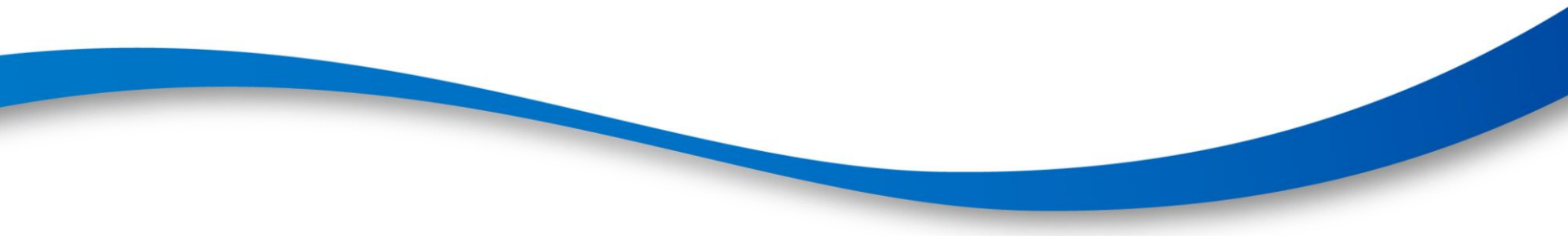


# **SURVEY OF HOSPITAL TRANSFUSION LABORATORY STOCK MANAGEMENT DURING THE COVID-19 PANDEMIC**

Preliminary findings

## AIM OF THE SURVEY

- To get a better understanding of RBC and PLT stock management within HTLs during the initial pandemic period. Were labs able to change practise? Was change quick enough?
  - Could labs use the data to reflect on own practise and make a change in the future?
  - The pre pandemic months of interest were **May and June 2019** with pandemic comparison data from **May and June 2020**.
  - All 8 North East Hospital Trusts were represented with data submitted by 12 Transfusion laboratories.
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## SURVEY RESPONDERS

Thank you to the following labs for completing the survey:

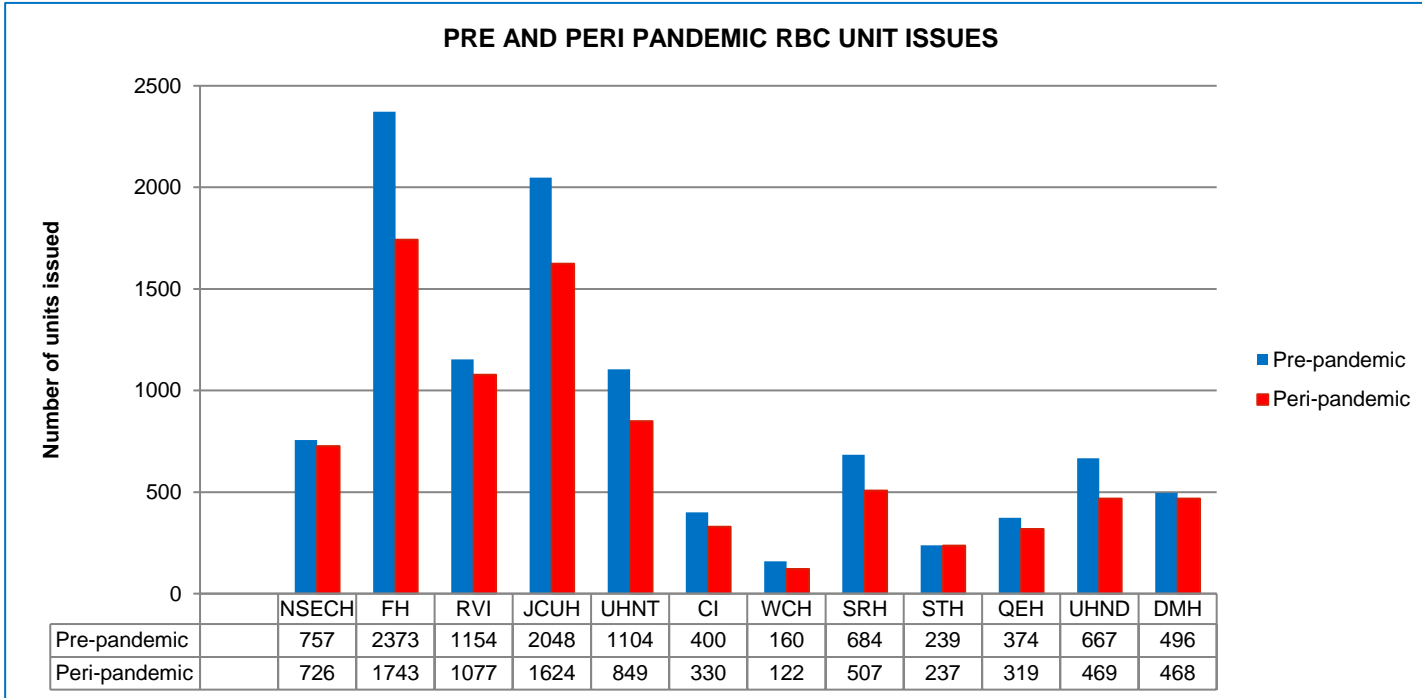
Cumberland Infirmary (CI)	Royal Victoria Infirmary (RVI)
Darlington Memorial Hospital (DMH)	South Tyneside District Hospital (STH)
Freeman Hospital (FH)	Sunderland Royal Hospital (SRH)
James Cook University Hospital (JCUH)	University Hospital of North Durham (UHND)
Northumbria Specialist Emergency Care Hospital (NSECH)	University Hospital of North Tees (UHNT)
Queen Elizabeth Hospital (QEH)	West Cumberland Hospital (WCH)

## RBC UNITS ISSUED

- The number of RBC units issued by North East hospital transfusion laboratories during the pandemic months of interest fell by between -0.8 and -34.8%. An average of **-21%**.

HOSPITAL	% DIFFERENCE IN BLOOD ISSUES
NSECH	-4.2
FH	-30.6
RVI	-6.9
JCUH	-23.1
UHNT	-26.1
CI	-19.2
WCH	-26.9
SRH	-29.7
STH	-0.8
QEH	-15.8
UHND	-34.8
DMH	-5.8

## RBC UNITS ISSUED

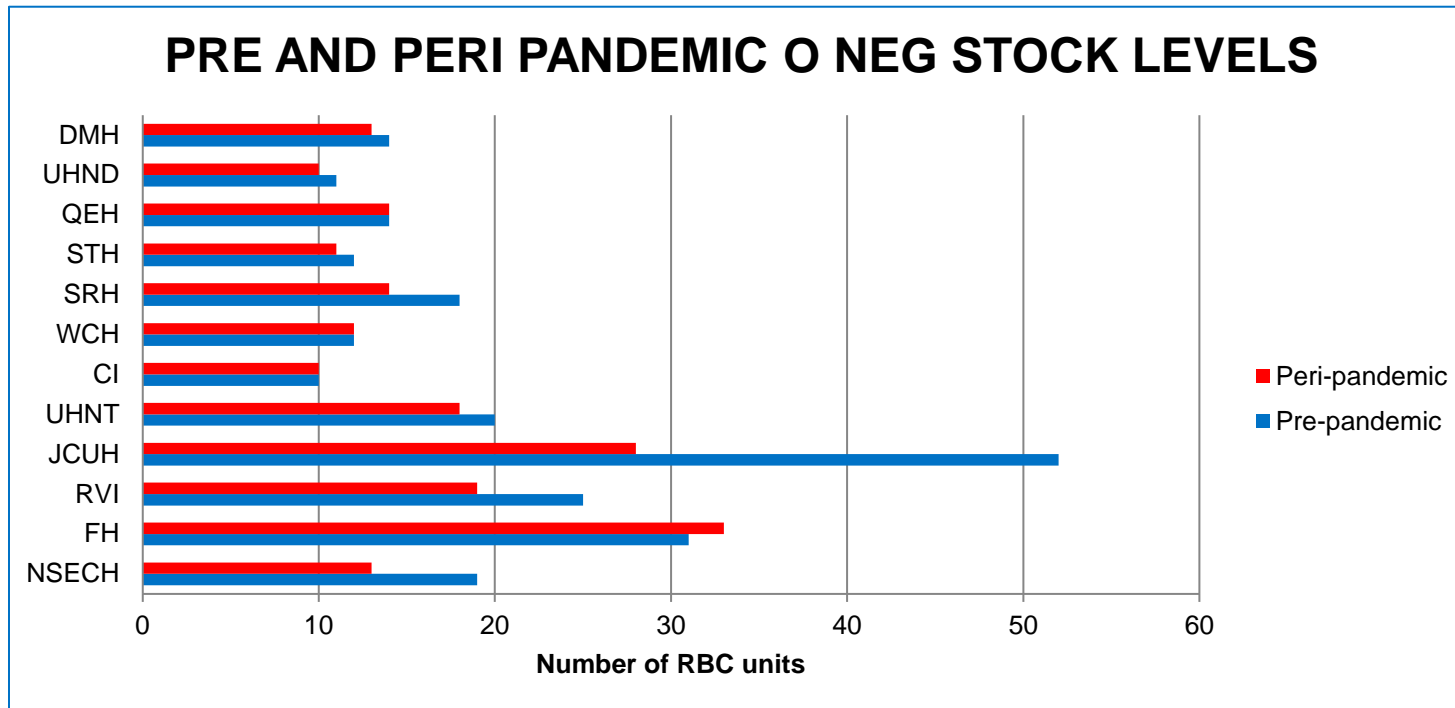


## RBC STOCK LEVELS

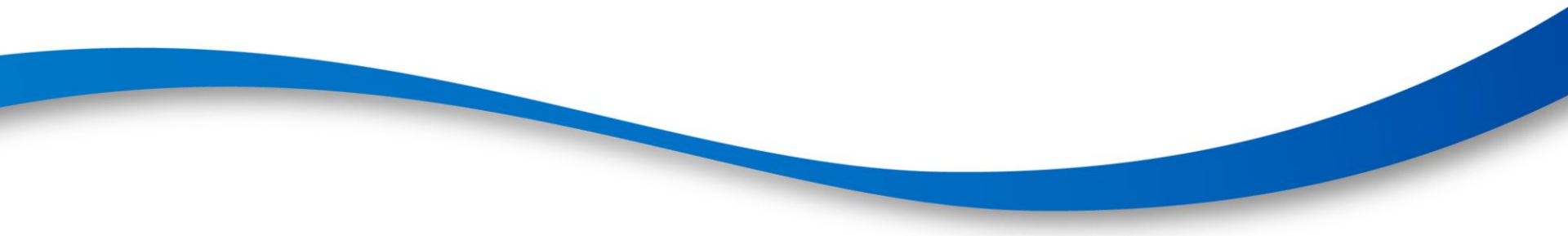
- General stock levels fell in every reporting hospital lab but the survey highlighted a mixed bag for O negative red cell stock.
- There was a negative % difference in O negative stock in 8 of the 12 reporters, no change in 3 and an increase in stock in 1.

HOSPITAL	% DIFFERENCE IN O NEG STOCK
NSECH	-37.5
FH	+30.6
RVI	-27.3
JCUH	-60.5
UHNT	-10.5
CI	0
WCH	0
SRH	-25
STH	-8.7
QEH	0
UHND	-9.5
DMH	-7.4

## RBC STOCK LEVELS



## LABORATORY RBC SUBSTITUTIONS

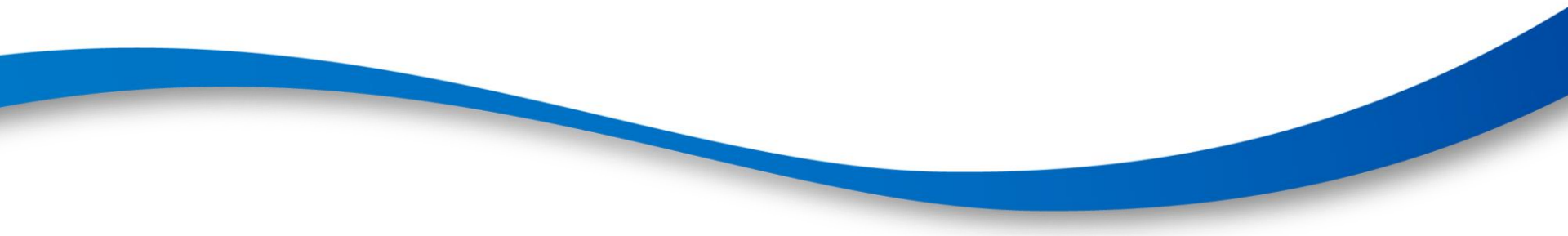
- 7 hospitals needed to substitute RBC units during the pandemic period
    - 4 reported no substitutions used
    - 1 provided no data
  - TIMEX was the primary reason - highlighted that labs were actively trying to prevent wastage during the pandemic period
    - NHSBT
    - PBSC Tx
    - Solid Organ Tx
    - MH
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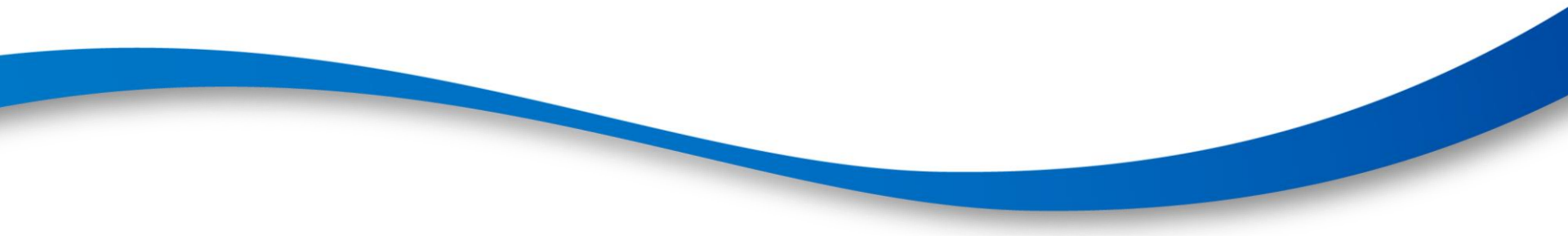
## NHSBT RBC SUBSTITUTIONS

- 10 hospitals received NHSBT substitutions
- Numbers were higher than expected in 40% of reporters, as expected in 40% and lower than expected in 20%

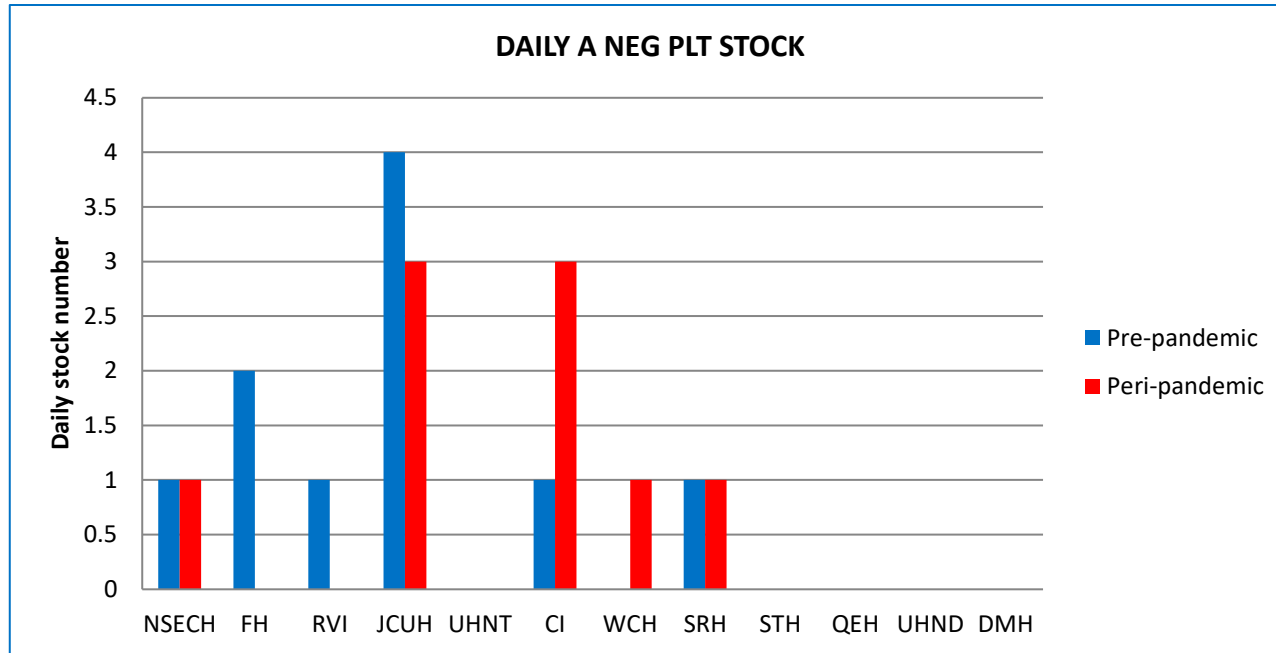
## RBC WASTAGE

- An average of 27 unit substitutions were wasted due to time expiry.
    - Labs may already have had an over stock of the substituted group
  - 5 units wasted as Out of Temp Control
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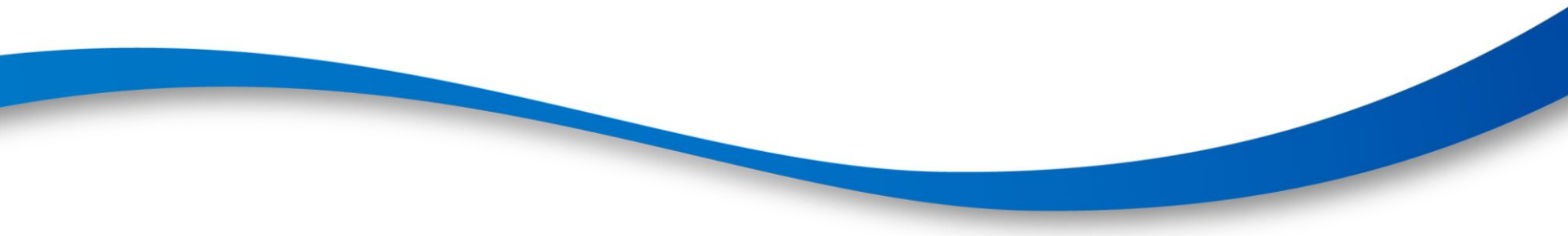
## PLT STOCK LEVELS

- PLTs were reported as monthly stock levels by some reporters and daily by others so data interpretation is limited.
  - A reduction in stock holding over the pandemic period was noted in those labs receiving stock platelets. 2 labs with standing orders in the pre pandemic period cancelled all during the peri-pandemic period. Others may have done similar.
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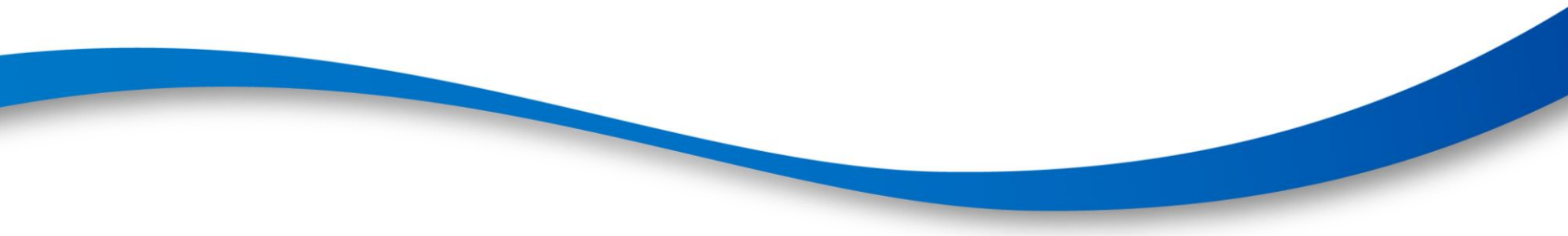
## PLT STOCK LEVELS



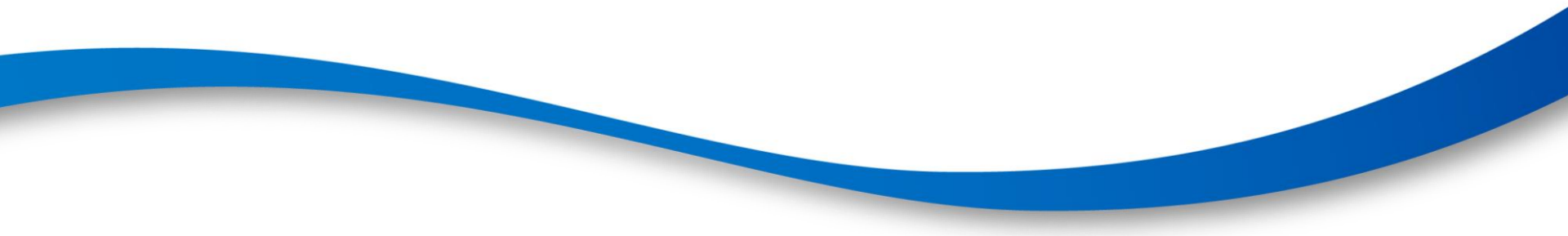
## PLT SUBSTITUTIONS

- 50% of reporting hospitals were required to use platelet substitutions during the pandemic period. All 50% gave preventing TIMEX as the primary reason.
    - NHSBT, PBSC, SOTx, MH
  - 5 of the 12 hospitals received NHSBT platelet substitutions. These were considered higher than expected by two hospitals, lower than expected by two and as expected for one.
  - Similarly to the red cell data, this demonstrates that labs were conscious of wastage and potential stock issues at NHSBT.
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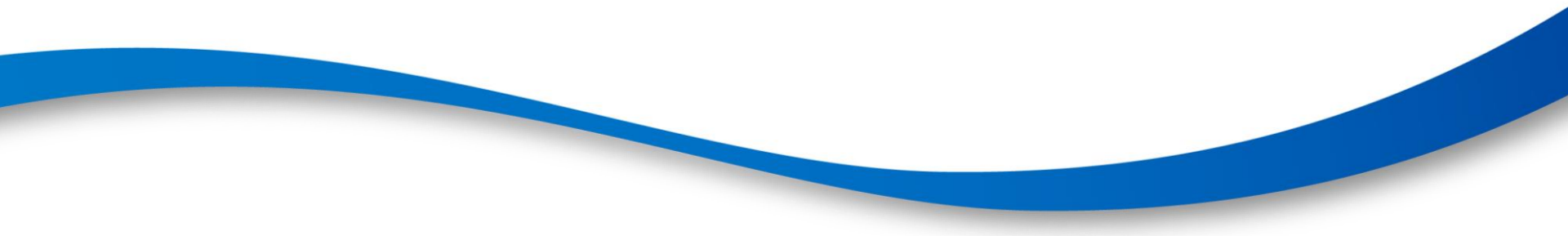
## PLT SUBSTITUTION WASTAGE

- It was difficult for the reporting laboratories to contribute figures for substitution wastage so the figures are a mix of substitutions and general stock. Expired stock was the greatest reason for wastage during the pandemic audit period with large numbers of platelets ordered by the clinical area but not used.
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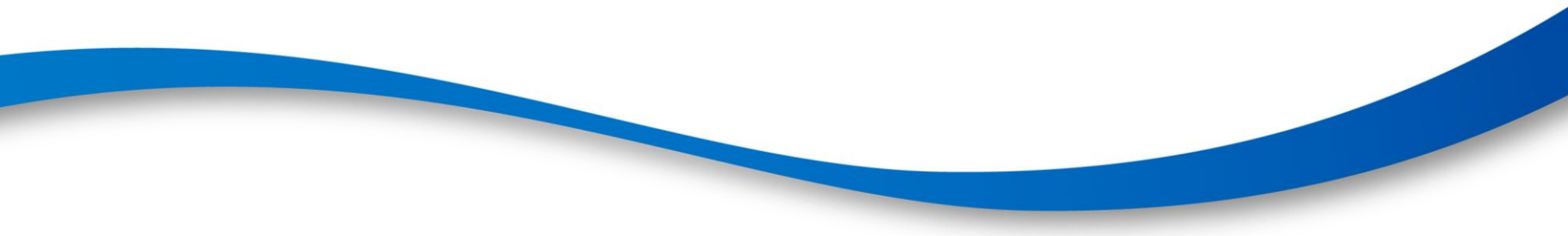
## PRELIMINARY RBC CONCLUSIONS

- There was an obvious reduction in red cell issues in all reporting Trusts within the first few months of the pandemic.
  - The degree of reduction depends on patient categories and specialisms within a particular hospital. Trauma, Obstetric and A + E units may not experience the same decline in workload whereas HTLs issuing for elective surgeries will experience a greater decline.
  - Awareness of workload origin is crucial for stock management and planning.
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## PRELIMINARY RBC CONCLUSIONS

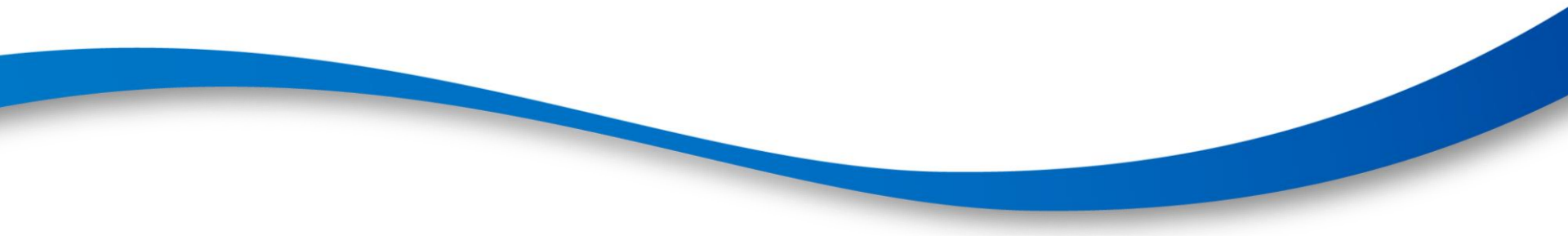
- National supplies of O negative RBC have been a major concern for the NHSBT and the NBTC. Demand and supply challenges have been regularly communicated to HTLs throughout the pandemic.
  - There was an overall drop in all RBC group stock levels except O negative which did not fall at the same rate.
    - Maintaining emergency stock
    - Nervousness about the unknown
    - Failure to cancel STOs in the early months
    - Further discussion
  - Can be challenging trying to reduce stocks when certain procedures carry on regardless eg, transplant, MH, BOB, Obstetrics, Emergency Surgery.
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## PRELIMINARY RBC CONCLUSIONS

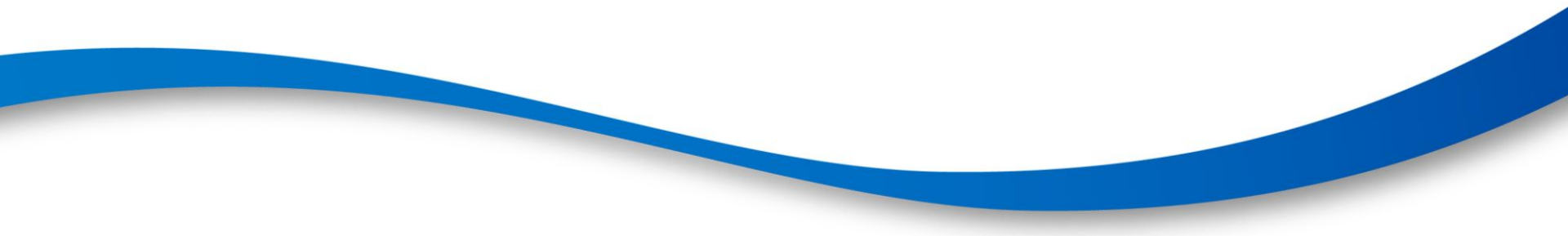
- 7 hospitals reported having to use substitutions during the pandemic period. Despite substitute groups potentially creating serology and crossmatching issues for HTLs this shows a commitment in preventing wastage.
  - Unsurprisingly, TIMEX was the main reason given for wastage. The drastic reduction in workload for HTLs and orders for NHSBT created an excess of stock in the region.
  - 40% of reporters felt that NHSBT substitutions were higher than expected.
    - Could be a lack of awareness by HTLs
    - This may have been linked to HTL stock management issues as a result of the workload drop and a worry that there was no capacity to take more of a certain group.
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## PRELIMINARY PLT CONCLUSIONS

- Data collection for platelets proved more difficult. Survey questions were ambiguous.
  - Of the HTLs who hold PLT stock the majority have reported a reduction in most groups but there was an increase in A negative stock.
  - This could be for similar reasons to O negative RBC stock as well as accepting A negative substitutions from NHSBT to help with stock control.
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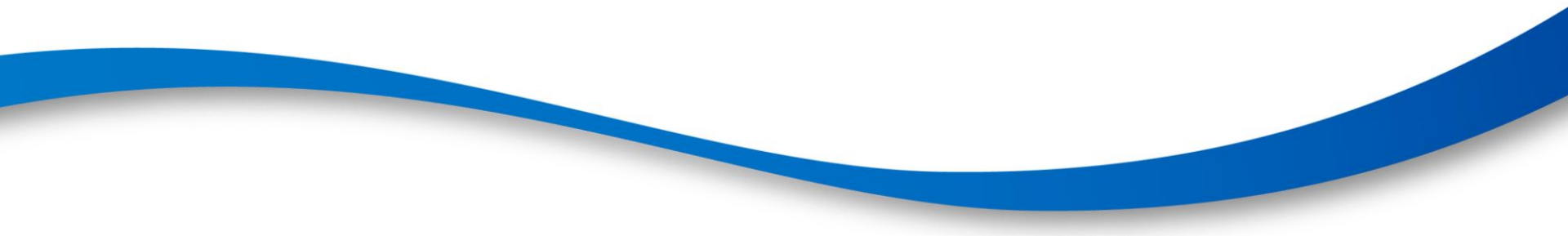
## PRELIMINARY CONCLUSIONS

- There has been no previous event that has impacted supply and demand for as long as the COVID-19 pandemic.
  - It has required HTLs and NHSBT to work together for effective stock management and control.
  - Understandably NHSBT have needed up to date knowledge from HTLs on Trust workload for essential demand planning however, that information has not always been known. Many HTLs have been kept in the dark by Trusts and have struggled to manage their own stock.
  - Future could see different virus's and situations having a similar or worse effect. This is not a one off event.
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## PRELIMINARY CONCLUSIONS

- Could be useful to have an Emergency Blood Management Arrangements (EBMA) style check list specific for stock management in pandemic type situations based on own lab's recent experience eg.
  - When to cancel/reduce STOs of both RBC and PLTs
  - Immediate reduction of stock and re-evaluation of future ordering

## FUTURE THOUGHTS

- There has been a steady stream of communication from NHSBT but an opportunity for HTLs to express their own concerns could be helpful in building a greater understanding of the challenges faced by all parties.
  - Sharing stock amongst HTLs in a swap shop arrangement could help to manage stock and prevent wastage. This could free up some HTLs to better support NHSBT in a more controlled way.
  - Pre-arranged agreements between NHSBT and HTLs identified as being able to take short expiry and substitutions may help in creating efficient channels so everyone knows what to expect – may help with planning on both sides.
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**THANK  
YOU!**

