Q - 10 questions you formulated and the corresponding answers/charts/visuals to your own questions about your data, including machine learning algorithms or statistical analysis methods you applied to get your answers, and what software(s) you used.

Ans - **Health & Outcome Focused Questions**

1. Which cities have the highest and lowest rates of obesity?

A graph of a number of cities

Description automatically generated

A graph with green lines

Description automatically generated

**Interpretation**: There is clear geographic disparity in obesity rates, with specific cities consistently ranking at the extremes. This may suggest regional lifestyle, access to healthy food, or socioeconomic status as contributing factors.

1. Is there a correlation between frequent mental distress and chronic physical health issues like diabetes or cardiovascular disease?

A red and blue squares with white text

Description automatically generated

**Interpretation**: A moderate to strong positive correlation likely exists. This supports the idea that mental health is intertwined with physical health, particularly chronic conditions.

1. Do cities with higher rates of firearm suicides also have higher rates of mental distress or binge drinking?

A diagram of a heatmap

Description automatically generated

**Interpretation**: A visible upward trend would imply a statistically meaningful link between mental distress/binge drinking and firearm suicide rates. This supports public health initiatives focusing on mental health to reduce suicides.

**Mental Health & Substance Use Questions**

1. What is the geographic distribution of frequent mental distress across states?

**A graph of mental distress

Description automatically generated**

**Interpretation**: Certain states or regions (possibly in the South or Midwest) show higher mental distress rates, suggesting potential need for targeted mental health services.

**Geographic Comparisons**

1. Are certain states or regions consistently above or below national averages in preventable death metrics?

A graph of a number of columns

Description automatically generated with medium confidence

**Interpretation**: Some states consistently underperform in preventable health outcomes. This reflects systemic public health issues, including access to care, socioeconomic inequality, or public policy gaps.

1. Do cities with poor access to dental care also report higher physical distress or chronic disease rates?

A graph showing a red line between blue dots

Description automatically generated

**Interpretation**: A negative correlation is likely seen, suggesting a significant relationship. This emphasizes the role of dental health as a predictor or marker for broader health outcomes.

**Source Reliability or Methodological Questions**

1. Do health estimates differ significantly between data sources for similar indicators, and why might that be?

A graph with numbers and a bar chart

Description automatically generated with medium confidence

**Interpretation**: The visuals indicate that data on premature deaths from all causes is primarily sourced from NJSHAD and NVSS MCDD, with other sources contributing only marginally. This suggests a strong reliance on these two primary data providers for mortality metrics.

**Preventive Care & Mortality Questions**

1. Is there a significant association between lack of dental care and chronic diseases like diabetes?

A graph of blue dots

Description automatically generated

**Interpretation**: A negative relationship between poor dental care and diabetes prevalence would affirm the systemic connection between oral and overall health.

1. What cities have the highest rates of premature deaths from all causes?

A graph showing the number of cities

Description automatically generated

**Interpretation**: Certain cities(Decatur) exhibit significantly higher rates, possibly linked to socioeconomic status, healthcare access, or environmental factors.

**Demographic Disparity Questions**

1. Are there health disparities between cities in the same state?

A chart of different colored squares

Description automatically generated

**Interpretation**: Significant disparities were likely observed, even within the same state. This reflects localized policy effectiveness, infrastructure, or community health resources.