

## **Abstract:**

### *Introduction:*

Vaccine hesitancy has significantly hindered COVID-19 vaccination progress in the United States. Previous literature indicates that rural populations are more likely to be vaccine hesitant and more likely to feel socially disconnected during the pandemic. Therefore, the objective of this study was to determine if there is a relationship between social connectedness, rurality, and vaccine hesitancy during the COVID-19 pandemic.

### *Methods:*

Data for this cross-sectional study was obtained from the publicly available Fall 2020 Medicare Current Beneficiary Survey COVID-19 supplement. Participant responses were classified as vaccine hesitant/ not; change in social connectedness since the pandemic/ same social connectedness since the pandemic; and metropolitan area / micropolitan area. Weighted descriptive statistics, bivariate and multivariable analyses were used to assess vaccine hesitancy.

### *Results:*

A total of 8,468 (weighted N = 50,269,862) respondents were included in the study, of which 80% were 65 years and older. Majority of the sample was from metropolitan region (~80%), noted no change in their social connectedness since the pandemic (~52%), and about 41% were vaccine hesitant. Non-metropolitan residents were more likely to be vaccine hesitant compared to metropolitan residents (Adjusted OR: 1.33, 95% CI: 1.06 – 1.68). Those who had same social connectedness as before the pandemic were more likely to be vaccine hesitant compared to those who experienced any change in their social connectedness (Adjusted OR: 1.16, 95% CI: 1.01 – 1.33).

*Conclusion:*

The results indicated that non-metropolitan status and having the same social connectedness during the pandemic as before the pandemic were associated with vaccine hesitancy.