

**County Health
Rankings & Roadmaps**

Building a Culture of Health, County by County

A Robert Wood Johnson Foundation program

2016 *County Health Rankings* **Key Findings Report**



A collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute.



Support provided by



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INTRODUCTION

The *County Health Rankings & Roadmaps* program helps communities identify and implement solutions that make it easier for people to be healthy in their neighborhoods, schools, and workplaces. Ranking the health of nearly every county in the nation, the *County Health Rankings* illustrate what we know when it comes to what is keeping people healthy or making people sick. The *Roadmaps* show what we can do to create healthier places to live, learn, work, and play. The Robert Wood Johnson Foundation collaborates with the University of Wisconsin Population Health Institute to bring this program to communities across the nation.

Now in its seventh year, the *County Health Rankings* continue to bring revealing data to US counties. This report offers key findings from this year's *Rankings* release and includes answers to the following questions:

- A. How Does Health Vary Across Rural and Urban Counties? (page 2)
- B. How Do Health Gaps Among Counties Differ by State? (page 4)
- C. What Are the New Measures of Each County's Health? (page 6)

Supporting materials (such as detailed data tables) are available at www.countyhealthrankings.org/reports.

Summary of Key Findings

- o Rural counties have had the highest rates of premature death for many years, lagging far behind other counties. While urban counties continue to show improvement, premature death rates are worsening in rural counties.
- o Looking solely at state averages for the factors that influence health masks the significant gaps in health that exist between counties within each state.
- Three new measures are highlighted:
 - **Residential segregation** of blacks and whites is a fundamental cause of health disparities in the US. Black/white residential segregation is highest in the Northeast and Great Lakes region and lowest along the Southeastern seaboard.
 - The rate of **deaths due to drug overdoses** has increased 79 percent since 2002. Drug overdose deaths are highest in Northern Appalachia and in parts of the West/Southwest, and lowest in the Northeast. Compared with other types of counties, rural counties have higher rates of drug overdose deaths.
 - Sleep is an important part of a healthy lifestyle. **Insufficient sleep** can have serious negative effects on health. On average, about one third of adults report getting insufficient sleep (less than 7 hours a night on average). In some counties, almost one in two residents report insufficient sleep.

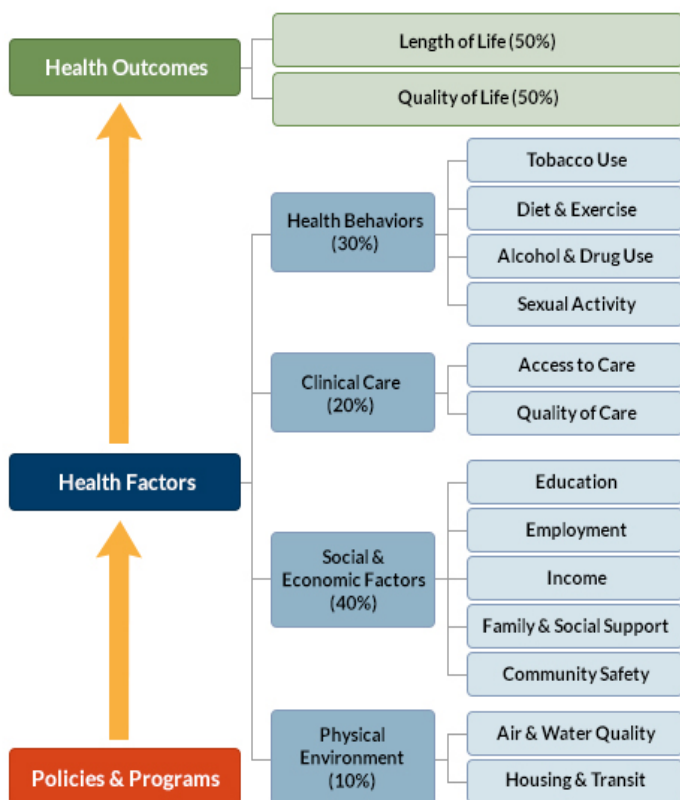
ABOUT THE COUNTY HEALTH RANKINGS

We compile the *Rankings* using county-level measures from a variety of national data sources, which can be found on page 8. These measures are standardized and combined using scientifically-informed weights. We then rank counties within each state, providing two overall ranks that address two key questions:

1. **Health outcomes:** how healthy are residents in a county now?
2. **Health factors:** how healthy will residents be in the future?

The *Rankings* are based on a model of population health (see right) that emphasizes the many factors that, if improved, can help make communities healthier. We report these ranks at countyhealthrankings.org, along with all the underlying measures and additional data for this year and prior years. We also provide tools to help communities use their data to take action toward improving their health.

County Health Rankings Model



DO THE 2016 COUNTY HEALTH RANKINGS INCLUDE DATA COLLECTED IN 2016?

We use the most recent data available for each measure. The year(s) represented varies from measure to measure, depending on the data available at the time of release. For example, when we released the 2010 *Rankings*, the most recent data available for premature death was for 2004-2006. For the 2016 *Rankings*, the most recent data available for this same measure was for 2011-2013. The data sources and years for each measure are listed on pages 8-9.

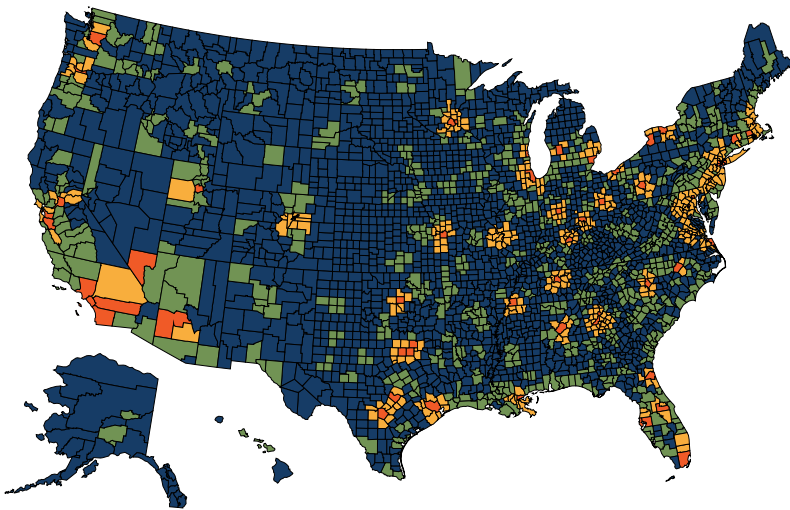
HOW DOES HEALTH VARY ACROSS RURAL AND URBAN COUNTIES?

Ranking counties within states often leads to questions about how health outcomes and health factors vary across states. For a closer look at health by county type and size, we separated counties into the following categories:

Category	Definition	Total Population	Number of Counties
Large Urban Metro	Central urban core counties within an MSA with more than 1 million people	96 m	68
Large Suburban Metro	Non-central fringe counties within an MSA with more than 1 million people	77 m	368
Smaller Metro	Counties within an MSA with between 50,000 and 1 million people	94 m	731
Rural	Non-metropolitan rural counties with less than 50,000 people	46 m	1,974

Adapted from the National Center for Health Statistics' urban-rural classification based on Metropolitan Statistical Area (MSA) designations.

Counties Categorized By Level of Urbanization

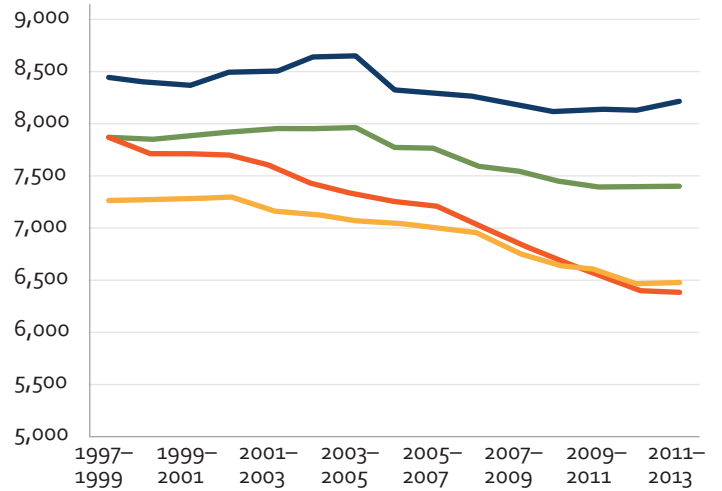


Legend: Large Urban (red), Large Suburban (orange), Smaller Metro (green), Rural (blue)

Although we use the terms Large Urban, Large Suburban, Smaller Metro, and Rural to classify entire counties, there may be urban, suburban, or rural areas within any county. Large Urban counties can include suburbs as well as city centers. Large Suburban counties may also include rural areas. These characteristics should be taken into consideration when looking more closely at individual counties.

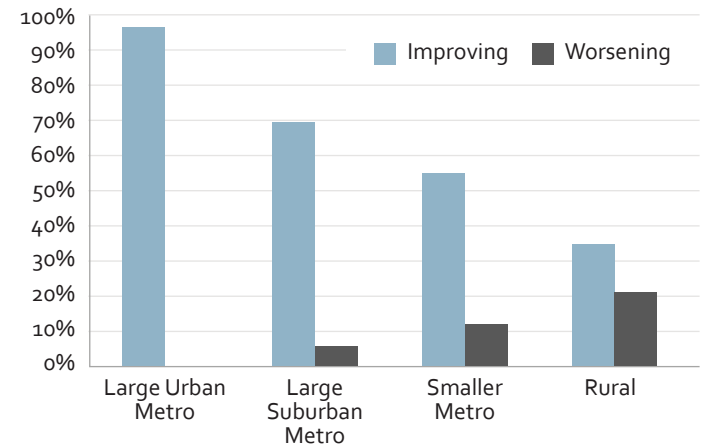
Premature Death Trends by Level of Urbanization

Years of potential life lost under age 75 per 100,000 people



Counties with Improving or Worsening Premature Death Rates, 1999-2013¹

Percent of counties



Key Findings

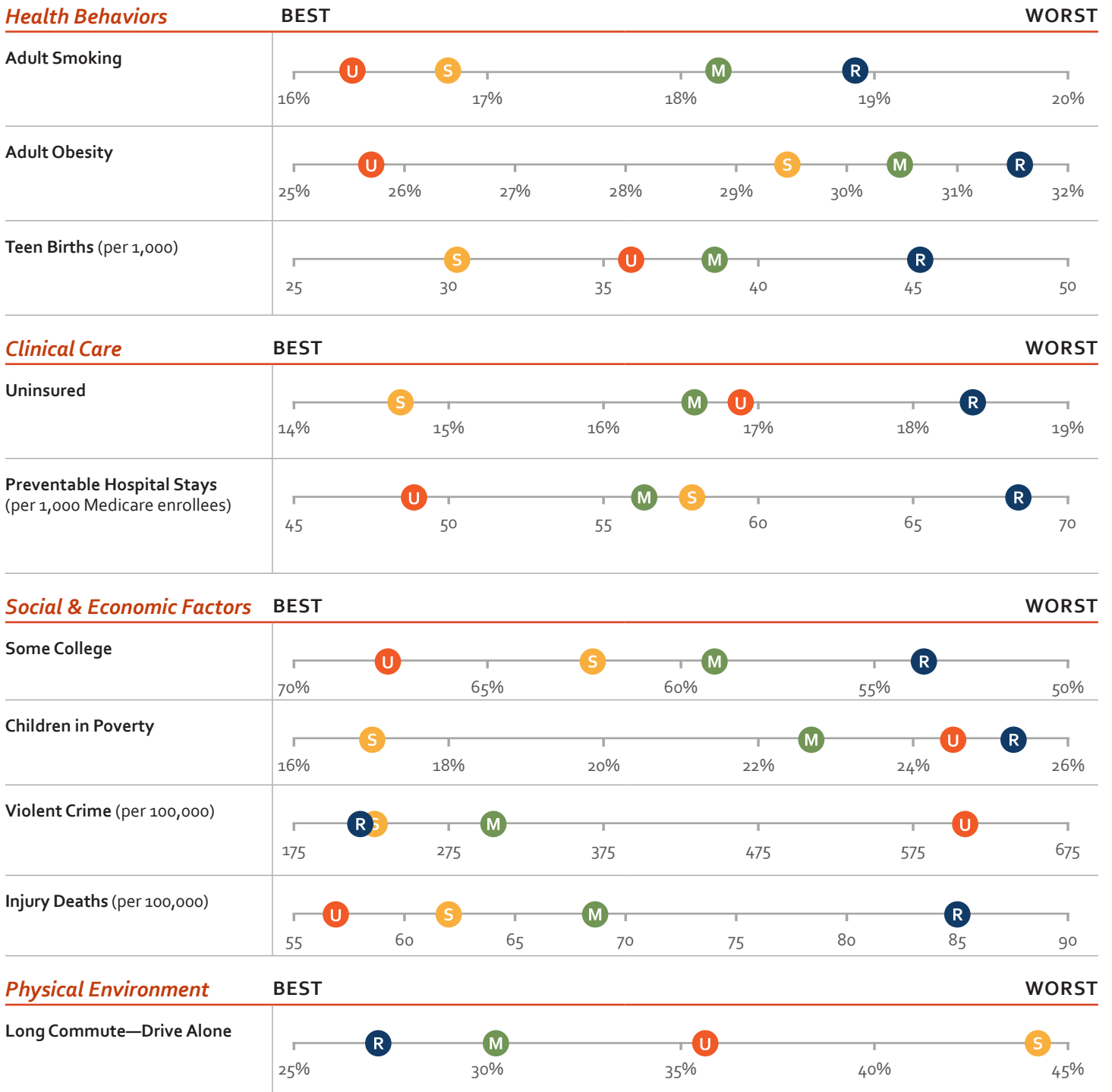
- Rural counties have consistently had the highest premature death rates and, following a few years of improvement, overall rates of premature death are increasing.
- Nearly one in five Rural counties has experienced worsening premature death rates over the past decade.
- Large Urban counties have seen the greatest declines in premature death rates since the late 1990s.
- Unlike other types of counties, nearly all Large Urban counties have consistently shown improved premature death rates.
- There is no single factor that explains the significant differences in health between Rural and other types of counties.

¹There were no Major Urban counties with worsening rates. Totals do not sum to 100% because death rates stayed the same in some counties.

Key Health Factors by Level of Urbanization

● U Large Urban
 ● S Large Suburban
 ● M Smaller Metro
 ● R Rural

As the *County Health Rankings* model (see page 1) shows, there are many things that influence health outcomes including health behaviors, clinical care, social and economic factors, and the physical environment. Here we show differences across the four types of counties for selected measures within each of these groups of health factors. Looking at Adult Smoking, for example, we find that Large Urban counties have the best (lowest) rates of adult smoking while Rural counties have the worst (highest) rates. However, no single factor alone explains the significant differences in health between Rural and other types of counties.



HOW DO HEALTH GAPS BETWEEN COUNTIES DIFFER BY STATE?

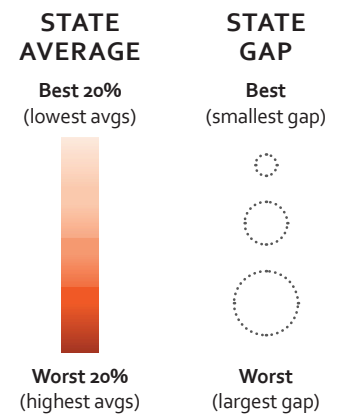
Our country has achieved significant health improvements, driven by progress in automobile safety, better workplace standards, reductions in smoking and infectious diseases, and a host of other advances. But when we take a closer look at this progress, we see that it is uneven. It is clear that not everyone in the US has a fair opportunity to be healthy.

In 2015, *County Health Rankings* released a set of 50 Health Gaps Reports showing that opportunities for health differ considerably within states. These health gaps exist across neighboring county lines, or within a community among various groups, such as by race, ethnicity, age, income, education, or sexual orientation. To build a Culture of Health for everyone, it's important to begin closing these gaps. Along with snapshots of the differences among counties within states, the reports offer strategies to help do so. To learn more about Health Gaps reports, visit countyhealthrankings.org/reports.

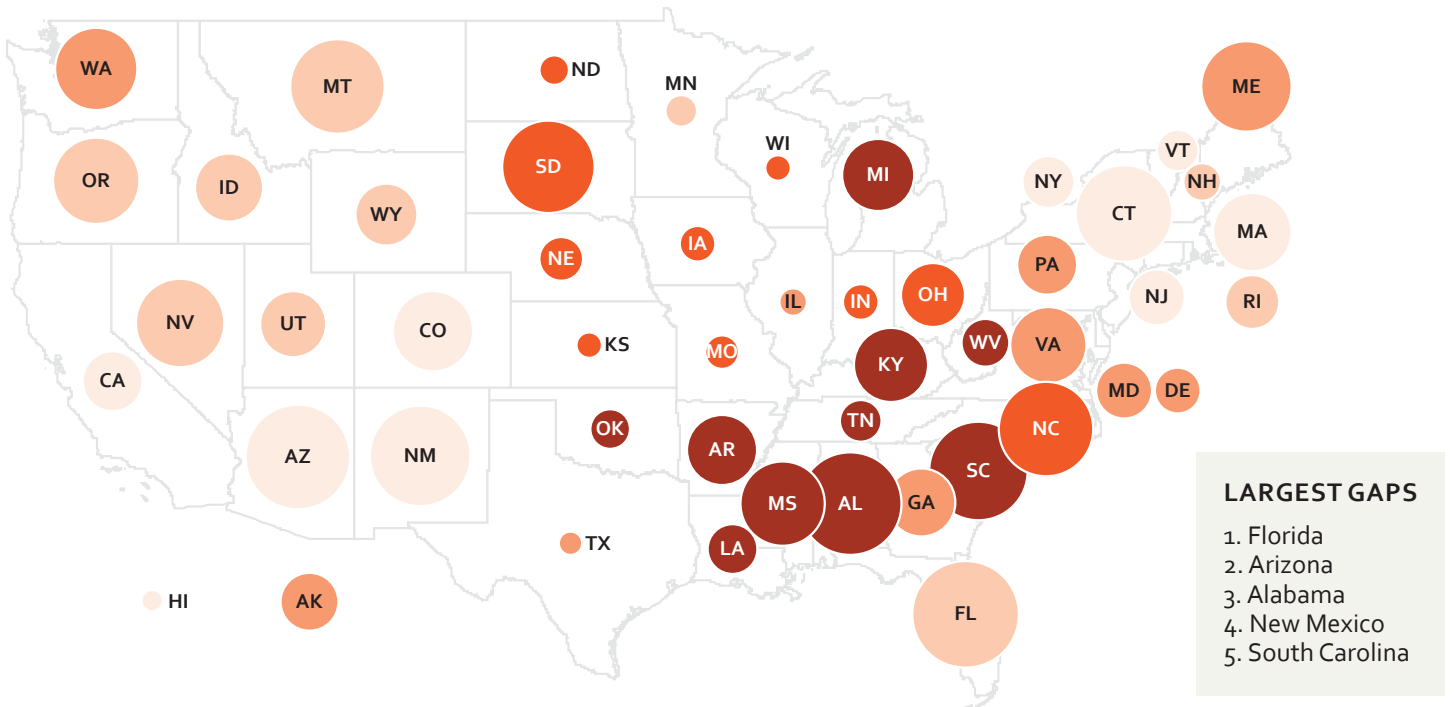
Below we build on the Health Gaps Reports by taking a closer look at the size of the health gaps within states for three selected measures: adult obesity, the uninsured, and children in poverty (gaps for other measures as well as the underlying data for all measures are available [online](#)).

- Each circle on the maps represents a state.
- The color shading of each circle shows how well each state is doing overall (state average). States with less shading are doing better overall. States with deeper shading are doing worse.
- The size of each circle shows how wide the gap is within the state (state gap). Smaller circles represent a smaller gap between the counties with the best and worst values.² Larger circles represent larger gaps.

So, small and lightly shaded circles represent the states with the best performance overall and the smallest gap between counties. For example, the adult obesity map below shows that New Jersey has one of the best rates of obesity (lightly shaded circle) and has a relatively small gap in obesity rates between its counties (smaller circle). Alabama, by contrast, has one of the worst rates of obesity (deeply shaded red circle), and a very wide gap in obesity rates between its counties (larger circle).

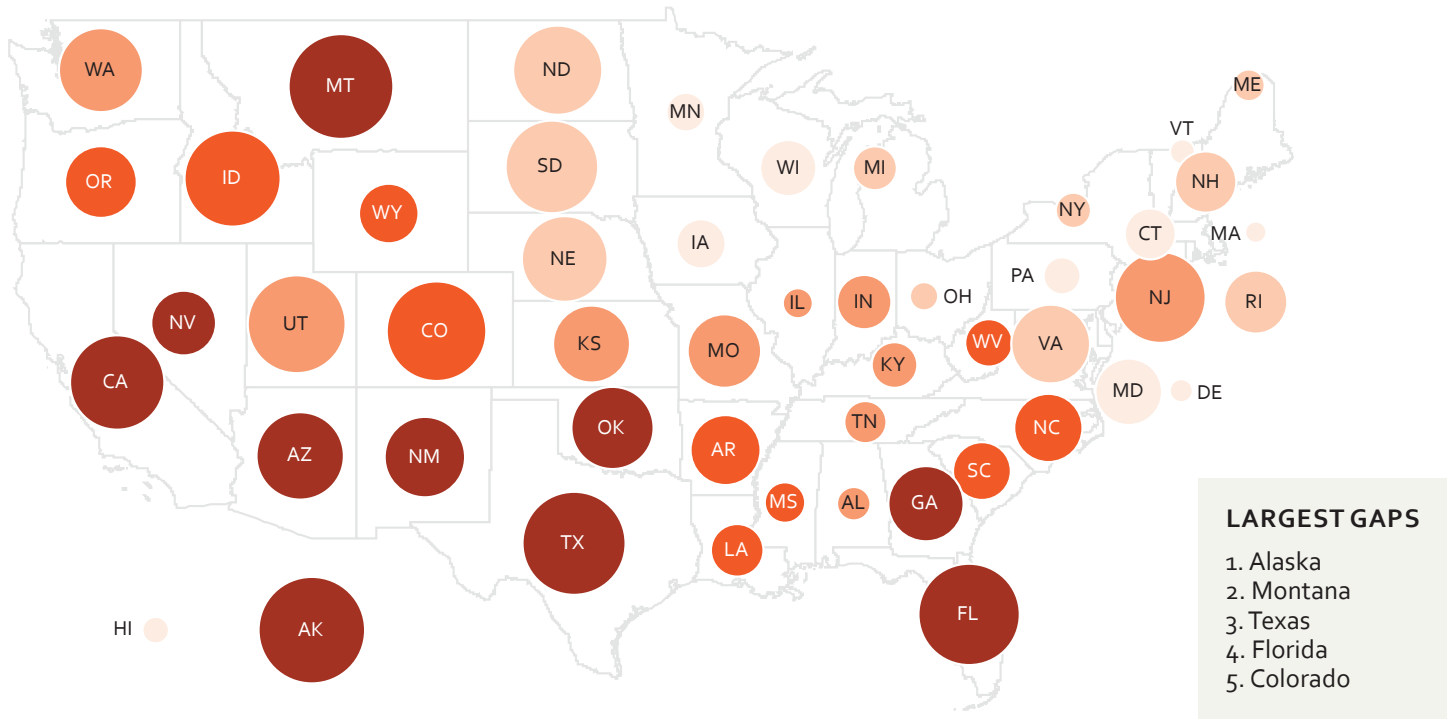


Adult Obesity: State Average and Gap

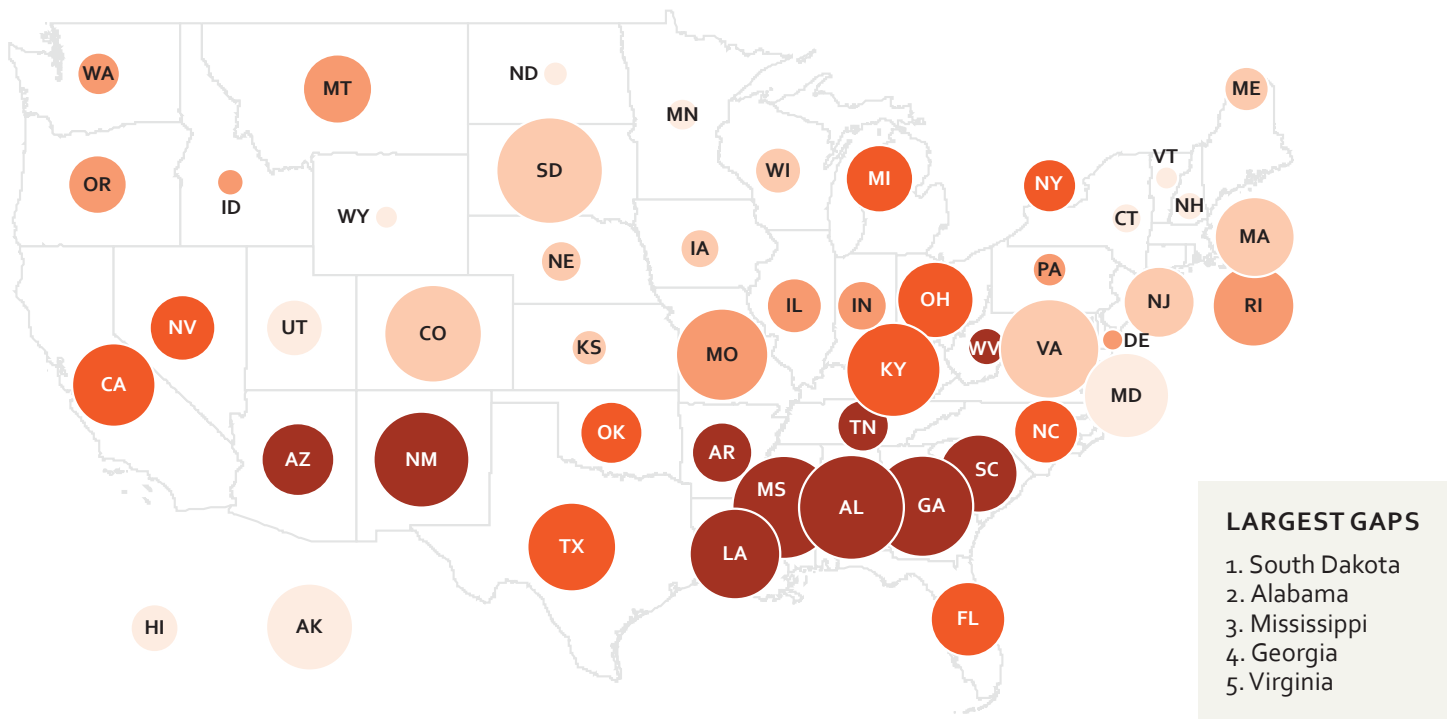


² In calculating the size of the gaps for each state, we calculated the difference between the best and worst county values for each measure. The best and worst values were represented by the top and bottom 10% of county-level values for a given measure.

Uninsured: State Average and Gap



Child Poverty: State Average and Gap



To learn more about how states and local communities can take action to reduce these gaps, visit [What Works for Health](https://www.countyhealthrankings.org/roadmaps/what-works-for-health) at [countyhealthrankings.org/roadmaps/what-works-for-health](https://www.countyhealthrankings.org/roadmaps/what-works-for-health), which includes a wide variety of evidence-informed policies, programs, and system changes to improve health for all.

WHAT ARE THE NEW MEASURES OF EACH COUNTY'S HEALTH?

The *Rankings* are calculated using 35 measures (5 health outcomes and 30 health factors). There are additional measures that are not included in county ranks because some measures, like demographics, provide good contextual information but do not lend themselves to ranking. Other measures are not available for a majority of counties, but also provide helpful context for understanding a county's opportunities for improving health. We highlight three of the new additional measures for 2016 below.

Residential Segregation

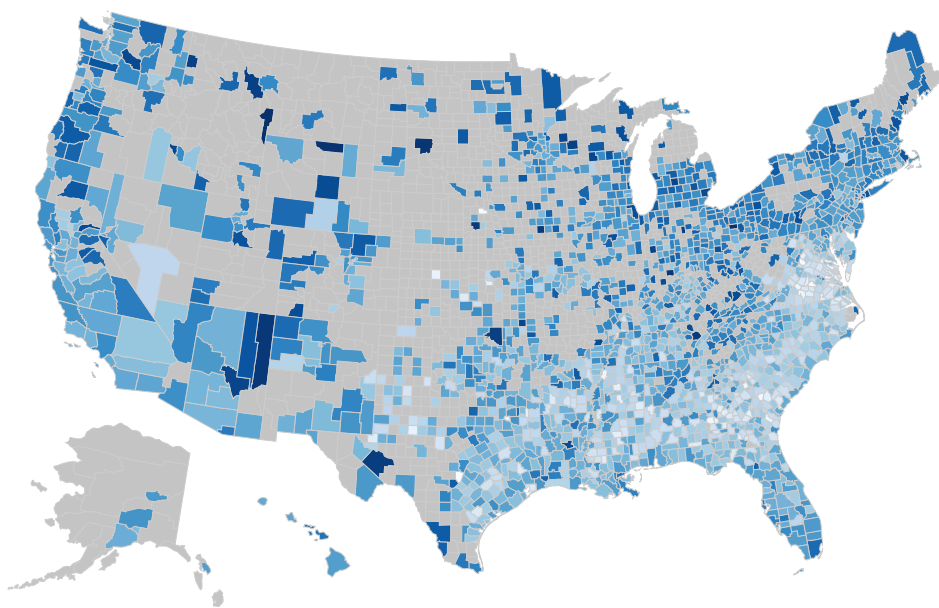
Residential segregation refers to the degree to which two or more groups live separately from one another in a geographic area. Residential segregation of blacks and whites is considered to be a fundamental cause of health disparities in the US and has been linked to poor health outcomes including greater infant and adult mortality, and a wide variety of reproductive, infectious, and chronic diseases. Although most overtly discriminatory policies and practices promoting segregation, such as separate schools or seating on public transportation or in restaurants based on race have been illegal for decades, segregation caused by structural, institutional, and interpersonal racism still exists in many parts of the country. Segregation continues to have lasting implications for both personal and community well-being.

No single strategy can lessen the potential negative health impacts of residential segregation. Rather, a range of policies, programs, and systems changes, such as affordable housing development incentives, better enforcement of fair housing

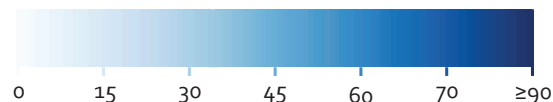
policies, and public transit system expansion to connect neighborhoods and resources are good examples of ways to address the differences in housing and environmental quality, as well as economic and educational opportunities that exist in many segregated neighborhoods.

Key Findings

- Black/white residential segregation values are highest in the Northeast and Great Lakes region and lowest along the Southeastern seaboard.
- Among counties in the US, the average black/white residential segregation value is 46.
- The best performing counties have black/white residential segregation index values of less than 23.
- The worst performing counties have black/white residential segregation values of at least 67 or higher, meaning that at least 67 percent of either blacks or whites would have to move into other census tracts to create an evenly distributed residential population.



Residential segregation-black/white;
0=complete integration, 100=complete segregation



UNDERSTANDING THE MEASURE

The black/white residential segregation index³ can range from zero (complete integration) to 100 (complete segregation). Anything above 60 represents extremely high segregation.

The black/white residential segregation measure is only available for counties with a black population of at least 100. Thirty-five percent of US counties (shaded in gray) have a black population of less than 100 people and are therefore not provided with black/white residential segregation data.

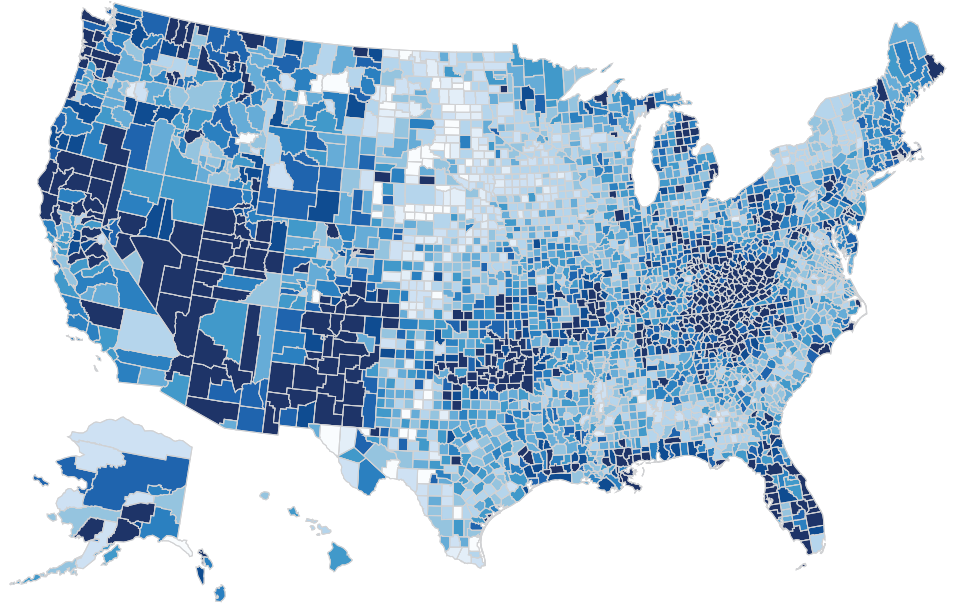
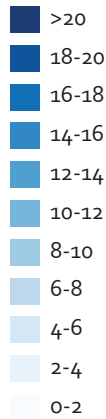
The makeup of local populations varies across the US and so we provide both black/white and non-white/white residential segregation data at countyhealthrankings.org. For example, in Nevada or Idaho (which both have relatively smaller black populations compared to other states), it might be more helpful to look at non-white/white segregation, rather than black/white segregation. It is also important to consider that for some population groups, such as new immigrants, living among others who share their cultural beliefs and practices can help build social connections that can lessen the health risks of hardship and neighborhood disadvantage.

³To measure residential segregation, we use data that show the evenness with which two groups (i.e. blacks and whites) are distributed within census tracts across counties. The index score is the percentage of one of the two groups that would have to move to different census tracts in order to produce a distribution that matches that of the county.

Drug Overdose Deaths

The US is experiencing an epidemic of drug overdose deaths. Since 2002, the rate of drug overdose deaths has increased by 79 percent nationwide, with a 200 percent increase in deaths involving opioids (opioid pain relievers and heroin) since 2000. Drug overdose deaths are the number of deaths due to drug overdose or poisoning per 100,000 population. These deaths include unintentional, intentional, and undetermined poisoning by and exposure to either prescription, over-the-counter, or illegal drugs.

Drug overdose deaths / 100,000 population



Key Findings

- Among counties in the US, the average rate of drug overdose deaths is 13 per 100,000 people.
- Nine percent of counties have drug overdose rates of 6 per 100,000 or lower.
- Sixteen percent of counties have drug overdose death rates above 20 per 100,000 with some counties having rates as high as 85 per 100,000.
- Drug overdose deaths appear highest in Northern Appalachia and in parts of the West/Southwest, lowest in the Northeast, and higher in rural counties than in other types of counties.

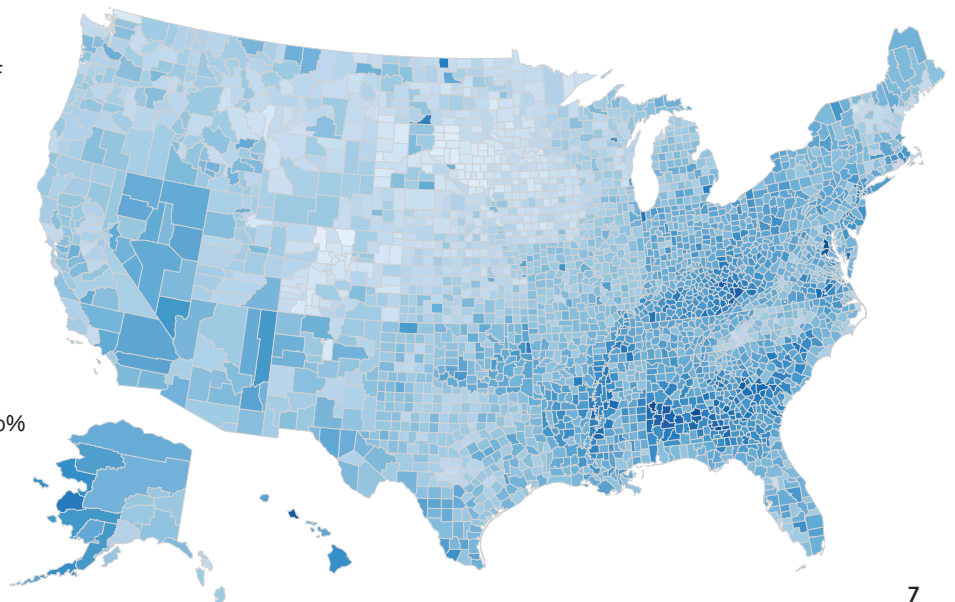
Insufficient Sleep

Sleep is an important part of a healthy lifestyle. Sleep plays a key role in maintaining proper growth and repair of the body, learning, memory, emotional resilience, problem solving, decision making, and emotional control. A lack of sleep can have serious negative effects on health. Ongoing sleep deficiency has been linked to chronic health conditions including heart disease, kidney disease, high blood pressure, and stroke, and psychiatric disorders such as depression and anxiety, risky behavior, and even suicide. And a lack of sleep cannot only affect people's own health, but also the health of others. Sleepiness, especially while driving, can lead to motor vehicle crashes and put the lives of others in jeopardy. Our measure of insufficient sleep is the percentage of adults who report getting fewer than 7 hours of sleep per night on average.

Key Findings

- Among counties in the US, on average, 33% of adults do not get enough sleep.
- The rate of insufficient sleep in US counties ranges from 23 percent to 47 percent.
- Rates of insufficient sleep appear highest in Southeastern US and lowest in the Plains states.
- There are no significant differences among rates of insufficient sleep by urban/rural county type.

Percent of adults reporting insufficient sleep



2016 County Health Rankings: Ranked Measure Sources and Years of Data

	<i>Measure</i>	<i>Source</i>	<i>Years of Data</i>
HEALTH OUTCOMES			
Length of Life	Premature death	National Center for Health Statistics – Mortality files	2011-2013
Quality of Life	Poor or fair health	Behavioral Risk Factor Surveillance System	2014
	Poor physical health days	Behavioral Risk Factor Surveillance System	2014
	Poor mental health days	Behavioral Risk Factor Surveillance System	2014
	Low birthweight	National Center for Health Statistics – Natality files	2007-2013
HEALTH FACTORS			
HEALTH BEHAVIORS			
Tobacco Use	Adult smoking	Behavioral Risk Factor Surveillance System	2014
Diet and Exercise	Adult obesity	CDC Diabetes Interactive Atlas	2012
	Food environment index	USDA Food Environment Atlas, Map the Meal Gap	2013
	Physical inactivity	CDC Diabetes Interactive Atlas	2012
	Access to exercise opportunities	Business Analyst, Delorme map data, ESRI, & US Census Tigerline Files	2010 & 2014
Alcohol and Drug Use	Excessive drinking	Behavioral Risk Factor Surveillance System	2014
	Alcohol-impaired driving deaths	Fatality Analysis Reporting System	2010-2014
Sexual Activity	Sexually transmitted infections	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention	2013
	Teen births	National Center for Health Statistics – Natality files	2007-2013
CLINICAL CARE			
Access to Care	Uninsured	Small Area Health Insurance Estimates	2013
	Primary care physicians	Area Health Resource File/American Medical Association	2013
	Dentists	Area Health Resource File/National Provider Identification file	2014
	Mental health providers	CMS, National Provider Identification file	2015
Quality of Care	Preventable hospital stays	Dartmouth Atlas of Health Care	2013
	Diabetic monitoring	Dartmouth Atlas of Health Care	2013
	Mammography screening	Dartmouth Atlas of Health Care	2013
SOCIAL AND ECONOMIC FACTORS			
Education	High school graduation	EDFacts	2012-2013
	Some college	American Community Survey	2010-2014
Employment	Unemployment	Bureau of Labor Statistics	2014
Income	Children in poverty	Small Area Income and Poverty Estimates	2014
	Income inequality	American Community Survey	2010-2014
Family and Social Support	Children in single-parent households	American Community Survey	2010-2014
	Social associations	County Business Patterns	2013
Community Safety	Violent crime	Uniform Crime Reporting – FBI	2010-2012
	Injury deaths	CDC WONDER mortality data	2009-2013
PHYSICAL ENVIRONMENT			
Air and Water Quality	Air pollution – particulate matter ¹	CDC WONDER environmental data	2011
	Drinking water violations	Safe Drinking Water Information System	FY2013-14
Housing and Transit	Severe housing problems	Comprehensive Housing Affordability Strategy (CHAS) data	2008-2012
	Driving alone to work	American Community Survey	2010-2014
	Long commute – driving alone	American Community Survey	2010-2014

¹Not available for AK and HI.

Additional Measures (Not Included in Calculation of Ranks)—Sources and Years of Data

Note: New measures for 2016 are in bold.

<i>Measure</i>	<i>Source</i>	<i>Years of Data</i>
HEALTH OUTCOMES		
Premature age-adjusted mortality	CDC WONDER mortality data	2011-2013
Infant mortality	Health Indicators Warehouse	2006-2012
Child mortality	CDC WONDER mortality data	2010-2013
Frequent physical distress	Behavioral Risk Factor Surveillance System	2014
Frequent mental distress	Behavioral Risk Factor Surveillance System	2014
Diabetes prevalence	CDC Diabetes Interactive Atlas	2012
HIV prevalence	National HIV Surveillance System	2012
HEALTH FACTORS		
Health Behaviors		
Food insecurity	Map the Meal Gap	2013
Limited access to healthy foods	USDA Food Environment Atlas	2010
Motor vehicle crash deaths	CDC WONDER mortality data	2007-2013
Drug overdose deaths	CDC WONDER mortality data	2012-2014
Drug overdose deaths – modeled	National Center for Health Statistics – cdc.data.gov	2014
Insufficient sleep	Behavioral Risk Factor Surveillance System	2014
Clinical Care		
Uninsured adults	Small Area Health Insurance Estimates	2013
Uninsured children	Small Area Health Insurance Estimates	2013
Health care costs	Dartmouth Atlas of Health Care	2013
Other primary care providers	CMS, National Provider Identification file	2015
Social and Economic Factors		
Median household income	Small Area Income and Poverty Estimates	2014
Children eligible for free lunch	National Center for Education Statistics	2012-2013
Homicides	CDC WONDER mortality data	2007-2013
Residential segregation – black/white	American Community Survey	2010-2014
Residential segregation – non-white/white	American Community Survey	2010-2014
DEMOGRAPHICS		
Population	Census Population Estimates	2014
% below 18 years of age	Census Population Estimates	2014
% 65 and older	Census Population Estimates	2014
% Non-Hispanic African American	Census Population Estimates	2014
% American Indian and Alaskan Native	Census Population Estimates	2014
% Asian	Census Population Estimates	2014
% Native Hawaiian/Other Pacific Islander	Census Population Estimates	2014
% Hispanic	Census Population Estimates	2014
% Non-Hispanic white	Census Population Estimates	2014
% not proficient in English	American Community Survey	2010-2014
% Females	Census Population Estimates	2014
% Rural	Census Population Estimates	2010

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