ANALYTICS FOR HOSPITALS' HEALTH-CARE DATA

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PROPOSED SOLUTION

Problem Statement :

There is a problem in hospitals to predict the patient's risk factor to give the prior treatment than the other who has less risk factor. Hence we help hospitals to identify patients of high LOS-risk (patients who will stay longer) at the time of admission. Once identified, patients with high LOS risk can have their treatment plan optimized to minimize LOS and lower the chance of staff/visitor infection. Also, prior knowledge of LOS can aid in logistics such as room and bed allocation planning. The goal is to accurately predict the Length of Stay for each patient on a case by case basis so that the Hospitals can use this information for optimal resource allocation and better functioning.

Idea / Solution Description :

We are able to predict the length of stay of patients with data from the movement they entered the hospital and are diagnosed with an accuracy of ~70%. Such a model has the ability to profoundly improve hospital management and patient well-being. Also we can predict the LOS with big data analytic tools within a Python interface such as Spark, AWS clusters, SQL query optimization, and dimensionality reduction techniques

Novelty / Uniqueness :

Length of stay in the hospital differs based upon the critical in their health situation it can range between 2 to 3 days or even upto 10- 20 days so based on the exploratory analysis of various patients we can accurately predict the length of stay of patients and can allocate optimum resource allocation

Social Impact / Customer satisfaction :

With Exploratory analysis using different methods to predict the length of stay creates a way to out patients to know the vacancy of beds in the hospitals and also paved a way in their critical times to secure their better life

Business Model (Revenue Model) :

Using this model The usage of length of stay of patients in the hospitals has increased among the people and it is free of cost to get the details about the vacancy. It doesn't affect the revenue model.

Scalability of the Solution :

It is a easily scalable method using dataset of previous patients we can able to predict the LOS

- Increased productivity among the users
- Decreased stress level
- Possibility of getting the detailed list of vacancy