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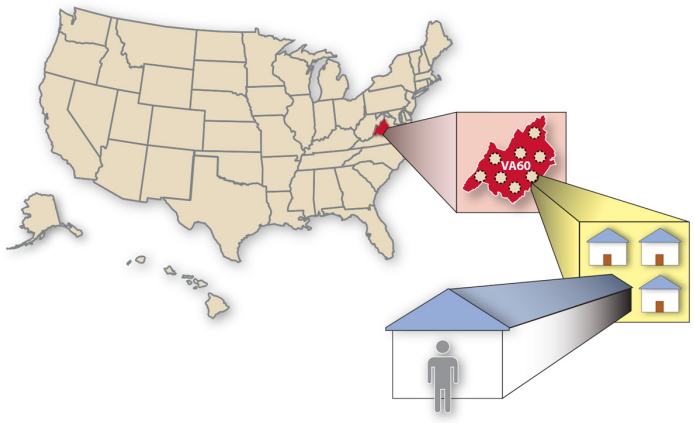
National Survey on Drug Use and Health

The CBHSQ Report

Short Report

July 20, 2017

STATE AND SUBSTATE ESTIMATES OF ANY MENTAL ILLNESS FROM THE 2012–2014 NATIONAL SURVEYS ON DRUG USE AND HEALTH



AUTHORS

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INTRODUCTION

Mental illness is a major public health concern in the United States.[1] In 2014, about 43.6 million adults aged 18 or older had any mental illness (AMI) in the past year.[2] There was a small but statistically significant increase in the percentage of adults who received mental health services in the past year between 2002 and 2014;[2] however, overall treatment levels remain low, and addressing the mental health of U.S. adults remains a concern for state and national public health officials. Information on the prevalence of mental illness is needed to help inform effective treatment and prevention programs. The Substance Abuse and Mental Health Services Administration (SAMHSA) provides block grant funding to states in support of programs and services for adults with mental illness with the goal to improve their lives and their capacity to work in their community.[3] Policymakers may use state- and local-level information to help inform their assessments of mental health needs in their communities.

This issue of *The CBHSQ Report* presents estimates of AMI for adults aged 18 or older based on the combined 2012 to 2014 National Survey on Drug Use and Health (NSDUH) data.[4] NSDUH is an annual survey of the U.S. civilian, noninstitutionalized population aged 12 years or older. One of NSDUH's strengths is the stability of its survey design, which allows for multiple years of data to be combined to examine mental health at the state and substate (e.g., local) levels and for changes to be measured across time.

In NSDUH, AMI among adults is defined as the presence of any mental, behavioral, or emotional disorder in the past year based on diagnostic criteria in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders*.[5,6] This issue of *The CBHSQ Report* presents NSDUH estimates of AMI across four levels: (1) the nation, (2) census regions (i.e., South, Midwest, West, and Northeast), (3) states (i.e., 50 states and the District of Columbia), and (4) substate regions (i.e., 362 substate regions).

In Brief

- Combined 2012–2014 National Survey on Drug Use and Health state- and substate-level estimates can advance the understanding of adult mental illness in U.S. communities.
- Nationally, 43.7 million adults aged 18 or older experienced any mental illness (AMI) in the past year, corresponding to 18.39 percent of the adult population.
- Among the states, AMI estimates ranged from 15.83 percent in New Jersey to 22.72 percent in Oregon.
- Among the substate regions, AMI estimates ranged from 14.53 percent in Florida's South (Circuits 11 and 16) to 23.95 percent in Oregon's Region 3.
- Of the 17 substate regions with the lowest estimates of AMI, 6 were in the Midwest (2 in North Dakota, 2 in South Dakota, and 2 in Illinois), 6 were in the South (3 in Florida, 2 in Maryland, and 1 in Virginia), and 5 were in the Northeast (3 in New Jersey, 1 in Connecticut, and 1 in Pennsylvania).
- Of the 15 substate regions with the highest estimates of AMI, 8 were in the West (4 in Oregon, 3 in Utah, and 1 in Idaho), 4 were in the Northeast (2 in Maine, 1 in Rhode Island, and 1 in Vermont), 2 were in the South (West Virginia), and 1 was in the Midwest (Ohio).
- Between 2010–2012 and 2012–2014, 4 states experienced a statistically significant increase in estimates of past year AMI, while the remaining 46 states and the District of Columbia experienced no change.

This report also compares estimates of AMI based on combined 2012–2014 NSDUH data to estimates based on combined 2010–2012 NSDUH data. All changes across time in this report are statistically significant at the .05 level. Estimates are annual averages based on combined 2012–2014 NSDUH data from about 142,000 respondents aged 18 or older. Estimates were derived from a complex statistical model (i.e., small area estimation) in which NSDUH substate data were combined with other local area data to enhance statistical power and analytic capability.[7]

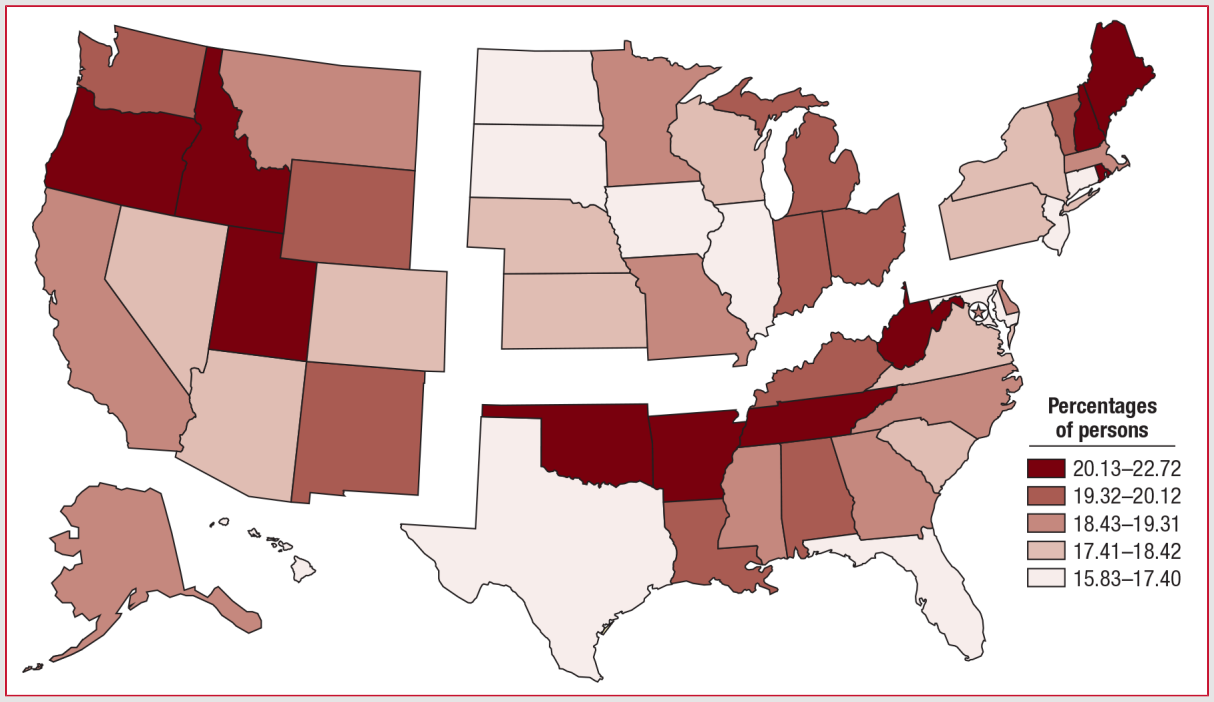
NATIONAL, REGIONAL, AND STATE ESTIMATES

In this section, estimates of past year AMI among adults are presented in Figure 1 and Table 1 for the nation, census regions, and the 50 states and the District of Columbia. In Table 1, state estimates are shown to two decimal places and are ordered from highest to lowest percentage of the population with past year AMI. To produce the map in Figure 1, the states that were presented in Table 1 from highest to lowest were then divided into quintiles (fifths).[8] A state having a highest or lowest estimate does not imply that the estimate is significantly higher or lower than the next highest or lowest estimate. When comparing two estimates, overlapping 95 percent confidence intervals do not imply that the estimates are statistically equivalent at the 5 percent level of significance.[9]

National Estimate of Any Mental Illness

Based on combined 2012–2014 NSDUH data, an annual average of 43.7 million U.S. adults aged 18 or older experienced AMI in the past year. This corresponds to a national estimate of 18.39 percent of adults having past year AMI. Among states, estimates of past year AMI ranged from 15.83 percent in New Jersey to 22.72 percent in Oregon (Figure 1; Table 1).

Figure 1. Any mental illness in the past year among people aged 18 or older, by state: percentages, annual averages



Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2012 to 2014.

Regional Estimates of Any Mental Illness

Across the census regions, estimates of past year AMI were 19.00 percent in the West, 18.54 percent in the Midwest, 18.14 percent in the South, and 17.95 percent in the Northeast (Table 1).[10] Some variability in state-level estimates of AMI was observed within the census regions. In the West, estimates of AMI ranged from 22.72 percent in Oregon to 17.35 percent in Hawaii. In the Midwest, estimates of AMI ranged from 21.12 percent in Indiana to 16.36 percent in Illinois. In the South, estimates of AMI ranged from 21.70 percent in West Virginia to 16.46 percent in Florida. In the Northeast, estimates of AMI ranged from 21.30 percent in Maine to 15.83 percent in New Jersey.

State Estimates of Any Mental Illness

As described previously, the 50 states and the District of Columbia were divided into quintiles based on the percentage of the population with past year AMI. As shown in Table 1, the 10 states in the lowest quintile of estimates of past year AMI included New Jersey (15.83 percent), Illinois (16.36 percent), North Dakota (16.45 percent), Florida (16.46 percent), South Dakota (16.46 percent), Maryland (16.80 percent), Connecticut (16.84 percent), Texas (17.33 percent), Hawaii (17.35 percent), and Iowa (17.40 percent).

The 10 states in the highest quintile of estimates of past year AMI included Oregon (22.72 percent), Utah (21.72 percent), West Virginia (21.70 percent), Maine (21.30 percent), Rhode Island (21.11 percent), Idaho (20.77 percent), New Hampshire (20.54 percent), Oklahoma (20.47 percent), Tennessee (20.29 percent), and Arkansas (20.13 percent).

Table 1. Any mental illness in the past year among people aged 18 or older, by quintile group: percentages, annual averages

State	Census region	Percentage of adults	Quintile group
Oregon	West	22.72%	5
Utah	West	21.72%	5
West Virginia	South	21.70%	5
Maine	Northeast	21.30%	5
Rhode Island	Northeast	21.11%	5
Idaho	West	20.77%	5
New Hampshire	Northeast	20.54%	5
Oklahoma	South	20.47%	5
Tennessee	South	20.29%	5
Arkansas	South	20.13%	5
Indiana	Midwest	20.12%	4
Ohio	Midwest	20.05%	4
Vermont	Northeast	19.99%	4
Washington	West	19.98%	4
Kentucky	South	19.69%	4
Michigan	Midwest	19.58%	4
Louisiana	South	19.55%	4
New Mexico	West	19.54%	4
Alabama	South	19.45%	4
Wyoming	West	19.38%	4
District of Columbia	South	19.31%	3
Montana	West	19.28%	3
Mississippi	South	19.19%	3
Massachusetts	Northeast	19.09%	3
Missouri	Midwest	19.09%	3
Delaware	South	18.90%	3
Alaska	West	18.73%	3
Georgia	South	18.52%	3
California	West	18.52%	3
Minnesota	Midwest	18.46%	3
North Carolina	South	18.44%	3
Arizona	West	18.42%	2
Nevada	West	18.30%	2
New York	Northeast	18.23%	2
Wisconsin	Midwest	18.15%	2
Virginia	South	17.94%	2
Nebraska	Midwest	17.75%	2
South Carolina	South	17.72%	2
Pennsylvania	Northeast	17.70%	2
Colorado	West	17.67%	2
Kansas	Midwest	17.61%	2
Iowa	Midwest	17.40%	1
Hawaii	West	17.35%	1
Texas	South	17.33%	1
Connecticut	Northeast	16.84%	1
Maryland	South	16.80%	1
South Dakota	Midwest	16.46%	1
Florida	South	16.46%	1
North Dakota	Midwest	16.45%	1
Illinois	Midwest	16.36%	1
New Jersey	Northeast	15.83%	1

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2012 to 2014.

This report also compares the combined 2012–2014 state estimates of past year SMI with 2010–2012 estimates of SMI to examine changes over time. The 2010–2012 data are based on information obtained from 138,300 adults aged 18 or older. The inclusion of a common year (i.e., 2012) in these comparisons increases the precision of the estimates and the ability to detect statistically significant differences between the two periods. Statistically significant differences between 2010–2012 and 2012–2014 indicate average annual change between 2010–2011 and 2013–2014. It is not possible to examine changes over time at the substate level because of changes to substate boundaries by the states between 2010–2012 and 2012–2014.

When the 2010–2012 state estimates of past year AMI for adults aged 18 or older were compared with the 2012–2014 state estimates, 4 states (California, Maine, North Carolina, and Rhode Island) experienced a statistically significant increase in the percentage of adults with past year AMI. The remaining 46 states and the District of Columbia experienced no change in the percentage of adults with AMI in the past year (Table 2). No states experienced declines.

SUBSTATE REGION ESTIMATES OF ANY MENTAL ILLNESS

SAMHSA works with state substance abuse/mental health agency representatives to define substate areas that meet state needs and reporting requirements while ensuring that the NSDUH sample sizes are large enough to provide estimates with adequate precision.[11] Combined 2012–2014 NSDUH data can be used to estimate past year AMI in 362 substate regions. The 2012–2014 estimates in this report are based on substate boundaries that reflect current state needs and reporting requirements and may not be comparable with estimates from substate regions from prior years. For substate region definitions, see the "2012–2014 National Survey on Drug Use and Health Substate Region Definitions" at http://samhsa.gov/data/. In most states, the substate regions are defined in terms of single counties or groups of counties; in some states, the regions are defined entirely in terms of census tracts (in Connecticut, the District of Columbia, and Massachusetts), parishes (in Louisiana), boroughs/census areas (in Alaska), a combination of counties and census tracts (in California and Delaware), and a combination of counties and independent cities (in Maryland, Missouri, Nevada, and Virginia).

Substate region estimates for past year AMI among people aged 18 or older are displayed on a U.S. map (Figure 2). In Table S1, substate region estimates are shown to two decimal places and are listed alphabetically by state. To produce the substate map in Figure 2, the substate estimates of past year nonmedical use of prescription pain relievers were ordered from highest to lowest percentage and were then divided into three approximately equal groups based on their percentage. There are 121 substate regions in the lowest third (i.e., with the lowest percentages) and there are 121 substate regions in the highest third (i.e., with the highest percentages). There are 120 substate regions in the middle third. The highest and lowest thirds were subdivided into thirds to further distinguish among the substate regions. Overall, the seven groups in each map were constructed to represent a somewhat symmetrical distribution.[12] In some cases, a 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. Individual state maps at http://samhsa.gov/data/ provide more granularity in areas too small to display clearly on the U.S. maps. Table 2 provides estimates associated with each map. Ninety-five percent confidence intervals are included as a measure of precision for each estimate.[13]

Among the substate regions, estimates of past year AMI ranged from 23.95 percent in Oregon’s Region 3 located in the northwestern part of the state to 14.53 percent in Florida’s Southern region (Circuits 11 and 16) consisting of Miami-Dade and Monroe Counties. Of the 17 substate regions with the lowest estimates of past year AMI, 6 were in the Midwest (2 in North Dakota, 2 in South Dakota, and 2 in Illinois), 6 were in the South (3 in Florida, 2 in Maryland, and 1 in Virginia), and 5 were in the Northeast (3 in New Jersey, 1 in Connecticut, and 1 in Pennsylvania).

Of the 15 substate regions with the highest estimates of past year AMI, 8 were in the West (4 in Oregon, 3 in Utah, and 1 in Idaho), 4 were in the Northeast (2 in Maine, 1 in Rhode Island, and 1 in Vermont), 2 in the South (both in West Virginia), and 1 was in the Midwest (Ohio).

Table 2. Any mental illness in the past year among people aged 18 or older, by state: percentages, annual averages

State	Annual averages: 2010–2012		Annual averages: 2012–2014	
	Percent	95% Confidence interval	Percent	95% Confidence interval
National	**18.13**	**(17.79–18.48)**	**18.39**	**(18.07–18.72)**
Northeast	17.85	(17.17–18.56)	17.95	(17.28–18.64)
Midwest	18.38	(17.84–18.93)	18.54	(17.99–19.10)
South	17.90	(17.37–18.45)	18.14	(17.60–18.69)
West	18.50	(17.78–19.24)	19.00	(18.34–19.68)
Alabama	21.24	(19.06–23.59)	19.45	(17.49–21.58)
Alaska	19.37	(17.36–21.55)	18.73	(16.87–20.74)
Arizona	19.80	(17.54–22.28)	18.42	(16.52–20.49)
Arkansas	20.30	(18.15–22.64)	20.13	(18.13–22.29)
*California**	17.30	(16.21–18.45)	18.52	(17.51–19.57)
Colorado	17.63	(15.71–19.75)	17.67	(15.85–19.65)
Connecticut	17.01	(15.09–19.12)	16.84	(15.11–18.72)
Delaware	18.40	(16.51–20.47)	18.90	(17.07–20.87)
District of Columbia	19.68	(17.68–21.85)	19.31	(17.53–21.22)
Florida	16.60	(15.51–17.75)	16.46	(15.35–17.64)
Georgia	17.50	(15.59–19.58)	18.52	(16.72–20.47)
Hawaii	17.36	(15.39–19.52)	17.35	(15.51–19.36)
Idaho	22.33	(20.03–24.81)	20.77	(18.88–22.79)
Illinois	16.11	(15.02–17.26)	16.36	(15.28–17.51)
Indiana	19.36	(17.42–21.45)	20.12	(18.27–22.12)
Iowa	18.89	(16.90–21.05)	17.40	(15.61–19.35)
Kansas	17.30	(15.42–19.36)	17.61	(15.80–19.57)
Kentucky	19.10	(17.04–21.35)	19.69	(17.80–21.71)
Louisiana	18.92	(17.05–20.94)	19.55	(17.73–21.52)
*Maine**	19.04	(17.02–21.23)	21.30	(19.26–23.50)
Maryland	17.37	(15.48–19.43)	16.80	(15.02–18.73)
Massachusetts	17.51	(15.62–19.58)	19.09	(17.22–21.12)
Michigan	20.05	(18.91–21.24)	19.58	(18.43–20.78)
Minnesota	17.29	(15.48–19.25)	18.46	(16.65–20.42)
Mississippi	19.47	(17.50–21.61)	19.19	(17.24–21.32)
Missouri	19.17	(17.20–21.30)	19.09	(17.25–21.07)
Montana	19.13	(17.18–21.24)	19.28	(17.34–21.38)
Nebraska	17.48	(15.57–19.57)	17.75	(15.88–19.79)
Nevada	16.61	(14.56–18.89)	18.30	(16.33–20.46)
New Hampshire	19.52	(17.44–21.78)	20.54	(18.61–22.61)
New Jersey	15.66	(13.76–17.76)	15.83	(14.09–17.74)
New Mexico	18.47	(16.37–20.78)	19.54	(17.60–21.65)
New York	18.94	(17.74–20.20)	18.23	(17.10–19.41)
*North Carolina**	16.28	(14.34–18.43)	18.44	(16.62–20.41)
North Dakota	16.50	(14.66–18.51)	16.45	(14.78–18.26)
Ohio	20.00	(18.84–21.22)	20.05	(18.91–21.24)
Oklahoma	21.71	(19.49–24.10)	20.47	(18.51–22.58)
Oregon	21.35	(19.25–23.61)	22.72	(20.67–24.91)
Pennsylvania	17.69	(16.59–18.84)	17.70	(16.56–18.90)
*Rhode Island**	18.52	(16.47–20.76)	21.11	(19.07–23.31)
South Carolina	18.31	(16.33–20.47)	17.72	(15.89–19.72)
South Dakota	17.36	(15.49–19.39)	16.46	(14.83–18.24)
Tennessee	20.56	(18.37–22.94)	20.29	(18.35–22.38)
Texas	16.70	(15.62–17.83)	17.33	(16.29–18.42)
Utah	22.65	(20.56–24.88)	21.72	(19.80–23.78)
Vermont	18.93	(16.91–21.13)	19.99	(18.05–22.07)
Virginia	17.77	(15.83–19.90)	17.94	(16.22–19.79)
Washington	21.15	(19.01–23.47)	19.98	(18.09–22.01)
West Virginia	21.33	(19.21–23.62)	21.70	(19.75–23.79)
Wisconsin	17.28	(15.27–19.48)	18.15	(16.34–20.10)
Wyoming	18.65	(16.83–20.62)	19.38	(17.61–21.28)

* Difference between the 2010-2012 and 2012-2014 estimate is statistically significant at the 0.05 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2010 to 2014.

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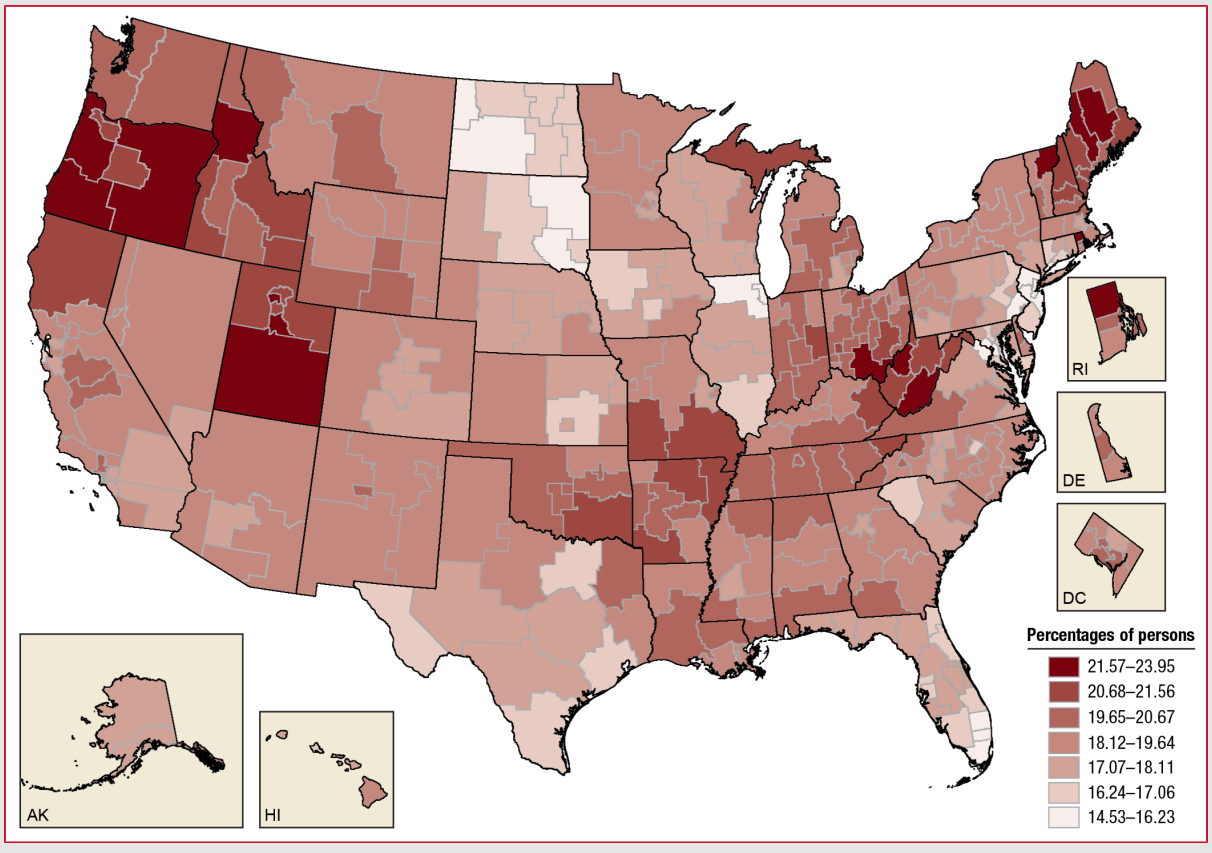
Figure 2. Any mental illness in the past year among people aged 18 or older, by substate region: percentages, annual averages



Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2012 to 2014.

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WITHIN-STATE VARIATION IN ANY MENTAL ILLNESS

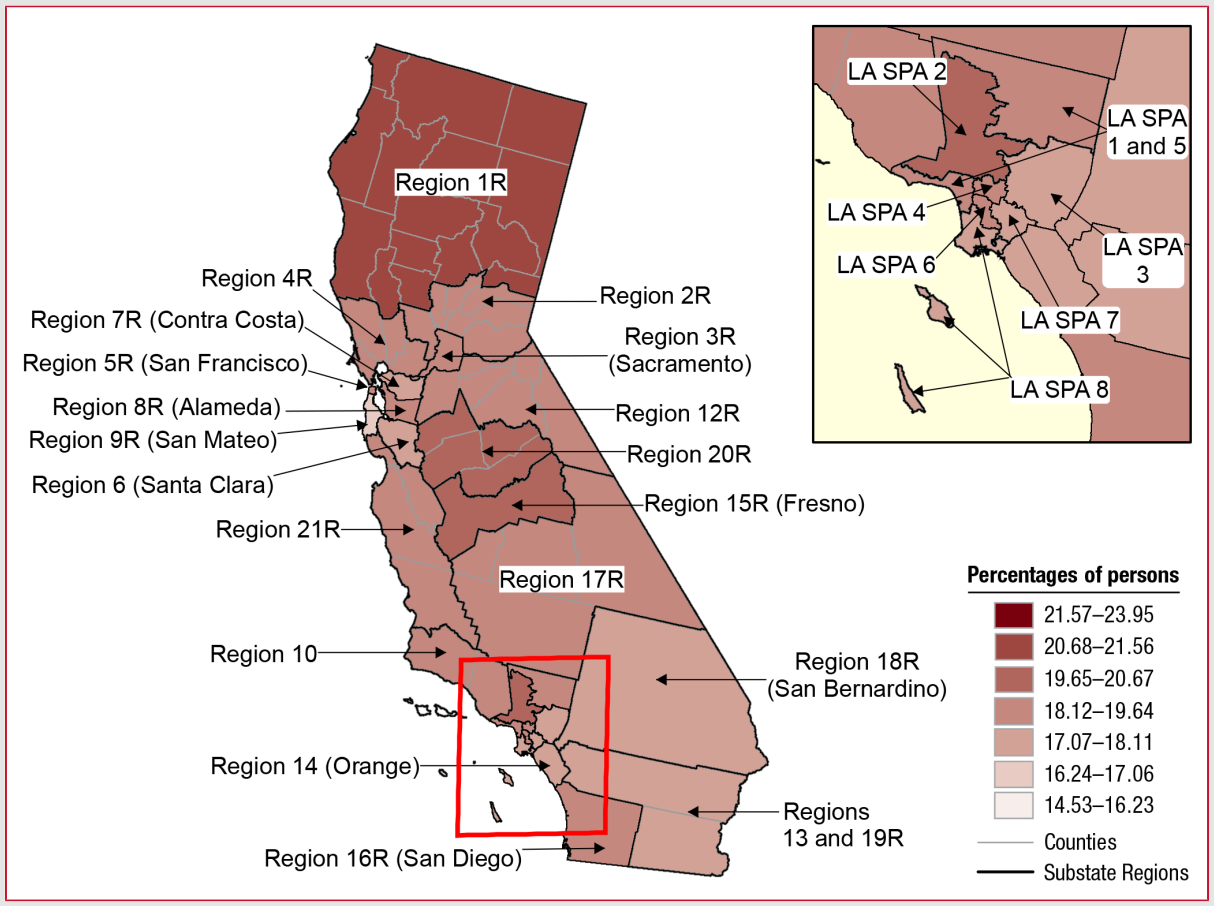
The previous sections examined 2012–2014 NSDUH state and substate past year AMI estimates individually. Some substate areas are too small to display clearly on the U.S. national maps (Figure 2); therefore, individual state maps are particularly useful for seeing these small substate areas. SAMHSA produces individual NSDUH state maps that display the substate estimates of past year AMI and other behavioral health measures. In this section, one of the individual state maps is presented to illustrate the variability within states. For more state-specific NSDUH maps, see http://www.samhsa.gov/data/sites/default/files/NSDUHsubstateStateTabs2014/NSDUHsubstateSpecificStatesTOC2014.htm.

As previously noted, the assignments of the substate areas within states were created by dividing 362 substate regions, nationally, into 7 groups based on their past year AMI percentages. Figure 2 shows that states that are in the highest and lowest quintiles tend to be fairly uniform across the substate estimates. That is, states with the highest percentages of past year AMI tend to have substate areas with high percentages of past year AMI. For example, 6 of the 10 states in the highest quintile of AMI estimates had substate estimates that were all in the highest third. When all of the substate areas are in the same third, this is a probable indicator of low variability within those states. Likewise, 7 of the 10 states in the lowest quintile of AMI estimates had substate-level estimates that were all in the lowest third, indicating low variability within those states.

Across the states and the District of Columbia, the most variability in substate estimates occurred within states in the middle quintile. Stated another way, the states in the middle third in Figure 1 had the most variation at the substate level in Figure 2. Of the 11 states in the middle quintile, 8 states had substate-level estimates of past year AMI that were in the highest, middle, and lowest third, which may indicate more variability. An example of this variability can be seen in California (Figure 3).

In California, past year AMI for adults aged 18 or older ranged from 21.19 percent in Region 1R, consisting of the 15 counties in the northern section of the state to 16.26 percent in San Mateo (Region 9R). In California, 4 substate regions were in the highest third (Regions 1R, 20R, 15R, and LA SPA 2), indicating higher estimates of AMI. Nine substate regions were the lowest third (Regions 7R, 13 and 19R, 18R, 6, 14, and 9R, and LA SPAs 3, 8, and 7), indicating lower estimates of AMI. The remaining 13 substate regions (Regions 3R, 8R, 16R, 2R, 12R, 5R, 21R, 10, 17R, and 4R, and LA SPAs 4, 6, and 1 and 5) fell in the middle third.

Figure 3. Any mental illness in the past year among people aged 18 or older in California: percentages, annual averages based



Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2012 to 2014.

DISCUSSION

Although the prevalence of adults with mental illness among the states ranges widely, it is important to note that there are many people with AMI in every state, which is expected because mental illness is common.[14] Substate regions with highest estimates of past year AMI among adults aged 18 or older are located in all U.S. regions. The presence of AMI in every state reinforces that mental illness is a major public health concern in the United States. Factors that potentially contribute to the variation may need further study; however, policymakers can use state- and substate-level information to help inform their assessments of mental health needs in their communities. Maps and tables presented in this report can help state policymakers quickly see where efforts are needed to address mental health in their state. For example, substate regions within states can vary in the prevalence of past year AMI (e.g., California). As data from several years of NSDUHs are accumulated, in-depth analysis of these state and substate data will continue to provide insight into the patterns of mental illness, such as variations over time and by age and gender within each state. SAMHSA provides information about where to find mental health treatment at https://findtreatment.samhsa.gov/.

Other NSDUH Substate Measures

The combined 2012–2014 NSDUH estimates for past year AMI for adults aged 18 or older are available, along with 25 additional behavioral health measures for 384 substate areas, 50 states and the District of Columbia, 4 census regions, and the United States. Information on the methodology that generated these estimates is available online at http://samhsa.gov/data/. This report discusses one of the measures for the 362 substate areas displayed on the maps. The 25 additional measures include substance use and mental health issues, including use of illicit drugs, alcohol, and tobacco; substance use disorders; needing but not receiving treatment for a substance use problem; serious mental illness; depression; and suicidal thoughts. Also provided are national maps for all measures and detailed tables including percentages for each substate region, state, census region, and the nation for people aged 12 or older; tables by age group; and state-specific tables and maps. The state maps are particularly useful in areas too small to display clearly on the U.S. maps.

ENDNOTES

1. Center for Behavioral Health Statistics and Quality. (2013). *Behavioral Health, United States, 2012* (HHS Publication No. SMA 13-4797). Rockville, MD: Substance Abuse and Mental Health Services Administration. Retrieved from http://samhsa.gov/data/

2. Center for Behavioral Health Statistics and Quality. (2015). *Behavioral health trends in the United States: Results from the 2014 National Survey on Drug Use and Health* (HHS Publication No. SMA 15-4927, NSDUH Series H-50). Retrieved from http://samhsa.gov/data/

3. Public Law No. 102-321, the Alcohol, Drug Abuse, and Mental Health Administration Reorganization Act of 1992, established a block grant for states within the United States to fund community mental health services for adults with serious mental illness. The law required states to include prevalence estimates in their annual applications for block grant funds. This legislation also required SAMHSA to develop an operational definition of serious mental illness. Information about SAMHSA's block grant programs can be found at http://www.samhsa.gov/. It should be noted that SAMHSA updated the definition of serious mental illness for use in mental health block grants to include mental disorders as specified in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders*.

4. A discussion of the methodology used to generate AMI estimates can be found in Appendix B of the 2014 NSDUH mental health findings report. For information on mental illness and mental health service utilization, see Chapter 2 in the 2012 NSDUH mental health findings report.

5. American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders (DSM-IV)* (4th ed.). Washington, DC: Author.

6. SAMHSA has been publishing estimates of the prevalence of past year serious mental illness and AMI among adults aged 18 or older since the release of the 2008 NSDUH national findings report. Estimates were based on a model developed in 2008. In 2013, SAMHSA developed a more accurate model for the 2012 data and subsequently revised the serious mental illness and AMI estimates for 2008, 2009, 2010, and 2011 based on the 2012 model. The combined 2010–2012 and 2012-2014 state and substate estimates in this report are based on the 2012 model. For additional information, see the NSDUH short report titled *Revised Estimates of Mental Illness from the National Survey on Drug Use and Health* at http://www.samhsa.gov/data/2k13/NSDUH148/sr148-mental-illness-estimates.pdf.

7. Estimates presented in this report are derived from a hierarchical Bayes model-based small area estimation (SAE) procedure in which NSDUH data at the substate level are combined with local area county and census block group/tract-level data from the area to provide more precise estimates of substance use and mental health outcomes. The precision of the SAE estimates can be improved significantly by combining data across 3 years (i.e., 2012 to 2014). With 3 years of combined NSDUH data, the sample sizes in the 362 substate regions ranged from 100 people to approximately 3,500 people.

8. In some cases, a "quintile" could have more or fewer states than desired because two (or more) states have the same estimate (to two decimal places). When such ties occurred at the "boundary" between two quintiles, all states with the same estimate were assigned to the lower quintile.

9. In this report, state estimates are discussed in terms of their observed rankings because they provide useful context. However, a state having a highest or lowest rate does not imply that the state's rate is significantly higher or lower than the rate of the next highest or lowest state. Similarly, the quintiles were not selected to represent statistical differences across quintiles or to correspond to proximity to a target public health threshold for a particular measure. For example, the division of states into quintiles does not indicate that states in the same quintile are statistically similar to each other. While a nearly equal number of states are contained in each quintile, the size of the intervals (i.e., the difference between the upper and lower limits of each quintile) that define the map boundaries is not necessarily uniform across each quintile." When comparing two state prevalence rates, the method of overlapping confidence intervals is more conservative (i.e., it rejects the null hypothesis of no difference less often) than the standard method based on Z statistics when the null hypothesis is true. Even if confidence intervals for two states overlap, the two estimates may be declared significantly different by the test based on Z statistics. Hence, the method of overlapping confidence intervals is not recommended to test the difference of two state estimates. A detailed description of the method of overlapping confidence intervals and its comparison with the standard methods for testing of a hypothesis is given in the following articles: (a) Schenker, N., & Gentleman, J. F. (2001). On judging the significance of differences by examining the overlap between confidence intervals. *American Statistician, 55*(3), 182–186. (b) Payton, M. E., Greenstone, M. H., & Schenker, N. (2003). Overlapping confidence intervals or standard error intervals: What do they mean in terms of statistical significance? *Journal of Insect Science, 3*, 34. For details on a more accurate test to compare state prevalence estimates, please see Section B.12 in Appendix B of *2011-2012 National Survey on Drug Use and Health: Guide to state tables and summary of small area estimation methodology*, located at http://www.samhsa.gov/data/NSDUH/2k12State/NSDUHsae2012/Index.aspx.

10. The West has 13 states: AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, and WY. The South has 16 states plus the District of Columbia: AL, AR, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, and WV. The Northeast has 9 states: CT, MA, ME, NH, NJ, NY, PA, RI, and VT. The Midwest has 12 states: IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, and WI.

11. Substance use and mental health officials from each of the 50 states and the District of Columbia typically define these substate areas to correspond to areas reported 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 the public, allocation of funds to areas based on the need for services, and other uses.

12. The seven categories were not selected to represent statistical differences across categories or to correspond to proximity to a target public health threshold for a particular measure. For example, the division of substate regions into seven categories does not indicate that substate regions in the same category are statistically similar to each other. Furthermore, the size of the intervals (i.e., the difference between the upper and lower limits of each category) that define the map boundaries is not necessarily uniform across each category. The substate areas are uniquely defined based on the needs of each state and may not be demographically or geographically comparable to substate areas in other states.

13. When comparing two substate region percentages, the method of overlapping confidence intervals is more conservative (i.e., it rejects the null hypothesis of no difference less often) than the standard method based on Z statistics when the null hypothesis is true. Even if confidence intervals for two substate regions overlap, the two estimates may be declared significantly different by the test based on Z statistics. Hence, the method of overlapping confidence intervals is not recommended to test the difference of two substate region estimates. As percentages are standardized, they do not inform a reader when two states or substates have the same percentage but different population sizes.

14. World Health Organization. (2001). *Strengthening mental health promotion* (Fact sheet no. 220). Geneva, Switzerland: Author.

SUGGESTED CITATION

Lipari, R.N., Van Horn, S., Hughes, A. and Williams, M. *State and substate estimates of any mental illness from the 2012–2014 National Surveys on Drug Use and Health*. The CBHSQ Report: July 20, 2017. Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Rockville, MD.

Table S1. Any mental illness in the past year among people aged 18 or older, by state and substate region: percentages, annual averages based on combined 2012 to 2014 NSDUHs

State	Substate region	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
Total United States	**Total United States**	**18.39%**	**18.07%**	**18.72%**	
Northeast	Northeast	17.95%	17.28%	18.64%	
Midwest	Midwest	18.54%	17.99%	19.10%	
South	South	18.14%	17.60%	18.69%	
West	West	19.00%	18.34%	19.68%	
Alabama	**Alabama**	**19.45%**	**17.49%**	**21.58%**	
Alabama	Region 1	20.32%	17.50%	23.47%	5
Alabama	Region 2	19.21%	16.60%	22.11%	4
Alabama	Region 3	18.17%	15.55%	21.12%	4
Alabama	Region 4	19.74%	16.86%	22.97%	5
Alaska	**Alaska**	**18.73%**	**16.87%**	**20.74%**	
Alaska	Anchorage	20.15%	17.68%	22.87%	5
Alaska	Northern	17.53%	14.98%	20.41%	3
Alaska	South Central	17.70%	15.10%	20.64%	3
Alaska	Southeast	18.19%	15.39%	21.37%	4
Arizona	**Arizona**	**18.42%**	**16.52%**	**20.49%**	
Arizona	Maricopa	17.92%	15.74%	20.32%	3
Arizona	Pima	18.70%	15.92%	21.85%	4
Arizona	Rural North	19.59%	16.28%	23.38%	4
Arizona	Rural South	19.33%	16.44%	22.59%	4
Arkansas	**Arkansas**	**20.13%**	**18.13%**	**22.29%**	
Arkansas	Catchment Area 1	18.44%	15.67%	21.57%	4
Arkansas	Catchment Area 2	21.03%	17.91%	24.54%	6
Arkansas	Catchment Area 3	21.06%	17.90%	24.60%	6
Arkansas	Catchment Area 4	20.21%	17.07%	23.75%	5
Arkansas	Catchment Area 5	20.19%	17.21%	23.54%	5
Arkansas	Catchment Area 6	19.57%	16.56%	22.98%	4
Arkansas	Catchment Area 7	20.71%	17.39%	24.48%	6
Arkansas	Catchment Area 8	20.21%	17.18%	23.62%	5
California	**California**	**18.52%**	**17.51%**	**19.57%**	
California	Region 1R	21.19%	18.35%	24.34%	6
California	Region 2R	19.23%	16.65%	22.10%	4
California	Region 3R (Sacramento)	19.40%	16.98%	22.07%	4
California	Region 4R	18.16%	15.87%	20.70%	4
California	Region 5R (San Francisco)	19.09%	16.53%	21.94%	4
California	Region 6 (Santa Clara)	17.13%	14.88%	19.65%	3
California	Region 7R (Contra Costa)	17.99%	15.63%	20.61%	3
California	Region 8R (Alameda)	19.29%	16.77%	22.08%	4
California	Region 9R (San Mateo)	16.26%	13.84%	19.01%	2
California	Region 10	18.62%	16.11%	21.41%	4
California	LA SPA 1 and 5	19.11%	16.58%	21.93%	4
California	LA SPA 2	19.84%	17.35%	22.60%	5
California	LA SPA 3	17.64%	15.35%	20.19%	3
California	LA SPA 4	19.14%	16.67%	21.88%	4
California	LA SPA 6	18.85%	16.35%	21.64%	4
California	LA SPA 7	17.54%	15.29%	20.04%	3
California	LA SPA 8	17.60%	15.37%	20.07%	3
California	Region 12R	19.10%	16.42%	22.09%	4
California	Regions 13 and 19R	17.81%	15.57%	20.30%	3
California	Region 14 (Orange)	17.09%	14.95%	19.47%	3
California	Region 15R (Fresno)	19.92%	17.27%	22.85%	5
California	Region 16R (San Diego)	19.25%	17.11%	21.58%	4
California	Region 17R	18.57%	16.26%	21.12%	4
California	Region 18R (San Bernardino)	17.62%	15.28%	20.23%	3
California	Region 20R	20.65%	17.93%	23.65%	5
California	Region 21R	18.73%	16.31%	21.43%	4

(continued)

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2012 to 2014.

Table S1 - continued. Any mental illness in the past year among people aged 18 or older, by state and substate region: percentages, annual averages based on combined 2012 to 2014 NSDUHs

State	Substate region	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
Colorado	**Colorado**	**17.67%**	**15.85%**	**19.65%**	
Colorado	Region 1	18.38%	15.67%	21.44%	4
Colorado	Regions 2 and 7	17.45%	15.29%	19.85%	3
Colorado	Region 3	17.41%	14.83%	20.33%	3
Colorado	Region 4	17.85%	14.90%	21.25%	3
Colorado	Regions 5 and 6	18.19%	15.25%	21.55%	4
Connecticut	**Connecticut**	**16.84%**	**15.11%**	**18.72%**	
Connecticut	Eastern	17.62%	14.99%	20.59%	3
Connecticut	North Central	17.52%	15.00%	20.36%	3
Connecticut	Northwestern	16.27%	13.81%	19.06%	2
Connecticut	South Central	16.99%	14.53%	19.78%	2
Connecticut	Southwest	15.65%	13.23%	18.42%	1
Delaware	**Delaware**	**18.90%**	**17.07%**	**20.87%**	
Delaware	Kent	19.73%	16.94%	22.85%	5
Delaware	New Castle (excluding Wilmington City)	18.59%	16.33%	21.08%	4
Delaware	Sussex	18.63%	15.98%	21.62%	4
Delaware	Wilmington City	19.81%	16.74%	23.29%	5
District of Columbia	**District of Columbia**	**19.31%**	**17.53%**	**21.22%**	
District of Columbia	Ward 1	20.59%	17.86%	23.62%	5
District of Columbia	Ward 2	20.15%	17.31%	23.33%	5
District of Columbia	Ward 3	18.79%	16.11%	21.80%	4
District of Columbia	Ward 4	18.59%	15.74%	21.83%	4
District of Columbia	Ward 5	17.97%	15.29%	21.01%	3
District of Columbia	Ward 6	20.38%	17.54%	23.55%	5
District of Columbia	Ward 7	18.43%	15.46%	21.82%	4
District of Columbia	Ward 8	19.25%	16.44%	22.41%	4
Florida	**Florida**	**16.46%**	**15.35%**	**17.64%**	
Florida	Broward (Circuit 17)	14.91%	12.86%	17.23%	1
Florida	Circuit 9	17.81%	15.61%	20.24%	3
Florida	Circuit 18	17.29%	14.88%	19.99%	3
Florida	Circuit 6	16.44%	14.20%	18.94%	2
Florida	Circuit 10	17.66%	15.11%	20.53%	3
Florida	Circuit 12	17.27%	14.78%	20.07%	3
Florida	Circuit 13 (Hillsborough)	17.05%	14.83%	19.54%	2
Florida	Circuit 20	16.29%	13.96%	18.93%	2
Florida	Circuit 4	16.75%	14.43%	19.35%	2
Florida	Circuit 5	17.11%	14.61%	19.95%	3
Florida	Circuit 7	16.64%	14.27%	19.33%	2
Florida	Circuit 8 plus Columbia, Dixie, Hamilton, Lafayette, and Suwannee	17.59%	15.25%	20.21%	3
Florida	Circuit 1	17.96%	15.55%	20.66%	3
Florida	Circuit 2 plus Madison and Taylor	18.03%	15.55%	20.81%	3
Florida	Circuit 14	18.11%	15.44%	21.13%	3
Florida	South (Circuits 11 and 16)	14.53%	12.64%	16.64%	1
Florida	Circuit 15 (Palm Beach)	15.59%	13.36%	18.10%	1
Florida	Circuit 19	16.99%	14.46%	19.86%	2
Georgia	**Georgia**	**18.52%**	**16.72%**	**20.47%**	
Georgia	Region 1	18.23%	15.65%	21.12%	4
Georgia	Region 2	19.15%	16.39%	22.25%	4
Georgia	Region 3	18.06%	15.62%	20.79%	3
Georgia	Region 4	19.94%	16.88%	23.39%	5
Georgia	Region 5	19.19%	16.20%	22.58%	4
Georgia	Region 6	18.27%	15.49%	21.43%	4
Hawaii	**Hawaii**	**17.35%**	**15.51%**	**19.36%**	
Hawaii	Hawaii Island	18.87%	15.90%	22.26%	4
Hawaii	Honolulu	16.93%	14.89%	19.18%	2
Hawaii	Kauai	18.06%	15.09%	21.47%	3
Hawaii	Maui	17.87%	15.07%	21.07%	3

(continued)

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2012 to 2014.

Table S1 - continued. Any mental illness in the past year among people aged 18 or older, by state and substate region: percentages, annual averages based on combined 2012 to 2014 NSDUHs

State	Substate region	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
Idaho	**Idaho**	**20.77%**	**18.88%**	**22.79%**	
Idaho	Region 1	20.09%	17.17%	23.36%	5
Idaho	Region 2	21.99%	18.66%	25.74%	7
Idaho	Region 3	21.56%	18.46%	25.01%	6
Idaho	Region 4	20.35%	17.71%	23.27%	5
Idaho	Region 5	20.38%	17.44%	23.67%	5
Idaho	Region 6	21.35%	18.28%	24.79%	6
Idaho	Region 7	20.81%	18.01%	23.91%	6
Illinois	**Illinois**	**16.36%**	**15.28%**	**17.51%**	
Illinois	Region I (Cook)	16.19%	14.61%	17.90%	1
Illinois	Region II	15.90%	14.37%	17.56%	1
Illinois	Region III	17.16%	15.07%	19.48%	3
Illinois	Region IV	17.77%	15.46%	20.34%	3
Illinois	Region V	16.59%	14.44%	18.98%	2
Indiana	**Indiana**	**20.12%**	**18.27%**	**22.12%**	
Indiana	Central	20.18%	17.50%	23.15%	5
Indiana	East	21.56%	18.37%	25.14%	6
Indiana	North Central	20.09%	17.17%	23.37%	5
Indiana	Northeast	19.33%	16.52%	22.50%	4
Indiana	Northwest	18.68%	15.81%	21.95%	4
Indiana	Southeast	20.45%	17.35%	23.95%	5
Indiana	Southwest	20.28%	17.24%	23.70%	5
Indiana	West	20.65%	17.74%	23.90%	5
Iowa	**Iowa**	**17.40%**	**15.61%**	**19.35%**	
Iowa	Central	16.48%	13.97%	19.34%	2
Iowa	North Central	17.38%	14.70%	20.44%	3
Iowa	Northeast	17.65%	15.17%	20.44%	3
Iowa	Northwest	16.32%	13.54%	19.54%	2
Iowa	Southeast	18.60%	15.97%	21.55%	4
Iowa	Southwest	17.51%	14.79%	20.62%	3
Kansas	**Kansas**	**17.61%**	**15.80%**	**19.57%**	
Kansas	Kansas City Metro	17.36%	15.05%	19.93%	3
Kansas	Northeast	17.66%	15.03%	20.64%	3
Kansas	South Central	16.82%	14.21%	19.81%	2
Kansas	Southeast	18.60%	15.49%	22.17%	4
Kansas	West	18.24%	15.35%	21.53%	4
Kansas	Wichita (Sedgwick)	17.82%	15.18%	20.81%	3
Kentucky	**Kentucky**	**19.69%**	**17.80%**	**21.71%**	
Kentucky	Adanta, Cumberland River, and Lifeskills	20.63%	17.74%	23.87%	5
Kentucky	Bluegrass, Comprehend, and North Key	19.64%	17.12%	22.43%	4
Kentucky	Communicare and River Valley	19.02%	16.06%	22.37%	4
Kentucky	Four Rivers and Pennyroyal	19.46%	16.48%	22.82%	4
Kentucky	Kentucky River, Mountain, and Pathways	21.09%	17.87%	24.71%	6
Kentucky	Seven Counties	18.74%	15.98%	21.85%	4
Louisiana	**Louisiana**	**19.55%**	**17.73%**	**21.52%**	
Louisiana	Region 1	19.28%	16.35%	22.60%	4
Louisiana	Region 10 (Jefferson)	18.61%	15.76%	21.83%	4
Louisiana	Regions 2 and 9	19.70%	17.07%	22.63%	5
Louisiana	Region 3	18.88%	16.07%	22.04%	4
Louisiana	Regions 4, 5, and 6	20.39%	17.67%	23.42%	5
Louisiana	Regions 7 and 8	19.16%	16.47%	22.16%	4
Maine	**Maine**	**21.30%**	**19.26%**	**23.50%**	
Maine	Aroostook	20.66%	17.30%	24.49%	5
Maine	Downeast	21.24%	17.81%	25.12%	6
Maine	Central	22.29%	19.10%	25.85%	7
Maine	Cumberland	21.54%	18.59%	24.82%	6
Maine	Midcoast	20.67%	17.54%	24.18%	5
Maine	Penquis	21.92%	18.76%	25.43%	7
Maine	Western	20.85%	17.80%	24.27%	6
Maine	York	20.74%	17.62%	24.26%	6

(continued)

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2012 to 2014.

Table S1 - continued. Any mental illness in the past year among people aged 18 or older, by state and substate region: percentages, annual averages based on combined 2012 to 2014 NSDUHs

State	Substate region	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
Maryland	**Maryland**	**16.80%**	**15.02%**	**18.73%**	
Maryland	Anne Arundel	16.57%	13.94%	19.58%	2
Maryland	Baltimore City	18.02%	15.15%	21.29%	3
Maryland	Baltimore County	17.14%	14.48%	20.17%	3
Maryland	Montgomery	16.23%	13.73%	19.09%	1
Maryland	North Central	16.38%	13.70%	19.47%	2
Maryland	Northeast	17.90%	15.00%	21.22%	3
Maryland	Prince George's	15.89%	13.38%	18.76%	1
Maryland	South	16.31%	13.62%	19.41%	2
Maryland	West	17.49%	14.77%	20.58%	3
Massachusetts	**Massachusetts**	**19.09%**	**17.22%**	**21.12%**	
Massachusetts	Boston	20.93%	17.94%	24.27%	6
Massachusetts	Central	18.53%	15.72%	21.73%	4
Massachusetts	Metrowest	17.72%	15.11%	20.66%	3
Massachusetts	Northeast	19.73%	16.92%	22.89%	5
Massachusetts	Southeast	19.09%	16.25%	22.31%	4
Massachusetts	Western	19.30%	16.53%	22.41%	4
Michigan	**Michigan**	**19.58%**	**18.43%**	**20.78%**	
Michigan	Region 1	20.72%	17.86%	23.91%	6
Michigan	Region 2	19.39%	16.73%	22.37%	4
Michigan	Region 3	19.49%	17.40%	21.77%	4
Michigan	Region 4	19.81%	17.49%	22.35%	5
Michigan	Region 5	20.57%	18.56%	22.75%	5
Michigan	Region 6	18.08%	15.84%	20.57%	3
Michigan	Region 7	19.54%	17.39%	21.87%	4
Michigan	Region 8	18.98%	16.73%	21.45%	4
Michigan	Region 9	19.04%	16.65%	21.68%	4
Michigan	Region 10	20.21%	17.74%	22.93%	5
Minnesota	**Minnesota**	**18.46%**	**16.65%**	**20.42%**	
Minnesota	Regions 1 and 2	18.97%	16.04%	22.29%	4
Minnesota	Regions 3 and 4	18.82%	16.16%	21.80%	4
Minnesota	Regions 5 and 6	18.62%	15.89%	21.71%	4
Minnesota	Region 7A (Hennepin)	18.59%	15.98%	21.52%	4
Minnesota	Region 7B (Ramsey)	19.40%	16.55%	22.62%	4
Minnesota	Region 7C	17.25%	14.78%	20.04%	3
Mississippi	**Mississippi**	**19.19%**	**17.24%**	**21.32%**	
Mississippi	Region 1	20.28%	17.40%	23.50%	5
Mississippi	Region 2	18.89%	16.00%	22.17%	4
Mississippi	Region 3	19.11%	16.25%	22.34%	4
Mississippi	Region 4	17.45%	14.82%	20.43%	3
Mississippi	Region 5	19.97%	16.79%	23.57%	5
Mississippi	Region 6	19.01%	16.20%	22.18%	4
Mississippi	Region 7	19.79%	16.67%	23.34%	5
Missouri	**Missouri**	**19.09%**	**17.25%**	**21.07%**	
Missouri	Central	18.97%	16.27%	22.00%	4
Missouri	Eastern (St. Louis City and County)	18.33%	15.68%	21.30%	4
Missouri	Eastern (excluding St. Louis)	17.26%	14.51%	20.40%	3
Missouri	Northwest (Jackson)	18.90%	16.06%	22.11%	4
Missouri	Northwest (excluding Jackson)	18.65%	15.82%	21.85%	4
Missouri	Southeast	20.69%	17.61%	24.15%	6
Missouri	Southwest	21.03%	17.98%	24.44%	6
Montana	**Montana**	**19.28%**	**17.34%**	**21.38%**	
Montana	Region 1	18.50%	15.42%	22.04%	4
Montana	Region 2	19.12%	16.26%	22.36%	4
Montana	Region 3	19.70%	16.97%	22.75%	5
Montana	Region 4	18.57%	15.95%	21.51%	4
Montana	Region 5	19.87%	17.24%	22.80%	5

(continued)

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2012 to 2014.

Table S1 - continued. Any mental illness in the past year among people aged 18 or older, by state and substate region: percentages, annual averages based on combined 2012 to 2014 NSDUHs

State	Substate region	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
Nebraska	**Nebraska**	**17.75%**	**15.88%**	**19.79%**	
Nebraska	Region 1	18.19%	15.14%	21.69%	4
Nebraska	Region 2	17.77%	14.82%	21.16%	3
Nebraska	Region 3	17.71%	14.82%	21.03%	3
Nebraska	Region 4	17.70%	14.82%	21.01%	3
Nebraska	Region 5	18.43%	15.88%	21.27%	4
Nebraska	Region 6	17.32%	14.99%	19.92%	3
Nevada	**Nevada**	**18.30%**	**16.33%**	**20.46%**	
Nevada	Clark - Region 1	18.11%	15.89%	20.55%	3
Nevada	Capital District	18.37%	15.23%	21.99%	4
Nevada	Rural/Frontier	19.53%	16.25%	23.30%	4
Nevada	Washoe - Region 2	18.66%	15.94%	21.71%	4
New Hampshire	**New Hampshire**	**20.54%**	**18.61%**	**22.61%**	
New Hampshire	Central	21.28%	18.82%	23.97%	6
New Hampshire	Northern	20.99%	17.71%	24.69%	6
New Hampshire	Southern	20.07%	17.96%	22.37%	5
New Jersey	**New Jersey**	**15.83%**	**14.09%**	**17.74%**	
New Jersey	Central	16.23%	13.78%	19.01%	1
New Jersey	Metropolitan	14.92%	12.67%	17.48%	1
New Jersey	Northern	15.75%	13.41%	18.40%	1
New Jersey	Southern	16.59%	14.10%	19.43%	2
New Mexico	**New Mexico**	**19.54%**	**17.60%**	**21.65%**	
New Mexico	Region 1	19.63%	16.85%	22.74%	4
New Mexico	Region 2	18.88%	15.90%	22.27%	4
New Mexico	Region 3 (Bernalillo)	20.24%	17.55%	23.22%	5
New Mexico	Region 4	19.52%	16.73%	22.64%	4
New Mexico	Region 5	18.80%	15.93%	22.04%	4
New York	**New York**	**18.23%**	**17.10%**	**19.41%**	
New York	Region A	18.58%	17.13%	20.12%	4
New York	Region B	17.13%	15.63%	18.74%	3
New York	Region C	18.38%	16.97%	19.87%	4
New York	Region D	19.40%	17.57%	21.37%	4
North Carolina	**North Carolina**	**18.44%**	**16.62%**	**20.41%**	
North Carolina	Alliance Behavioral Healthcare 1	18.90%	16.05%	22.11%	4
North Carolina	Alliance Behavioral Healthcare 2	16.77%	14.09%	19.84%	2
North Carolina	Cardinal Innovations Healthcare Solutions 1	18.02%	15.08%	21.39%	3
North Carolina	Cardinal Innovations Healthcare Solutions 2	18.81%	15.89%	22.13%	4
North Carolina	Cardinal Innovations Healthcare Solutions 3	17.38%	14.65%	20.49%	3
North Carolina	CenterPoint Human Services	17.88%	14.99%	21.18%	3
North Carolina	Eastpointe	19.27%	16.24%	22.72%	4
North Carolina	Partners Behavioral Health Management	19.16%	16.22%	22.49%	4
North Carolina	Sandhills Center 1	18.47%	15.44%	21.93%	4
North Carolina	Sandhills Center 2	17.48%	14.68%	20.68%	3
North Carolina	Smoky Mountain Center 1	19.75%	16.47%	23.51%	5
North Carolina	Smoky Mountain Center 2	19.54%	16.37%	23.14%	4
North Carolina	Trillium Healthcare Resources 1	18.45%	15.49%	21.84%	4
North Carolina	Trillium Healthcare Resources 2	18.98%	16.01%	22.35%	4
North Dakota	**North Dakota**	**16.45%**	**14.78%**	**18.26%**	
North Dakota	Badlands and West Central	15.33%	13.11%	17.84%	1
North Dakota	Lake Region	16.55%	13.75%	19.79%	2
North Dakota	North Central	17.06%	14.45%	20.05%	2
North Dakota	Northeast	16.90%	14.41%	19.72%	2
North Dakota	Northwest	16.07%	13.38%	19.19%	1
North Dakota	South Central	16.64%	13.90%	19.80%	2
North Dakota	Southeast	17.00%	14.71%	19.58%	2

(continued)

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2012 to 2014.

Table S1 - continued. Any mental illness in the past year among people aged 18 or older, by state and substate region: percentages, annual averages based on combined 2012 to 2014 NSDUHs

State	Substate region	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
Ohio	**Ohio**	**20.05%**	**18.91%**	**21.24%**	
Ohio	Boards 2, 46, 55, and 68	20.56%	17.85%	23.56%	5
Ohio	Boards 3, 52, and 85	19.92%	17.17%	22.99%	5
Ohio	Boards 4 and 78	20.88%	17.92%	24.18%	6
Ohio	Boards 5 and 60	21.01%	18.26%	24.05%	6
Ohio	Boards 7, 15, 41, 79, and 84	20.37%	17.66%	23.37%	5
Ohio	Boards 8, 13, and 83	19.82%	17.25%	22.68%	5
Ohio	Board 9 (Butler)	20.42%	17.67%	23.46%	5
Ohio	Board 12	19.89%	17.16%	22.94%	5
Ohio	Boards 18 and 47	19.25%	17.07%	21.63%	4
Ohio	Boards 20, 32, 54, and 69	18.86%	16.17%	21.88%	4
Ohio	Boards 21, 39, 51, 70, and 80	19.77%	17.23%	22.57%	5
Ohio	Boards 22, 74, and 87	19.74%	17.12%	22.64%	5
Ohio	Boards 23 and 45	20.24%	17.48%	23.33%	5
Ohio	Board 25 (Franklin)	20.10%	17.91%	22.49%	5
Ohio	Boards 27, 71, and 73	22.97%	19.89%	26.38%	7
Ohio	Boards 28, 43, and 67	19.26%	16.76%	22.02%	4
Ohio	Board 31 (Hamilton)	19.48%	17.12%	22.09%	4
Ohio	Board 48 (Lucas)	20.35%	17.72%	23.27%	5
Ohio	Boards 50 and 76	19.58%	17.13%	22.29%	4
Ohio	Board 57 (Montgomery)	21.28%	18.54%	24.30%	6
Ohio	Board 77 (Summit)	19.67%	17.04%	22.60%	5
Oklahoma	**Oklahoma**	**20.47%**	**18.51%**	**22.58%**	
Oklahoma	Central	20.67%	17.68%	24.02%	5
Oklahoma	East Central	20.26%	17.19%	23.71%	5
Oklahoma	Northeast	19.61%	16.68%	22.91%	4
Oklahoma	Northwest and Southwest	20.62%	17.43%	24.22%	5
Oklahoma	Oklahoma County	20.48%	17.64%	23.64%	5
Oklahoma	Southeast	21.55%	18.45%	25.00%	6
Oklahoma	Tulsa County	20.09%	17.26%	23.25%	5
Oregon	**Oregon**	**22.72%**	**20.67%**	**24.91%**	
Oregon	Region 1 (Multnomah)	23.17%	20.17%	26.48%	7
Oregon	Region 2	21.31%	18.46%	24.47%	6
Oregon	Region 3	23.95%	20.99%	27.19%	7
Oregon	Region 4	22.64%	19.33%	26.33%	7
Oregon	Region 5 (Central)	21.41%	18.04%	25.20%	6
Oregon	Region 6 (Eastern)	21.67%	18.18%	25.62%	7
Pennsylvania	**Pennsylvania**	**17.70%**	**16.56%**	**18.90%**	
Pennsylvania	Region 1 (Allegheny)	18.24%	16.03%	20.67%	4
Pennsylvania	Regions 3, 8, 9, and 51	19.28%	16.75%	22.10%	4
Pennsylvania	Regions 4, 11, 37, and 49	16.71%	14.54%	19.12%	2
Pennsylvania	Regions 5, 18, 23, 24, and 46	18.12%	15.80%	20.69%	4
Pennsylvania	Regions 6, 12, 16, 31, 35, 45, and 47	17.74%	15.44%	20.30%	3
Pennsylvania	Regions 7, 13, 20, and 33	16.17%	14.37%	18.14%	1
Pennsylvania	Regions 10, 15, 27, 32, 43, and 44	18.51%	16.02%	21.29%	4
Pennsylvania	Regions 17 and 21	18.65%	16.12%	21.47%	4
Pennsylvania	Regions 19, 26, 28, and 42	17.39%	15.30%	19.70%	3
Pennsylvania	Regions 22, 38, 40, 41, and 48	17.48%	15.05%	20.20%	3
Pennsylvania	Regions 29 and 34	17.56%	15.08%	20.35%	3
Pennsylvania	Regions 30 and 50	17.63%	15.16%	20.41%	3
Pennsylvania	Region 36 (Philadelphia)	19.34%	17.07%	21.82%	4
Rhode Island	**Rhode Island**	**21.11%**	**19.07%**	**23.31%**	
Rhode Island	Bristol and Newport	20.12%	16.94%	23.72%	5
Rhode Island	Kent	20.07%	17.10%	23.41%	5
Rhode Island	Providence	22.11%	19.61%	24.83%	7
Rhode Island	Washington	18.69%	15.71%	22.09%	4
South Carolina	**South Carolina**	**17.72%**	**15.89%**	**19.72%**	
South Carolina	Region 1	17.03%	14.63%	19.73%	2
South Carolina	Region 2	17.90%	15.33%	20.79%	3
South Carolina	Region 3	18.32%	15.53%	21.48%	4
South Carolina	Region 4	18.00%	15.39%	20.93%	3

(continued)

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2012 to 2014.

Table S1 - continued. Any mental illness in the past year among people aged 18 or older, by state and substate region: percentages, annual averages based on combined 2012 to 2014 NSDUHs

State	Substate region	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
South Dakota	**South Dakota**	**16.46%**	**14.83%**	**18.24%**	
South Dakota	Region 1	17.08%	14.72%	19.74%	3
South Dakota	Region 2	16.87%	14.15%	19.99%	2
South Dakota	Region 3	15.81%	13.50%	18.44%	1
South Dakota	Region 4	15.97%	13.50%	18.80%	1
South Dakota	Region 5	16.59%	14.34%	19.12%	2
Tennessee	**Tennessee**	**20.29%**	**18.35%**	**22.38%**	
Tennessee	Region 1	21.42%	18.11%	25.15%	6
Tennessee	Region 2	20.38%	17.55%	23.52%	5
Tennessee	Region 3	20.17%	17.27%	23.42%	5
Tennessee	Region 4 (Davidson)	20.45%	17.42%	23.86%	5
Tennessee	Region 5	20.64%	17.79%	23.81%	5
Tennessee	Region 6	20.10%	17.07%	23.51%	5
Tennessee	Region 7 (Shelby)	19.05%	16.10%	22.40%	4
Texas	**Texas**	**17.33%**	**16.29%**	**18.42%**	
Texas	Region 1	19.15%	16.65%	21.92%	4
Texas	Region 2	18.54%	16.02%	21.36%	4
Texas	Region 3	16.43%	15.00%	17.96%	2
Texas	Region 4	19.96%	17.31%	22.90%	5
Texas	Region 5	18.84%	16.14%	21.86%	4
Texas	Region 6	17.06%	15.35%	18.92%	2
Texas	Region 7	17.85%	16.12%	19.73%	3
Texas	Region 8	17.77%	15.51%	20.27%	3
Texas	Region 9	17.63%	15.14%	20.44%	3
Texas	Region 10	16.92%	14.50%	19.64%	2
Texas	Region 11	16.68%	14.82%	18.71%	2
Utah	**Utah**	**21.72%**	**19.80%**	**23.78%**	
Utah	Bear River, Northeastern, Summit, Tooele, and Wasatch	21.54%	18.56%	24.85%	6
Utah	Central, Four Corners, San Juan, and Southwest	21.78%	18.65%	25.27%	7
Utah	Davis County	21.78%	18.67%	25.25%	7
Utah	Salt Lake County	21.08%	18.54%	23.86%	6
Utah	Utah County	23.45%	20.60%	26.56%	7
Utah	Weber, Morgan	21.15%	18.17%	24.48%	6
Vermont	**Vermont**	**19.99%**	**18.05%**	**22.07%**	
Vermont	Champlain Valley	18.72%	16.33%	21.38%	4
Vermont	Rural Northeast	22.28%	19.04%	25.90%	7
Vermont	Rural Southeast	19.37%	16.55%	22.53%	4
Vermont	Rural Southwest	20.59%	17.65%	23.87%	5
Virginia	**Virginia**	**17.94%**	**16.22%**	**19.79%**	
Virginia	Region 1	18.09%	15.49%	21.01%	3
Virginia	Region 2	16.14%	13.89%	18.69%	1
Virginia	Region 3	20.49%	17.65%	23.65%	5
Virginia	Region 4	18.51%	15.71%	21.68%	4
Virginia	Region 5	17.67%	15.28%	20.34%	3
Washington	**Washington**	**19.98%**	**18.09%**	**22.01%**	
Washington	Region 1	19.78%	17.34%	22.48%	5
Washington	Region 2	20.01%	17.81%	22.41%	5
Washington	Region 3	20.06%	17.85%	22.48%	5
West Virginia	**West Virginia**	**21.70%**	**19.75%**	**23.79%**	
West Virginia	Region I	21.19%	17.89%	24.93%	6
West Virginia	Region II	21.42%	18.31%	24.90%	6
West Virginia	Region III	22.60%	19.15%	26.47%	7
West Virginia	Region IV	21.19%	18.39%	24.29%	6
West Virginia	Region V	21.15%	18.44%	24.13%	6
West Virginia	Region VI	23.18%	20.15%	26.50%	7

(continued)

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2012 to 2014.

Table S1 - continued. Any mental illness in the past year among people aged 18 or older, by state and substate region: percentages, annual averages based on combined 2012 to 2014 NSDUHs

State	Substate region	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
Wisconsin	**Wisconsin**	**18.15%**	**16.34%**	**20.10%**	
Wisconsin	Milwaukee	18.38%	15.68%	21.41%	4
Wisconsin	Northeastern	18.69%	16.05%	21.65%	4
Wisconsin	Northern	18.00%	15.08%	21.35%	3
Wisconsin	Southeastern	17.56%	14.98%	20.48%	3
Wisconsin	Southern	18.09%	15.47%	21.05%	3
Wisconsin	Western	18.04%	15.30%	21.14%	3
Wyoming	**Wyoming**	**19.38%**	**17.61%**	**21.28%**	
Wyoming	Judicial District 1 (Laramie)	19.06%	16.35%	22.10%	4
Wyoming	Judicial District 2	19.99%	17.15%	23.16%	5
Wyoming	Judicial District 3	19.92%	17.22%	22.93%	5
Wyoming	Judicial District 4	18.84%	15.93%	22.15%	4
Wyoming	Judicial District 5	18.70%	15.82%	21.98%	4
Wyoming	Judicial District 6	19.32%	16.54%	22.43%	4
Wyoming	Judicial District 7 (Natrona)	20.03%	17.11%	23.31%	5
Wyoming	Judicial District 8	19.57%	16.61%	22.91%	4
Wyoming	Judicial District 9	18.80%	16.00%	21.96%	4

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2012 to 2014.

SUMMARY

Background: Mental illness is a major public health concern in the United States. Information on the prevalence of mental illness is needed to help inform effective treatment and prevention programs. **Method:** Combined 2012–2014 National Survey on Drug Use and Health national, regional, state-level, and substate-level estimates of any mental illness (AMI) among adults aged 18 or older were analyzed. **Results:** Nationally, 43.7 million adults aged 18 or older experienced AMI in the past year, corresponding to 18.39 percent of the adult population. Across the census regions, estimates of past year AMI were 19.00 percent in the West, 18.54 percent in the Midwest, 18.14 percent in the South, and 17.95 percent in the Northeast. Among states, AMI ranged from 15.83 percent in New Jersey to 22.72 percent in Oregon. Among the substate regions, past year AMI estimates ranged from 23.95 percent in Oregon's Region 3 to 14.53 percent in Florida's South (Circuits 11 and 16). Four states experienced a statistically significant increase from 2010–2012 to 2012–2014 in the rate of past year AMI for adults, while the remaining 46 states and District of Columbia experienced no change in the percentage of adults with past year AMI. **Conclusion:** Highlighting the percentage of people with AMI at state and substate levels can help policymakers inform their assessments of mental health needs in their communities.

Keywords: Any mental illness, AMI, National Survey on Drug Use and Health, NSDUH, state, substate

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KEYWORDS

Midwest, Northeast, South, West, Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming, Short Report, Population Data, 2010, 2011, 2012, 2013, 2014, Researchers, Mental Illness, People with Mental Health Problems as Population Group, Multi-Year Trend, All US States Only

The Substance Abuse and Mental Health Services Administration (SAMHSA) is the agency within the U.S. Department of Health and Human Services that leads public health efforts to advance the behavioral health of the nation. SAMHSA's mission is to reduce the impact of substance abuse and mental illness on America's communities.

The National Survey on Drug Use and Health (NSDUH) is an annual survey sponsored by The Substance Abuse and Mental Health Services Administration (SAMHSA). Estimates are annual averages based on combined 2012–2014 NSDUH data from about 142,000 respondents aged 18 or older. The Survey collects data by administering questionnaires to a representative sample of the population through face-to-face interviews at their place of residence.

The NSDUH Report is prepared by The Center for Behavioral Health Statistics and Quality (CBHSQ), SAMHSA, and by RTI International in Research Triangle Park, North Carolina. (RTI International is a trade name of Research Triangle Institute.)

Information on the most recent NSDUH is available in the following publication:

Center for Behavioral Health Statistics and Quality. (2016). Key substance use and mental health indicators in the United States: Results from the 2015 National Survey on Drug Use and Health (HHS Publication No. SMA 16-4984, NSDUH Series H-51). Retrieved from http://samhsa.gov/data/.

Also available online: http://www.samhsa.gov/data/population-data-nsduh.

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