**Capstone Proposal**

**Prescription Opiate Epidemic**

By Jimmy Smart

**Background**

According to the Centers for Disease Control and Prevention, CDC, drug overdose deaths continue to rise in the United States. States across the country are working on ways to combat this issue but what are they fighting against?

Of these deaths, nearly 70% involved a prescription or illicit drug related overdose. By better understanding the data, governments, doctors, medical practitioners and their patients can gain a better understanding of how to properly combat the issue.

**The Problem**

With opiate prescriptions on the rise in the United States, is there also a rise in accidental deaths due to fatal drug overdose from the use of these drugs? Is there a trend between certain medical practices and the drugs they are prescribing to their patients?

By providing a model that illustrates any correlating trends from the data provided, the general public can gain an awareness of opioid use and any negative effects that may come from this use.

**The Client**

With the models that I will be presenting, I hope to bring an awareness to the medical industry. The clients are the physicians that are prescribing these types of drugs to their patients. My clients are also the patients who are prescribed these drugs.

**The Data**

The datasets that I will be working with contains summaries of prescription records for 250 common opioid and non-opioid drugs written by 25,000 unique licensed medical professionals throughout the United States in 2014. The citizens are covered under Class D Medicare. The data was sourced from cms.gov.

**\*\*Citation:**

<https://www.kaggle.com/apryor6/us-opiate-prescriptions#prescriber-info.csv>

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| Predictor | Description |
| Opioids | List of drugs with numeric values indicating the total number of prescriptions |
| overdoses | Statistics on opioid related drug overdoses |
| Prescriber-info | Medical professionals prescribing opioids to their patients |

**The Approach**

This project will build a model that focuses on prescription opioids, which are generally prescribed to treat pain, to see if there’s any significant correlation with prescribed use and accidental death. As the data is from across the United States, the model will also provide insight into any geographical or population trends as well.

**Deliverables**

The deliverables will include all the relevant code (Python) files and a project report document which summarizes all the key findings. Supplementary information and statistical data will be included as an appendix. The report is currently proposed to be in the form of a document but eventually can be changed to a slide deck.