Hi, my name is Andrew Zhou, and my county under analysis is Dallas, Texas. My project mainly focuses on unemployment and uninsured health insurance rates.

My problem is on how COVID-19 and mask mandates impact Dallas Texas’s unemployment and Uninsured health insurance rates. And also how does COVID-19 impact Unemployment rate and in turn impact health insurance rates, which in turn impacts the death rate?

Before starting my analysis, my hypothesis was that: COVID-19 daily cases are positively correlated with unemployment. As COVID cases increases, unemployment increases. Since most peoples’ insurance is from their employment, Uninsured health insurance rates will increase, and the more likely people are not going to get their needed medical attention.

So why does this analysis matter? Dallas, Texas has a history of having one of the highest rates of uninsured health insurance rates in the United States. “Hospital leaders have said that these uninsured patients put off preventable care until something is wrong and end up in the emergency room.” I believe it is important for people to get their needed medication attention.

Here’s a plot of Dallas, Texas’s history of unemployment and uninsured health insurance rates ranging back to 2010. The uninsured rate hovers roughly around 16-25% which is very high, and unemployment is actually relatively low and has been stably decreasing. We can see a huge spike in both rates at the start pandemic.

Here’s a plot of Dallas, Texas unemployment rate, new covid cases, and mask mandates. We can see there is a large spike in unemployment at the beginning of the pandemic and then steadily drop down. Using this plot, it is difficult to determine if there is any correlation between unemployment and new covid cases.

Here’s a plot of Dallas, Texas uninsured health insurance, new covid cases, and mask mandates. Unfortunately, this data only had annual data, so there are very few data points. Again, we can see there is a large spike in uninsured health insurance rates going up to near 30% at the beginning of the pandemic and then drop down soon after.

In order to check for correlation between unemployment and covid cases, I ran a regression on with new covid cases as the independent variable and the unemployment rate as the dependent variable. The shocking results from the regression were that there is not enough evidence of a correlation between the two.

I decided to also check how mask mandates impact covid cases. Running a regression on Mask mandates and new covid cases, I found out that they’re correlated. However, it is found that they’re positively correlated. Which means mask mandates were put in the worst periods of covid and covid cases increased regardless of the mask mandate being put in place.

I also did a study on how Dallas Texas’s death rate compares with other counties in the United States for comparison. Dallas has 200.6 deaths per 100,000 people. Which is actually ranked 2004 out of 3227 of the counties under analysis, which is relatively low, despite having high uninsured health insurance rates.

In conclusion, my hypothesis is completely wrong. It turns out Mask mandates are positively correlated with COVID cases, which means it probably does not impact unemployment rate. New COVID cases were also uncorrelated with unemployment. The only impact COVID had was the initial spike, then both unemployment and uninsured insurance rates decreased after the spike.

So COVID cases didn’t really impact insurance rates and Dallas actually is doing well in terms of deaths. Although, Dallas is doing relatively well, I must say that their low insurance rates should still be a concern.