

## Aim Statement:

PathWest QEII Network will achieve, and maintain a Group O RhD negative red cell inventory of less than 15% by December 2020.

## Background to problem worth solving

Only 9% of Australian blood donors are Group O RhD negative. The current national demand for Group O RhD negative blood is 16%. The PathWest QEII Network (Western Australia's second largest transfusion service) has had an inventory of Group O RhD negative red cells of 25% for nearly two years.

## Sponsors

- Dr Ben Saxon (Director, Transfusion Policy and Education Australian Red Cross Lifeblood)
- Joe Boyle (Chief Executive Officer, PathWest Laboratory Medicine WA)

## Project Team

- Dr Anastazia Keegan
- Dr Sara Hall
- Elizabeth Fong
- Natalie Caldwell
- Bradley Webster

## Australian Commission on Safety and Quality in Healthcare:

NSQHS Blood Management Standard



## Literature review

- National Blood Authority Guidelines: Managing Blood Product Inventory
- NPAAC Standards: Requirements for Transfusion Laboratory Practice
- ANZSBT: Guidelines for Transfusion and Immunohaematology Laboratory Practice

## Driver Diagram

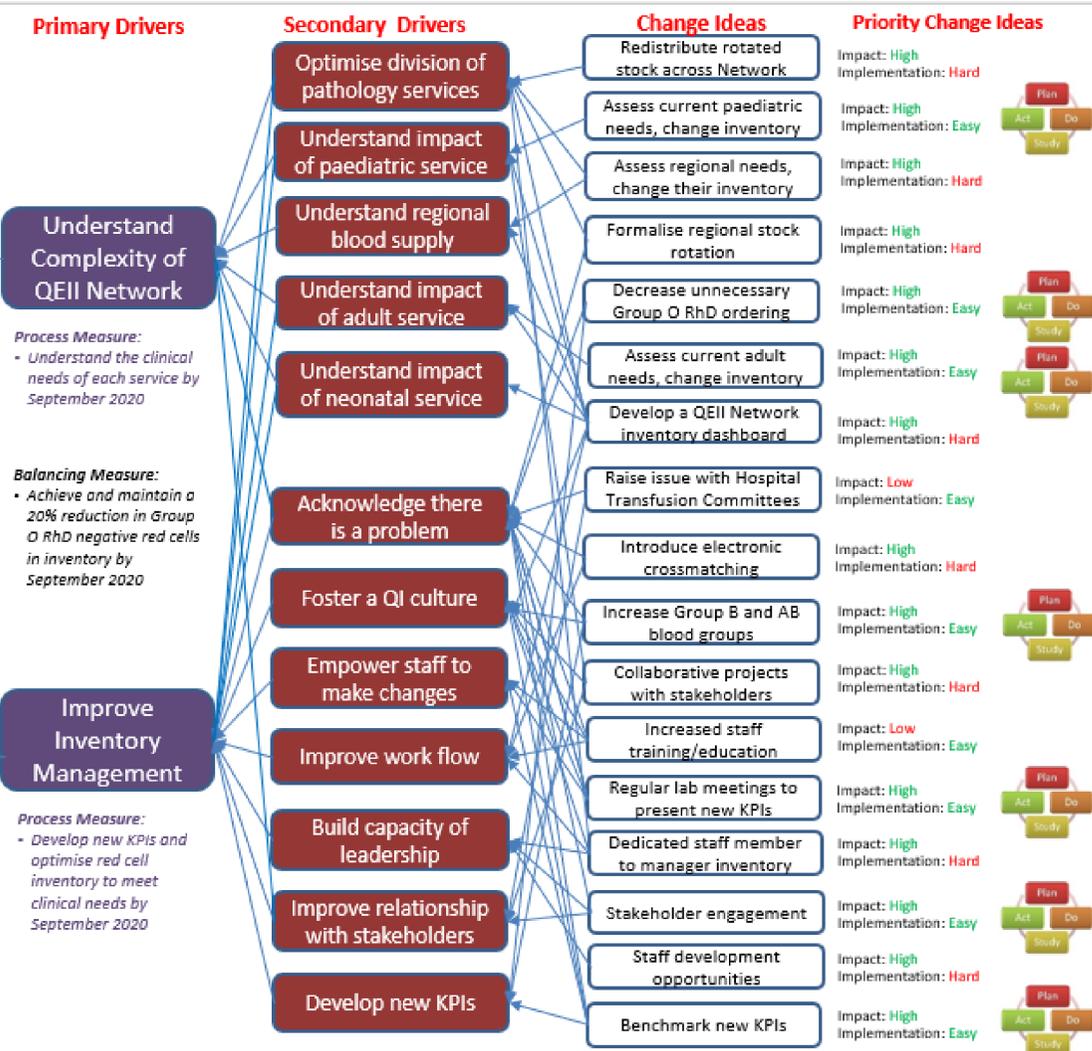
**The Problem:**  
25% of the blood in the PathWest QEII Network inventory is Group O RhD negative.

**SMART Aim:**  
The PathWest QEII Network will achieve, and maintain a Group O RhD negative red cell inventory of less than 15% by December 2020.

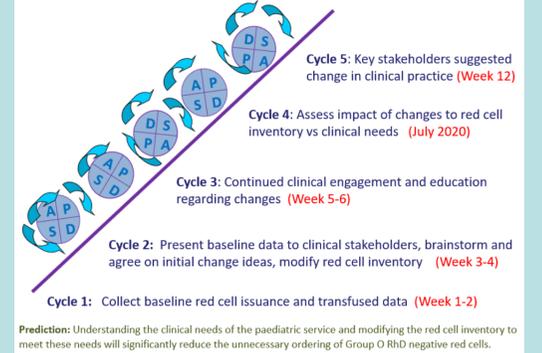
**Outcome Measure:**  
• 40% reduction in Group O RhD negative red cells in inventory by when December 2020

### Team Members:

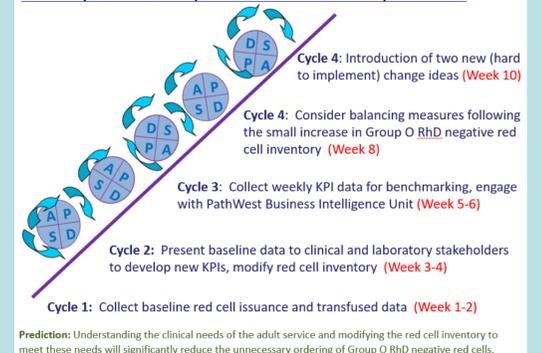
- Dr Ben Saxon (Sponsor)
- Joe Boyle (Sponsor)
- Dr Anastazia Keegan
- Dr Sara Hall
- Elizabeth Fong
- Natalie Caldwell
- Bradley Webster



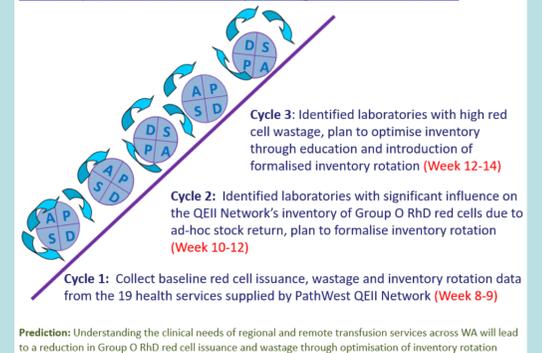
### PDSA Ramp 1- Assess and respond to the needs of the tertiary paediatric service



### PDSA Ramp 2- Assess and respond to the needs of the tertiary adult service

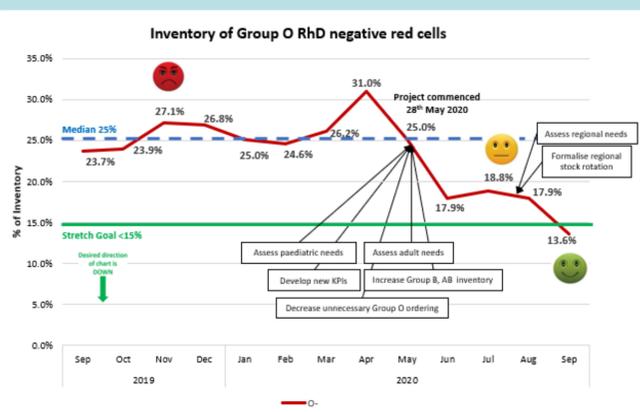


### PDSA Ramp 3- Assess the needs and optimise regional transfusion services



## Results

### Outcome measures



Multiple change ideas were tested in parallel at the commencement of the project. This resulted in a rapid reduction in the proportion of Group O RhD negative red cells being ordered from the Australian Red Cross Lifeblood (17.9%).

Acknowledgement of the problem and an understanding of the transfusion needs of the metropolitan (adult, paediatric and neonatal hospitals), regional and remote country health services supplied by the PathWest QEII Network allowed the project team to develop new KPIs to benchmark against.

The increase in Group O RhD negative red cell inventory in July 2020 (18.8%) resulted in two additional change ideas being tested as a balancing measure. Both change ideas were deemed to have a high impact on the project but were difficult to implement so are being tested in a stepwise approach.

The team was able to achieve the stretch goal (Group O RhD negative red cell inventory of less than 15%) in September 2020 following a substantial clinical practice change from a key stakeholder.

## Discussion

This quality improvement project has aligned clinical and laboratory transfusion practices with national guidelines and standards, improved the quality and safety of patients receiving blood transfusion across the PathWest QEII Network and reduced WA's dependence on the interstate supply of Group O RhD negative red cells (during the peak of the COVID19 pandemic). Even more pleasingly, this project appears to have fostered a cultural change in senior leadership and staff; they appear engaged and excited about future quality improvement projects.

## Overall Outcome of Project:

Within 3 months, the project team had achieved its initial stretch goal of reducing the PathWest QEII Network's inventory of Group O RhD negative red cells to less than 15%. The project team feels that this is consistent with "significant improvement" or a Project Progress Score of 4/5.

## Plans to sustain change

The project team has engaged the PathWest Business Intelligence Unit to create a live electronic "dashboard" to allow real time monitoring, and benchmarking, of the QEII Network's red cell inventory. A dedicated senior scientist has been employed to manage the inventory.

## Plans to spread /share change

- Submit project for an oral presentation at Blood in 2021 (ANZSBT Stream)
- Submit project to WA DoH Best Practice in Health and Wellbeing Awards in 2021