## Executive Summary

# For efficient operations, our hospital database arranges appointments, rooms, and other important services. Physicians and nurses collaborate on patient care, and the services are integrated in database infrastructure to best cater the needs of patients, and the business model of the hospital. Numerous tables in the database keep track of patient data, and the number of information records store important, and all aspects of data. The partnerships, associations, and different areas of that contribute towards an effective hospital are part of this database. Medication and equipment tables aid in resource management and safety. With the use of modern technologies, we hope to deliver excellent care. These tables, and records are added to make the best use of hospital database, to serve patients, accommodate hospital services and make the best use of database to support the business model.

## Project Objectives

Our hospital's database, which is its central component, is designed to facilitate good patient care by emphasizing efficient administration, confidentiality, and individualized attention. It has a significant part in:  
  
Significance of Various Tables: Important information is contained in distinct tables that are part of our database. For example, the 'Inventory' table tracks medical supplies, and the 'Patient' table safely records patient information.  
  
Table Relationships: By connecting these tables, complete care is offered. The “Hospital\_employee”, “Patient” and ''prescription”, for instance, collaborate to guarantee that the appropriate healthcare provider is available when needed.  
  
Potential Use Cases: The system is made to make several tasks easier, like scheduling appointments, getting prescription refills, and receiving alerts for medical equipment maintenance. We can further enhance this by adding “*financial management*” features to make the database accommodate all aspects of the business. In addition other features like telemedicine visits, a mobile app for quicker access to medical services, and sophisticated data analysis tools can be integrated for better patient care management, and we can increase the functionality of our database.

## Project Scope

The infrastructure that keeps our hospital running is provided by our database. This project's scope consists of:

Significance of Different Tables: Various tables, such as "Staff" for employee information and "Appointments" for patient visitation monitoring, include important information. There are various facets of hospital management for which each table is significant.

Table Relationships: There are logical relationships between the tables. For instance, "Department" links to "Hospital\_Info" to guarantee coverage, while "Patients" links to "Appointments" to manage visit schedules.

Potential Use Cases: Among other things, the database can be used to maintain inventory, supervise treatment programs, and expedite scheduling. It is a multifunctional tool that supports several aspects of operations.

Enhancements for the Business Model: We can include capabilities like online appointment scheduling, patient-accessible digital health records, and analytical tools to enhance resource management in order to better align the database with our business objectives.

## Business Requirements

Our hospital's database is set up to make management and delivery of healthcare more efficient. Important revisions to our business needs consist of:

Significance of Various Tables: Every table has a distinct purpose. For example, 'Patient' tables hold medical records, 'Room' tables control hospital room assignments, and 'Procedure' tables log medical treatments.

Table Relationships: To offer unified care, these tables are connected to one another. The 'Medication' table is connected to 'Patient' to monitor prescriptions, while the 'Room' table is connected to 'Procedure' to arrange procedures.

Potential Use Cases: Keeping track of staff assignments, scheduling surgeries, and monitoring patient stays are just a few of the everyday tasks that depend on the database.

Improvements to the Business Model: We can incorporate features like automated patient updates, a service feedback system, and sophisticated data analytics for resource scheduling to make the model even better.

## Key Stakeholders

For several stakeholders, our hospital database is essential:

'Appointment' and 'Patient' tables are useful for nurses and doctors to use when scheduling patient treatment. Staff availability and credentials are monitored by the 'Hospital\_Employee' and 'Department' tables.

Hospital managers should manage operations, partnerships, and budgets by using the 'Department', 'Affiliated\_with', and 'Cost' tables, accordingly.

IT Staff: Pay close attention to the accuracy and integration of the "Trained\_In," "Equipment," and "Lab Results" columns to ensure seamless technical operations.

Patients: Accurate "Patient," "Prescription," "Medication," and "Diagnosis" tables that document medical histories and treatments provide tailored care, which is an indirect benefit.

## Constraints

The database system at our facility has certain drawbacks:  
  
Financial Restraints: The budgetary information contained in the database is not being examined. Our goal is to preserve, given predetermined budgetary constraints, the linkages between important tables such as "Patient," "Perscription," and "Appointment."  
  
Technological Restrictions: We have trouble integrating and putting linkages between tables into practice. It is essential to make sure that all systems operate properly and that table linkages make sense.

## Cost-Benefit Analysis

The cost-benefit analysis of our hospital database seeks to assess both short- and long-term returns on investment. It is anticipated that the use of tables such as "Hospital\_Employee," "Office," and "Department" will enhance patient care and data organization. We hope to minimize wait times and maximize space utilization by making the most of the "Appointment," "Patient\_Room," and "Medication" tables. A more consistent revenue flow and more efficient operations are anticipated as a result of these upgrades.

The 'Trained In', 'Affiliated\_With', and 'On\_Call' tables provide improved coordination and tracking, which enable us effectively track personnel availability and qualifications. These are examples of indirect benefits. It is also anticipated that accurate patient-medication matching via the "Patient" and "Medication" tables will lower errors and related expenses.

Overall, it is anticipated that the hospital database project will boost productivity, lower the possibility of human mistake, increase efficiency, and ultimately increase our profit margins in addition to recovering the initial expenditure.