



# **Hospital Management System**

## **Project in Data Management for Data Science : Milestone 1**

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## Mission Statement

Our Hospital Management System is dedicated to optimizing hospital operations by streamlining rooms and patient management. Our goal is to enhance the allocation of patients to appropriate rooms and hospital wings, ensuring the availability of necessary equipment at the right places. This system is designed to ease the workflow of medical staff, promote efficient duty allocation, and improve overall patient care quality.

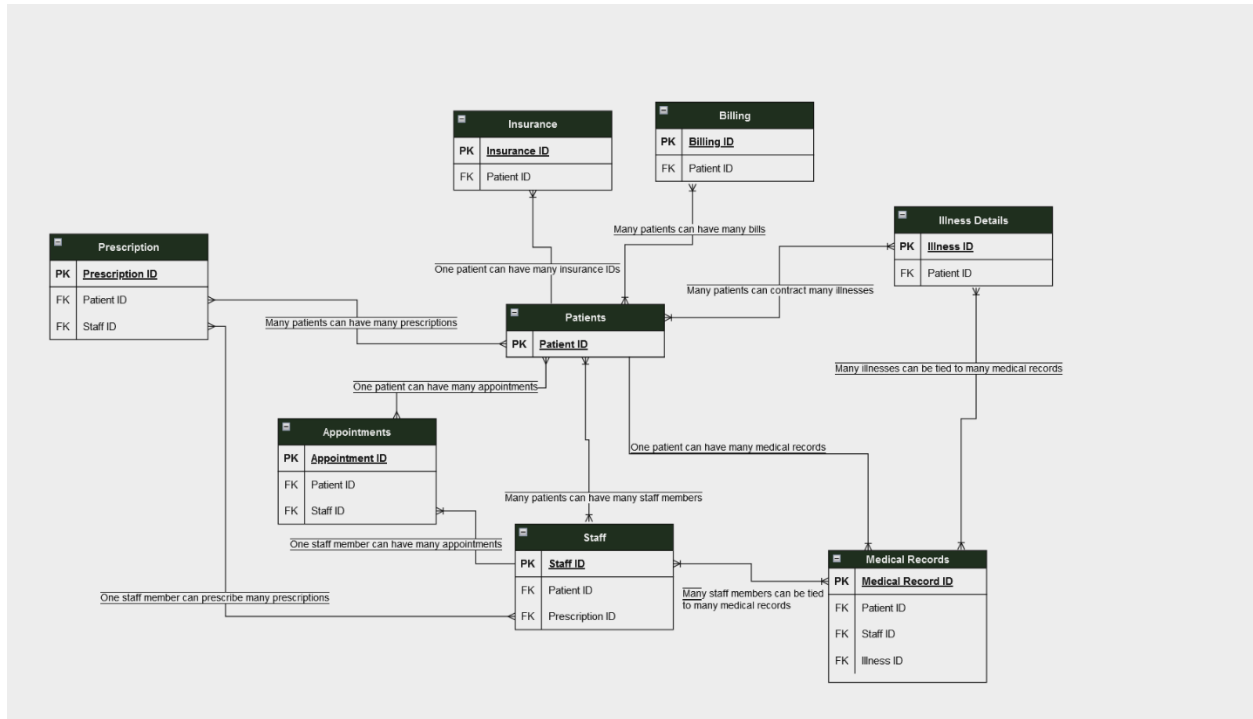
## Summary of the Problem

Hospitals today have numerous database needs for managing patients, staff, rooms, equipment, records, and more. Each of these needs can have up to one or two databases for a single hospital, which can lead to inefficiencies. Our project aims to alleviate these inefficiencies by creating a master database that combines all of these needs into one database. This database will allow key users to access all necessary parts they need to do whatever they need to, from patients managing their billing and health records to upper management making sure the hospital is running smoothly.

Certain users may need to access different portions of the database such as management staff needing to access patient, staff, room, and equipment details. Patients needing to access billing information, update insurance, or check lab results. Doctors and nurses need to update illness details or prescriptions. All of these examples should be accessible in the database our team is creating. Each end user will only have access to their specific portion of the database but for users that need access to the entire database, it will be accessible in an efficient way.

Finally, once the database is implemented further optimizations can be made and complexity can be added to fill in potential needs that may arise. Hospitals vary in size and as such their needs vary depending on the size of the health center. The database the team is creating is scalable and has room for sizing up or down depending on what the needs of the health center and hospital are. The base model, outlined in the below diagrams, is mostly just the bare necessities of what a hospital would need with some additional tables, such as the ambulance management table. Databases should have some room to grow and future proof and ours will allow for that while fixing the key problems outlined above.

## External Model of Hospital Management System



# Logical Model of Hospital Management System

