

Hospital Insights Dashboard

Title: “ Hospital Insights Dashboard”

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Project Overview

Purpose of the Report:

This dashboard analyzes hospital operations, patient admissions, departmental performance, and financial metrics to enable data-driven decision-making for hospital administration, improving operational efficiency and patient care strategies.

Dataset Summary

- **Source:** Simulated Hospital Patient and Billing Dataset
- **Number of Records:** ~5,000 patient orders
- **Number of Features:** 24
- **Key Columns:** AdmissionDate, DischargeDate, Department, Doctor, Gender, PaymentMode, TotalBillAmount, AmountPaid, OutstandingAmount
- **Preprocessing:** Removed duplicates, handled missing payment modes, calculated LengthOfStay, extracted time-based features for analysis.

Objectives

- ✓ Track patient admissions across departments and over time.
- ✓ Analyze financial performance through revenue and outstanding collections.
- ✓ Examine gender distribution and payment method patterns.
- ✓ Provide interactive exploration to support hospital management decisions.

Key KPIs

- ✓ **Total Admissions:** Total patients admitted in the selected period.
- ✓ **Total Revenue:** Sum of all payments received.
- ✓ **Outstanding Amount:** Sum of pending payments.
- ✓ **Average Length of Stay:** Mean length of stay across patients.

Visuals Implemented

	Visual	Purpose
1.	Area Chart	Display admissions trend over time.
2.	Line Chart	Show admissions distribution across departments.
3.	Pie Chart	Display gender distribution of admitted patients.
4.	Donut Chart	Visualize payment mode preferences.
5.	Treemap	Show outstanding amounts by department.
6.	KPI Cards	Highlight total admissions, revenue, outstanding, and average stay for quick insights.

Filters and Interactivity

- ✓ Department filter for detailed departmental analysis.
- ✓ Gender filter to view patterns by gender.
- ✓ Payment mode filter for payment method analysis.
- ✓ Date range slicer to analyze trends over specific time periods.
- ✓ Cross-filtering across visuals for interactive exploration.

Insights & Analysis

- ✓ Admissions increase during certain months, indicating seasonal patient inflow.
- ✓ Specific departments like General Medicine and Surgery have higher admissions.
- ✓ Female and male patient distribution is nearly balanced, with minor variations across departments.
- ✓ Cash and insurance payments dominate payment methods.
- ✓ Outstanding amounts are concentrated in select departments, requiring collection prioritization.

Recommendations

- ✓ Optimize staffing during months with higher patient inflow.
- ✓ Monitor departments with high outstanding amounts for billing efficiency.
- ✓ Enhance payment collection strategies, focusing on high-outstanding payment modes.
- ✓ Track department-wise admission trends for better resource planning.

Learnings & Skills Applied

- ✓ Advanced Power BI dashboard creation using DAX for KPIs.
- ✓ Data cleaning and transformation within Power Query.
- ✓ Interactive dashboard design with slicers and cross-filtering.
- ✓ Analytical thinking to extract actionable insights from healthcare data.