



HOSPITAL TRANSACTION



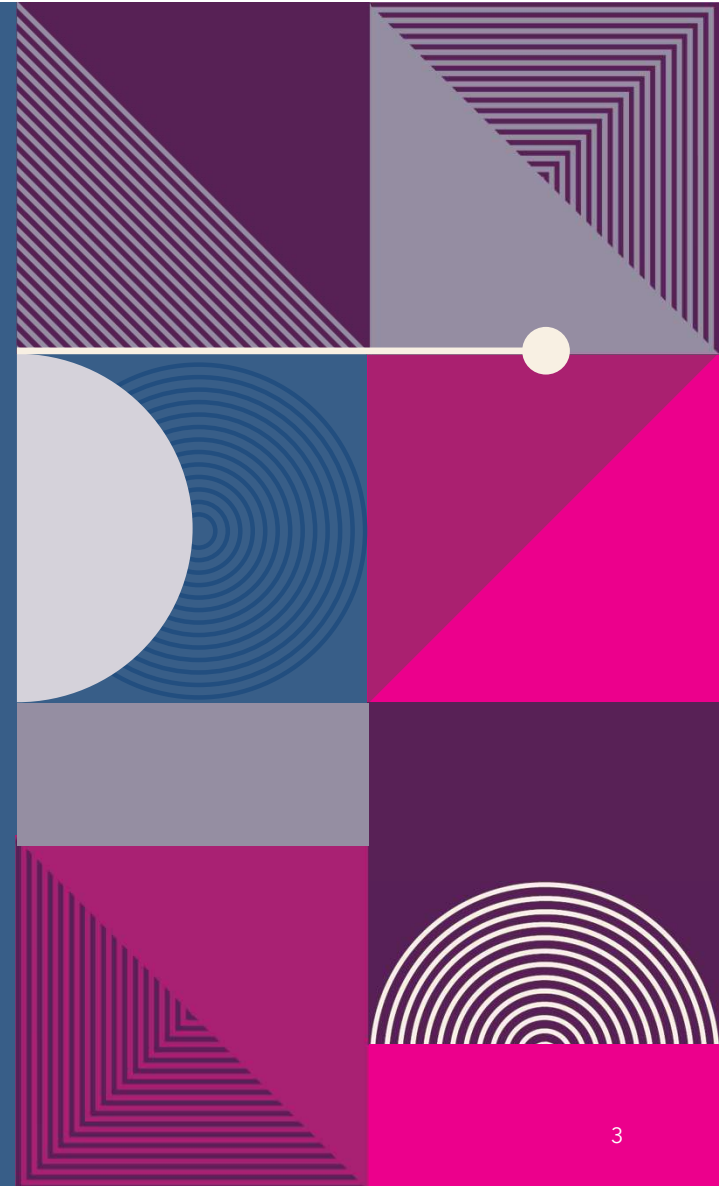
ABOUT US

City Hospital is a well-respected institution in its community. However, the leadership team recognized a growing need to leverage data for better decision-making. Traditionally, financial and operational decisions were made based on intuition and historical trends, which left room for inefficiencies and missed opportunities.

PROBLEM STATEMENT

City Hospital lacked a centralized view of their financial performance. This made it difficult to identify trends, optimize resource allocation, and make data-driven decisions.

As a Data Analyst your role is to help City Hospital make more strategic Data-driven decisions on finance and operations



STEPS TAKEN

1. Data Cleaning and Integration

This process involves identifying and correcting inconsistencies, missing/null values, and duplicates within the data set.

2. Data Modeling

This will establish a logical structure for the hospital's data. The model defined the relationships between different data points, allowing for efficient querying and analysis.

3. DAX Calculations and Dashboard Building

DAX calculations were created to Analyze Key performance Indicators (KPIs). The dashboard will provide real insights into the hospital's performance.

4. Insights and Recommendations

After analyzing the data, you will identify several key insights that will help you generate data-driven recommendations.



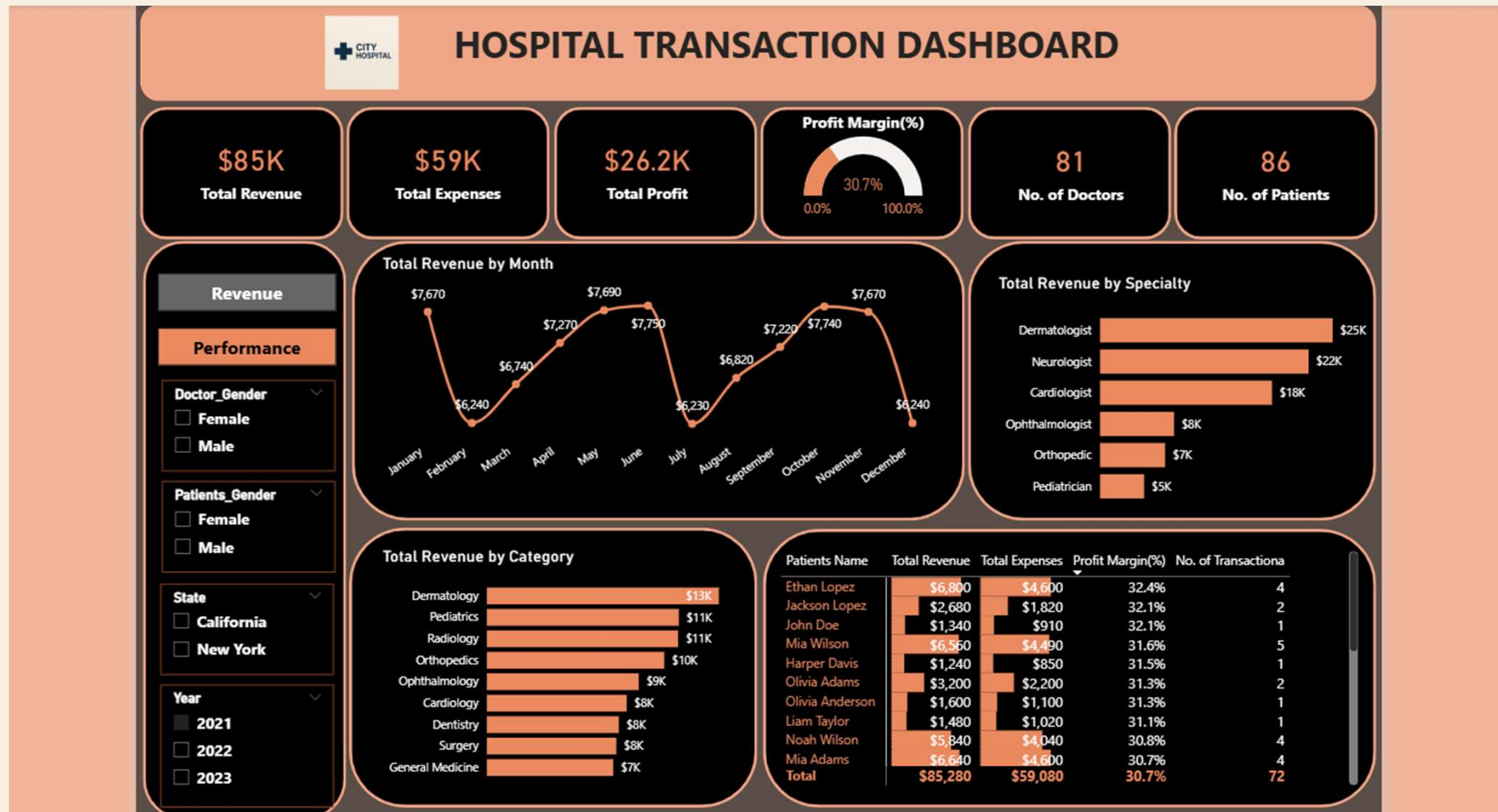
DATA DICTIONARY

The data dictionary defines the various data fields included in the hospital transaction dataset. Here are some of the key fields:

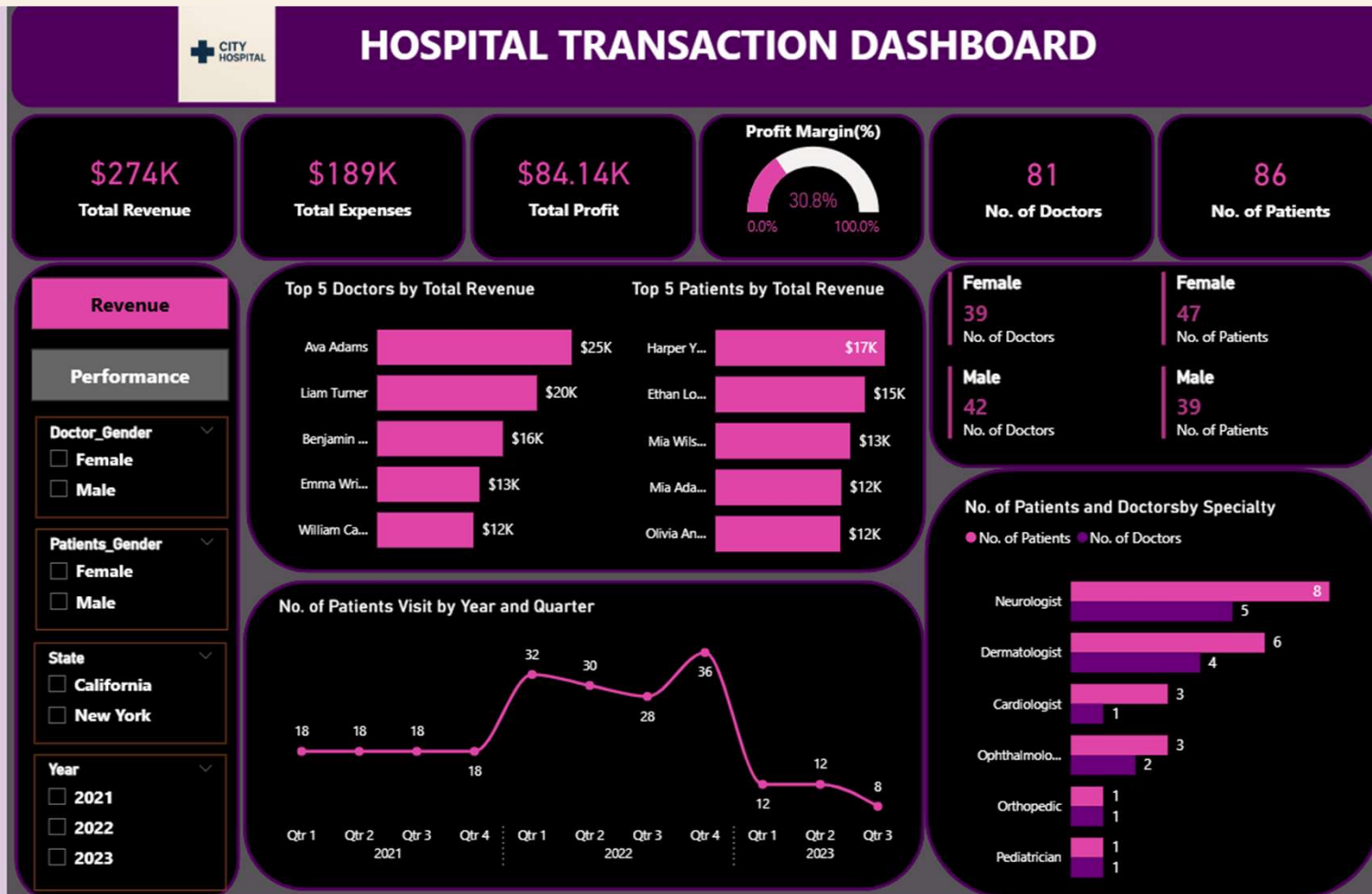
- **TransactionID:** Unique identifier for each hospital transaction.
- **Date:** Date of the transaction.
- **RevenueAmount:** The amount of revenue generated by the transaction.
- **ExpensesAmount:** The amount of expenses incurred for the transaction.
- **Doctors_FirstName:** Doctor's first name.
- **Doctors_LastName:** Doctor's last name.
- **Doctor_Gender:** Doctor's gender.
- **Specialty:** Doctor's medical specialty.
- **PatientID:** Unique identifier for each patient.
- **Patients_FirstName:** Patient's first name.
- **Patients_LastName:** Patient's last name.
- **Patients_Gender:** Patient's gender.
- **ProcedureName:** Name of the medical procedure performed.
- **Category:** Category of the medical procedure (e.g., Surgery, Radiology).
- **LocationID:** Unique identifier for the hospital location where the procedure was performed.
- **Country:** Country where the hospital is located.
- **City:** City where the hospital is located.
- **State:** State where the hospital is located.
- **PostalCode:** Postal code of the hospital location.



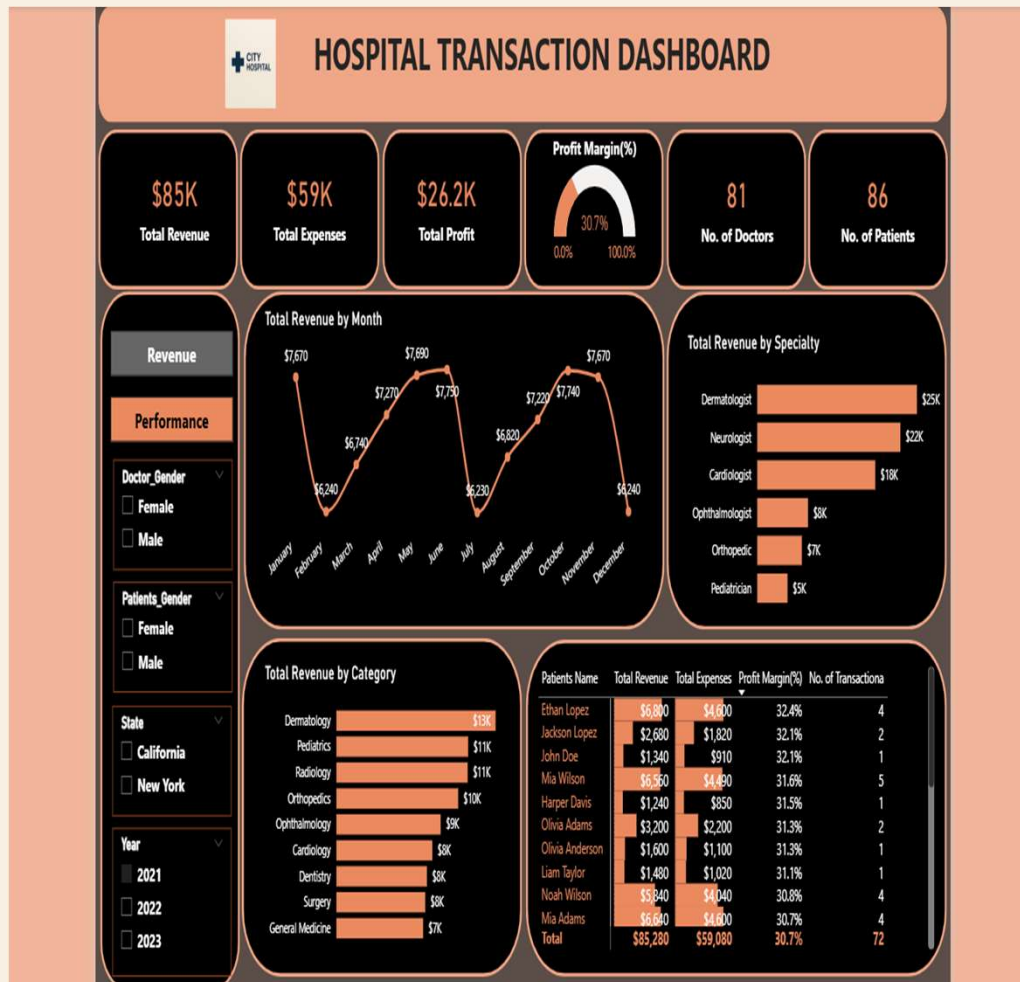
REVENUE DASHBOARD



PERFORMANCE DASHBOARD



INSIGHTS

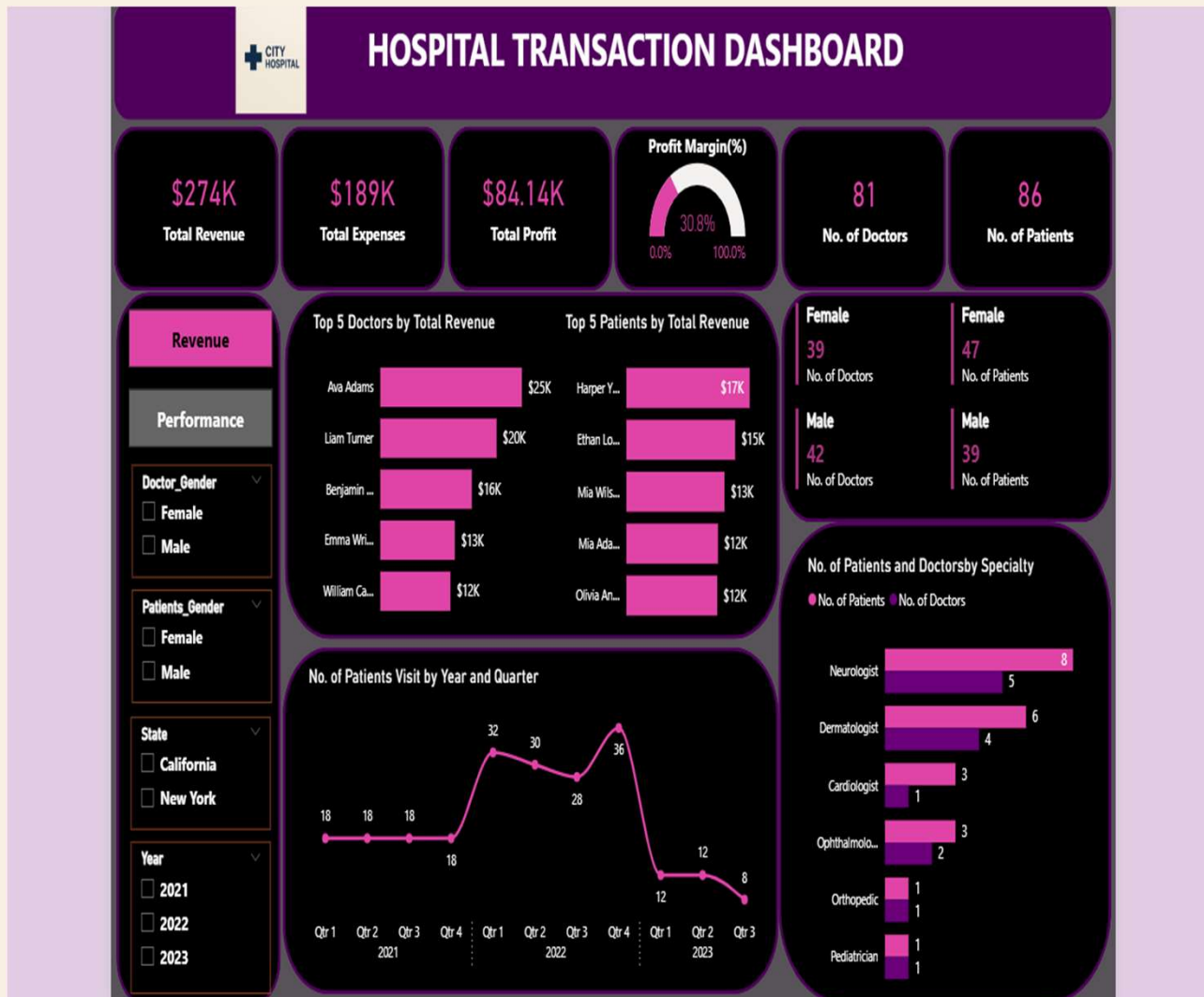


In a Total of **86 Patients** that transacted with the hospital, Total Revenue of **\$85K** was made.

Total Expenses was **\$59K**

Profit Margin was **\$26.2K (30.7%)**

The **DERMATOLOGIST** was the **Highest revenue** generating specialty while **PEDIATRICIAN** was the **lowest generating revenue**.



The **Top revenue generating** doctor was **Dr. Ava Adams**.

The **Top two Patients** that **impacted revenue** are **Harper Young** and **Ethan Lopez**.

A total of **81 Doctors** with different specialties attended to **86 different patients** with different cases.

Looking the trend of Patients that visited the hospital, it was noticed that there was an **increase in visit** during **2022** with **Q4 2022** been the **highest**. Visits to the hospital started **decreasing** from **Q1 2023** and continued till **Q3 2023**.

RECOMMENDATIONS

1. Optimize High-Performing Specialties

- **Dermatology** is the top revenue-generating specialty. The business should consider expanding services, increasing appointment slots, or investing in targeted marketing to attract more patients.
- Explore **cross-referral programs** between dermatology and other departments to boost patient retention and multi-specialty engagement.

2. Address Underperforming Areas

- **Pediatrics** generated the lowest revenue. More analysis will be required to determine the root cause.

3. Leverage Top Performers

- **Dr. Ava Adams** is the highest revenue-generating doctor. Management should study her patient engagement, scheduling efficiency, and treatment outcomes.
 - Use her approach as a model for peer training or mentorship.
 - Highlight her success in marketing materials to build brand credibility.

4. Patient Segmentation & Loyalty Programs

- **Harper Young and Ethan Lopez** significantly impacted revenue—analyze their treatment journeys:
- Develop loyalty programs or personalized care plans for high-impact patients to encourage repeat visits and referrals.

RECOMMENDATIONS

5. Trend-Based Resource Planning

- Patient visits peaked in **Q4 2022** and declined through **Q3 2023**:
 - Investigate seasonal patterns, external factors (e.g., flu season, policy changes), or internal bottlenecks.
 - Adjust staffing, inventory, and marketing efforts to align with peak periods.
 - Consider launching **Q4 health campaigns** to capitalize on historical trends.

6. Revenue vs. Expense Management

- With a **30.7% profit margin**, there's room to improve:
 - Audit operational expenses—identify areas of overspending (e.g., supplies, overtime, underutilized equipment).
 - Introduce cost forecasting dashboards to monitor and control expenses in real time.

7. Data-Driven Decision Making

- Use the **Revenue and Performance Dashboards** to:
 - Track KPIs by specialty, doctor, and patient segment.
 - Identify anomalies or emerging trends.
 - Empower department heads with actionable insights for continuous improvement.

8. Expand Digital Health Services

- With 81 doctors serving 86 patients, consider **telemedicine** to scale reach without proportional cost increases.
 - Especially useful for follow-ups, dermatology consultations, and pediatric check-ins.



THANK YOU

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