

CHAPTER 2: Substance Use, Mental Disorders, and Access to Treatment Services in Household Surveys, 2002 – 2005

2.1 Introduction

Drug misuse and abuse, and mental health disorders are major health and social issues in the United States. In Chapter 2, we provide our findings related to substance abuse, mental health problems, and access to treatment services among the general population in the Appalachian region, as compared to other parts of the United States. Where possible, findings are also presented by Appalachian sub-region and county economic development status. Data are from the National Survey on Drug Use and Health (NSDUH), the largest nationwide survey of the U.S. civilian non-institutionalized population. While substance use (both alcohol and illicit drugs) and dependence are a key focus of the survey, NSDUH also explores the prevalence and treatment of serious psychological disorders and major depressive episodes. NSDUH also provides data about health and emotional problems associated with substance use. Finally, NSDUH provides information about the receipt of specialty treatment for illicit drug or alcohol use, and mental health treatment/counseling in various settings.

This chapter explores the following key research questions:

What proportions of people report substance use, abuse, or dependence in the Appalachian region as compared to outside of Appalachia?

What proportions of people in need of addiction or mental health treatment report having received treatment for substance abuse or mental health problems in the Appalachian region as compared to outside of Appalachia?

Are there patterns with respect to substance use or abuse and access to treatment across different sub-groups, depending on demographics, socio-economic characteristics, or age of population (age 12 to 17 versus age 18 and older)?

Are there patterns with respect to substance use or abuse and access to treatment across Appalachian sub-regions and/or by Appalachian county economic development status?

An overview of data sources is presented in Section 2.2, including a description of the targeted population. General limitations and major data gaps specifically related to exploring substance use and mental health problems in the Appalachian region are also included in this section. Section 2.3 discusses the methods, including the analytic sample, measurement, and statistical methods. Section 2.4 contains the results of the analysis. Finally, Section 2.5 provides a discussion of key findings.

2.2 Data

2.2.1 Overview

The data used for this chapter is from the National Survey on Drug Use and Health (NSDUH). NSDUH is the largest nationwide survey of the U.S. civilian non-institutionalized population. Excluded from the sample are individuals with no household address (e.g., homeless and/or transient persons not in shelters), active duty military personnel, and residents of jails and

hospitals.⁷ Initiated in 1971 and authorized by the Public Health Service Act to collect data on substance abuse trends and patterns, NSDUH is the Federal government's primary source of national data on substance abuse issues related to alcohol, tobacco, and other illicit substances. NSDUH is funded and overseen by the Substance Abuse and Mental Health Services Administration (SAMHSA) to collect data about the status of the nation's drug usage.

The survey is based on a random sample of households in the nation. Households that have been randomly selected are visited by a NSDUH field representative. The sample design includes the 50 states and the District of Columbia. States designated as large sample states had sample sizes that ranged from 3,562 to 3,699 people.¹⁵ The large sample states – California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania, and Texas – were large enough to support direct state estimates (includes three Appalachian states). The other 42 states, including 10 of the 13 Appalachian states, were designated as small sample states; sample sizes for small sample states ranged from 840 to 978 people. One or two residents aged 12 or older from each household may be asked to complete an interview for the survey. Each individual selected to participate in the survey represents about 3,000 other residents in the United States.¹⁶

To provide a sufficient sample for analysis, we used pooled data from the four most recent National Surveys on Drug Use and Health (NSDUH), 2002-2005. In 2002-2005, NSDUH collected data from approximately 272,000 respondents aged 12 or older. A stratified sample was used to obtain sufficient representation from all 50 States and the District of Columbia. The survey was planned and managed by SAMHSA's Office of Applied Studies (OAS). In each year during 2002-2005, the nationwide surveys included close to 70,000 individuals.

2.2.2 Limitations of the NSDUH

The primary limitation of NSDUH is that it has been designed to provide national, and, more recently, state-level estimates on drug use. The survey was not designed to provide special regional estimates. As the Appalachian region is not part of the primary sampling unit or the sampling segment, the weights used for the national and state estimates are not ideal for a study of the Appalachian region. In addition, the NSDUH weighting process does not post-stratify at the county level; post-stratification of results involves weighting the data after collection when certain stratum may be over or under-represented. As a result, the estimated totals, and weighted percentages to a lesser degree, for groupings of counties – such as the 410 counties in the Appalachia region – should be interpreted with caution.

Another limitation of using the NSDUH survey for this study is that it only targets the civilian, non-institutionalized population aged 12 or older, potentially excluding other populations that may have different substance abuse patterns.¹⁷ For example, research shows that runaways have higher rates of drug abuse than their peers that live at home.^{18,19} Also, the NSDUH survey does not include people who are not in a homeless shelter on the survey date, potentially missing this population. Additionally, NSDUH excludes active military personnel and persons in institutional group quarters (e.g., prisons, long-term hospitals, residential drug treatment centers, etc.).

⁷ It is important to note that because this sample frame, persons who were residing in long-term psychiatric or other institutions at the time of interview were excluded from the NSDUH sample.

Third, NSDUH relies on people self-reporting their behavior with respect to drug use. Thus, data may be biased by interviewees either under-reporting or over-reporting their drug use. To mitigate this problem, NSDUH’s estimates are determined by interviewees’ responses to multiple questions about substance abuse. However, self-reporting may bias response tendencies, given that inconsistent responses for drug use questions are common in the survey.²⁰

Finally, although data from four consecutive annual surveys were pooled to conduct this study, no county-level estimations are produced because of the small sample sizes and related confidentiality concerns. This also remains a concern when conducting state level analyses, as noted in the literature.²¹

2.3 Methods

2.3.1 Analytic Sample

The data used for this study are the pooled cross-sectional annual National Surveys on Drug Use and Health (NSDUH) for the 2002-2005 period. As shown in Table 2.1, a total of 271,978 respondents were included in the pooled data, including 91,145 adolescents aged 12-17 and 180,833 adults aged 18 or older.

About 8.13% (n=22,109) of the total respondents were from the 410-county Appalachian region when the surveys were conducted during the 2002-2005 period. Of the 22,109 respondents from the Appalachian region, 7,336 were adolescents age 12 -17, and 14,833 were adults age 18 or older.

Table 2.1 Sample Sizes of the Pooled National Surveys on Drug Use and Health, by Age Group, Survey Year, and Appalachian Region Status

| Age Group | Year of Data Collection | | | | All 2002-2005 | Region of Data Collection | |
|--------------------|-------------------------|--------|--------|--------|------------------|---------------------------|---------------------------|
| | 2002 | 2003 | 2004 | 2005 | | Appalachian Region* | Non-Appalachian Region |
| 12-17 | 23,645 | 22,665 | 22,301 | 22,534 | 91,145 | 7,336 | 83,809 |
| 18 or older | 44,481 | 45,119 | 45,459 | 45,774 | 180,833 | 14,833 | 166,000 |
| Total | 68,126 | 67,784 | 67,760 | 68,308 | 271,978 | 22,109 | 249,809 |

Note: The Appalachian Region is comprised of the 410 counties located in 13 states -- Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, and West Virginia. The only state located fully within the Appalachian region is West Virginia.

2.3.2 Measures

Tables and maps present population prevalence measures for the use of illicit drugs, alcohol, and tobacco products, as well as measures that indicate mental health issues and access to treatment services. Tables show estimates of drug use prevalence by lifetime (e.g., ever used), past year, and past month use. Prevalence measures showing the number of substance users are included in tables in Appendix C. Measures are analyzed across socio-demographic characteristics, including age, race/ethnicity, education, employment status, and health insurance status.

Substance Use

Substances studied here include alcohol and illicit drugs, such as marijuana, cocaine, heroin, methamphetamine, and non-medical use of prescription-type drugs. Respondents are classified as dependent on or abusing specific substances based on criteria specified in the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) (American Psychiatric Association, 1994). The questions on dependence ask about health and emotional problems associated with substance use, unsuccessful attempts to reduce use, tolerance, withdrawal, and other symptoms related to substance use. The questions on abuse ask about problems at work, home, and school; problems with family and friends; physical danger; and trouble with the law due to substance use. The survey also asks about treatment for substance use problems. Specialty treatment is defined as treatment received at drug or alcohol rehabilitation facilities, hospitals (inpatient only), or mental health centers.

Mental Disorders

Mental disorders studied here include the prevalence and treatment of serious psychological distress (SPD) and major depressive episodes (MDE). Past year SPD is an overall indicator of nonspecific psychological distress that is constructed from the K6 scale administered to adults aged 19 or older in the NSDUH. The K6 scale consists of six questions that gather information on how frequently a respondent experienced symptoms of psychological distress during the one month in the past year when he or she was at his or her worst emotionally. Responses to these six questions are combined to produce a score ranging from 0 to 24, where a score of 13 or greater is considered SPD.⁸ This cutoff is based on research suggesting that scores above this threshold provides an indicator of serious mental illness. MDE is defined as a period of at least two weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had symptoms that met the criteria for major depressive disorder as described in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (American Psychiatric Association, 1994)⁹. MDE, as defined here, can be caused by mental illness, bereavement, or substance use disorders.

Access to Treatment

Access to treatment measures studied here are past year receipt of specialty treatment for illicit drug or alcohol use, and mental health treatment/counseling in various settings. *Received Treatment at a Specialty Facility* refers to treatment received at a hospital (inpatient), alcohol or drug rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop alcohol or drug

⁸ The Serious Psychological Distress (SPD) measure reflects only 2004 and 2005 (unadjusted, Sample B) data, as 2002 and 2003 (long form) SPD measures are not comparable to 2005 (short form) SPD measures. This information is footnoted in the tables. Similarly, the Major Depressive Episode measure reflects only 2004 and 2005 data, as this measure was not available prior to 2004.

⁹ Although there is significant overlap between those meeting the criteria of SPD and MDE, there are important distinctions between the two. Meeting the criteria for SPD indicates that the respondent exhibited a high level of distress due to any type of mental problem, which may include general symptoms related to phobia, anxiety, or depression. However, meeting the criteria for MDE indicates that the respondent had the specific physical and emotional symptom profile indicative of major depression.

use, or for medical problems associated with alcohol use. It excludes treatment at an emergency room, private doctor's office, self-help groups, prison or jail, or hospital as an outpatient.

Respondents were classified as *Needing Treatment for an Illicit Drug or Alcohol Problem* if they met at least one of three criteria during the past year: (1) dependent on illicit drugs or alcohol; (2) abuse of illicit drugs or alcohol; or (3) received treatment for an illicit drug or alcohol problem at a specialty facility (i.e., drug and alcohol rehabilitation facilities [inpatient or outpatient], hospitals [inpatient only], and mental health centers). Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.

An individual defined as *Needing But Not Receiving Treatment* refers to respondents who are classified as needing treatment, but not receiving treatment for a problem at a specialty facility (e.g., drug and alcohol rehabilitation facilities [inpatient or outpatient], hospitals [inpatient only], and mental health centers).

An individual defined as *Felt Need for Treatment* includes persons who did not receive but felt they needed treatment, as well as persons who received treatment at a location other than a specialty facility but felt they needed additional treatment.

2.3.3 Statistical Methods

Two major types of analyses were conducted. First, analyses were conducted to identify disparities on substance abuse and mental disorder measures: (a) between Appalachia and non-Appalachia; (b) within Appalachian sub-regions (northern, central, and southern); and (c) across Appalachian Regional Commission (ARC) defined economic development level domains in the Appalachian region (distressed, at-risk, transitional, competitive, attainment). Second, analyses were conducted to identify patterns of more detailed geographic variations across counties. For the first type of analyses, we combine the 2002-2005 NSDUH data and estimate across the regional, sub-regional, and economic development domain groups. Analytic results from these analyses are presented in a series of analytic tables and bar charts, along with descriptions of the findings. For the second type of analyses, we use the 2002-2004 combined data and present estimates of the prevalence of substance use or mental health problems using regional maps.

Type 1 Analysis

Regional estimates, along with the associated variance components, were calculated by SAMHSA's survey contractor using the SUDAAN software based on a request from NORC to SAMHSA's Office of Applied Studies (OAS). SUDAAN was designed for the statistical analysis of data collected using stratified, multistage cluster sampling designs, as well as other observational and experimental studies involving repeated measures or studies subject to cluster correlation effects (RTI International, 2004). Although weights are used in the analyses, it is important to note that they were neither post-stratified at the county-level nor by Appalachian region. As such, drug use estimates could be biased.

The standard NSDUH suppression rules have been applied to the analytic tables in this chapter. Additionally, the NSDUH weighting process does not post-stratify at the county level; thus,

these estimated totals (and weighted percentages, to a lesser degree) should be interpreted with caution.

An adaptive analytic approach was used in the type 1 analyses. Adaptive analysis, a term used here that is similar to the concept of adaptive sampling technique in statistics, involves conducting appropriate analyses based on the analytic results at the prior stage. In this study, first, the numbers of respondents in each of the counties included in NSDUH were obtained and examined. Second, a set of demographics and substance use and mental disorder measures are estimated. Finally, selected measures on need for treatment and access to treatment are estimated. Note that in the first step, our analysis of county-level sample sizes indicated that, even with the combined four year data, response numbers are too small to produce useful county-level estimations of substance use and mental disorder prevalence.

Type 2 Analysis

SAMHSA, in collaboration with State treatment representatives, developed substate areas for each State in late 2005 and early 2006. The purpose of developing these substate areas was to provide substate-level estimates showing the geographic distribution of substance use prevalence for areas that States would find useful for treatment planning purposes.¹⁰ The final substate area boundaries were based on the recommendations of each State's staff, assuming the NSDUH sample sizes provided adequate precision. Most States defined areas in terms of counties or groups of counties.

We present estimated values for all selected substance use and serious psychological distress measures using the NSDUH defined sub-state area as the unit of analysis. As such, all counties within those NSDUH sub-state areas are applied the same estimate as generated by SAMHSA's Office of Applied Studies (OAS, 2006²²). These estimates are then mapped showing the full NSDUH sub-state areas, the ARC boundary, and state and county boundaries within Appalachia, to assist in pattern detection. Note that results from the type 2 analyses are only represented by maps shown in this chapter. All tables and their descriptions come from type 1 analysis.

2.4 Results

Demographic Characteristics of the NSDUH Population

Adolescents

Non-Hispanic whites accounted for more than four-fifths of the adolescents in Appalachia but less than two-thirds of the adolescents outside of Appalachia. Overall, adolescent minorities in Appalachia accounted for a larger percentage of the adolescent population than adult minorities accounted for in the adult population.

¹⁰ These areas were defined by officials from each state, typically based on the substance abuse treatment planning areas specified by states in their applications for a SAPT Block Grant administered by SAMHSA. There is extensive variation in treatment planning areas across states. In some, the planning areas are used more for administrative purposes rather than for planning purposes. In a number of states, the designated planning areas changed frequently in recent years. Because the estimation method required a minimum NSDUH sample size of 200 to provide adequate precision, planning areas with insufficient sample size were collapsed with adjacent areas until the minimum was obtained.

Most of the adolescents had private insurance (68%) in both Appalachia and outside of Appalachia. Proportionately, more adolescents in Appalachia had Medicaid/CHIP (26.8%) than adolescents outside of Appalachia (23.5%).

Adults

On average, 88.4% of adults in the Appalachian region and 69% of adults outside the Appalachian region are non-Hispanic/non-Latino whites. Non-Hispanic blacks account for 7.4% of the Appalachian population, and 11.5% of the population outside of Appalachia. Non-Hispanic Asians, American Indians, and Pacific Islanders accounted for 2.3% of the Appalachian population and 6.2 percent of the population outside the Appalachian region. Overall, only 2% of Appalachian residents are of Hispanic origin, while 13.3% of the residents outside of the Appalachian region are of Hispanic origin.

The educational backgrounds of adults were quite different between the Appalachian region and outside of Appalachia. Most of the adult residents in the Appalachian region (58.8%) had a high school education or less, while most of the residents outside the Appalachian region (51.9%) had attended some college or were college graduates.

About 51% of adult residents in Appalachia and 56% of adult residents outside of Appalachia had full-time jobs. Proportions of adults having private health insurance were similar between Appalachian and non-Appalachian regions (71.6% and 71.4% respectively), although more Appalachian adults received Medicare than other adults (21.6% vs. 17.6%).

Substance Use

Marijuana Use

The average of marijuana use was lower for adults in Appalachia than outside of Appalachia regardless of length of use – lifetime use (38.2% vs. 43.2%); past year use (8.4% vs. 10.3%); and past month use (4.9% vs. 6.8%).

The average of marijuana use among adolescents was only slightly lower in Appalachia than outside of Appalachia (14.4% vs. 14.7% for past year use; 7.0% vs. 7.7% for past month use).

Cocaine Use

Adult residents in Appalachia had lower rates of cocaine use as compared to adult residents outside of Appalachia, regardless of length of use – 11.7% vs. 16.0% for lifetime use; 2.2% vs. 2.5% for past year use; 0.8% vs. 1.0% for past month use.

The percentages of adolescents who had ever used cocaine in their lifetime were the same (2.5%) inside of Appalachia and outside of Appalachia.

Methamphetamine Use

Proportionately, fewer adults used methamphetamine in Appalachia than outside of Appalachia (lifetime: 4.0% vs. 5.4%; past year: 0.4% vs. 0.6%). The current use rates, however, were the same (0.2%).

The percentages of having ever used methamphetamine by adolescents were 1.4% in Appalachia and 1.3% outside of Appalachia.

For adults, the southern Appalachian sub-region had a higher current methamphetamine use rate (0.3%) than both the northern and central sub-regions (0.1%).

For adolescents, both the central (0.4%) and southern (0.5%) sub-regions had higher current methamphetamine use rates than northern sub-region (0.1%).

To assure an adequate sample size, results were compared across county economic development status using merged categories: “distressed/at-risk;” “transitional;” and “competitive/attainment.” For adults, the highest prevalence rate for current methamphetamine use was in the “competitive/attainment” counties (0.3%); for adolescents, the highest prevalence rate for current methamphetamine use was in the “distressed/at-risk” counties (0.6%).

Alcohol Use

Proportionately fewer Appalachian adults used alcohol in the past year compared to adults elsewhere (61.0% vs. 70.2%). Additionally, 20.6% of Appalachian adults were binge alcohol users in the past year as compared to 24.5% of non-Appalachia adults. In addition, 6.8% of Appalachian adults were heavy alcohol users in the past year compared to 7.3% of non-Appalachian adults.

The reporting of heavy alcohol use by adolescents was higher inside Appalachia (2.9%) than outside of Appalachia (2.5%).

Cigarette Use

Proportionately more adults used cigarettes in Appalachia than outside of Appalachia (lifetime use: 75.8% vs. 72.0%; past year use: 34.5% vs. 30.4%; past-month use: 30.9% vs. 26.5%).

Similarly, proportionately more adolescents used cigarettes in Appalachia than outside of Appalachia (lifetime use: 36.8% vs. 29.5%; past year use: 23.8% vs. 18.3%; past-month use: 16.3% vs. 11.6%).

Non-Medical Use of Psychotherapeutics

Among adults, the prevalence of the non-medical use of psychotherapeutics was slightly lower in the Appalachian region (5.6%) than outside of the Appalachian region (5.9%).

Among adolescents, however, the prevalence of the non-medical use of psychotherapeutics was higher in the Appalachian region (10.6%) than outside of the Appalachian region (8.7%).

Alcohol and Drug Dependence or Abuse

Proportionately, fewer adults in the Appalachian region had dependence or abuse problems as compared to adults outside of the Appalachian region: illicit drug dependence or abuse (2.5% vs. 2.7%), alcohol dependence or abuse (6.4% vs. 8.0%), both illicit drug and alcohol dependence or abuse (1.0% vs. 1.3%), and illicit drug or alcohol dependence or abuse (7.9% vs. 9.4%).

Access to Treatment

Access to Alcohol Treatment

During 2002-2005, the estimated percentage of persons age 18 or older needing but not receiving alcohol treatment in the Appalachian region was 6.1 percent; the estimated percentage of persons age 18 or older needing but not receiving alcohol treatment outside of the Appalachian region was 7.6 percent.

During 2002-2005, the estimated percentage of persons age 12-17 needing but not receiving alcohol treatment in the Appalachian region was 5.6 percent; the estimated percentage of persons age 12-17 needing but not receiving alcohol treatment outside of the Appalachian region was 5.5 percent.

Access to Drug Treatment

During 2002-2005, the estimated percentage of persons age 18 or older needing but not receiving drug treatment in the Appalachian region was 2.2 percent; the estimated percentage of persons age 18 or older needing but not receiving drug treatment outside of the Appalachian region was 2.4 percent.

During 2002-2005, the estimated percentage of persons age 12-17 needing but not receiving drug treatment in both the Appalachian region and outside of the Appalachian region was 4.8 percent.

Locations Where Substance Abuse Treatment Was Received

Among persons who received substance abuse treatment at a specialty facility, the most frequently reported locations are outpatient rehabilitation facilities (68%) for both the Appalachian region and outside of the region.

Among persons who received treatment at a specialty facility, the percentage being treated at inpatient rehabilitation facilities was 37% in the Appalachian region and 45% outside of the Appalachian region.

Mental Health

Mental Health Problems

Proportionately more adults in the Appalachian region (13.5%) encountered a serious psychological distress problem than adults outside of Appalachia (11.6%).

Proportionately more adults in the Appalachian region (8.2%) had a major depressive episode in the past year than adults outside of Appalachia (7.6%).

Access to Mental Health Treatment / Counseling

Receiving mental health treatment. In general, adults in the Appalachian region with mental health problems reported a somewhat greater likelihood of having received outpatient mental health treatment or counseling in the past year (13.6%) as compared to adults outside the Appalachian region (12.9%). This was seen in both the receipt of outpatient counseling services (7.3% vs. 7.1%) and prescription medication services (12.0% vs. 10.5%). The percentage of adults with mental health problems having ever received inpatient mental health treatment was the same in both the Appalachian region and outside of Appalachia.

Reasons for not receiving mental health treatment / counseling. Cost or insurance barriers were the primary self-reported reason why people did not receive mental health treatment or counseling. The percentage of persons reporting these barriers was slightly lower in the Appalachian region (44%) than outside of the region (48%). The second most frequently cited reason for not receiving mental health treatment or counseling was that people did not feel that it was needed and, rather, believed that they could handle the problem without treatment – proportionately more respondents in the Appalachian region (37%) than outside of the Appalachian region (33%) stated this reason. The third mostly reported reason for not receiving mental health treatment or counseling was stigma. The percentage of people reporting stigma as a reason for not receiving treatment/counseling was 28% in the Appalachian region, compared to 22% outside of the Appalachian region.

2.4.1 Tables

| Demographic Characteristic/ Health Insurance | AGE GROUP | | | |
|---|---------------------------------|--------------------|---------------------------------|--------------------|
| | 12-17 | | 18 or Older | |
| | Appalachian Region ¹ | Outside Appalachia | Appalachian Region ¹ | Outside Appalachia |
| HISPANIC ORIGIN AND RACE | | | | |
| Not Hispanic or Latino | 97.4 | 82.3 | 98.0 | 86.7 |
| White | 84.2 | 60.0 | 88.4 | 69.0 |
| Black or African American | 11.3 | 15.3 | 7.4 | 11.5 |
| Other ² | 1.8 | 7.0 | 2.3 | 6.2 |
| Hispanic or Latino | 2.6 | 17.7 | 2.0 | 13.3 |
| EDUCATION | | | | |
| < High School | N/A | N/A | 20.4 | 16.9 |
| High School Graduate | N/A | N/A | 38.4 | 31.1 |
| Some College | N/A | N/A | 22.8 | 25.3 |
| College Graduate | N/A | N/A | 18.4 | 26.6 |
| CURRENT EMPLOYMENT | | | | |
| Full-Time | N/A | N/A | 51.1 | 55.6 |
| Part-Time | N/A | N/A | 11.9 | 13.2 |
| Unemployed | N/A | N/A | 3.4 | 3.6 |
| Other ³ | N/A | N/A | 33.6 | 27.6 |
| HEALTH INSURANCE | | | | |
| Private | 67.6 | 68.0 | 71.6 | 71.4 |
| Medicare | 0.8 | 0.9 | 21.9 | 17.6 |
| Medicaid/CHIP ⁴ | 26.8 | 23.5 | 9.0 | 7.8 |

*Low precision; no estimate reported. N/A: Not applicable. ¹Appalachian region is defined as all areas covered by the 410 designated counties in 13 states.
² Includes respondents reporting American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Asian, and Two or More Races.
³ The Other Employment category includes retired persons, disabled persons, homemakers, students, or other persons not in the labor force.
⁴ CHIP is the Children's Health Insurance Program. Individuals aged 19 or younger are eligible for this plan.
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.3 Lifetime, Past Year, and Past Month Substance Use among Persons Aged 12 or Older, by Substance, Age Group, and Appalachian Region Status: Percentages, Annual Averages Based on 2002-2005

| Substance | AGE GROUP | | | |
|---|---------------------------------|--------------------|---------------------------------|--------------------|
| | 12-17 | | 18 or Older | |
| | Appalachian Region ¹ | Outside Appalachia | Appalachian Region ¹ | Outside Appalachia |
| MARIJUANA USE | | | | |
| Lifetime | 19.0 | 19.1 | 38.2 | 43.2 |
| Past Year | 14.4 | 14.7 | 8.4 | 10.3 |
| Past Month | 7.0 | 7.7 | 4.9 | 6.0 |
| COCAINE USE | | | | |
| Lifetime | 2.5 | 2.5 | 11.7 | 16.0 |
| Past Year | 1.9 | 1.8 | 2.2 | 2.5 |
| Past Month | 0.6 | 0.6 | 0.8 | 1.0 |
| METHAMPHETAMINE USE | | | | |
| Lifetime | 1.4 | 1.3 | 4.0 | 5.4 |
| Past Year | 0.7 | 0.7 | 0.4 | 0.6 |
| Past Month | 0.3 | 0.2 | 0.2 | 0.2 |
| ALCOHOL USE | | | | |
| Past Year | 33.8 | 34.0 | 61.0 | 70.2 |
| Binge Alcohol Use ² | 10.5 | 10.6 | 20.6 | 24.5 |
| Heavy Alcohol Use ² | 2.9 | 2.5 | 6.8 | 7.3 |
| CIGARETTE USE | | | | |
| Lifetime | 36.8 | 29.5 | 75.8 | 72.0 |
| Past Year | 23.8 | 18.3 | 34.5 | 30.4 |
| Past Month | 16.3 | 11.6 | 30.9 | 26.5 |
| PAST YEAR NONMEDICAL USE OF PSYCHOTHERAPEUTICS³ | 10.6 | 8.7 | 5.6 | 5.9 |

*Low precision; no estimate reported.

¹ Appalachian region is defined as all areas covered by the 410 designated counties in 13 states.

² Binge Alcohol Use is defined as drinking 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. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

³ Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.4 Substance Dependence or Abuse, Mental Health Measures, and Receipt of Substance Use Treatment in the Past Year among Persons Aged 12 or Older, by Age Group and Appalachian Region Status: Percentages, Annual Averages Based on 2002-2005

| Dependence or Abuse/Mental Health/Receipt of Treatment | AGE GROUP | | | |
|---|---------------------------------|--------------------|---------------------------------|--------------------|
| | 12-17 | | 18 or Older | |
| | Appalachian Region ¹ | Outside Appalachia | Appalachian Region ¹ | Outside Appalachia |
| DEPENDENCE OR ABUSE² | | | | |
| Illicit Drugs ³ | 5.2 | 5.2 | 2.5 | 2.7 |
| Alcohol | 5.9 | 5.8 | 6.4 | 8.0 |
| Both Illicit Drugs and Alcohol ³ | 2.5 | 2.3 | 1.0 | 1.3 |
| Illicit Drugs or Alcohol ³ | 8.6 | 8.7 | 7.9 | 9.4 |
| PAST YEAR SERIOUS PSYCHOLOGICAL DISTRESS⁴ | N/A | N/A | 13.5 | 11.6 |
| PAST YEAR MAJOR DEPRESSIVE EPISODE⁵ | 8.8 | 8.9 | 8.2 | 7.6 |
| PAST YEAR RECEIPT OF SPECIALTY TREATMENT FOR ILLICIT DRUG OR ALCOHOL USE^{3,6} | 0.9 | 0.7 | 0.9 | 1.0 |
| MENTAL HEALTH TREATMENT/COUNSELING⁷ | N/A | N/A | 13.6 | 12.9 |
| Inpatient | N/A | N/A | 0.9 | 0.9 |
| Outpatient | N/A | N/A | 7.3 | 7.1 |
| Prescription Medication | N/A | N/A | 12.0 | 10.5 |

*Low precision; no estimate reported.

N/A: Not applicable.

¹ Appalachian region is defined as all areas covered by the 410 designated counties in 13 states.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

³ Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used non-medically.

⁴ Serious Psychological Distress (SPD) is defined as having a score of 13 or higher on the K6 scale. Due to questionnaire changes, these combined 2004 and 2005 estimates are not comparable with 2004 and earlier estimates published in prior NSDUH reports. See Section B.4.4 in Appendix C of the *Results from the 2005 National Survey on Drug Use and Health: National Findings*. Estimates are based on combined 2004-2005 data.

⁵ Major Depressive Episode (MDE) is defined as a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of the symptoms for depression as described in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). Estimates are based on combined 2004-2005 data.

⁶ Received Substance Use Treatment at a Specialty Facility refers to treatment received at a hospital (inpatient), rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop illicit drug or alcohol use, or for medical problems associated with illicit drug or alcohol use. Estimates include persons who received treatment specifically for illicit drugs or alcohol, as well as persons who received treatment but did not specify for what substance(s).

⁷ Mental Health Treatment/Counseling is defined as having received inpatient care or outpatient care or having used prescription medication for problems with emotions, nerves, or mental health. Respondents were not to include treatment for drug or alcohol use. Respondents with unknown treatment/counseling information were excluded. Estimates were based only on responses to items in the Adult Mental Health Service Utilization module.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.5 Demographic Characteristics and Health Insurance among Persons Aged 12 or Older Residing in Appalachian Region, by Age Group and Appalachian Sub-Region: Percentages, Annual Averages Based on 2002-2005

| Demographic Characteristic/Health Insurance | AGE GROUP | | | | | |
|---|-----------|---------|----------|-------------|---------|----------|
| | 12-17 | | | 18 or Older | | |
| | Northern | Central | Southern | Northern | Central | Southern |
| HISPANIC ORIGIN AND RACE | | | | | | |
| Not Hispanic or Latino | 97.9 | 98.0 | 96.8 | 98.9 | 98.7 | 97.1 |
| White | 91.1 | 94.7 | 75.2 | 93.7 | 95.5 | 81.8 |
| Black or African American | 4.5 | 1.1 | 20.2 | 3.4 | 1.7 | 12.4 |
| Other ¹ | 2.3 | 2.1 | 1.4 | 1.8 | 1.5 | 2.9 |
| Hispanic or Latino | 2.1 | 2.0 | 3.2 | 1.1 | 1.3 | 2.9 |
| EDUCATION | | | | | | |
| < High School | N/A | N/A | N/A | 16.3 | 30.7 | 22.3 |
| High School Graduate | N/A | N/A | N/A | 42.1 | 40.0 | 34.6 |
| Some College | N/A | N/A | N/A | 22.7 | 18.9 | 23.7 |
| College Graduate | N/A | N/A | N/A | 18.9 | 10.4 | 19.5 |
| CURRENT EMPLOYMENT | | | | | | |
| Full-Time | N/A | N/A | N/A | 49.1 | 43.1 | 54.4 |
| Part-Time | N/A | N/A | N/A | 12.8 | 9.0 | 11.7 |
| Unemployed | N/A | N/A | N/A | 3.6 | 3.8 | 3.2 |
| Other ² | N/A | N/A | N/A | 34.4 | 44.1 | 30.7 |
| HEALTH INSURANCE | | | | | | |
| Private | 72.3 | 50.1 | 66.3 | 74.0 | 63.8 | 70.8 |
| Medicare | 0.5 | 0.6 | 1.1 | 22.3 | 27.8 | 20.4 |
| Medicaid/CHIP ³ | 22.4 | 42.2 | 28.0 | 8.1 | 14.4 | 8.7 |

*Low precision; no estimate reported.

NOTE: Appalachian region is defined as all areas covered by the 410 designated counties in 13 states.

N/A: Not applicable.

¹ Includes respondents reporting American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Asian, and Two or More Races.

² The Other Employment category includes retired persons, disabled persons, homemakers, students, or other persons not in the labor force.

³ CHIP is the Children's Health Insurance Program. Individuals aged 19 or younger are eligible for this plan.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.6 Lifetime, Past Year, and Past Month Substance Use among Persons Aged 12 or Older Residing in Appalachian Region, by Substance, Age Group, and Appalachian Sub-Region: Percentages, Annual Averages Based on 2002-2005

| Substance | AGE GROUP | | | | | |
|---|-----------|---------|----------|-------------|---------|----------|
| | 12-17 | | | 18 or Older | | |
| | Northern | Central | Southern | Northern | Central | Southern |
| MARIJUANA USE | | | | | | |
| Lifetime | 19.2 | 17.5 | 18.9 | 38.9 | 33.0 | 38.6 |
| Past Year | 15.1 | 12.5 | 14.1 | 9.0 | 6.6 | 8.1 |
| Past Month | 7.5 | 4.3 | 7.0 | 5.5 | 3.7 | 4.5 |
| COCAINE USE | | | | | | |
| Lifetime | 2.2 | 2.3 | 2.9 | 11.8 | 7.7 | 12.4 |
| Past Year | 1.7 | 1.9 | 2.2 | 2.3 | 1.6 | 2.2 |
| Past Month | 0.6 | 0.5 | 0.5 | 0.8 | 0.4 | 0.8 |
| METHAMPHETAMINE USE | | | | | | |
| Lifetime | 1.2 | 1.7 | 1.5 | 4.0 | 2.1 | 4.4 |
| Past Year | 0.5 | 0.6 | 0.9 | 0.3 | 0.3 | 0.6 |
| Past Month | 0.1 | 0.4 | 0.5 | 0.1 | 0.1 | 0.3 |
| ALCOHOL USE | | | | | | |
| Past Year | 36.7 | 28.8 | 31.8 | 69.3 | 43.5 | 56.5 |
| Binge Alcohol Use ¹ | 12.3 | 8.1 | 9.3 | 24.6 | 14.0 | 18.1 |
| Heavy Alcohol Use ¹ | 3.3 | 2.4 | 2.5 | 8.2 | 4.1 | 5.9 |
| CIGARETTE USE | | | | | | |
| Lifetime | 35.6 | 42.0 | 36.9 | 76.9 | 75.3 | 74.9 |
| Past Year | 23.8 | 24.3 | 23.7 | 35.2 | 37.0 | 33.4 |
| Past Month | 16.5 | 17.2 | 15.9 | 31.5 | 33.2 | 29.8 |
| PAST YEAR NONMEDICAL USE OF PSYCHOTHERAPEUTICS² | 9.1 | 10.4 | 12.1 | 5.0 | 6.4 | 6.2 |

*Low precision; no estimate reported. NOTE: Appalachian region is defined as all areas covered by the 410 designated counties in 13 states. ¹Binge Alcohol Use is defined as drinking 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. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users. ²Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs. Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.7 Substance Dependence or Abuse, Mental Health Measures, and Receipt of Substance Use Treatment in the Past Year among Persons Aged 12 or Older Residing in Appalachian Region, by Age Group and Appalachian Sub-Region: Percentages, Annual Averages Based on 2002-2005

| Dependence or Abuse/Mental Health/Receipt of Treatment | AGE GROUP | | | | | |
|---|-----------|---------|----------|-------------|---------|----------|
| | 12-17 | | | 18 or Older | | |
| | Northern | Central | Southern | Northern | Central | Southern |
| DEPENDENCE OR ABUSE¹ | | | | | | |
| Illicit Drugs ² | 5.3 | 3.1 | 5.5 | 2.4 | 3.1 | 2.4 |
| Alcohol | 6.5 | 4.3 | 5.6 | 7.2 | 4.8 | 6.0 |
| Both Illicit Drugs and Alcohol ² | 2.8 | 1.7 | 2.3 | 1.1 | 1.2 | 1.0 |
| Illicit Drugs or Alcohol ² | 9.0 | 5.7 | 8.8 | 8.5 | 6.7 | 7.5 |
| PAST YEAR SERIOUS PSYCHOLOGICAL DISTRESS³ | N/A | N/A | N/A | 13.8 | 16.1 | 12.7 |
| PAST YEAR MAJOR DEPRESSIVE EPISODE⁴ | 8.8 | 9.1 | 8.8 | 7.9 | 10.6 | 8.0 |
| PAST YEAR RECEIPT OF SPECIALTY TREATMENT FOR ILLICIT DRUG OR ALCOHOL USE^{2,5} | 0.8 | 0.7 | 1.0 | 1.0 | 0.5 | 0.8 |
| MENTAL HEALTH TREATMENT/COUNSELING⁶ | N/A | N/A | N/A | 13.7 | 15.4 | 13.1 |
| Inpatient | N/A | N/A | N/A | 0.7 | 1.0 | 1.0 |
| Outpatient | N/A | N/A | N/A | 7.0 | 7.4 | 7.5 |
| Prescription Medication | N/A | N/A | N/A | 11.9 | 14.4 | 11.7 |

Table is continued on the next page

Table 2.7 Substance Dependence or Abuse, Mental Health Measures, and Receipt of Substance Use Treatment in the Past Year among Persons Aged 12 or Older Residing in Appalachian Region, by Age Group and Appalachian Sub-Region: Percentages, Annual Averages Based on 2002-2005

NOTES:

*Low precision; no estimate reported.

NOTE: Appalachian region is defined as all areas covered by the 410 designated counties in 13 states.

N/A: Not applicable.

¹ Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

² Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used non-medically.

³ Serious Psychological Distress (SPD) is defined as having a score of 13 or higher on the K6 scale. Due to questionnaire changes, these combined 2004 and 2005 estimates are not comparable with 2004 and earlier estimates published in prior NSDUH reports. See Section B.4.4 in Appendix C of the *Results from the 2005 National Survey on Drug Use and Health: National Findings*. Estimates are based on combined 2004-2005 data.

⁴ Major Depressive Episode (MDE) is defined as a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of the symptoms for depression as described in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). Estimates are based on combined 2004-2005 data.

⁵ Received Substance Use Treatment at a Specialty Facility refers to treatment received at a hospital (inpatient), rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop illicit drug or alcohol use, or for medical problems associated with illicit drug or alcohol use. Estimates include persons who received treatment specifically for illicit drugs or alcohol, as well as persons who received treatment but did not specify for what substance(s).

⁶ Mental Health Treatment/Counseling is defined as having received inpatient care or outpatient care or having used prescription medication for problems with emotions, nerves, or mental health. Respondents were not to include treatment for drug or alcohol use. Respondents with unknown treatment/counseling information were excluded. Estimates were based only on responses to items in the Adult Mental Health Service Utilization module.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.8 Demographic Characteristics and Health Insurance among Persons Aged 12 or Older Residing in Appalachian Region, by Age Group and Appalachian Socioeconomic Status: Percentages, Annual Averages Based on 2002-2005

| Demographic Characteristic/Health Insurance | AGE GROUP | | | | | |
|---|-----------------------|--------------|---------------------------|-----------------------|--------------|---------------------------|
| | 12-17 | | | 18 or Older | | |
| | At-Risk or Distressed | Transitional | Competitive or Attainment | At-Risk or Distressed | Transitional | Competitive or Attainment |
| HISPANIC ORIGIN AND RACE | | | | | | |
| Not Hispanic or Latino | 98.9 | 97.4 | 96.3 | 98.9 | 98.6 | 96.1 |
| White | 88.3 | 87.5 | 73.7 | 89.0 | 91.1 | 81.2 |
| Black or African American | 9.5 | 8.1 | 20.3 | 8.6 | 5.5 | 11.3 |
| Other ¹ | 1.1 | 1.8 | 2.4 | 1.3 | 2.0 | 3.6 |
| Hispanic or Latino | 1.1 | 2.6 | 3.7 | 1.1 | 1.4 | 3.9 |
| EDUCATION | | | | | | |
| < High School | N/A | N/A | N/A | 28.9 | 20.2 | 14.9 |
| High School Graduate | N/A | N/A | N/A | 41.8 | 39.5 | 33.4 |
| Some College | N/A | N/A | N/A | 18.4 | 23.7 | 23.7 |
| College Graduate | N/A | N/A | N/A | 10.9 | 16.7 | 28.0 |
| CURRENT EMPLOYMENT | | | | | | |
| Full-Time | N/A | N/A | N/A | 43.8 | 51.3 | 55.5 |
| Part-Time | N/A | N/A | N/A | 9.7 | 12.3 | 12.7 |
| Unemployed | N/A | N/A | N/A | 4.5 | 3.3 | 3.1 |
| Other ² | N/A | N/A | N/A | 42.0 | 33.1 | 28.8 |

*Low precision; no estimate reported.

NOTE: Appalachian region is defined as all areas covered by the 410 designated counties in 13 states.

N/A: Not applicable.

¹ Includes respondents reporting American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Asian, and Two or More Races.

² The Other Employment category includes retired persons, disabled persons, homemakers, students, or other persons not in the labor force.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table is continued on the next page

Table 2.8 Demographic Characteristics and Health Insurance among Persons Aged 12 or Older Residing in Appalachian Region, by Age Group and Appalachian Socioeconomic Status: Percentages, Annual Averages Based on 2002-2005

| HEALTH INSURANCE | | | | | | |
|----------------------------|------|------|------|------|------|------|
| Private | 52.4 | 69.4 | 73.5 | 63.2 | 72.8 | 74.4 |
| Medicare | 1.0 | 0.6 | 1.0 | 25.4 | 22.2 | 18.8 |
| Medicaid/CHIP ³ | 40.4 | 25.4 | 20.8 | 14.1 | 8.6 | 6.3 |

*Low precision; no estimate reported.

NOTE: Appalachian region is defined as all areas covered by the 410 designated counties in 13 states.

N/A: Not applicable.

³ CHIP is the Children's Health Insurance Program. Individuals aged 19 or younger are eligible for this plan.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.9 Lifetime, Past Year, and Past Month Substance Use among Persons Aged 12 or Older Residing in Appalachian Region, by Substance, Age Group, and Appalachian Socioeconomic Status: Percentages, 2002-2005

| Substance | AGE GROUP | | | | | |
|---|-----------------------|--------------|---------------------------|-----------------------|--------------|---------------------------|
| | 12-17 | | | 18 or Older | | |
| | At-Risk or Distressed | Transitional | Competitive or Attainment | At-Risk or Distressed | Transitional | Competitive or Attainment |
| MARIJUANA USE | | | | | | |
| Lifetime | 19.6 | 19.1 | 18.2 | 32.6 | 38.3 | 41.8 |
| Past Year | 13.8 | 14.8 | 14.0 | 5.9 | 8.9 | 8.7 |
| Past Month | 5.8 | 7.3 | 7.1 | 3.0 | 5.3 | 5.1 |
| COCAINE USE | | | | | | |
| Lifetime | 3.1 | 2.8 | 1.5 | 8.2 | 11.6 | 14.3 |
| Past Year | 2.2 | 2.2 | 1.2 | 1.3 | 2.4 | 2.1 |
| Past Month | 0.9 | 0.5 | 0.4 | 0.4 | 0.9 | 0.7 |
| METHAMPHETAMINE USE | | | | | | |
| Lifetime | 2.1 | 1.4 | 0.9 | 1.9 | 4.2 | 4.8 |
| Past Year | 0.9 | 0.7 | 0.4 | 0.4 | 0.5 | 0.3 |
| Past Month | 0.6 | 0.3 | 0.2 | 0.1 | 0.2 | 0.3 |
| ALCOHOL USE | | | | | | |
| Past Year | 31.4 | 34.8 | 33.0 | 43.6 | 62.1 | 70.6 |
| Binge Alcohol Use ¹ | 10.1 | 11.4 | 8.8 | 15.3 | 21.9 | 21.1 |
| Heavy Alcohol Use ² | 2.8 | 3.1 | 2.4 | 4.8 | 7.5 | 6.3 |
| CIGARETTE USE | | | | | | |
| Lifetime | 43.6 | 37.8 | 30.0 | 75.0 | 76.1 | 75.7 |
| Past Year | 25.7 | 24.7 | 20.3 | 37.4 | 35.3 | 30.5 |
| Past Month | 18.9 | 16.8 | 13.4 | 33.8 | 31.6 | 27.1 |
| PAST YEAR NONMEDICAL USE OF PSYCHOTHERAPEUTICS² | 11.4 | 11.3 | 8.4 | 5.5 | 6.0 | 4.9 |

NOTES:

*Low precision; no estimate reported. Appalachian region is defined as all areas covered by the 410 designated counties in 13 states.

¹ Binge Alcohol Use is defined as drinking 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. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.10 Substance Dependence or Abuse, Mental Health Measures, and Receipt of Substance Use Treatment in the Past Year among Persons Aged 12 or Older Residing in Appalachian Region, by Age Group and Appalachian Socioeconomic Status: Percentages, Annual Averages Based on 2002-2005

| Dependence or Abuse/Mental Health/Receipt of Treatment | AGE GROUP | | | | | |
|---|-----------------------|--------------|---------------------------|-----------------------|--------------|---------------------------|
| | 12-17 | | | 18 or Older | | |
| | At-Risk or Distressed | Transitional | Competitive or Attainment | At-Risk or Distressed | Transitional | Competitive or Attainment |
| DEPENDENCE OR ABUSE¹ | | | | | | |
| Illicit Drugs ² | 5.1 | 5.6 | 4.3 | 2.5 | 2.6 | 2.1 |
| Alcohol | 5.3 | 6.6 | 4.7 | 4.7 | 6.8 | 6.9 |
| Both Illicit Drugs and Alcohol ² | 2.0 | 3.0 | 1.7 | 0.9 | 1.2 | 0.9 |
| Illicit Drugs or Alcohol ² | 8.4 | 9.2 | 7.4 | 6.3 | 8.2 | 8.1 |
| PAST YEAR SERIOUS PSYCHOLOGICAL DISTRESS³ | N/A | N/A | N/A | 17.4 | 11.8 | 15.3 |
| PAST YEAR MAJOR DEPRESSIVE EPISODE⁴ | 9.9 | 8.3 | 9.5 | 10.5 | 6.9 | 9.7 |
| PAST YEAR RECEIPT OF SPECIALTY TREATMENT FOR ILLICIT DRUG OR ALCOHOL USE^{2,5} | 1.1 | 1.0 | 0.6 | 0.6 | 1.0 | 0.8 |
| MENTAL HEALTH TREATMENT/COUNSELING⁶ | N/A | N/A | N/A | 16.0 | 13.1 | 12.9 |
| Inpatient | N/A | N/A | N/A | 1.1 | 0.8 | 1.0 |
| Outpatient | N/A | N/A | N/A | 8.6 | 7.2 | 6.6 |
| Prescription Medication | N/A | N/A | N/A | 14.2 | 11.6 | 11.6 |

*Low precision; no estimate reported.

NOTE: Appalachian region is defined as all areas covered by the 410 designated counties in 13 states.

N/A: Not applicable.

¹ Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*.

² Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used non-medically.

³ Serious Psychological Distress (SPD) is defined as having a score of 13 or higher on the K6 scale. Due to questionnaire changes, these combined 2004 and 2005 estimates are not comparable with 2004 and earlier estimates published in prior NSDUH reports. See Section B.4.4 in Appendix C of the *Results from the 2005 National Survey on Drug Use and Health: National Findings*. Estimates are based on combined 2004-2005 data.

⁴ Major Depressive Episode (MDE) is defined as a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of the symptoms for depression as described in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*. Estimates are based on combined 2004-2005 data.

⁵ Received Substance Use Treatment at a Specialty Facility refers to treatment received at a hospital (inpatient), rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop illicit drug or alcohol use, or for medical problems associated with illicit drug or alcohol use. Estimates include persons who received treatment specifically for illicit drugs or alcohol, as well as persons who received treatment but did not specify for what substance(s).

⁶ Mental Health Treatment/Counseling is defined as having received inpatient care or outpatient care or having used prescription medication for problems with emotions, nerves, or mental health.

Respondents were not to include treatment for drug or alcohol use. Respondents with unknown treatment/counseling information were excluded. Estimates were based only on responses to items in the Adult Mental Health Service Utilization module. Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Figure 2.1. Geographic Variation in Individuals' Health Insurance: Adolescents and Adults

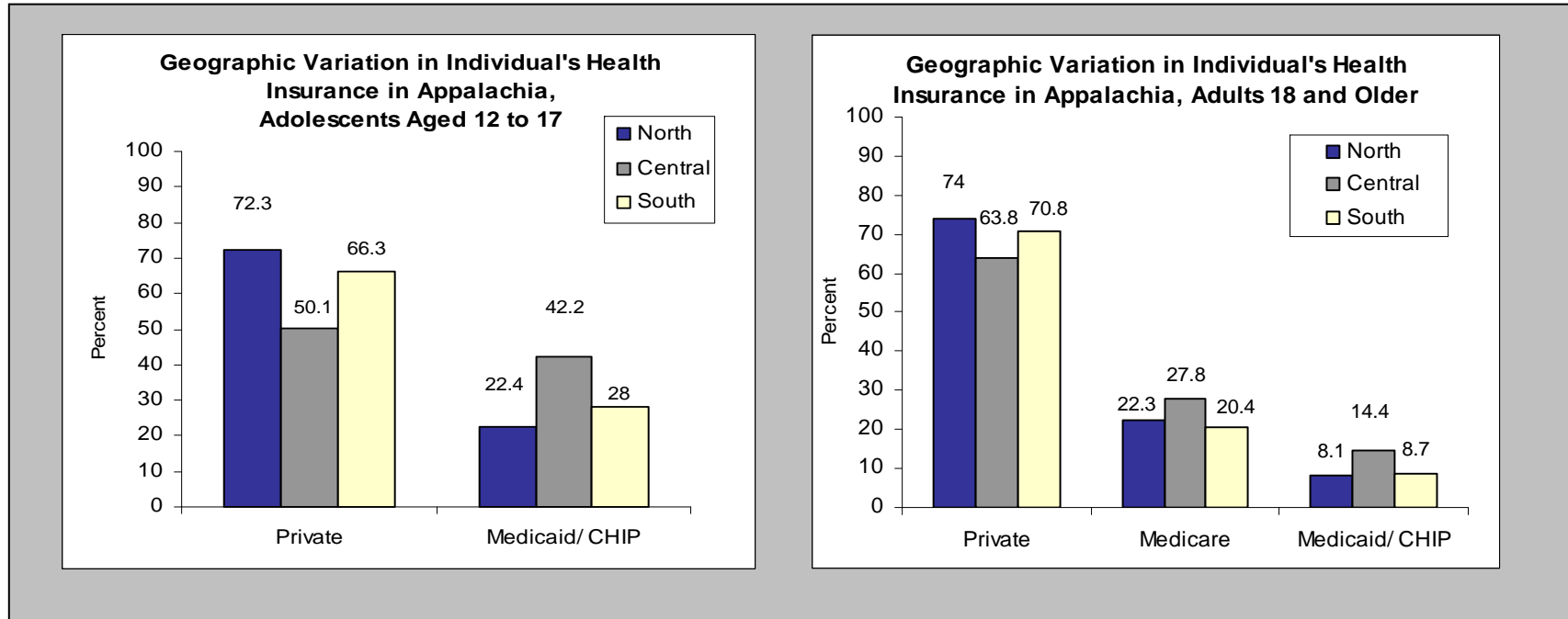


Figure 2.1 shows geographic variation in health insurance status among adolescents aged 12 to 17 and adults aged 18 and older. For private health insurance, the northern Appalachian sub-region has the highest rate of insurance for adolescents (72.3%) and adults (74%), while the central Appalachian sub-region has the lowest rates of insurance for adolescents (50.1%) and adults (63.8%). For Medicaid/CHIP, the northern sub-region has the lowest rates of insurance in adolescents (22.4%) and adults (8.1%). The central sub-region has the largest proportion of adults with Medicare (27.8%) followed by the northern sub-region (22.3%).

Figure 2.2. Geographic Variation in Individuals' Health Insurance: Adolescents and Adults

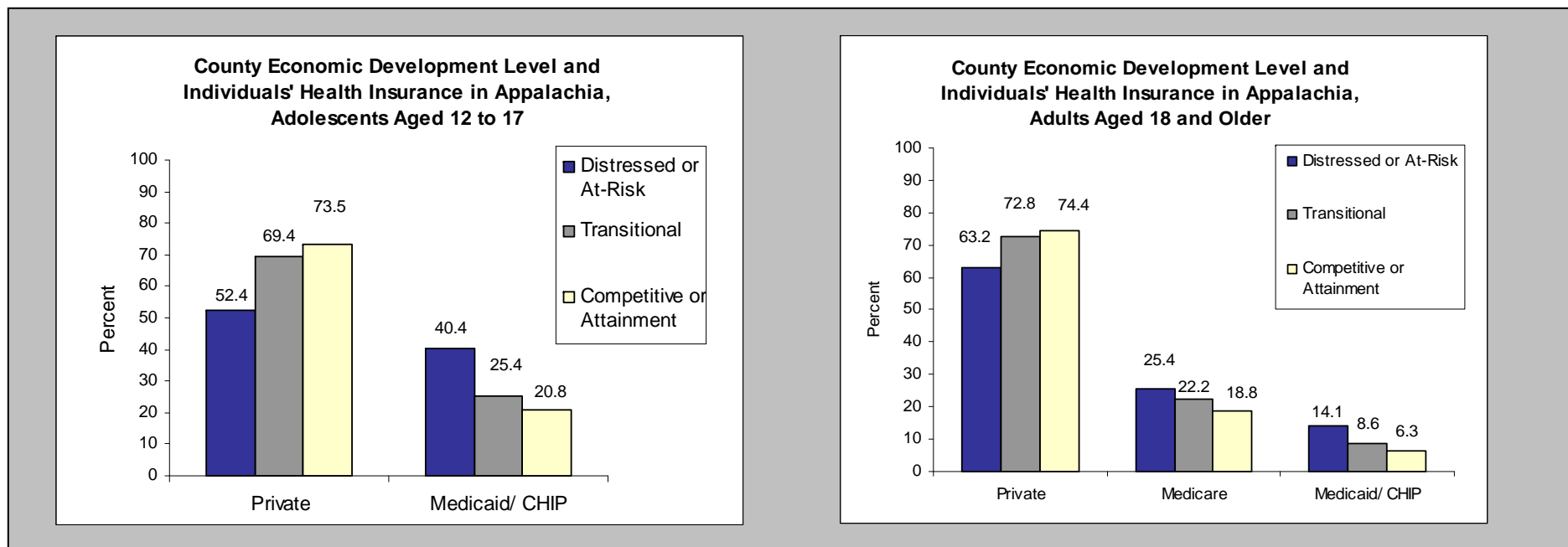


Figure 2.2 shows individual health insurance by county economic development level in Appalachia. There is a linear relationship between economic development level and insurance, and the directions of these relationships are different for each type of insurance. There is a positive relationship between economic development level and private insurance; distressed or at-risk counties have the lowest rates of private insurance for adolescents (52.4%) and adults (63.2%), and competitive or attainment counties have the highest rates of private insurance for adolescent (73.5%) and adults (74.4%). The trend for Medicaid/ CHIP is also linear, though the variables are inversely related. At-risk or distressed counties have the highest rates of Medicaid/ CHIP for adolescents (40.4%) and adults (14.1%), and Medicare for adults (25.4%). Conversely, rates for Medicaid/ CHIP and Medicare are lowest in competitive or attainment counties.

Figure 2.3. Non-Medical Use of Prescription Drugs Among Adolescents Aged 12 to 17

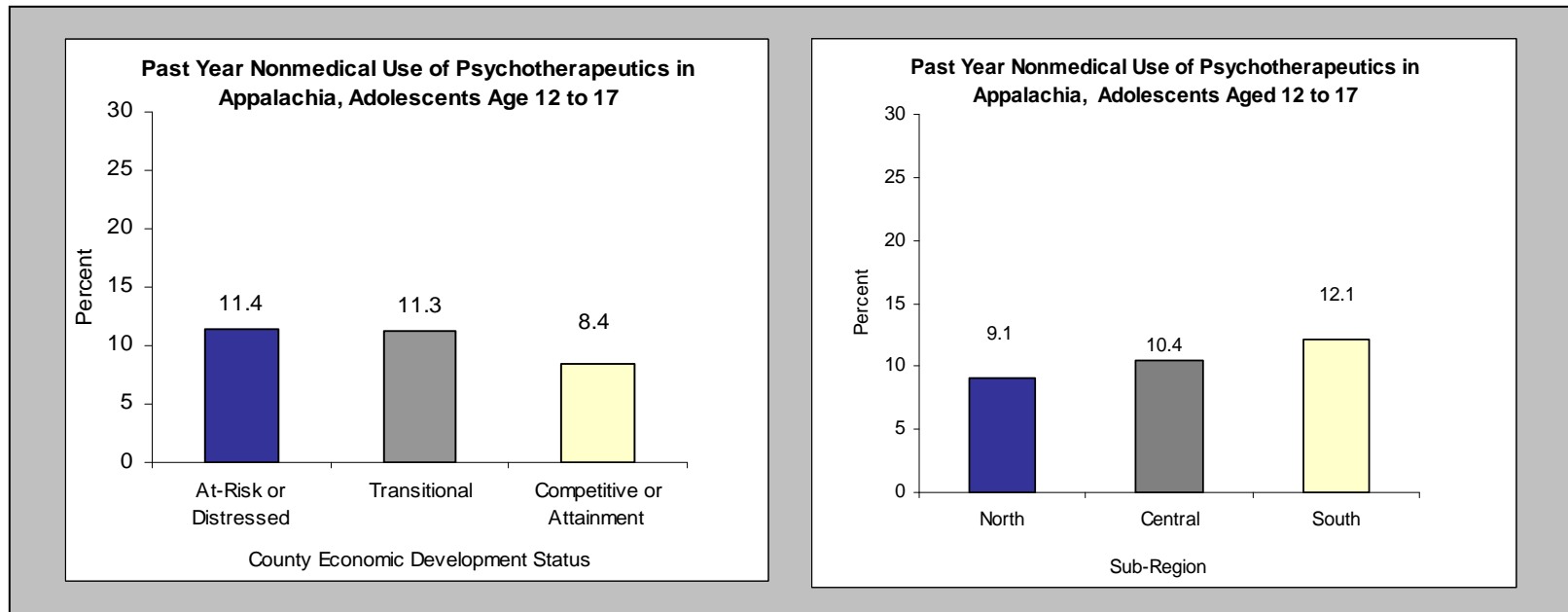


Figure 2.3 presents non-medical use of prescription drugs among adolescents age 12 to 17 by county economic development status and Appalachian sub-region. Non-medical use of prescription drugs among adolescents is higher in the central (10.4%) and southern sub-regions (12.1%) of Appalachia, as compared to the northern sub-region (9.1%). Across economic development status, we see that competitive or attainment counties have the lowest rate of non-medical use of prescription drugs among adolescents (8.4%), followed by transitional counties (11.3%) and distressed or at-risk counties (11.4%).

Figure 2.4. Mental Disorders Among Adults Aged 18 and Older in Appalachian Sub-Regions

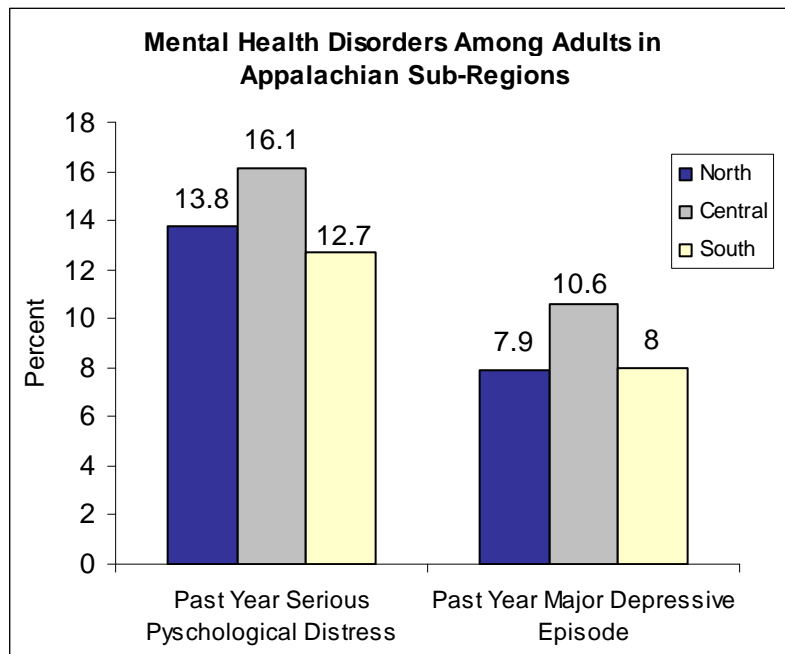


Figure 2.4 shows mental health disorders among adults aged 18 and older in Appalachia. The prevalence rates for serious psychological distress in the past year and major depressive episode in the past year are high across all sub-regions. The highest prevalence rates for both serious psychological distress and major depressive episode are in the central sub-region (16.1% and 10.6%, respectively). For the variable, serious psychological distress in the past year, the northern sub-region has a rate of 13.8%, and the southern sub-region has a rate of 12.7%. For the variable, major depressive episode in the past year, the northern and southern sub-regions have a prevalence rate of approximately 8%.

Table 2.11 Access to Alcohol Treatment among Persons Aged 12 or Older, by Age Group and Appalachian Region Status: Percentages, Annual Averages Based on 2002-2005

| | Age 12-17 | | Age 18 or Older | |
|--|--------------------|--------------------|--------------------|--------------------|
| | Appalachian Region | Outside Appalachia | Appalachian Region | Outside Appalachia |
| Access to Alcohol Treatment^{1,2} | | | | |
| Needed But Not Received Alcohol Treatment | 5.6 | 5.5 | 6.1 | 7.6 |
| Felt Need for Alcohol Treatment | 0.2 | 0.2 | 0.3 | 0.4 |
| Felt Need for Alcohol Treatment and Made No Effort | 0.1 | 0.1 | 0.2 | 0.3 |

*Low precision; no estimate reported.

NOTE: Received Alcohol Treatment at a Specialty Facility refers to treatment received at a hospital (inpatient), rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop alcohol use, or for medical problems associated with alcohol use.

¹ Needing But Not Receiving Treatment refers to respondents classified as needing treatment for alcohol, but have not received treatment for an alcohol problem at a specialty facility (i.e., drug and alcohol rehabilitation facilities [inpatient or outpatient], hospitals [inpatient only], and mental health centers).

² Felt Need for Treatment includes persons who did not receive but felt they needed treatment for an alcohol problem, as well as persons who received treatment at a location other than a specialty facility but felt they needed additional treatment.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.12 Access to Drug Treatment among Persons Aged 12 or Older, by Age Group and Appalachian Region Status: Percentages, Annual Averages Based on 2002-2005

| | Age 12-17 | | Age 18 or Older | |
|--|--------------------|--------------------|--------------------|--------------------|
| | Appalachian Region | Outside Appalachia | Appalachian Region | Outside Appalachia |
| Access to Drug Treatment^{1,2} | | | | |
| Needed But Not Received Treatment for an Illicit Drug Problem | 4.8 | 4.8 | 2.2 | 2.4 |
| Felt Need for Treatment for an Illicit Drug Problem | 0.3 | 0.3 | 0.3 | 0.4 |
| Felt Need for Treatment for an Illicit Drug Problem and Made No Effort | 0.2 | 0.2 | 0.2 | 0.2 |

*Low precision; no estimate reported.

NOTE: Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.

NOTE: Received Illicit Drug Treatment at a Specialty Facility refers to treatment received at a hospital (inpatient), rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop illicit drug use, or for medical problems associated with illicit drug use.

¹ Needing But Not Receiving Treatment refers to respondents classified as needing treatment for illicit drugs, but have not received treatment for an illicit drug problem at a specialty facility (i.e., drug and alcohol rehabilitation facilities [inpatient or outpatient], hospitals [inpatient only], and mental health centers).

² Felt Need for Treatment includes persons who did not receive but felt they needed treatment for an illicit drug problem, as well as persons who received treatment at a location other than a specialty facility but felt they needed additional treatment.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.13 Reasons for Not Receiving Substance Use Treatment and Locations of Treatment among Persons Aged 12 or Older, by Age Group and Appalachian Region Status: Percentages, Annual Averages Based on 2002-2005

| | Age 12-17 | | Age 18 or Older | |
|---|--------------------|--------------------|--------------------|--------------------|
| | Appalachian Region | Outside Appalachia | Appalachian Region | Outside Appalachia |
| Reasons for Not Receiving Drug or Alcohol Treatment among Persons Who Needed But Did Not Receive Treatment at a Specialty Facility¹ | | | | |
| Cost/Insurance Barriers ² | * | 16.3 | * | 36.5 |
| Not Ready to Stop Using | * | 34.5 | * | 39.8 |
| Stigma ^{3,7} | * | 26.5 | * | 22.4 |
| Did Not Know Where to Go for Treatment | * | 12.4 | * | 12.7 |
| Did Not Feel Need for Treatment/Could Handle the Problem Without Treatment ^{4,7} | * | 17.4 | * | 14.2 |
| Did Not Have Time ⁷ | * | 6.1 | * | 4.5 |
| Treatment Would Not Help ⁷ | * | 6.5 | * | 4.1 |
| Other Access Barriers ⁵ | * | 16.1 | * | 14.2 |
| Locations Where Past Year Substance Treatment was Received among Persons Who Received Treatment at a Specialty Facility⁶ | | | | |
| Self-Help Group | * | 51.0 | 57.5 | 64.8 |
| Outpatient Rehabilitation | * | 67.0 | 68.4 | 67.7 |
| Inpatient Rehabilitation | * | 41.2 | 37.1 | 44.9 |
| Mental Health Center | * | 42.1 | 48.2 | 42.1 |
| Hospital Inpatient | * | 36.0 | 34.9 | 33.4 |
| Private Doctor's Office | * | 15.8 | 19.3 | 12.7 |
| Emergency Room | * | 20.4 | 18.3 | 16.0 |
| Prison or Jail | * | 13.0 | 8.0 | 9.2 |

NOTES:
 *Low precision; no estimate reported.
 Needing But Not Receiving Treatment refers to respondents classified as needing treatment for illicit drugs or alcohol, but have not received treatment for an illicit drug or alcohol problem at a specialty facility.
 Felt Need for Treatment includes persons who did not receive but felt they needed treatment for an illicit drug or alcohol problem, as well as persons who received treatment at a location other than a specialty facility but felt they needed additional treatment.
¹ Respondents could indicate multiple reasons; thus, these response categories are not mutually exclusive.
² Includes reasons of "No health coverage and could not afford cost," "Had health coverage but did not cover treatment or did not cover cost," and other-specify responses of "Could not afford cost; health coverage not indicated."
³ Includes reasons of "Might cause neighbors/community to have negative opinion," "Might have negative effect on job," "Did not want others to find out," and other-specify responses of "Ashamed/embarrassed/afraid" and "Afraid would have trouble with the police/social services."
⁴ Includes reasons of "Did not feel need for treatment," "Could handle the problem without treatment," and other-specify responses of "Could do it with support of family/friends/ others," and "Could do it through religion/spirituality."
⁵ Includes reasons of "No transportation/inconvenient," "No program having type of treatment," "No openings in a program," and other-specify responses of "No program had counselor/doctors with whom you were comfortable," "Services desired were unavailable or you were currently ineligible," and "Attempted to get treatment but encountered delays."
⁶ Respondents could indicate multiple locations of treatment; thus, these response categories are not mutually exclusive.
⁷ Estimates are based only on combined 2003-2005 data.
 Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.14 Reasons for Not Receiving Mental Health Treatment among Persons Aged 12 or Older, by Age Group and Appalachian Region Status: Percentages, Annual Averages Based on 2002-2005

| | Age 12-17 | | Age 18 or Older | |
|--|--------------------|--------------------|--------------------|--------------------|
| | Appalachian Region | Outside Appalachia | Appalachian Region | Outside Appalachia |
| Reasons for Not Receiving Mental Health Treatment/Counseling among Persons with an Unmet Need for Mental Health Treatment^{1,2} | | | | |
| Cost/Insurance Barriers ² | N/A | N/A | 44.1 | 47.6 |
| Did Not Feel Need for Treatment/Could Handle the Problem Without Treatment ^{3,7} | N/A | N/A | 37.1 | 33.4 |
| Stigma ^{4,7} | N/A | N/A | 27.6 | 22.2 |
| Did not Know Where to Go for Services | N/A | N/A | 12.4 | 18.9 |
| Did Not Have Time ⁷ | N/A | N/A | 13.3 | 15.7 |
| Treatment Would Not Help ^{5,7} | N/A | N/A | 9.4 | 10.1 |
| Fear of Being Committed/Have to Take Medicine | N/A | N/A | 11.6 | 7.6 |
| Other Access Barriers ^{6,7} | N/A | N/A | 4.0 | 5.7 |

*Low precision; no estimate reported.

N/A: Not applicable.

NOTE: Unmet Need for Mental Health Treatment/Counseling is defined as a perceived need for treatment that was not received.

NOTE: Estimates represent reasons for not receiving mental health treatment/counseling for all persons aged 18 or older with an unmet need for treatment, including those with unknown mental health treatment/counseling information.

NOTE: Mental Health Treatment/Counseling is defined as having received inpatient care or outpatient care or having used prescription medication for problems with emotions, nerves, or mental health. Respondents were not to include treatment for drug or alcohol use. Respondents with unknown treatment/counseling information were excluded. Estimates were based only on responses to items in the Adult Mental Health Service Utilization module.

¹ Respondents could indicate multiple reasons; thus, these response categories are not mutually exclusive.

² Includes reasons of "Could not afford," "Health insurance does not pay enough," "Health insurance does not cover mental health treatment," and other-specify responses of "No health insurance."

³ Includes reasons of "Did not feel need for treatment," "Could handle problem without treatment," and other responses of "Work on problems with family/friends" and "Work on problems through religion/spirituality."

⁴ Includes reasons of "Might cause neighbors/community to have negative opinion," "Might have negative effect on job," "Concerned about confidentiality," "Did not want others to find out," and other-specify responses of "Ashamed/embarrassed/afraid," "Concerned how court system would treat me," and "Concerned how it would affect future insurability."

⁵ Includes reasons of "Did not feel need for treatment," "Could handle problem without treatment," and other-specify responses of "Work on problems with family/friends" and "Work on problems through religion/spirituality."

⁶ Includes reasons of "No transportation/inconvenient" and other-specify responses of "Too much red tape/hassle to get services," "No openings/long waiting lists/delays," "Services unavailable/limited in area," "Attempted to get treatment but unsuccessful in finding help," and "Could not find program/counselor comfortable with."

⁷ Estimates are based only on combined 2003-2005 data.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.15 Access to Alcohol Use Treatment among Persons Aged 12 or Older, by Age Group and Appalachian Sub-Region: Percentages, Annual Averages Based on 2002-2005

| | Age 12-17 | | | Age 18 or Older | | |
|--|-----------|---------|----------|-----------------|---------|----------|
| | Northern | Central | Southern | Northern | Central | Southern |
| Access to Alcohol Treatment^{1,2} | | | | | | |
| Needed But Not Received Alcohol Treatment | 6.2 | 4.2 | 5.3 | 6.8 | 4.6 | 5.8 |
| Felt Need for Alcohol Treatment | 0.2 | 0.5 | 0.1 | 0.4 | 0.5 | 0.3 |
| Felt Need for Alcohol Treatment and Made No Effort | 0.1 | 0.3 | 0.1 | 0.2 | 0.5 | 0.2 |

*Low precision; no estimate reported.

NOTE: Received Alcohol Treatment at a Specialty Facility refers to treatment received at a hospital (inpatient), rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop alcohol use, or for medical problems associated with alcohol use.

¹ Needing But Not Receiving Treatment refers to respondents classified as needing treatment for alcohol, but have not received treatment for an alcohol problem at a specialty facility (i.e., drug and alcohol rehabilitation facilities [inpatient or outpatient], hospitals [inpatient only], and mental health centers).

² Felt Need for Treatment includes persons who did not receive but felt they needed treatment for an alcohol problem, as well as persons who received treatment at a location other than a specialty facility but felt they needed additional treatment.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.16 Access to Drug Use Treatment among Persons Aged 12 or Older, by Age Group and Appalachian Sub-Region: Percentages, Annual Averages Based on 2002-2005

| | Age 12-17 | | | Age 18 or Older | | |
|--|-----------|---------|----------|-----------------|---------|----------|
| | Northern | Central | Southern | Northern | Central | Southern |
| Access to Drug Treatment^{1,2} | | | | | | |
| Needed But Not Received Treatment for an Illicit Drug Problem | 5.1 | 3.1 | 5.0 | 2.1 | 2.9 | 2.1 |
| Felt Need for Treatment for an Illicit Drug Problem | 0.3 | 0.3 | 0.2 | 0.2 | 0.5 | 0.3 |
| Felt Need for Treatment for an Illicit Drug Problem and Made No Effort | 0.1 | 0.2 | 0.2 | 0.2 | 0.5 | 0.3 |

*Low precision; no estimate reported.

NOTE: Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.

NOTE: Received Illicit Drug Treatment at a Specialty Facility refers to treatment received at a hospital (inpatient), rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop illicit drug use, or for medical problems associated with illicit drug use.

¹ Needing But Not Receiving Treatment refers to respondents classified as needing treatment for illicit drugs, but have not received treatment for an illicit drug problem at a specialty facility (i.e., drug and alcohol rehabilitation facilities [inpatient or outpatient], hospitals [inpatient only], and mental health centers.

² Felt Need for Treatment includes persons who did not receive but felt they needed treatment for an illicit drug problem, as well as persons who received treatment at a location other than a specialty facility but felt they needed additional treatment.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.17 Reasons for Not Receiving Mental Health Treatment among Persons Aged 12 or Older, by Age Group and Appalachian Sub-Region: Percentages, Annual Averages Based on 2002-2005

| | Age 12-17 | | | Age 18 or Older | | |
|--|-----------|---------|----------|-----------------|---------|----------|
| | Northern | Central | Southern | Northern | Central | Southern |
| Reasons for Not Receiving Mental Health Treatment/Counseling among Persons with an Unmet Need for Mental Health Treatment^{1,2} | | | | | | |
| Cost/Insurance Barriers ² | N/A | N/A | N/A | 41.4 | * | 48.1 |
| Did Not Feel Need for Treatment/Could Handle the Problem Without Treatment ^{3,7} | N/A | N/A | N/A | 37.5 | * | 36.9 |
| Stigma ^{4,7} | N/A | N/A | N/A | 28.5 | * | 26.9 |
| Did not Know Where to Go for Services | N/A | N/A | N/A | 12.2 | * | 12.8 |
| Did Not Have Time ⁷ | N/A | N/A | N/A | 12.3 | * | 15.4 |
| Treatment Would Not Help ^{5,7} | N/A | N/A | N/A | 12.6 | * | * |
| Fear of Being Committed/Have to Take Medicine | N/A | N/A | N/A | 9.9 | 8.2 | 14.0 |
| Other Access Barriers ^{6,7} | N/A | N/A | N/A | 4.9 | * | 4.1 |

*Low precision; no estimate reported.

N/A: Not applicable.

NOTE: Unmet Need for Mental Health Treatment/Counseling is defined as a perceived need for treatment that was not received.

NOTE: Estimates represent reasons for not receiving mental health treatment/counseling for all persons aged 18 or older with an unmet need for treatment, including those with unknown mental health treatment/counseling information.

NOTE: Mental Health Treatment/Counseling is defined as having received inpatient care or outpatient care or having used prescription medication for problems with emotions, nerves, or mental health. Respondents were not to include treatment for drug or alcohol use. Respondents with unknown treatment/counseling information were excluded. Estimates were based only on responses to items in the Adult Mental Health Service Utilization module.

¹ Respondents could indicate multiple reasons; thus, these response categories are not mutually exclusive.

² Includes reasons of "Could not afford," "Health insurance does not pay enough," "Health insurance does not cover mental health treatment," and other-specify responses of "No health insurance."

³ Includes reasons of "Did not feel need for treatment," "Could handle problem without treatment," and other-specify responses of "Work on problems with family/friends" and "Work on problems through religion/spirituality."

⁴ Includes reasons of "Might cause neighbors/community to have negative opinion," "Might have negative effect on job," "Concerned about confidentiality," "Did not want others to find out," and other-specify responses of "Ashamed/embarrassed/afraid," "Concerned how court system would treat me," and "Concerned how it would affect future insurability."

⁵ Includes reasons of "Did not feel need for treatment," "Could handle problem without treatment," and other-specify responses of "Work on problems with family/friends" and "Work on problems through religion/spirituality."

⁶ Includes reasons of "No transportation/inconvenient" and other-specify responses of "Too much red tape/hassle to get services," "No openings/long waiting lists/delays," "Services unavailable/limited in area," "Attempted to get treatment but unsuccessful in finding help," and "Could not find program/counselor comfortable with."

⁷ Estimates are based only on combined 2003-2005 data.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.18 Access to Alcohol Use Treatment among Persons Aged 12 or Older, by Age Group and Appalachian Socioeconomic Status: Percentages, Annual Averages Based on 2002-2005

| | Age 12-17 | | | Age 18 or Older | | |
|--|-----------------------|--------------|---------------------------|-----------------------|--------------|---------------------------|
| | At-Risk or Distressed | Transitional | Competitive or Attainment | At-Risk or Distressed | Transitional | Competitive or Attainment |
| Access to Alcohol Treatment^{1,2} | | | | | | |
| Needed But Not Received Alcohol Treatment | 4.9 | 6.3 | 4.5 | 4.5 | 6.4 | 6.6 |
| Felt Need for Alcohol Treatment | 0.6 | 0.1 | 0.1 | 0.4 | 0.3 | 0.4 |
| Felt Need for Alcohol Treatment and Made No Effort | 0.3 | 0.1 | 0.0 | 0.3 | 0.2 | 0.2 |

*Low precision; no estimate reported.

NOTE: Received Alcohol Treatment at a Specialty Facility refers to treatment received at a hospital (inpatient), rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop alcohol use, or for medical problems associated with alcohol use.

¹ Needing But Not Receiving Treatment refers to respondents classified as needing treatment for alcohol, but have not received treatment for an alcohol problem at a specialty facility (i.e., drug and alcohol rehabilitation facilities [inpatient or outpatient], hospitals [inpatient only], and mental health centers).

² Felt Need for Treatment includes persons who did not receive but felt they needed treatment for an alcohol problem, as well as persons who received treatment at a location other than a specialty facility but felt they needed additional treatment.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.19 Access to Drug Treatment among Persons Aged 12 or Older, by Age Group and Appalachian Socioeconomic Status: Percentages, Annual Averages Based on 2002-2005

| | Age 12-17 | | | Age 18 or Older | | |
|--|-----------------------|--------------|---------------------------|-----------------------|--------------|---------------------------|
| | At-Risk or Distressed | Transitional | Competitive or Attainment | At-Risk or Distressed | Transitional | Competitive or Attainment |
| Access to Drug Treatment^{1,2} | | | | | | |
| Needed But Not Received Treatment for an Illicit Drug Problem | 4.7 | 5.3 | 4.0 | 2.3 | 2.3 | 1.8 |
| Felt Need for Treatment for an Illicit Drug Problem | 0.5 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 |
| Felt Need for Treatment for an Illicit Drug Problem and Made No Effort | 0.3 | 0.1 | 0.2 | 0.3 | 0.2 | 0.3 |

*Low precision; no estimate reported.

NOTE: Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.

NOTE: Received Illicit Drug Treatment at a Specialty Facility refers to treatment received at a hospital (inpatient), rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop illicit drug use, or for medical problems associated with illicit drug use.

¹ Needing But Not Receiving Treatment refers to respondents classified as needing treatment for illicit drugs, but have not received treatment for an illicit drug problem at a specialty facility (i.e., drug and alcohol rehabilitation facilities [inpatient or outpatient], hospitals [inpatient only], and mental health centers.

² Felt Need for Treatment includes persons who did not receive but felt they needed treatment for an illicit drug problem, as well as persons who received treatment at a location other than a specialty facility but felt they needed additional treatment.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

Table 2.20 Reasons for Not Receiving Mental Health Treatment/Counseling among Persons Aged 12 or Older, by Age Group and Appalachian Socioeconomic Status: Percentages, Annual Averages Based on 2002-2005

| | Age 12-17 | | | Age 18 or Older | | |
|--|-----------------------|--------------|---------------------------|-----------------------|--------------|---------------------------|
| | At-Risk or Distressed | Transitional | Competitive or Attainment | At-Risk or Distressed | Transitional | Competitive or Attainment |
| Reasons for Not Receiving Mental Health Treatment/Counseling among Persons with an Unmet Need for Mental Health Treatment^{1,2} | | | | | | |
| Cost/Insurance Barriers ² | N/A | N/A | N/A | 37.0 | 49.1 | 37.6 |
| Did Not Feel Need for Treatment /Could Handle the Problem Without Treatment ^{3,7} | N/A | N/A | N/A | 34.2 | 30.4 | * |
| Stigma ^{4,7} | N/A | N/A | N/A | 30.6 | 27.0 | * |
| Did not Know Where to Go for Services | N/A | N/A | N/A | 10.3 | 14.1 | 9.9 |
| Did Not Have Time ⁷ | N/A | N/A | N/A | 11.5 | 13.8 | 14.0 |
| Treatment Would Not Help ^{5,7} | N/A | N/A | N/A | 5.6 | 8.7 | * |
| Fear of Being Committed/Have to Take Medicine | N/A | N/A | N/A | 15.0 | 10.7 | 11.0 |
| Other Access Barriers ^{6,7} | N/A | N/A | N/A | 2.1 | 5.0 | 3.6 |

*Low precision; no estimate reported.

N/A: Not applicable.

NOTE: Unmet Need for Mental Health Treatment/Counseling is defined as a perceived need for treatment that was not received.

NOTE: Estimates represent reasons for not receiving mental health treatment/counseling for all persons aged 18 or older with an unmet need for treatment, including those with unknown mental health treatment/counseling information.

NOTE: Mental Health Treatment/Counseling is defined as having received inpatient care or outpatient care or having used prescription medication for problems with emotions, nerves, or mental health. Respondents were not to include treatment for drug or alcohol use. Respondents with unknown treatment/counseling information were excluded. Estimates were based only on responses to items in the Adult Mental Health Service Utilization module.

¹ Respondents could indicate multiple reasons; thus, these response categories are not mutually exclusive.

² Includes reasons of "Could not afford," "Health insurance does not pay enough," "Health insurance does not cover mental health treatment," and other-specify responses of "No health insurance."

³ Includes reasons of "Did not feel need for treatment," "Could handle problem without treatment," and other-specify responses of "Work on problems with family/friends" and "Work on problems through religion/spirituality."

⁴ Includes reasons of "Might cause neighbors/community to have negative opinion," "Might have negative effect on job," "Concerned about confidentiality," "Did not want others to find out," and other-specify responses of "Ashamed/embarrassed/afraid," "Concerned how court system would treat me," and "Concerned how it would affect future insurability."

⁵ Includes reasons of "Did not feel need for treatment," "Could handle problem without treatment," and other-specify responses of "Work on problems with family/friends" and "Work on problems through religion/spirituality."

⁶ Includes reasons of "No transportation/inconvenient" and other-specify responses of "Too much red tape/hassle to get services," "No openings/long waiting lists/delays," "Services unavailable/limited in area," "Attempted to get treatment but unsuccessful in finding help," and "Could not find program/counselor comfortable with."

⁷ Estimates are based only on combined 2003-2005 data.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, and 2005.

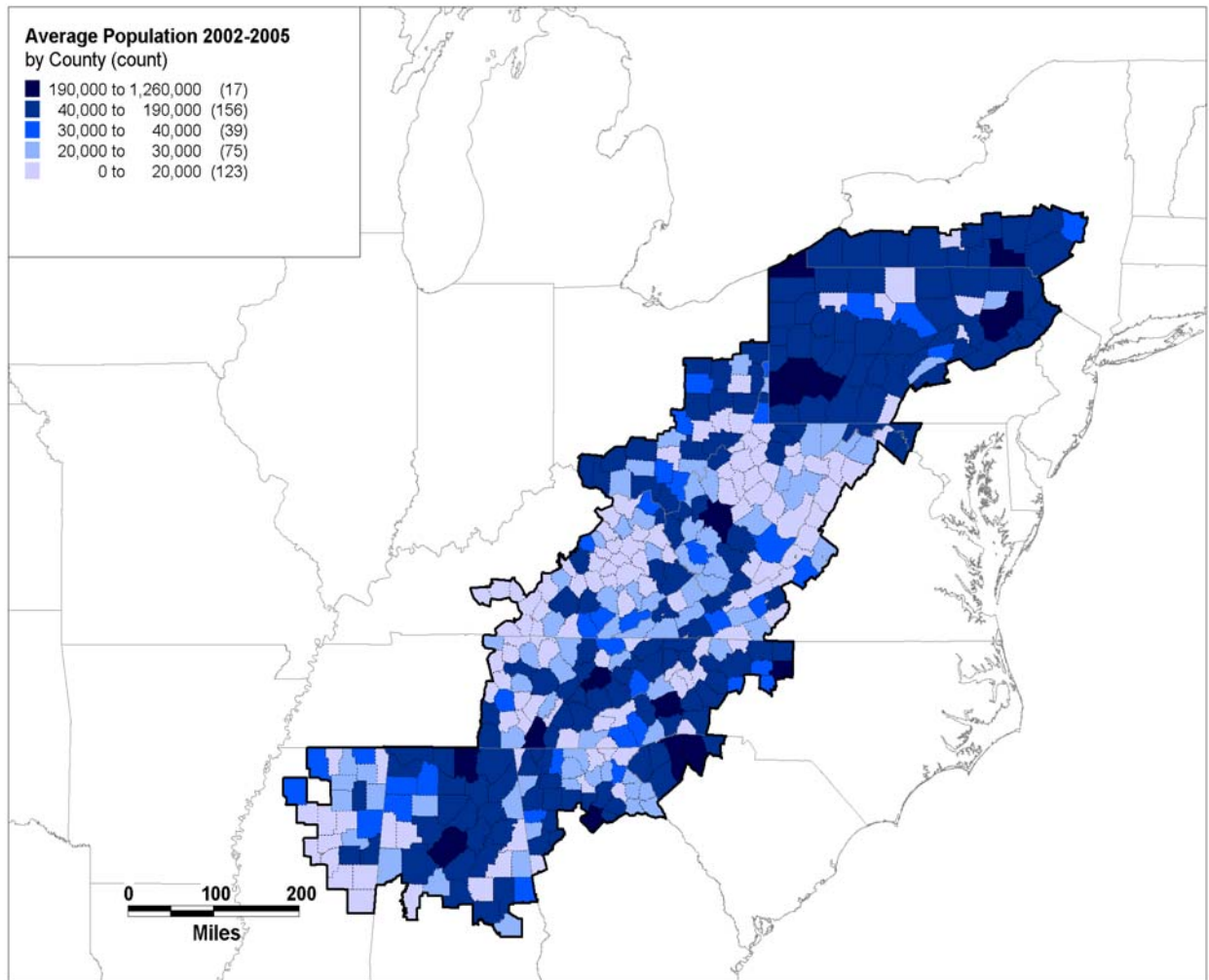
2.4.2 Maps

The first maps in this section present information relative to the county-level population of the 410 Appalachian counties, and the NSDUH sample sizes for each county for both adults and adolescents. Map 2.1 shows the average population for each of the 410 counties within the Appalachian region for the years 2002 to 2005. Maps 2.2 and 2.3 show the number of individuals sampled as part of the NSDUH survey for those same years; Map 2.2 shows the numbers of adults age 18 and over by county, and Map 2.3 shows the number of adolescents sampled by county. As would be expected, areas with higher populations are more likely to have residents included in the NSDUH sample. Note that several counties (58 among adult sample; 10 among adolescent sample) have zero respondents, and many others have between only 1 and 5 respondents (31 among adult sample; 76 among adolescent sample). The small sample sizes make county-level analyses impossible. To address this issue, and with the help of the SAMHSA Office of Applied Studies, we were provided with aggregated data based on Appalachian sub-region (northern, central, and southern) and ARC designated economic development status (distressed, at-risk, transitional, competitive, and attainment), and analyses were conducted accordingly, as presented earlier in this chapter. Also note that three Appalachian states, New York, Pennsylvania, and Ohio, are among the NSDUH large sample states, so that county samples in these states are higher.

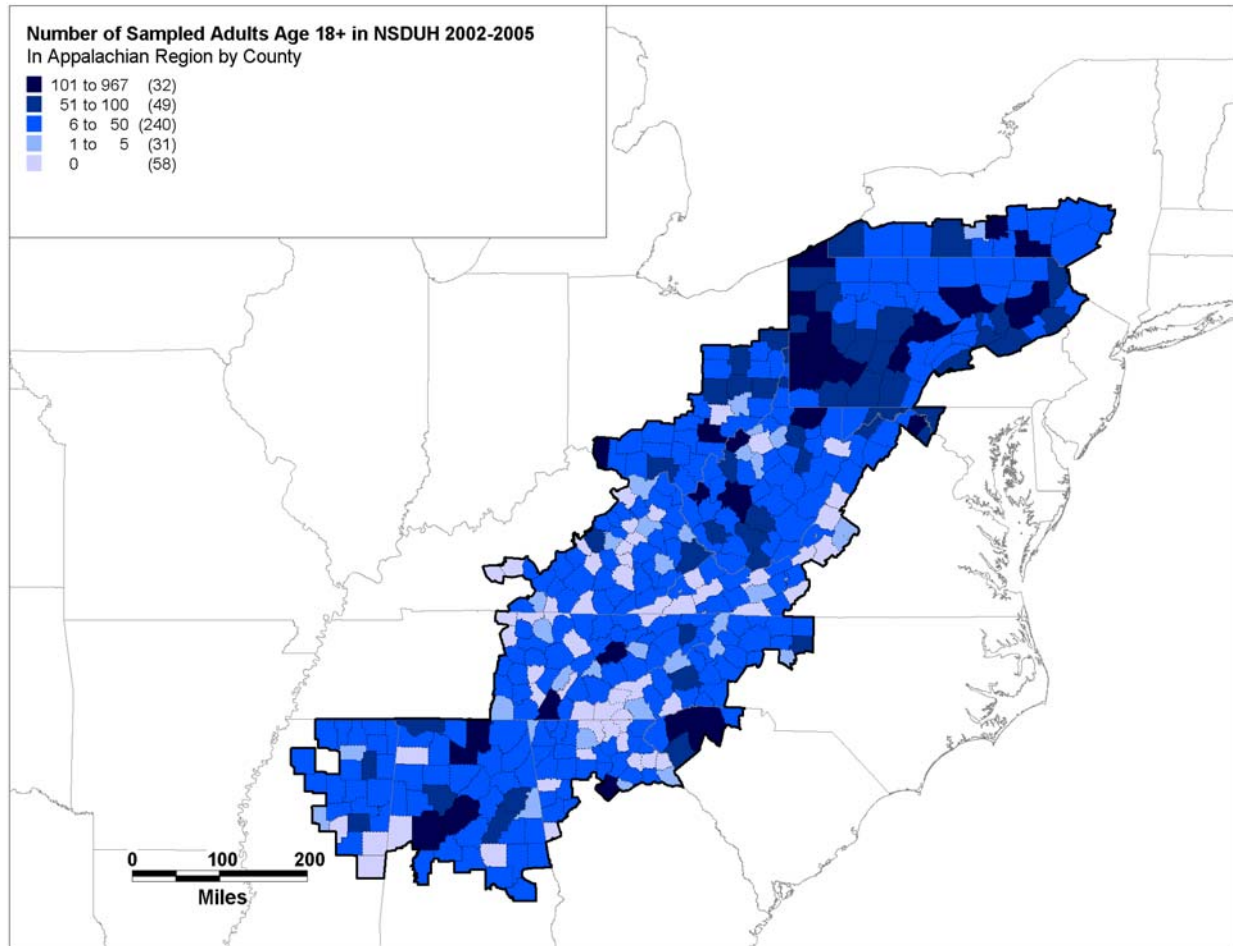
NORC was not provided with data for individual counties, however, so we are unable to map results using ARC-defined categories. Rather, the remaining maps in this section present data according to NSDUH-defined sub-regions (described earlier in the chapter), which do not perfectly correspond to the ARC region. To accurately portray these maps, we present estimated values for all selected substance use and serious psychological distress measures using the NSDUH defined region as the unit of analysis. As such, all counties within those regions are applied the same estimate as generated by SAMHSA's Office of Applied Studies (OAS, 2006²³). These estimates are then mapped showing the full NSDUH sub-state areas, the ARC boundary, and state and county boundaries within Appalachia, to assist in pattern detection. Readers should be cautious in generalizing regional estimates to the county level.

Population & Sample

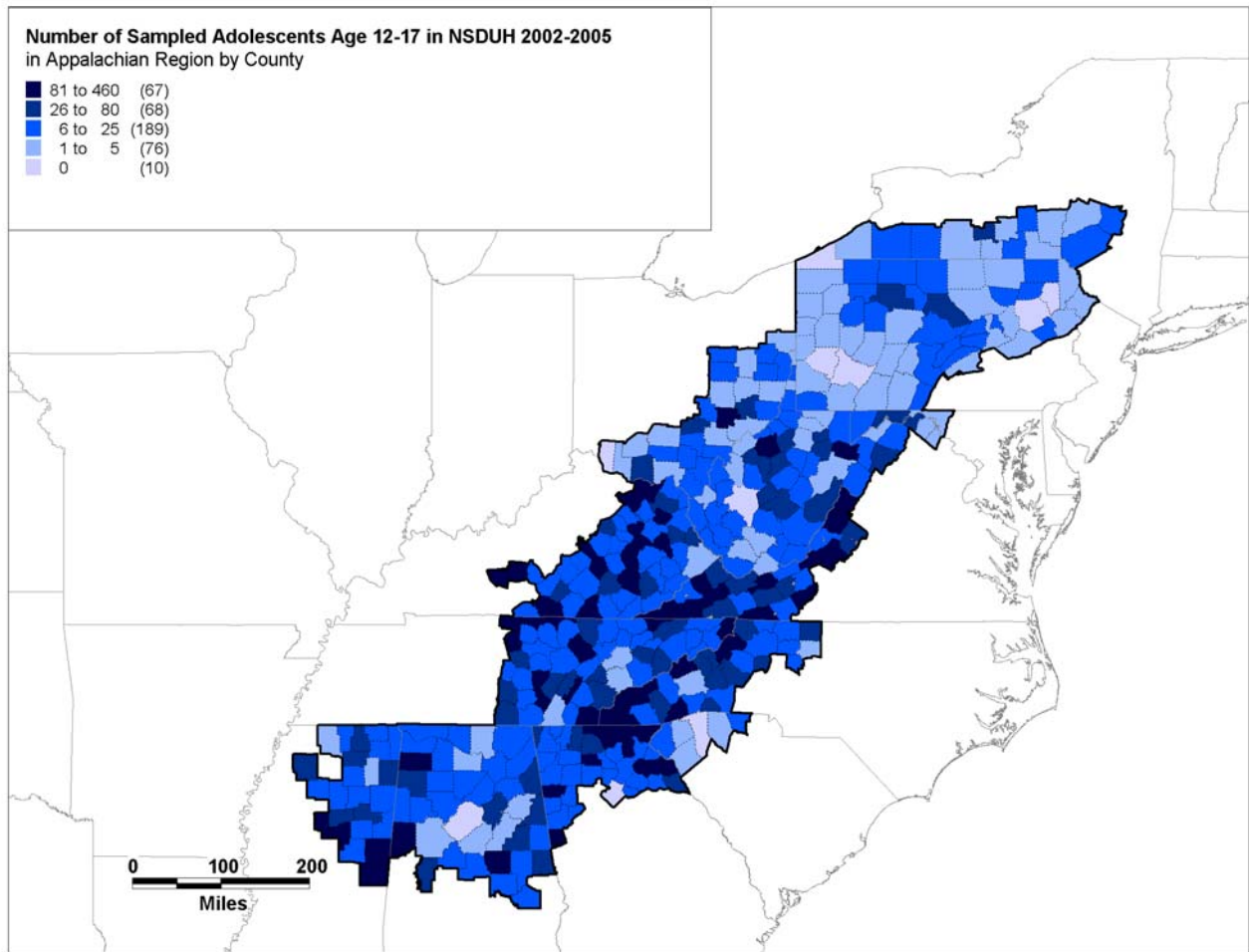
Map 2.1 Average Population 2002-2005, in the Appalachian Region by County



Map 2.2 Number of Sampled Adults Age 18 or older in NSDUH 2002-2005, in the Appalachian Region by County

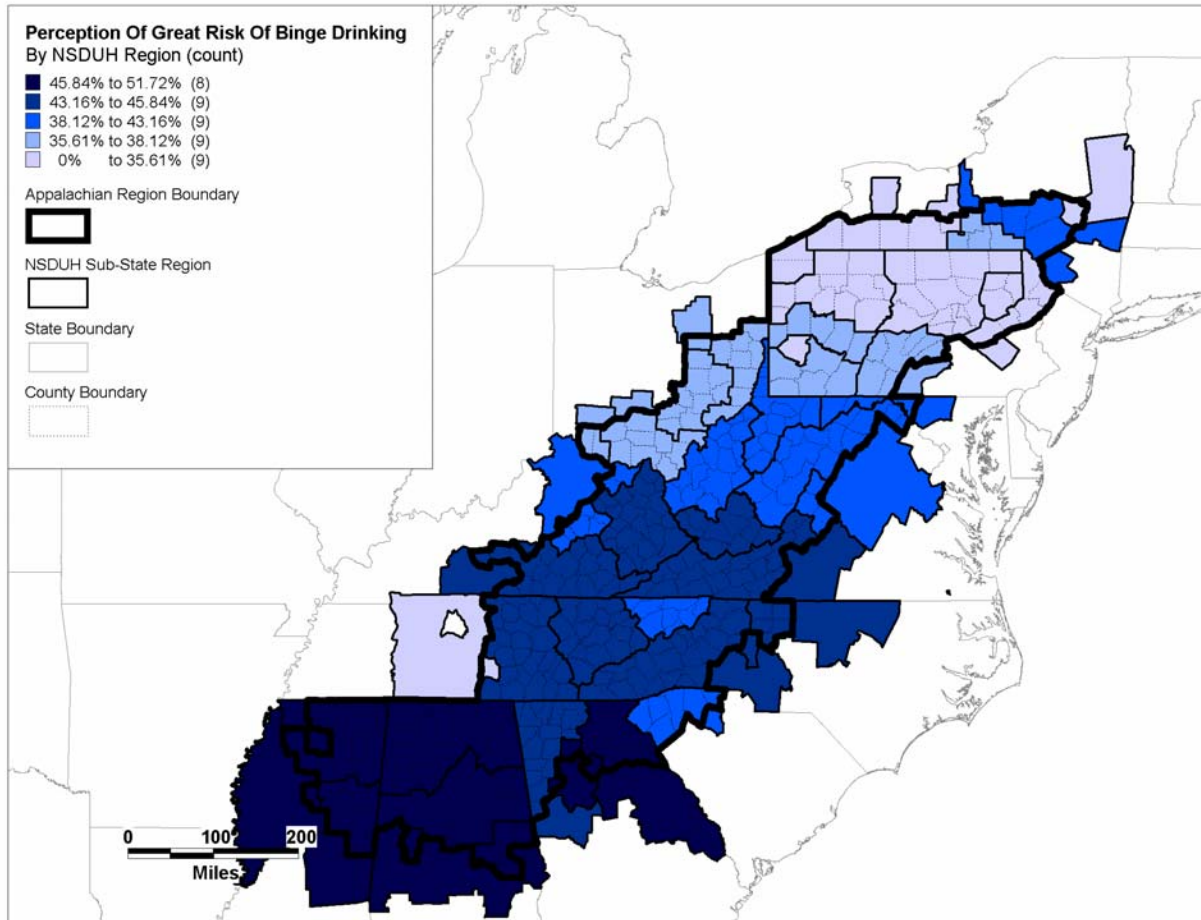


Map 2.3 Number of Sampled Adolescents Age 12 – 17 in NSDUH 2002-2005, in the Appalachian Region by County



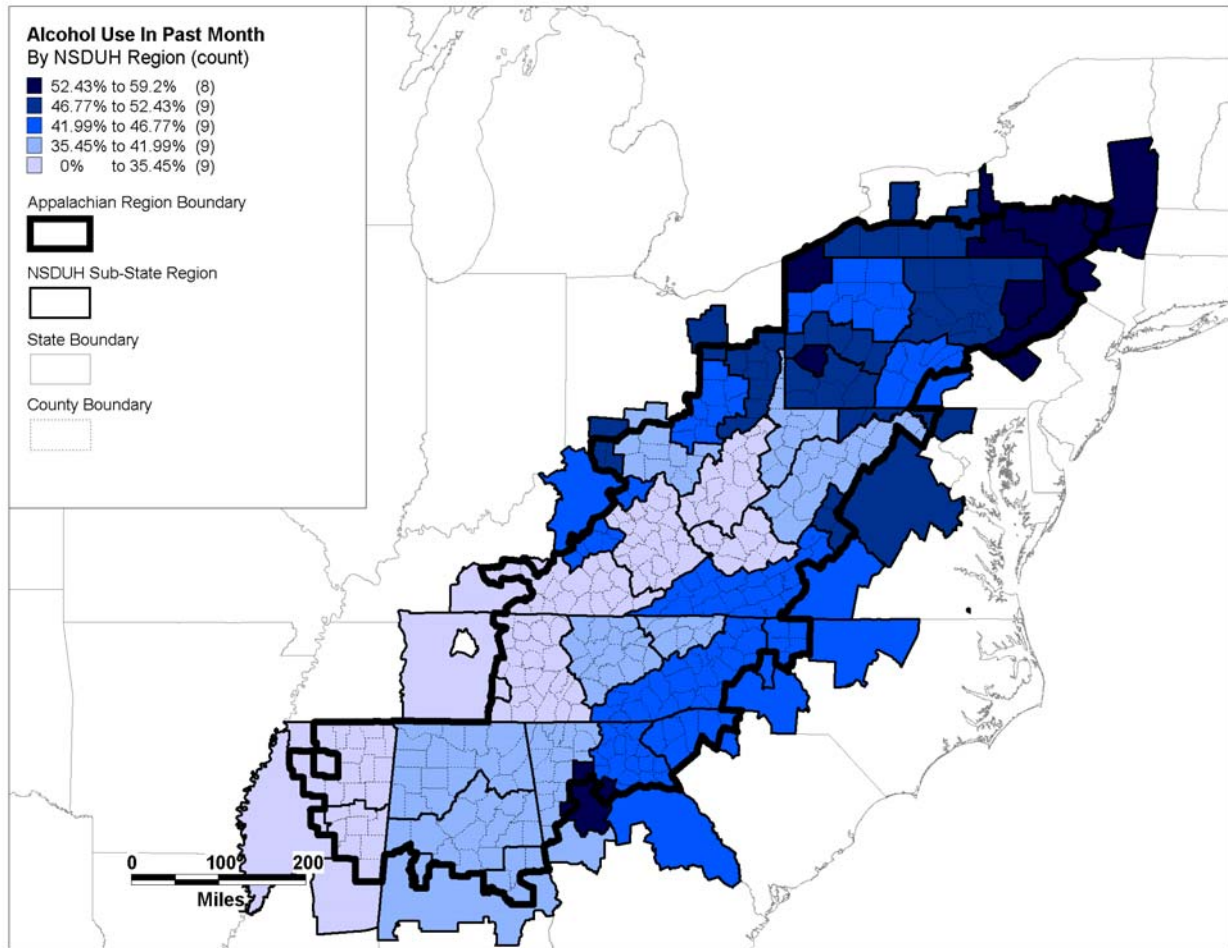
Alcohol Use

Map 2.4 Perception of Great Risk of Binge Drinking, by NSDUH Sub-Region, 2002-2005



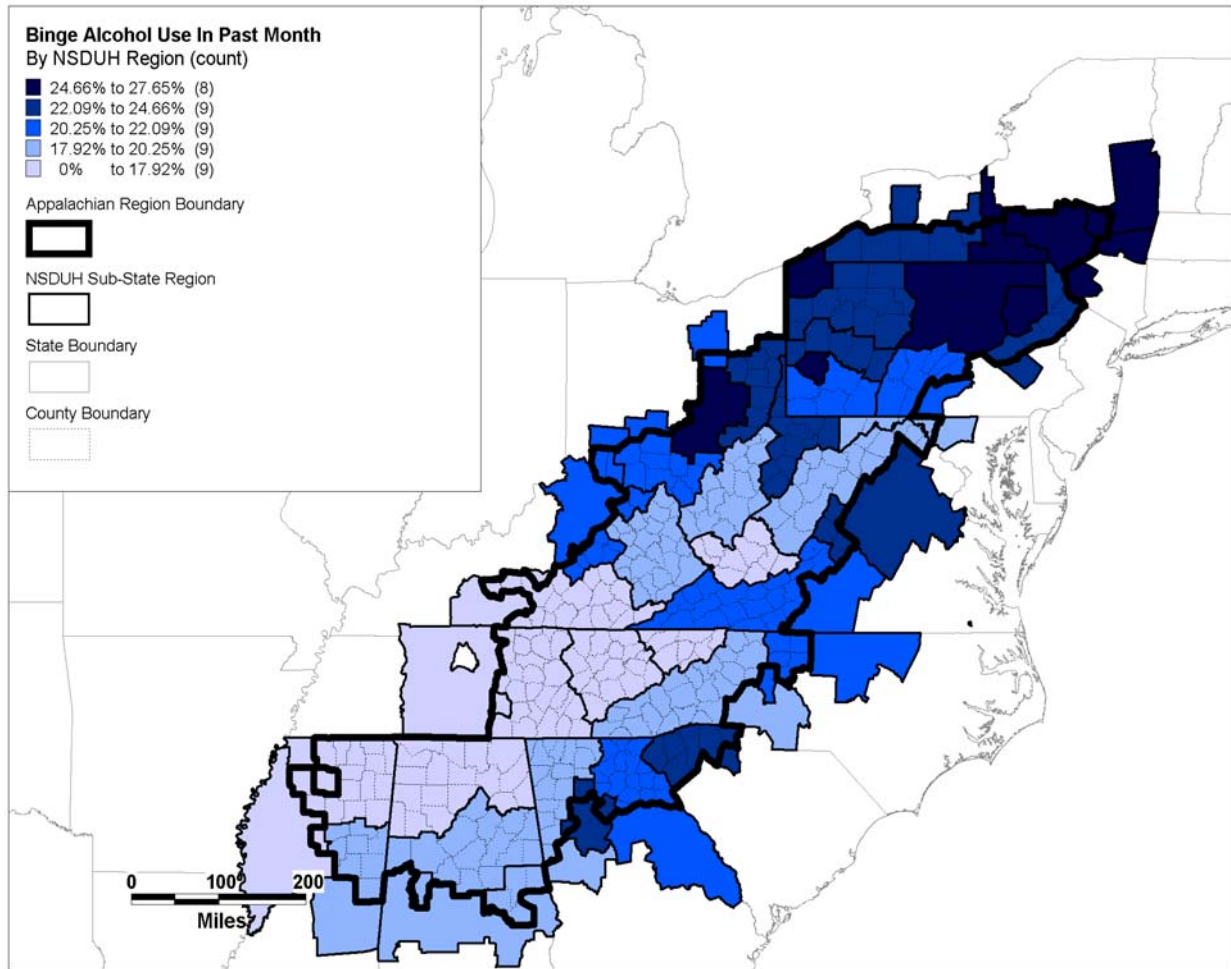
Map 2.4 shows the percentage distributions among persons age 12 or older who perceived the risk of binge drinking as a 'great risk.' NSDUH respondents were asked how much they thought people risk harming themselves by binge drinking (great risk, moderate risk, slight risk, no risk). Perceived great risk of binge drinking is higher in the NSDUH sub-state areas corresponding to central Appalachia, and highest in the NSDUH sub-state areas corresponding to southern Appalachia. Perception of great risk of binge drinking appears to be lowest for NSDUH sub-state areas that include northern Pennsylvania and the southern tier of New York State.

Map 2.5 Alcohol Use in Past Month, by NSDUH Sub-Region, 2002-2005



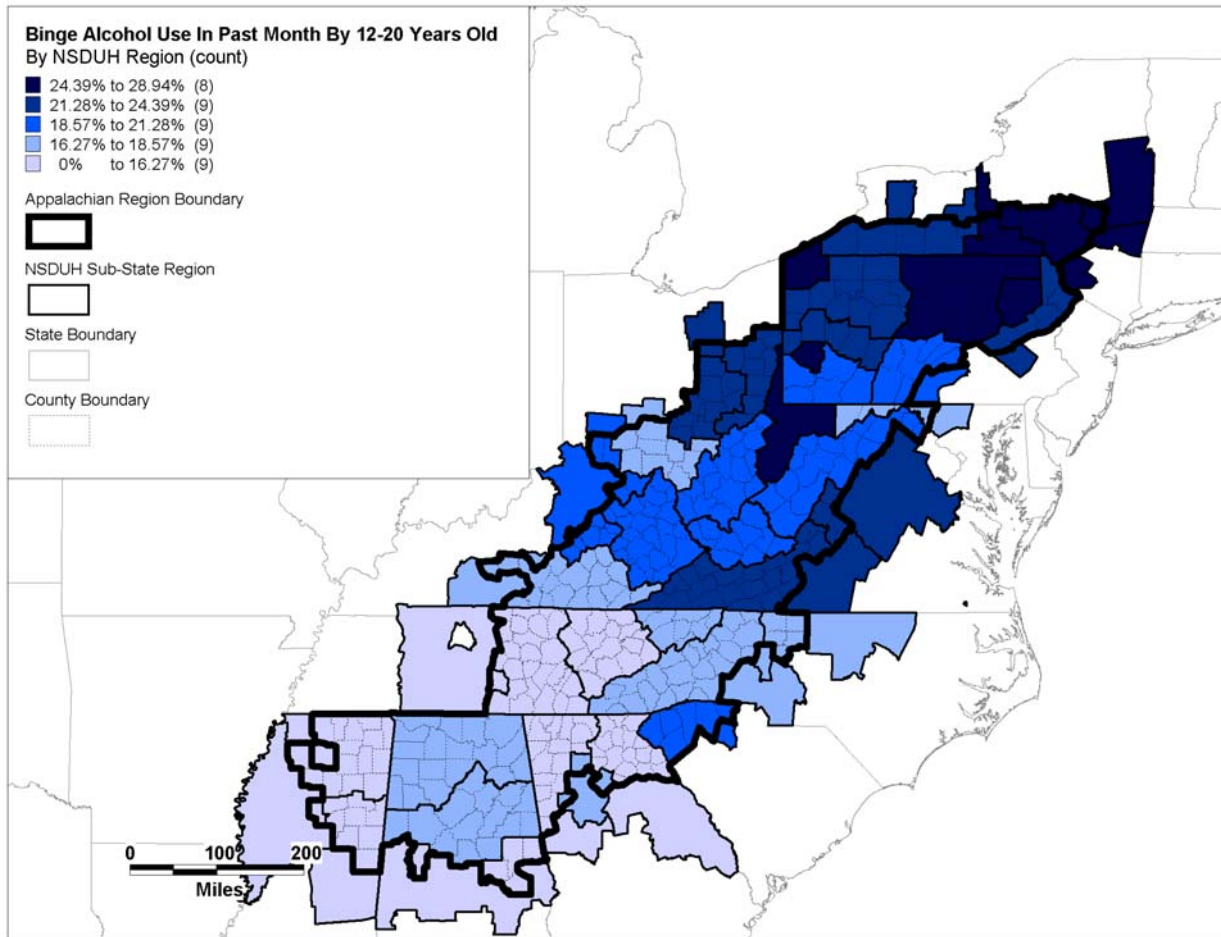
Map 2.5 shows the percentages of alcohol use in the past month among all persons age 12 or older, which appears highest in the NSDUH sub-state areas that include the Appalachian portions of Pennsylvania and New York.

Map 2.6 Binge Alcohol Use in Past Month, by NSDUH Sub-Region, 2002-2005



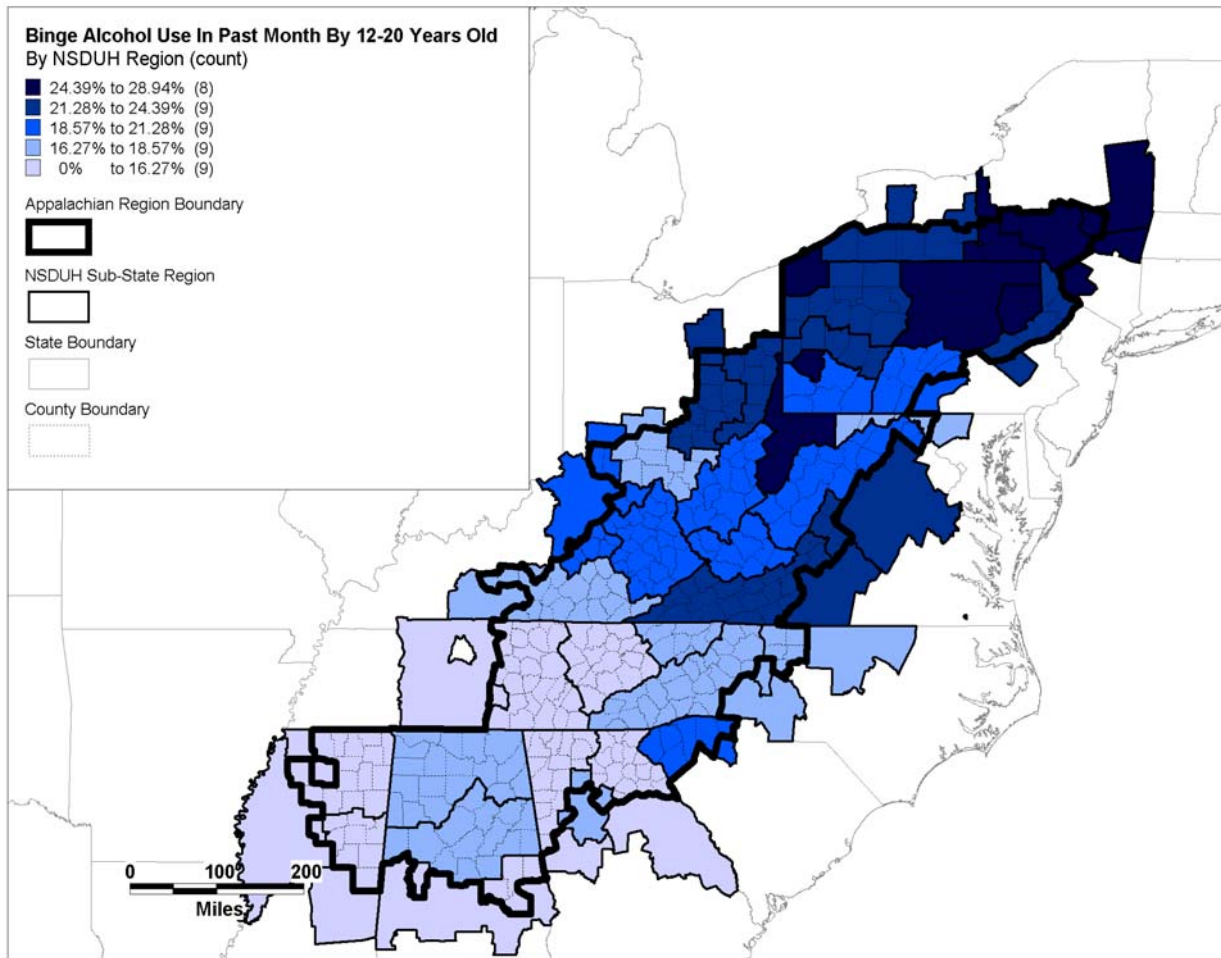
Map 2.6 shows binge drinking percentages among people age 12 or older in the past month. Rates are highest in the NSDUH sub-state areas corresponding to northern Appalachia, with particularly high rates in the southern tier of New York, northern Pennsylvania, and eastern Ohio. Notably, rates appear highest in those areas where perception of risk was lowest (i.e., northern Appalachia), and lowest in those areas where perception of risk as highest (i.e., southern Appalachia) (see Map 2.4).

Map 2.7 Alcohol Use in Past Month Among Persons Aged 12-20, by NSDUH Sub-Region, 2002-2005



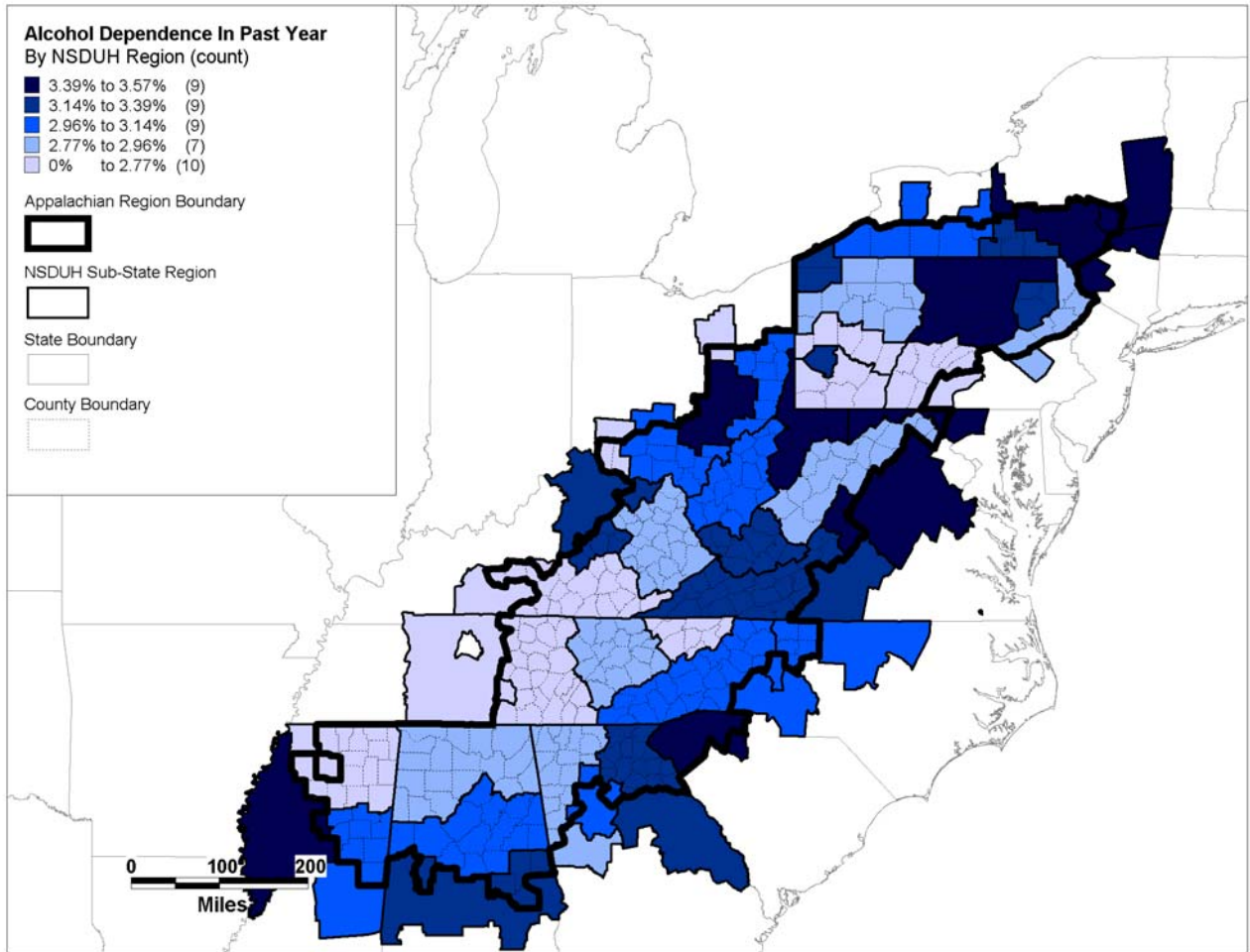
Map 2.7 shows percentages of alcohol use in the past month among youth or young adults age 12-20, which, as with those among all persons age 12 or older, appears highest in the NSDUH sub-state areas that include the Appalachian portions of Pennsylvania and New York. Additionally, rates appear higher among adolescents in NSDUH sub-state areas corresponding to central Appalachia as compared to adults, and somewhat lower in NSDUH sub-state areas corresponding to southern Appalachia as compared to adults.

Map 2.8 Binge Alcohol Use in Past Month, Persons Aged 12-20, by NSDUH Sub-Region, 2002-2005



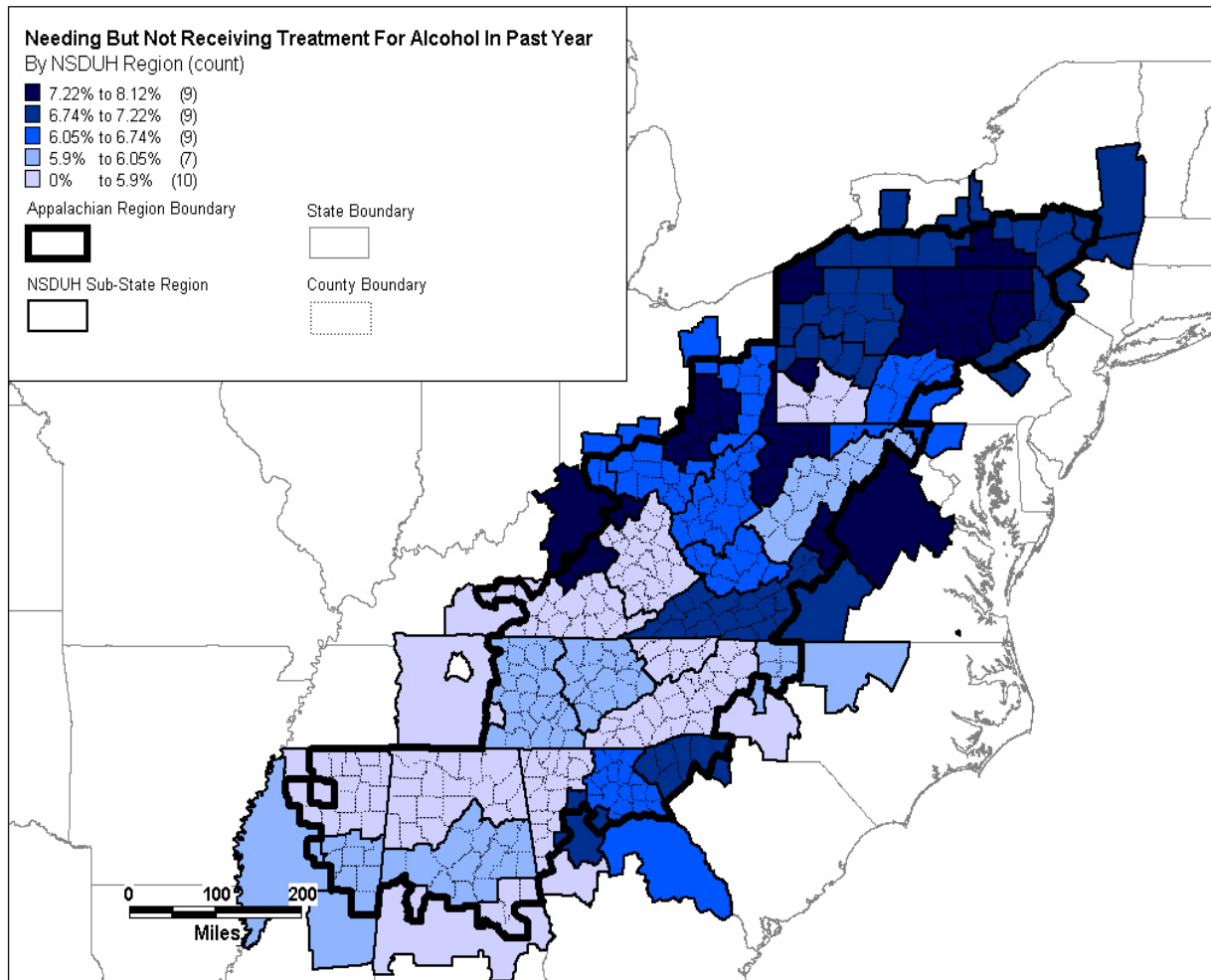
Map 2.8 shows binge drinking in the past month, among adolescents or young adults age 12-20 however. As before, rates are highest in the NSDUH sub-state areas corresponding to northern Appalachia, with particularly high rates in the southern tier of New York, northern Pennsylvania, and eastern Ohio. As compared to adults, however, rates also appear higher in NSDUH sub-state areas corresponding to central Appalachia. Also as before, rates appear highest in those areas where perception of risk was lowest (i.e., northern Appalachia), and lowest in those areas where perception of risk as highest (i.e., southern Appalachia) (see Map 2.4).

Map 2.9 Alcohol Dependence in Past Year, by NSDUH Sub-Region, 2002-2005



Map 2.9 shows alcohol dependence in the past year among persons age 12 or older. Rates fluctuate across the region, but appear highest in the NSDUH sub-state areas corresponding to northeast Pennsylvania, the Appalachian portions of Virginia and South Carolina, as well as areas within Ohio and West Virginia, and Georgia.

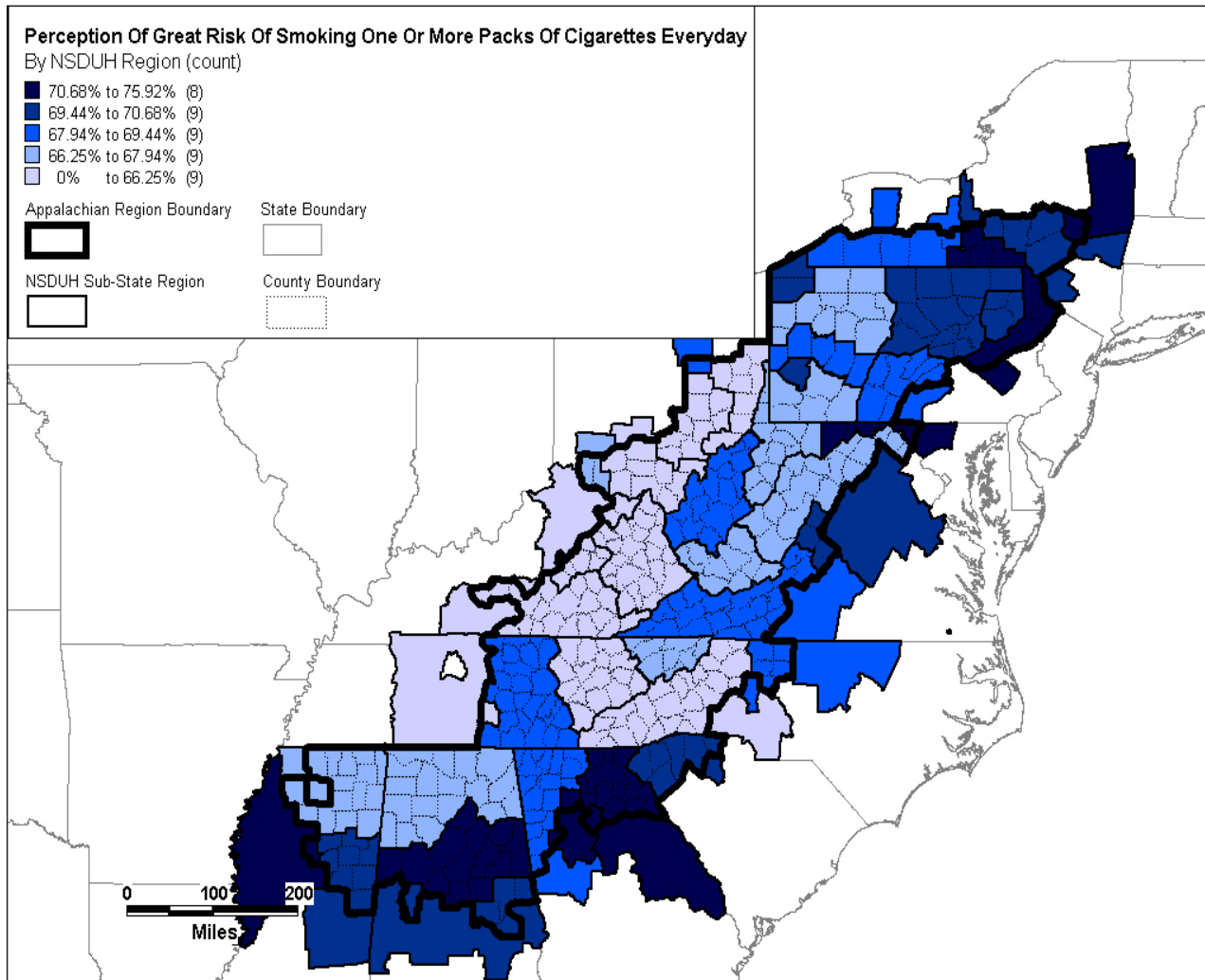
Map 2.10 Needing But Not Receiving Treatment in Past Year for Alcohol Use, by NSDUH Sub-Region, 2002-2005



Map 2.10 shows rates of individuals needing but not receiving treatment for alcohol in the past year among adults. Rates are highest in NSDUH sub-state areas corresponding to northern Appalachia, with particularly high rates in the northern portion of Pennsylvania, the southern tier of New York, and portions of Ohio and West Virginia. Rates appear low in most NSDUH sub-state areas corresponding to southern Appalachia, as well as eastern Kentucky.

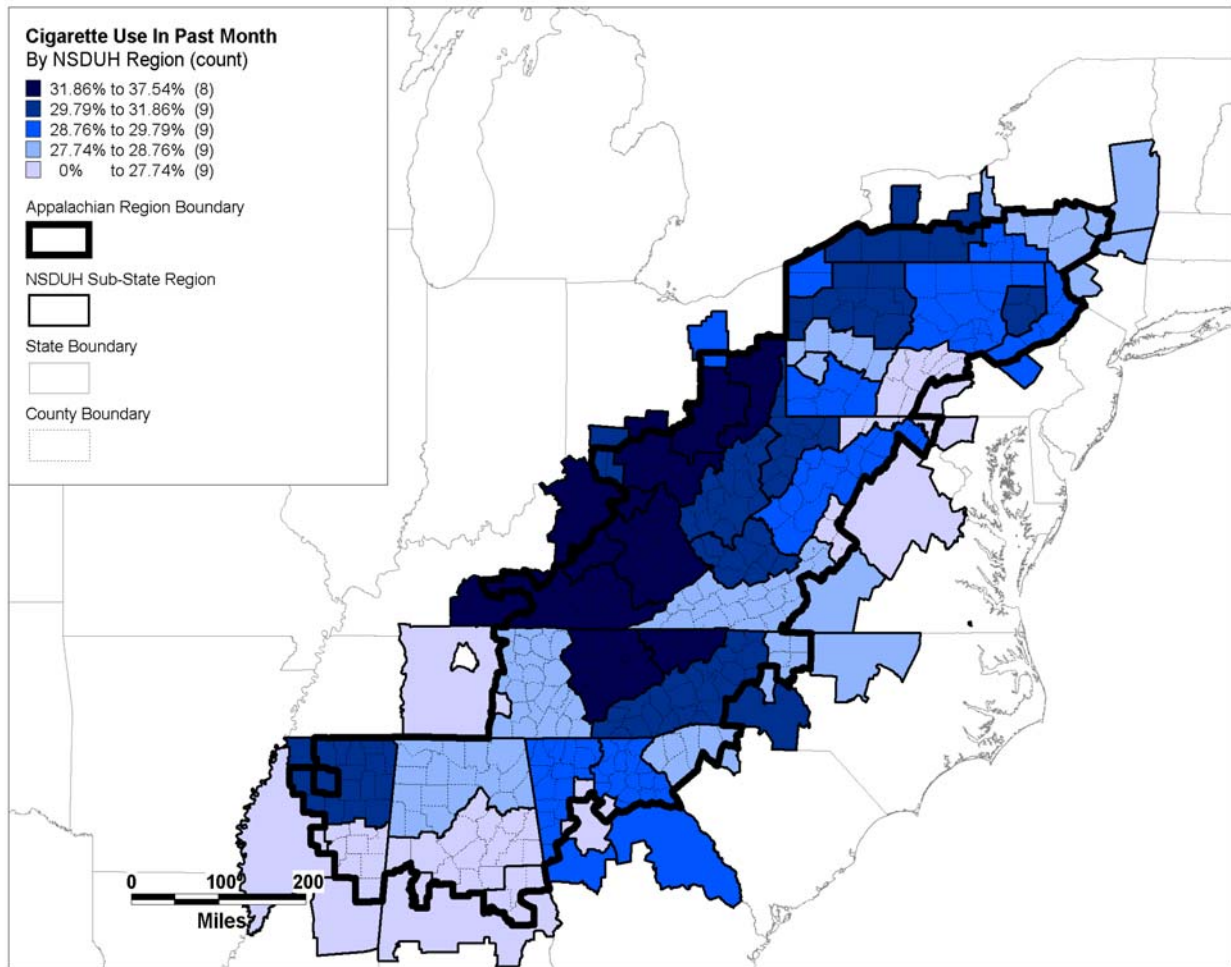
Cigarette Use

Map 2.11 Perception of Great Risk of Smoking One or More Packs of Cigarettes Everyday, by NSDUH Sub-Region, 2002-2005



Map 2.11 shows the percentages of persons age 12 or older who perceived 'great risk' of smoking one more packs of cigarettes per day. NSDUH respondents were asked how much they thought people risk harming themselves by smoking one or more packs of cigarettes per day (great risk, moderate risk, slight risk, no risk). Perceived risk is highest in NSDUH sub-state areas corresponding to the far southern portions of Appalachia, as well in the far northeastern portion of Appalachia. Perceived risk is low in the NSDUH sub-state areas corresponding to the Appalachian region of Ohio, eastern Kentucky, as well as in areas of Tennessee and North Carolina.

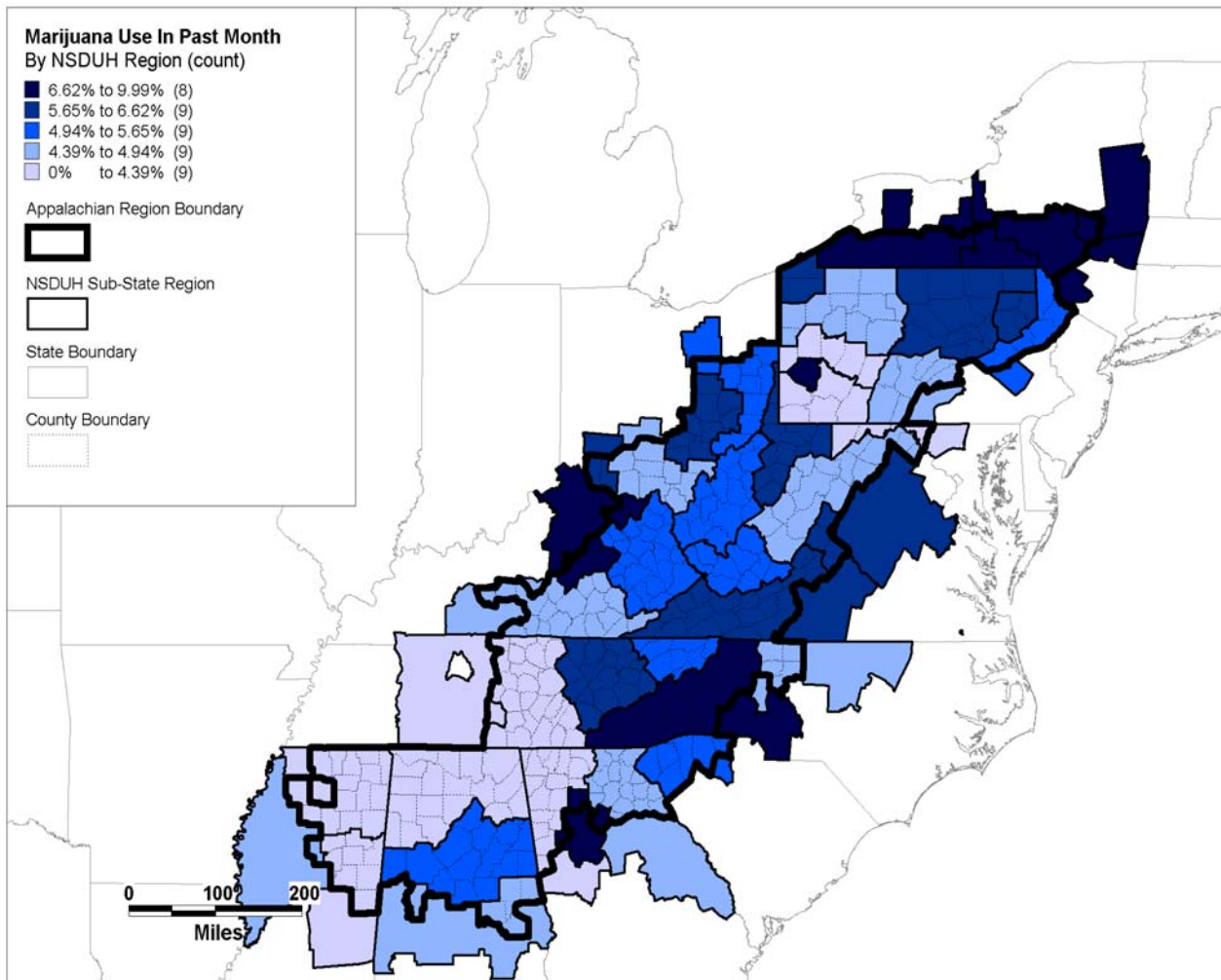
Map 2.12 Cigarette Use in Past Month, by NSDUH Sub-Region, 2002-2005



Map 2.12 presents actual cigarette use in the past month, which contrasts noticeably from the prior map. For areas where Map 2.11 shows low perceived risk, rates appear to actually be highest. This includes the Appalachian portions of Ohio, eastern Kentucky, eastern Tennessee, and western North Carolina.

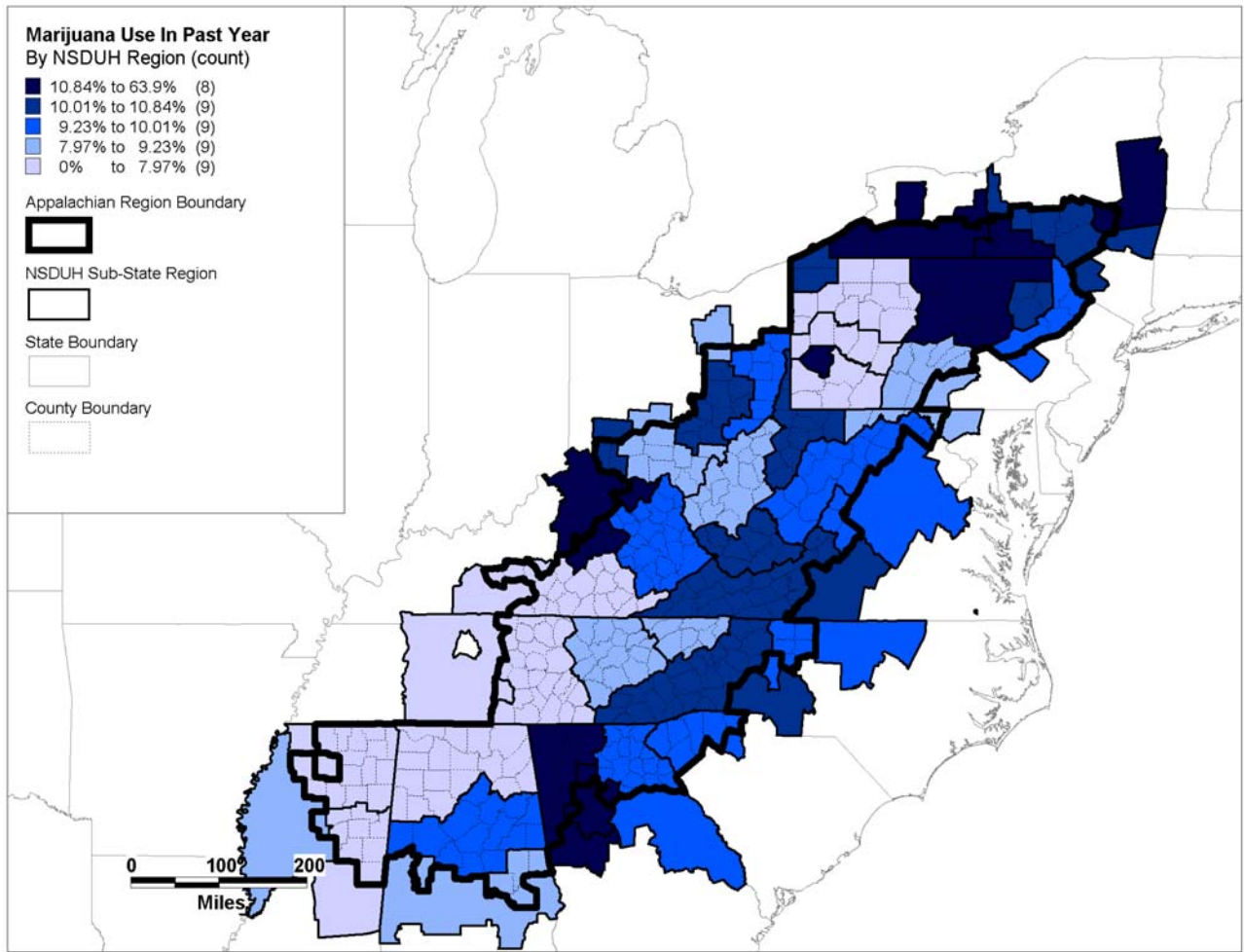
Marijuana Use

Map 2.13 Marijuana Use in Past Month, by NSDUH Sub-Region, 2002-2005



Map 2.13 shows past month marijuana use among persons age 12 or older, which appears highest in NSDUH sub-state areas corresponding to northern and central Appalachia. Highest rates appear in NSDUH sub-state areas corresponding to western North Carolina and the southern tier of New York.

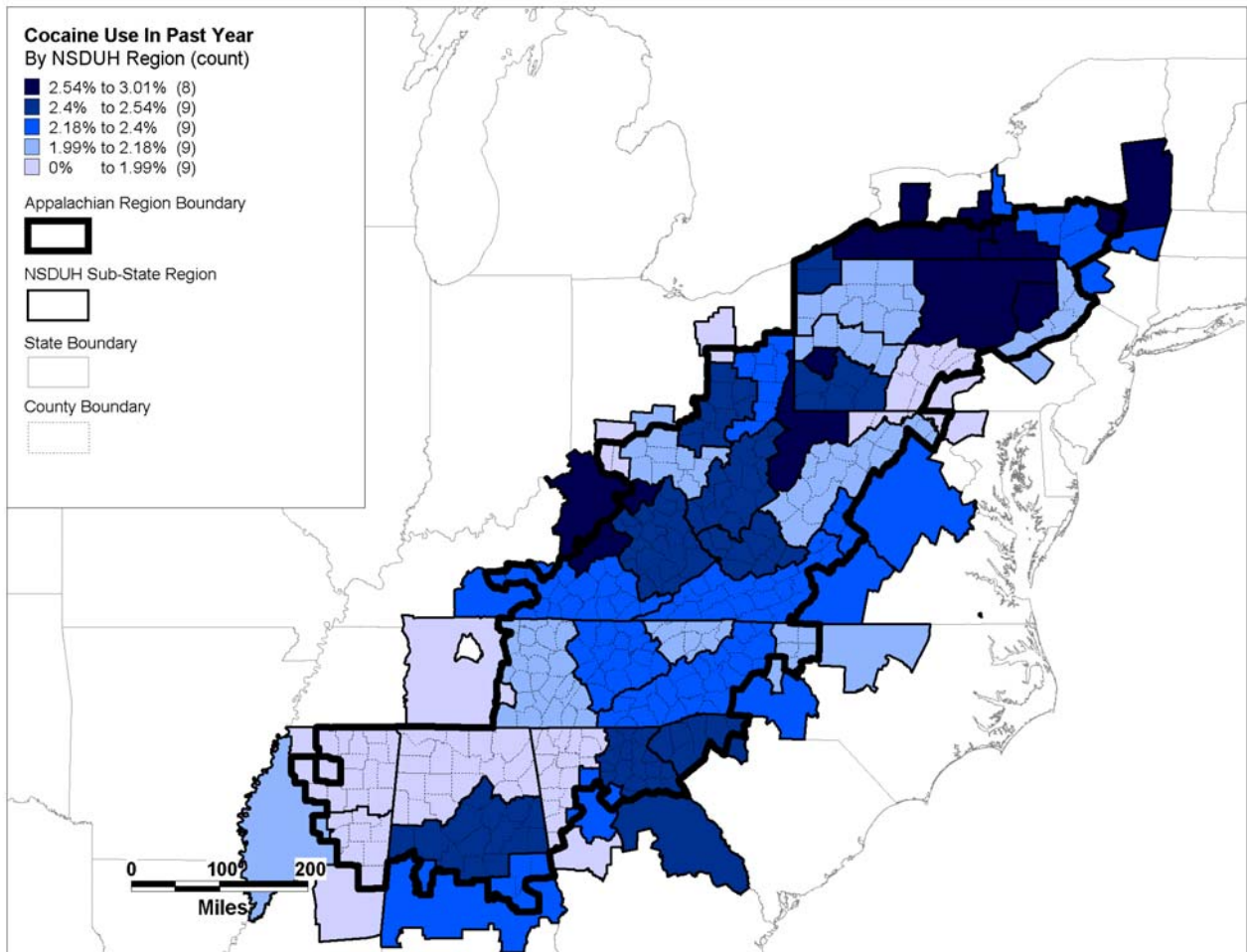
Map 2.14 Marijuana Use in Past Year, by NSDUH Sub-Region, 2002-2005



Map 2.14 shows past year marijuana use among persons age 12 or older. Patterns are similar to past month use, with additional high rate pockets in NSDUH sub-state areas corresponding to northwestern Georgia and northeastern Pennsylvania.

Cocaine Use

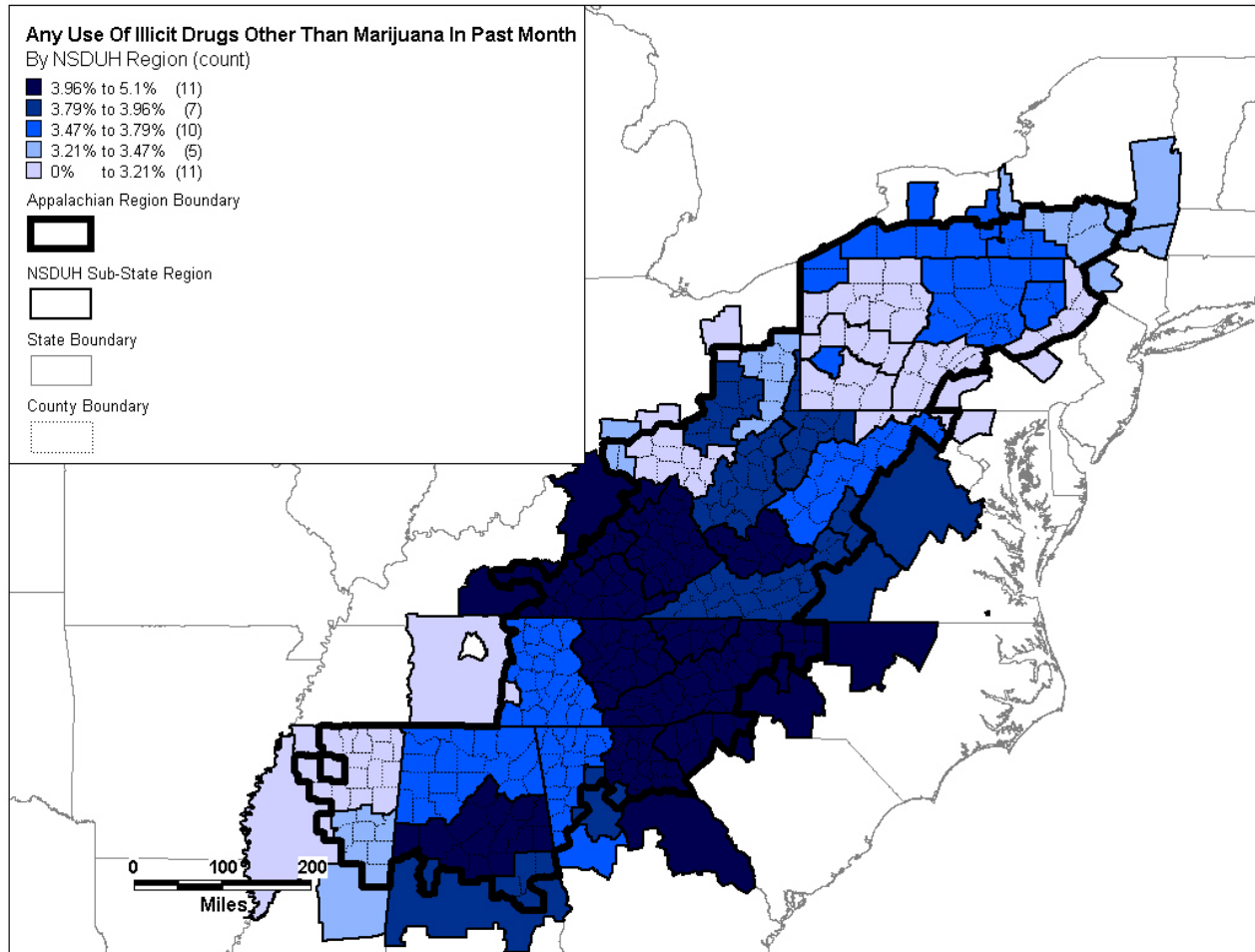
Map 2.15 Cocaine Use in Past Year, by NSDUH Sub-Region, 2002-2005



Map 2.15 shows past year cocaine use among persons age 12 or older. Rates appear highest in NSDUH sub-state areas corresponding to northern and central Appalachia, with particularly high rates in the southern tier of New York, northeastern Pennsylvania, northern West Virginia.

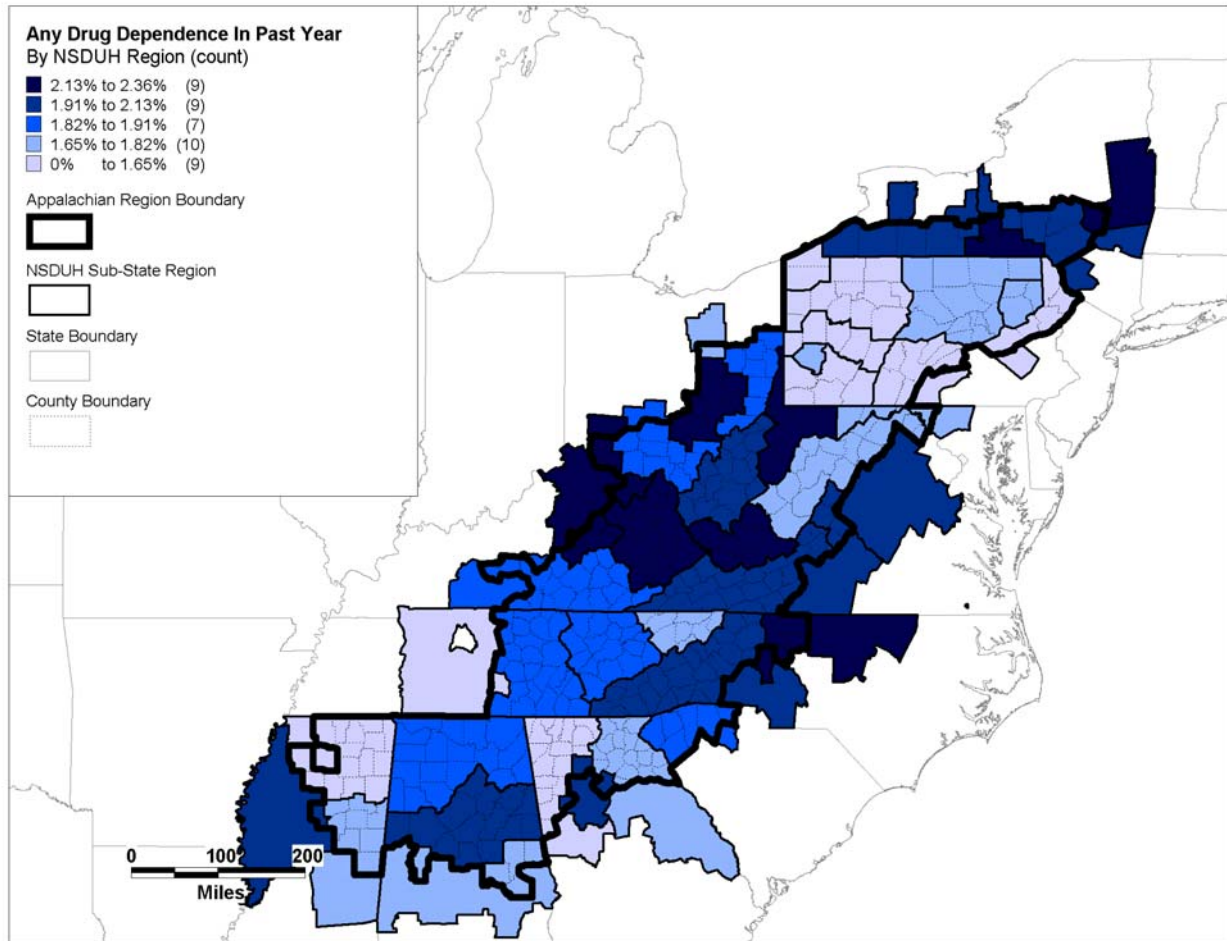
Illicit Drug Use Other Than Marijuana

Map 2.16 Any Use of Illicit Drugs Other Than Marijuana, Past Month, by NSDUH Sub-Region, 2002-2005



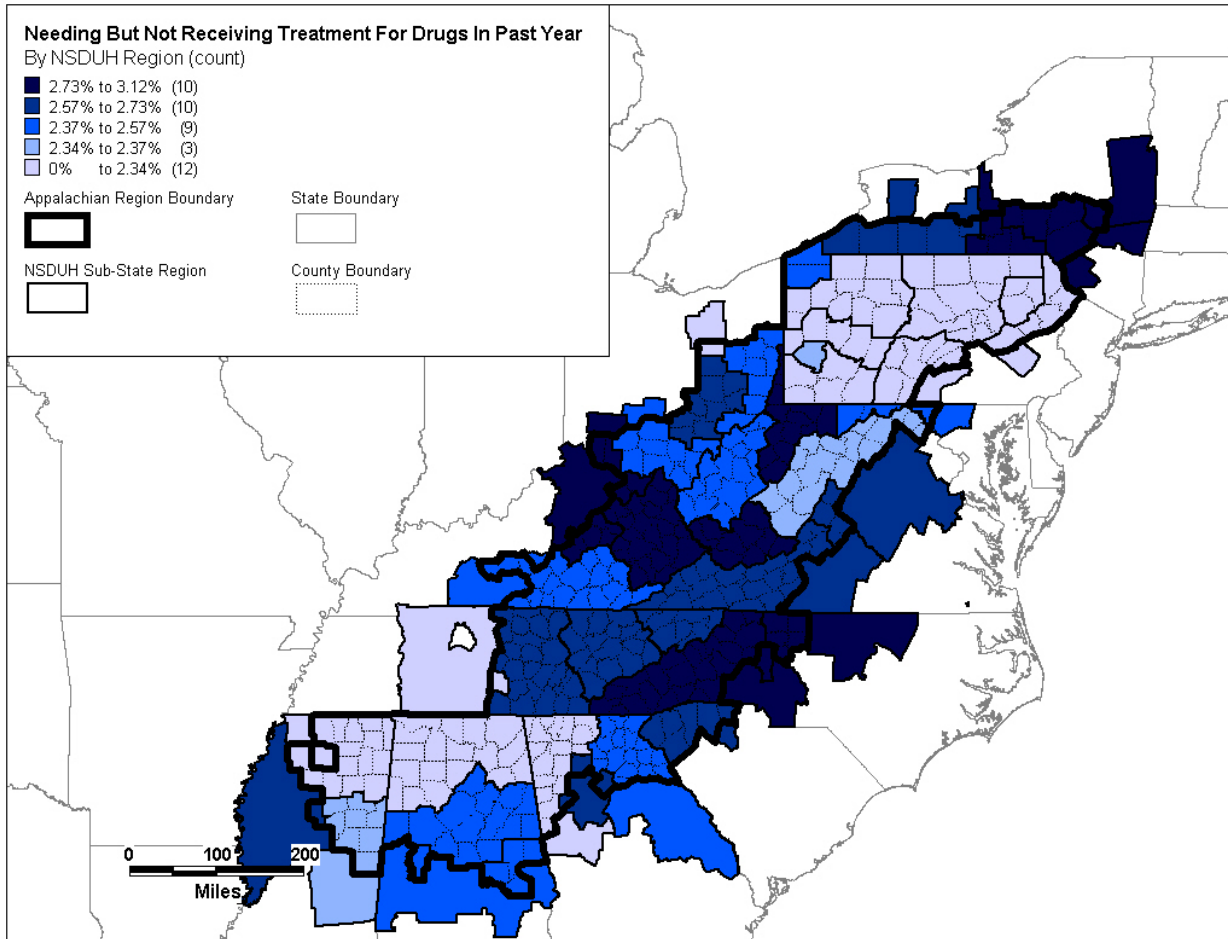
Map 2.16 shows rates of any use of illicit drugs other than marijuana over the past month among persons age 12 or older. Noticeably, the patterns change as compared to alcohol and marijuana use, with the highest rates in NSDUH sub-state areas corresponding to central and southern Appalachia. Rates are highest in NSDUH sub-state areas corresponding to eastern Kentucky, eastern Tennessee, western North Carolina, southern West Virginia, the Appalachian portion of South Carolina, and portions of Georgia and Alabama. Rates are lowest in the NSDUH sub-state areas corresponding to western Pennsylvania.

Map 2.17 Any Drug Dependence in Past Year, by NSDUH Sub-Region, 2002-2005



Map 2.17 shows any reported drug dependence in the past year among persons age 12 or older. Rates appear highest in NSDUH sub-state areas corresponding to central Appalachia, with particularly high rates in eastern Kentucky and southern West Virginia. Rates are also high in NSDUH sub-state areas corresponding to portions of Appalachian Ohio, North Carolina, along the southern tier of New York, and in northern West Virginia.

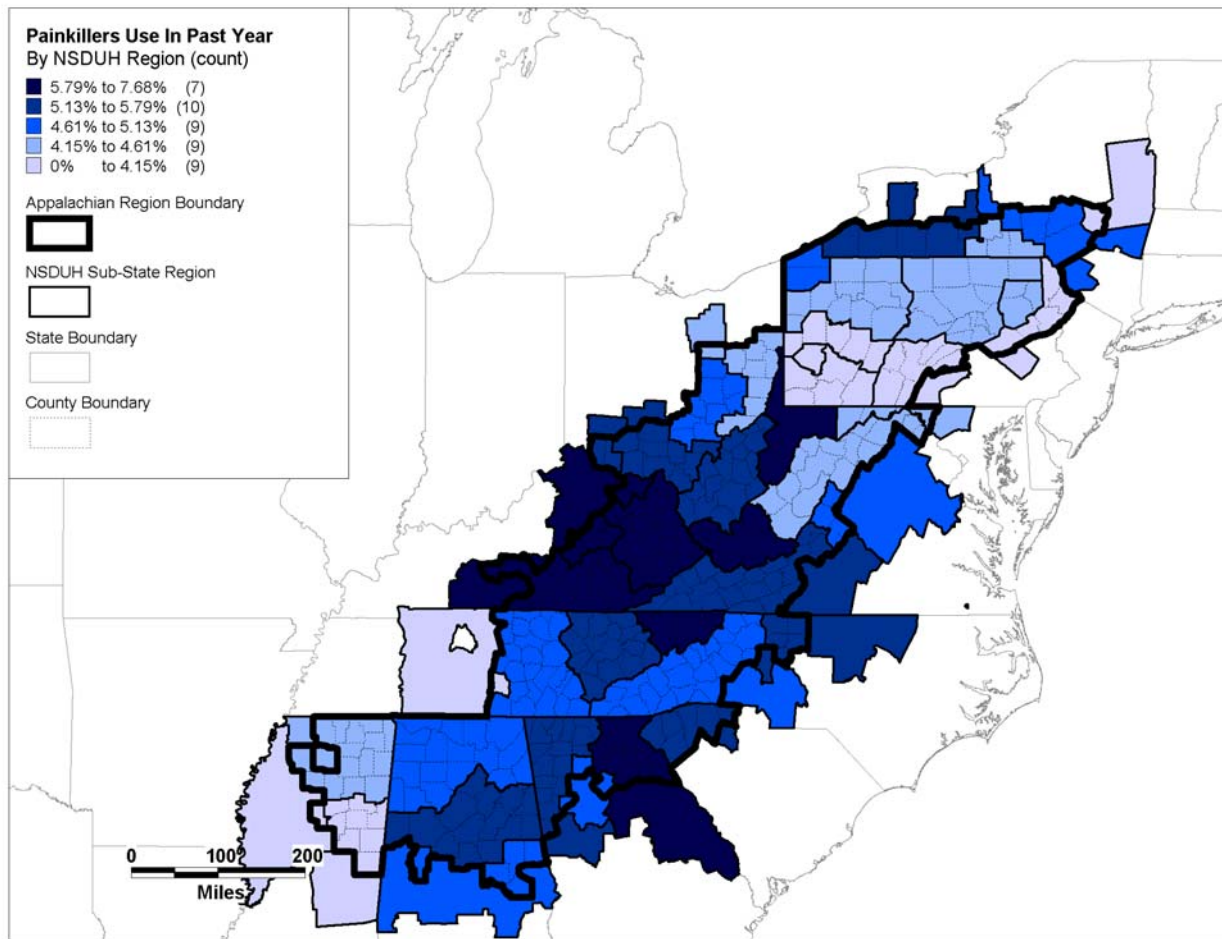
Map 2.18 Needing But Not Receiving Treatment for Drug Use in Past Year, by NSDUH Sub-Region, 2002-2005



Map 2.18 shows rates of individuals age 12 or older reporting needing but not receiving treatment for drug abuse in the past year. Rates appear highest in the NSDUH sub-state areas corresponding to eastern Kentucky, southern and northern West Virginia, eastern Tennessee, western North Carolina, and along the southern tier of New York. Rates appear lowest in Pennsylvania and areas corresponding to southern Appalachia, including portions of Mississippi, Alabama, and Georgia.

Non-Medical Use of Prescription Drugs

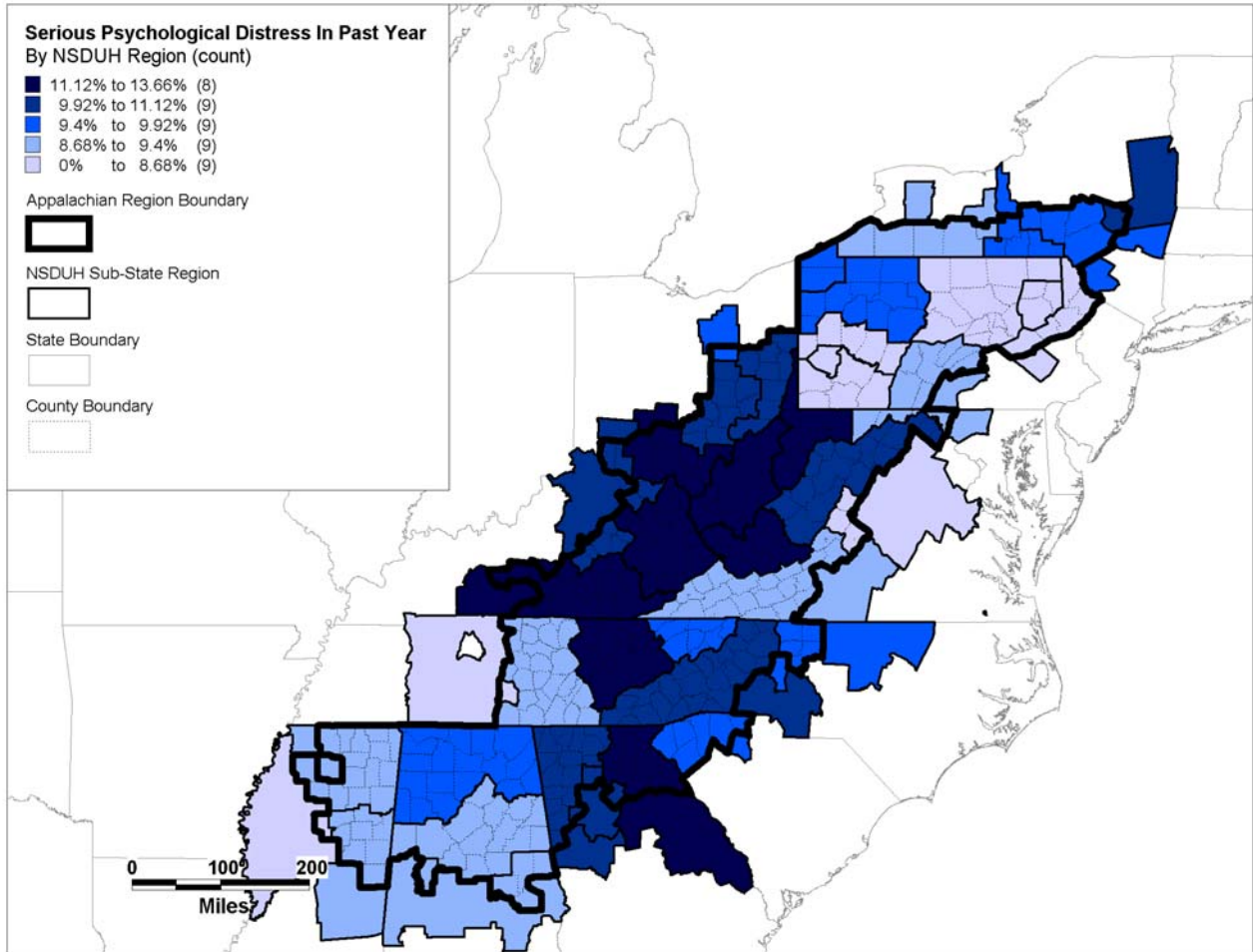
Map 2.19 Painkiller Use in Past Year, by NSDUH Sub-Region, 2002-2005



Map 2.19 shows the use of painkillers over the past year among persons age 12 or older. Rates are noticeably higher in the NSDUH sub-state areas corresponding to central Appalachia, with particularly high rates in eastern Kentucky and southern West Virginia. High rates are also seen in the easternmost portion of Tennessee, northeastern Georgia, and northern West Virginia. Rates appear lowest in NSDUH sub-state areas corresponding to southwestern and south central Pennsylvania.

Mental Health

Map 2.20 Serious Psychological Distress in Past Year, by NSDUH Sub-Region, 2002-2005



Map 2.20 shows serious psychological distress in the past year among persons age 12 or older. Rates are particularly high in the NSDUH sub-state areas corresponding to central Appalachia, including eastern Kentucky and southern West Virginia. Rates are also high in NSDUH sub-state areas adjacent to central Appalachia, including areas of Tennessee, West Virginia, and Ohio. Rates appear lowest in NSDUH sub-state areas corresponding to southwest and northeast Pennsylvania.

2.5 Discussion

This is the first time that a large-scale national household survey has been used to specifically address substance abuse and mental health problems at a regional level. The findings not only provide an overall and much needed contemporary view of the status of substance abuse and mental health within the Appalachian region, but they also highlight potential disparities when compared nationally.

This chapter reveals several noteworthy findings. First, regardless of age or the length of use, smoking is more prevalent in the Appalachian region than outside of Appalachia. Second, while the prevalence of the non-medical use of psychotherapeutics was higher among adolescents than among adults overall, adolescents in the Appalachian region had even higher prevalence rates than adolescents outside of the Appalachian region. Both geographic variation and economic level differences are observed in adolescents' non-medical use of prescription drugs – with the southern part of Appalachia, “distressed and at-risk,” and “transitional” counties having higher rates. In addition, evidence suggests that adolescents in Appalachia tend to engage in heavy alcohol use more than adolescents elsewhere.

This study also reveals that, proportionately, there are more severe mental health problems in the Appalachian region than outside of Appalachia. Further, the central Appalachian sub-region is found to have the highest prevalence rates of both serious psychological distress and major depressive episode.

Methamphetamine use has been of particular interest among news media and policy makers. The current study, however, does not support that methamphetamine use prevalence is higher in Appalachia than outside of Appalachia overall. Among adults, the percentages of current (past month) or recent (past year) methamphetamine use are similar between Appalachia and elsewhere, but the lifetime use of methamphetamine rate is lower in Appalachia than outside of Appalachia. For adolescents, the methamphetamine use prevalence rates are generally similar, although the rates in Appalachia for lifetime use and past month use are slightly higher as compared to rates outside of Appalachia. This finding should not minimize the issue of methamphetamine abuse within Appalachia, however. Rather, this may be a reflection of the granularity of the available data, which cannot be analyzed at the individual county level. We would expect, based on anecdotal evidence, that there are particular “hotspots” within Appalachia that cannot be gleaned from the NSDUH data set. Overall, however, the magnitude of methamphetamine use appears small across the region as compared to other substance use issues such as the non-medical use of prescription-type psychotherapeutics.

Inasmuch as the findings appear to suggest greater problems among Appalachian adolescents than among Appalachian adults, policy makers and community members should take notice. Adolescents grow into adults, and communities will need to be prepared to address the fact that smoking rates and extensive non-prescription drug use will be ongoing challenges. The implementation of effective prevention measures is recommended within schools and communities to mitigate these challenges in the future.

Although the findings also demonstrate that opportunities for outpatient mental health treatment and counseling comparable, or even slightly higher, within Appalachia as compared to areas outside of

Appalachia, determining the quality of care provided and the overall effectiveness of the treatment are beyond the scope of this project and are worthwhile areas to study further.


This study finds that outpatient rehabilitation is the most common setting for substance abuse treatment both in and outside of Appalachia. In addition, this study finds that, of the people seeking substance abuse treatment at a specialty facility, proportionately fewer people utilize inpatient rehabilitation services in Appalachia than people outside of the Appalachian region. At the same time, utilization rates of hospital inpatient services, the private doctor's office, and emergency room services are all higher in the Appalachian region than outside of the Appalachian region. The exact reasons behind this pattern need further study, but two possible explanations are: (1) those clients who could benefit more from inpatient rehabilitation do not get this treatment or substitute inpatient with outpatient services; or (2) those who have severe substance abuse problems have not received appropriate outpatient treatment or regular inpatient services, and as a result, use more expensive emergency room services.

This study shows that the negative perceptions about treatment appear to be more pronounced within the Appalachian region among those who need mental health treatment but have not received treatment. Education, communications, and special intervention methods and programs should be considered as ways to modify the perceptions of the people with mental illness needing treatment.

Efforts should also be made in Appalachian communities to reduce stigma arising from concerns such as "might cause neighborhood/community to have negative opinion," "might have negative effect on job," "someone may find out," "ashamed, embarrassed, or afraid," etc.

Regardless of substance abuse or mental disorders, the top reason for people who needed treatment but did not receive treatment was due to the absence of insurance or external payment methods. Followed by this extrinsic reason are two intrinsic reasons – people did not think they needed treatment, or were obstructed by the stigma attached, especially for the Appalachian patients accessing the mental health services. Assuming that the boundary between perception of no need for treatment and the fear of stigma was blurred, these intrinsic reasons would even surpass the insurance issue and become the number one hurdle for why people who need treatment do not actually receive treatment. Behind these intrinsic reasons, it is possible that mistrust of the treatment system would be another important issue, though this would need future study and is beyond the scope of our current investigation.

REFLECTIONS FROM PRACTITIONERS

From the Coalition on Appalachian Substance Abuse Policy 

Challenges Associated with Using the National Survey on Drug Use and Health (NSDUH), and Future Research on Substance Abuse and Mental Health in Appalachia

- CASAP highlighted the limitations of using NSDUH to explore substance abuse and mental health issues. NSDUH is a household survey; however, it is not comprehensive and excludes some populations. Weighting and sampling issues also create some limitations.
- CASAP indicated that there are few alternatives to psychiatric facilities for mental health treatment in some Appalachian counties. People do not seek assistance because they fear that they will be admitted to a psychiatric hospital. Stigma is also a key factor in not feeling the need for treatment.
- Future studies should explore mental health and substance abuse issues for coal-producing Appalachian counties. Research that explores economic development status against an indicator for coal-producing Appalachian counties will provide an important context for understanding substance abuse and mental health issues in the region.

It should be recognized that cost of treatment issues may be relatively more or less important depending on the economic status of the county. Poor counties could likely have access to governmental insurance (Medicaid, Medicare, CHIP), while well-off counties probably have higher rates of private insurance. “Transitional” counties may fall through the cracks.

As noted previously, this study has limitations and as such, should be interpreted with caution. The NSDUH was designed for national and state estimates and not for any specific user-defined region. Neither the counties, nor the Appalachian region, were part of the primary sampling unit (PSU) or stratification unit. Estimates across state boundaries are inefficient, involving highly variable weights.²⁴ In addition, the total weighted estimated numbers of persons for various measures may not be precise. For reference purpose or getting approximate estimates of the numbers of persons included, the weighted estimated totals using the existing weights are provided in Appendix C. However, since the Appalachian region is comprised of 13 states, and the sub-regions we investigated are also large domains, the biases caused by the innovative use of the NSDUH should not be a major concern.