

Global Health - Transfusion in Low & Middle Income Countries



Irish Blood
Transfusion Service
Seirbhís Fuilaidriúcháin na hÉireann

Moira Keogh
IBTS Research Away Day
29/11/2023



Overview

- Global Health (GH) overview
- IBTS/NBTS Partnership
- Established GH projects





Global Health Programme

- Global health is about social justice and human rights in the context of health
- Health, illness and disability are socially patterned
- Many of the world's health problems are not bounded by borders, but shared, and best tackled by collaborative innovation and cooperative action.
- Enhance our understanding of and health protection approaches to global health issues and their impact on the population of Ireland.
- Develop a health protection research strategy for Ireland that includes both local and international collaboration.



Global Health Challenges - Transfusion

- Limited infrastructure
- Blood safety
- Donor recruitment and retention
- Logistics and transportation
- Financial constraints
- Education and awareness

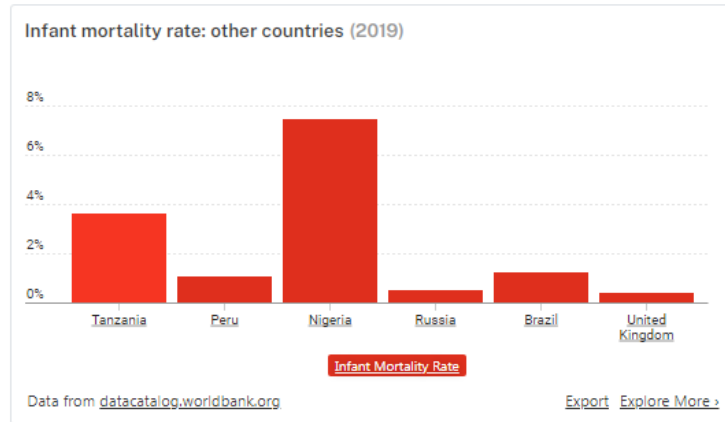
80% of the world's population has access to only 20% of the world's blood supply



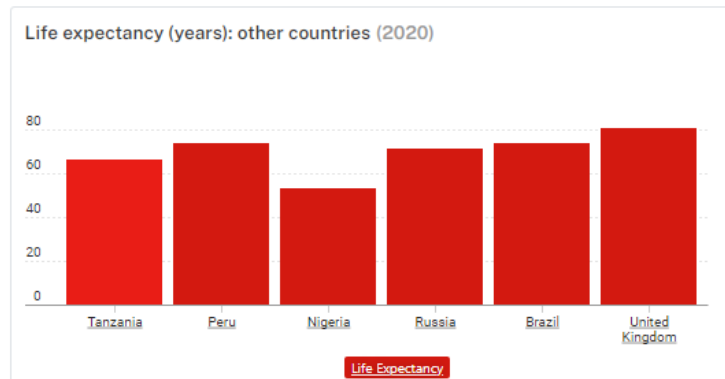
Tanzania

National Blood Transfusion Service

- 63.6 million people
- Low-middle income country
- Priority partnership country for Ireland



Feedback



IBTS-NBTS AoN

- **IBTS staff visited NBTS April 2023**
- **NBTS staff visited IBTS July 2023**

- **Vein to vein in both countries**
- **Developed relationships**
- **Identified key projects**



Identified Needs

IBTS	NBTS
<ul style="list-style-type: none">• Research Publications• Donor Diversity• Global Health Education• Funding Acquisition• Reputation Building• Equipment Sustainability• Strategy Alignment• Inter-laboratory comparison and EQA	<ul style="list-style-type: none">• Advanced Transfusion Education and Training• Targeted Marketing• Blood group antigen and antibody identification• HLA Haplotypes and Testing• Expand component production• Registry Building• Specific equipment• Support services• Inter-laboratory comparison & EQA



Proposed Partnership Projects

1. Blood Safety and Education
2. Donor Recruitment and Retention
3. Expansion of Platelet Production



Irish Blood
Transfusion Service
Seirbhís Fuilaidriúcháin na hÉireann



Blood Safety and Education Objectives

1. Improve Transfusion Safety through improved access to basic, advanced and post graduate education and training
2. Support the development of hemovigilance in Tanzania
3. Progress technical expertise and capabilities of Tanzania NBTS



Blood Safety and Education Benefits

- Implement Transfusion Education & Training Programmes
- Deeper understanding of blood group antigens and antibodies in a Black donor population
- Provide practical on-site training in blood grouping, antibody identification and infectious disease screening
- Support the introduction and development of a haemovigilance system in selected hospitals
- Provide External Quality Assessment (EQA) for blood grouping



Blood Safety and Education Donor Testing at NTBS



TRANSFUSING FACILITIES BGS EQA PROGRAM FOR JULY 2022

Name of test	Total No. of sites doing the test	Total No. of sites enrolled into the EQA program	Performance
Blood Grouping and Serological Compatibility Testing	1170 • Health Centre (927) and Hospitals (243), HFR GoT & Private	Enrolled Lab: 172 Lab submitted feedback: 147 (85.5%) Non-responders: 25(14.5%)	84 (57.1 %) scored 100%



Blood Safety and Education

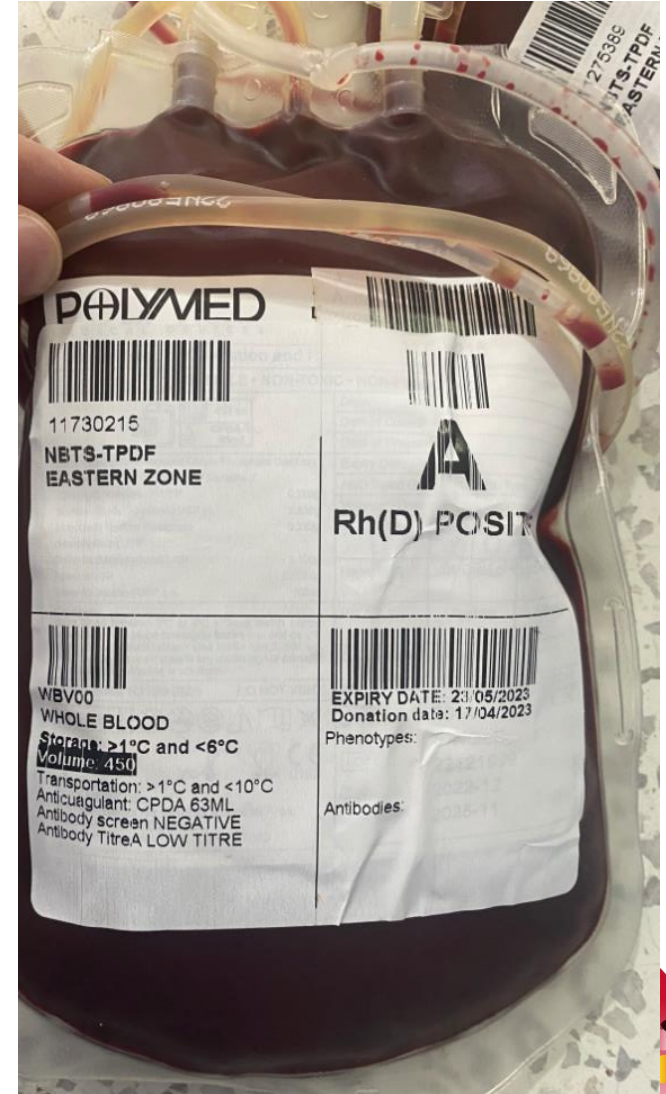
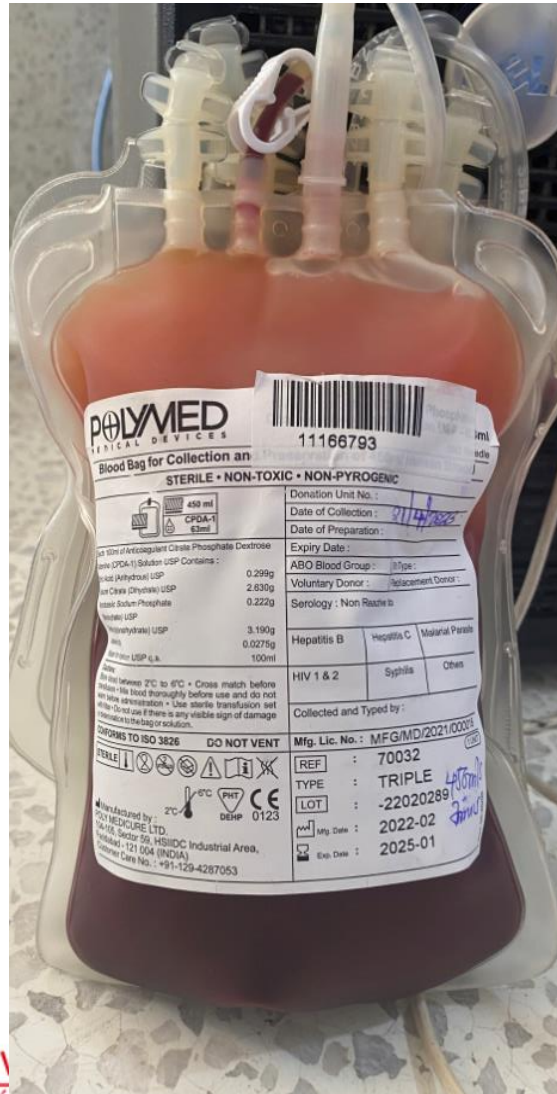
Donor Testing at NTBS

- No pre-transfusion testing is in place in Tanzania
 - Antibodies are detected, but not identified
 - No antigen typing is performed
 - Significant patient risk with this practice



Blood Safety and Education Donation Processing at NTBS

- LIMS in place in NBTS – not in hospitals
- State of the art equipment in place, but difficulties in sourcing reagents
- Strong evidence of quality system in use, excellent SOPs
- Staff are engaged, and aware of gaps in what they do and what they want to do



Donor Recruitment and Retention Objectives

1. Gain a deeper understanding of the factors impacting recruitment and retention of Tanzanian blood donors
2. Assess insights to examine common barriers and motivations of African Ancestry donors in an Irish context
3. Expand donor marketing and recruitment capabilities in both organisations



Donor Recruitment and Retention Benefits

- Outcomes will provide a blueprint for targeted and effective marketing campaigns to optimise donor education and recruitment strategies of both organisations



Donor Recruitment and Retention

Blood collection- Mobile

- Clinic outside in a local college
- Rainy season, lots of puddles!
- Donors and non-donors in the same area – lunchtime in the college
- Clinic had donation ambassadors approaching groups and (strongly) encouraging people to donate



Donor Recruitment and Retention

Blood collection- Mobile

- Nursing and scientific staff on clinic
- Hb estimation – copper sulphate
- No separate private donor counselling area



Expansion of Platelet Production Objectives

1. Expand platelet component production through acquisition of specific equipment
2. Develop an education and mentoring programme
3. Capacity building for HLA testing

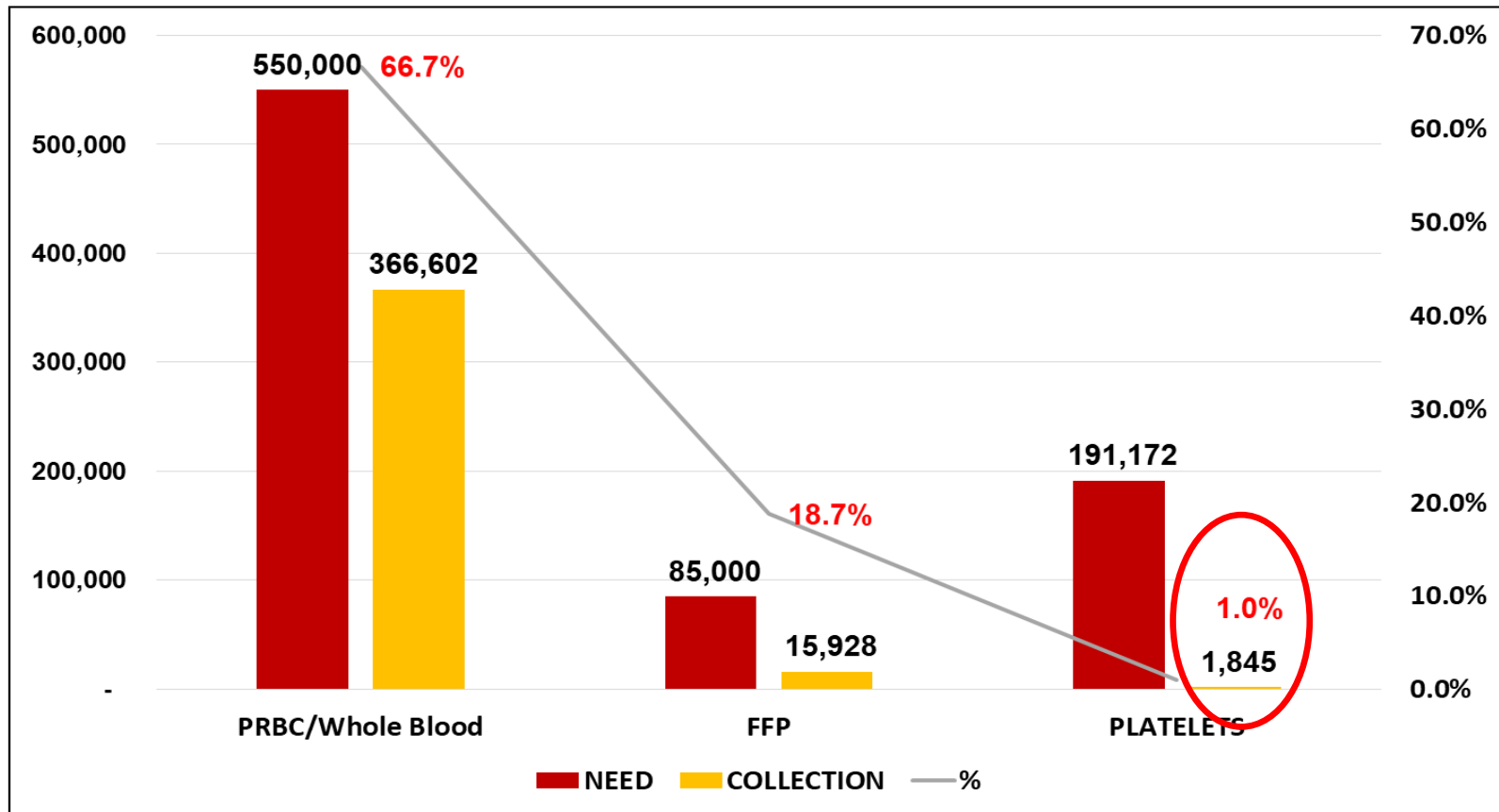


Expansion of Platelet Production Benefits

- Supports the need to expand platelet provision in Tanzania
- IBTS gains a deeper understanding of the HLA variation in an African population compared to the Irish Donor Platelet Panel



Expansion of Platelet Production Tanzanian blood collection



Expansion of Platelet Production Tanzanian blood collection

Product	Requirement	Number/100,000
IBTS		
Red cells	130,000	2,600
Platelets	26,000	520
Tanzanian NBTS		
Red cells required	550,000	865
Red cells collected	366,602	576
Platelets required	191,172	300
Platelets collected	1,845	3



Expansion of Platelet Production Donor Processing at NBTS



Common Project Benefits

- Peer reviewed publication
- Reputation building
- BSc/MSc/PhD qualifications
- Potential for large scale funding
- Developing programmes that can be transferrable to other countries



Established Global Health Projects

bjh review

Strengthening medical education in haematology and blood transfusion: postgraduate programmes in Tanzania

Julie Makani,¹ Magdalena Lyimo,¹ Pius Magesa¹ and David J. Roberts^{2,3}

¹Department of Haematology and Blood Transfusion, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania, ²National Health Service Blood and Transplant, Oxford Centre, John Radcliffe Hospital, and ³BRC Haematology Theme and Radcliffe Department of Medicine, University of Oxford, John Radcliffe Hospital, Oxford, UK



Established Global Health Projects

The BLOODSAFE program: Building the future of access to safe blood in Sub-Saharan Africa

Meghan Delaney¹  | Susan Telke² | Shimian Zou³ | Makeda J. Williams⁴ |
Jackline O. Aridi⁵ | Kristina E. Rudd⁶ | Juan Carlos Puyana⁷ |
Pratap Kumar⁵ | Bernard Appiah⁸ | Yvonne Dei-Adomakoh⁹ |
Lucy Asamoah-Akuoko¹⁰ | Edeghonghon Olayemi⁹ | Emmanuel Singogo¹¹ |
Mina C. Hosseinipour^{11,12} | Bridon M'baya¹³ | Effie Chipeta¹⁴ | Cavan Reilly² |
BLOODSAFE Program Investigators



Thank you for your attention



Irish Blood
Transfusion Service
Seirbhís Fuilaeistriúcháin na hÉireann

Questions | Comments | Thoughts

