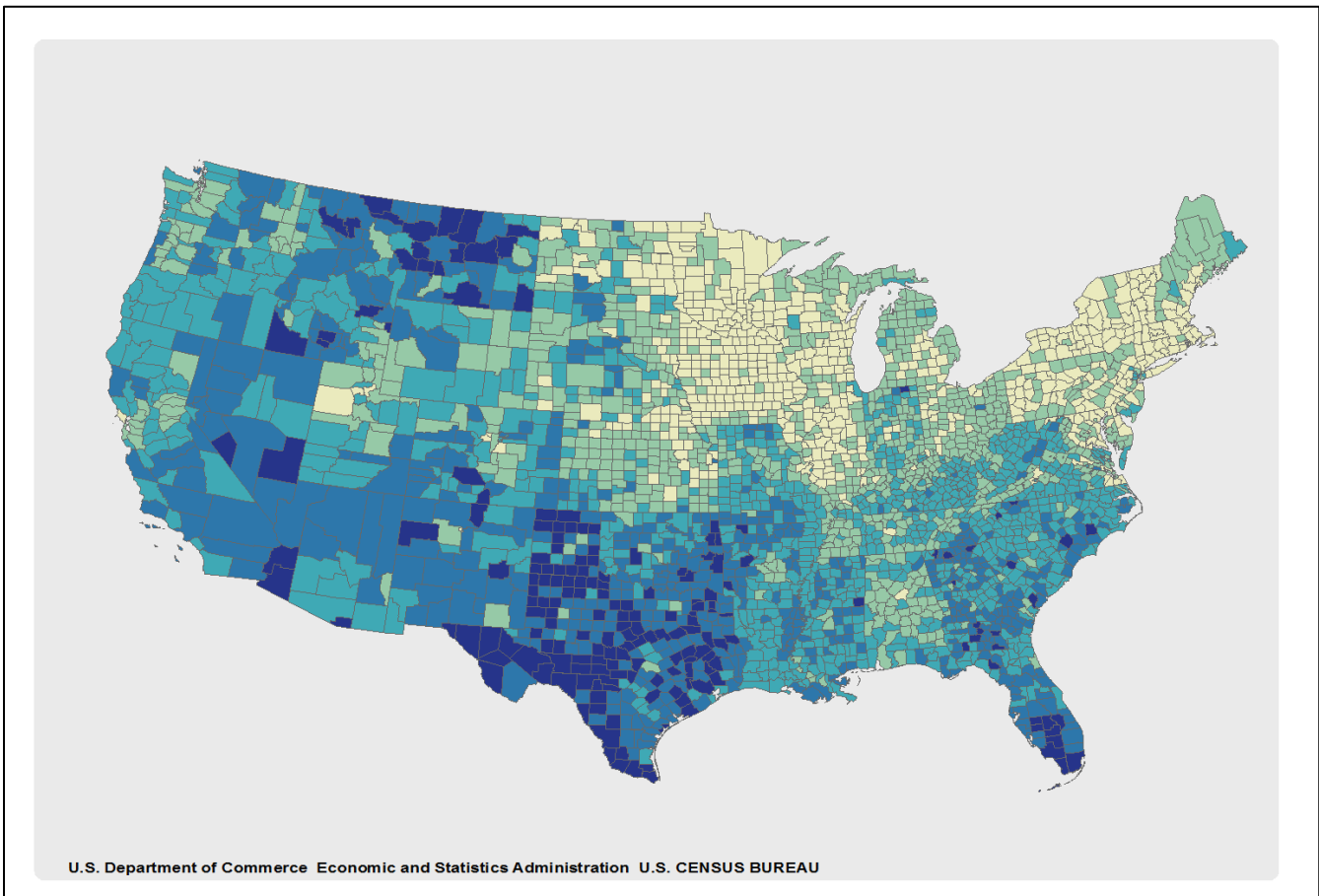


# Small Area Health Insurance Estimates (SAHIE) 2012 Highlights



Map: Percent Uninsured for the Population Under Age 65, by County, 2012 (p.11)

**U.S. Census Bureau**  
**Social, Economic and Housing Statistics Division (SEHSD)**  
**Small Area Estimates Branch (SAEB)**  
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The Small Area Estimates Branch (SAEB) prepared this document. The Small Area Methods Branch (SAMB) and the Health and Disability Statistics Branch (HDSB) made significant contributions to the preparation of this report.

## **Contact**

For questions related to the contents of this document, including estimates and methodology of the Small Area Health Insurance Estimates (SAHIE) program, contact the Small Area Estimates Branch at (301) 763-3193 or [sehds.sahie@census.gov](mailto:sehds.sahie@census.gov). For questions related to health insurance, income and poverty definitions, the American Community Survey, or other Census Bureau surveys, contact the U.S. Census Bureau Call Center at 1-800-923-8282 (toll free) or visit [ask.census.gov](http://ask.census.gov) for further information.

## **Disclaimer**

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# Small Area Health Insurance Estimates (SAHIE): 2012 Highlights

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## Introduction

The U.S. Census Bureau's Small Area Health Insurance Estimates (SAHIE) program produces timely estimates for all counties and states by detailed demographic and income-to-poverty ratio (IPR) groups. Page 4 provides a detailed definition of IPR. The SAHIE program produces single-year estimates of health insurance coverage for every county in the U.S. The estimates are model-based and consistent with the American Community Survey (ACS). They are based on an "area-level" model that uses survey estimates for domains of interest, rather than individual responses as in a "unit-level" model. The estimates are "enhanced" with administrative data, within a Hierarchical Bayesian framework.

SAHIE data can be used to analyze geographic variation in health insurance coverage, as well as disparities in coverage by race/ethnicity, sex, age and income levels that reflect poverty thresholds for state and federal assistance programs. Because consistent estimates are available from 2008 to 2012, SAHIE reflects annual changes over time.

## Highlights

In 2012,

- For the population under age 65 living at or below 138 percent of poverty, twenty states saw a decline in their uninsured rates from 2011.<sup>1</sup>
- In all 50 states, the population under age 65 living at or below 138 percent of poverty had a higher uninsured rate when compared to the population living between 138 percent and 400 percent of poverty. The District of Columbia<sup>2</sup> saw no statistical difference.
- For the population under age 65 living at or below 138 percent of poverty, Blacks had a lower uninsured rate than Whites in 34 states. Hispanics had a higher uninsured rate than non-Hispanic Whites for every state but Hawaii, which was not statistically different.
- Over the 4-year period 2008 to 2012, for the population of working age adults, ages 18 to 64, 494 counties saw an increase in their uninsured rate and 269 counties saw a decrease in their uninsured rate.<sup>3</sup>
- Also, over this 4-year period, for the population of children, under age 19, 17 counties saw an increase in their uninsured rate and 1,171 counties saw a decrease in their uninsured rate.

<sup>1</sup> All data shown are estimates containing uncertainty. Apparent differences among the estimates may not be statistically significant, unless specifically noted. All direct comparisons cited in the text have been statistically tested at the 90% significance level. All significance tests reflect unrounded estimates that may differ from the published rounded estimates.

<sup>2</sup> For this purpose of this document, the District of Columbia is not considered a county.

<sup>3</sup> 2008 was chosen in this time series because this was the year SAHIE began utilizing the American Community Survey (ACS) as the base. For years prior to 2008, the SAHIE estimates utilized the Annual Social and Economic Supplement to the Current Population Survey (CPS ASEC).

## Small Area Health Insurance Estimates (SAHIE) Program

The SAHIE program models health insurance coverage by combining survey data with population estimates and administrative records from the following sources: American Community Survey (ACS); demographic population estimates; aggregated federal tax returns; participation records for the Supplemental Nutrition Assistance Program (SNAP); County Business Patterns; Medicaid and the Children's Health Insurance Program (CHIP) participation records; and Census 2010. Further information on SAHIE methodology is available at

<http://www.census.gov/did/www/sahie/methods/index.html>.

A related program to SAHIE is the Small Area Income and Poverty Estimates (SAIPE) program, which produces estimates of poverty for all school districts, counties, and states. Information about the SAIPE program is available at <http://www.census.gov/did/www/saipe/index.html>.

## Using SAHIE to Evaluate Low-Income Uninsured Populations

SAHIE is partially funded by the Centers for Disease Control and Prevention's (CDC) National Breast and Cervical Cancer Early Detection Program<sup>4</sup> (NBCCEDP) and many of the estimates SAHIE produces are relevant to that program. The CDC have a congressional mandate to provide screening services for breast and cervical cancer to low-income, uninsured, and underserved women through the NBCCEDP. Most state NBCCEDP programs define low-income as 200 percent or 250 percent of the poverty threshold. SAHIE provides estimates by income-to-poverty ratio (IPR) categories that are relevant to NBCCEDP as well as four additional IPR categories, of which two are relevant to the Affordable Care Act (ACA). In 2014, the ACA will allow access to health care by allowing Medicaid to cover families with incomes less than or equal to 138 percent of the poverty threshold in states that have signed up for the ACA. Families with incomes above the level needed to qualify for Medicaid, but less than or equal to 400 percent of the poverty threshold, can receive tax credits that will help them pay for health coverage in the new health insurance exchanges.

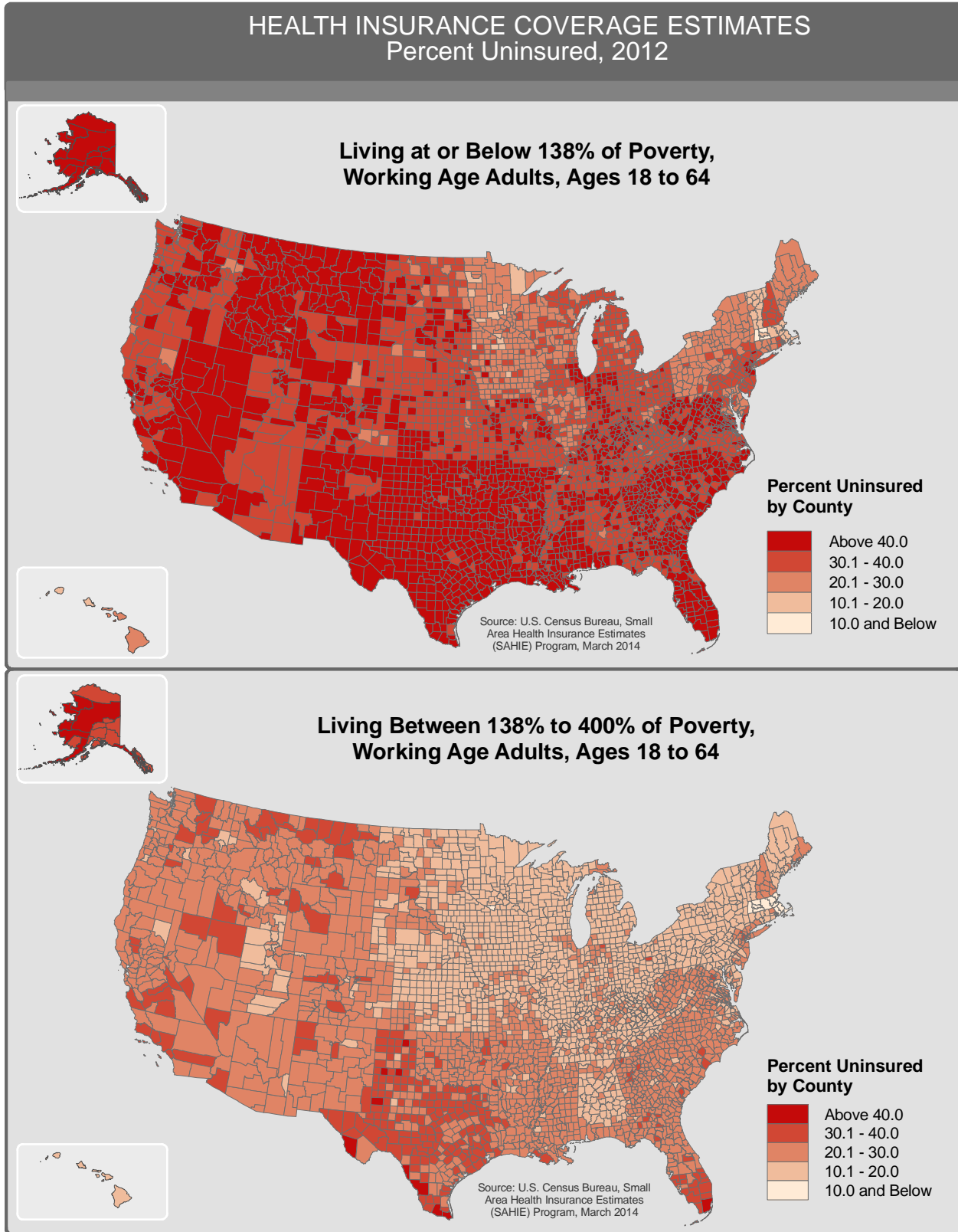
Beginning in 2012, SAHIE added a new IPR category in its published estimates, families with incomes between 138 percent and 400 percent of the poverty threshold, (138-400% IPR). This category may assist data users in evaluating the population of people who may be able to receive tax credits for health insurance through health insurance exchanges.<sup>5</sup> While this category will be useful in the future, the SAHIE 2012 estimates do not reflect enrollment for the new health insurance exchanges. Figure 1 on page 3 provides a two-panel map of working age adults, ages 18 to 64, by the lowest IPR category, less than 138 percent of the poverty threshold, and by the newest IPR category, 138 percent to 400 percent of the poverty threshold.

To make quick evaluations of your state's potential program participants, visit the SAHIE interactive data and mapping tool. The tool allows users to download custom tables, create and download thematic maps of insured and uninsured rates, and state health insurance coverage trends. The SAHIE website is located at <http://www.census.gov/did/www/sahie/>.

<sup>4</sup> Further information is available at <http://www.cdc.gov/cancer/nbccedp/>.

<sup>5</sup> In states that are not expanding Medicaid, the eligibility for tax credits in the health insurance exchanges is between 100 percent and 400 percent of poverty.

Figure 1. **Percent Uninsured by Income Level, Working Age Adults, ages 18 to 64, by County, 2012**



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## SAHIE Demographic and Economic Domains

(1) SAHIE publishes estimates for all **states** and the District of Columbia for the following domains:

(a) The full cross-classification of:

- Four Age Categories: 0-64, 18-64, 40-64 and 50-64.
- Four Race/Ethnicity Categories: All Races, Hispanic, non-Hispanic White, non-Hispanic Black.
- Three Sex Categories: Both Male and Female, Male, Female
- Six Income Categories: All Incomes, and Income-to-Poverty Ratio (IPR) Categories: 0-138%, 0-200%, 0-250%, 0-400% and 138-400% (new for 2012).

(b) and the full cross-classification of:

- Age Category: 0-18
- Six Income Categories: All Income, and Income-to-Poverty (IPR) Categories: 0-138%, 0-200%, 0-250%, 0-400% and 138-400% (new for 2012).

(2) SAHIE publishes estimates for all **counties** using the same domains for states except it does not produce estimates by Race/Ethnicity breakdowns.

An example of how SAHIE's Income-to-Poverty Ratio (IPR) is calculated is shown in the box below.

### What is an Income-to-Poverty Ratio (IPR)?

Poverty status is determined by comparing total annual family before-tax income to a table of income thresholds that vary by family size, number of related children, and age of householder. If a family's income is less than the dollar value of the appropriate threshold, then that family and every individual in it are considered to be in poverty.

To determine a family or an individual's income-to-poverty (IPR) threshold, take its before-tax income and divide by the appropriate poverty threshold. Then multiply by 100 to determine how far the family or individual earner is below or above poverty (a family with an IPR of 100% is living at the poverty threshold).

For example, take a family of four, two parents and two children, with a total annual income of \$46,500. In 2012, a family of this size had a poverty threshold of \$23,283. Their income-to-poverty ratio is:

$$\frac{\text{Total Annual Income}}{\text{Poverty Threshold}} = \frac{\$46,500}{\$23,283} = 1.997 = 199.7\% \text{ of poverty}$$

The family of four is living just below 200% of poverty. This means their income is just below twice their determined poverty threshold.

The poverty thresholds are updated annually to allow for changes in the cost of living using the Consumer Price Index (CPI-U). They do not vary geographically. For more information, see "How the Census Bureau Measures Poverty" at <http://www.census.gov/hhes/www/poverty/about/overview/measure.html>.

## Differences between SAHIE Estimates and the ACS Health Insurance Estimates

The Small Area Health Insurance Estimates (SAHIE) program is the only source of health insurance estimates for counties with small populations within a single year. SAHIE uses American Community Survey (ACS) estimates to model state and county health insurance estimates. The ACS is an ongoing survey that provides annual demographic, social, and economic data. The 2012 ACS sample is approximately 3.5 million American households. SAHIE estimates improve upon ACS estimates by borrowing strength from administrative records and Census data.

The ACS releases multiyear data for all counties with 5-year estimates. The 2008-2012 ACS, released in December 2013, has estimates of health insurance coverage for every county. Because ACS 5-year estimates aggregate data over a five-year period, they may mask year-to-year variation. SAHIE estimates are broadly consistent with the direct survey estimates, but with the help of timely administrative records, SAHIE estimates are more precise than the 1-year ACS survey estimates for most counties.<sup>6</sup>

More information on ACS, SAHIE and other Census Bureau health data sources is available at <http://www.census.gov/hhes/www/hlthins/about/index.html>. A table comparing the data sources is available at <http://www.census.gov/hhes/www/hlthins/about/Hi-Survey-Comparison.xls>.

## Demographic and Economic Differences across States and Counties

SAHIE demographic and economic domains allow data users to analyze in detail the health insurance status of individuals living in counties and states. The following sections look at the demographic and economic composition of the insured and uninsured across the United States.

### Children had a Significantly Lower Uninsured Rate than Adults

In every state and in the District of Columbia (D.C.), the uninsured rate for children under age 19 was lower than for working age adults, ages 18 to 64. In every county<sup>7</sup>, except for four counties in Nevada, the uninsured rate for children under age 19 was lower than working age adults, ages 18 to 64. The four counties in Nevada did not show a statistical difference. The Children's Health Insurance Program (CHIP) provides health coverage to children whose families' income may be too high to qualify for Medicaid but are unable to afford private health insurance coverage. Refer to Figure 2 on page 6.

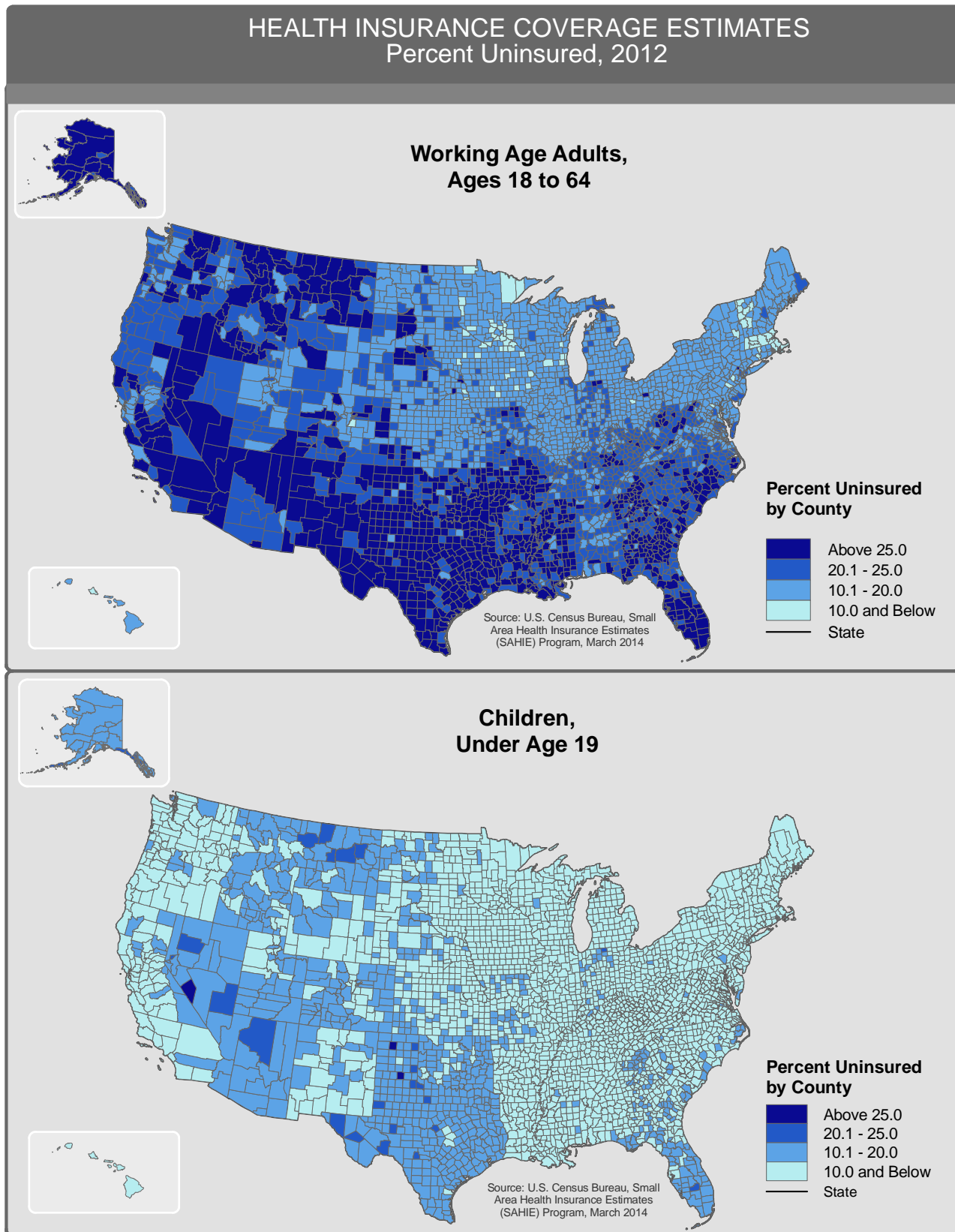
### Comparisons of Uninsured Rates for Hispanics, Blacks and Whites

For the population of people under age 65, non-Hispanic Whites had a lower uninsured rate than both Hispanics and non-Hispanic Blacks in every state and the District of Columbia (D.C.). Refer to Figure 3 on page 7.

<sup>6</sup> A map of counties published in the 2012 ACS County 1-year estimates is available at, [http://www.census.gov/did/www/saie/data/highlights/files/2012/A4\\_MP\\_2012.pdf](http://www.census.gov/did/www/saie/data/highlights/files/2012/A4_MP_2012.pdf).

<sup>7</sup> Kalawao County, Hawaii was omitted from the estimates due to lack of children ages 5 to 17.

Figure 2. **Percent Uninsured Ages 18 to 64 vs. Under Age 19, by County, 2012**



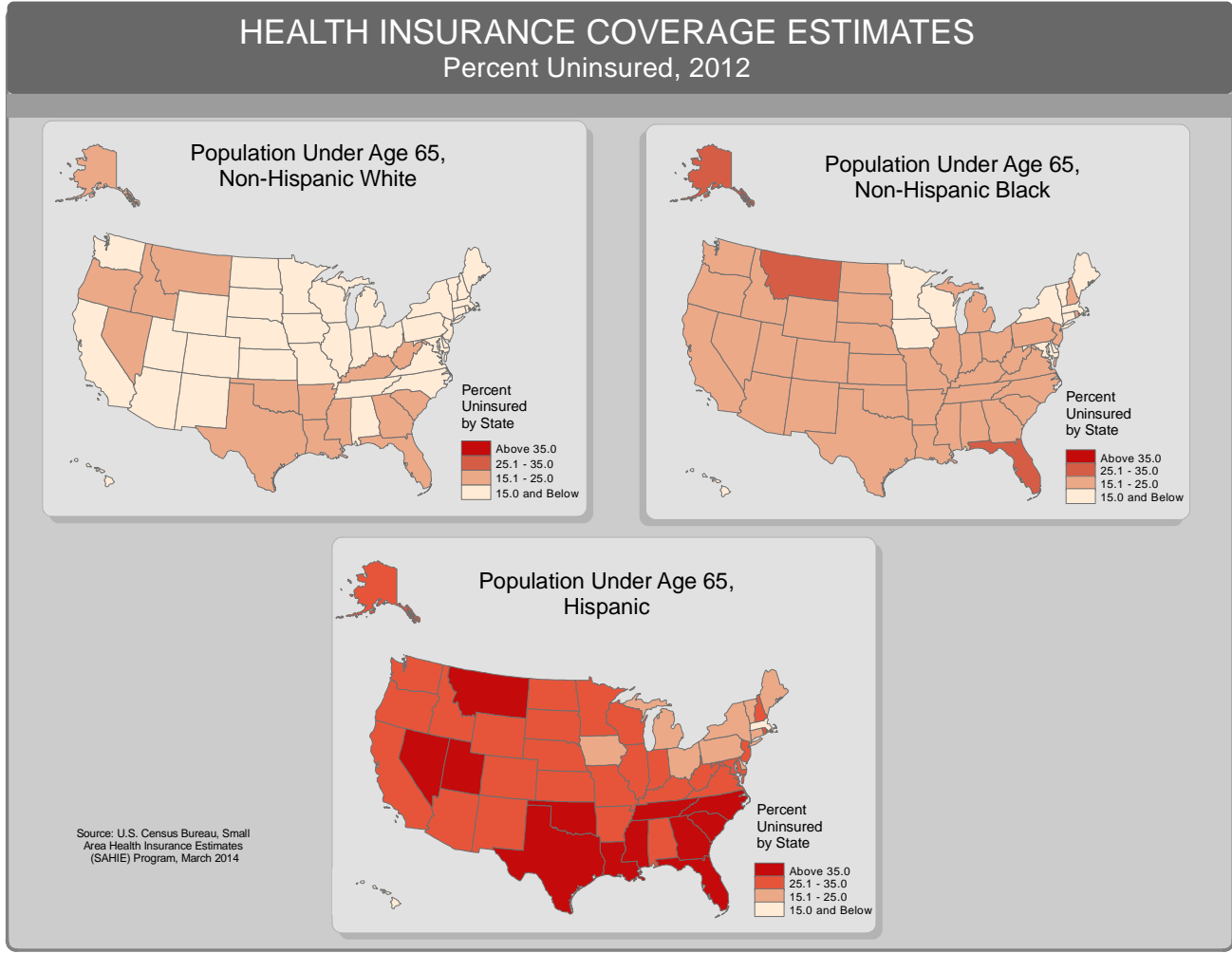
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This relationship does not hold constant across all IPR groups. For the lowest income population, people under age 65 living at or below 138 percent of poverty, non-Hispanic Blacks had a lower uninsured rate than non-Hispanic Whites in 34 states. Hispanics had a higher uninsured rate than non-Hispanic Whites for every state but Hawaii.

For the population of people under age 65 living between 138 percent and 400 percent of poverty, non-Hispanic Blacks had a higher uninsured rate than non-Hispanic Whites in 42 states. Hispanics had a higher uninsured rate than non-Hispanic Whites for every state.

Figure 3. **Percent Uninsured by Race and Ethnicity Groups, Under Age 65 by State, 2012**



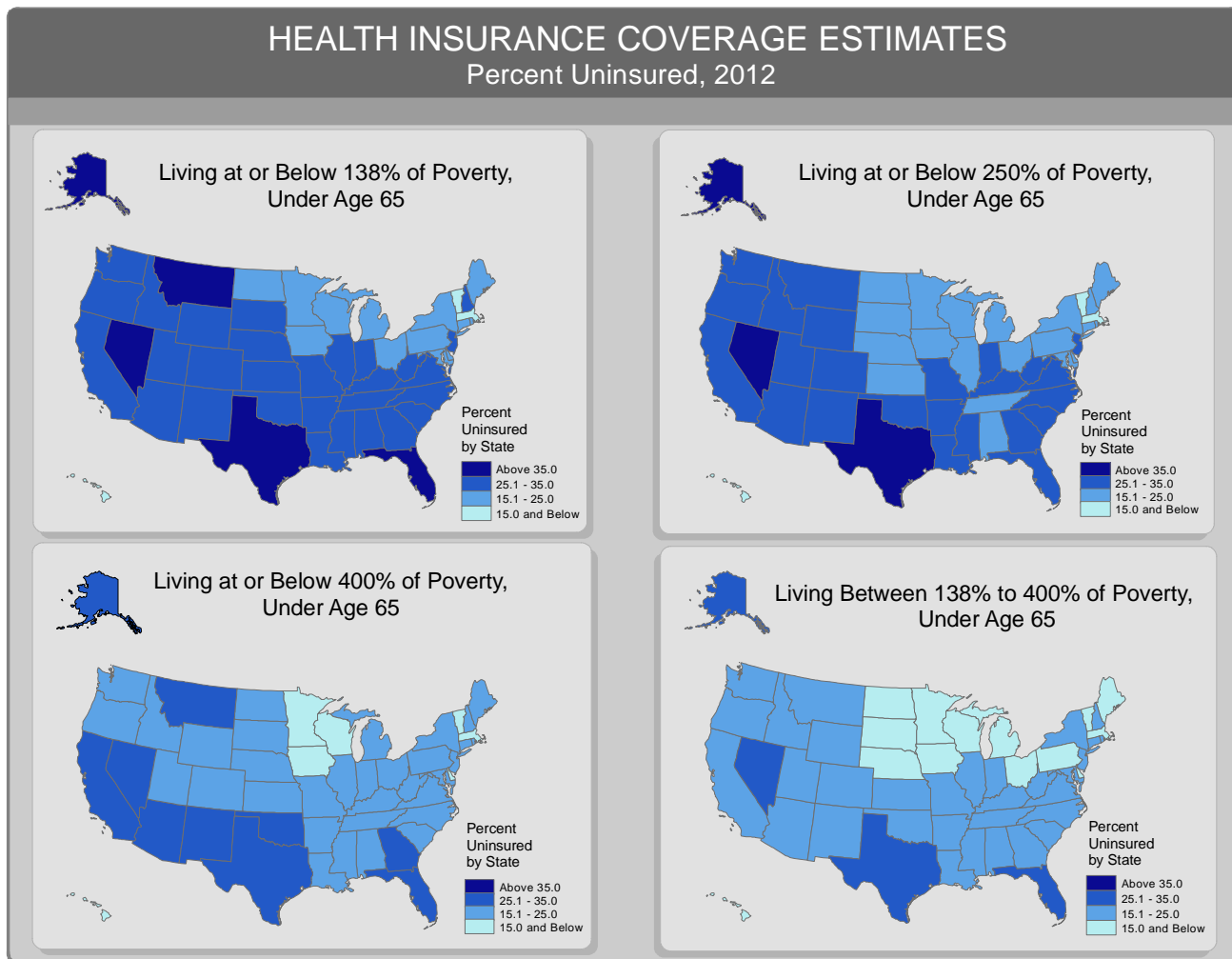
**Low-Income Population had Higher Uninsured Rates**

All 50 states had higher uninsured rates for the population under age 65 living at or below 138 percent of poverty when compared to the population living between 138 and 400 percent of poverty. The District of Columbia (D.C.) did not show a statistical difference between these two income groups. Refer to Figure 4 on page 8.

For the population living below 250 percent of poverty, 36 states had a lower uninsured rate than the population living below 138 percent of poverty. For the population under age 65 living at or below 400

percent, all states had a lower uninsured rate, not including D.C., than the population living at or below 138 percent of poverty.

Figure 4. **Percent Uninsured by Income Level, Under Age 65, by State, 2012**



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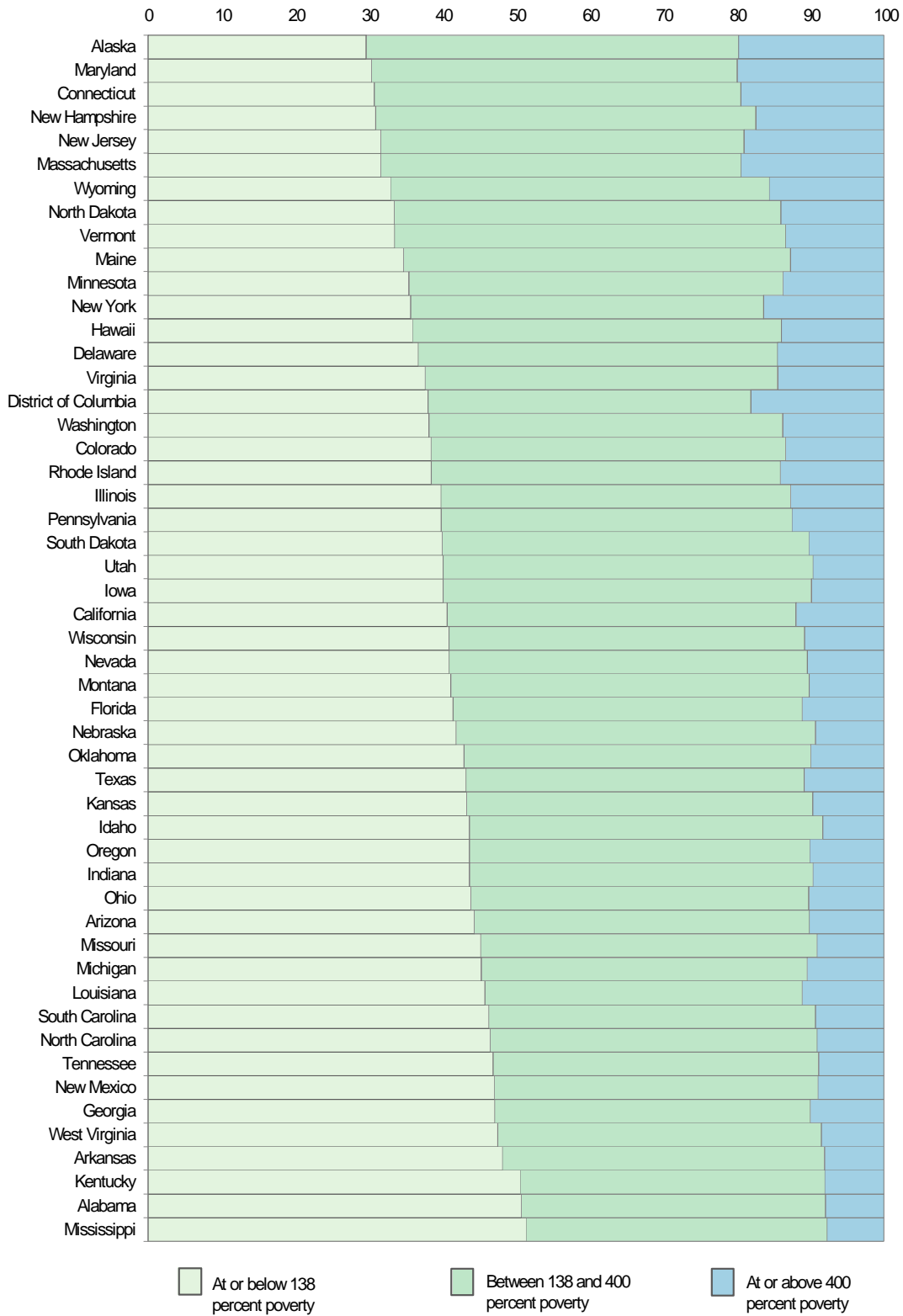
Source: U.S. Census Bureau, Small Area Health Insurance Estimates (SAHIE) Program, March 2014

States have different distributions of their uninsured population. Figure 5 on page 9 displays the distribution of the uninsured population under age 65, by state, by IPR groups relevant to the current health care legislation. For example, in the state of New York, 35.7 percent of the uninsured population is living under 138 percent of poverty. Nearly half of New York’s uninsured population, 48.0 percent, is living between 138 percent of poverty and 400 percent of poverty. This population, those living between 138 percent of poverty and 400 percent of poverty, is currently eligible to receive subsidies to purchase health insurance exchanges in participating states. The remaining 16.3 percent of the uninsured in New York is living above 400 percent of poverty.

## Geographic Variation in Health Insurance Coverage

The Small Area Health Insurance Estimates program allows data users to look at the insured and uninsured across states and counties. Having county-level estimates allows users to look at the distribution and concentration of the insured and uninsured within states, regions, and metropolitan areas.

Figure 5. Distribution of the Uninsured Under Age 65, by IPR, by State, 2012

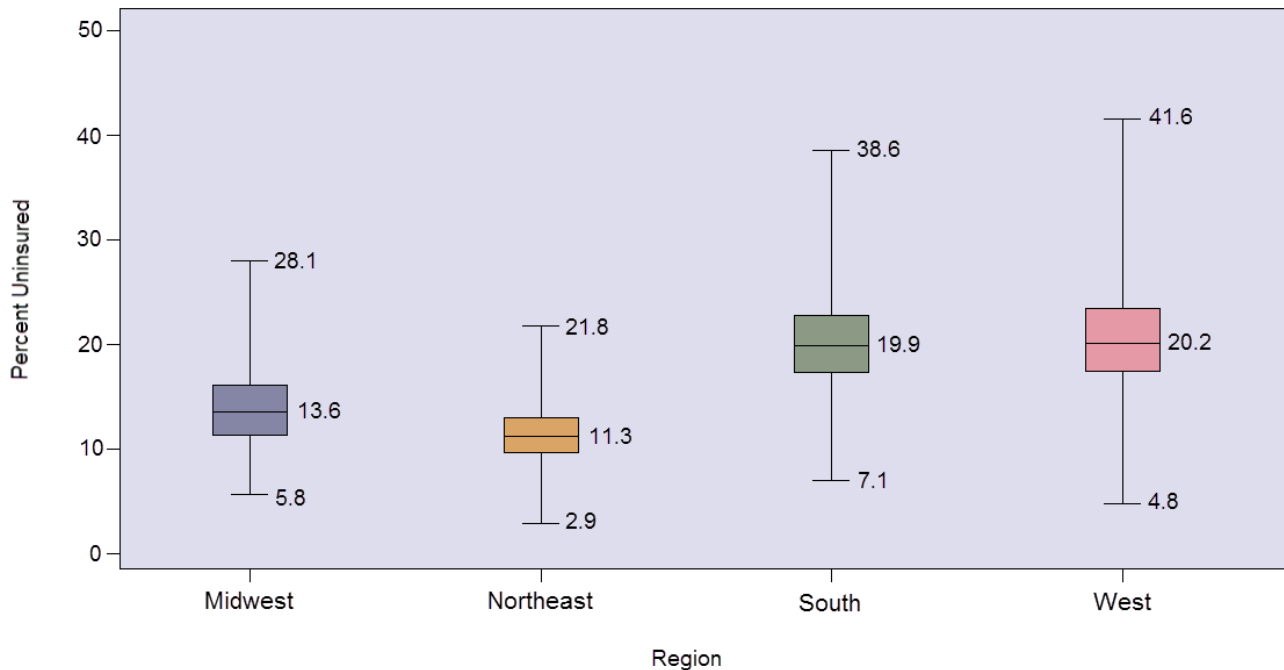


Source: U.S. Census Bureau Small Area Health Insurance Estimates (SAHIE) Program: March 2012

## Uninsured Rates Vary Among Counties in Different Regions

Figure 6 displays the highest, median, and lowest uninsured rate for the population, under age 65, by region. The median uninsured rate is 13.6 percent for the Midwest, 11.3 percent for the Northeast, 19.9 percent for the South and 20.2 percent for the West. The Census regional map can be found at [http://www.census.gov/geo/maps-data/maps/pdfs/reference/us\\_regdiv.pdf](http://www.census.gov/geo/maps-data/maps/pdfs/reference/us_regdiv.pdf).

Figure 6. Range of Uninsured Rates at the County-Level by Region, 2012

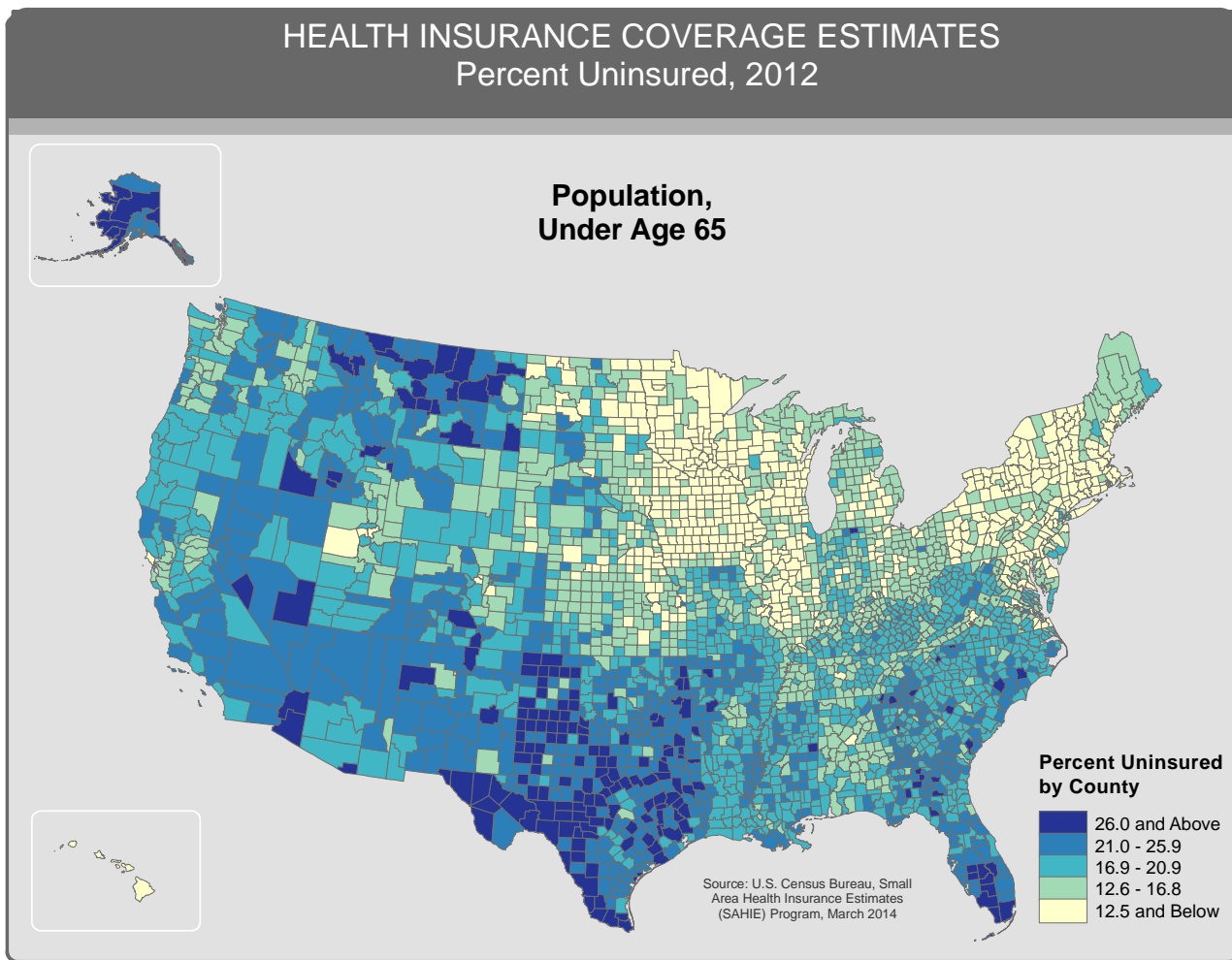


Notes: The data shown are estimates containing uncertainty. Apparent differences among the estimates may not be statistically significant. The box and whisker plot shows the distribution of percent uninsured by county by region. The whiskers indicate the minimum and maximum values, while the lower and upper borders of the box represent and interquartile range (25<sup>th</sup> and 75<sup>th</sup> percentile). The line inside the box indicates the location of the 50<sup>th</sup> percentile (median value).

Source U.S. Census Bureau, Small Area Health Insurance Estimates, March 2014.

Figure 7 shows the distribution of county-level uninsured rates for the population under age 65. For counties with uninsured rates below 12.5 percent, the lowest range on the scale, 68.2 percent of counties in the Northeast and 36.1 percent of counties in the Midwest have uninsured rates below 12.5 percent. Compare this to the South and the West, where only 2.6 percent and 2.5 percent of counties, respectively, have an uninsured rate below 12.5 percent.

Figure 7. **Percent Uninsured for the Population Under Age 65, by County, 2012**



### Changes in County-Level Uninsured Rates

Figure 8 on page 12 is a two-panel map of county-level changes of uninsured rates of working age adults, ages 18 to 64, and of children, under age 19 over a four-year period, from 2008 to 2012.<sup>8</sup>

Among working age adults, 763 counties saw a difference in their uninsured rate with 494 counties showing an increase in their uninsured rate and 269 counties showing a decrease in their uninsured rate. For children, 1,188 counties saw a difference in their uninsured rate. Of these counties, 17 counties had an increase in their uninsured rate while 1,171 counties had a decrease.

<sup>8</sup> Three counties, all in Alaska, Petersburg Census Area, Prince of Wales-Hyder and Wrangell City and Borough were created in June 2008 and are not included in the 2008 SAHIE estimates. These three counties are excluded from the analyses between 2008 and 2012.

Figure 8. **Four-Year Change in County-Level Uninsured Rates, 2008 to 2012**

