Health Data Visualizations for the United States of America

The data used in this application is comprised of economic, environmental, behavioral, demographic, and health data that comes from the CDC. You can find all the relevant data on their website: https://www.cdc.gov/dhdsp/maps/atlas/index.htm.

The application is comprised of 5 visualizations, two histograms, one scatterplot, and two choropleth maps, with two dropdown menus to select data types. Each of the selected data types gets its own histogram and choropleth map and both selected data types will appear on the scatterplot. All 5 of the visualizations have tooltip info when hovering over a specific data point/group. The histograms have a brush feature implemented to highlight certain data ranges. The highlighted data within the histogram will also be highlighted on the respective choropleth map as well as on the scatterplot. The scatterplot will also consider having a brush selection on both histograms, highlighting the data that is shared in the selections. Currently the scatterplot also has a brush feature that allows the user to highlight a specific group of data, but it does not update the other graphs.

The application can be used to compare lots of different health data to allow the user to see correlations between different data types. For example, the user can select poverty percentage or income and percent smokers to see that there is a strong correlation between the two data types, suggesting that people in poverty are more likely to smoke.

The application was created using primary JavaScript leveraging the d3 library to create the visualizations. The creation and interaction code for each type of visualization is split off into its own file, with the main.js file loading the data and creating the instances of the visualizations. The structure of the web page is handled in an html file with some simple CSS styles contained in a .css file. The visualizations are fairly modular, so it wouldn't be too hard to add more graphs, although there is some code in main.js and the histogram.js that assume there's only the 5 visualizations, but that shouldn't be too difficult to update.

The code for the project is hosted on my GitHub page: https://github.com/nsuce/VID-Project-1. I created and tested the code using Visual Studio Code with the liver server extension to allow me to render my code to a webpage. As far as I'm aware, there aren't any special steps needed to be able to run the application.

This was my first JavaScript project, and my first time using d3, so there were a lot of challenges when creating the application. Some features took me longer to implement than they probably should have, and some were unable to be completed within the required time frame. If I had more time, I would've liked to have gotten the brush feature on the scatterplot to update the other visualizations as well as implement the brush feature for the choropleth maps. I would also have liked to make the page look a little nicer, as it's currently just two dropdown menus and some graphs, there's not anything else on it.

The application displayed on a webpage: