NHS
Blood and Transplant

NHSBT Board

Update on Closing the Ro Kell Neg Gap

28th January 2021

Status – Official

1. Summary and Purpose of Paper

The purpose of this paper is to update the board on the latest position in meeting Ro Kell Neg demand. Included is an update on our progress in implementing short term activities to close the gap as well as a longer-term view on the initiatives and change that will be implemented in the coming years.

While we progress initiatives in the short-term, we are delivering additional areas of investment to mitigate for the loss of collection during the pandemic. As a result, collections have returned to pre-Covid levels (albeit the gap remains) but progress on implementing new experiences has slowed. A re-forecast shows significant closure is still feasible in the next two years and we have planned accordingly.

We have conducted additional research into the new barriers that all Ro Kell Neg donors face as a result of the impact of Covid-19. Feedback from donors demonstrate while reassurance is necessary on the safety of donation, the underlying benefits and patient dependency on Ro Kell Neg blood type is still very motivating and will play a key part in reactivating recently lapsed donors.

2. Action Requested

Does the board have any comment on the paper and the updated plans to close the Ro Kell Neg gap?

Does the board have any questions for clarification in the next paper, planned for submission at the May 2021 board?

3. Background

Following our work in the first half of 2020 to review and define a plan to close the Ro Kell Neg supply gap, we are bringing a further update to follow from the board paper presented in September 2020. September's update included the latest results on blood unit performance, donor behaviour and the early progress we had made in delivering the foundations required to deliver the change needed.

In addition, we identified three further areas of investment to compensate for the impact from Covid-19: Investing into relatable local engagement, piloting partnerships with Black majority churches and increasing capacity into new donor centres.

An action was taken at the September board to update the board further and this is being delivered today. An additional action was taken to provide a summary on blood matching guidelines and patient benefits provided by a more diverse donor base.

4. Reminder on the clinical need for ethnically matched Ro Kell Neg Blood

4.1 Background

The Rh system (with the main set of CcDEe antigens) is the most significant blood group system after ABO. The D antigen (or absence, d) is the most well-known of these and typically marked by the familiar +ve or -ve after the ABO group. The C antigen is also very common, especially among our majority white British ABO+ donors.

Patients with the absence of the C antigen are at significant risk of developing antibodies and experiencing alloimmunisation should they be repeatedly transfused with blood where

the C antigen is present. This is very likely if blood is only matched through ABO & D antigens given the prevalence of the C antigen within our current donor base. In contrast the recent Haemoglobinopathy Survey[1] established that ~80% of Sickle Cell Disease patients, who are most likely to receive regular transfusions, did not express the C antigen. In the UK, most people who carry the sickle cell trait are of African or Caribbean ethnicity.

To minimise this risk, the British Society for Haematology (BSH) recommend additional antigen matching for C Neg (through Ro typing) and Kell Neg (another antigen with significant risk when K Pos blood is transfused to a K Neg recipient) for patients with these blood types. O Neg blood is also one example of a suitable substitute for transfusion as the most common Rh type for our O Neg donors is rr; also having an absence of the C antigen.

Demand for Ro type blood is far more than currently collected. Increasing collections will reduce the dependency on the most common substitutions, especially O Neg blood donors with their universal red cells, and hence reduce supply risk. As the Ro blood type is more commonly found in donors with Caribbean or African ethnicity, recruitment of new Ro donors should be prioritised from these demographic segments.

4.2 Future Direction

There is increasing evidence that regular transfusions of O Neg red cells or even Ro matched red cells still cause many patients to develop antibodies to antigens outside of the ABO, Rh or Kell systems. The International Collaboration for Transfusion Medicine Guidelines (ICTMG) recommends, where feasible, the use of antigen-negative blood or additional antigen matching (Jk^a, Jk^b, Fy^a, Fy^b, S and s) for patients with clinically significant levels of antibody[2]. Sourcing donors with the required combination of antigens for these patients is even more likely to be only found in those of similar ethnicity to the patient.

Therefore, the recruitment of donors of African and Caribbean ethnicity is also important to increase and diversify the available combinations of blood groups beyond just the Ro type to support those patients who have the highest risk from transfusion.

In the longer term, there are four areas of clinical research and operational development to deliver before we can consistently implement new transfusion practices to improve patient outcomes further:

- Confirm the volume, nature and scale of alloimmunisation risk and outcomes for patients, including likelihood of occurrence, extent of harm, and impact on lived experiences in the short and longer term
- Confirm the clinical evidence to what extent further antigen matching (beyond current recommendations) would lead to the most improved outcomes in patients
- Resolve operational challenges faced in matching, supplying and transfusing blood today to ensure further complexity of process will maintain enough, rapidly available supply of matched blood for haemoglobinopathy patients
- Increase the pool of available Black donors and the volume of collected Ro Kell Neg blood to support the effectiveness of implementing any new practices of matching donor blood to immunised patients for antigens beyond ABO, Rh (CcDEe) and Kell.

4.3 Summary

In summary, the limited volume of Ro Kell Neg blood and the requirement for frontline staff to make daily decisions on substitutions contributes to the risk of not meeting current clinical

[1] Trompeter et al.; The haemoglobinopathy survey: The reality of transfusion practice in sickle cell disease and thalassaemia in England, Transfusion Medicine, 2020

[2] Compernolle et al.; International Collaboration for Transfusion Medicine Guidelines. Red blood cell specifications for patients with hemoglobinopathies: a systematic review and guideline. Transfusion. 2018 Jun

guidelines. Recruiting more donors of African and Caribbean ethnicity is the most effective way to increase the volume of Ro Kell Neg blood to reduce the complexity of current practices and improve patient outcomes today. An increase in volume would also allow for the implementation of new practices in the future.

5. Update on Ro Kell Neg Gap and donor management for 2020

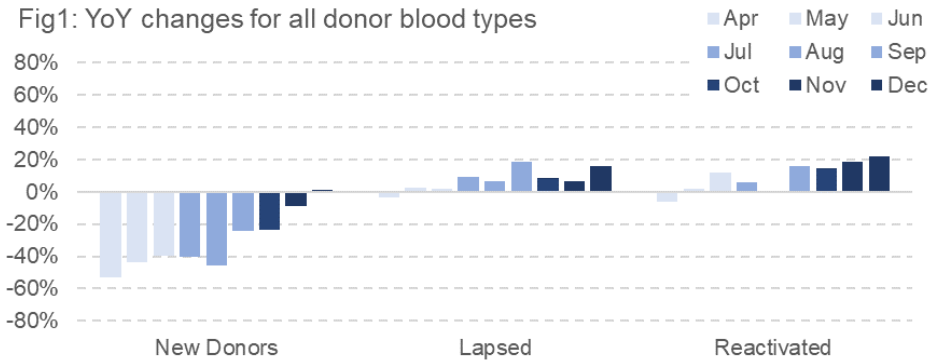
5.1 Blood unit performance

Our issues, substitutions and collection of Ro Kell Neg blood returned to pre-Covid levels at the end of last year, but the gap also remains at pre-Covid levels: 47% of requested units are not fulfilled by Ro Kell Neg blood but clinically appropriate substitutions. Our collection from Black donors has also recovered: December was the 3rd highest month of collections ever. Despite the 2nd wave impacting hospital demand for total levels of whole blood, Ro demand is remaining high. Our collections will continue to prioritise Ro and ONeg.

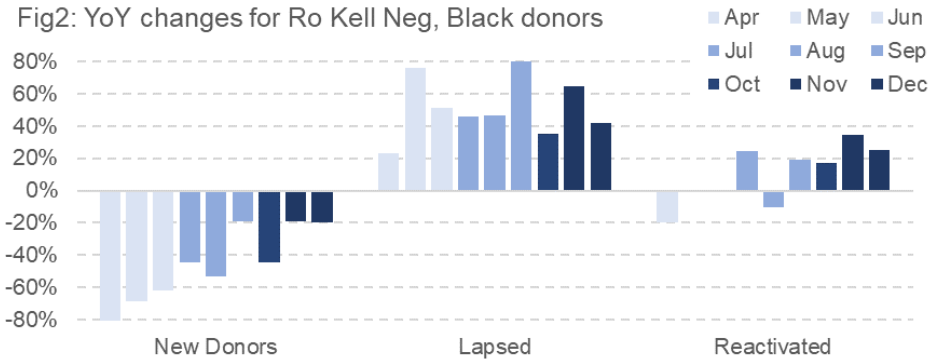
	Issued units (vs LY)	Substituted units (vs LY)	Collection from Black donors (vs LY)
Jan to Mar 20	8,720 (+576, +7%)	7,685 (+443, +6%)	1,750 (+46, 3%)
Apr to Jun 20	8,057 (-480, -6%)	7,151 (-251, -3%)	1,389 (-407, -23%)
Jul to Sep 20	8,870 (-94, -1%)	7,693 (50, +1%)	1,818 (-147, -7%)
Oct to Dec 20	8,922 (+337, +4%)	7,904 (-85, -1%)	1,949 (+13, +1%)

5.2 Donor management performance

As the impact from the pandemic reduced during the summer lockdown restrictions were relaxed but hospital demand for blood increased. Figure 1 demonstrates that our new donor activation returned to pre-pandemic levels, and a greater number of previously lapsed donors were reactivated to replace those that that did not return to donate. Demand was met and stock levels maintained.



Our management of Black Ro Kell Neg donors has shown similar trends in Figure 2: Efforts continue to return recruitment performance to that seen in pre-pandemic months, with work still to do. Partial recovery of recruitment combined with higher levels of reactivation has offset the increase of active donors who did not return.



5.3 Update on research into the impact of Covid-19 on Ro Kell Neg donors

We have completed a piece of research over the holiday period to examine the impact the pandemic has had on the attitudes to donation among Ro Kell Neg donors, both active and lapsed. 12 focus groups have been conducted segmenting donors by ethnicity, age, gender and donation status to draw out the key insights that are both common and unique to the different demographic groups of the participants.

Emerging findings demonstrate a common set of new barriers emerged due the pandemic: A lack of clarity on whether donation is possible, concerns on safety with regards to Covid and competing prioritisation with other more immediate concerns. Black participants showed a universal awareness on the heightened risk from Covid-19 for non-white individuals based on media reports and perceptions among family, friends, and acquaintances. There was no evidence on deeper shifts, with all donors claiming to be keen to return to donation when things return to 'normal'.

Insights specifically related to the Ro type and Black participants show opportunity to improve knowledge of Ro status and the relevance of Ro to specific treatments beyond the fact the type is 'special'. There was low awareness of the use of Ro blood in the treatment of sickle cell and that there is higher prevalence of the Ro type among prospective donors of Black African and Caribbean ethnicity. There was opportunity to improve the awareness of the prioritisation and channels NHS BT have that support donors with this blood type.

Finally, given the likely need to reactivate behaviour with messages that motivate beyond just reassurance, messaging around prevalence of Ro in Black ethnic groups and sickle cell continue to be highly motivating to the focus groups. There is strong support for more community activity and utilising personal networks which chimes with additional research the research agency has recently conducted in relation to Covid vaccination.

6. Update on Donor Experience Initiatives and longer term plan

6.1 Update on progress in building our Foundations and DX Initiatives

Recruitment of the four new Assistant Director roles has been completed and two are already in post. A refreshed recruitment process ensured diversity of prospective and successful candidates. Further need for organisational changes will be reviewed and delivered once the new SMT is formed.

Cultural development continues across the organisation and through the D&I programme, both informally and formally. Reduced availability of teams is impacting rollout to donor facing staff but budget and WTE resource has been allocated for next financial year.

Appendix A details our initiatives that are currently in-flight. Last quarters' operational focus on protecting blood stocks and expanding plasma collection limited time available for teams to continue to invest in longer-term change. As a result, we have deferred or will revisit a

number of initiatives for later mobilisation, and have refreshed our plan as detailed in the next section.

6.2 Update on Short Term activities to mitigate Covid-19 impact

6.2.1 Investment into relatable local engagement

Our marketing efforts through the year include an 'always on' approach to hyperlocal paid activity. More recently we have increased our focus on areas of high Black population across England such as London, Manchester and Birmingham where close to our donor centres. This activity is a blend of Out-of-home advertising (such as bus shelters), interest targeting via social channels, and through ads on Spotify. Work has also included retargeting content developed from our Buzzfeed partnership and on Black African & Caribbean radio channels. Our total investment for the year in media channels of £711k will be over 2x than originally budgeted, £297k, and the previous year, £330k. The results achieved so far show a corresponding increase in impressions at 48m compared to 17m last year. Messaging is focused on the fact that ethnicity matters and it is safe to donate during the pandemic.

Conversion of awareness has been harder to achieve due to changing blood donation behaviour and the loss of our face-to-face events that used to support up to 20% of registrations. As a result, the average cost per registration (CPR) for all donors has doubled from £9 to £20, and CPR for Black donors has increased from £47 to £64. Results are still marked though: Black donor registration has increased to 1,400 a month for November and December, compared to less than 600 on average since the start of the pandemic.

We continue to invest in Black donor recruitment for the rest of the financial year with £365k allocated to media for the final quarter.

6.2.2 Investment into new Partnerships with pilots

During Black History Month, we announced additional funding of £150k for our **Community Investment Scheme** to fund blood donation projects within local communities. Already in its third year for organ donation, the Community Investment Scheme is part of our commitment to normalise donation amongst BAME communities. We will fund community and faith organisations to drive awareness, understanding and behaviour change with key target donor groups. We are pleased to have received 83 applications in total with 21 for blood, 37 combined blood and organs and 25 for organs and are currently scoring their efficiency. Activity with successful grantees will begin in April.

The blood donation marketing team have further invested £100k in a joint blood and organs **Community Engagement Leads** pilot, a 'broker' model of partnership to pilot with community organisations who can manage a larger 'consortium' of donor engagement and events beyond our in-house capacity. We have received 14 applications covering Manchester, Birmingham and London which are being scored for efficiency. Activity with successful grantees will begin in April.

We have an ambition to scale both programmes materially in coming years through further investment, marketing of the schemes, as well as supporting local level organisations make applications. At this early stage, and given the foundational nature of the work, it is hard to quantify and measure the return on this investment in comparison to other channels. Page 13 of our 2020 report details the results collated this year.

6.2.3 Investment into new donor centres

As a result of the loss of capacity from social distancing measures and the impact on our mobile centre footprint, we are investing £3.1m in additional capacity to support the planned volume of collections for 2021. This investment covers expanded schedules for mobile sites and two fixed sites for a 12month period.

The two new fixed sites are targeting Shepherd's Bush (14% target population) and Lewisham (29% target population), the implementation programme is in-flight. The new capability to ringfence appointments based on ethnicity will support further investment of capacity for our priority donors across the estate.

6.3 Summary of our longer-term plan

Foundational work continues to integrate the output of the Donor Experience Lab into the longer-term Donor Experience directorate's strategy for the coming years. We have reviewed and aligned with other directorate plans, prioritised initiatives for their impact on the Ro Kell Neg gap and adjusted timelines accordingly. Appendix B summarises the plan.

To support clarity and understanding of our plan, we have identified 3 phases:

1. Setting the foundations for long-term change; early investment in our target donors
2. Refreshing our engagement by channel; taking the first steps in personalisation
3. Delivering individualised engagement, donation and deferral processes

<u>Phase One (FY20/21 & FY21/22)</u>

The key milestones we will deliver in Phase One are:

- Foundations for change:
  - A vision, directorate strategy and 3-5 year plan
  - A new Senior Management Team and transition to a functional based structure.
  - New programme management and governance to deliver initiatives to plan.
- Early investment into our target donors:
  - A dedicated donor research group to provide key insight
  - A dedicated Ro programme for retention *(est. 4.5% Ro gap reduction)*
  - Ringfencing appointments and new centre capacity for improved conversion (to include input into estate footprint review) *(est. 6% Ro gap reduction)*
  - Increase diversity and relevance in national advertising *(est. 1% Ro gap reduction)*
  - Community based roles for recruitment *(est. 3% Ro gap reduction)*
  - Launch new and relevant targeted social media campaign *(est. 1% Ro gap reduction)*
- Reduction of on-session deferrals:
  - Improve eligibility checks prior to donation (incl. DHC)
  - Implementing the FAIR study outcome
  - Initiating research on Hb levels and Travel restrictions to confirm feasibility
- System wide review and change to ensure:
  - Efficiency within our complaints and feedback processes
  - Clarity and personalisation of our creative content in direct marketing
  - Review and enhance the donor experience of our online services to create the ideal search, book and rebook experience
  - Revised paid media segmentation *(est. 2% Ro gap reduction)*

These key milestones will introduce new capabilities, experiences and engagement that will create the opportunity to reduce the Ro Neg Kell blood supply gap by up to 17.5%pts.

<u>Phase Two (FY 22/23)</u>

The key milestones we will achieve in Phase Two are:

- Continue to reduce our deferral rates
  - Review the deferral journey
  - Introducing a new role on-session for deferred donors *(est. 5% Ro gap reduction)*

- Refresh our engagement approach by channel:
  - Develop new partnerships with employers (*est. 2.5% Ro gap reduction)*
  - Develop new partnerships with the health sector (*est. 2.5% Ro gap reduction)*
  - Develop and launch a 'refer a friend' capability
- Initiate the first steps in personalisation:
  - Segment and record donor motivation
  - Launch a new Donor 360 database
  - Re-style communications for each segment
- Invest in new donor onboarding and retention:
  - Starter pack developed for all new joiners
  - Drop-in clinics and community centre engagement
  - Alternative options to support through volunteering or financial contributions
  - Personalise the in-session experience

The impact of these key changes will be to further open opportunity to close the Ro Kell Neg blood supply gap by 10.5%pts.

Phase Three (FY23+)

The key milestones we will deliver in Phase Three are:

- Implement clinical changes to reduce deferral rates
  - Lower Hb requirement for blood donors where feasible *(est. 4% reduction)*
  - Relax travel restrictions for blood donors where feasible *(est. 3% reduction)*
  - Introduce post-donation testing if relevant to support forecasting deferrals
- Further personalisation of interactions based on donor preferences
  - Leverage data to create donor micro-segments
  - Create transparency over blood type demand
  - Launch an automated marketing platform
  - Smarter venue and appointment booking
  - 1-2-1 Patient-donor pairing

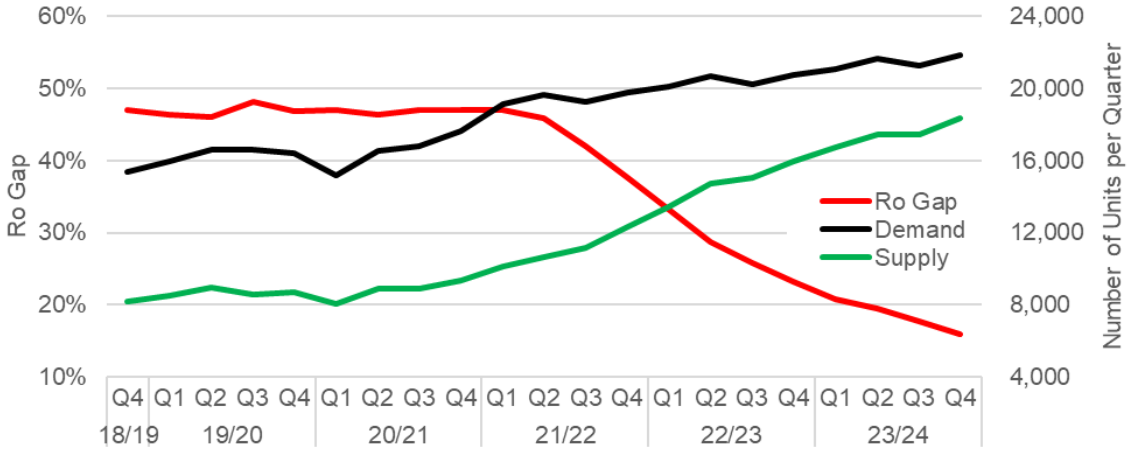
The remaining set of initiatives for phase 3 are identified to forecast an additional opportunity for a 7%pt reduction in the Ro Kell Neg gap.

Appendix B details which donor experience initiatives will have a heavier reliance on particular directorates, but most will be involved on all. Quality Assurance and Finance will also support and provide assurance on new processes and use of funds. Governance will continue through the Donor Experience Steering Committee Meetings, reports to the ET and regular updates to the Board.

For assurance, appendix C provides a summary table confirming all the identified initiatives have been protected within the new plan. The specific initiatives identified to close the Ro Gap continue to be prioritised.

Figure 3 below shows a revised forecast based off our delivery timeline: Most initiatives and new opportunity to close the gap will occur in the next 24 months and require an Ro Kell Neg donor base twice the size it is today. While the existing plan does not close the entire gap, we will press ahead with Phase 1 & 2 while continuing to develop the next iteration for Phase 3 to include updated clinical research and guidance, and new operational supply capabilities.

Fig3: Forecasted Supply, Demand and the Ro Gap



7 Sign off

We plan to bring a further update at the May 2021 Board with progress on implementation, updated donor, supply and demand KPIs and any further actions logged.

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22nd September 2020