Empowering Hospital Operations: A Comprehensive Management System

Background

The wealth of a country is its people's wellbeing. It is important to have a system that smoothens the process of hospitalization and medication, which would result in better and improved healthcare for people. A hospital management system enables hospitals to manage information and data relevant to all aspects of healthcare, including procedures, providers, patients, and more, enabling the efficient and successful completion of activities. It seeks to improve patient experience, lower administrative expenses, cut down on mistakes, and streamline physicians' workflow. When one takes into account all of the many features and departments of a hospital, it becomes evident that a good management system for the healthcare sector is crucial.

Hence, these systems allow for a centralized, electronic system of record-keeping, reducing manual errors and increasing data security. By automating repetitive tasks, healthcare providers are freed up to focus on delivering high-quality patient care. In recent years, advancements in technology have also enabled remote access to patient records, telemedicine services, and improved data analytics capabilities in healthcare management systems, making them a vital component of the modern healthcare landscape.

Objectives

1. Efficient and organized storage of all the information provided by the patient so as to make the information retrieval process as smooth and accurate as possible.
2. To automate and streamline clinical processes such as the storage of initial consultation results. (Issues/Diseases, whether the patient needs to be admitted, prescribed medicines, etc)
3. To increase the efficiency of assigning specialists/doctors. Based on the consultation results and patient preferences.
4. Improving the efficiency of room assignment based on the customer preferences and availability. (Category of the rooms: Private, Semi-Private, VIP etc)
5. Creating a centralized database where all the information about the patient is stored in an efficient manner. (Patient information, consultation results, doctors/specialists assigned, room status)
6. Creating an itemized bill according to all the billable attributes (room category, medicines purchased, consultation fee).

7. Creating a separate insurance segment (Company, Policy holder's name, Insurance ID, etc) that might cover some of the billable attributes and must be deducted from the itemized bill
8. Using the data acquired from the centralized database to visualize the trend in recent diseases (to prevent shortage of medicines) some of the other visualizations that we plan on doing are: a) Room availability b) Pending Bills c) On-going cases d) Patient Inflow and Outflow

Scope

The intent of this database management system is to maximize the efficiency of data storage and data retrieval that is required in hospitals as there are a massive amount of information transactions that happen on a daily basis. Thus, it is essential for such a system to function effectively. We plan on accomplishing this by focusing on entities such as patient information, consultations, room status, doctors/specialists assigned, billing information, and insurance coverage.