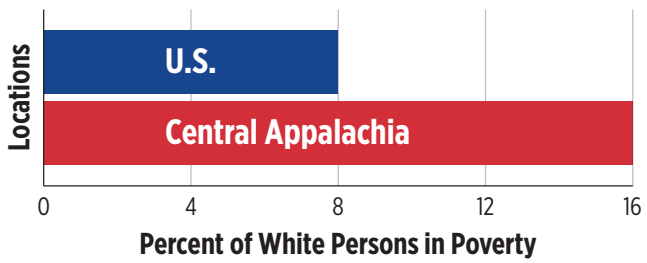
Mental Health Disparities: **Appalachian People**

AMERICAN PSYCHIATRIC ASSOCIATION

Appalachian Population

- Approximately 8% of the U.S. population (24.9 million Americans) lives in the Appalachian Region.[1]
- The Appalachian Region, as defined by the federal government, extends over 1,000 miles into 13 states, from part of Mississippi in the south to New York state in the north.
- Approximately 42% of the region's population is rural, compared with 20% of the national population.
- During 2011-2015, the poverty rate in Appalachia was 17.1% (the national poverty rate is 14.7%), and 87% of the region's 420 counties had more than 1.5 times the U.S. poverty rate.
- The rate of uninsured Appalachians under age 65 is 18.2% in rural counties, compared to 14.7% in the Region's large metro counties and 12% nationally.[1, 2]
- Approximately 10% of Appalachians held a bachelor's degree or higher in 2010, compared to 25% in the general U.S. population. 23% of Appalachians did not complete high school, compared to 13% in the general U.S. population.[3]

Poverty in Central Appalachia is twice that of the US for whites.



Source: HAC Tabulations of 2000 Census of Population and Housing, Summary File 3.

Social determinants of health are the conditions in which people are born, grow, live, work, and age.[4] The table below indicates that counties in Appalachia experience disproportionately adverse living conditions, when compared to the nation. Appalachian counties are over-represented in the nation's worst quintile for four of the five measures of social determinants of health.

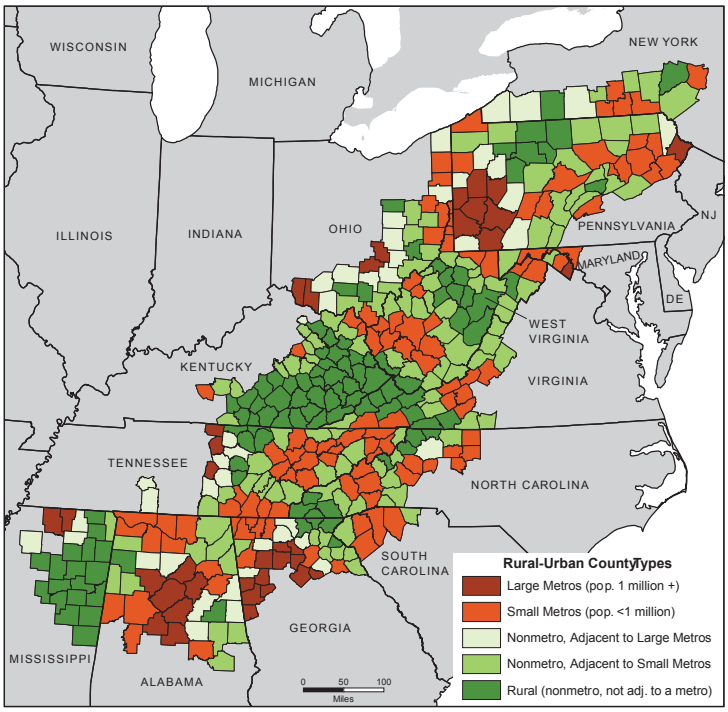
Distributions of Social Determinants Indicators among National Quintiles for Appalachian Counties.

Indicator	Best Quintile		2nd Best Quintile		Middle Quintile		2nd Worst Quintile		Worst Quintile	
	#	Pct.	#	Pct.	#	Pct.	#	Pct.	#	Pct.
Median household income	19	5%	33	8%	91	22%	118	28%	159	38%
Household poverty	17	4%	52	12%	95	23%	134	32%	122	29%
Disability	9	2%	19	5%	59	14%	130	31%	203	48%
Education: some college	20	5%	39	9%	83	20%	128	30%	150	36%
Social associations	45	11%	89	21%	102	24%	98	23%	86	20%

Data source for authors' calculations shown above. Appalachian_Health_Disparities_Data.xlsx. The number of counties across all five quintiles for each indicator may not sum to 420 due to missing or suppressed values.

Health Status and Disparities

- Heart disease has a 17% higher mortality rate in Appalachia, compared to the nation as a whole.
- Compared to national averages, cancer diagnosis is 10% higher in Appalachia, COPD is 27% higher, accidental injury is 33% higher, stroke is 14% higher, and diabetes is 11% higher.[1]
- The infant mortality rate in the Appalachian Region is 16% higher than in the general population.[1]
- The availability of dentists per 100,000 population in Appalachia is 26% lower than the national average. There is a growing number of emergency department visits for conditions related to poor oral health care.[1, 5]



Source: USDA, Economic Research Service, 2013 Urban Influence Codes. Condensed by ARC. Figure created by ARC, October 2016.

Mental Health Status and Disparities

- Except for alcohol consumption, Appalachians have disproportionately higher rates of mental health problems, compared to the U.S. population.[1] The reason for lower consumption could be due to religious beliefs, or preference (more educated people tend to drink wine), or opioid use overtaking alcohol use in this region.
- Appalachian Medicare recipients reported feeling depressed at a rate 16.7 higher than in other U.S. regions.[1]
- Localized studies of Appalachian women seeking care from Primary Care Providers yield rates as high as 44%.[6]
- The region's suicide rate is 17% higher than the national rate, and residents in Appalachia's rural counties are 21% more likely to commit suicide than those living in the region's large metro counties.[1]
- Between 2008-2014, the mortality rate in Appalachia from poisoning (which includes drug overdoses) was 37% higher than the national rate.[1]
- Appalachian Kentucky has a poisoning mortality rate (including opioid overdose) of 35.9 per 100,000 people, the highest rate in the Appalachian Region and more than double the national rate.[1]
- The higher rate of opioid use in Appalachia is due to a combination of geographic and cultural factors, including: isolated and mountainous terrain limiting access to care, lack of economic opportunity, the view of addiction as a moral failing, and a shortage of mental health providers.[7] There was also deliberate targeting of Appalachia by the pharmaceutical manufacturers of opioids with increased advertising and provision of samples.[8]
- Data from the Centers for Disease Control's Behavioral Risk Factor Surveillance System (BRFSS) from 2014 indicate that the average resident in Appalachia reports feeling mentally unhealthy 14% more days than the average American.[1]
- Appalachian counties with greater numbers of mentally unhealthy days have higher unemployment, poverty, disability, and mortality rates, as well as lower high school graduation rates.[9]

The distributions of the Behavioral Health indicators among national quintiles for Appalachian counties are shown in the table below.

Distributions of Behavioral Health Indicators among National Quintiles for Appalachian Counties.

Indicator	Best Quintile		2nd Best Quintile		Middle Quintile		2nd Worst Quintile		Worst Quintile	
	#	Pct.	#	Pct.	#	Pct.	#	Pct.	#	Pct.
Depression prevalence	22	5%	54	13%	69	16%	114	27%	161	38%
Suicide incidence	46	11%	69	16%	108	26%	127	30%	70	17%
Excessive drinking	202	48%	92	22%	82	20%	41	10%	3	1%
Poisoning mortality	24	6%	31	7%	56	13%	114	27%	195	46%
Opioid prescriptions	51	12%	77	18%	91	22%	100	24%	101	24%

Data source for authors' calculations shown above. Appalachian_Health_Disparities_Data.xlsx. The number of counties across all five quintiles for each indicator may not sum to 420 due to missing or suppressed values.

Adverse Childhood Experiences (ACE) and Rural America

ACEs are significant disturbances in a child's life that impact her or his ability to function in healthy ways. They were initially investigated in 1998 by CDC-Kaiser Permanente's Adverse Childhood Experiences (ACE) study to examine the link between ACEs and physical and mental health outcomes.[9]

- ACEs include all forms of child abuse (emotional, physical, or sexual), neglect (physical or emotional), or household dysfunction (divorce, violence, incarceration, substance abuse, or mental illness).
- Findings of the study indicated that the more ACEs a child experienced, the greater the risk of chronic health conditions, anxiety disorders, low life potential, and even early death.
- As the number of ACEs increases, so does the risk for negative health outcomes.
- In a study of rural and urban children and adults, the prevalence of ACEs was comparable in rural and urban children and adults. 56.5% of rural adults surveyed reported having ACE exposure. Among those with any ACE history, 25.8% experienced four or more ACEs. Thus, people who report having an ACE are at higher risk of having more than one ACE.[11]

CDC Mortality Rates in the United States and Southwest Virginia

Form of mortality	U.S.	SW VA
Unintentional injury in white males	45	73-163
Unintentional injury in white females	18	23-28
Motor vehicle accidents white males	26	43-98
Motor vehicle accidents white females	11	15-19
Homicide white males	9	9-37
Homicide white females	3	4-21
Firearm homicide white males	6	7-29
Firearm homicide white females	1.4	2-10
Firearm suicide white males	13	23-74

- Exposure to adverse events in Appalachia occurs throughout the life span. The rate of violent mortality in Southwest Virginia is 2 to 4 times higher than the US as a whole based on data from the CDC.
- In a study of psychiatric patients in Southwest Virginia see via telepsychiatry 65% reported experiencing significant trauma with the majority experiencing childhood trauma, but 15% had been assaulted as adults and 11% had witnessed severe of fatal violence.[12]

Mental Health Service Utilization

In Appalachia the number of mental healthcare professionals per 100,000 residents was 35% lower than the national average. In the southern and north central sub-regions of Appalachia, it further decreases to 50% fewer mental healthcare professionals than the national average.[1]

Barriers to Accessing Mental Health Services

Key barriers to accessing mental health treatment for Appalachian people include:

- Distance to treatment facilities[13, 14]
- Access to transportation[15]
- Shortage of treatment providers[1]
- Rural Appalachian values of individualism and self-reliance.[16]
- A long and troubled history between local Appalachians and absentee land-owning and exploitative corporations (e.g., timber, coal) has fostered a lingering skepticism of "outsiders," and this extends to medical and mental health care.[17, 18]

Cultural Health Practices of Appalachian People

- Folk medicine has historically been important in the treatment of Appalachian communities. This approach was based on available resources and grew out of necessity, due to extreme geographic isolation and the lack of traditional medical care available to the population for the first century of settlement.[18] Examples include herbal and homemade remedies such as ginseng to treat kidney problems, jimsonweed for asthma, and goldenseal for indigestion.[19] Ethnographic research shows that the use of botanically based home remedies are being replaced by items occurring around the home, such as turpentine, gasoline, kerosene, ashes, stove soot, sulfur, and to an even greater degree commercial products are commonly reverted to for many "ordinary" health concerns, such as aspirin, Vick's, Listerine, Vaseline, Doan's Kidney Pills, etc.[20] These practices are still quite important, because health care which is more readily available is often too expensive for the large uninsured population. Prescription drugs are often out of reach and professional health care is usually only sought in more extreme situations.[21-22]
- Protective Factors in Appalachia are embedded into the cultural fabric of people in the Appalachian Region. Protective Factors include strong spiritual beliefs and a commitment to family and community above self. The region's relative geographical isolation created self-sufficiency, creative problem-solving, and strong bonds among neighbors. Many people fear that through continued poverty and out-migration, as well as the damage of the opioid epidemic that these values are being threatened.[23]
- The absence of outside cultural influences helped create a sense of egalitarianism and humility.[24] Hospitality is a top priority in this region, both due to religious and geographic influences.

Strengths and Protective Factors Common to Appalachian People

- Family
- Self-reliance
- "Love of Place"[25]
- Spiritual beliefs and practices
- Acceptance that life is difficult
- Patriotism[25]
- Egalitarianism[24]
- Culture of honor, where being worthy of one's family, community, nation, or God is a primary motivator for action
- Humility is a virtue, "pride precedes the fall"

Resources

- **Mental Health America (MHA)**
  www.mentalhealthamerica.net
- **National Alliance on Mental Illness (NAMI)**
  www.nami.org
- **National Association for Rural Mental Health (NARMH)** *www.narmh.org*
- **Adverse Childhood Experiences (ACEs)** – Journal articles, BRFSS ACE data, and other ACE resources from the Centers for Diseases & Control and Prevention
  www.cdc.gov/violenceprevention/acestudy/index.html
- **Mental Health and Addiction screening tools**
  www.integration.samhsa.gov/clinical-practice/screening-tools
- **Appalachian Regional Commission on Health Disparities in Appalachia**
  www.arc.gov/assets/research_reports/Health_Disparities_in_Appalachia_August_2017.pdf
- **APA Integrated Care**
  www.psychiatry.org/psychiatrists/practice/professional-interests/integrated-care
- **APA Telepsychiatry Toolkit**
  www.psychiatry.org/psychiatrists/practice/telepsychiatry

References

1. Marshall J, Thomas L, Lane N, Holmes G, Arcury T, Randolph R, et al. Health Disparities in Appalachia August 2017 (Creating a Culture of Health in Appalachia: Disparities and Bright Spots). Raleigh, NC: PDA, INC.; Chapel Hill, NC: The Cecil G. Sheps Center for Health Services Research The University of North Carolina at Chapel Hill; Washington, DC: Appalachian Regional Commission, 2017 Aug.
2. Uninsured Rates for the Nonelderly by Age. Henry J Kaiser Family Foundation. 2018 [cited 2018 Aug 16]. https://www.kff.org/uninsured/state-indicator/rate-by-age
3. CLRsearch.com. Appalachia, VA Education Level Profile and Enrollment Statistics. CLRSearch. 2012 [cited 2018 Jul 10]. http://www.clrsearch.com/Appalachia-Demographics/VA/Education-Level-and-Enrollment-Statistics
4. World Health Organization. Social determinants of health. 2018 [cited 2018 Aug 23]. http://www.who.int/social_determinants/sdh_definition/en/
5. Shortridge EF, Moore JR. Use of emergency departments for conditions related to poor oral healthcare: implications for rural and low-resource urban areas for three states. J Public Health Manag Pract. 2009 May-Jun;15(3):238-45.
6. Hauenstein E, Peddada S. Prevalence of major depressive episodes in rural women using primary care. Journal of health care for the poor and underserved. 2007;18(1):185–202.
7. Appalachian Regional Commission, Oak Ridge Associated Universities. Communicating About Opioids in Appalachia: Challenges, Opportunities, and Best Practices. 2017 p. 29. https://www.orau.org/health-communication/documents/key-findings-report-opioid-communication-in-appalachia.pdf
8. Van Zee A. The Promotion and Marketing of OxyContin: Commercial Triumph, Public Health Tragedy. American Journal of Public Health. 2009;99(2):221–7.
9. Jia H, Muennig P, Lubetkin EI, Gold MR. Predicting geographical variations in behavioural risk factors: an analysis of physical and mental healthy days. J Epidemiol Community Health. 2004 Feb;58(2):150-5.
10. Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study. American Journal of Preventive Medicine. 1998;14:245-58.
11. Talbot JA, Szlosek D, Ziller EC. Adverse Childhood Experiences in Rural and Urban Contexts. Maine Rural Health Research Center. 2016 Apr;Policy Brief 64:10.
12. Merkel RL. Nerves, Social Withdrawal, and Treatment via Telepsychiatry in SW Virginia. Annual Meeting of the American Anthropological Association; 2010 Nov 20; New Orleans, LA.
13. Cummings JR, Wen H, Ko M, Druss BG. Race/ethnicity and geographic access to Medicaid substance use disorder treatment facilities in the United States. JAMA Psychiatry. 2014 Feb;71(2):190-6.
14. Fortney J, Rost K, Zhang M, Warren J. The impact of geographic accessibility on the intensity and quality of depression treatment. Med Care. 1999 Sep;37(9):884-93.
15. Arcury TA, Preisser JS, Gesler WM, Powers JM. Access to transportation and health care utilization in a rural region. J Rural Health. 2005 Winter;21(1):31-8.
16. Leukefeld C, McDonald HS, Mateyoke-Scrivner A, Roberto H, Walker R, Webster M, et al. Prescription drug use, health services utilization, and health problems in rural Appalachian Kentucky. Journal of Drug Issues. 2005;35(3):631–43.
17. Beaver P. Appalachian Cultural Systems, Past and Present. In: Keefe S, editor. Appalachian Mental Health. First Edition. Lexington, KY: University Press of Kentucky; 1988. p. 17.
18. Caudill HM. Night Comes to the Cumberlands: A Biography of a Depressed Area. Reprint Edition. Ashland, KY: Jesse Stuart Foundation; 2001.
19. Cavender A. Folk Medicine in Southern Appalachia. Chapel Hill, NC: University of North Carolina Press; 2003.
20. Cavender A, Beck S. Generational Change, Folk Medicine, and Medical Self-Care in a Rural Appalachian Community. Human Organization. 1995;54(2):129–42.
21. Brown J, May B. Rural Older Appalachian Women's Formal Patterns of Care. Southern Online Journal of Nursing Research. 2005;2(6):1–21.
22. Hansen M, Resick L. Health Beliefs, Health Care, and Rural Appalachian Subcultures from an Ethnographic Perspective. Family and Community Health. 1990;13(1):1–10.
23. Schoenberg N, Hatcher J, Dignan M. Appalachian Women's Perceptions of their Community's Health Threats. The Journal of Rural Health. 2008;24(1):75–83.
24. Keefe S. Introduction. In: Keefe S, editor. Appalachian Mental Health. First Edition. Lexington, KY: University Press of Kentucky; 1988. p. 5.
25. Jones L. Appalachian Values. 1st Edition. Ashland, KY: The Jesse Stuart Foundation; 1994.

This resource was prepared by the Division of Diversity and Health Equity. It was authored by Myra Elder, Ph.D. and Diana Robinson, M.D., and was reviewed by Richard. L. Merkel, Jr. M.D., Ph.D. and James Griffith, M.D.