



Social Determinants

Median Household Income

Poverty

Disability

Education

Social Associations

Further Reading

CREATING A CULTURE OF HEALTH IN APPALACHIA DISPARITIES AND BRIGHT SPOTS





KEY FINDINGS | Median Household Income

- The median household income in the Appalachian Region is 19 percent less than the national median.
- The median household income in all five Appalachian subregions is below the national figure. The median is especially low in Central Appalachia, where it is 38 percent less than the national median.
- There is a stark urban-rural divide in median household income throughout the Region, with rural households earning 34 percent less than those in the Region's large metro areas.
- The median household income in the Appalachian Region's distressed counties is 30 percent less than that found in the Region's non-distressed counties.

Background

Median household income is the value at which half of the households in an area earn more and half earn less. The measure includes wages and salaries, unemployment insurance, disability payments, child support, regular rental receipts, and any personal business income. The figures for this measure are based on 2010–2014 American Community Survey data collected by the U.S. Census Bureau. Households with higher incomes generally have greater access to health care, safer housing, and an increased ability to afford resources that lead to healthier outcomes (e.g., healthier food and higher education).

Members of higher-income households typically also have more stable and flexible jobs that provide good benefits, such as health insurance, paid leave, and workplace wellness programs. As such, higher incomes are associated with lower incidences of disease and premature death. In general, it is more difficult for individuals with lower incomes to afford quality medical care and a healthy lifestyle (Woolf, et al., 2015).

Because U.S. household income data have a number of very high-earning households, measures of median household income are usually well below any measure examining mean household income, as these high-earners inflate the mean well above the midpoint of the distribution. Median household income is generally the preferred indicator for representing the *typical* household in an area, as extremely high-income households that have a disproportionate effect on mean values have much less effect on median values.

Overview: Median Household Income in the Appalachian Region

Overall, median household income in Appalachia is substantially less than the national median. The Region's median household income of \$45,585 is 19 percent less than the national figure of \$56,135. Despite many counties ranking in the worst-performing quintile, Southern Appalachia (\$48,668) reports the highest value among the subregions. Some of this may be attributed to the high incomes found among metro counties located near Atlanta, Birmingham, and Huntsville. Central Appalachia is the worst-performing subregion—median household income is \$34,628 which is 38 percent less than the national figure.

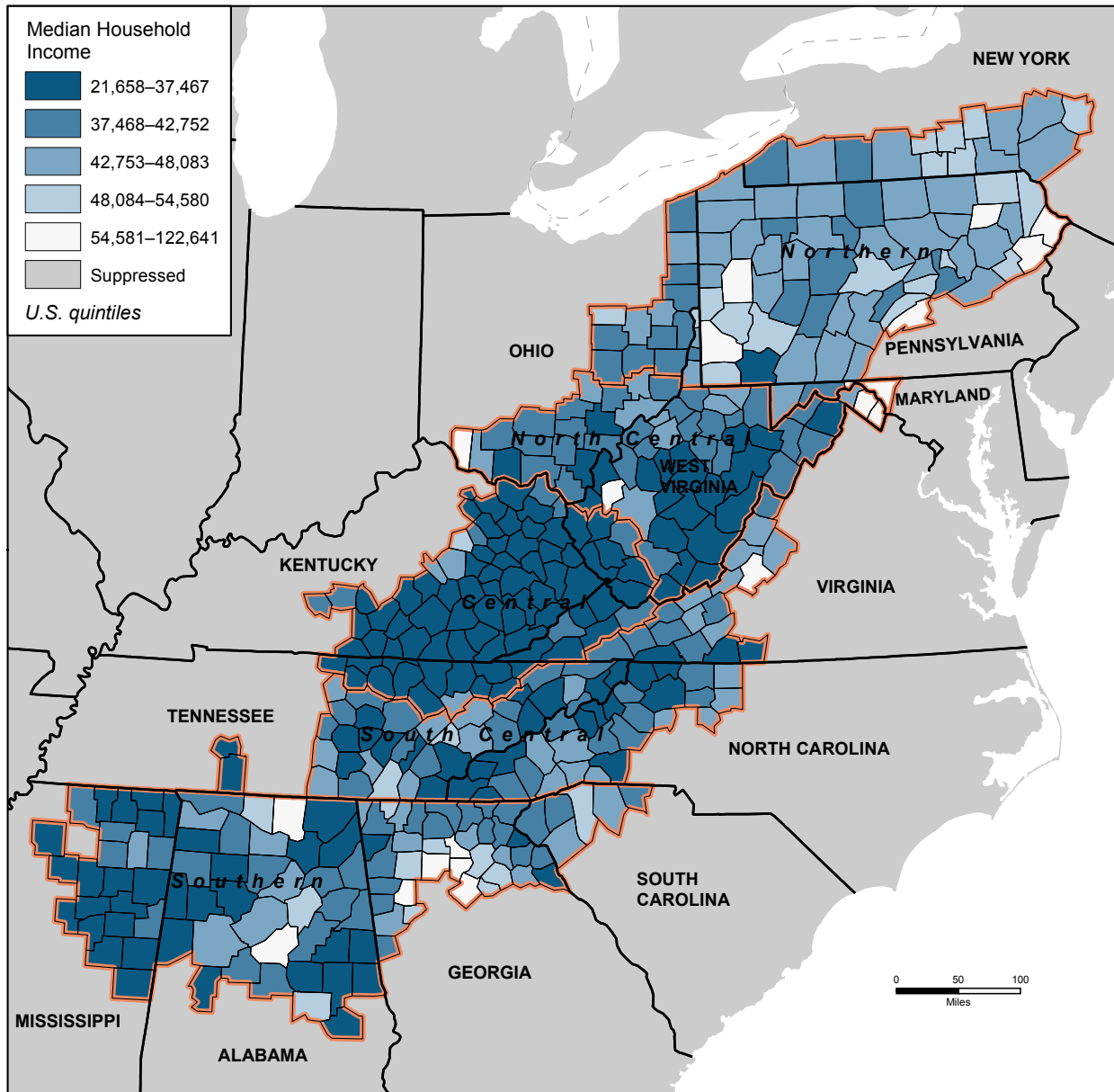
There is a large urban-rural divide in median household income throughout the Region, with rural households (\$36,265) making 34 percent less than those in large metro areas (\$54,743). As one moves away from large metro areas, each subsequent change in urban classification experiences a decline in income. Since a county's economic status is largely dependent upon median household income—this indicator accounts for one-third of the equation used by ARC when designating economic status classifications—it follows that distressed Appalachian counties (\$32,777) report a value 30 percent less than non-distressed counties (\$46,499).

Appalachian Kentucky reports the lowest median household income throughout the Region at just \$33,840 per household, a number 40 percent less than the national figure. Only two states report higher incomes among the Appalachian portions of their respective states when compared to the non-Appalachian portions: Alabama and Georgia. While the difference in Alabama is only slight, Appalachian Georgia (\$55,077) reports a median income 12 percent higher than non-Appalachian Georgia (\$48,998). Although still below the national median and the non-Appalachian portions of the respective states, Maryland (\$49,428) and Pennsylvania (\$48,717) report the next highest values among the Appalachian portions of states in the Region.

Figure 153 shows the variation in median household income across the Appalachian Region, grouped by national quintiles. Darker colors indicate lower income levels; for this measure, higher values are associated with better health. Outside of Northern Appalachia, much of the region consists of counties ranked in the two worst-performing national quintiles. Almost all of the counties in Central Appalachia rank in the bottom quintile.

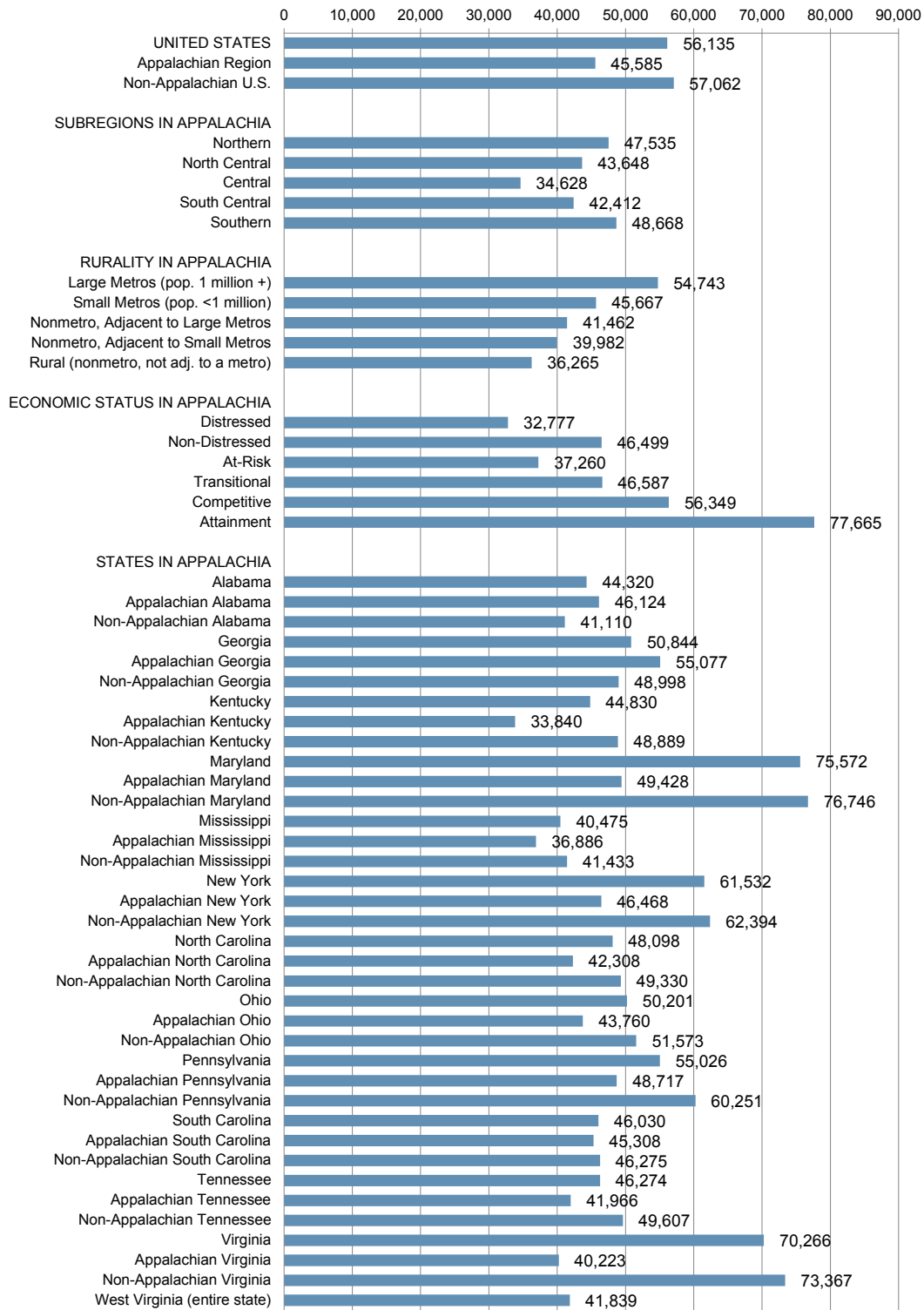
Figure 154 aggregates the data for a variety of geographies useful for comparison: the Region compared to both the U.S. as a whole and the non-Appalachian portion of the country, subregions throughout Appalachia, levels of rurality in Appalachia, and economic status in Appalachia. State-level aggregation is done at three levels: the entire state, and then both the Appalachian and non-Appalachian portions of each state.

Figure 153: Map of Median Household Income in the Appalachian Region, 2010–2014



Data source: United States Census Bureau. "Summary File." 2010–2014 American Community Survey. U.S. Census Bureau's American Community Survey Office, 2015. Web. 13 January 2016 <http://ftp2.census.gov/>.

Figure 154: Chart of Median Household Income, 2010–2014

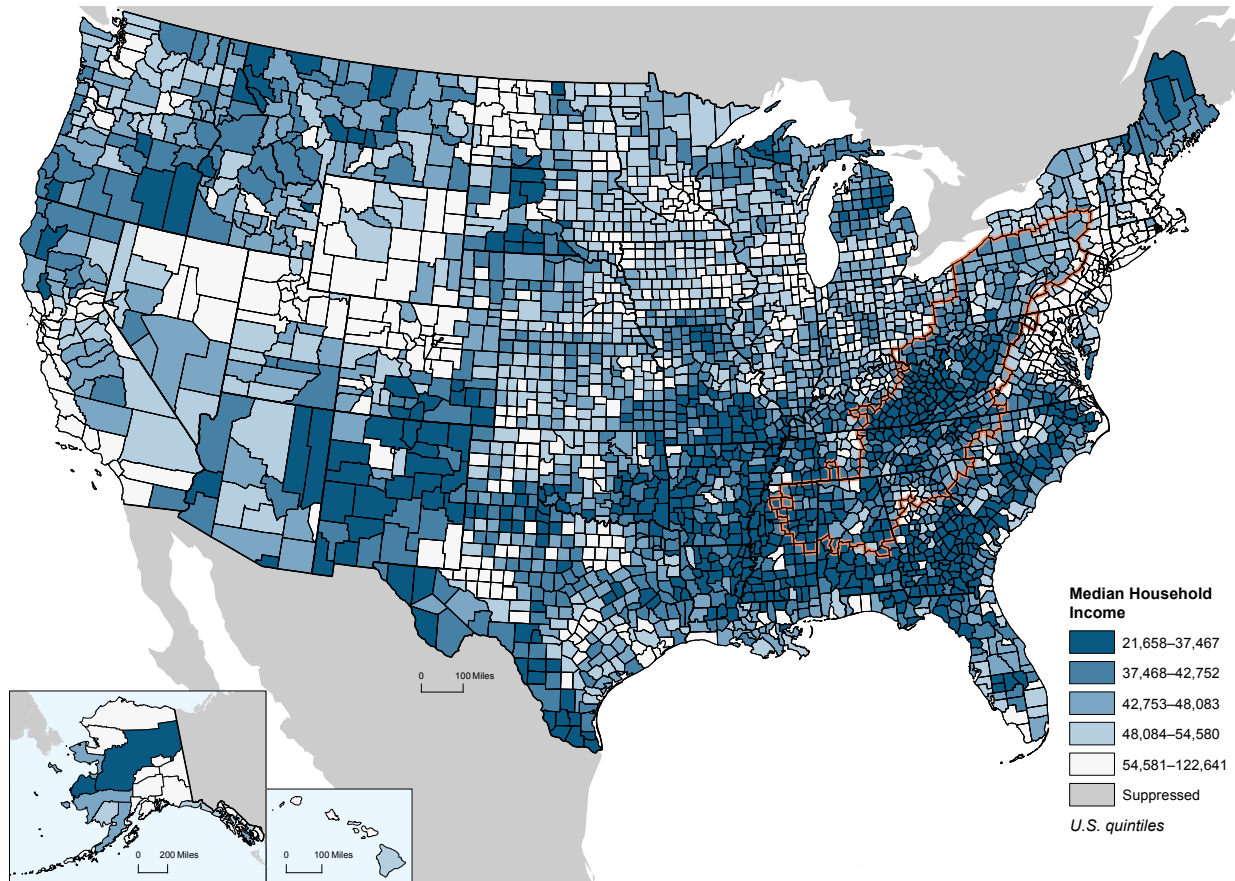


Data source: United States Census Bureau. "Summary File." 2010–2014 American Community Survey. U.S. Census Bureau's American Community Survey Office, 2015. Web. 13 January 2016 <http://ftp2.census.gov/>.

Overview: Median Household Income in the United States

Figure 155 shows the variation in median household income across the United States. In addition to Central Appalachia, a large number of counties in the worst-performing quintile are also found throughout much of the Southeast and Mississippi Delta regions. Pockets of poor performance also exist throughout the country, including Maine and areas of both the Southwest and Pacific Northwest. Metropolitan areas consistently rank in the top-performing quintile. Many areas throughout the Upper Midwest and Rocky Mountains also report high median household incomes.

Figure 155: Map of Median Household Income in the United States, 2010–2014

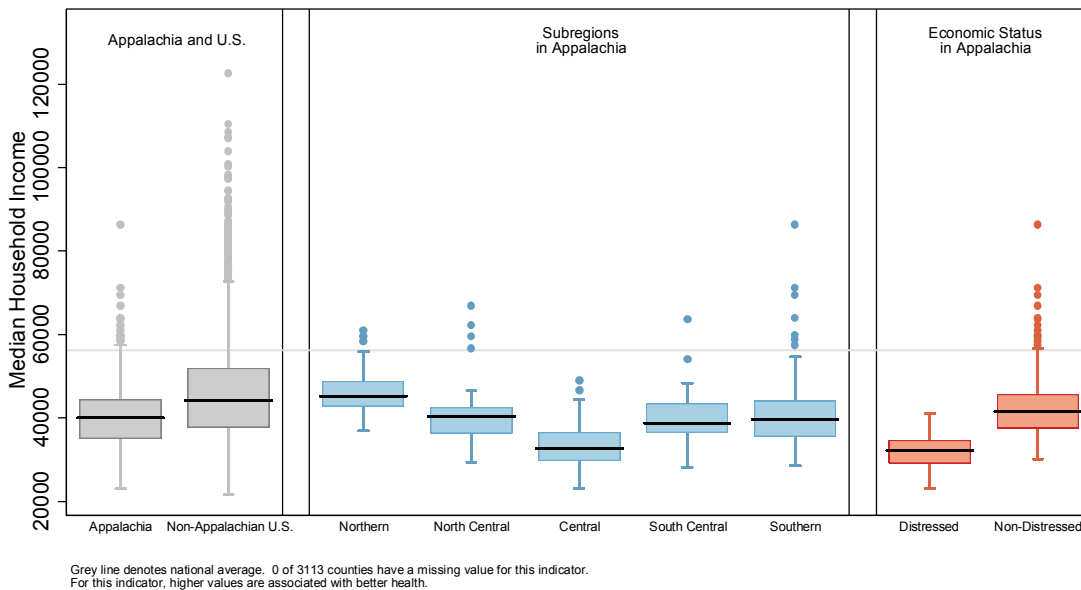


Data source: United States Census Bureau. "Summary File." 2010–2014 American Community Survey. U.S. Census Bureau's American Community Survey Office, 2015. Web. 13 January 2016 <http://ftp2.census.gov/>.

Distribution of Median Household Income

Figure 156 shows the distribution of median household income by geography and economic status. The shaded boxes show the middle 50 percent of values for each group, with dots representing unusually high or low values. The gray line stretching across the width of the graph indicates the national average, and the black lines inside the shaded boxes indicate the median for each respective group. Of all 3,113 counties in the nation, zero have a missing value for this indicator.

Figure 156: Box Plot of Median Household Income by Geography and Economic Status, 2010-2014



Data source: United States Census Bureau. "Summary File." 2010–2014 American Community Survey. U.S. Census Bureau's American Community Survey Office, 2015. Web. 13 January 2016 <http://ftp2.census.gov/>.

The distribution of median household income among national quintiles for Appalachian counties is shown in Table 50. Of the 420 counties in the Region, 159 (38 percent) rank in the worst-performing national quintile, while 19 (5 percent) rank in the best-performing national quintile.

Table 50: Distribution of Median Household Income 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%

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



KEY FINDINGS | Household Poverty Rates

- The household poverty rate is 17.2 percent in the Appalachian Region, a figure slightly higher than the national rate of 15.6 percent.
- At 14.8 percent, Northern Appalachia is the only subregion reporting a household poverty rate less than the nation as a whole. Central Appalachia reports that nearly one-quarter of all households in the subregion are below the poverty line (24.9 percent).
- Poverty increases as the level of rurality increases. In the Appalachian Region's large metro counties, 13.6 percent of households are below the poverty line, while 23.0 percent of households in the Region's rural areas are below the poverty line.
- The poverty rate in the Appalachian Region's distressed counties is much higher (26.9 percent) than the poverty rate in the Region's non-distressed counties (16.5 percent).

Background

The household poverty rate is the percentage of households with incomes below the poverty line. The figures for this measure are based on 2014 Small Area Income and Poverty Estimates data collected by the U.S. Census Bureau. Household poverty status not only reflects income levels, but also the size of the family, number of children, and for one- and two-person households, the age of the householder. People living in households below the poverty line generally have less access to resources that lead to better health outcomes, including health insurance and healthcare, as well as the types of diets and activities that are part of healthy, active lifestyles.

In addition to the lack of resources associated with living in poverty, the stress of living in a state of economic insecurity can lead to negative physical and mental health consequences, especially among children (Brody, et al., 2013). The social, economic, and physical environments typically found in high-poverty areas—at both the individual household and community levels—are also not conducive to good health outcomes (Health Equity Alliance, 2016). The issues with these environments can range from being located near storage facilities of hazardous substances, to being located near high concentrations of fast food restaurants and liquor stores. Additional issues may also include the housing units themselves, with substandard units leading to exposure to lead paint, mold, or pest infestations (Commission to Build a Healthier America, 2008).

Overview: Household Poverty Rates in the Appalachian Region

While poverty rates have improved dramatically in the Appalachian Region since ARC was established over 50 years ago, the household poverty rate throughout the Region (17.2 percent) is still above the national figure (15.6 percent). While Northern Appalachia (14.8 percent) reports a poverty rate below the national rate, and Southern Appalachia (16.9 percent) performs better than the Region as a whole, the central subregions all report higher rates. Central Appalachia reports the highest rate, with 24.9 percent of its households below the poverty line. North Central and South Central Appalachia both report household poverty rates of 18.2 percent.

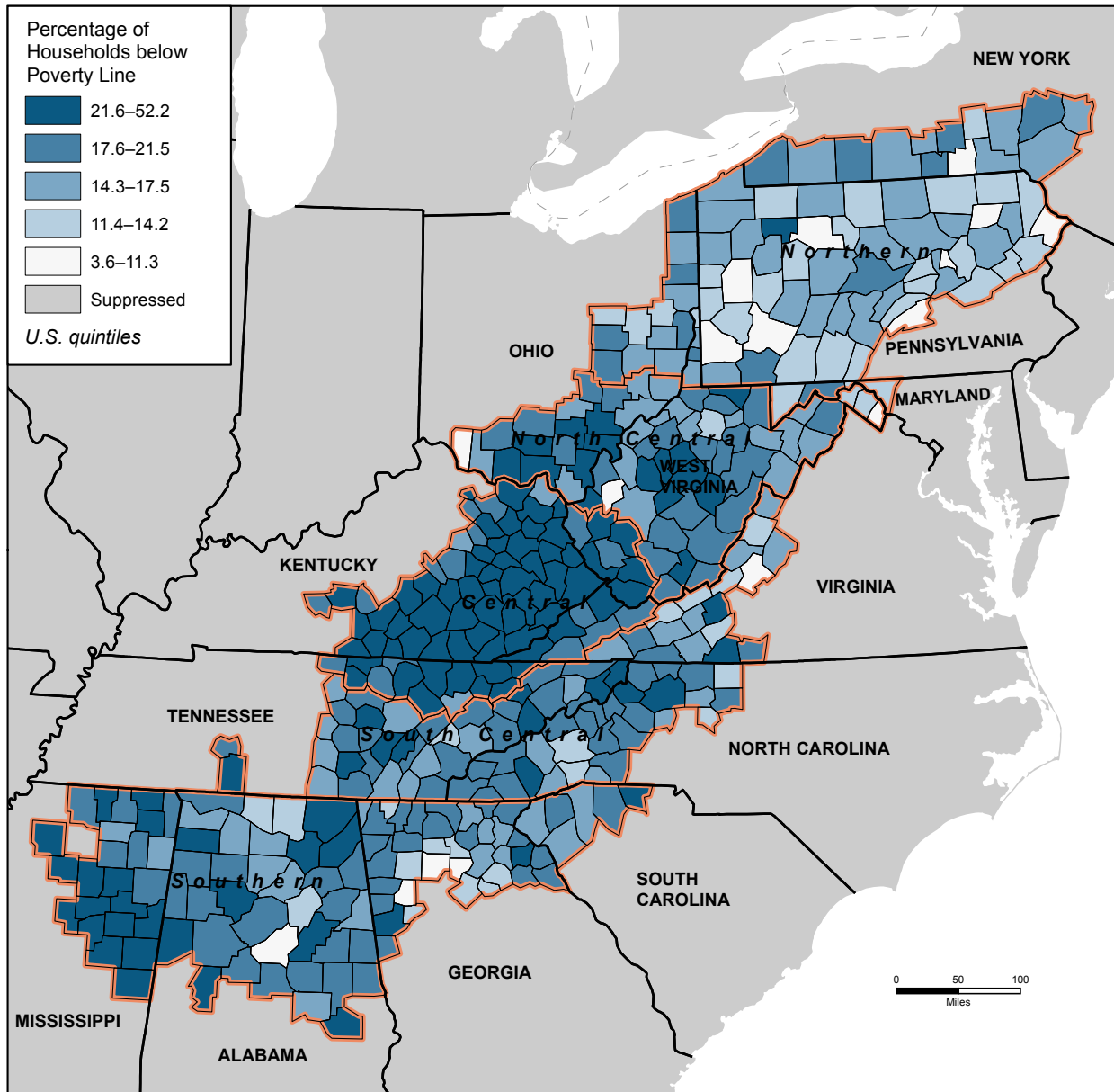
In Appalachia, poverty increases as one moves away from large metro areas and as the level of rurality increases. In the Appalachian Region's large metro areas, 13.6 percent of households are below the poverty line, while rural areas report 23.0 percent below the poverty line. Since poverty rates account for one-third of the equation used by ARC to designate the economic status of a county, it is expected that distressed Appalachian counties report a much higher poverty rate than those classified as non-distressed (26.9 percent compared to 16.5 percent).

Over one-quarter of all households in Appalachian Kentucky are below the poverty line (26.7 percent), the highest rate in the Region, and a much higher figure than that reported in non-Appalachian Kentucky (16.3 percent). Appalachian Mississippi (22.5 percent) reports the next highest household poverty rate in the Region, although this number is not much different than the 22.0 percent in non-Appalachian Mississippi. The Appalachian portions of three states report lower household poverty rates than those found in the non-Appalachian portions of the states: Alabama, Georgia, and South Carolina.

Figure 157 shows the variation in the percentage of households classified below the federal poverty line throughout the Appalachian Region, grouped by national quintiles. Darker blue indicates a higher percentage of households living below the poverty line; for this measure, higher values are associated with worse health. Much of Central Appalachia ranks in the worst-performing national quintile, and there are also pockets of poor performance throughout both North Central and Southern Appalachia.

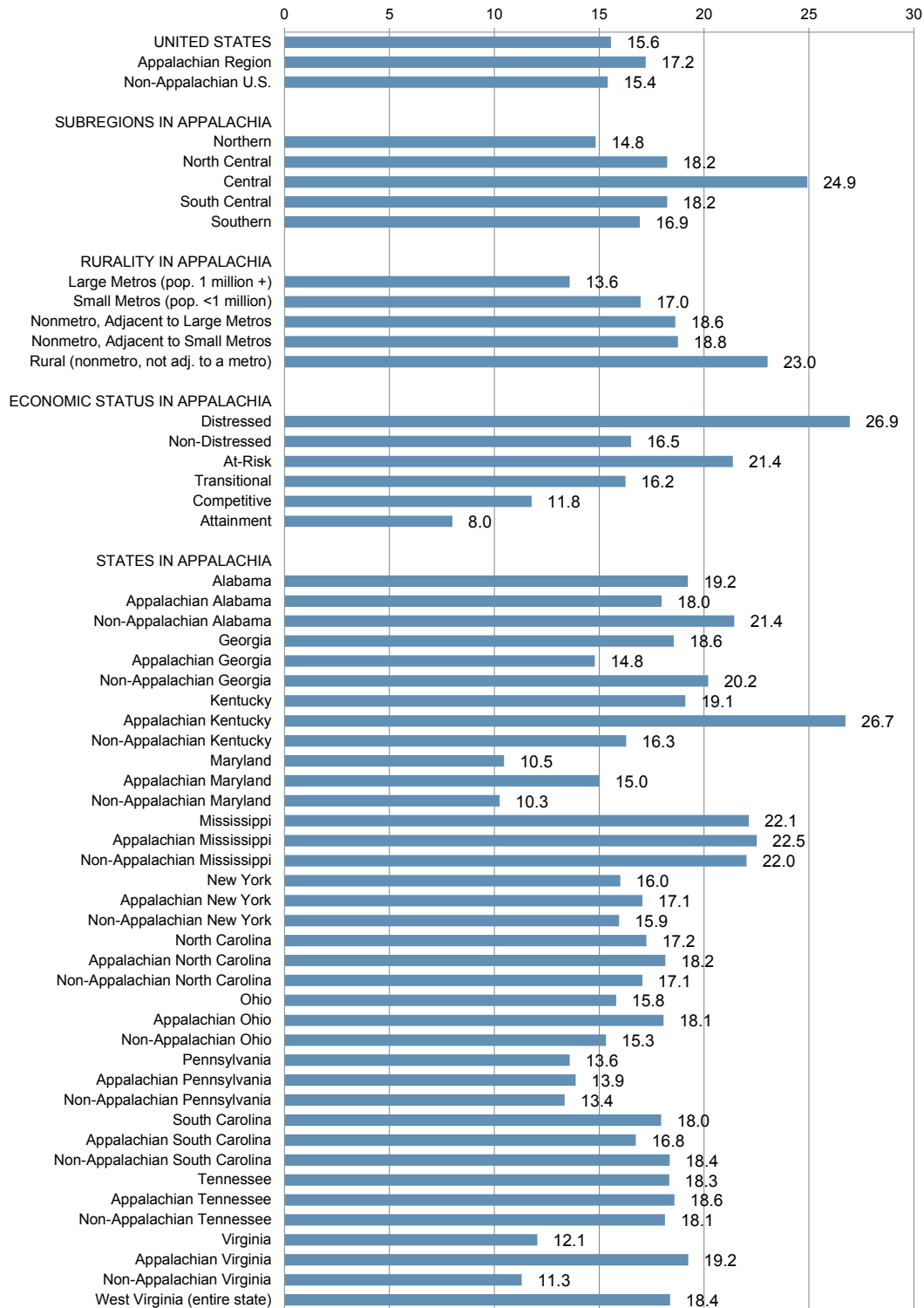
Figure 158 aggregates the data for a variety of geographies useful for comparison: the Region compared to both the U.S. as a whole and the non-Appalachian portion of the country, subregions throughout Appalachia, levels of rurality in Appalachia, and economic status in Appalachia. State-level aggregation is done at three levels: the entire state, and then both the Appalachian and non-Appalachian portions of each state.

Figure 157: Map of Household Poverty Rates in the Appalachian Region, 2014



Data source: 2014 Poverty and Median Household Income Estimates - Counties, States, and National; Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program, Release date: December 2015.

Figure 158: Chart of Household Poverty Rates, 2014

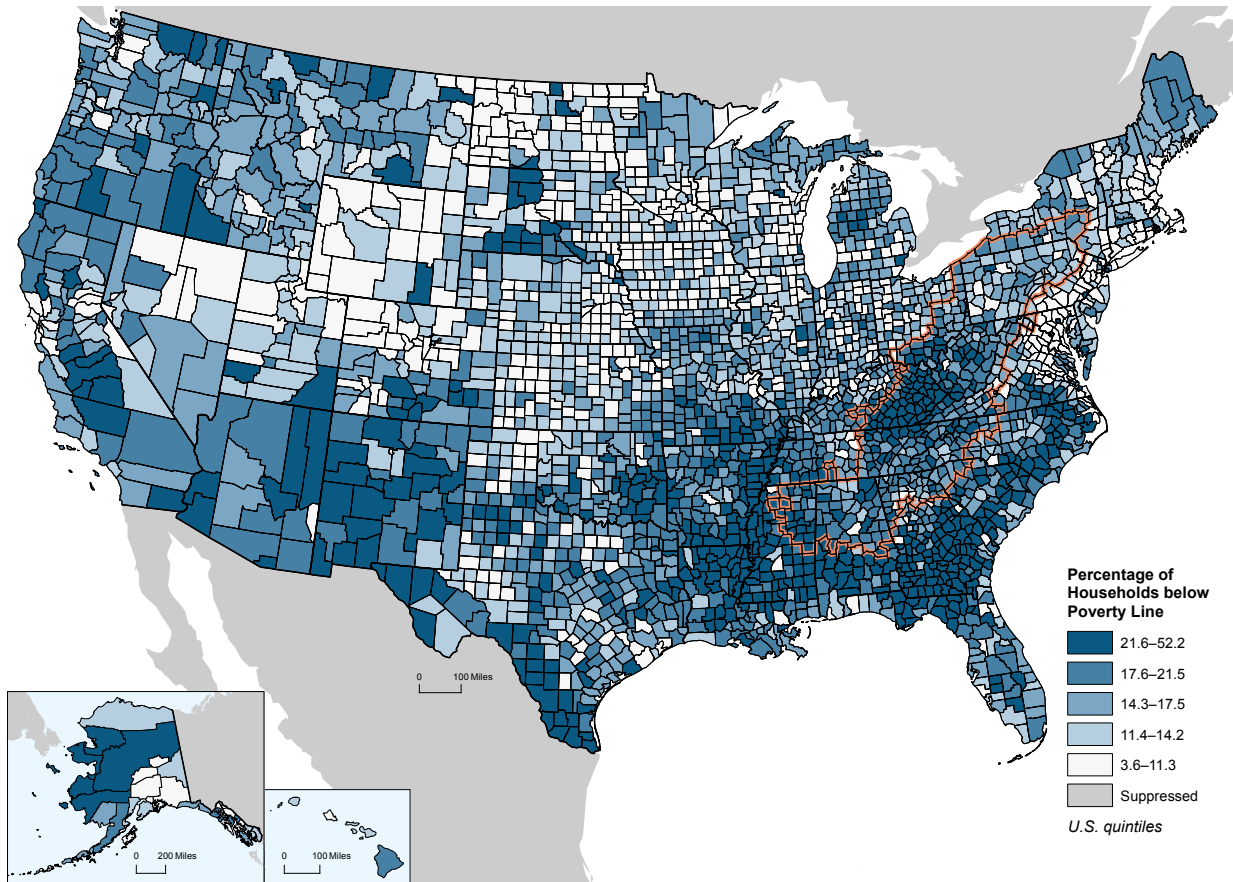


Data source: 2014 Poverty and Median Household Income Estimates - Counties, States, and National; Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program, Release date: December 2015.

Overview: Household Poverty Rates in the United States

Figure 159 shows the variation in the household poverty rate across the United States. In addition to the poor-performing counties located in Central Appalachia, many counties throughout the Southeast and Mississippi Delta regions also rank in the worst-performing national quintile. Poverty persists throughout much of the Southwest, including Arizona, New Mexico, and many counties in Texas along the U.S.-Mexico border. The Upper Midwest and Northeast report a large number of counties in the top-performing national quintile.

Figure 159: Map of Household Poverty Rates in the United States, 2014

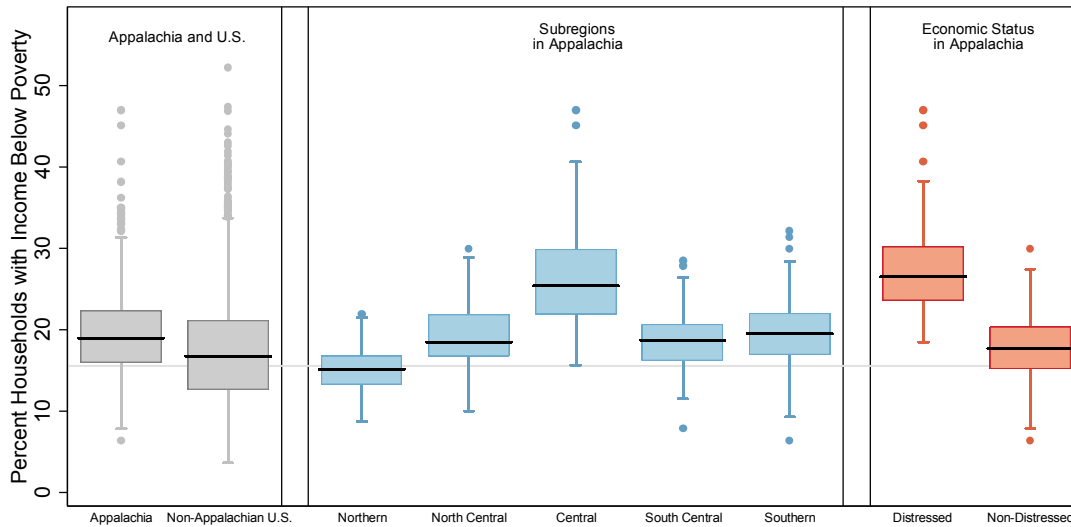


Data source: 2014 Poverty and Median Household Income Estimates - Counties, States, and National; Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program, Release date: December 2015.

Distribution of Household Poverty Rates

Figure 160 shows the distribution of household poverty rates by geography and economic status. The shaded boxes show the middle 50 percent of values for each group, with dots representing unusually high or low values. The gray line stretching across the width of the graph indicates the national average, and the black lines inside the shaded boxes indicate the median for each respective group. Of all 3,113 counties in the nation, zero have a missing value for this indicator.

Figure 160: Box Plot of Household Poverty Rates by Geography and Economic Status, 2014



Grey line denotes national average. 0 of 3113 counties have a missing value for this indicator. For this indicator, higher values are associated with worse health.

Data source: 2014 Poverty and Median Household Income Estimates - Counties, States, and National; Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program, Release date: December 2015.

The distribution of household poverty rates among national quintiles for Appalachian counties is shown in Table 51. Of the 420 counties in the Region, 122 (29 percent) rank in the worst-performing national quintile, while 17 (4 percent) rank in the best-performing national quintile.

Table 51: Distribution of Household Poverty Rates among National Quintiles for Appalachian Counties

Indicator	Best Quintile		2nd Best Quintile		Middle Quintile		2nd Worst Quintile		Worst Quintile	
	#	Pct.	#	Pct.	#	Pct.	#	Pct.	#	Pct.
Household poverty	17	4%	52	12%	95	23%	134	32%	122	29%

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



KEY FINDINGS | Percentage Receiving Disability Benefits

- The percentage of people receiving disability benefits is higher in the Appalachian Region (7.3 percent) than in the United States as a whole (5.1 percent).
- All five Appalachian subregions report higher percentages of their populations receiving disability benefits than the nation as a whole, with Central Appalachia having a particularly high figure of 13.9 percent.
- There is a clear urban-rural divide in the receipt of disability benefits. Residents in the Appalachian Region's rural counties are more likely to receive benefits (11.2 percent) than residents in the Region's large metro areas (5.5 percent).
- In the Appalachian Region's distressed counties, 13.6 percent of residents receive disability benefits, compared to 6.9 percent living in the Region's non-distressed counties.

Background

This indicator measures the portion of the population receiving disability benefits from the Social Security Administration, either through the Old-Age, Survivors, and Disability Insurance (OASDI) program or the Supplemental Security Income (SSI) program. Figures for this measure come from 2014 data from the Social Security Administration. People receiving disability benefits necessarily have at least one health issue—whether an injury or illness—that prevents them from earning wages to support themselves. A higher percentage of a county's residents receiving disability benefits thus indicates a less healthy population overall.

People receiving disability benefits do not have the capacity to earn wages and therefore rely on disability benefits for basic needs like food and shelter, as well as life-sustaining medications. In addition to being an indicator of present medical issues, recipients of disability benefits often have a shorter life expectancy than their able-bodied peers (Keeler, Guralnik, Tian, Wallace, & Reuben, 2010). Higher disability rates among a county's population—especially among older residents—also indicates a need for additional services, such as long-term institutional care and home health care assistance (Harris-Kojetin, Sengupta, Park-Lee, & Valverde, 2013).

Overview: Percentage Receiving Disability Benefits in the Appalachian Region

With 7.3 percent of residents receiving some form of disability benefits, the receipt of these benefits is more common in the Appalachian Region than in the nation as a whole (5.1 percent). Each of the five subregions have values above the national mark, and even the best-performing Northern Appalachia subregion (6.5 percent) is still well above the national average. Central Appalachia has the highest percentage among the subregions, with 13.9 percent of its residents receiving disability benefits.

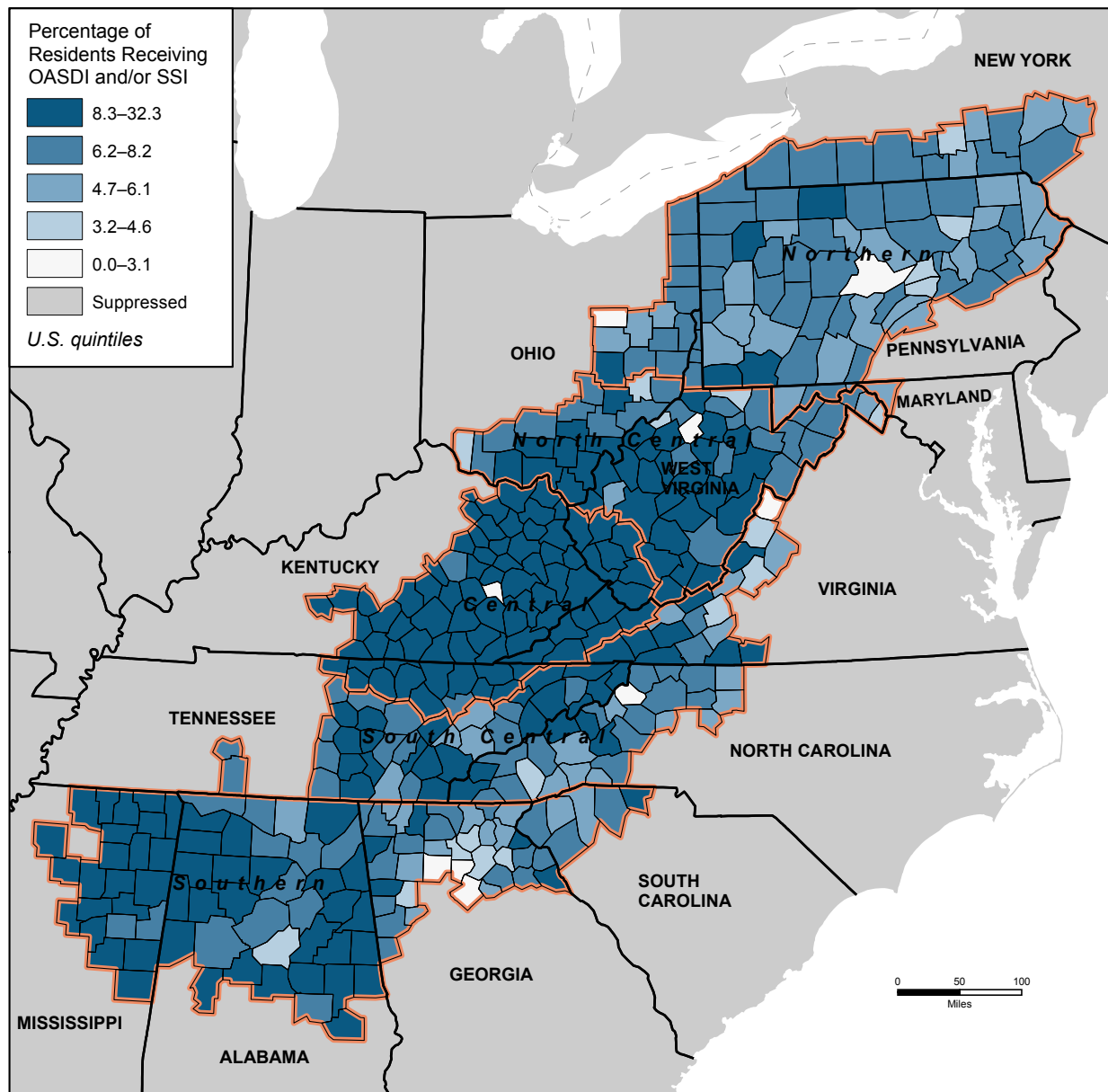
As one moves from large metro areas to rural areas, the percentage of a population receiving disability benefits increases with each change in classification. Appalachian residents in large metro areas (5.5 percent) are less likely to receive any type of disability benefit than residents in the Region's rural areas (11.2 percent). The economic status of a county also serves as an indicator. In Appalachian counties classified as economically distressed, 13.6 percent of residents receive disability benefits, compared to 6.9 percent in non-distressed counties.

With 14.3 percent of its residents receiving disability benefits, Appalachian Kentucky reports a number far higher than both the national figure (5.1 percent) and the non-Appalachian portion of the state (6.8 percent). Appalachian Virginia (9.3 percent) reports a high figure, and a value much larger than that found in non-Appalachian Virginia (3.7 percent). Appalachian Mississippi (9.7 percent) also reports a value greater than its non-Appalachian portion (8.0 percent). Only Appalachian Georgia has a value lower than the national mark.

Figure 161 shows the variation in the percentage of a county's population receiving disability benefits across the Appalachian Region, grouped by national quintiles. Darker colors indicate higher values; for this measure, higher values are associated with worse health. High values are pronounced throughout much of the Central Appalachia subregion, with a large number of counties ranking in the worst-performing national quintile.

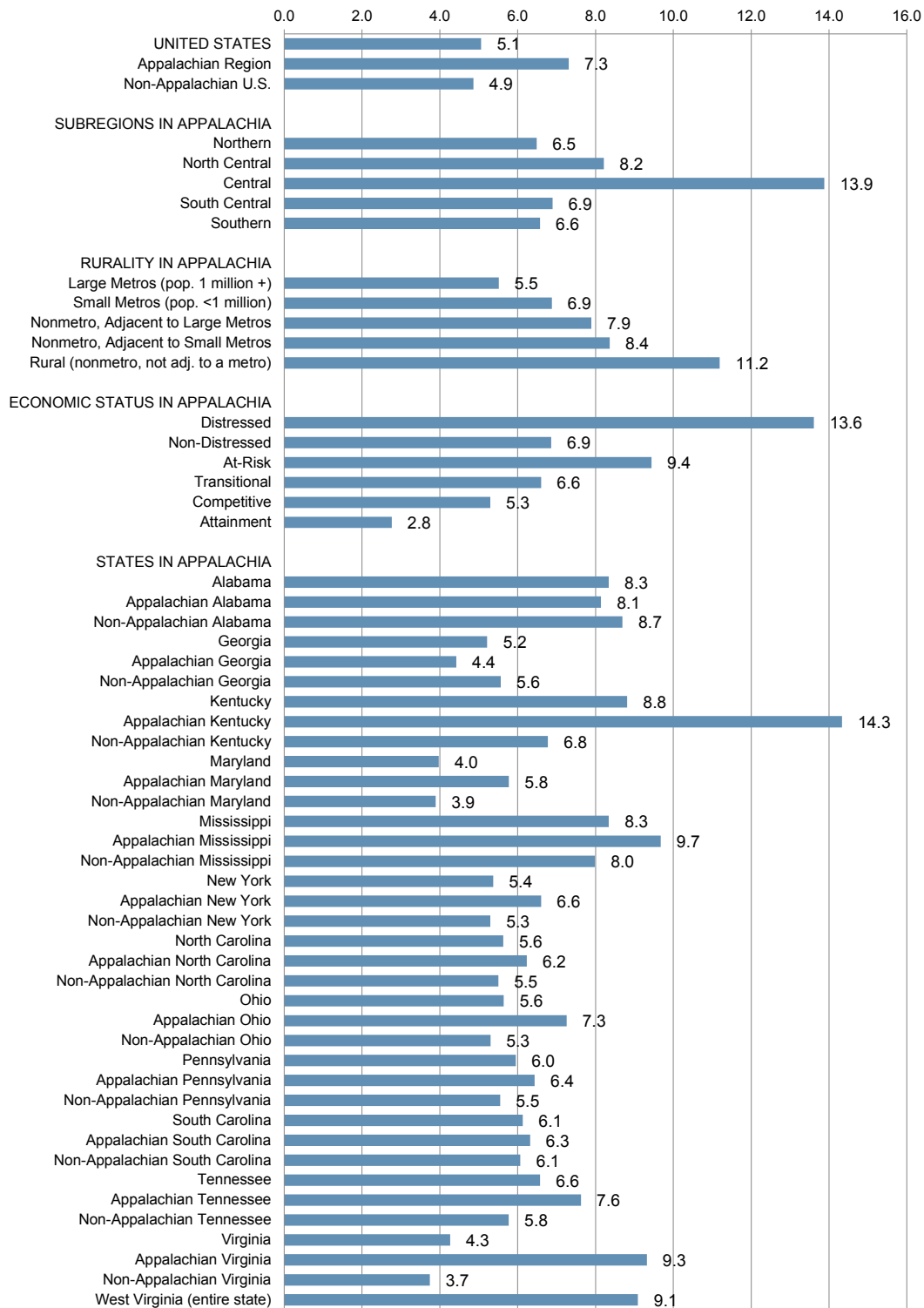
Figure 162 aggregates the data for a variety of geographies useful for comparison: the Region compared to both the U.S. as a whole and the non-Appalachian portion of the country, subregions throughout Appalachia, levels of rurality in Appalachia, and economic status in Appalachia. State-level aggregation is done at three levels: the entire state, and then both the Appalachian and non-Appalachian portions of each state.

Figure 161: Map of Percentage of Residents Receiving Disability Benefits in the Appalachian Region, 2014



Data source: SSA OASDI Beneficiaries. Social Security Administration. https://www.ssa.gov/policy/data_sub12.html.

Figure 162: Chart of Percentage of Residents Receiving Disability Benefits, 2014

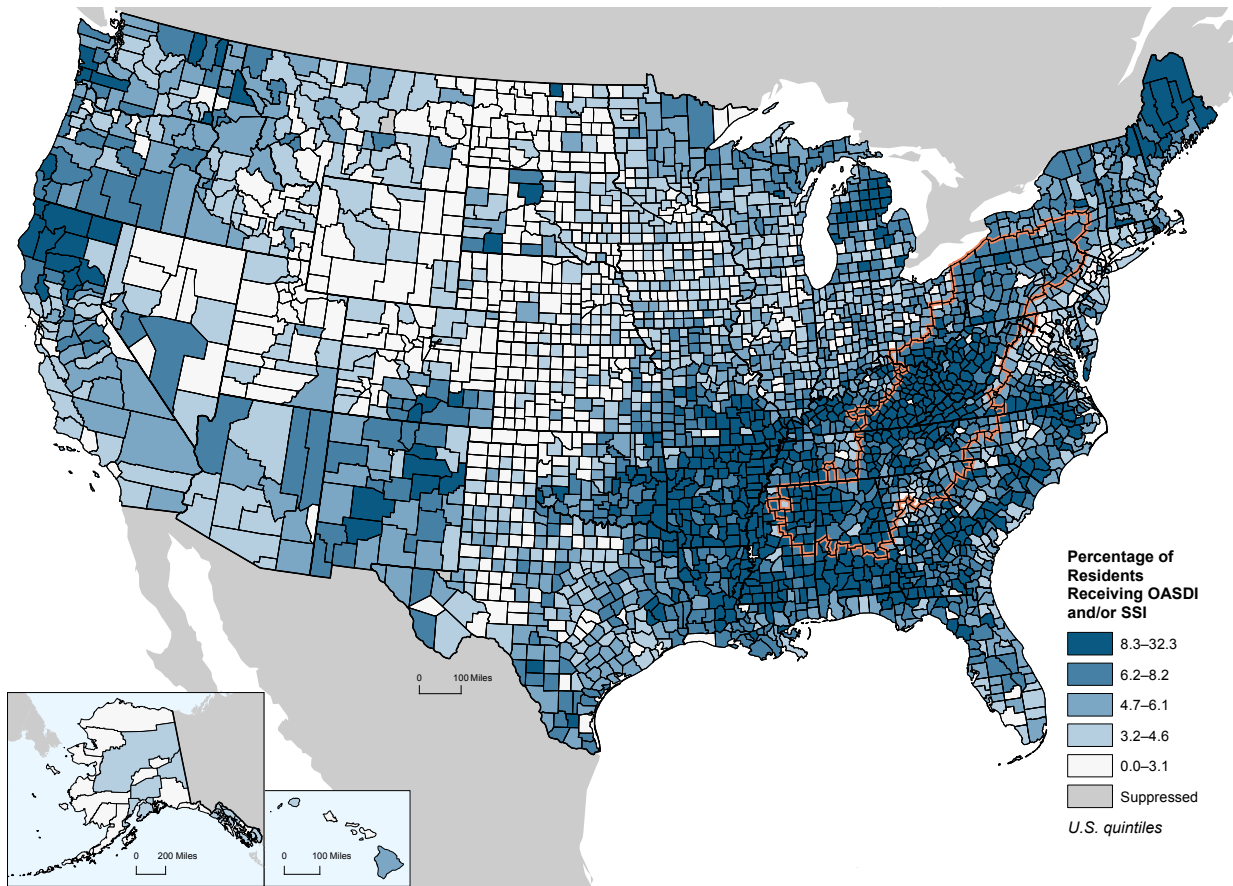


Data source: SSA OASDI Beneficiaries. Social Security Administration. https://www.ssa.gov/policy/data_sub12.html.

Overview: Percentage Receiving Disability Benefits in the United States

Figure 163 shows the variation in the percentage of a county’s population receiving disability benefits across the United States. Much of the Appalachian Region stands out for having a large percentage of the population receiving benefits. The northern part of the Mississippi Delta region, including most of Arkansas and southern Missouri, have a large number of counties ranking in the worst-performing national quintile. Other concentrations of poor performance exist throughout the country, including multiple pockets in the Northwest, northern Michigan, and Maine. Much of Central and Southern California consists of counties in the best-performing national quintile. The Rocky Mountain region and upper Midwest also contain a large number of counties among the best-performing quintiles. Southern Florida and the metropolitan areas stretching from Boston to Washington, D.C. also report very low percentages of their populations receiving disability benefits.

Figure 163: Map of Percentage of Residents Receiving Disability Benefits in the United States, 2014

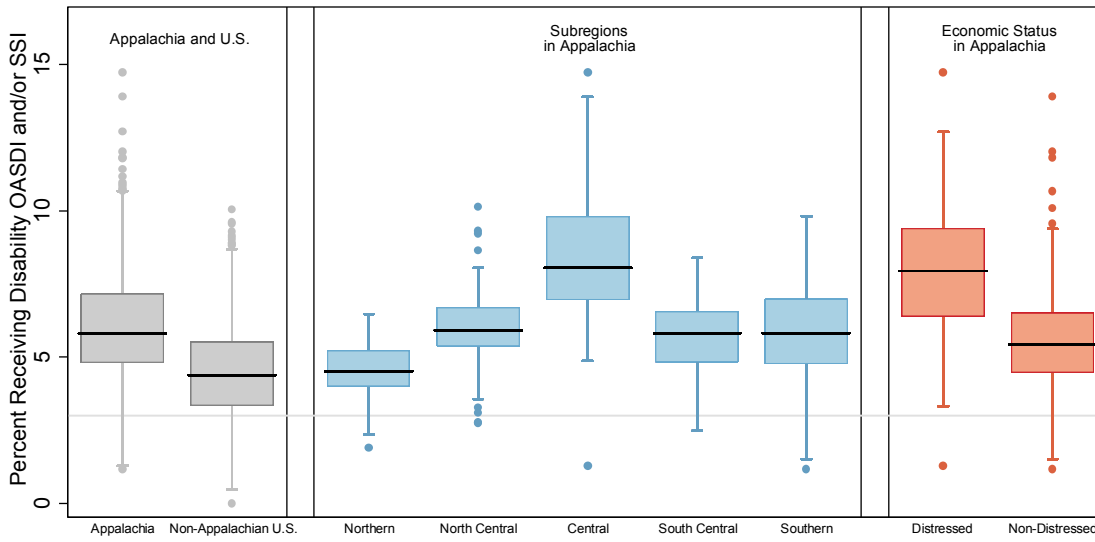


Data source: SSA OASDI Beneficiaries. Social Security Administration. https://www.ssa.gov/policy/data_sub12.html.

Distribution of Percentage Receiving Disability Benefits

Figure 164 shows the distribution of the percentage of a population receiving disability benefits by geography and economic status. The shaded boxes show the middle 50 percent of values for each group, with dots representing unusually high or low values. The gray line stretching across the width of the graph indicates the national average, and the black lines inside the shaded boxes indicate the median for each respective group. Of all 3,113 counties in the nation, zero have a missing value for this indicator.

Figure 164: Box Plot of Percentage of Residents Receiving Disability Benefits by Geography and Economic Status, 2014



Grey line denotes national average. 0 of 3113 counties have a missing value for this indicator. For this indicator, higher values are associated with worse health.

Data source: SSA OASDI Beneficiaries. Social Security Administration. https://www.ssa.gov/policy/data_sub12.html.

The distribution of the percentage of a population receiving disability benefits among national quintiles for Appalachian counties is shown in Table 52. Of the 420 counties in the Region, 203 (48 percent) rank in the worst-performing national quintile, while 9 (2 percent) rank in the top-performing national quintile.

Table 52: Distribution of Percentage of Residents Receiving Disability Benefits among National Quintiles for Appalachian Counties

Indicator	Best Quintile		2nd Best Quintile		Middle Quintile		2nd Worst Quintile		Worst Quintile	
	#	Pct.	#	Pct.	#	Pct.	#	Pct.	#	Pct.
Disability	9	2%	19	5%	59	14%	130	31%	203	48%

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



KEY FINDINGS | Percentage of Adults with Some College Education

- In the Appalachian Region, 57.1 percent of adults ages 25 to 44 have some type of post-secondary education, compared to 63.3 percent in the nation as a whole.
- Among the subregions, Central Appalachia (46.7 percent) has the lowest percentage of its population with some type of post-secondary education.
- There is an urban-rural divide in education throughout the Region. Adults in the Appalachian Region's large metro areas (65.1 percent) are more likely to have attended a post-secondary institution than those in the Region's rural areas (49.0 percent).
- The economic status of a county is an indicator of education levels throughout Appalachia. In the Region, 57.9 percent of adults living in non-distressed counties have attended a post-secondary institution, compared to just 45.0 percent of those living in distressed counties.

Background

The percentage of adults with some college education is the percentage of adults ages 25 to 44 who have attended a post-secondary institution. The figures for this measure come from County Health Rankings and are based on 2010-2014 American Community Survey data collected by the U.S. Census Bureau. For the measurement of this variable, post-secondary educational institutions include vocational and technical schools, two-year colleges, as well as four-year colleges. The measure includes both those who completed a program or earned a degree, as well as those who attended but did not complete a program or receive a degree.

Higher levels of education are associated with greater levels of health literacy, which allow people to make smarter, more-informed decisions regarding their health.

High levels of health literacy are one of the largest predictors of positive health outcomes (Berkman, et al., 2004). The National Poverty Center at the University of Michigan reports that individuals with four years or more of higher education are less likely to report being in poor health, depressed, suffer from obesity, smoke, or abuse alcohol (Cutler, 2007). In addition to the improved behaviors that come from a higher level of health literacy, higher levels of education are also associated with higher incomes, which allow people to afford health insurance, health care, and additional resources related to a healthy lifestyle.

Overview: Percentage of Adults with Some College Education in the Appalachian Region

Overall, 57.1 percent of the Appalachian Region’s population has attended a post-secondary institution, compared to the national average of 63.3 percent. At a subregional level, the three central subregions report the lowest levels of education, with Central Appalachia (46.7 percent) far lower than both North Central (53.5 percent) and South Central Appalachia (57.0 percent).

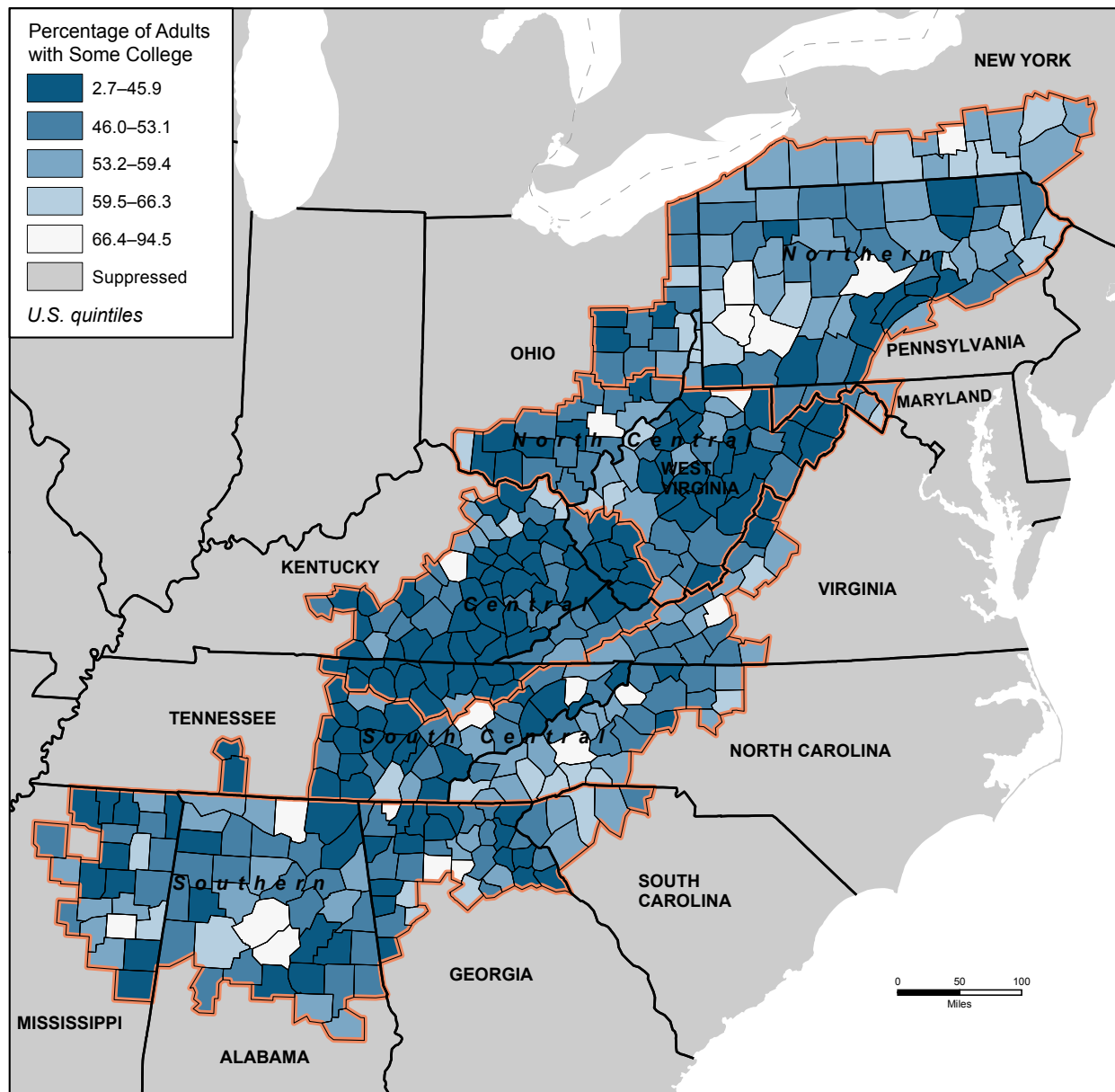
There is a strong urban-rural component to education levels, with those living in the Appalachian Region’s large metro areas (65.1 percent) more likely to have attended a post-secondary institution than those in the Region’s rural areas (49.0 percent). The lowest percentage is found among residents living in nonmetro areas adjacent to small metro areas, where the figure stands at 48.6 percent. The economic status of an Appalachian county is a strong indicator of education levels, with the Appalachian Region’s non-distressed counties reporting a higher percentage than the Region’s distressed counties (57.9 percent compared to 45.0 percent).

Appalachian Kentucky reports the lowest levels of education in the Region—48.4 percent of its population ages 25 to 44 has attended a post-secondary institution. The figure for non-Appalachian Kentucky is 62.8 percent. Appalachian Ohio (52.2 percent) reports the second lowest percentage in the Region, a figure well below the mark for the non-Appalachian portion of the state (65.3 percent). West Virginia also reports a very low percentage with just 53.1 percent of its residents having attended a post-secondary institution. No Appalachian portion of any of the states in the Region report an education level that matches or exceeds the national mark.

Figure 165 shows the variation in post-secondary education levels across the Appalachian Region, grouped by national quintiles. Darker colors indicate a lower percentage of a county’s population that have attended some type of post-secondary institution; for this measure, higher values are associated with better health. Each subregion has a mix of counties performing in both the best- and worst-performing national quintiles, though concentrated pockets of poor performance are noticeable throughout each of the three central subregions.

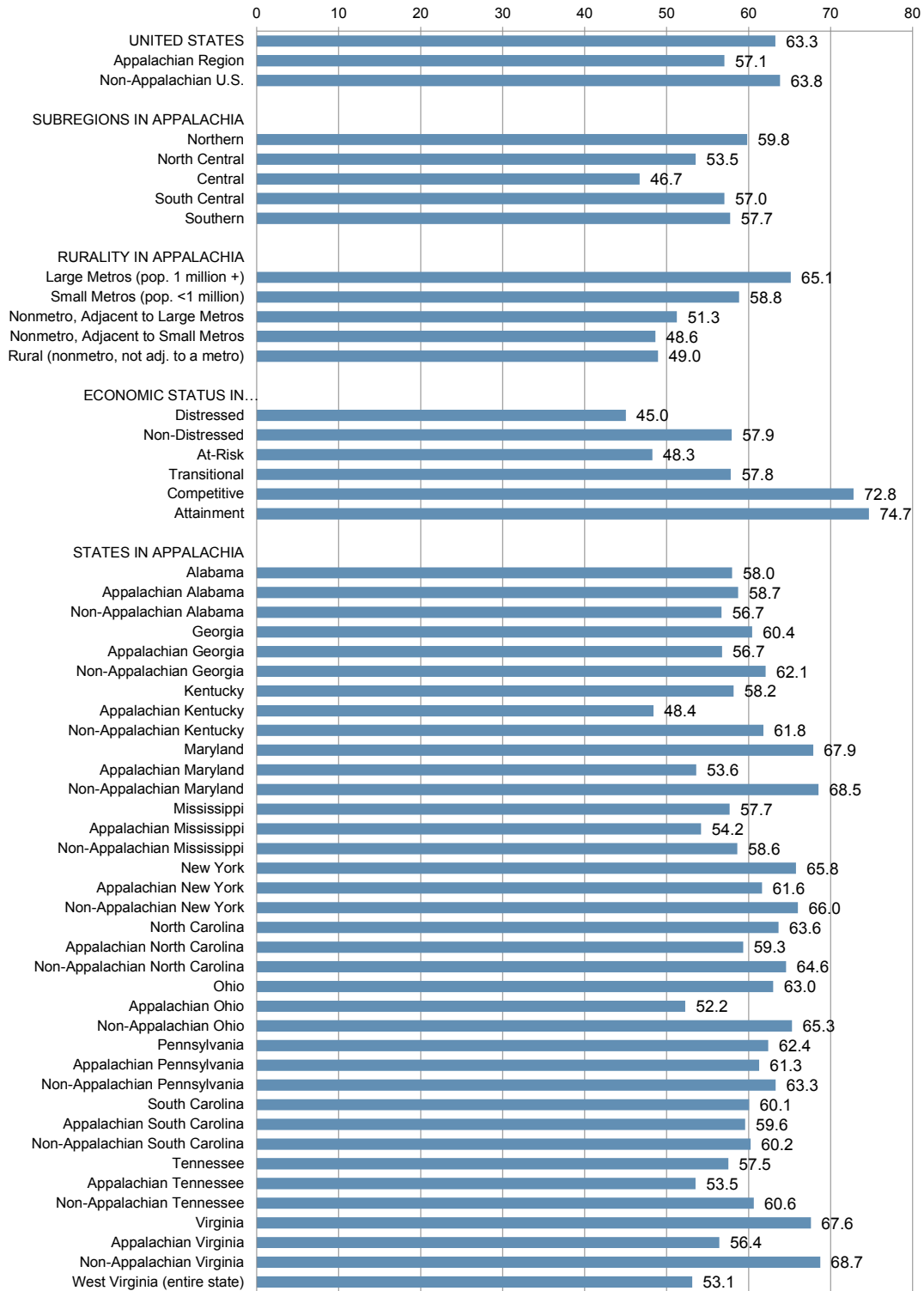
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Figure 165: Map of Percentage of Adults with Some College Education in the Appalachian Region, 2010–2014



Data source: County Health Rankings & Roadmaps, 2016 edition. University of Wisconsin Population Health Institute supported by Robert Wood Johnson Foundation <http://www.countyhealthrankings.org/rankings/data>.

Figure 166: Chart of Percentage of Adults with Some College Education, 2010–2014

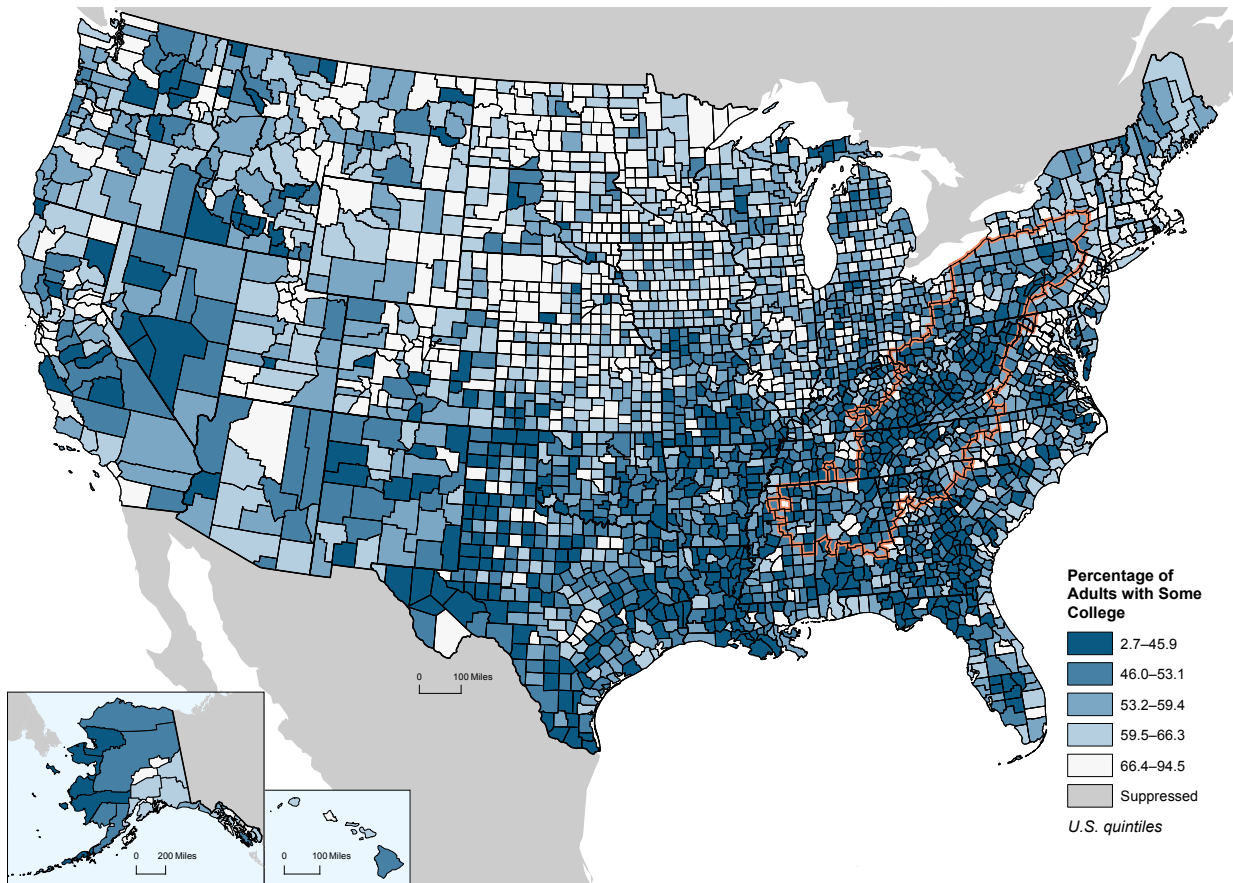


Data source: County Health Rankings & Roadmaps, 2016 edition. University of Wisconsin Population Health Institute supported by Robert Wood Johnson Foundation <http://www.countyhealthrankings.org/rankings/data>.

Overview: Percentage of Adults with Some College Education in the United States

Figure 167 shows the variation in post-secondary education levels across the United States. The low percentages found in Appalachia stretch down into the Southeast and Mississippi Delta regions. Missouri, Arkansas, and Louisiana all report low levels of education that stretch west into Oklahoma, Texas, and parts of the Southwest. Much of the Upper Midwest and Northeast report high education levels. There are pockets of high education levels located around most of the large metropolitan areas throughout the country.

Figure 167: Map of Percentage of Adults with Some College Education in the United States, 2010-2014

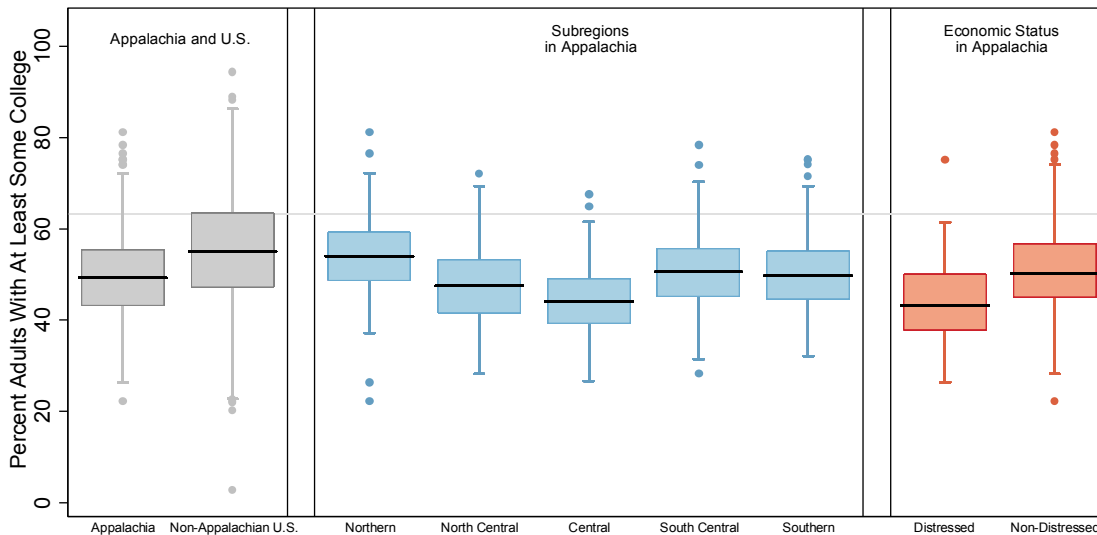


Data source: County Health Rankings & Roadmaps, 2016 edition. University of Wisconsin Population Health Institute supported by Robert Wood Johnson Foundation <http://www.countyhealthrankings.org/rankings/data>.

Distribution of Percentage of Adults with Some College Education

Figure 168 shows the distribution of post-secondary education percentages by geography and economic status. The shaded boxes show the middle 50 percent of values for each group, with dots representing unusually high or low values. The gray line stretching across the width of the graph indicates the national average, and the black lines inside the shaded boxes indicate the median for each respective group. Of 3,113 counties, one has a missing value for this indicator.

Figure 168: Box Plot of Percentage of Adults with Some College Education by Geography and Economic Status, 2010-2014



Data source: County Health Rankings & Roadmaps, 2016 edition. University of Wisconsin Population Health Institute supported by Robert Wood Johnson Foundation <http://www.countyhealthrankings.org/rankings/data>.

The distribution of post-secondary education percentages among national quintiles for Appalachian counties is shown in Table 53. Of the 420 counties in the Region, 150 (36 percent) rank in the worst-performing national quintile, while 20 (5 percent) rank in the best-performing national quintile.

Table 53: Distribution of Percentage of Adults with Some College Education among National Quintiles for Appalachian Counties

Indicator	Best Quintile		2nd Best Quintile		Middle Quintile		2nd Worst Quintile		Worst Quintile	
	#	Pct.	#	Pct.	#	Pct.	#	Pct.	#	Pct.
Education: some college	20	5%	39	9%	83	20%	128	30%	150	36%

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



KEY FINDINGS | Social Association Rates

- The social association rate in Appalachia is 33 percent higher than the rate found in the nation as a whole.
- Social association rates are highest in Northern Appalachia (14.2 associations per 10,000 population) and South Central Appalachia (13.3 per 10,000). Only Central Appalachia (8.8 per 10,000) has a rate lower than the national figure.
- There is no clear urban-rural pattern in social association rates throughout Appalachia. The Appalachian Region's large metro counties (10.9 associations per 10,000 population) and its rural counties (11.8 per 10,000) both report rates lower than the Regional average, yet higher than the national average.
- The social association rate in the Appalachian Region's non-distressed counties is 28 percent higher than the rate found in the Region's distressed counties.

Background

The social association rate measures the number of social organizations per 10,000 population. The data come from County Health Rankings and are based on 2013 data from the Census Bureau's County Business Patterns. Greater levels of social relationships and interaction positively affect a number of outcomes, including those associated with both mental and physical health.

For this measure, social organizations include membership organizations such as bowling centers, fitness centers, golf clubs, and any type of business, civic, labor, political, professional, religious, or sports organizations.

In one seminal study examining the relationship between mortality and social and community ties, it was found that people who lacked these ties were more than twice as likely to have died in the follow-up period nine years later (Berkman & Syme, 1979). Another study found an increased risk of mortality from urgent events, such as cardiac death when one is socially isolated (Brummett, et al., 2001). In addition to these direct mortality connections, increased social involvement can lead to healthier behaviors that lower mortality risk (Berkman & Breslow, 1983). Social involvement also helps mental well-being, as close ties allow a person to deal with stress more effectively (Cohen, 2004).

Overview: Social Association Rates in the Appalachian Region

The Appalachian Region has a higher social association rate than the United States as a whole. With 12.5 social organizations per 10,000 population, the Region's rate is 33 percent higher than the rate found in the nation as a whole (9.4 per 10,000). Central Appalachia (8.8 per 10,000) is the only subregion reporting a rate below the national mark. Social association rates are highest in the Northern Appalachian (14.2 per 10,000) and South Central Appalachian (13.3 per 10,000) subregions, with many counties ranking in the two top-performing national quintiles.

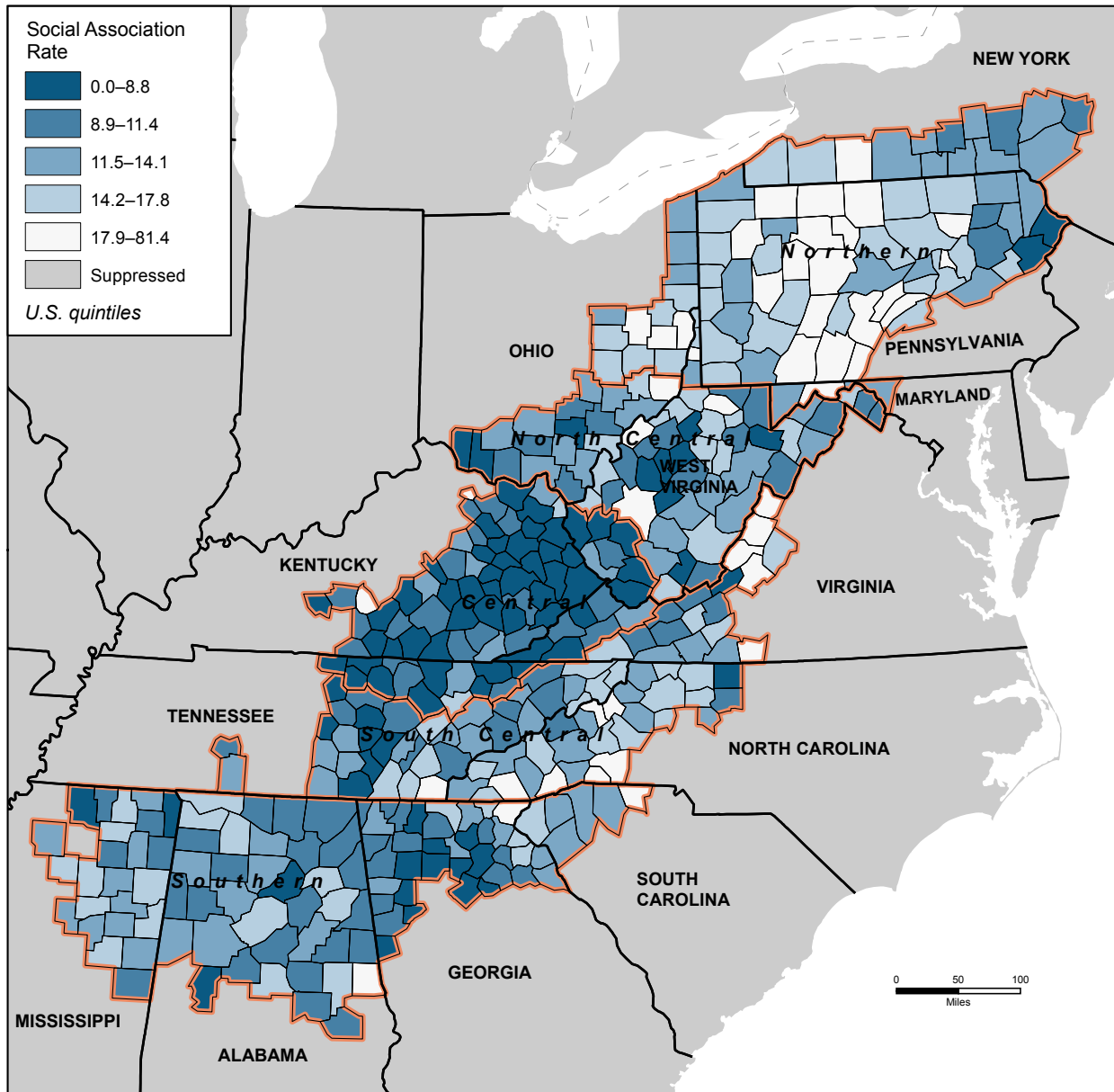
There is no clear urban-rural pattern in social association rates throughout Appalachia, with large metro areas (10.9 per 10,000) and rural areas (11.8 per 10,000) reporting the lowest rates among the five classifications. Nonmetro areas adjacent to large metro areas and nonmetro areas adjacent to small metro areas report the highest rates in the region at 13.6 social organizations per 10,000 population. Economic status, however, does serve as an indicator for social association rates. The social association rate among non-distressed counties (12.7 per 10,000) in Appalachia is 28 percent higher than the rate found in distressed counties (9.9 per 10,000).

Appalachian Georgia (8.3 per 10,000) reports the lowest social association rate in the Region, a figure 12 percent lower than the non-Appalachian Georgia rate (9.4 per 10,000). Appalachian Kentucky (8.6 per 10,000) reports the next lowest rate in the Region, and one much lower—25 percent lower—than the rate found in non-Appalachian Kentucky (11.5 per 10,000). However, many states report higher social association rates in the Appalachian portions, including many throughout Northern Appalachia. Appalachian Maryland, with a rate of 14.5 per 10,000 is 65 percent higher than non-Appalachian Maryland; Appalachian Pennsylvania's rate of 14.3 per 10,000 is 34 percent higher than non-Appalachian Pennsylvania; and the rate of 12.9 per 10,000 in Appalachian New York is 70 percent higher than in non-Appalachian New York.

Figure 169 shows the variation in social association rates across the Appalachian Region, grouped by national quintiles. Darker colors indicate lower levels of social association; for this measure, higher values are associated with better health. Central Appalachia stands out for having a large number of counties ranking in the worst-performing national quintile. Meanwhile, Northern Appalachia also stands out for having many counties ranking in the top-performing quintile.

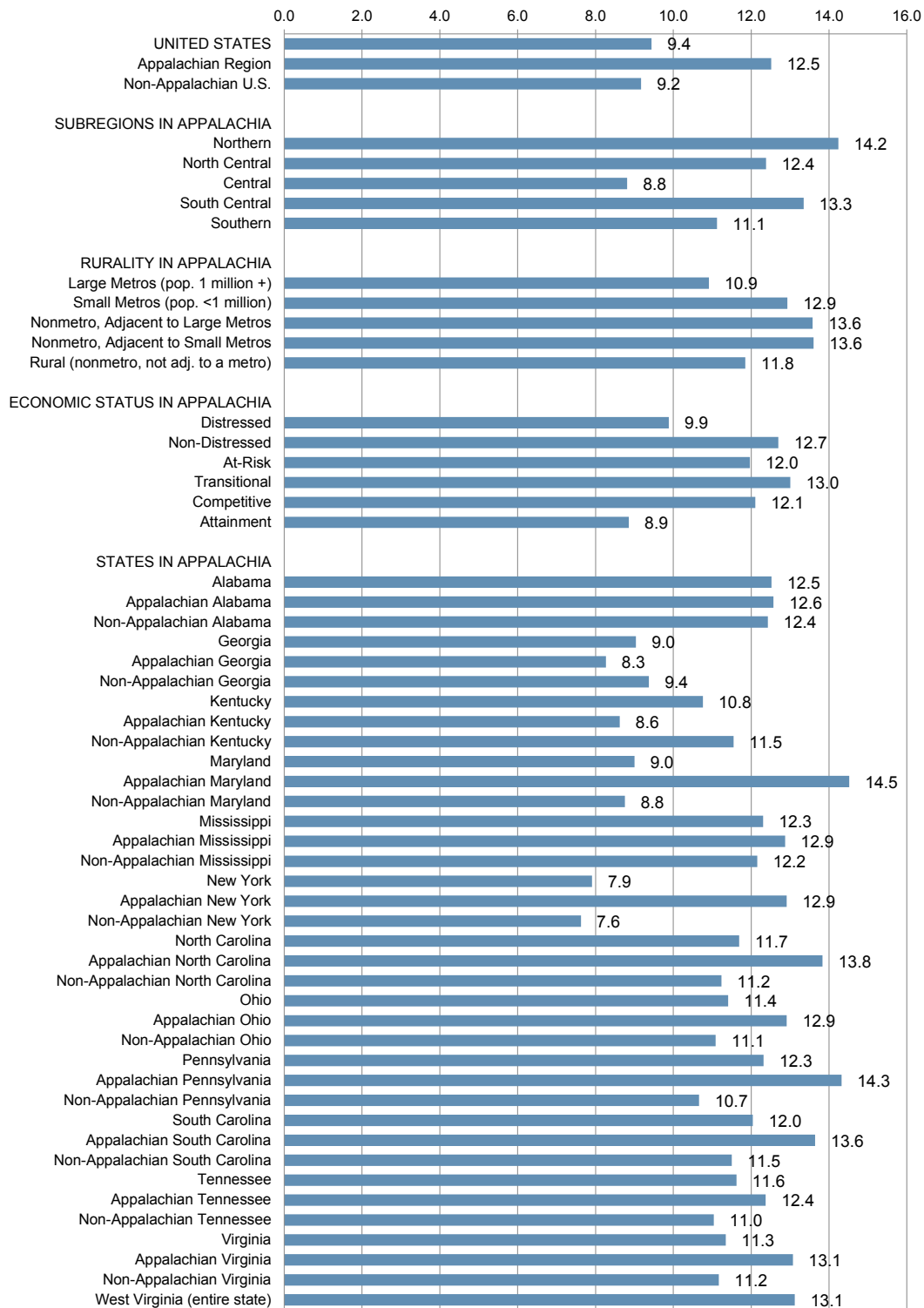
Figure 170 aggregates the data for a variety of geographies useful for comparison: the Region compared to both the U.S. as a whole and the non-Appalachian portion of the country, subregions throughout Appalachia, levels of rurality in Appalachia, and economic status in Appalachia. State-level aggregation is done at three levels: the entire state, and then both the Appalachian and non-Appalachian portions of each state.

Figure 169: Map of Social Organizations per 10,000 Population in the Appalachian Region, 2013



Data source: County Health Rankings & Roadmaps, 2016 edition. University of Wisconsin Population Health Institute supported by Robert Wood Johnson Foundation <http://www.countyhealthrankings.org/rankings/data>.

Figure 170: Chart of Social Organizations per 10,000 Population, 2013

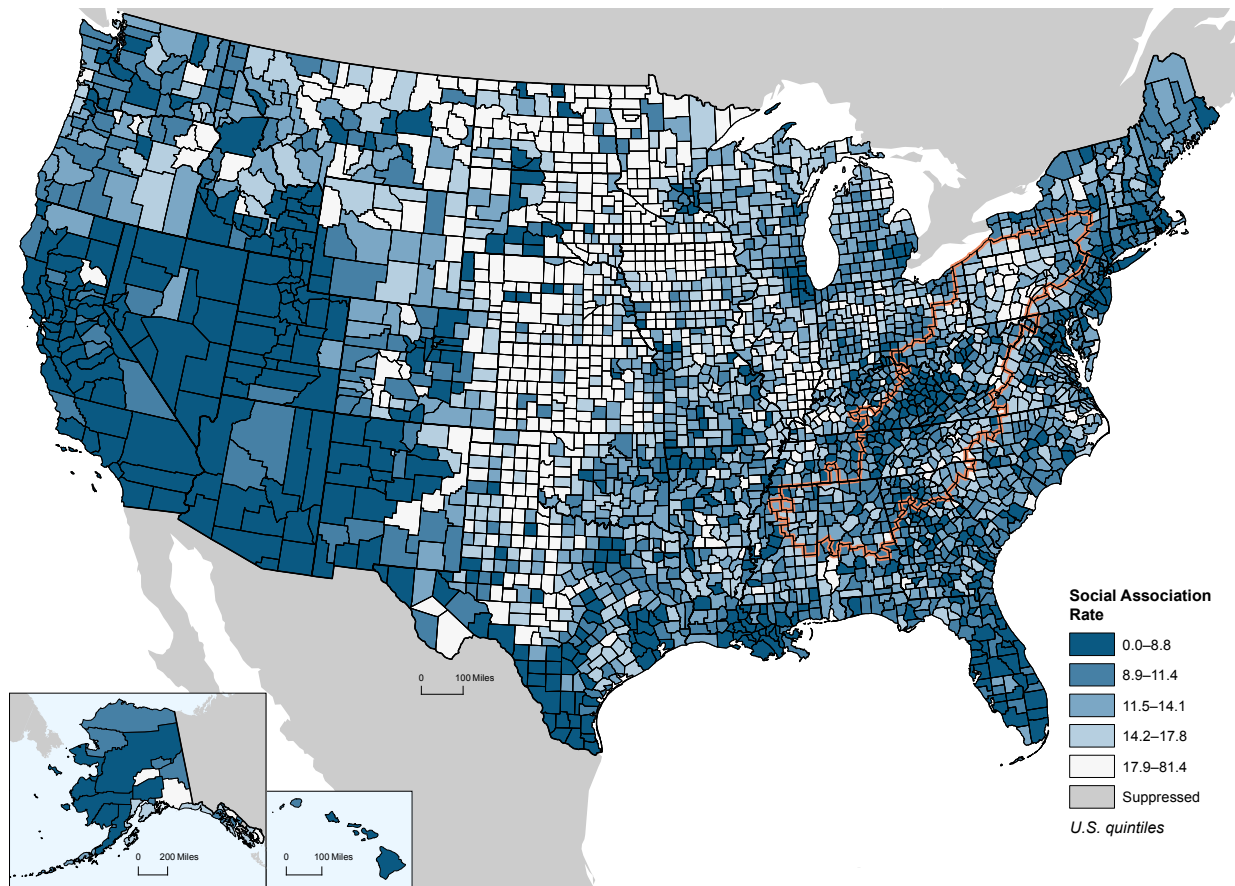


Data source: County Health Rankings & Roadmaps, 2016 edition. University of Wisconsin Population Health Institute supported by Robert Wood Johnson Foundation <http://www.countyhealthrankings.org/rankings/data>.

Overview: Social Association Rates in the United States

Figure 171 shows the variation in social association rates across the United States. Outside of the dark pocket in Central Appalachia, much of the Region ranks in the middle quintiles. High rates are noticeable in Northern Appalachia, particularly Pennsylvania, and stretch into the Midwest. High rates are found throughout the middle of the country, stretching from central Texas to the Dakotas in the North. Much of the West, meanwhile, has very low social association rates, and particularly in the Southwest and California. Unlike most other measures in this report, lower values and poor performance are found around large metropolitan areas.

Figure 171: Map of Social Organizations per 10,000 Population in the United States, 2013

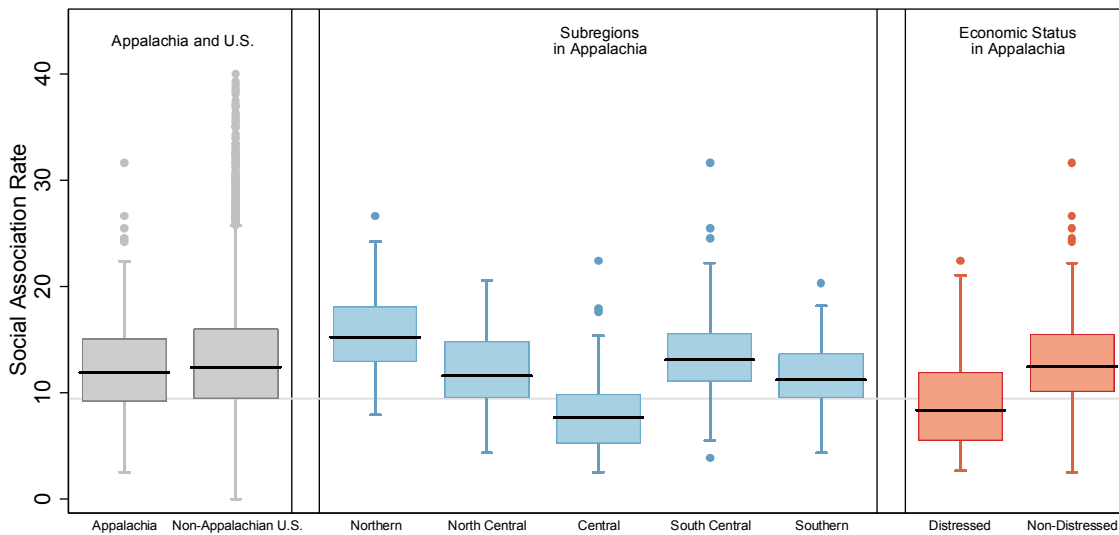


Data source: County Health Rankings & Roadmaps, 2016 edition. University of Wisconsin Population Health Institute supported by Robert Wood Johnson Foundation <http://www.countyhealthrankings.org/rankings/data>.

Distribution of Social Association Rates

Figure 172 shows the distribution of social association rates by geography and economic status. The shaded boxes show the middle 50 percent of values for each group, with dots representing unusually high or low values. The gray line stretching across the width of the graph indicates the national average, and the black lines inside the shaded boxes indicate the median for each respective group. Of all 3,113 counties in the nation, only one has a missing value for this indicator, and 23 counties with values greater than 40 are not represented in the box plot.

Figure 172: Box Plot of Social Organizations per 10,000 Population by Geography and Economic Status, 2013



Grey line denotes national average. 1 of 3113 counties have a missing value for this indicator. For this indicator, higher values are associated with better health. 23 counties with values greater than 40 not shown.

Data source: County Health Rankings & Roadmaps, 2016 edition. University of Wisconsin Population Health Institute supported by Robert Wood Johnson Foundation <http://www.countyhealthrankings.org/rankings/data>.

The distribution of social association rates among national quintiles for Appalachian counties is shown in Table 54. Of the 420 counties in the Region, 86 (20 percent) rank in the worst-performing national quintile, while 45 (11 percent) rank in the top-performing national quintile.

Table 54: Distribution of Social Organizations per 10,000 Population among National Quintiles for Appalachian Counties

Indicator	Best Quintile		2nd Best Quintile		Middle Quintile		2nd Worst Quintile		Worst Quintile	
	#	Pct.	#	Pct.	#	Pct.	#	Pct.	#	Pct.
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 this indicator may not sum to 420 due to missing or suppressed values.



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Education

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Social Associations

County Health Rankings & Roadmaps. Social Association.
<http://www.countyhealthrankings.org/measure/social-associations>

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