

Hospital Patient Records Analysis

Lifecare Multispecialty Hospital - Insights, Findings & Recommendations

Role: Data Analyst

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Tool Used: SQL

Project Type: SQL Case Study

Dataset: Hospital Patient Records (CSV)

Objective: To uncover patterns in treatment cost, diagnoses, demographics, and departmental performance, and generate insights to support hospital operations, planning, and patient care optimization.

Overview

This analysis explored hospital patient data to uncover trends in admissions, departmental activity, diagnosis frequency, demographics, treatment duration, and cost. SQL queries were written to answer key business questions and reveal areas for strategic improvement.

High-Cost Departments Identified

Finding: Cardiology and Neurology departments has average treatment cost above 5000, linked to complex conditions and longer stays.

Recommendation: Conduct regular cost audits and explore cost-effective treatment protocols while maintaining care quality.

Extended Length of Stay in General Medicine

Finding: A large number of patients, particularly in General Medicine, stayed over 10 days - signaling inefficiencies or complications.

Recommendation: Improve discharge planning and implement recovery tracking to reduce prolonged hospitalizations.

Migraine as the Most Frequent Diagnosis

Finding: Migraine appeared as the most recurring diagnosis, implying high readmission or mismanagement rates.

Recommendation: Launch preventive outreach, health education, and specialized outpatient care programs to reduce hospital dependency.

Seasonal Peaks in Admission

Finding: Admissions were highest from June to September - suggesting seasonal or environmental influence on illness rates.

Recommendation: Strengthen planning during peak months by scaling medical staff, supplies, and capacity.

Elderly Patients Dominate Demographics

Finding: Patients aged 60+ formed the largest age group, with noticeable volume from adults and young adults.

Recommendation: Develop specialized health plans for seniors and expand wellness initiatives for all age brackets.

Doctor Workload and Revenue Concentration

Finding: A few doctors were responsible for the majority of treatments and hospital revenue.

Recommendation: Promote workload balance, recognize top-performing doctors, and improve support distribution across teams.

Departmental Timeline & Activity

Finding: Some departments showed consistent operational timelines, while others had low or sporadic admissions.

Recommendation: Evaluate underutilized departments for service quality, public awareness, or reallocation.

Conclusion

This SQL-driven analysis of hospital patient records provided deep insight into operational challenges and patient care trends. By translating data into decisions, this study supports Lifecare Hospital in enhancing service delivery, financial efficiency, and patient outcomes.