

# Hospital Emergency and Operations Management Dashboard

A Power BI Project for Real-Time Healthcare Insights



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# Welcome Everyone Here is The Project Overview

Title:

Project Objective & Scope

Content:

- 📌 Objective: To improve hospital efficiency, patient care, and decision-making through dynamic dashboards.
- 🧠 Scope: 5 dashboards covering emergency trends, patient insights, referrals, billing, doctor load, and more.
- 📊 Tools Used: Power BI, DAX



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# Business Requirements

Title:

Key Metrics & Stakeholder Needs

Content (use bullet points or icons):

-  Total Patients, Wait Time, Referrals, Bed Usage
-  Patient Satisfaction, Feedback by Doctor
-  Billing: Insurance vs. Self-paid
-  Doctor Load, Department Efficiency
-  Stakeholders: Admin, ER Head, Analysts, IT





# HOSPITAL EMERGENCY ROOM MANAGMENT DASHBOARD

MONTHLY VIEW

Feb 2024

Year

2024

Month Name

Feb

No. of Patients

431



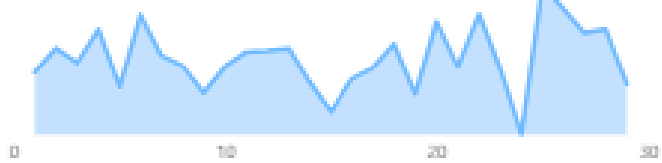
Avg. Wait Time

36.7 Min



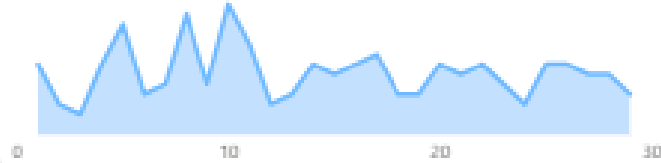
Patients Satisfaction Score

4.72



No. of Patients Referred

179

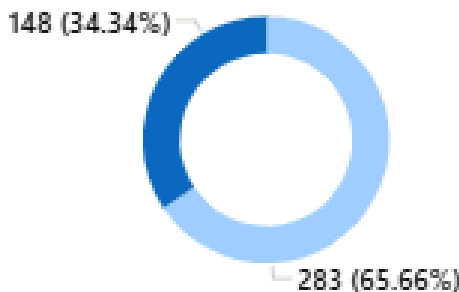


Patient Admission Status

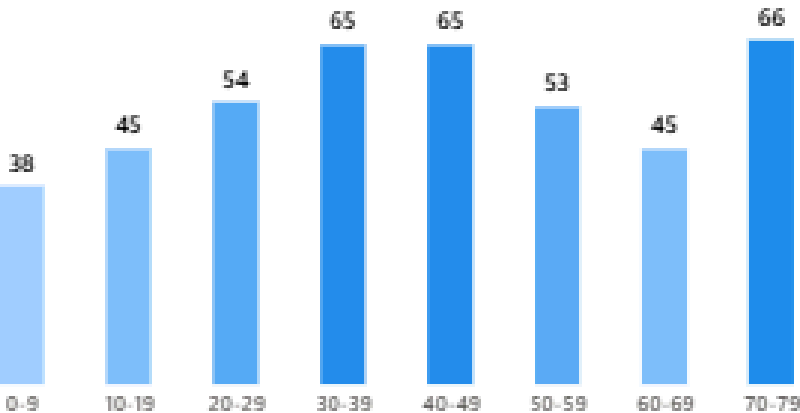
Admission Status Patients % of Total

|              |     |        |             |
|--------------|-----|--------|-------------|
| Admitted     | 224 | 51.97% | <div></div> |
| Not Admitted | 207 | 48.03% | <div></div> |

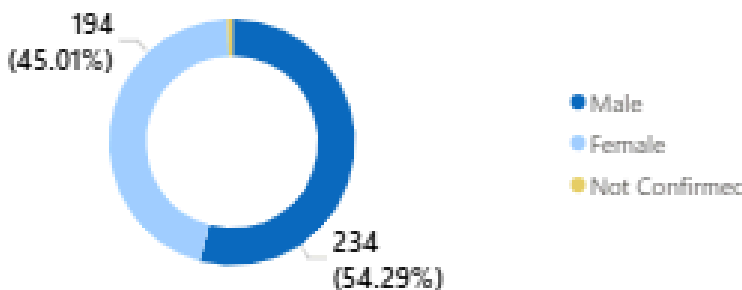
% of Patients Seen Within 30 Mins



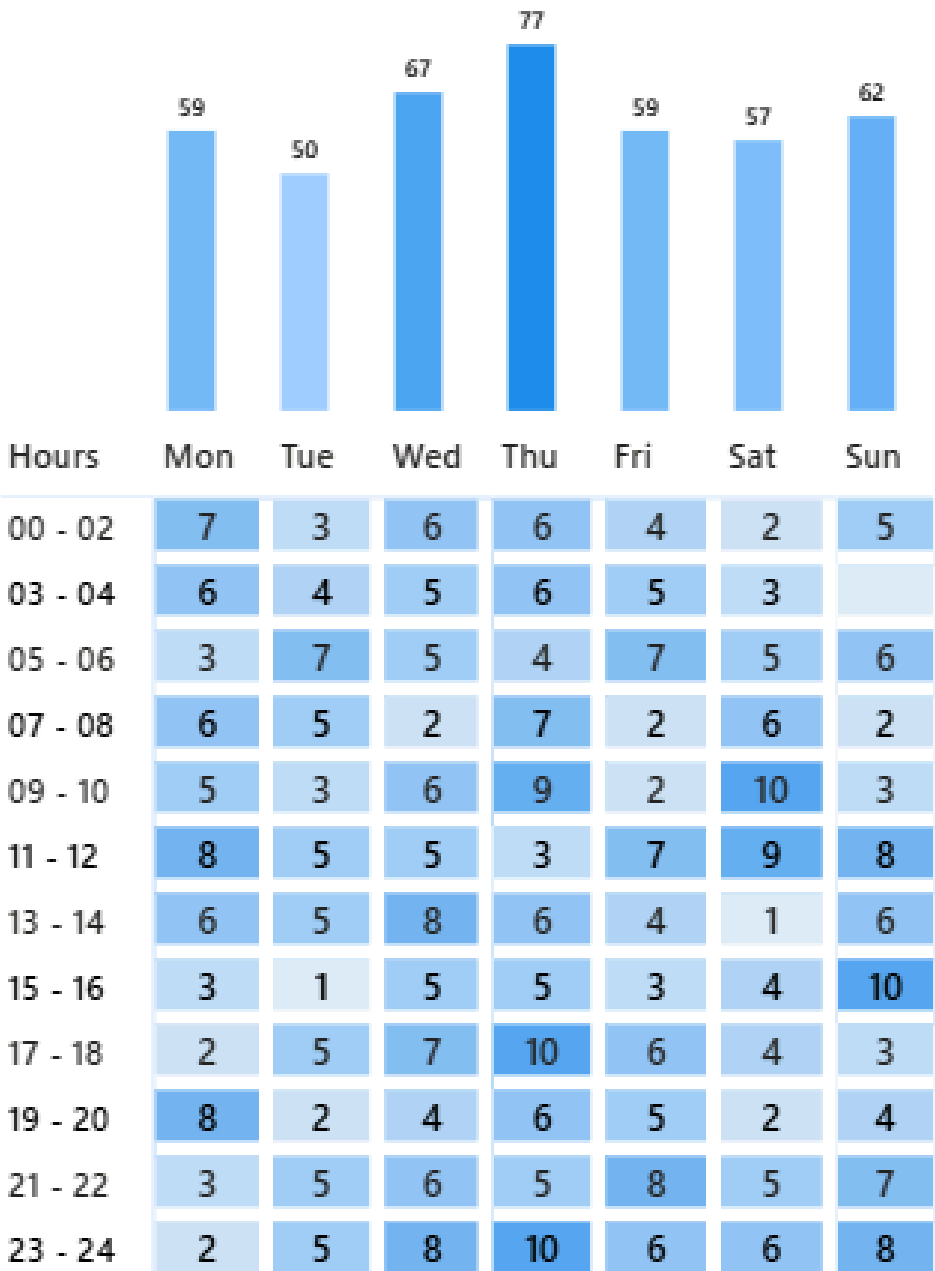
No. of Patients by Age Group



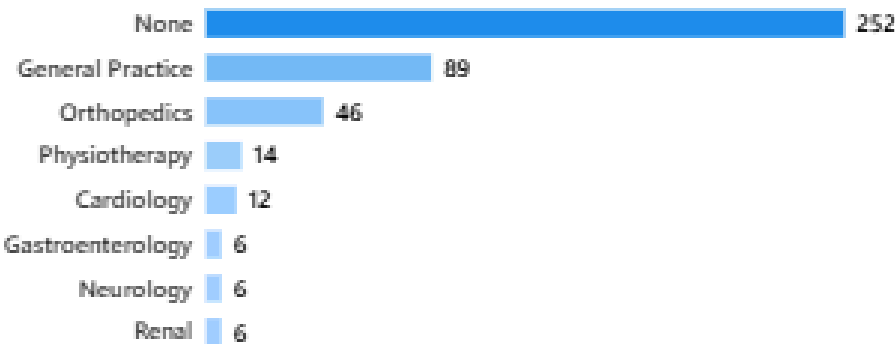
No. of Patients by Gender



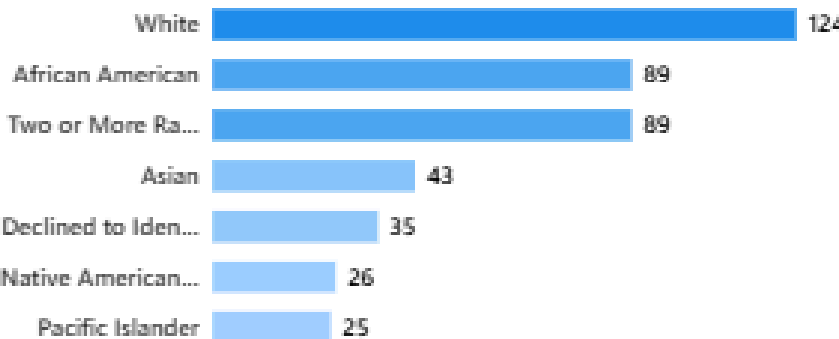
No. of Patients by Days and Hours



No. of Patients by Department Referral



No. of Patients by Patient Race



Monthly View

Consolidated View

Patients's Details

Key Takeaway





# HOSPITAL EMERGENCY ROOM MANAGMENT DASHBOARD

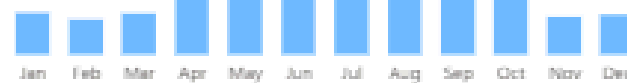
01-04-2023

30-10-2024

## CONSOLIDATED VIEW

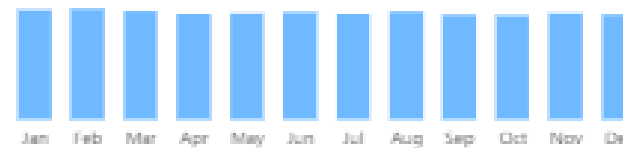
### No. of Patients

9216



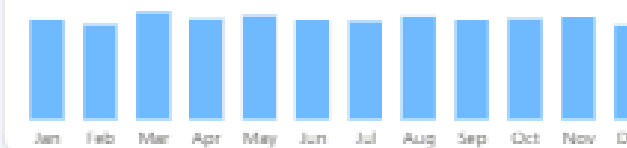
### Avg. Wait Time

35.3 Min



### Patients Satisfaction Score

4.99



### No. of Patients Referred

3816

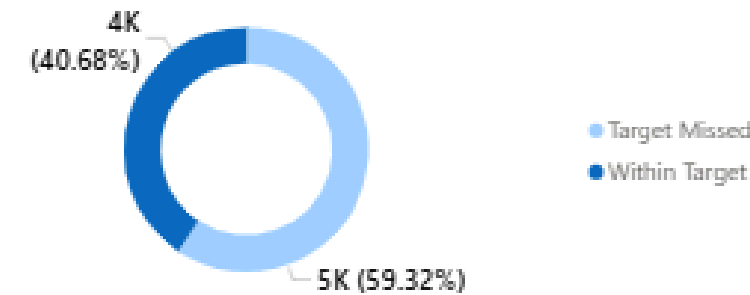


### Patient Admission Status

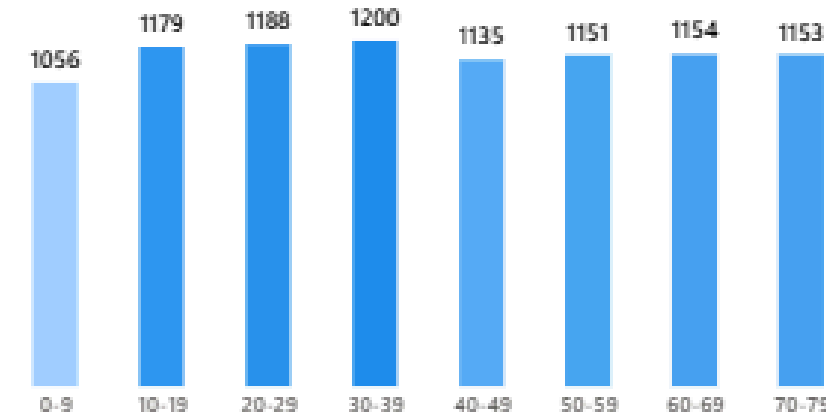
Admission Status Patients % of Total

|              |      |        |             |
|--------------|------|--------|-------------|
| Admitted     | 4612 | 50.04% | <div></div> |
| Not Admitted | 4604 | 49.96% | <div></div> |

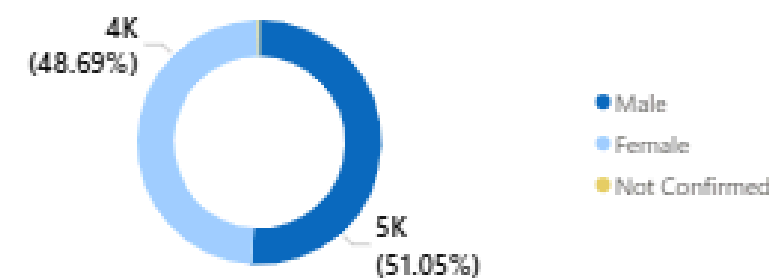
### % of Patients Seen Within 30 Mins



### No. of Patients by Age Group



### No. of Patients by Gender



### No. of Patients by Days and Hours

| Hours   | Mon  | Tue  | Wed  | Thu  | Fri  | Sat  | Sun  |
|---------|------|------|------|------|------|------|------|
| 00 - 02 | 1314 | 1305 | 1260 | 1332 | 1310 | 1377 | 1318 |
| 03 - 04 | 114  | 107  | 102  | 106  | 113  | 118  | 118  |
| 05 - 06 | 111  | 107  | 104  | 100  | 113  | 128  | 98   |
| 07 - 08 | 125  | 122  | 104  | 104  | 98   | 114  | 110  |
| 09 - 10 | 84   | 123  | 111  | 124  | 127  | 102  | 119  |
| 11 - 12 | 116  | 112  | 107  | 113  | 102  | 124  | 100  |
| 13 - 14 | 107  | 106  | 98   | 111  | 122  | 109  | 99   |
| 15 - 16 | 115  | 107  | 117  | 105  | 107  | 123  | 102  |
| 17 - 18 | 99   | 94   | 117  | 111  | 102  | 110  | 129  |
| 19 - 20 | 104  | 116  | 102  | 121  | 98   | 99   | 97   |
| 21 - 22 | 123  | 84   | 94   | 105  | 124  | 113  | 110  |
| 23 - 24 | 110  | 105  | 97   | 116  | 89   | 110  | 121  |
| 23 - 24 | 106  | 122  | 107  | 116  | 115  | 127  | 115  |

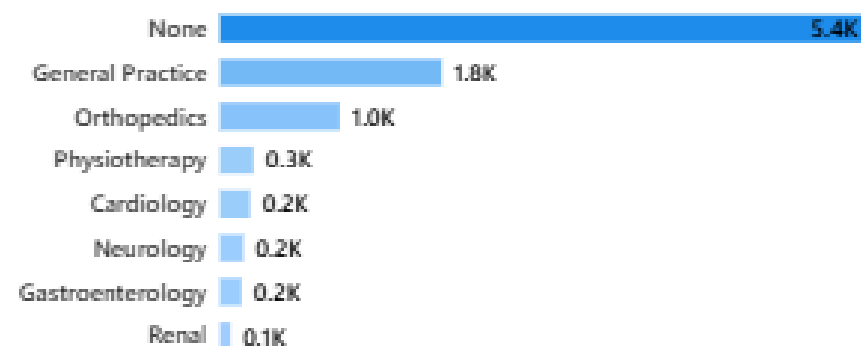
Monthly View

Consolidated View

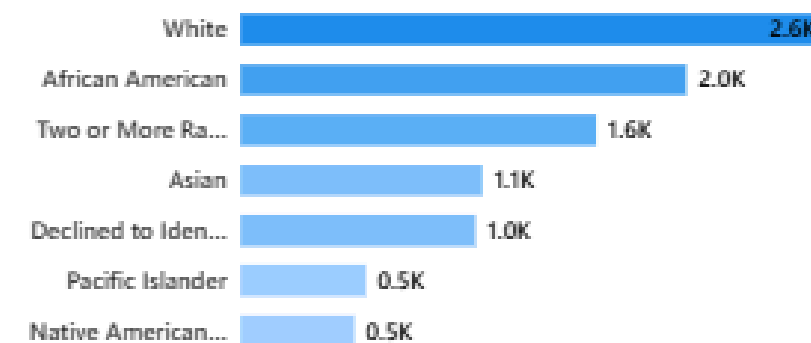
Patients's Details

Key Takeaway

### No. of Patients by Department Referral



### No. of Patients by Patient Race





# HOSPITAL EMERGENCY ROOM MANAGMENT DASHBOARD

01-04-2023

30-10-2024

## PATIENT'S DETAILS

| Patient Id  | Patient's Name | Patient Gender | Patient Age | Patient Admin Date | Patient Race         | Patient Waittime | Department Referral | Admission Status |
|-------------|----------------|----------------|-------------|--------------------|----------------------|------------------|---------------------|------------------|
| 100-04-3993 | M St Ange      | Female         | 29          | 04 April 2023      | White                | 16               | None                | Not Admitted     |
| 100-17-5081 | V Flicker      | Male           | 67          | 14 January 2024    | African American     | 60               | None                | Not Admitted     |
| 100-21-9648 | W Marran       | Female         | 39          | 17 January 2024    | Pacific Islander     | 22               | None                | Admitted         |
| 100-34-6753 | B Paulus       | Male           | 43          | 13 May 2024        | Pacific Islander     | 25               | General Practice    | Admitted         |
| 100-34-9587 | U Lamburn      | Male           | 20          | 01 April 2024      | Declined to Identify | 24               | Neurology           | Not Admitted     |
| 100-40-2709 | O Cammack      | Male           | 77          | 08 May 2024        | White                | 48               | None                | Not Admitted     |
| 100-66-0896 | I Prickett     | Male           | 2           | 26 March 2024      | African American     | 23               | Orthopedics         | Admitted         |
| 100-66-8222 | F Mullane      | Female         | 65          | 23 December 2023   | Asian                | 17               | General Practice    | Not Admitted     |
| 100-67-1276 | S Hallbird     | Male           | 55          | 03 November 2023   | White                | 11               | Orthopedics         | Admitted         |
| 100-70-0071 | R Downham      | Male           | 38          | 14 January 2024    | African American     | 57               | None                | Not Admitted     |
| 100-72-5705 | N Dudny        | Female         | 60          | 19 June 2024       | African American     | 45               | None                | Admitted         |
| 100-74-3943 | M Hallard      | Female         | 3           | 17 September 2023  | White                | 14               | None                | Admitted         |
| 100-74-5636 | A Warwicker    | Female         | 47          | 13 August 2024     | Declined to Identify | 25               | None                | Not Admitted     |
| 100-79-0109 | P Ulyatt       | Female         | 19          | 27 February 2024   | Pacific Islander     | 36               | Neurology           | Admitted         |
| 100-81-9769 | Y Moncaster    | Male           | 28          | 09 March 2024      | White                | 59               | None                | Admitted         |
| 100-84-7203 | K Ybarra       | Female         | 37          | 13 June 2023       | White                | 55               | None                | Not Admitted     |
| 101-08-8798 | L Willeson     | Female         | 72          | 31 July 2024       | Two or More Races    | 48               | None                | Admitted         |
| 101-13-4808 | V Gowdridge    | Female         | 30          | 25 April 2023      | Declined to Identify | 30               | None                | Admitted         |
| 101-35-3930 | W Andreotti    | Female         | 30          | 24 January 2024    | White                | 25               | None                | Admitted         |
| 101-35-7039 | T Ganter       | Male           | 26          | 08 February 2024   | White                | 56               | General Practice    | Admitted         |
| 101-38-5868 | J Saddington   | Male           | 14          | 08 October 2024    | White                | 20               | None                | Admitted         |
| 101-50-7359 | D Sabey        | Female         | 50          | 13 October 2023    | White                | 56               | None                | Admitted         |
| 101-56-3319 | M Kilduff      | Female         | 44          | 08 October 2023    | Asian                | 55               | None                | Admitted         |
| 101-60-5189 | G Georger      | Female         | 45          | 04 August 2024     | White                | 43               | None                | Not Admitted     |
| 101-63-3628 | P Quest        | Male           | 38          | 29 July 2023       | Two or More Races    | 53               | None                | Not Admitted     |

Monthly View

Consolidated View

Patients's Details

Key Takeaway



# HOSPITAL EMERGENCY ROOM MANAGMENT DASHBOARD

## KEY-TAKEAWAYS

### Descriptive Analysis

(April 2023 - October 2024)

The emergency room dataset, covering a period of 19 months, records a total of 9,216 unique patients.

#### Patients Wait Time and Satisfaction :

The Average wait time was approximately **35.3 minutes**, including a need for improvement to enhance patient flow. The **average satisfaction score** was **4.99 out of 10**, suggesting moderate satisfaction and highlighting areas of improving patients experiences.

#### Departmental Referrals :

A significant number of patients (5400) did not required referrals. Among those referred, the most common were **General Patients(1840 cases)** and Orthopedics (995 cases), followed by Physiotherapy (276 cases) and Cardiology(248 cases)

#### Peak Busy Periods :

The busiest day were **Mondays(1377 patients)**, Saturdays(1322 patients), and Tuesdays (1318 patients). The busiest hours were 11 AM, 7 PM, 01 PM, 11PM indicating need of ample staffing during these periods.

#### Patients Demographics :

Age Group : Adults **(30-39 years)** formed a large group **(1200 patients)**, followed by young adults (20-29 years) with 1188 patients. Other significant groups included middle aged as well (40-50 years).

#### Race Distributions :

The largest racial group was **White (2571)**, followed by African American (1951), multi racial (1557), and Asian (1060) patients. A significant number of patients (1030) declined to identify their race.

#### Admissions Patterns :

Nearly half of the patients **(4612) were admitted** , while the rest **(4604) were treated and released**.

#### Summary:

The data set reveals high patients volumes, moderate satisfaction levels, and common referrals to general practices and orthopedics. Mondays and late night to early mornings hours are particularly busy. The patients demographics show a diverse age and racial composition, with nearly equal number of admitted and non admitted patients. These insight can help optimize resource allocations and improved patients care in the emergency room

Monthly View

Consolidated View

Patients's Details

Key Takeaway



# Hospital's Operations Managment Dashboard

Patient\_ID

All



Admit Date

05-Dec-22



Discharge Date

12-Jan-23



Follow Up Date

10-Dec-22



Bill Amount

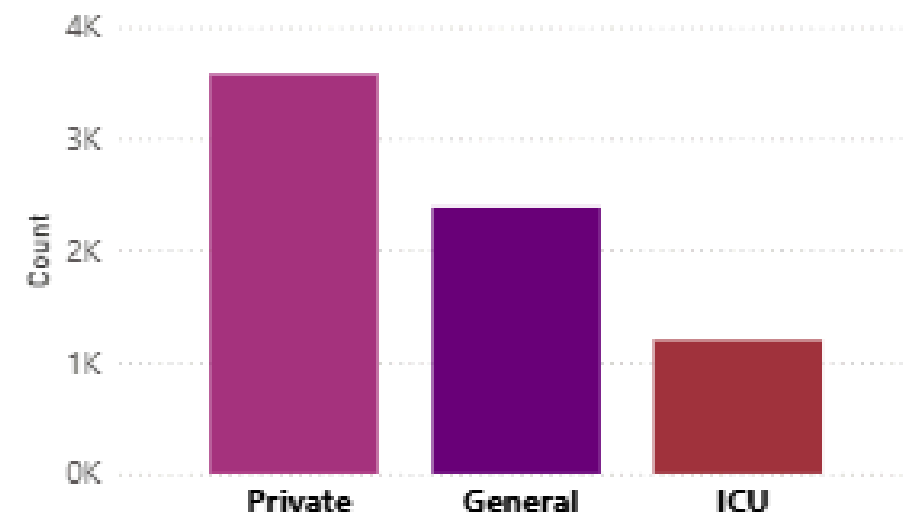
₹190.43M

Date Range

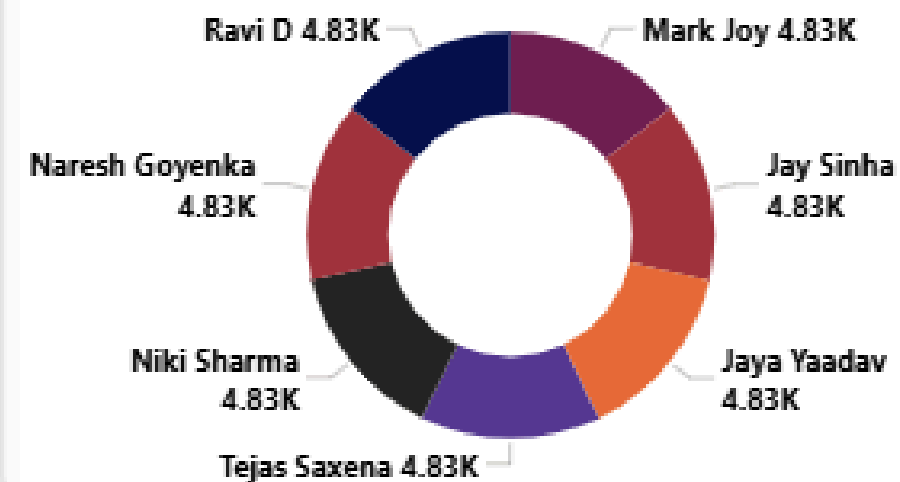
12-01-2023

07-03-2024

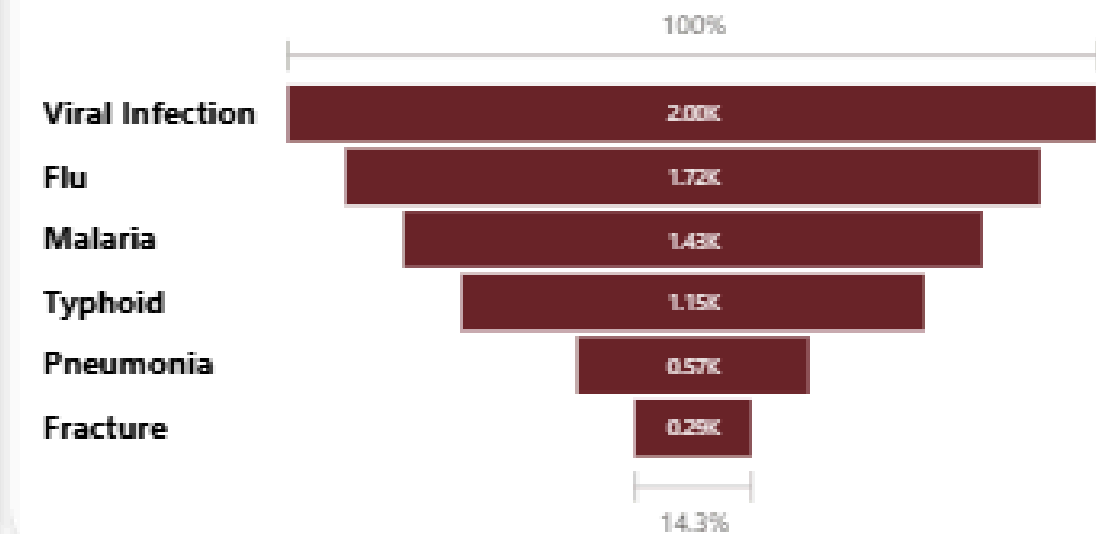
## Bed Occupancy



## Feedback Volume per Doctor

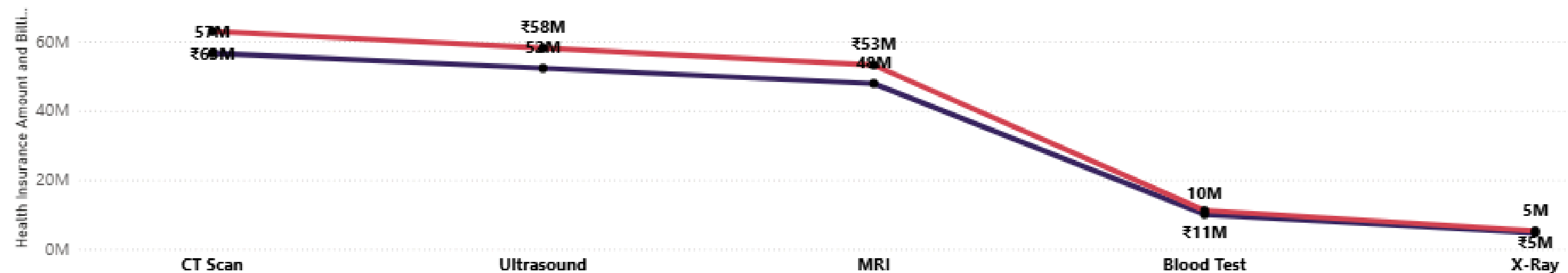


## Diagnosis-wise Patient Count



## Tests Done

● Health Insurance Amount ● Billing Amount







# Thank You

## Q And A Session