



Hospital Emergency Room Analysis

A comprehensive Emergency Room(ER) analytics dashboard designed to monitor and optimize hospital ER operations. It features key performance metrics, patient demographics, departmental insights, and operational data visualization through interactive charts and real-time reporting capabilities. Stakeholders can navigate between the 3 main sections: **ER Overview** -for aggregate metrics, **Patient Profile** for individual patient details & **Insights** for in-depth performance analysis. Within the ER Overview page stakeholders can toggle between **monthly & consolidated** views and select desired **date range** for flexible data analysis and reporting across all ER operations.



Hospital ER Analysis

ER Overview

Patient Profile

Insights

ER Overview

Showing Results for 579 Days



4/1/2023



10/30/2024



Monthly Overview

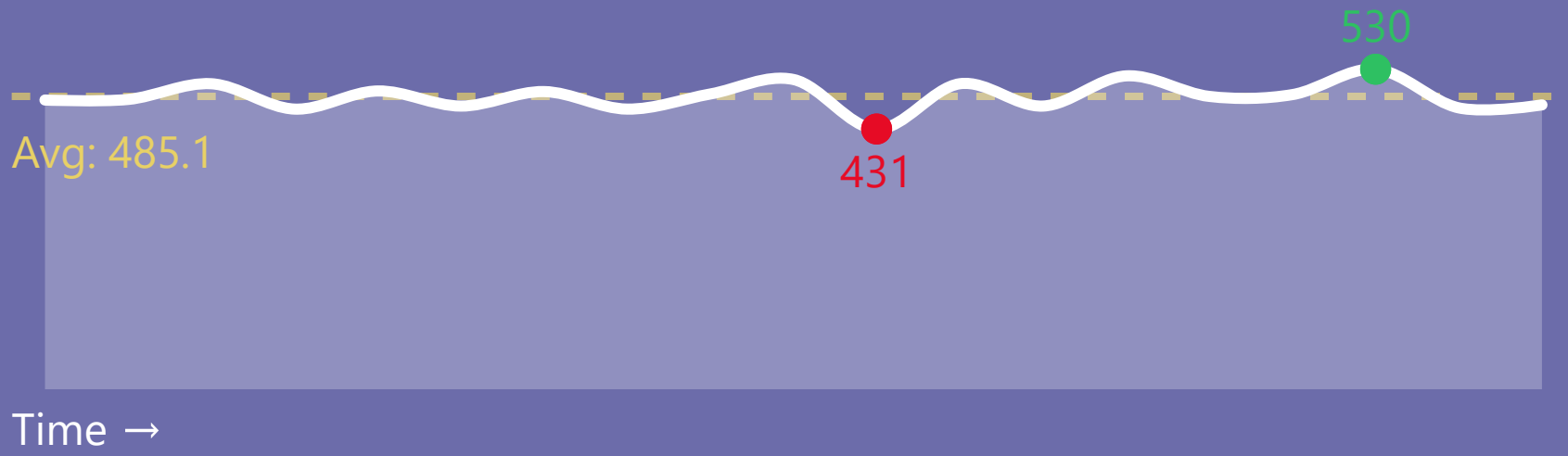
Total Patients

9,216



PoP Growth:

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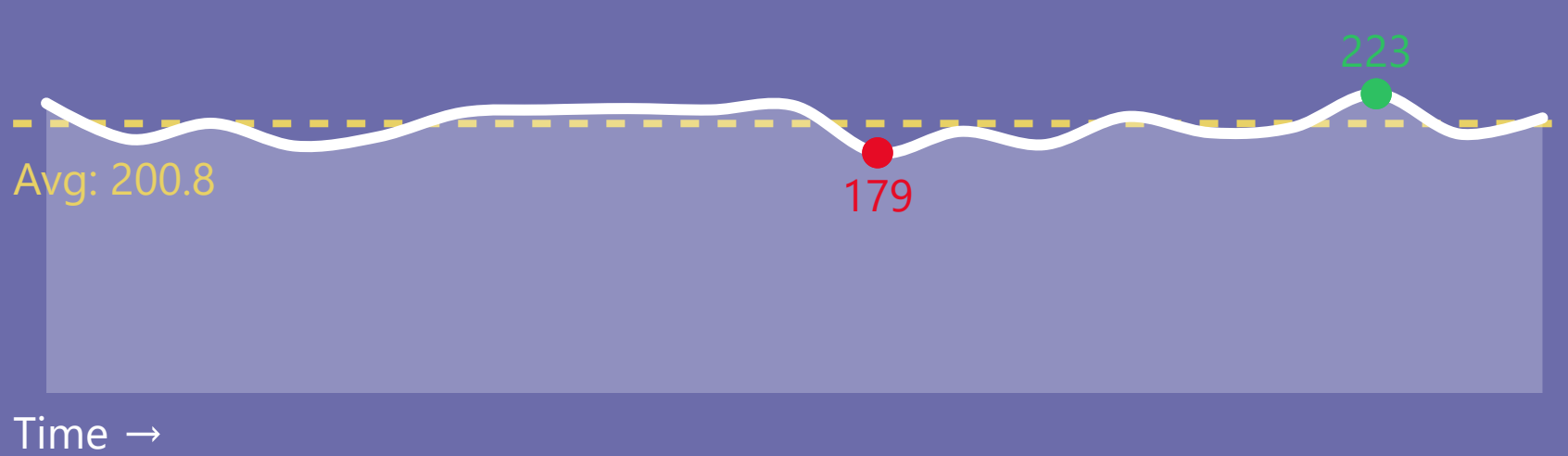
Referred Patients

3,816



PoP Growth:

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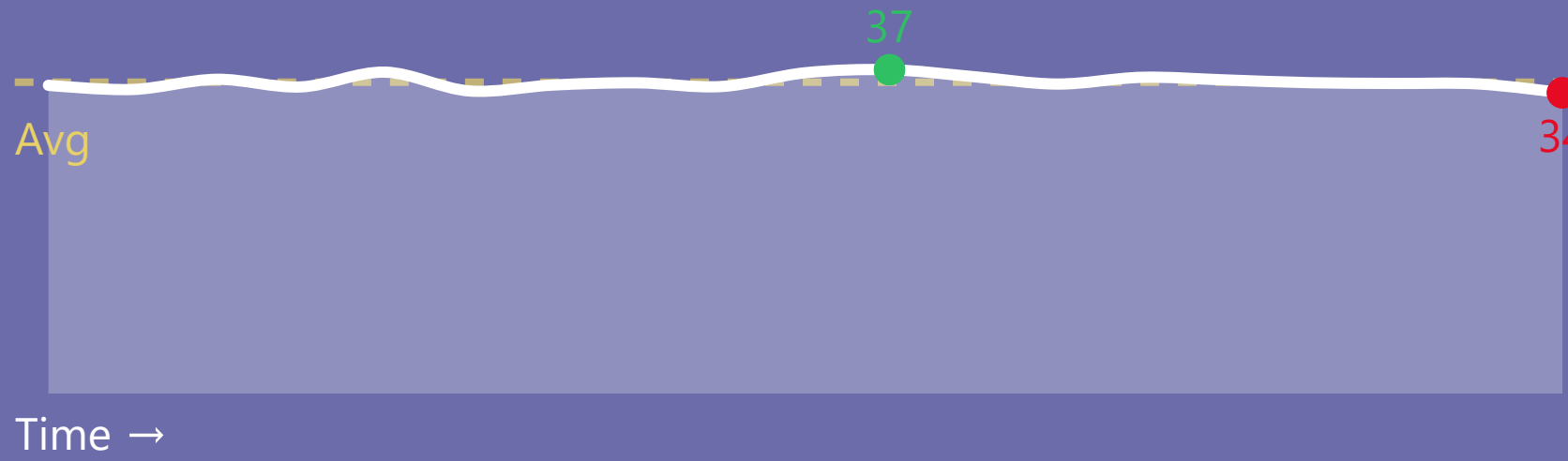
Avg Waittime (min)

35.3



PoP Growth:

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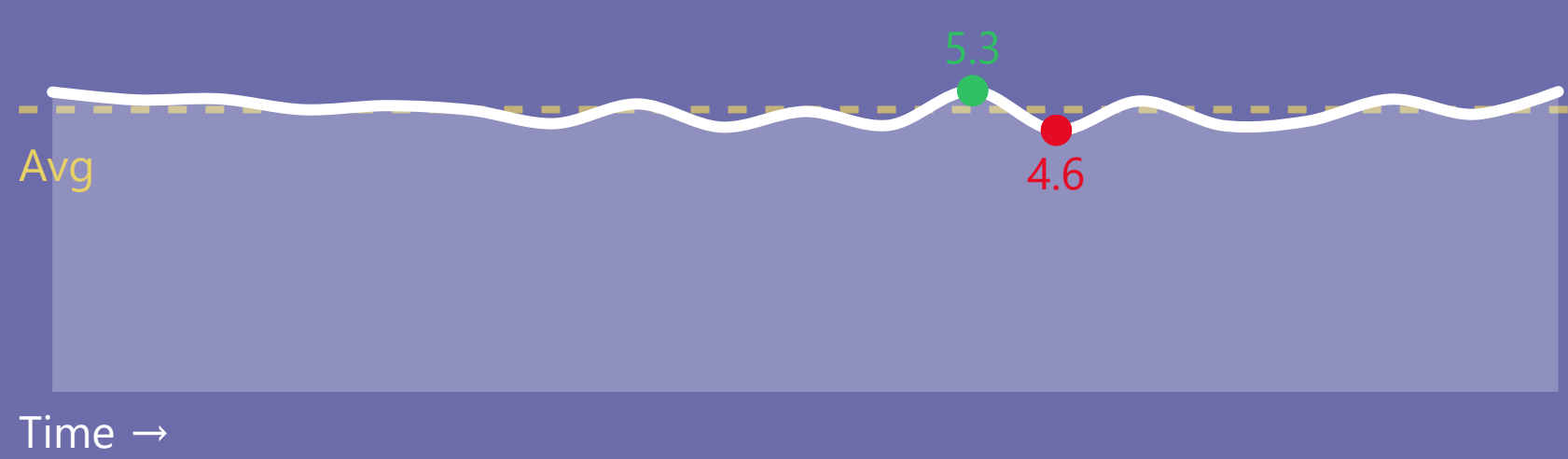
Satisfaction Score

4.99

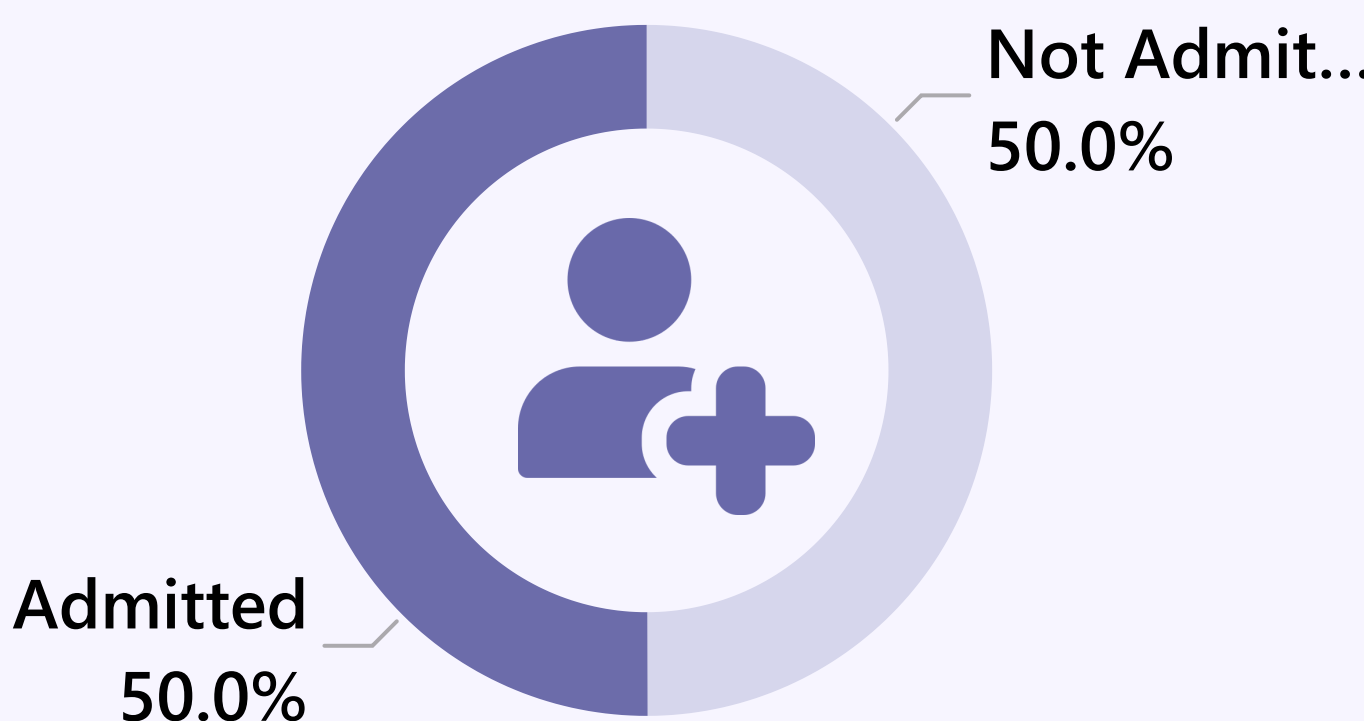
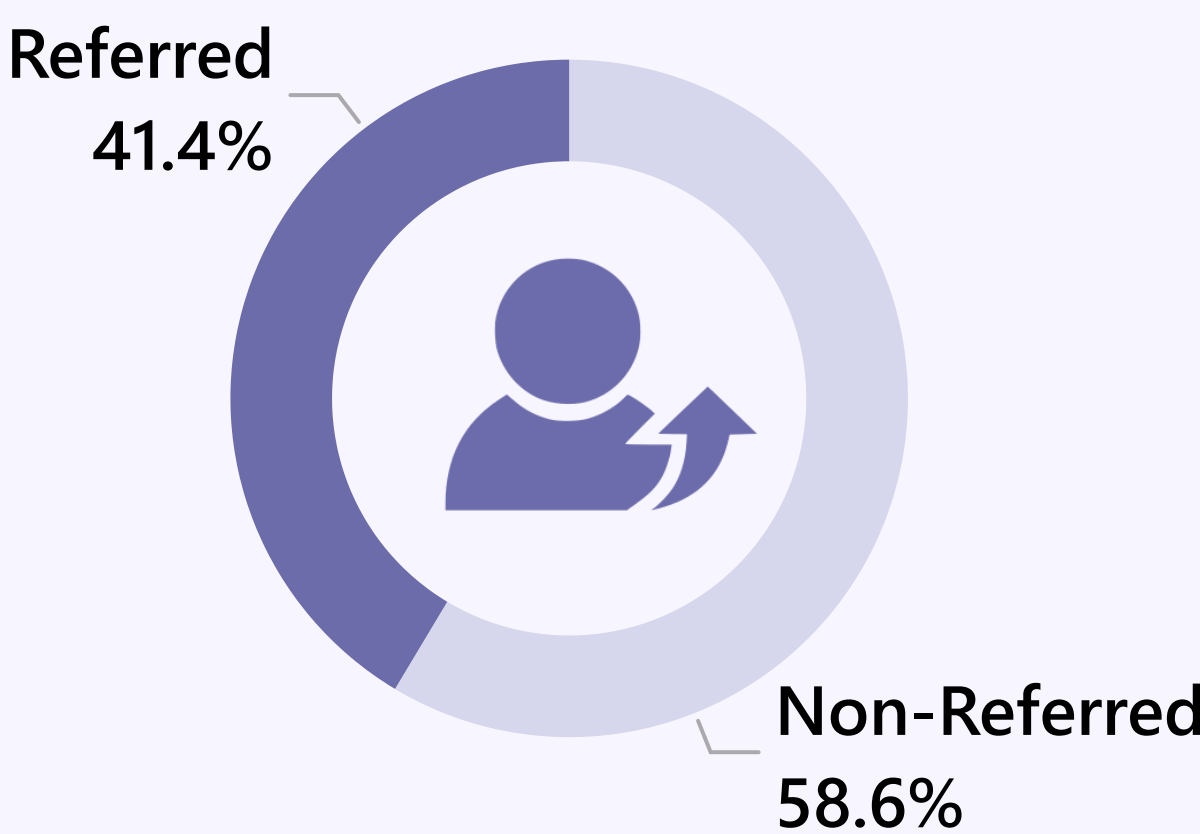
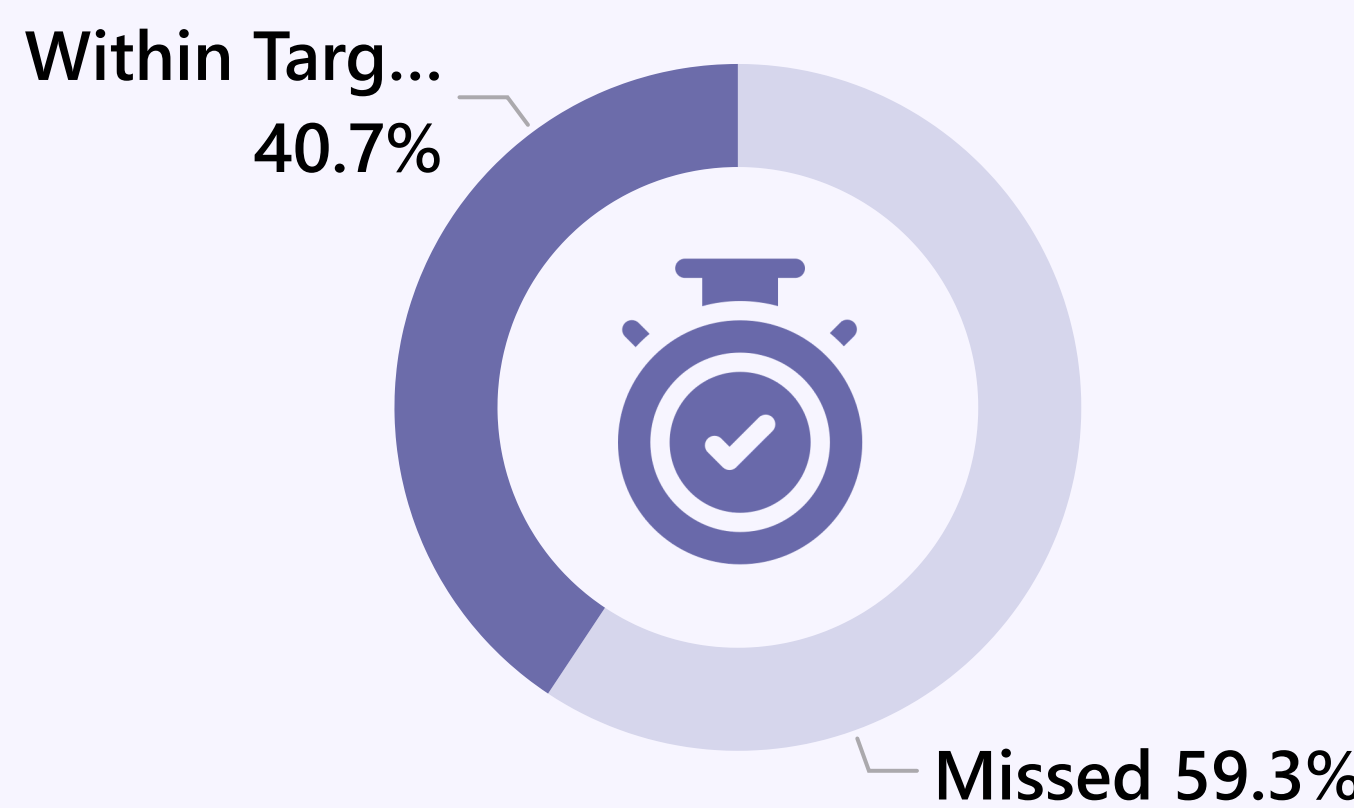


PoP Growth:

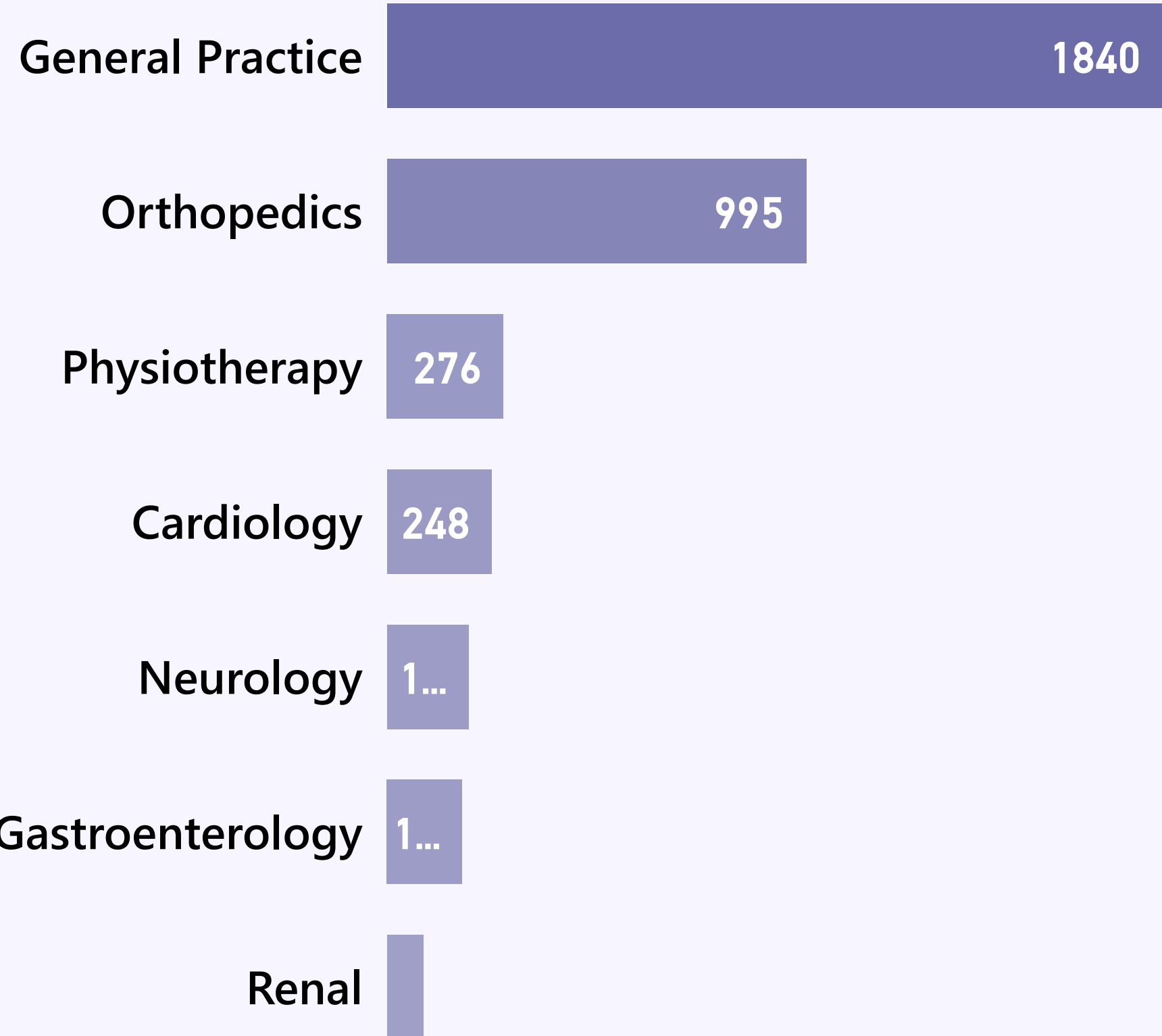
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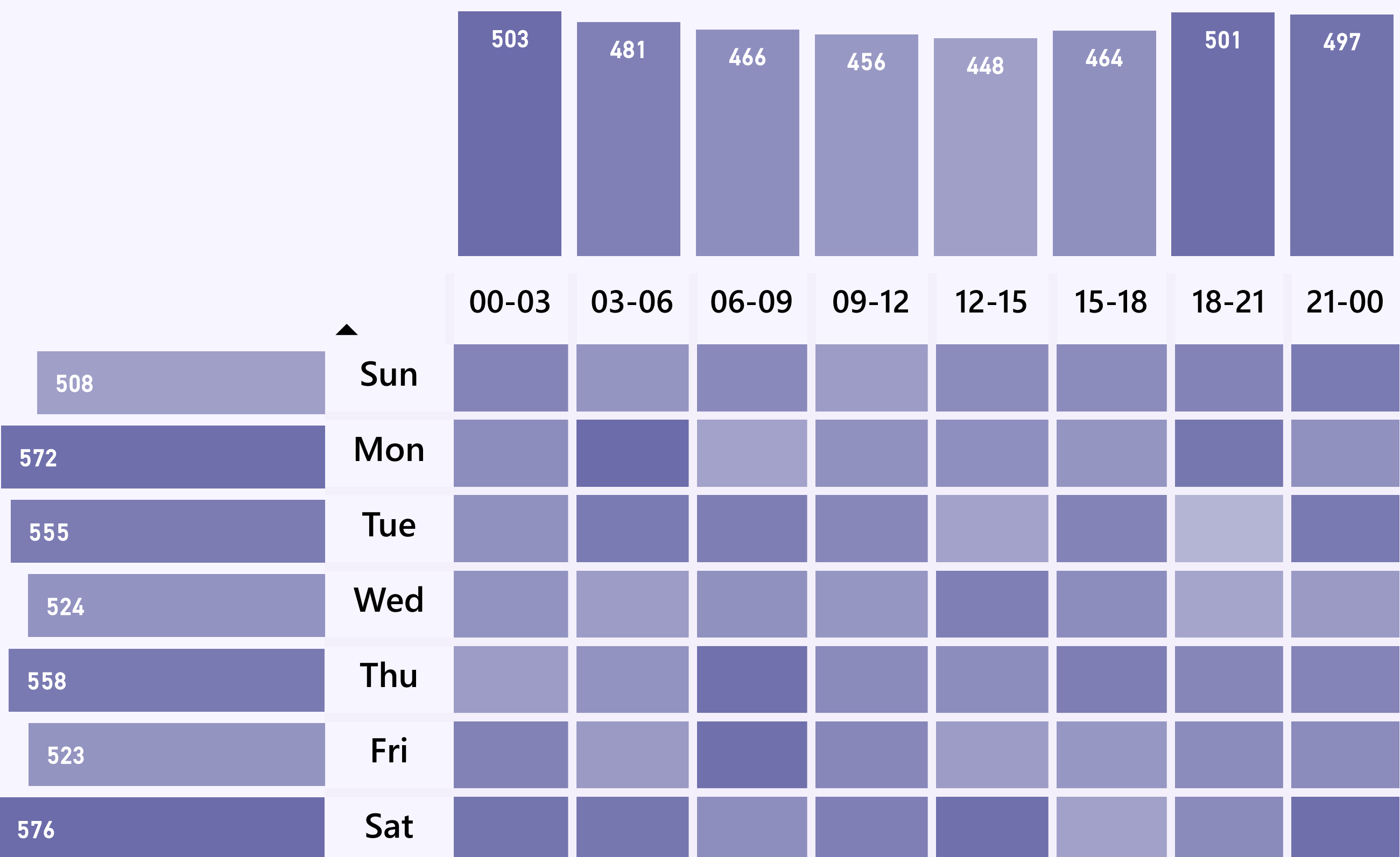
Operational Insights



Department wise Patients



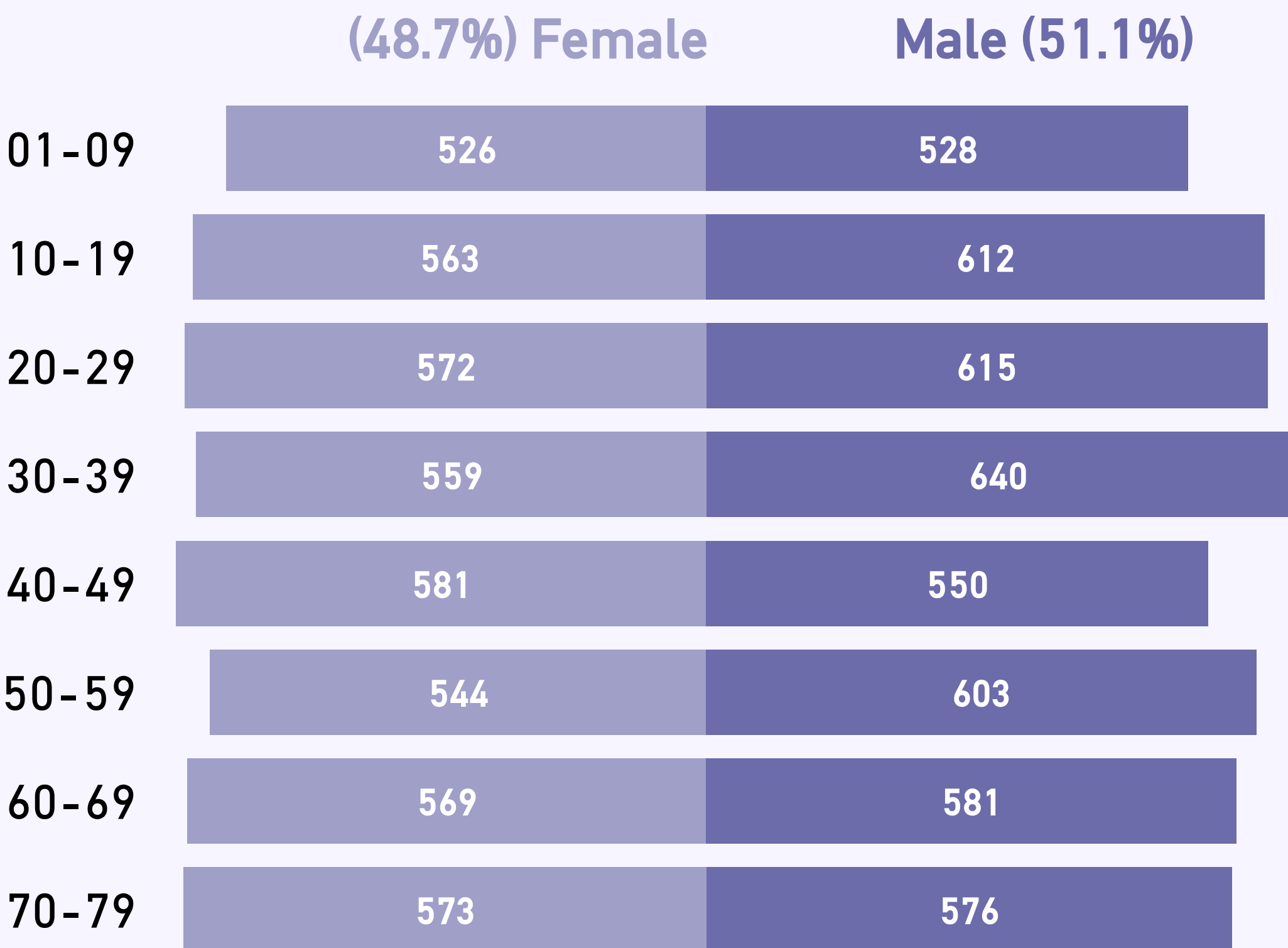
Weekly Patient Volume by Hour



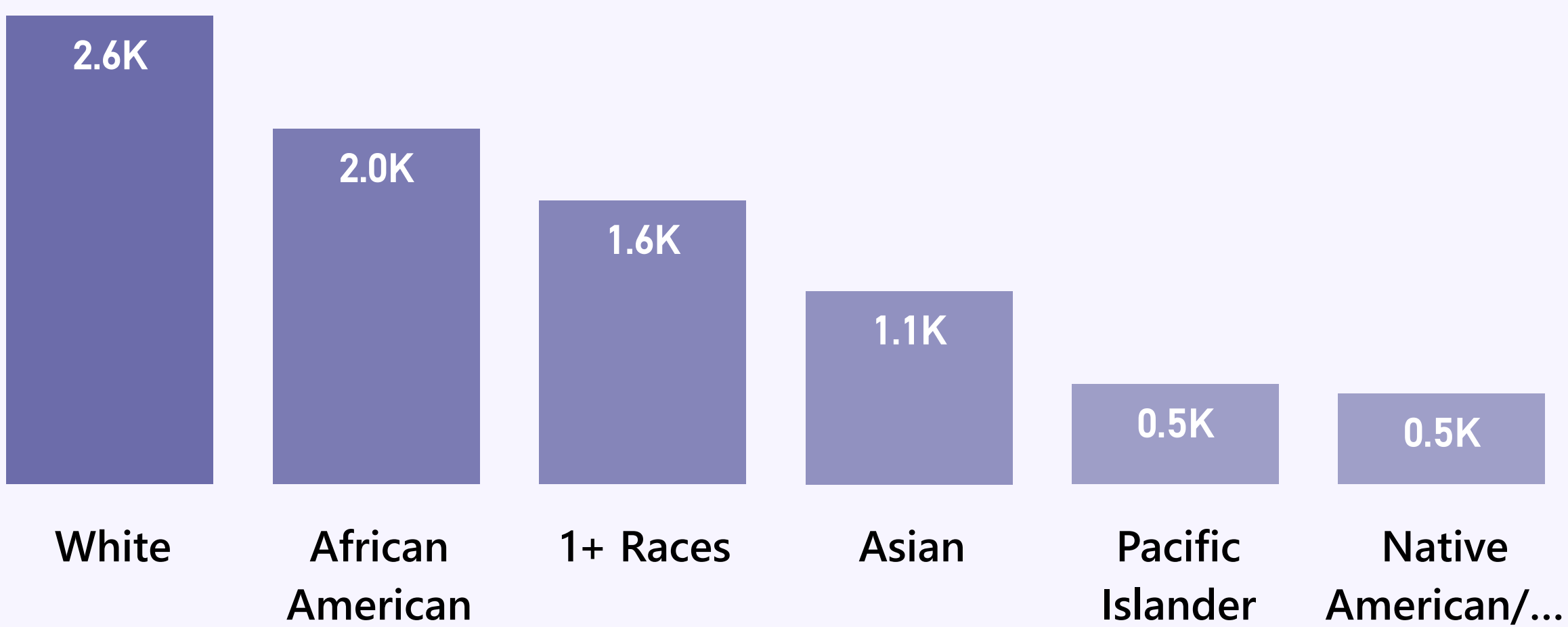
Patient Demographics



Total Patients : Age × Gender



Patient Volume by Race





Hospital ER Analysis

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Nov-23

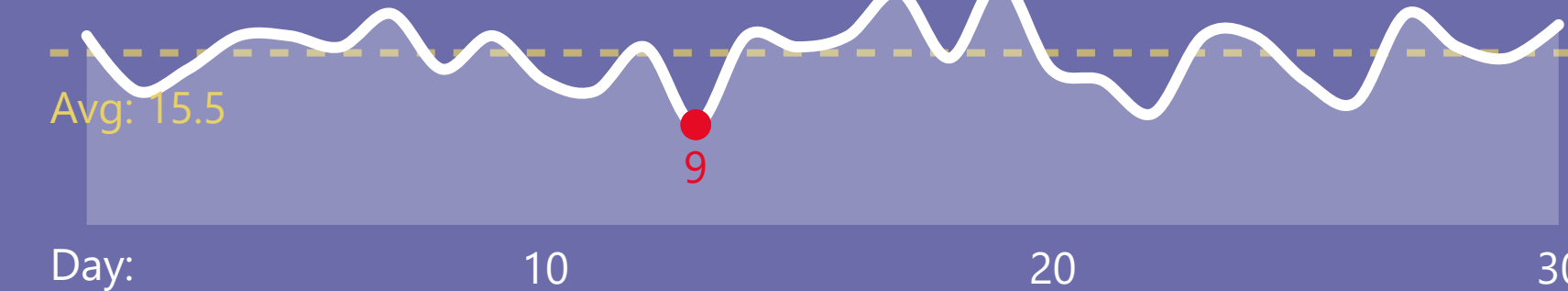
Monthly Overview

Total Patients

464



MoM Growth: ▼ 5.88%

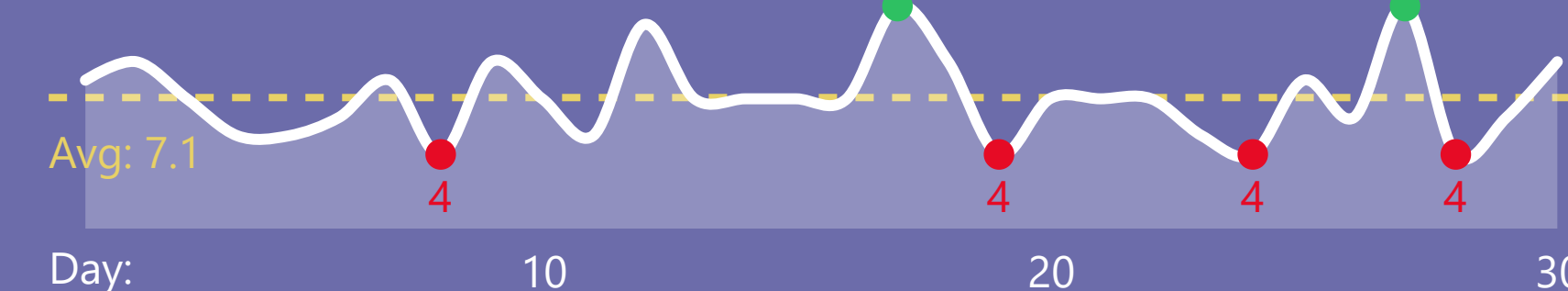


Referred Patients

212

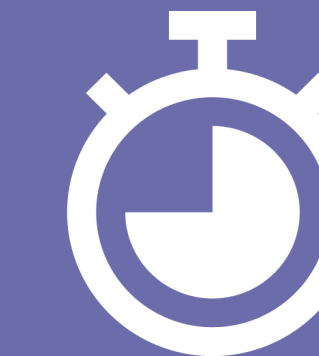


MoM Growth: ▲ 0.47%



Avg Waittime (min)

35.2



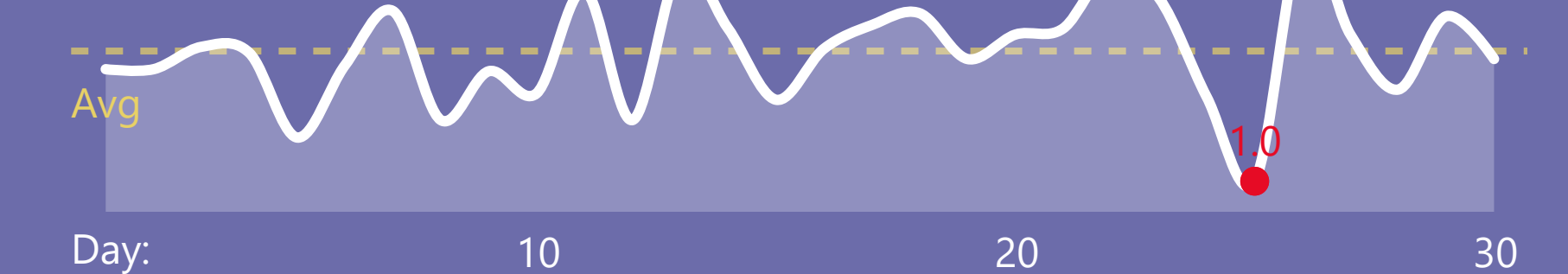
MoM Growth: ▲ 0.72%

Satisfaction Score

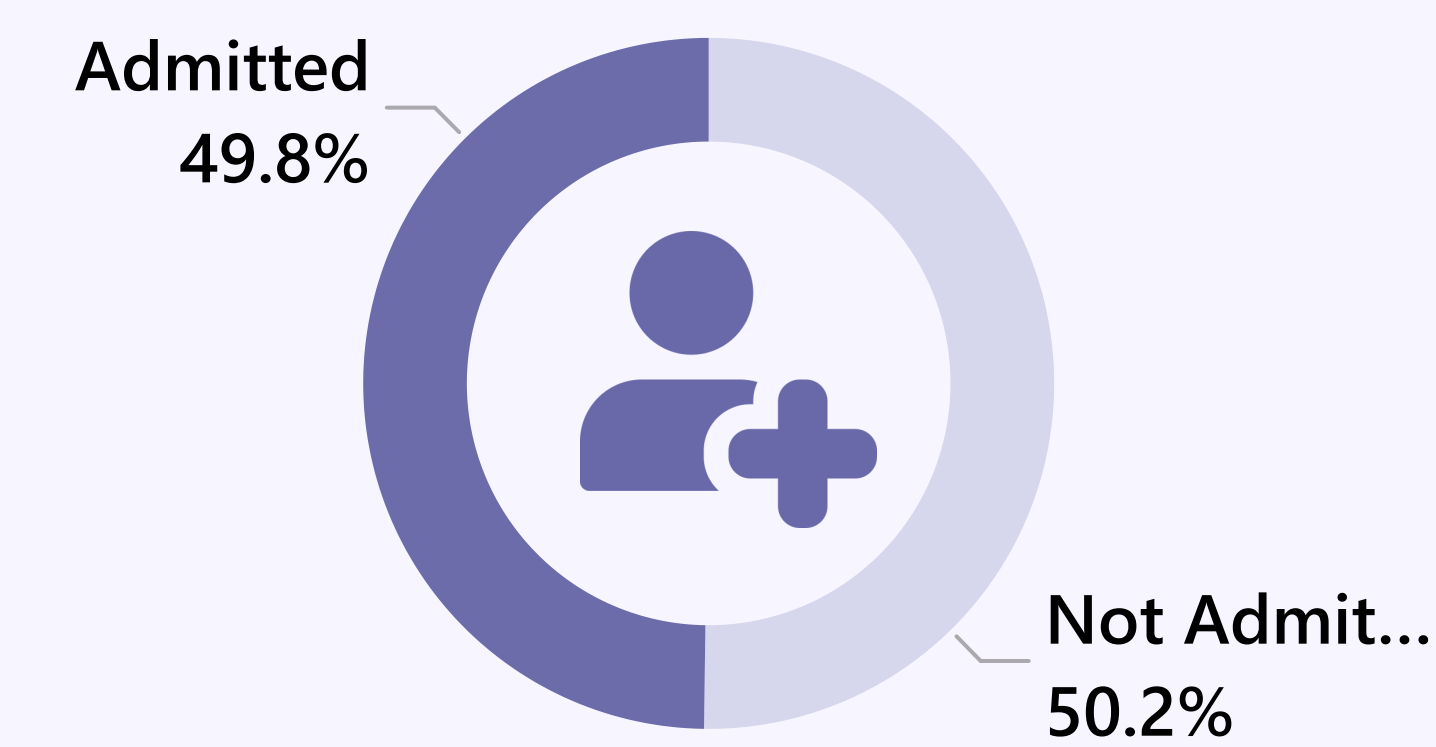
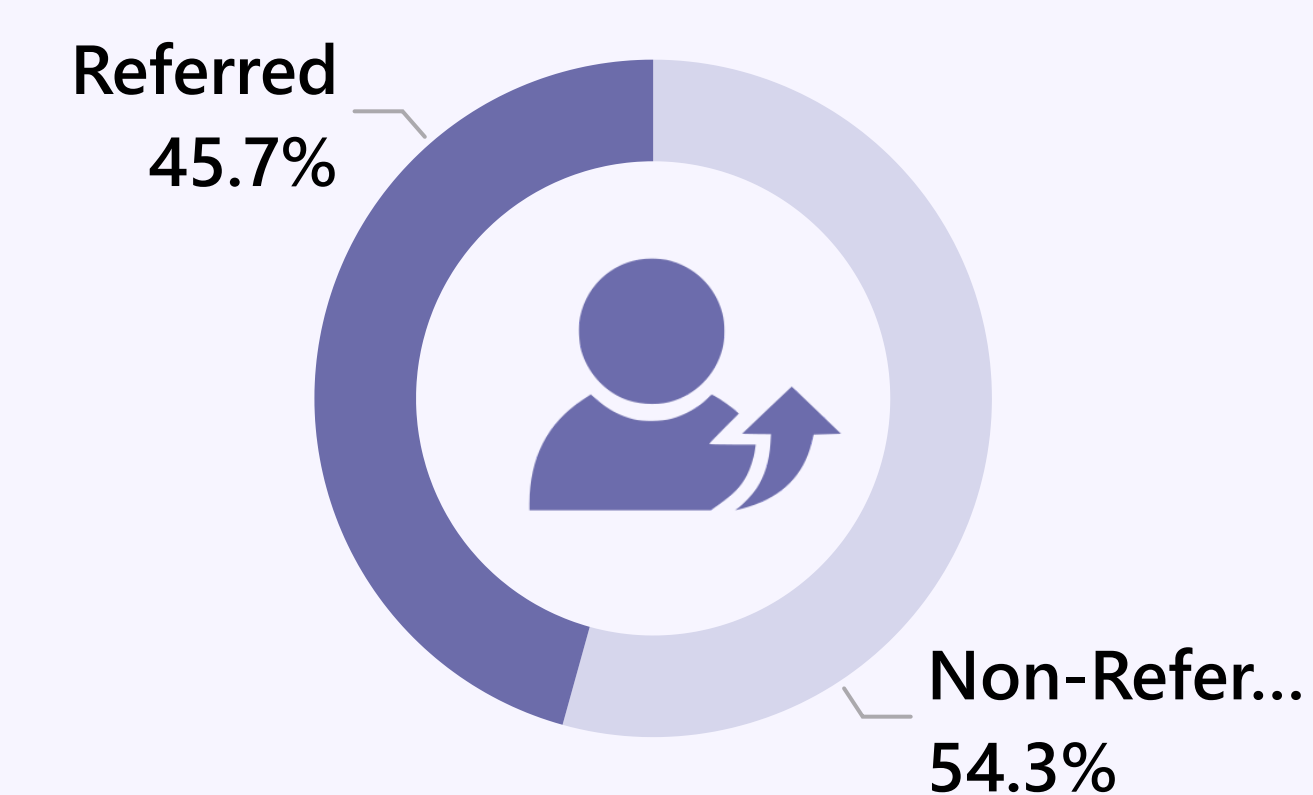
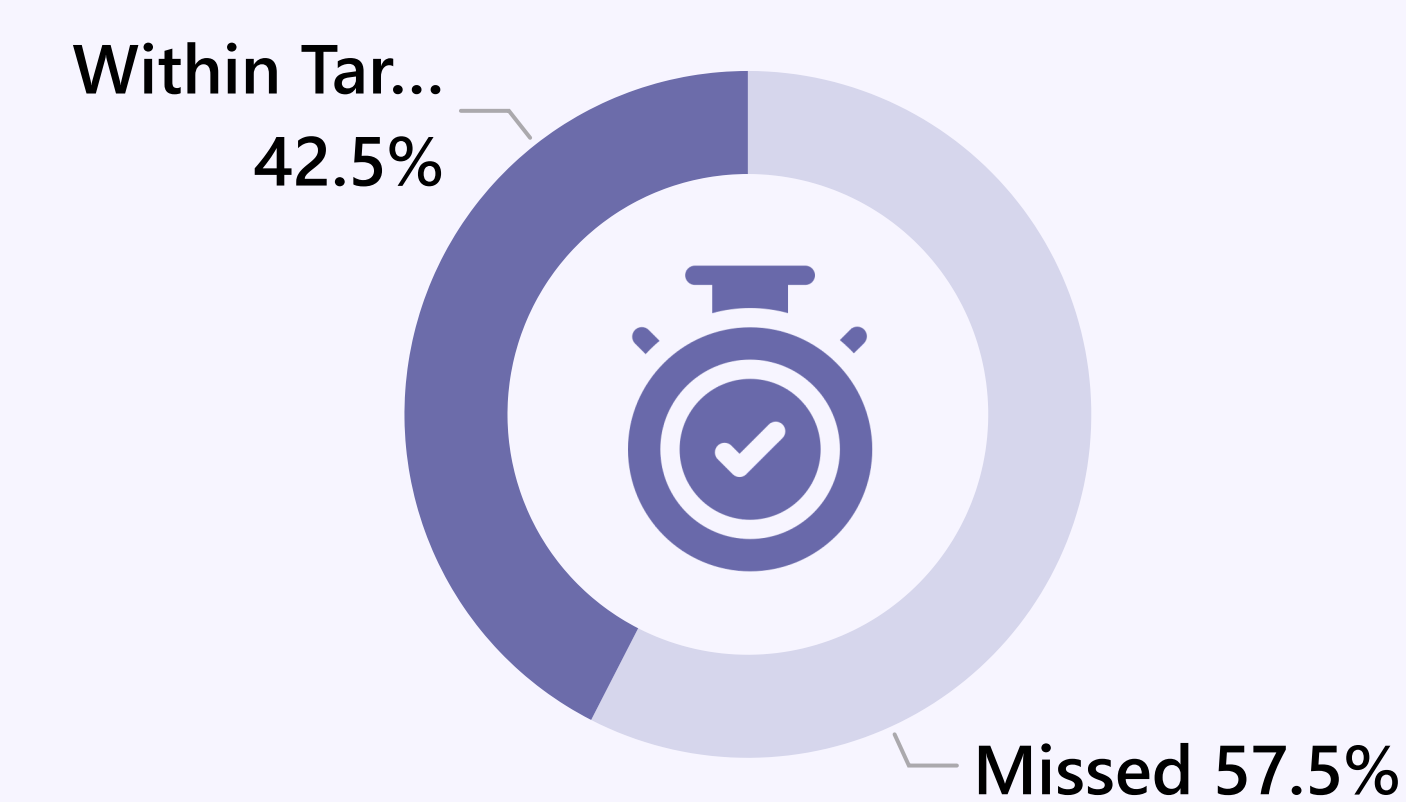
5.09



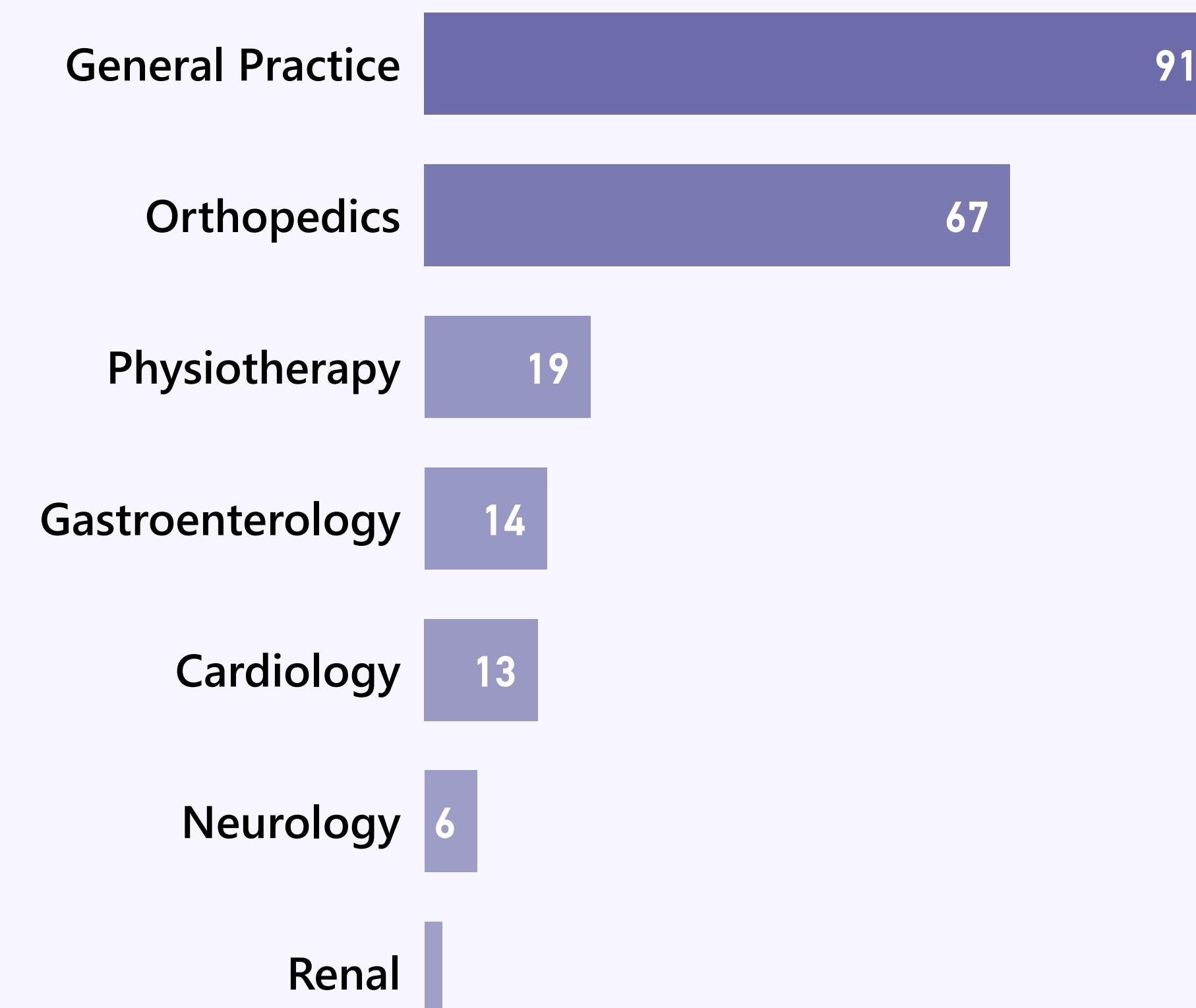
MoM Growth: **▲ 7.33%**



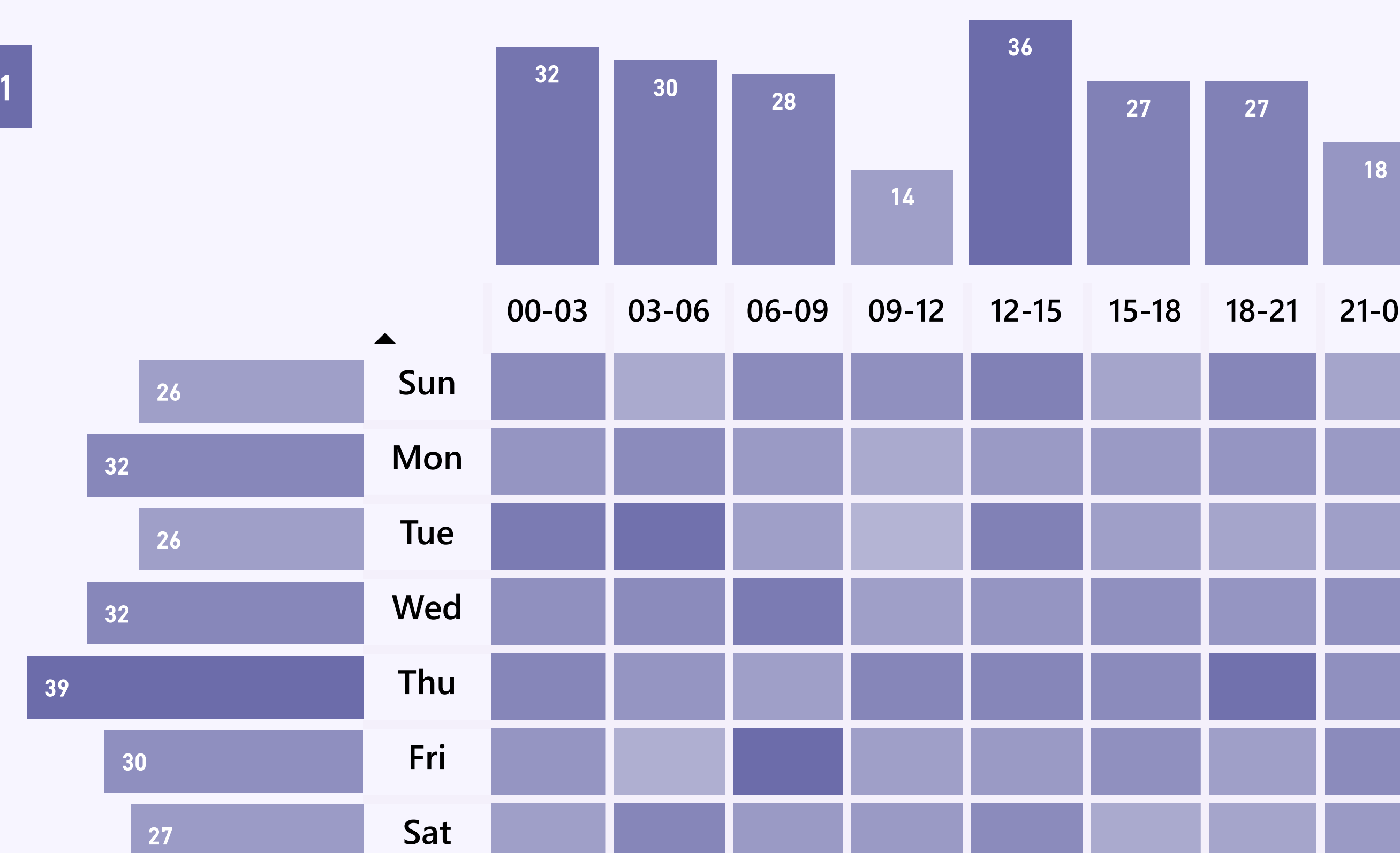
Operational Insights



Department wise Patients



Weekly Patient Volume by Hour

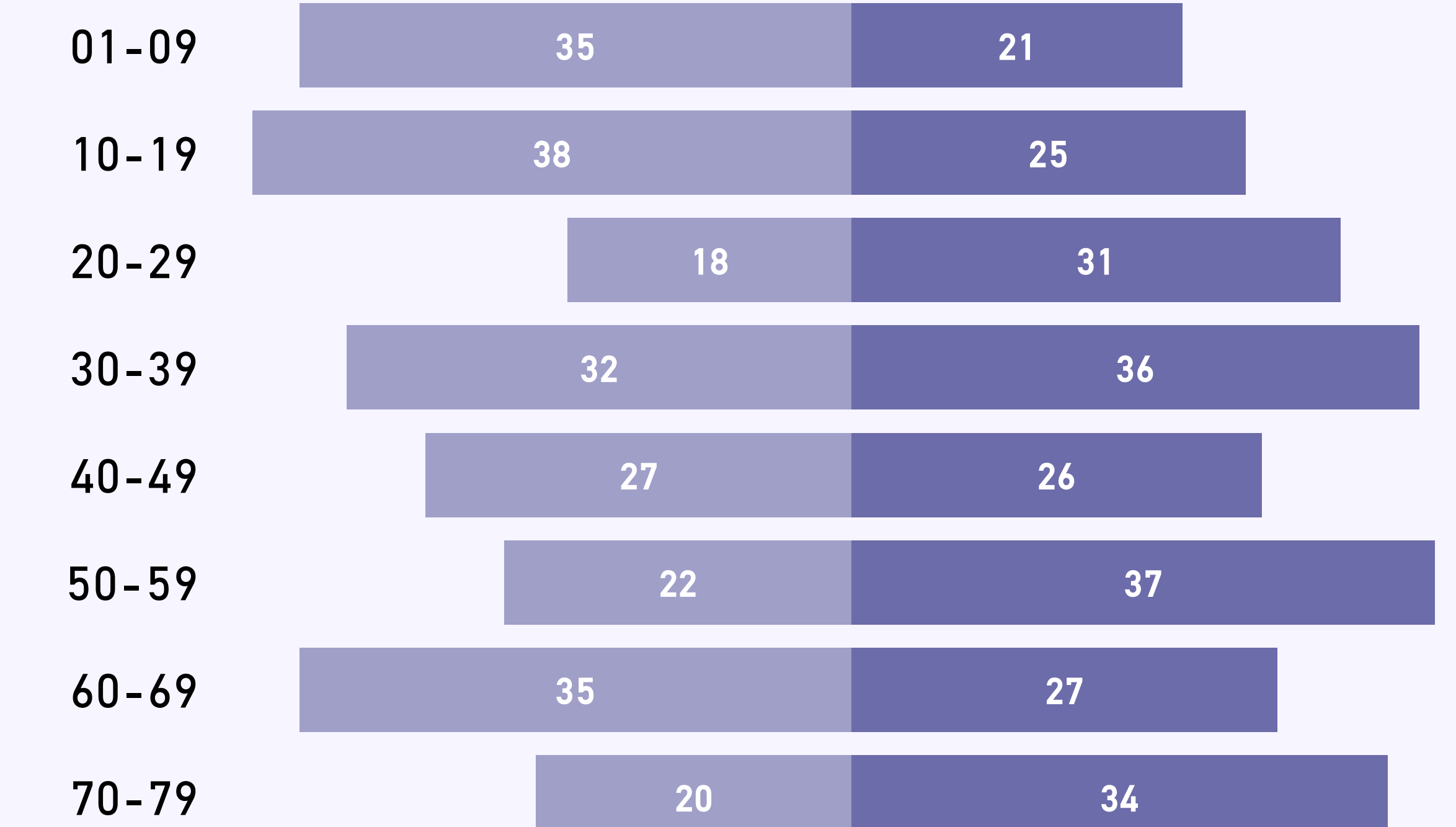


Patient Demographics

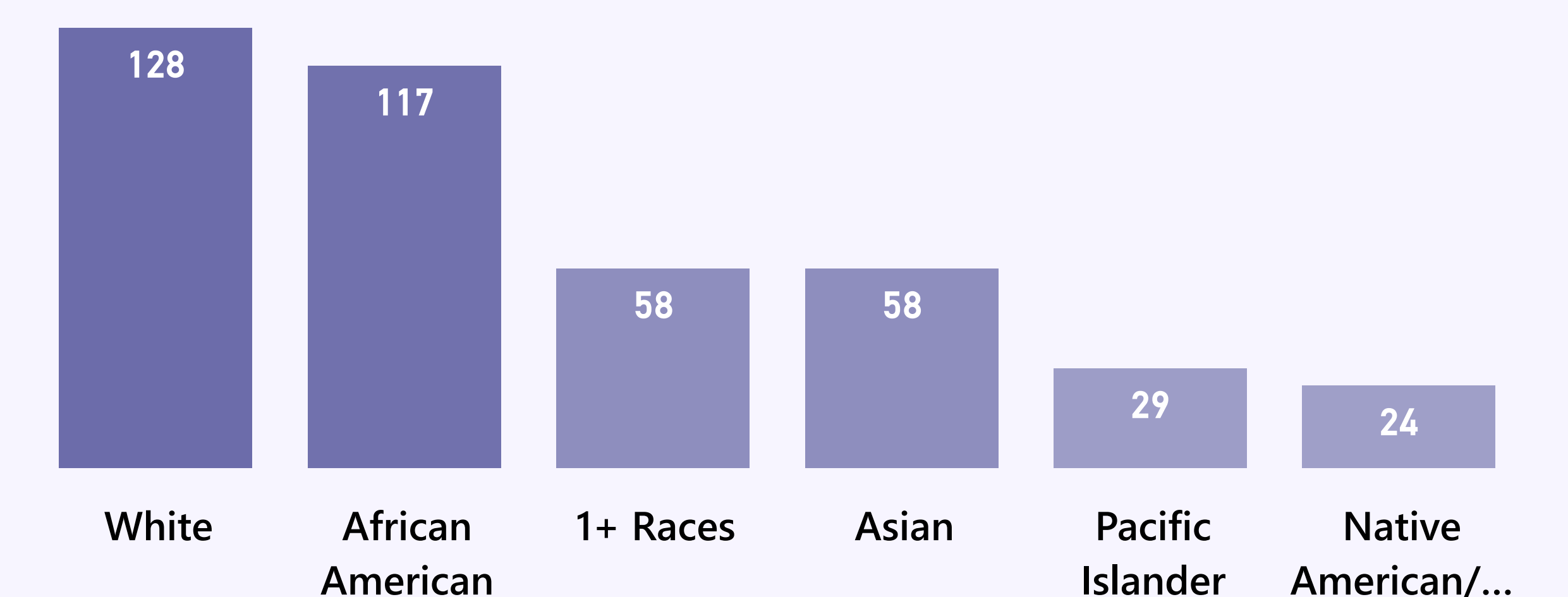
Total Patients : Age × Gender

(48.9%) Female

Male (51.1%)



Patient Volume by Race





Hospital ER
Analysis

ER Overview

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Patient Profile

Active Filter(s): No filter applied

Search



Filter

Patient Id	Name	Age	Gender	Race	Wait Time	Admission	Date	Time	Department	Satisfaction Score
100-04-3993	M. St Ange	29	♀	White	16 min	✖	4/4/2023	4:50 AM	None	
100-17-5081	V. Flicker	67	♂	African American	60 min	✖	1/14/2024	7:20 PM	None	
100-21-9648	W. Marran	39	♀	Pacific Islander	22 min	✔	1/17/2024	6:53 PM	None	
100-34-6753	B. Paulus	43	♂	Pacific Islander	25 min	✔	5/13/2024	2:03 PM	General Practice	
100-34-9587	U. Lamburn	20	♂	#N/A	24 min	✖	4/1/2024	4:17 AM	Neurology	
100-40-2709	O. Cammack	77	♂	White	48 min	✖	5/8/2024	4:58 AM	None	
100-66-0896	I. Prickett	2	♂	African American	23 min	✔	3/26/2024	12:14 PM	Orthopedics	
100-66-8222	F. Mullane	65	♀	Asian	17 min	✖	12/23/20...	12:07 PM	General Practice	
100-67-1276	S. Hallbird	55	♂	White	11 min	✔	11/3/2023	8:26 AM	Orthopedics	
100-70-0071	R. Downham	38	♂	African American	57 min	✖	1/14/2024	1:43 AM	None	
100-72-5705	N. Dudny	60	♀	African American	45 min	✔	6/19/2024	10:16 PM	None	
100-74-3943	M. Hallard	3	♀	White	14 min	✔	9/17/2023	1:31 AM	None	
100-74-5636	A. Warwicker	47	♀	#N/A	25 min	✖	8/13/2024	6:07 AM	None	
100-79-0109	P. Ulyatt	19	♀	Pacific Islander	36 min	✔	2/27/2024	4:51 AM	Neurology	



Hospital ER Analysis

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Patient Volume Trends

The consolidated view shows substantially higher patient volumes with **9,216 total patients** compared to **471 patients** in the last month report. This dramatic variance suggests either seasonal fluctuations, data aggregation differences, or potential operational changes that warrant investigation.

Referred patients represent a consistent proportion of total volume:

- Consolidated: 3,816 referrals (41% of total volume)
- Last month: 205 referrals (43% of total volume)

This consistency indicates stable referral patterns and effective inter-departmental coordination.

Operational Efficiency Metrics

Average Wait Times:

- Consolidated view: 35.3 minutes
- Last month: 34.1 minutes (2.88% improvement month-over-month)

The marginal improvement in wait times during lower volume periods suggests the department maintains efficiency standards regardless of patient load, indicating good staffing flexibility.

Patient Satisfaction:

- Consolidated: 4.99/5.00
- Last month: 5.31/5.00 (6.37% improvement)

The exceptional satisfaction scores, particularly the month-over-month improvement, demonstrate strong patient care quality and service delivery.

Operational Insights Analysis ↓

Departmental Resource Utilization

The departmental breakdown reveals **General Practice** as the primary service line, consistently handling the highest patient volume across both reporting periods.

This concentration suggests:

- Need for dedicated GP staffing during peak hours
- Potential opportunity for triage optimization
- Consideration for expanded GP capacity

Physiology and **Neurology** departments show moderate but consistent utilization, while **Gastroenterology** represents the smallest segment, indicating specialized care demand patterns.

Temporal Patterns

The Weekly Patient Volume by Hour heatmap demonstrates clear operational patterns:

- Peak activity during standard business hours (9 AM - 5 PM)
- Consistent weekly patterns with midweek volume peaks
- Lower overnight and weekend volumes

These patterns provide crucial insights for:

- Staff scheduling optimization
- Resource allocation planning
- Capacity management strategies

Patient Demographics Insights ↓

Age Distribution Analysis

The age demographics show a relatively balanced distribution across age groups, with slight variations between reporting periods. The **61-70** age group consistently represents a significant portion of patients, indicating:

- Need for geriatric-focused protocols
- Potential for chronic disease management programs
- Consideration for age-specific service delivery models

Race-Based Service Utilization

The Patient Volume by Race analysis shows **White** patients comprising the majority of visits, followed by **African American** patients. This demographic data is essential for:

- Cultural competency training requirements
- Language service needs assessment
- Community outreach program development
- Health equity initiatives

Strategic Recommendations ↓

Immediate Actions (0-30 days)

1. Investigate Volume Variance: Conduct detailed analysis of the significant patient volume differences between reporting periods to identify root causes.
2. Optimize GP Staffing: Increase General Practice coverage during identified peak hours.
3. Maintain Excellence: Continue current practices that achieved 5.31 satisfaction scores.

Short-term Initiatives (1-6 months)

1. Implement Dynamic Staffing: Use hourly volume patterns to create flexible staffing models.
2. Enhance Triage Protocols: Streamline patient flow to maintain sub-35 minute wait times during high-volume periods.
3. Develop Specialized Programs: Create targeted care pathways for high-volume age demographics.

Long-term Strategic Planning (6+ months)

1. Capacity Expansion: Consider GP department expansion based on consistent high utilization.
2. Technology Integration: Implement predictive analytics for demand forecasting.
3. Community Health Initiatives: Develop outreach programs based on demographic insights to address health disparities.

Resource Allocation Priorities ↓

High Priority

- Staffing: Increase GP and nursing staff for peak hour.
- Technology: Invest in patient flow management systems.
- Training: Enhance cultural competency and geriatric care capabilities.

Medium Priority

- Infrastructure: Evaluate physical space optimization for General Practice
- Equipment: Assess specialized equipment needs for high-volume departments
- Process Improvement: Streamline referral processes to maintain quality metrics.