

# Serious Hazards of Transfusion

Project title = **Serious Hazards of Transfusion, the UK Haemovigilance Scheme**

PEN category = **Measuring, Reporting & Acting (incorporating Turning it Around)**

Names of presenter and contributors: **Presented on behalf of the SHOT team and SHOT Steering Group by Dr Shruthi Narayan, SHOT Medical Director**

Organisation name: **Serious Hazards of Transfusion**





# Outline





**The basic premise of a national haemovigilance system is the development of a coordinated approach to the continuous improvement of the safety, availability and appropriate use of blood and blood components and related activities across all organisations involved in the transfusion chain**

# Haemovigilance system- key aspects

Haemovigilance is not just collecting data- it must contribute to improvement

## Coverage

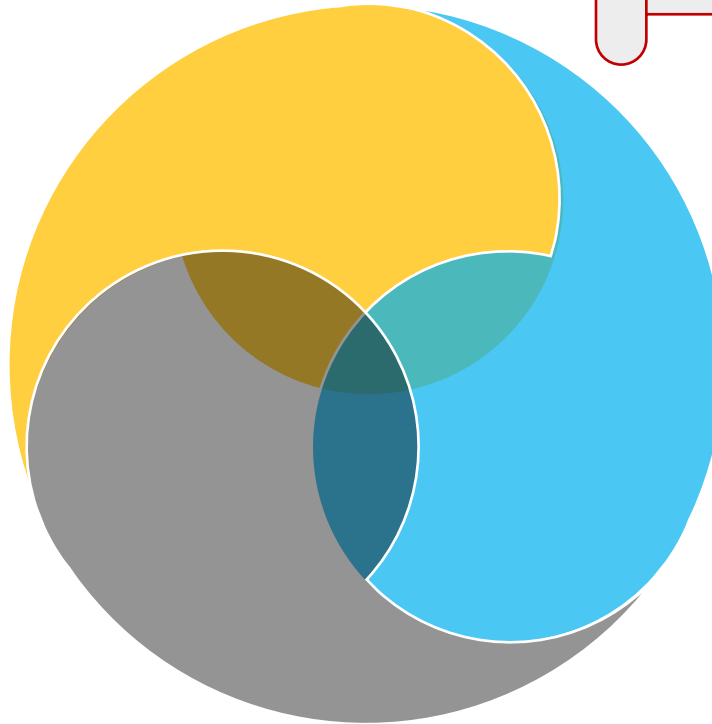
Everyone participating

## Valid, accurate and reliable

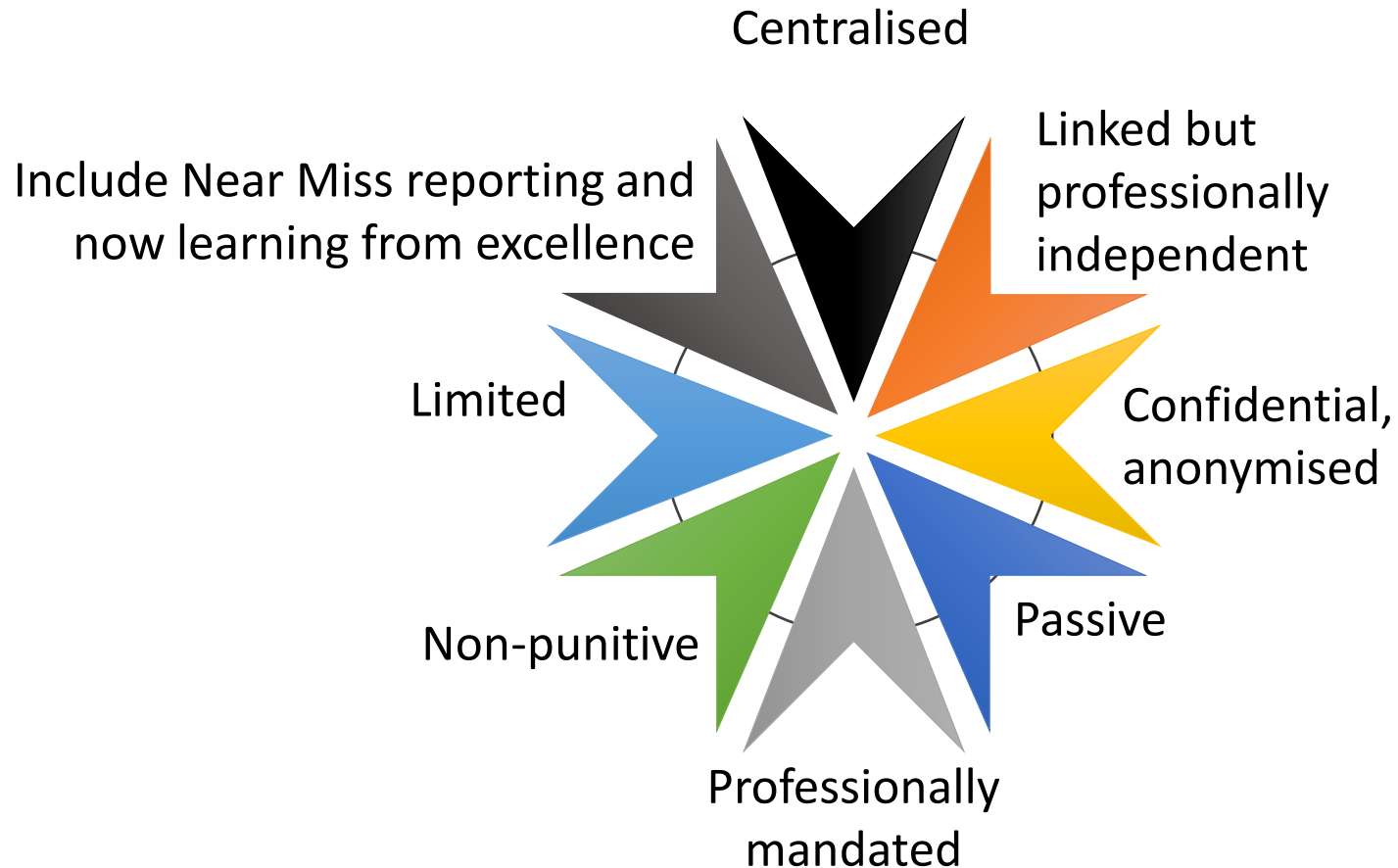
Reliable and accurate information collected and reviewed by experts

## Report and recommendations

Distilling intelligence from the reports and making meaningful and practical recommendations



# SHOT – The UK haemovigilance system



Data collection started as a paper based system



And gradually moved to an online data collection system



SHOT collects and analyses information on transfusion reactions and adverse events from all healthcare organisations in the UK that are involved in blood transfusion



This includes transfusion of red cells, plasma, cryoprecipitate and platelets. Additionally SHOT has been collecting errors related to Anti-D Ig administration, immune anti-D cases and errors related to prothrombin complex concentrates



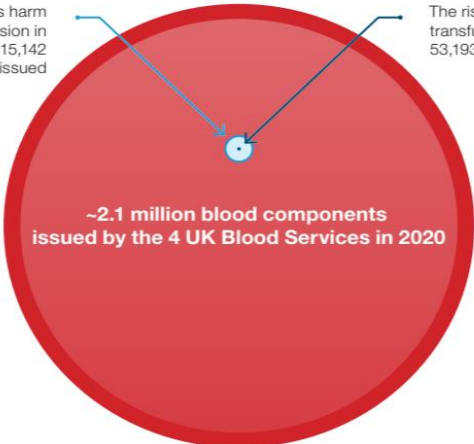
SHOT is funded by the 4 UK Blood Services and is affiliated to the Royal College of Pathologists. Its activities are overseen by a Steering Group whose membership includes representatives from the Royal Colleges (medical and nursing) and other specialist societies



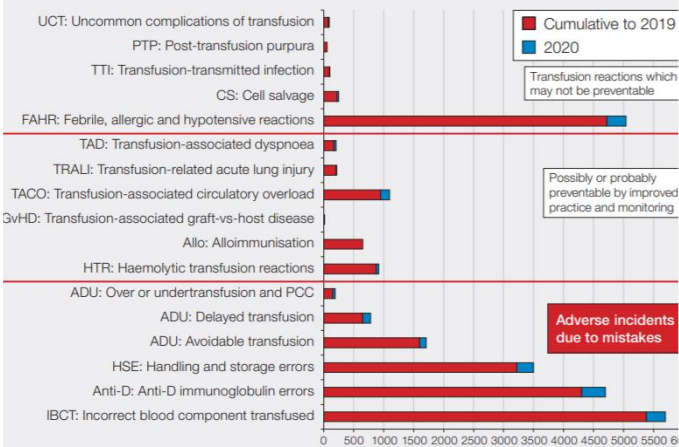
# Providing assurance regarding transfusion safety in the UK

The risk of serious harm related to transfusion in the UK is 1 in 15,142 components issued

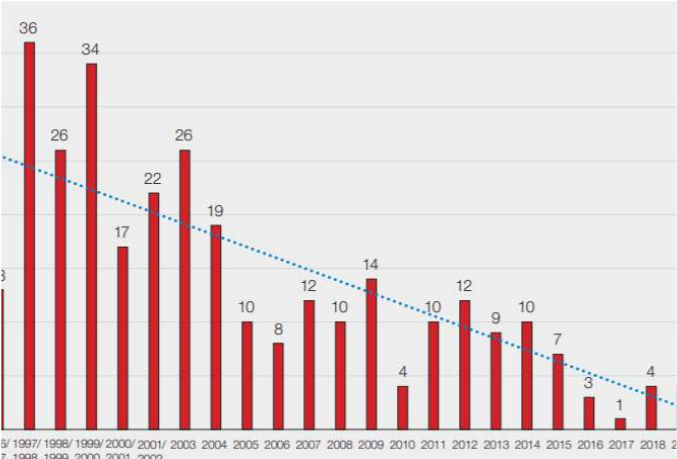
The risk of death related to transfusion in the UK is 1 in 53,193 components issued



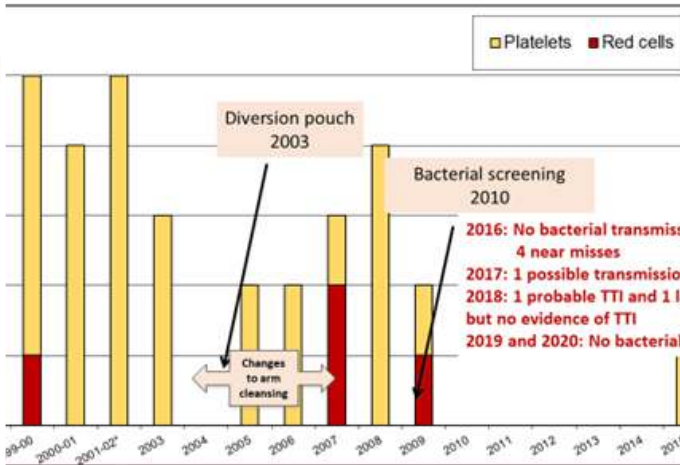
Blood transfusions in the UK are generally safe



Preventable errors continue to contribute to majority of submitted reports- highlights need to focus on process related safety



Reduction in number of transfusion Never Events reported



Reduction in transfusion transmitted infections



## Identify transfusion recipients where extra care is needed

Transfusions as day cases, vulnerable patients: Age groups, sickle/thalassemia, transplant






## Recognise improper practices

Avoidable, delayed, over-transfusions, wastage

## Better transfusion decisions

SHOT data and recommendations

TACO Checklist Red cell transfusion for non-bleeding patients	
  	<p>Does the patient have a diagnosis of 'heart failure', congestive cardiac failure (CCF), severe aortic stenosis, or moderate to severe left ventricular dysfunction?</p> <p>Is the patient on a regular diuretic?</p> <p>Does the patient have severe anaemia?</p>
	<p>Is the patient known to have pulmonary oedema?</p> <p>Does the patient have respiratory symptoms of undiagnosed cause?</p>
	<p>Is the fluid balance clinically significantly positive?</p> <p>Is the patient on concomitant fluids (or has been in the past 24 hours)?</p> <p>Is there any peripheral oedema?</p> <p>Does the patient have hyponatraemia?</p> <p>Does the patient have significant renal impairment?</p>
<p><b>If 'yes' to any of these questions</b></p> <ol style="list-style-type: none"> <li>1 Review the need for transfusion (do the benefits outweigh the risks?)</li> <li>2 Can the transfusion be safely deferred until the issue can be investigated, treated or resolved?</li> <li>3 Consider body weight dosing for red cells (especially if low body weight) <ul style="list-style-type: none"> <li>• Transfuse one unit (red cells) and review symptoms of anaemia</li> </ul> </li> </ol> <p>Measure the fluid balance</p> <ul style="list-style-type: none"> <li>• Consider giving a prophylactic diuretic</li> <li>• Monitor the vital signs closely, including oxygen saturation</li> </ul>	
<p>Due to the differences in adult and neonatal physiology, babies may have a different risk for TACO. Calculate the dose by weight and observe the notes above.</p>	

## Identify areas for improvement

Safety critical steps, NM  
Investigating incidents  
Highlighting gaps in transfusion training and education

## Improving transfusion safety

**SHOT**

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of Transfusion

Incorporating  
human  
factors  
principles

Safety-II  
concept in  
patient  
safety

Learning  
from  
excellence-  
ACE

Incorporating  
behaviour  
change  
principles

Additional ongoing developments in recent years...

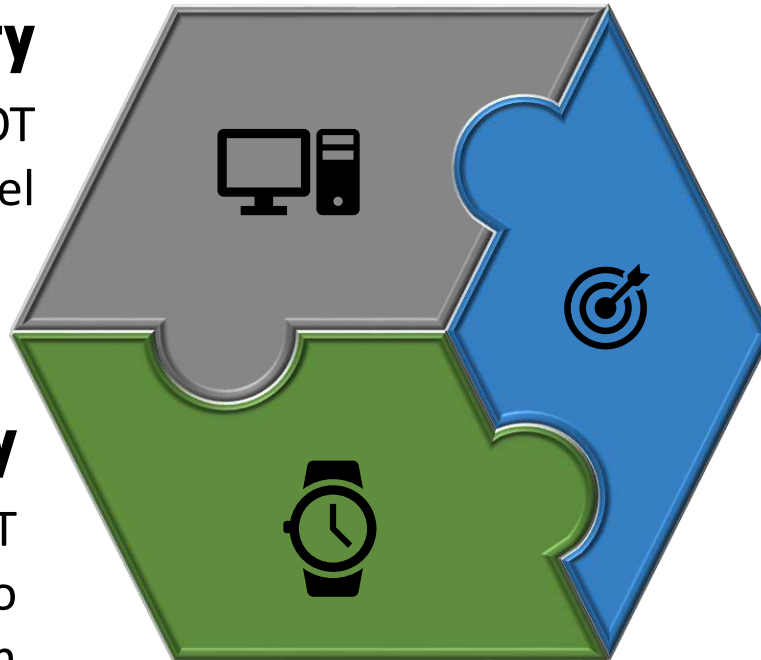
# Important to recognise...

## Accessibility

Easy access to SHOT resources and personnel

## Availability

24/7 availability of resources, SHOT team available for prompt responses to queries during working hours with access to transfusion experts



## Applicability

Resources, aide memoires, checklists useful to all frontline staff- clinical and laboratory

### SHOT App



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Haemovigilance is a team effort. Success and impact depends on participation from all our reporters, contributions from haemovigilance experts and the strength of the collaborations with all other professional bodies that are involved in transfusion medicine

# Patients at the centre of all haemovigilance activities

## Open access to all resources

All SHOT reports and resources are open access and easily available through SHOT website and app



## Improving transfusion safety for all patients

Patient safety is at the heart of all haemovigilance activities

## Patient involvement in haemovigilance activities

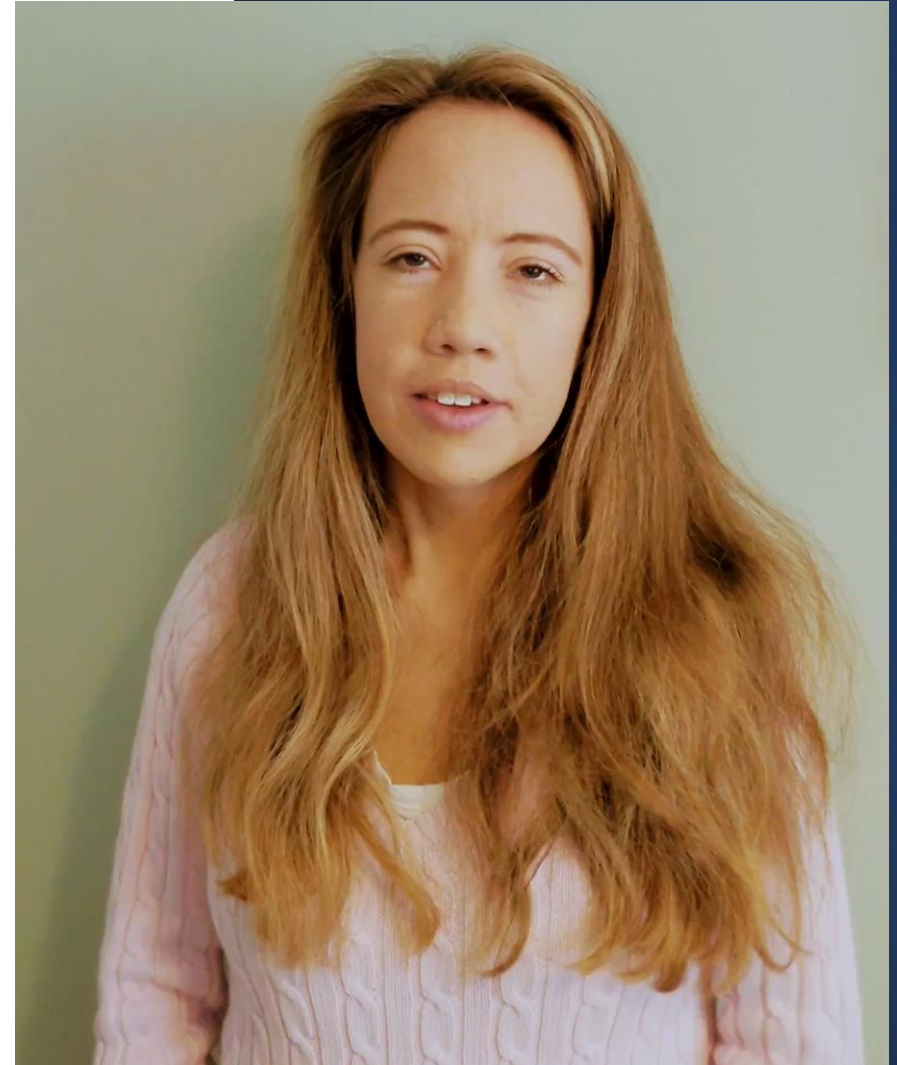
SHOT Steering Group and Working Expert Group members, contributing to all resources and providing steer to SHOT recommendations

# In the words of Graham Donald, patient representative on the SHOT Steering Group...





**From Charlotte Silver who is a patient representative on the SHOT Working Expert Group looking at learning from excellence (SHOT ACE-Acknowledging Continuing Excellence)**





HAEMOVIGILANCE IS EVERYONE'S  
RESPONSIBILITY -



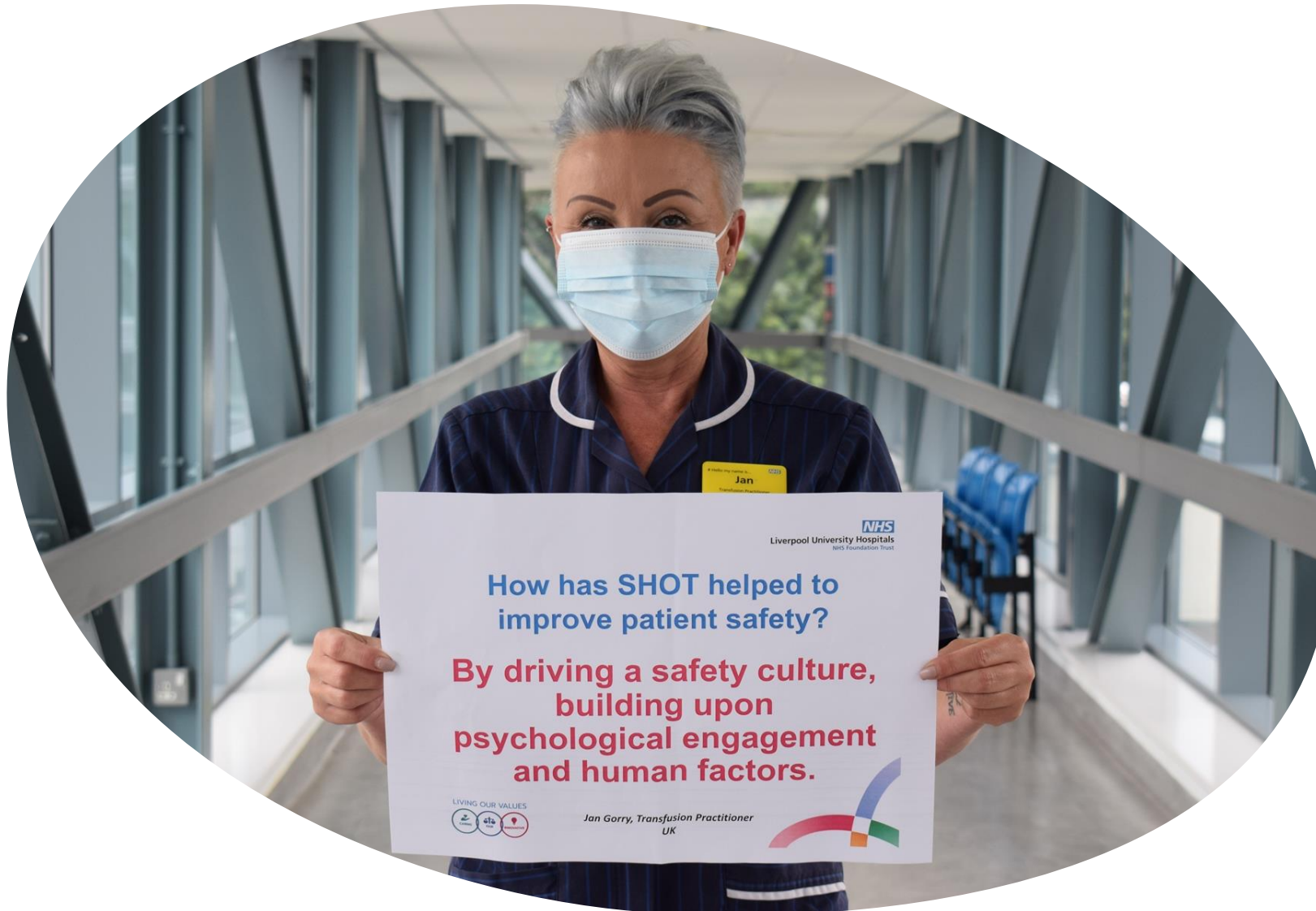
WORKING  
TOGETHER  
TO IMPROVE  
PATIENT  
SAFETY



ANNUAL SHOT REPORT 2020	
ANNUAL SHOT REPORT 2019	
ANNUAL SHOT REPORT 2018	
ANNUAL SHOT REPORT 2017	
ANNUAL SHOT REPORT 2016	
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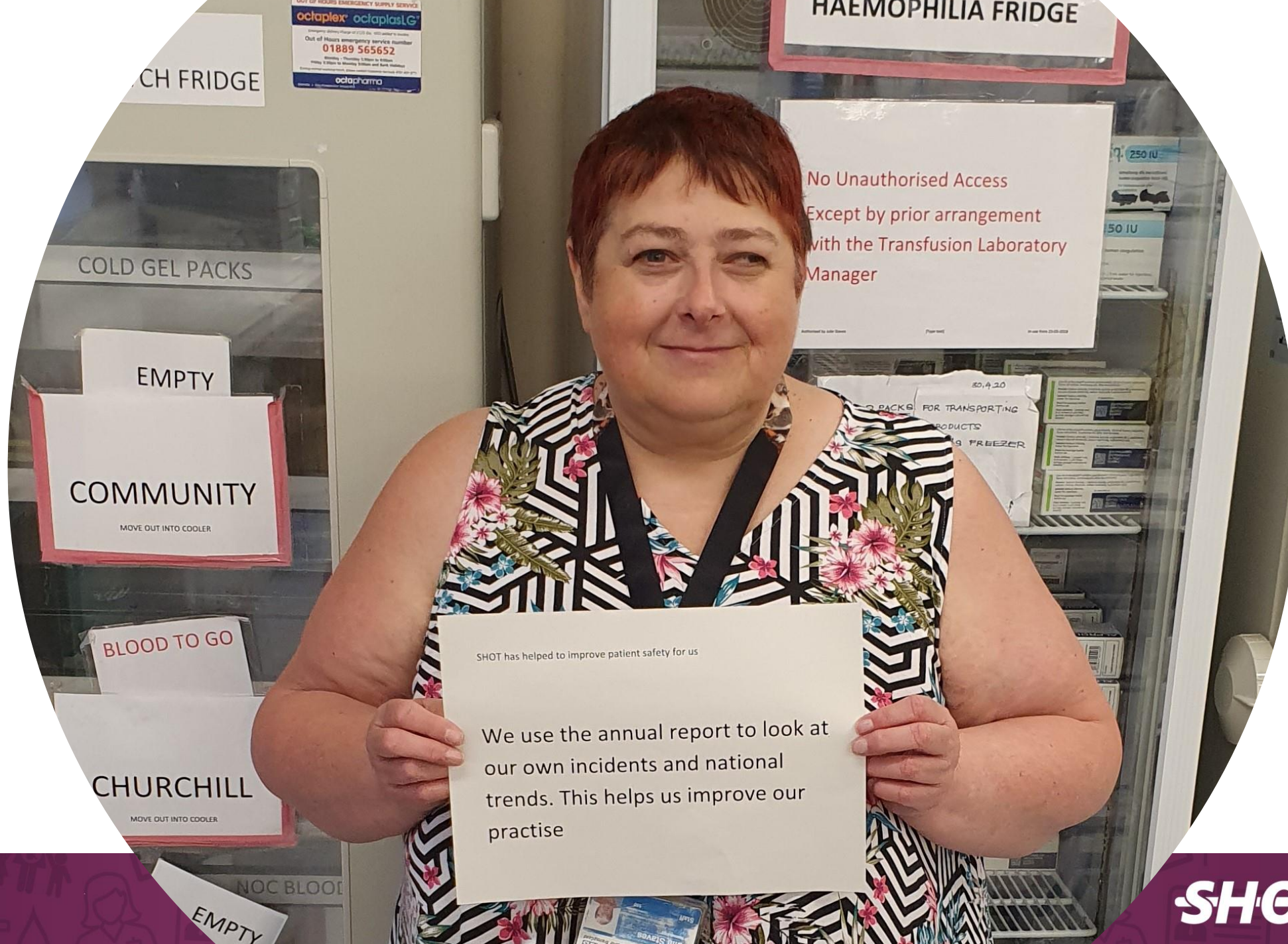
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Jan Gorry,  
Transfusion  
Practitioner,  
Liverpool





Julie Staves,  
Transfusion  
Laboratory  
Manager at  
Oxford Radcliffe  
Hospitals NHS  
Trust





Transfusion Practitioners from Scottish National Blood Transfusion Service





Alison Hanson, Senior BMS, Queen Elizabeth University Hospital, Glasgow

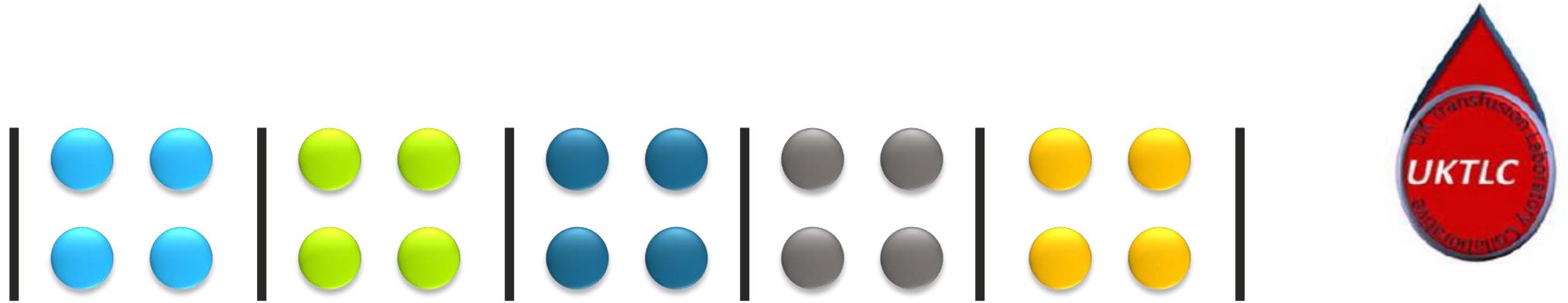


Mary P. McNicholl, Haemovigilance Practitioner and colleague from  
Altnagelvin Hospital, Derry, Northern Ireland





# Bringing the transfusion community together



UK Blood Transfusion Services, patient facing teams clinical and laboratory teams, quality teams, regulators and other key stakeholders



## SHOT working with Clinical Trials Unit during the pandemic

- COVID-19 Convalescent Plasma, a new blood component and all serious adverse events and serious adverse reactions related to their use are reportable to SHOT
- SHOT data helping safety assessments of this potential new therapy



**SHOT  
and CP  
trials**

# Dr Heidi Doughty OBE PhD FRCP FRCPath

**Clinical Lead for Emergency Planning, NHS Blood and Transplant and member of the SHOT Steering Group. Former Chair of the National Blood Transfusion Committee Emergency planning working group.**



*‘The collaboration between transfusion emergency planning and the patient safety SHOT team is a unique partnership that is changing policy and clinical practice, bringing benefits to both patients and staff.’*

*‘Conducting research in military and civilian trauma, especially during Major Incidents, is challenging especially where practice is established. Therefore, the comprehensive SHOT reporting system has a unique role in providing the evidence base for practice development. SHOT has enabled quality quantitative and qualitative data collection to be embedded into everyday transfusion practice which is rapidly transforming Patient Safety’*

# **Dr Megan Rowley, Consultant in Transfusion Medicine at the Scottish National Blood Transfusion Service. She is also part of SHOT Steering Group and Working Expert Group**



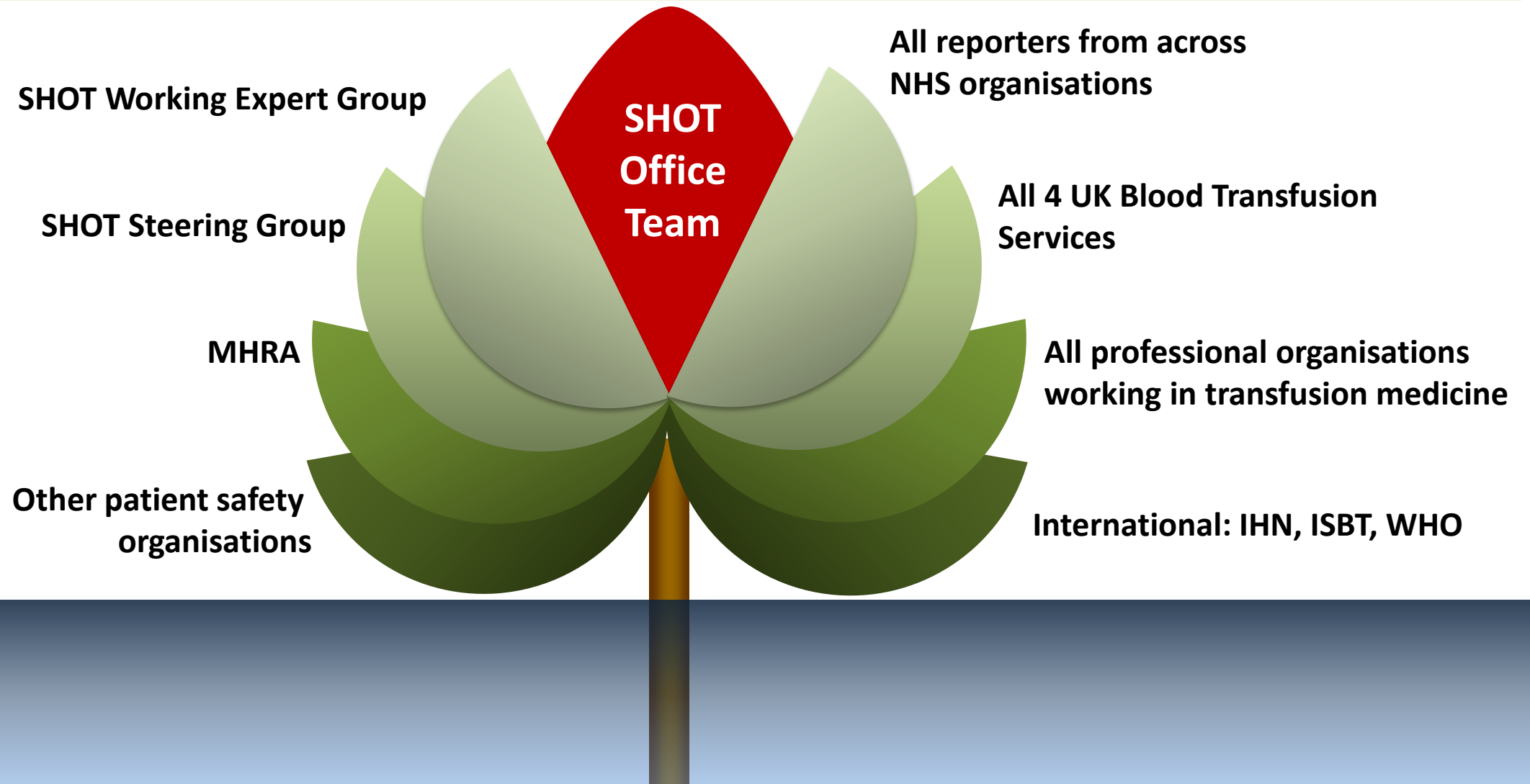
As a haematologist I have been reporting to SHOT since day 1! And for the last 10 years I have been a member of the working expert group – so I know what goes on behind the scenes at SHOT also the impact the SHOT report has on hospital practice. The open learning culture fostered by SHOT is now completely embedded in hospital transfusion practice and promoted by the hospital transfusion teams in all corners of the UK. Patients can be reassured that all those involved in the transfusion process are constantly vigilant and always looking for ways to improve. SHOT is very quick to celebrate the excellent practice in the complex transfusion process because we can learn just as much from what goes right, as from the small number of times that things go wrong.

# Rachel Moss, Transfusion Practitioner at Great Ormond Street Hospital, London





The biggest strength lies in the collective thinking and collaboration involving individuals and teams from different cultures, backgrounds, professions, thinking but all committed to improving safety in transfusions



# SHOT- international collaborations

International Haemovigilance Network

<https://www.ihn-org.com/>

WHO workshops, NOTIFY project

<https://www.notifylibrary.org/content/notify-project>

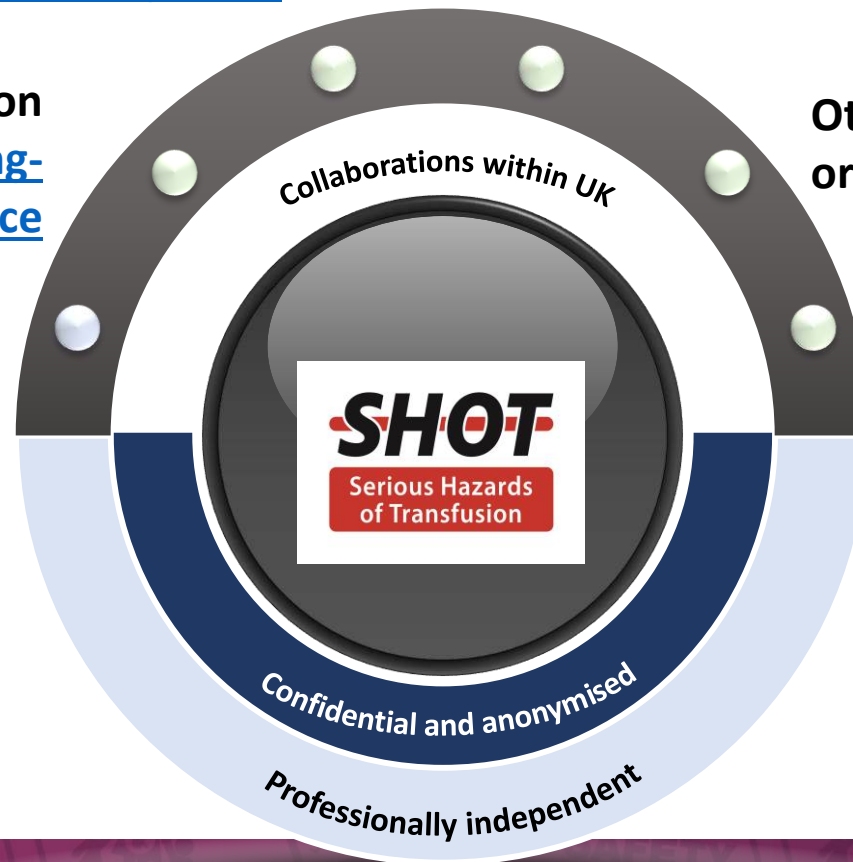
International Society of Blood Transfusion

<https://www.isbtweb.org/working-parties/haemovigilance>

Well established  
haemovigilance system-  
resources used widely across  
the globe

Other haemovigilance/transfusion  
organisations: AABB

Supporting other countries to establish  
haemovigilance systems



# Acknowledgements

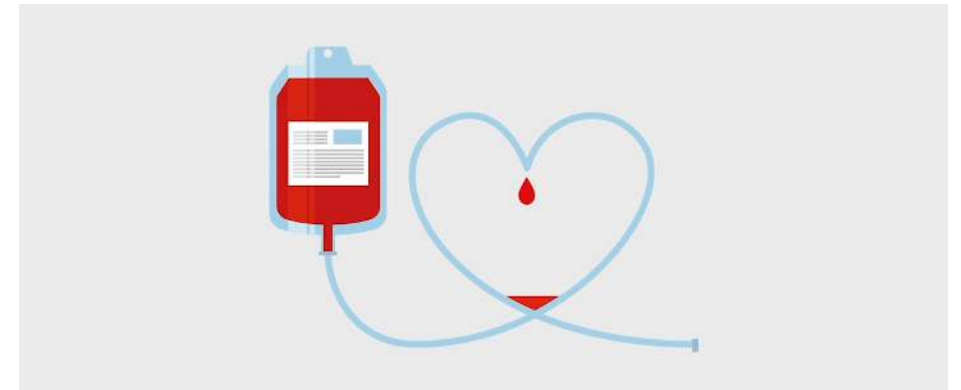
- The SHOT team
- The Steering Group and Working Expert Group members
- MHRA haemovigilance team
- The vigilant reporters and hospital staff who share their incidents
- The UK Forum for funding
- Everyone who has contributed to and supported our activities

For further information visit: [www.shotuk.org](http://www.shotuk.org)

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- Jenny Leonard <https://jennyleonardart.com/>
- Rhys, Christean and team at ARC Document Solutions  
<https://www.e-arc.co.uk/about-us/>

TODAY'S GOOD IDEA IS...







**Your Questions Please**