

A study of operation theatre utilization rate in Apollo Hospital, Jayanagar, Bangalore

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About the Hospital

Apollo Specialty Hospital, Jayanagar is a 150-bedded super-specialty centre with advanced OTs, ICUs, and emergency care. It excels in Orthopedics, Neurosciences, and Critical Care, serving over 250 OPD patients daily.



Vision

To make India a global healthcare destination and "Touch a Billion Lives".

Mission

To bring healthcare of international standards within reach of every individual

Organization structure



Difference between practical exposure and theoretical understanding

- Understood how hospital operations require constant coordination between departments
- Realized delays are not just numbers—they directly impact patients and staff morale
- Learned to adapt quickly in real-time situations where ideal protocols may not apply
- Gained exposure to actual challenges like OT scheduling, bed shortages, and emergency adjustments
- Saw the real impact of teamwork, communication gaps, and system flow on hospital outcomes

Introduction

Operation Theatres are critical to both patient outcomes and hospital revenue. However, delays, idle time, and inefficiencies often reduce their productivity.

Aim

To analyze the utilization of Operation Theatres at Apollo Specialty Hospital, Jayanagar, identify key delay factors, and improve overall efficiency

Objectives

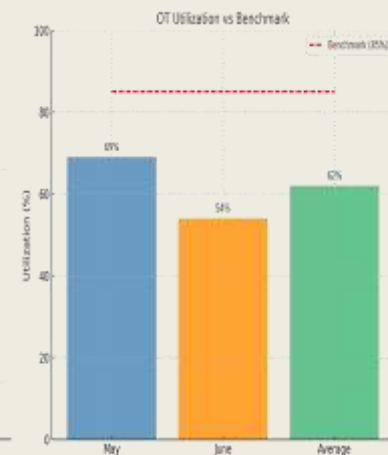
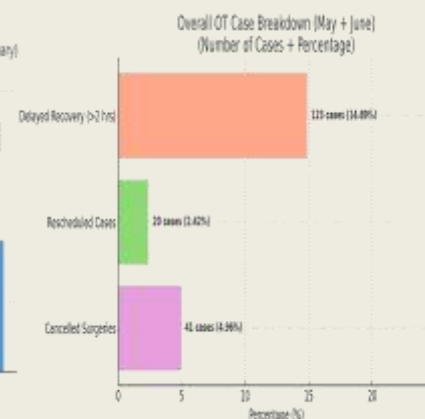
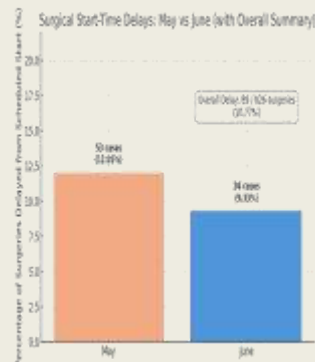
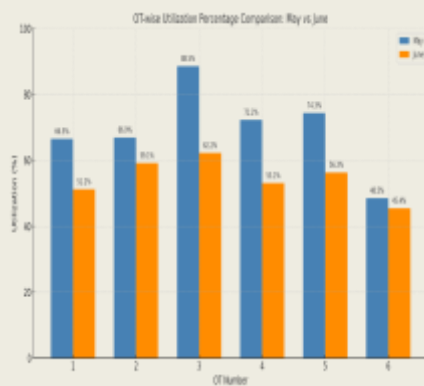
- Calculate overall OT utilization percentage
- Determine cancellation and rescheduling rates
- Analyze the share of additional surgeries
- Recommend improvements for readiness and idle time reduction

Methodology

Period: May and June 2025
Sample: 826 surgeries across 6 OTs
Working Days: 52
Data Points: OT timings, departments, surgeons, delays, cancellations, reschedules, additional cases

Utilization metrics and formula

Total OT Time Available = No. of OTs × 720 min/day × Working Days = 6 × 720 × 52 = 224,640 min
Total OT Time Used (including cleaning) = 139,278 min
OT Utilization % = $(139,278 \div 224,640) \times 100 = 62.00\%$



Strengths:

- Trusted Apollo brand with NABH accreditation
- Advanced infrastructure and super-specialty care
- High OPD footfall (~250+ daily) and experienced clinical staff

Weakness:

- Dependency on select consultants
- Manual documentation delays insight generation
- Limited digital automation in OT scheduling and data capture
- Dependence on physical records for certain OT processes

Opportunities:

- Potential for medical tourism and tie-ups
- Scope to implement automated OT utilization dashboards
- Use data insights to improve surgeon-wise scheduling efficiency
- Adoption of real-time monitoring systems for delays and cancellations

Threats:

- Competition from top hospitals
- Rising operational costs
- Staffing and compliance challenges
- Delayed surgeries can impact patient satisfaction and hospital reputation
- Staff shortages or unplanned emergencies may disrupt OT plans
- Competitive healthcare market with emphasis on efficiency

Key Findings

Surgeries Performed: 826
• Cancelled Cases: 41 → 4.96%
• Rescheduled Cases: 20 → 2.42%
• Delayed Recovery (>2 hrs): 123 → 14.89%
• Start-Time Delay Cases: 89 → 10.77%
• Additional Cases: 246 → ~30% of total
• Total OT Utilization: 62%

Challenges faced

- Incomplete or inconsistent data entries delayed initial analysis
- Manual extraction of delays and additional cases required extra validation
- Coordinating multiple data sources (OT schedule, surgeon info, recovery logs) was time-consuming
- Limited visibility into reasons for cancellations or delays reduced depth of root cause analysis
- Handling large dataset while maintaining accuracy and visual clarity was demanding

Conclusion

The OT utilization at Apollo Jayanagar stands at 62%, with considerable delays due to recovery and late starts. While efficiency is moderate, focused improvements in scheduling, pre-op readiness, and resource coordination can significantly enhance utilization and patient care.

Recommendations

- Pre-anesthesia & transport coordination to minimize recovery hold-ups
- Track delay reasons systematically
- Schedule buffer time for complex surgeries.