Improving PACU Throughput: Expediting Phase I Care

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Background

The Weinberg post-anesthesia care unit (PACU) Phase I length of stay (LOS) was averaging close to 2.5 hours (150 minutes) compared with a national benchmark of 1.5 hours (90 minutes). Phase I LOS is the arrival time to PACU to Phase I discharge criteria met (in minutes). This prolonged LOS results in decreased availability of PACU beds and OR holds, decreased patient and staff satisfaction, and increased cost of patient hospitalization.

The American Society of Perianesthesia Nurses (ASPAN) standards were used to develop a PACU RN Discharge by Criteria Policy at The Johns Hopkins Hospital (JHH). This policy began to be used across JHH PACU areas in September 2021. Unfortunately, the buy-in for this policy had not taken hold in the Weinberg PACU. The Weinberg PACU Team identified an opportunity to hardwire the RN discharge by criteria process into practice.

Aim of the Project

To reduce PACU Phase I LOS from 150 minutes to 90 minutes by April 30, 2023.

Description of the Intervention

| Education	Development of Discharge Champions	Development of Just-in-time Checklists	Monthly Weinberg PACU Phase I LOS Tableau report
Developed didactic educational content that reinforced the American Society of Perianesthesia Nursing (ASPAN) discharge assessment for Phase I care	Trained charge nurses to be "discharge champions" to do purposeful rounding throughout the PACU to see where patients are in the discharge process and help nurses initiate discharge per RN criteria in a timely manner	Designed laminated checklists that were posted at front and center of each computer workstation to help nurses track where patients are in the discharge process. First half of the checklist included the active recovery action items and second half identified the RN discharge per criteria protocol elements	Maintain momentum with monthly email updates to staff and during huddles; and report Phase I LOS and OR Holds during the Weinberg CUSP meeting

Description of Data Collection and Analysis

The process of developing a SMART goal and identifying a key metric measure or Key Performance Indicator (KPI) is an essential first step in our A3 methodology. We also identify a "watch metric" or supporting leading indicator that correlates with our KPI. In our case, we utilized Tableau reports to track Weinberg PACU Phase I LOS, while nursing time reports were used to monitor compliance. These reports were shared with staff on a monthly basis in the form of Tableau reports and line graphs that were emailed out regularly. This approach helped us to keep track of the progress and identify areas that required improvement.

In our improvement effort, the identification and prioritization of root causes of failures were crucial steps. We created a process map, fishbone diagram, and driver diagram to analyze the barriers and facilitators of change. By doing so, we were able to identify the areas that needed improvement and take concrete steps to address them. This approach helped us optimize processes, improve efficiency, and increase overall performance. By prioritizing the root causes of the problem, we were able to address the issues that had the most significant impact on our performance, leading to sustainable improvements in our processes.
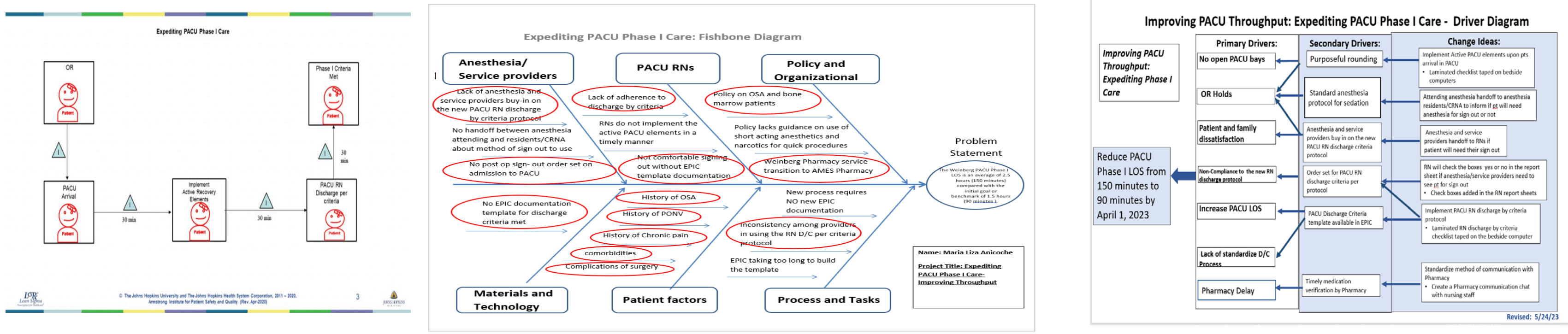
Results: Outcome Measures

Significant improvements on PACU Phase I LOS were shown on the monthly metric. Monthly reports line graphs emailed to staff. Eight months after intervention, PACU Phase I LOS went down to 106.6 min and sustaining the momentum, to date, it is 96.1 min which is 36% decrease from baseline of 150 minutes.
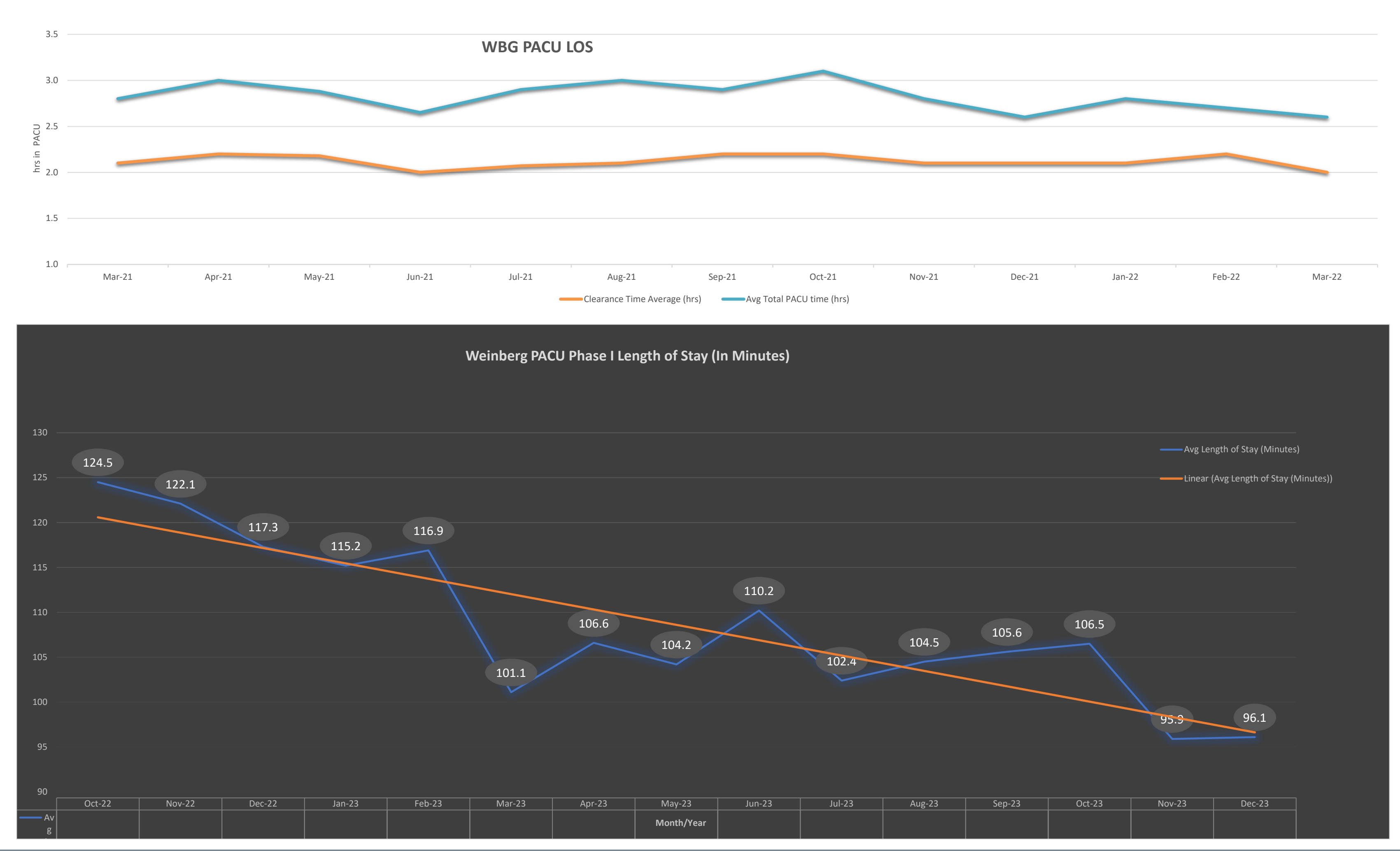
Discussion: Implications for Practice and Lessons Learned

The successful implementation of this quality improvement project has helped to enhance the efficiency of PACU Phase I care and has improved throughput. This improvement is applicable to all PACUs at JHH and can significantly reduce Phase I length of stay. By leveraging the principles and tools of Lean Sigma, we were able to identify both the obstacles and the facilitators for change implementation. This process of change has resulted in our nurses being empowered, providing them with greater autonomy in discharging their patients. This, in turn, has instilled a sense of pride and satisfaction amongst the nursing staff, who now feel they have made a meaningful contribution to safe and efficient patient care.

Sustainability: Achieving High Reliability Team

KPI (Project-Y), and any Watch Metrics	Monitor Frequency	Trigger Threshold	"Trigger Threshold" Reaction Plan	Responsibility	Documentation
List the KPI (i.e. the ONE Key Metric on the A3), and any "watch metrics" (e.g. supporting leading indicators.	Frequency each metric will be monitored and reviewed.	Value that would trigger a "reaction plan" for each metric.	List of corrective actions that must occur if any metric exceeds their "trigger threshold".	Who is responsible organizationally to have periodic data reviews and alarm reactions?	Identification/ location of this metric's standard work detailing monitoring and appropriate responses.
KPI- Ave PACU Phase I LOS (60-90 min)	Monthly	>90 min	Chart audits	Project champion and Assistant director for Perioperative services	Tableau Server (jhmi.edu) – refreshing daily
Ave Phase I LOS (minutes) by Recovery Nurse Current Goal: <=90 min	Monthly	Not meeting Goal: >90 min	- Performance reviews - Display chart on the unit huddle board	Project champion and Assistant director for Perioperative services	Tableau Server (jhmi.edu) – refreshing daily
Number of OR Holds	Monthly	N/A	Continue to report during Weinberg CUSP meeting (every 2nd Thursday of the month)	Weinberg CUSP Champion and nurse manager	Weinberg CUSP Team files in Teams
Thyroid/Parathyroid PACU Phase I LOS (60-90min)	Monthly	>90 min	Chart audits	Thyroid/Parathyroid Ambulatory ERAS provider champion	Tableau Server (jhmi.edu) – refreshing daily

References available upon request