

Reducing Cryoprecipitate and Plasma Waste at Vidant Medical Center



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BACKGROUND

Opportunities for decreasing waste and improving efficiency were identified in the Transfusion Service (TS). Cryoprecipitate (cryo) and plasma are received frozen to maximize shelf life, and must be thawed before transfusion. If thawed products are not used in a specific time (6 hours for cryoprecipitate and 24 hours for plasma), they must be discarded due to the short shelf life.

CHANGES MADE (PDSA CYCLES)

- Massive transfusion protocols (MTP) allow for a predetermined ratio of blood products to be issued in an emergent situation. At Vidant Medical Center (VMC), cryo was issued during the 2nd round of products. This required initiation of the thawing process when the 1st round of products was ordered. Because a majority of MTPs do not require a 2nd round, the thawed cryo was discarded. Working with the Trauma Service, the issue of cryo was moved to the 3rd round.
- Therapeutic plasma exchange (TPE) requires a large volume of plasma to be thawed. Previously the practice at VMC was to pool the units of plasma, and a unique product, cryopoor plasma, was often ordered for TPE procedures. If a procedure was cancelled, the pooled plasma was discarded. The TS worked with Nephrology to improve the process by providing individual units instead of pooled plasma, and to standardize the use of "regular" plasma for all cases. This allows transfusion to a different patient if the original procedure is cancelled. Patient safety is also improved because it allows identification of a specific unit if a transfusion reaction develops during a TPE case.

PROJECT AIM

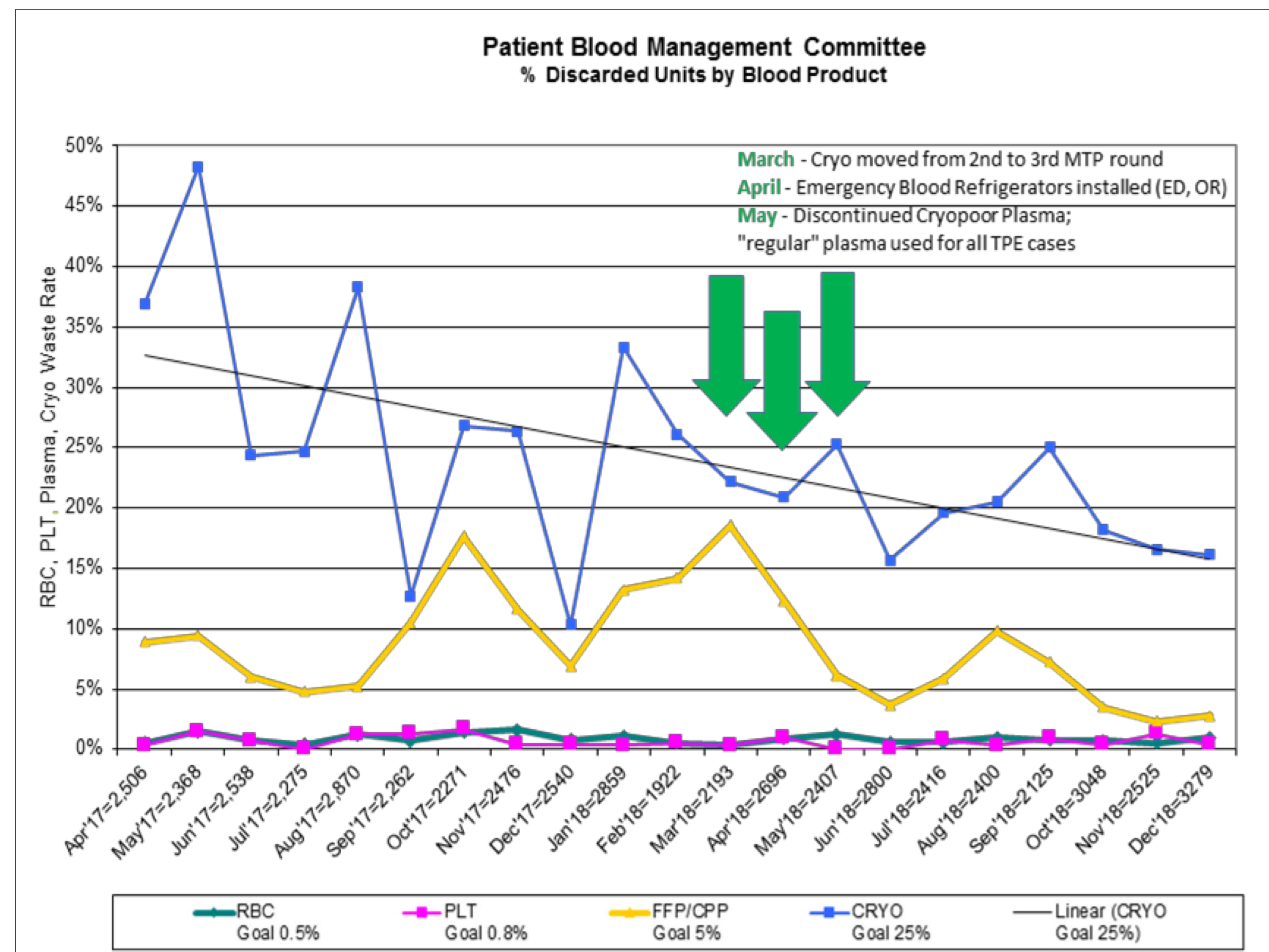
Global Aim

Reduce cost by improving efficiency and decreasing blood waste in the Transfusion Service.

Specific Aim

Reduce cryoprecipitate waste to 15% by December 2018.

RESULTS/OUTCOMES



PROJECT DESIGN/STRATEGY

Laboratory technologists identified opportunities and suggested innovations for process improvements. Collaboration with multi-disciplinary teams including the Laboratory, Trauma Services and Apheresis Services allowed for optimization and training process changes.

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LESSONS LEARNED

- The specific aim was not achieved for reducing cryo waste, but waste reduction was achieved and sustained. The scope of the cryo waste reduction project was limited to the Trauma Service with the assumption that a majority of waste was attributable to this service. After evaluation of the data, it was apparent wastage was attributable to multiple areas.
- An interdisciplinary approach decreased blood waste and increased blood handling efficiency and availability in multiple areas. This approach combined with continuous monitoring led to sustained improvements in the process.

NEXT STEPS

- Future efforts will include addressing cryo waste in other services, such as cardiovascular surgery.
- Additional improvements for optimizing blood utilization and improving patient safety will be explored including education for appropriate ordering and recognition of transfusion reactions.

Waste	Cryo	Plasma
Pre-implementation	28.0% ± 11.0%	13.5% ± 3.9%
Post-implementation	19.8% ± 3.6%	5.2% ± 2.9%

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