

# **Capstone Project Proposal**

## **Introduction**

People admit to hospital for certain health conditions. Their conditions may lead to a treatment which may go from simple to surgical type of measures. After taking their treatment, the patients are discharged from the hospital at some point. However, some patients may need to be admitted to the hospital again, and some patients may even die. The readmission and death rates may differ from state to state and hospital to hospital. For some hospitals, the rates could be better or worse or no different than the national average.

The goal of this capstone project is to predict a pattern of readmission rate for certain health conditions on state basis and ultimately help the hospitals to improve on:

- their prevention of and response to complications,
- emphasis on patient safety, and
- the timeliness of care

Health institutions will primarily benefit from this project's analysis. Insurance companies will also take advantage out of this analysis.

## **Data**

The readmissions and deaths rates, which were collected by provider data, will be utilized for this project. The data was collected from 2012 to 2015 and will be downloaded from the DATA.GOV [<https://catalog.data.gov/dataset/readmissions-and-deaths-hospital>].

## **Method/Approach**

I will treat this project as a semi-supervised learning problem. The following libraries will be used for data loading, wrangling, cleaning, feature selection, array data structure, matrix manipulation, data visualization, classifier models, model evaluation etc.

- pandas
- numpy
- matplotlib
- scikit-learn

## **Deliverables**

- Code along with document
- Power point slides followed by presentation