**Prediction of premium amount charges for a Health Insurance company**

**Overview**

*Medical conditions among different age groups have been increasing precedingly in the recent times. The variation in lifestyle has paved way to various ailments which are becoming prominent even among younger generations. Hence, there is a need for an insurance cover for each individual these days.*

*This project will aim at predicting the adequate premium amount that has to be allocated by the Insurance company considering the health conditions, practices and other risk factors of various individuals. This will bring out the demand for Health Insurance companies in the coming years.*

**Business Context**

Prediction of Premium to be charged for the insured based on common health risks and practices.

**High-Level Objectives**

* + - * Identify the average BMI rate of the individuals across different age groups.
      * Categorise age groups based on the BMI index.
      * Gender based analysis on smoking habits.
      * Cumulative overview on the risk factors (BMI, smoking)
      * Average dependents included in the insurance cover
      * Trend of Premium charged by the Insurer currently.
      * Insurance availed across regions.

**Data Requirements**

• Data Sources – Records of medical insurance availed in the company.

• Data Quality – Data looks fine. Few minor wrangling has to be done.

• Data Timeliness – Dataset doesn’t have recent updates. It is an old dataset.

**Spectators**

• Audience: Underwriters

• Subject-Matter Experts – Underwriters

**Implementation**

• Format - narrated storyboard highlighting the key aspects of the proposal using Tableau tool.

• Presentation Vehicle – Story Mode

• Prediction – Machine learning model using Python

• Release – Front-end dashboard for prediction and Tableau story for Exploratory analysis.

**Challenges**

* Determining the appropriate machine learning model could be a challenge.
* Model accuracy can vary for one or other models.