238	79.80%	72.69%
Aroostook/Downeast	1,530	948	897	94.55%	423	379	138,063	85.38%	80.73%
Aroostook	477	391	372	95.05%	189	176	62,140	88.62%	84.23%
Downeast	1,053	557	525	94.25%	234	203	75,923	82.99%	78.22%
Central	1,388	1,002	915	91.51%	435	371	150,059	83.53%	76.44%
Cumberland	1,876	1,600	1,377	85.91%	654	519	244,635	73.91%	63.50%
Midcoast	1,211	764	708	92.87%	226	201	128,267	87.32%	81.09%
Penquis	1,468	1,047	989	94.44%	490	414	148,343	83.73%	79.08%
Western	1,721	1,267	1,155	90.56%	558	474	168,052	82.45%	74.67%
York	1,567	1,151	1,054	91.40%	487	369	170,819	68.29%	62.42%
Maryland	7,682	6,659	5,336	80.21%	3,291	2,681	4,854,548	77.08%	61.82%
Anne Arundel	738	625	481	76.78%	251	197	453,905	72.20%	55.43%
Baltimore City	991	812	662	81.39%	409	372	518,769	87.02%	70.83%
Baltimore County	997	910	710	78.32%	430	352	683,475	80.79%	63.27%
Montgomery	1,245	1,164	926	79.71%	549	450	815,400	77.39%	61.69%
North Central	504	459	380	83.10%	271	224	382,789	78.32%	65.08%
Northeast	584	523	425	80.98%	281	216	408,466	73.77%	59.73%
Prince George's	950	790	612	77.54%	413	314	715,984	71.85%	55.71%
South	923	716	575	80.28%	328	275	464,143	74.70%	59.97%
West	750	660	565	85.78%	359	281	411,617	75.67%	64.91%

See notes at end of table. (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
Massachusetts	9,599	8,310	7,091	85.34%	3,632	2,860	5,609,094	74.75%	63.79%
Boston	1,140	955	822	86.01%	459	376	685,206	77.25%	66.44%
Central	1,183	1,064	925	86.78%	464	374	725,897	75.26%	65.32%
Metrowest	1,963	1,760	1,441	81.96%	695	544	1,296,349	74.33%	60.92%
Northeast	1,872	1,724	1,482	85.91%	782	620	1,096,931	76.60%	65.81%
Southeast	2,197	1,724	1,461	84.94%	726	529	1,087,031	69.74%	59.23%
Western	1,244	1,083	960	88.41%	506	417	717,681	78.70%	69.58%
Michigan	33,545	26,876	23,147	86.16%	13,834	11,030	8,293,400	75.24%	64.83%
Detroit City	2,535	1,783	1,495	84.05%	940	770	570,227	75.31%	63.30%
Genesee	1,525	1,243	1,078	87.00%	632	525	350,662	76.66%	66.69%
Kalamazoo	2,209	1,785	1,635	91.66%	922	734	569,863	74.58%	68.36%
Kent	1,707	1,526	1,312	85.42%	871	720	496,825	77.17%	65.92%
Lakeshore	2,365	1,934	1,753	90.34%	1,116	907	585,459	77.94%	70.41%
Macomb	2,786	2,497	2,013	80.43%	1,219	906	713,180	70.09%	56.38%
Mid South	3,126	2,490	2,152	86.40%	1,227	1,009	782,810	80.89%	69.89%
Northern	3,484	2,094	1,905	90.93%	964	801	732,439	81.90%	74.47%
Oakland	3,577	3,160	2,698	85.47%	1,622	1,261	1,022,173	74.37%	63.57%
Pathways and Western	1,395	978	881	90.12%	459	387	269,983	80.44%	72.49%
Riverhaven	1,299	1,028	905	88.20%	515	423	292,793	76.12%	67.14%
Saginaw	631	545	470	86.51%	295	236	167,466	72.62%	62.83%
Southeast	3,930	3,439	2,776	80.79%	1,715	1,317	1,041,865	70.94%	57.32%
St. Clair	1,049	877	759	86.73%	469	356	248,071	74.45%	64.58%
Washtenaw	1,927	1,497	1,315	88.06%	868	678	449,584	71.63%	63.08%
Minnesota	7,738	6,616	6,059	91.62%	3,401	2,788	4,466,309	79.57%	72.91%
Regions 1 and 2	1,002	754	696	92.38%	275	207	450,847	67.26%	62.14%
Regions 3 and 4	1,261	1,012	947	93.53%	556	457	765,424	81.81%	76.51%
Regions 5 and 6	1,460	1,229	1,172	95.48%	639	531	845,687	80.51%	76.87%
Region 7A (Hennepin)	1,611	1,468	1,289	87.72%	740	615	984,859	78.71%	69.05%
Region 7B (Ramsey)	662	528	481	91.08%	304	259	431,945	84.25%	76.73%
Region 7C	1,742	1,625	1,474	90.91%	887	719	987,548	80.91%	73.56%

See notes at end of table. (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
Mississippi	8,516	6,771	6,294	93.09%	3,649	3,020	2,414,032	77.53%	72.17%
Region 1	1,913	1,508	1,403	92.97%	815	657	546,513	77.13%	71.71%
Region 2	950	726	687	94.07%	403	338	304,081	78.09%	73.46%
Region 3	1,220	935	883	94.29%	467	393	341,162	79.26%	74.74%
Region 4	1,501	1,249	1,139	91.27%	691	586	440,189	78.99%	72.10%
Region 5	413	335	318	94.82%	166	136	148,982	73.15%	69.36%
Region 6	940	766	734	96.18%	425	366	249,222	81.88%	78.75%
Region 7	1,579	1,252	1,130	90.82%	682	544	383,883	73.14%	66.43%
Missouri	8,022	6,652	6,144	92.40%	3,418	2,748	4,971,283	74.43%	68.77%
Central	1,127	854	798	93.32%	456	388	675,065	76.45%	71.34%
Eastern	2,728	2,380	2,221	93.35%	1,189	932	1,729,869	70.85%	66.14%
Eastern (St. Louis City and County)	1,879	1,621	1,509	93.13%	793	612	1,096,613	68.35%	63.65%
Eastern (excluding St. Louis)	849	759	712	93.82%	396	320	633,256	76.71%	71.97%
Northwest	1,756	1,461	1,345	92.15%	827	683	1,200,418	78.98%	72.78%
Northwest (Jackson)	1,041	845	774	91.73%	477	411	550,219	87.25%	80.03%
Northwest (excluding Jackson)	715	616	571	92.71%	350	272	650,199	69.18%	64.14%
Southeast	1,049	838	780	93.13%	448	358	593,998	75.21%	70.04%
Southwest	1,362	1,119	1,000	89.43%	498	387	771,933	73.70%	65.91%
Montana	9,083	7,348	6,883	93.76%	3,440	2,751	838,424	76.95%	72.14%
Region 1	790	601	581	96.77%	294	251	65,879	84.17%	81.46%
Region 2	1,243	937	888	94.91%	439	352	118,971	80.36%	76.27%
Region 3	1,953	1,684	1,558	92.51%	759	624	172,776	80.07%	74.07%
Region 4	2,210	1,705	1,586	93.30%	824	657	221,975	75.46%	70.40%
Region 5	2,887	2,421	2,270	93.70%	1,124	867	258,823	72.69%	68.11%
Nebraska	7,439	6,294	5,857	92.97%	3,468	2,754	1,514,441	72.77%	67.66%
Regions 1 and 2	871	654	613	93.71%	360	295	156,131	75.24%	70.51%
Region 1	450	333	312	93.75%	174	139	73,010	75.25%	70.54%
Region 2	421	321	301	93.68%	186	156	83,121	75.22%	70.47%
Region 3	928	801	753	94.00%	447	382	186,771	78.06%	73.38%
Region 4	853	667	633	94.88%	353	279	169,851	74.82%	70.99%
Region 5	1,842	1,550	1,424	91.63%	840	666	373,563	73.55%	67.39%
Region 6	2,945	2,622	2,434	92.79%	1,468	1,132	628,124	69.51%	64.50%

See notes at end of table. (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
Nevada	7,153	5,622	5,240	94.31%	3,442	2,768	2,247,750	73.95%	69.74%
Clark – Region 1	4,874	3,727	3,488	94.76%	2,346	1,888	1,616,158	73.08%	69.25%
Region 3	1,014	823	770	93.80%	429	341	277,589	78.55%	73.68%
Capital District	521	456	424	93.27%	236	189	131,765	79.59%	74.24%
Rural/Frontier	493	367	346	94.51%	193	152	145,824	77.25%	73.01%
Washoe – Region 2	1,265	1,072	982	91.74%	667	539	354,003	74.28%	68.14%
New Hampshire	9,225	7,467	6,509	87.13%	3,647	2,813	1,135,243	73.37%	63.93%
Central	2,558	2,001	1,782	88.84%	1,017	799	322,597	71.06%	63.13%
Central 1	1,300	1,014	915	90.01%	564	443	158,831	70.75%	63.69%
Central 2	1,258	987	867	87.64%	453	356	163,766	71.42%	62.59%
Northern	1,566	980	895	91.34%	446	348	148,818	79.44%	72.56%
Southern	5,101	4,486	3,832	85.41%	2,184	1,666	663,827	73.05%	62.39%
Southern 1 (Rockingham)	1,922	1,687	1,457	86.37%	844	629	254,529	70.91%	61.24%
Southern 2	3,179	2,799	2,375	84.83%	1,340	1,037	409,298	74.38%	63.10%
New Jersey	7,538	6,451	5,664	87.84%	3,441	2,715	7,393,186	74.52%	65.46%
Central	1,823	1,437	1,242	86.72%	683	538	1,704,991	75.60%	65.57%
Metropolitan	1,852	1,668	1,457	87.39%	949	757	1,772,630	74.35%	64.97%
Northern	2,390	2,065	1,812	87.71%	1,095	866	2,364,215	74.92%	65.71%
Southern	1,473	1,281	1,153	89.83%	714	554	1,551,350	73.08%	65.65%
New Mexico	7,859	6,006	5,617	93.60%	3,352	2,729	1,697,244	77.05%	72.12%
Region 1	1,634	1,345	1,253	93.11%	822	677	349,305	79.75%	74.25%
Region 2	1,296	824	780	94.42%	376	318	247,487	80.15%	75.67%
Region 3 (Bernalillo)	2,135	1,778	1,647	92.82%	952	760	551,846	75.40%	69.98%
Region 4	1,125	867	792	92.05%	482	386	213,666	76.44%	70.37%
Region 5	1,669	1,192	1,145	95.84%	720	588	334,940	74.56%	71.46%

See notes at end of table.   (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
New York	42,293	36,171	26,660	73.18%	15,451	10,837	16,434,638	65.04%	47.60%
Region A	17,863	15,528	9,918	63.65%	6,088	4,075	6,919,074	61.09%	38.89%
Region 1	2,772	2,446	1,911	78.22%	1,275	952	1,128,476	70.08%	54.82%
Region 2	6,072	5,292	3,423	64.49%	2,210	1,470	2,486,246	60.99%	39.33%
Region 3	4,648	3,865	2,060	52.94%	1,005	670	1,411,346	62.62%	33.15%
Region 4	4,371	3,925	2,524	64.33%	1,598	983	1,893,006	54.87%	35.29%
Region B	9,635	8,598	6,462	73.73%	4,075	2,790	4,260,131	64.53%	47.58%
Region 5	5,020	4,550	3,509	74.34%	2,326	1,583	2,401,292	65.65%	48.81%
Region 6	2,617	2,382	1,664	70.14%	949	622	1,138,653	58.84%	41.27%
Region 7	1,998	1,666	1,289	77.10%	800	585	720,186	68.75%	53.01%
Region C	10,583	8,992	7,604	84.45%	4,004	2,978	3,923,816	69.07%	58.33%
Region 8	2,256	1,939	1,649	85.19%	919	666	858,024	66.46%	56.61%
Region 9	2,390	1,962	1,656	84.22%	927	706	816,591	68.79%	57.93%
Region 10	1,218	1,044	895	85.76%	427	339	380,283	74.32%	63.73%
Region 11	2,176	1,892	1,612	85.06%	908	662	897,029	72.47%	61.64%
Region 12	2,543	2,155	1,792	82.86%	823	605	971,889	66.55%	55.14%
Region D	4,212	3,053	2,676	86.66%	1,284	994	1,331,617	76.09%	65.94%
Region 13	1,503	901	803	88.75%	402	305	412,153	71.97%	63.87%
Region 14	1,094	829	714	86.07%	363	273	457,033	74.79%	64.37%
Region 15	1,615	1,323	1,159	85.65%	519	416	462,431	79.62%	68.20%

See notes at end of table.   (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
North Carolina	8,365	6,868	6,220	90.52%	3,323	2,756	7,947,416	77.68%	70.32%
Alliance	1,612	1,403	1,281	91.02%	690	566	1,367,974	77.77%	70.78%
Cardinal Innovations	1,140	993	895	90.56%	472	388	1,157,794	77.68%	70.35%
CenterPoint/Guilford	708	587	500	85.48%	277	238	854,600	83.12%	71.05%
CenterPoint	265	227	195	86.08%	114	99	445,433	83.08%	71.51%
Guilford	443	360	305	85.06%	163	139	409,167	83.15%	70.73%
CoastalCare	520	426	382	90.13%	211	168	513,049	69.02%	62.20%
Eastpointe	795	677	642	94.81%	354	295	673,365	73.41%	69.60%
ECBH	592	351	336	95.60%	177	147	508,413	78.09%	74.65%
MeckLINK	567	507	449	88.27%	259	191	761,618	69.23%	61.11%
Partners	813	698	647	92.63%	380	336	750,775	84.90%	78.64%
Sandhills	657	496	433	86.16%	226	177	457,197	68.61%	59.12%
Smoky Mountain	368	246	223	90.82%	124	113	456,336	85.53%	77.68%
Western Highlands	593	484	432	89.39%	153	137	446,295	88.35%	78.97%
North Dakota	9,748	7,829	7,357	93.98%	3,477	2,753	571,272	74.66%	70.16%
Badlands and West Central	2,406	1,951	1,853	95.05%	778	611	153,852	73.33%	69.70%
Lake Region and South Central	1,466	1,144	1,083	94.93%	473	395	80,246	81.36%	77.23%
North Central and Northwest	1,979	1,414	1,328	93.84%	653	497	105,557	71.24%	66.85%
Northeast	1,307	1,089	1,018	93.19%	549	460	74,595	77.18%	71.93%
Southeast	2,590	2,231	2,075	93.01%	1,024	790	157,023	73.66%	68.51%

See notes at end of table.   (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
Ohio	33,124	28,302	25,466	89.87%	14,157	11,113	9,614,579	73.98%	66.49%
Boards 2, 46, 55, and 68	1,332	1,152	1,039	90.69%	643	513	428,056	75.92%	68.85%
Boards 3, 52, and 85	964	845	803	95.00%	431	343	315,269	73.05%	69.39%
Boards 4 and 78	732	634	588	92.84%	296	239	262,286	80.32%	74.57%
Boards 5 and 60	917	773	732	94.63%	440	360	284,808	74.17%	70.19%
Boards 7, 15, 41, 79, and 84	1,552	1,280	1,185	92.27%	705	574	391,422	76.94%	71.00%
Boards 8, 13, and 83	1,452	1,284	1,121	87.42%	664	512	409,156	75.31%	65.84%
Board 9 (Butler)	1,110	966	820	84.49%	469	347	303,597	70.23%	59.34%
Board 12	958	837	748	89.53%	444	338	289,211	71.88%	64.36%
Boards 18 and 47	4,904	4,014	3,654	91.10%	1,839	1,494	1,316,042	74.69%	68.05%
Boards 20, 32, 54, and 69	973	869	837	96.33%	454	352	285,725	74.11%	71.39%
Boards 21, 39, 51, 70, and 80	1,413	1,261	1,099	86.97%	649	509	458,108	76.52%	66.55%
Boards 22, 74, and 87	1,193	1,024	941	91.73%	514	381	324,467	71.99%	66.04%
Boards 23 and 45	1,080	912	829	90.98%	501	412	310,984	79.01%	71.88%
Board 25 (Franklin)	3,282	2,817	2,336	81.96%	1,303	996	965,798	71.35%	58.48%
Boards 27, 71, and 73	1,400	1,164	1,081	92.89%	595	456	412,149	67.75%	62.94%
Boards 28, 43, and 67	1,478	1,284	1,205	93.79%	629	523	411,568	81.27%	76.22%
Board 31 (Hamilton)	2,342	1,998	1,709	85.68%	961	731	662,258	73.39%	62.88%
Board 48 (Lucas)	1,085	906	831	92.03%	499	380	363,259	67.06%	61.71%
Boards 50 and 76	1,887	1,630	1,528	93.84%	802	632	517,691	72.70%	68.22%
Board 57 (Montgomery)	1,492	1,268	1,100	87.05%	638	501	448,241	74.26%	64.64%
Board 77 (Summit)	1,578	1,384	1,280	92.58%	681	520	454,485	73.26%	67.83%
Oklahoma	8,200	6,572	5,971	90.89%	3,490	2,721	3,072,507	73.87%	67.13%
Central	817	715	658	92.11%	392	290	382,491	69.79%	64.29%
East Central	759	630	586	93.15%	355	273	355,850	72.12%	67.18%
Northeast	1,392	1,111	1,036	93.18%	557	429	396,247	74.32%	69.25%
Northwest and Southwest	1,260	848	791	93.25%	447	353	442,614	76.54%	71.38%
Oklahoma County	1,641	1,354	1,182	87.60%	712	563	583,385	75.51%	66.15%
Southeast	1,252	1,008	922	91.30%	523	408	423,122	69.51%	63.46%
Tulsa County	1,079	906	796	87.84%	504	405	488,798	77.70%	68.26%

See notes at end of table.   (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
Oregon	7,879	6,932	6,336	91.31%	3,489	2,781	3,268,476	76.04%	69.43%
Region 1 (Multnomah)	1,632	1,468	1,303	88.75%	652	512	635,607	73.54%	65.27%
Region 2	1,650	1,501	1,386	92.25%	794	593	763,623	71.99%	66.41%
Region 3	2,654	2,274	2,082	91.39%	1,203	1,001	1,024,226	79.08%	72.27%
Region 4	1,129	1,005	915	90.80%	491	390	471,173	77.25%	70.14%
Region 5 (Central)	475	399	381	95.61%	213	178	170,771	79.09%	75.62%
Region 6 (Eastern)	339	285	269	94.62%	136	107	203,076	72.75%	68.83%
Pennsylvania	32,838	28,178	22,806	80.59%	12,569	9,639	10,756,318	72.24%	58.22%
Region 1 (Allegheny)	3,406	2,951	2,477	83.80%	1,284	914	1,053,992	67.93%	56.93%
Regions 3, 8, 9, and 51	1,734	1,478	1,348	91.23%	679	486	598,452	67.25%	61.35%
Regions 4, 11, 37, and 49	2,216	1,787	1,477	82.91%	866	671	764,221	72.65%	60.23%
Regions 5, 18, 23, 24, and 46	2,046	1,751	1,063	58.97%	598	492	629,351	77.78%	45.87%
Regions 6, 12, 16, 31, 35, 45, and 47	1,930	1,654	1,419	83.37%	749	620	606,170	78.30%	65.28%
Regions 7, 13, 20, and 33	5,685	5,160	3,980	76.68%	2,261	1,730	2,088,112	71.97%	55.18%
Regions 10, 15, 27, 32, 43,and 44	1,622	1,313	1,209	92.25%	642	527	443,226	77.55%	71.54%
Regions 17 and 21	914	797	729	91.42%	395	323	311,936	74.80%	68.38%
Regions 19, 26, 28, and 42	3,763	3,441	2,663	76.73%	1,507	1,118	1,219,198	69.39%	53.24%
Regions 22, 38, 40, 41, and 48	2,170	1,759	1,550	88.10%	866	672	712,299	72.32%	63.71%
Regions 29 and 34	1,623	1,422	1,239	87.15%	644	456	546,332	65.80%	57.34%
Regions 30 and 50	1,646	1,344	1,155	85.88%	609	472	521,128	76.05%	65.31%
Region 36 (Philadelphia)	4,083	3,321	2,497	75.63%	1,469	1,158	1,261,900	74.11%	56.05%
Rhode Island	7,828	6,424	5,719	89.04%	3,403	2,768	895,756	75.29%	67.04%
Bristol and Newport	840	690	624	90.40%	323	276	114,743	76.26%	68.94%
Kent	1,243	1,103	983	89.12%	525	403	142,632	69.11%	61.59%
Providence	4,641	3,888	3,444	88.61%	2,134	1,736	528,202	76.59%	67.87%
Washington	1,104	743	668	89.90%	421	353	110,180	76.65%	68.90%
South Carolina	8,900	7,259	6,506	89.61%	3,452	2,792	3,868,769	75.12%	67.32%
Region 1	2,242	1,890	1,671	88.54%	937	734	1,008,495	74.22%	65.71%
Region 2	2,682	2,279	2,065	90.52%	1,048	891	1,158,146	78.47%	71.03%
Region 3	1,749	1,275	1,117	87.69%	562	426	673,316	69.31%	60.77%
Region 4	2,227	1,815	1,653	90.90%	905	741	1,028,812	76.12%	69.20%

See notes at end of table. (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
South Dakota	7,530	6,339	6,003	94.74%	3,335	2,720	679,252	77.91%	73.80%
Region 1	1,852	1,588	1,477	93.07%	880	730	167,423	79.84%	74.31%
Region 2	812	665	632	95.22%	353	281	63,171	74.74%	71.16%
Region 3	1,833	1,489	1,414	94.96%	763	615	161,837	77.96%	74.03%
Region 4	1,071	891	846	94.88%	410	324	96,298	73.60%	69.83%
Region 5	1,962	1,706	1,634	95.79%	929	770	190,523	79.64%	76.29%
Tennessee	7,710	6,393	5,811	90.83%	3,332	2,739	5,344,342	77.57%	70.45%
Region 1	677	561	540	96.20%	295	256	435,188	86.62%	83.33%
Region 2	1,383	1,163	1,080	92.94%	587	458	1,002,352	75.17%	69.86%
Region 3	1,401	1,134	1,036	91.25%	559	453	801,676	74.21%	67.72%
Region 4 (Davidson)	918	760	656	86.23%	376	302	530,775	79.09%	68.20%
Region 5	1,545	1,328	1,201	89.93%	743	594	1,278,879	72.99%	65.65%
Region 6	820	657	622	94.73%	323	281	530,481	77.75%	73.65%
Region 7 (Shelby)	966	790	676	85.80%	449	395	764,990	85.88%	73.69%

See notes at end of table.   (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
Texas	27,261	22,682	20,585	90.55%	13,521	10,851	20,487,199	75.24%	68.13%
Region 1	1,084	923	864	93.65%	557	434	683,199	70.84%	66.34%
Region 2	558	436	420	96.06%	239	219	453,692	88.20%	84.72%
Region 3	6,955	6,075	5,720	94.03%	3,770	3,068	5,480,088	75.47%	70.97%
Region 3a	4,268	3,761	3,516	93.39%	2,289	1,829	3,479,181	73.49%	68.64%
Region 3bc	2,687	2,314	2,204	95.14%	1,481	1,239	2,000,906	78.92%	75.08%
Region 4	1,271	1,045	995	95.13%	573	452	918,066	72.34%	68.82%
Region 5	1,128	811	756	93.34%	501	423	633,600	80.36%	75.00%
Region 6	6,308	5,293	4,432	83.31%	3,059	2,325	4,931,443	71.15%	59.27%
Region 6a	5,527	4,672	3,915	83.37%	2,721	2,071	4,407,283	71.55%	59.65%
Region 6bc	781	621	517	82.77%	338	254	524,160	67.54%	55.90%
Region 7	3,798	2,962	2,734	92.34%	1,646	1,352	2,452,963	78.39%	72.39%
Region 7a	2,252	1,813	1,675	92.36%	975	793	1,537,261	76.29%	70.47%
Region 7bcd	1,546	1,149	1,059	92.30%	671	559	915,702	82.25%	75.92%
Region 8	2,713	2,225	1,952	88.04%	1,221	988	2,145,063	76.75%	67.57%
Region 9	621	489	465	95.02%	343	267	466,792	70.04%	66.56%
Region 10	905	837	793	94.86%	571	463	667,991	78.04%	74.03%
Region 11	1,920	1,586	1,454	91.70%	1,041	860	1,654,303	79.78%	73.15%
Region 11abd	1,327	1,066	984	92.24%	644	527	1,056,206	78.75%	72.64%
Region 11c (Hidalgo)	593	520	470	90.60%	397	333	598,096	81.60%	73.94%
Utah	5,097	4,472	4,231	94.62%	3,329	2,763	2,186,937	80.12%	75.81%
Bear River, Northeastern, Summit, Tooele, and Wasatch	803	728	696	95.81%	495	420	262,453	81.50%	78.08%
Central, Four Corners, San Juan, and Southwest	614	463	436	93.81%	312	253	267,846	77.52%	72.72%
Davis County	467	433	414	95.86%	335	302	237,120	90.05%	86.33%
Salt Lake County	1,920	1,680	1,591	94.68%	1,242	1,022	832,287	78.98%	74.78%
Utah County	814	733	682	93.25%	620	495	394,615	80.18%	74.76%
Weber, Morgan	479	435	412	94.50%	325	271	192,616	75.18%	71.05%

See notes at end of table. (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
Vermont	9,413	7,375	6,594	89.46%	3,306	2,680	544,733	78.26%	70.01%
Champlain Valley	3,449	2,895	2,620	90.76%	1,414	1,116	216,621	76.16%	69.12%
Rural Northeast	2,141	1,713	1,408	82.31%	689	562	128,520	78.09%	64.27%
Rural Southeast	2,303	1,625	1,477	90.64%	687	561	113,560	77.37%	70.12%
Rural Southwest	1,520	1,142	1,089	95.47%	516	441	86,032	85.23%	81.37%
Virginia	7,911	7,008	6,138	87.56%	3,296	2,721	6,653,466	78.20%	68.47%
Region 1	1,349	1,208	1,116	92.55%	670	580	1,035,111	82.44%	76.30%
Region 2	1,966	1,810	1,550	85.40%	849	699	1,836,987	78.73%	67.24%
Region 3	1,316	1,134	1,006	88.46%	562	464	1,147,276	75.35%	66.66%
Region 4	1,305	1,185	999	84.51%	509	411	1,139,214	80.73%	68.23%
Region 5	1,975	1,671	1,467	87.77%	706	567	1,494,878	74.44%	65.34%
Washington	8,286	7,180	6,479	90.02%	3,666	2,784	5,673,430	71.60%	64.45%
Region 1	1,691	1,404	1,332	94.77%	706	539	1,236,099	71.33%	67.60%
East 1 (previously Region 1)	994	788	745	94.42%	376	277	710,676	67.66%	63.89%
East 2 (previously Region 2)	697	616	587	95.22%	330	262	525,423	76.95%	73.27%
Region 2	3,995	3,508	3,082	87.58%	1,730	1,321	2,601,950	73.00%	63.93%
North 1 (previously Region 3)	1,553	1,296	1,161	89.71%	682	531	950,244	74.59%	66.92%
North 2 (previously Region 4)	2,442	2,212	1,921	86.38%	1,048	790	1,651,706	72.14%	62.31%
Region 3	2,600	2,268	2,065	90.95%	1,230	924	1,835,381	69.83%	63.51%
West 1 (previously Region 5)	1,219	1,051	963	91.58%	634	480	881,921	72.16%	66.08%
West 2 (previously Region 6)	1,381	1,217	1,102	90.43%	596	444	953,460	67.54%	61.07%
West Virginia	9,388	7,537	6,769	89.47%	3,474	2,802	1,589,205	75.94%	67.94%
Region I	748	622	542	87.64%	261	200	127,860	64.33%	56.38%
Region II	1,152	960	829	86.35%	430	326	222,844	72.15%	62.30%
Region III	907	771	695	90.00%	327	276	146,282	78.26%	70.44%
Region IV	1,925	1,578	1,364	85.00%	831	690	346,586	81.42%	69.21%
Region V	2,878	2,368	2,197	92.62%	1,105	885	454,080	74.80%	69.28%
Region VI	1,778	1,238	1,142	92.24%	520	425	291,552	78.60%	72.50%

See notes at end of table. (continued)

Table C1. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	Total Selected DUs	Total Eligible DUs	Total Completed Screeners	Weighted DU Screening Response Rate (Percentage)	Total Selected	Total Responded	Population Estimate	Weighted Interview Response Rate (Percentage)	Weighted Overall Response Rate (Percentage)
Wisconsin	7,586	6,386	5,946	92.92%	3,378	2,666	4,771,114	75.92%	70.55%
Milwaukee	1,128	999	921	91.70%	554	433	777,508	72.75%	66.71%
Northeastern	1,928	1,656	1,547	93.39%	916	718	1,031,063	78.53%	73.34%
Northern	697	513	477	92.78%	238	189	413,733	77.31%	71.72%
Southeastern	1,225	1,052	957	90.78%	531	393	968,628	69.16%	62.79%
Southern	1,434	1,195	1,109	92.69%	656	538	927,185	79.16%	73.37%
Western	1,174	971	935	96.26%	483	395	652,997	78.76%	75.81%
Wyoming	9,111	7,201	6,606	91.75%	3,381	2,727	468,680	76.29%	69.99%
Judicial District 1 (Laramie)	1,539	1,314	1,161	88.08%	513	404	76,579	74.59%	65.70%
Judicial District 2	1,014	743	689	92.66%	376	312	44,987	77.07%	71.41%
Judicial District 3	1,229	955	904	94.79%	558	455	66,322	78.06%	73.99%
Judicial District 4	735	567	523	92.40%	269	227	31,755	78.20%	72.26%
Judicial District 5	958	708	636	90.12%	265	221	45,067	78.51%	70.75%
Judicial District 6	837	691	653	94.70%	374	287	48,840	71.79%	67.98%
Judicial District 7 (Natrona)	1,079	907	820	90.61%	421	338	63,133	75.32%	68.25%
Judicial District 8	759	624	591	94.75%	289	237	32,747	78.53%	74.40%
Judicial District 9	961	692	629	90.55%	316	246	59,250	76.80%	69.54%

DU = dwelling unit; ECBH = East Carolina Behavioral Health; SPA = service planning area.

NOTE: For substate region definitions, see the "2010-2012 National Survey on Drug Use and Health Substate Region Definitions" at http://www.samhsa.gov/data/NSDUH/substate2k12/toc.aspx.

NOTE: To compute the pooled 2010-2012 weighted response rates, the three samples were combined, and the individual-year weights were used for the pooled sample. Thus, the response rates presented here are weighted across 3 years of data rather than being a simple average of the 2010, 2011, and 2012 individual response rates.

NOTE: The total responded column represents the combined sample size from the 2010, 2011, and 2012 NSDUHs.

NOTE: The population estimate is the simple average of the 2010, 2011, and 2012 population counts for persons aged 12 or older. Because of rounding, the sum of the substate region population counts within a State may not exactly match the State population count listed in the table.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2010, 2011, and 2012 (2010 Data - Revised March 2012).

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 NSDUHs

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
Total United States	112,389	94,187	38,520,150	83.78%	180,223	138,189	232,997,944	72.90%
Northeast	22,296	18,149	6,751,269	81.03%	36,412	26,929	42,644,963	69.72%
Midwest	31,555	26,329	8,329,840	83.41%	50,469	38,650	50,325,946	73.30%
South	34,983	29,829	14,165,781	85.19%	54,590	42,934	86,079,799	74.72%
West	23,555	19,880	9,273,259	83.94%	38,752	29,676	53,947,236	72.19%
Alabama	1,723	1,440	602,821	82.77%	2,734	2,125	3,598,931	72.66%
Region 1	391	318	162,713	80.68%	639	477	1,009,679	71.48%
Region 2	526	431	193,347	80.39%	794	595	1,158,203	68.80%
Region 3	350	295	117,015	84.47%	557	446	638,621	77.28%
Region 4	456	396	129,746	87.62%	744	607	792,428	75.34%
Alaska	1,389	1,153	91,346	83.30%	2,246	1,770	508,290	76.10%
Anchorage	585	497	36,922	85.75%	1,000	801	209,099	77.09%
Northern	332	266	21,876	79.04%	517	399	112,434	74.96%
South Central	304	247	24,230	82.76%	452	337	132,737	71.22%
Southeast	168	143	8,318	84.39%	277	233	54,020	83.86%
Arizona	1,523	1,298	814,074	84.90%	2,352	1,863	4,778,706	76.18%
Maricopa	983	834	494,193	84.70%	1,486	1,142	2,826,212	73.08%
Pima	201	165	121,395	81.11%	345	281	753,940	80.44%
Rural North	178	151	89,347	84.44%	301	253	554,257	84.41%
Rural South	161	148	109,139	91.15%	220	187	644,298	80.76%
Arkansas	1,536	1,261	362,442	81.72%	2,416	1,839	2,176,489	71.34%
Catchment Area 1	283	230	60,501	81.04%	451	325	345,281	67.38%
Catchment Area 2	141	115	39,400	82.16%	209	159	269,801	73.33%
Catchment Area 3	208	166	52,593	78.01%	304	212	291,306	60.31%
Catchment Area 4	139	113	31,872	80.65%	207	160	191,488	74.81%
Catchment Area 5	213	178	55,901	83.39%	368	278	325,954	72.39%
Catchment Area 6	112	96	27,002	83.72%	162	144	158,089	83.36%
Catchment Area 7	118	103	28,559	84.89%	182	142	171,264	74.54%
Catchment Area 8	322	260	66,615	82.08%	533	419	423,306	74.06%

See notes at end of table.   (continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
California	6,077	5,086	4,999,389	83.42%	9,872	7,320	27,895,806	70.04%
Region 1R	124	98	118,833	78.57%	234	181	739,060	74.25%
Region 2R	167	134	136,413	82.02%	252	199	758,984	77.04%
Region 3R (Sacramento)	186	157	185,861	80.14%	326	249	1,053,628	74.28%
Region 4R	224	181	154,684	79.24%	374	272	990,082	70.63%
Region 5R (San Francisco)	81	70	57,002	86.45%	247	170	693,024	58.70%
Region 6 (Santa Clara)	189	150	207,213	80.63%	435	297	1,348,882	66.33%
Region 7R (Contra Costa)	140	123	134,972	87.88%	251	185	789,723	68.84%
Region 8R (Alameda)	199	170	176,470	87.03%	440	323	1,162,935	66.60%
Region 9R (San Mateo)	97	65	74,794	71.10%	177	110	555,833	55.16%
Region 10	206	161	179,846	78.38%	307	220	935,850	65.58%
Region 11 (Los Angeles)	1,604	1,329	1,309,291	81.97%	2,684	1,949	7,363,047	69.21%
LA SPA 1 and 5	135	112	129,511	82.41%	232	159	798,520	67.02%
LA SPA 2	302	240	270,018	77.48%	509	348	1,621,762	67.04%
LA SPA 3	284	232	233,874	81.59%	507	372	1,316,406	68.54%
LA SPA 4	126	107	117,652	85.00%	310	228	885,863	72.01%
LA SPA 6	219	180	166,274	82.77%	319	239	680,583	67.28%
LA SPA 7	243	213	195,678	83.47%	359	271	924,706	72.32%
LA SPA 8	295	245	196,283	83.73%	448	332	1,135,206	71.12%
Region 12R	129	109	120,676	80.54%	164	136	609,070	74.99%
Regions 13 and 19R	463	398	365,029	84.66%	606	466	1,706,767	73.47%
Region 13 (Riverside)	395	332	337,800	82.93%	545	407	1,582,718	71.38%
Region 19R (Imperial)	68	66	27,229	97.25%	61	59	124,049	96.58%
Region 14 (Orange)	484	402	404,091	83.27%	842	616	2,280,159	68.93%
Region 15R (Fresno)	177	162	143,962	92.03%	251	192	653,119	69.26%
Region 16R (San Diego)	526	435	402,017	84.15%	830	612	2,371,540	70.91%
Region 17R	319	273	222,563	86.46%	367	291	1,009,020	77.48%
Region 18R (San Bernardino)	418	364	320,454	86.60%	582	454	1,442,460	72.79%
Region 20R	199	180	143,850	89.69%	229	183	664,886	72.69%
Region 21R	145	125	141,369	87.70%	274	215	767,737	74.40%

See notes at end of table.   (continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
Colorado	1,387	1,169	573,028	83.79%	2,433	1,876	3,815,726	75.93%
Region 1	179	145	83,033	77.75%	344	274	503,563	77.82%
Regions 2 and 7	733	615	310,897	84.63%	1,303	977	2,127,418	73.54%
Region 3	282	239	88,996	82.86%	444	342	558,469	76.72%
Region 4	82	73	32,535	90.42%	126	107	207,254	82.41%
Regions 5 and 6	111	97	57,567	86.57%	216	176	419,021	79.99%
Connecticut	1,530	1,290	449,374	84.78%	2,559	1,956	2,724,401	72.09%
Eastern	233	208	62,059	89.52%	428	352	339,686	79.27%
North Central	409	343	121,680	84.71%	658	498	763,612	68.35%
Northwestern	270	241	77,009	88.93%	386	299	467,802	69.97%
South Central	343	275	103,046	82.16%	618	455	646,111	71.61%
Southwest	275	223	85,580	81.12%	469	352	507,190	74.76%
Delaware	1,397	1,175	108,053	84.63%	2,276	1,815	690,455	77.51%
Kent	292	242	21,081	83.67%	406	315	122,415	73.88%
New Castle (excluding Wilmington City)	717	592	59,387	83.11%	1,162	934	354,902	79.81%
Sussex	236	208	18,939	87.80%	476	361	156,768	72.93%
Wilmington City	152	133	8,646	88.66%	232	205	56,370	85.00%
District of Columbia	1,427	1,274	62,488	88.37%	2,241	1,840	503,390	81.13%
Ward 1	136	128	6,698	95.11%	320	273	63,979	84.57%
Ward 2	128	100	7,599	76.22%	435	340	70,752	78.35%
Ward 3	114	98	6,555	86.65%	313	258	69,075	82.19%
Ward 4	176	152	6,818	86.60%	241	179	61,608	71.81%
Ward 5	231	210	8,466	87.58%	302	248	62,304	80.76%
Ward 6	103	94	4,514	91.53%	232	190	67,974	80.21%
Ward 7	224	195	10,158	87.47%	170	148	54,745	88.26%
Ward 8	315	297	11,682	94.92%	228	204	52,952	88.24%

See notes at end of table.

(continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
Florida	6,268	5,357	2,189,991	85.33%	9,488	7,380	14,761,339	73.21%
Region A - Northwest	763	654	174,457	84.88%	1,042	835	1,068,061	79.87%
Circuit 1	474	401	84,388	81.82%	585	466	532,099	79.87%
Circuit 2	168	151	57,812	91.46%	272	220	306,497	82.26%
Circuit 14	121	102	32,257	82.30%	185	149	229,465	75.54%
Region B - Northeast	767	632	311,109	82.77%	1,327	1,016	1,978,747	72.24%
Circuits 3 and 8	218	166	75,956	76.17%	378	299	448,592	75.54%
Circuit 4	322	271	137,839	86.52%	525	397	850,413	70.58%
Circuit 7	227	195	97,313	83.81%	424	320	679,743	71.61%
Region C - Central	1,595	1,374	562,708	86.37%	2,214	1,706	3,708,486	71.00%
Circuit 5	214	178	100,582	84.09%	341	252	842,730	68.67%
Circuit 9	547	475	195,322	86.34%	751	607	1,073,848	73.32%
Circuit 10	307	270	86,286	87.94%	428	339	558,549	75.38%
Circuit 18	362	309	115,170	86.51%	442	315	756,508	64.40%
Circuit 19	165	142	65,348	85.75%	252	193	476,851	72.34%
Region D - Southeast	923	781	348,577	84.40%	1,506	1,142	2,397,598	71.12%
Circuit 15 (Palm Beach)	412	332	143,263	80.63%	661	483	1,046,586	67.34%
Circuit 17 (Broward)	511	449	205,315	87.70%	845	659	1,351,012	73.91%
Region E - Sun Coast	1,337	1,153	486,642	85.95%	2,026	1,556	3,591,815	72.49%
Circuit 6	326	269	139,503	81.70%	486	357	1,111,719	67.84%
Circuit 12	193	162	70,828	84.52%	304	229	602,261	70.17%
Circuit 13 (Hillsborough)	568	501	160,137	87.85%	828	659	942,558	75.71%
Circuit 20	250	221	116,174	88.17%	408	311	935,277	76.05%
Region F - Southern (Circuits 11 and 16)	883	763	306,499	86.15%	1,373	1,125	2,016,632	78.57%
Georgia	1,466	1,240	1,246,043	84.63%	2,282	1,761	7,113,489	74.26%
Region 1	380	313	320,702	81.61%	582	464	1,831,220	76.50%
Region 2	218	194	167,557	88.22%	348	287	931,880	80.27%
Region 3	422	363	349,722	87.24%	705	534	2,106,754	72.76%
Region 4	106	88	81,066	82.24%	189	133	444,984	67.17%
Region 5	90	77	142,445	86.95%	162	121	811,735	69.58%
Region 6	250	205	184,553	81.40%	296	222	986,915	72.42%

See notes at end of table. (continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
Iowa	1,472	1,247	367,880	84.47%	2,283	1,825	2,315,143	76.91%
Central	257	214	64,291	83.70%	446	336	412,238	73.06%
North Central	166	135	44,472	81.56%	212	163	261,325	72.51%
Northeast	357	304	90,377	85.04%	597	495	563,543	79.71%
Northwest	248	212	56,375	84.56%	330	264	355,786	77.84%
Southeast	321	272	77,162	82.90%	467	372	492,354	77.17%
Southwest	123	110	35,203	91.31%	231	195	229,897	80.23%
Kansas	1,444	1,238	361,811	85.70%	2,317	1,794	2,087,093	74.82%
Kansas City Metro	525	437	118,812	82.98%	841	638	694,920	71.91%
Northeast	200	173	70,748	85.09%	395	307	405,279	76.64%
South Central	207	175	45,848	84.74%	236	180	261,609	78.83%
Southeast	104	89	24,628	87.27%	154	128	142,723	77.81%
West	165	148	39,484	89.76%	287	209	226,507	70.39%
Wichita (Sedgwick)	243	216	62,291	89.48%	404	332	356,056	79.03%
Kentucky	1,500	1,252	507,519	83.46%	2,311	1,812	3,287,915	74.67%
Adanta, Cumberland River, and Lifeskills	279	233	87,827	82.26%	452	345	552,857	73.17%
Bluegrass, Comprehend, and North Key	415	343	152,407	82.94%	692	538	960,481	73.19%
Communicare and River Valley	168	145	57,455	87.36%	239	191	361,192	76.48%
Four Rivers and Pennyroyal	127	111	46,828	86.60%	208	175	314,461	82.73%
Kentucky River, Mountain, and Pathways	137	115	55,288	85.62%	220	172	373,505	68.23%
Seven Counties	374	305	107,714	81.46%	500	391	725,420	76.39%

See notes at end of table.   (continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
Louisiana	1,876	1,630	566,276	87.12%	2,955	2,345	3,354,095	76.70%
Regions 1 and 10	391	328	96,032	84.87%	641	464	645,840	71.06%
Region 1	230	198	50,015	84.15%	328	247	322,576	75.74%
Region 10 (Jefferson)	161	130	46,017	85.88%	313	217	323,264	66.99%
Regions 2 and 9	487	429	155,593	88.12%	708	583	887,255	79.04%
Region 3	260	231	51,434	87.51%	354	288	293,363	76.68%
Regions 4, 5, and 6	428	365	148,963	84.17%	744	583	863,718	74.71%
Regions 7 and 8	310	277	114,253	90.52%	508	427	663,918	81.29%
Maine	1,457	1,262	152,923	86.94%	2,239	1,838	1,050,301	79.18%
Aroostook/Downeast	209	189	17,149	90.50%	295	265	126,922	85.04%
Aroostook	87	83	8,120	94.34%	141	130	56,825	87.96%
Downeast	122	106	9,029	87.92%	154	135	70,097	82.82%
Central	190	165	19,994	87.07%	296	252	136,865	83.33%
Cumberland	269	237	32,872	87.90%	448	337	223,551	72.61%
Midcoast	84	77	15,312	92.68%	167	148	117,578	87.16%
Penquis	210	178	21,782	82.61%	330	275	136,621	83.55%
Western	257	219	23,183	86.62%	371	317	153,400	82.16%
York	238	197	22,632	84.35%	332	244	155,363	66.71%
Maryland	1,353	1,161	667,492	85.55%	2,276	1,807	4,392,346	76.10%
Anne Arundel	92	77	58,669	86.31%	183	139	412,948	70.75%
Baltimore City	157	150	67,237	94.60%	299	266	477,159	85.95%
Baltimore County	163	133	89,826	82.53%	311	255	623,999	80.68%
Montgomery	231	208	103,657	90.55%	362	282	735,352	76.02%
North Central	126	108	56,672	86.92%	175	144	339,829	77.69%
Northeast	119	100	56,666	80.15%	189	136	368,342	72.49%
Prince George's	155	122	108,217	78.72%	303	231	644,329	71.45%
South	150	137	69,910	90.76%	208	164	417,518	72.55%
West	160	126	56,637	78.11%	246	190	372,870	75.03%

See notes at end of table. (continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
Massachusetts	1,614	1,327	777,724	81.64%	2,431	1,871	5,112,243	74.08%
Boston	161	140	93,954	87.64%	369	295	643,895	76.33%
Central	208	179	107,570	86.58%	303	237	653,619	74.08%
Metrowest	323	261	170,764	81.24%	417	319	1,180,160	73.59%
Northeast	365	292	149,371	78.59%	495	393	993,794	76.46%
Southeast	335	261	145,418	75.66%	511	360	987,293	69.24%
Western	222	194	110,647	88.60%	336	267	653,482	77.78%
Michigan	6,024	5,030	1,273,796	83.64%	9,537	7,445	7,472,567	74.36%
Detroit City	432	374	107,696	87.63%	659	528	504,543	73.90%
Genesee	278	247	54,929	89.20%	428	346	313,957	75.42%
Kalamazoo	432	365	88,014	83.08%	574	433	514,455	73.19%
Kent	334	293	78,714	87.47%	630	509	444,496	76.18%
Lakeshore	494	408	95,883	82.93%	739	595	524,631	77.30%
Macomb	514	412	99,632	80.15%	866	619	644,705	69.11%
Mid South	519	437	127,775	83.21%	848	681	709,411	80.39%
Northern	394	328	103,467	83.74%	681	571	668,896	81.91%
Oakland	711	578	145,462	82.09%	1,085	828	918,697	73.56%
Pathways and Western	195	173	36,430	89.14%	313	259	248,412	79.81%
Riverhaven	219	189	41,691	87.03%	353	282	264,396	74.84%
Saginaw	119	100	26,799	82.60%	208	162	151,176	71.63%
Southeast	772	629	154,772	82.06%	1,194	893	935,490	69.78%
St. Clair	198	158	37,053	79.84%	332	247	222,294	74.00%
Washtenaw	413	339	75,479	82.56%	627	492	407,009	71.14%
Minnesota	1,455	1,247	633,949	85.26%	2,331	1,853	4,040,193	78.75%
Regions 1 and 2	113	92	62,075	80.50%	193	140	411,304	66.02%
Regions 3 and 4	253	216	114,124	86.11%	372	297	689,633	81.19%
Regions 5 and 6	283	244	123,812	85.47%	427	347	766,018	79.82%
Region 7A (Hennepin)	272	241	122,532	89.56%	548	444	903,152	77.75%
Region 7B (Ramsey)	139	123	61,251	89.11%	212	176	394,357	83.41%
Region 7C	395	331	150,155	81.65%	579	449	875,728	80.22%

See notes at end of table. (continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
Mississippi	1,597	1,387	377,309	86.61%	2,480	2,007	2,164,645	76.46%
Region 1	354	295	86,916	82.99%	552	441	489,031	76.62%
Region 2	187	167	48,220	89.31%	270	216	271,936	76.46%
Region 3	201	178	55,486	87.62%	330	271	306,392	78.18%
Region 4	304	265	69,327	86.90%	456	386	393,140	78.39%
Region 5	71	61	21,955	89.19%	116	94	134,021	71.90%
Region 6	195	175	38,273	90.03%	282	238	224,653	80.78%
Region 7	285	246	57,133	85.30%	474	361	345,472	71.34%
Missouri	1,425	1,205	723,658	84.17%	2,372	1,855	4,494,236	73.37%
Central	195	179	104,909	91.49%	316	261	614,030	75.22%
Eastern	496	416	252,358	83.46%	828	623	1,558,771	69.41%
Eastern (St. Louis City and County)	327	271	158,439	81.67%	554	409	992,435	66.89%
Eastern (excluding St. Louis)	169	145	93,919	87.14%	274	214	566,336	75.37%
Northwest	323	273	172,252	84.94%	600	488	1,084,204	78.25%
Northwest (Jackson)	180	157	76,282	87.80%	351	302	498,572	87.28%
Northwest (excluding Jackson)	143	116	95,970	81.75%	249	186	585,632	67.47%
Southeast	207	172	83,652	82.08%	289	227	538,562	74.55%
Southwest	204	165	110,487	79.90%	339	256	698,669	72.85%
Montana	1,493	1,258	118,210	84.26%	2,352	1,834	763,923	76.23%
Region 1	130	111	9,350	84.91%	190	161	59,431	83.94%
Region 2	190	158	17,686	82.00%	293	231	107,598	80.30%
Region 3	328	284	23,773	86.71%	496	396	156,631	79.39%
Region 4	348	295	31,514	85.68%	596	467	203,577	74.69%
Region 5	497	410	35,887	82.43%	777	579	236,686	71.69%
Nebraska	1,458	1,255	228,037	86.25%	2,469	1,878	1,367,430	71.17%
Regions 1 and 2	169	144	22,660	84.45%	244	195	141,135	74.26%
Region 1	78	63	10,501	80.61%	119	92	66,306	74.38%
Region 2	91	81	12,159	88.32%	125	103	74,830	74.13%
Region 3	177	161	28,390	91.59%	313	257	168,324	76.52%
Region 4	159	145	25,880	92.33%	242	176	152,581	72.35%
Region 5	369	310	55,749	84.64%	619	480	341,660	72.48%
Region 6	584	495	95,358	84.54%	1,051	770	563,729	67.62%

See notes at end of table.   (continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
Nevada	1,381	1,198	352,426	88.45%	2,572	2,010	2,028,107	72.44%
Clark – Region 1	904	795	253,039	90.32%	1,746	1,354	1,457,468	71.23%
Region 3	178	144	42,235	80.87%	306	242	250,062	78.43%
Capital District	93	76	18,882	81.45%	178	141	119,537	79.46%
Rural/Frontier	85	68	23,353	80.34%	128	101	130,526	77.08%
Washoe – Region 2	299	259	57,152	86.62%	520	414	320,576	73.22%
New Hampshire	1,673	1,357	174,864	82.55%	2,535	1,934	1,031,401	72.71%
Central	482	414	50,922	88.05%	753	586	295,017	70.10%
Central 1	286	245	26,786	88.60%	437	345	145,956	70.19%
Central 2	196	169	24,136	87.11%	316	241	149,061	70.00%
Northern	200	158	21,955	81.60%	315	251	137,307	79.95%
Southern	991	785	101,987	79.82%	1,467	1,097	599,077	72.26%
Southern 1 (Rockingham)	390	305	37,379	78.55%	555	401	228,982	69.90%
Southern 2	601	480	64,608	80.62%	912	696	370,094	73.72%
New Jersey	1,487	1,242	1,075,093	84.39%	2,355	1,799	6,678,841	73.41%
Central	305	247	248,936	80.58%	448	343	1,534,599	74.83%
Metropolitan	400	342	266,768	87.04%	658	507	1,601,944	73.04%
Northern	458	391	332,626	86.96%	765	585	2,141,474	73.71%
Southern	324	262	226,764	81.31%	484	364	1,400,824	72.05%
New Mexico	1,430	1,247	259,066	86.65%	2,337	1,832	1,526,696	75.84%
Region 1	349	311	58,448	88.98%	572	457	309,260	78.78%
Region 2	152	138	32,239	92.01%	261	210	225,667	78.66%
Region 3 (Bernalillo)	371	309	79,082	82.14%	710	549	500,482	74.36%
Region 4	216	185	35,414	85.96%	321	249	190,316	75.21%
Region 5	342	304	53,884	87.19%	473	367	300,971	72.98%

See notes at end of table.   (continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
New York	6,393	4,910	2,360,688	76.59%	10,893	7,323	14,947,367	63.89%
Region A	2,373	1,805	912,107	76.34%	4,512	2,866	6,352,469	59.71%
Region 1	583	476	198,154	81.35%	858	603	1,006,535	68.47%
Region 2	939	688	352,034	74.24%	1,619	1,039	2,259,630	59.66%
Region 3	286	234	129,454	79.49%	821	520	1,341,482	61.79%
Region 4	565	407	232,466	74.65%	1,214	704	1,744,822	53.39%
Region B	1,778	1,307	653,512	72.46%	2,722	1,788	3,817,199	63.60%
Region 5	1,004	719	361,577	71.18%	1,564	1,037	2,153,515	65.09%
Region 6	398	286	174,401	69.72%	640	392	1,017,274	57.35%
Region 7	376	302	117,534	80.02%	518	359	646,410	67.39%
Region C	1,709	1,367	595,718	80.79%	2,755	1,978	3,565,654	67.84%
Region 8	418	325	125,167	80.13%	591	418	781,502	65.17%
Region 9	407	334	128,898	82.33%	630	462	739,533	67.22%
Region 10	160	133	62,304	81.59%	328	253	349,318	73.33%
Region 11	381	291	139,195	77.62%	627	443	811,738	71.76%
Region 12	343	284	140,155	82.75%	579	402	883,564	65.01%
Region D	533	431	199,351	80.51%	904	691	1,212,045	75.77%
Region 13	173	140	61,645	80.55%	280	204	375,809	71.01%
Region 14	139	109	67,727	78.60%	261	195	416,844	74.67%
Region 15	221	182	69,979	81.74%	363	292	419,393	79.58%

See notes at end of table. (continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
North Carolina	1,448	1,271	1,129,907	87.39%	2,244	1,808	7,192,124	76.62%
Alliance	278	241	203,680	86.06%	465	371	1,230,189	77.02%
Cardinal Innovations	213	181	171,676	85.46%	310	250	1,040,943	76.67%
CenterPoint/Guilford	112	97	124,776	85.79%	202	171	772,965	82.58%
CenterPoint	56	50	63,020	89.96%	76	65	402,688	82.32%
Guilford	56	47	61,756	81.49%	126	106	370,277	82.77%
CoastalCare	83	74	68,161	88.50%	152	114	473,222	66.63%
Eastpointe	168	152	99,133	88.09%	229	182	605,360	71.48%
ECBH	90	78	70,810	87.50%	115	94	465,547	77.05%
MeckLINK	107	90	107,484	84.82%	177	123	687,306	67.58%
Partners	177	162	105,982	91.13%	240	209	676,167	84.23%
Sandhills	102	91	65,474	88.20%	151	107	411,050	66.24%
Smoky Mountain	64	59	60,398	92.94%	88	82	419,373	85.49%
Western Highlands	54	46	52,332	86.15%	115	105	410,002	88.56%
North Dakota	1,487	1,267	85,491	85.59%	2,415	1,853	522,286	73.70%
Badlands and West Central	311	263	21,362	84.27%	522	392	140,126	71.97%
Lake Region and South Central	231	202	11,497	87.38%	301	246	72,607	80.83%
North Central and Northwest	291	236	15,228	80.05%	433	315	96,440	70.21%
Northeast	263	244	12,552	93.30%	432	353	68,966	76.11%
Southeast	391	322	24,852	83.44%	727	547	144,147	72.94%

See notes at end of table.

(continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
Ohio	6,300	5,202	1,446,972	82.65%	9,643	7,405	8,679,993	73.07%
Boards 2, 46, 55, and 68	301	254	66,502	84.93%	420	329	384,220	75.05%
Boards 3, 52, and 85	206	177	51,528	85.88%	285	220	280,152	71.88%
Boards 4 and 78	134	104	36,573	77.09%	193	160	237,293	80.80%
Boards 5 and 60	238	205	48,619	86.57%	305	249	258,091	73.13%
Boards 7, 15, 41, 79, and 84	345	288	52,964	82.83%	561	454	356,246	76.44%
Boards 8, 13, and 83	312	247	63,027	80.36%	421	321	364,343	74.62%
Board 9 (Butler)	179	147	50,948	82.33%	349	249	272,623	69.35%
Board 12	220	175	45,493	82.31%	286	215	262,549	70.62%
Boards 18 and 47	768	662	190,551	85.95%	1,243	977	1,189,342	73.40%
Boards 20, 32, 54, and 69	221	182	43,762	82.21%	281	213	255,951	73.36%
Boards 21, 39, 51, 70, and 80	315	255	69,210	80.46%	388	300	409,712	76.18%
Boards 22, 74, and 87	221	173	50,573	78.56%	364	261	293,769	71.04%
Boards 23 and 45	225	191	50,414	84.95%	313	249	277,561	77.98%
Board 25 (Franklin)	533	439	143,769	81.88%	925	686	878,697	70.32%
Boards 27, 71, and 73	277	224	59,853	79.86%	394	292	372,081	66.19%
Boards 28, 43, and 67	286	245	64,150	85.96%	425	348	371,345	80.70%
Board 31 (Hamilton)	407	325	98,114	79.73%	663	490	600,266	72.57%
Board 48 (Lucas)	246	204	55,887	83.73%	341	254	328,774	65.57%
Boards 50 and 76	348	290	74,345	83.25%	552	423	469,030	71.53%
Board 57 (Montgomery)	277	226	64,545	81.69%	426	327	406,889	73.35%
Board 77 (Summit)	241	189	66,145	78.46%	508	388	411,060	73.07%
Oklahoma	1,487	1,210	462,381	81.16%	2,389	1,817	2,769,565	73.00%
Central	167	131	60,108	78.05%	272	191	344,819	68.18%
East Central	159	127	54,862	77.12%	232	172	318,181	71.46%
Northeast	236	186	62,178	78.59%	392	299	357,243	73.98%
Northwest and Southwest	209	169	66,793	81.13%	293	227	399,709	75.88%
Oklahoma County	291	239	83,770	84.16%	485	379	528,277	74.64%
Southeast	215	183	62,254	85.33%	356	264	381,549	67.87%
Tulsa County	210	175	72,416	81.63%	359	285	439,787	77.30%

See notes at end of table. (continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
Oregon	1,501	1,266	445,060	83.96%	2,388	1,838	2,976,378	75.12%
Region 1 (Multnomah)	231	197	71,681	82.93%	491	374	589,817	72.82%
Region 2	361	280	108,779	77.33%	522	378	685,867	71.27%
Region 3	548	472	153,380	85.51%	814	659	931,528	78.18%
Region 4	206	180	59,393	87.79%	336	252	431,333	76.12%
Region 5 (Central)	81	72	22,616	89.58%	150	121	154,610	78.05%
Region 6 (Eastern)	74	65	29,211	89.70%	75	54	183,223	70.09%
Pennsylvania	5,298	4,341	1,557,934	82.64%	8,727	6,492	9,785,061	71.24%
Region 1 (Allegheny)	518	400	136,989	77.98%	917	628	969,666	66.97%
Regions 3, 8, 9, and 51	292	221	87,160	75.33%	459	320	547,488	66.44%
Regions 4, 11, 37, and 49	361	303	114,464	85.44%	609	458	690,120	71.46%
Regions 5, 18, 23, 24, and 46	256	224	89,215	88.21%	404	323	573,666	76.75%
Regions 6, 12, 16, 31, 35, 45, and 47	310	264	98,097	83.95%	542	446	558,605	78.12%
Regions 7, 13, 20, and 33	948	792	308,139	84.70%	1,551	1,138	1,879,717	70.66%
Regions 10, 15, 27, 32, 43,and 44	266	226	60,201	86.19%	436	348	403,502	76.60%
Regions 17 and 21	174	155	49,291	89.64%	262	201	282,653	72.54%
Regions 19, 26, 28, and 42	696	544	178,554	78.25%	979	713	1,100,799	68.66%
Regions 22, 38, 40, 41, and 48	395	318	92,055	79.82%	591	449	651,777	71.43%
Regions 29 and 34	266	205	80,711	75.95%	437	295	494,259	64.68%
Regions 30 and 50	244	196	70,847	83.59%	430	328	477,200	75.42%
Region 36 (Philadelphia)	572	493	192,213	86.64%	1,110	845	1,155,610	72.96%
Rhode Island	1,415	1,231	128,522	86.95%	2,405	1,899	817,097	74.14%
Bristol and Newport	143	133	16,114	93.43%	220	180	104,822	74.27%
Kent	211	180	17,605	83.26%	369	269	130,087	67.88%
Providence	890	767	76,773	86.32%	1,524	1,210	481,780	75.59%
Washington	171	151	18,029	88.80%	292	240	100,408	75.61%
South Carolina	1,476	1,249	543,202	84.71%	2,368	1,881	3,511,346	74.20%
Region 1	412	327	145,439	79.53%	661	518	912,765	73.77%
Region 2	441	396	169,888	90.19%	734	609	1,047,533	77.38%
Region 3	230	187	89,688	80.63%	378	278	612,680	68.24%
Region 4	393	339	138,188	86.62%	595	476	938,369	74.99%

See notes at end of table. (continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
South Dakota	1,414	1,218	96,191	86.07%	2,291	1,829	614,500	77.18%
Region 1	389	338	22,773	86.42%	588	476	151,850	79.00%
Region 2	148	130	8,536	88.50%	249	194	56,702	74.00%
Region 3	324	274	24,289	85.36%	534	421	147,016	77.26%
Region 4	145	124	14,379	82.26%	285	216	86,948	72.77%
Region 5	408	352	26,215	86.63%	635	522	171,985	79.14%
Tennessee	1,422	1,227	773,174	86.29%	2,327	1,866	4,840,718	76.55%
Region 1	111	95	56,726	85.01%	210	183	398,720	86.75%
Region 2	259	208	138,249	80.43%	401	306	913,357	74.41%
Region 3	227	198	112,422	88.19%	396	310	730,952	72.87%
Region 4 (Davidson)	144	114	67,674	76.07%	279	224	490,912	79.19%
Region 5	334	291	197,428	88.01%	504	387	1,144,887	71.29%
Region 6	160	150	77,954	93.53%	208	173	479,746	75.85%
Region 7 (Shelby)	187	171	122,721	92.83%	329	283	682,145	84.73%

See notes at end of table. (continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
Texas	5,930	5,066	3,379,427	85.35%	9,204	7,166	18,231,553	73.98%
Region 1	243	208	114,991	85.00%	384	290	612,927	69.60%
Region 2	84	80	69,889	96.10%	169	153	411,412	87.59%
Region 3	1,664	1,451	881,362	87.42%	2,535	1,993	4,868,168	73.95%
Region 3a	960	832	558,952	87.47%	1,562	1,202	3,089,077	71.84%
Region 3bc	704	619	322,410	87.35%	973	791	1,779,091	77.67%
Region 4	261	219	136,457	85.33%	381	294	827,014	70.99%
Region 5	242	208	95,637	87.14%	332	276	571,922	79.44%
Region 6	1,305	1,058	802,109	80.38%	2,101	1,543	4,378,870	69.94%
Region 6a	1,144	929	720,444	80.37%	1,873	1,376	3,911,419	70.37%
Region 6bc	161	129	81,665	80.49%	228	167	467,451	66.04%
Region 7	681	587	394,376	86.01%	1,174	943	2,216,612	77.43%
Region 7a	386	342	234,638	87.00%	685	533	1,389,243	74.94%
Region 7bcd	295	245	159,738	84.74%	489	410	827,369	82.05%
Region 8	552	479	354,972	87.03%	806	626	1,909,451	75.21%
Region 9	163	137	75,630	86.55%	251	196	418,473	69.24%
Region 10	249	218	128,388	88.14%	386	301	582,316	76.68%
Region 11	486	421	325,618	86.09%	685	551	1,434,388	78.84%
Region 11abd	284	242	198,330	84.35%	437	352	923,089	78.10%
Region 11c (Hidalgo)	202	179	127,287	88.45%	248	199	511,300	80.20%
Utah	1,309	1,156	381,301	87.50%	2,377	1,909	1,919,693	78.77%
Bear River, Northeastern, Summit, Tooele, and Wasatch	198	181	47,498	87.67%	349	283	228,695	79.62%
Central, Four Corners, San Juan, and Southwest	135	120	47,346	91.71%	210	160	235,146	75.34%
Davis County	137	122	43,150	88.59%	237	213	205,079	90.14%
Salt Lake County	485	427	130,711	86.89%	891	711	738,626	77.62%
Utah County	229	194	80,897	83.96%	456	354	342,064	79.31%
Weber, Morgan	125	112	31,699	90.53%	234	188	170,083	73.39%

See notes at end of table.   (continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
Vermont	1,429	1,189	74,147	84.00%	2,268	1,817	498,250	77.75%
Champlain Valley	601	492	32,719	83.28%	988	763	197,921	75.42%
Rural Northeast	305	260	16,865	85.55%	470	379	117,345	77.62%
Rural Southeast	288	241	13,425	84.10%	470	381	104,053	76.80%
Rural Southwest	235	196	11,138	83.72%	340	294	78,932	85.37%
Virginia	1,489	1,283	970,964	85.54%	2,196	1,772	6,033,779	77.37%
Region 1	323	287	163,920	88.21%	464	398	935,093	81.97%
Region 2	370	324	240,710	87.15%	548	434	1,660,071	77.72%
Region 3	241	211	164,319	88.12%	395	320	1,052,640	74.21%
Region 4	247	203	172,918	82.29%	305	241	1,030,998	80.27%
Region 5	308	258	229,097	81.84%	484	379	1,354,976	73.56%
Washington	1,527	1,253	813,978	81.85%	2,566	1,873	5,142,951	70.44%
Region 1	313	252	204,239	79.60%	479	350	1,107,565	69.75%
East 1 (previously Region 1)	157	124	113,629	77.02%	261	179	641,217	65.82%
East 2 (previously Region 2)	156	128	90,610	82.22%	218	171	466,348	76.10%
Region 2	694	572	343,713	81.39%	1,226	904	2,378,221	72.15%
North 1 (previously Region 3)	285	235	137,414	81.73%	479	366	860,309	73.93%
North 2 (previously Region 4)	409	337	206,299	81.16%	747	538	1,517,912	71.21%
Region 3	520	429	266,027	83.78%	861	619	1,657,165	68.47%
West 1 (previously Region 5)	263	216	130,660	82.88%	446	326	796,402	71.02%
West 2 (previously Region 6)	257	213	135,366	84.72%	415	293	860,762	65.98%
West Virginia	1,588	1,346	216,294	84.77%	2,403	1,893	1,457,618	75.14%
Region I	117	103	17,048	86.06%	164	117	117,535	62.04%
Region II	181	147	32,769	82.22%	285	207	201,555	71.13%
Region III	150	135	19,445	87.67%	213	171	133,315	77.09%
Region IV	423	359	51,554	85.08%	634	523	320,722	81.19%
Region V	487	407	59,355	84.20%	753	591	416,223	74.01%
Region VI	230	195	36,122	84.81%	354	284	268,267	77.97%

See notes at end of table. (continued)

Table C2. Sample Sizes, Weighted Screening and Interview Response Rates, and Population Estimates, by Substate Region, for Persons Aged 12 to 20 and Persons Aged 18 or Older: 2010, 2011, and 2012 (continued)

State/Substate Region	12-20 Total Selected	12-20 Total Responded	12-20 Population Estimate	12-20 Weighted Interview Response Rate (Percentage)	18+ Total Selected	18+ Total Responded	18+ Population Estimate	18+ Weighted Interview Response Rate (Percentage)
Wisconsin	1,468	1,217	680,934	82.98%	2,308	1,768	4,317,163	75.08%
Milwaukee	232	194	113,824	84.59%	390	291	704,328	71.23%
Northeastern	421	341	143,450	81.57%	605	466	932,699	78.22%
Northern	98	81	55,877	78.73%	167	130	375,980	77.09%
Southeastern	254	195	143,386	75.53%	335	240	867,465	68.30%
Southern	266	237	128,351	89.64%	467	368	844,084	78.01%
Western	197	169	96,046	86.98%	344	273	592,606	77.76%
Wyoming	1,449	1,244	68,739	85.42%	2,339	1,835	425,735	75.38%
Judicial District 1 (Laramie)	226	190	10,941	85.14%	333	255	69,644	73.63%
Judicial District 2	134	113	8,122	81.92%	304	251	42,113	76.39%
Judicial District 3	272	229	10,611	84.23%	372	300	59,019	77.50%
Judicial District 4	121	111	4,196	91.55%	207	171	29,009	77.42%
Judicial District 5	117	102	6,434	87.84%	165	134	40,852	77.56%
Judicial District 6	166	143	7,347	83.85%	242	173	43,796	70.43%
Judicial District 7 (Natrona)	159	141	9,056	87.47%	305	232	57,454	73.91%
Judicial District 8	142	126	4,645	88.95%	182	144	29,755	77.55%
Judicial District 9	112	89	7,386	80.18%	229	175	54,093	76.28%

DU = dwelling unit; ECBH = East Carolina Behavioral Health; SPA = service planning area.

NOTE: For substate region definitions, see the "2010-2012 National Survey on Drug Use and Health Substate Region Definitions" at http://www.samhsa.gov/data/NSDUH/substate2k12/toc.aspx.

NOTE: To compute the pooled 2010-2012 weighted response rates, the three samples were combined, and the individual-year weights were used for the pooled sample. Thus, the response rates presented here are weighted across 3 years of data rather than being a simple average of the 2010, 2011, and 2012 individual response rates.

NOTE: The total responded column represents the combined sample size from the 2010, 2011, and 2012 NSDUHs.

NOTE: The population estimate is the simple average of the 2010, 2011, and 2012 population counts for persons aged 12 to 20 and persons aged 18 or older. Because of rounding, the sum of the substate region population counts within a State may not exactly match the State population count listed in the table.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2010, 2011, and 2012 (2010 Data - Revised March 2012).

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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 trade name of Research Triangle Institute), Research Triangle Park, North Carolina. Work by RTI was performed under Contract No. HHSS283201000003C.

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. At SAMHSA, Arthur Hughes reviewed the document and provided substantive revisions.

The following staff were responsible for generating the estimates: Akhil K. Vaish, Neeraja S. Sathe, and Kathryn Spagnola. The following staff provided other support: Brenda K. Porter, Kristen Gulledge, Jessica Roycroft, and Farrah Bullock. Ms. Spagnola also provided oversight for production of the document. Richard S. Straw edited it; Debbie Bond, Valerie Garner, and Roxanne Snaauw formatted its text and tables; and Teresa F. Bass, Kimberly Cone, Danny Occoquan, and Pamela Tuck prepared the Web versions. Justine L. Allpress, E. Andrew Jessup, and Shari B. Lambert prepared and processed the maps used in the associated files.