Evaluating Metro and Non-Metro Differences in Uninsured Populations

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Abstract

With the implementation of new healthcare legislation, many states will be targeting uninsured populations that may be eligible to participate in Medicaid expansion or the Health Insurance Exchanges. Past research suggest that the uninsured population is more likely to live in non-metro areas. However, that research did not account for the income levels that will be affected by the new health care changes. This paper investigates the differences in the uninsured population in metro and non-metro counties within states while controlling for income and age. The analysis uses the 2011 county-level health insurance estimates released by the U.S. Census Bureau's Small Area Health Insurance Estimates (SAHIE) program. When controlling for income, we find that where there is a statistically significant difference between a state's non-metro and metro uninsured rates, metro areas are more likely to have higher uninsured rates.

Key Words: Uninsured, Metro Areas, Small Area Health Insurance Estimates, Health Insurance

Introduction

Ongoing efforts for health reform have resulted in rising interest in the location, economic status, and demographic composition of the uninsured population. With the implementation of new health care legislation, the primary responsibility for enrolling uninsured populations in expanded Medicaid programs and health insurance exchanges falls upon the states. In order to locate the uninsured, state health administrators will need to recognize the metropolitan and non-metropolitan differences in health insurance coverage patterns within their state.

Prior research has found that residents outside of metropolitan areas are more likely to lack health insurance coverage. These studies focused on national surveys to give an overall generalization of how health insurance coverage differs between metro and non-metro areas.¹⁻¹¹ These studies fail to recognize that state economic and health care policies drive health insurance coverage rates and are not uniform across states.^{12, 13} Poverty is largely associated with a lack of health insurance.⁸ Nationally, poverty rates are higher outside of metropolitan areas. In 2012, the nation's poverty rate outside metropolitan areas was 18.0 percent compared to 15.5 percent in metro areas.¹⁴ However, some states differ from the nation's pattern. For example, in New York 15.9 percent of the population in metro areas lived in poverty compared to 14.4 percent outside of metro areas.¹⁴ Also, states that have generous public programs and a large amount of firms

providing employer-sponsored health insurance tend to have lower uninsured rates. ¹² The demographic composition of metro and non-metro areas also varies across states. For example, according to the 2010 Census, 87.8 percent of Texas's population lived in a metropolitan area compared to only 58.4 percent in Maine.¹⁵ National patterns in metro and non-metro health insurance coverage may not necessarily be reflected in all states.

Studies reveal that state-level differences between metro and non-metro health insurance coverage are not uniform across states. Two state-level studies, one looking at coverage rates in Minnesota and the other in Kentucky, found that there is no statistically significant difference in insurance coverage rates between metro and non-metro areas.^{16, 17} Studies evaluating differences across multiple states found that some states do have differences in coverage rates inside and outside metropolitan areas.^{8,18} Only one known study looked at all states, using the pooled data from 2001-2003 Current Population Survey(CPS), and found that 26 states had statistically significant different coverage rates between metro and non-metro areas, 4 states had higher coverage outside metro areas and 22 had higher rates inside metro areas.¹⁹

The purpose of this paper is to evaluate the current differences in state health insurance coverage inside and outside of metropolitan areas. Since new legislation has mandated specific income-levels and age groups for expanded Medicaid and Health Insurance Exchange subsidy eligibility, the analysis will assess coverage differences among areas for eligible populations. Therefore, we pose the following research questions: 1) Within each state, do metro and non-metro counties differ statistically in health insurance coverage? 2) Do these results vary by age and income groups? 3) How do county-level uninsured rates vary within metro and non-metro counties?

Data

To analyze the difference in health insurance coverage rates inside and outside metro areas, we use the U.S. Census Bureau's 2011 Small Area Health Insurance Estimates (SAHIE). SAHIE provides model-based estimates for the number of people with and without health insurance coverage for every county in the United States by specific age, sex, and income groups. The SAHIE model adds strength to the American Community Survey's (ACS) health insurance coverage estimates by including the following inputs into its model: demographic population estimates, aggregated federal tax returns, participation records for the Supplemental Nutrition

Assistance Program, County Business Patterns, Medicaid and Children's Health Insurance Program participation records and Census 2010.²⁰ SAHIE is the only single year source for health insurance estimates for all counties in the United States. We chose SAHIE as opposed to the ACS and CPS, because it allows us to decompose metro and non-metro areas to evaluate county-level differences in coverage rates.

Analytical Sample

To classify counties as metro and non-metro we used the Office of Management and Budget's definition of metro statistical area (MSA) as a core urban area population of 50,000 or more. ²³ A county within an MSA is defined as a metro county (N=1,099). All other counties are non-metro (N=2,042). We define income groups by the income-to-poverty ratio (IPR), the ratio of family income to the appropriate federal poverty threshold. Estimates utilized in this research include three income groups: at or below 138 percent poverty, at or below 400 percent poverty, and all incomes. The 0-138 percent and 0-400 percent IPR groups are included in our analysis because of their relevance to the Affordable Care Act. We tested the difference for the population of non-elderly adults (0-64), children (0-18), and working age adults (18-64). We chose to analyze these age groups because children and working age adults have different health profiles, needs, and insurance accessibility. We exclude the population age 65 and older, because Medicare covers an estimated 98 percent of this population.

Analysis

To test if health insurance coverage differs between metro and non-metro areas for a given state, we aggregated the uninsured population estimates for the given age and IPR group for metro (or non-metro) counties to form the numerator of the aggregate rate. Then, we aggregated the estimates for the total number within the given age and IPR groups of metro (or non-metro) counties to form the denominator of the aggregate rate. The aggregate uninsured rate was then calculated as the aggregate numerator divided by the aggregate denominator. Standard errors for these aggregates were calculated using a Taylor Series approximation assuming zero correlation between counties. T-tests at the 90 percent significant level were used to identify states in which

uninsured rates were significantly different for metro versus non-metro areas. Two states, New Jersey and Rhode Island, and the District of Columbia do not contain non-metro counties and therefore were excluded from the analysis.

Results

When analyzing the differences in health insurance coverage across states for all income levels, we found that in most states the uninsured rate was higher outside of metropolitan areas. Figure 1 presents the number of states that had statistically significant different coverage rates by income and age groups. For the population under age 65, over 46 states had statistically significant differences in uninsured rates inside and outside of metropolitan areas. Of those states, 41 had higher uninsured rates in non-metro areas. Only 5 states saw higher rates in metropolitan areas; these were mostly large states with large core cities. Only two states, Florida and Maryland, did not have statistically different uninsured rates between areas. When looking at the working age population the results were similar. However when looking at the population under age 19, there were fewer states with statistical differences between areas, but there were still 36 states where uninsured rates by age for all incomes. These results are comparable to prior studies that found that health insurance coverage was lower outside of metropolitan areas.¹⁻¹¹

When looking at the uninsured population by specific income groups, results were not consistent with all income levels. When looking at the population living at or below 138 percent poverty, the population that may qualify for Medicaid under new health care laws, the number of states that had statistically different health insurance coverage rates between metro and non-metro areas decreased. However, in the 29 states where there were statistically significant differences, 23 states saw higher uninsured rates in metropolitan areas (shown in Table 2 and Figure 3). The same trend appeared for the working-age adults and children. Again as seen with all income levels, for the population under age 19, the results showed that fewer states saw statistically significant differences. When compared to all income levels, the population living at or below 400 percent poverty also saw a decreasing number of statistically significant differences between metro and non-metro insurance coverage rates, but fewer of those with differences had uninsured rates higher in non-metropolitan areas (shown in Figure 3).

Figure 2 shows the percentage differences between state uninsured rates inside and outside metropolitan areas for the population under age 65. Massachusetts and Hawaii had the largest difference in uninsured rates between metro and non-metro areas, with the uninsured rates 42 and 33 percent higher in non-metro areas, respectively. However, both states have less than 3 counties outside of metro areas and very low uninsured rates relative to other states. Alaska, Delaware, and Colorado had uninsured rates over 20 percent higher outside of metropolitan areas. Illinois' uninsured rate was 17.6 percent higher inside metro areas. In states where the uninsured rate was higher in non-metropolitan areas the percentage differences were higher for children compared to the working-age adults (not shown).

Figure 3 shows the percentage difference between state uninsured rates inside and outside metropolitan areas for the population under age 65 living at or below 138 percent poverty. Among the six states with higher uninsured rates in non-metro areas, Massachusetts and Hawaii had the largest percentage difference between areas. Among the 23 states where metropolitan uninsured rates were higher, 10 states had a rate that was at least 10 percent higher than non-metro areas. Illinois had the largest difference with an uninsured rate that was 25 percent higher. Arizona, California, and Florida followed with uninsured rates that were 19.3, 13.4, and 13.1 percent higher than low-income populations in non-metro areas, respectively. Differences were similar for other age groups.



Figure 1: Number of states with statistically significant different uninsured rates between metro and non-metro areas by income and age

Note: If a state is color-coded metro or non-metro area, the uninsured rate is higher in that area. The uninsured rate is significantly higher based on a 90 percent confidence-interval.

Source: U.S. Census Bureau's 2011 Small Area Health Insurance Estimates (SAHIE)



Figure 2: Percentage difference between state metro and non-metro uninsured rates, population under age 65, all income levels

6 Note: If a state is color-coded metro or non-metro area, the uninsured rate is higher in that area. The uninsured rate is statistically higher based on a 90 percent confidence-interval. This graph displays the percentage difference between the metro and non-metro rate. A negative value indicates a higher uninsured rate in a metro area. Percent difference= (non-metro rate- metro rate) / (average of two rates) *100). Source: U.S. Census Bureau's 2011 Small Area Health Insurance Estimates (SAHIE)



Figure 3: Percentage difference between state metro and non-metro uninsured rates, population under age 65, living at or below 138 percent poverty

Note: If a state is color-coded metro or non-metro area, the uninsured rate is higher in that area. The uninsured rate is statistically higher based on a 90 percent confidence-interval. This graph displays the percentage difference between the metro and non-metro rate. A negative value indicates a higher uninsured rate in a metro area. Percent difference= (non-metro rate- metro rate) / (average of two rates) *100). Source: U.S. Census Bureau's 2011 Small Area Health Insurance Estimates (SAHIE)

Figures 4 and 5 are maps displaying county and state level uninsured rates for the population under 65, all incomes. The maps illustrate the range in rates at the county-level. For the population under 65, Texas had the largest range between uninsured rates among metropolitan counties at 23 percentage points. Carson County in the Amarillo MSA had the lowest uninsured rate 15.4 percent, where Hidalgo County, a border county, had the highest with 38.9 percent of its population uninsured. New Mexico had the largest range in uninsured rates among counties outside of metropolitan areas, 27 percentage points. Los Alamos County had a low uninsured rate of 4.7 percent where McKinley County had the highest rate at 31.8 percent. When analyzing the range in county level uninsured rates for the population living at or below 400 percent poverty, the ranges were very similar to all income levels. However, the range in county-level uninsured rates was much larger for lowest income group in both metro and nonmetro areas (Figure 6 and 7). For the population under 65 living at or below 138 percent poverty, Georgia had the largest range of uninsured rates among metropolitan counties, 35 percentage points. Alaska had the largest range of non-metro counties with a range of 40.5 percentage points. The range in county-level uninsured rates among metro and non-metro areas was smaller for the population under age 19 for all three income groups.

Discussion

This analysis agrees with other studies that found that children and adults living outside metropolitan areas are more likely to lack health insurance across states. ¹⁻¹¹ However, when evaluating specific income groups, we found that there were fewer states with significant differences between areas, and where there were differences, the higher uninsured rates were in metropolitan areas.

Lower coverage rates among the population under 65 living outside metropolitan areas may be the result of economic factors. For example, non-metropolitan areas tend to have higher rates of poverty and low income.^{8,11} Past studies have found that income and employment status are strong predictors of having health insurance.^{8,21} One study found that the type of employment accounts for 26 percent of the explained difference between high and low uninsured communities.¹³ Non-metro areas tend to have smaller firms, high levels of seasonal employment, and more individuals self-employed; hence, lower rates of employer-provided private insurance. Small firms tend to have higher premium costs for employer-based insurance, causing firms to forego providing insurance or sharing the costs with their employees who may not be able to afford the high premiums. ^{1, 21} The non-metro population is also more likely to have longer spells without health insurance coverage.²¹ This could be due to seasonal employment in farming, logging and fishing industries.^{1, 13, 21} Prior research found that non-metro areas have higher rates of self-purchased health insurance coverage.^{1, 21} However, many individuals may not be able to afford the higher costs associated with self-purchased health insurance leaving them uninsured. Also, non-metropolitan areas have not been as exposed to unionized labor organization like metro areas where industry developed. Therefore, these areas did not develop a "culture of offering" where employment benefits, like health insurance, are expected by employees.¹³

When looking specifically at lower income populations, fewer states had significantly different uninsured rates between metro and non-metro areas. However, where there were differences, the higher uninsured rate was more likely to be in a metropolitan area. With income and employment status being a strong predictor of health insurance coverage, it makes sense that there were fewer statistical differences between states when analyzing low-income populations.¹³ In these states, if you are poor, you are likely to be uninsured no matter where you live. When looking at the population that may be eligible for Medicaid expansion, almost half the states had a statistically higher uninsured rate in metro areas. The higher uninsured rates may be due to the ethnic and racial composition and employee characteristics of low-income populations within metropolitan counties.^{8, 13, 21} A past study found that 33 percent of the difference between high and low insurance areas is a result of ethnic and racial composition and socioeconomic characteristics¹³. Minority groups are more likely to be in poverty than white non-Hispanics.²² For example, Illinois, New York, Connecticut, and Florida had higher uninsured rates for both the total and low-income population. These states have high low-income minority populations inside their metropolitan areas. For instance, Los Angeles County, CA, Miami-Dade County, Fl, and Bronx County, NY all had populations that were over 50 percent Hispanic or Latino.²³ Across states Hispanics and Latinos have higher uninsured rates when compared to non-Hispanic black and white populations.²⁴ Low-wage jobs in metropolitan areas tend to be in the service and retail sectors that are less likely to provide employer-sponsored insurance. These low wage earners are not likely to purchase expensive private-health insurance and may not qualify for Medicaid. Past studies found that the "working poor" have high uninsured rates and their

children are twice as likely to lack health insurance compared to workers with higher wages ²⁵. Other studies have found that metropolitan populations are less likely to enroll in Medicaid programs than populations in non-metropolitan areas.^{1, 8, 21}This also may account for the higher uninsured rates among the low-income population, but is more likely attributed to the higher poverty rates outside of metro areas.⁸

Within state metro and non-metro areas, county-level uninsured rates vary. The Small Area Health Insurance Estimates allowed for us to decompose state metro and non-metro areas and evaluate how uninsured rates vary among counties.²⁰ For example, in 2011, outside of metropolitan areas in New Mexico, Los Alamos County had an uninsured rate 27 percentage points lower than McKinley County. Los Alamos County is a small research community where McKinley County is a large Native American community.²³ These counties differ in employment and racial/ethnic characteristics. It is essential that we understand how county-level uninsured rates differ among counties within metro and non-metro areas. With implementation of health care laws, there will be outreach efforts to target and enroll the uninsured. Knowing that communities are not homogenous is important for enrollment outreach to be as efficient as possible.

Further research should analyze additional sub-populations who are prone to be uninsured. This study was limited to specific demographic groups provided by the data. Future research should look to see if there is a difference in minority uninsured rates between metro and non-metro areas within states. Analysis controlling for factors like race and employee characteristics may be able to provide more insight on why health insurance coverage differs between metro and non-metro areas.

With implementation of new health care laws, more questions will arise about the geographic location of the uninsured. Differences in metro and non-metro health insurance coverage may change as the United States' uninsured obtain health insurance through the Health Insurance Exchanges and expanded Medicaid. If healthcare reform effectively provides health insurance to low-income and health insurance subsidies to the working poor, we could potentially see few differences between state metro and non-metro areas.



Figure 4. States with statistically different uninsured rates between metro and non-metro areas, population under age 65





Figure 5. County-level uninsured by metro and non-metro areas, population under age 65

11



Source: U.S. Census Bureau's 2011 Small Area Health Insurance Estimates (SAHIE)





Figure 7. County-level uninsured rates by metro and non-metro areas, population under age 65, living at or below 138 percent poverty



Table 1.	State aggregate	uninsured rat	es among metr	o and non-metr	o counties by ag	ge group, all income	levels
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	Number of Counties		Percent Uninsured 0-64		Percent Uninsured 18-64		Percent Uninsured Under 19	
	Non-		Non-		Non-		Non-	
State	metro	Metro	metro	Metro	metro	Metro	metro	Metro
United States	2042	1099	18.0*	17.2	21.9*	21	8.4*	7.8
Alabama	39	28	18.1*	16.1	22.8*	20.2	6.1*	5.4
Alaska	26	3	26.3*	19.5	31.4*	23.3	14 2*	10.3
Arizona	8	7	20.5	19.5	23.9*	22.5	14.7*	13.0
Arkansas	55	20	20.7	19.5	26.9*	24.9	65	64
California	21	37	19.5	20.2*	23.1	25.0*	9.5*	8.6
Colorado	47	17	21.4*	16.3	23.1	19.2	13.9*	9.4
Connecticut	2	6	9 1	10.5	11.3	12.2	3.0	3.2
Delaware	1	2).1 14.0*	10.2	16.9*	12.8	5.0 6.0*	4 3
Florida	28	39	24.6	24.8	28.9	29.3	13.0	12.4
Georgia	20	70	24.0	24.8	28.9	29.5	10.7*	12.4
Hawaji	3	1	10.2*	21. 4 73	12.1*	20.5 8 7	5.1*	3 5
Idaho	37	12	21.8*	17.4	12.1 26.1*	0.7	J.1 12 /*	5.5 8.6
Illinois	52	12	12.7	17.4	20.1	21.0	12.4	0.0 1 1*
Indiana	05	37	12.7	15.1	10.1	19.3	5.7 0.2*	4.1
Indiana	40	40	1/./*	10.5	21.3 ⁺ 12.9*	19.7	9.3	8.0 4.1
Iowa	/9	20	11.2*	9.9	13.8*	12.2	4.9*	4.1
Kansas	85	20	10.3*	15.0	19.9*	10.8	7.9*	0.1
Kentucky	85	35	18.2*	10.1	22.5*	19.9	6.8*	6.3
Louisiana	35	29	21.0*	19.9	27.3*	25.3	6.4	6.2
Maine	11	5	14.1*	12.1	16./*	14.4	6.1*	5.1
Maryland	7	17	12.3	11.9	14.9	14.6	5.5	4.9
Massachusetts	2	12	7.5*	4.9	8.8*	5.9	3.5*	1.8
Michigan	57	26	14.7*	13.4	18.2*	17.0	5.1**	4.2
Minnesota	64	23	11.3*	9.8	12.9*	11.3	7.7*	6.0
Mississippi	65	17	21.4*	19.7	26.9*	24.5	8.8	8.5
Missouri	79	36	18.6*	15.2	22.6*	18.5	8.6*	6.7
Montana	52	4	22.3*	20.3	25.8*	24.0	13.3*	10.2
Nebraska	84	9	14.6*	12.4	17.9*	15.4	7.1*	5.3
Nevada	13	4	22.0	24.0*	24.2	27.3*	17.4	16.1
New Hampshire	7	3	14.1*	11.5	17.4*	14.4	4.2*	3.6
New Jersey	0	21	n/a	14.9	n/a	18.5	n/a*	5.6
New Mexico	26	7	24.1	22.5	30.5*	27.7	10.0	9.9
New York	26	36	11.8	13.3*	14.4	16.4*	4.9*	4.4
North Carolina	60	40	20.2*	18.1	24.9*	22.3	8.2*	7.8
North Dakota	49	4	12.5*	10.7	14.6*	12.6	7.5*	5.2
Ohio	48	40	14.9*	13.6	18.1*	16.7	7.1*	5.9
Oklahoma	60	17	23.4*	21.0	28.1*	25.3	12.5*	10.8
Oregon	25	11	19.7*	17.7	23.8*	21.5	8.9**	7.3
Pennsylvania	35	32	13.3*	11.8	15.7*	14.1	6.8*	5.4
Rhode Island	0	5	n/a	12.8	n/a	15.7	n./a*	4.1
South Carolina	25	21	20.6*	19.1	25.1*	23.1	9.2	9.0
South Dakota	59	7	15.0*	12.6	18.5*	15.7	7.1*	5.3
Tennessee	57	38	17.9*	16.8	22.4*	20.9	6.2	6.1
Texas	177	77	27.4*	25.5	32.8*	31.1	15.6*	13.7
Utah	19	10	19.2*	16.3	22.7*	19.4	13.3*	10.6
Vermont	11	3	8.3*	7.3	10.1*	8.9	2.9*	2.4
Virginia	54	80	17.1*	13.8	20.5*	16.8	7.5*	6.2
Washington	22	17	19.2*	15.6	23.4*	19.1	7.9*	6.3
West Virginia	34	21	19.2*	17.2	23.9*	21.4	5.2	4.8
Wisconsin	47	25	11.0*	10.1	13.1*	12.4	5.7*	4.0
Wyoming	21	2	18.1*	15.6	21.6*	19.0	9.1*	6.9

* Indicates the difference between metro and non-metro areas is significant at the 90 percent confidence level; asterisk (*) is placed next to the higher value. Source: U.S. Census Bureau's 2011 Small Area Health Insurance Estimates (SAHIE)

	Number of Counties		Percent Uninsured 0-64		Percent Uninsured 18-64		Percent Uninsured Under 19	
	Non-		Non-		Non-		Non-	
State	metro	Metro	metro	Metro	metro	Metro	metro	Metro
United States	2042	1099	28.5	30.4*	39.2	41.4*	10.3	11.5*
Alabama	39	28	28.2	28.9	40.6	41.1	6.9	7.3
Alaska	26	3	36.7*	34.6	51.0*	46.9	14.1	15.2
Arizona	8	7	25.8	31.3*	33.5	39.7*	15.3	18.4*
Arkansas	55	20	30.7	32.2*	44.7	46.8*	7.4	8.4*
California	21	37	28.1	32.0*	36.1	43.9*	12.1	11.9
Colorado	47	17	34.5*	31.2	43.1*	40.0	19.2*	15.6
Connecticut	2	6	17.9	20.4*	24.1	28.3*	5.2	5.8
Delaware	1	2	21.6	19.4	30.7*	26.8	7.3	6.4
Florida	28	39	34.5	39.0*	46.4	50.9*	13.9	16.3*
Georgia	89	70	33.6	37.4*	46.0	51.0*	12.9	15.3*
Hawaii	3	1	17.6*	13.7	24.0*	18.6	6.3*	4.7
Idaho	32	12	32.9*	30.8	43.0	42.5	16.4*	12.8
Illinois	65	37	21.3	27.4*	30.0	40.4*	4.8	5.8*
Indiana	46	46	30.1	30.1	42.2	41.2	11.5	11.4
Iowa	79	20	21.4	20.7	30.1*	27.7	71	7.2
Kansas	85	20	28.4	28.9	39.9	39.9	10.3	10.5
Kentucky	85	35	28.0	20.9	38.7	12 Q*	77	9.4*
Louisiana	35	29	20.0	31.4*	13 5	45.2 45.2*	68	7. 4 7.8*
Maine	11	5	20.4	20.7	27.0		7.0	7.0
Maryland	7	17	20.0	20.7	27.0	20.7	7.0	7.5 8 1
Massachusatta	2	17	21.1 14.2*	0.3	29.1 16.0*	12.0	7.5	0.1 3 2
Michigan	2 57	12	24.1	9.5 22.6	22.1	12.1	7.0* 6.7*	5.2
Minnesoto	51	20	24.1 19.6	23.0	22.7	33.2 25.0*	10.2	0.2
Minesota	04 65	25 17	18.0	20.7*	25.7	23.9* 47.0*	10.5	10.9
Missouri	03	17	30.2 28.2	20.1*	43.2	47.0	9.5	10.2
Montono	79 50	30	20.2	50.1* 26.6	30.0 47.2	41.4*	10.1	10.5
Niomana	32 94	4	57.5	30.0 26.7	47.2	40.0	10.9*	15.5
Neuraska	04 12	9	20.0	20.7	57.0	50.7	10.1	9.5
Nevada	15	4	38.8	40.0	47.5	50.0* 29.0	25.1	22.9
New Hampshire	/	3 21	20.8	28.0	30.2	38.2 40.9*	0.3	0.9
New Jersey		21	n/a	29.5	n/a	40.8*	n/a	9.9
New Mexico	20		33.1	35.0* 20.0*	48.1	48.9	11.1	12.0**
New York	26	36	18.0	20.2*	24.5	27.7*	6.6	6.2
North Carolina	60	40	30.7	32.9*	43.2	45.3*	9.4	11.4*
North Dakota	49	4	24.2	23.0	32.0*	27.7	11.0	10.8
Ohio	48	40	24.9	25.7*	34.3	35.3*	9.3	8.9
Oklahoma	60	1/	34.4	35.8*	46.9	49.5*	13.7	14.0
Oregon	25	11	28.8	31.3*	38.9	41.1*	10.3	10.9
Pennsylvania	35	32	23.1	22.5	30.4	29.8	9.7*	8.6
Rhode Island	0	5	0.0	23.7*	0.0	32.4	0.0	6.6
South Carolina	25	21	31.0	33.2*	43.0	45.1*	10.5	12.4*
South Dakota	59	7	26.0	27.7	35.8	38.2	9.8	10.0
Tennessee	57	38	27.5	29.5*	38.5	41.3	7.5	8.9*
Texas	177	77	38.7	40.2*	54.0	56.9*	17.1	16.8
Utah	19	10	31.2	31.4	41.0	40.7*	18.2	18.1
Vermont	11	3	13.0	13.9	17.3	17.6	4.0	4.4
Virginia	54	80	26.5	30.0*	36.0	40.2*	8.3	10.6*
Washington	22	17	29.5	30.3	40.2	41.4	9.2	9.4
West Virginia	34	21	29.3	29.5	40.3	39.8	5.9	6.5*
Wisconsin	47	25	20.3	20.1	26.9	27.5	8.9*	6.8
Wyoming	21	2	32.2*	27.9	41.7*	37.9	14.2*	10.6

Table 2. State aggregate uninsured rates among metro and non-metro counties by age group, population living at or below 138 percent poverty

* Indicates the difference between metro and non-metro areas is significant at the 90 percent confidence level; asterisk (*) is placed next to the higher value. Source: U.S. Census Bureau's 2011 Small Area Health Insurance Estimates (SAHIE)

References

- 1. Coburn A.F., Kilbreth E.H., Long S.H., Marquis M.S., Urban-rural differences in employer-based health insurance coverage of workers. Medical *Care Research and Review*. 1998, 55: 484-496.
- 2. Coburn A.F., McBride T.D., Ziller E.C., Patterns of health insurance coverage among rural and urban children. *Medical Care Research and Review*. 2002; 59:272-292.
- Frenzen P.D., Health insurance coverage in U.S. urban and rural areas. *Journal of Rural Health*. 1993; 9:204-214.
- 4. Glover S., Moore C.G., Samuels M.E., Probst J.C., Disparities in access to care among rural workingage adults. *Journal of Rural Health*. 2004;20: 193-205.
- 5. Hartley D., Quam L., Lurie N., Urban and rural differences in health insurance coverage and access to care. *Journal of Rural Health*. 1994; 10;98-108.
- 6. Lenardson J.D., Ziller E.C., Coburn A.F., Anderson N.J., *Profile of Rural Health Insurance Coverage* .(Chartbook). Portland, MN: Rural Health Research & Policy Centers; 2009.
- "No health insurance coverage among persons under age 65,by selected characteristics: United States, selected years 1984–2011," No. 124, p. 351. *Health, United State, 2012.* Hyattsville, MD: National Center for Health Statistics, 2012.
- 8. Ormond B.A., Zuckerman S, Lhila A. *Rural/ Urban Differences in America Are Not Uniform Across States*. (Series B, No. B-11). Washington, DC: The Urban Institute; 2000.
- 9. The Kaiser Commission on Medicaid and the Uninsured. *The Uninsured in Rural America*. Washington, DC. Kaiser Family Foundation. 2003.
- Ziller E.C., Coburn A.F., Loux S.L., Hoffman C., McBride T.D., *Health Insurance Coverage in Rural America*. (Chartbook). Washington, DC : The Kaiser Commission on Medicaid and the Uninsured; 2003.
- Ziller E.C., Coburn A.F., Anderson N.J., Loux S.L., Uninsured rural families. *Rural Health Policy*. 2008; 24(1):1-11.
- 12. Holahan J. Variations Among States in Health Insurance Coverage and Medical Expenditures: How Much is Too Much? Washington, D.C.: The Urban Institute; 2002.
- 13. Cunningham P.J., Ginsburg P.B. What accounts for differences in the uninsured across communities? *Inquiry*. 2001; 38: 6-12.
- "Percent of People Below Poverty Level in the Past 12 Months (For Whom Poverty is Determined)-2012 American Community Survey 1-Year Estimates," No. GCT1701, American Fact Finder. Available at <<u>http://www.factfinder2.census.gov</u>>.

- "Number and Percent of Population: 2010-State-Urban/Rural and Inside/Outside Metropolitan Area-2010 Census Summary File 1," No. GCT-PL, *American Fact Finder*. Available at http://www.factfinder2.census.gov>.
- Lu N., Samuels M.E., Kletke P.R., Whitler E.T., Rural-urban differences in health insurance coverage and patterns among working age adults in Kentucky. *The Journal of Rural Health*.2010;26: 129-138.
- 17. Call K.T., Ziegenfuss J., Health Insurance Coverage and Access to Care Among Rural and Urban Minnesotans. *Rural Minnesota Journal*. 2007; 2(1):11-35.
- Hu H.M., Duncan R.P., Radcliff T.A., Porter C.K., Hall A.G., Variations in health insurance coverage for rural and urban non-elderly residents of Florida, Indiana, and Kansas. *Journal of Rural Health*. 2006; 22 (2):128-136.
- 19. Holmes M., Ricketts T. *Rural-Urban Differences in the Rate of Health Insurance Coverage*. Chapel Hill, NC: North Carolina Rural Health Research and Policy Analysis Center; 2004.
- 20.11 Small Area Health Insurance Estimates. United States Census Bureau. Washington, DC: August, 2013.
- 21. Bolin J., Gamm L. Rural Healthy People 2010: A Companion Document to Healthy People 2010. Volume 1. College Station, TX: The Texas A&M University System Health Science Center, School of Rural Public Health, Southwest Rural Health Research Center, 2010.
- 22. United States Census Bureau. Poverty Rates for Selected Detailed Race and Hispanic Groups by State and Place: 2007-2011. Washington, DC: 2013.
- 23. *State and County Quick Facts*. United States Census Bureau. Washington, DC: 2013. Available at <<u>http://quickfacts.census.gov/qfd/states/</u>>.
- 24. United States Census Bureau. *Small Area Health Insurance Estimates 2011 Highlights*. Washington, DC: August, 2013.
- 25. Berk M.L., Wilensky G.R., Health insurance coverage of the working poor. *Social Science Medicine*. 1987; 25(11):1183-7.