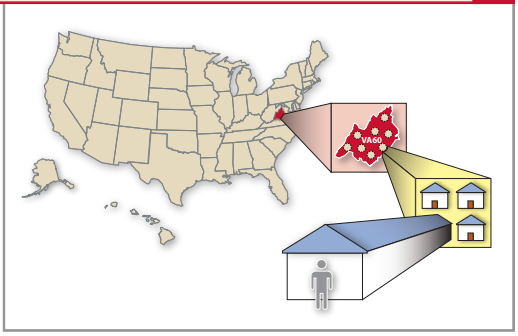
Substance Abuse and Mental Health Services Administration
SAMHSA
www.samhsa.gov • 1-877-SAMHSA-7 (1-877-726-4727)

National Survey on Drug Use and Health

The NSDUH Report

August 7, 2014

Underage Binge Alcohol Use Varies within and across States



Alcohol use constitutes one of the most serious public health issues for young people in the United States, creating negative health, social, and economic consequences for adolescents, their families, and communities, and for the nation as a whole.[1] The prevention of underage alcohol consumption is particularly important to the states, which have had authority for alcohol control since 1933. All 50 states and the District of Columbia currently prohibit possession of alcoholic beverages by persons younger than 21, and most prohibit underage consumption of alcoholic beverages.[2] Nevertheless, underage drinking is not distributed equally across all states. Within each state, there are different patterns of substance use problems in different regions. Data on small geographic areas provide insight into the nature and scope of underage drinking and help state and local public health authorities to better understand and address the needs in their communities.

The National Survey on Drug Use and Health (NSDUH) can help address the need for more localized information. The survey asks persons aged 12 or older to report on their binge alcohol use in the past 30 days. Binge use is defined as five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. This issue of *The NSDUH Report* presents substate estimates of past month binge alcohol use among persons aged 12 to 20. Findings in this report are annual averages based on combined 2010 to 2012 NSDUH data from approximately 94,200 respondents and present estimates of past month underage binge alcohol use for 363 substate regions within the 50 states and the District of Columbia.[3]

Substate regions were defined initially by state substance abuse agency representatives (usually persons responsible for the Substance Abuse Prevention and Treatment Block Grant application). In collaboration with staff at the Substance Abuse and Mental Health Services Administration (SAMHSA), the final substate

IN BRIEF

Data collected from 94,200 persons aged 12 to 20 over the period 2010 through 2012 show that underage binge alcohol use rates vary extensively among regions within each state and throughout the nation.

Past month underage binge alcohol use (i.e., consuming five or more drinks at the same time or within a couple of hours of each other on at least 1 day in the past 30 days) ranged from 9.2 percent in Shelby County, Tennessee, to 46.3 percent in the District of Columbia's Ward 2 (located in the west-central section of the city).

Of the 16 substate regions with the highest rates of underage binge alcohol use, 5 were in the Northeast, 5 were in the South, 5 were in the Midwest, and 1 was in the West.

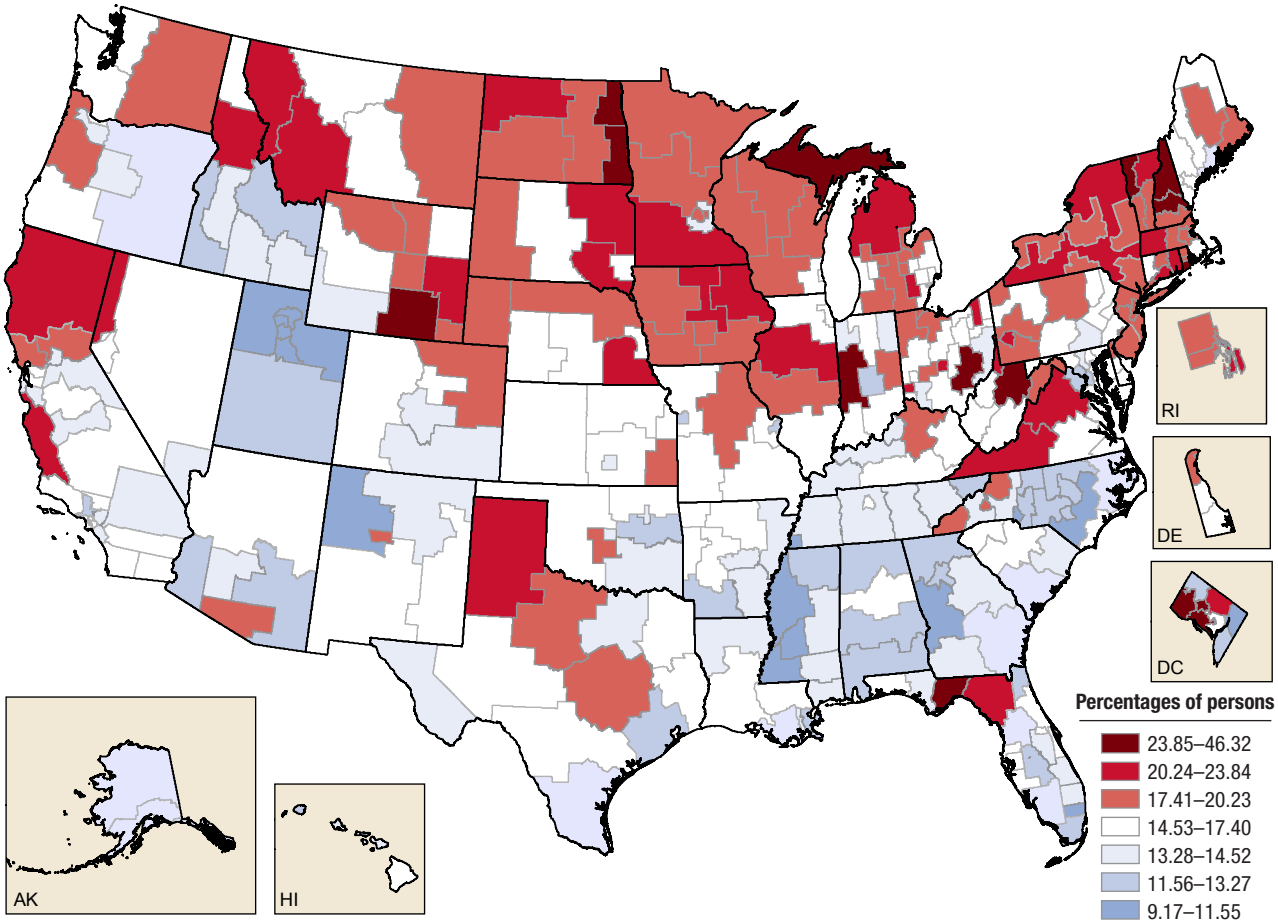
region boundaries were based on the state's initial recommendations but were revised, if necessary, to ensure that the NSDUH sample sizes were large enough to provide estimates with adequate precision. Substate-level estimates provide information on behavioral health outcomes that states find useful for planning and reporting purposes. In most states, the substate regions are defined in terms of 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), or boroughs/census areas (in Alaska). Percent underage alcohol use estimates for the substate regions nationwide were ranked from lowest to highest and grouped into seven categories.[3]

The estimates in this report were derived from a statistical model in which substate data from NSDUH were combined with other local area data to enhance the statistical power and analytic capability.[4]

Underage Binge Alcohol Use at the Substate Level

Nationally, 15.9 percent of all persons aged 12 to 20 were binge alcohol users in the 30 days prior to being surveyed. Estimates ranged from 9.2 percent in Shelby County, Tennessee, to 46.3 percent in the District of

Figure 1. Underage binge alcohol use in the past month among persons aged 12 to 20, by substate region*: percentages, annual averages based on 2010 to 2012 NSDUHs



* Substate definitions and estimates covering the combined period of 2010 to 2012 for underage binge alcohol use are available online at http://samhsa.gov/data/NSDUH/substate2k12/toc.aspx.

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

Columbia's Ward 2 (located in the west-central section of the city)[5] (Figure 1).

Of the 16 substate regions with the highest rates of underage binge alcohol use, 5 were in the Northeast (1 in Massachusetts, 2 in New Hampshire, 1 in Rhode Island, and 1 in Vermont), 5 were in the South (3 in the District of Columbia, 1 in Florida, and 1 in West Virginia), 5 were in the Midwest (1 in Indiana, 1 in Michigan, 2 in North Dakota, and 1 in Ohio), and 1 was in the West (Wyoming).[6]

Of the 16 substate regions with the lowest rates of underage binge alcohol use, 9 were in the South (1 in the District of Columbia, 1 in Florida, 1 in Georgia, 2 in North Carolina, 3 in Mississippi, and 1 in Tennessee), 1 was in the Midwest (Michigan), and 6 were in the West (5 in Utah and 1 in New Mexico).[6]

Variations within States

Regions within the same state and the District of Columbia can vary significantly in the prevalence of underage binge alcohol use, as illustrated in Figure 1. In the District of Columbia, for example, underage binge alcohol use ranged from 11.2 percent in Ward 7 to 46.3 percent in Ward 2.[5,7] Three of the eight wards in the District of Columbia had rates that were among the nation's highest (in Wards 1, 2, and 3), whereas the rate for Ward 7 was among the nation's lowest.

Discussion

Each year, thousands of adolescents and young adults engage in underage drinking, which negatively impacts their health and can lead to emergency department visits for alcohol-related illnesses, injuries, and other problems.[8] For many youths, excessive drinking results in premature mortality, with traffic crashes accounting for 36 percent of the alcohol-attributable deaths for those younger than 21.[9] This *NSDUH Report* showed that the prevalence of underage binge alcohol use varies within state regions. The maps identify substate underage binge drinking levels for those aged 12 to 20 to help state policymakers and prevention specialists quickly see if there are locations in their state where this behavior is more common.

The reduction of binge drinking by both youths and adults is an ongoing challenge for both the nation as a whole and for the states individually. Communities can confront underage drinking problems by considering proven approaches such as policies and practices restricting youths' access to alcohol, local media campaigns, and school-based curricula. It is critical to raise awareness about the dangers of underage drinking and to dispel cultural attitudes that support underage drinking as a "rite of passage."[10] For more information on underage alcohol prevention, see the following Web sites:

- http://www.surgeongeneral.gov/initiatives/prevention/strategy/preventing-abuse.pdf and
- http://www.surgeongeneral.gov/library/calls/underage-drinking-community-guide.pdf.

Other Available NSDUH Substate Measures

The combined 2010 to 2012 NSDUH substate estimates for binge drinking and 24 additional behavioral health measures and the methodology that generated the substate estimates are available online at http://samhsa.gov/data/NSDUH/substate2k12/toc.aspx.

The 24 additional estimates include measures of substance use and mental health issues, including use of illicit drugs (e.g., marijuana use, cocaine use, and 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. National maps for all measures and detailed tables including percentages for each substate region, state, census region, and the nation by age group also are provided.

End Notes

1. Substance Abuse and Mental Health Services Administration. (2006, January). *A comprehensive plan for preventing and reducing underage drinking*. Retrieved from http://www.stopalcoholabuse.gov/media/pdf/underagerpttocongress.pdf.
2. Alcohol Policy Information System, National Institute on Alcohol Abuse and Alcoholism. (2009, September 28). *State profiles of underage drinking laws*. Retrieved from http://www.alcoholpolicy.niaaa.nih.gov/state_profiles_of_underage_drinking_laws.html

3. The national maps in this *NSDUH Report* show 363 substate regions that were ranked from lowest to highest for each measure and divided into seven categories. Colors were assigned to all substate regions so that the third having the lowest prevalence are blue (121 substate regions), the middle third are white (121 substate regions), and the third with the highest prevalence are red (121 substate regions). To further distinguish among the substate regions that display relatively higher prevalence, the "highest" third has been further subdivided into (1) dark red for the 16 substate regions with the highest estimates, (2) medium red for the 33 substate regions with the next highest estimates, and (3) light red for the 72 substate regions in the third highest group. The "lowest" third is categorized in a similar way, using three distinct shades of blue. In some cases, a group (or category) could have more or fewer substate regions because two (or more) substate regions have the same estimate (to two decimal places). When such ties occurred at the "boundary" between two groups, all substate regions with the same estimate were assigned to the lower group. These national maps are available at http://www.samhsa.gov/data/NSDUH/substate2k12/toc.aspx.
4. Estimates presented in this report are derived from a hierarchical Bayes model-based small area estimation (SAE) procedure in which NSDUH data at the substate level are combined with local-area county and census block group/tract-level data from the area to provide more precise estimates of substance use. With 3 years of NSDUH combined, the sample sizes in the substate regions ranged from a minimum of 200 persons to a high of more than 4,000 persons. For more information, see http://samhsa.gov/data/NSDUH/substate2k12/toc.aspx
5. Ward 2 includes census tracts primarily in the west-central part of the District of Columbia.
6. 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.
7. Ward 7 includes census tracts primarily in the east-central part of the District of Columbia.

8. Office of Applied Studies. (2010). *The DAWN Report: Emergency department visits involving underage alcohol use: 2008*. Rockville, MD: Substance Abuse and Mental Health Services Administration.
9. Stahre, M., Roeber, J., Kanny, D., Brewer, R. D., & Zhang X. (2014). Contribution of excessive alcohol consumption to deaths and years of potential life lost in the United States. *Preventing Chronic Disease*, *11*, 130293. doi: 10.5888/pcd11.130293
10. Bonnie, R. J., & O'Connell, M. E. (Eds.); Committee on Developing a Strategy to Reduce and Prevent Underage Drinking, Board on Children, Youth, and Families, National Research Council. (2004). *Reducing underage drinking: A collective responsibility*. Washington, DC: The National Academies Press.

Suggested Citation

Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. (August 7, 2014). *The NSDUH Report: Underage Binge Alcohol Use Varies within and across States.* Rockville, MD.

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 combined 2010 to 2012 data used in this report are based on information obtained from 94,193 persons aged 12 to 20. 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 Behavior Health Statistics and Quality. (2013). *Results from the 2012 National Survey on Drug Use and Health: Summary of national findings* (HHS Publication No. SMA 13–4795, NSDUH Series H–46). 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/data