

Introduction

University Hospital in San Antonio, Texas is the only combined Adult and Pediatric Level I Trauma center in South Texas. The Trauma Resuscitation Unit (TRU) is where the most critically injured trauma patients are treated. We have embraced the use of low titer O positive whole blood (WB) for our patients both pre-hospital and in the TRU. This has resulted in an increase of utilization of whole blood for our eligible patients. With this increase came an increased demand for Blood Bank support in the TRU for incoming patients who could potentially require whole blood. For these high level trauma activations, blood bank brought a cooler with a predetermined stock of blood. Due to the location of blood bank relative to the TRU, there was potential for delays in the response and delivery. To address this delay, the hospital system purchased a blood refrigeration unit to place in the TRU. Whole blood administration is best practice in trauma patients. Our goal is to continue to improve our process while meeting the needs of our patients.

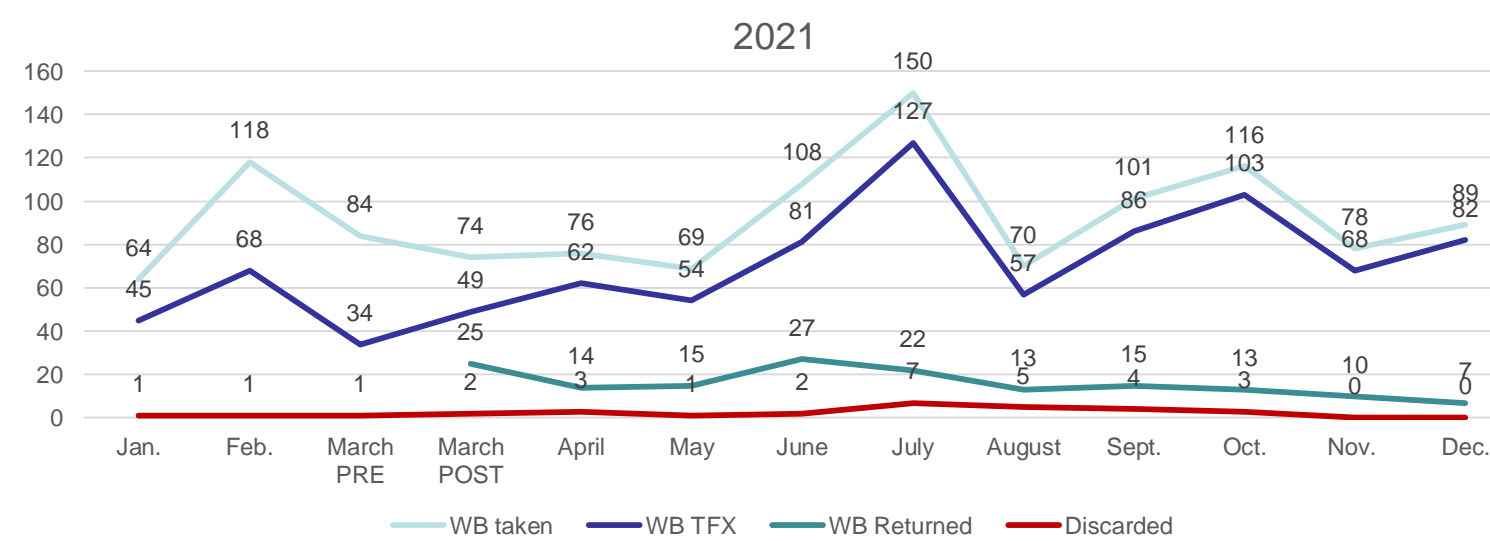


Process Development

- A multidisciplinary team was formed to discuss ideal state. Members included:
 - nursing staff from the TRU
 - nursing leadership
 - Trauma surgeons
 - blood bank staff
- A standard operating procedure was outlined and approved by senior leadership.
- Collaborated with the Epic analyst and discussed the following:
 - requirements for documentation & administration
 - electronic order entry and order set utilization
- Staff education plans included:
 - Simulation to include removal of blood from fridge and real time documentation scenarios in Epic
 - Online learning video
 - Handouts
 - Staff meetings

Benefits

- This new process would allow staff members to quickly and effectively transfuse WB without requiring blood bank personnel to be present.
- The total time it can take to remove and administer WB once pt has arrived to the unit is less than 10 minutes.
- Previous blood bank processes could take 10mins or more to arrive with the WB in hand.
- Decrease time to administration, decreases blood bank's need to respond in person to all cases, and decreased over utilization of whole blood.
- Successfully limited our use of downtime procedures and utilization of paper documentation
- Continued review of our process, lead to lowering the pediatric candidate age 10 years old to 2 years old.
- Our rate of transfusion has gone from 55% to 81% as blood is now being removed based on need for administration and not on activation
- As we have decreased our rate of return by 26%, we have been able to decrease the cost of cross matching to the patient

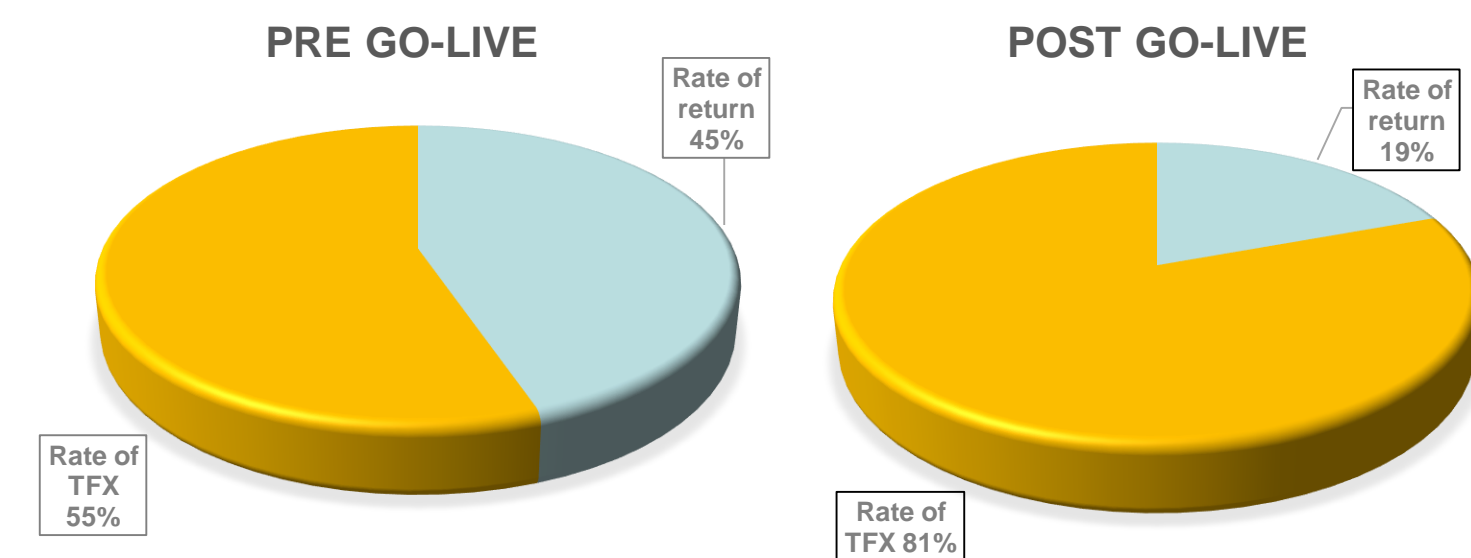


Opportunities

- Inconsistency in placing order for WB prior to patient arrival results in paper documentation of double verification
- Continued education on requirement to complete all questions when removing blood in order to meet process requirements for blood bank
- Utilization of WB while patient transitions to different care areas due to documentation and temperature regulation
- Security features on blood fridge does not allow badge scanning and full credentials has to be manually entered each time
- As the fridge is stocked with 12 units at a time, we have encounter issues with restocking of units during critical events
- Both the TRU and blood bank have staffing concerns that hinder the ability to properly utilize the fridge
- Due to the length of time blood can be at room temperature, there has been an increase in the number of units being discarded

Conclusion

- While decreasing the time to administer WB to the patient, we also alleviated the strain placed on blood bank to respond for every action.
- Blood bank now has the ability to better serve other departments throughout the hospital.
- From go live in March of 2021, through December of 2021 we have removed WB for 274 high level activation patients and transfused almost 800 units.
- We are continuing to evaluate and improve processes to decrease obstacles that may delay WB transfusion.
- Expansion to other units such as Adult ED Resuscitation Unit and Labor and Delivery are currently being evaluated.
- Currently processes are under review to optimize utilization during transportation to OR and other procedural areas to decrease potential discarding of products.
- Decrease need for additional staff in order to remove blood in a timely manner.



References

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