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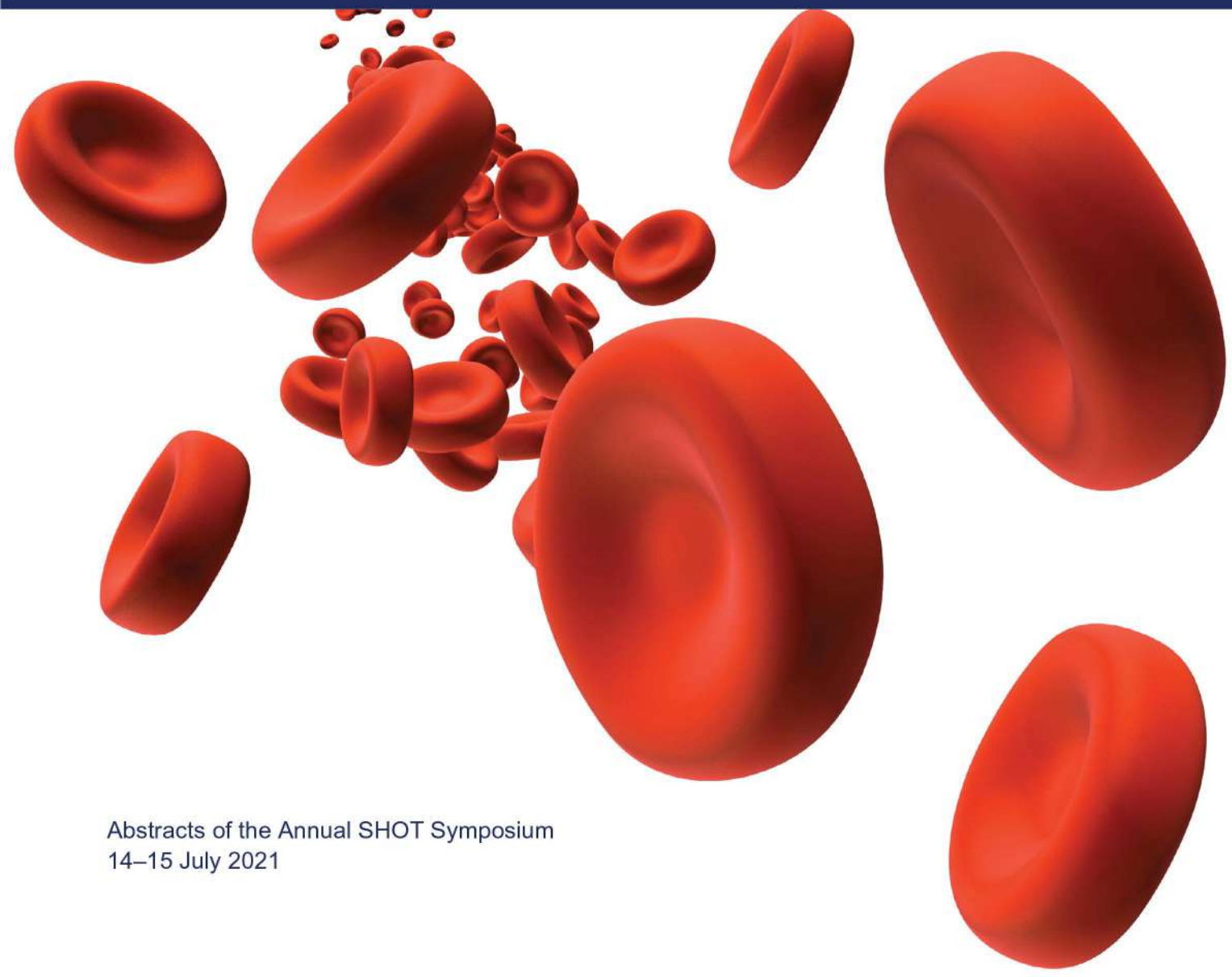

Abstracts of the Annual SHOT Symposium
14–15 July 2021

WILEY Blackwell

British Blood Transfusion Society

nata Network for the Advancement of Patient Blood Management, Haemostasis and Thrombosis

Transfusion Medicine

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WILEY

Abstracts of the Annual SHOT Symposium 14-15 July 2021

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SUPPLEMENT ARTICLE

TRANSFUSION MEDICINE WILEY

Oral Abstracts

O-01 | Impact of using videos for blood component collection training at UHNM

Pamela Irving, Rosie Rushworth, Dionne Bentley, Charlotte Brackstone, Becky Sivers, Jane Graham
University Hospitals North Midlands NHS Trust

Background/Introduction (a brief statement of purpose or why the study was done).

Specific training in the safe collection of blood components is necessary to prevent errors at this critical stage in the transfusion process. At the University Hospitals of North Midlands (UHNM), new and refresher training in this area has historically consisted of face to face (F2F) sessions at the blood fridge kiosk, with competency assessed during the session (paper format). Although 100% of staff had initial training, uptake for retraining after 2 years was only 50%.

The above method of training was unsatisfactory for attending healthcare professionals (HCPs) and for the transfusion practitioners (TPs) delivering the sessions. Problems identified were,

- Large class sizes reduced practical experience, interactions/questions
- Timing of sessions challenging
- Mixed cohorts resulted in different learning needs
- Paper competency assessments marked after session so issues in understanding not identified at time
- Disruptions due to session in clinical area

Redesign of refresher training in blood component collection at UHNM was required, with assessment of acceptability and efficacy.

Methods or Study Design (a description of the methods used or work done).

The UHNM Hospital Transfusion Team (HTT) developed a short video, filmed at the blood fridge kiosk, for use in blood component collection refresher training. The video was designed to practically demonstrate all the steps required to correctly collect and return blood components, including emergency units. The 6 m 15 sec video was linked to the Electronic Staff Record (ESR) training system alongside 18 multiple-choice questions to assess competency. Pass rate was set at 100%, with a maximum of 3 attempts. This was to ensure that all staff understood every step. Any HCP who failed the competency assessment was advised to contact the HTT directly to arrange F2F training.

Results (a summary of the results observed).

The video and ESR module went live in August 2020. Uptake was/is high, with 340 HCPs having completed the on-line training to date. Average time taken to complete the module was 24 minutes. The majority of HCPs (65%) passed the competency assessment questions on their first attempt. A total of 10 HCPs (3%) failed to pass the competency assessment after 3 attempts and required additional F2F training.

Positive feedback from users focuses on the easy access of training, especially for staff working out of core hours and allowing HCPs to take ownership for their own learning. TPs report more positive experiences when delivering F2F new-starter training.

Figures for refresher training have increased from 50 to 75% to date and are expected to continue to improve as COVID-19 restrictions lift and we can be more flexible in our training approaches.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

As a training resource, the implementation of a fridge training video and online blood collection competency assessment tool has proved extremely successful for HCP refresher training. Uptake has been high, user feedback positive and training figures much improved. This is despite the pandemic, when F2F sessions were limited and redeployment high. Competency assessment methods appear to effectively flag HCPs requiring additional training.

A combination/option of F2F and online teaching material and competency assessment tools should be developed in all areas of transfusion practice to meet the varied needs of HCPs.

O-02 | WBIT: A new protocol for reflection and training

Helinor McAleese
Barts Health NHS Trust

Background/Introduction (a brief statement of purpose or why the study was done).

At our Trust, Group and Screen rejection is above the national average, ranging between 6 and 12% on a monthly basis. In 2020, 86 wrong blood in tube (WBIT) samples were detected. This suggests poor compliance with the G&S sampling policy.

Historically, WBIT incidents were poorly investigated. A lack of timely reporting by the lab, inadequate communication between the lab and the clinical team and limited investigation resulted in a lost learning opportunity. The root cause was often not fully identified, or was attributed purely to human error and staff were simply reminded to be more careful as a learning outcome. Necessary training was often not provided, or covered only the technical skills of how, rather than

including holistic training of why. No effort was made to identify the human factors contributing to the error, so no system-wide changes were introduced to reduce the risk of recurrence.

This quality improvement project was designed to improve our investigation of and response to WBIT events, with the aim of addressing the causes at both an individual and organisation level.

Methods or Study Design (a description of the methods used or work done).

A flow chart for both the clinical team and the laboratory was introduced to lay out steps for the timely escalation and investigation of all WBIT's. A new document - 'WBIT: Reflective and Training' was created. This interactive PDF serves both to inform the individual involved of the correct sampling procedure and to enable reflection on aspects of their practice that may have contributed to the incident, to include human factors. To support refresher training an animated Group & Screen video was created, covering all aspects of sampling policy and procedures. This link was embedded into the 'WBIT: Reflective and Training' document and individuals are encouraged watch this alongside their reflection.

https://youtu.be/cZ0I4frksGc

Results (a summary of the results observed).

Following introduction across the Trust, we collected feedback from staff. They felt that the interactive PDF was user-friendly and preferable to a paper based system. It guides them to reflect on their own practice and identify areas for improvement; including aspects that they previously had not appreciated were poor transfusion practice and could contribute to sampling/labelling errors.

Staff found the animated video informative and engaging. They felt they learnt more from the animated video than they would reading a policy or from face-to-face training, as they were able to pause, rewind and re-watch at their own convenience and could return to the resource at any time.

By collating reflective responses over time, the Transfusion Team hope to identify themes in the human factors implicated and so introduce changes – for example to the working environment, resources or existing systems, to reduce future WBIT incidents.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

By treating each WBIT incident as an opportunity for reflection and learning, this new system has enabled us to better focus training and to identify and address the human factors contributing to these errors. Empowering the individuals involved to identify areas for improvement in their own practice and providing information in a fun and interesting way is a means of mitigating further incidents that could lead to patient harm.

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SUPPLEMENT ARTICLE

TRANSFUSION MEDICINE WILEY

Poster Abstracts

P-01 | An impact assessment on the introduction of BloodTrack Tx on the patient journey in Haematology and Oncology at St James' Hospital at Leeds Teaching Hospitals NHS Trust (LTHT)

Kara Manning
St James' Hospital at Leeds Teaching Hospitals NHS Trust (LTHT)

Background/Introduction (a brief statement of purpose or why the study was done).

BloodTrack Tx® is an electronic patient bedside verification system provided by Haemonetics® that ensures the right blood is transfused to the right patient. The introduction of the BloodTrack Tx system was implemented in order to meet the BSH guideline on the two sample rule. The aim was to assess whether the introduction of the electronic system will improve patient experience and safety at LTHT in terms of reduced nursing time, preventing re-bleeds and preventing transfusion of the wrong blood components to the wrong patient.

Methods or Study Design (a description of the methods used or work done)

- Comparison of sample rejections before and after the introduction of BloodTrack Tx
- Comparison of sample labelling times with BloodTrack Tx labels and without (handwritten)
- Comparison of wrong blood in tube (WBIT) errors before and after the introduction of BloodTrack Tx

Results (a summary of the results observed).

Implementation of BloodTrack Tx has decreased sample rejections every month compared to the month in the previous year by approximately 53%. Seventy-three percent of sample rejections were for samples that were not tested as a viable sample was already held in the laboratory. Printing errors contributed to a rise in samples rejected for no unique ID on the label due to improper alignment of the label in the printer.

Labelling with the electronic system took twice as long as handwritten samples; however it is a much safer system and ensures the clinical staff stay by the patient to label the samples (requires scanning of the patient wristband).

No WBIT errors have been reported within 6 months after BloodTrack Tx implementation. One incident reported when a blood sample was drawn from patient 1 and the wristband from patient 2 was used to scan and label the sample of patient 1 as this patient was given the wrong wristband on admission to the hospital. This was not investigated as a WBIT incident but highlights a possible error that could occur when using the electronic system.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

There was a significant decrease in sample rejections and therefore a reduction in the need to re-bleed patients. Reduction in the need to book patients in for another appointment in outpatients and therefore reduce nursing/phlebotomy time and resources. No WBIT incidents from the electronic system but errors are still possible so not 100% safe. Recommendation to continue monitoring the improvement that the system brings to the Trust.

P-02 | Blood administration training: Facilitating positive change to enhance the delivery and compliance of training. Now to include the impact of Covid-19

Laura Humber
University Hospitals Sussex NHS Foundation Trust

Background/Introduction (a brief statement of purpose or why the study was done).

In October 2019 I commenced my new post as associate transfusion practitioner. I quickly became aware that In excess of 1000 frontline clinicians had expired in their mandatory blood administration training at this point. Up-to-date internal training records had not been maintained. Re-assessments were not enforced. Non-transfusion staff had been allocated to provide the safe administration of blood training – unregulated and unguided by the transfusion team. In March 2020 all face to face training (updates, inductions, preceptorships…) were postponed as a result of covid-19. A large number of staff were redeployed to clinical areas where blood transfusions were required therefore no active training was available.

Methods or Study Design (a description of the methods used or work done).

In early 2020 I was accepted on the Florence Nightingale Leadership Programme and in September 2020 commenced my degree apprenticeship in leadership and management. With the help of these two courses: I obtained, developed and implemented the change within my trust. My focus was to understand and practice the 'conscious competence ladder', understanding the psychological connection of change (Denial, fear, resistance, relearning, and autopilot) and understanding and resolving resistance to change to facilitate a training overhaul.

Once understood I needed to ascertain common trends in clinical areas and clinical staff (practice educators etc.).

I then began my educational journey into training packages and appropriate delivery of content.

Results (a summary of the results observed).

November to December 2019 I aimed to maintain face to face theory training independently to assess the problem.

From January 2020 I accepted the 'guest' slot on the trusts annual mandatory update days in collaboration with education leads.

First UK covid-19 lockdown in March 2020 – all face to face training postponed. Trust annual update/inductions/annual update days cancelled.

My E-learning package goes live on the 21st April 2020.

Overview:

- In this 13 month time period (Nov 2019–Dec 2020) there were 1613 participants who accessed some form of my training and completed some form of assessment.
- Jan 2019–Oct 2019 (prior to starting my post in a 9 month period) only 565 staff members engaged in some form of training with no reassessments provided.
- Double the engagement even with trust postponement of training/inductions/preceptorships.

Specifics:

- In January 2020, 1105 staff members required training, by December 2020 on 617 staff required training (55.8% reduction).
- The e-learning training package I created became widely accessible. From launch on the 21st April, participant enrolment to training increased by 14.6%. It was possible to complete the training both in the work setting and at home, therefore facilitated those staff members who were new to the trust to access this prior to commencement in their post.
- Qualitative data (feedback/comments/suggestions) showed, after the initial resistance and resentment to change, staff embraced a new way or working and reporting incidents. (this would be presented in the poster format)

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

The training for the administration of blood has been widely accepted and expired staff members continue to decrease. There's still a lot of work to be done, however as the lone transfusion practitioner for my trust, a small step is going along way in the future of safeguarding our patients and the clinical registrations of our staff.

I submitted this data for my Florence Nightingale Project and won their award for quality improvement.

Following this announcement, my South East Coast Transfusion Committee allowed me to present in March 2021 and asked to make some of this data available to the JPAC.

In addition to the above, I have now commenced the revamp for the blood collection process which has previously seen the majority of blood collectors non-compliant in their annual updates by almost 4 years. This has followed the same principles and practice elements as seen above. Data will soon be extractable.

P-03 | E-learning creation in ABO grouping for transfusion scientists

Sara Wright

NHS Blood and Transplant

Background/Introduction (a brief statement of purpose or why the study was done).

Education for scientists within transfusion is under constant review, due to the pathology workforce reorganisation and the ageing workforce. Scientists undergo training in multiple different settings resulting in national variation in transfusion knowledge. Currently, there is no standard training opportunities for scientific staff within the UK for transfusion and the options available require face-to-face attendance. This does not allow for many staff to have access to these opportunities, as staffing within the laboratories is limited and there is very little capacity to release a single member of staff. Training opportunities for scientific staff need to be developed to allow for distance learning allowing more students to attend. The literature reviewed as part of this project has shown pockets of good practice with e-learning across both the UK and other developed countries; however, highlighted these opportunities were for limited topics and did not cover the entire breadth of knowledge required for transfusion scientists. The literature also highlighted the successful ways in which this learning could be delivered to students ensuring engagement through gamification and problem-based learning whilst also providing lecture-style material for information.

Methods or Study Design (a description of the methods used or work done).

This project aimed to review the user requirements for educational intervention and review a focus topic. It was then aimed to create material in a format required by the service users such as using e-learning to deliver two different level packages. Service users and haemovigilance reports were interrogated to provide evidence for both the format of the learning as well as a focus topic. The content of the learning was created by the author and designed into an e-learning package by a contractor. The material was trialled by student volunteers within transfusion laboratories with knowledge assessments to determine the success of the final product.

Results (a summary of the results observed).

The results were limited but showed the material was delivered to the students successfully and improved the knowledge of the individuals in the focus topic from reviewing both the knowledge assessments and also their perceived knowledge. Students found the packages interesting and engaging although there were some glitches. This package can now be used by the training department at NHSBT as they expand their e-learning courses. The results showed there is still work to be undertaken to overcome engagement with the scientific workforce as there are still issues with a complete e-learning solution. Therefore, there may be a requirement to invest in multiple different learning methods to improve education for transfusion scientists such as the use of blended learning.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

In conclusion, whilst there were some development issues with the package the trainee response was positive. It has provided the training department at NHSBT with useful data to develop further e-learning packages whilst continuing face-to-face aspects of the training too. There is further work to be undertaken with transfusion laboratories to ensure delivery of packages meets all the service user requirements but there is the appetite for further e-learning opportunities within the workforce.

P-05 | Can paper transfusion monitoring records be abolished?

Ana Spínola, Cristina Violante, and Cristina Portal
Centro Hospitalar de Entre o Douro e Vouga, E.P.E, Portugal

Background/Introduction (a brief statement of purpose or why the study was done).

Electronic transfusion systems (ETS) permit transfusion practices to be monitored closely and provide the potential for encouraging good practice. Administration of blood products is associated with risks including acute transfusion reactions (ATR). To detect adverse reactions that may need immediate investigation and treatment, the patient's condition and vital sign observations should be closely monitored before, during and after a transfusion. In 2017, we locally developed a bedside ETS, specific training or education about the ETS and electronic monitoring records (EMR) was made and paper hemovigilance records were gradually replaced.

We aimed to evaluate the compliance, of staff members, in electronically recording vital sign observations, 3 years after bedside ETS implementation.

Methods or Study Design (a description of the methods used or work done).

We randomly audit 86 electronic transfusion orders corresponding to 126 transfusion episodes. For the ETS usage, staff members are required to identify (ID) themselves on the system. Moreover, during checkpoint of compatibility of the blood product with the patient, another staff member is required to be present and ID himself. The main user follows the prompts on screen to enter the patient barcoded transfusion wristband; blood product barcode ID; and observations such as temperature, blood pressure, heart rate, O_2 saturation and incidents. Vital signs must be monitored immediately before transfusion, 15, 60, and 120 min after the start of transfusion, at the end of transfusion and 60 min after the termination of transfusion episode.

Results (a summary of the results observed).

A total of 1260 EMR were evaluated. One hundred and nineteen of 126 (94.44%) EMR had patient's transfusion wristband and blood product ID registered. In 231 of 252 (91.67%) staff member's ID was documented. Pretransfusion observations were performed on 118 of 126 (93.65%). Mid-transfusion checks compliance was observed during 256 of 288 (88.89%) transfusions. End EMR were documented in 108 of 126 (85.71%) and 60 min later, EMR were made in 85 of 126 (67.46%). Concerning incidents registration was seen in 93 of 126 (73.81%) and in these the option 'no', meaning no adverse event was observed, was chosen in all.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

ETS can contribute to significant improvements in transfusion monitoring and hemovigilance records, its use should be encouraged as we aim to be a paper free hospital. Despite good compliance with pretransfusion observation recording, it was found that compliance with recording mid and posttransfusion observations is variable. Lack of clarity in the importance of maintaining unquestionable EMR appears to be the highlight of insufficient practice changings therefore, for now, paper records, in some departments, cannot be totally replaced.

P-06 | Group and save rejection rate. A review 2018–2020

Oscar Martin Simon
Cromwell Hospital

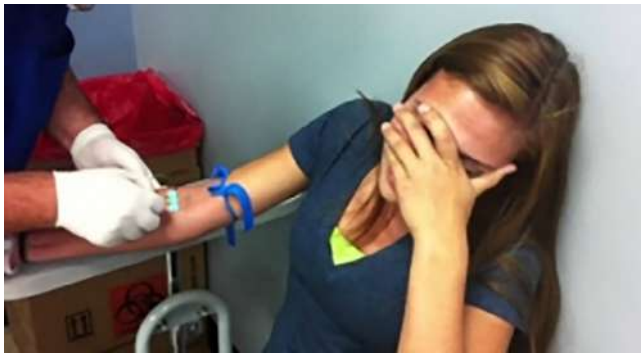
Background/Introduction (a brief statement of purpose or why the study was done).

Group and Save (G&S) sampling is the basis of safe blood transfusion. Any error can potentially lead to a catastrophic event. Therefore, special guidelines are in place to make sure that these samples are taken and processed correctly. One of the consequences is a significant number of samples being rejected for not meeting these safety criteria.

Nationwide audits:

Nationwide audits situate the rejection rate of (G&S) sampling from 2% to 9%.[1] The reasons are multifactorial.

Consequences of rejected samples:

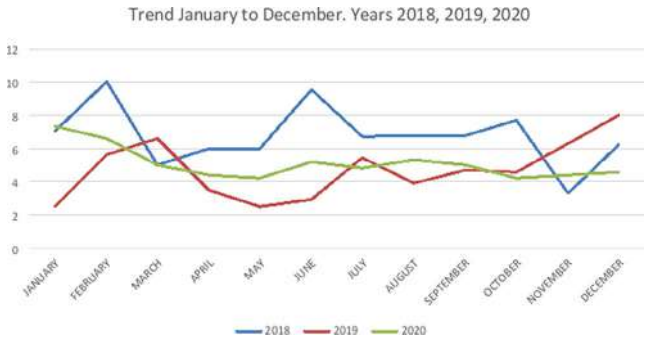


The consequences of having G&S samples rejected include delay in treatment, economical loss and poor patients' satisfaction.

Cromwell Hospital background:

The rejection rate at Cromwell Hospital (CH) was identified to be an element that required improvement in 2017 although no formal auditing took place at the time in terms of rejection rate.

Methods or Study Design (a description of the methods used or work done).
In the beginning of 2018, it was agreed with Pathology to generate a monthly record of all rejected samples. The Transfusion Practitioner would collect this information and examine the reasons for the rejection.
Results (a summary of the results observed).
STATISTICS OF REJECTED SAMPLES (in %):
2018: 7.1%.
2019: 4.9%.
2020: 5.1%.



Observations from 2018 to 2020:

- Overall improvement from average rejection rate of 7.1% in 2018 to ~5% in 2020. This is an improvement of 30% overall.
- This improvement has been stable in 2020 and no sharp increases over 5% have been observed with the exception of January and February (See graphic above green line).

Observations for the year of 2020 alone:

- The reason for samples being rejected due to mislabelling has decreased. This is a direct result of the change in training.
- There is a significant number of samples that are rejected because of illegible writing, smudge ink, unclear spelling … and so on.
- Samples that are not received are classified as rejected.
- For the last 3 months of 2020, there has been an increase number of samples rejected due to haemolysis.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

Suggestions for improvements in 2021:

- Pathology to stop counting the samples that are not received as rejected samples.
- To investigate reason for the increase of haemolysed samples.
- All Wards to standardise the practise of double signing the Compucare request form as part of the double checking process.
- To reiterate the importance of individual double checking of demographic details.
- To achieve 100% competency in all Departments.

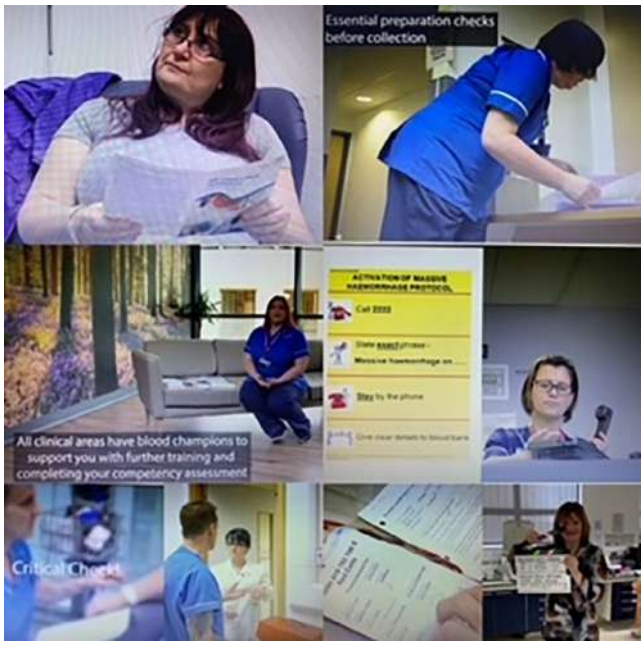
P-07 | A collaborative approach to creating a blood collection training video

Leanne Hostler
Sherwood Forest Hospitals NHS Foundation Trust

Background/Introduction (a brief statement of purpose or why the study was done).
This project was initiated pre covid when all blood transfusion training to nursing and midwifery staff groups was delivered face to face; As a transfusion practitioner at Sherwood Forest Foundation Hospital Trust (SFHFT) I am passionate about delivering training that is based on best practice, interactive, responsive to the needs of staff and inclusive.
SFHFT have designated blood champions, during a champions study day it was suggested by one of the attendees that a training video would support them to deliver training. It was identified that there are excellent national videos for sample and administration but none for collection or MHP activation.
Ideas from champions are encouraged and so following this suggestion a plan was put in place to create such a training resource.
Methods or Study Design (a description of the methods used or work done)

- The Trusts' Clinical illustration department were contacted to discuss feasibility
- A process map of blood collection and return in both the routine and emergency situation were made
- Video Script Planning meetings were arranged with the Trusts' medical Photographer/Videographer and participants to develop the vision and agree expectations, length and intended audience
- Permission sought from the Blood bank manager to film in the laboratory so clinical staff could see what happens 'behind the scenes' when a MHP is called to give them greater insight and understanding.
- An invitation was sent out to all blood champions and laboratory staff asking for volunteers to take part
- To obtain a patient story a communication was put in the staff bulletin
- The haematology day unit manager was contacted to arranged a time when we could use the unit for filming
- Filming dates agreed, undertaken and edited with the medical Photographer/Videographer

Results (a summary of the results observed). The staff who volunteered to take part were from different clinical areas that trust staff could identify with; Maternity ward leader, ITU RGN, Clinical Educator, ED HCA, surgical ward HCA, medical ward RGN, BMS, MLA.



The patient story features a patient who had experienced an ABO incompatible transfusion in 1994, and explains what happened to her and has proved extremely impactful.

The video was completed in January 2020 and planned to be used during face to face blood sessions. However due to covid March 2020, the decision was made that the blood session would be converted to an e-learning package. Having a readymade video was extremely useful during this unexpected time and was readily added to an e-learning package.

The video is currently used during face to face induction training for new staff.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

Having a resource that features staff from your own Trust, following your own local policies from different clinical areas and including blood bank staff has proved engaging, relevant and received good feedback. Including a patient story reinforces the importance of the task and completing all checks and documentation.

The resource has enabled staff to continue to have access to blood collection training when face to face by the Transfusion Practitioner was not possible.

P-11 | The challenges of developing transfusion e-learning packages in an electronic system

Caryn van der Riet, Lauren Hamilton, and Giulia Petrarulo
Oxford University Hospitals NHS Foundation Trust

Background/Introduction (a brief statement of purpose or why the study was done).

Prioritising the safety of patients receiving transfusions while simultaneously addressing the difficulties of ensuring that clinical staff (registered and unregistered) have up to date, relevant transfusion knowledge is a challenge for all NHS hospitals. Moreover, in a system which is unique and fully electronic, where no existing training packages were available, this task proved to be harder. Like most NHS organisations, OUH utilised the Learn Pro transfusion training platform however, this did not address the use of electronic systems which OUH had in place. This created a 'gap' in the training and the challenges of applying theory to practice which became the impetus to review the methods of achieving training compliance which reflected current practice.

Methods or Study Design (a description of the methods used or work done).

The development of a bespoke e-learning package which incorporated all aspects of the electronic transfusion system i.e., safe transfusion sampling, organising the collection of blood components and administering the components at the bedside required stakeholder collaboration and input from the Learning and Education Teams. Additionally, consultation was held with the Transfusion Laboratory, the transfusion link nurses and the wider Blood Safety and Conservation Team. This was to ensure that all aspects of transfusion practice were addressed, and the e-learning packages included the required transfusion theoretical element to improve knowledge.

Results (a summary of the results observed).

- easy access and accurate electronic recording of Blood Transfusion theoretical training for all groups of staff.
- clinical staff were easily able to apply theory to practice.
- highlighted the challenges for the non-registered porters who did not have access to the e-learning platform.
- removed the manual process of running reports from Learn Pro learning and adding the learning onto the OUH learning management system which was previously undertaken by the TP team.
- provided accurate transfusion training compliance figures which could be presented at the HTC/Governance meetings.

P-12 | More haste, less speed? – A delicate balance but potential to reduce unnecessary O D-Negative blood use. Improvements and lessons from a single centre major haemorrhage protocol audit

Ellen Nuttall Musson, Anna Li, Jenny Li, Jipsa Jacob, Mallika Sekhar, and Sam Alimam
Royal Free London NHS Foundation Trust

Background/Introduction (a brief statement of purpose or why the study was done).

Good major haemorrhage (MH) management is life-saving and practice guidance continues to be updated by clinical trials (e.g., the recent HALT-IT trial) and haemovigilance procedures.

Serious Hazards of Transfusion reports highlight the importance of communication between clinicians and laboratory staff to reduce delayed transfusion and that policies should be updated to permit O D-positive (O+) units to be used in emergencies in appropriate patients to reduce unnecessary O D-negative (O−) blood usage.

We present an audit of MHP use in the Royal Free Hospital (RFH), comparing to 2014 MHP audit data and the National Comparative Audit of Blood Transfusion 2018 Audit of the Management of MH.

Initiatives introduced in the RFH since 2014 included a formalised voice prompt from switchboard at MHP activation to call the blood transfusion laboratory (BTL), the introduction of remote issue blood fridges and formalised regular simulations with clinicians.

Methods or Study Design (a description of the methods used or work done).

A retrospective audit of clinical use of the MHP in the RFH in two periods (01 May 2019–31 July 2019 and 01 April 2020–13 September 2020) was undertaken. MH cases were identified through switchboard MHP activation records and BTL records to identify massively transfused patients.

Data were collected from review of the clinical notes, prescriptions and BTL records on O− blood and tranexamic acid (TxA) use in MH.

Analysis was descriptive and Fisher's exact test was used to compare data between audit periods.

Results (a summary of the results observed).

Fifty-five MH cases were identified (mean age 56.9 [range 17–87] years) in a range of geographical locations and anatomical bleeding sites. Fifty-two percent of the MHs were gastrointestinal bleeds.

TxA was administered in 69% MHs compared to 50% in 2014. Txa was given to 75% of patients with gastrointestinal bleeding, with no difference between 2019 and 2020 ($p = 0.66$).

The MHP was activated in 73% of cases compared to 29% in 2014.

Forty-five percent of red cells issued in the setting of MH were from emergency fridges containing O− units.

Forty-seven percent of MH patients received emergency O− blood, compared to 14% in 2014.

The mean time to access O- blood from MHP activation was 2 min.

Eighty-one percent of O− recipients could have received O+ blood on basis of age and sex. Eight of these (17% O− blood recipients) were issued with O− blood from the BTL.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

TxA use in MH has increased. With data from HALT-IT trial recommending against TxA use in gastrointestinal haemorrhage, MH protocols should be reviewed for this patient group.

Since 2014 rates of MHP activation have increased and clinicians have rapid access to emergency blood. There has been a coincidental increase in the proportion of patients receiving O− blood in MH, most of whom could have received O+ units.

The BTL has access to patient demographics on MHP activation and could ensure O+ units are issued if possible when emergency blood is collected from the BTL, to reduce unnecessary O− use. Remote issue fridge software could also be reconfigured to dispense O+ units where patient demographics are recognised by the Lab Information Management System. This needs to be balanced with ensuring that there is no delay in emergency transfusion.

P-14 | O D Negative audit and our war on wastage

Gemma Shiels and Emma Copperwaite
Manchester University NHS Foundation Trust

Background/Introduction (a brief statement of purpose or why the study was done).

The COVID pandemic had a significant impact on national blood stock levels throughout the UK. Donor sessions were reduced due to social distancing, donor availability and reduced resources, which had been rightly re-assigned to the convalescent plasma trial.

The potential COVID impact on national stock levels was a wake-up call. It inspired our Trust to take further in-depth look at our wastage, we wanted to do our part to support national stock levels. The first audit was a retrospective look at January–March 2020 O D negative wastage, which demonstrated some disappointing data.

The challenge was on! Improvements to our blood stock management and continuous auditing was crucial to our war on wastage.

Methods or Study Design (a description of the methods used or work done).

I established a baseline, focusing on O D Negative wastage. This was achieved by carrying a retrospective audit (January–March 2020), on O D negative red blood cell stock and wastage at Oxford Road Campus (ORC) and Trafford General Hospital (TGH).

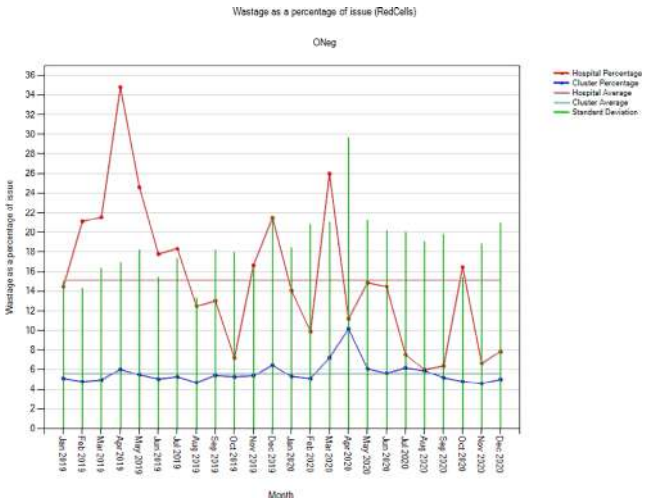
Data was collected from LIMS, Blood Track Manager (BTM) and VANESSA (BSMS). The data was analysed and put into a report to present to the team. The report included stock levels, wastage as percentage issued, reasons for wastage, component type, cost of the wastage and recommendations for improvements.

Following the initial audit, I carried out quarterly audits to monitor progress and suggest further areas for improvement.

Results (a summary of the results observed).

Our wastage was reduced. ORC saw a reduction in O D negative red blood cell wastage as percentage of issued (WAPI) by 6.51% in 2020, compared to 2019. This amounts to 214 units.

Stock levels became leaner. The ISI (issuable stock level index) was reduced from an average of 5.33 in 2019 to 3.97 in 2020. Total monthly issue went from an average of 236 units per month to 216 units per month. This meant we issued 20 units less per month or 240 units less in 2020 compared to 2019. A saving of £36 000.



Graph 1: Demonstrates the wastage as percentage issue from January 2019 to December 2020 taken from BSMS.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

Every unit of Blood issued to our Trust is a precious gift which someone has taken the time to donate. Good Blood Stock Management is a continuous process, it's a team effort, and all laboratory staff have a responsibility to ensure we are doing everything within our power to reduce wastage.

This year has seen a vast improvement to our Blood stock management at ORC. We have many more improvements on the horizon such as expansion of our emergency O D Positive directive, looking at other blood component wastage and working with the BSMS team for further improvement- we are particularly interest in learning good practices from a similar size Trust.

P-15 | Transfusion documentation: A quality improvement project

Sabina Wallace-King, Alex Lloyd, and Andrew Mishreki
County Durham and Darlington NHS Foundation Trust

Background/Introduction (a brief statement of purpose or why the study was done).

Blood transfusion is extremely common, with over 300 across the trust in September 2020 alone. Most transfusions are uneventful however they do carry implications. Perhaps most significantly patients are no longer eligible to give blood, and their ability to have an organ transplant may be affected by new antibodies acquired from the donor blood products.

Consenting patients at the time and ensuring adequately detailed documentation of transfusions is therefore paramount and reflected in current guidance. Trust Policy states 'it should be clearly documented on the patient's discharge summary that they have received a transfusion'. NICE Guidance recommends both verbal and written confirmation of the indication for transfusion, risks and benefits, the transfusion process, any specific needs, alternatives available and that they are no longer eligible to donate blood.

This audit has been conducted to identify whether discharge documentation adheres to guidance, and potential areas for improvement.

- Primary aim: To ascertain whether blood transfusions are being documented in discharge letters as per trust policy.
- Secondary aim: To determine whether discharge documentation (where present) is sufficiently detailed as per NICE Guidance, that is, indication for transfusions, any adverse effects, and future eligibility for blood donation.

Methods or Study Design (a description of the methods used or work done).

Patients receiving blood transfusions in September 2020 were retrospectively identified via transfusion records. Discharge letters were reviewed to ascertain whether the transfusion template had been utilised; and if not, whether there had been mention of the transfusion, the indication, any adverse effects and future eligibility for blood donation.

The following interventions were then implemented:

1. Posters in all doctors' offices across the trust
2. Email sent to foundation trainees

Data was then collected for March 2021 as per cycle 1 and the results were compared to evaluate the effectiveness of interventions.

Results (a summary of the results observed).

	Cycle 1	Cycle 2	Change
Number of patients receiving transfusion	335	307	N/A
Mention of transfusion in discharge letter	77.9%	77.5%	−0.4%
Indication for transfusion	77.5%	74.9%	−0.6%
Adverse effects	42.1%	11.7%	−30.4%
Future eligibility for blood donation	2.1%	11.7%	+9.6%

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

Whilst adherence to trust guidance did not change between cycle 1 and 2, there was a notable increase in compliance with NICE guidelines (2.1–11.7%). Unfortunately this level remains suboptimal and further interventions are therefore required.

Several barriers have been identified to explain the results:

1. Interventions between the cycles were targeted to foundation trainees, however discharge letters are also written by senior doctors and nursing staff
2. Foundations trainees rotate between community and hospital and therefore may not have been aware of guidance circulated
3. Lack of awareness of NICE guidance, leading to hesitancy to document that patients are no longer eligible for blood donation
4. Some patients do not have electronic discharge letters

Next Steps:

1. Communication with departments not targeted by previous interventions
2. Education within induction for the new foundation cohort
3. Improvements to electronic discharge proforma
4. Obstetrics and gynaecology team are to use a new system for patients who have previously not had electronic letters
5. Cycle 3 – to commence September 2021

P-16 | Management of perioperative blood transfusions in an Orthopaedic Unit

Ahmed Elamin Ahmed
Maroondah Hospital, Australia

Background/Introduction (a brief statement of purpose or why the study was done).

Orthopaedic surgeries will often result in significant blood loss intraoperatively, with many patients going on to receive allogenic blood transfusions. Due to the risks associated with blood transfusions, a liberal policy towards them should be avoided. A Cochrane review had showed that the evidence supported the use of restricted transfusion triggers in most patients, including in those with pre-existing cardiovascular disease.

The aim of this study was to assess the adherence of the orthopaedic unit to the guidelines set by the National Health and Medical Research Council (NHMRC), Australia, Practice Point 2:

- RBC transfusion should not be dictated by a haemoglobin 'trigger' alone, but should be based on assessment of the patient's clinical status. In the absence of acute myocardial or cerebrovascular ischaemia, postoperative transfusion may be inappropriate for patients with a haemoglobin level of >80 g/L.

Methods or Study Design (a description of the methods used or work done).

A retrospective study of patients who had undergone surgery on an orthopaedic unit between 01 February 21 and 02 May 21, inclusive of elective and emergency surgeries. The notes were reviewed to establish how many of these patients received a blood transfusion in the perioperative period and if the guidance on transfusions was being adhered to. There was a total of 269 patients who had underwent surgery within this window and included in the study.

Results (a summary of the results observed).

Total number of patients studied were 269, 143 female and 126 male, with a mean age of 56.7. One hundred and fifty-two patients had emergency surgery and 117 had elective surgery.

Total patients who received a blood transfusion were 21 (7.8%), of those there were 11 (4.1%) patients who had a haemoglobin of <80 g/L. There were 10 (3.7%) patients who received a blood transfusion and had a haemoglobin of >80 g/L. Some of these patients received a transfusion because of concern that they had a high volume of intra operative blood loss in the presence of pre-existing cardiovascular disease, however in many cases there was no clear documentation as to why they received a transfusion.

Only patients who had emergency surgery received a blood transfusion and all patients who had elective surgery did not receive a blood transfusion.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

Unnecessary blood transfusions pose an increased risk of complications to patients from transfusion associated reactions. This audit shows that in patients who received a blood transfusion perioperatively in the unit, the guideline, set out by NHMRC, was adhered to in 52.6% of cases.

No elective patients required a transfusion, suggesting that those patients who are being operated on in an elective setting are being adequately optimised preoperatively to reduce the chance of requiring a blood transfusion, through means such as iron transfusions.

This data has been presented at the unit meeting, with the recommendation to improve adherence to the guideline set out by NHMRC. For patients who receive a transfusion with a haemoglobin above the threshold, there should be a documented reason to explain why it was clinically necessary.

P-17 | Promoting a haemovigilance reporting system and letting go the witch-hunt stigma

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Centro Hospitalar de Entre o Douro e Vouga, E.P.E, Portugal

Background/Introduction (a brief statement of purpose or why the study was done).

Adverse events, incidents and 'near misses' in clinical areas and transfusion laboratories must be detected and analysed towards preventing recurrence, thus improving the safety of blood transfusion. Reporting these untoward events, to the local institutional haemovigilance expert, is a responsibility of all healthcare staff involved in the transfusion chain and engagement in monitoring and reporting is crucial for a robust haemovigilance program.

The purpose of this review is to explain what tools we developed inwards increasing haemovigilance report.

Methods or Study Design (a description of the methods used or work done).

Short-, medium- and long-term goals as well as priorities for improvement actions were established and three health care professional groups (laboratory staff, nursing staff and medical doctors) were identified as the main vector in haemovigilance report.

Results (a summary of the results observed).

The short-term goals were to promote the long-time forgotten electronic error reporting system in our hospital as a voluntary tool, either by anonymously or identified credentials reporting. Moreover, paper reporting forms were developed and made available among laboratory staff to enhanced incident and near misses reporting.

Medium-term goals were to provide, by a hospital transfusion medicine expert, monthly Transfusion Medicine and Haemovigilance training, which were organised as 3-h courses targeted towards personnel working in different medical and surgical departments as well as laboratory professionals.

An electronic transfusion medical record implemented as a clinical decision support system with best practice alerts and step-by-step transfusion monitoring process was developed. This long-time measure aimed to curtail inappropriate and potentially injurious transfusions by providing on-time best practice guidelines to medical staff who were ordering the blood products. It is also a mandatory tool, used by laboratory and nursing staff, for bedside patient's condition, vital sign observations and adverse events reports.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

Energy and effort devoted to increase awareness of transfusion, haemovigilance and error report should be focused on making transfusions safer. A recognition of the role of each link in the transfusion chain is of most importance and engaging in a coercive and robust reporting system is a process that is part of the effort to build a culture of safety and move beyond the culture of blame.

P-18 | The impact of the introduction and roll out of BloodTrackTx® and the two sample rule

Stephanie Ferguson
Leeds Teaching Hospitals NHS Trust

Background/Introduction (a brief statement of purpose or why the study was done).

The aim of this Quality Improvement project was for 80% of all transfusion samples received in the Blood Bank laboratory to be labelled using an electronic blood tracking and labelling system within a 12 month roll out period.

The objective was to improve patient safety and the transfusion experience for patients by streamlining the transfusion process. This will be

done through the removal of stages within the process currently identified to be associated with 'waste' and high levels of risk potential.

By reducing the number of rejected transfusion samples due to labelling errors, staff and patients will have the ability to manage appointments, treatments and episodes of care in a more effective, efficient and patient-centred way.

Methods or Study Design (a description of the methods used or work done).

The Hospital Transfusion Team identified Clinical Service Units (CSUs) who were deemed to be high volume users of the Trust transfusion services. This enabled the team to plan the initial roll out and training schedule of BloodTrackTx® for sample collection and labelling.

The Pilot CSU was Oncology, whose data was gathered and analysed for this project. Data was gathered using the Telepath system.

Initial data gathering was for the time period of 12 months from June 2019 to May 2020 and combined data for samples which were rejected due to a labelling error and samples which were rejected as a valid sample was already held.

As the BloodTrackTx® training roll out into the CSU was delayed and did not commence until August 2020 the data points had to be changed and reduced to enable a more accurate and timely analysis of comparison data. October 2019 to February 2020 and October 2020 to February 2021 was chosen.

Results (a summary of the results observed).

This data demonstrates that 25% of sample rejections between 01 October 2019 and 29 February 2020 were due to a labelling error.

This comparison data from 01 October 2020 to 28 February 2021 demonstrates that the percentage of sample rejections due to a labelling error remains at 25% as a whole, however it is important to note that there were a significantly reduced total number of samples rejected in this comparison data capture. Direct comparison between rejected samples due to a labelling error shows a reduction of 45%.

The HTT have also received positive feedback about the electronic labelling system from the patients, with one patient expressing that they felt safer with staff now using the electronic system compared with the previous method of handwriting sample tubes.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

In conclusion the implementation of an electronic labelling system for blood transfusion samples has significantly reduced the volume of labelling errors. This demonstrates an improvement in patient safety in the identification process and the obtaining and labelling of a transfusion sample.

Patient feedback also supports the findings that patient experience has also improved.

P-19 | 'How it started vs How it's going' A tale of inducting transfusion practitioners in haemovigilance (NHS Scotland)

Karen Smith and April Molloy
Scottish National Blood Transfusion Service

Background/Introduction (a brief statement of purpose or why the study was done).

'How It started'

During 2003 the Better Blood Transfusion Programme (BBTP) was established in NHS Scotland. Included in its remit to promote active participation in the UK haemovigilance systems. For the then, new Transfusion Practitioners, supported CPD sessions and experiential learning, consisting mainly of 'see one, do one, teach one' or 'have a go' became the customary path from novice to expert.

'How it's going'

Fast forward to 2020/21 the SNBTS Transfusion Team (formerly BBTP) finds itself much reduced in both numbers and experienced team, as half of the Transfusion Practitioners are new to post. The customary path from novice to expert was no longer fit for purpose and an induction pathway was required to ensure the newer team members were educated, trained, competent, confident and operational subject matter experts.

Methods or Study Design (a description of the methods used or work done).

An Education Short Life Working Group (ESLWG) was established to provide a whole job induction package in 5 months. Due to time constraints handed the task of developing and providing Haemovigilance Induction package to the existing Haemovigilance Working Group (HWG).

Pragmatically the HWG utilised a standard Training Needs Analysis to determine what was required for new and incoming Transfusion Practitioners to become proficient and support them acquiring a detailed level of knowledge and understanding that would develop over their first year in post.

The HWG utilised every resource available to them to create the SNBTS TT Haemovigilance Induction package incorporating a wealth of SHOT resources, developing and update of in house Incident Management Process Map and Guidance; SNBTS TT Incident & Reaction Investigation Forms; ServiceNow training (the portal that SNBTS TT used to collate events, reactions and near misses); Duty of candour process and CPD. Notwithstanding signposting to each NHS Boards risk management training requirements.

Results (a summary of the results observed).

The SNBTS TT Transfusion Practitioner Haemovigilance Induction Guideline and package was gestated and born.

The Haemovigilance Induction Guide incorporates a blend of resources and a wealth of experience. It signposts new TPs towards specific directed reading, actions, learning and webinars; mandatory e-learning; recorded MS Teams CPD sessions; in house training, presentations and case studies; as well as clear concise communication and engagement skills, effective listening, and effective record

keeping. In total provides 40 h of blended learning and skill development with designated timescales for completion.

Each new TP is designated a named Buddy (generally an experienced TP) as well as having the immediate support of their Regional Team members as they progress from novice to expert.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

The Transfusion Practitioners job is far busier and more complex than it was in 2003. Many facets are now imbedded into practice for patient safety. The advancement of understanding of regulatory requirements and quality management systems have also contributed to the requirement of a formal haemovigilance induction pathway.

The evolution of the customary path from novice to expert has come a long way from the days of 'see one, do one, teach one' to the development of the Haemovigilance Induction Guide.

It is too early to test its efficacy, although initial qualitative feedback is very positive.

Additional developments are in the pipeline to cement a once for Scotland approach to induction.

P-20 | Developing intuitive investigation forms

Karen Smith, April Molloy, and Vanessa Rodrigues
Scottish National Blood Transfusion Service

Background/Introduction (a brief statement of purpose or why the study was done).

In recent years SNBTS Transfusion Practitioner (TP) numbers have diminished while focus towards a regional way of working was established. While each NHS Scotland (NHSS) Health board has an identified TP, in order to provide resilience to all NHSS Health boards the same TP also covers a wider geographical area often with multiple sites and locations. Consequently, a more remote way of working was getting established. Then in March 2020 SARS-Covid 19 struck! This immediately halted access to clinical areas; and thus in areas where electronic records were not available, halted access to the clinical areas, staff and patients case records.

In NHSS TP's and Hospital Transfusion Teams found they were struggling to elicit full and relevant information required to complete incident reviews from multiple sites. While most Hospital Transfusion Teams were using SHOT questionnaires for each relevant event/reaction they were finding multiple communications were required to gather the smallest piece of information and often senior staff in clinical areas, for example, Charge Nurses, Consultants, Clinical Directors and Managers were overwhelmed and struggling to translate clinical information to incident reviews.

The TPs recognised a need to simplify interactions between Transfusion Practitioners investigating clinical reactions and events and the clinical teams caring for the patient to ensure timely, appropriate information gathering and reporting that was time efficient for Transfusion Practitioners and to assist senior staff in clinical areas understand what was required from them.

Methods or Study Design (a description of the methods used or work done).

The SNBTS Transfusion Team Haemovigilance Working Group applied a Plan-Do-Study-Act (PDSA) test of change cycle following analysis of NHSS Service-Now clinical incident trends available from all NHSS health boards. This identified seven common recurring incident trends (Anti-D, ADU, HSE, ICBT – SRNM, RBRP, WBIT and TRALI/TACO).

The group then utilised the information from the relevant SHOT questionnaires in addition to applying an understanding of the clinical thought process to produce bespoke Incident investigation forms, which facilitate straightforward information gathering and review. These are in MS Word format that are easily pre populated prior to sending and are readily attached to incidents in local Risk Management Systems.

Results (a summary of the results observed).

The SNBTS TT Haemovigilance Group produced nine Incident Investigation Forms. These forms lay out information requests in an intuitive manner for clinical teams to record information and findings.

No quantitative data is available yet however qualitatively clinical teams and TP's have found it has greatly simplified the existing process.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

The SNBTS TT Haemovigilance Group found the Incident Investigation forms facilitate straightforward information gathering during review of reactions and events, reducing the requirement for multiple requests from near or remote sites.

When the TP job role was first created the TP's were deemed the link between the laboratory and clinical areas often translating one discipline to the other. Nowadays, we find ourselves in a similar situation regarding Haemovigilance and as such these small measures have potential for a collaborative approach where we take Haemovigilance to the wards in place of perceived impositions.

P-21 | Introduction of O D positive red cells within Adult Emergency Department

Sarah Pendlebury and Carmel Parker
Manchester University NHS Foundation Trust

Background/Introduction (a brief statement of purpose or why the study was done).

Oxford Road Campus Hospitals (ORC) at Manchester NHS Foundation Trust (MFT) is a collection of busy inner-city teaching Hospitals, which provide regional trauma and critical care services. O D Negative RBC are a limited resource and are in constant demand nationally, O D negative donors make up around 7% of the donor population while Hospitals stock an average of around 12–13%. Hospitals are asked to keep their issues to below 12.5%.

ORC issued a total of 2832 O D Negative units or 12.56% of total issues in 2019. To reduce our reliance on O D Negative, to support regional stock levels, and to preserve O D Negative for those patients

with the greatest need we implemented a key recommendation from the National Blood Transfusion Committee (NBTC), appropriate use of O D Negative red cells (2019): This was use of emergency O D Positive units.

From Monday 21st September, O D positive emergency RBC were made available in the Adult Accident and Emergency (A&E) department blood fridge and from the Hospital Transfusion Laboratory. The satellite A&E units were introduced for males aged 18 years and over only, while the Transfusion Laboratory extended this provision to females over the age of 50 as part of the Major Haemorrhage pack whilst awaiting the patients blood group. O D Negative emergency units would continue to be available for males under 18 years, females under 50 years and for those patients whose gender was unconfirmed.

Methods or Study Design (a description of the methods used or work done).

To ensure successful implementation the transfusion practitioner team with the support from the A&E senior clinicians and practice-based educator devised a comprehensive and intense training plan.

This included bespoke training materials delivered across all shift patterns to all grades of staff.

This change in practice was incorporated into existing training and was included as an addition to the collection competencies undertaken by the clinical and portering staff.

Results (a summary of the results observed).

The process change was implemented successfully both in the A&E and the Transfusion Laboratory. O D Negative as percentage total issues has averaged at around 11.97% since go live (October 2020–April 2020).

Since implementation, 180 O D Positive emergency units have been issued to males aged 18 years and over. Of these 171 units were transfused during Major Haemorrhage activations. At the same time seven O D Positive emergency units were issued to females over the age of 50 as part of the Major Haemorrhage packs.

Major Haemorrhage activations during this time were predominantly for adult males over the age of 18.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

This has resulted in a stronger working relationship between the Transfusion teams and clinical staff which has empowered the department in the management of emergency blood transfusion. This has provided re-assurance for the staff that all patients within their department have appropriate blood available for their needs.

Following the successful launch and implementation this project will be cascaded across the multiple acute hospital sites. The next department to participate in the ongoing project is the acute adult theatres department.

P-22 | Comparison of FFP wastage 2018 and 2020

Lynne Balderstone
Maidstone & Tunbridge Wells NHS Trust

Background/Introduction (a brief statement of purpose or why the study was done).

As part of the GIRFT programme the comparison between the wastage levels of FFP in 2018 and 2019 at Maidstone and Tunbridge Wells (MTW) NHS Trust and the rest of our STP group showed an unusually high level of wastage at MTW. This audit was carried out to determine the cause of this high level and to determine if there were any actions that could be implemented to reduce the amount of wastage found.

Methods or Study Design (a description of the methods used or work done).

Lists were run in the LIMS to pull a record of all FFP wasted in 2018, 2019 and 2020. Each incident of wastage in 2018 and 2020 was then examined to determine:

- The reason for the request.
- The Medical Speciality responsible for the patient.
- How many units of FFP were requested for the patient.
- How many of the issued units were used/wasted.

Results (a summary of the results observed).

Wastage of FFP has reduced from 32.1% to 14.8% with the biggest reduction being seen in Obstetrics (45% of units wasted to 12%) and in A&E (40% of units wasted to 20%).

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

There have been some significant reductions in the wastage of FFP particularly in A&E and Obstetrics. The reduction in Obstetrics is more than likely due to a change in practice with patients who are suffering from Post-Partum Haemorrhage in that FFP is no longer used early on in the bleed and so if FFP is requested then it is more than likely due to the patient suffering a catastrophic bleed and subsequently a higher percentage of the FFP that is issued is used.

The reduction in wastage from A&E is more than likely due to the better management of Code Reds in that area. Unfortunately, there will always be some wastage of FFP in Code Reds due to the unpredictable nature of massive haemorrhage and the necessity to have blood components available asap and sometimes before detailed haemostasis results are available.

P-23 | Bloody errors – How humans are hardwired to make mistakes

Juliet Smith
University Hospitals Birmingham NHS Foundation Trust

Background/Introduction (a brief statement of purpose or why the study was done).

The root cause of many adverse events in healthcare is attributed to "human factors". Processes can be changed to reduce the possibility of mistakes, but no system is completely human proof. While competency assessing staff and investigating errors it became apparent that staff can follow the procedure but still make mistakes when verbally or visually confirming the patient identity. Furthermore, when the error was highlighted to the staff member, they demonstrated confusion or disbelief it had occurred. It was felt that the reason for this should be investigated to identify if there were amendments that

could be made to the training to reduce the possibility for these type of "observational errors" to occur.

Methods or Study Design (a description of the methods used or work done).

A literature search was conducted to identify if there are any sociological/psychological explanations for the inability to recognise inconsistencies in patient details.

Results (a summary of the results observed).

There were several theories which help to explain why staff are unable to spot discrepancies. The concept of Sensory Gating (Hetrick, Erickson and Smith, 2012) details how the unconscious mind filters sensory inputs which it feels are irrelevant or, more importantly in this context, in conflict with the expected input to protect the brains higher order functions. The work of Levin et al. (2002) demonstrates in real world examples how the brain can be blinded to quite significant inconsistencies, even when the subject appears to be paying attention. When we think of how we may approach a patient and check their wristband we already have an expectation of what they are going to say, this is called priming and when combined with sensory gating and the theory of Heuristics (Kahneman, 2011) which details how we use the information around us to make predictions of the future, it becomes more understandable how a clinician may ask the patient to state their name and DOB and not notice when the information is not a match. In short, clinicians may be unable to hear or see the difference because on occasions the brain will only hear or see what it is expecting to.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

It appears that there are additional factors which may cause a clinician to not identify a discrepancy within the patient's ID details. Awareness of this should be incorporated into training to equip clinicians with the skills to recognise points at which their capacity to accurately confirm details may be hindered. It is possible to make suggestions of techniques to reduce the possibility that errors may not be noticed but a study should be completed to identify if these are effective.

P-24 | TEAMS Time - TEAMS Teaching from Incidents using Multidisciplinary Education

Caroline Lowe and Terrie Perry
Milton Keynes University Hospital

Background/Introduction (a brief statement of purpose or why the study was done).

Incidents in transfusion require feedback to those involved and learning within the wider Trust. Often lessons learned get disseminated to a few staff and the importance of learning from incidents can be overlooked. With movement about the hospital restricted during Covid it became even more difficult to get the learning out to staff. Ward managers were helpful and included changes and recommendations in morning Huddles (when these were allowed) or in departmental newsletters/ WhatsApp groups. However, we had no way of knowing who had read the information and similar incidents were reoccurring. We needed another way to get information out to staff and the answer came to us whilst on a Teams call – why do not we use Teams?

Methods or Study Design (a description of the methods used or work done).

An incident was reported relating to major haemorrhage activation (MHP) and during the investigation it became apparent that most of the staff on the ward were unclear about the activation process and communication with blood bank was poor. We really needed to do a MHP teaching sessions with all the staff on that ward and Biomedical scientists (BMS) which in normal times would be virtually impossible and during Covid pandemic was impossible. The solution was to produce a PowerPoint presentation, invite all the staff via Teams to attend the Teams presentation and we booked six 30-minute meetings on various dates and times. Most staff accepted the invitation and we had between 4 and 10 staff at each session. Staff were able to attend from work or home, useful as many were isolating due to Covid requirements, and one attended from her car in the hospital car park using her phone! The presentation was delivered live but also recorded so it could then be shared with other staff unable to access on the dates and times provided. At the end of the presentation a 10-min question and answer slot provoked discussion including appreciation of jobs roles during a MHP activation this enabled the transfusion practitioners to tailor the presentation for the next session.

Results (a summary of the results observed).

The trial delivering learning from incidents via this method was 100% successful. The ward manager liked this method as she could see who had attended and remind those that had missed a session to book on to another. The lab staff got an understanding of pressures in the clinical area, and the clinical staff learned about the Biomedical scientist (BMS) role. It was beneficial to have these small sessions and to discuss specific details with staff and staff felt comfortable talking and sharing experiences. Another benefit is that we can with confidence know who has received the feedback and learning from an incident. The presentation is available to be used by other wards as and when required.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

We have decided to continue with this use of TEAMS to disseminate learning from incidents and will shortly be doing sessions on transfusion reactions as an action from a recent incident. This use of TEAMS is an example of how we have advanced shared learning from incidents.

P-25 | Easy and quick access to relevant local transfusion learning

Caroline Lowe and Terrie Perry
Milton Keynes University Hospital

Background/Introduction (a brief statement of purpose or why the study was done).

In March 2020, all face-to-face mandatory teaching was suspended in the Trust due to the Covid pandemic. However, many staff who had been office based were now recalled to the frontline and needed urgent updates on safe practice of Blood Transfusion. The obvious choice was eLearning and the national courses. The bigger challenge was to bring these staff up to date on local transfusion practice.

Methods or Study Design (a description of the methods used or work done).

We decided that the easiest way to do this was to record voice over our classroom presentation slides. This was a relatively easy process as we had just had our computers upgraded and used Office 365. We looked through each presentation, wrote the narrative to each slide and then recorded. To confirm that staff understood the content we added 12 multi choice questions (MCQs) to be completed and 100% achieved to pass the eLearning. Local videos on sampling and the Serious Hazards of Transfusion (SHOT) Pre-administration Blood Component Transfusion Bedside Check video are also included in each package and these must be watched to allow progression to the next slides.

Now we had to work out how to make the presentation accessible to staff. The library at the Trust uploaded our new eLearning with voice over to the Electronic Staff Record (ESR) system which is used by staff to access all statutory and mandatory training. We tested the eLearning, once available on ESR, and it worked well with some minor changes in the order slides were shown. All wards were informed of this new way to access and complete transfusion theory and the learning went live.

Results (a summary of the results observed).

Previously staff had to attend a 90-min classroom session. It is now possible for staff to complete their transfusion mandatory training with local practice information in 40 min. We can now use ESR for checking our eLearning courses and can see if staff have enrolled in the course, failed the course, attempted the course or passed.

Going forward we will be required to update the packages and currently we review every 6 months and make changes as required. Staff feedback is positive and new starters like that they get an introduction to transfusion a few weeks before they attend for competency assessments.

To date we have 12 eLearning packages uploaded on ESR covering transfusion and local practice ranging from induction for new staff to a package for foundation doctors and paediatric nursing staff.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

As Transfusion Practitioners we had often talked about doing this type of teaching and if the Covid pandemic had not happened we would still be talking about it. Our transfusion mandatory training compliance is 89% currently.

The real benefit to using this method of teaching is we have more hours now to do other Transfusion Practitioner activities and can check transfusion compliance at the touch of a button.

It's a win win!!

P-26 | Errer spoting

Terrie Perry and Caroline Lowe
Milton Keynes University Hospital

Background/Introduction (a brief statement of purpose or why the study was done).

After an incorrect collection process of a unit of blood from the blood issue room led to a patient being transfused with a whole unit which had been issued for another patient on another ward we felt that, perhaps, our collection teaching was not robust enough as the error should have been noticed at the collection from the blood fridge stage. Our collection system is Haemonetics' BloodTrack – the unit is scanned and details on the traceability tag are checked with those which then appear on the scanner screen.

NBTC (National Blood Transfusion Committee) practical competency of collection of blood, as recommended in BSH guidance 2017, is completed with all our staff before they are given barcode access to the blood/blood component issue room and fridge. The competency includes checking that the correct component has been collected, for example, platelets/red cells and so on, the expiry date of the component and matching of the four main identifiers between the collection documentation and the traceability tag. We already had matching of the long donor number on the bag and traceability tag as transposed tags by laboratory staff are not unknown and after a recommendation in the Serious Hazards of Transfusion (SHOT) 2017 annual report we added checking that the group of the unit and patient are compatible.

Methods or Study Design (a description of the methods used or work done).

This meant that, after the obvious check between the traceability tag and scanner screen, five further checks were required. We described these checks in different ways until we had the starting letters of each that would form a word and came up with PLEDGE, the final E giving instructions to exit once all checks are complete.

PRODUCT – have you collected the correct one, for example, red cells, platelets, FFP, cryo?
LONG "GO" DONOR NUMBER – are they the same on the bag and the tag?
EXPIRY DATE – is the product in date?
DOCUMENTATION – do the patient details on the tag match those on your paperwork (collection form/prescription)?
GROUP COMPATABILITY – is the blood group of the unit compatible with the patient's blood group?
EXIT – you may leave this area if you have done the above five checks.

This, with the addition of pictures, was made into an A5 poster for the blood issue room door and a smaller version was placed on the bench used for signing and dating the collection documentation.

Results (a summary of the results observed).

Although hard to measure the effect of this intervention because of the low number of Right Blood Right Patient (RBRP) and IBCT (Incorrect Blood Component Transfused) errors in the Trust we have found the PLEDGE checks a useful way of teaching good blood component collection technique and staff have been seen referring to the poster.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

A robust collection process could pick up more than 40% of RBRP errors (SHOT 2020) not picked up at the bedside pre-administration check and so could prevent many RBRP and RBRP near miss errors reported to SHOT year on year.

P-27 | Is prothrombin complex concentrate being used NICEly at Royal Cornwall Hospital?

Abigail Parsons
Royal Cornwall Hospitals NHS Trust

Background/Introduction (a brief statement of purpose or why the study was done).

Prothrombin Complex Concentrate (PCC) usage, issued as Beriplex, at Royal Cornwall Hospitals NHS Trust (RCHT) was audited in accordance with NICE guidance NG24 and local policy, examining appropriateness of use and correction of the international normalised ratio (INR).

Methods or Study Design (a description of the methods used or work done).

One hundred and seventy-three PCC issues in 2019 were examined for clinical indication, anticoagulant, patient speciality/location and associated monitoring of the INR. Following introduction of corrective measures, audit was repeated in 2020 (137 issues).

Results (a summary of the results observed).

In 2019, 5.2% of PCC was inappropriately prescribed for patients on low molecular weight heparin (LMWH), contrary to guidelines. Following introduction of corrective measures, in 2020, no further PCC was issued to correct LMWH.

PCC use for Direct Oral Anticoagulants, predominantly anti-Xa, continues to increase (up 22% from 2019 to 2020) in conjunction with decreased PCC requests to correct Warfarin (42% in 2020, reduced from 53%, 2019).

Nine percent of PCC issues in 2019 were for coagulopathic patients not receiving anticoagulant therapy; reduced to 3% in 2020.

Ninty-four percent of PCC prescribed for warfarinised patients at RCHT in 2020 complied with guidance around clinical indication; 40% for severe bleeding, 33% for head injury with suspected intracerebral haemorrhage (ICH) and 21% for emergency surgery where the clinical situation was too urgent to rely on vitamin K.

Seventy-two percent of 2020 PCC requests were from the Emergency Department, comparable to 70% in 2019. However, unlike previously, the remainder were issued for a variety of wards.

Ninty-eight percent of warfarinised patients in 2020 had INR results available before PCC issue; average INR value 4.2, median 3.3. Only one warfarinised patient had no current INR pre-PCC; since an ICH, this complied with guidance around avoiding delay. No warfarinised patients had pre-PCC INRs already in the normal range 0.8–1.2.

Excluding five cases where patients deceased and one immediate transfer to Major Trauma Centre, 18% of warfarinised patients (with pre-PCC INRs ranging from 1.5 to 3.9) had no follow up INR samples post PCC administration in 2020, contrary to NG24. Post-PCC INR values for warfarinised patients ranged from 0.8 to 3; the average post-PCC INR was 1.2, median value also 1.2. 25% of warfarinised patients had post-PCC INRs above the normal range, an increase of 11% from 2019.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

Following the initial findings in the 2019 audit, quality improvement measures including introduction of PCC-issue sticker completed by the BMS and a visual prompt poster in stock fridge were implemented, which subsequently demonstrated a marked improvement of appropriate use of PCC within RCHT in 2020.

We have identified that further actions and education are required to improve monitoring INR normalisation, namely addressing post-PCC INR sample taking. Patient weight used to determine PCC dose in conjunction with INR is often estimated, likely explaining INR not always sufficiently corrected in warfarinised patients, highlighting the importance of follow up samples as per guidelines.

It was noted that in 2020, PCC requests were from a multitude of wards, probably resultant of COVID-19 effecting distribution of patients and therefore specific training that has previously focused on the Emergency Department and Same Day Emergency Care should be expanded.

P-28 | National Transfusion Record – "Once for Scotland"

National Transfusion Record – "Once for Scotland"

M. Rowley, C. Izatt, L. Fraser, J. Gardiner, A. Marshall, and A. Ireland
Scottish National Blood Transfusion Service

Background: All NHS Scotland (NHSS) health boards have previously implemented localised versions of transfusion records based on the previously available NHS Healthcare Improvement Scotland (NHSHIS) (2008) risk assessed record.

At the Scottish Workforce and Staff Governance (SWAG) Committee on 7 June 2017 it was agreed that there was a clear rationale for moving to a single policy position with the development of 'Once for Scotland' Workforce Policies. 'Once for Scotland' purpose of future policy review exercises to be to create single, standardised policies that will be used consistently and seamlessly across NHS Scotland (NHSS).

Aim: To develop and implement a National Transfusion Record (NTR) to be used to authorise all patient transfusion episodes, provide

guidance and support for staff through the blood transfusion administration and monitoring processes, to ensure patient safety.

To influence the implementation of the SNBTS TT NTR in NHSS Health Boards if not 100% NHSS Boards.

To distribute the NTR to all wards, clinical areas and all patient groups that transfuse or have the potential to transfuse patients across Scotland. This includes adults and paediatrics patients. This distribution covers the whole of NHSS whilst ensuring staff in each area comprehend how to use the NTR, including Community Hospitals, Hospices and Hospital at Home services.

To ensure smooth transition between NHSS Boards current local version of the Transfusion Record to that of a standardised NTR.

Method: Pillar group established with SNBTS TT to develop a NTR.

Boards across NHSS asked to provide local version of transfusion records for review.

A four page template was designed to incorporate a pre-transfusion risk assessment for TACO, SaBTO recommendations on consent for blood transfusion and BSH Guideline for Management of Transfusion Reactions.

Develop fact sheets to aid staff in the use of the NTR.

Develop Implementation plan to ensure a smooth transition from local versions.

Draft versions sent out to all key stakeholders for review and comment.

Results: The development of a four page NTR and Continuation Sheet utilising the NHSS 'Once for Scotland' approach, the SNBTS TT have developed a standardised NTR benchmarked against UKBSQR, British Committee for Standards in Haematology (BSH) Guidelines, SHOT Recommendations to ensure a consistent standard across Scotland.

A National document to be used to authorise all patient transfusion episodes across Scotland.

A NTR that guides staff through the decision to transfuse, the consent process and supports safe blood transfusion administration and monitoring.

A flow chart for initial response to transfusion adverse events.

SNBTS TT fact sheets.

Supported by Scottish Clinical Transfusion Advisory Committee (SCTAC).

Conclusions: While this change to practice generates much discussion locally, we are confident that the NTR will be accepted by the majority of Boards and will be used consistently and seamlessly across NHS Scotland.

Acknowledgements: Scottish Clinical Transfusion Advisory Committee (SCTAC).

Scottish Workforce and Staff Governance (SWAG) Committee.

BSH Guidelines.

SHOT.

P-29 | Maintaining a continuous programme of support and education for hospital transfusion laboratory professionals during the SARS-CoV-2 pandemic

Danny Gaskin, Selma Turkovic, and Anas Nasir

NHS Blood and Transplant

Background/Introduction (a brief statement of purpose or why the study was done).

Implementation of stringent infection prevention and control measures, including social distancing, created a significant challenge for laboratories to maintain an on-going programme of training, education and continuing professional development for professionals working in blood transfusion during the SARS-CoV-2 pandemic.

The NHS Blood and Transplant (NHSBT) PBM team developed a remote, free at the point of access education group, open to newly qualified biomedical scientists and those new to transfusion science. Meeting monthly, an industry expert speaker is invited to deliver a lecture on a specialist area of blood transfusion before opening the session for discussion between delegates and speakers. The curriculum is flexible and reactive to feedback from delegates and considers key industry recommendations, such as those published in the 2019 SHOT annual report.

Methods or Study Design (a description of the methods used or work done).

We have received 650 registrations to join the Biomedical Scientist Empowerment and Discussion Group. The membership spans the whole United Kingdom, as well as Ireland and overseas. We invited the delegates that attended the sixth meeting of the group to respond to a short survey. Seventy-two delegates responded.

Results (a summary of the results observed).

62.5% ($n = 45$) respondents felt that blood transfusion training time been reduced or difficult to facilitate during the last 12 months, due to the SARS-CoV-2 pandemic. 98.61% ($n = 71$) respondents felt that the education provided during these sessions enabled them to provide a better service to patients and service-users.

Conclusions (a statement of the conclusions based on the reported results, including any recommendations).

By operating remotely, we were able to maintain a continuous programme of support and education for hospital transfusion laboratory professionals during the SARS-CoV-2 pandemic. As a result, delegates felt empowered to provide a better service to patients and service-users. This accessible, cost-effective and successful model should be considered by other organisations working within other pathology specialisms to enhance individual and service performance.

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TRANSFUSION MEDICINE WILEY

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