

# Bays, Bottlenecks, and Better Flow: Improving PACU Throughput When Space Is Tight

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## INTRODUCTION

### Background

From 2024–2025, Virtua Marlton experienced a rapid expansion in surgical and procedural volume, growing from five to seven operating rooms and adding a second endoscopy suite, with plans for an eighth OR underway. Throughput more than doubled, resulting in significant workflow strain within the Surgical Prep Area (SPA)/Same Day Surgery (SDS) and Post Anesthesia Care Unit (PACU). Inefficiencies in bay assignment, delayed transfers, and staffing shortages led to procedural delays, operating room holds, decreased patient satisfaction, and staff frustration.

### Purpose

The project aimed to improve surgical services throughput and patient flow by:

- Reducing PACU and SDS bottlenecks.
- Enhancing communication between the OR, PACU, and SDS.
- Establishing sustainable staffing and process solutions to support patient safety, satisfaction, and operational efficiency

## REFERENCES

- Bugnitz, C., & Sandberg, K. C. (2025). Creating Effective PDSA Cycles. *Current Problems in Pediatric and Adolescent Health Care*, 55(4), 101759. <https://doi.org/10.1016/j.cppeds.2025.101759>
- Pratik Rachh, Davis, M., & Heilbrun, M. E. (2023). Quality Improvement Report: Improving Pre- and Postprocedure Care Area Workflows at a Busy Urban Academic Hospital Using Lean Management Principles. *Radiographics*, 43(2). <https://doi.org/10.1148/rg.220089>

## METHODS

### Process of Implementation

Using the Plan-Do-Study-Act (PDSA) model, SPA and PACU leadership implemented multifaceted changes:

**SPA/SDS:** Added two nursing positions for extended coverage and designated two Phase II recovery nurses per shift responsible for all same-day discharges. A radiology overflow area with two additional bays was established for high-volume days.

**PACU:** Introduced a dedicated charge nurse “out of the count” and piloted several bay assignment workflows. The final process of preassigning bays in the EHR when patients became PACU-pending proved most effective, thereby reducing confusion and improving preparedness. OR staff now verify bay availability prior to transfer, preventing unplanned arrivals.

The Phase II process was restructured so that Phase II nurses, not PACU nurses, assume care immediately after Phase I recovery, aligning with best practices at sister hospitals.

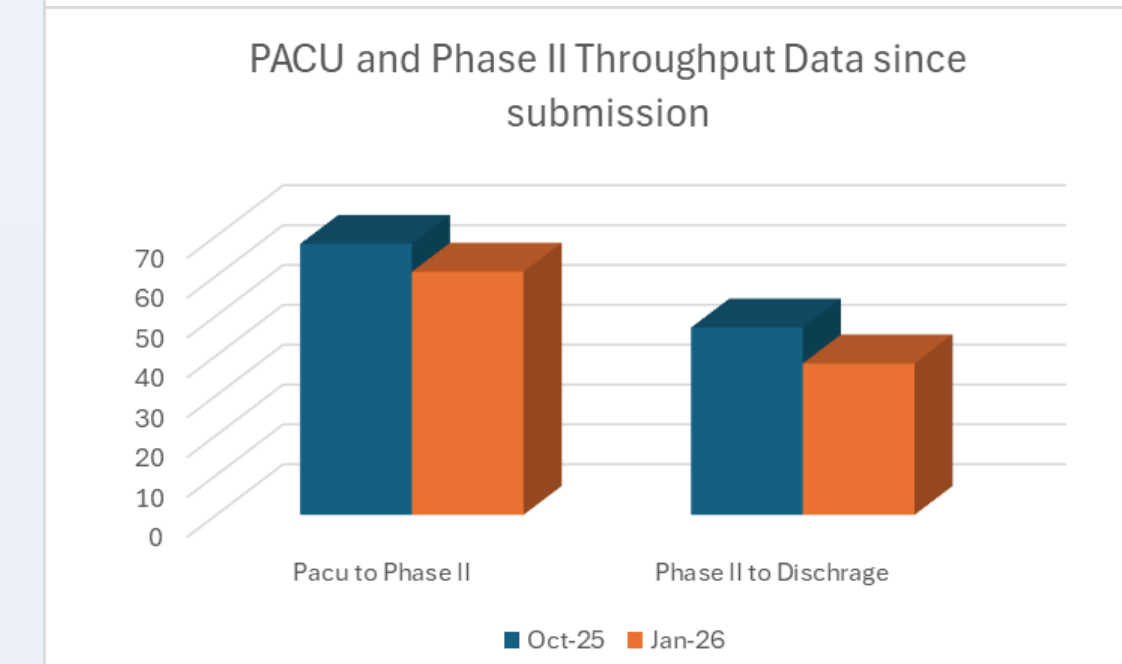
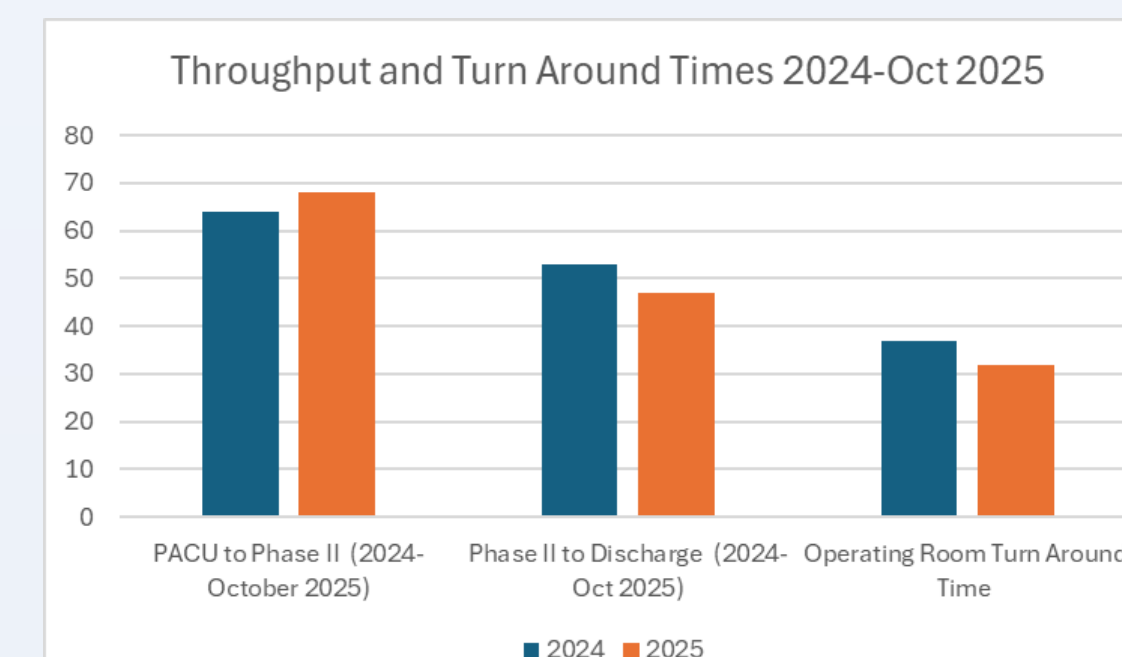


## RESULTS

### Statement of Successful Practice

Following implementation,

- PACU-to-Phase II throughput times averaged 68 minutes (Oct.2025) compared to 64 minutes (2024), (Data at time of submission), Post submission data showed a decrease throughput time average to 61 minutes from Oct 2025-Jan 2026.
- Phase II-to-discharge times improved from 53 to 47 minutes. (Data at time of submission) Post submission data shows a further decrease in Phase II to discharge time to an average of 38 minutes.
- Staff reported greater workflow clarity and less stress with bay management and handoffs.
- Patient satisfaction rose from 91.5% (September 2024) to 100% (June 2025),
- OR turnaround times improved from 37 to 32 minutes, reflecting overall gains in efficiency and team performance.



## DISCUSSION

### Interpretation:

At the time of submission PACU throughput times rose by 4 minutes compared to the start of the initiative, we attribute that to the change in workflow from the PACU or Phase I nurse switching the patients to Phase II in the EHR prior to the patient actually transferring to the Phase II area. With the new process, the change in the EHR occurs when patient arrives in the Phase II area. Which accounts for those changes in times. Post submission data showed an improvement in PACU to Phase II throughput with the average minutes decreasing by 7 minutes from time of submission. We believe this to be due to staff becoming more comfortable with the process. This also speaks to the continued decrease in time spent in Phase II with post submission data showing a continued decrease to 38 minutes.

### Implications for Advancing the Practice of Perianesthesia Nursing

This project demonstrates how structured communication, use of the PDSA model, and EHR-based workflow tools can improve throughput and nurse satisfaction. These process driven strategies enhance teamwork, efficiency, and recovery care, offering a replicable model for other perianesthesia settings.

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