

# The CBHSQ Report

Short Report

July 26, 2016

## MARIJUANA USE AND PERCEIVED RISK OF HARM FROM MARIJUANA USE VARIES WITHIN AND ACROSS STATES

### AUTHORS

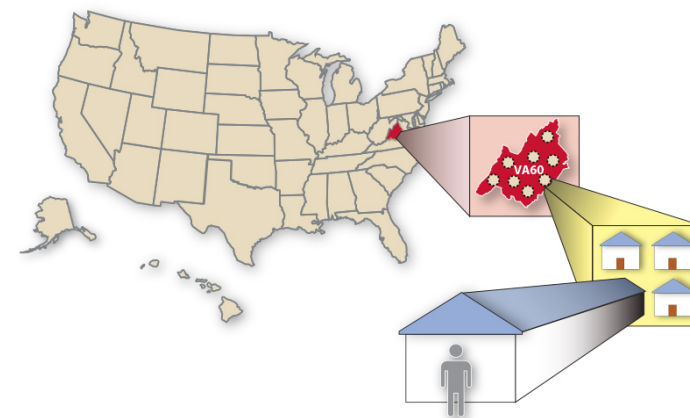
Arthur Hughes, M.S., Rachel N. Lipari, Ph.D., and Matthew R. Williams, Ph.D.

### INTRODUCTION

Marijuana is the most commonly used illicit drug in the United States,<sup>1</sup> and many Americans do not perceive it as potentially harmful.<sup>2</sup> Although the laws regarding marijuana use have changed in several states over the past decade, marijuana remains classified as a Schedule I drug, meaning that it is categorized as having a high potential for abuse and has no currently accepted medical use in treatment in the United States.<sup>3</sup> In other words, marijuana use remains illegal under federal laws in all states and the District of Columbia e.g., Controlled Substances Act; (<http://www.fda.gov/regulatoryinformation/legislation/ucm148726.htm>).

Across the United States, the increasing number of marijuana users has a public health impact on state and local communities. For example, research indicates that 1 in 11 marijuana users aged 15 or older become dependent on marijuana.<sup>4</sup> In addition, marijuana use has resulted in approximately 4.2 million people meeting the diagnostic criteria for abuse or dependence on marijuana, is a major cause for visits to emergency rooms, and is the second leading substance for which people receive drug treatment (behind alcohol).<sup>1,5,6</sup> These and other consequences of marijuana use have placed a significant strain on the U.S. health care system according to the White House Office of National Drug Control Policy.<sup>3</sup>

Educating people about the dangers of starting marijuana use is an effective way to reduce the impact of marijuana use in the future. One way to anticipate future marijuana use is to measure perceptions of the risk of harm from marijuana use because it has been a leading indicator of future use.<sup>7</sup> Data from a collection of national cross-sectional surveys of secondary students has indicated that attitudes about the risks associated with substance use are often closely related to use, with an inverse association between use and risk perceptions (e.g., the percentage of those who use a substance is lower among those who perceive high risk of harm from use).<sup>8</sup> Thus, states and other geographic areas with low percentages of people who perceive that there is a great risk of harm from using marijuana would be expected to have high percentages using marijuana. As a result, it is useful for



### In Brief

- National Survey on Drug Use and Health from 2012 to 2014 data collected from 204,000 people aged 12 or older show that marijuana use and perceptions of the risk associated with marijuana use vary extensively among regions within each state and throughout the nation.
- About 7.73 percent of people aged 12 or older used marijuana in the past month. Past month marijuana use varied across census regions: 9.70 percent in the West, 8.36 percent in the Northeast, 7.28 percent in the Midwest, and 6.43 percent in the South. At the substate level, past month marijuana use ranged from 3.93 percent in a substate region in the southernmost part of Texas to 15.46 percent in San Francisco, California.
- Across the nation, 28.50 percent of people aged 12 or older perceived a great risk of harm from monthly marijuana use; however, the percentages of people who perceive a great risk of harm from monthly marijuana use varied across census regions: 32.60 percent in the South, 26.56 percent in the Northeast, 26.11 percent in the Midwest, and 25.64 percent in the West. At the substate level, perceptions of great risk of harm from monthly marijuana use ranged from 14.15 percent in Ward 3 in the District of Columbia to 49.29 percent in Florida's combined Circuits 11 and 16, which include Miami-Dade and Monroe Counties.

state and local policymakers and prevention specialists to understand the association between marijuana use and perception of great risk of harm and potential consequences to a person's health and well-being.

Although marijuana is the most commonly used illicit drug in America, the percentages using marijuana and the attitudes regarding the risk of marijuana use are not the same across states or even within each state. Within each state, patterns of substance use and corresponding attitudes differ. Data on small geographic areas provide insight into marijuana use and attitudes about marijuana use that can help state and local public health authorities better understand and address any needs in their communities. The National Survey on Drug Use and Health (NSDUH) can help address the need for more localized information.

This issue of *The CBHSQ Report* uses combined 2012 to 2014 NSDUH data to present estimates of past month marijuana use and perceptions of great risk of harm from smoking marijuana once a month among people aged 12 or older in 362 substate regions, the 50 states, and the District of Columbia. 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). The Substance Abuse and Mental Health Services Administration (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 were large enough to provide estimates with adequate precision. These substate-level estimates provide local-level information on behavioral health outcomes that states find useful for planning, reporting, and providing useful data for prevention and intervention efforts.<sup>9</sup> The 2012 to 2014 estimates in this report are based on substate boundaries that reflect the current state needs and reporting requirements and may not be comparable with substate estimates from prior years.

Marijuana use estimates are displayed on a U.S. map (Figure 1). To produce the map, substate region estimates (shown to two decimal places in Table S1) were first ordered from lowest to highest percentage of past month marijuana use. The substate regions were then categorized into three approximately equal groups based on their percentage. Substate regions in the lowest third (i.e., with the lowest percentages) are indicated in blue (122 substate regions), the middle third are in white (119 substate regions), and the third with the highest percentages are in red (121 substate regions). To distinguish among the substate regions that display relatively higher percentages, the "highest" third in red was further subdivided into dark red for the 16 substate regions with the highest estimates, medium red for the 33 substate regions with the next highest estimates, and light red for the 72 substate regions in the third highest group. The "lowest" third was categorized in a similar way using three distinct shades of blue. Estimates of perceptions of risk of harm from using marijuana are displayed in Figure 2. On this map, the colors are reversed from those in Figure 1, so the highest estimates of perceived risk of harm from using marijuana are shown in blue and the lowest estimates are shown in red. Overall, the seven groups in each map were constructed to represent a distribution that is somewhat symmetric, like a normal distribution (in terms of the number of estimates assigned to each group). 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://www.samhsa.gov/data/> provide more granularity in areas too small to display clearly on the U.S. maps. Table S1 provides estimates associated with each map. Ninety-five percent confidence intervals are included as a measure of precision for each estimate.<sup>10</sup> For state-specific maps that show the variations across substate areas within each state, see <http://www.samhsa.gov/data/>.

Findings in this report are annual averages based on combined 2012 to 2014 NSDUH data from approximately 204,000 respondents in the civilian noninstitutionalized population aged 12 or older. Estimates were derived from a complex statistical model in which substate data from NSDUH were combined with other local area data to enhance statistical power and analytic capability.<sup>11</sup>

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## **SUBSTATE-LEVEL MARIJUANA USE**

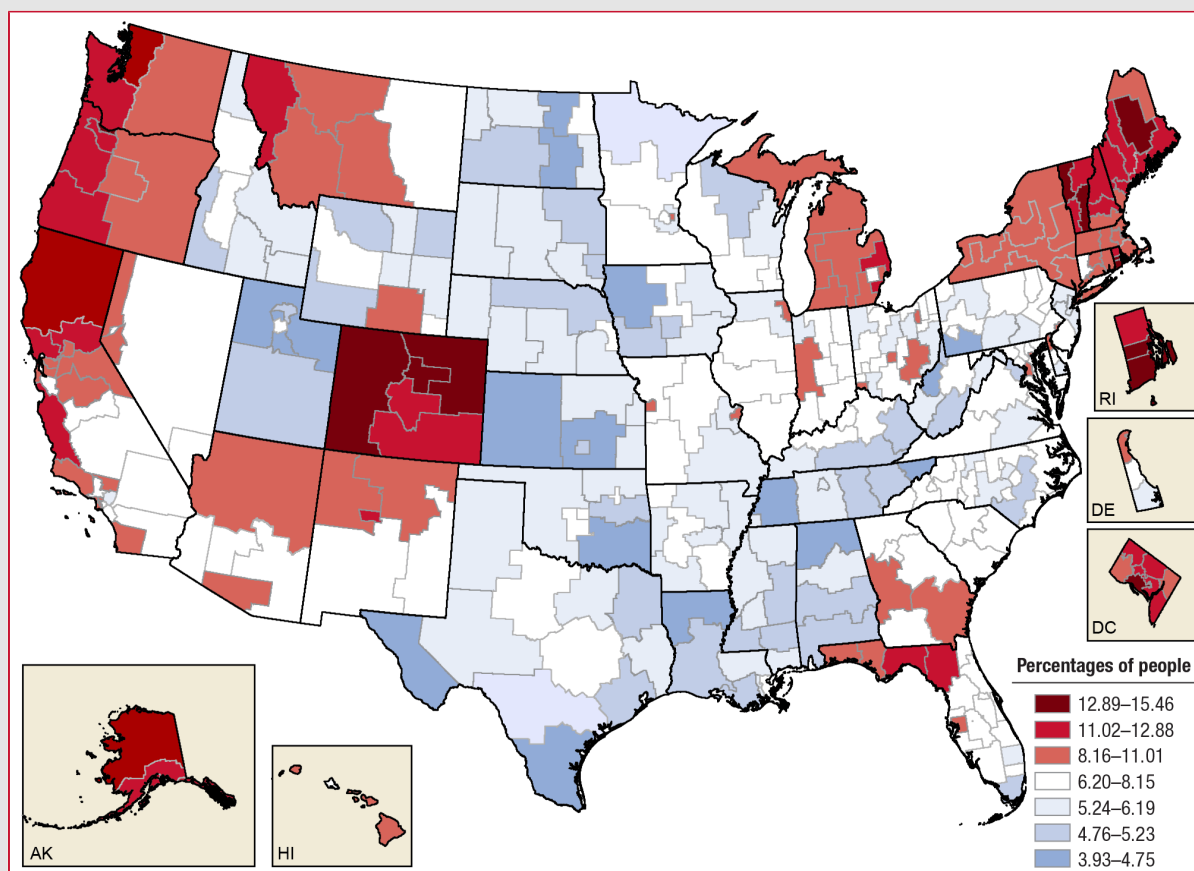
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Nationally, an annual average of 20.3 million people aged 12 or older used marijuana in the past month based on combined 2012 to 2014 NSDUH data. This is equivalent to approximately 1 in 13 or 7.73 percent of people aged 12 or older using marijuana in the past month. Across census regions, estimates of past month marijuana use were 9.70 percent in the West, 8.36 percent in the Northeast, 7.28 percent in the Midwest, and 6.43 percent in the South (Table S1).<sup>12</sup> At the substate level, past month marijuana use ranged from 3.93 percent in a substate region in the southernmost part of Texas<sup>13</sup> to 15.46 percent in San Francisco, California (Figure 1 and Table S1).

Of the 16 substate regions with the highest percentages of past month marijuana use, 8 were in the West (3 in Colorado; 2 in California; and 1 each in Alaska, Oregon, and Washington), 7 were in the Northeast (3 in Rhode Island, 2 in Vermont, and 1 each in Maine and Massachusetts), and 1 was in the South (District of Columbia). No substate areas in the Midwest were included in the category with the highest percentages of past month marijuana use.

Of the 17 substate regions that had the lowest percentages of marijuana use, 8 were in the South (2 each in Tennessee and Texas; and 1 each in Alabama, Louisiana, Oklahoma, and West Virginia), 5 were in the Midwest (2 each in Kansas and North Dakota and 1 in Iowa), 3 were in the West (all in Utah), and 1 was in the Northeast (Pennsylvania).

**Figure 1. Marijuana use in the past month among people aged 12 or older, by substate region: percentages, annual averages based on combined 2012 to 2014 data**



Note: For substate region definitions, see the "2012–2014 National Survey on Drug Use and Health Substate Region Definitions" at <http://www.samhsa.gov/data/>.

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

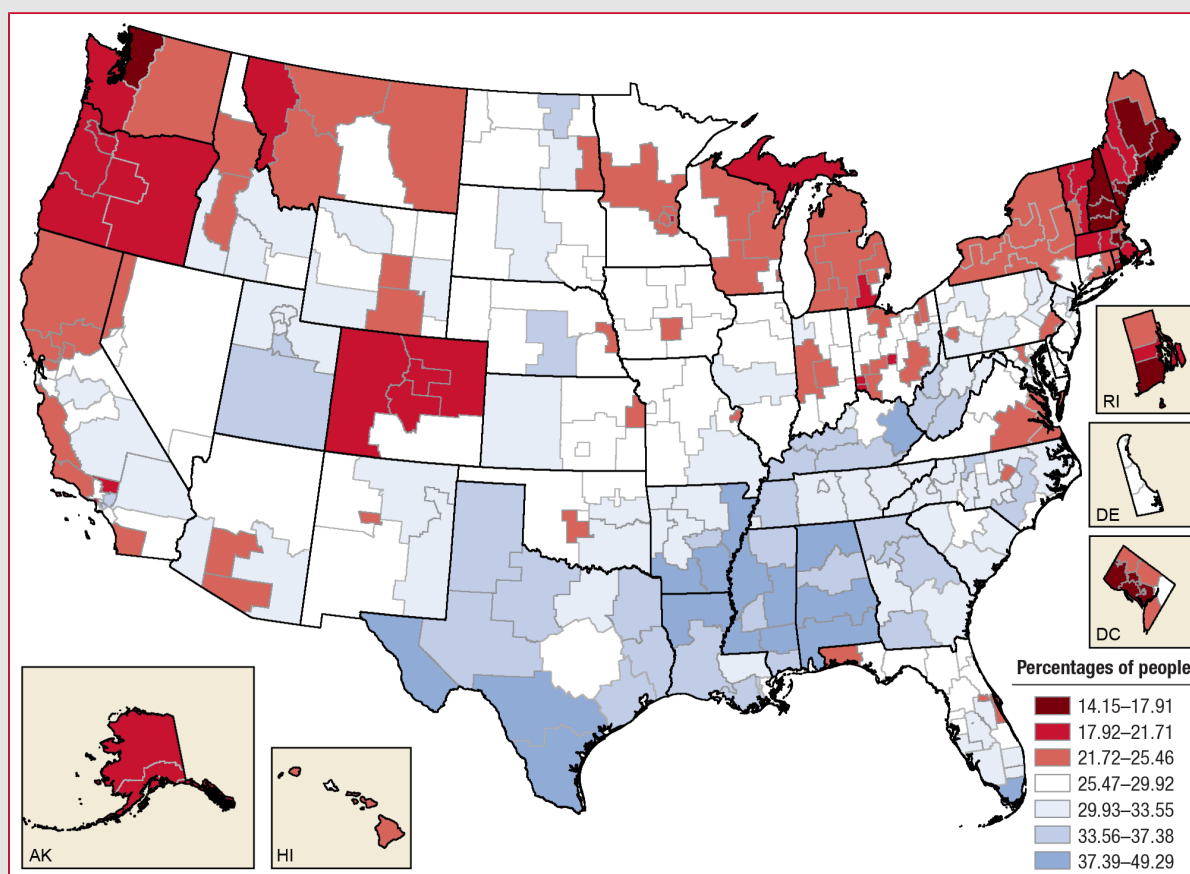
## SUBSTATE-LEVEL PERCEPTIONS OF GREAT RISK OF HARM FROM MARIJUANA USE

The combined 2012 to 2014 data indicate that an annual average of 74.9 million people aged 12 or older perceived great risk of harm from smoking marijuana once a month. This translates to about 2 out of every 7 people (28.50 percent) perceiving a great risk of harm from monthly marijuana use. Across census regions, perceptions of great risk of harm from smoking marijuana once a month were 32.60 percent in the South, 26.56 percent in the Northeast, 26.11 percent in the Midwest, and 25.64 percent in the West (Table S1). At the substate level, perceptions of great risk of harm from smoking marijuana once a month ranged from 14.15 percent in Ward 3 in the District of Columbia—in the western section of the District—to 49.29 percent in Florida's combined Circuits 11 and 16, which include Miami-Dade and Monroe Counties in the southernmost part of the state (Figure 2).

Of the 16 substate regions that had the highest percentages of perception of great risk of harm from smoking marijuana once a month (i.e., regions with higher percentages of people aged 12 or older indicating that there was a great risk of harm from monthly marijuana use), all 16 were in the South (4 in Mississippi; 3 each in Alabama, Arkansas, and Texas; and 1 each in Florida, Kentucky, and Louisiana).

Of the 16 substate regions that had the lowest percentages of perception of great risk of harm from smoking marijuana once a month (i.e., regions with fewer percentages of people aged 12 or older indicating that there was a great risk of harm from monthly marijuana use), 10 were in the Northeast (5 in Maine, 3 in New Hampshire, and 1 each in Massachusetts and Rhode Island), 4 were in the South (all in the District of Columbia), 2 were in the West (1 each in Oregon and Washington).

**Figure 2. Perceived great risk of harm from smoking marijuana once a month among people aged 12 or older, by substate region: percentages, annual averages based on combined 2012 to 2014 data**



Note: For substate region definitions, see the "2012–2014 National Survey on Drug Use and Health Substate Region Definitions" at <http://www.samhsa.gov/data/>.

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

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## VARIATION WITHIN STATES

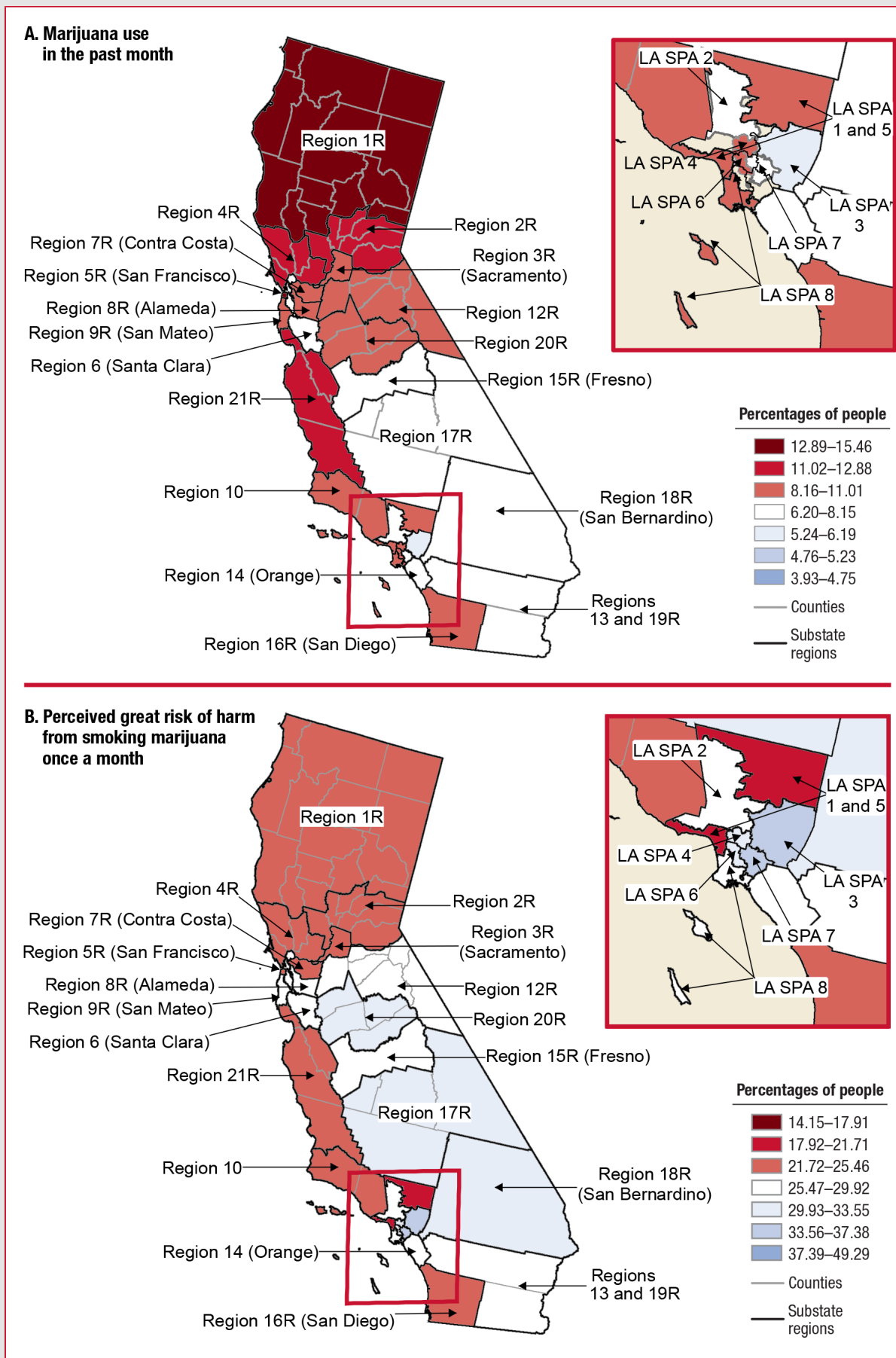
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Some substate regions within the same state and the District of Columbia have notable variations in the percentages of marijuana use and the perceptions of risk associated with marijuana use among people aged 12 or older. Notable variations can occur in large areas, such as California, and in small areas, such as the District of Columbia.

Figures 3 and 4 show substate estimates for California and the District of Columbia. As with the maps shown previously, the assignments of the substate areas in California and the District of Columbia were created by dividing 362 substate regions, nationally, into 7 groups based on the magnitude of their percentages. Figures 3 and 4 present close-up looks at the variations across substate regions for California and the District of Columbia that were previously shown in the national maps (Figures 1 and 2). The substate regions within California and the District of Columbia are labeled in Figures 3 and 4. For substate region definitions, see the "2012–2014 National Survey on Drug Use and Health Substate Region Definitions" at <http://www.samhsa.gov/data/>.

In California, past month marijuana use ranged from 6.18 percent in Los Angeles Service Planning Area (SPA) 3—in the San Gabriel Valley in the southeastern part of Los Angeles County—to 15.46 percent in San Francisco (Figure 3 Panel A] and Table S1).<sup>14</sup> A high percentage of marijuana use also occurred in California's Region 1R (13.97 percent), consisting of 15 counties in the northern section of the state. Lower percentages of marijuana use occurred mostly in areas in the central and southern sections of the state (Los Angeles SPA 3 [San Gabriel Valley] and SPA 7 [East], Region 17R, Region 18R [San Bernardino], Region 6 [Santa Clara], Regions 13 and 19R, Los Angeles SPA 2 [San Fernando Valley], Region 14 [Orange], and Region 15R [Fresno]) and ranged from 6.18 percent to 8.10 percent.

**Figure 3. Marijuana use in the past month and perceived great risk of harm from smoking marijuana once a month among people aged 12 or older in California, by substate region: percentages, annual averages based on combined 2012 to 2014 data**

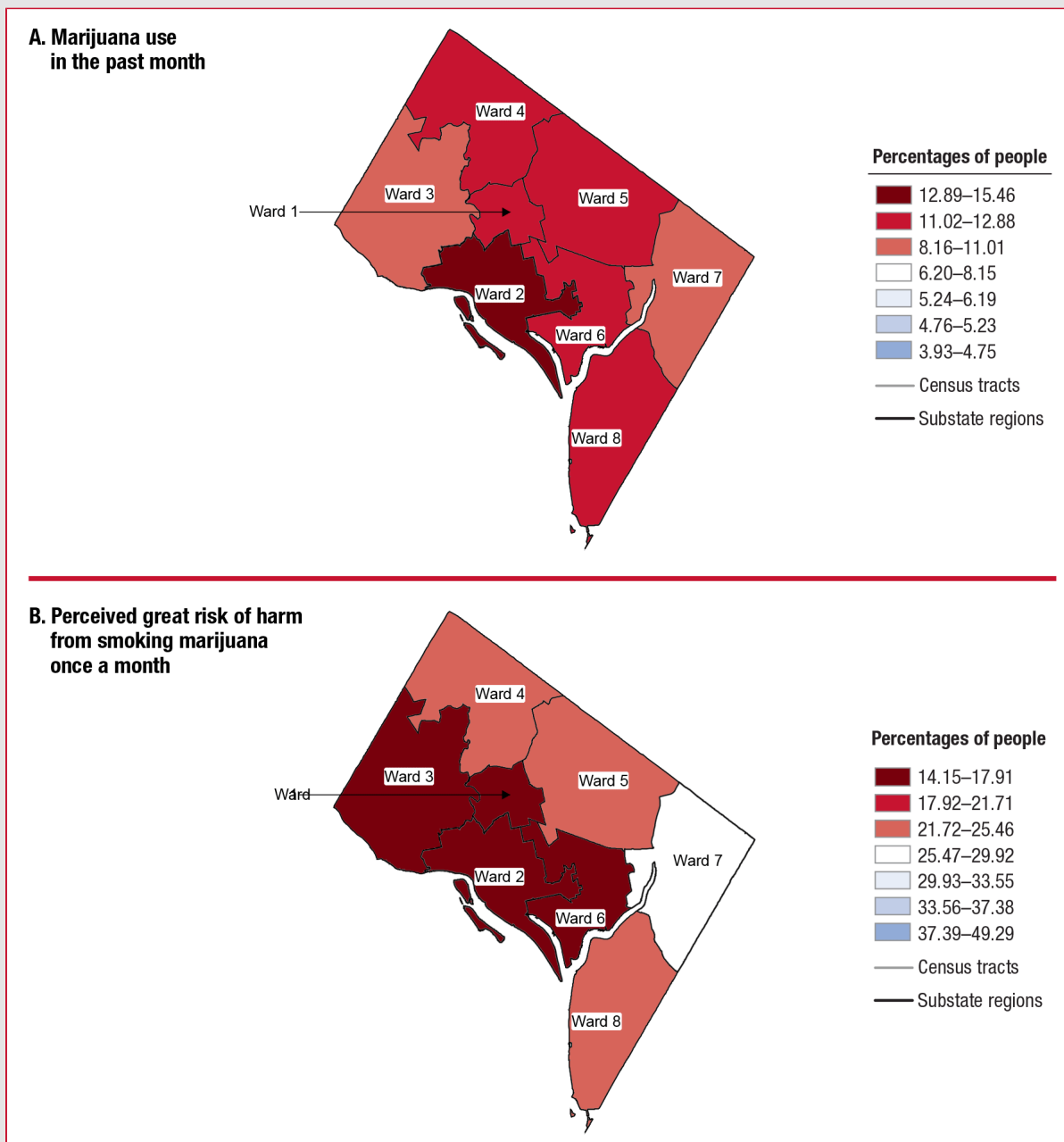


Note: The legend's ranges were created by dividing 362 substate regions, nationally, into 7 groups based on the magnitude of their percentages.

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

In the District of Columbia, percentages of perception of great risk of harm from smoking marijuana once a month among people aged 12 or older varied from 14.15 percent in Ward 3 (in the western part of the District) to 25.55 percent in Ward 7 (in the eastern part of the District). Along with Ward 3, the lowest percentages of perception of great risk of harm from smoking marijuana once a month occurred in Wards 1, 2, and 6 (between 14.20 percent and 17.46 percent). The remaining Wards 4, 5, and 8 had relatively higher percentages ranging from 21.84 percent to 24.49 percent (Figure 4 [bottom panel] and Table S1). Overall, lower percentages of perceived great risk appeared in wards in the western and central sections of the District, whereas higher percentages appeared in wards in the southeastern and northeastern sections of the District.

**Figure 4. Marijuana use in the past month and perceived great risk of harm from smoking marijuana once a month among people aged 12 or older in the District of Columbia, by substate region: percentages, annual averages based on combined 2012 to 2014 data**



Note: The legend's ranges were created by dividing 362 substate regions, nationally, into 7 groups based on the magnitude of their percentages.

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

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## DISCUSSION

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This report shows that the percentages of marijuana use and perceptions of the risk associated with marijuana use by substate region vary across the country and within each state and the District of Columbia. The maps and tables presented can help state policymakers and prevention specialists quickly see if prevention or education efforts are needed in their state and where. For example, the highest percentages of marijuana use occurred in substate areas in several northeastern and western states and in the District of Columbia. Most of the substate areas with the lowest percentages of perception of great risk of harm from smoking marijuana are in the District of Columbia, Maine, and New Hampshire.

As seen in Figures 1 and 2 and Table S1, there is a significant negative relationship between marijuana use and perceived great risk at the substate level across the United States. That is, substate regions with higher percentages of marijuana use were more likely to have lower percentages of the population who think there is great risk in using marijuana, whereas substate regions with lower percentages of marijuana use tend to have higher percentages of the population who think there is great risk in using marijuana. In fact, the correlation between the 362 substate estimates of past month marijuana use and the 362 substate estimates of perceived great risk of harm in using marijuana monthly is -0.72.

Across the United States, discourse continues over the public health implications of marijuana use in the general public, the media, the substance use research community, and among federal, state, and local policymakers. Marijuana use in the general population is an ongoing challenge for the nation as a whole and for the states individually. As states continue to examine their laws regarding marijuana use, monitoring national, regional, state, and substate estimates of marijuana use and attitudes toward use may also help state and local policymakers plan for and allocate resources to address marijuana use. For more information on addressing marijuana use, see <http://www.samhsa.gov/capt/tools-learning-resources/youth-marijuana-risk-protective-factor-resources> and <https://www.drugabuse.gov/drugs-abuse/marijuana>.

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## OTHER AVAILABLE NSDUH SUBSTATE MEASURES

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The combined 2012 to 2014 NSDUH estimates for marijuana use and perceptions of risk of harm from marijuana use are available, along with 23 additional behavioral health measures for 384 substate areas, 25 aggregate substate areas, 50 states and the District of Columbia, 4 census regions, and the United States. The methodology that generated these estimates is available online at <http://samhsa.gov/data/>. Of the combined 384 substate areas and 25 aggregate substate areas, 362 of these are shown in the maps (mostly substate areas, but for some states, the areas shown in the maps are aggregate substate areas). This report discusses two of the estimates for the 362 substate areas displayed in the maps.

The 23 additional estimates include measures of substance use and mental health issues, including use of illicit drugs (e.g., marijuana use, cocaine use, nonmedical use of prescription pain relievers), 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; detailed 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.



**Table S1. Marijuana use in the past month and perceived great risk of harm from smoking marijuana once a month among people aged 12 or older, by state and substate region: percentages, annual averages based on combined 2012 to 2014 data**

State	Substate region	Marijuana use in the past month				Perceived great risk of harm from smoking marijuana once a month			
		Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
<b>Total United States</b>	<b>Total United States</b>	<b>7.73%</b>	<b>7.54%</b>	<b>7.92%</b>		<b>28.50%</b>	<b>28.11%</b>	<b>28.89%</b>	
West	West	9.70%	9.24%	10.17%		25.64%	24.89%	26.42%	
Northeast	Northeast	8.36%	7.95%	8.79%		26.56%	25.77%	27.38%	
Midwest	Midwest	7.28%	6.97%	7.60%		26.11%	25.47%	26.76%	
South	South	6.43%	6.15%	6.73%		32.60%	31.97%	33.23%	
<b>Alabama</b>	<b>Alabama</b>	<b>5.16%</b>	<b>4.29%</b>	<b>6.20%</b>		<b>37.74%</b>	<b>35.17%</b>	<b>40.39%</b>	
Alabama	Region 1	4.71%	3.49%	6.32%	1	39.39%	35.08%	43.87%	7
Alabama	Region 2	5.91%	4.58%	7.59%	3	33.73%	29.87%	37.82%	6
Alabama	Region 3	4.83%	3.69%	6.31%	2	38.87%	34.89%	43.00%	7
Alabama	Region 4	4.94%	3.64%	6.66%	2	40.55%	36.09%	45.18%	7
<b>Alaska</b>	<b>Alaska</b>	<b>12.59%</b>	<b>10.99%</b>	<b>14.38%</b>		<b>18.90%</b>	<b>16.88%</b>	<b>21.10%</b>	
Alaska	Anchorage	12.37%	10.28%	14.82%	6	18.68%	16.12%	21.53%	2
Alaska	Northern	14.93%	11.76%	18.76%	7	18.71%	15.56%	22.32%	2
Alaska	South Central	11.49%	9.02%	14.54%	6	19.44%	16.28%	23.05%	2
Alaska	Southeast	11.23%	8.40%	14.86%	6	18.85%	15.26%	23.06%	2
<b>Arizona</b>	<b>Arizona</b>	<b>8.06%</b>	<b>6.90%</b>	<b>9.39%</b>		<b>26.46%</b>	<b>24.06%</b>	<b>29.00%</b>	
Arizona	Maricopa	7.64%	6.34%	9.18%	4	25.40%	22.54%	28.50%	3
Arizona	Pima	9.89%	7.40%	13.10%	5	24.72%	20.73%	29.18%	3
Arizona	Rural North	8.22%	5.97%	11.22%	5	29.06%	24.10%	34.59%	4
Arizona	Rural South	7.68%	5.57%	10.50%	4	30.88%	26.50%	35.63%	5
<b>Arkansas</b>	<b>Arkansas</b>	<b>6.24%</b>	<b>5.25%</b>	<b>7.41%</b>		<b>34.99%</b>	<b>32.53%</b>	<b>37.54%</b>	
Arkansas	Catchment Area 1	6.46%	4.87%	8.53%	4	33.02%	28.65%	37.71%	5
Arkansas	Catchment Area 2	5.48%	3.91%	7.61%	3	33.08%	28.28%	38.26%	5
Arkansas	Catchment Area 3	5.76%	4.21%	7.83%	3	39.74%	35.22%	44.45%	7
Arkansas	Catchment Area 4	6.10%	4.36%	8.47%	3	31.39%	26.72%	36.48%	5
Arkansas	Catchment Area 5	7.42%	5.56%	9.84%	4	32.94%	28.46%	37.75%	5
Arkansas	Catchment Area 6	6.96%	5.00%	9.61%	4	41.33%	36.20%	46.65%	7
Arkansas	Catchment Area 7	5.49%	3.91%	7.66%	3	39.01%	33.71%	44.59%	7
Arkansas	Catchment Area 8	6.07%	4.51%	8.13%	3	33.85%	29.40%	38.60%	6
<b>California</b>	<b>California</b>	<b>9.19%</b>	<b>8.53%</b>	<b>9.90%</b>		<b>27.60%</b>	<b>26.39%</b>	<b>28.84%</b>	
California	LA SPA 1 and 5	9.77%	7.52%	12.61%	5	21.44%	17.89%	25.47%	2
California	LA SPA 2	8.03%	6.39%	10.05%	4	25.49%	22.17%	29.11%	4
California	LA SPA 3	6.18%	4.71%	8.07%	3	34.66%	30.36%	39.23%	6
California	LA SPA 4	10.50%	8.15%	13.42%	5	30.18%	26.06%	34.65%	5
California	LA SPA 6	10.62%	8.18%	13.68%	5	32.00%	27.54%	36.81%	5
California	LA SPA 7	7.00%	5.48%	8.92%	4	35.10%	31.13%	39.29%	6
California	LA SPA 8	9.01%	7.10%	11.37%	5	27.35%	23.78%	31.24%	4
California	Region 10	10.23%	7.92%	13.10%	5	24.32%	20.73%	28.32%	3
California	Region 12R	9.28%	6.92%	12.33%	5	28.02%	23.80%	32.67%	4
California	Region 14 (Orange)	8.09%	6.58%	9.89%	4	28.48%	25.23%	31.98%	4
California	Region 15R (Fresno)	8.10%	6.17%	10.58%	4	28.94%	24.86%	33.39%	4
California	Region 16R (San Diego)	9.42%	7.70%	11.47%	5	25.35%	22.48%	28.45%	3
California	Region 17R	7.59%	5.90%	9.71%	4	31.83%	28.06%	35.85%	5
California	Region 18R (San Bernardino)	7.62%	6.03%	9.59%	4	32.11%	28.44%	36.01%	5
California	Region 1R	13.97%	10.71%	18.04%	7	22.05%	18.36%	26.24%	3
California	Region 20R	8.76%	6.80%	11.23%	5	31.26%	27.01%	35.85%	5
California	Region 21R	11.20%	8.66%	14.36%	6	24.45%	20.61%	28.74%	3
California	Region 2R	11.09%	8.54%	14.28%	6	22.80%	19.25%	26.78%	3
California	Region 3R (Sacramento)	10.19%	8.04%	12.83%	5	24.40%	20.91%	28.27%	3
California	Region 4R	11.34%	9.09%	14.07%	6	22.34%	19.03%	26.05%	3
California	Region 5R (San Francisco)	15.46%	11.52%	20.44%	7	22.71%	18.66%	27.35%	3
California	Region 6 (Santa Clara)	7.78%	6.10%	9.89%	4	28.47%	24.77%	32.48%	4
California	Region 7R (Contra Costa)	9.55%	7.32%	12.36%	5	23.86%	20.20%	27.95%	3
California	Region 8R (Alameda)	10.67%	8.41%	13.44%	5	26.84%	23.28%	30.74%	4
California	Region 9R (San Mateo)	9.07%	6.72%	12.13%	5	26.15%	22.00%	30.77%	4
California	Regions 13 and 19R	7.99%	6.44%	9.87%	4	29.72%	26.42%	33.26%	4

(continued)

State	Substate region	Marijuana use in the past month				Perceived great risk of harm from smoking marijuana once a month			
		Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
<b>Colorado</b>	<b>Colorado</b>	<b>14.01%</b>	<b>12.32%</b>	<b>15.88%</b>		<b>19.86%</b>	<b>17.73%</b>	<b>22.18%</b>	
Colorado	Region 1	13.33%	10.30%	17.07%	7	19.96%	16.15%	24.40%	2
Colorado	Region 3	11.73%	9.10%	14.99%	6	21.04%	17.40%	25.19%	2
Colorado	Region 4	12.03%	8.79%	16.26%	6	29.86%	24.65%	35.66%	4
Colorado	Regions 2 and 7	14.80%	12.61%	17.30%	7	18.37%	15.88%	21.15%	2
Colorado	Regions 5 and 6	14.84%	11.34%	19.18%	7	20.91%	16.94%	25.53%	2
<b>Connecticut</b>	<b>Connecticut</b>	<b>9.21%</b>	<b>7.95%</b>	<b>10.65%</b>		<b>25.15%</b>	<b>22.74%</b>	<b>27.73%</b>	
Connecticut	Eastern	10.12%	7.88%	12.91%	5	22.78%	19.06%	26.98%	3
Connecticut	North Central	9.21%	7.27%	11.60%	5	25.51%	21.96%	29.42%	4
Connecticut	Northwestern	7.66%	5.79%	10.07%	4	27.04%	23.00%	31.51%	4
Connecticut	South Central	10.12%	8.04%	12.67%	5	24.20%	20.61%	28.20%	3
Connecticut	Southwest	8.92%	6.75%	11.72%	5	25.61%	21.38%	30.36%	4
<b>Delaware</b>	<b>Delaware</b>	<b>8.12%</b>	<b>7.03%</b>	<b>9.35%</b>		<b>27.46%</b>	<b>25.16%</b>	<b>29.89%</b>	
Delaware	Kent	7.09%	5.39%	9.27%	4	26.85%	22.98%	31.11%	4
Delaware	New Castle (excluding Wilmington City)	8.87%	7.50%	10.46%	5	27.28%	24.41%	30.34%	4
Delaware	Sussex	6.17%	4.60%	8.23%	3	28.07%	23.95%	32.60%	4
Delaware	Wilmington City	11.01%	8.07%	14.85%	5	28.30%	23.33%	33.87%	4
<b>District of Columbia</b>	<b>District of Columbia</b>	<b>11.88%</b>	<b>10.44%</b>	<b>13.48%</b>		<b>19.65%</b>	<b>17.56%</b>	<b>21.91%</b>	
District of Columbia	Ward 1	12.60%	9.77%	16.10%	6	17.46%	14.32%	21.13%	1
District of Columbia	Ward 2	13.91%	10.72%	17.84%	7	14.20%	11.31%	17.68%	1
District of Columbia	Ward 3	9.97%	7.62%	12.94%	5	14.15%	11.22%	17.67%	1
District of Columbia	Ward 4	11.40%	8.67%	14.84%	6	23.93%	19.90%	28.49%	3
District of Columbia	Ward 5	11.64%	9.15%	14.69%	6	21.84%	18.10%	26.11%	3
District of Columbia	Ward 6	11.71%	9.02%	15.07%	6	17.15%	13.98%	20.88%	1
District of Columbia	Ward 7	10.92%	8.20%	14.40%	5	25.55%	20.90%	30.84%	4
District of Columbia	Ward 8	12.87%	10.11%	16.26%	6	24.49%	20.64%	28.81%	3
<b>Florida</b>	<b>Florida</b>	<b>7.24%</b>	<b>6.63%</b>	<b>7.91%</b>		<b>32.08%</b>	<b>30.70%</b>	<b>33.50%</b>	
Florida	Broward (Circuit 17)	6.92%	5.47%	8.72%	4	32.23%	28.82%	35.84%	5
Florida	Circuit 1	8.63%	6.64%	11.14%	5	25.46%	21.58%	29.78%	3
Florida	Circuit 10	6.63%	5.02%	8.71%	4	32.52%	28.18%	37.19%	5
Florida	Circuit 12	6.61%	4.96%	8.76%	4	31.23%	27.04%	35.75%	5
Florida	Circuit 13 (Hillsborough)	8.37%	6.78%	10.29%	5	29.66%	26.21%	33.35%	4
Florida	Circuit 14	8.30%	6.13%	11.14%	5	28.36%	23.56%	33.71%	4
Florida	Circuit 15 (Palm Beach)	6.04%	4.69%	7.73%	3	31.98%	28.14%	36.07%	5
Florida	Circuit 18	7.54%	5.92%	9.56%	4	24.84%	21.23%	28.84%	3
Florida	Circuit 19	7.85%	5.83%	10.48%	4	28.05%	23.81%	32.71%	4
Florida	Circuit 2 plus Madison and Taylor	11.71%	9.37%	14.53%	6	26.02%	22.12%	30.35%	4
Florida	Circuit 20	6.71%	5.12%	8.75%	4	30.66%	26.63%	35.01%	5
Florida	Circuit 4	8.00%	6.34%	10.06%	4	29.39%	25.81%	33.25%	4
Florida	Circuit 5	6.81%	5.20%	8.88%	4	27.34%	23.48%	31.57%	4
Florida	Circuit 6	7.86%	6.14%	10.01%	4	27.24%	23.62%	31.18%	4
Florida	Circuit 7	7.55%	5.80%	9.78%	4	28.41%	24.42%	32.78%	4
Florida	Circuit 8 plus Columbia, Dixie, Hamilton, Lafayette, and Suwannee	11.08%	8.62%	14.12%	6	28.31%	24.27%	32.73%	4
Florida	Circuit 9	7.42%	5.99%	9.16%	4	30.54%	27.30%	33.99%	5
Florida	South (Circuits 11 and 16)	5.23%	4.28%	6.38%	2	49.29%	46.10%	52.49%	7
<b>Georgia</b>	<b>Georgia</b>	<b>7.74%</b>	<b>6.65%</b>	<b>8.99%</b>		<b>34.03%</b>	<b>31.57%</b>	<b>36.58%</b>	
Georgia	Region 1	7.41%	5.77%	9.47%	4	34.38%	30.45%	38.53%	6
Georgia	Region 2	6.45%	4.79%	8.63%	4	34.73%	30.62%	39.08%	6
Georgia	Region 3	7.95%	6.34%	9.93%	4	34.09%	30.42%	37.97%	6
Georgia	Region 4	7.18%	5.26%	9.74%	4	33.84%	28.96%	39.09%	6
Georgia	Region 5	8.53%	6.29%	11.47%	5	32.94%	27.98%	38.31%	5
Georgia	Region 6	8.66%	6.54%	11.38%	5	33.55%	28.86%	38.58%	5

(continued)

State	Substate region	Marijuana use in the past month				Perceived great risk of harm from smoking marijuana once a month			
		Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
<b>Hawaii</b>	<b>Hawaii</b>	<b>8.26%</b>	<b>7.02%</b>	<b>9.70%</b>		<b>26.53%</b>	<b>24.05%</b>	<b>29.18%</b>	
Hawaii	Hawaii Island	9.66%	7.03%	13.15%	5	22.86%	18.83%	27.46%	3
Hawaii	Honolulu	7.61%	6.30%	9.16%	4	27.88%	25.03%	30.91%	4
Hawaii	Kauai	10.00%	6.90%	14.28%	5	24.27%	19.55%	29.71%	3
Hawaii	Maui	9.93%	7.34%	13.31%	5	23.54%	19.50%	28.11%	3
<b>Idaho</b>	<b>Idaho</b>	<b>6.02%</b>	<b>5.10%</b>	<b>7.10%</b>		<b>28.41%</b>	<b>26.12%</b>	<b>30.82%</b>	
Idaho	Region 1	5.64%	4.10%	7.71%	3	28.44%	24.07%	33.26%	4
Idaho	Region 2	8.11%	5.80%	11.21%	4	22.93%	18.58%	27.93%	3
Idaho	Region 3	5.10%	3.76%	6.88%	2	31.38%	27.22%	35.85%	5
Idaho	Region 4	6.80%	5.35%	8.60%	4	23.81%	20.63%	27.33%	3
Idaho	Region 5	5.43%	3.93%	7.44%	3	32.92%	28.39%	37.79%	5
Idaho	Region 6	6.11%	4.35%	8.52%	3	28.77%	24.16%	33.85%	4
Idaho	Region 7	5.33%	3.93%	7.18%	3	32.84%	28.58%	37.39%	5
<b>Illinois</b>	<b>Illinois</b>	<b>7.26%</b>	<b>6.65%</b>	<b>7.93%</b>		<b>28.34%</b>	<b>26.98%</b>	<b>29.74%</b>	
Illinois	Region I (Cook)	8.31%	7.32%	9.43%	5	29.54%	27.54%	31.62%	4
Illinois	Region II	6.08%	5.25%	7.02%	3	27.28%	25.15%	29.53%	4
Illinois	Region III	7.09%	5.81%	8.62%	4	26.57%	23.83%	29.51%	4
Illinois	Region IV	6.37%	5.07%	7.98%	4	30.18%	26.87%	33.72%	5
Illinois	Region V	7.54%	6.09%	9.29%	4	27.43%	24.13%	31.00%	4
<b>Indiana</b>	<b>Indiana</b>	<b>6.97%</b>	<b>5.96%</b>	<b>8.14%</b>		<b>27.18%</b>	<b>24.85%</b>	<b>29.65%</b>	
Indiana	Central	6.64%	5.17%	8.50%	4	24.87%	21.35%	28.75%	3
Indiana	East	7.41%	5.48%	9.96%	4	28.84%	24.31%	33.85%	4
Indiana	North Central	6.56%	4.92%	8.69%	4	28.30%	24.23%	32.77%	4
Indiana	Northeast	6.70%	4.92%	9.07%	4	26.93%	22.38%	32.03%	4
Indiana	Northwest	6.18%	4.60%	8.25%	3	30.91%	26.28%	35.95%	5
Indiana	Southeast	6.98%	5.09%	9.51%	4	29.64%	24.73%	35.06%	4
Indiana	Southwest	6.92%	5.08%	9.36%	4	25.89%	21.52%	30.79%	4
Indiana	West	8.96%	6.81%	11.70%	5	24.96%	20.89%	29.52%	3
<b>Iowa</b>	<b>Iowa</b>	<b>5.48%</b>	<b>4.55%</b>	<b>6.57%</b>		<b>27.59%</b>	<b>25.20%</b>	<b>30.11%</b>	
Iowa	Central	4.76%	3.48%	6.49%	2	25.14%	21.29%	29.42%	3
Iowa	North Central	7.19%	5.31%	9.66%	4	26.01%	21.67%	30.87%	4
Iowa	Northeast	5.48%	4.16%	7.17%	3	28.35%	24.62%	32.40%	4
Iowa	Northwest	4.74%	3.36%	6.65%	1	29.85%	25.19%	34.97%	4
Iowa	Southeast	6.01%	4.47%	8.03%	3	26.91%	23.17%	31.01%	4
Iowa	Southwest	4.84%	3.47%	6.70%	2	29.87%	25.31%	34.88%	4
<b>Kansas</b>	<b>Kansas</b>	<b>5.25%</b>	<b>4.36%</b>	<b>6.30%</b>		<b>26.06%</b>	<b>23.83%</b>	<b>28.41%</b>	
Kansas	Kansas City Metro	5.60%	4.37%	7.16%	3	24.48%	21.46%	27.77%	3
Kansas	Northeast	5.41%	3.98%	7.32%	3	25.62%	21.73%	29.93%	4
Kansas	South Central	4.45%	3.19%	6.16%	1	25.50%	21.60%	29.84%	4
Kansas	Southeast	5.45%	3.79%	7.79%	3	27.06%	22.18%	32.56%	4
Kansas	West	4.70%	3.31%	6.63%	1	31.38%	26.86%	36.28%	5
Kansas	Wichita (Sedgwick)	5.20%	3.79%	7.10%	2	26.28%	22.39%	30.59%	4
<b>Kentucky</b>	<b>Kentucky</b>	<b>6.19%</b>	<b>5.27%</b>	<b>7.26%</b>		<b>32.12%</b>	<b>29.64%</b>	<b>34.71%</b>	
Kentucky	Adanta, Cumberland River, and Lifeskills	4.95%	3.66%	6.66%	2	34.00%	29.50%	38.81%	6
Kentucky	Bluegrass, Comprehend, and North Key	6.50%	5.11%	8.24%	4	28.36%	24.89%	32.10%	4
Kentucky	Communicare and River Valley	6.66%	4.78%	9.21%	4	34.90%	30.16%	39.95%	6
Kentucky	Four Rivers and Pennyroyal	5.37%	3.79%	7.57%	3	35.95%	30.47%	41.82%	6
Kentucky	Kentucky River, Mountain, and Pathways	5.23%	3.78%	7.20%	2	37.40%	32.19%	42.92%	7
Kentucky	Seven Counties	7.32%	5.69%	9.38%	4	29.97%	26.04%	34.21%	5
<b>Louisiana</b>	<b>Louisiana</b>	<b>5.54%</b>	<b>4.64%</b>	<b>6.60%</b>		<b>34.54%</b>	<b>32.10%</b>	<b>37.07%</b>	
Louisiana	Region 1	7.67%	5.48%	10.64%	4	29.44%	24.47%	34.95%	4
Louisiana	Region 10 (Jefferson)	5.70%	4.07%	7.93%	3	34.79%	29.90%	40.02%	6
Louisiana	Region 3	5.15%	3.60%	7.32%	2	35.30%	30.27%	40.67%	6
Louisiana	Regions 2 and 9	5.84%	4.57%	7.43%	3	33.43%	29.80%	37.27%	5
Louisiana	Regions 4, 5, and 6	5.09%	3.82%	6.76%	2	34.28%	30.32%	38.48%	6
Louisiana	Regions 7 and 8	4.75%	3.59%	6.25%	1	38.48%	34.35%	42.79%	7

(continued)

State	Substate region	Marijuana use in the past month				Perceived great risk of harm from smoking marijuana once a month			
		Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
<b>Maine</b>	<b>Maine</b>	<b>11.72%</b>	<b>10.22%</b>	<b>13.41%</b>		<b>18.00%</b>	<b>15.94%</b>	<b>20.27%</b>	
Maine	Aroostook	9.05%	6.57%	12.34%	5	23.56%	18.97%	28.85%	3
Maine	Central	11.90%	9.13%	15.36%	6	18.79%	15.47%	22.63%	2
Maine	Cumberland	12.88%	10.16%	16.20%	6	16.45%	13.45%	19.96%	1
Maine	Downeast	12.11%	8.54%	16.91%	6	17.39%	13.73%	21.78%	1
Maine	Midcoast	11.62%	8.74%	15.30%	6	17.23%	13.64%	21.53%	1
Maine	Penquis	13.25%	10.36%	16.80%	7	17.27%	13.90%	21.25%	1
Maine	Western	11.89%	9.32%	15.04%	6	20.63%	16.92%	24.92%	2
Maine	York	9.29%	6.95%	12.32%	5	16.45%	13.16%	20.37%	1
<b>Maryland</b>	<b>Maryland</b>	<b>7.76%</b>	<b>6.66%</b>	<b>9.03%</b>		<b>28.36%</b>	<b>25.81%</b>	<b>31.05%</b>	
Maryland	Anne Arundel	7.67%	5.69%	10.27%	4	25.50%	21.15%	30.40%	4
Maryland	Baltimore City	9.99%	7.67%	12.91%	5	31.86%	27.11%	37.01%	5
Maryland	Baltimore County	7.80%	5.80%	10.43%	4	26.83%	22.46%	31.70%	4
Maryland	Montgomery	6.91%	5.06%	9.36%	4	29.35%	24.94%	34.18%	4
Maryland	North Central	6.43%	4.65%	8.83%	4	24.68%	20.15%	29.86%	3
Maryland	Northeast	7.81%	5.79%	10.45%	4	28.56%	23.68%	33.99%	4
Maryland	Prince George's	8.55%	6.56%	11.08%	5	30.51%	26.00%	35.44%	5
Maryland	South	6.55%	4.79%	8.90%	4	27.46%	23.13%	32.25%	4
Maryland	West	7.95%	5.87%	10.67%	4	28.22%	23.72%	33.21%	4
<b>Massachusetts</b>	<b>Massachusetts</b>	<b>10.77%</b>	<b>9.39%</b>	<b>12.32%</b>		<b>20.25%</b>	<b>18.16%</b>	<b>22.52%</b>	
Massachusetts	Boston	13.12%	10.27%	16.61%	7	19.36%	15.86%	23.41%	2
Massachusetts	Central	10.70%	8.16%	13.91%	5	20.29%	16.63%	24.51%	2
Massachusetts	Metrowest	10.00%	7.81%	12.72%	5	17.91%	14.90%	21.38%	1
Massachusetts	Northeast	10.04%	7.87%	12.72%	5	23.15%	19.58%	27.15%	3
Massachusetts	Southeast	10.95%	8.64%	13.79%	5	20.14%	16.74%	24.03%	2
Massachusetts	Western	10.77%	8.32%	13.82%	5	21.06%	17.43%	25.23%	2
<b>Michigan</b>	<b>Michigan</b>	<b>9.74%</b>	<b>9.00%</b>	<b>10.54%</b>		<b>23.52%</b>	<b>22.28%</b>	<b>24.81%</b>	
Michigan	Region 1	9.58%	7.29%	12.48%	5	20.66%	17.27%	24.53%	2
Michigan	Region 10	11.15%	9.13%	13.56%	6	22.18%	19.19%	25.48%	3
Michigan	Region 2	8.39%	6.34%	11.01%	5	24.05%	20.22%	28.34%	3
Michigan	Region 3	9.16%	7.60%	11.01%	5	23.05%	20.37%	25.98%	3
Michigan	Region 4	10.24%	8.29%	12.58%	5	24.84%	21.73%	28.24%	3
Michigan	Region 5	10.08%	8.69%	11.65%	5	23.10%	20.68%	25.71%	3
Michigan	Region 6	8.40%	6.84%	10.27%	5	20.55%	17.82%	23.57%	2
Michigan	Region 7	11.13%	9.46%	13.05%	6	26.09%	23.31%	29.09%	4
Michigan	Region 8	8.14%	6.63%	9.96%	4	21.81%	19.09%	24.81%	3
Michigan	Region 9	9.87%	8.05%	12.04%	5	25.56%	22.33%	29.08%	4
<b>Minnesota</b>	<b>Minnesota</b>	<b>6.84%</b>	<b>5.82%</b>	<b>8.02%</b>		<b>24.08%</b>	<b>21.84%</b>	<b>26.49%</b>	
Minnesota	Region 7A (Hennepin)	7.40%	5.66%	9.60%	4	22.19%	18.67%	26.16%	3
Minnesota	Region 7B (Ramsey)	8.61%	6.25%	11.75%	5	21.57%	17.48%	26.31%	2
Minnesota	Region 7C	6.16%	4.81%	7.87%	3	22.63%	19.30%	26.36%	3
Minnesota	Regions 1 and 2	6.14%	4.38%	8.55%	3	25.76%	21.14%	30.98%	4
Minnesota	Regions 3 and 4	6.76%	5.11%	8.90%	4	25.30%	21.37%	29.69%	3
Minnesota	Regions 5 and 6	6.50%	4.88%	8.63%	4	27.35%	23.25%	31.87%	4
<b>Mississippi</b>	<b>Mississippi</b>	<b>5.54%</b>	<b>4.68%</b>	<b>6.55%</b>		<b>38.13%</b>	<b>35.54%</b>	<b>40.80%</b>	
Mississippi	Region 1	5.64%	4.29%	7.38%	3	36.17%	32.08%	40.47%	6
Mississippi	Region 2	5.86%	4.38%	7.79%	3	43.38%	38.41%	48.48%	7
Mississippi	Region 3	4.80%	3.56%	6.44%	2	38.60%	33.98%	43.44%	7
Mississippi	Region 4	6.18%	4.72%	8.05%	3	36.79%	32.09%	41.76%	6
Mississippi	Region 5	4.93%	3.45%	7.00%	2	42.34%	36.55%	48.33%	7
Mississippi	Region 6	4.95%	3.61%	6.75%	2	41.31%	36.60%	46.19%	7
Mississippi	Region 7	5.69%	4.17%	7.72%	3	34.35%	29.48%	39.58%	6

(continued)

State	Substate region	Marijuana use in the past month				Perceived great risk of harm from smoking marijuana once a month			
		Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
<b>Missouri</b>	<b>Missouri</b>	<b>7.20%</b>	<b>6.12%</b>	<b>8.45%</b>		<b>27.56%</b>	<b>25.21%</b>	<b>30.05%</b>	
Missouri	Central	7.15%	5.54%	9.19%	4	29.22%	24.94%	33.91%	4
Missouri	Eastern (excluding St. Louis)	5.97%	4.48%	7.91%	3	27.75%	23.65%	32.26%	4
Missouri	Eastern (St. Louis City and County)	8.30%	6.42%	10.67%	5	24.89%	21.20%	28.99%	3
Missouri	Northwest (excluding Jackson)	7.03%	5.13%	9.58%	4	26.38%	21.98%	31.31%	4
Missouri	Northwest (Jackson)	9.27%	6.86%	12.40%	5	26.67%	22.31%	31.53%	4
Missouri	Southeast	5.48%	3.93%	7.59%	3	32.27%	27.57%	37.35%	5
Missouri	Southwest	6.66%	4.91%	8.98%	4	27.77%	23.59%	32.37%	4
<b>Montana</b>	<b>Montana</b>	<b>10.46%</b>	<b>9.07%</b>	<b>12.03%</b>		<b>23.75%</b>	<b>21.39%</b>	<b>26.27%</b>	
Montana	Region 1	7.88%	5.59%	11.01%	4	25.31%	20.72%	30.53%	3
Montana	Region 2	10.69%	8.12%	13.95%	5	25.09%	21.19%	29.44%	3
Montana	Region 3	10.26%	7.99%	13.07%	5	27.00%	23.31%	31.04%	4
Montana	Region 4	10.23%	8.15%	12.78%	5	23.47%	19.81%	27.58%	3
Montana	Region 5	11.34%	9.07%	14.08%	6	20.78%	17.52%	24.47%	2
<b>Nebraska</b>	<b>Nebraska</b>	<b>5.97%</b>	<b>5.04%</b>	<b>7.06%</b>		<b>26.82%</b>	<b>24.44%</b>	<b>29.35%</b>	
Nebraska	Region 1	6.13%	4.20%	8.86%	3	29.21%	24.06%	34.96%	4
Nebraska	Region 2	6.06%	4.13%	8.81%	3	29.30%	23.97%	35.27%	4
Nebraska	Region 3	5.33%	3.96%	7.14%	3	35.13%	30.39%	40.17%	6
Nebraska	Region 4	4.93%	3.50%	6.90%	2	29.24%	24.45%	34.54%	4
Nebraska	Region 5	5.60%	4.33%	7.22%	3	25.58%	22.18%	29.31%	4
Nebraska	Region 6	6.63%	5.32%	8.23%	4	23.88%	20.69%	27.39%	3
<b>Nevada</b>	<b>Nevada</b>	<b>7.94%</b>	<b>6.67%</b>	<b>9.42%</b>		<b>27.33%</b>	<b>24.78%</b>	<b>30.04%</b>	
Nevada	Capital District	8.30%	5.68%	11.99%	5	27.39%	21.98%	33.55%	4
Nevada	Clark - Region 1	7.60%	6.19%	9.30%	4	27.83%	24.93%	30.94%	4
Nevada	Rural/Frontier	7.37%	5.15%	10.45%	4	29.40%	24.19%	35.21%	4
Nevada	Washoe - Region 2	9.58%	7.36%	12.39%	5	24.15%	20.33%	28.44%	3
<b>New Hampshire</b>	<b>New Hampshire</b>	<b>10.92%</b>	<b>9.62%</b>	<b>12.37%</b>		<b>17.29%</b>	<b>15.47%</b>	<b>19.28%</b>	
New Hampshire	Central	11.67%	9.77%	13.88%	6	16.97%	14.52%	19.73%	1
New Hampshire	Northern	12.40%	9.47%	16.08%	6	17.26%	13.78%	21.42%	1
New Hampshire	Southern	10.22%	8.73%	11.93%	5	17.45%	15.32%	19.81%	1
<b>New Jersey</b>	<b>New Jersey</b>	<b>6.01%</b>	<b>5.06%</b>	<b>7.12%</b>		<b>30.72%</b>	<b>28.27%</b>	<b>33.28%</b>	
New Jersey	Central	5.32%	4.02%	7.01%	3	27.88%	24.05%	32.05%	4
New Jersey	Metropolitan	5.56%	4.23%	7.28%	3	32.52%	28.73%	36.55%	5
New Jersey	Northern	6.19%	4.74%	8.06%	3	32.28%	28.45%	36.37%	5
New Jersey	Southern	6.99%	5.43%	8.95%	4	29.36%	25.46%	33.59%	4
<b>New Mexico</b>	<b>New Mexico</b>	<b>9.61%</b>	<b>8.21%</b>	<b>11.23%</b>		<b>27.36%</b>	<b>25.01%</b>	<b>29.85%</b>	
New Mexico	Region 1	8.99%	6.82%	11.76%	5	26.45%	22.79%	30.46%	4
New Mexico	Region 2	8.76%	6.44%	11.81%	5	30.41%	25.78%	35.48%	5
New Mexico	Region 3 (Bernalillo)	12.00%	9.65%	14.83%	6	24.00%	20.60%	27.77%	3
New Mexico	Region 4	7.72%	5.72%	10.35%	4	30.55%	26.32%	35.12%	5
New Mexico	Region 5	8.15%	6.16%	10.70%	4	29.63%	25.76%	33.82%	4
<b>New York</b>	<b>New York</b>	<b>8.59%</b>	<b>7.90%</b>	<b>9.34%</b>		<b>27.87%</b>	<b>26.54%</b>	<b>29.24%</b>	
New York	Region A	8.43%	7.46%	9.50%	5	31.05%	29.14%	33.03%	5
New York	Region B	8.74%	7.60%	10.02%	5	26.81%	24.73%	28.99%	4
New York	Region C	8.53%	7.58%	9.59%	5	24.13%	22.34%	26.01%	3
New York	Region D	9.21%	7.80%	10.85%	5	25.41%	22.86%	28.13%	3

(continued)

State	Substate region	Marijuana use in the past month				Perceived great risk of harm from smoking marijuana once a month			
		Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
<b>North Carolina</b>	<b>North Carolina</b>	<b>6.51%</b>	<b>5.52%</b>	<b>7.67%</b>		<b>30.46%</b>	<b>28.08%</b>	<b>32.95%</b>	
North Carolina	Alliance Behavioral Healthcare 1	6.91%	5.11%	9.29%	4	30.03%	25.75%	34.69%	5
North Carolina	Alliance Behavioral Healthcare 2	5.68%	4.07%	7.89%	3	23.83%	19.78%	28.41%	3
North Carolina	Cardinal Innovations Healthcare Solutions 1	6.29%	4.50%	8.73%	4	30.23%	25.23%	35.74%	5
North Carolina	Cardinal Innovations Healthcare Solutions 2	6.59%	4.86%	8.88%	4	31.06%	26.50%	36.01%	5
North Carolina	Cardinal Innovations Healthcare Solutions 3	7.22%	5.23%	9.89%	4	28.35%	23.78%	33.41%	4
North Carolina	CenterPoint Human Services	5.98%	4.31%	8.23%	3	33.73%	28.60%	39.27%	6
North Carolina	Eastpointe	5.19%	3.72%	7.19%	2	37.38%	32.12%	42.97%	6
North Carolina	Partners Behavioral Health Management	6.64%	4.84%	9.05%	4	32.02%	27.33%	37.10%	5
North Carolina	Sandhills Center 1	6.19%	4.29%	8.85%	3	33.09%	27.69%	38.97%	5
North Carolina	Sandhills Center 2	7.27%	5.31%	9.89%	4	26.80%	22.33%	31.78%	4
North Carolina	Smoky Mountain Center 1	6.81%	4.86%	9.47%	4	32.58%	27.29%	38.35%	5
North Carolina	Smoky Mountain Center 2	6.43%	4.49%	9.12%	4	30.86%	25.81%	36.41%	5
North Carolina	Trillium Healthcare Resources 1	6.69%	4.80%	9.24%	4	30.03%	25.17%	35.38%	5
North Carolina	Trillium Healthcare Resources 2	7.68%	5.51%	10.60%	4	28.55%	23.67%	33.99%	4
<b>North Dakota</b>	<b>North Dakota</b>	<b>5.58%</b>	<b>4.72%</b>	<b>6.59%</b>		<b>27.72%</b>	<b>25.43%</b>	<b>30.13%</b>	
North Dakota	Badlands and West Central	4.93%	3.75%	6.45%	2	29.25%	25.65%	33.12%	4
North Dakota	Lake Region	4.14%	2.85%	5.99%	1	35.32%	30.27%	40.72%	6
North Dakota	North Central	5.67%	4.16%	7.69%	3	27.92%	23.83%	32.41%	4
North Dakota	Northeast	7.27%	5.56%	9.44%	4	25.84%	21.92%	30.19%	4
North Dakota	Northwest	5.81%	3.98%	8.39%	3	26.48%	21.77%	31.79%	4
North Dakota	South Central	4.67%	3.24%	6.70%	1	31.14%	26.21%	36.54%	5
North Dakota	Southeast	5.91%	4.65%	7.49%	3	24.68%	21.38%	28.31%	3
<b>Ohio</b>	<b>Ohio</b>	<b>7.37%</b>	<b>6.74%</b>	<b>8.05%</b>		<b>25.14%</b>	<b>23.84%</b>	<b>26.48%</b>	
Ohio	Board 12	7.28%	5.44%	9.67%	4	24.51%	20.42%	29.11%	3
Ohio	Board 25 (Franklin)	10.61%	8.76%	12.81%	5	20.46%	17.79%	23.42%	2
Ohio	Board 31 (Hamilton)	8.37%	6.62%	10.53%	5	20.46%	17.38%	23.93%	2
Ohio	Board 48 (Lucas)	8.12%	6.12%	10.69%	4	25.29%	21.55%	29.44%	3
Ohio	Board 57 (Montgomery)	7.20%	5.47%	9.42%	4	24.82%	21.21%	28.83%	3
Ohio	Board 77 (Summit)	8.81%	6.79%	11.35%	5	22.88%	19.27%	26.95%	3
Ohio	Board 9 (Butler)	7.20%	5.43%	9.49%	4	21.71%	18.04%	25.89%	2
Ohio	Boards 18 and 47	7.10%	5.87%	8.57%	4	26.55%	23.74%	29.56%	4
Ohio	Boards 2, 46, 55, and 68	6.30%	4.65%	8.49%	4	29.03%	24.90%	33.54%	4
Ohio	Boards 20, 32, 54, and 69	5.70%	4.22%	7.66%	3	28.08%	24.15%	32.38%	4
Ohio	Boards 21, 39, 51, 70, and 80	5.49%	4.18%	7.19%	3	26.58%	22.96%	30.55%	4
Ohio	Boards 22, 74, and 87	6.48%	4.83%	8.64%	4	22.69%	19.11%	26.72%	3
Ohio	Boards 23 and 45	6.95%	5.28%	9.08%	4	25.86%	22.07%	30.06%	4
Ohio	Boards 27, 71, and 73	7.34%	5.47%	9.77%	4	28.48%	24.46%	32.86%	4
Ohio	Boards 28, 43, and 67	6.75%	5.26%	8.63%	4	23.40%	19.77%	27.46%	3
Ohio	Boards 3, 52, and 85	6.06%	4.53%	8.07%	3	27.00%	22.98%	31.42%	4
Ohio	Boards 4 and 78	7.29%	5.35%	9.86%	4	27.15%	22.96%	31.79%	4
Ohio	Boards 5 and 60	8.83%	6.84%	11.34%	5	23.42%	19.79%	27.49%	3
Ohio	Boards 50 and 76	6.62%	5.12%	8.52%	4	29.65%	25.76%	33.86%	4
Ohio	Boards 7, 15, 41, 79, and 84	5.67%	4.23%	7.57%	3	30.01%	25.91%	34.45%	5
Ohio	Boards 8, 13, and 83	5.57%	4.18%	7.37%	3	25.30%	21.62%	29.37%	3
<b>Oklahoma</b>	<b>Oklahoma</b>	<b>6.08%</b>	<b>5.08%</b>	<b>7.27%</b>		<b>29.19%</b>	<b>26.75%</b>	<b>31.75%</b>	
Oklahoma	Central	6.50%	4.82%	8.71%	4	24.80%	20.78%	29.31%	3
Oklahoma	East Central	5.16%	3.67%	7.21%	2	30.55%	26.04%	35.46%	5
Oklahoma	Northeast	5.42%	3.94%	7.41%	3	29.17%	24.78%	33.97%	4
Oklahoma	Northwest and Southwest	6.07%	4.39%	8.34%	3	29.43%	24.75%	34.59%	4
Oklahoma	Oklahoma County	7.02%	5.29%	9.26%	4	29.92%	25.84%	34.33%	4
Oklahoma	Southeast	4.32%	3.04%	6.10%	1	33.15%	28.72%	37.90%	5
Oklahoma	Tulsa County	7.32%	5.43%	9.79%	4	27.23%	23.14%	31.75%	4

(continued)

State	Substate region	Marijuana use in the past month				Perceived great risk of harm from smoking marijuana once a month			
		Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
<b>Oregon</b>	<b>Oregon</b>	<b>12.19%</b>	<b>10.69%</b>	<b>13.87%</b>		<b>18.29%</b>	<b>16.26%</b>	<b>20.52%</b>	
Oregon	Region 1 (Multnomah)	13.32%	10.57%	16.64%	7	15.81%	12.95%	19.17%	1
Oregon	Region 2	12.56%	10.02%	15.62%	6	18.77%	15.65%	22.34%	2
Oregon	Region 3	12.03%	9.83%	14.64%	6	18.69%	15.83%	21.93%	2
Oregon	Region 4	11.79%	8.83%	15.58%	6	18.27%	14.75%	22.40%	2
Oregon	Region 5 (Central)	10.65%	7.65%	14.64%	5	19.76%	15.66%	24.63%	2
Oregon	Region 6 (Eastern)	10.23%	7.22%	14.28%	5	21.24%	17.00%	26.19%	2
<b>Pennsylvania</b>	<b>Pennsylvania</b>	<b>6.84%</b>	<b>6.24%</b>	<b>7.49%</b>		<b>28.10%</b>	<b>26.72%</b>	<b>29.52%</b>	
Pennsylvania	Region 1 (Allegheny)	7.91%	6.43%	9.70%	4	24.86%	21.86%	28.13%	3
Pennsylvania	Region 36 (Philadelphia)	10.44%	8.66%	12.53%	5	27.54%	24.44%	30.87%	4
Pennsylvania	Regions 10, 15, 27, 32, 43, and 44	5.57%	4.19%	7.37%	3	31.45%	27.26%	35.97%	5
Pennsylvania	Regions 17 and 21	6.20%	4.67%	8.19%	4	28.58%	24.51%	33.04%	4
Pennsylvania	Regions 19, 26, 28, and 42	5.50%	4.48%	6.75%	3	29.17%	26.20%	32.33%	4
Pennsylvania	Regions 22, 38, 40, 41, and 48	4.27%	3.23%	5.64%	1	30.57%	26.66%	34.78%	5
Pennsylvania	Regions 29 and 34	7.41%	5.63%	9.70%	4	27.65%	23.72%	31.97%	4
Pennsylvania	Regions 3, 8, 9, and 51	6.82%	5.42%	8.55%	4	29.31%	25.48%	33.44%	4
Pennsylvania	Regions 30 and 50	6.44%	4.91%	8.39%	4	32.14%	28.11%	36.45%	5
Pennsylvania	Regions 4, 11, 37, and 49	6.34%	4.95%	8.10%	4	31.58%	27.90%	35.50%	5
Pennsylvania	Regions 5, 18, 23, 24, and 46	5.30%	4.08%	6.87%	3	32.36%	28.58%	36.39%	5
Pennsylvania	Regions 6, 12, 16, 31, 35, 45, and 47	6.96%	5.57%	8.68%	4	28.96%	25.34%	32.88%	4
Pennsylvania	Regions 7, 13, 20, and 33	6.70%	5.58%	8.02%	4	23.81%	21.23%	26.60%	3
<b>Rhode Island</b>	<b>Rhode Island</b>	<b>13.47%</b>	<b>11.94%</b>	<b>15.16%</b>		<b>21.18%</b>	<b>18.93%</b>	<b>23.62%</b>	
Rhode Island	Bristol and Newport	14.45%	11.07%	18.63%	7	19.32%	15.61%	23.67%	2
Rhode Island	Kent	14.23%	11.15%	17.98%	7	19.60%	15.97%	23.83%	2
Rhode Island	Providence	12.77%	10.93%	14.87%	6	23.00%	20.20%	26.06%	3
Rhode Island	Washington	14.85%	11.81%	18.50%	7	16.35%	13.10%	20.22%	1
<b>South Carolina</b>	<b>South Carolina</b>	<b>7.02%</b>	<b>5.97%</b>	<b>8.24%</b>		<b>31.36%</b>	<b>28.96%</b>	<b>33.85%</b>	
South Carolina	Region 1	6.98%	5.38%	9.01%	4	31.88%	28.13%	35.87%	5
South Carolina	Region 2	7.10%	5.53%	9.08%	4	29.28%	25.48%	33.38%	4
South Carolina	Region 3	6.99%	5.24%	9.27%	4	30.58%	26.38%	35.13%	5
South Carolina	Region 4	7.01%	5.48%	8.93%	4	33.16%	29.36%	37.19%	5
<b>South Dakota</b>	<b>South Dakota</b>	<b>5.14%</b>	<b>4.28%</b>	<b>6.16%</b>		<b>28.24%</b>	<b>25.95%</b>	<b>30.66%</b>	
South Dakota	Region 1	5.46%	4.08%	7.26%	3	26.74%	23.14%	30.67%	4
South Dakota	Region 2	5.29%	3.63%	7.65%	3	30.89%	26.20%	36.00%	5
South Dakota	Region 3	4.79%	3.63%	6.29%	2	29.85%	26.05%	33.94%	4
South Dakota	Region 4	5.41%	3.95%	7.35%	3	28.11%	23.71%	32.97%	4
South Dakota	Region 5	4.97%	3.79%	6.49%	2	27.42%	24.08%	31.03%	4
<b>Tennessee</b>	<b>Tennessee</b>	<b>5.29%</b>	<b>4.40%</b>	<b>6.35%</b>		<b>32.71%</b>	<b>30.24%</b>	<b>35.27%</b>	
Tennessee	Region 1	4.75%	3.32%	6.76%	1	33.50%	28.27%	39.17%	5
Tennessee	Region 2	4.76%	3.49%	6.46%	2	31.86%	27.73%	36.29%	5
Tennessee	Region 3	4.77%	3.49%	6.48%	2	33.31%	28.85%	38.09%	5
Tennessee	Region 4 (Davidson)	6.00%	4.33%	8.25%	3	30.00%	25.41%	35.02%	5
Tennessee	Region 5	6.12%	4.61%	8.09%	3	31.74%	27.85%	35.91%	5
Tennessee	Region 6	4.69%	3.36%	6.51%	1	36.83%	31.86%	42.10%	6
Tennessee	Region 7 (Shelby)	5.36%	3.91%	7.29%	3	33.42%	28.85%	38.32%	5
<b>Texas</b>	<b>Texas</b>	<b>5.62%</b>	<b>5.13%</b>	<b>6.16%</b>		<b>35.56%</b>	<b>34.26%</b>	<b>36.88%</b>	
Texas	Region 1	6.08%	4.64%	7.93%	3	33.96%	30.04%	38.11%	6
Texas	Region 10	4.23%	3.25%	5.49%	1	44.77%	40.59%	49.02%	7
Texas	Region 11	3.93%	3.16%	4.87%	1	47.71%	44.56%	50.88%	7
Texas	Region 2	6.40%	4.70%	8.67%	4	35.15%	30.32%	40.30%	6
Texas	Region 3	5.67%	4.90%	6.55%	3	33.19%	31.18%	35.26%	5
Texas	Region 4	5.17%	3.88%	6.84%	2	37.02%	32.97%	41.27%	6
Texas	Region 5	5.98%	4.51%	7.89%	3	37.17%	32.54%	42.06%	6
Texas	Region 6	5.15%	4.35%	6.09%	2	34.40%	32.01%	36.87%	6
Texas	Region 7	7.44%	6.25%	8.83%	4	29.46%	26.92%	32.14%	4
Texas	Region 8	5.93%	4.78%	7.34%	3	38.26%	35.07%	41.57%	7
Texas	Region 9	6.08%	4.50%	8.17%	3	37.32%	32.74%	42.14%	6

(continued)

State	Substate region	Marijuana use in the past month				Perceived great risk of harm from smoking marijuana once a month			
		Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group	Small area estimate	95% CI (lower)	95% CI (upper)	Substate area group
<b>Utah</b>	<b>Utah</b>	<b>5.39%</b>	<b>4.53%</b>	<b>6.41%</b>		<b>32.76%</b>	<b>30.45%</b>	<b>35.15%</b>	
Utah	Bear River, Northeastern, Summit, Tooele, and Wasatch	4.49%	3.26%	6.16%	1	32.53%	28.13%	37.27%	5
Utah	Central, Four Corners, San Juan, and Southwest	4.89%	3.45%	6.89%	2	34.65%	29.88%	39.76%	6
Utah	Davis County	4.72%	3.38%	6.56%	1	30.47%	25.98%	35.37%	5
Utah	Salt Lake County	6.61%	5.25%	8.29%	4	32.06%	28.88%	35.41%	5
Utah	Utah County	4.39%	3.24%	5.92%	1	34.53%	30.48%	38.82%	6
Utah	Weber, Morgan	4.89%	3.43%	6.93%	2	32.58%	27.70%	37.86%	5
<b>Vermont</b>	<b>Vermont</b>	<b>13.01%</b>	<b>11.46%</b>	<b>14.73%</b>		<b>19.70%</b>	<b>17.56%</b>	<b>22.03%</b>	
Vermont	Champlain Valley	13.87%	11.82%	16.20%	7	18.37%	15.70%	21.38%	2
Vermont	Rural Northeast	12.68%	10.03%	15.91%	6	20.18%	16.67%	24.22%	2
Vermont	Rural Southeast	13.01%	10.21%	16.44%	7	18.30%	15.09%	22.02%	2
Vermont	Rural Southwest	11.31%	8.66%	14.65%	6	24.22%	20.28%	28.65%	3
<b>Virginia</b>	<b>Virginia</b>	<b>6.40%</b>	<b>5.45%</b>	<b>7.50%</b>		<b>25.44%</b>	<b>23.15%</b>	<b>27.88%</b>	
Virginia	Region 1	7.80%	5.97%	10.12%	4	26.31%	22.43%	30.59%	4
Virginia	Region 2	5.04%	3.81%	6.63%	2	26.61%	23.20%	30.32%	4
Virginia	Region 3	6.83%	5.25%	8.84%	4	26.73%	22.78%	31.09%	4
Virginia	Region 4	6.15%	4.64%	8.11%	3	24.00%	20.17%	28.30%	3
Virginia	Region 5	6.99%	5.42%	8.96%	4	23.50%	20.09%	27.29%	3
<b>Washington</b>	<b>Washington</b>	<b>12.74%</b>	<b>11.26%</b>	<b>14.40%</b>		<b>18.79%</b>	<b>16.83%</b>	<b>20.91%</b>	
Washington	Region 1	10.53%	8.45%	13.04%	5	21.90%	18.78%	25.38%	3
Washington	Region 2	14.31%	12.29%	16.58%	7	17.48%	15.17%	20.05%	1
Washington	Region 3	12.01%	10.06%	14.28%	6	18.55%	16.17%	21.20%	2
<b>West Virginia</b>	<b>West Virginia</b>	<b>5.76%</b>	<b>4.84%</b>	<b>6.84%</b>		<b>33.51%</b>	<b>31.09%</b>	<b>36.01%</b>	
West Virginia	Region I	4.89%	3.37%	7.04%	2	32.27%	27.06%	37.96%	5
West Virginia	Region II	5.89%	4.29%	8.04%	3	31.07%	26.61%	35.91%	5
West Virginia	Region III	4.45%	3.03%	6.48%	1	35.95%	30.52%	41.76%	6
West Virginia	Region IV	7.17%	5.61%	9.11%	4	31.03%	27.15%	35.19%	5
West Virginia	Region V	5.77%	4.40%	7.52%	3	33.78%	30.05%	37.73%	6
West Virginia	Region VI	4.98%	3.66%	6.73%	2	37.26%	33.11%	41.61%	6
<b>Wisconsin</b>	<b>Wisconsin</b>	<b>6.63%</b>	<b>5.62%</b>	<b>7.79%</b>		<b>25.32%</b>	<b>22.95%</b>	<b>27.85%</b>	
Wisconsin	Milwaukee	7.69%	5.78%	10.16%	4	24.63%	20.60%	29.16%	3
Wisconsin	Northeastern	5.53%	4.15%	7.32%	3	24.82%	21.14%	28.91%	3
Wisconsin	Northern	5.12%	3.63%	7.18%	2	24.43%	20.08%	29.38%	3
Wisconsin	Southeastern	6.45%	4.86%	8.51%	4	28.05%	24.05%	32.43%	4
Wisconsin	Southern	7.49%	5.72%	9.73%	4	23.22%	19.45%	27.46%	3
Wisconsin	Western	7.12%	5.36%	9.39%	4	26.46%	22.22%	31.18%	4
<b>Wyoming</b>	<b>Wyoming</b>	<b>6.26%</b>	<b>5.26%</b>	<b>7.43%</b>		<b>27.53%</b>	<b>25.34%</b>	<b>29.83%</b>	
Wyoming	Judicial District 1 (Laramie)	6.58%	4.84%	8.88%	4	27.21%	23.36%	31.43%	4
Wyoming	Judicial District 2	8.84%	6.69%	11.59%	5	22.69%	19.01%	26.84%	3
Wyoming	Judicial District 3	5.06%	3.68%	6.93%	2	31.40%	27.34%	35.76%	5
Wyoming	Judicial District 4	6.14%	4.26%	8.78%	3	25.66%	21.12%	30.80%	4
Wyoming	Judicial District 5	5.13%	3.59%	7.28%	2	30.46%	25.44%	35.99%	5
Wyoming	Judicial District 6	5.07%	3.65%	7.01%	2	27.97%	23.82%	32.54%	4
Wyoming	Judicial District 7 (Natrona)	6.01%	4.37%	8.20%	3	23.68%	19.82%	28.03%	3
Wyoming	Judicial District 8	5.29%	3.71%	7.48%	3	31.81%	27.00%	37.04%	5
Wyoming	Judicial District 9	7.88%	5.64%	10.89%	4	27.50%	23.20%	32.26%	4

CI = confidence interval; LA SPA = Los Angeles Service Planning Area.

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



## ENDNOTES

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1. 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://www.samhsa.gov/data/sites/default/files/NSDUH-FRR1-2014/NSDUH-FRR1-2014.pdf>
2. Center for Behavioral Health Statistics and Quality. (2015). *Risk and protective factors and initiation of substance use: Results from the 2014 National Survey on Drug Use and Health*. Retrieved from <http://www.samhsa.gov/data/sites/default/files/NSDUH-DR-FRR4-2014rev/NSDUH-DR-FRR4-2014.pdf>
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7. Okaneku, J., Vearrier, D., McKeever, R. G., LaSala, G. S., & Greenberg, M. I. (2015). Change in perceived risk associated with marijuana use in the United States from 2002 to 2012. *Clinical Toxicology*, 53(3), 151-155. doi:10.3109/15563650.2015.1004581
8. Research on the inverse relationship between perceptions of harm and use has focused on adolescents. For more information, see Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2015). *Monitoring the Future national survey results on drug use, 1975-2014: Volume I, secondary school students*. Ann Arbor, MI: Institute for Social Research, University of Michigan. The results of this study may not generalize to the population of people aged 12 or older.
9. 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.
10. In this report, substate estimates are discussed in terms of their observed rankings because they provide useful context. However, a substate region having a highest or lowest estimate does not imply that the substate region's estimate is significantly higher or lower than the estimate of the next highest or lowest substate region. Similarly, 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. 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. 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.
11. Estimates presented in this report are derived from a hierarchical Bayes model-based small area estimation 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. With 3 years of combined NSDUH data, the sample sizes in the 362 substate regions ranged from 100 people to approximately 3,500 people.
12. 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.
13. This substate region is named Region 11 by the Texas Department of State Health Services and consists of the following 19 counties in the southernmost part of Texas: Aransas, Bee, Brooks, Cameron, Duval, Hidalgo, Jim Hogg, Jim Wells, Kenedy, Kleberg, Live Oak, McMullen, Nueces, Refugio, San Patricio, Starr, Webb, Willacy, and Zapata.
14. More information about SPAs in Los Angeles County can be found at <http://publichealth.lacounty.gov/chs/SPAMain/ServicePlanningAreas.htm>.

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## SUGGESTED CITATION

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Hughes, A., Lipari, R.N., and Williams, M.R. *Marijuana use and perceived risk of harm from marijuana use varies within and across states*. The CBHSQ Report: July 26, 2016. Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Rockville, MD.

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## SUMMARY

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**Background:** Attitudes about the risks associated with substance use are often closely related to their use. As states have been at the center of efforts to monitor marijuana use, examining the percentages of people using marijuana and attitudes about the risks associated with using marijuana provides needed policy information. **Method:** Combined 2012 to 2014 National Surveys on Drug Use and Health (NSDUHs) state (including the District of Columbia) estimates of past month marijuana use and perceptions of great risk of harm from smoking marijuana once a month among people aged 12 or older were analyzed in 362 substate regions. Because of revisions to substate boundaries, the 2012 to 2014 estimates are not compared with estimates from prior years. **Results:** Findings in this report suggest that there is a significant negative relationship between marijuana use and perceived great risk of use at the substate level across the United States. For example, substate regions with higher percentages of marijuana use were more likely to have lower percentages of the population who think there is great risk in using marijuana, whereas substate regions with lower percentages of marijuana use tend to have higher percentages of the population who think there is great risk in using marijuana. **Conclusion:** Highlighting the percentage of people using marijuana and attitudes toward use in each state and substate area may help to raise awareness about the consequences of marijuana use and to improve prevention efforts.

**Keywords:** marijuana, National Survey on Drug Use and Health, NSDUH, risk, state, substate

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## AUTHOR INFORMATION

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[cbhsqrequest@samhsa.hhs.gov](mailto:cbhsqrequest@samhsa.hhs.gov)

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## KEYWORDS

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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, Virgin Islands, Virginia, Washington, West Virginia, Wisconsin, Wyoming, Short Report, Population Data, 2012, 2013, 2014, Researchers, Marijuana, All US States Only, County Type, Risk & Protective Factors

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). The data used in this report are based on information obtained from people aged 12 to 17 (68,309 in 2012, 67,838 in 2013, and 67,901 in 2014). 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 CBHSQ 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 Behavior 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/>

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



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Substance Abuse & Mental Health Services Administration  
Center for Behavioral Health Statistics and Quality  
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