

Decreasing Blood Transfusion Turn Around Time (TAT) at the Sylvester Comprehensive Cancer Center (SCCC)  
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## Background

Blood products transfusions is one of the best practice available to alleviate the side effects of chemotherapy treatments.

Delays in blood transfusion creates a risk for the patient. Therefore, appropriate use of blood products is ultimately an exercise in *safety* at all levels of the process, from collection to transfusion.

**Blood Transfusion should be administered safely in a timely manner.**  
**“SAFETY MATTERS”**

**Problem:** Delays in transfusion can potentially harm patients. Also, long blood transfusion TAT is causing patient, physician and employee dissatisfaction. Our baseline TAT was 10.3 hours from unit of blood order to transfused.

**Goal:** To reduce Blood transfusion TAT (from ordering to unit of blood ready to be transfused) from our baseline of ~6 Hrs to less than 4 Hrs.

**Timeline:** Project start date: August 2015  
Project End Date: May 2016.

## Methods

**Voice of the Customer** was performed to obtain feedback from the stake holders. **Brainstorming:** this session took place with leaders from the departments involved, to sort out problems and feasible solutions.

**Flowchart:** The pictorial summary of the steps, flows, and decisions demonstrate the vulnerability and opportunities in the process.

**FMEA:** The concerns were catalogued in an FMEA and assigned priorities based on their criticality.

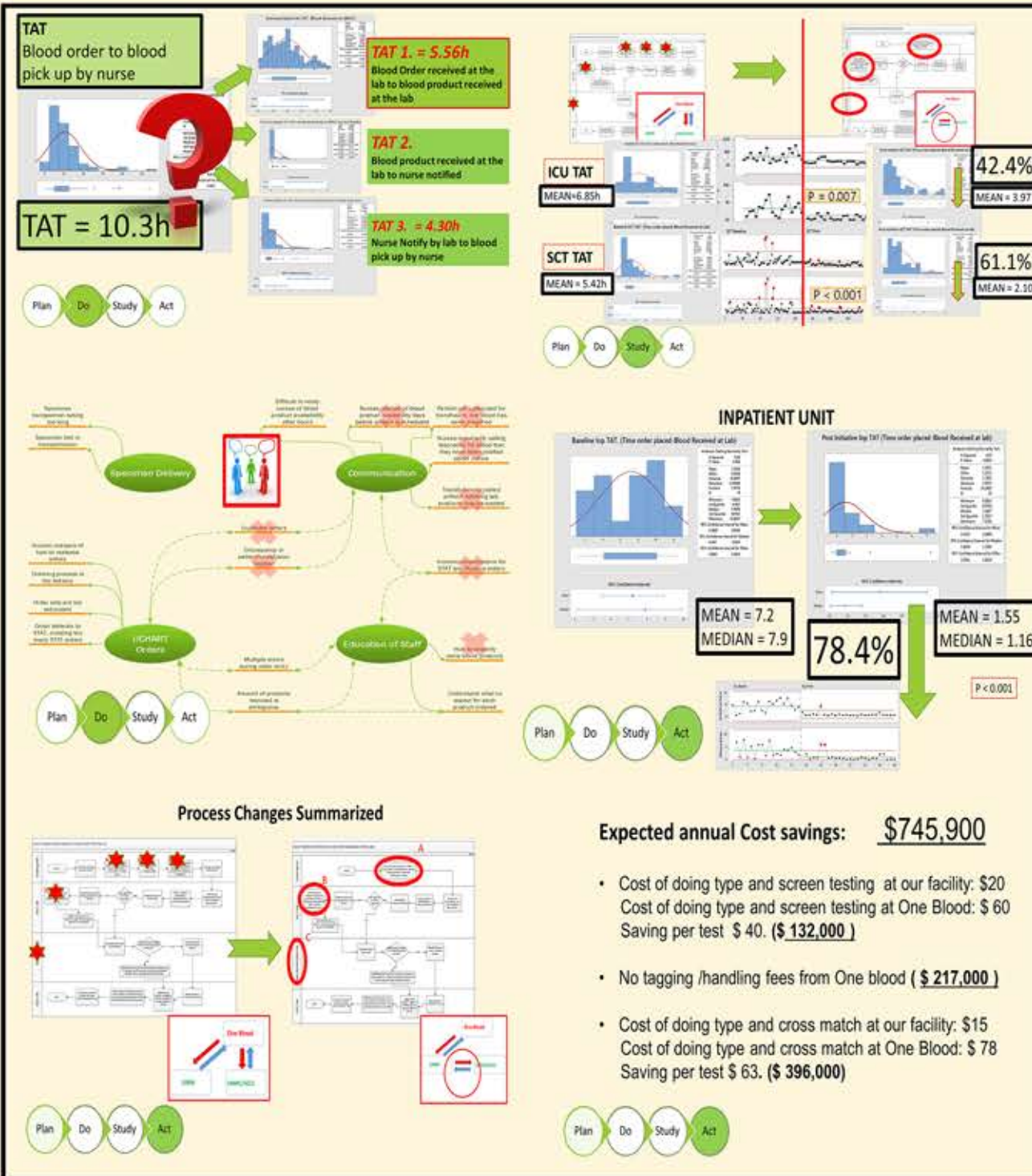
**Histograms, Control Charts, TAT analysis** were performed by baseline performance

**PDCA:** Plan, Do, Study, Act was used as a quality methodology.

**Countermeasure A:** Simplifying order set in EMR

**Countermeasure B:** Implementing specimen tracking system: BloodHub.

**Countermeasure C:** In-sourcing blood bank testing.



## Results and Conclusion

Changes in the Blood Transfusion orders (A) and improvement in the specimen tracking platform and transportation cycle time by implementing the blood hub (B) the team received some intangible benefits including positive stakeholder feedback.

**HOWEVER**, our **TAT 1** (blood order received to blood received at the lab) did not change. The team continued experiencing delays, yielding TATs that were well above our goal.

The deployment of the initiative (C) which was in-sourcing blood bank testing (previously performed by a contractor) in our first unit (ICU) was a success with a decrease in the mean **TAT 1** from 6.85h before implementation to 3.95h post implementation. This represents a **42.4%** reduction and it was statistically significant with a p value of 0.007.

Later on we implemented countermeasure (C) in the SCT (Stem Cell Transplant Unit), with a daily census of 10-12 patients. Our results were more dramatic with a decrease in our **TAT 1** from 5.42h baseline to a 2.1h post implementation. Changes were again statistically significant with a reduction of **61.1%**. A month later we implemented countermeasure (C) in our busiest inpatient unit and the results were even better with a reduction in our **Blood TAT 1** to 93min well below our statement goal and below the benchmark of less than 4h. **TAT 1 was reduced by 78.4%**. (p < 0.001). Variation was decrease and process is in control

**Additionally we were able to reduce cost of about ¾ of a million dollars..** These results have promoted patient safety, customer satisfaction and reduced waste in the process.

## Acknowledgements

David Andrews, MD, process owner and champion;  
Esperanza Olivares, process owner; Maryann O'Toole, process owner; Mary Stein-Ferrer, process owner; SCCC Lab staff.

Expected annual Cost savings: **\$745,900**

- Cost of doing type and screen testing at our facility: \$20  
Cost of doing type and screen testing at One Blood: \$ 60  
Saving per test \$ 40. (**\$ 132,000**)
- No tagging /handling fees from One blood (**\$ 217,000**)
- Cost of doing type and cross match at our facility: \$15  
Cost of doing type and cross match at One Blood: \$ 78  
Saving per test \$ 63. (**\$ 396,000**)