Indicators of Heart Disease

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Brief Description of data:

The dataset contains information about individuals, including their sex, age category, general health status, smoker status, alcohol consumption, physical activity, diabetes status, COVID-19 positivity, and history of heart attacks. Each entry represents a person and includes attributes describing their health and lifestyle. This dataset can be used to analyze the factors contributing to various health conditions, such as heart attacks.

Link to data-set

Most Important parts of data that needs to be visualized:

- Heart disease percentage by state in US

Attributes used: **State, HadHeartAttack**

- Smoking Status by AgeCategory

Attributes used: **AgeCategoryategory, Smoking Status, State**

- Percentage of heart disease patients tested COVID positive

Attributes used: **CovPos, State, HadHeartAttack**

- Heart disease percentage by age group

Attributes used: **HadHeartAttack, State, AgeCategory**

- Heart Disease Prevalence by Gender, General health, Smoker status

Attributes used: **HadHeartAttack, Sex, GeneralHealth, SmokerStatus, State**

- Correlation between Heart Disease and Diabetes

  `Attributes used:` **HadHeartAttack, HadDiabetes**

Description of the attributes used:

- **State**: Indicates the states in USA
- **HadHeartAttack**: Indicates whether the individual **has heart disease**, categorized as Yes or No.
- **Sex**: Indicates the gender of the individual (Male, Female).
- **AgeCategory**: Specifies the age group of the individual, ranging from 25 to 29 years old to 80 years or older.
- **GeneralHealth**: Describes the overall health status of the individual, classified as Excellent, very good, Good, Fair, or Poor.
- **SmokerStatus**: Indicates the smoking habits of the individual, categorized as every day smoker, someday smoker, former smoker, or non-smoker.
- **HadDiabetes**: Indicates whether the individual has diabetes, categorized as Yes or No.
- **CovidPos**: Indicates whether the individual has tested positive for COVID-19, categorized as Yes or No.

The actual visual design for the above:

- **Choropleth Map:** Used to visualize states of the USA, highlighting the states based on their percentage of people who had heart disease.
- **Donut Charts:** Utilized to show the percentage of people who had a heart disease based on sex, general health, and smoker status both for each state and overall USA.
- **Grouped Bar Charts:** Displays the percentage of individuals with heart disease within each age group. One group displays the percentage of individuals of each age group, while the other group illustrates the percentage of individuals within each age group among the total population with heart disease.
- **Bar Chart:** Used to depict the percentage of people who had a heart attack and tested positive for COVID-19.

- **Donut Chart:** Illustrates the correlation between the percentage of people who had diabetes and a heart attack. The chart categorizes individuals as having both conditions, neither, only diabetes, or only a heart attack.
- **Stacked Bar Chart:** Shows the percentage of each type of smoker in each age group. The chart can be transitioned to a grouped bar chart for clearer comparison between age groups.

Why these visualizations?

- **Choropleth Map:** Shows geographic variations in the percentage of people with heart disease across states, providing a quick overview of the data distribution.
- **Donut Charts:** Ideal for comparing percentages within categories, such as the prevalence of heart disease based on sex, general health, and smoker status. The use of donut charts for each state and the overall USA allows for comparisons at both levels. Used to illustrate the correlation between diabetes and heart attacks, categorizing individuals based on their conditions. This chart type is well-suited for showing proportions within a whole.
- **Grouped Bar Charts:** These charts are effective for comparing percentages within age groups and across the total population with heart disease. The dual representation in one chart enables easy comparison between age groups and their contribution to the total population with heart disease.
- **Bar Chart:** A simple and effective way to compare the percentage of people who had a heart attack and tested positive for COVID-19, providing insight into the relationship between the two conditions.
- **Stacked Bar Chart:** Offers a detailed view of the percentage of each type of smoker in each age group. The ability to transition to a grouped bar chart enhances clarity when comparing different age groups.

Contributions:

Signed contributions

Varshitha Konireddy

Choropleth visualization

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K.V.f
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Renu Sree Vyshnavi

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