Reflection Write Up

Our experience working on this project has been enriching. This data visualization project allowed us to continue working on our skills in analyzing and visualizing data. Our project focused on U.S. Chronic Disease Indicators (CDI) from the Centers for Disease Control and Prevention (CDC). When we got the data, the dataset had 1.19 million rows that spanned across many health topics from asthma to diabetes, different demographics, and different U.S. state locations. The key data question we focused on addressing for the project was the following: How do chronic disease indicators vary across states?

Throughout this project, we frequently changed our approach to identify specific chronic disease indicators rather than all as a whole. The disease indicators researched were cardiovascular disease, asthma, health foods, reproductive cancer, and mental health. Chronic diseases differed between Wisconsin, Maryland, densely populated states, and southern states. We intentionally chose states that were southern, densely populated or had a large African-American population. We wanted to investigate if conservative ideology, large population, or high minority populations were correlated with higher rates of chronic disease.

Keona:

I chose to compare different health conditions across multiple states. I looked into cardiovascular health across some of the most populated states. Raw numbers were used and so larger numbers of mortalities aligned with larger population numbers of the states. Therefore, California, the most populated U.S. state, had the highest amount of mortalities from different heart conditions and diseases.

I also looked into a correlation between rates of poverty and rates of mentally unhealthy days, particularly in southern states. I hypothesized that these two categories would correlate due to the mental toll and stress that being in a poverty state can induce. I also wanted to focus on the South because poverty rates have historically been higher in the South. Arkansas and Alabama seemed to be the top states that correlated with both higher rates of poverty and mentally unhealthy days while Virginia was another one that correlated with lower poverty rates and lower mentally unhealthy days.

My third graph involved looking into reproductive cancers across states with higher African-American populations. Reproductive health is a significant issue among many different black communities due to the disproportionate rates of infections, reproductive cancers, and pregnancy complications. There were higher death rates from breast cancer and prostate cancer, with the mortality from cervix cancer being much lower across these states.

Afia-Grace:

For all three of my graphs, I chose to compare Wisconsin and Maryland due to a similar population size of about 5 million. However, there is not a similar racial population. Data obtained from the CDC did not give a population rate, so for each chronic disease, I assumed

the units were per 100,000 people. For all graphs, I used averages to express the amount of chronic disease indicators experienced by race.

From my asthma bubble chart, Black individuals have fewer emergency department visits for asthma per capita in Wisconsin compared to Maryland. However, it is important to note that the Black population in Wisconsin is significantly smaller than the population in Maryland at only 6% of the population compared to 37% in Maryland. For my daily vegetable and fruit consumption among high schoolers in Maryland and Wisconsin, results show that high schoolers in Maryland of all races consume more healthy foods compared to Wisconsin. Data for Asians and American Indian Pacific Islander high schoolers was insignificant. I hypothesized that Black minority groups would have a lower amount of vegetables and fruit consumed because of the likelihood of food deserts in their neighborhood and the built environment.

Results indicated that in Maryland, Asian individuals had the highest rates of vegetable and fruit consumption, whereas in Wisconsin white individuals had the highest rates of vegetable and fruit consumption. For Cardiovascular Disease, white individuals in both Maryland and Wisconsin had higher rates of Cardiovascular Disease events compared to their black counterparts. This is interesting because Black individuals have more risk factors for CVD due to lifestyle factors and possibly decreased quality of healthcare access and services, typically giving rise to a higher prevalence of CVD events.

Delving into the health indicators of Wisconsin and Maryland, these visualizations not only shed light on disparities in chronic disease outcomes but also prompted reflections on the potential influence of demographics and environmental factors. Understanding these patterns is crucial for shaping targeted interventions and public health strategies that address the unique needs of diverse populations

Overall, this project has enhanced our experience and skills with data visualization and analysis and allowed us to explore data for thousands of diseases. We were also able to develop Tableau dashboards that are closely aligned with our career aspirations and our passion for addressing health disparities. Our coaches, Prithvi and Hermoini were integral to the success of our project. Their suggestions about demographics, visualization, and which units to use helped with making our data as clear as possible. Overall, we enjoyed getting to work more on this technical skill which is beneficial in our technological era.

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