Hospital ER: Data Analysis

Storytelling is a powerful tool for connecting with others.

by Joyson Prince Alvares

Agenda:

1 Data overview

1. The dataset provides insights into various aspects of patient experiences and demographics in a hospital emergency room (ER).
2. The primary focus areas include patient satisfaction, wait times, demographic distributions, and department reference.

2 Primary focus areas

Patient Satisfaction:

1. Average satisfaction scores are tracked on a monthly basis.
2. Helps identify trends and periods of high and low satisfaction.

Wait Times:

1. Average wait times for patients before receiving care, monitored monthly.
2. Highlights inefficiencies or improvements in the ER process.

3 Secondary focus areas

Demographics:

1. Gender and racial distribution of patients.
2. Age distribution of patients, identifying age groups with highest and lowest patient counts.

Department References:

1. Distribution of patients across different hospital departments.

4 Purpose of analysis

1. To identify trends, inefficiencies, and areas for improvement in the ER.
2. To enhance the quality of care and patient experience by providing actionable insights.

Made with Gamma

Patient demographics:

9216

Total Patients

This metric shows the # of patients who visited during the timeframe 2019–2020

51.05%
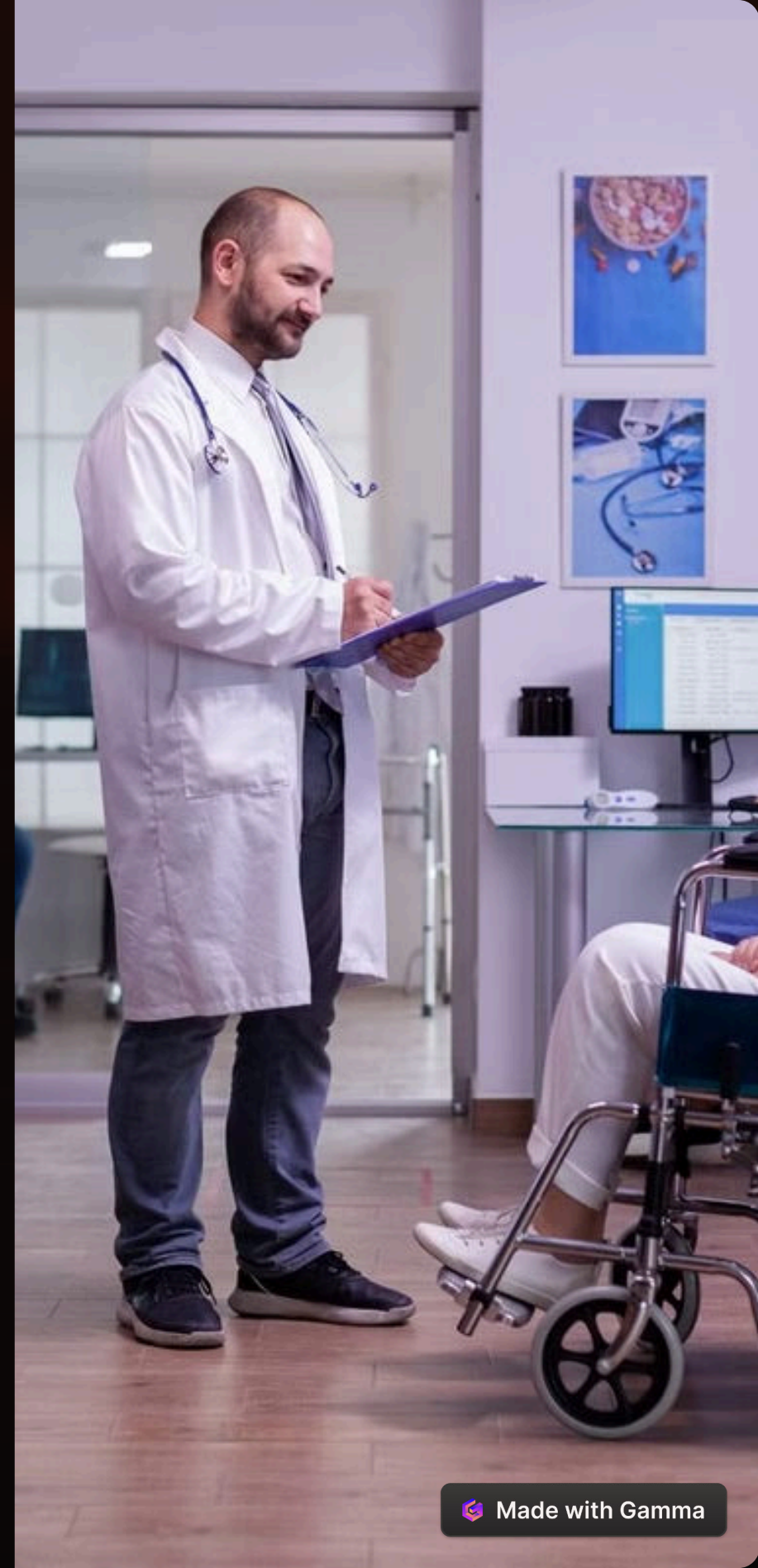
Male Count

Total Male visited = 4705 out of 9216

48.69%

Female Count

Total Female visited = 4487 out of 9216

0.26%

Non-Conforming Gender

Total NC gender visited = 24 out of 9216

Mean Monthly Patient satisfaction rate
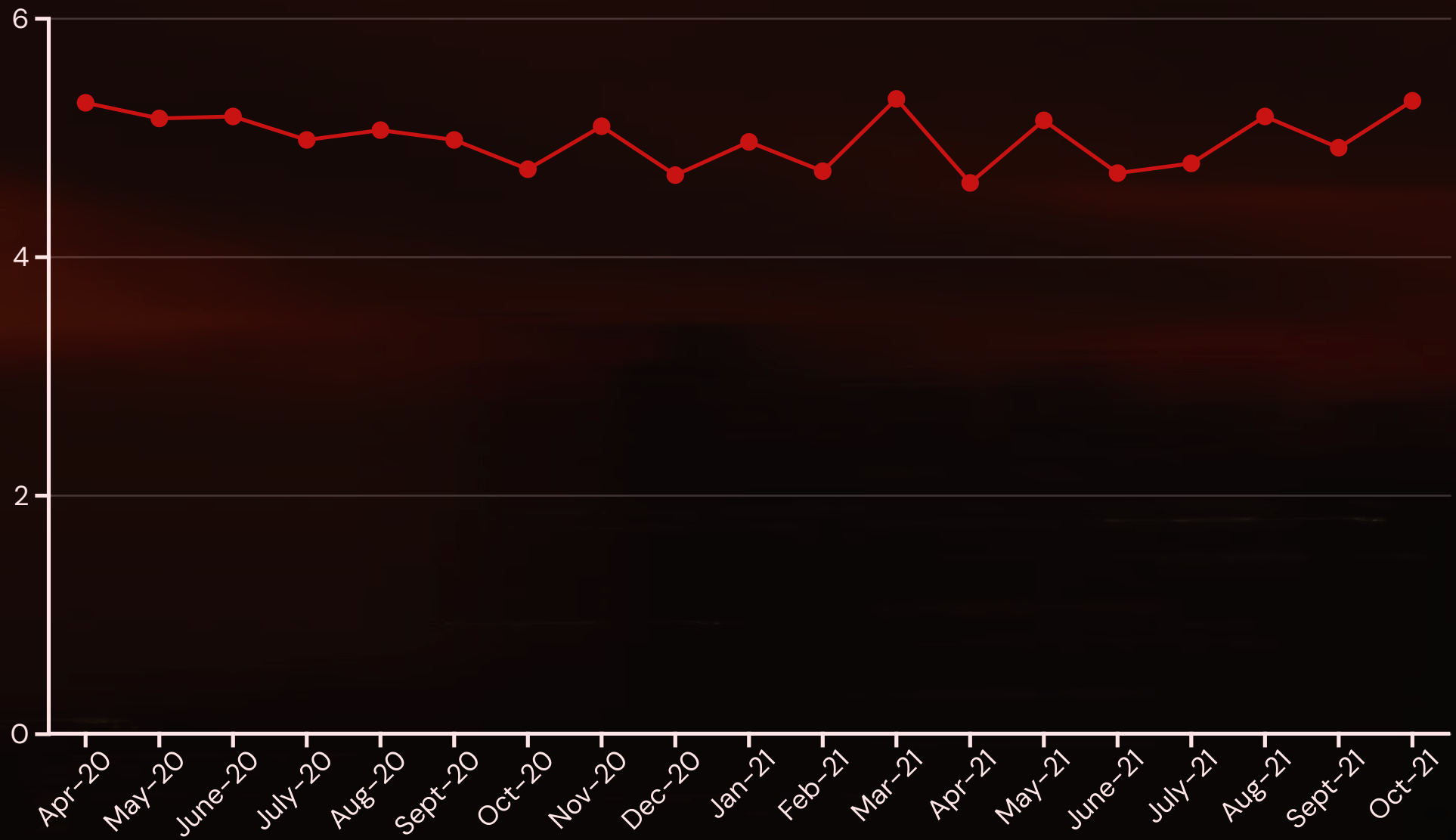
1 **Key Insights and Trends:**

- **Seasonal Variation**: The average satisfaction score shows noticeable variation across different months, indicating potential seasonal influences on patient satisfaction.

- **Identifying Peaks and Troughs**: Specific months exhibit significantly higher or lower satisfaction scores, highlighting periods where patient experience was notably positive or negative.

2 **Interpretation of the Data:**

- **High Satisfaction Periods**: Months with high satisfaction scores could coincide with lower patient volumes, improved staff performance, or successful implementation of new procedures.

- **Low Satisfaction Periods**: Months with lower satisfaction scores may suggest higher patient loads, longer wait times, or other operational challenges that negatively impact patient experience.

Mean Monthly Patient Wait-Time
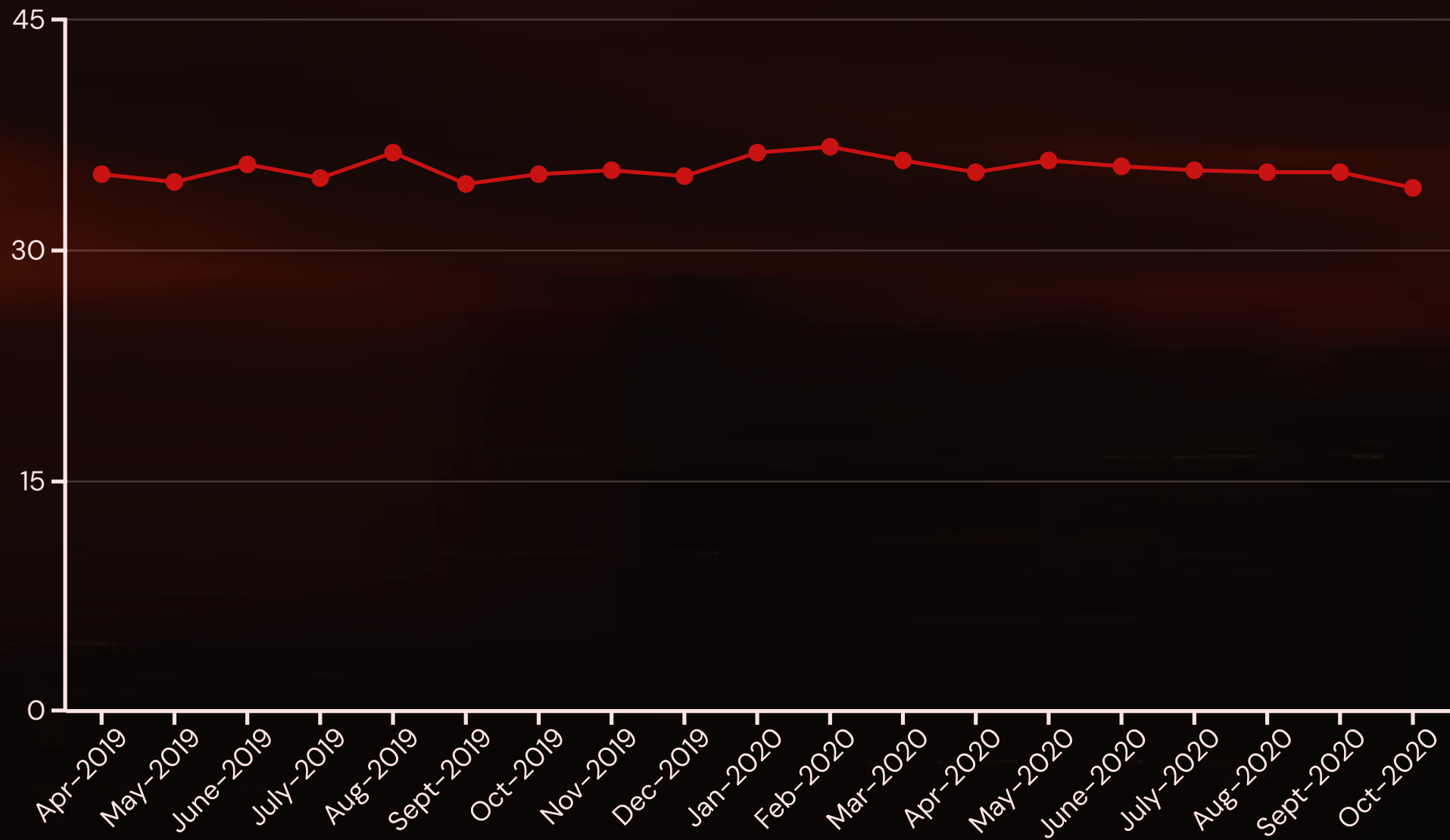
1 **Key Insights and Trends**:

- **Trend Analysis**: The average wait time varies month-to-month, reflecting the dynamic nature of ER operations and patient flow.

- **Critical Periods**: Certain months have significantly longer wait times, indicating potential bottlenecks or inefficiencies in the ER process during those periods.

2 **Interpretation of the Data**:

- **Operational Efficiency**: Months with shorter wait times may reflect periods of improved operational efficiency, effective staff management, or lower patient volumes.

- **Areas for Improvement**: Longer wait times in specific months suggest areas where the ER can focus efforts to improve patient throughput and reduce waiting periods.

Patient Distribution by Age groups

1 **Key Insights and Trends**:

- **Trend Analysis**: The area chart shows the average wait times over time, highlighting periods of increased or decreased wait times.

- **Identifying Peaks**: Specific periods with high wait times are easily identifiable, indicating potential inefficiencies or high patient volumes.

2 **Interpretation of the Data**:

- **Operational Efficiency**: Decreased wait times in certain periods suggest improved operational efficiency and effective patient flow management.

- **Areas for Improvement**: Periods with high wait times indicate areas where the ER can focus efforts to reduce waiting periods and enhance patient experience.

Mean Hourly Patient Wait-Time

1 **Key Insights and Trends**:

- **Density of Visits**: The heat map highlights areas with the highest concentration of patient visits, showing peak times and zones.

- **Utilization Trends**: Identifies patterns of ER utilization, indicating when and where the ER is most and least busy.

2 **Interpretation of the Data**:

- **Resource Allocation**: High-density periods may require increased staffing and resources to manage patient flow efficiently.

- **Operational Efficiency**: Low-density areas indicate times when the ER is less utilized, presenting opportunities to optimize staffing and resources.

Patient Distribution by Race

1 **Key Insights and Trends**:

- **Racial Distribution**: The bar chart displays the distribution of patients by race, highlighting the most and least represented racial groups in the ER.

- **Diversity Analysis**: Shows the diversity of the patient population, indicating the racial demographics that the ER serves.

2 **Interpretation of the Data**:

- **Cultural Competence**: Understanding the racial distribution helps in developing culturally competent healthcare services and ensuring inclusive patient care.

- **Resource Planning**: High representation of certain racial groups may guide targeted community outreach and resource allocation to better serve those populations.

Patient Referrals by Medical Dept

1 **Key Insights and Trends**:

- **Departmental Distribution**: The bar chart displays the distribution of patients across different hospital departments, showing which departments are most frequently referred to from the ER.

- **Utilization of Services**: Identifies the departments with the highest patient referrals, indicating areas of high demand and resource utilization.

2 **Interpretation of the Data**:

- **Resource Allocation**: Departments with high referral rates may need additional resources and staffing to handle the influx of patients.

- **Process Improvement**: Lower referral rates in some departments may indicate areas for process improvement or better coordination with the ER.

Specialty	Value
General Practice	~1,800
Orthopedics	~1,000
Physiotherapy	~250
Cardiology	~230
Neurology	~180
Gastroenterology	~170
Renal	~80

Made with Gamma