

ABSTRACT (DESCRIPTION)

The goal of this project was to address the U.S. opioid epidemic with visual analytics while identifying which opioids contributed the most to overdose deaths. It was also important to determine which states, genders, and age groups were at greater risk of opioid-related overdoses for further project scoping and iteration.

DESIGN

Using datasets acquired from [CDC Wonder](#), an online database of public health information. The objective was to perform initial EDA on the datasets queried, and to iterate the design project process to address our project objectives stated above.

DATA (FEATURE AND TARGET)

Data was directly queried from CDC Wonder. Drug-induced causes (including unintentional, suicide, homicide, undetermined) was selected as the underlying cause of death. Additionally, data was filtered for opioid-related overdose deaths as categorized by the International Classification of Diseases (ICD-10), and included the following opioids:

Heroin (T40.1), other opioids (T40.2), methadone (T40.3), other synthetic opioids other than methadone (T40.4 – primarily fentanyl), and cocaine (T40.5)

The data contained 9800+ unique data points with 10 features including state, year, gender, age group, opioid, deaths, etc.

ALGORITHMS/METHODS

Initial EDA of the data was performed in Microsoft Excel through the use of pivot tables and built-in charts. This included overdose deaths involving any opioid by state, and by gender. The remainder of the data transformation and visualization took place in Tableau Public. Two datasets were used to create visualizations and dashboards used the final presentation and findings

TOOLS

- Python and Pandas for data cleaning, transformation, and manipulation
- Microsoft Excel for initial EDA
- Tableau Public for data visualization and analyses

COMMUNICATION

In addition to the slides and visuals presented, all work is available on my [Github](#). Interactive version of Tableau visuals presented can be found [here](#) and [here](#).