

Vineet Mehta

Milestone 1

Project Name: Mental Health and Mortality: Analyzing Trends and Patterns in U.S. Suicide Rates and Emergency Department Visits

Description: This project examines the relationship between suicide rates and mental health emergency department visits across the U.S. to identify trends and potential risk factors.

Business Problem:

Suicide and mental health crises are significant public health challenges. This project seeks to explore the connection between emergency department visits related to mental health and subsequent suicide rates. It aims to answer critical questions such as: How have suicide rates and mental health emergencies changed over time? Are there demographic groups that are particularly vulnerable? This analysis could help inform policy-makers and healthcare professionals in developing interventions and resources to reduce mortality from mental health conditions.

Datasets:

The data for this project will come from multiple publicly available sources, including:

- **"Death rates for suicide by sex, race, Hispanic origin, and age, United States"** (provides data on suicide rates by various demographic categories)
- **"Monthly Provisional Counts of Deaths by Select Causes, 2020-2023"** (gives monthly death counts from suicide and other causes)
- **"SHIP Emergency Department Visits Related to Mental Health Conditions (2008-2017)"** (records emergency department visits related to mental health conditions)

These datasets provide a wide range of data across various demographics and time periods, enabling comprehensive analysis.

Methods:

The project will utilize descriptive statistics, time series analysis, and correlation studies to explore the trends in suicide rates and mental health-related emergency visits. Visualizations such as line graphs and scatter plots will highlight trends over time, while regression models may be employed to predict correlations between emergency visits and suicide rates across demographic groups.

Ethical Considerations:

This project deals with sensitive topics, including suicide and mental health. Ensuring that data analysis and conclusions are handled with care to avoid stigmatizing vulnerable populations is paramount. Additionally, the privacy and confidentiality of individuals represented in the data must be maintained.

Challenges/Issues:

Some challenges may include missing or inconsistent data across time periods and demographic categories, which could complicate trend analysis. Moreover, making causal inferences from correlations between emergency department visits and suicide rates must be done cautiously to

avoid overstating conclusions. Another challenge could be the societal sensitivity surrounding the topic of suicide.

References:

- Centers for Disease Control and Prevention (CDC) data on suicide rates and causes of death
- Scholarly articles on suicide prevention and mental health emergencies
- Public health reports and government resources on mental health trends