CHAPTER 1: Introduction

NORC at the University of Chicago was commissioned by the Appalachian Regional Commission (ARC) to analyze disparities in substance abuse, mental health status, and access to treatment services in the Appalachian region.[5] The Appalachian region is comprised of West Virginia and parts of 12 states: Alabama; Georgia; Kentucky; Maryland; Mississippi; New York; North Carolina; Ohio; Pennsylvania; South Carolina; Tennessee; and Virginia. Over four decades ago, the United States Congress established the ARC to facilitate economic development efforts in the Appalachian region in response to persistent issues of poverty, economic distress, joblessness, poor physical infrastructure, and cultural isolation. While some Appalachian communities have experienced economic and infrastructural improvements,[1] research has shown that disparities in health status exist between the Appalachian region and non-Appalachian U.S., with Appalachia experiencing more adverse health outcomes.[2] Through the current study we will determine the extent to which these disparities also exist relative to substance abuse and mental health status, and access to treatment services.

This is the first effort to study substance abuse and mental health issues and access to treatment services within Appalachia, and between Appalachia and the rest of the United States. The study draws upon data from a variety of government sources and information from local communities with the goal of providing health care researchers, practitioners, and policy makers with a detailed understanding of substance abuse and mental health issues and access to treatment services in Appalachia, including patterns across Appalachian sub-regions, across levels of economic development, and between Appalachia and the rest of the United States. The qualitative and quantitative results from this study augment the scant body of literature on substance abuse disorders and mental health status, and access to treatment services in Appalachia.

1.1 Substance Abuse and Mental Health Disorders in Appalachia

Research to date does not provide a comprehensive understanding of substance abuse prevalence and mental health status, and access to treatment services in Appalachia. While a body of research has explored the prevalence of substance abuse and mental health disorders in rural communities,[3,4,5,6,7,8] little research has explored these issues in Appalachian communities specifically. Studies suggest that disparities in access to and utilization of treatment for substance abuse and mental health disorders result from a complex interplay of socioeconomic, cultural, and health system factors. Race and ethnicity may also play a role in driving disparities within certain Appalachian sub-regions and communities.

Research has identified some mechanisms to reduce treatment disparities in Appalachia, including cultural competency training for mental health and social service professionals[9] and enhanced surveillance systems.[10] Studies have explored the potential for health care system changes to reduce disparities in rural America, though not in Appalachia specifically. Such changes include mental health staff in rural health centers;[11] health care service delivery via telemedicine;[12] and self help groups.[13] Additional research is necessary to explore disparities specific to the Appalachian Region and inform cost-effective ways to combat disparities related to treatment access for mental health

[5] The Appalachian region is home to more than 23 million people, extending from southern New York to northeast Mississippi and covering over 200,000 square miles of 410 counties in 13 states.

and substance abuse disorders in the region. Further study is needed to inform policy makers in the design of targeted interventions to reduce disparities in Appalachia. Specifically, it will be necessary to have a better understanding of the prevalence and geographic distribution of substance abuse and mental health disorders at the sub-regional level within Appalachian states – ideally at the county level.

In order for policy makers to design targeted policy interventions to reduce disparities in Appalachia, it will be necessary to have a better understanding of the prevalence and geographic distribution of substance abuse and mental health disorders within the region.

1.2 Key Research Questions and Methodology

Recognizing the current gaps in the literature to date, this study strives to augment the body of literature on substance abuse and mental health issues and access to treatment services in Appalachia. Our study addresses four key research questions:

1. Are there disparities in mental health status and substance abuse prevalence, and access to treatment services, in the Appalachian region as compared to the rest of the United States?

2. Does socio-economic status, as measured by county economic development status, matter with respect to substance abuse and mental health issues and access to treatment services within Appalachia, and between Appalachia and areas outside of Appalachia?

3. Are there notable patterns or trends across the northern, central or southern Appalachian sub-regions for different mental health status and substance abuse indicators?

4. To the extent possible, can we identify county-level patterns in substance abuse prevalence and mental health status, and access to treatment services?

To investigate our research questions, we utilized the largest and most up-to-date survey and administrative record data available from several Federal government sources. We analyzed data from the National Survey on Drug Use and Health (NSDUH), the Treatment Episode Data Set (TEDS), the Healthcare Cost and Utilization Project (HCUP), and the National Survey of Substance Abuse Treatment Services (N-SSATS). This study also incorporates a qualitative component to augment our quantitative findings; we include case studies based on paired Appalachian counties that are closely matched based on socioeconomic indicators yet demonstrate differences in mental health and substance abuse status. The case studies were conducted as a pilot effort to develop and test a methodology for gathering qualitative substance abuse and mental health status information across Appalachian states.

Overall, our study incorporates the following data:

19,416,000 Appalachian household residents age 12 or older as represented by 22,000 Appalachian survey respondents (NSDUH);

500,000 Appalachian admissions to substance abuse treatment (TEDS);

8,000,000 community hospital inpatient discharges, including 168,000 Appalachian discharge records (HCUP);

980 Appalachian substance abuse treatment facilities (N-SSATS); and

Six qualitative community case studies in three of the 13 Appalachian states.

1.3 Importance of the Current Study

This study is unique for three key reasons. First, we explore a variety of mental health and substance abuse indicators, and other demographic and socio-economic variables, based on data from four different federal sources. In addition, NORC partnered with East Tennessee State University (ETSU) to conduct a complementary qualitative component of the study. Specifically, a pilot set of focus groups were conducted in six Appalachian counties in three states with county officials and stakeholders about mental health and substance abuse issues in their communities.

Second, as part of our process for conducting the study, we sought ongoing input and feedback from practitioners in the field. Specifically, we met with the Coalition on Appalachian Substance Abuse Policy (CASAP) – a leading group of mental health and substance abuse professionals in Central Appalachia – regarding their insights into the data sets, analyses, and findings.[6] The feedback that was generated through discussions with CASAP is presented in each chapter in a section entitled "reflections from practitioners." It is important to note that the information presented in these sections is based on the reflections, insights, and opinions of the CASAP members, based upon their experiences in the field.

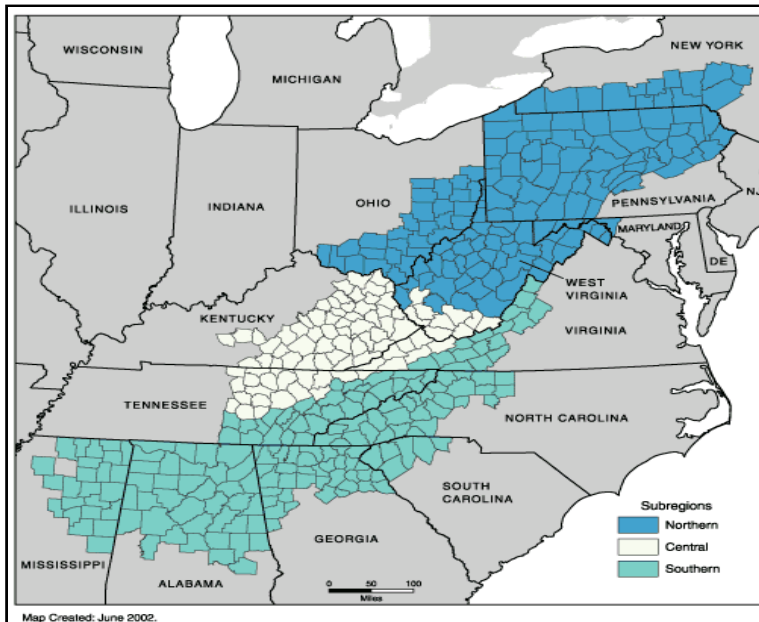
Third, wherever possible, analytic results are broken down by sub-region (northern, central, southern) and county economic development level (distressed, at-risk, transitional, competitive, and attainment) to identify patterns and trends across different geographic areas. Additionally, some data sets also allow results to be presented graphically through a series of maps, demonstrating differences across counties.

ARC divides the Appalachian region into three sub-regions – the northern, central, and southern sub-regions. Each region has relatively homogenous characteristics.

Map 1.1 shows the Appalachian sub-regions as defined by ARC. The northern region includes parts of New York, Pennsylvania, Ohio, Maryland, and West Virginia. The central region is comprised of counties within Kentucky, Virginia, West Virginia, and Tennessee. The southern region is comprised of parts of Tennessee, North Carolina, South Carolina, Georgia, Alabama, and Mississippi. Our research explores substance abuse and mental health indicators at the sub-regional level when possible to identify patterns and trends.

[6] CASAP was established by the ARC via a Kentucky Flex-E-Grant.

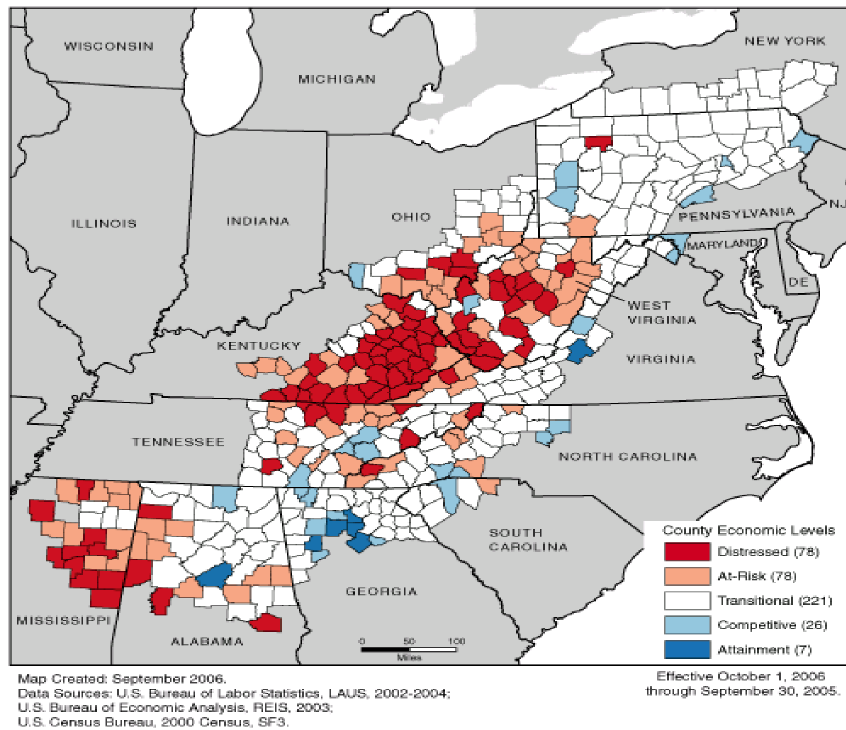
Map 1.1. Appalachian Subregions



In order to better understand needs of the Appalachian counties, and decide on spending and project activities for each fiscal year, the ARC determines the economic development status of each county. The ARC uses a structured process to designate county economic status. In short, economic indicators such as the three-year average unemployment rate, per capita market income, and poverty rate are used to assign all U.S. counties into economic development quartiles. Status is then assigned by comparing individual county performance to all other counties in the U.S. on these indicators.[14] More information on the process for determining county economic development status can be found on the Appalachian Regional Commission's website at www.arc.gov.

Map 1.2 below illustrates the economic development status for counties in Appalachia, based on ARC's index-based county economic classification system. In FY 2007, seventy-eight of the 410 Appalachian counties are categorized as "distressed." These counties (in red) rank among the lowest 10 percent of the nation's counties on economic status indicators. Distressed counties have high poverty and unemployment rates and low per capita income rates in comparison to other counties. Another 78 counties are categorized as "at-risk." At-risk counties (in orange) are at risk of becoming distressed counties. Over half of the counties (221) are characterized as transitional counties. These counties (in white) are areas transitioning between weak and strong economies. Twenty-six counties are "competitive." These counties (in light blue) are competitive with counties nationally. Finally, a small number of counties are identified as "attainment counties." Seven counties (in dark blue) are attainment counties, and considered among the strongest counties in the nation relative to economic development indicators.

Map 1.2 Appalachian County Economic Development Level



1.4 Structure of the Report

The remaining eight chapters of the report are structured to explore each of our research questions. Chapters 2 through Chapter 5 detail four independent but related studies, focusing on a variety of issues related to substance abuse, mental health status, and access to treatment services in the Appalachian region.   Specifically, Chapter 2 presents estimates of substance use, mental disorder, and access to treatment services from household surveys conducted from 2001-2005. Chapter 3 provides findings on patient admissions to specialty treatment for abuse of alcohol and drugs in the Appalachian region during the period from 2000-2004. Chapter 4 discusses findings on health care access and service utilization for substance use and mental disorders by examining community hospital discharges in both the Appalachian region and elsewhere in the United States. Chapter 5 presents key features of substance abuse treatment services in the Appalachian region, using the most recent treatment facility survey data. In Chapter 6, we focus exclusively on the Appalachian region with the objective of comparing coal mining areas and other areas with respect to substance abuse and mental health status and access to the treatment services. In Chapter 7, we present a complementary qualitative study comprised of six community case studies in three Appalachian states. In Chapter 8, we offer conclusions resulting from this study. Appendix A at the end of the report provides detailed information about the data sources. Appendix B is a literature review about substance abuse and mental health issues, with a concentration on Appalachia and rural America. Appendix C provides additional data tables based on the National Survey on Drug Use and Health. Appendix D provides a series of county-level data profiles on key substance abuse and mental health indicators that were used during the qualitative study. Immediately following this introduction, we provide an overview of the data sources used to conduct this study, and short abstracts of Chapters 2 through 7 to help the reader to navigate this report.

Table 1.1 Overview of the Data Sets: Data Coverage, Data Reliability, and Characteristics

Overview of Data Sets	NSDUH	TEDS	N-SSATS	HCUP
Data Coverage				
Coverage of mental health issues	●	●	●	●
Coverage of substance abuse issues	●	●	●	●
Survey addresses co-occurring MH/SA disorders	●	●	●	●
Survey excludes some populations	●	●	●	●
Survey excludes some SM or MH treatment facilities	●	●	●	●
Reporting to the survey is limited to facilities that are funded and licensed by the state	●	●	●	
State accreditation and certification requirements, and state systems of licensure may contribute to exclusion of certain facilities		●	●	
Survey excludes some Appalachian counties	●	●	●	●
Survey was not designed to provide regional estimates	●	●	●	●
Confidentiality concerns that prohibit the state from releasing data on certain Appalachian counties	●	●	●	●
Private for-profit facilities, hospitals, and state correctional facilities may be excluded from the survey		●		
Data Reliability				
Due to institutional budgetary and reimbursement issues, MH/SA diagnoses may be under-coded or miscoded*		●		●
Data availability varies from state to state		●	●	●
Data Set Characteristics				
Annual survey	●	●	●	●
Pooled data from multiple annual surveys	●	●		
Survey is voluntary	●		●	
Survey is self-report	●	●	●	●

This table provides a high-level overview of the characteristics of each data set that readers should be aware of in three areas: data coverage; data reliability; and survey design. Each data set offers a different set of strengths and limitations. We recognize the limitations to using the various available data sets to explore our research questions, and acknowledge these limitations in each chapter, as appropriate.

NOTE: Issues with an asterisk (*) were mentioned by the Coalition on Appalachian Substance Abuse Policy (CASAP) as a data limitation.

Chapter Overview – The National Survey on Drug Use and Health (NSDUH)

Overview. Chapter 2 presents the comparative Appalachian regional analyses of substance abuse, mental health and related treatment access among the general population. The National Survey on Drug Use and Health (NSDUH) provides data on drug, alcohol, and tobacco use in the civilian, non-institutionalized population aged 12 or older in the U.S. While substance use (both alcohol and illicit drugs) and dependence are a key focus of the survey, NSDUH also provides self-reported information leading to the identification of serious psychological disorders and major depressive episodes as well as information about the receipt of specialty treatment for illicit drug or alcohol use, and mental health treatment/counseling in various settings.

Key Research Questions. Chapter 2 explores the following key research questions: (1) What proportions of people report substance use, abuse, or dependence in the Appalachian region as compared to outside of Appalachia? (2) 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? (3) 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)? (4) 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?

Sample. The survey is based on a random sample of households in the nation. The sample design includes the 50 states and the District of Columbia. The four most recent NSDUH surveys, 2002-2005, are pooled together to study substance abuse, mental disorders, and access to treatment by persons in the general population in Appalachia, as compared to the rest of the U.S., and to provide sufficient sample sizes for sub-regional analyses. A total of 271,978 respondents were included in the data (91,145 adolescents aged 12-17 and 180,833 adults aged 18 or older).

Limitations. 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, and thus estimated totals, and weighted percentages to a lesser degree, for groupings of counties should be interpreted with caution. The NSDUH also only targets the civilian, non-institutionalized population aged 12 or older, potentially excluding other populations that may have different substance abuse patterns.

Findings. 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 county economic status 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. The percentages of current or recent methamphetamine use for adults are similar between Appalachia and elsewhere, but the lifetime use of methamphetamine rate is lower in Appalachian 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 in Appalachia than outside of Appalachia. Finally, those who receive substance abuse treatment in the Appalachian region are less likely to utilize inpatient rehabilitation than people outside of the Appalachian region.

Chapter Overview – Treatment Episode Data Set (TEDS)

Overview. We use the Treatment Episode Data Set (TEDS) to examine admissions to substance abuse treatment. Cross-tabulations are used to examine differences in admissions to substance abuse treatment within the Appalachian region. Analyses are conducted across subgroups based on Appalachian geographic sub-regions (Northern, Central, and Southern) and the ARC-defined economic development level of the counties where the admissions took place.

Research Questions. Key research questions explored include: (1) Are there regional and sub-regional differences in admissions to substance abuse treatment in Appalachia as compared to admissions to treatment outside of Appalachia? (2) Are there regional and sub-regional patterns in admissions to treatment across different socio-economic and demographic variables such as age, education, type of health insurance, etc? and (3) Are there regional and sub-regional patterns in admissions to treatment with respect to other variables, such as source of referral, number of prior treatment episodes, and primary reason for admission?

Sample. Chapter 3 provides an overview of the pooled annual admissions to treatment facilities in the Appalachian region, and in other regions nationally, during the 2000 – 2004 period. TEDS is based on over two million admissions reported by over 10,000 facilities to the 50 States, District of Columbia, and Puerto Rico, over a calendar year. Among the 410 Appalachian counties, 195 counties were in the pooled 2000-2004 TEDS data set, comprising 511,217 total admissions to treatment for abuse of alcohol and drugs in facilities that report to individual State administrative data systems. Twelve of the 13 Appalachian states were included in the data (excluding West Virginia).

Limitations. There are several limitations in using TEDS to explore substance abuse treatment issues in Appalachian counties as compared to other counties nationally. TEDS does not capture all of the substance abuse treatment facilities in the U.S., and the scope of facilities included differs from state to state. Second, states may vary in how they define an admission; thus, the absolute number of admissions may not be a valid measure for comparing states. Finally, different criminal justice practices at the state level may affect the way clients are referred to admission.

Findings. The central Appalachian region had the highest proportion of admissions with other opiates or synthetics as the primary reason for admission among Appalachian sub-regions. In addition, about two-thirds of admissions in Appalachia were associated with mood disorders – both those that were substance-related and non-substance-related. Finally, the highest prevalence of mood disorders occurs in "transitional" counties and in the northern Appalachian sub-region; the central sub-region of Appalachia has the greatest density of admissions for psychiatric problems (both substance-related and non-substance-related).

Chapter Overview – The Healthcare Cost and Utilization Project (HCUP)

Overview. Chapter 4 provides an overview of substance abuse and mental disorder discharges from Appalachian and other community hospitals. Analyses of the encounter-level administrative data for inpatient hospital stays are performed using the Healthcare Cost and Utilization Project (HCUP), the largest collection of longitudinal hospital care data in the United States.

Research Questions. In Chapter 4 we investigate the following key research questions: (1) Are there differences in substance abuse and mental disorder diagnoses among patients discharged from community hospitals in Appalachia, as compared to discharges from community hospitals outside of Appalachia? (2) Are there differences in discharges from community hospitals in Appalachia versus outside of Appalachia when taking county economic status into account? and (3) Do sub-regional differences exist across socio-economic status, health diagnoses, and other dimensions of hospital stays?

Sample. This study uses HCUP's Nationwide Inpatient Sample (NIS) collected in 2004 to examine substance abuse and mental disorder discharges from community hospitals. The NIS is a stratified probability sample of non-rehabilitation, community hospitals in the United States. All U.S. community hospitals in the American Hospital Association's hospital file are included in the hospital universe, except short-term rehabilitation hospitals. HCUP provides data that address both substance abuse and mental health issues. Given the NIS's large sample size – 8,004,571 hospital discharges from 1,004 U.S. community hospitals – the NIS is ideal for exploring trends nationally and in the Appalachian region. The NIS sampling frame is representative of all U.S hospitals and includes data from 37 states, including ten of the 13 Appalachian states. Pennsylvania, Alabama, and Mississippi are excluded.

Limitations. The HCUP data is limited to only 37 states. In 2004, HCUP NIS data were only available in 10 of the 13 Appalachian states, excluding Pennsylvania, Mississippi, and Alabama. Missing data is a clear limitation, given that it would be ideal to make comparisons between Appalachian community hospitals and other community hospitals nationally based on data for all 13 Appalachian states and the rest of the nation. Also, the NIS includes general and specialty hospitals (e.g., pediatric, obstetrics-gynecology, short-term rehabilitation, and oncology), but excludes long-term care and psychiatric hospitals.

Findings. Findings include that patients in the Appalachian region are more likely to be admitted through the emergency department than patients outside of the Appalachian region. This disparity appears to be concentrated in "at-risk" and "transitional" counties as compared to other counties. In addition, over 67 percent of adult hospital stays in Appalachia were billed to the government in 2004, with Medicare being billed for the majority of stays. Finally, the percentage of admissions in Appalachia for patients with principal and/or secondary MH/SA diagnoses is higher than the percentage outside of Appalachia. The vast majority of the hospital stays with MH/SA diagnoses are mental health related, and the rate is higher in Appalachia than outside of Appalachia.

Chapter Overview – The National Survey of Substance Abuse Treatment Services (N-SSATS)

Overview. Chapter 5 examines the facility and services characteristics of the substance abuse treatment programs inside and outside of Appalachia. We use the National Survey of Substance Abuse Treatment Services (N-SSATS) collected in 2005 to obtain a snapshot of the character and composition of the substance abuse treatment delivery system in the United States. N-SSATS allows us to make comparisons across geographic areas and among different populations with substance abuse issues.

Research Questions. This chapter explores the following key research questions for facilities in Appalachia and facilities outside of Appalachia: (1) Do substance abuse facilities in Appalachia offer inpatient detoxification services? (2) What are the ownership structures for the Appalachian treatment facilities and how do they compare to those of other facilities? (3) What is the primary focus of Appalachian substance abuse facilities (e.g., substance abuse services, mental health services, general health care services, etc.)? (4) What types of health insurance do facilities accept (e.g., Medicare, Medicaid, state financed insurance, private health insurance)?

Sample. The sample analyzed in this study includes 13,367 substance abuse treatment facilities from which data were collected in 2005. Of all these facilities, 980 (7.3%) were from the Appalachian region, and 12,391 (92.7%), were from the rest of the country.

Limitations. There are several limitations with respect to using N-SSATS to explore the composition and characteristics of substance abuse treatment facilities in Appalachian counties as compared to other counties nationally. One serious limitation is that N-SSATS does not capture data from all of the substance abuse treatment facilities that may be relevant to this study. A second limitation is that N-SSATS is a point-prevalence survey, and as such, only reflects treatment facility composition and status at a single point in time. Additionally, there are limitations related to the survey's design and content that will be presented in more detail in the chapter. Finally, some financial data originally collected through the survey have been omitted from the public use file for confidentiality reasons. Despite these limitations, we view the N-SSATS as a limited, yet important data source for this study of substance abuse and mental health issues, and access to treatment services in Appalachia.

Findings. In Appalachia, proportionately more treatment facilities had a primary focus of providing mental health services, a mix of mental health services, and general health care services than treatment facilities outside of Appalachia. Non-hospital residential substance abuse care is provided in proportionately fewer facilities in Appalachia than outside of Appalachian. Long-term non-hospital residential treatment is offered in proportionately fewer facilities in Appalachia than outside of Appalachia. Analyses also show a significantly greater acceptance of government financed payment sources including Medicare, Medicaid, and state financed insurance. While proportionately more facilities accept these payment sources, we do not know the breadth of coverage within the region. Similarly, proportionately more Appalachian facilities accept private health insurance, but the breadth of coverage is also unknown. Future studies analyzing cost and insurance issues within the Appalachian region could provide more specificity in terms of facility rationale, breadth of coverage, and service implications.

Chapter Overview – Special Analysis: Substance Abuse and Mental Health – A Comparison of Appalachian Coal Mining Areas to Other Areas within the Appalachian Region

Overview. The coal mining industry has long been a vital part of the economy of Appalachia and remains a major industry within the region. Popular media has cited an increase in drug use in coal mining areas. This chapter is based on statistical analyses of data systematically collected by two agencies within the U.S. Department of Health and Human Services – the Substance Abuse and Mental Health Services Administration (SAMHSA) and the Agency for Healthcare Research and Quality (AHRQ). We focus exclusively on the Appalachian region with the objective of comparing coal mining areas and other areas with respect to substance abuse and mental health status and access to the treatment services.

Research Question. The key research question in Chapter 6 is: Do coal mining areas within Appalachia differ from other Appalachian areas in terms of the composition of patients admitted to specialty treatment services or discharged from community hospitals?

Sample. We merged the coal mining area coverage data from the National Coal Resources Data System (NCRDS) with the list of the Appalachian counties described by the Appalachian Region Commission (ARC) as of 2006. Among the 410 Appalachian counties, 176 counties were identified as being located in the coal mining area. The first analytic sample for this chapter includes all adult discharges from community hospitals within the Appalachian Region from the Healthcare Cost and Utilization Project (HCUP). There are a total of 167,957 admissions included in the analytic sample, including 76,083 (45.3%) from 25 coal mining counties and 91,874 (54.7%) from 20 other counties in the Appalachian region. The second analytic sample for this chapter includes all admissions to substance abuse treatment services in the Appalachian Region from the Treatment Episode Data Set (TEDS) from 2000-2004. Among the 195 counties covered by the Treatment Episode Dataset (TEDS) in 2000-2004, 86 counties were located in the coal mining area. Overall there were 211,380 admissions from the coal mining area and 299,837 admissions from other areas in the Appalachian region.

Limitations. Our coal mining area was defined as the area with the subsurface filled with coal instead of the actual coal-producing counties. The results should also be interpreted with caution because the units of analyses were admissions to treatment or hospital discharges made by people living in this area rather than actual coal miners.

Findings. The study in this chapter demonstrates that coal mining areas within the Appalachian region demonstrate higher rates of both heroin use and other opiates or synthetics use as the primary, secondary or tertiary reason for treatment, as compared to other areas within the region. Furthermore, while studies in previous chapters show that rates of both heroin and other opiates and synthetics as primary reasons for coming to treatment increased over the 2000-2004 period, the pace of these rate increases is even faster in coal mining areas than in other areas within the Appalachian region. Other illicit drug use and non-medical use of prescription drugs are also cited more as the primary, secondary or tertiary reasons for treatment in coal mining areas than in other areas.

Chapter Overview – Case Study of Disparities in Mental Health Status and Substance Abuse Prevalence in the Appalachian Region and Access to Mental Health and Substance Abuse Treatment Services

Overview. To supplement the quantitative findings presented in the previous chapters, NORC and East Tennessee State University conducted case studies using a "Socioeconomic Twins" methodology. The purpose of the study was to determine the extent of local assessments of the mental health and substance abuse situation as well as the perceived validity of nationally available quantitative data to serve as an index of the severity of local substance abuse prevalence, mental health status and access to treatment services.

Research Questions. Research questions for Chapter 7 include: Do community perceptions of mental health/substance abuse (MH/SA) issues match available data? What additional data sources are used at the community level? What has been the community's response to substance abuse and mental health concerns? And, are there potential explanations for variance in community MH/SA indicators?

Sample. Statistical procedures were performed and matrices developed to calculate socio-demographic similarity/dissimilarity and MH/SA similarity/dissimilarity for all possible pairs of Appalachian counties within each state. Then, these "distance matrices" were transformed into pairs which were subsequently ranked and sorted based on the distance values. The twinned county sites were selected based upon the statistically twinned rankings produced by NORC and by consensus among ETSU, CASAP, and NORC, and modified by local/regional knowledge of local situations. Case studies were conducted with the six counties in Kentucky, Virginia, and West Virginia respectively.

Limitations. This study employed a case study methodology, which has inherent limitations. While we conducted discussions with a variety of stakeholders in each of the case study communities, these findings are not meant to provide a comprehensive understanding of every substance abuse and mental health issue and perception in every community

Findings. The case studies revealed that Appalachian communities have a sense of regional awareness of mental health and substance abuse issues and express willingness to share facilities and solutions. Local data sets are essential to understanding the depth of the substance use and mental health issues faced by residents at the county level, though better coordinated data collection, documentation and analysis are needed to access resources at state and federal levels. Barriers to the use of treatment services include social stigma for those who seek care, lack of transportation, non-recognition of the root causes of substance use behaviors, multi-generational patterns of substance abuse behaviors, and erosion of the power of family and community networks to assist in personal coping skills. Community leaders want better conditions for all citizens of their counties regardless of social class. The well-being of youth is of paramount importance to rural counties evidenced by the emphasis on prevention and awareness of substance abuse in schools and youth-programs settings.