



# ABO Verification Process Improvement

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## Abstract

**Define/Problem Statement:** From July of 2016 to January of 2017, Blood Type (ABO) Verification was 85% compliant for all organ groups, with an OR Staff Satisfaction of 3.375 (of a 5 point scale). Failure to verify ABO blood type can cause undue harm to the patient, reduce the compliance of the team within the OPTN policy, and ultimately reduce the brand of Mayo Clinic. Increasing this compliance % can reduce any undue harm to the patient, maintain compliance with OPTN, and maintain Mayo Clinic' brand for quality services.

**Aim Statement:** We aim to increase our ABO Verification to at least 95% (all organs) and maintain our counterbalance measure of OR Staff Satisfaction of at least 3.375 by November 2017.

**Measure:** High level process maps were used (SIPOC) to help scope the problem, defined customer requirements, as well as gather baseline data on those requirements.

**Analyze:** A Pareto Analysis, summarizing our factors in a Pareto Plot to identify key factors contributing to the reasons for delay and opportunities were discussed using root cause analysis process.

**Improvement:** Interventions were made in requiring an opportunity to have a "Transplant Case Pause." In this pause, we perform the ABO after the patient enters the room, but before the patient gets onto the OR Bed. ABO Verification must occur again before 1st anastomosis. This opportunity was for the first signature. Signature number 2 is done after organ arrival.

**Control:** A control plan was developed to sustain the gains, and communicated out at our Transplant Quarterly Meeting. The before and after data went from 85% to 96% compliance for all organs, achieving a statistically significant difference ( $p < .05$ ) that solidified the process improvement efforts were due to the project and not random chance. Our countermeasure of staff satisfaction was maintained and went from 3.375 to 3.7 (5.0 scale).

**Benefits:** Promotes standardized workflow and increases safety of our patients in an optimized system, while adhering to OPTN Policy of ABO Verification.

## Purpose

- ↑ Increase ABO Verification Compliance
- ↗ Maintain or increase OR Personnel Satisfaction

## Aim Statement

Increase ABO Verification to at least 95% (all organs) and maintain our counterbalance measure of OR Staff Satisfaction of at least 3.375 by November 2017

## OPTN Policy

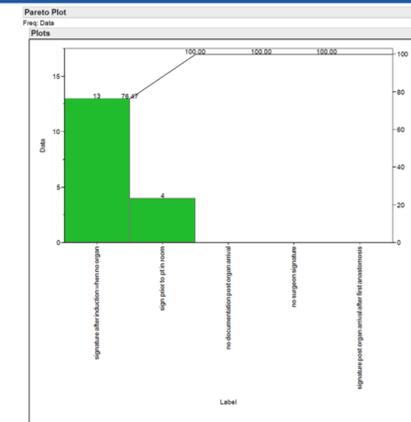
### 5.8.A Pre-Transplant Verification Prior to Organ Receipt

If the recipient surgery will begin prior to organ receipt in the operating room, the transplant hospital must conduct a pre-transplant verification that meets *all* of the following requirements:

- The intended recipient must be present in the operating room
- The verification must occur *either*:
  - Prior to induction of general anesthesia
  - Prior to incision if the patient has been receiving continuous sedation prior to arrival in the operating room
- Transplant hospitals must use at least one of the acceptable sources during the pre-transplant verification prior to organ receipt to verify all of the following information according to *Table 5-2* below. Transplant hospitals may use the OPTN organ tracking system to assist with completion of this verification.

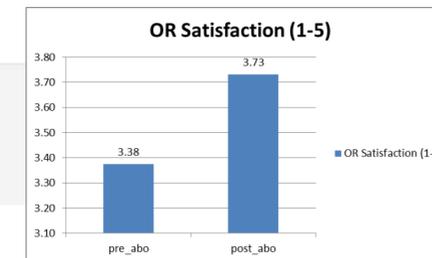
## Contributing Factors

- Most common error is "Signature after induction when no organ in the room" (76%)
- Second most common is "Sign prior to pt in room" (24%)
- Anecdotally, difficulties among organs and handoff of staff between surgeries

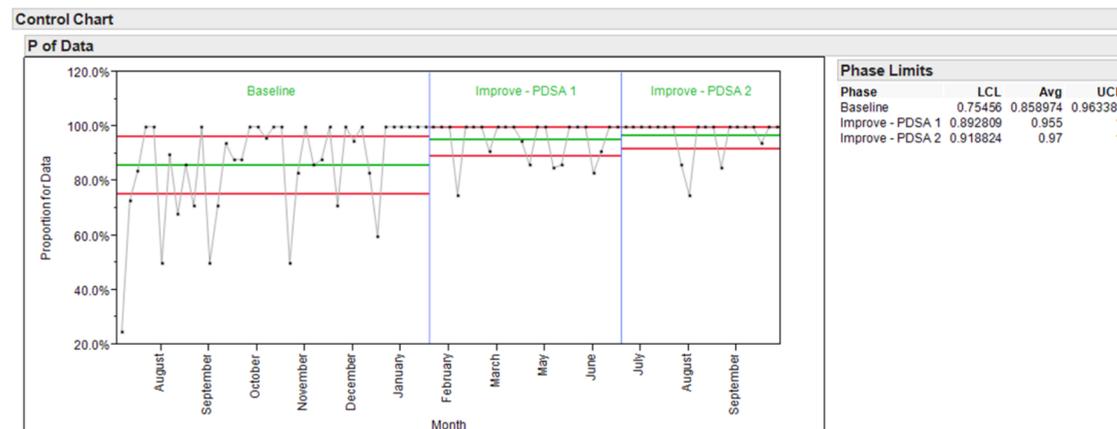


## OR Satisfaction (Pre/Post)

- 1 - Very Poor Satisfaction
- 2 - Poor Satisfaction
- 3 - Neutral
- 4 - Satisfied
- 5 - High Satisfaction



## Figure 1: Baseline vs Improve PDSA 1 and PDSA 2



- Continued Improvement and compliance for all organs over time
- Baseline: 85%
- Improve: 96%
- PDSA 1: 95.5%
- PDSA 2: 97%
- \*\* denotes statistical significance

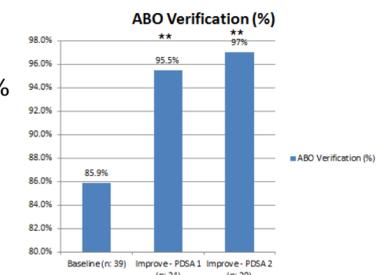
## Improvement Summary

Implemented a "Transplant Case Pause"

- After patient enters the room
- Before the patient gets onto the OR Bed:
  - Two Licensed Health Care Professionals will verify:
    - Name
    - Transplant Type
    - UNOS ID
    - ABO Verification
- Signature set #1 happens now
- The patient gets on the OR bed, induction occurs, and the case moves forward
- ABO Verification must occur again before 1<sup>st</sup> anastomosis
- Signature #2 is done after organ arrival
- Visual Verification of ABO documents occurs if the surgeon is scrubbed
- Nurse signs set #2
- Surgeon signature set #2 happens after case completion if surgeon is scrubbed

## Results

- Baseline: 85%
- Improve: 96%
- PDSA 1: 95.5%
- PDSA 2: 97%
- \*\* denotes statistical significance
- OR staff satisfaction maintained at 3.73/5.0



## Control Plan

- Who: Amit Mathur / Lori Flatness
- What: Monitors ABO Verification
- Where: Reports to Quarter QAPI with results
- Flagging Criteria: Any organ/quarter with less than 95% will be flagged and investigated to understand if true root cause exists.