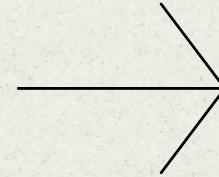# Mapping and Visualizing Health Data in The U.S: Cardiovascular Disease Risk

Princeton Hampton–Jackson and Emnet Sisay
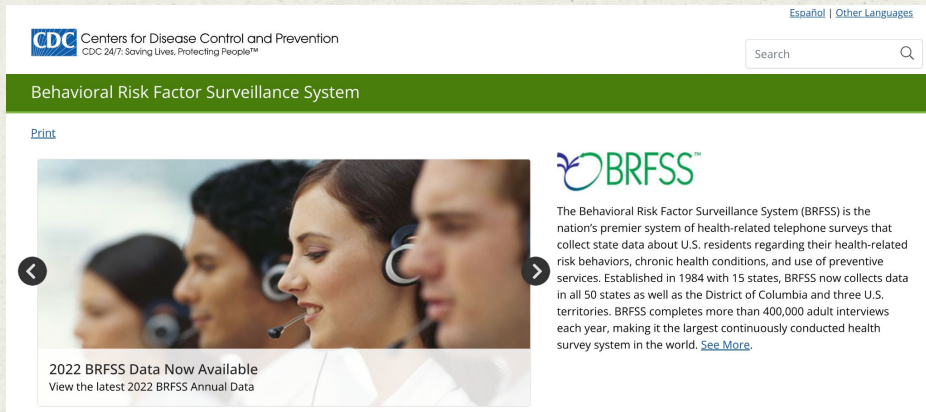
695,000

People die every year from cardiovascular disease in the United States

Goal: To leverage spatial data analysis and visualization for addressing CVD, promoting healthier lifestyles, and improving public health outcomes.
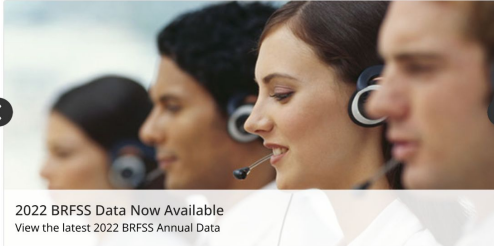
Project Outline & Methodology

1. Data sources: Behavioral health indicators and cvd mortality data from CDC
2. Merged datasets by "state" to visualize metrics spatially
3. Conduct bootstrapping methods to determine which predictors are most significant in our outcome (cvd mortality)
4. Run the model with the lowest test error
5. Create a composite score for risk (binary high vs low)
6. Put this on a publicly accessible web page that empower people to make proactive health decisions, and has interactive maps for CVD risk assessment

Webgis Example

Heart Diseases Mortality in US Adults per 100,000
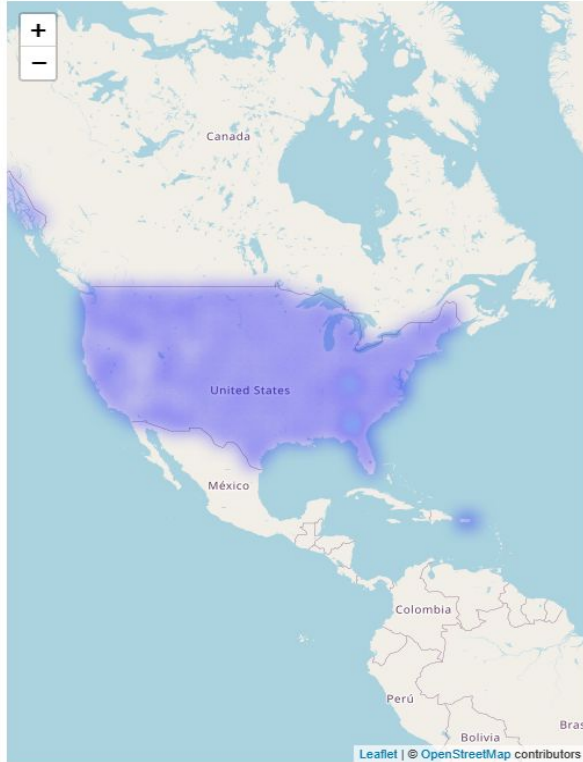
Top 10 Mortality Rates
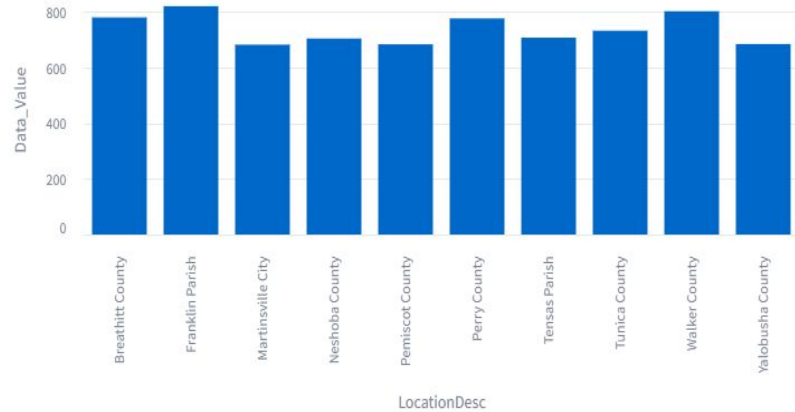
Challenge: Integrating Streamlit into Wordpress

- Challenge: Embedding a Streamlit application seamlessly within a WordPress website for interactive data visualization.
- Approach: Explore integration methods like iframe embedding or plugin development to incorporate the Streamlit app into the WordPress environment.
- Solution: Develop a custom WordPress plugin or utilize existing plugins/extensions to facilitate the integration of Streamlit, ensuring compatibility and functionality.
- Outcome: Enable users to access the CVD risk assessment tool directly within the WordPress website, enhancing user engagement and accessibility while leveraging the capabilities of Streamlit for interactive data exploration.

Challenge: Merging two datasets(BRFSS & CVD Mortality)

- Challenge: Integrating data from disparate datasets to create a unified dataset for CVD risk assessment.
- Approach: Utilize data processing techniques such as data cleaning, normalization, and matching to merge the two datasets effectively.
- Solution: Develop custom algorithms or use existing tools to reconcile differences in format, structure, and content between the datasets, ensuring consistency and accuracy in the merged dataset.
- Outcome: Achieve a comprehensive dataset that combines geographical and behavioral data, enabling robust analysis and visualization of CVD risk factors.

Next steps

Developing wordpress

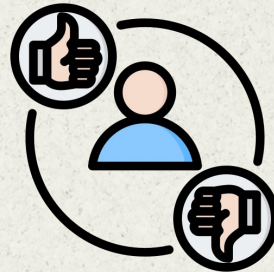Integrate our streamlit into wordpress to make this a webpage, adding in interactive components

Updating the dataset

Need to complete merging the datasets so that we can add BRFSS data onto the map

Gather feedback

Conduct usability testing and gather feedback from target users to identify areas for improvement

Scale the project

Consider the sustainability of this webpage, and any partnerships