You can view and download this report by visiting www.arc.gov or www.norc.org.

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The Appalachian Regional Commission's mission is to be an advocate for and partner with the people of Appalachia to create opportunities for self-sustaining economic development and improved quality of life.

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East Tennessee State University is located in Appalachian Northeast Tennessee. Its vision is to be "the best regional university in the nation" and serves the region through strong education, service and research programs in rural health.

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The views expressed are those of the authors and not necessarily those of ARC, NORC, or the East Tennessee State University.

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Executive Summary

This report presents an analysis of disparities in mental health status and substance abuse prevalence, as well as access to treatment services, in the 410 county Appalachian region comprising all or parts of 13 states.

Aim and Objectives

The aim of this research is to assist regional policy makers and public health practitioners in improving surveillance, research and health education, as well as to more effectively target investments designed to improve the delivery of substance abuse and mental health treatment and treatment outcomes. The specific objectives of this study are to:

Identify whether there are specific disparities in mental health and substance abuse diagnoses within the region, and any apparent incidence clusters within the region;

Identify and analyze available data to measure the accessibility of mental health services and substance abuse treatment services within the region and compare the region to other parts of the nation; and

Develop a set of criteria and protocols to identify relevant case study communities within the Appalachian region and conduct case study analyses accordingly.

Data and Analyses

This study utilizes state, sub-state, and county level data on diagnoses and treatment of mental health and substance abuse conditions. These data are used to analyze potential disparities across Appalachian sub-regions and economic development levels defined by the Appalachian Regional Commission (ARC). The analyses draw on four major sources of public information on mental health and substance abuse diagnoses and treatment:

National household survey of mental health and substance abuse (2002-2005);

Treatment episode data on admissions to substance abuse specialty treatment facilities (2000-2004);

Community hospital discharge reports of diagnoses and treatment of mental health conditions and substance abuse (2004); and

National survey of treatment services reported by participating substance abuse treatment facilities regarding mental health and substance abuse services (2005).

To supplement quantitative data sources, a series of case studies were also conducted in partnership with East Tennessee State University (ETSU). The purpose of these case studies was to gather additional information on how data are used to target mental health and substance abuse prevention and treatment resources, and to identify needed information to improve “on the ground” delivery of services.

Findings

Mental Health

There appears to be a higher prevalence of mental health disorders in the Appalachian region as compared to the rest of the nation, with proportionately more Appalachian adults reporting serious psychological distress and major depressive disorder.

Mental health problems are not equally distributed across the region, with higher rates of serious psychological stress and major depressive episodes in central, as compared to northern and southern, Appalachia.

Notably, mental health diagnoses for serious psychological distress and major depressive disorder are proportionately higher in Appalachia than in the rest of the nation, *independent from substance abuse*. That is, Appalachian disparities in mental health status do not appear to arise as a result of higher levels of co-occurrence with substance abuse. Community hospital discharge data, national household survey data, and treatment episode data all indicate this regional mental health disparity, independent of substance abuse. This disparity is particularly acute in more economically distressed areas of Appalachia.

While this mental health disparity is an important finding, the case studies and discussions with members of the Coalition on Appalachian Substance Abuse Policy (CASAP) provide additional depth to our analyses that may help to explain the apparent lack of co-occurring disorders in the region. These sources suggest that there could be biases in the medical care system within the region that encourage under-reporting of comorbidity rates for mental health and substance abuse diagnoses. For example, facilities may under-report comorbidities to ensure optimal reimbursement. This study has not identified any evidence that suggests that under-reporting of comorbidities happens more often in Appalachia than in other regions, however. Future work should explore whether there is any systematic bias in the way mental health care payment and coverage is managed within the Appalachian Region, and whether such a bias may lead to underreporting of co-occurring substance abuse and mental health illnesses.

Substance Use Problems

Alcohol is the predominant substance of abuse upon admission to treatment, nationally and in Appalachia. However, hospital discharge data show that Appalachian residents have a lower proportion of diagnoses for substance abuse only, and for co-occurring substance abuse and mental health problems, as compared to the rest of the nation.

Findings related to specific substances demonstrate the following:

> This study *does not* support the belief that methamphetamine use is higher in Appalachia than elsewhere in the nation. Rather, methamphetamine use and admission rates are lower across Appalachia than in the rest of the nation. While regional trends show that methamphetamine use is rising, the rate of increase is similar to that of the rest of the nation so that rates in Appalachia remain lower. While there are likely to be "pockets of abuse" within the region, rates are lower within the region as a whole.

Other opiates and synthetics[1] admission rates for primary abuse are higher in Appalachia than the rest of the nation, especially in coal-mining areas. The trend is rising across the nation and in Appalachia, but at a faster pace in Appalachia. This is particularly the case in Appalachian coal mining areas.

Cigarette use rates[2] are higher in Appalachia than in the rest of the nation among both adolescents and adults.

Marijuana use rates are lower in Appalachian than in the rest of the nation among adults.

Cocaine use rates are lower in Appalachia than in the rest of the nation among adults.

Heroin admission rates are lower in Appalachia than in the rest of the nation, but the trend is rising, especially in coal-mining areas.

Proportionately fewer Appalachian adults than adults outside the region are classified as having alcohol abuse or dependence, or both alcohol and illicit drug abuse or dependence according to household survey responses.[3]

Proportionately more Appalachian adolescents report nonmedical use of psychotherapeutics[4] than adolescents in the rest of nation.

Treatment of Substance Use and Mental Health Disorders

Overall, access to substance use and mental health treatment within the Appalachian region compares favorably to the United States as a whole. Overall, proportionately more adults in the Appalachian region with mental health problems received outpatient mental health treatment counseling services and prescription medical services in the past year, as compared to adults outside the Appalachian region. There is no significant difference between Appalachian adolescents and adults and adolescents and adults outside of the region in terms of the proportion of persons who need but do not receive treatment for an illicit drug problem.

Proportionately more patients entered community hospitals for substance abuse or mental health treatment via the emergency room in the Appalachian region. This was particularly the case in more economically distressed counties and in coal mining areas. This may be an indicator of fear or stigma associated with mental health and substance use treatment, which is consistent with findings from the national household survey.

In looking at treatment related to specific substances of abuse, findings related to other opiates or synthetics and alcohol are noteworthy:

The percentage of people in the Appalachian region admitted to treatment for the primary abuse of other opiates or synthetics is significantly higher than in other regions of the United

[1] These drugs include codeine, hydrocodone, hydromorphone, meperidine, morphine, opium, oxycodone, pentazocine, propoxyphene, tramadol, and any other drug with morphine-like effects except methadone.
[2] The rates cover the lifetime, past year, and past month use respectively.
[3] The illicit drug abuse or dependence rate is also lower among Appalachian adults than adults outside the region, but the difference is not statistically significant.
[4] 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.

States. Within the Appalachian region, rates are highest in the central part of the Region and in coal mining areas.

Proportionately more Appalachian adults in need of alcohol treatment receive treatment, as compared to adults in the rest of nation.

When looking at services offered in substance abuse treatment facilities, findings demonstrate that:

Outpatient rehabilitation is the most common setting for substance abuse treatment in Appalachia.

Proportionately more Appalachian treatment facilities offer intensive outpatient care when compared to facilities outside of Appalachia.

In Appalachia, proportionately fewer facilities offer outpatient detoxification when compared to facilities outside of Appalachia.

Short-term non-hospital residential treatment is offered in proportionately fewer facilities in Appalachia than outside of Appalachia.

Long-term non-hospital residential treatment is offered in proportionately fewer facilities in Appalachia than outside of Appalachia.

Proportionately more treatment facilities in Appalachia offer services such as substance abuse family counseling and mental health assessment when compared to facilities outside of Appalachia.

In Appalachia, proportionately more treatment facilities accept Medicare, Medicaid, state financed insurance, and private insurance as payment when compared to facilities outside of Appalachia.

Case Study Findings

Case study findings in six Appalachian counties provide additional depth to quantitative findings showing a lack of access to inpatient treatment for both substance abuse and mental illnesses. The case studies revealed a number of specific barriers in to accessing treatment for substance abuse and mental health illnesses, including:

Stigma;

Transportation;

Payment options;

Privacy issues;

Choice of facilities; and

Cultural or family barriers.

The case study counties reported difficulties in getting access to inpatient and residential treatment facilities. No case study county had inpatient facilities for either substance abuse or mental health and most reported difficulty placing those needing long term outpatient treatment.

Recognizing the challenges confronting their communities, focus group participants noted the development of school-based prevention activities, after-school youth activities, anti-drug coalition activities, mentoring programs, parenting classes, agricultural extension programs, wellness classes, health camps, mentoring programs, sports, and recreational activities. Focus groups revealed a need for additional school-based interventions and prevention programs.

Findings from the case studies also showed that community-level substance abuse and mental health leaders do not generally use nationally-available data sets to make decisions about local response to substance abuse and mental health issues, nor do they have uniformly available county and state data from which to draw conclusions about the magnitude of substance abuse and mental health issues within their communities. While they may use state data, especially when it supports applications for grant funding for prevention programs, more often than not, anecdotal evidence is used as the basis for informing local decision making. These findings do not suggest a disregard for the data, but rather the lack of utility in how data are presented and a disconnect between the levels of analysis (generally state or regional) and the level of service delivery (local).

Conclusions

Overall, the findings from this study suggest that disparities do exist in the Appalachian region for specific substance use and mental health disorders. While some of these disparities exist across the Appalachian region, even more can be learned by looking at a more granular level. Specifically, findings demonstrate particular disparities related to Appalachian sub-region, county economic distress level, and within coal-mining areas. These findings are consistent across data sets and, when taken with region-wide findings, demonstrate the presence of place-based disparities. Key region-wide findings are that:

Mental health is a major area for concern in Appalachia, independent from substance abuse;

Alcohol is the predominant substance of abuse upon admission to treatment, nationally and in Appalachia;

Methamphetamine is not as large of a problem across Appalachia as is widely reported, although regional trends show that methamphetamine use is rising. The rate of increase, however, is similar to that of the rest of the nation so that rates in Appalachia remain lower when compared to the United States as a whole;

Primary abuse of other opiates and synthetics is a key issue in Appalachia. Admission rates for primary abuse of other opiates and synthetics are higher in Appalachia than the rest of the nation, and rates are increasing within the region at a faster pace when compared to the United States as a whole;

Outpatient rehabilitation is the most common setting for substance abuse treatment in Appalachia;

Access to inpatient treatment, and short and long-term non-hospital residential treatment for substance abuse or mental health illnesses, is less common within the Appalachian region; and

Access to treatment is better in Appalachia when compared to the rest of the nation in terms of accepted forms of payment, and the provision of services such as substance abuse family counseling and mental health assessment.

Whereas region-wide findings suggest opportunities to target resources across the Appalachian region, sub-regional findings suggest opportunities for states and communities to target resources to address more localized disparities. This point is noteworthy given case study findings demonstrating that community-level substance abuse and mental health leaders generally use anecdotal information in determining program priorities and resource allocation, due to a lack of uniformly available county and state data.

Key findings from the case studies revealed that:

There are regional difficulties in accessing inpatient facilities for substance abuse or mental health;

There are regional difficulties in accessing long-term outpatient treatment;

There are barriers to treatment for substance abuse and mental illnesses such as transportation, cultural factors, and stigma;

Communities in Appalachia are targeting resources to prevent substance abuse and mental health illness; and

Additional school-based interventions and prevention programs are needed in Appalachian communities.

The case study counties are currently using an array of prevention programs and activities – such as The Beginning Alcohol and Addictions Basic Education Studies (BABES), *Too Good For Drugs™ (K–8)*, and D.A.R.E. (Drug Abuse Resistance Education), LifeSkills4Kids, among others – to educate children and adolescents about the personal and social consequences of substance abuse, and to reduce risk factors and enhance protective factors related to alcohol, tobacco and other drug use. Prevention programs are offered in a variety of settings such as schools, youth organizations, and the workplace. Anti-drug coalitions are also present in the case study counties.

The wide array of community programs available in Appalachian communities shows an appropriate recognition of, and focus on, the problems of substance abuse and mental illness. Future work should further explore community best practices in the prevention of substance abuse and mental health illness to address and prevent these problems in Appalachia.