

Geographic Variation in Health Insurance Marketplaces:

Rural and Urban Trends in Enrollment, Firm Participation,
Premiums, and Cost Sharing in 2016

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Outline

- Background
 - Overview of key aspects of the ACA
 - What should a marketplace deliver?
 - What are some key issues for rural places?
- Data, Data Issues, and Methods
- Findings
 - Premiums – by Population Density, Competition, Medicaid Expansion
 - Deductibles/OOP Maximum Values
 - Enrollment Rates by Region, by Rural and Urban counties
- Conclusions and Policy Implications

Key Questions

- In the Health Insurance Marketplaces (HIMs) is there variation in premiums and plan choice?
 - Variation is allowed by age, tobacco use, and **geographic Rating Area**. Given risk-adjustment, if everything works well, geographic variation should only reflect differences in underlying prices charged for providing care in different places.
 - But this assumes a high degree of **competition** among insurance companies (and providers / hospital systems) that will keep the premiums in close alignment with provider prices and will keep provider prices in line with actual, true costs of care.
 - Two key questions: (1) Is there enough competition to achieve this? (2) Are the actual, true costs of care similar in urban and rural places?

Key Questions

- What changes have we seen in the marketplaces in 2016 relative to 2015?
 - In 2015, we saw that HIMs were doing reasonably well in rural areas compared to 2014. There was no uniform “rural story,” but rather pockets in which enrollment was weak and/or premium growth was high, which were contrasted with many rural places with strong enrollment and low premium growth.
 - Does this continue to be true?
 - Do low premiums in rural areas, when they are found, correspond to the same coverage levels and options that urban areas typically have?
 - What policies are associated with robust performance in rural areas?

Data

- We compiled a large database on Marketplaces
 - All rating areas in the U.S. (n=499 in 2016)
 - both Federally-facilitated Marketplaces (FFMs) and State-Based Marketplaces (SBMs)
 - premium data are before subsidies
 - Data for all plans, all metal types and for **2014-2016**
 - Linked to other data at the county and RA level
- Enrollment data at the county level on FFMs only from ASPE, 2014-2016

The Importance of Actuarial Value

Metal Levels and Actuarial Value (AV): the expected percentage of costs that will be covered by the plan for the *average* consumer

- **Bronze** (60% AV); **Silver** (70% AV); **Gold** (80% AV); **Platinum** (90% AV)
- Firms submit bids with costs that vary around these levels by 4 percentage points (+/- 2%)
- There is a single underlying “sample” population used regardless of location of the plan or expected population; 2010 claims data (trended forward) provide utilization and cost estimates based upon the parameters of the plan.
- Key point: if we know metal level, and we know premium, we roughly know expected AV and expected OOP costs and Loss Ratio

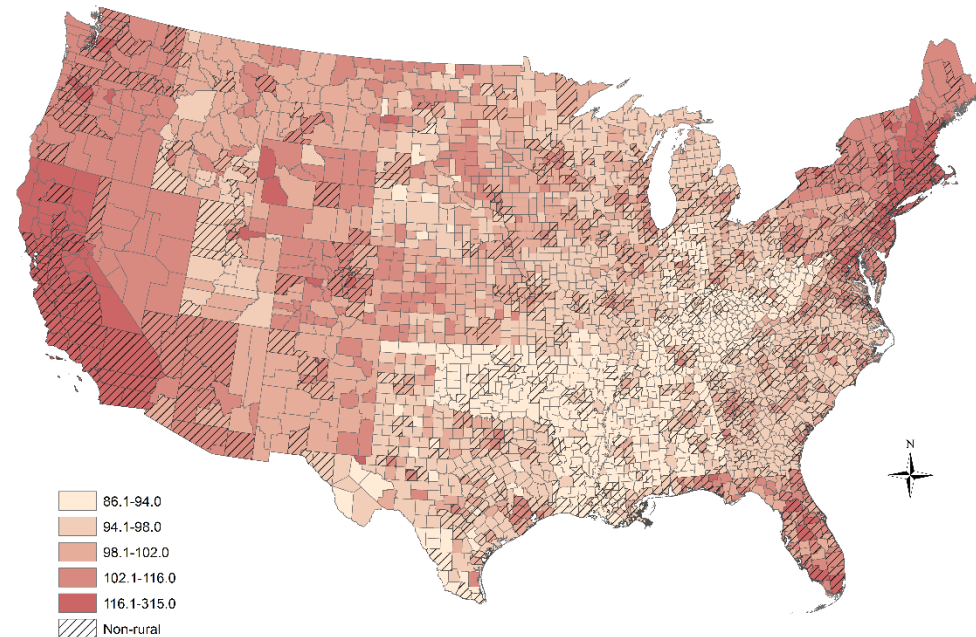
Although there are several adjustments made to the 2010 claims data to cause them to more closely reflect the likely health expenditures of HIM consumers, there is no adjustment for regional variation in costs. When care is more expensive, AV doesn't capture that, but once the firm sees it in their own data, it is likely to charge higher premiums. This will be especially true if competition is limited.

The Importance of COLAs

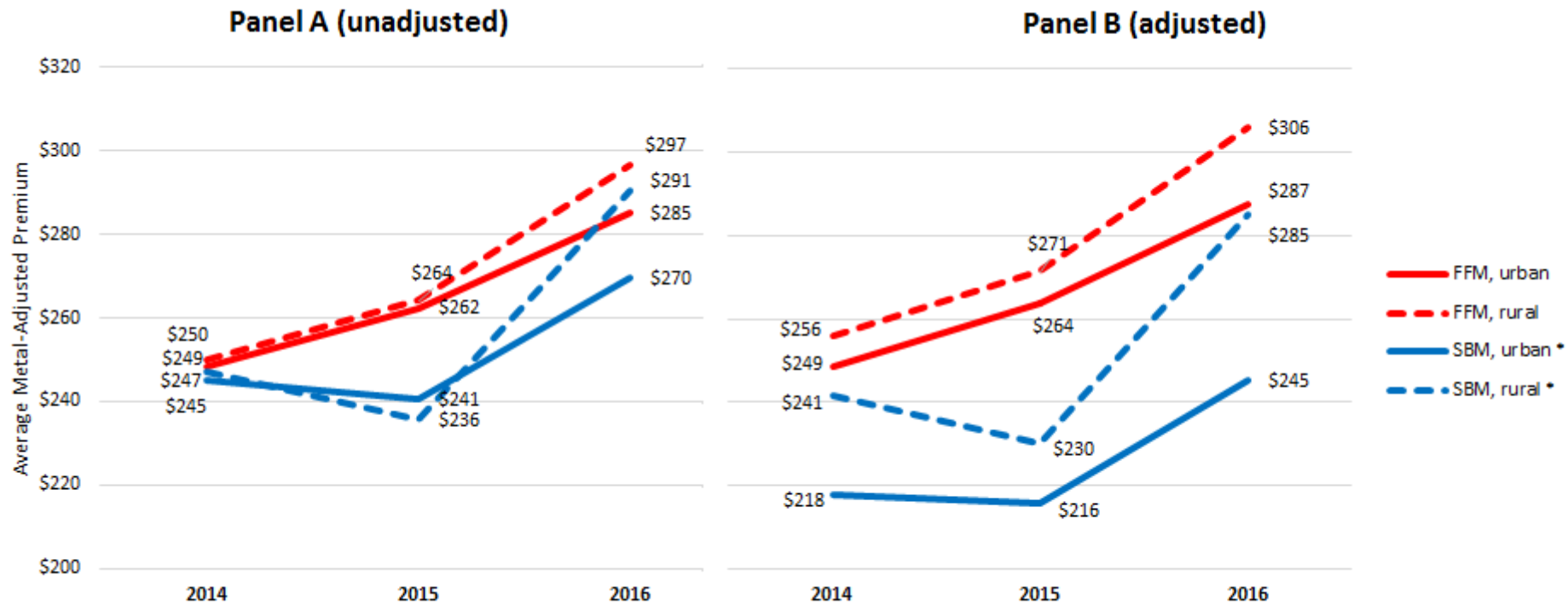
Cost of living across rating areas

- Premiums may simply reflect overall price differences
 - For example: \$200/mo. premium in Waterloo, IA is more expensive than \$200/month in Newark, NJ, after adjusting for cost of living
 - Why? \$200 could buy more other goods in Waterloo than in Newark.

- How do we adjust for cost of living?
 - Purchased county-level COLA index (100 = average)
 - Models prices based on various factors and can successfully predict 78% of geographic variation. We adjust premiums with this index.



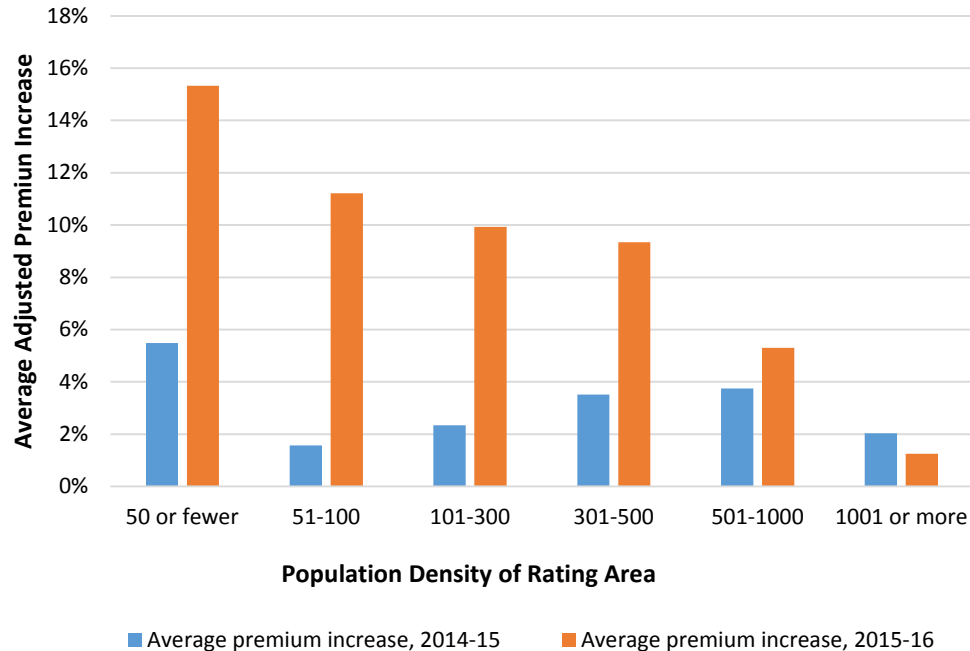
The Importance of COLAs



* Note that NY and VT premiums have been removed from this analysis as they are not directly comparable.

Premium Growth, 2014 - 2016

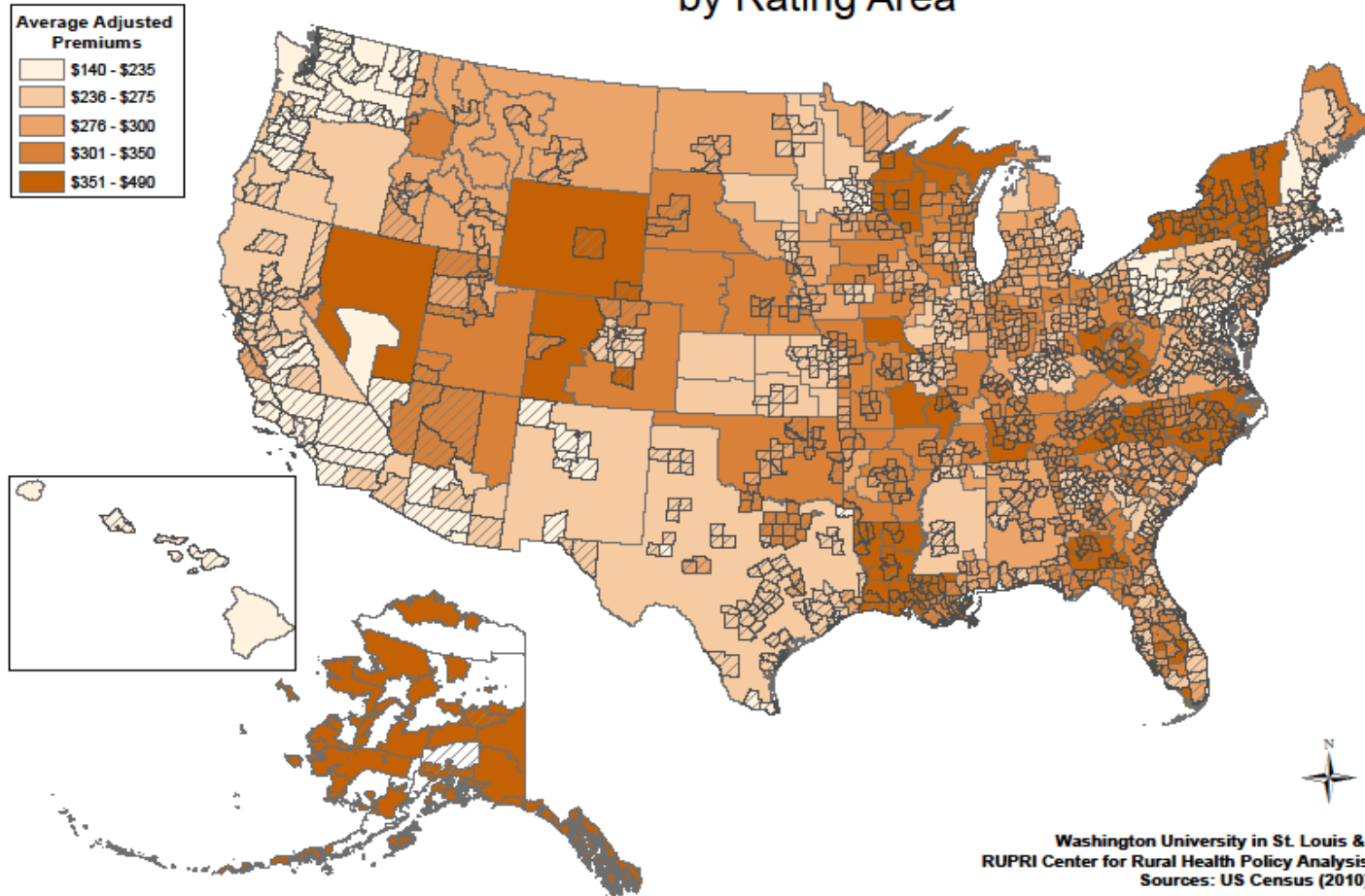
Figure 3. Average Adjusted Premium Increases, 2014-16, by Population Density of Rating Area



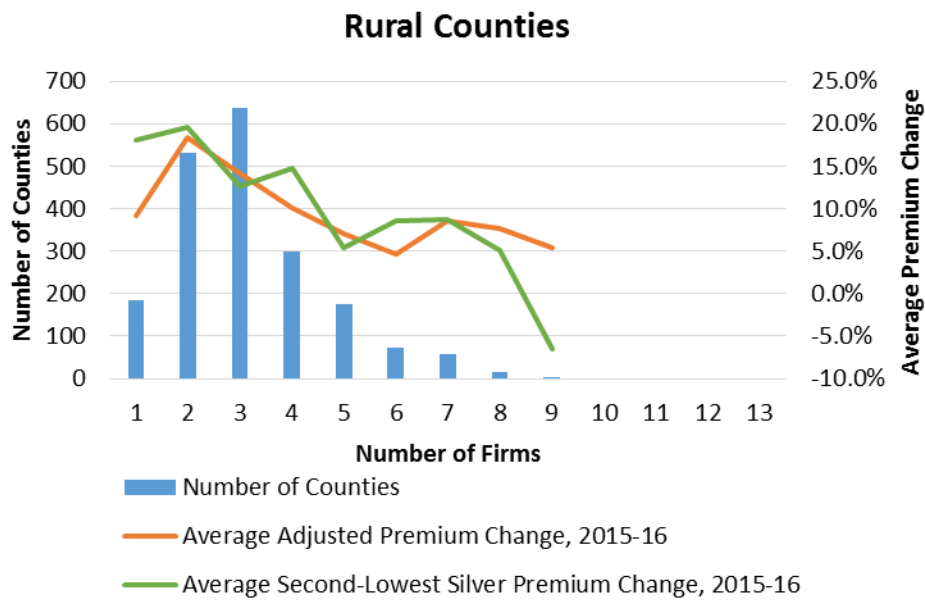
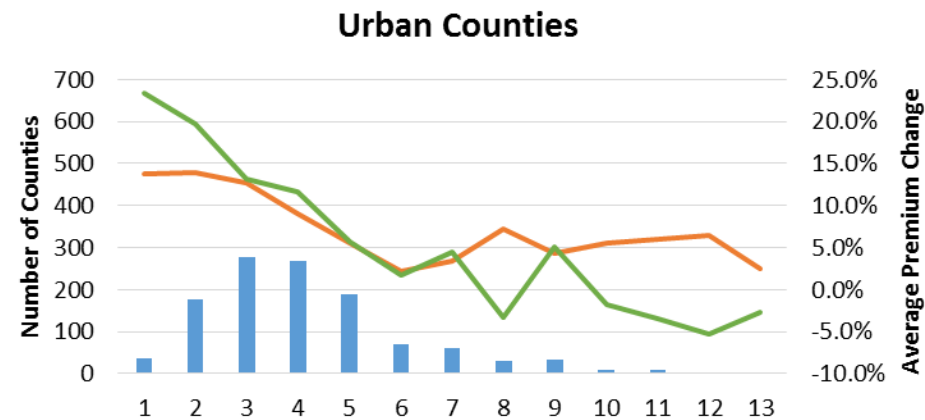
- Adjusted premium increases showed little pattern in 2014-15, except for being highest in the lowest-density Rating Areas and lowest in the highest-density Rating Areas. Now, in 2015-16, a more uniform pattern is emerging. Increases tend to fall as population density rises. Note that these are comparisons of published premiums, not accounting for subsidies.

Average Adjusted Premiums, 2016

Average Adjusted Premiums in HIMs, 2016,
by Rating Area



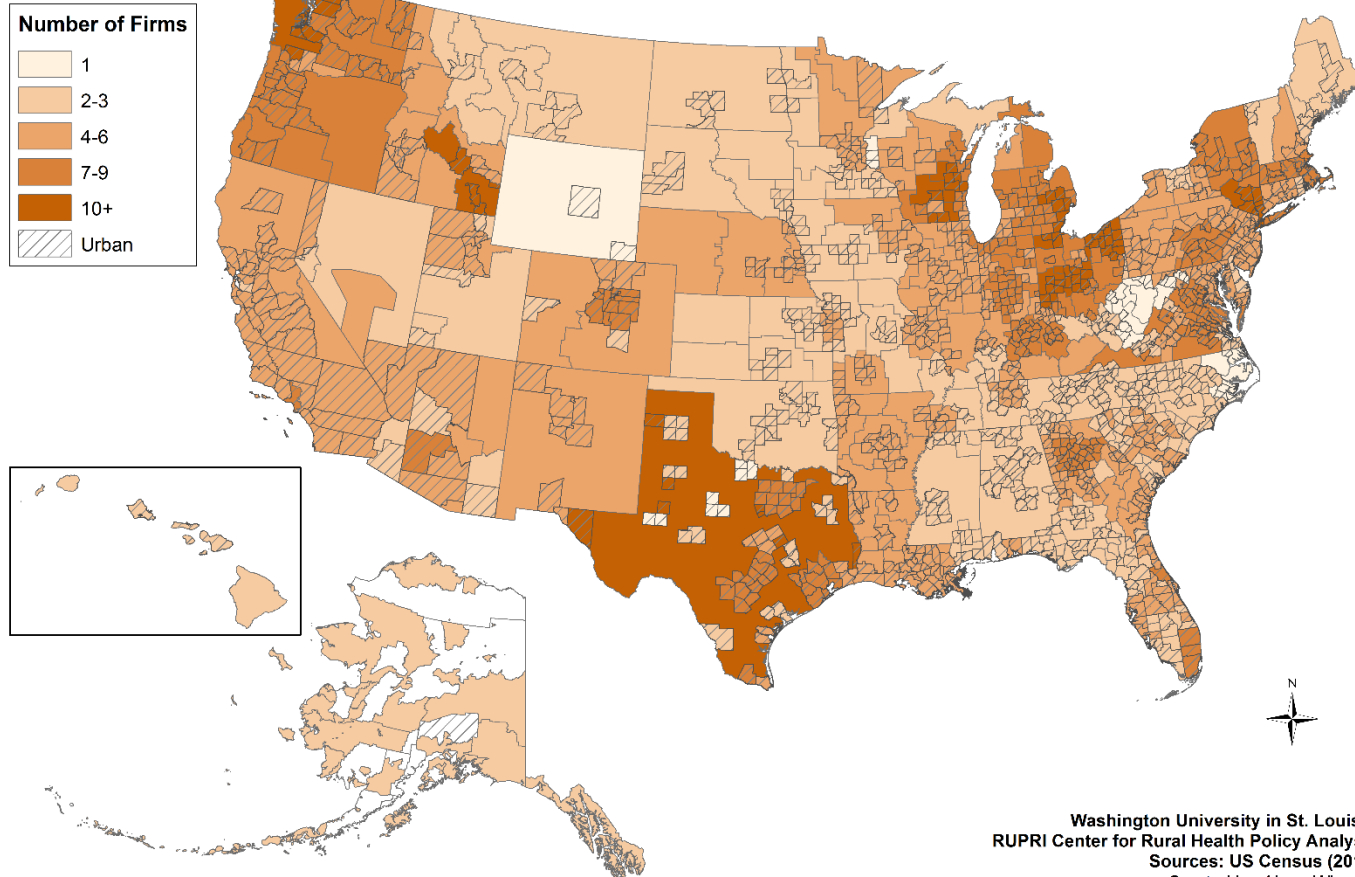
Numbers of Firms Participating



- There is a clear relationship emerging between numbers of firms participating and premium growth, even looking just at rural counties
 - The underlying reason may still relate to population density, since firm participation is correlated with population density

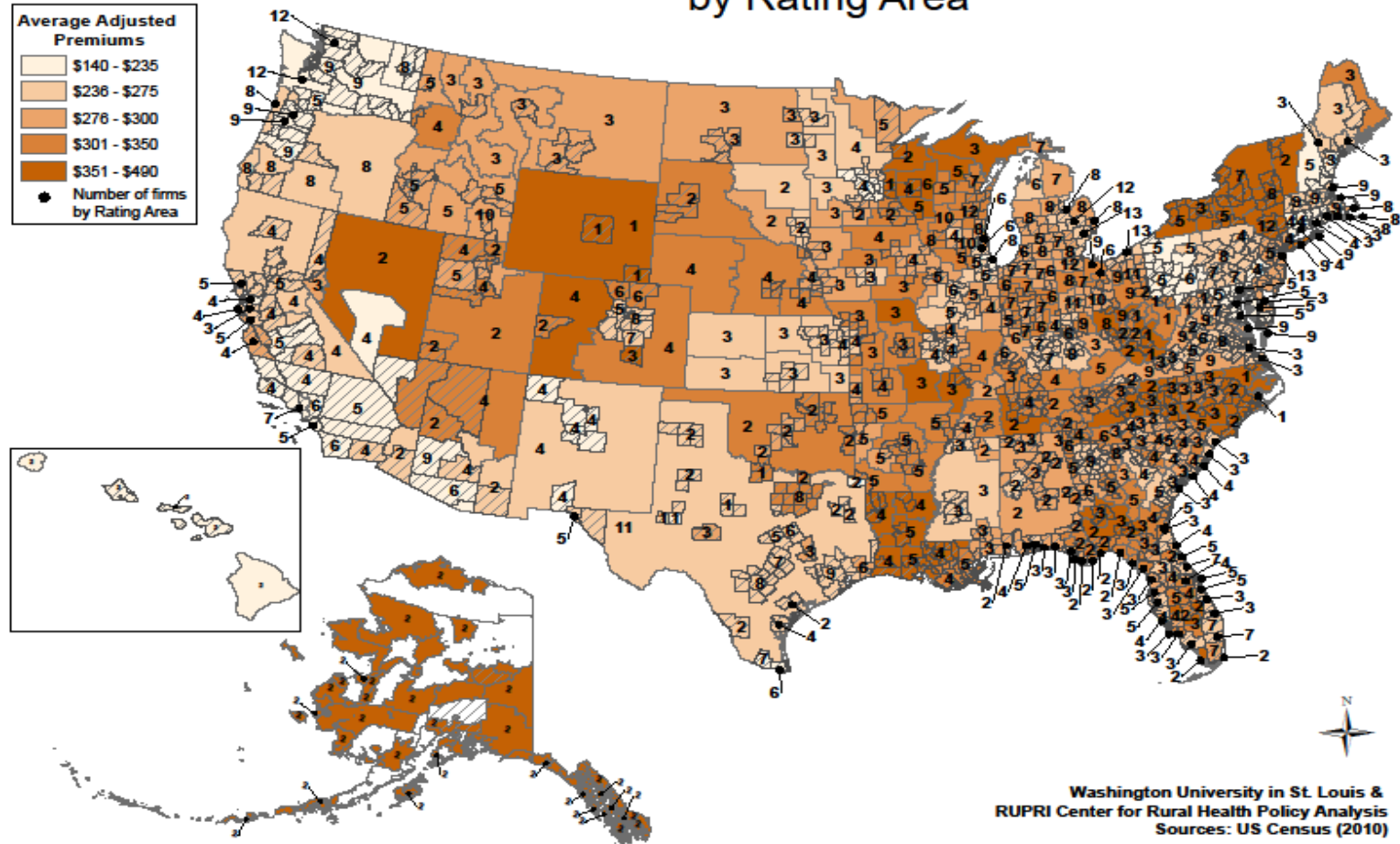
Number of Firms Participating

Number of Firms Participating in HIMs,
by Rating Area, 2016



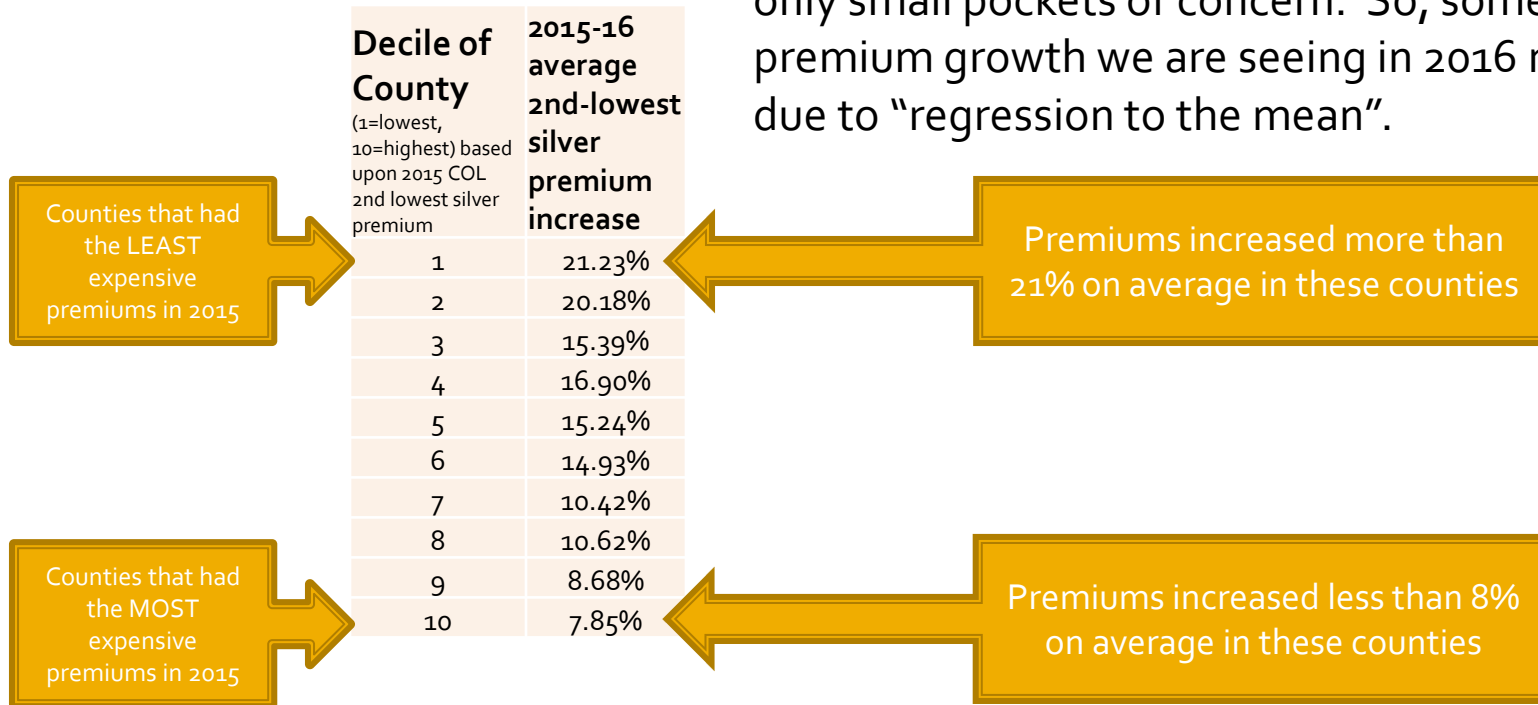
Numbers of Firms and Premiums

Average Adjusted Premiums in HIMs, 2016,
by Rating Area



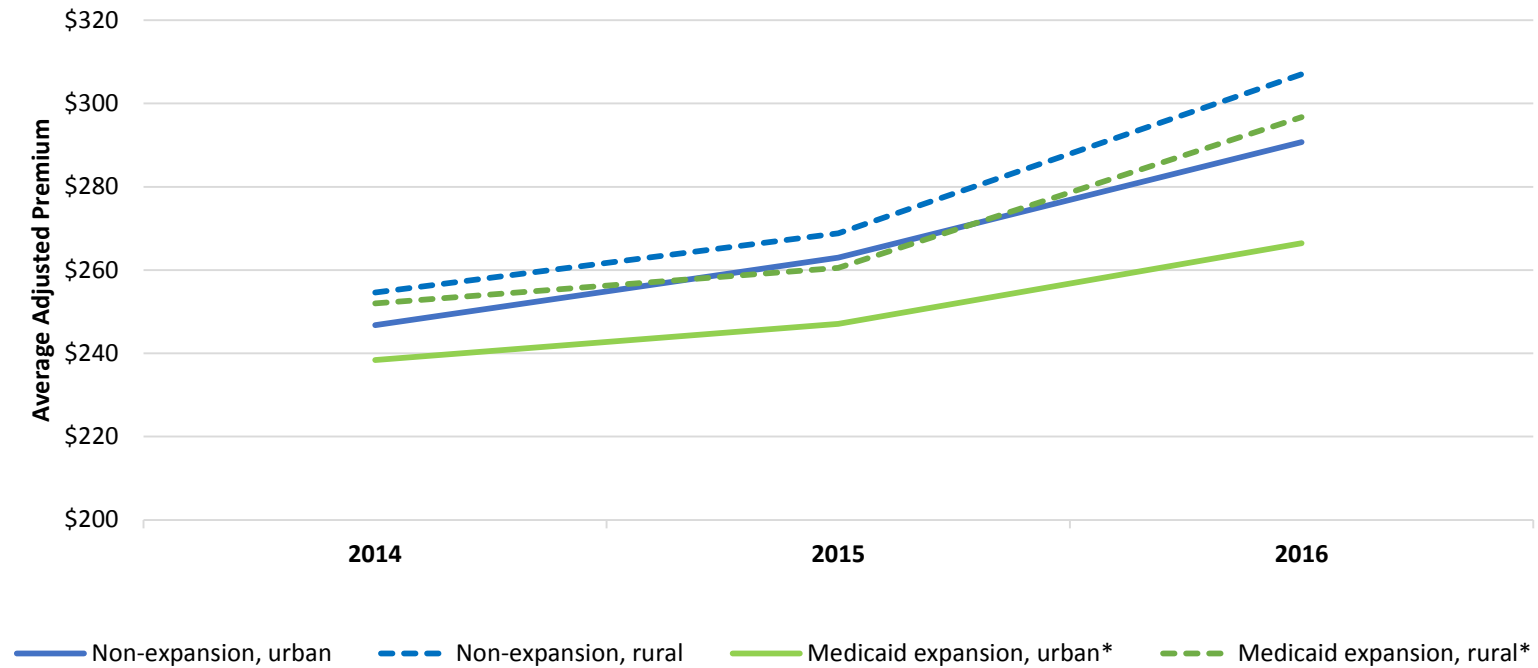
Regression to the Mean

This is relevant for rural because many rural counties had fairly low premiums in 2015, with only small pockets of concern. So, some of the premium growth we are seeing in 2016 may be due to “regression to the mean”.



What about Medicaid Expansion?

Figure 2. Growth in Average Adjusted Premiums, 2014-2016, by Medicaid Expansion Status



*Note that NY and VT premiums have been removed from this analysis as they are not directly comparable.

Beyond Premiums

BRONZE Deductible	OOP maximum							
	\$0 to 3000		\$3000 to 3999		\$4000 to 4999		\$5000 to 6850	
	urban	rural	urban	rural	urban	rural	urban	rural
\$0 to 3000 (%)							\$271.67 (0.3%)	\$245.64 (0.0%)
\$3000 to 3999 (%)							\$257.86 (4.5%)	\$248.37 (5.1%)
\$4000 to 4999 (%)							\$233.86 (15.1%)	\$248.91 (14.2%)
\$5000 to 6850 (%)							\$229.99 (80.1%)	\$241.41 (80.7%)

SILVER Deductible	OOP maximum							
	\$0 to 3000		\$3000 to 3999		\$4000 to 4999		\$5000 to 6850	
	urban	rural	urban	rural	urban	rural	urban	rural
\$0 to 3000 (%)			\$229.70 (0.3%)	\$197.10 18 (0.1%)	\$295.77 (2.1%)	\$300.63 (1.6%)	\$285.22 (42.0%)	\$301.80 (44.2%)
\$3000 to 3999 (%)			\$283.75 (5.5%)	\$286.24 1311 (6.5%)	\$282.01 (2.3%)	\$308.47 (2.4%)	\$279.17 (22.5%)	\$292.43 (24.7%)
\$4000 to 4999 (%)					\$289.81 (1.6%)	\$275.37 (2.3%)	\$275.16 (10.2%)	\$291.47 (9.5%)
\$5000 to 6850 (%)							\$268.94 (13.5%)	\$271.51 (8.9%)

Note: The blue percentages in each table show the distribution across urban counties and sum to 100%. The green percentages in each table show the distribution across rural counties and sum to 100%.

Beyond Premiums

Deductible	GOLD							
	OOP maximum							
	\$0 to 3000		\$3000 to 3999		\$4000 to 4999		\$5000 to 6850	
	urban	rural	urban	rural	urban	rural	urban	rural
\$0 to 3000	\$347.28	\$349.97	\$332.76	\$338.14	\$366.46	\$393.53	\$339.11	\$354.78
(%)	(10.0%)	(12.3%)	(20.3%)	(21.6%)	(16.6%)	(15.8%)	(49.6%)	(47.8%)
\$3000 to 3999			\$387.29	\$407.84	\$308.00	\$290.71		
(%)			(3.3%)	(2.3%)	(0.2%)	(0.2%)		
\$4000 to 4999								
(%)								
\$5000 to 6850								
(%)								

Deductible	PLATINUM							
	OOP maximum							
	\$0 to 3000		\$3000 to 3999		\$4000 to 4999		\$5000 to 6850	
	urban	rural	urban	rural	urban	rural	urban	rural
\$0 to 3000	\$440.52	\$441.75	\$502.62	\$558.55	\$494.56		\$400.67	\$413.60
(%)	867 (78.5%)	(77.8%)	114 (10.3%)	(7.4%)	(3.4%)		(7.9%)	(14.8%)
\$3000 to 3999								
(%)								
\$4000 to 4999								
(%)								
\$5000 to 6850								
(%)								

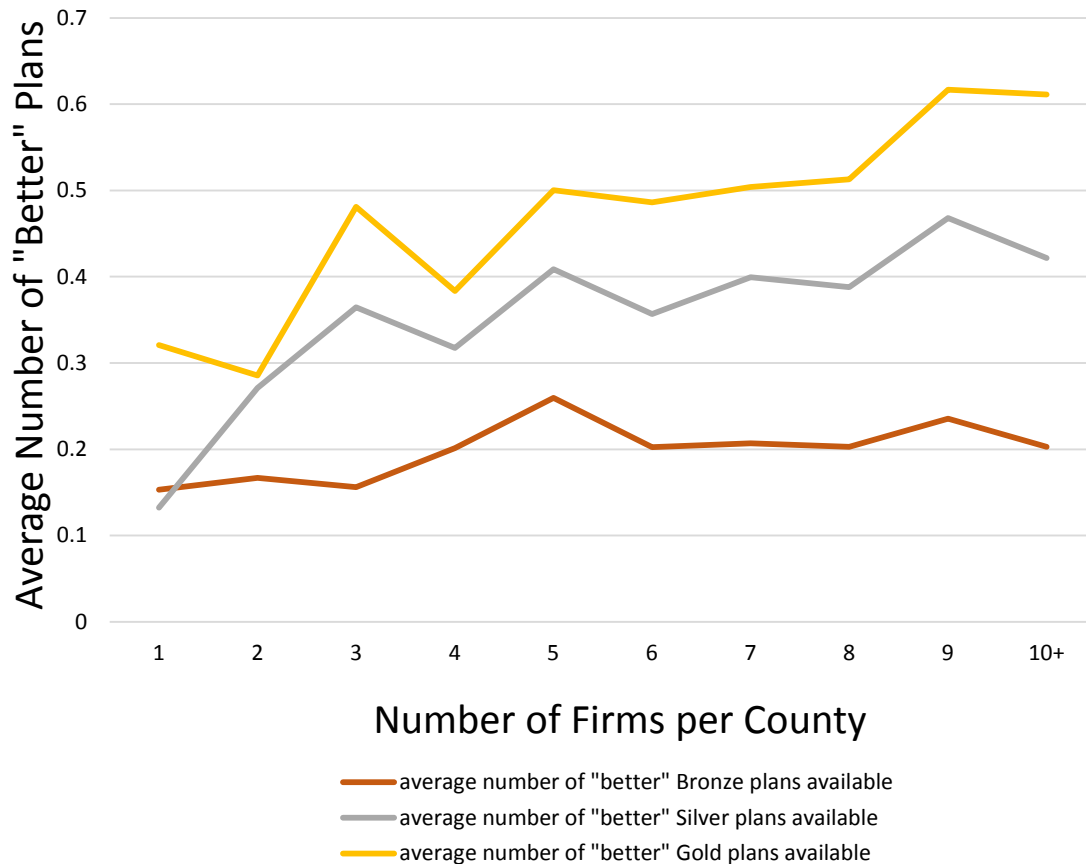
Note: The blue percentages in each table show the distribution across urban counties and sum to 100%. The green percentages in each table show the distribution across rural counties and sum to 100%.

Beyond Premiums

- We are interested in gauging the availability of good options not just by premium but in terms of other cost-sharing features as well. The summarized data on the previous slides, while useful, may not reflect the options available to a given individual.
- Therefore we defined a “better” plan as simply one with a premium and a deductible that are both below the median plan for that metal level that is actually available in a given county.
- We assess whether the availability of “better” plans is related to the number of firms in the marketplace at the county level.

Beyond Premiums

Relationship between Number of HIM firms and Availability of "Better" Plan Options, 2016



Note that there appears to be a relationship between the availability of a "better" silver or a "better" gold plan, but not much for bronze plans. We hypothesize that the higher actuarial value allows more profitability, and economic theory suggests that the presence of more competitors will reduce the firm's ability to pocket the profit rather than passing it on to the consumer.

Rural Enrollment in FFM's

Northeast Census Region				
	Enrollment Growth, 2015-16		Enrollment as a Percent of Potential Market*	
	Rural	Urban	Rural	Urban
Maine	12.9%	11.9%	71.0%	61.2%
New Hampshire	3.3%	4.7%	60.8%	41.8%
New Jersey	-	13.5%	-	56.9%
Pennsylvania	-2.5%	-7.5%	39.8%	48.1%

*Uses Kaiser's state-level potential market estimates, scaled using SAHIE uninsured numbers (above 138% FPL) at the county-level to obtain rural/urban splits.

West Census Region				
	Enrollment Growth, 2015-16		Enrollment as a Percent of Potential Market*	
	Rural	Urban	Rural	Urban
Alaska	6.5%	9.3%	47.8%	43.8%
Arizona	3.0%	-1.4%	29.4%	39.9%
Montana	8.4%	4.3%	57.8%	55.6%
Nevada	17.8%	20.0%	36.9%	53.9%
New Mexico	3.6%	5.3%	47.9%	42.4%
Oregon	31.3%	31.3%	54.4%	51.8%
Utah	20.4%	25.5%	49.7%	52.8%
Wyoming	12.6%	13.0%	42.1%	29.8%

*Uses Kaiser's state-level potential market estimates, scaled using SAHIE uninsured numbers (above 138% FPL) at the county-level to obtain rural/urban splits.

Midwest Census Region				
	Enrollment Growth, 2015-16		Enrollment as a Percent of Potential Market*	
	Rural	Urban	Rural	Urban
Illinois	14.9%	10.6%	56.2%	54.0%
Indiana	-9.7%	-10.7%	38.8%	43.9%
Iowa	26.8%	18.7%	22.0%	24.2%
Kansas	12.9%	2.8%	32.9%	35.5%
Michigan	4.4%	0.6%	54.3%	47.1%
Missouri	13.9%	14.7%	44.2%	45.0%
Nebraska	21.7%	15.8%	60.8%	41.8%
North Dakota	18.0%	20.1%	37.6%	21.5%
Ohio	7.4%	3.2%	31.0%	35.6%
South Dakota	25.5%	16.9%	27.5%	28.1%
Wisconsin	12.1%	16.8%	54.8%	49.5%

*Uses Kaiser's state-level potential market estimates, scaled using SAHIE uninsured numbers (above 138% FPL) at the county-level to obtain rural/urban splits.

Rural Enrollment in FFM's

South Census Region				
	Enrollment Growth, 2015-16		Enrollment as a Percent of Potential Market*	
	Rural	Urban	Rural	Urban
Alabama	14.2%	13.5%	39.2%	38.6%
Arkansas	12.7%	11.7%	28.8%	27.5%
Delaware	-	12.9%	-	44.9%
Florida	14.6%	9.1%	40.7%	57.6%
Georgia	12.3%	8.1%	42.7%	44.3%
Louisiana	20.0%	14.2%	41.3%	41.4%
Mississippi	9.5%	-0.5%	34.2%	40.3%
North Carolina	4.5%	10.8%	58.4%	58.5%
Oklahoma	16.3%	14.8%	30.3%	34.2%
South Carolina	5.1%	11.1%	46.1%	46.5%
Tennessee	12.1%	17.3%	42.6%	41.7%
Texas	13.3%	7.9%	33.4%	37.8%
Virginia	7.8%	9.8%	40.2%	42.1%
West Virginia	12.3%	11.1%	37.3%	36.5%

*Uses Kaiser's state-level potential market estimates, scaled using SAHIE uninsured numbers (above 138% FPL) at the county-level to obtain rural/urban splits.

Summary of Results

- Premium increases tend to be lower in rating areas with greater population density. However, it is also true that regression to the mean is still occurring, and all 2015-16 increases must be viewed in this context.
- Premiums have a tendency to be higher in rural, within the same deductible/OOP max category, but this is not always the case.
- In terms of availability, there is not much difference between urban and rural plans' characteristics (deductible and OOP maximum). The distributions within each metal level are pretty similar.
- Medicaid Expansion status is another variable that appears to impact premium increases.

Summary of Results

- Analysis of the variation in premiums and other plan characteristics, while seeming to have a geographic (rural) component, also shows signs that other issues are at work.
 - The actuarial value formula limits a firm's ability to vary deductibles and OOP maximum values.
 - Other issues are the focus of current investigation.
- There appears to be a relationship between premiums and the number of firms in a county. Also amount of competition does affect the likelihood of finding a "better" plan at the county level.
- The best guess is that the level of competition, combined with the difference between firms' actual, observed costs in a place and the generic costs used in the AV calculation are the most significant drivers of variation.

Work in Progress

- We are conducting an in-depth study of ten Midwestern states of varying degrees of rurality. The focus is on actual coverage capabilities of plans, i.e. do their “service areas” line up with the rating areas described above?
 - The hypothesis here is that premiums may appear to be low in part because coverage isn’t actually offered.
 - A potential policy variable is whether the state allows firms to fail to cover certain portions of the rating area, and if so how much justification is required.
 - Other policy variables (such as Medicaid expansion) may also be affecting HIM participation both by firms and by individuals.

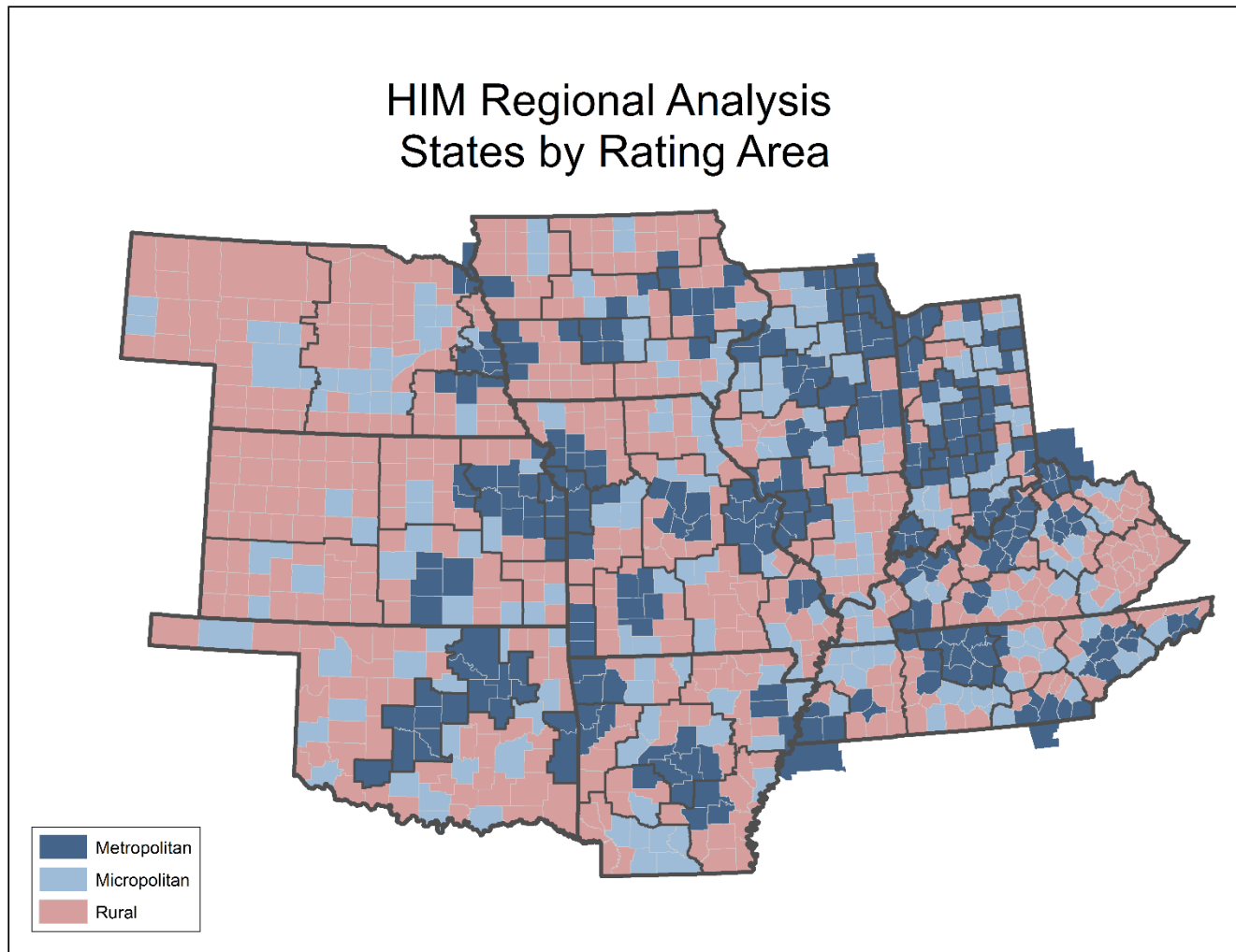
Work in Progress

State	Medicaid Expansion	Marketplace Type	% of Population Rural	% of Population Noncore	Rating Area Design, Network Adequacy, and Early Evidence
Arkansas**	Yes, waivers	FFM/PM	39.9%	20.1%	evidence that RAs and SAs may be required to align
Illinois	Yes	FFM/PM	11.9%	4.9%	evidence shows RAs and SAs need not align
Indiana	Yes, waivers	FFM	22.8%	7.2%	evidence shows RAs and SAs need not align
Iowa*	Yes, waivers	FFM/PM	42.7%	26.3%	evidence shows RAs and SAs need not align
Kansas	No	FFM	33.5%	14.2%	evidence shows RAs and SAs need not align
Kentucky**	Yes	SBM	42.4%	23.2%	evidence shows RAs and SAs need not align
Missouri*	No	FFM	26.1%	14.1%	obtained CMS permission for more RAs; rationale was to better align with SAs, but evidence shows they do not always align
Nebraska*	No	FFM	36.9%	19.0%	evidence shows RAs and SAs need not align
Oklahoma*	No	FFM	35.7%	14.6%	uses MSAs+1 default; evidence shows RAs and SAs may be required to align
Tennessee	No	FFM	23.4%	10.3%	RAs and SAs must align by statute

* Among the highest 10 states for second-lowest silver premium growth between 2014 and 2015.

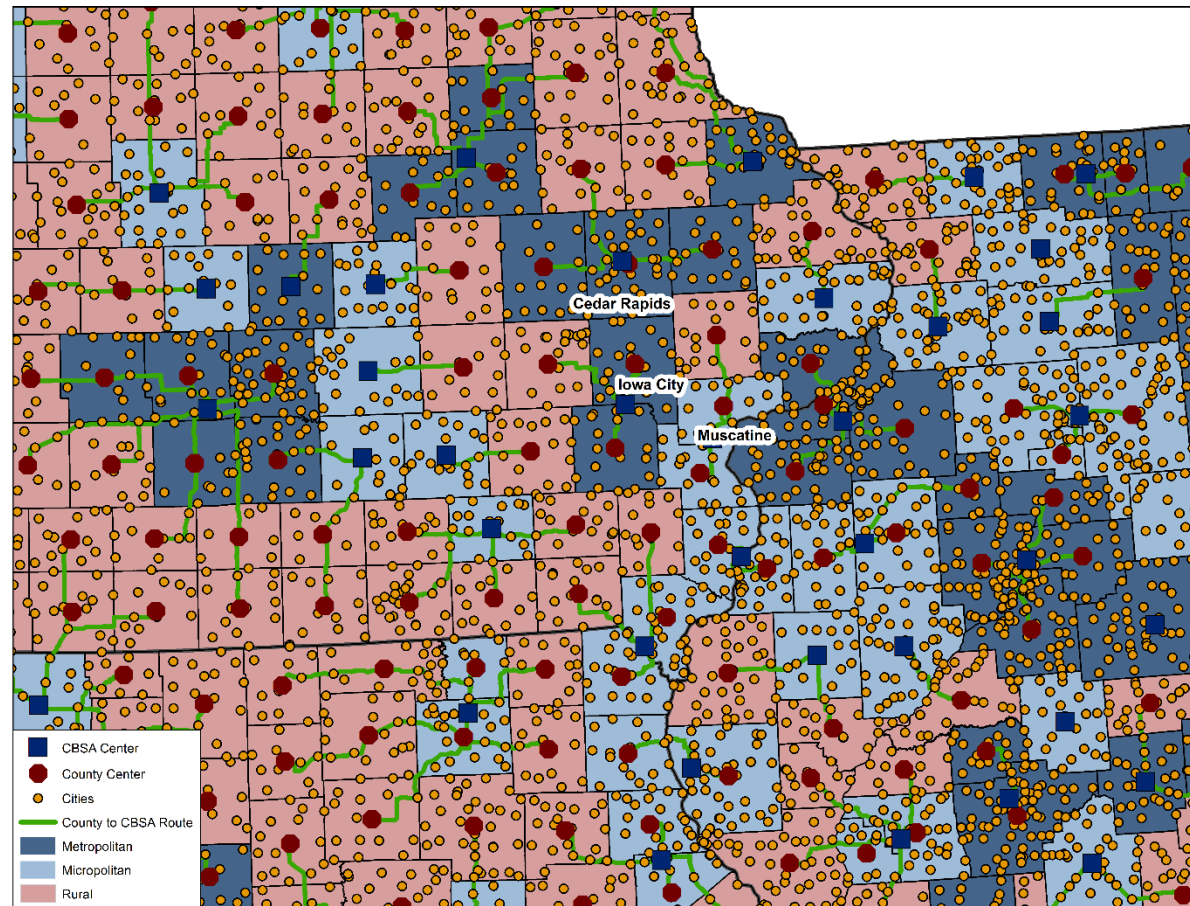
** Among the lowest 10 states for second-lowest silver premium growth between 2014 and 2015.

Map of Study Region



Network Analysis - Concepts

- We are using GIS to develop (travel) distance measures from rural counties to the nearest metropolitan and micropolitan areas
 - care likely sought in metro/micro places
 - network formation likely depends on this distance
- Motivating question: **“If a firm offers coverage in the metro or micro parts of a RA, what factors predict whether the firm will also offer coverage in the rural part of the RA?”**
- Planning to do this with city/town level data for greater accuracy



Conclusion

- The nature of a competitive marketplace is to be
 - dynamic, with winners and losers
 - efficient, meaning prices should reflect underlying costs
 - moving toward equilibrium as people gain information.
- The nature of insurance is
 - to pool risk
 - for firms to profit from individuals' risk aversion
 - to face (and find ways to overcome) adverse selection.
- The combination of a market structure with the incentives of insurance does have the potential to fail in places with very small populations, when risk cannot be smoothed out, and when price cannot be adjusted to reflect this.

Policy Recommendations

- Policies can adjust to mitigate these issues
 - requiring service areas to align with rating areas
 - as data become available, using local/regional data to populate AV calculations
 - providing incentives for firms to offer Multi-State Plans (as defined by the ACA) nationwide as soon as possible
 - we are behind the timeline described by the ACA
 - by the fourth year, there was supposed to be MSP coverage in all 50 states
 - this is also important to hedge against the possibility that exiting firms may reduce options disproportionately in rural areas
 - risk sharing and/or reinsurance that are fully funded and can therefore protect firms against costly outliers in less populated areas

Contact Information

THANK YOU!

- Questions or comments?
 - tmcbride@wustl.edu
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- For more on the RUPRI Center, including a series of six briefs on HIMs in rural places, see:
<https://www.ruralhealthresearch.org/centers/rupri>
Work in progress will be released here as well.