Transfusion Practitioners Group
British Blood Transfusion Society

Highlight Report – TP Special Interest Group (SIG): Sept 2025

- We hope to see you at **BBTS Conference in Harrogate > 14th - 16th October 2025**
  - It's not too late to register, please use this link to access the booking system.

    Sessions to look out for include:
    Transfusion Practitioner SIG – Tuesday 14th 09.30-11.00
    PBM & Appropriate Transfusion SIG – Tuesday 14th 14.00-15.30
    Cyber Attack plenary session – Tuesday 14th 16.00-17.30
    PBM & Blood Health – Wednesday 15th 09.00-10.30
    Transfusion Transformation – Wednesday 15th 14.00-15.30
    SHOT- Thursday 16th 09.30-11.00
    Machine Learning & AI in Blood Transfusion – Thursday 16th 11.30-13.00
  - All information regarding this year's conference is on the BBTS website.

- **Bloodlines** - The latest articles submitted on behalf of the BBTS TP SIG are attached.

  - The first article, submitted by Laura Baglow-Micic and Wendy McSporran, introduces the **Transfusion Research Network (TRN)** and explains its importance to clinical practice.

  - The second article explores the potential importance of **pre-hospital pre-transfusion samples** taken by air ambulance crews and provides some background for a short survey that was recently circulated to all TPs. **Thank you** to everyone who completed the survey, the response rate was great and the results are currently being analysed. Survey findings will be shared in due course.

- **BBTS TP forum** - Please continue to review and post on the forum. It has been designed to share ideas, pose questions and provide support to all TPs (and associated roles) from our four nations. The latest post asks for your thoughts on the SHOT standards. A recent post requests feedback on training and competencies for blood products (anti-D, albumin etc). We are also requesting notification of issues relating to the manual entry of blood groups into IT systems so we can continue to escalate this at a higher level.

- **National TP Framework (England)** - please review and comment on the series of soundbites currently being circulated via RTC Administrators. Your feedback, thoughts and perspectives are vital to shaping the framework. Please email Jennifer Rock for further information.

- **Contact details and further information** can be found on our dedicated webpage: BBTS | Transfusion Practitioners | or by emailing the Chair: Karen.Mead@nbt.nhs.uk

IMPROVING TRANSFUSION RESEARCH - A NEW NETWORK

Laura Baglow-Micic
Transfusion Research Network Manager
NHS Blood and Transplant

Wendy McSporran
Advanced Transfusion Practitioner
The Royal Marsden NHS Trust

Addressing the challenges of transfusion research

There is a wide diversity of medical specialities that can be involved in conducting transfusion research. Transfusions of blood components occur in a multitude of different areas including trauma, orthopaedics, obstetrics, oncology, haematology & for congenital disorders; and this can present a challenge when trying to tie all of transfusion research together. Staff on the frontline of transfusion, Transfusion Practitioners, Biomedical Scientists, Medical Haematology staff can be involved in all these areas and perform research which can affect clinical practice in these specialities. However, for transfusion research there is synergy in collaboration between specialities and collating results and outcomes.

Research is an incredibly valuable and intrinsic tool to medicine and has shaped the way that patients are treated throughout their life; from visiting the GP, attending an A&E department, going to a health screening and receiving routine vaccinations. Research can improve health outcomes [1], lower mortality rates [2] and even decrease staff turnover and increase job satisfaction [3], so why is it not prioritised in the day to day?

A 2025 report from the Medical Research Council [4] found that the number of clinical research staff are falling across all professions, this leads to less high quality research being performed and ultimately being translated into better recommendations and treatments.

Transfusion Practitioners Group
British Blood Transfusion Society

So what can the transfusion community do to get involved given the current climate, with research staff not routinely being employed in laboratories, budget cuts leading to low staff levels, high training burdens and regulatory obligations leading many Trusts deciding that research in the laboratory is a 'nice to have' not a 'need to have'.

The Transfusion Research Network (TRN) - Who are we?

Transfusion 2024 was a collaboration between the National Blood Transfusion Committee and NHS Blood and Transplant to create a 5-year plan for clinical and laboratory transfusion [5]. As part of this collaboration, the creation of a transfusion specific research network was planned, as large-scale multicentre research is difficult to perform, prioritise and organise.

The value of this coordinated approach had already been demonstrated by HaemSTAR. HaemSTAR are an independent UK-wide group of Haematology Registrars who have shown the benefits of such a research network, the group have contributed to several published manuscripts, established a collaborative-authorship model, and provided opportunities to trainees who are interested in research.
At its inception the TRN is comprised of a representative from key staff groups such as Transfusion Practitioners, Transfusion Laboratory Managers, Consultant Haematologists, Patient and Public representatives and Consultant Clinical Scientists. This provides the TRN with multidisciplinary viewpoints on transfusion research and implementation.

What can TRN offer to hospitals?

Transfusion laboratories and clinical transfusion teams are becoming more involved in performing research and are uniquely placed to be able to complete integral research activities such as labelling and storage of investigational medicinal products to tight temperature control regulations, completing randomisation of patients and collection of clinical data.

The aims of the TRN are to assist with this research activity as it takes a significant amount of time to set up a new process, from the creation of SOP's, to rolling out staff training, to stock control of new components & medicinal products. We also want to empower staff at all levels and health care backgrounds to get involved in research and to integrate it into business as usual within the transfusion laboratory and clinical life, to develop their research skills and develop research projects of their own.
To do this we are looking at a few key areas including:

- Providing peer to peer support for all areas of research involvement
- Providing training to laboratory staff to release the burden on senior staff
- Ensuring that funds for transfusion departments are included in the costings of trials when they are developed
- Creating guidance on how to complete grant applications and how to involve patients and the public at the very start
- Creating a defined process for everyone involved in research activity to be authors of their work on a study

Why this network is important to clinical practice

Research is the foundation of appropriate clinical practice; it's the determiner of the very definition of what is meant by 'appropriate for the patient'. So much of transfusion evidence is still either limited or at the point of equipoise with the transfusion literature often citing 'more research required', which leaves uncertainty in appropriateness. This is to the detriment of establishing best practice and moving forward with personalised transfusion medicine and care, the heart of what transfusion teams strive to provide.

In 2005, a Senior Transfusion Practitioner succinctly summarised the impact of research when responding to a BMJ article, in which doctors had questioned if all blood transfusions were appropriate and effective, with the following, 'In the UK we now have over two hundred Transfusion Practitioners, most are focusing on appropriate component use and training of all hospital staff...many Transfusion Practitioners are struggling to implement alternatives to transfusion, with no budgets and even less good published practice evidence to support their work.' [5]

Twenty years later the Transfusion Practitioner numbers have slowly increased to an estimated 386, budgets have remained the same for many and there are still gaps in knowledge to support the work of ensuring effective transfusion. Without robust scientific and clinical transfusion research the guidelines informing practice become an amalgamation of less credible expert consensus. It is now known that the evidence of when to transfuse can be counter intuitive, as demonstrated in the PlaNeT2 trial where outcomes for neonates improved when the threshold for transfusion was reduced [6].

The variation in transfusion practice is well documented through successive National Comparative Audits. One of the factor's driving variations in practice may be the lack of evidence and therefore trust in guidelines ultimately leading to uncertainty in practice. Research has been conducted on the effects of uncertainty on medical decisions with studies suggesting both variation in practice and an overuse of treatments and interventions [7], [8].

Recent implementation studies [9], [10] continue to highlight the value of clinical transfusion staff being involved in research, the clinical context is valuable, and the teams are often involved in promoting new guidelines and changing practice. How this is done matters, clinical staff need to be involved throughout the process so that they are engaged when the outcomes are established and implementation beckons.

Post the Infected Blood Inquiry and the mandate to ensure transfusions are appropriate, it could not be timelier to be taking this initiative forward, building on the existing research success and further establishing what is 'appropriate' and examining the best ways to implement the knowledge.

References

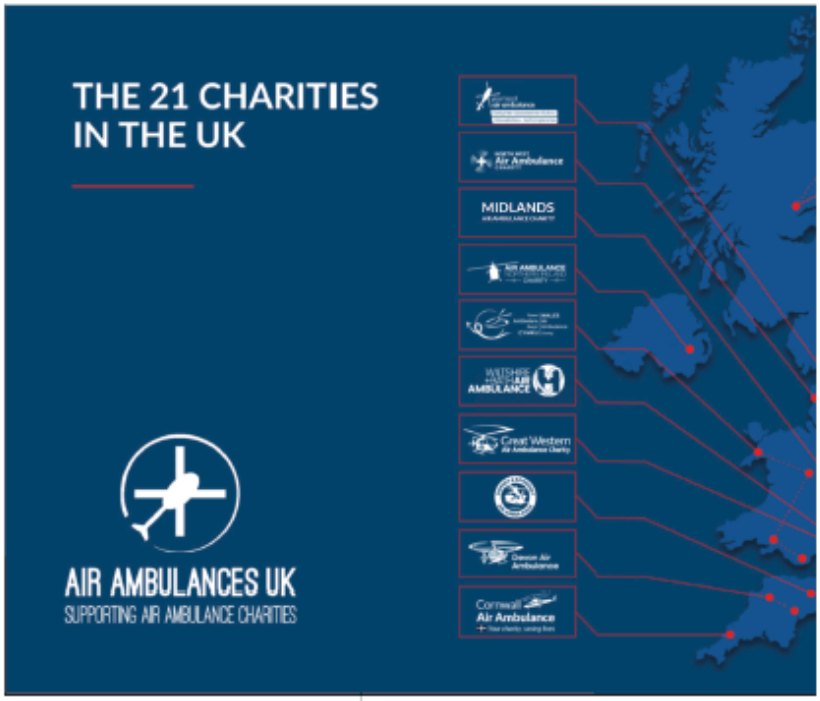
1. benefiting-from-the-research-effect-the-case-for-trusts-supporting-clinicians-to-become-more-research-active-and-innovative.pdf
2. Ozdemir, B.A., Karthikesalingam, A., Sinha, S., Poloniecki, J.D., Hinchliffe, R.J., Thompson, M.M., Gower, J.D., Boaz, A. and Holt, P.J., 2015. Research activity and the association with mortality. PloS one, 10(2), p.e0118253.
3. Rees, M.R. and Bracewell, M., 2019. Academic factors in medical recruitment: evidence to support improvements in medical recruitment and retention by improving the academic content in medical posts. Postgraduate Medical Journal, 95(1124), pp.323-327.
4. ClinicalResearchers_Reversing the Decline_Jan2025
5. https://www.bmj.com/content/330/7491/558.3/rapid-responses
6. Curley, A., Stanworth, S.J., Willoughby, K., Fustolo-Gunnink, S.F., Venkatesh, V., Hudson, C., Deary, A., Hodge, R., Hopkins, V., Lopez Santamaria, B. and Mora, A., 2019. Randomized trial of platelet-transfusion thresholds in neonates. New England Journal of Medicine, 380(3), pp.242-251.
7. Djulbegovic, B., 'Lifting the fog of uncertainty from the practice of medicine', BMJ Vol.329, p1419-1420.
8. Lenet, T., Tropiano, J., Skanes, S., Ivankovic, V., Verret, M., McIsaac, D.I., Tinmouth, A., Nicholls, S.G., Patey, A.M., Fergusson, D.A. and Martel, G., 2023. Understanding intraoperative transfusion decision-making variability: a qualitative study. Transfusion medicine reviews, 37(2), p.150726.
9. Grove, A., Clarke, A. & Currie, G. How are evidence and knowledge used in orthopaedic decision-making? Three comparative case studies of different approaches to implementation of clinical guidance in practice. Implementation Sci 13, 75 (2018). https://doi.org/10.1186/s13012-018-0771-4
10. Crawshaw, J., Callum, J., Chargé, S., Lorencatto, F., Presseau, J., Raza, S., Relke, N., Wolfe, A. and Stanworth, S., 2025. How do we leverage implementation science to support and accelerate uptake of clinical practice guidelines in transfusion medicine. Transfusion, 65(5), pp.799-813.

PRE-HOSPITAL PRE-TRANSFUSION SAMPLES – A WASTED OPPORTUNITY?

Dr Karen Mead
BBTS TP SIG Chair and Specialist Transfusion Practitioner
North Bristol NHS Trust

Dr Reuben Cooper
Consultant in Emergency Medicine
North Bristol NHS Trust and Critical Care Doctor, Wiltshire and Bath Air Ambulance

Mr Tim Wreford-Bush
Transfusion Laboratory Manager,
North Bristol NHS Trust



In 2012, London's Air Ambulance began carrying blood. Since this time, all other air ambulances have followed - allowing life-saving transfusions to be administered at the scene, greatly improving the chance of survival for the patient. There are currently 21 air ambulances operating within the UK.

Within the Southwest, Wiltshire and Bath Air Ambulance (W&BAA) and Great Western Air Ambulance (GWAA) began carrying group O Neg red cells supplied from North Bristol NHS Trust (NBT) during August 2015. With the 10-year anniversary fast approaching, the operational aspects remain largely the same, although W&BAA now carry group O negative and O positive red cells and LyoPlas with GWAA carrying group O negative red cells and defrosted plasma.

When the service was initially set up, the requirement for the air ambulance crew to take a pre-transfusion sample was determined. NBT felt a sample should be taken wherever possible as it was deemed to be an irreplaceable sample and essential for timely provision of group specific blood for ongoing in-hospital resuscitation. The air ambulance crews were keen to support this and GWAA set a key performance indicator target for 75% of their transfused patients to have a sample taken. During the first 6 months, this was achieved for 89% of their patients and they remained on or above target for the first year. Since this time, compliance has varied from 94% to 30% for the periods audited. Recent feedback from crew members has implied that some air ambulance staff are now questioning the value of this intervention, as it has become apparent that the sample is not universally accepted within receiving hospitals, with many samples being refused by the receiving hospital team and disposed of immediately upon arrival.

Over the 10-year period, the pre-transfusion pre-hospital samples accepted by NBT have proved invaluable for a variety of reasons including blood grouping for solid organ donation, toxicology testing as requested by the police, and for patient management during/following an incident. A recent example of this was when D positive red cells were inadvertently given (within NBT) to a young female brought in by the air ambulance crew. Her D status

Transfusion Practitioners Group
British Blood Transfusion Society

was needed to determine whether anti-D administration or exchange transfusion should be considered as a follow up. Her local hospital/GP did not hold a blood group for her and unfortunately on this occasion, a pre-hospital pre-transfusion sample was not obtained which subsequently led to uncertainty and delay with regards to follow-up treatment.

However, the most evident reason for taking this pre-transfusion sample is to enable to lab to swiftly and safety switch from group O RBC to group specific where appropriate. A recent case attended by W&BAA resulted in 12 units of blood products being administered during pre-hospital resuscitation. A pre-transfusion sample was not taken as the air ambulance crew knew the closest receiving Major Trauma Centre would not accept it (despite standard operating procedure requiring a sample be obtained). The patient had significant ongoing blood product requirements during their in-hospital resuscitation – the lack of a pre-hospital pre-transfusion sample likely resulted in a missed opportunity to switch to group specific blood products. This is so important at present, given the ongoing difficulties maintaining national stocks of group O red cells, coupled with the large volumes of blood products administered to some patients during ongoing major haemorrhage management.

These pre-allocated unknown patient IDs do not have an NHS number associated with them and the hospital number generated by one Trust is not always accepted elsewhere because of the risk that the number may already be in use within their system for another patient.

After speaking to other NHS Trusts, it appears the main reason behind refusal and disposal of samples taken by air ambulance crews is due to the patient identity (usually issued by the supplying Trust to their local air ambulance crew) not being compatible / acceptable within the receiving Trust. These pre-allocated unknown patient IDs do not have an NHS number associated with them and the hospital number generated by one Trust is not always accepted elsewhere because of the risk that the number may already be in use within their system for another patient. Northern Ireland have developed a system that is in use in all their hospitals whereby a unique HEMS number is issued centrally by the air ambulance crew. This HEMS number is used in addition to the unique local patient ID assigned upon arrival to the designated Emergency Department. This system should be explored further to identify whether it could be adapted for use within England. Perhaps a central database could be created similar to those used during a clinical trial to provide unique patient identifiers.

An additional problem identified is that some Trusts require two clean blood groups before they will switch to group specific blood. In this situation, the pre-hospital sample alone is not sufficient unless the Trust already hold an historical blood group for the patient. However, in NBT the sample obtained by the air ambulance crew is deemed adequate to safely switch to group specific red cells. In this situation, NBT would accept one pre-transfusion sample (providing it is a clean group with no mixed field) and then a second post-transfusion sample would be used as the confirmatory group. The second sample would potentially be mixed field due to the transfused RBC in the sample, but as long as the original group can still be seen alongside the transfused group then it would be deemed adequate to allow the switch the group specific RBC.

We appear to have a real opportunity to review current practice and design a national system that would encourage and support universal acceptance of pre-hospital pre-transfusion samples. Collectively, it could make a significant difference to limiting the amount of group O emergency red cells being used in MH / trauma situations and therefore preserving this precious stock. To that end, very short questionnaires have been circulated to all TPs and air ambulance crews to establish current practice and identify where the issues arise, with the hope of working towards a potential universal solution. Many thanks to all who have taken the time to answer the questionnaire, we will keep you updated as work progresses!