HOSPITAL ER ANALYSIS

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01 PROJECT OVERVIEW

This project focuses on developing a fully interactive Excel dashboard to analyze and visualize key aspects of Hospital Emergency Room (ER) performance.

It is designed to empower stakeholders to:

- Monitor patient inflow and admission patterns on a daily basis
- Identify peak traffic days and analyze wait time fluctuations to uncover operational bottlenecks
- Assess patient satisfaction levels through daily trend tracking
- Drive data-backed decisions for improving staff efficiency, resource planning, and overall patient experience

By transforming raw hospital data into actionable insights, the dashboard serves as a practical tool for enhancing ER service quality and responsiveness.

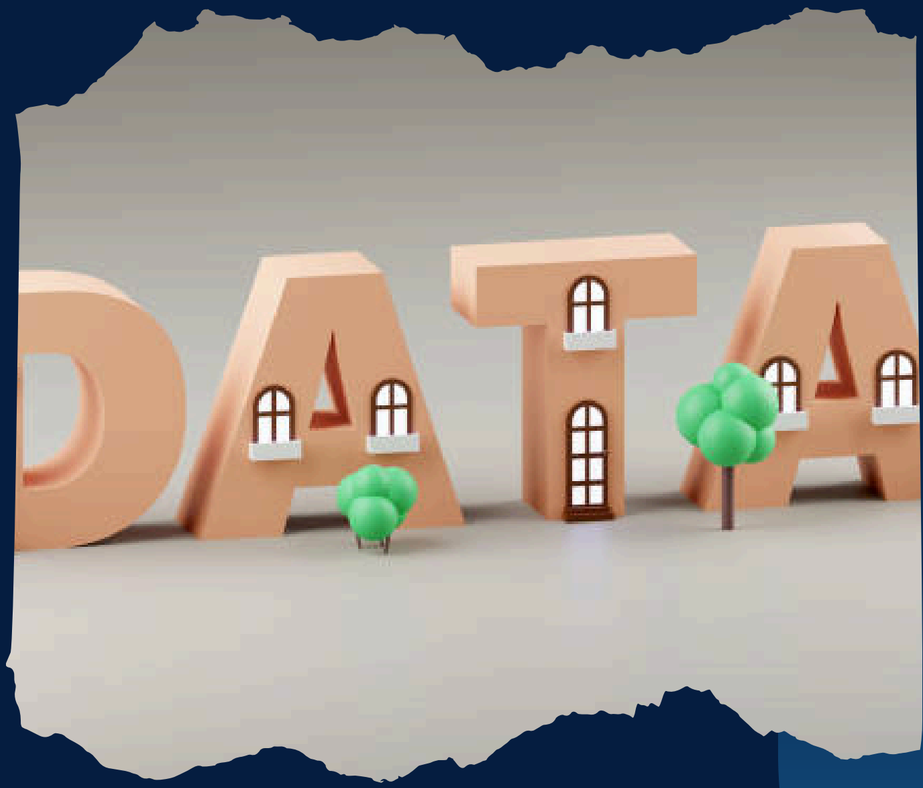
02 DATASET OVERVIEW

This project is built on a dataset of 9,216 ER patient records, covering the period from April 1, 2023 to October 30, 2024.

Key Columns :
Patient ID, Name, Gender, Age, Race, Admission Date & Time, Department Referral, Wait Time, Satisfaction Score, Admission Flag

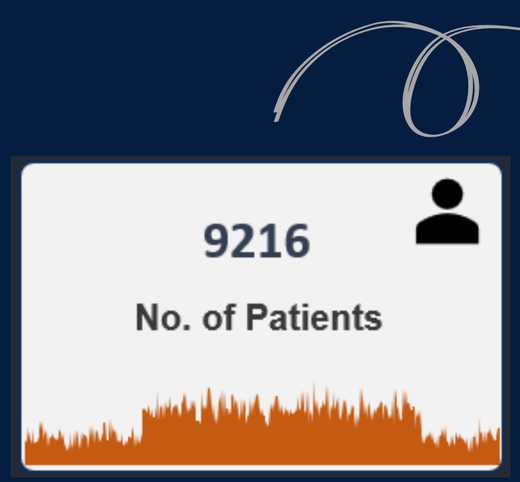
Data Enhancements (Power Pivot):

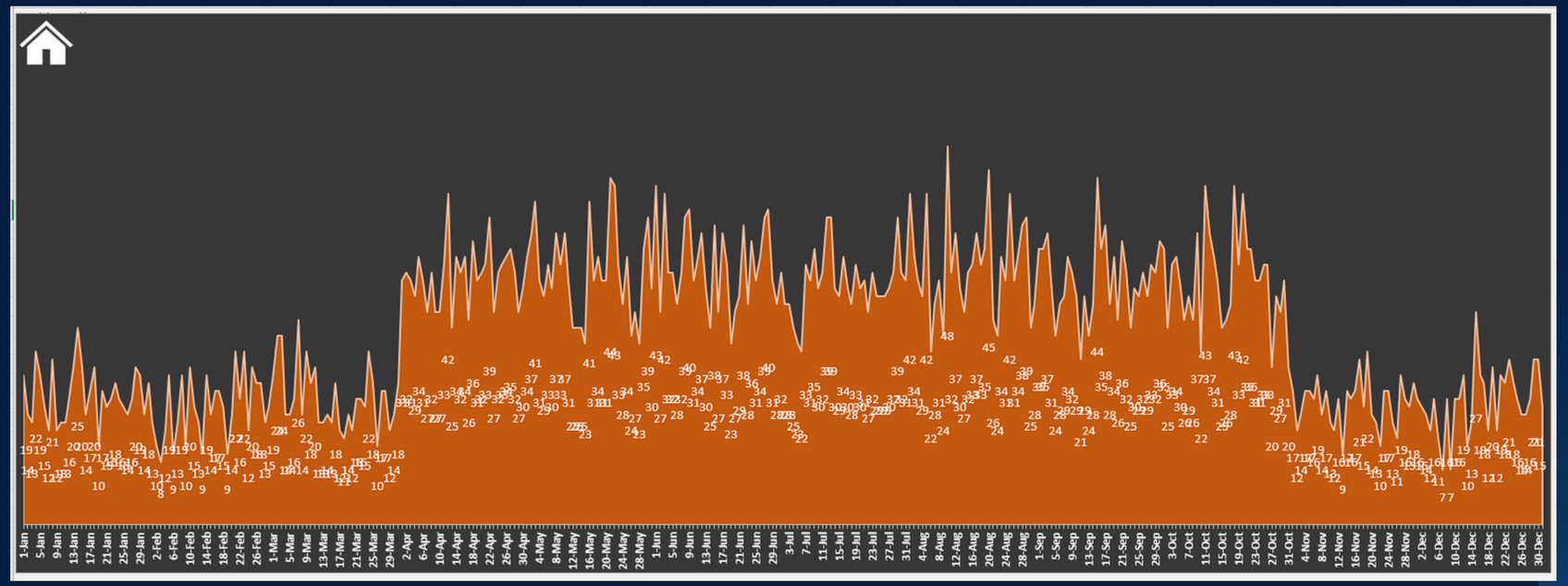
- **Age Group** : Grouped patients into 10-year age bands for clear age-wise analysis
- **Attend Status** : Labeled patients as “On Time” or “Delayed” based on 30-minute wait threshold
- **Calendar Table** : Generated from Admission Date for dynamic time-based filtering



03 KPI REQUIREMENTS

KPI 1 : Number of Patients



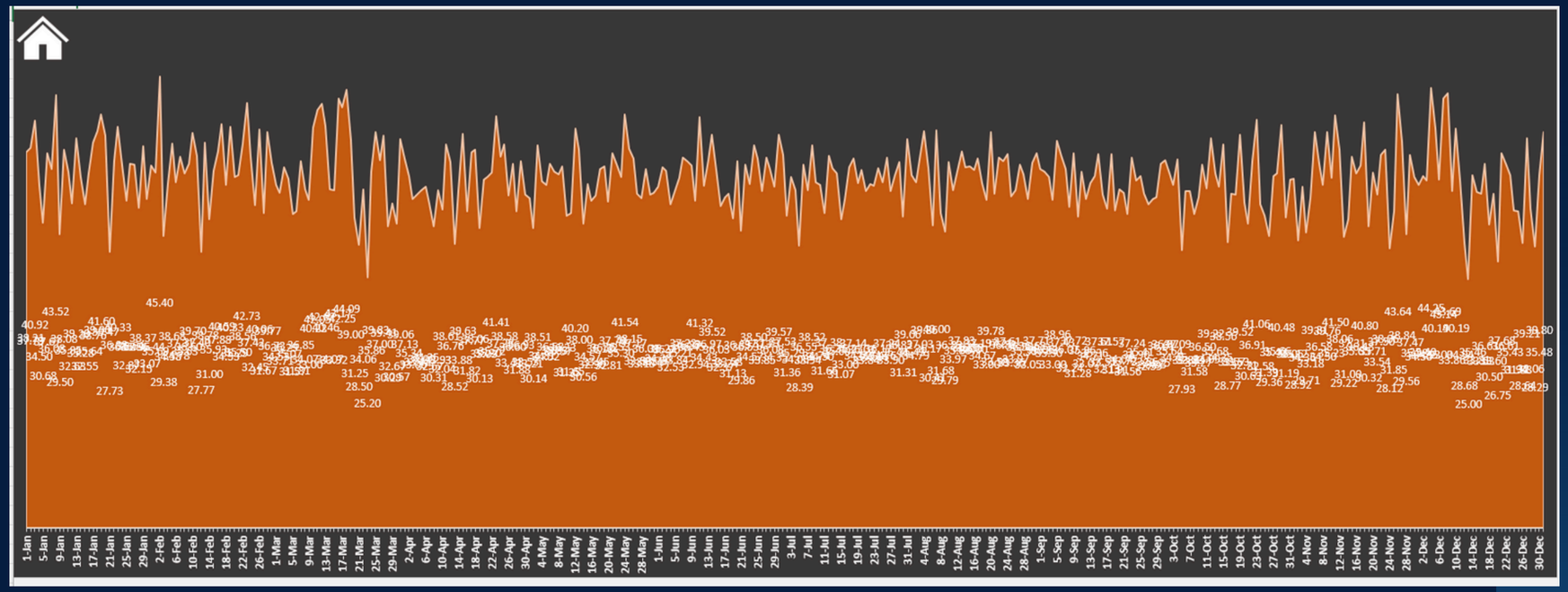


At a Glance : Number of Patients

- 9,216 patients visited the ER between Apr 2023 – Oct 2024
- Mini chart offers a quick glance at inflow trends
- Click to view month-wise daily breakdown
- Helps spot peak demand days and plan resources better

03 KPI REQUIREMENTS

KPI 2 : Average Wait Time

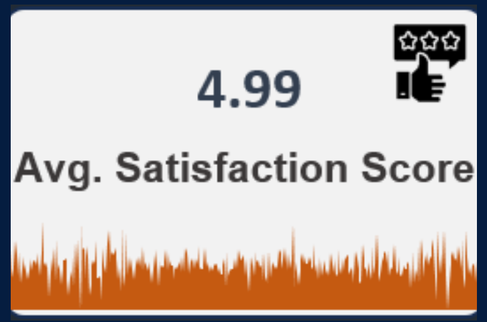


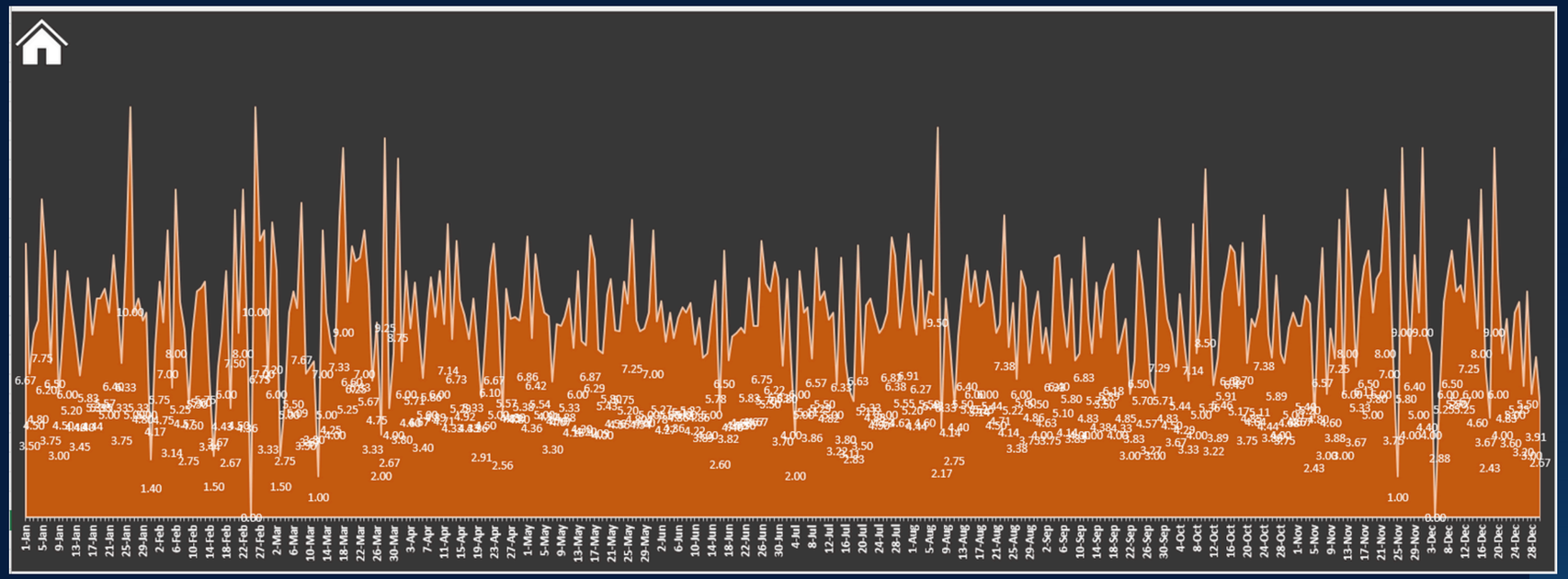
At a Glance : Average Wait Time

- Patients wait an average of 35.26 minutes before being seen
- Mini area chart reflects daily wait time trends
- Use Year & Month slicers to drill into specific periods
- Reveals patterns of peak congestion and potential bottlenecks

03 KPI REQUIREMENTS

KPI 3 : Patient Satisfaction Score





At a Glance : Patient Satisfaction Score

- Average rating: 4.99 / 10 across all ER visits
- Mini area chart shows daily satisfaction fluctuations
- Apply Year & Month filters to view specific timeframes
- Useful for spotting dips linked to long waits or high inflow

04 CHART REQUIREMENTS

Chart 1 : Patient Admission Status

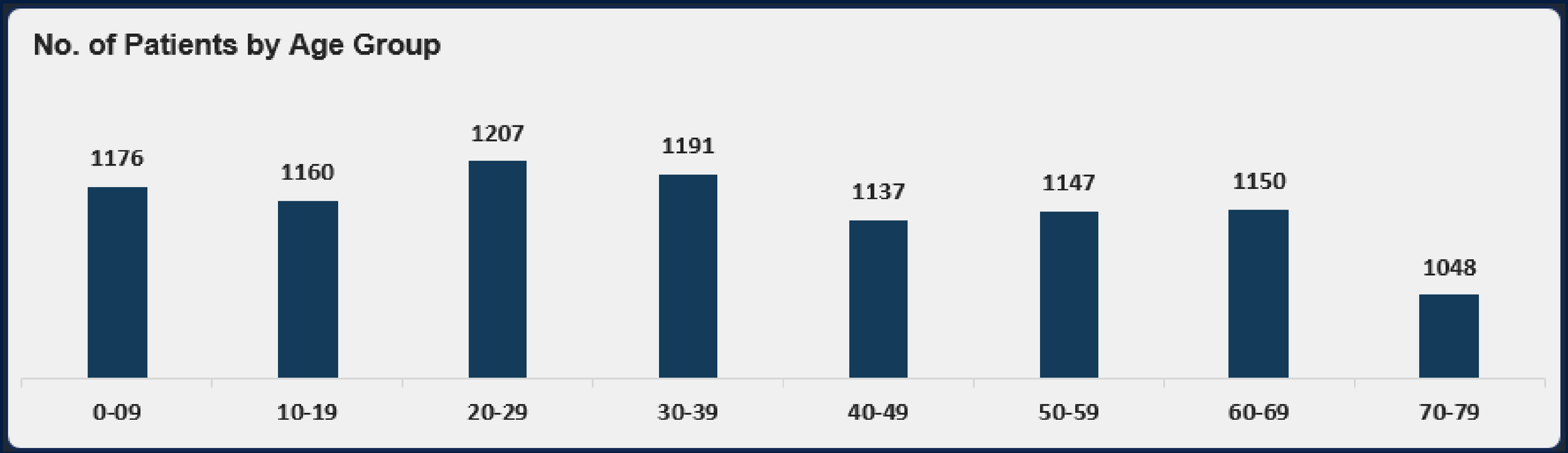
Admission Status	No. of Patients	% Status
Not Admitted	4604	49.96%
Admitted	4612	50.04%

At a Glance : Patient Admission Status

- Nearly an even split:
  - Admitted – 4,612 (50.04%)
  - Not Admitted – 4,604 (49.96%)
- Simple bar chart helps compare quickly
- Fully dynamic — adjusts with slicers

04 CHART REQUIREMENTS

Chart 2 : Patient Age Distribution

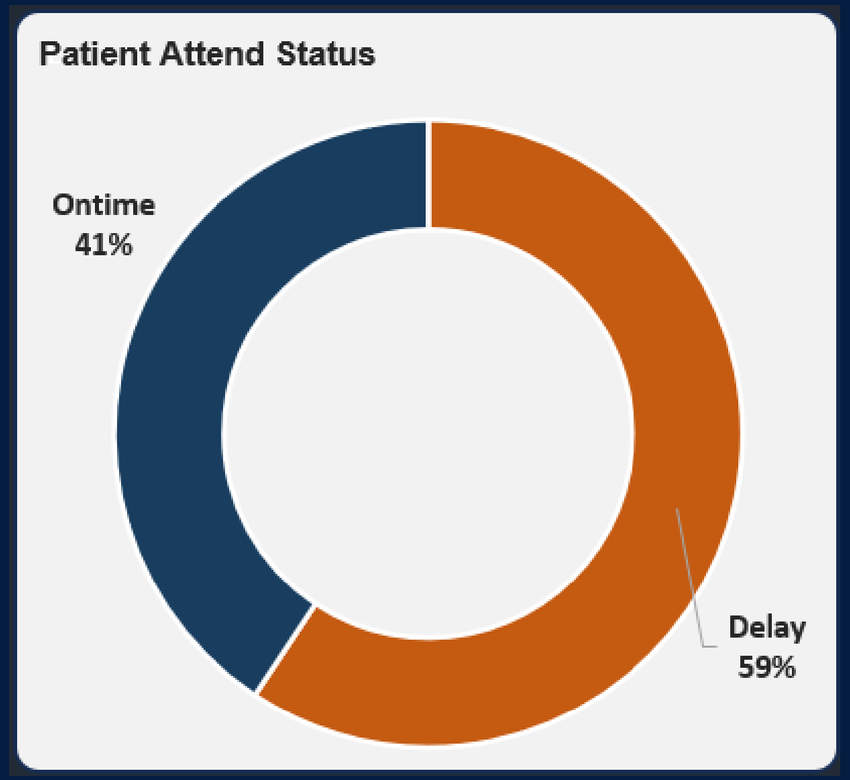


At a Glance : Patient Age Distribution

- Highest count in 20–29 age group (1,207 patients)
- Followed closely by 30–39 (1,191) and 0–9 (1,176) age brackets
- Dynamic chart — responds to slicers applied

04 CHART REQUIREMENTS

Chart 3 : Patient Attend Status

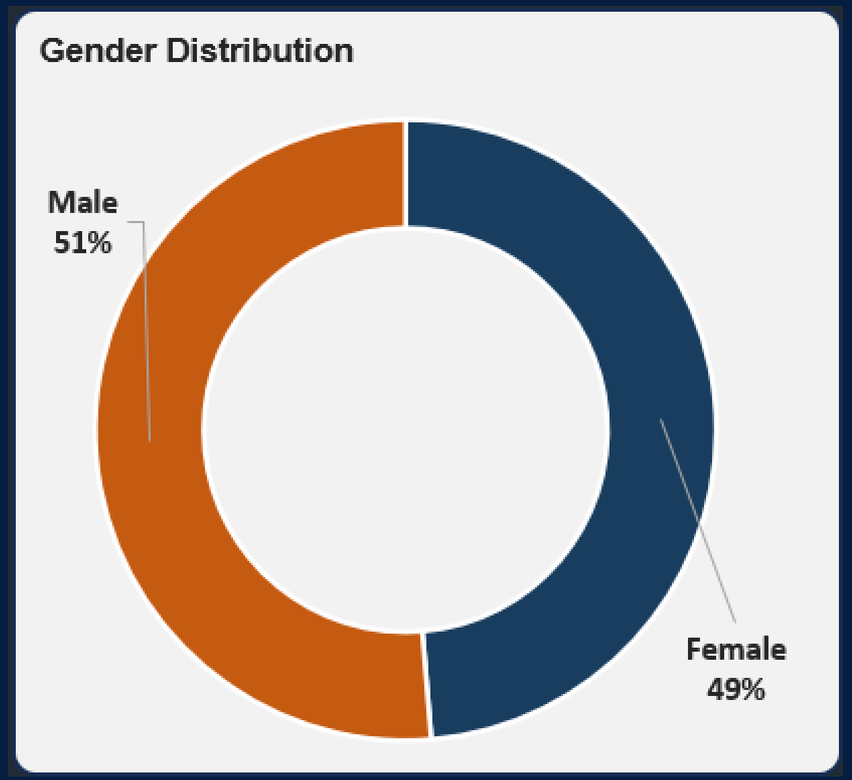


At a Glance : Patient Attend Status

- 59% patients delayed, only 41% seen on time
- Fully dynamic — adjusts with slicers

04 CHART REQUIREMENTS

Chart 4 : Gender Distribution

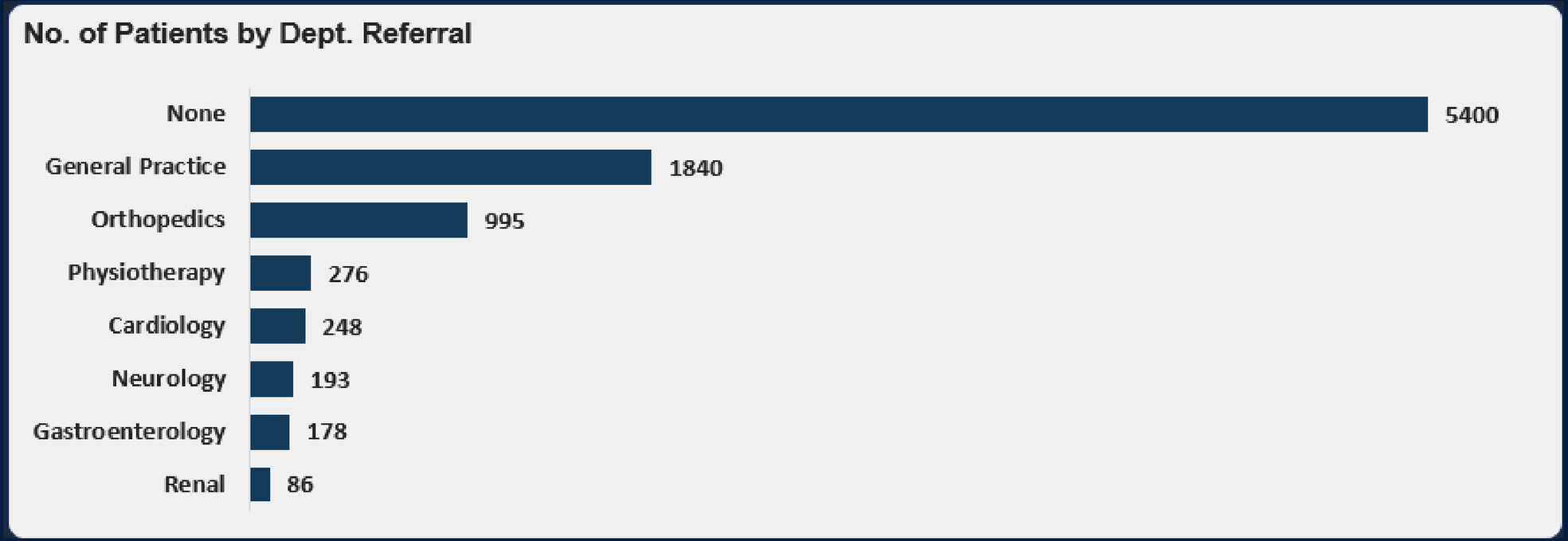


At a Glance : Gender Distribution

- Male – 51%, Female – 49%
- Fully dynamic — adjusts with slicers

04 CHART REQUIREMENTS

Chart 5 : Department Referrals



At a Glance : Department Referrals

- Most patients (5,400) not referred further
- General Practice (1,840) leads among referred departments
- Other common referrals: Orthopedics, Physiotherapy, Cardiology
- Fully dynamic — adjusts with slicers

05 RECOMMANDATIONS

- Review daily/monthly inflow trends and allocate more staff during high-demand timeframes.
- Use real-time feedback at discharge to catch and fix pain points early.
- Set up quick referral protocols for General Practice and Ortho cases.
- Prepare for high footfall from ages 20–39 with faster triage and targeted care.
- Letting patients see real-time wait estimates reduces uncertainty, eases anxiety, and boosts overall satisfaction—even during delays.

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