

■ HOSPITAL EMERGENCY ROOM ANALYSIS — PROJECT DICTIONARY

This report presents a detailed overview of the Hospital Emergency Room Analysis project built using Power BI by Prashant Singh Bhadouria. It includes the project overview, methodology, insights, business recommendations, and a data dictionary.

1 ■■■ Project Overview

The Hospital Emergency Room Dashboard is designed to analyze emergency room operations between April 2023 and October 2024. It tracks patient flow, wait times, satisfaction scores, admissions, and department referrals to improve performance and service delivery.

2 ■■■ What Was Done

The Power BI dashboard consists of three key views:

- Monthly View – Displays monthly KPIs such as total patients, referrals, average wait time, satisfaction score, and patient demographics.
- Consolidated View – Aggregates overall data across months to observe long-term trends and operational metrics.
- Patient Details View – Shows detailed, record-level data including patient demographics, wait time, department referral, and admission status.

3 ■■■ Key Insights Extracted

- Total patients treated: 9,216
- Referred patients: 3,816 (~41% of total)
- Average wait time: 35.3 minutes (41% exceeded target)
- Patient satisfaction: 4.99 / 5 (very high)
- Admission ratio: 50% admitted vs 50% not admitted
- High-demand departments: General Practice and Orthopedics
- Peak days: Friday and Saturday
- Peak hours: 3 PM to 6 PM
- Top age group: 30–39 years
- Balanced gender ratio (51% male, 49% female)

4 ■■■ Business Recommendations

- Reduce Wait Times – Optimize triage and staff allocation during peak hours.
- Improve Staff Scheduling – Increase doctor availability on weekends.
- Enhance Patient Flow – Implement queue monitoring and reallocation systems.
- Strengthen Referral Coordination – Collaborate more effectively with specialist departments.
- Boost Satisfaction – Maintain communication, real-time updates, and comfort facilities.
- Predict Future Demand – Use forecasting models for patient load prediction.
- Increase Profitability – Offer express-care memberships and corporate partnerships.

5 ■■■ Data Dictionary

Field Name	Description
Patient_ID	Unique identifier for each patient
Patient_Full_Name	Name of the patient
Patient_Gender	Gender of the patient
Patient_Age	Age of the patient
Patient_Admin_Date	Date and time of admission
Patient_Race	Race category for demographic analysis
Patient_Waittime	Waiting time before being attended (minutes)
Department_Referral	Department referred to (if any)
Admission_Status	Whether the patient was admitted or not
Patient_Satisfaction_Score	Rating given by patient (1–5 scale)

6 ■■■ Summary

The Power BI dashboard provides hospital management with actionable insights to enhance efficiency and patient experience.

By applying these findings, the hospital can achieve reduced wait times, improved throughput, higher satisfaction, and better profitability.