

The Differences in Rural vs. Urban Mental Health Service Areas in the United States

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INTRODUCTION

- ❖ A vast amount of the medically underserved areas found within rural communities directly correlate to the limited providers (Guerrero et al., 2019).
- ❖ Rural regions make up approximately more than 85% of Mental Health Professional Shortage Areas (Lutfiyya et al., 2012).
- ❖ Doctors who work in rural areas cannot keep up with the increasingly underserved group of patients (Raymond Guilbault & Vinson, 2017)

HYPOTHESIS

We hypothesize rural areas will have a higher medically underserved score compared to urban counterparts due to the lack of accessibility and resources found in rural regions.

Index of Medical Underservice (IMU): An IMU score ranges from 0 to 100. IMU scores are composed of four different subscales:

- Provider per 1,000 population ratio (28.7% max)
- Percent of population at 100% Federal Poverty Level (25.1% max)
- Percent of population aged 65+ (20.2% max)
- Infant mortality rate (26% max)

(HRSA, 2022)

METHODS

Procedure

- ❖ The distributions of each group (i.e. non-rural, partially rural, and urban counties) were assessed using boxplots.
- ❖ Mean IMU Scores and their standard deviations were found for each group.
- ❖ A One-way ANOVA test was conducted analyzing IMU Scores amongst the groups.
- ❖ Things to note: equal variances cannot be assumed due to Levene's test being violated.

RESULTS

- ❖ The difference between the groups is significant ($p=.001$).
- ❖ Rural, partially rural, and non-rural areas are all considered medically underserved.
- ❖ Partially rural areas are at a higher disadvantage than urban and rural areas ($IMU=50.16$).

RESEARCH QUESTION

How does the designation type (urban vs. rural vs. partially rural) correlate with the Medical Underservice (IMU score)?

Figure 1 Boxplot of IMU Scores by Group

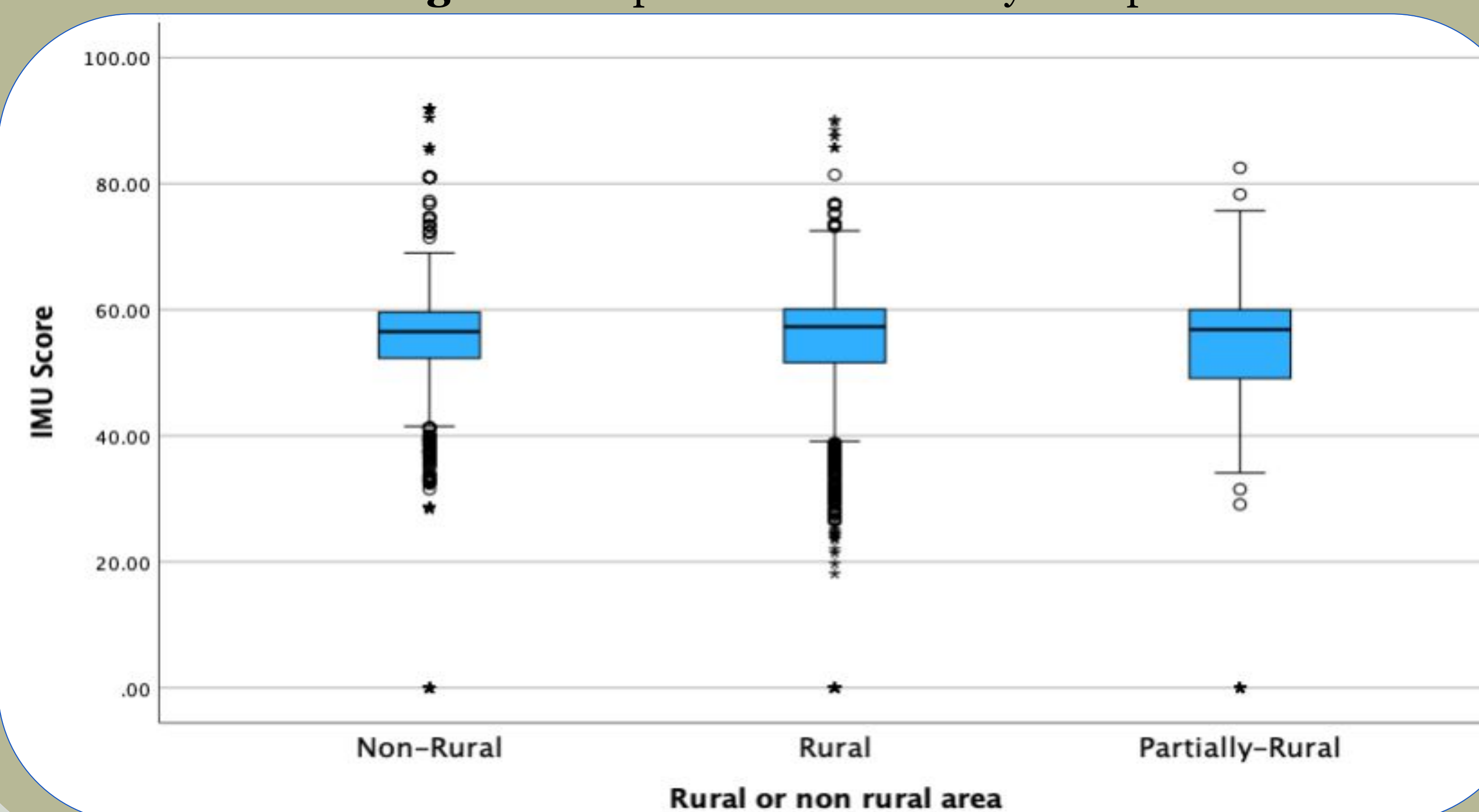


Table 1 Descriptive Statistics of IMU scores by group

Rural or Non Rural Area	Mean	N	Std. Deviation
IMU Score			
Non Rural	53.38	13020	12.77
Rural	52.74	4893	14.17
Partially Rural	50.16	211	18.54
Total	53.17	18124	13.25

Table 2 One-Way ANOVA of IMU scores compared amongst groups

	Sum Of Squares	df	Mean Square	F	Sig.
IMU Score					
Between Groups	3389.59	2	1694.8	9.66	<.001
Within Groups	3178496.84	18121	175.4		
Total	3181886.43	18123			

DISCUSSION

- ❖ Partially rural areas might receive less targeted aid than rural areas because they are perceived as less in need.
- ❖ All 3 categories are medically underserved with IMU scores lower than 62.0 points.
- ❖ The IMU score accounts for counties or groups of counties. Such areas could be large, where there may be providers that are accessible in some areas of the region but not others. This could lead to unmet needs and skewed results.

LIMITATIONS/FUTURE DIRECTIONS

- ❖ Using large geographical scales and having unequal variances between groups are limitations of this study.
- ❖ Further research using similar analyses but different rating systems than the IMU would be beneficial in determining the measures' consistency.
- ❖ Additionally, controlling for demographic and socioeconomic factors, and using a smaller geographical unit (i.e. zip codes) in a regression model could deepen our understanding of these trends.

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