**Executive Summary**

This project addresses the urgent public health crisis of rising Opioid-related deaths, aiming to inform effective strategies to combat this epidemic. The central question is "What factors are linked to Opioid-related deaths, and how can data insights guide public health interventions and policies?". I will use various datasets, including demographics, geographic locations, toxicology reports sourced from public health agencies and law enforcement databases.

**Motivation**

My motivation behind studying Opioid-related deaths is the urgent need to address a public health crisis. Opioid is causing a growing number of fatal overdoses. Investigating the factors contributing to these deaths is important for developing effective strategies to prevent them. By analyzing data, I aim to uncover patterns in who is affected, where it's happening, and what substances are involved.

**Data Question**

1. How has the prevalence of Opioid-related overdose deaths evolved over time, and are there any significant trends or patterns?
2. What demographic factors, such as age, gender, and location, are associated with a higher risk of Opioid overdose?
3. What are the primary sources and distribution channels of illicit Opioid, and how have they changed over the years?
4. How do public perceptions and media coverage of the Opioid epidemic affect policy decisions, public awareness, and the allocation of resources for prevention and treatment?
5. Are there geographic hotspots or clusters of Opioid -related overdose deaths, and if so, what factors contribute to their concentration in those areas?

**Minimum Viable Product (MVP)**

I will create a PowerPoint presentation featuring my findings. Using visualizations created through Excel, SQL, PowerBI and Python.

This capstone project will shed light on critical aspects of the opioid crisis. My analysis reveals trends, including the geographical hotspots of opioid-related incidents, demographic factors influencing vulnerability. These findings underscore the urgent need for comprehensive strategies and targeted interventions to combat this public health crisis effectively. To mitigate its devastating impact, policymakers, law enforcement agencies, healthcare providers, and community organizations should work collaboratively. While my study has provided valuable insights, it also highlights the complexity of the issue and the necessity for ongoing research and data-driven initiatives to inform evidence-based solutions. Addressing the opioid crisis demands a multi-faceted approach that combines data analysis, public awareness, and policy action to save lives and protect communities.

**Schedule (through <date of demo day>)**

1. Get the Data (12/1)
2. Clean & Explore the Data (12/1)
3. Create Presentation of your Analysis (finish date)

* Should be a presentation, but could include a Jupyter Notebook or dashboard in Excel, Tableau, or PowerB

1. Internal demos (<date of internal demos)
2. Demo Day!! (1/4)

**Data Sources**

* <https://www.kff.org/other/state-indicator/opioid-overdose-deaths-by-raceethnicity/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>
* <https://www.statista.com/statistics/895945/fentanyl-overdose-deaths-us/>
* <https://docs.google.com/spreadsheets/d/e/2PACX-1vQtx6FSSkZRveetiSq28Ai5lnatb2tX8O23xRsi22EEIlUltovaQ-seRojzGrAtxYD-UJ4L5qti7PdU/pubhtml>
* https://usafacts.org/articles/are-fentanyl-overdose-deaths-rising-in-the-us/
* <https://www.commonwealthfund.org/blog/2023/overdose-deaths-declined-remained-near-record-levels-during-first-nine-months-2022-states>
* <https://drugabusestatistics.org/drug-overdose-deaths/>
* <https://www.cdc.gov/opioids/data/analysis-resources.html>

**Known Issues and Challenges**

I will clean the data. This will involve addressing missing values, standardizing data formats, and ensuring quality. I will use programming tools like Python and libraries such as pandas for this. I will initiate data requests allowing lead time to obtain necessary permissions or access. In the meantime, I will explore publicly available datasets.