Hospital overcrowded hospitals – Case Study

Reduce overcrowded hospitals and delivery services in ER centers.

How can reduce queues, waiting time hospitals and became more eficiente services?

1. **Analytic Approach**

This problem it will solve using a Classification Model to classify the patiens and determine his priority. The Data Mining Text analisys to cluster diagnosts, threatments and Doctors Specialits. Readmission causes to determine the correct best approach.

1. **Data Requirements**

* The record of patients which will include their names, arrival time, waiting time, time spent for consultation and departure time.
* The number of medical personnel (doctors, nurses, medical labs, pharmacists, and staffs )

* The space available for patient to stay before they are being attended to.
* Collect Medical ER annotations and Diagnosts to mining texts clustes them.

1. **Data Collection**

We will collect all of Data from Data Requeriments , using Healt Care Information System, Databases to collect ER diagnoses and texts informed on the visit patient in time stay in the Hospital. After we will visualize and analise plotting Data using Statistical to get best Dataset to use in the scope problem.

1. **Data Understanding and Preparation**

To the Preparation Data will removing invalid values, missing data, remove duplicates, and formatting. Moreover, feature engineering (this is critical when Machine Learning is used to analyze data) and text analysis can also be carried out.

**Consider in this phase**

Frequency and most recent visits to doctors, clinics and hospitals with diagnoses,

procedures, prescriptions.

Understanding a time period of 30 days was set as the window for readmission

relevant for congestive heart failure patients, following the discharge from the initial admission.

The records that were in transactional format were aggregated, meaning that the data

included ER records for each patient.

1. **Modeling and Evaluation**

The modeling will based on Classify the Patient in consultation time hospital, Predict the best approach treatment based on readmission time, comparing previews clains, ER and Diagnoses.

Model evaluation is performed during model development and before the model is deployed.

**First phase**

The first is the diagnostic measures phase, which is used to ensure the model is working

as intended.

If the model is a descriptive model, one in which relationships are being assessed, then

a testing set with known outcomes can be applied, and the model can be refined as needed.

**Second phase**

The second phase of evaluation that may be used is statistical significance testing.

This type of evaluation can be applied to the model to ensure that the data is being

properly handled and interpreted within the model.