**Executive Summary**

This project focuses on analyzing prescription drug data extracted from the Controlled Substance Monitoring Database (CSMD) over all years of available records. The dataset identifies prescription drug trends and includes information on which data points are featured on the Tennessee Drug Overdose Data Dashboard, which emphasizes the five most recent years of available data. The analysis aims to inform public health strategies, assess prescription trends, and monitor potential risks associated with controlled substances.

**Motivation**

The primary motivation for this project is to support efforts in addressing the opioid epidemic and other drug-related challenges by leveraging data-driven insights.

*The data:* [*https://www.tn.gov/health/health-program-areas/pdo/pdo/data-dashboard.html*](https://www.tn.gov/health/health-program-areas/pdo/pdo/data-dashboard.html)

[*https://www.tn.gov/content/dam/tn/health/documents/pdo/dashboard/FatalOD\_Downloadable\_Data\_2013\_2022.xlsx*](https://www.tn.gov/content/dam/tn/health/documents/pdo/dashboard/FatalOD_Downloadable_Data_2013_2022.xlsx)

[*https://www.tn.gov/content/dam/tn/health/documents/pdo/dashboard/NonfatalOD\_Downloadable\_Data\_2013\_2022.xlsx*](https://www.tn.gov/content/dam/tn/health/documents/pdo/dashboard/NonfatalOD_Downloadable_Data_2013_2022.xlsx)

[*https://www.tn.gov/content/dam/tn/health/documents/pdo/dashboard/Prescription\_Downloadable\_Data\_2013\_2023.xlsx*](https://www.tn.gov/content/dam/tn/health/documents/pdo/dashboard/Prescription_Downloadable_Data_2013_2023.xlsx)

**Data Question**

*Present your question. Feel free to include any research/articles that are relevant or show where others have attempted to answer this question.*

*The data:* [*https://www.tn.gov/health/health-program-areas/pdo/pdo/data-dashboard.html*](https://www.tn.gov/health/health-program-areas/pdo/pdo/data-dashboard.html)

[*https://www.tn.gov/content/dam/tn/health/documents/pdo/dashboard/FatalOD\_Downloadable\_Data\_2013\_2022.xlsx*](https://www.tn.gov/content/dam/tn/health/documents/pdo/dashboard/FatalOD_Downloadable_Data_2013_2022.xlsx)

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**The project aims to address several key questions:**

1. What are the trends in the prescription of controlled substances over time?
2. How do prescription patterns align with overdose trends highlighted in the Tennessee Drug Overdose Data Dashboard?
3. Which drugs or categories have shown significant changes in prescription volume?
4. Are there notable correlations or gaps between prescription data and overdose metrics?

**Previous Studies:**

* <https://onlinelibrary.wiley.com/doi/10.1111/ajad.12962>
* <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2764097#google_vignette>
* <https://aspe.hhs.gov/explaining-growth-prescription-drug-spending-review-recent-studies>

**Minimum Viable Product (MVP)**

*Define your MVP. This should be a description of what your final capstone will look like, including visualizations, how the analysis will be presented, who the intended audience is, etc.*

The final capstone project will provide a comprehensive analysis of prescription trends for controlled substances in Tennessee using the Controlled Substance Monitoring Database (CSMD) and data from the Tennessee Drug Overdose Data Dashboard. The goal is to produce a visually engaging, data-driven report that highlights key findings and provides actionable insights for stakeholders involved in public health, policy, and healthcare.

* I plan to include:
  + Interactive Dashboard / Visualizations

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

1. Get the Data (1/26)
2. Clean & Explore the Data (2/9)
3. Create Presentation of your Analysis (2/23)

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

1. Internal demos (2/27)
2. Demo Day!! (3/6)

**Data Sources**

*Document the data you use and the source of that data*

* Controlled Substance Monitoring Database (CSMD)
* Tennessee Drug Overdose Data Dashboard:
* *The data:* [*https://www.tn.gov/health/health-program-areas/pdo/pdo/data-dashboard.html*](https://www.tn.gov/health/health-program-areas/pdo/pdo/data-dashboard.html)
* [*https://www.tn.gov/content/dam/tn/health/documents/pdo/dashboard/FatalOD\_Downloadable\_Data\_2013\_2022.xlsx*](https://www.tn.gov/content/dam/tn/health/documents/pdo/dashboard/FatalOD_Downloadable_Data_2013_2022.xlsx)
* [*https://www.tn.gov/content/dam/tn/health/documents/pdo/dashboard/NonfatalOD\_Downloadable\_Data\_2013\_2022.xlsx*](https://www.tn.gov/content/dam/tn/health/documents/pdo/dashboard/NonfatalOD_Downloadable_Data_2013_2022.xlsx)
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**Known Issues and Challenges**

*Explain any anticipated challenges with your project, and your plan for managing them. Be sure to include:*

* There could be a challenge with if I need additional data and ensuring I submit the form in time to get the additional data. This need for additional data would be due to any missing data or inconsistencies in data types