**Interpretations & Conclusion**

**Interpretation**

-These findings suggest that income and vaccination rates have very weak and statistically insignificant associations with COVID-19 infection rates at the county level.

**-While t-tests showed some differences in means, these differences did not hold up when considered in the broader context of a linear regression model. Other unmeasured factors likely play a more substantial role in explaining the variation in COVID-19 infection rates across counties.**

**Limitations**

It's important to note that this analysis is based on limited sample data and may not capture the full complexity of the relationships.

* **Temporal Limitations:**

**The analysis is based on data available at a specific point in time, and it may not account for changes in COVID-19 infection rates, vaccination rates, or socioeconomic factors over time.**

**The dynamics of the pandemic have evolved, and new variants of the virus and vaccination campaigns have impacted the landscape of COVID-19 cases.**

* **Simplistic Model:**

**The linear regression model used in this analysis is relatively simple and may not capture the full complexity of the relationships between socioeconomic factors and COVID-19 infection rates. More advanced models may be needed to provide a more accurate representation of the data.**

* **Geographic Variations:**

**The analysis assumes a uniform relationship between socioeconomic factors and COVID-19 infection rates across all counties. In reality, geographic variations in healthcare systems, public health policies, and population characteristics can lead to different outcomes.**

**Next Steps**

Future research could explore additional variables (Population Density, Travel and Commuting Patterns, Viral Variants. Etc) and conduct more in-depth analyses to better understand the factors influencing COVID-19 infection rates.

**Conclusion**

-While our analysis did not find strong associations between income, vaccination rates, and infection rates as expected, it provides a foundation for further investigation into the socioeconomic impact on the spread of COVID-19.

**-The ongoing fight against the pandemic requires a holistic and evidence-based approach that considers a wide range of variables, with the ultimate goal of reducing infection rates, ensuring equitable access to healthcare, and protecting public health.**