National Survey on Drug Use and Health

The NSDUH Report

November 15, 2012

State Estimates of Adolescent Cigarette Use and Perceptions of Risk from Smoking: 2009 and 2010

In Brief

- Based on combined 2009 and 2010 data, the rate of past month cigarette use among adolescents aged 12 to 17 was 8.7 percent nationally, and State rates ranged from 5.9 percent in Utah to 13.5 percent in Wyoming
- Rates of adolescent perceptions of great risk from smoking one or more packs of cigarettes per day ranged from 58.7 percent in Oklahoma to 72.6 percent in Utah
- Compared with combined 2002 and 2003 data, the 2009 and 2010 data show that 41 States experienced a statistically significant decrease in the rate of adolescent past month cigarette use, and there were no States with a statistically significant increase in adolescent smoking

Cigarette smoking causes more than 400,000 deaths every year and imposes substantial health and financial costs on our Nation and States.[1] Preventing adolescents from starting to smoke may be the most effective way to reduce the health and economic burden of tobacco-related disease in the future. In recent years, significant progress has been made in reducing adolescent smoking,[2] but there is still much work left to be done.

States have been at the center of efforts to reduce adolescent smoking through cigarette taxation, enactment of laws that restrict smoking in public places, enforcement of laws that prohibit the sale and distribution of tobacco products to adolescents, and funding of smoking prevention and cessation programs. As longitudinal research has shown, adolescents' attitudes about the risks associated with cigarette smoking are often closely related to their use, with an inverse association between use and risk perceptions (i.e., the prevalence of use is

The NSDUH Report is published periodically by the Center for Behavioral Health Statistics and Quality (formerly the Office of Applied Studies), Substance Abuse and Mental Health Services Administration (SAMHSA). All material appearing in this report is in the public domain and may be reproduced or copied without permission from SAMHSA. Additional copies of this report or other reports from the Center for Behavioral Health Statistics and Quality are available online: http://www.samhsa.gov/data/. Citation of the source is appreciated. For questions about this report, please e-mail: shortreports@samhsa.hhs.gov.

NSDUH_112

lower among those who perceive high risk of harm from cigarette use).[3] This corresponds to States with high prevalence of adolescent cigarette use typically having a low prevalence of adolescent perception that there is a great health risk from smoking. Therefore, many State and national prevention programs focus on teaching youths about the harm that smoking may do to their health and social life. State-level information about cigarette use and attitudes about smoking can provide States with vital data to monitor changes over time and to inform enforcement, educational, and prevention efforts.

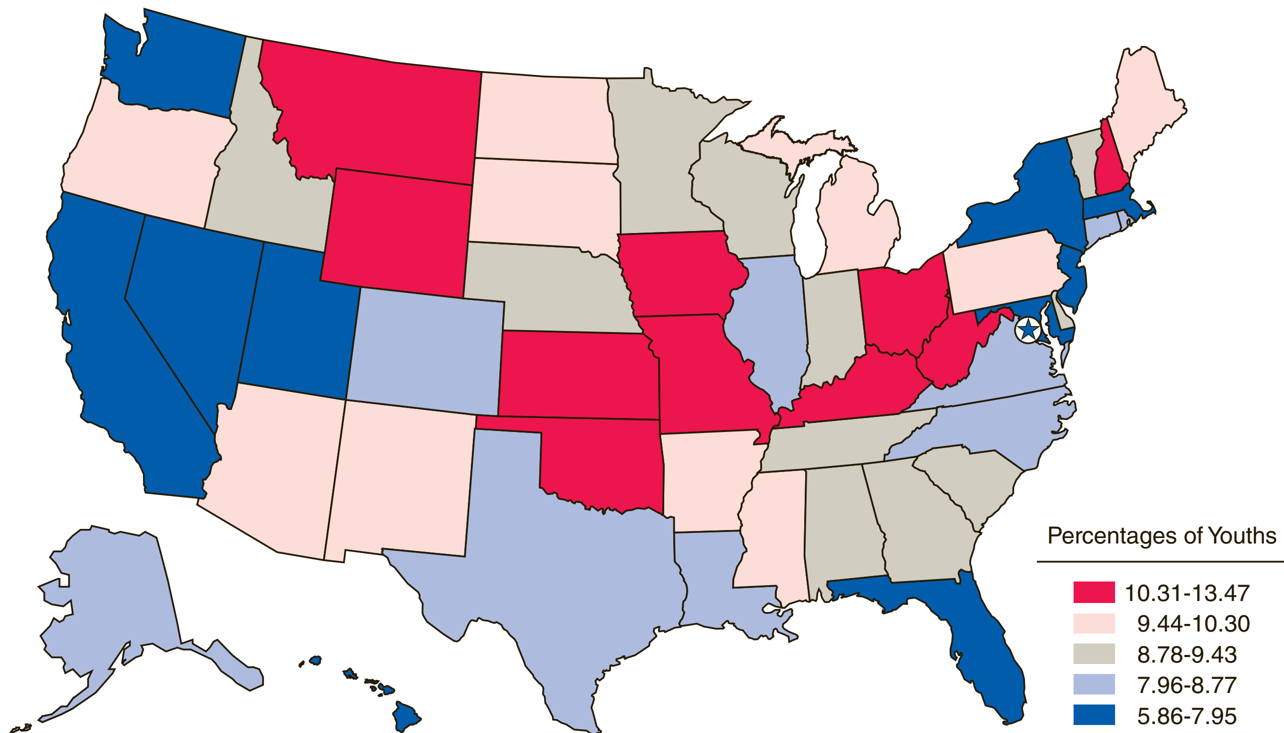
This issue of *The NSDUH Report* uses data from the combined 2009 and 2010 (hereafter "2009-2010") National Surveys on Drug Use and Health (NSDUHs) to present State (including the District of Columbia) estimates of past month cigarette use and perceptions of great risk from smoking one or more packs of cigarettes per day among persons aged 12 to 17.[4,5] These estimates are rank ordered from highest to lowest and divided into quintiles (fifths).[6] Additionally, the combined 2009-2010 data are compared with combined 2002 and 2003 (hereafter "2002-2003") data to examine changes in these measures over time.

State Estimates of Adolescent Past Month Cigarette Use

The 2009-2010 data indicate that about 1 in 11 (8.7 percent) adolescents smoked cigarettes in the past month. Rates of adolescent past month cigarette use ranged from 5.9 percent in Utah to 13.5 percent in Wyoming (Figure 1).

Of the 10 States with the highest rates of past month cigarette use among adolescents, 4 were in the Midwest (Iowa, Kansas, Missouri, and Ohio),

Figure 1. Past Month Cigarette Use among Persons Aged 12 to 17, by State: 2009-2010



Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2009 and 2010 (revised March 2012).

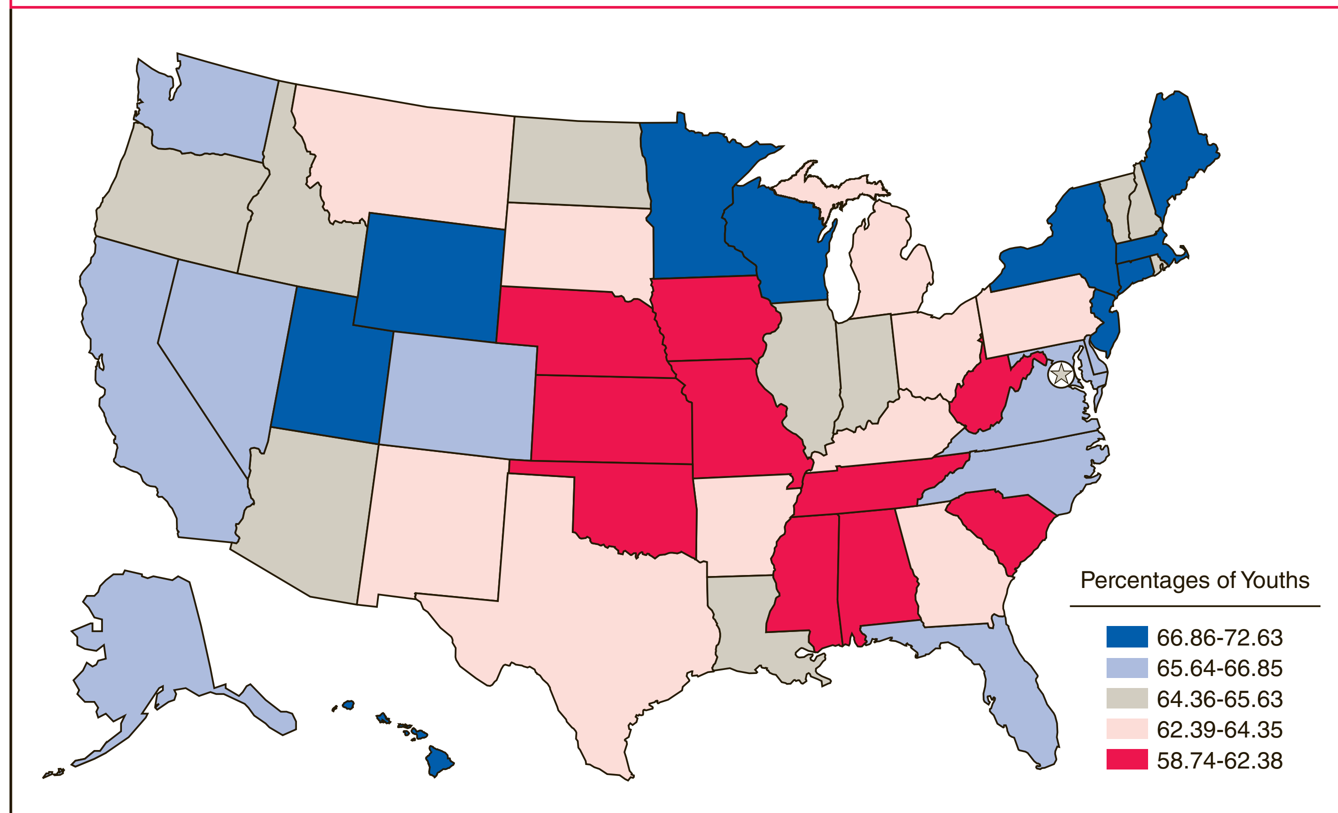
3 were in the South (Kentucky, Oklahoma, and West Virginia), 2 were in the West (Montana and Wyoming), and 1 was in the Northeast (New Hampshire).[7] Of the States with the lowest rates of past month cigarette use among adolescents, 5 were in the West (California, Hawaii, Nevada, Utah, and Washington), 3 were in the Northeast (Massachusetts, New Jersey, and New York), and 3 were in the South (District of Columbia, Florida, and Maryland).

State Estimates of the Adolescent Perception of Great Risk from Cigarette Use

The 2009-2010 data indicate that, nationwide, about two in three adolescents (65.4 percent) perceived great risk from smoking one or more packs of cigarettes per day. Among adolescents, perception of great risk from smoking one or more packs of cigarettes per day among this group ranged from 58.7 percent in Oklahoma to 72.6 percent in Utah (Figure 2).

Of the 10 States with the highest rates of adolescent's perception of great risk from smoking one or more packs a day, 5 were in the Northeast (Connecticut, Maine, Massachusetts, New Jersey, and New York), 3 were in the West (Hawaii, Utah, and Wyoming), and 2 were in the Midwest (Minnesota and Wisconsin). Of the States with the lowest rates of perception of great risk from smoking one or more packs of cigarettes per day, 6 were in the South (Alabama, Mississippi, Oklahoma, South Carolina, Tennessee, and West Virginia) and 4 were in the Midwest (Iowa, Kansas, Missouri, and Nebraska).

Figure 2. Perceptions of Great Risk from Smoking One or More Packs of Cigarettes Per Day among Persons Aged 12 to 17, by State: 2009-2010



Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2009 and 2010 (revised March 2012).

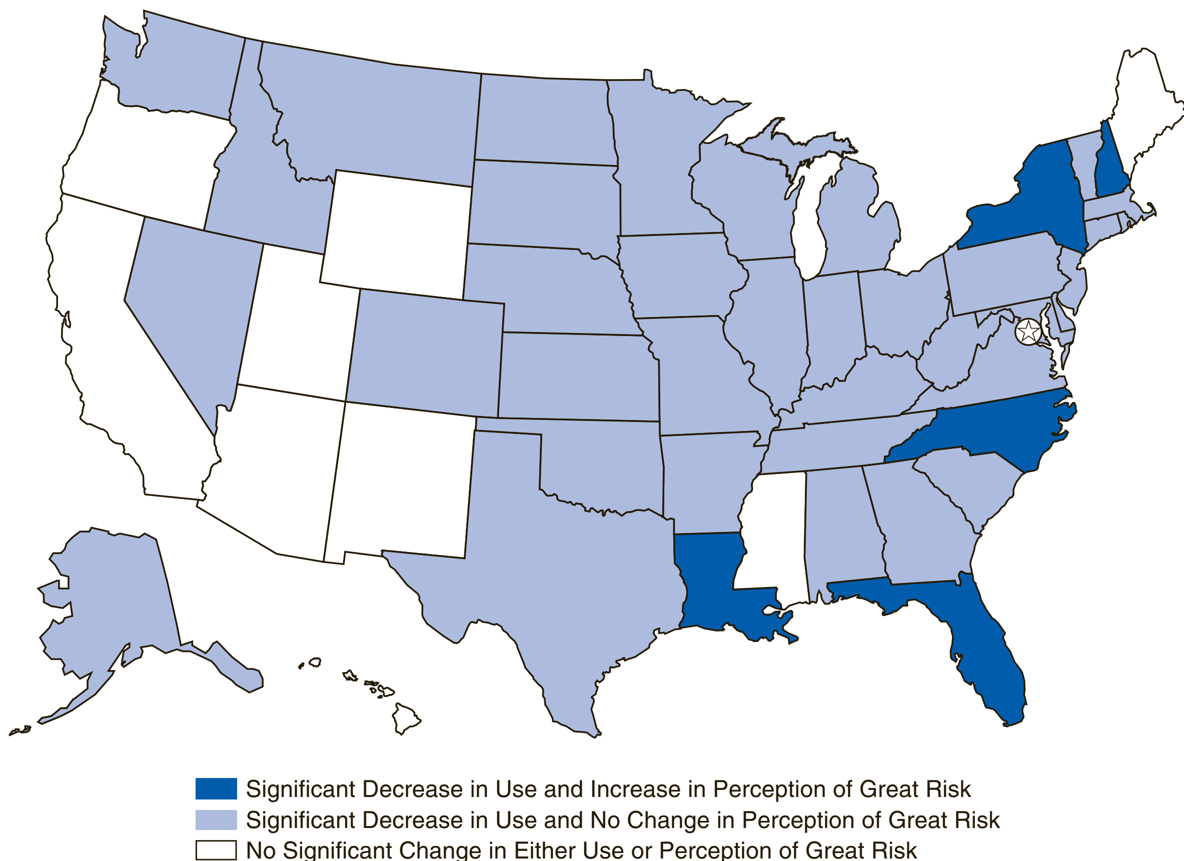
Changes over Time

When 2002-2003 data are compared with 2009-2010, the Nation as a whole experienced a statistically significant reduction in the rate of past month cigarette use among adolescents (from 12.6 to 8.7 percent). On an individual State level, 41 States experienced a statistically significant decrease in the rate of adolescent past month cigarette use, and 10 experienced no change.

Comparisons of the 2002-2003 data to the 2009-2010 data indicate that there was an increase at the national level in the adolescent rate of perception of great risk from smoking one or more packs of cigarettes per day (from 63.7 to 65.4 percent). On an individual State level, 5 States experienced a statistically significant increase in the adolescent rate of perception of great risk from smoking, and 46 experienced no change.

Taken together, 5 States had a statistically significant decrease in past month adolescent cigarette use and an increase in the adolescent rate of perception of great risk from smoking (Figure 3; Table 1); these States are Florida, Louisiana, New Hampshire, New York, and North Carolina.[8] For 36 States, there was a statistically significant decrease in the rate of adolescent past month cigarette use but no change in the adolescent rate of perception of great risk from smoking. For 10 States, there was no statistically significant change for either measure.

Figure 3. States with Significant Change in Past Month Cigarette Use and Perceptions of Great Risk from Smoking One or More Packs of Cigarettes Per Day among Persons Aged 12 to 17: 2002-2003 to 2009-2010



Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2002, 2003, 2009, and 2010 (revised March 2012).

Table 1. Percentages of Past Month Cigarette Use and Perceptions of Great Risk from Smoking One or More Packs of Cigarettes Per Day among Persons Aged 12 to 17, by State: 2002-2003 and 2009-2010

	Past Month Cigarette Use		Perception of Great Risk from Smoking One or More Packs of Cigarettes per Day	
State	**2002-2003**	**2009-2010**	**2002-2003**	**2009-2010**
Total United States	**12.57**	**8.69****	**63.67**	**65.41****
Alabama	13.69	9.01**	62.18	60.26
Alaska	13.25	8.20**	66.56	66.75
Arizona	12.84	9.92*	64.39	65.07
Arkansas	16.05	10.30**	61.55	63.20
California	7.48	6.83	67.07	66.60
Colorado	13.74	8.77**	63.77	66.71
Connecticut	13.45	8.76**	64.74	68.65
Delaware	14.07	9.31**	63.20	66.85
District of Columbia	7.10	6.53	61.87	65.22
Florida	12.26	7.95**	63.06	66.55**
Georgia	12.83	9.25**	64.49	64.22
Hawaii	8.78	7.16	65.39	67.01
Idaho	12.48	8.85**	65.57	64.43
Illinois	13.00	8.67**	64.55	65.15
Indiana	14.39	9.41**	64.18	64.61
Iowa	14.27	10.83**	61.99	61.65
Kansas	13.95	10.64**	60.16	58.79
Kentucky	17.62	11.01**	58.90	63.41*
Louisiana	15.01	8.69**	59.33	65.08**
Maine	12.16	9.47*	64.49	67.35
Maryland	11.08	7.43**	65.27	65.98
Massachusetts	11.69	7.88**	67.22	70.34
Michigan	13.59	9.49**	64.02	64.08
Minnesota	15.67	8.89**	63.18	67.41*
Mississippi	12.83	10.22*	59.22	60.99
Missouri	17.88	11.61**	61.78	61.97
Montana	16.10	12.16**	64.76	64.27
Nebraska	16.36	9.13**	63.18	62.38
Nevada	12.73	7.39**	64.24	65.85
New Hampshire	14.03	10.66**	59.52	64.70**
New Jersey	11.83	7.66**	64.03	67.23
New Mexico	12.34	10.17	61.12	63.49
New York	11.81	7.79**	64.32	71.09**
North Carolina	14.78	8.22**	60.76	66.79**
North Dakota	17.53	10.27**	61.29	65.63*
Ohio	14.52	11.22**	61.92	64.16
Oklahoma	14.96	10.80**	60.58	58.74
Oregon	11.29	9.53	68.14	65.20
Pennsylvania	14.73	10.28**	62.31	63.44
Rhode Island	13.72	8.46**	65.01	65.34
South Carolina	12.21	9.02**	62.27	62.06
South Dakota	19.79	10.29**	60.68	64.35
Tennessee	14.33	9.25**	62.38	61.01
Texas	11.65	8.00**	61.14	63.54*
Utah	6.57	5.86	71.49	72.63
Vermont	14.84	9.34**	63.59	65.59
Virginia	14.17	8.60**	64.05	66.41
Washington	10.84	7.95**	66.48	66.20
West Virginia	17.34	11.85**	59.35	61.44
Wisconsin	15.32	9.43**	63.58	67.47*
Wyoming	12.78	13.47	64.05	66.90

* Difference between estimates for 2002-2003 and 2009-2010 is significant at the .10 level.
** Difference between estimates for 2002-2003 and 2009-2010 is significant at the .05 level.
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2002, 2003, 2009, and 2010 (revised March 2012).

Discussion

The prevalence of cigarette use initiation in childhood or adolescence has prompted the Surgeon General to declare tobacco use to be a "pediatric epidemic," affirming the importance of tobacco use prevention and control measures that target youths.[9] Reducing smoking among adolescents will improve the Nation's health in both the short term and the long term. Findings in this report suggest that efforts to reduce smoking and to change attitudes about smoking among adolescents have resulted in considerable progress, although this progress was not uniform across all States. Highlighting the prevalence of adolescent cigarette use and attitudes toward use in each State, as well as monitoring changes, may help Federal, State, and local policymakers continue to plan for and allocate resources to combat adolescent smoking, including efforts to reduce the availability of tobacco products to young people, raise awareness about smoking and its consequences, and improve prevention efforts.

End Notes

1. Adhikari, B., Kahende, J., Malarcher, A., Pechacek, T., & Tong, V. (2008). Smoking-attributable mortality, years of potential life lost, and productivity losses—United States, 2000-2004. *Morbidity and Mortality Weekly Report, 57*(45), 1226-1228. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5745a3.htm
2. Center for Behavioral Health Statistics and Quality. (2011). *Results from the 2010 National Survey on Drug Use and Health: Summary of national findings* (NSDUH Series H-41, HHS Publication No. SMA 11-4658). Rockville, MD: Substance Abuse and Mental Health Services Administration.
3. Song, A. V., Morrell, H. E., Cornell, J. L., Ramos, M. E., Biehl, M., Kropp, R. Y., & Halpern-Felsher, B. L. (2009). Perceptions of smoking-related risks and benefits as predictors of adolescent smoking initiation. *American Journal of Public Health, 99*(3), 487-492.

4. The data for this report are based on tables D14 and D15 from the report: Substance Abuse and Mental Health Services Administration. (2012). *State estimates of substance use and mental disorders from the 2009-2010 National Surveys on Drug Use and Health* (NSDUH Series H-43, HHS Publication No. SMA 12-4703). Rockville, MD: Author. This report provides State-level estimates for a more extensive set of measures of substance use and substance use disorders and is available at http://www.samhsa.gov/data/NSDUH/2k10State/NSDUHsaeTOC2010.htm. In addition to the percentages shown in the report, this Web link also provides estimated numbers.
5. All estimates in this report are based on a small area estimation (SAE) methodology in which State-level NSDUH data are combined with local-area county and census block group/tract-level data from the State. This model-based methodology provides more precise estimates of substance use at the State level than those based solely on the sample, particularly for smaller States. The precision of the SAE estimates, particularly for States with smaller sample sizes, can be improved significantly by combining data across 2 years (i.e., 2002-2003, 2009-2010).
6. Estimates were divided into quintiles for ease of presentation and discussion, but differences between States and quintiles were not tested for statistical significance. In some instances, more than 10 or fewer than 10 States were assigned to each quintile because of ties in the estimated prevalence rates.
7. 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.
8. Tests of significance were conducted separately on the difference in the rates of cigarette use from 2002-2003 to 2009-2010 and the difference in the percentage perceiving great risk for the same two time periods. However, no tests of significance were conducted jointly between the difference in cigarette use and the difference in the perceptions of great risk.

9. U.S. Department of Health and Human Services, Public Health Service, Office of the Surgeon General. (2012). *Preventing tobacco use among youth and young adults: A report of the Surgeon General*. Retrieved from http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf

Suggested Citation

Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. (November 15, 2012). *The NSDUH Report: State Estimates of Adolescent Cigarette Use and Perceptions of Risk from Smoking: 2009 and 2010.* Rockville, MD.

For change of address, corrections, or to be removed from this list, please e-mail: shortreports@samhsa.hhs.gov.

Findings from SAMHSA's 2009 and 2010 National Surveys on Drug Use and Health (NSDUHs)

State Estimates of Adolescent Cigarette Use and Perceptions of Risk from Smoking: 2009 and 2010

- Based on combined 2009 and 2010 data, the rate of past month cigarette use among adolescents aged 12 to 17 was 8.7 percent nationally, and State rates ranged from 5.9 percent in Utah to 13.5 percent in Wyoming
- Rates of adolescent perceptions of great risk from smoking one or more packs of cigarettes per day ranged from 58.7 percent in Oklahoma to 72.6 percent in Utah
- Compared with combined 2002 and 2003 data, the 2009 and 2010 data show that 41 States experienced a statistically significant decrease in the rate of adolescent past month cigarette use, and there were no States with a statistically significant increase in adolescent smoking

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 2009 and 2010 data used in this report are based on information obtained from 44,400 persons aged 12 to 17; the 2002 and 2003 data are based on information obtained from 46,300 persons aged 12 to 17. 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. (2011). *Results from the 2010 National Survey on Drug Use and Health: Summary of national findings* (NSDUH Series H-41, HHS Publication No. SMA 11-4658). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Also available online: http://www.samhsa.gov/data/.

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
Substance Abuse & Mental Health Services Administration
Center for Behavioral Health Statistics and Quality
www.samhsa.gov