# Reducing Time Toxicity & Improving Access to Care:

## A Pilot Project to Decrease Wait Times for Blood Transfusions for Patients with Cancer Using a Haemobank

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## Problem Statement

By March 2022, the Starr 3 Infusion average minutes to receiving a red blood cell (RBC) transfusion treatment (time of check-in to time of start of blood transfusion) was **215 minutes.** Prolonged wait times for RBC transfusion impact patient treatment flow, treatment chair turnover, overall infusion center operations, and leads to negative patient experience.

## Background

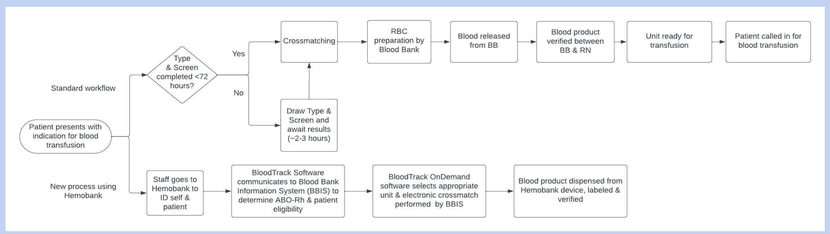
- Oncology and hematology patients require a high volume of red blood cell (RBC) transfusions. In 2021, 3960 units of RBCs were transfused in the Starr 3 Infusion Center.
- Trended data from 2021 patient Q-Reviews indicated patient dissatisfaction in wait time from check in to the start of the RBCs.
- A remote refrigerator reduces time spent by staff waiting for blood to be released and transporting units.[1]
- The Starr 3 Infusion Center purchased a Haemobank 80 (HB80) blood refrigerator in 2017, however data from July 2021 – January 2022 indicated that **only 8%** of RBC administered in the Infusion Center came from the HB80.

## Project Aims

From November 2022-January 2023, this project aims to reduce the wait time (time of check-in to time of start of blood transfusion) for patients with cancer requiring RBC transfusion utilizing a Haemobank.

## Methods

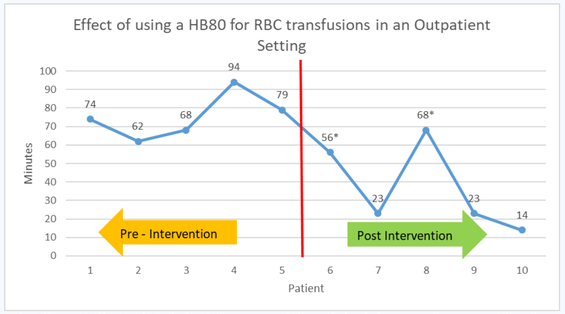
- Developed and launched in February 2021 to improve communication between Blood Bank (BB) and Infusion Center.
- Infusion, Blood Bank and Haemonetics IT/Sales team conducted a walk through to evaluate the workflow process end-to-end.




## Results

### PDSA 1: Initial small tests of change

- Two cycles of small test of change were performed where charge nurse releases the blood transfusion orders the night before, then BB cross-matches and loads HB80 in anticipation of scheduled transfusion.
- For the small test of change patient group, the average wait times decreased from **75.4 minutes** pre-intervention to **36.8 minutes** post intervention.




** Outlier attributed to lab delay, provider visit delay, and premedication/pharmacy delay*

### PDSA 2: Pilot

- As a result of the Haemobank 80 technology, the average minutes to receiving a blood transfusion treatment (time of check-in to time of start of blood transfusion) decreased from **215.0 minutes** in March 2022, to **120.3 minutes** in January 2023.

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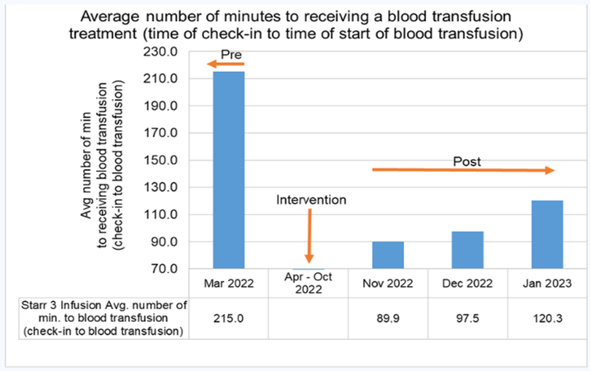



| | Mar 2022 | Apr - Oct 2022 | Nov 2022 | Dec 2022 | Jan 2023 |
|---|---|---|---|---|---|
| Starr 3 Infusion Avg. number of min. to blood transfusion (check-in to blood transfusion) | 215.0 | | 89.9 | 97.5 | 120.3 |

## Conclusions

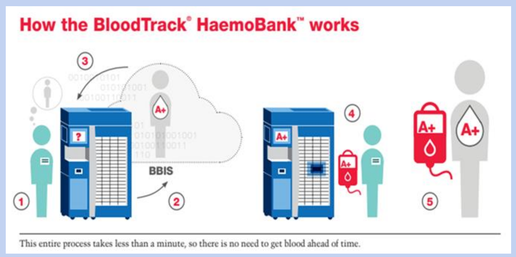
- Initial small tests of change demonstrated reduction in wait times for patients prescreened and crossmatched the night before visit of **51%** (PDSA Cycle 1).
- The new process flow using Haemobank 80 technology significantly reduced time spent by patients with cancer awaiting blood transfusion by **44%** (PDSA Cycle 2).
- HB80 reduced time spent waiting in the clinic and freed up infusion space by expediting transfusions.
- Over time, HB80 has showed the reduction in time is sustainable with **December 2023 average time to transfusion of 126 minutes.**
- Patient satisfaction surveys had fewer complaints related to blood transfusion wait times

## Challenges

- Timely data collection has been challenging as time study is currently manual extraction
- Difficult to tease out individual time components for each segment of the visit, provider visit delays and premedication/pharmacy delays can affect wait time
- Overall time may be longer depending on

## Next Steps for PDSA cycle 3

- Continue to collaborate with transfusion medicine in improving the usage of the Haemobank and monitor outcomes.
- Explore automated ways to gather time information and Hemobank usage
- Consider expansion to other high volume transfusion sites in New York Presbyterian System

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