

Metro/Non-Metro Differences in the Uninsured Populations within States

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Introduction

- Ongoing efforts for health reform have resulted in rising interest in the location, economic status, and demographic composition of the uninsured population.
- In 2010, 16.3% of Americans lived in non-metropolitan areas¹. Among the estimated 49.9 million uninsured Americans, nearly 15.6% live in non-metropolitan communities².
- Prior studies at the national level have shown that non-metro populations are less likely than metro populations to have health insurance coverage, which may severely limit their access to needed health services³⁻⁶.
- State level studies have been inconsistent about the metro/non-metro differences in health insurance coverage.
- As responsibility for the design of health policies shifts from the federal government to the states, it is becoming increasingly important for state health administrators to recognize the metro/non-metro differences in health care insurance coverage and patterns within their states.

Research Question

- Within each state, do metro and non-metro counties differ statistically in health insurance coverage?
- Do these results vary by age and income groups?

Data

U.S. Census Bureau's 2010 Small Area Health Insurance Estimates (SAHIE)

- Model-based estimates of the number of people with and without health insurance coverage for every county in the United States by age group, sex, and income group.
- The SAHIE program models health insurance coverage by combining data from the American Community Survey with 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 2000 and 2010.

Analytical Sample

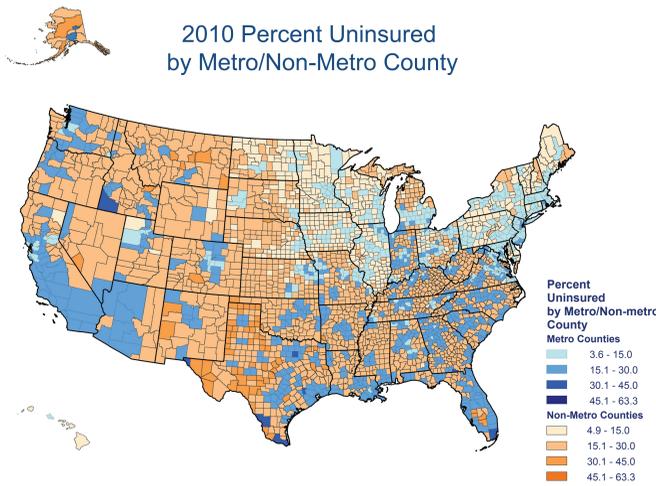
- Metro/Non-Metro Classification:** We used the Office of Management and Budget's definition of metro statistical area (MSA) as a core urban area population of 50,000 or more. A county within an MSA is defined as a metro county (N=1,099). All other counties are non-metro (N=2,042).
- IPR groups:** Income groups are defined by the income-to-poverty ratio (IPR), the ratio of family income to the appropriate federal poverty threshold. Estimates utilized in this research include two income groups: at or below 138 percent and all incomes. The 138 percent IPR group was included for analysis because of its relevance to the Affordable Care Act.
- Age groups:** Children and working age adults have different health profiles, needs and insurance availability. Thus we tested the difference first with the under age 65 population, then children (0-18) and working age adults (18-64) separately.

Data Analysis

For the test of metro vs. non-metro differences for a given state, we aggregated the uninsured population estimates of metro (or non-metro) counties to form the numerator of the aggregate rate. Then, we aggregated the estimates for the total number within the stated IPR of metro (or non-metro) counties to form the denominator of the aggregate rate. Standard errors for these aggregates are calculated assuming zero correlation between counties. The aggregate uninsured rates is then calculated as the aggregate numerator divided by the denominator, and the standard error calculated using a Taylor approximation. T-tests were used to test the difference between aggregate uninsured rates for metro and non-metro counties of the state at the 90% significance level. Two states—New Jersey and Rhode Island—and the District of Columbia do not contain non-metro counties.

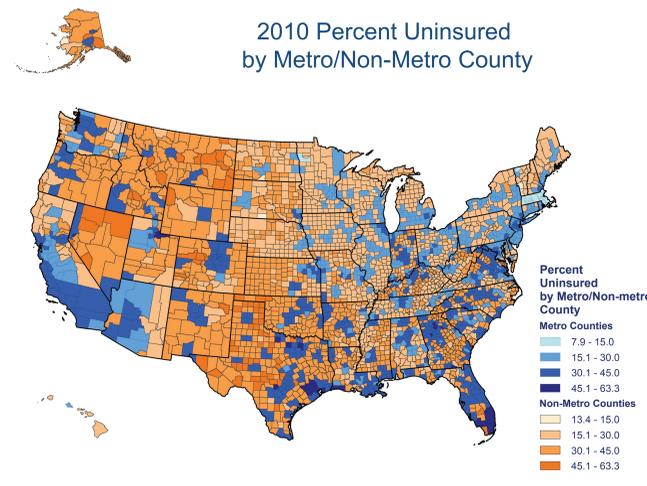
Population Under 65 All Income Levels

2010 Percent Uninsured by Metro/Non-Metro County

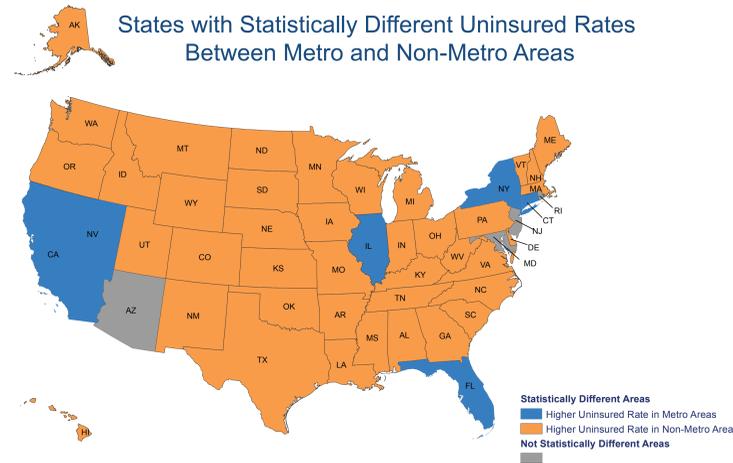


Population Under 65 Living at or Below 138% Poverty

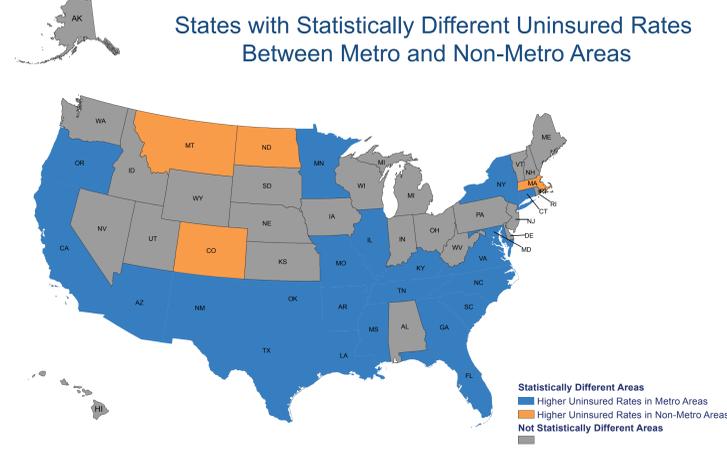
2010 Percent Uninsured by Metro/Non-Metro County



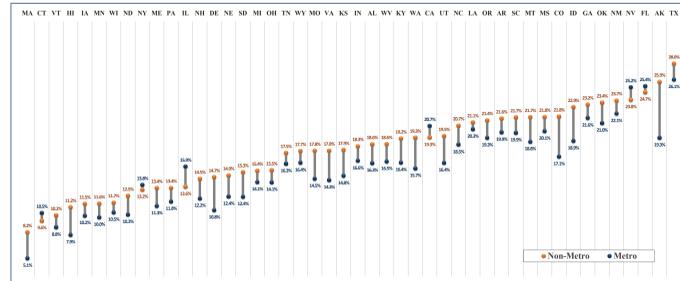
States with Statistically Different Uninsured Rates Between Metro and Non-Metro Areas



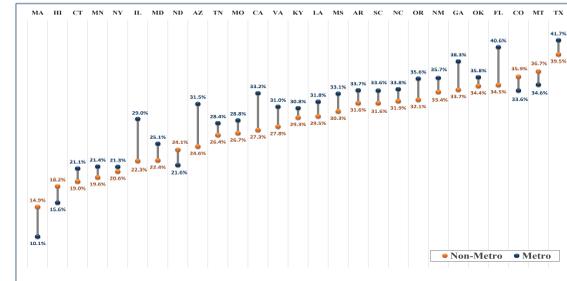
States with Statistically Different Uninsured Rates Between Metro and Non-Metro Areas



The Difference Between State Metro and Non-Metro Uninsured Rates States with Statistically Significant Differences



The Difference Between State Metro and Non-Metro Uninsured Rates States with Statistically Significant Differences



Results

- For individuals under 65 and working age adults at all income levels, we found that there is a statistically significant difference between metro and non-metro counties in 46 out of 48 states. Among those 46 states, 40 states had higher rates of uninsured in non-metro areas.
- We found that there is a statistically significant difference between metro and non-metro counties in 36 out of 48 states for children at all income levels. Among those 36 states, 35 states had higher rates of uninsured in non-metro areas.
- Among populations under 65 and living at or below 138% poverty, 27 out of 48 states saw metro and non-metro counties that were statistically different. Among those 27 states, 22 states had higher rates of uninsured in metro counties.
- Among working age adults living at or below 138% poverty, 29 out of 48 states saw metro and non-metro counties that were statistically different. Among those 29 states, 23 states had higher rates of uninsured in metro counties.
- Among children living at or below 138% poverty, 25 out of 48 states saw metro and non-metro counties that were statistically different. Among those 25 states, 16 states had higher rates of uninsured in metro counties.

Discussion

Our findings agree with previous studies that non-metro areas have higher uninsured rates. However, when the data is controlled for income-level, the percentage of states with a significant difference between metro and non-metro areas decreases and the uninsured are more likely to live in metro areas. We can infer from these results that income has more of an impact on health insurance status than metro/non-metro residence. An important aspect for the successful implementation of the Affordable Care Act will be an extensive outreach effort to provide health care coverage to the uninsured. States have been delegated this responsibility by the federal government, with some latitude. To increase the impact, individual states need a clear understanding of the location, economic status and demographics of their uninsured populations.

References

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Table 1: State Aggregate Percent Uninsured Among Metro and Non-metro Counties for all Incomes by Age Group

State	Number of Counties		Percent Uninsured 0-64		Percent Uninsured 18-64		Percent Uninsured Under 19	
	Non-metro	Metro	Non-metro	Metro	Non-metro	Metro	Non-metro	
United States	2042	1099	18.4	17.6	22.3	21.4	8.8	8.4
Alabama	38	28	18.0*	16.3	22.2*	20.4	6.1	6.1
Alaska	26	3	25.8*	19.3	30.4*	22.6	15.32*	12.0
Arizona	8	7	19.6*	19.3	23.1*	22.1	12.9	13.1
Arkansas	55	20	21.5*	19.9	27.3*	25.2	7.7	7.5
California	21	37	19.3	20.7*	23.0	25.4*	9.2	9.5
Colorado	47	17	21.8*	17.1	24.0*	20.0	14.0*	10.0
Connecticut	2	6	9.6*	10.0*	11.8	13.3*	3.2	3.2
Delaware	1	2	14.7*	13.8	17.4*	13.0	7.1	7.2
Florida	28	39	24.7	25.4*	28.9	29.8*	13.5	13.4
Georgia	89	70	23.2*	21.6	28.0*	26.5	10.5	10.3
Hawaii	3	1	11.2*	7.9	13.4*	9.6	5.2*	3.6
Idaho	32	12	22.0*	16.8	27.0*	23.2	13.0*	10.2
Illinois	65	37	13.6	15.9*	17.1	20.3*	4.3	5.0*
Indiana	46	46	16.3*	16.6	21.0*	19.9	11.0*	8.5
Iowa	79	20	11.5*	10.2	14.5*	12.8	4.6*	3.8
Kansas	85	20	17.9*	14.8	21.5*	18.1	9.7*	7.4
Kentucky	85	35	19.2*	16.4	23.8*	20.4	7.2*	6.3
Louisiana	35	29	21.1*	20.3	27.0*	25.9	6.5*	6.4
Maine	11	5	13.4*	11.3	16.2*	13.8	5.0*	4.1
Maryland	3	17	13.0*	12.7	15.0*	14.9	6.0*	5.3
Massachusetts	2	12	6.2*	6.1	9.7*	6.4	3.2*	1.7
Michigan	57	26	15.4*	14.1	19.4*	18.0	5.1*	4.4
Minnesota	64	23	11.0*	10.0	13.2*	11.5	7.0*	6.3
Mississippi	65	17	21.8*	20.1	27.3*	25.0	9.2*	8.9
Missouri	79	36	17.8*	14.5	21.8*	17.8	6.1*	6.1
Montana	52	4	21.7*	18.8	24.8*	22.0	14.0*	10.3
Nebraska	84	32	14.0*	11.8	18.3*	14.3	6.3*	5.1
Nevada	13	4	23.8	25.2*	26.1	28.5*	18.8	17.7
New Hampshire	7	7	14.5*	12.2	17.3*	14.9	5.9*	4.5
New Jersey	0	21	-	-	-	-	-	-
New Mexico	25	7	23.1*	22.1	28.4*	23.8	11.2	10.9
New York	28	38	13.2	13.8*	15.9	16.9*	6.2*	5.9
North Carolina	60	40	20.7*	18.5	25.0*	22.7	8.7*	8.2
North Dakota	49	4	12.50*	10.3	14.5*	12.4	7.6*	4.5
Ohio	48	40	15.5*	14.1	18.7*	17.3	7.9*	5.9
Oklahoma	60	17	23.4*	21.0	26.4*	25.8	11.8*	9.5
Oregon	25	11	21.4*	19.3	25.0*	23.2	10.4*	8.8
Pennsylvania	35	32	13.4*	11.8	16.1*	14.3	6.3*	5.2
Rhode Island	0	5	21.7*	13.8	-	16.7	10.0	6.0
South Carolina	25	21	21.7*	19.9	24.4*	23.8	10.4	9.8
South Dakota	59	7	15.3*	12.4	18.0*	15.0	9.3*	6.6
Tennessee	57	38	17.0*	16.3	22.0*	20.4	5.7	5.6
Texas	177	77	28.0*	25.1*	33.3*	31.4	16.8*	15.1
Utah	19	10	18.0*	16.4	22.3*	19.8	13.1*	10.6
Vermont	11	3	10.2*	8.6	12.8*	11.1	2.6	1.6
Virginia	54	80	17.8*	14.3	21.4*	17.3	8.0*	6.8
Washington	22	17	19.3*	15.7	23.0*	19.2	8.4*	6.5
West Virginia	34	21	18.0*	16.5	23.1*	20.5	5.3*	4.6
Wisconsin	47	25	11.7*	10.5	13.7*	12.8	6.7*	4.8
Wyoming	21	2	17.7*	16.4	21.2	20.3	9.0*	6.7

Table 2: State Aggregate Percent Uninsured Among Metro and Non-metro Counties, At or Below 138% Poverty by Age Group

State	Number of Counties		Percent Uninsured 0-64		Percent Uninsured 18-64		Percent Uninsured Under 19	
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United States	2042	1099	29.1	31.4	40.0	42.4	16.9	12.8
Alabama	38	28	25.0	28.6	41.3	41.7	6.3	6.9
Alaska	26	3	37.0	35.1	50.3*	45.9	15.6	17.8
Arizona	8	7	24.6	31.9*	32.9	40.0*	11.3	18.8*
Arkansas	55	20	31.9	33.7*	46.1	48.6*	8.7	10.1*
California	21	37	27.3	33.2*	35.4	45.1*	11.3	13.3*
Colorado	47	17	35.9*	33.6	44.5*	42.7	20.3*	17.6
Connecticut	2	6	19.9	21.1*	26.0	26.1*	6.2	6.6
Delaware	1	2	22.5	25.5	32.0*	31.2	6.1	7.4*
Florida	28	39	34.5	40.0*	45.9	52.2*	14.8	18.7*
Georgia	89	70	33.7	38.3*	46.9	52.2*	12.4	16.4*
Hawaii	3	1	18.2*	16.6	24.0*	20.9	7.1	5.4
Idaho	32	12	35.3	34.4	46.0	46.3	17.7	16.5
Illinois	65	37	22.3	29.0*	31.5	42.3*	5.4	7.3*
Indiana	46	46	31.0	35.5	42.3	41.3	14.0*	12.7
Iowa	79	20	23.0	22.4	32.0*	30.2	7.2	6.9
Kansas	85	20	30.7	31.2	41.8	41.9	15.8	13.8
Kentucky	85	35	29.3	30.8*	40.6	42.9*	8.2	9.4*
Louisiana	35	29	28.6	31.8*	44.1	46.4*	6.9	7.9*
Maine	11	5	20.0	19.5	28.9	25.7*	6.2	6.5
Maryland	7	17	22.4	25.1*	31.5	34.8*	7.7	8.2
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Michigan	57	26	25.1	24.8	35.1	35.0	6.4	6.3
Minnesota	64	23	19.6	21.4*	25.0	24.4*	11.2	12.4*
Mississippi	65	17	30.3	33.1*	43.4	47.1*	10.0	11.6*
Missouri	79	36	26.7	28.8*	37.2	39.8*	9.3	8.4
Montana	52	4	36.7*	34.6	46.0	43.3	20.0*	16.2
Nebraska	84	32	22.3	23.3	30.5	28.9	8.9	9.1
Nevada	13	4	41.5	43.1	50.7	52.5	28.6	25.9
New Hampshire	7	7	27.2	28.1	35.6	38.1	6.9	8.4
New Jersey	0	21	-	29.2	-	40.0	-	13.2
New Mexico	25	7	33.8*	35.7*	47.4	46.0	12.2	14.6
New York	28	38	20.6	21.3*	27.5	28.9*	8.8*	7.3
North Carolina	60	40	31.9	33.8*	44.8	46.3*	10.2	12.3*
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Ohio	48	40	25.3	25.9	34.9	36.0*	9.9*	8.5
Oklahoma	60	17	34.4	38.9*	47.5	50.9*	15.3	13.3
Oregon	25	11	32.1	35.8*	43.2	46.4*	12.4	13.8*
Pennsylvania	35	32	22.5	23.3	30.5	28.9	6.8	6.8
Rhode Island	0	5	31.6	25.8	-	34.3	-	9.6*
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