The 2013 Small Area Health Insurance Estimates (SAHIE): An Overview

Introduction

This document presents summary highlights of the 2013 data release by the Small Area Health Insurance Estimates (SAHIE) Program of the Census Bureau in March 2015. Each year, the SAHIE program provides timely, reliable estimates of health insurance coverage for both the insured and uninsured populations.[1] Other federal agencies and programs use SAHIE data to determine eligibility for public health services. For example, the Centers for Disease Control and Prevention (CDC) partially funds the SAHIE program for their National Breast and Cervical Cancer Early Detection Program (NBCCEDP). The CDC have a congressional mandate to provide screening services for breast and cervical cancer to low-income, uninsured and underserved women. SAHIE is the only data source for single-year estimates of health insurance status for states and all 3,142 counties in the United States by selected economic and demographic characteristics.[2]

The SAHIE program provides estimates for selected characteristics that are available by income-to-poverty ratio (IPR) categories, selected age groups, race/ethnicity (state level only), and sex. As a result, SAHIE data are used to analyze the differences in health insurance status by detailed characteristics that reflect the federal poverty thresholds and meet the needs of both state and federal assistance programs, like NBCCEDP.

County-level SAHIE also allow data users to take a closer look at the distribution and concentration of the uninsured population within states, regions, and metropolitan areas.[3] Due to its unique comprehensive geographic coverage and one-year focus, SAHIE data are used to analyze geographic variation in health insurance coverage, as well as changes over time. The purpose of this document is to highlight several key aspects of such analyses.

[1] Please refer to the detailed definition of the insured population at: http://www.census.gov/did/www/sahie/about/faq.html

[2] There were 3,143 total counties in the United States. Kalawao County, HI was omitted due to insufficient data.

[3] Reference maps on regions and metro/ micro area status are available at: http://www.census.gov/did/www/sahie/data/highlights/2013highlights.html

Highlights:

- For the population under age 65 living at or below 138 percent of poverty, non-Hispanic Blacks had a lower uninsured rate than non-Hispanic Whites in 32 states.[4] Hispanics had a higher uninsured rate than non-Hispanic Whites for every state but Hawaii, which was not statistically different.
- Over the 5-year period 2008 to 2013, for the population of working age adults, aged 18 to 64, 414 counties had an increase in their uninsured rate and 335 counties had a decrease in their uninsured rate.
- Also, over this 5-year period, 32 counties had an increase in their uninsured rate for the population under age 19 and 991 counties had a decrease in their uninsured rate.

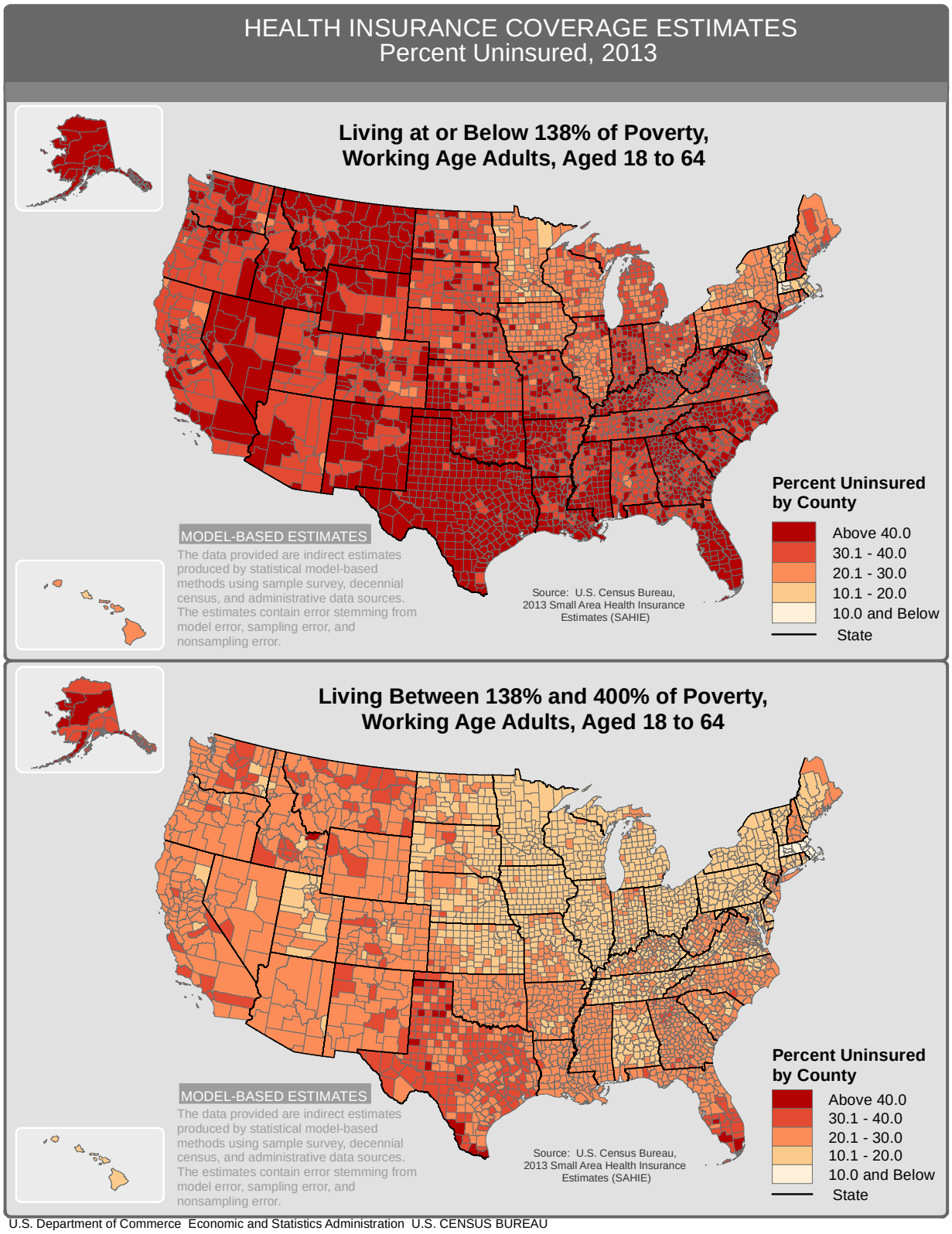
Small Area Health Insurance Estimates (SAHIE) are model-based enhancements of the American Community Survey (ACS) estimates created by incorporating additional information from administrative records, intercensal population estimates, and decennial census data. SAHIE methodology employs statistical modeling techniques to combine this supplemental information with survey data to produce more reliable estimates. SAHIE are broadly consistent with the direct ACS survey estimates, but with the help from other data sources, SAHIE estimates are more precise than the ACS 1-year and 5-year survey estimates alone for most counties. ACS 1-year estimates are not available for most of these smaller geographic areas (approximately only 800 counties with a population of 65,000 or more are included in the ACS 1-year estimates). A 2013 ACS map of unpublished counties is available at: http://www.census.gov/did/www/sahie/data/highlights/2013highlights.html

Additional detailed information on the various input data sources used in producing SAHIE is available at: http://www.census.gov/did/www/sahie/methods/inputs/index.html

Nonetheless, SAHIE are subject to several types of uncertainty. For more information on sources of uncertainty, see the text box on page 6. Additionally, details on the SAHIE methodology are available at: http://www.census.gov/did/www/sahie/methods/index.html

[4] All data shown are estimates containing uncertainty. Unless specifically noted in the text or graphic, apparent differences among the estimates may not be statistically significant. All direct comparisons cited in the text have been statistically tested at the 90 percent significance level. See text box on page 6 for additional information on the sources of uncertainty.

Figure 1. Percent Uninsured by IPR Level for Working Age Adults, Aged 18 to 64, by County, 2013



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

Poverty status is determined by comparing total annual family before-tax income to a table of federal poverty 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.

For people not living in families, poverty status is determined by comparing the individual's total income to their threshold.

For more general information on poverty, please see link: http://www.census.gov/hhes/www/poverty/poverty.html

The table of federal poverty thresholds is updated annually to allow for changes in the cost of living using the Consumer Price Index (CPI-U). The thresholds do not vary geographically.

SAHIE's primary input is the estimates of poverty from the American Community Survey (ACS), a monthly survey with people responding throughout the year. Since income is reported for the previous 12 months, the appropriate poverty threshold for each family is determined by multiplying the base-year poverty threshold (1982) by the average of the monthly CPI values for the 12 months preceding the survey.

For more information, see "How Poverty is Calculated in the American Community Survey" at:
http://www.census.gov/hhes/www/poverty/about/overview/measure.html
http://www.census.gov/hhes/www/poverty/poverty-cal-in-acs.pdf

To determine a family or an individual's income-to-poverty ratio (IPR), take its before-tax income and divide by the appropriate federal 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 federal poverty threshold).

For example, take a family of four, two parents and two children, with a total annual income of $46,500. In 2013, a family of this size had a federal poverty threshold of $23,624. Their income-to-poverty ratio is:

$$\frac{\text{Total Annual Income}}{\text{Federal Poverty Threshold}} = \frac{\$46{,}500}{\$23{,}624} = 1.968 = 196.8\% \text{ of poverty}$$

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

Income-to-Poverty Ratio (IPR) Categories:
0-138%, 0-200%, 0-250%, 0-400% and 138-400%

SAHIE provides health insurance coverage estimates by IPR categories. These categories are defined by the ratio of family income to the federal poverty threshold (see text box). A lower IPR indicates a lower income. Living at or below 138 percent of poverty indicates people in families with total money income less than or equal to 138 percent of the poverty threshold applicable to that family. The same reasoning holds for the additional IPRs.

These IPR categories are relevant to both the NBCCEDP and the Affordable Care Act (ACA). Most state NBCCEDP programs define low-income as 0-200 percent or 0-250 percent of the poverty threshold. The IPR categories relevant to the ACA are 0-138 percent and 138-400 percent of the poverty threshold. For some states, 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 enrolled 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.

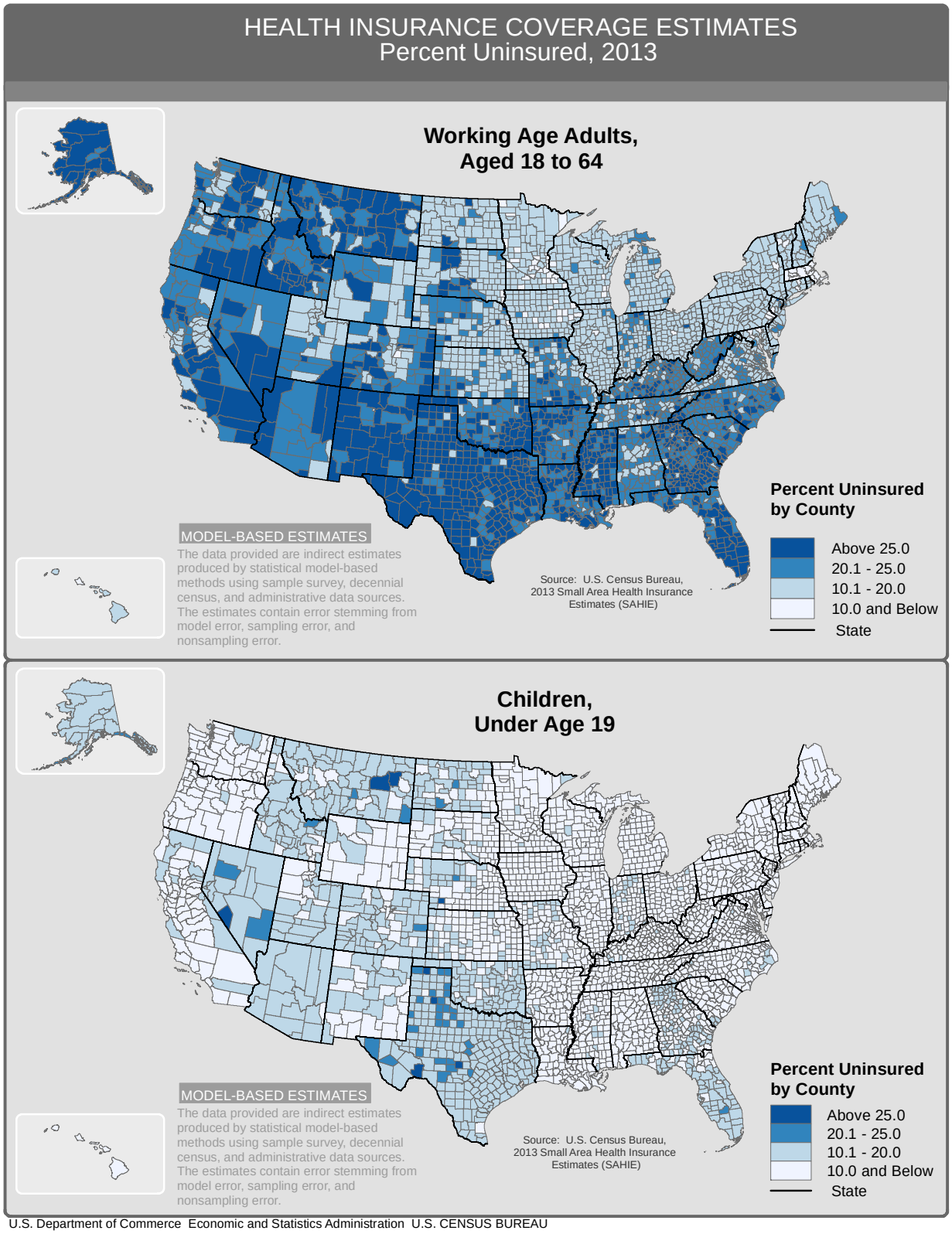
The IPR category of 138-400 may assist data users in evaluating the population of people who may be able to receive tax credits for health insurance through health insurance exchanges.[5] While this category will be useful in the future, the SAHIE 2013 estimates do not fully reflect enrollment for the new health insurance exchanges.

Figure 1 is a two-panel map of working age adults, aged 18 to 64 living at or below 138 percent of the poverty threshold, and by 138-400 percent of the poverty threshold. The darkest shade of red in the map displays the highest uninsured rate (above 40.0), while the lightest shade displays the lowest uninsured rate (10.0 and below) for working age adults by the selected IPR category at the county level. Both maps show that the geographic distribution of the uninsured rates for working age adults, aged 18-64, varies by the IPR category and by region.[6]

[5] 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.

[6] The regions include the Northeast, Midwest, South, and West. See page 6 for a map by regions (Figure 4).

Figure 2. Percent Uninsured by Selected Age Group by County, 2013



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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, aged 18 to 64 (see Figure 2). Ninety-nine percent of all counties, or 3,118 counties, had an uninsured rate for children under age 19 lower than working age adults, aged 18 to 64. There were no statistical differences for 24 counties.

Race and Ethnicity Uninsured Rates Vary by IPR Category

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.) (see Figure 3).

This relationship does not hold constant across all IPR categories. 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 32 states. Hispanics had a higher uninsured rate than non-Hispanic Whites for every state but Hawaii, which was not statistically different.

For the population of people under age 65 living between 138-400 percent of poverty, non-Hispanic Blacks had a higher uninsured rate than non-Hispanic Whites in 43 states. There were no significant differences in only 8 states. Hispanics had a higher uninsured rate than non-Hispanic Whites for every state.

Figure 3. Percent Uninsured by Race and Ethnicity, Under Age 65, by State, 2013

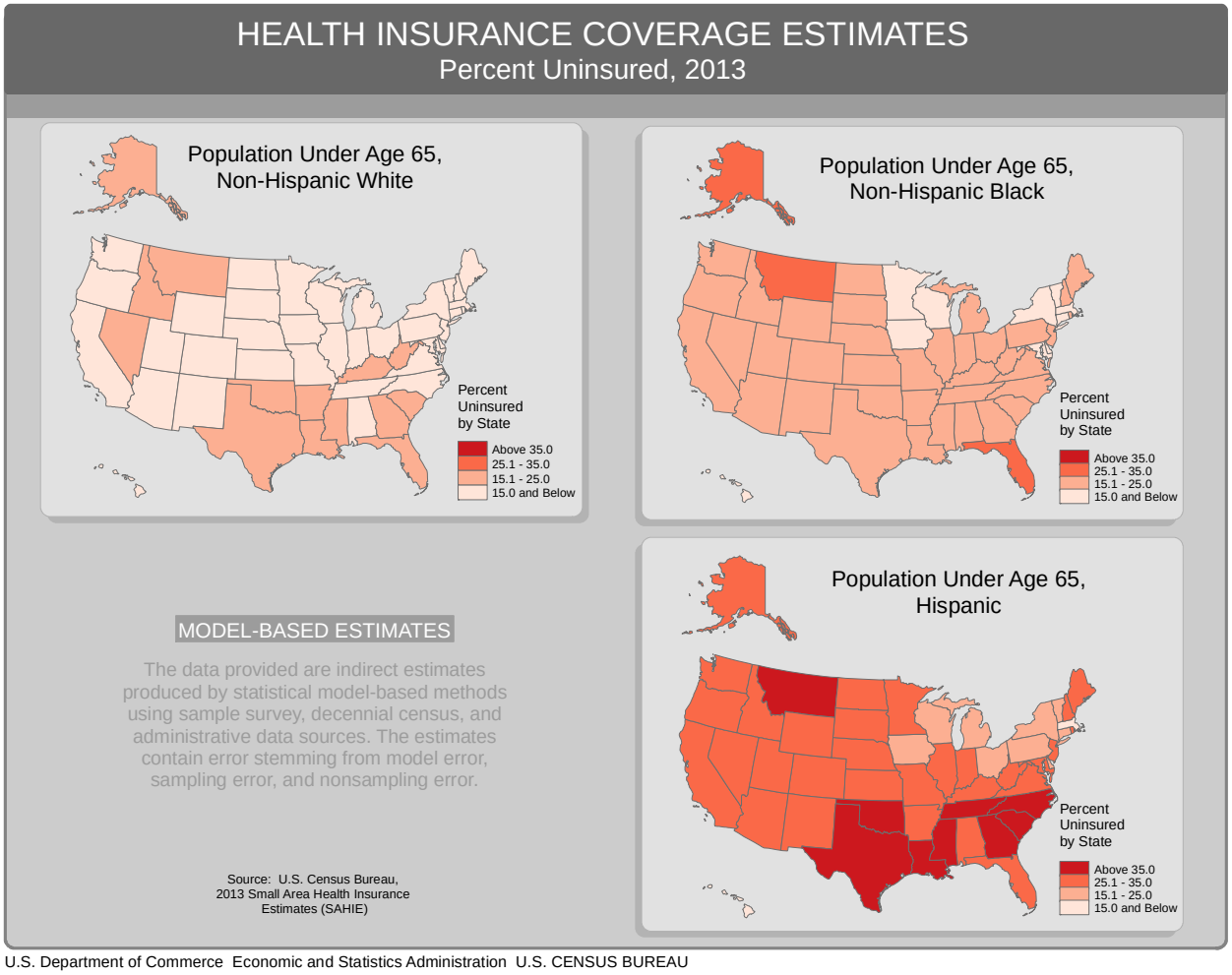

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Figure 4. Percent Uninsured of the Population Under Age 65 by County, 2013

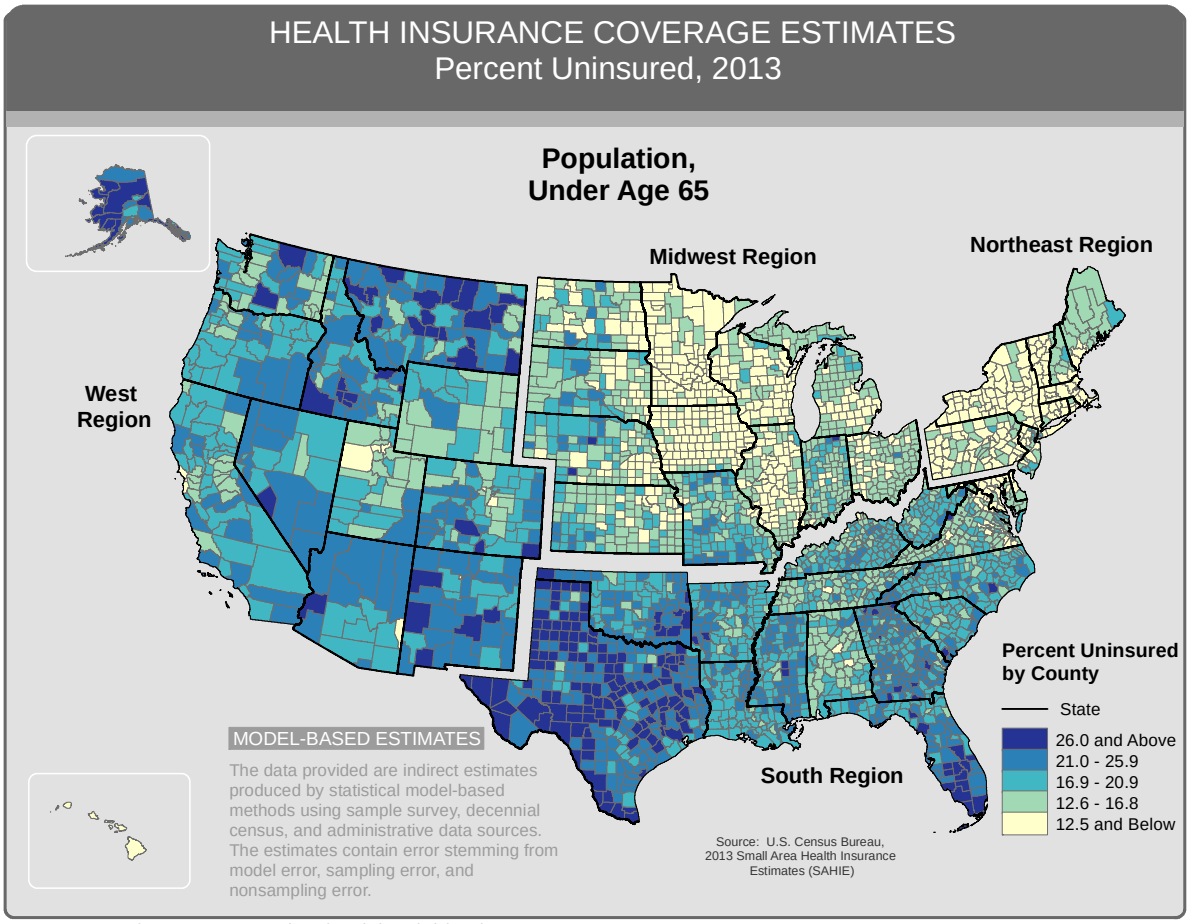


Figure 4 shows the distribution of county-level uninsured rates for the population under age 65 by region. In the Northeast, 68.2 percent of counties have uninsured rates at or below 12.5 percent (yellow shaded category). In the Midwest, 38.5 percent of counties were also in the lowest category. However, in the South and West, only 2.9 percent and 3.4 percent of counties have uninsured rates at or below 12.5 percent, respectively.

Change in County-Level Uninsured Rates

Figure 5 is a two-panel map of county-level changes of uninsured rates of working age adults, aged 18 to 64, and of children, under age 19 over a five-year period, from 2008 to 2013.[7]

Among working age adults, 749 total counties had a change in their uninsured rate. Of those, 414 counties showed an increase in their uninsured rate and 335 counties showed a decrease in their uninsured rate. For children under age 19, 1,023 total counties had a change in their uninsured rate. Of these counties, 32 counties had an increase in their uninsured rate while 991 counties had a decrease.

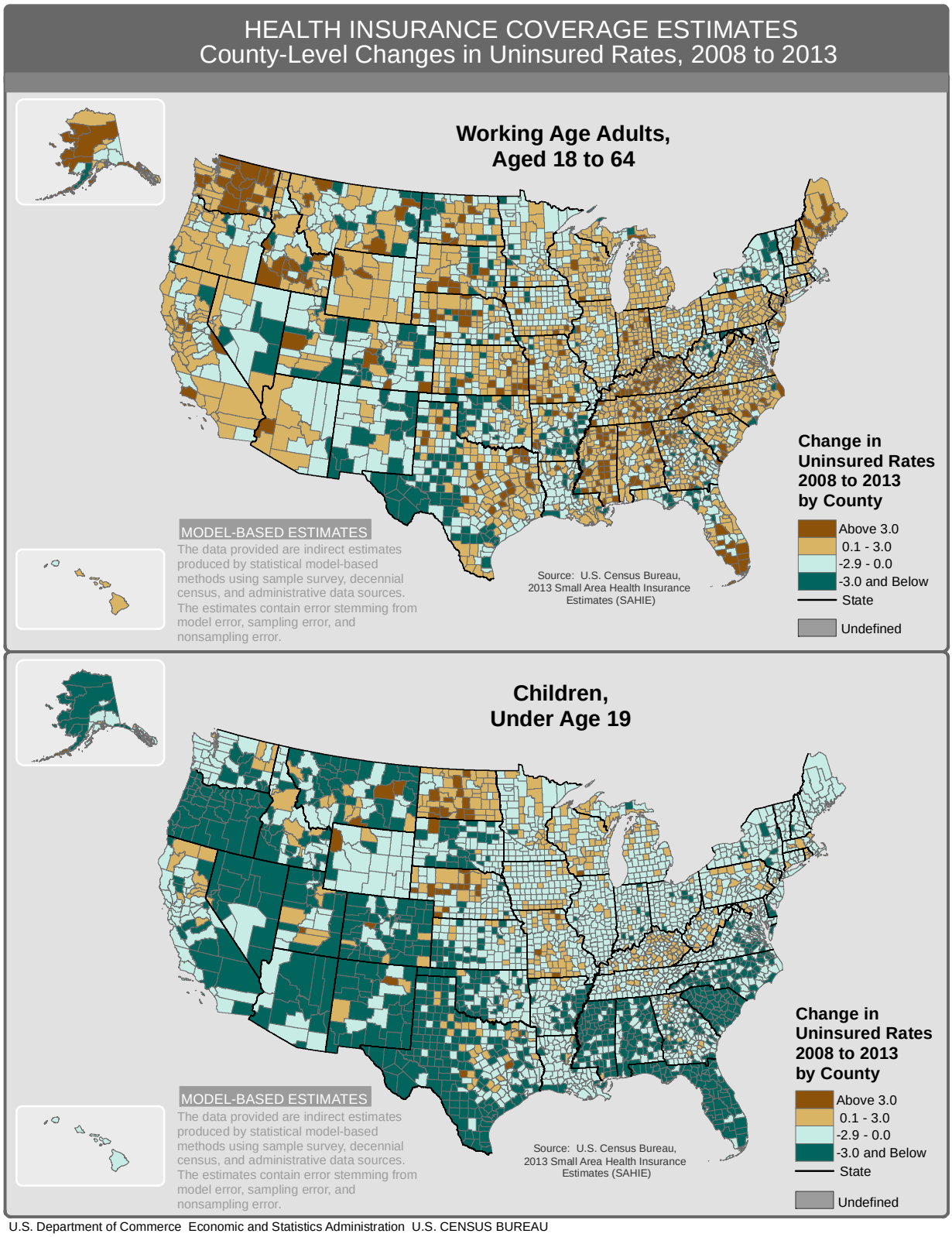
What are the sources of statistical uncertainty?

All data shown are estimates containing uncertainty. Sources of uncertainty include model error, sampling error, and non-sampling error. For more information, please refer to link below:
http://www.census.gov/did/www/sahie/methods/source.html

Unless specifically noted in the text, apparent differences among the estimates may not be statistically significant. All direct comparisons cited in the text have been statistically tested at the 90 percent significance level.

[7] The year 2008 was the first year the question on health insurance coverage was added to the American Community Survey (ACS). The year 2008 also coincided within the period of the most recent recession. The National Bureau of Economic Research (NBER) is the official source for recession timing. The NBER pinpoints December 2007 and June 2009 as the beginning and end of the most recent recession. Please refer to www.nber.org for more information.

Figure 5. Five-Year Change in County-Level Uninsured Rates by Selected Age Group, 2008 to 2013



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Acknowledgements

The Small Area Estimates Branch (SAEB) of the Census Bureau prepared this document.

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/ sehsd.sahie@census.gov.

For questions related to health insurance, income and poverty definitions, the American Community Survey, or other Census Bureau surveys, contact the Census Bureau call center at 1-800-923-8282 (toll free) or visit ask.census.gov for further information.

Suggested Citation

The Census Bureau, Small Area Health Insurance Estimates (SAHIE): 2013 Highlights, U.S. Government Printing Office, Washington, DC, 2015.

A related program to SAHIE is the Small Area Income and Poverty Estimates (SAIPE) program, which produces annual model-based estimates on income and poverty for all counties and states. Information about the SAIPE program is available at: http://www.census.gov/did/www/saipe/index.html.

Why are the Small Area Health Insurance Estimates Important?

This program is partially funded by the Centers for Disease Control and Prevention's (CDC), National Breast and Cervical Cancer Early Detection Program (NBCCEDP). 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. SAHIE data are used as an important consideration when planning and evaluating public policy on health insurance programs, the impact of common illnesses or serious health conditions for states and the 3,142 counties in the United States.

For additional detailed information on the use of SAHIE estimates, please visit the FAQ webpage at: http://www.census.gov/did/www/sahie/about/faq.html or

http://www.census.gov/did/www/sahie/about/index.html

The Census Bureau SAHIE main webpage is located at: http://www.census.gov/did/www/sahie/index.html

Additional information is available by data release year from 2000 to 2013. For example, annual highlights brief (2010-2013 only), datasets, maps, and interactive tables can be downloaded from the SAHIE webpage at: http://www.census.gov/did/www/sahie/data/index.html or

http://www.census.gov/did/www/sahie/data/highlights/index.html

The online SAHIE Interactive Data Tool provides detailed customized data tables of the insured and uninsured populations by selected year(s) from 2006-2013, geography (state and county), income-to-poverty ratio categories, selected age groups (under age 65, aged 18-64, aged 40-64, aged 50-64, and under age 19), sex, and race/ethnicity (state only). These custom tables can be downloaded to a PDF or CSV file. The interactive data tool can be accessed online at: http://www.census.gov/did/www/sahie/data/index.html

Starting in 2008, 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).More information is available at http://www.census.gov/did/www/sahie/methods/20082011/index.html

For more information on the ACS, please refer to link below: http://www.census.gov/acs/www/