

2007-2008 National Survey on Drug Use and Health: Other Sources of State-Level Data

DISCLAIMER

SAMHSA provides links to other Internet sites as a service to its users and is not responsible for the availability or content of these external sites. SAMHSA, its employees, and contractors do not endorse, warrant, or guarantee the products, services, or information described or offered at these other Internet sites. Any reference to a commercial product, process, or service is not an endorsement or recommendation by SAMHSA, its employees, or contractors. For documents available from this server, the U.S. Government does not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed.

Introduction

A variety of surveys and data systems other than the National Survey on Drug Use and Health (NSDUH) collect data on substance use and mental health problems. It is useful to consider the results of these other studies when discussing NSDUH data. This document briefly describes one of these other data systems that publish State estimates and presents selected comparisons with NSDUH results. The State-level survey that collects data on substance use discussed in this document is the Behavioral Risk Factor Surveillance System (BRFSS), which is sponsored by the Centers for Disease Control and Prevention (CDC). Another CDC data system that provides State-level substance use estimates for most but not all States is the Youth Risk Behavior Survey (YRBS). Differences between the YRBS and NSDUH sampling designs, as well as the age groups used in NSDUH small area estimates, imply that comparisons of prevalence rates are not straightforward. However, if these differences are ignored and the estimates are examined at a national level, the YRBS has generally shown to have higher prevalence rates but similar long-term trends compared with NSDUH; for details, see the 2008 NSDUH national findings report (Office of Applied Studies [OAS], 2009).¹

When considering the information presented in this document, it is important to understand the methodological differences between these surveys and the impact that these differences could have on estimates of substance use. Several studies have compared NSDUH estimates with estimates from other studies and have evaluated how differences may have been affected by differences in survey methodology (Brener et al., 2006; Gfroerer, Wright, & Kopstein, 1997; Gruzca, Abbacchi, Przybeck, & Gfroerer, 2007; Hennessy & Ginsberg, 2001; Miller et al., 2004). These studies suggest that the goals and approaches of surveys are often different, making comparisons between them difficult. Some methodological differences that have been identified as affecting comparisons include populations covered, sampling methods, mode of data collection, survey setting, questionnaires, and estimation methods.

BRFSS is a State-based system of health surveys that collect information on health risk behaviors (including cigarette and alcohol use), preventive health practices, and health care access primarily related to chronic disease and injury. BRFSS is an annual, State-based telephone (landline only) survey of the civilian, noninstitutionalized adult population aged 18 or older and is sponsored by the CDC. In 2008, BRFSS collected data from all 50 States, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam using a computer-assisted telephone interviewing (CATI) design. More than 350,000 adults are interviewed each year. State estimates are presented on a yearly basis. BRFSS data are weighted based on the probability of selection of a telephone number, the number of adults in a household, and the number of telephones in a household. A final poststratification adjustment is made for nonresponse and noncoverage of households without telephones. The BRFSS State prevalence rates and confidence intervals presented in [Tables 1](#) and [2](#) at the end of this document are weighted design-based estimates (i.e., each respondent is weighted, and the survey design is accounted for in the estimates) from the 2008 survey. For more details about BRFSS, see the CDC Web site at <http://www.cdc.gov/brfss>.

¹ For further details about the YRBS, see the Youth Risk Behavior Surveillance System (YRBSS) Web page at <http://www.cdc.gov/HealthyYouth/yrbs/index.htm>.

There are three measures for which State estimates are produced for both BRFSS and NSDUH: past month alcohol use, past month binge alcohol use, and cigarette use ("past month" use for NSDUH and "current" use for BRFSS). Past month alcohol use is defined consistently in both BRFSS and NSDUH as having an alcoholic beverage in the past month. In NSDUH, past month cigarette use is defined as having smoked part or all of a cigarette during the past 30 days. In BRFSS, the cigarette use measure reported is current cigarette use, which is defined as having smoked at least 100 cigarettes during the lifetime and indicating smoking every day or some days at the time of the survey. Because of these subtle but present differences in definitions, the NSDUH estimates tend to be higher in that they catch two groups of people that the BRFSS estimates would not: (1) respondents who have not smoked 100 cigarettes in their lifetime but had smoked in the past month, and (2) respondents who had smoked a cigarette earlier in the month but were not smoking at the time of the survey. Lastly, both surveys ask about binge alcohol use in the past month. The definition for binge alcohol use in NSDUH is having had five or more drinks of an alcoholic beverage on the same occasion (i.e., at the same time or within a couple hours of each other) on at least 1 day in the past 30 days. In BRFSS, women are asked about drinking four or more drinks on one occasion, whereas men are asked about drinking five or more drinks on one occasion.

In this document, the findings of the 2008 BRFSS State estimates and the combined 2007-2008 NSDUH State estimates for past month alcohol use and cigarette use ("past month" use for NSDUH and "current" use for BRFSS) are presented. In [Tables 1 and 2](#), the 2008 BRFSS State estimates for adults aged 18 or older are shown alongside the pooled 2007-2008 NSDUH small area estimates for the same age group (by combining the 18 to 25 and 26 or older age groups). [Table 1](#) also includes p values that indicate whether the BRFSS and NSDUH estimates are significantly different from each other for a given State using an exact test as described in the next section. As can be seen in [Table 2](#), the NSDUH past month cigarette use estimates tended to be higher than the current cigarette use estimates from BRFSS; no p values of differences are shown. Because the definitions for binge alcohol use in the two surveys are different for women, no comparison of binge alcohol use was done.

Methodology for Comparing BRFSS and NSDUH Estimates

Here, the null hypothesis of no difference is tested, that is, $\pi_b = \pi_n$ (where π_b is a State-specific BRFSS prevalence rate and π_n is a State-specific NSDUH prevalence rate) or equivalently that the logs-odds ratio is zero, that is, $lor = 0$, where lor is defined as

$lor = \ln \left[\frac{\pi_b / (1 - \pi_b)}{\pi_n / (1 - \pi_n)} \right]$, where \ln denotes the natural logarithm. An estimate of lor is given by

$\hat{lor} = \ln \left[\frac{p_b / (1 - p_b)}{p_n / (1 - p_n)} \right]$, where p_b and p_n are the 2008 BRFSS State estimates and the 2007-

2008 NSDUH State estimates, respectively (as given in [Tables 1 and 2](#)). To compute the

variance of \hat{lor} , that is, $v(\hat{lor})$, let $\hat{\theta}_b = \frac{p_b}{1 - p_b}$ and $\hat{\theta}_n = \frac{p_n}{1 - p_n}$, then

$v(\hat{lor}) = v[\ln(\hat{\theta}_b)] + v[\ln(\hat{\theta}_n)] - 2 \text{cov}[\ln(\hat{\theta}_b), \ln(\hat{\theta}_n)]$. The covariance term can be assumed to be zero because the BRFSS and NSDUH samples are independent.

The quantity $v[\ln(\hat{\theta}_n)]$ can be obtained by using the 95 percent Bayesian confidence intervals in [Tables 1](#) and [2](#). For this purpose, let $(lower_n, upper_n)$ denote the 95 percent Bayesian confidence interval for a given State- s :

$$v[\ln(\hat{\theta}_n)] = \left(\frac{U_n - L_n}{2 \times 1.96} \right)^2,$$

where $U_n = \ln \frac{upper_n}{1 - upper_n}$ and $L_n = \ln \frac{lower_n}{1 - lower_n}$.

The quantity $v[\ln(\hat{\theta}_b)]$ can be obtained by using the 95 percent confidence intervals in [Tables 1](#) and [2](#). For this purpose, let $(lower_b, upper_b)$ denote the 95 percent confidence intervals for a given State- s . Using the first-order Taylor series approximation, the variance can be calculated as follows:

$$v[\ln(\hat{\theta}_b)] = \left(\frac{upper_b - lower_b}{2 \times 1.96} \right)^2 \left(\frac{1}{p_b(1 - p_b)} \right)^2.$$

The p value (given in [Table 1](#)) for testing the null hypothesis of no difference ($lor = 0$) is given by $p \text{ value} = 2 * P[Z \geq abs(z)]$, where Z is a standard normal random variate,

$$z = \frac{\hat{lor}}{\sqrt{v[\ln(\hat{\theta}_b)] + v[\ln(\hat{\theta}_n)]}}, \text{ and } abs(z) \text{ denotes the absolute value of } z.$$

Alcohol Use

As can be seen in [Table 1](#), for past month alcohol use, the NSDUH and the BRFSS estimates for more than half of the States were similar (i.e., at the 5 percent level of significance, only 23 of 51 States, including the District of Columbia, were different). These estimates were also highly correlated (correlation coefficient = 0.97). Note that the BRFSS estimates and corresponding confidence intervals are rounded to one decimal place, whereas the NSDUH small area estimates and Bayesian confidence intervals are rounded to two decimal places. Therefore, both of the tables included in this document use that approximation. The lowest rate of past month alcohol use for both surveys occurred in Utah. The highest rate of past month alcohol use was in Wisconsin for the BRFSS survey and in New Hampshire for NSDUH (see [Table 1](#)).

Cigarette Use

As can be seen in [Table 2](#), the NSDUH estimates of past month cigarette use were always larger than the BRFSS estimates of current cigarette use. Some of this difference was the result

of the differences in definitions as discussed earlier in this document; thus, exact tests to see significant differences between the NSDUH and BRFSS cigarette use estimates are not included. Although the NSDUH estimates were consistently larger for all 50 States and the District of Columbia, these two set of estimates were moderately correlated (correlation coefficient = 0.82). The lowest rate of cigarette use for both surveys occurred in Utah. The highest rate for cigarette use for the BRFSS survey was in West Virginia and in Kentucky for NSDUH (see [Table 2](#)).

Sample Size Comparisons

The BRFSS estimates are design based; however, the NSDUH estimates are model based. Also, the NSDUH estimates are based on the pooled 2007 and 2008 NSDUHs (2 years of data), whereas the BRFSS estimates are based on the 2008 BRFSS survey (1 year of data). Although the BRFSS estimates are only based on 1 year of data, the BRFSS sample sizes for a given State were in general much larger than the sample sizes for NSDUH over 2 years. The eight "large" States² (California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania, and Texas) had a sample size for those aged 18 or older of approximately 4,800 respondents each for the 2007-2008 combined NSDUH data. In 2007-2008, the 18 or older sample sizes in these States ranged from 4,057 to 5,038.³ For the 2008 BRFSS, all States had a larger sample size as compared with the NSDUH data. Overall, the BRFSS sample sizes for the eight "large" States varied from a low of 5,163 respondents in Illinois to a high of 13,172 respondents in Pennsylvania, with a median sample size of 10,795.⁴ For the remaining 43 small sample States, NSDUH's 18 or older sample size for the combined 2007-2008 data was approximately 1,200 respondents for each State. The BRFSS sample sizes for the small sample States were much larger (they varied from a low of 2,664 respondents in Alaska to a high of 22,532 respondents in Washington, with a median sample size of 6,227). Sample size differences of this magnitude explain why the NSDUH Bayesian confidence intervals were generally wider than the corresponding BRFSS design-based confidence intervals.

² The eight most populous States are referenced as the "large" States in this document.

³ See Table 14 in the file named "2007-2008 National Survey on Drug Use and Health: Sample Sizes, Response Rates, and Population Estimates" at <http://www.samhsa.gov/data/NSDUH/2k7State/NSDUHsae2007/Index.aspx>.

⁴ For more information, see the BRFSS 2008 survey data and documentation at http://www.cdc.gov/brfss/annual_data/annual_2008.htm.

References

Brener, N. D., Eaton, D. K., Kann, L., Grunbaum, J. A., Gross, L. A., Kyle, T. M., & Ross, J. G. (2006). The association of survey setting and mode with self-reported health risk behaviors among high school students. *Public Opinion Quarterly*, *70*, 354-374.

Gfroerer, J., Wright, D., & Kopstein, A. (1997). Prevalence of youth substance use: The impact of methodological differences between two national surveys. *Drug and Alcohol Dependence*, *47*, 19-30.

Gruza, R. A., Abbacchi, A. M., Przybeck, T. R., & Gfroerer, J. C. (2007). Discrepancies in estimates of prevalence and correlates of substance use and disorders between two national surveys. *Addiction*, *102*, 623-629.

Hennessy, K. H., & Ginsberg, C. (Eds.). (2001). Substance use survey data collection methodologies and selected papers [Special issue]. *Journal of Drug Issues*, *31*(3), 595-808.

Miller, J. W., Gfroerer, J. C., Brewer, R. D., Naimi, T. S., Mokdad, A., & Giles, W. H. (2004). Prevalence of adult binge drinking: A comparison of two national surveys. *American Journal of Preventive Medicine*, *27*, 197-204.

Office of Applied Studies. (2009). *Results from the 2008 National Survey on Drug Use and Health: National findings* (HHS Publication No. SMA 09-4434, NSDUH Series H-36). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Table 1 Alcohol Use in Past Month among Persons Aged 18 or Older, by State: Percentages, Annual Averages Based on 2008 BRFSS and 2007-2008 NSDUHs

State	2008 BRFSS (Estimate)	2008 BRFSS (95% Confidence Interval)	2007-2008 NSDUH (Estimate)	2007-2008 NSDUH (95% Confidence Interval)	P Value
Alabama	38.2	(36.3 - 40.2)	43.43	(40.01 - 46.92)	0.009
Alaska	53.2	(50.2 - 56.3)	60.03	(56.40 - 63.54)	0.005
Arizona	54.7	(51.9 - 57.6)	57.04	(53.52 - 60.49)	0.310
Arkansas	41.4	(39.5 - 43.4)	46.32	(42.92 - 49.76)	0.014
California	52.4	(51.1 - 53.7)	53.92	(51.95 - 55.87)	0.207
Colorado	61.5	(60.2 - 62.7)	66.74	(63.39 - 69.93)	0.004
Connecticut	65.7	(64.0 - 67.4)	65.63	(62.25 - 68.86)	0.970
Delaware	57.2	(54.9 - 59.5)	59.53	(55.75 - 63.21)	0.299
District of Columbia	61.3	(59.3 - 63.4)	64.05	(60.64 - 67.32)	0.172
Florida	51.3	(49.4 - 53.2)	56.19	(54.30 - 58.07)	0.000
Georgia	46.8	(44.8 - 48.8)	52.14	(48.63 - 55.64)	0.010
Hawaii	49.2	(47.5 - 50.9)	51.77	(48.04 - 55.48)	0.219
Idaho	46.9	(44.9 - 48.8)	46.21	(42.88 - 49.57)	0.727
Illinois	57.8	(55.9 - 59.7)	59.09	(57.19 - 60.96)	0.346
Indiana	51.2	(49.0 - 53.3)	53.16	(49.59 - 56.69)	0.357
Iowa	58.0	(56.4 - 59.6)	58.19	(54.94 - 61.36)	0.919
Kansas	49.8	(48.4 - 51.3)	55.32	(51.66 - 58.91)	0.006
Kentucky	38.6	(36.9 - 40.4)	43.28	(39.83 - 46.81)	0.018
Louisiana	46.5	(44.8 - 48.2)	51.53	(48.02 - 55.03)	0.012
Maine	58.9	(57.4 - 60.4)	56.06	(52.47 - 59.58)	0.147
Maryland	56.2	(54.6 - 57.7)	59.69	(56.22 - 63.06)	0.071
Massachusetts	63.6	(62.5 - 64.7)	65.49	(62.03 - 68.79)	0.303
Michigan	57.0	(55.6 - 58.4)	59.08	(57.20 - 60.93)	0.082
Minnesota	63.3	(61.3 - 65.3)	67.71	(64.34 - 70.89)	0.027
Mississippi	37.7	(36.1 - 39.3)	41.31	(37.87 - 44.84)	0.063
Missouri	52.0	(49.9 - 54.0)	54.23	(50.92 - 57.50)	0.261
Montana	58.3	(56.6 - 60.1)	62.21	(58.77 - 65.53)	0.047
Nebraska	57.4	(55.8 - 59.0)	60.12	(56.44 - 63.69)	0.182
Nevada	56.9	(54.6 - 59.2)	56.09	(52.23 - 59.87)	0.721
New Hampshire	64.3	(62.8 - 65.9)	67.94	(64.63 - 71.08)	0.050
New Jersey	54.5	(53.1 - 55.9)	58.35	(54.49 - 62.11)	0.066
New Mexico	47.1	(45.2 - 49.0)	49.34	(45.78 - 52.91)	0.278
New York	55.6	(54.0 - 57.2)	59.30	(57.34 - 61.24)	0.004
North Carolina	44.3	(43.0 - 45.5)	48.84	(45.33 - 52.37)	0.017
North Dakota	57.8	(55.9 - 59.7)	63.53	(60.13 - 66.80)	0.004
Ohio	53.6	(52.3 - 55.0)	55.22	(53.42 - 57.00)	0.158
Oklahoma	41.5	(40.0 - 43.0)	45.10	(41.45 - 48.79)	0.074
Oregon	56.3	(54.4 - 58.2)	63.37	(59.75 - 66.85)	0.001
Pennsylvania	54.6	(53.1 - 56.0)	57.72	(55.73 - 59.68)	0.013
Rhode Island	62.7	(60.7 - 64.6)	65.85	(62.49 - 69.06)	0.110
South Carolina	43.2	(41.5 - 44.9)	50.34	(46.87 - 53.80)	0.000
South Dakota	58.3	(56.6 - 60.1)	61.63	(58.34 - 64.82)	0.079
Tennessee	33.6	(31.3 - 35.8)	43.46	(40.07 - 46.91)	0.000
Texas	48.5	(46.8 - 50.1)	51.13	(49.27 - 52.98)	0.038
Utah	25.4	(23.9 - 27.0)	30.69	(27.57 - 34.00)	0.003
Vermont	64.9	(63.4 - 66.3)	64.80	(61.06 - 68.38)	0.962
Virginia	53.4	(50.9 - 56.0)	57.81	(54.29 - 61.25)	0.046
Washington	58.6	(57.7 - 59.6)	60.97	(57.57 - 64.27)	0.186
West Virginia	31.0	(29.2 - 32.8)	40.65	(37.26 - 44.14)	0.000
Wisconsin	66.6	(64.6 - 68.6)	64.92	(61.50 - 68.20)	0.398
Wyoming	54.1	(52.7 - 55.5)	57.04	(53.50 - 60.51)	0.129

NOTE: NSDUH estimates along with the 95 percent Bayesian confidence (credible) intervals are based on a survey-weighted hierarchical Bayes estimation approach and are generated by Markov Chain Monte Carlo techniques. BRFSS estimates are based on a survey-weighted direct estimation approach.

NOTE: *p* value: Probability of no difference between the BRFSS and NSDUH estimates.

NOTE: The 2007-2008 NSDUH estimates may differ from estimates published prior to 2012 due to updates (see Section 1.5 of the report on *State Estimates of Substance Use and Mental Disorders from the 2009-2010 NSDUHs*).

Sources: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2007-2008 (Revised March 2012); CDC, Behavioral Risk Factor Surveillance System, 2008.

Table 2 Cigarette Use among Persons Aged 18 or Older, by State: Percentages, Annual Averages Based on 2008 BRFSS and 2007-2008 NSDUHs

State	2008 BRFSS ¹ (Estimate)	2008 BRFSS ¹ (95% Confidence Interval)	2007-2008 NSDUH ² (Estimate)	2007-2008 NSDUH ² (95% Confidence Interval)
Alabama	22.1	(20.3 - 24.0)	28.90	(26.20 - 31.76)
Alaska	21.5	(19.0 - 24.0)	26.27	(23.56 - 29.18)
Arizona	15.9	(13.8 - 18.1)	25.59	(23.01 - 28.35)
Arkansas	22.3	(20.6 - 24.0)	33.10	(30.15 - 36.18)
California	14.0	(13.1 - 15.0)	20.90	(19.47 - 22.42)
Colorado	17.6	(16.6 - 18.7)	26.79	(24.16 - 29.60)
Connecticut	15.9	(14.5 - 17.4)	23.35	(20.97 - 25.91)
Delaware	17.8	(16.0 - 19.6)	28.14	(25.23 - 31.24)
District of Columbia	16.2	(14.6 - 17.9)	28.54	(25.76 - 31.50)
Florida	17.5	(16.2 - 18.9)	25.49	(23.94 - 27.11)
Georgia	19.5	(17.9 - 21.2)	27.99	(25.36 - 30.79)
Hawaii	15.4	(14.1 - 16.8)	23.15	(20.33 - 26.23)
Idaho	16.9	(15.3 - 18.4)	23.19	(20.84 - 25.73)
Illinois	21.3	(19.6 - 23.0)	26.94	(25.41 - 28.54)
Indiana	26.0	(24.0 - 28.1)	29.28	(26.69 - 32.02)
Iowa	18.8	(17.4 - 20.2)	25.18	(22.80 - 27.71)
Kansas	17.9	(16.7 - 19.1)	26.87	(24.20 - 29.71)
Kentucky	25.2	(23.5 - 26.9)	34.07	(31.03 - 37.24)
Louisiana	20.5	(19.0 - 21.9)	28.48	(25.76 - 31.36)
Maine	18.2	(16.9 - 19.5)	27.83	(25.06 - 30.77)
Maryland	14.9	(13.8 - 16.0)	22.60	(20.16 - 25.25)
Massachusetts	16.1	(15.2 - 17.0)	21.10	(18.76 - 23.66)
Michigan	20.5	(19.3 - 21.6)	27.22	(25.70 - 28.78)
Minnesota	17.6	(15.9 - 19.2)	26.72	(24.29 - 29.30)
Mississippi	22.7	(21.3 - 24.1)	27.26	(24.59 - 30.10)
Missouri	25.0	(23.1 - 26.8)	29.06	(26.42 - 31.84)
Montana	18.5	(17.1 - 20.0)	24.60	(22.11 - 27.27)
Nebraska	18.4	(17.0 - 19.8)	26.18	(23.55 - 28.99)
Nevada	22.2	(20.1 - 24.3)	28.43	(25.25 - 31.83)
New Hampshire	17.1	(15.8 - 18.3)	23.74	(21.22 - 26.45)
New Jersey	14.8	(13.7 - 15.8)	23.93	(21.16 - 26.94)
New Mexico	19.4	(17.8 - 20.9)	24.07	(21.57 - 26.75)
New York	16.8	(15.6 - 18.0)	22.66	(21.19 - 24.20)
North Carolina	20.9	(19.9 - 21.9)	28.31	(25.55 - 31.24)
North Dakota	18.1	(16.5 - 19.7)	26.47	(23.83 - 29.29)
Ohio	20.1	(19.0 - 21.3)	30.01	(28.48 - 31.59)
Oklahoma	24.7	(23.4 - 26.1)	29.11	(26.22 - 32.17)
Oregon	16.3	(14.8 - 17.8)	26.00	(23.36 - 28.83)
Pennsylvania	21.3	(20.0 - 22.6)	27.28	(25.76 - 28.85)
Rhode Island	17.4	(15.7 - 19.0)	26.25	(23.58 - 29.12)
South Carolina	20.0	(18.6 - 21.4)	29.13	(26.46 - 31.95)
South Dakota	17.5	(16.2 - 18.9)	26.01	(23.47 - 28.72)
Tennessee	23.1	(21.1 - 25.2)	30.11	(27.41 - 32.94)
Texas	18.5	(17.1 - 19.9)	25.22	(23.75 - 26.75)
Utah	9.3	(8.2 - 10.4)	16.72	(14.53 - 19.16)
Vermont	16.8	(15.6 - 18.0)	23.72	(21.15 - 26.50)
Virginia	16.4	(14.8 - 18.0)	24.63	(22.09 - 27.35)
Washington	15.7	(15.0 - 16.4)	24.15	(21.76 - 26.71)
West Virginia	26.5	(24.8 - 28.3)	30.61	(27.91 - 33.44)
Wisconsin	19.9	(18.3 - 21.4)	29.11	(26.36 - 32.02)
Wyoming	19.4	(18.1 - 20.6)	28.83	(26.15 - 31.67)

¹ BRFSS respondents were classified as current smokers if they reported having smoked at least 100 cigarettes during their lifetime and indicated that they smoked every day or some days at the time of the survey.

² NSDUH respondents were classified as past month cigarette users if they smoked all or part of a cigarette during the past 30 days.

NOTE: NSDUH estimates along with the 95 percent Bayesian confidence (credible) intervals are based on a survey-weighted hierarchical Bayes estimation approach and are generated by Markov Chain Monte Carlo techniques. BRFSS estimates are based on a survey-weighted direct estimation approach.

NOTE: The 2007-2008 NSDUH estimates may differ from estimates published prior to 2012 due to updates (see Section 1.5 of the report on *State Estimates of Substance Use and Mental Disorders from the 2009-2010 NSDUHs*).

Sources: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2007-2008 (Revised March 2012); CDC, Behavioral Risk Factor Surveillance System, 2008.

