# Improving Inpatient Throughput in the Cardiac Catheterization Department

**Colleen Blackburn DNP, Chris Hassinger MBA,**
OSF Saint Francis Medical Center

## Need for the Study

Improving throughput in the procedural area is vital for both patient care and hospital operations to improve patient outcomes, patient safety, lab efficiency, and team morale. In FY 23 SFMC saw significant inpatient holds leading in increased LOS and patient/mission partner dissatisfaction.

Better Outcomes

- Timely procedures can drastically improve a patient's hospital course, and long-term prognosis.
- Faster access often means fewer complications, shorter hospital stays, and better recovery.

Efficiency and Coordination

- Streamlined cath lab flow improves overall hospital efficiency and resource use.
- It reduces bottlenecks and ensures critical equipment and staff are available when needed.

## Methods/ Analysis

Operational Interventions to Enhance Patient Throughput

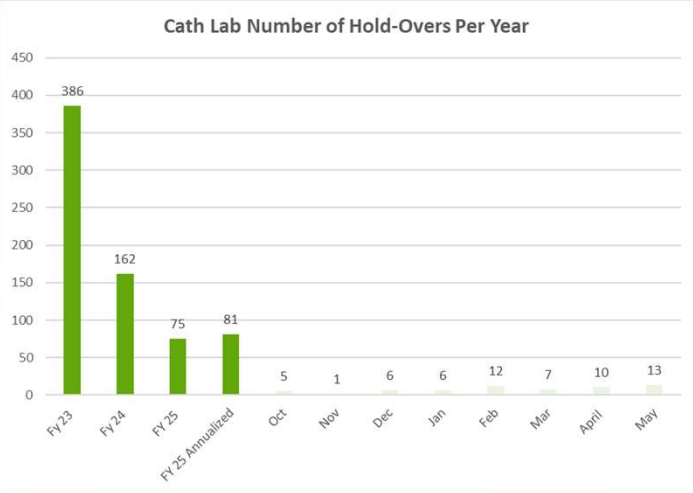
Extend operational hours: Extended department hours to 5:30 PM to accommodate higher patient volume and reduce bottlenecks during peak times

Cancellation tracking: Introduced a cancellation tracking system using reason codes, enabling data-driven scheduling adjustments and trend analysis

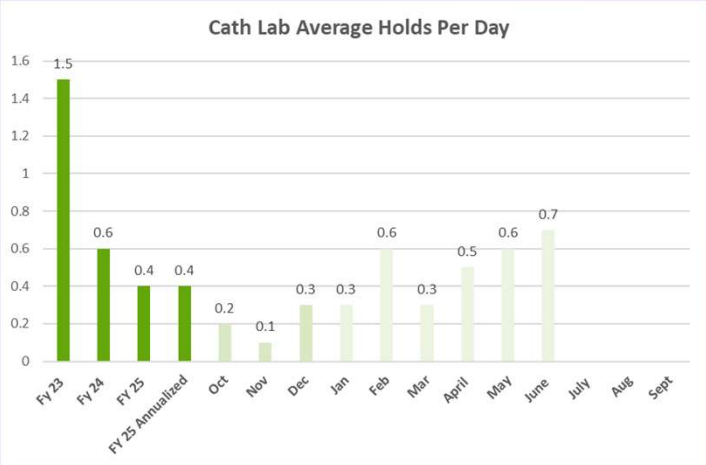
Medical readiness: Coordinated closely with the medical team to ensure patients were NPO and had signed consent prior to procedures, minimizing delays and improving procedural readiness

Scheduling reorganization: Reorganized scheduling workflows to prioritized outpatients in the morning and inpatient cases in the afternoon—to streamline flow, optimize staffing resources, and increase daily case completion rates

## Cath Lab Number of Hold-Overs Per Year




## Cath Lab Number of Hold-Overs Per Day




## Results

The data in the first graph illustrates a significant downward trend in the number of hold-overs from FY23 to FY25. In FY23, there were 386 hold-overs, which dropped sharply to 162 in FY24 and further declined to 75 in FY25. The annualized projection for FY25 is slightly higher at 81, suggesting a relatively stable trend for the remainder of the year. Monthly data from October to May in FY25 shows fluctuations, with the highest number of hold-overs occurring in May (13) and February (12), while November recorded the lowest (1). Overall, the data indicates a consistent and substantial reduction in hold-overs over the three-year period, reflecting potential improvements in operational efficiency or scheduling within the Cath Lab.

The second graph illustrates a clear downward trend in the average number of daily holds in the catheterization lab over the past three fiscal years. FY23 recorded the highest average at 1.5 holds per day, which significantly decreased to 0.6 in FY24 and further declined to 0.4 in FY25. The annualized projection for FY25 remains consistent at 0.4. Monthly data from October through June in FY25 shows no holds from October through April, followed by a slight increase in May (0.6) and June (0.7). This overall trend suggests substantial improvements in operational efficiency, with a marked reduction in daily holds over time.

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## Discussion

Improving throughput to the cath lab offers significant benefits for hospitals across clinical, operational, and financial dimensions. Clinically, faster access to the cath lab is critical in emergencies such as ST-Elevation Myocardial Infarction (STEMI), where every minute counts. Timely intervention reduces heart muscle damage, lowers the risk of complications, and improves survival rates. Operationally, streamlined patient flow enhances the utilization of resources—such as staff, equipment, and space—while reducing delays and bottlenecks. This efficiency often leads to shorter hospital stays, freeing up beds and improving overall capacity. Financially, increased throughput allows hospitals to perform more procedures, boosting revenue while also cutting costs associated with prolonged care or preventable complications. Additionally, smoother workflows contribute to better staff satisfaction by reducing stress and improving coordination among departments.

## References

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