

Affordable Care Act Insurance Marketplaces in Rural Areas

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Introduction & Purpose

The Affordable Care Act (ACA) was enacted in 2012, in order to ensure that all Americans have accessible access to health insurance. States were given the option to create their own individual marketplaces to provide government subsidized insurance plans through, or they could use the national marketplace — healthcare.gov. This project focuses on plans offered through healthcare.gov as the effectiveness of insurance exchanges in rural areas is evaluated.

When the ACA was signed, health economists had differing perspectives about whether it would have a successful impact for people in low-income areas or not. As I began to study the insurance marketplaces around the country, something that stood out was how are rural areas impacted by the exchanges. Unlike urban areas, there are not numerous medical facilities per square mile. In order to get a better understanding of this topic, I choose to focus the scope to the supply and demand of affordable insurance plans in rural areas.

2014 Average Number of Unique Insurers in All Counties

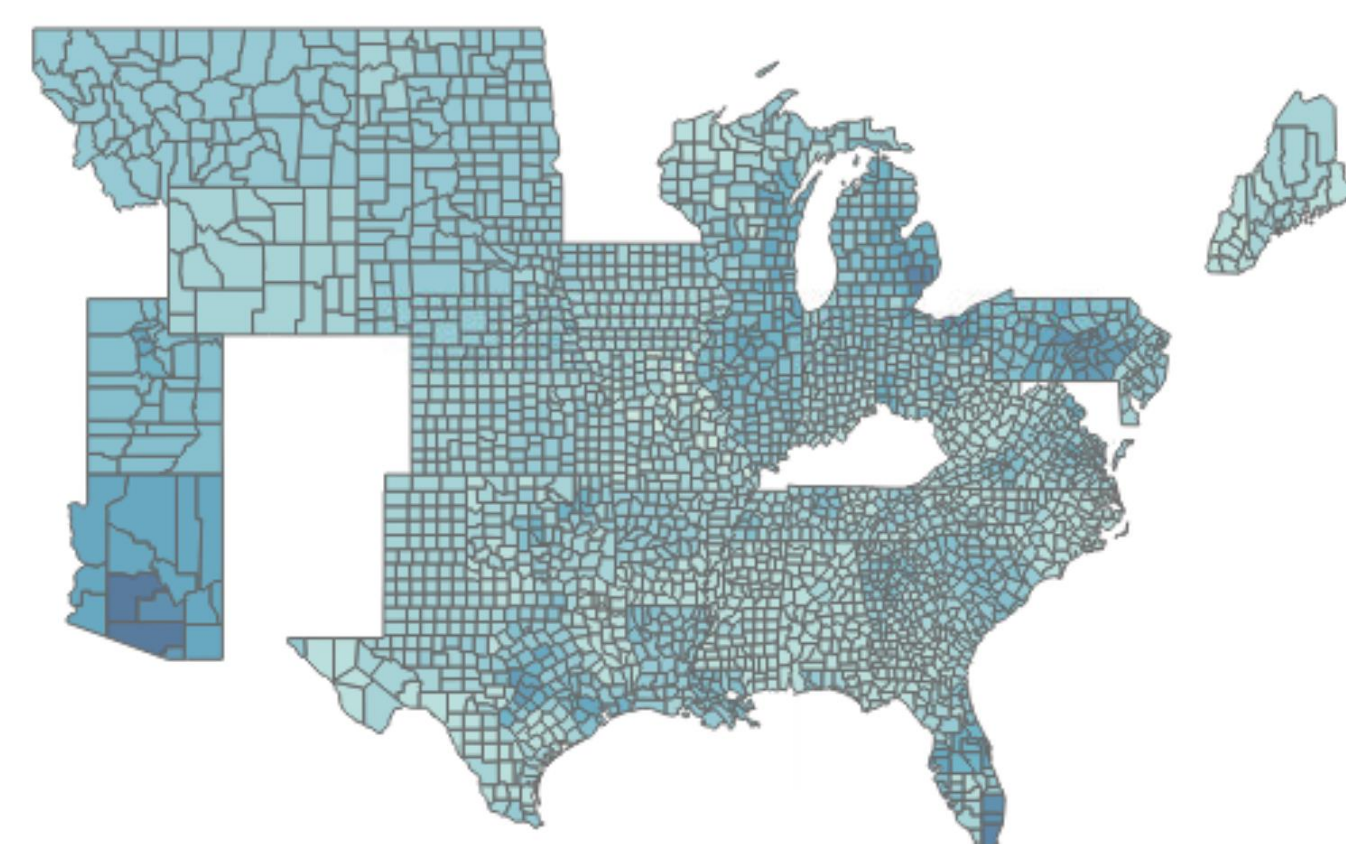


Figure 1: Map of Unique Insurers in 2014, the year Healthcare.gov opened. Depicts states that were enrolled on the nationwide insurance exchange.

Abstract

In 2012, the Affordable Care Act (ACA) was enacted. State-level marketplaces were created where individuals could obtain government subsidized health insurance. As the 10-year anniversary approaches the launching of these ACA exchanges, this project aims to evaluate the successes and failures of the marketplaces. This investigation involves a compilation of data from the ACA Marketplaces beginning in 2014 until most recent data from the 2022 open enrollment period. This study will explore how the ACA marketplaces have impacted rural areas. I expect the ACA exchanges to have been least successful in rural areas. Focusing on silver plans offered in rural counties, the change in cost and competition will be analyzed to determine how effective the marketplaces are in such areas. Methods to evaluate this include a comparison of available plans in different rating areas within the state, and a comparison of how the plans shifted overtime. Furthermore, other health and census data support the exploration of the success of insurance marketplaces in low-income areas. This project adds significant value as it is difficult for many people to obtain healthcare in rural areas. By observing how availability and cost has shifted in various rural rating areas, the success of the exchanges can be evaluated. The results will be used to evaluate the current state of the affordable healthcare policies in America and will determine where additional progress can be made in order to support the U.S. population.

Methodology

In order to perform this investigation, insurance marketplace data was from the Centers for Medicare & Medicaid Services. I performed a cross sectional study on the insurance marketplace data for each year—2014-2023. Some of the measurements I collected include, types of different insurance plans, cost of the plans, and distribution of who specifically purchased the plans. Since there are some many possibilities for plan types, this research focuses on the standard silver health insurance plan purchased by a 40-year-old man.

Using Stata and Tableau, the data was collapsed and visualized in order to understand the distribution of insurance plans in rural rating areas/counties. The Tableau dashboard will be published for the general public to gain an understanding of affordable insurance plan distribution. Understanding the data visually, is just as important as the statistical aspects of the project. This method provided a better understanding of how spread-out rural areas are, and the differences in price for each rating area or county. To gather specific data, I performed statistical analysis through Stata and ran a T-test to better understand the impact of the Insurance Marketplaces on rural areas.

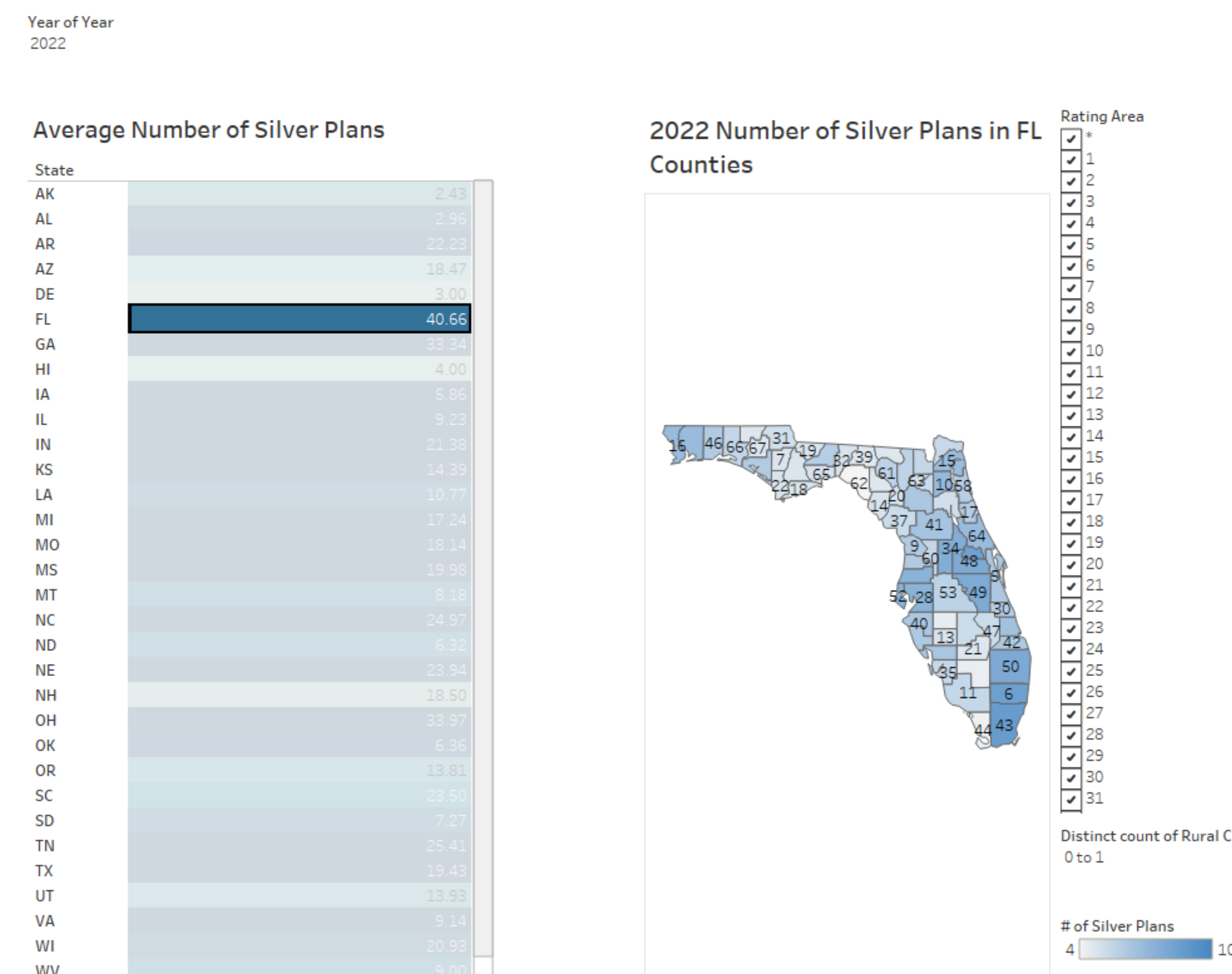


Figure 2: Image of ACA Marketplace Database created with Tableau

Rural Summary		Non Rural Summary	
Mean	11.21825567	Mean	12.09625
Standard Error	0.727406658	Standard Error	0.954094
Median	10.49579827	Median	11.12272
Mode	#N/A	Mode	#N/A
Standard Deviation	4.424641966	Standard Deviation	5.958317
Sample Variance	19.57745653	Sample Variance	35.50154
Kurtosis	-0.519285555	Kurtosis	1.005727
Skewness	0.499568254	Skewness	1.048833
Range	17.57956029	Range	25.85869
Minimum	3.646353657	Minimum	3.732295
Maximum	21.22591395	Maximum	29.59099
Sum	415.0754599	Sum	471.7537
Count	37	Count	39
Largest(1)	21.22591395	Largest(1)	29.59099
Smallest(1)	3.646353657	Smallest(1)	3.732295
Confidence Level(95.0%)	1.47524908	Confidence Level(95.0%)	1.931463

Figure 3: Image of ACA Marketplace Descriptive Statistics

Results/Discussion

To best summarize the results, the average number of silver insurance plans, in both rural counties and non-rural counties were collected for each state. The descriptive statistics were collected. The average number of silver insurance plans in rural counties was 11 ± 4.42 . Compared to non-rural counties, where there was an average of 12 ± 5.95 , the number of plans do not differ by much. These results were confirmed with a T-test where the calculated p-value was .000437. Hence the hypothesis that there is a significant difference between the number of plans in rural areas. Possible further research includes observing the difference prices, to see how prices compare in rural versus non-rural areas. A possible difference between rural and urban counties is related to price. Further research that is currently being conducted is to compare average prices for a 40-year-old male with a silver plan. As the lack of proximity to medical office could cause an increase in price. Price can more effectively determine key differences between urban and rural counties.

Average Number of Silver Plans

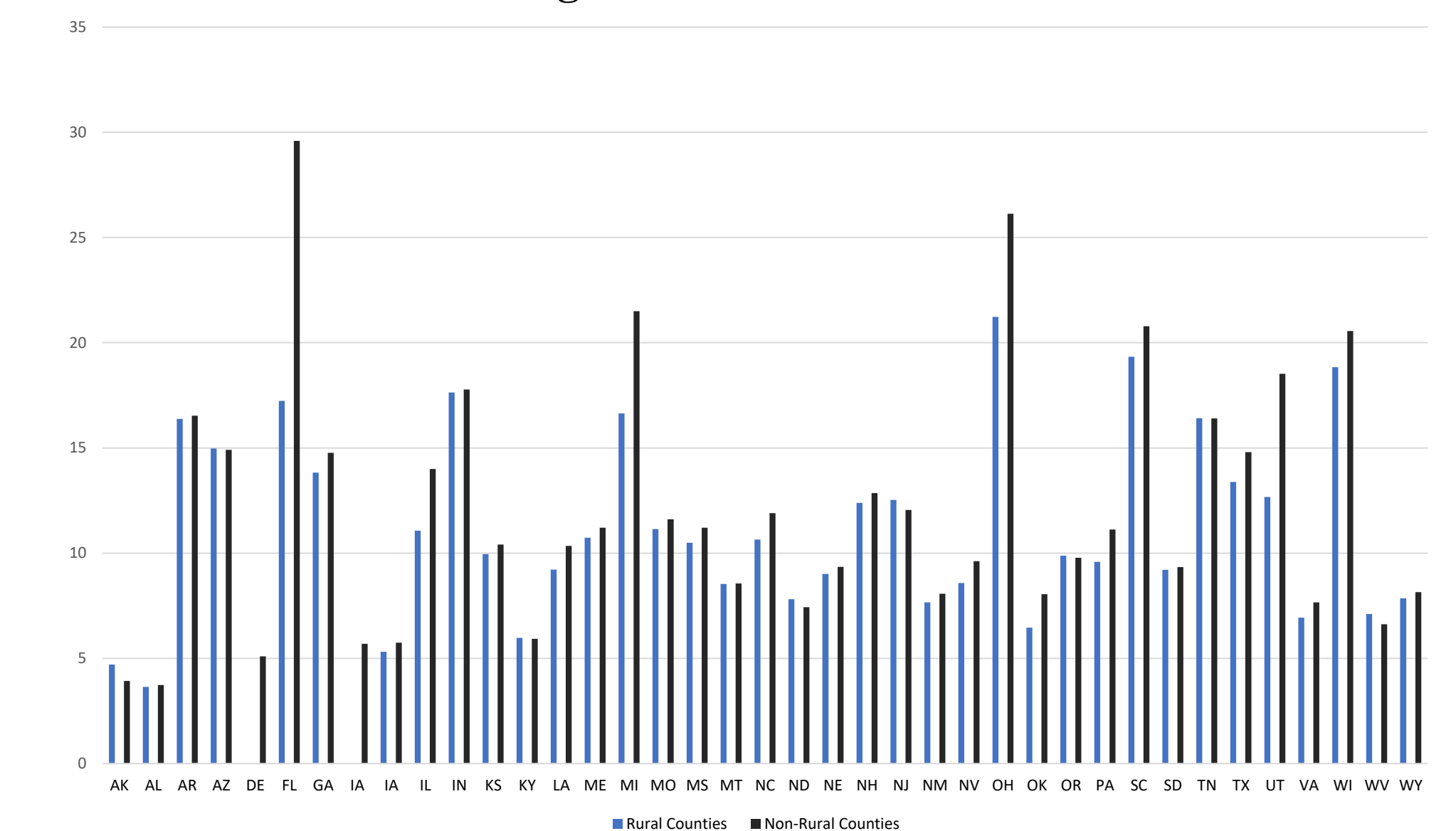


Figure 4: Chart to display difference in plans in rural counties and non-rural counties

References

- Health Insurance Exchange Public Use Files (exchange pufs). CMS. (n.d.). Retrieved February 6, 2023, from <https://www.cms.gov/ccio/resources/data-resources/marketplace-puf>.
- List of rural counties and designated eligible census tracts in metropolitan counties. Rural Communities Opioid Response Program - Technical Assistance. (n.d.). Retrieved February 3, 2023, from <https://www.rcorp-ta.org/resources/list-rural-counties-and-designated-eligible-census-tracts-metropolitan-counties>.

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