Executive Summary: Factors Affecting Health Insurance Rates

Isabella Caro, Vahram Khachikyan, Nick Verbus

**Problem**

A significant percentage of the United States’ population is without health insurance. This project analyzes the relationships between different factors-- such as income, wealth inequality, race, and other demographic indicators-- and rates of uninsured populations across the 50 states. Our project seeks to identify if these factors correspond with parts of the population that are uninsured.

**Findings**

**Rates of Uninsured People Over Time**

Although the number of uninsured people has generally been decreasing from 2010 to 2018, there are certain characteristics that affect the rate at which this number declines. Different types of analyses including a linear regression model find correspondence between the uninsured and total population of a state given specified factors such as race, sex, income, age, and wealth inequality.

**Rates of Uninsured People by Race Category**

Overall trends across states show that the percentage of Hispanic (any race) population that is uninsured is around 50% higher than the average percentage of uninsured population, making Hispanic the race category with the highest rate of uninsured people across all states (except Hawaii) followed by black and white. One thing to note is that, according to the U.S. Census Bureau, all people (citizens and noncitizens) with a usual residence in the United States are included in the resident population for the census.

**Rates of Uninsured People by States’ Income Level**

Analysis by income quartiles show that the states in the highest and lowest quartiles have the highest rate of decrease in the number of uninsured people over time, whereas the states within the middle-income quartiles have lower rates of decrease in the number of uninsured people over time.

**Multivariate Analysis of Factors Affecting Insured Status**

Isolating individual demographic variables with respect to the entire population reveals some correlations between being uninsured and the respective selected demographic. Similar trends were also found using multivariate regression. These findings showed that males are more likely to be uninsured, black (non-Hispanic) and Hispanic (any race) people tend to have a higher tendency to be uninsured compared to white (non-Hispanic) people and having an income in the range slightly above poverty level to moderate is most highly correlated with being uninsured.

The multivariable analysis also suggests that younger people may tend to be less insured than older people. Something to note is that people roughly around and below the poverty line are less correlated with being uninsured than those earning slightly more, this could be due to MEDICAID.

**Correlation Between Income/Wealth Inequality and Insured Status**

The analysis also showed that there is a moderate correlation (absolute value of 0.41) between percentage of uninsured people and level of income by state and a weak correlation (absolute value of 0.26) between the Gini coefficient and percentage of uninsured people by state.

**Recommendations**

To understand this information can help people make more informed decisions when it comes to attitudes towards insurance. Be they in position of authority or a normal citizen, the data shows them that there are disparities when it comes to insurance coverage between certain portions of the population. It can help us as a country construct better policies to remedy the current situation by producing more, well-priced, opportunities for these people to insure themselves.