🏥 Project Report: Healthcare Performance Dashboard

Project Title: Healthcare Operations & Financial Insights Dashboard
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1. Executive Summary

This project successfully integrates the raw **Healthcare Dataset** into a dynamic Power BI dashboard, delivering a centralized, real-time view of hospital performance. The dashboard focuses on three pillars: **Operational Efficiency**, **Financial Performance (Billing)**, and **Clinical Outcomes**. Key insights include high-cost medical conditions and average patient Length of Stay (LOS).

2. Methodology and Data Preparation

2.1. Data Source and Scope

The analysis is based on the provided healthcare_dataset, covering patient admissions from [Start Year] to [End Year]. Key fields utilized include Billing Amount, Date of Admission/Discharge, Doctor, and Medical Condition.

2.2. Data Transformation (Power Query)

Rigorous data quality steps were taken to ensure accuracy:

- **Data Type Enforcement:** Converting Billing Amount to currency and ensuring date fields were properly formatted.
- **Data Modeling:** A robust **Calendar Dimension Table** was created and linked to the main dataset to enable advanced time-intelligence calculations (e.g., Year-over-Year analysis).

3. Key Dashboard Insights

The dashboard is structured into three primary views:

A. Operational Efficiency

- **Focus:** Monitors resource utilization and patient flow.
- **Key Metric: Average Length of Stay (LOS)**. Users can filter by hospital to identify facilities needing efficiency improvements.

B. Financial Performance

- **Focus:** Tracks total revenue and billing patterns.
- **Key Metric: Total Revenue** (Billing Amount Sum). Analysis highlights monthly revenue trends and the top 5 revenue-generating doctors/conditions.

C. Clinical Outcomes

- **Focus:** Analyzes patient volume and condition prevalence.
- **Key Metric: Patient Count by Medical Condition**. This visual helps allocate resources based on the frequency of specific diagnoses.

4. Technical Specifications (DAX & Visuals)

All Key Performance Indicators (KPIs) are calculated using **DAX Measures** for accuracy. Measures like **Average LOS** and **YoY Revenue Growth** ensure the report provides business context, not just raw totals.

Dashboard Theme: The interface uses a dark, high-contrast theme to improve readability and deliver a modern user experience.

5. Next Steps and Recommendations

1. **System Integration:** Integrate the Power BI report with the live data source for real-time updates.
2. **Alerting:** Set up data-driven alerts for critical metrics (e.g., if Average LOS exceeds a threshold).
3. **Predictive Analysis:** Future development could include a visual to predict billing amounts based on admission type and medical condition.