



Annual Report 2023



Table of Contents

Foreword/Introduction	4
Chairperson's Report	6
Chief Executive's Report	15
Medical & Scientific Director's Report	18
Donor Services and Logistics	21
• Key achievements in 2023	21
• Donor Services	23
Production and Hospital Services	25
• Key achievements in 2023	25
• Production, Hospital Services, Scientific Support and Component Development Testing	25
Testing	27
• National Donor Screening Laboratory	27
• BGGL	30
• RCI	31
• NHIRL	34
• Diagnostics/Crossmatch Cork	36
Other Services	39
• Tissue	39
• IUBMR	39
• NHO	40
• Therapeutic Apheresis	42
Quality & Compliance	47
• Risk & Resilience	52
Academic Activities, Research and Innovation	53
• Key achievements 2023	53
• Publications, Research, Relevant projects, teaching etc	53
Strategy	55
• Key achievements 2023	55
Human Resources	57
• Key achievements 2023	57
E,H&S	65
• Key achievements 2023	65
• ICT	66
Sustainability	67
• Key achievements 2023	67
Finance	71
Contact Details	73



Foreword

The core work of the Irish Blood Transfusion Service (IBTS) has always been centred on the most precious of commodities: blood and blood components. Our primary focus each day is on the continuity of the blood supply and in reflecting on the performance of the IBTS in 2023, the most important indicator is that against the background of an increase in demand for blood and blood components, thanks to the dedication of our staff and generosity of our donors, we were able to meet the demand. For the first time in a number of years, there was no need to import blood.

There were many contributing factors to this success:

- Following an enforced pause in recruitment of new donors during the pandemic, we welcomed over 11,000 new donors to our clinics in 2023. We are working to ensure the number of new donors increases again this year so that we can be confident about the continuity of the blood supply without relying so heavily on our regular donors as we did in recent years
- Following the expansion of our eligibility rules in late 2022 and the introduction of malaria testing in 2023 we are now in a position to recruit new donors across a much broader and diverse population, mirroring the diversity of blood recipients. Each donor's eligibility is assessed on the basis of their individual circumstances and I encourage all potential donors to check their eligibility on <https://giveblood.ie/can-i-give-blood/>
- We are delighted to be in a position to provide mobile donation clinics in old and new venues and in particular to be back at universities, where we hope students will begin a blood donation habit that stays with them for years to come.

2023 was a very busy year for our staff across a number of areas. Our scientists and IT teams in particular have been working on initiatives within our Strategic Plan that will come to fruition in 2024. With a particular focus on improving the donor experience, we are happy to see such a significant number of donors now making their appointments online via the donor portal on our website. This offers much greater flexibility for donors if they need to change the time of their appointment and will ensure that we maximise the number of donors who can be facilitated at each clinic, with reduced wait times.

We will soon be ready to launch the donor Self Assessed Health History (SAHH) on a tablet on clinic, making the process of evaluating a donor's suitability to donate on a particular day more efficient for all.

Following the success of our Donor Grouping Laboratory in being awarded the Green Lab Certification last year, our other testing laboratories are working towards their certification, something we hope they will achieve in 2024. I expect to be able to report on a wide range of sustainability initiatives in my report next year as the IBTS moves towards Net Zero.

There was significant transition on the Board of the IBTS during 2023. I would like to thank Kate Williams, Deirdre Cullivan, John Malone, Brian O'Mahony and Ronan Desmond for their years of service to the IBTS following the end of their terms in 2023. Their tenure spanned a period of great change in the IBTS and as well as steering the organisation through the pandemic years, they all contributed to the development and progress of our current Strategic Plan. We will miss their expertise and the depth of their institutional knowledge as well as their good humour. I would like to extend a formal welcome to

our new cohort of Board Members, namely Peter Dennehy, Kevin Gregory, Una Clifford, Ann O'Connor, Stephen O'Hare and Dr Nina Orfali. They are all getting to grips with their new roles and are enthusiastic about the delivery of the remaining half of our strategy. As always, the Board has been expertly supported by a very strong management team, led by Orla O'Brien. It is a great tribute to the IBTS and to Orla personally that she was recently appointed to the Executive Board of the European Blood Alliance. I'm delighted to congratulate Orla on this very prestigious appointment.

I was particularly happy that in 2023 we were able to get Donor Award ceremonies back up and running. These events, which are held around the country, are a fantastic opportunity for the Board of the IBTS to thank those very generous donors who have achieved either 50 or 100 donations. These donors get to hear the very real impact of their generosity as we have been very lucky to have a number of blood recipients share their stories with us. These are very emotional occasions as we hear about the lived experience of parents whose

children depend on blood donations for their survival as well as incredibly brave stories told by individual recipients who have survived traumatic medical situations thanks to the blood transfusions they received in a crisis.

I'm very grateful to all the recipients who have shared their experience in this way with us. Each of them has embraced the gift of their donations and they are all fabulous examples of living life to the full.

Having had the pleasure of thanking hundreds of donors personally over the past year, I would like to take this opportunity to thank all donors, whether you have given the gift of one donation or multiples of that. Your generosity and the expertise and commitment of the IBTS staff ensures that the IBTS can continue to provide excellent blood services that improve patients' lives in collaboration with the healthcare community.

Deirdre-Ann Barr
Chairperson



Chairperson's Report

Report of the Chairperson of the Irish Blood Transfusion Service regarding the assessment of internal financial controls of a State Body for the year ended 31st December 2023 in accordance with Appendix D of the Code of Practice for the Governance of State Bodies 2016, as amended.

1. I acknowledge that the Board is responsible for the Body's system of internal financial control.
2. The IBTS system of internal control can provide only reasonable and not absolute assurance against material error, misstatement or loss.
3. The Board confirms that there is an ongoing process for identifying, evaluating and managing significant risks faced by the IBTS. This process is regularly reviewed by the Board via reports from the Chief Executive and updates from the Audit, Risk and Compliance Committee
 - i. Management are responsible for the identification and evaluation of significant risks applicable to their areas of business together with the design and operation of suitable controls. These risks are assessed on a continuing basis and may be associated with a variety of internal or external sources including control breakdowns, disruption in information systems, natural catastrophe and regulatory and compliance requirements.
 - ii. Management meets twice monthly on operational issues and risks and how they are managed. The Executive Management Team's role in this regard is to review on behalf of the Board the key risks inherent in the affairs of the IBTS with the Risk and Resilience Manager and the system of actions necessary to manage such risks and to present their findings on significant matters via the Chief Executive to the Board.
- iii. The Chief Executive reports to the Board on behalf of the Executive Management Team on significant changes in the work of the IBTS and on the external environment which affects significant risks. Where areas for improvement in the system are identified the Board considers the recommendations made by the Executive Management Team.
- iv. The Director of Finance provides the Finance Committee with monthly financial information, which includes Key Performance Indicators.
- v. An appropriate control framework is in place with clearly defined matters which are reserved for Board approval only or, as delegated by the Board, for appropriate Executive approval. The Board has delegated the day-to-day management of the IBTS and established appropriate limits for expenditure authorisation to the Executive. The Chief Executive is responsible for implementation of internal controls, including internal financial controls.
- vi. The system of internal financial control is monitored in general by the processes outlined above. In addition, the Audit, Risk and Compliance Committee of the Board reviews specific areas of internal control as part of its terms of reference.

The Audit, Risk and Compliance Committee of the Board have satisfactorily reviewed the effectiveness of the system of internal control on behalf of the Board. The Audit, Risk and Compliance Committee carried out a formal review of these systems in respect of 2023 at its meeting on the 14th February 2024. The Board approved the internal financial controls at its meeting on 19th February 2024.

Additional Reporting Requirements

Compliance with the Code of Practice for the Governance of State Bodies

The Board is committed to complying with the relevant provisions of the Code of Practice for the Governance of State Bodies, published by the Department of Public Expenditure and Reform in August 2016 and amended in September 2020.

A code of business conduct for the Board and an employee code of conduct are in place. Both are available on www.giveblood.ie. The Board has adopted a detailed travel and subsistence policy which complies with all aspects of Government travel policy.

The IBTS Board reviewed reports on internal controls during the year along with regular reviews of the reports of the Health Products Regulatory Authority (HPRA) on operational and compliance controls and risk management. The Board will continue to review these reports and to work closely with the HPRA to ensure the highest international standards.

The IBTS has complied with disposal of assets procedures, as outlined in the 'Code of Practice for the Governance of State Bodies 2016' as amended. The IBTS complies with all relevant obligations as defined under Irish taxation law.

Corporate Governance

The Board's policy is to maintain the highest standards of corporate governance, in line with generally accepted policies and practices. The Board is accountable to the Minister for Health.

The Board has a manual for Board members. The Board has an agreed timetable for reviewing Terms of Reference for Board Sub-Committees.

Workings of the Board

The Board is comprised of twelve members including a non-executive Chairperson appointed by the Minister for Health.

The Board met on 6 occasions for ordinary meetings during the year. The Board also held a full day meeting to carry out its mid term Strategy Review on the Strategic Plan 'Connections that Count.'

Attendance by Board members at Board meetings during the year was as follows:



	Feb	April	June	Sep	Nov	Dec
Ms Deirdre-Ann Barr	✓	✓	✓	✓	✓	✓
Mr Brian O'Mahony	✓	✓	✓	-	-	-
Ms Kate Williams	-	-	-	-	-	-
Dr Elizabeth Kenny	✓	✓	✓	✓	✓	✓
Dr Ronan Desmond	x	✓	✓	-	-	-
Ms Deirdre Cullivan	✓	✓	✓	-	-	-
Mr John Malone	✓	x	✓	-	-	-
Dr Satu Pastila	✓	✓	✓	✓	✓	✓
Dr Sarah Doyle	x	x	x	✓	✓	✓
Mr David Gray	x	✓	✓	✓	✓	✓
Prof Sharon Sheehan						
Mr Kevin Gregory	-	x	x	✓	✓	✓
Mr Peter Dennehy	-	✓	✓	✓	✓	x
Ms Una Clifford	-	-	-	✓	✓	✓
Ms Ann O'Connor	-	-	-	✓	✓	✓
Dr Nina Orfali	-	-	-	-	-	✓
Mr Stephen O'Hare	-	-	-	✓	✓	✓

Members of the Board

Chairperson Deirdre-Ann Barr

Mr Brian O'Mahony (term completed on 19th July 2023)

Ms Kate Williams (term completed on 14th February 2023)

Dr Elizabeth Kenny

Dr Ronan Desmond (term completed on 19th July 2023)

Ms Deirdre Cullivan (term completed on 19th July 2023)

Mr John Malone (term completed on 19th July 2023)

Dr Satu Pastila

Dr Sarah Doyle

Mr David Gray

Prof Sharon Sheehan (on sick leave)

Mr Peter Dennehy (appointed on 28th March 2023)

Mr Kevin Gregory (appointed on 28th March 2023)

Ms Una Clifford (appointed on 20th July 2023)

Ms Ann O'Connor (appointed on 20th July 2023)

Mr Stephen O'Hare (appointed on 20th July 2023)

Dr Nina Orfali (appointed on 13th November 2023)

All members receive appropriate and timely information to enable the Board to discharge its duties. The Board takes appropriate independent, professional advice as necessary. Guidelines for the payment of Board member fees and expenses are observed.

Ms DA Barr	€11,970
Mr D Gray	€11,970
Ms S Pastila	€11,970
Ms D Cullivan	€7,090
Mr J Malone	€7,090
Mr K Gregory	€5,594
Mr P Dennehy	€5,594
Mr S O'Hare	€3,167
Ms U Clifford	€3,167
Ms A O'Connor	€3,167
Ms K Williams	€1,934

The composition of the Board does not currently meet the requirement for gender balance under the Code of Practice.

The Public Spending Code

The Board is committed to complying with the provisions of the Public Spending Code and Circular 14/21 Arrangements for Oversight of Digital and ICT related initiatives in the Civil and Public Service.

The IBTS has implemented a project management methodology, suitable for adaptation, depending on the size of the project in question.

The Board has activated a committee structure to assist in the effective discharge of its responsibilities.

Performance and Development Committee

The Performance and Development Committee deals specifically with matters regarding the performance and development of the Chief Executive, and the Executive Management Team. The Board complies with Government policy on pay for the Chief Executive and employees. The Board also complies with guidelines on the payment of director's fees. The Chief Executive's salary in 2023 was €173,679. The Performance and Development Committee met three times in 2023. The Performance and Development Committee operates under formal terms of reference, which are reviewed by the Board regularly.

PD Committee attendance

	April	Sept	Dec
Ms D-A Barr	✓	✓	✓
Ms D Cullivan	✓	-	-
Ms U Clifford*	-		✓

*Ms U Clifford attended the September PDC meeting as an observer.

Medical & Scientific Advisory Committee

The Medical and Scientific Advisory Committee is comprised of some of the medically qualified members of the Board and a representative group of medical consultant staff as well as a number of external medical consultants and met eight times in 2023. Its function is to monitor developments relevant to the field of transfusion medicine and related fields, to inform the Board of any such developments and to advise the Board on appropriate action. The M&SAC operates under formal terms of reference, which are reviewed by the Board regularly.



M&SAC attendance 2023

	Jan	Feb	April	May	June	Sept	Nov	Dec
E Kenny	✓	✓	✓	✓	✓	✓	✓	✓
S Pastila	✓	✓	✓	✓	✓	✓	✓	✓
S Doyle	x	x	x	x	x	✓	x	✓
T Hervig	✓	✓	✓	✓	✓	✓	✓	✓
D Ó Donghaile	✓	x	✓	✓	✓	✓	✓	✓
E McSweeney	✓	✓	✓	✓	x	✓	✓	✓
N O Flaherty	✓	✓	✓	✓	✓	✓	✓	✓
C DeGascun	x	x	x	x	x	x	x	✓
K Morris	x	x	x	✓	✓	x	x	x
R Hagan	✓	x	✓	✓	✓	x	✓	✓
S Thomas	✓	✓	✓	✓	✓	x	✓	✓
A Waters	✓	✓	x	✓	x	x	✓	✓
B Quill	x	x	✓	x	x	x	x	x
I Magzoub	✓	x	✓	✓	✓	✓	✓	✓
E Eلسsheikh	x	✓	✓	✓	✓	✓	✓	✓
R Desmond*	x	x	✓	✓	x	-	-	-
B O'Mahony **	✓	✓	✓	✓	x	-	-	-
N O'Connell***	x	x	✓	✓	x	x	x	x
N Moore****	x	x	✓	✓	x	x	-	-
A Martinez*****	✓	x	x	x	-	-	-	-
S NiLoingsigh*****	-	-	-	-	-	-	✓	✓
O O'Brien *****	✓	✓	✓	✓	x	✓	✓	✓

* Dr Ronan Desmond (Board Member) Term of Office as Board member ended in July 2023

** Brian O'Mahony (Board Member) was an attendee at M&SAC – his Term of Office as Board member ended in July 2023

*** Dr Niamh O'Connell resigned from M&SAC in December 2023

**** Dr Nuala Moore, Acting Consultant, retired from IBTS in September 2023

***** Dr Auxi Martinz was Acting Consultant but went back to her substantive post in May and therefore was not eligible to attend M&SAC

***** Dr Socha NiLoingsigh appointed IBTS Consultant in October 2023

***** Orla O'Brien (CEO) is an attendee only at M&SAC

Finance Committee

The Finance Committee met five times during the year and is comprised of three members of the Board. It is also attended by the Chief Executive, Director of Finance and Management Accountant. The Committee may review any matters relating to the financial affairs of the Board. It reviews the annual capital and operating budgets, Statutory Financial Statements and monthly management accounts, financial KPIs, capital expenditure, working capital and cash flow. It also reviews business planning, costing exercises, procurement, insurance arrangements, contracts, banking, financing arrangements and treasury policy. The Committee also reviews the funding and performance of the Board's pension fund. The Committee reports to the Board on management and financial reports and advises on relevant decision-making. The Finance Committee operates under formal terms of reference, which are reviewed by the Board regularly.

Finance Committee attendance

	February	May	July	September	November
Ms K Williams	✓	-	-	-	-
Ms D Cullivan	✓	✓	✓	-	-
Mr J Malone	x	✓	x	-	-
Mr K Gregory	-	✓	✓	✓	✓
Ms U Clifford	-	-	-	✓	✓
Mr D Gray	-	-	-	✓	✓

Audit, Risk & Compliance Committee

The Audit, Risk and Compliance Committee met five times during the year and is comprised of four members of the Board and two independent external members. It is also attended by the Chief Executive, the Medical & Scientific Director, the Director of Finance, the Director of Donor Services and Logistics, the Director of Quality & Compliance, the Director of Production and Hospital Services, the Chief Information Officer, the Internal Auditor, the Risk and Resilience Manager and the Assistant Accountant acts as Secretary to the Committee. The Committee may review any matters relating to the financial, risk, regulatory or compliance affairs of the Board. It reviews the annual Statutory Financial Statements including the accounting policies and notes to the financial statements, compliance with accounting standards and the accounting implications of major transactions, reports of the Internal Auditor, quality reports both internal and from the HPRA, Risk management including reviews of the corporate risk register. The external auditors meet the Committee to review the results of the annual audit of the Statutory Financial Statements. The Audit, Risk & Compliance Committee operates under formal terms of reference, which are reviewed by the Board regularly.

Audit, Risk & Compliance Committee attendance

	February	April	June	September	December
Mr D Gray	✓	✓	✓	✓	✓
Prof S Sheehan*					
Mr P Dennehy	-	-	-	✓	-
Ms A O'Connor	-	-	-	-	✓

*Professor Sheehan on sick leave



Research & Development Committee

The Research and Development Committee met three times during the year to oversee the implementation of the IBTS Research and Development Strategy. The Research and Development Committee is attended by the Chief Executive, the Medical & Scientific Director, the Finance Director and the Research and Development Lead Facilitator. The R&D Committee operates under formal terms of reference, which are reviewed by the Board regularly.

Research & Development Committee attendance

	April	Nov*	Dec
Mr B O'Mahony	✓	-	-
Mr J Malone	✓	-	-
Mr S O'Hare	-	✓	✓
Mr P Dennehy	-	-	-

*The November meeting of the R&D Committee was inquorate.

Risk Register

The risk register identifies various types of risks including strategic, reputational, clinical, IT, cybersecurity, financial and operational risks to the IBTS and the existing controls and further actions necessary to minimise the impact on the IBTS, in the event of the risk occurring.

Globally the risks associated with cyber-attacks continues to increase and has compelled the organisation to put plans in place to improve cyber security resilience. This is an ongoing process and is overseen by the Audit, Risk & Compliance Committee.

The Risk and Resilience Manager has responsibility for overseeing the risk register and contingency arrangements. A set of inherent risks have been identified which are monitored by the Audit, Risk & Compliance Committee and the Board on a regular basis. At present the risk register is reviewed and updated by the Executive Management Team.

This monitoring ensures that the identified risks and controls are current and that new and emerging risks are identified and control measures put in place.

Going Concern

After making reasonable enquiries, the Board Members have a reasonable expectation that the IBTS has adequate resources to continue in operational existence for the immediate future. For this reason, they continue to adopt the going concern basis in preparing financial statements. In light of the pension deficit and the potential for further post reporting date changes in the value of the pension scheme's assets and liabilities, the Board in evaluating the appropriateness of the going concern concept to the current set of Financial Statements considered all of the pension fund valuations and cash flow for the twelve months from the date of approval of the financial statements and is of the opinion that the Board can meet all its liabilities including funding of the IBTS pension scheme as they fall due. In these circumstances the Board considers the going concern concept appropriate to the preparation of the Financial Statements.

Internal Control

The Board is responsible for internal controls in the IBTS and for reviewing their effectiveness. The Board's system of internal financial control comprises those controls established in order to provide reasonable assurance of:

- The safeguarding of assets against unauthorised use or disposition; and
- The maintenance of proper accounting records and reliable financial information used within the organisation.
- All non stock invoices signed and coded by budget managers or their authorised signatories
- All stock invoices are independently matched with stores Goods Received Notes (GRN) and purchase orders

The key elements of the Board's system of internal financial control are as follows:

- A comprehensive system of financial reporting
- Annual Budget prepared and presented to both the Finance Committee and the Board
- Monthly monitoring of performance against budgets by Finance Committee and Board
- Sign off by budget holders on individual budgets
- Budget reviews with budget holders
- Clearly defined finance structure
- Appropriate segregation of duties
- Clear authorisation limits for capital and recurring expenditure approved by the Finance Committee
- Key financial processes are fully documented in written procedures
- Regular stock takes and reconciliations carried out by staff independent of stores staff
- Financial system possesses verification checks and password controls
- Issues of products are reconciled to ensure all of the Board's activities are fully billed
- Regular monitoring of credit control function
- Purchase orders signed by Procurement and Supplier Relationship Manager or authorised substitute
- Stock items are requisitioned by means of automatic ordering

- Payment verification checks of supplier invoices by staff independent of accounts payable staff.

The Board is aware that the system of internal control is designed to manage rather than eliminate the risk of failure to achieve business objectives. Internal control can only provide reasonable and not absolute assurance against material mis-statement or loss.

The Financial Statements for the year ended 31st December 2023 have been prepared under FRS102.

Statement of Board Members' Responsibilities

The Board is required by the Blood Transfusion Service Board (Establishment) Order 1965, to prepare financial statements for each financial year which, in accordance with applicable Irish law and accounting standards, give a true and fair view of the state of affairs of the IBTS and of its income and expenditure for that year. In preparing those financial statements, the Board is required to:

- Select suitable accounting policies and then apply them consistently
- Make judgements and estimates that are reasonable and prudent
- Disclose and explain any material departure from applicable accounting standards
- Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the IBTS will continue in business.



The Board is responsible for keeping proper books of account, which disclose with reasonable accuracy at any time, the financial position of the IBTS and to enable it to ensure that the financial statements comply with the Order. It is also responsible for safeguarding the assets of the IBTS and hence taking reasonable steps for the prevention and the detection of fraud and other irregularities.

Procurement

The IBTS is in compliance with current procurement rules and guidelines as set out by the Office of Government Procurement.

Asset Disposal

There were no fixed asset disposals during 2023.

Protected Disclosures

The IBTS complies with the requirements under the Protected Disclosures Act as amended in 2022 and confirms that procedures are in place for the making of protected disclosures in accordance with section 21(1) of the Protected Disclosures Act 2014. There were no protected disclosures in 2023.

Commercially significant developments

The IBTS made a humanitarian donation of blood bags to the Egyptian authorities in December 2023 connected to the ongoing conflict in Gaza. The donation was valued at €18,500.

The donor web portal went live in June 2023.

Deirdre-Ann Barr
Chairperson





Chief Executive's Report

It is with great pleasure that I present the 2023 Annual Report for the IBTS. While we moved beyond the restrictions of the previous few years, we had to manage what was at times a changeable blood supply, for some groups at least. In the main however our blood supply returned to a more stable footing. We ran three blood appeals aimed at Rhesus negative donors and as always had a magnificent response from our donors and the public. We are hugely grateful for their on-going and loyal support.

In addition to our day-to-day activities, we delivered important initiatives aligned to our strategic plan, **Connections that Count: Developing the IBTS 2021 – 2025**. Many of our projects are multi-year in nature and many staff were involved in progressing them throughout the year. We held a Board Mid Strategy Review in May to review our progress and discuss some of our bigger projects. One of the more significant achievements was the introduction of the donor portal, allowing regular donors to book and manage their own donation appointments. By the year end over 33,000 donors had registered an account and we look forward to expanding the portal to other groups over the coming years.

Other achievements included the introduction of malaria testing in May, a step which now allows us increase our donor pool by inviting people from malarial regions to safely become blood donors. Our project to reintroduce the use of Irish donor sourced plasma also continued this year, a project that we expect will result in Irish donor plasma being used again in our healthcare system by the end of 2024 / early 2025. To enable us to manage the plasma process, work on transferring our health and lifestyle questionnaire to an electronic form on clinic continued in 2023 and we expect to be implementing the questionnaire on

a tablet device in mid 2024. We worked on developing a mutually respectful partnership with the Tanzanian National Blood Service and completed an assessment of needs which will inform the areas that we will work together on over the coming years. Further achievements from our Corporate Strategy, People and Culture Strategy, Research and Development Strategy and IT Strategy are reported on throughout this annual report.

We had a lot of ground to make up in terms of increasing the numbers of new donors this year and 2023 saw over 11,000 people registered to become new donors, a welcome increase after three years without actively recruiting. This focus will continue in 2024 as we aim to recruit another 15,000 new donors. Along with increasing the numbers of new donors we also worked to diversify our donor base. We particularly focused on recruiting donors of African heritage and held a clinic in June to promote awareness of blood donation and the donation process. This work will continue in 2024 as having a more diverse donor base will allow us better match blood to specific patients.

In February the Board approved the first ever model of care for transfusion medicine in the IBTS, a plan that will see the IBTS grow its medical workforce over the next five years to cover new and emerging therapies and developments relevant to the IBTS. We appointed a new Medical and Scientific Director who will take over from Prof Tor Hervig on his retirement in mid 2024 and look forward to welcoming him and working with him in the years ahead.

In late 2022, the Department of Health announced the IBTS plan for the redevelopment of the IBTS Centre in Cork on the grounds of St Finbarr's Hospital. This project will take us a number of years to



complete and the process started in 2023 with the appointment of an architect to finalise the development brief. We look forward to progressing this project with the Department and our stakeholders over the coming years.

Another positive experience in 2023 was the return of our Donor Awards Ceremonies for both our whole blood and platelet donors. The first ceremony was held in Dublin and coincided with World Blood Donor Day and three further ceremonies were held around Ireland during the year. In total we acknowledged 470 50-times donors and 150 100-time donors. It was a humbling but enriching experience to meet and thank those who have given such an extraordinary commitment to blood and platelet donation. As always, our donors have been incredible in their support and continued to show up and donate in 2023, with 85,426 attending our clinics one or more times.

Sustainability remained a focus in 2023 though we didn't make as much progress as we would have liked, and it became clear that specialist knowledge and expertise would be needed. In order to ensure we make meaningful progress in 2024, a dedicated Climate and Sustainability resource is being progressed. We had hoped to complete a detailed energy audit this year which would help identify projects and actions to support us meeting the 2030 energy efficiency saving target. We expect this work will be completed in 2024 and this will help us identify the projects that will form part of our climate action plan.

Implementation of the enhanced organisation structures also continued in 2023, and four governance groups were established aimed at enhancing mid level leadership engagement and pro-active participation. We look forward to further embedding these enhancements in 2024.

However, we also had some challenges this year and it was particularly difficult maintaining adequate staffing levels in some areas throughout the year. We are all hoping that this trend will start to reverse and 2024 will see more stability in our workforce. Like many organisations over the past three years, we have adapted to new ways of working and implemented our blended working policy, in line with the Blended Working Policy Framework for Civil Service organisations.

Work is also required in relation to cybersecurity and ensuring we can achieve compliance with the National Information Security Directive.

During 2023, we continued to collaborate and enhance relationships with our key stakeholders. We worked extensively with our European counterparts and made significant contributions to the European Blood Alliance (EBA). I was honoured to be appointed to the Executive Board of the EBA in October and look forward to playing my part in ensuring a safe, high-quality, and cost-effective blood and tissue supply for European citizens. We continued to work with the Health Products Regulatory Agency (HPRA) on regulatory matters but also on specific work to strengthen governance arrangements between the IBTS, National Haemovigilance Office and the HPRA. We implemented enhanced reporting and signed a Memorandum of Understanding with the HPRA setting out our current way of working. We also agreed user requirements for a new joint IT reporting system and look forward to progressing this in 2024.

Unfortunately, we saw further global unrest in 2023 and in December, the IBTS, liaising with the Department of Health, made a humanitarian donation consisting of blood bags to the Egyptian authorities to help those impacted by the Israeli/Gaza conflict.

I would like to express my sincere appreciation to staff who have given loyal and dedicated service to the organisation that retired or moved on during the year. I would also like to thank and acknowledge the Board, under the leadership of Chairperson Deirdre Ann Barr and for their continued guidance and support. I am indebted to the Executive Management Team and all our staff for their extraordinary efforts and support throughout the year as we continued to provide our services to patients and donors.

Our purpose is clear and we remain committed to working together in the interests of donors and patients to maintain and improve the availability, quality, resilience and safety of the blood supply in Ireland.

Orla O'Brien
Chief Executive





Medical & Scientific Director's Report

2023 has been a busy but exciting year. It was the first year after the introduction of the Individual Donor Health Risk Assessment (IDRA) and several other major projects have been on-going throughout the year. This report includes key points related to these activities, more detailed information may be found under the subheadings.

The Medical Model of Care is being implemented. The model will allow the IBTS to increase interactions with the hospitals and academic institutions in Ireland, to the benefit of patient treatment. The most significant progress in 2023 was the appointment of a consultant haematologist in Cork. In addition to the Medical Model of Care, a similar plan to strengthen the scientific staff has been initiated.

In line with our organisational structure recommendations a Clinical Governance Group was established in 2023. Members include medical, scientific and nursing staff members who meet to discuss common themes of importance to support the services IBTS provides to patients and hospitals. This group is important for internal collaboration and contributes to making the IBTS more attractive to health care professionals.

Individual Donor Risk Assessment (IDRA)

The implementation of the Individual Donor Risk Assessment (IDRA) provided a tool that enabled us to make blood donation more inclusive. However, patient safety is always the most important focus, and there is no guarantee that changes in blood donor eligibility would not cause changes in donor epidemiology. To monitor the effects of IDRA, a committee including a representative from the Scottish Blood Transfusion Service, was established. The committee has thoroughly

monitored the situation, and is satisfied to conclude that the implementation of IDRA has been successful in relation to patient safety. During 2023, there was a slight increase in donors testing positive for syphilis, but there is no indication that this is related to IDRA. In April, IBTS representatives participated in an international seminar on individual donor risk assessment, and similar positive results were reported from all countries that had implemented the new eligibility criteria. A report from the seminar has been published in Vox Sanguinis.

IDRA involves asking the donors detailed questions related to their behaviours. Some questions may be regarded as offensive, but the questions have been very well accepted by the Irish blood donors. We are grateful to the donors that they agree that these questions are necessary to secure patient safety, by continuing to donate. There has been only one donor complaint related to the questions, and only 0.3% of the donor deferrals are related to the new questions introduced under IDRA.

In order to gain a deeper insight into blood donor compliance, preparations have started to undertake a large compliance study in collaboration with the blood transfusion services in the UK. We will be progressing this in 2024.

Implementation of malaria antibody testing and diversifying the donor pool

The implementation of IDRA allowed the IBTS to make the donor pool more diverse. As many new potential blood donors have been exposed to malaria, an infectious disease that may be transmitted through transfusion, implementation of the Malaria Antibody Test (MAT) has been very important.

The MAT is necessary for us to approach people of African heritage. 2023 saw the commencement of efforts to recruit African heritage donors, and this work will be intensified in the coming years.

A secondary effect of the MAT is that we have now identified donors with what is referred to as “rare blood groups”. These are combinations of blood group antigens that are very seldom found in the general population. This enables the IBTS to better find donors to patients with special requirements.

Plasma

Due to risk of vCJD, donors who had cumulatively been in the UK for 12 months or more during the period 1980-96, had to be excluded from donating blood. As a result of an extensive risk assessment, the IBTS finally removed the “UK question” from our blood donor health questionnaire in 2019. This allowed us to begin a multi year project to reintroduce Irish plasma for transfusion and I’m happy to report that the project is at an advanced stage and we are on track to reintroduce Irish plasma in late 2024.

Pathogen Reduction of platelet concentrates

Internationally, the use of pathogen reduction technologies is increasing. The blood donor selection criteria and the testing of the donated blood vary significantly between different countries. In Ireland, we have a validated system for bacterial surveillance of platelet concentrates and the most sophisticated testing available for HIV, hepatitis B, C and E. During 2023, the validation of a method for pathogen reduction of platelet concentrates was completed. The results of the testing were excellent and are due for publication in international scientific journals.

As the pathogen reduction method can cause some damage to the platelets, and there is some concern related to side effects,

the decision was made not to implement pathogen reduction of platelet concentrates at this time.

Research & Development

The research activities within the IBTS are expanding significantly. The number of publications and the engagement of IBTS staff members in national and international scientific committees have also increased. A strong indication of the importance of these efforts is that we have been approached by several external institutions to engage in large research projects.

Tissue activities

The demand for tissues and serum eye drops continue to increase. The strategic priority is to re-establish the Irish Eye Bank. This work is progressing well and the first cornea retrieval is scheduled for late 2024.

We are also engaged with analogous organisations exploring plans to increase the clean room availability in Dublin.

Laboratories

2023 saw many important achievements in the IBTS laboratories. As mentioned earlier, the introduction of the MAT has provided several new opportunities to recruit donors with rare blood groups. This is further enhanced by a new system by which we can now capture donor ethnicity. This is necessary to select the samples that will be selected for testing to identify rare blood groups, as these are related to ethnicity.

Participation of the IBTS and Irish blood donors in the National Serosurveillance Programme (NSP), which is part of the Health Protection Surveillance Centre, is another important initiative. The NSP programme monitors the population’s exposure to SARS-CoV-2 over time, with a specific focus on sex and age groups and also tracks quantitative



antibody levels by age group. During 2023 the NSP adjusted its sampling frames to prioritise elderly populations in response to requests from the National Immunisation Advisory Committee (NIAC). Similarly, a study to investigate the correlation between quantitative antibody levels and functional assays was also conducted.

During 2023, validation of a new assay for hepatitis C screening providing even better sensitivity and specificity was conducted. The RCI laboratory maintained the ISO15189 accreditation following inspection in May.

Haemovigilance

During 2023, there was a successful National Haemovigilance Seminar with nearly 300 delegates. The haemovigilance activities are mandated by law, and are crucial for patient safety in relation to transfusion. Work has also progressed on optimising reporting to the HPRA and working collaboratively on a tender for a new IT system. This work will continue in 2024.

The Unrelated Bone Marrow Register (IUBMR)

The need for stem cell transplantation in Ireland is increasing and the workload for the registry personnel has grown correspondingly. It is impressive to witness the service level the IBTS staff provide to the clinicians. In addition, the demand for Irish stem cell donors to International patients is also increasing, especially as we have successfully recruited more young Irish donors to the register.

The National Transfusion Advisory Group (NTAG)

The position as Clinical Lead of Transfusion was vacant until late 2023 so the work of NTAG will recommence in 2024.

Global Health Initiative - Collaboration with the National Blood Transfusion Service of Tanzania

The IBTS initiated collaboration with the National Blood Transfusion Service of Tanzania as part of one of our strategic objectives. This partnership is currently focusing on the basic needs of the service in Tanzania. Blood donor recruitment, haemovigilance and platelet concentrate productions are among the most important issues. In addition, we have ambitions to conduct research in relation to the practical work. We are proud of this international engagement, the benefits we are bringing to another national blood service and it is contributing to a positive working environment for us in the IBTS. We look forward to further developing this in the years ahead.

Professor Tor Hervig

Medical & Scientific Director

Donor Services and Logistics

Collections

Donor Awards 2023

	50s	100s	Ceremonies
Carlow	87	24	1
Cork	133	34	1
Dublin	250	97	2

New National Campaign Launched

Lifeline

In September 2023, Giveblood.ie launched a new national donor recruitment campaign named 'Lifeline'. The campaign focused on recruitment of blood donors and highlights the fact that we can't choose when to need blood, but we can choose when to give it. The objective is to encourage people to give blood, to give a lifeline, to those who need it. This highlights the fact that 1 in 4 people will need blood in their lifetime, but only 3% of the eligible population are blood donors.

The material in this campaign was created for TV, Video on line (VOD), Radio, Digital and Social Media in English and also for the first time in Irish, to enable the IBTS to meet the new on-going annual Irish advertising requirements. This campaign will continue into 2024.

Make a Comeback

In November, Giveblood.ie launched a targeted campaign to encourage donors who haven't given blood for a while to 'Make a Comeback'. The campaign was aimed at those who may have given blood in the past but who for many reasons haven't attended for a while. This was on Social Media and Digital Display, and the campaign will also continue into 2024.

Partnerships

Giveblood.ie also worked in partnership with a number of media platforms to create educational and inspiring editorial and video content about the importance of giving blood. The video gives an insight into the donation process, and was filmed with a social media influencer who is a blood donor and was keen to help raise awareness of the importance of blood donation. The donation video has been shared on Her.ie social media platforms as well as by Holly White on her own social media.

Hospital Live

The IBTS were delighted to partner with RTE 'Hospital Live' again in 2023. The show was broadcast over three nights from the Mater Hospital and was presented by Philip Boucher-Hayes and Anna Daly.

In addition to hearing inspiring real life stories from blood transfusion recipients, there was a particular focus on the need for new blood donors. Hospital Live directed viewers to the giveblood.ie website, where they could register their interest to become a blood donor. Over 1,000 people registered their interest over the three nights.

Diversifying our Donor Base

Malarial Antibody Testing was introduced in May, which meant many potential donors who were previously not eligible to donate because they had lived in or visited a malarial area, may now be able to give blood. Testing for malaria is a positive step for recruitment of new donors, and it will help to diversify the donor population so that the IBTS can better suit the needs of patients.



Red Cells 4 Sickle

As part of this initiative, in June we worked with Sickle Cell and Thalassaemia Ireland (SCTI) to hold a blood donation clinic at our D'Olier Street clinic. We welcomed new donors of African Heritage and were delighted to have the support of SCTI. We also worked with the Medical Society in UCD to educate and encourage new young African heritage students to give blood during our college and University clinics and into the future.

Community Partnerships

We were delighted to have the support of Cork GAA for World Blood Donor Day in June, with a special clinic in Pairc Ui Chaoimh including GAA players and supporters donating blood, or committing to promoting future upcoming clinics throughout the county during the year.

First Time Donors

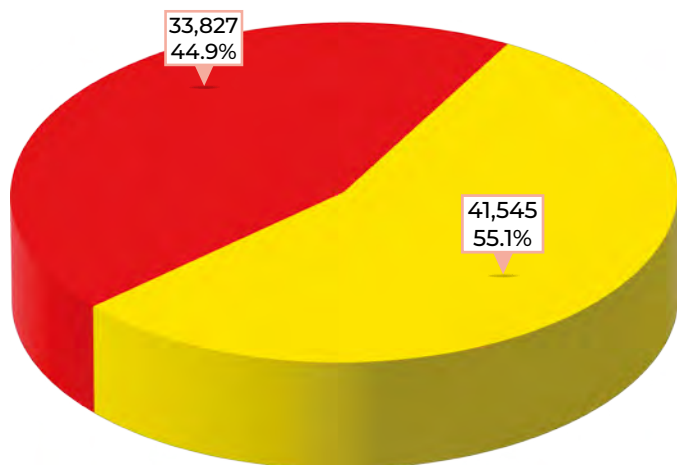
We welcomed over 11,000 first time donors through the doors of our clinics around the country in 2023 (an increase of 35% on the previous year). We were also delighted to restart college and University clinics towards the end of the year having been unable to do so during the pandemic.

All new donors also receive, shortly after their first donation, our new First Time Donor welcome postal pack including information about future blood donations and how they can make a habit of blood donation.

Online appointments for Regular Donors

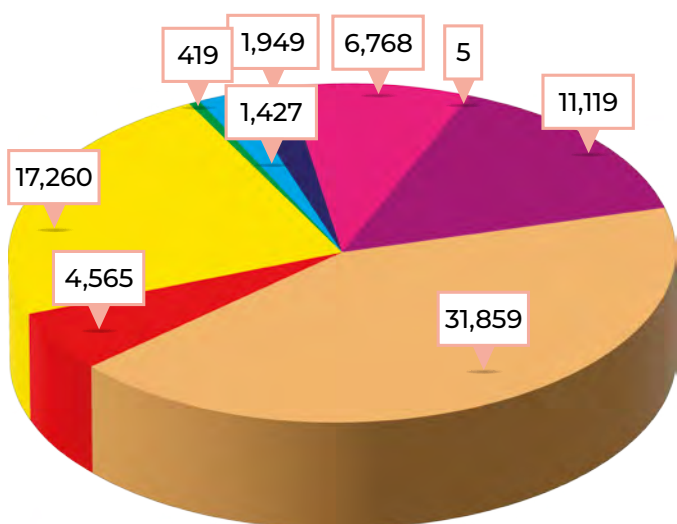
In the run up to World Blood Donor day in June, we were delighted to introduce our new online portal for regular donors, enabling them to make future appointments online without the need to call IBTS beforehand. This has proven very popular with existing donors with over 33,000 donors registered, since its launch. As part of this new service we also redesigned our website giveblood.ie to make it easier to use and quicker for regular and new donors.

Whole Blood Donors by Gender



- Female - 33,827 - 44.9%
- Male - 41,545 - 55.1%

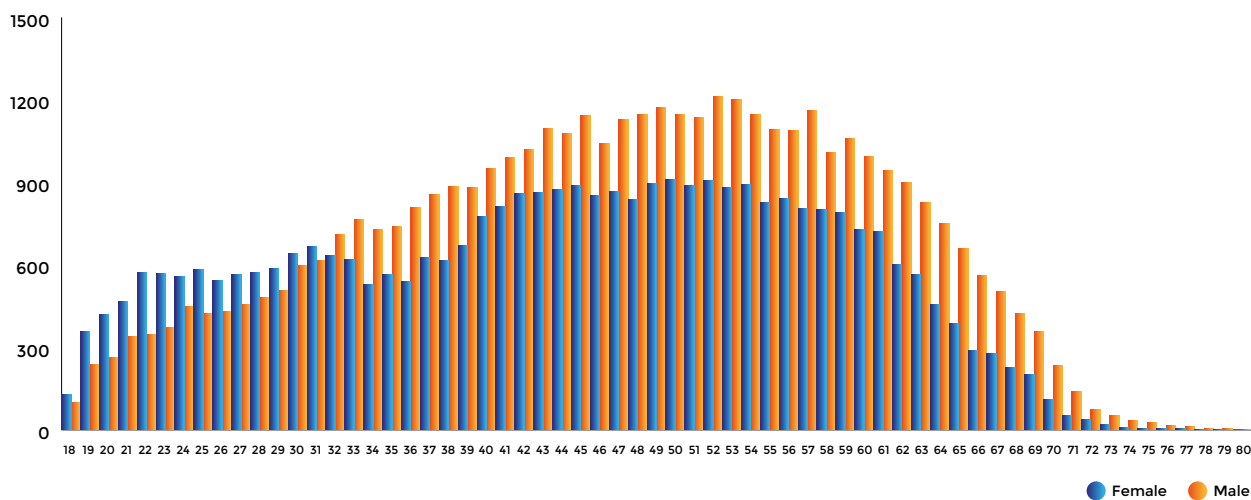
Whole Blood Donors by Bloodgroup



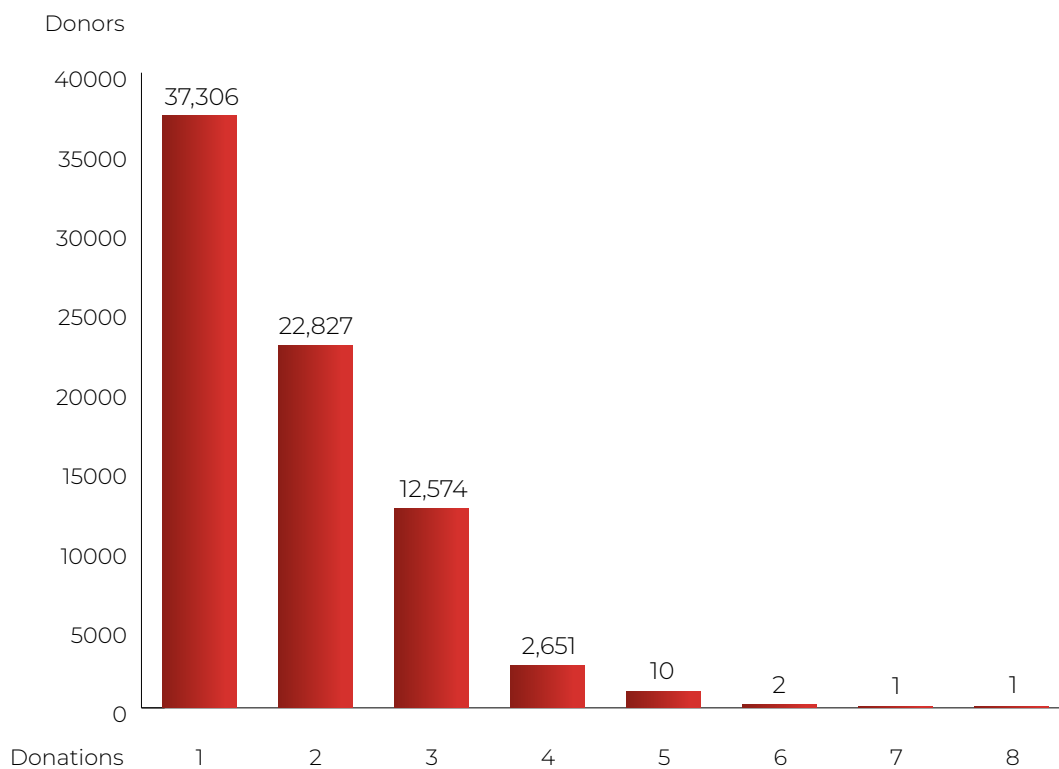
- A RhD Negative - 4,565
- A RhD Positive - 17,260
- AB RhD Negative - 419
- AB RhD Positive - 1,427
- B RhD Negative - 1,949
- B RhD Positive - 6,768
- Not-Tested - 5
- O RhD Negative - 11,119
- O RhD Positive - 31,859



Whole Blood Donors by Age and Gender



Whole Blood Donations by Donors



Production and Hospital Services

Production, Hospital Services, Supply Chain, Transport & Logistics, Scientific Support and Component Development

Key achievements in 2023 included:

- Maintained blood stocks across the supply chain, ensuring blood and blood product availability to meet patient's needs
- Worked with internal and external healthcare partners to maximise and optimise the use of blood components for all patient groups
- Commenced the replacement of temperature-controlled blood collection vehicles
- Continued replacement of critical blood processing equipment to maintain state of the art processing capability and operational best practice including the replacement of high throughput rapid plasma freezers
- Incorporated LEAN approaches to increase efficiencies in blood component production
- Completed the validation of technology for the pathogen reduction of platelets
- Commenced the project to re-introduce Irish donor plasma for therapeutic purposes
- Worked with internal and external research partners to advance the development of improved blood components
- Presented research findings at national and international conferences.

The Components Production function is responsible for processing, labelling and banking of all whole blood donations, platelet pools and platelet apheresis donations nationally.

The Hospital Services function is responsible for inventory management, receipt and issuing of blood and blood product orders from hospitals.

The Supply Chain, Transport and Logistics functions are responsible for supporting internal and external business needs.

The Scientific Support and Component Development team are responsible for the management of all platelet products, non-routine whole blood and red cell products issued from the NBC. This team also provides day to day scientific support for numerous departments and encompasses the product development function.

Blood Component Activity

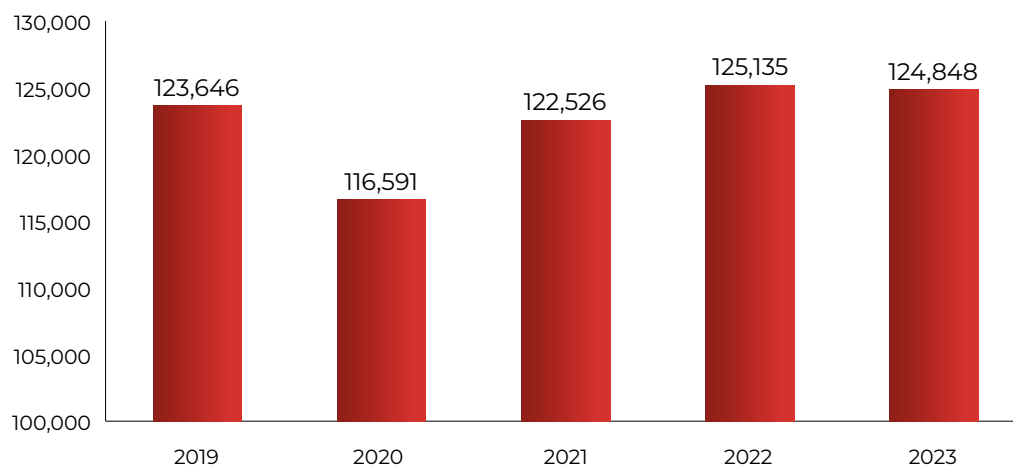
There was a decrease in red cells (-0.2%) and platelets (-4.3%) issued to hospitals in 2023, compared to 2022. Demand varied throughout the year with stronger demand in Q1-Q2 when compared to Q3-Q4.

Medicinal Product Activity

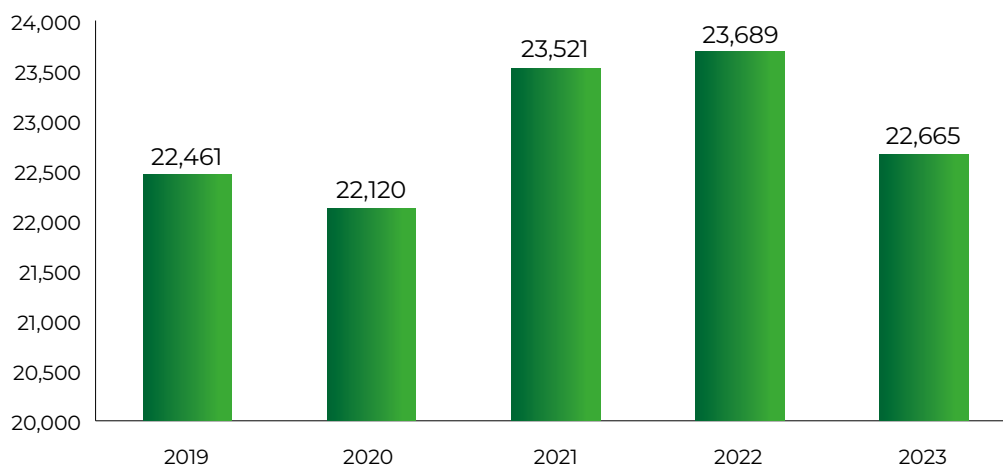
There was an increase in medicinal products issued in 2023, compared to 2022. There was a 7.2% increase in LG-Octaplas issued and a 12.6% increase in Riastap (Fibrinogen concentrate) issued.



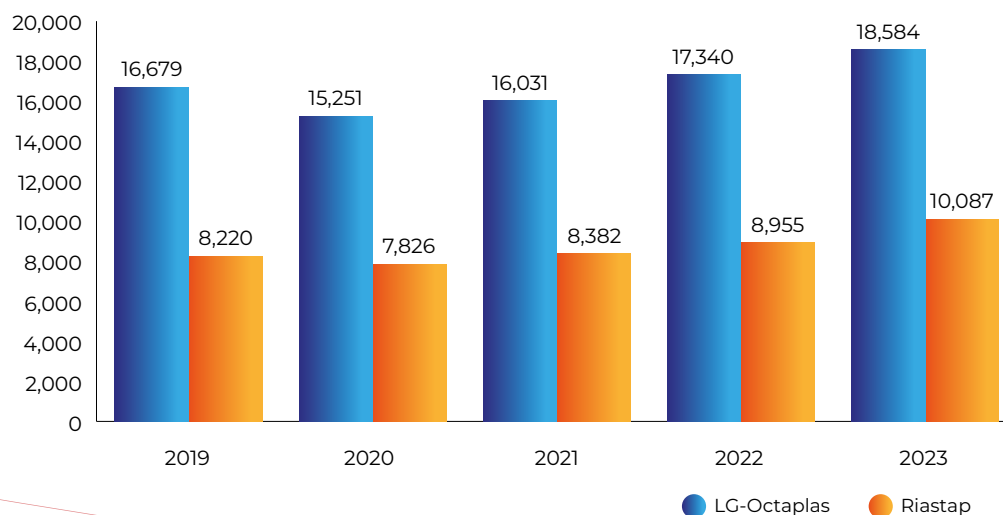
Red Cell Issues 2019 to 2023



Platelet Issues 2019 to 2023



LG-Octaplas and Riastap Issues 2019 to 2023



Testing

National Donor Screening Laboratory (NDSL)

The NDSL encompasses the three donor testing laboratories: Automated Donor Grouping (ADG), Virology, and Nucleic Acid Testing (NAT). This extensive collaboration between the three donor testing laboratories allows for optimum workflow analysis, strategic utilisation of key scientific personnel, up skilling of scientific personnel in multiple scientific disciplines, increased research and development in all areas and the increase of testing services available to the IBTS.

Key achievements of the NDSL in 2023 included:

- Malaria Antibody Testing (MAT) was introduced by the IBTS on the 20th May 2023. Prior to the introduction of testing, donors who met the following criteria were permanently excluded from donating blood;
 - > A donor who lived in any endemic malarial area for at least 3 months during the first 5 years of life
 - > A donor who lived in any of the malarial areas of sub-Saharan Africa or Papua New Guinea or West Papua (formerly Irian Jaya in Indonesia) for a continuous period of 6 months or more at any time of life
 - > A donor who experienced an unexplained fever that could have been Malaria during their visit to or in the 4 months after their return from a malarial area
 - > A donor with a history suggestive of Malaria or a confirmed diagnosis of Malaria
- With the introduction of MAT all of the above donors may now be eligible to give blood. A sample-only collection policy was introduced on the first attendance. Donors complete a Health and Lifestyle Questionnaire, and are then interviewed and screened by a Registered Nurse. If eligible to donate, samples are collected. Donors will have a MAT on every subsequent donation. Donors will be eligible to donate 42 days later, providing there is no reactivity on testing
- The Virology laboratory continued its partnership with the Seroepidemiology Unit (SEU) in the Health Protection Surveillance Centre (HPSC) in relation to the on-going COVID-19 National Serosurveillance Programme
- The IBTS began to capture donor ethnicity in May 2023. This initiative enabled the Donor Grouping Laboratory to take a more focused approach in blood group antigen typing of different ethnic cohorts. This approach allows for more efficient and cost-effective antigen typing, and for identification of rarer blood in an Irish context
- In conjunction with MAT, focused Donor ethnicity typing allowed for the identification of the first U- donor identified in an Irish donor cohort. 23 Fy(a-b-) donors were also identified in 2023
- ADG escalated the rare donor screening programme in the department for other rare groups. A rare Kpb- donor was also identified
- Training and participation in an internal audit team based on ISO requirements
- The maintenance and advancement of the cross-training programme with support from the Training and Education Officer provided cross functional support between staff in the three departments which has contributed to developing a cohesive and collaborative team in the NDSL
- The NDSL maintained Green Certification- the highest possible level of certification- with My Green Lab, a non-profit organisation that is leading the way in improving global laboratory sustainability. This was achieved with an exceptional assessment score of 94%.



NDSL Publications and Presentations:

- 'The changing profile of SARS-CoV-2 serology in Irish blood donors' (Coyne et al) was published in the Global Epidemiology
- 'Cytomegalovirus Seroprevalence in Irish Blood Donors' was presented at the European Conference on Donor Health and Management (ECDHM) conference
- 'Beckman Coulter PK7400 Primary Blood Group Analyser is suitable for phenotyping and screening Irish Blood Donors' (Arrieta et al) was a poster presentation at BBTS 2023
- 'Evaluation of the Architect Chagas Antibody Screening Assay: Qualifying Brazilian Nationalities for Blood Donation in Ireland' (Birmingham et al) was a poster presentation at BBTS 2023
- 'NAT screening of Irish Blood Donations: Past, Present and Future' was presented at the Grifol's Polish User Group meeting in Warsaw in November 2023.

NDSL Laboratory Activity:

In 2023, the NDSL tested 139,695 donations, with 131,199 coming from repeat donors (94%) and 8,496 (6%) of these donations coming from first time donors. In addition, 1,152 sample only new donors were also tested.

All donations were tested for:

- ADG: ABO/Rh, extended Rh phenotype (CcEe), donor antibody screen and high titre A/B
- Virology: The presence of antibody to Human Immunodeficiency viruses (anti-HIV1/2), antibody to Hepatitis C virus (anti-HCV), antibody to Human T-Lymphotropic virus type I and II (anti-HTLV-I/II), antibody to Hepatitis B core (anti-HBc), Hepatitis B surface Antigen (HBsAg), antibody to Treponema Pallidum (Syphilis)
- NAT: Human Immunodeficiency Virus type 1 and 2 (HIV-1/2), Hepatitis C virus (HCV) and Hepatitis B virus (HBV), Hepatitis E Virus (HEV)

Selected donations were tested for:

- ADG: Extended antigen types (see table 1), haemoglobin S, neonatal antibody screen. Donors are typed for extended antigen types (Fya/b, Jka/b, M, S/s) for routine hospital orders and also to identify rarer phenotypes or combinations of antigen negative types. These are typically for patients with complex transfusion requirements such as sickle cell disease or multiple red cell antibodies and for prophylactically antigen-matched blood for intrauterine transfusions and certain patients who are known red cell antibody producers
- Virology: Selected donations are tested for Cytomegalovirus (CMV) (approx. 80% of donations) in order to have a supply of CMV negative donations for those patients who are at risk of the complications of CMV infection e.g. immunocompromised patients. Selected donations are also tested for Malaria Antibodies
- NAT: Selected donors were screened for West Nile Virus (WNV) from May to December 2023. This testing was performed for donors who had travelled to a WNV at risk area within the past 28 days.

ADG have two instruments in use: PK7400 as the primary blood group analyser and Ortho Vision as the secondary blood group analyser. Both instruments are immunohematology systems and utilise both hemagglutination and sensitisation techniques. The PK7400 is a high-throughput microplate system and the Ortho Vision tests using column agglutination technology. Manual techniques are used for antibody identification and sickle cell trait testing.

The Virology laboratory performs screening on the Abbott Alinity S System, which is a high-throughput, fully-automated immunoassay analyser designed to determine the presence of specific antigens and antibodies using

chemiluminescent immunoassay (CMIA) technology. Malaria antibody screening is performed on the Dynex DS2 instrument.

The NAT laboratory performs Individual Donation testing (ID-NAT) using the Panther testing instruments with the Ultrio Elite (UE), HEV and WNV assays. The Panther instrument is a fully automated closed system for NAT testing. The Procleix UE assay is a multiplex Transcription Mediated Amplification (TMA) assay for the detection of HIV-1/2 RNA, HCV RNA and HBV DNA in human plasma. The Procleix HEV assay detects HEV RNA. The WNV assay reliably detects low level WNV RNA (lineage 1 and 2) in blood donations.

The laboratory also performs screening tests for viral markers for various departments within the IBTS, including stem cell donors, heart valve tissue donors and samples from recipient tracing testing programmes.

Participation in External Quality Assessment Schemes (EQAS):

NDSL participate in several EQAS. All departments within the NDSL had satisfactory results for their relevant EQA.

ADG is a participant in 3 NEQAS schemes and 1 EDQM scheme annually. This consists of 19 separate serology exercises and 6 abnormal haemoglobin exercises.

The Virology department participates in three proficiency programmes: one circulated by the United Kingdom National External Quality Assessment Service (UK NEQAS) for Microbiology, the second by the NRL, Australia and one by the European Directorate for the Quality of Medicines & HealthCare (EDQM/NAT). Overall 25 proficiency exercises were completed in 2023 in Virology, assessing all Virology markers tested in the laboratory.

The NAT laboratory participated in seven proficiency programmes: two provided by the NRL, Australia, one by the European Directorate for the Quality of Medicines & HealthCare (EDQM), one by Quality Control for Molecular Diagnostics (QCMD), UK and two by the National Centre for the Control and Evaluation of Medicines (CNCF), Italy.

Overall, 14 proficiency exercises were completed in 2023 in the NAT laboratory. The laboratory also participates in the surveillance programme run by National Health Service Blood and Transplant (NHSBT) Epidemiology Unit/Health Protection Agency UK. The repeat reactive rates and the confirmed positive rates for testing kits using various lot numbers of reagents with the NHSBT are monitored. A notifying report is generated which details assay performance and trends in reactive rates.

NDSL Contingency Testing:

As the NDSL is a national testing facility, the IBTS has an external testing plan with the Scottish Blood Transfusion Service in case of a critical failure of instruments or site. The NDSL succeeded in participating in 2 exercises in 2023 which involved sending samples from 24 donors for testing with favourable results. This plan has not had to be activated in a 'live' situation since the consolidation of testing at the National Blood Centre in 2010.



NDSL Audits:

The Laboratory also participates in a number of Internal and External Audit programmes to ensure compliance within the Quality Management System (QMS). This auditing of the NDSL processes and procedures are undertaken by the Health Products Regulatory Authority (HPRA), the IBTS Quality Assurance (QA) department and the NDSL Laboratory.

Blood Group Genetics Laboratory (BGGL)

Molecular Blood Group typing is performed by the BGGL of the Molecular Biology and Genetics Department at the National Blood Centre, with the purpose of providing a molecular diagnostic service for blood group determination.

The BGGL provides a service for:

- Fetal *RHD* Screen
- Weak D Genotype investigation
- *RHD* Variant investigation
- Full RBC Genotype investigation
- *RHCE* Variant investigation

DNA-based testing is increasingly being used to predict a blood group phenotype to improve practices in transfusion medicine.

Red blood cells carrying a particular antigen, if introduced into the circulation (through transfusion or pregnancy), of an individual who lacks that antigen, can elicit an immune response. The resultant production of antibodies can have a significant effect on the patient's morbidity and even mortality.

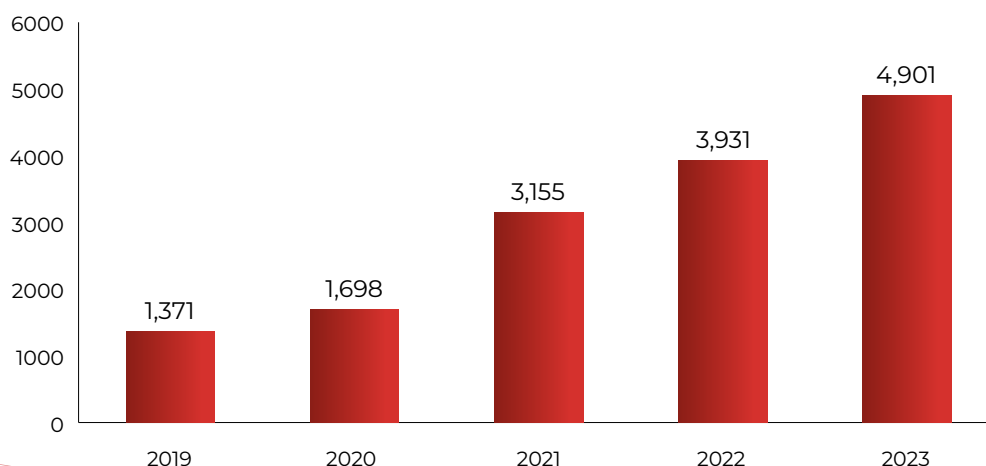
Sensitive methods, such as quantitative Polymerase Chain Reaction (qPCR), offer the ability to detect very low levels of DNA and are particularly applicable for the detection of fetal blood group genes in cell-free DNA extracted from maternal blood.

In 2023, over 4,900 samples were received by the Blood Group Genetics Laboratory for Fetal *RHD* screening from 12 different hospitals nationally. The electronic transmission of Fetal *RHD* screening results through Medibridge is available to referring hospitals.

Since the development of the BGG laboratory and the implementation of fetal *RHD* screening in 2018/19, over 5,500 women have avoided unnecessary prophylactic anti-D.

Molecular determination of blood groups offers a powerful method that overcomes many of the limitations of, and often offers higher resolution blood group typing than serological methods (e.g. *RHD* and *RHCE* variants, FYGATA mutation).

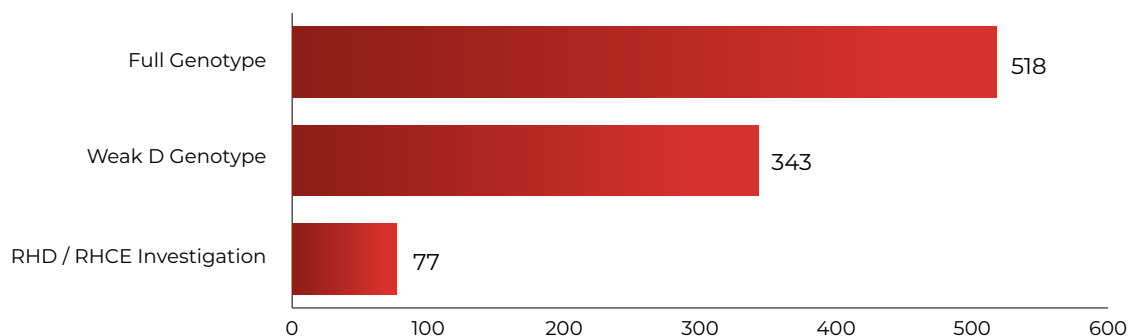
Fetal RHD Screening 2019-2023



Currently 44 Human Blood Group Systems have been identified, their genes cloned and the molecular basis associated with individual antigens determined; there are 354 red cell antigens represented in the 44 Blood Group Systems.

The BGGL continues to provide an extensive red cell genotyping service for the resolution of serological ambiguities (weak D, RHD investigation, extended genotyping for anti-CD38 monoclonal antibody therapies) and to compliment haemoglobinopathy patient workups for the investigation of complex RHCE variant alleles.

Red Cell Genotyping samples 2023



Red Cell Immunohaematology (RCI) Laboratory

The RCI laboratory provides extensive pre-transfusion and antenatal referral services for hospitals nationwide.

Key achievements

1. Research and Educational Achievements

- The RCI laboratory contributed data to a BEST collaborative study which resulted in the following publication 'Serologic reactivity of unidentified specificity in antenatal testing and hemolytic disease of the fetus and newborn: The BEST collaborative study'. Lu W, Ziman A, Yan MTS, Waters A, Virk MS, Tran A, Tang H, Shih AW, Scally E, Raval JS, Pandey S, Pagano MB, Shan H, Moore C, Morrison D, Cormack O, Fitzgerald J, Duncan J, Corean J, Clarke G, Yazer M. *Transfusion*. 2023 Apr;63(4):817-825. 23 February 2023
- RCI staff presented two scientific posters at scientific conferences in 2023;
 - > BBTS Conference: 'Assessment of change from 3 day to 7 day sample validity rule for pre transfusion compatibility testing for patient's treated with anti-CD38 antibody'. L Shackleton, H Venning, Aisling Costelloe, K Morris.
 - > BioMedica 2023: 'Investigation of Auto-anti-I'. L Sparling A Costelloe, E Scally, Dr. K Morris.
- RCI completed initial validation for the development of a testing strategy for patients on the monoclonal antibody anti-CD47. Further methods for inhibiting this interference are on-going.
- RCI continued to supply customer requests for samples which were used in projects across the country.

2. Laboratory achievements

The RCI laboratory maintained ISO15189 accreditation following inspection in May 2023.

Other key laboratory objectives were achieved in RCI:

- Software upgrade for the antibody quantitation software
- Validation of Immune Anti-A / Anti-B technique
- Recruitment drive & development of a policy for managing staffing shortages in the laboratory.



Laboratory activity

The services provided by the RCI laboratory include:

- provision of crossmatched blood for patients with complex antibodies
- investigation of red cell antibodies including serologically complex cases
- investigation of haemolytic transfusion reactions
- ABO/Rh typing, including the investigation of blood group anomalies
- investigation of patients with positive direct antiglobulin tests
- investigation of autoimmune haemolytic anaemia
- investigation of monoclonal antibody interference
- investigation of haemolytic disease of the fetus & newborn (HDFN)
- antenatal screening for red cell antibodies to identify at risk pregnancies; (antibody quantitation and / or antibody titration as appropriate)
- provision of suitable blood at delivery for at risk pregnancies
- extended phenotyping for transfusion dependant patients and for patients with complex red cell antibodies
- phenotyping of donor red cells when requested
- clinical and scientific advice to hospital colleagues
- importation of rare blood for named patients, and
- out of hours emergency on-call service
- provision of hospital blood bank services for Our Lady's Hospice and Care Services and the Royal Victoria Eye and Ear Hospital.

In 2022 and 2023 a total of 2,598 samples were tested in the RCI laboratory. 2023 saw a slight decrease in referrals for patients receiving the drug Daratumumab to treat multiple myeloma. This is due to hospital transfusion laboratories now implementing this test. 2023 saw another increase in out of hours requests; a 13.1% increase.

Comparison of 2022 and 2023 sample numbers

	Total No. of Samples tested	RhD Type Workup	Antibody ID	Anti-D Quant	Anti-c Quant	Monoclonal Interference	Total Compatibility Test	Complex Compatibility Test	On-call Samples
2022	2598	8	1718	387	142	387	859	849	236
2023	2598	6	2453	384	153	384	1184*	888	267
(%)	0	-10.4	+42.78	-0.78	+7.75	-0.78	+37.83 *	+4.59	+13.1

*Data on segment compatibility tests was captured for the first time.

As in previous years, there was a continued high level of serologically difficult or rare samples received. In 2023 the following complex samples some with rare allo-antibodies were identified by the RCI Laboratory:

Antibody Identified	No. of Samples	No. of Patient's
Anti-Ce	1	1
Anti-Ch/Rg	24	11
Anti-G	49	15
Anti-H	1	1
Anti-HI	4	4
Anti-JMH	3	1
Anti-Kpb	8	1
Anti-Kna	1	1
Anti-P1	7	7
Anti-Vw	1	1
Other HTLA Antibodies	18	10
Immune Anti-B	2	2
System Specific	23	16
Anti-Wra	18	10
Anti-Yta	4	1
Anti-f	1	1
Anti-k	2	1
Anti-Coa	1	1
Anti-PPIPk	1	1
Total:	169	86

Many of these patients are antenatal and in conjunction with identification of the red cell antibody, the risk of HDFN and possible blood requirements for both mother and baby were managed. The outcomes for both mother and baby were successful to date.

The laboratory continued to develop its inventory of Rare Reference Cells and Antisera (through membership of the International Serum, Cell and Rare Fluid (SCARF) Exchange network and the UK Cell Exchange) and optimised its testing methodologies to adapt to the changing demographics of the Irish population.

Importation of rare blood/products

In 2023, a total of six rare red cells units and three platelets were imported from abroad for named patients, following the identification of rare antibodies or a rare HLA type.

Participation in External Quality Assurance Schemes

The RCI laboratory participates in three different quality assurance schemes; four exercises in IEQAS, four exercises in AQQAS and 10 exercises in NEQAS along with pilot NEQAS schemes in red cell phenotyping, DAT and antibody titration. In addition, the RCI laboratory is involved in Interlaboratory comparison schemes for elution techniques, antibody titrations, adsorption techniques, DTT treatment and Neutralisation techniques. All results obtained were satisfactory, however, RCI reported one result out of consensus with exercise UKNEQAS 23ERP1. This incident was managed in accordance with IBTS policies and procedures.



National Histocompatibility and Immunogenetics Reference Laboratory (NHIRL)

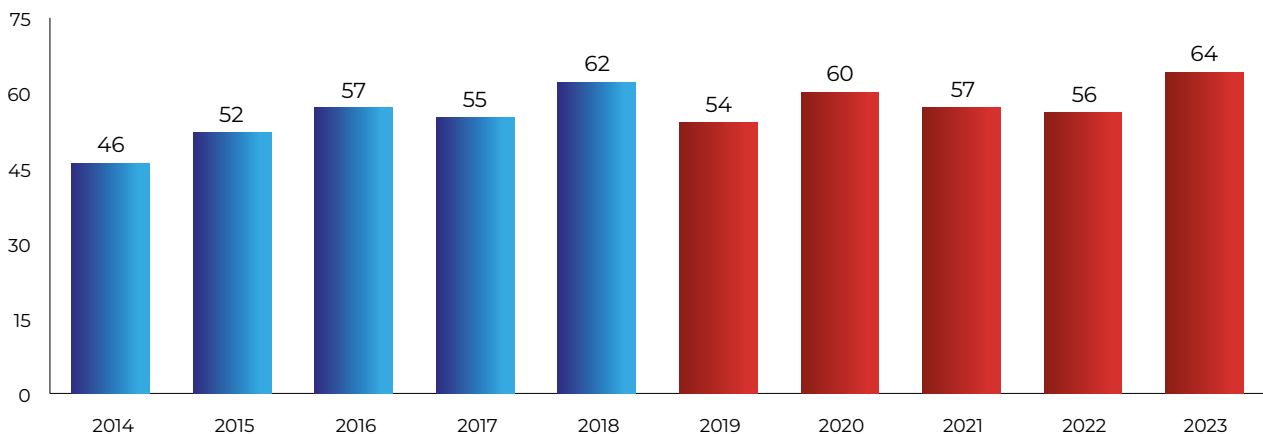
The NHIRL provides a comprehensive range of clinical testing services designed to support the Allogeneic Haematopoietic Stem Cell Transplantation (HSCT) programmes at St. James's Hospital and Children's Health Ireland at Crumlin. HSCT can be used in the treatment of leukaemias, bone marrow failure syndromes and inherited metabolic disorders.

The laboratory determines the Human Leucocyte Antigen (HLA) type of all patients and donors (related or unrelated) prior to transplantation to aid donor selection. The laboratory uses exclusively molecular methods based on the polymerase chain reaction (PCR) to define the genes that encode the HLA molecules. This technology can achieve a high level of resolution that distinguishes between individual alleles of the HLA genes. Since the 15th June 2020 the NHIRL performs high resolution HLA typing for 11 HLA loci (HLA-A, B, C, DRB1/3/4/5, DQA1, DQB1, DPA1, DPB1) by Next Generation Sequencing (NGS) using the Illumina MiSeq platforms.

The laboratory has an extensive quality assurance programme including participation in both internal and external proficiency testing programmes for HLA typing, Human Platelet Antigen (HPA) genotyping and HLA antibody investigations. The NHIRL has been accredited by the European Federation for Immunogenetics (EFI) since 2001.

In 2023, samples from 370 Irish patients for potential haematopoietic stem cell transplants and 450 family members were HLA typed by the NHIRL. For those patients without a suitable family donor, an unrelated donor may be identified from the registry of volunteer unrelated donors. A total of 474 samples from possible unrelated donors were HLA typed for Irish patients in 2023. The NHIRL provides an immunogenetics support service for the Irish Unrelated Bone Marrow Registry (IUBMR). Since October 2019 the blood donor Health and Lifestyle Questionnaire (HLQ) included a question for donors aged between 18-25 asking if they would like to join the bone marrow registry. This has resulted in a very significant increase in the number of donors registering with 2,385 new donors joining in 2023.

Number of Irish Patients receiving a HSCT from an Unrelated Donor 2014-2023



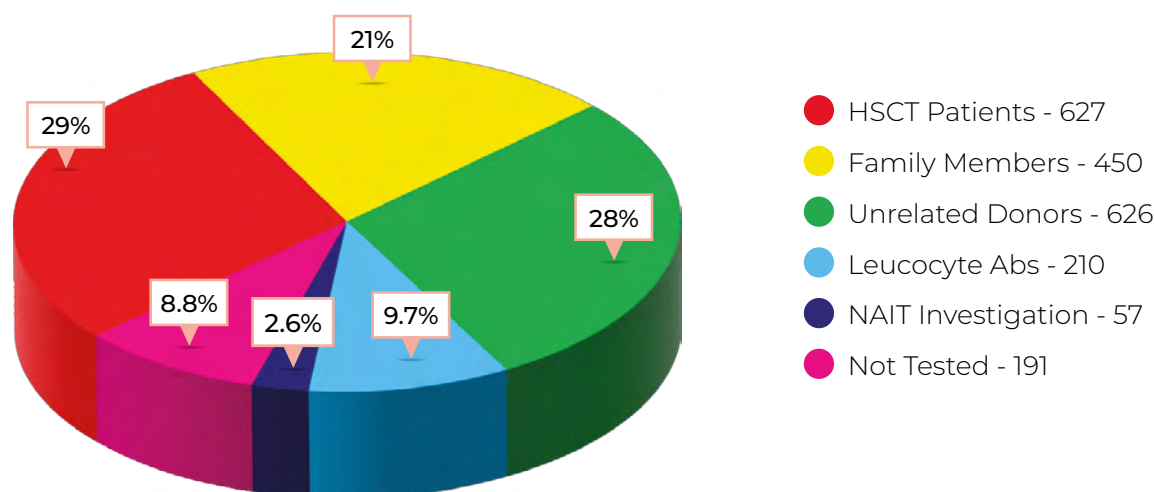
In 2023 a total of 64 unrelated donor transplants were performed. In the last 10 years the IUBMR has facilitated 563 unrelated donor transplants for Irish patients.

In addition, a total of 253 platelet donors were HLA-A, -B typed and included on the panel of platelet donors to support the provision of an optimal platelet product to the hospitals.

The NHIRL received 2,161 samples as part of clinical investigations in 2023. As well as supporting the stem cell transplant programmes the NHIRL provides a platelet immunology service for the serological investigation of Neonatal Alloimmune Thrombocytopenia (NAIT), Post Transfusion Purpura (PTP), platelet refractoriness, alloimmune thrombocytopenias and adverse transfusion reactions is provided. The number of investigations for NAIT in 2023 (n=57).

The NHIRL provides a routine disease association HLA typing service. This service represented 3,958 (44.7%) of the 8,862 samples received for testing by the NHIRL in 2023. The majority (84%) of samples are referred for determining the presence or absence of HLA-B27 which is associated with Ankylosing Spondylitis; a painful, progressive rheumatic disease mainly affecting the spine and sacroiliac joints. The service also provides HLA typing for Coeliac Disease (DQ2/DQ8, 2.6%), Behcet's Disease (B*51, 2.6%), Abacavir-induced hypersensitivity reaction (B*57:01, 7.8%) Narcolepsy (DQB1*06:02, 0.9%), Birdshot retinochoroidopathy (A*29, 0.7%), Acute severe Hepatitis in children (DRB1*04, 0.5%) and Metastatic Uveal Melanoma (A*02:01, 0.7%).

NHIRL Clinical Investigations





Diagnosics/Crossmatch Cork

The Diagnosics Laboratory at the Cork Centre provides both routine and reference immunohaematology and laboratory services. The former to South Infirmary University Hospital (SIVUH), St. Finbarrs', Mater Private Cork and Marymount University Hospital & Hospice, while reference immunohaematology and laboratory services are provided to the Munster region. Medical Scientists and Despatch Officers are on-site 24/7 supported by Specialist Medical Staff and a Consultant Haematologist.

The services provided by the Diagnosics Laboratory include;

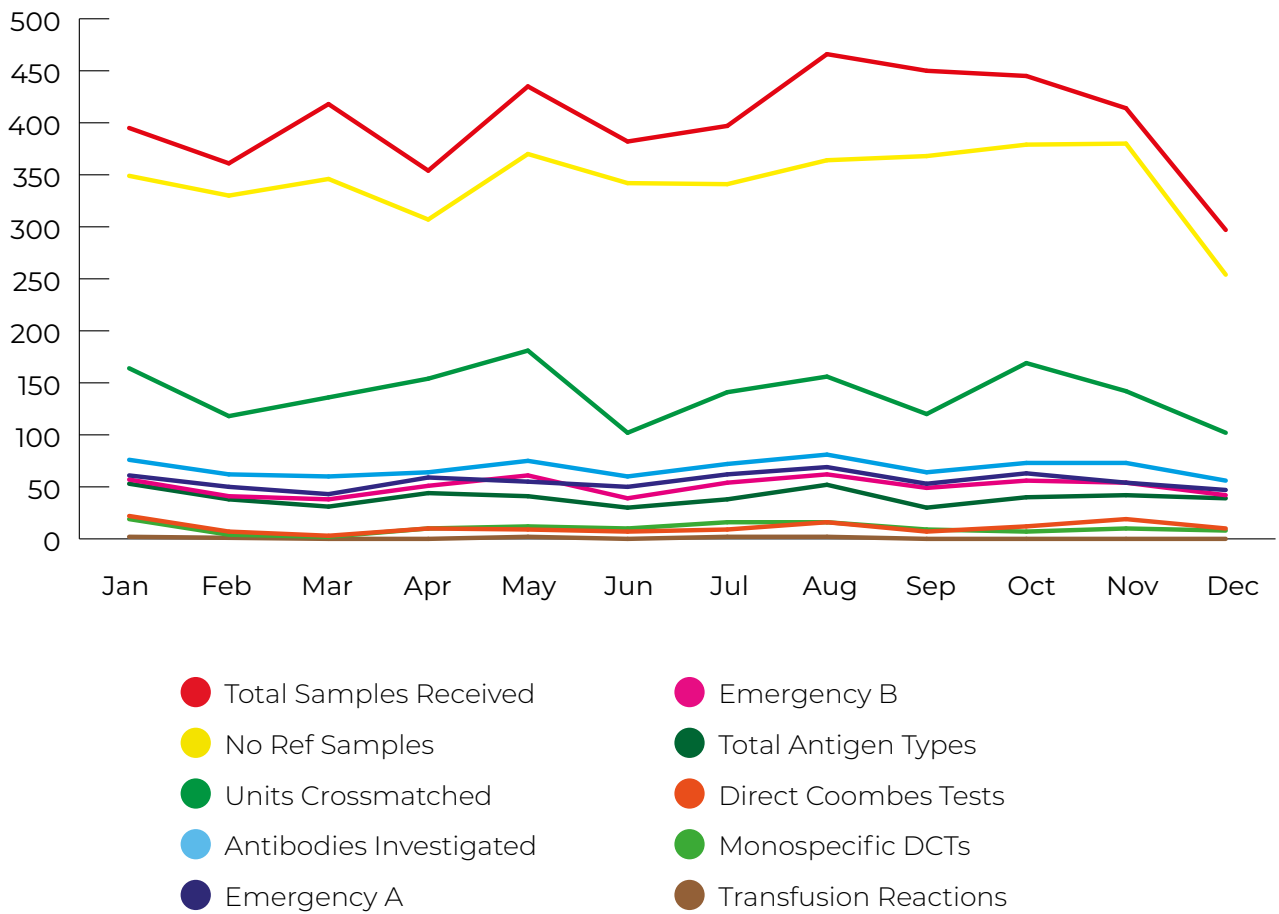
- As hospital Blood Bank for several city hospitals: the Laboratory undertakes blood grouping, antibody screening and provides cross-matched red cells and other components for individual patients. Provides laboratory and clinical advice for these patients, investigates possible transfusion reactions, participates in Patient Blood Management and transfusion practice planning and review through the hospital transfusion committees and audit, and manages component traceability
- As a reference laboratory, Diagnosics investigates complex or anomolous red cell typing, extended typing for transfusion dependent patients, positive direct antiglobulin tests, auto-immune haemolytic anaemia, haemolytic disease of the fetus/newborn, and complex

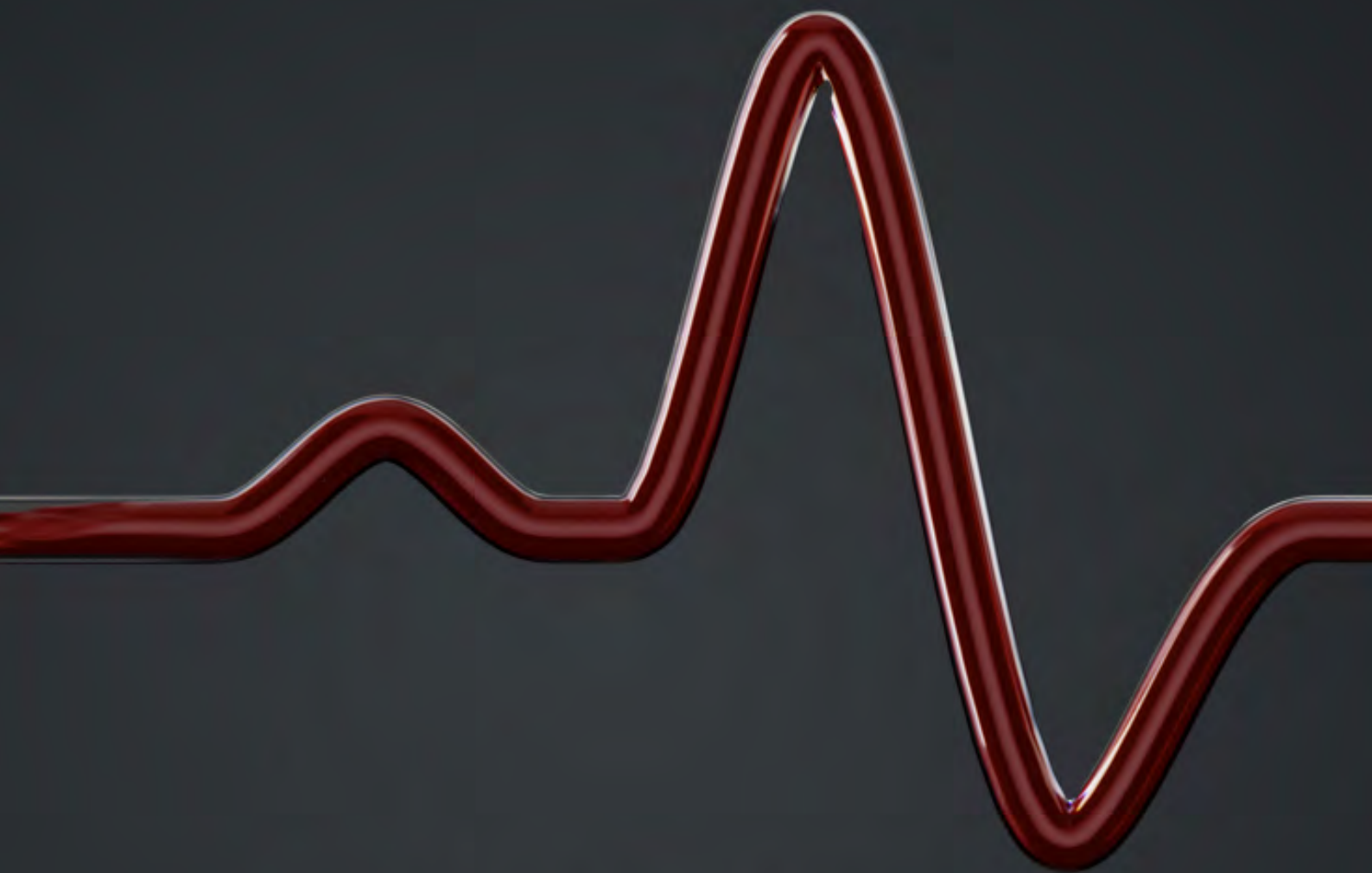
antibodies providing extended matched (phenotyped) and crossmatched red cells for these patients. Individual samples in these cases may take several hours to investigate fully and may require donation screening where matching red cells are not available on the shelf. 4 patient samples required further specialist referral to the International Blood Group Reference Laboratory (IBGRL) Bristol, and a further 135 samples were sent to the NBC for genotyping. Advice is provided to colleagues in the region

- As a reference laboratory, Diagnosics investigates ante-natal patients with red cell antibodies and tracks their care through the pregnancy to plan availability of matched blood for mother and baby at delivery
- Diagnosics laboratory staff manage special component stock for the region. This includes all platelet components and all orders received by the electronic order system (EOS) for antigen typed red cells, irradiated blood components and blood components for babies
- As the scientists on duty out of hours, the Diagnosics Laboratory contributes to the service by undertaking secondary processing of blood components, and are the first point of contact for clinical queries which are referred on to the medical staff.
- Performance in External Quality Assessment Schemes was satisfactory throughout the year.

Diagnostics Laboratory Activity 2023

Total samples received 2023: 4,130 (2022 : 3,854) This increase in sample numbers was a direct result of increased activities in the hospitals where we provide a routine and reference service.





TABHAIR FUIL CHUN
LÁMH THARRTHÁLA A
THABHAIRT DO DUINE.

giveblood.ie

TÁIMID AG BRATH ORT.

Other Services

Tissue

The IBTS tissue bank is located at the National Blood Centre in Dublin. This is a licensed tissue establishment and also holds a Good Manufacturing Practice license for the production of serum eye drops under the classification of an exempt medicinal product.

The facilities consist of a suite of clean rooms, mandatory for the processing and testing of donated human tissue and the production of serum eye drops. The service provides human tissue nationwide to a variety of hospitals. Some tissue is donated by Irish donors, but other tissue needs to be obtained from tissue banks in Europe or imported from the USA. Tissue products available include ocular, cardiovascular, musculoskeletal and skin.

2023 was a very busy year for the production of serum eye drops and the team gained an extra member of staff to deal with the increase in demand. Serum eye drops are prescribed as a treatment of last resort when conventional treatment has failed to work. They are prescribed for a number of conditions both immune and non-immune which has resulted in dry eye.

The project to restart collecting corneas from Irish donors gained momentum in 2023 and it is envisaged that towards the end of 2024, we will be in a position to retrieve corneas once again.

Supply of ocular tissue was up 19% on 2022 while cardiovascular, musculoskeletal and skin tissue remained consistent with the previous year.

Irish Unrelated Bone Marrow Registry

2023 key achievements:

- Addition of 2,385 number of donors onto the registry in 2023
- Transformation of donor recruitment, enriching the registry with younger donors.

Haematopoietic progenitor cell transplantation is a lifesaving therapy for certain patients with leukaemia, bone marrow failure syndromes, and for particular inherited metabolic disorders. For the many patients who do not have the preferred option of a fully matched sibling, an unrelated donor from one of the thirty eight million volunteer donors available worldwide can provide a suitable alternative.

To meet the need for haematopoietic progenitor cell donors for both Irish and international patients, the Irish Unrelated Bone Marrow Registry (IUBMR) was set up in 1989.

The IUBMR searches and selects donors for patients in need of a transplant in Ireland. It also hosts a database of donors in Ireland who are willing to donate blood stem cells.

Tissue typing of donors registered on the unrelated panel is performed by the National Histocompatibility and Immunogenetics Reference Laboratory (NHIRL). The registry is licenced by the HPRA under the EU Tissue Directive 2004/23/EC.



National Activities

The IUBMR searches for suitable donors on the Irish panel and through the World Marrow Donor Association (WMDA) database, on behalf of the Irish transplant centres at St. James's Hospital, Dublin and Children's Health Ireland at Crumlin. In 2023, the number of patients referred to the IUBMR for unrelated searches was 138.

Sixty-four Irish patients received stem cell transplants from an unrelated donor in 2023. One of these patients received two transplants from their original donor during 2023.

The majority of these were from international donors. Of the 65 transplants performed 18 were of bone marrow, 47 were peripheral blood stem cells.

International Activities

The IUBMR is connected to the European Marrow Donor Information System (EMDIS), a communication system which allows international registries to search each other's panels and select donors for extended testing with ease. Sixty-six IUBMR donors were selected for additional testing in 2023.

Irish Donor Recruitment

In 2023, 2,385 new volunteers gave blood samples to join the IUBMR, which will be added to the current registry of over 27,895 potential donors.

National Haemovigilance Office (NHO)

Haemovigilance is internationally recognised as essential to the development of safe clinical transfusion practice. It collects and assesses information on unexpected or undesirable effects resulting from blood transfusion, and develops strategies and systems to prevent their occurrence or recurrence. Haemovigilance in Ireland is coordinated by the National Haemovigilance Office (NHO), based at the IBTS. Since the programme commenced in 1999 a total of 9,093 serious adverse transfusion reactions and events have been reported.

The NHO liaises with and supports hospital based Haemovigilance Officers (HVO) throughout Ireland and also Medical Consultants with Haemovigilance responsibilities. In addition, the NHO maintains links with colleagues internationally through the International Haemovigilance Network (IHN) and the UK and Ireland Blood Transfusion Network (UK & I BTN).

Serious Adverse Events (SAEs) – mandatory and non-mandatory

Mandatory SAEs relating to the quality and safety of blood under EU Blood Directive 2002/98/EC and non-mandatory SAEs relating to the clinical aspect of blood transfusion are reviewed by the NHO. These reports come from blood establishments, hospital blood banks and facilities. During 2023, 194 mandatory SAEs were reported (56% of all SAEs). In addition, 104 non-mandatory SAEs, (44% of all SAEs) primarily relating to errors in clinical areas, were also reported. This figure includes Wrong Blood in Tube events (WBIT) (n=78) which were collected by the NHO.

Serious Adverse Reactions (SARs) - mandatory and non-mandatory

A total of 135 SARs that meet the criteria have been reported in 2023. Mandatory SAR (67) reported to date is a decrease on those recorded in 2022 (82).

Annual Notification of Serious Adverse Reactions and Events (ANSARE)

In compliance with Commission Directive 2005/61/ EC Annex II D and III C, all hospitals transfusing blood together with all blood establishments must complete and return an ANSARE form to the NHO. 239 mandatory reports were reported by the NHO in 2023 (for the reporting year 2022), with the compilation of 2023 ANSARE report on-going at time of writing.

The Competent Authority for implementation of all aspects of the EU Blood Directive is the HPRA and as in previous years regular case review meetings were held with the NHO to discuss reported incidents.

Education, promotion and developments

The NHO supports the on-going development of hospital in-service training programmes by working closely with hospital based HVOs. On-going education of undergraduate and post graduate medical scientists and specialists registrars also continued during the year.

NHO Conference 2023

The National Haemovigilance Office (NHO) Conference was held in the Croke Park Conference Centre on 3rd October with over 200 delegates from medical, nursing and scientific backgrounds attending the event. The conference provided an excellent opportunity to meet colleagues and develop

network contacts with others working in the area of Haemovigilance in Ireland and abroad. Prof Tor Hervig, Medical & Scientific Director of the IBTS opened the conference. The NHO Team provided a summary of the recommendations and findings from reports submitted to the NHO during the reporting year of 2022.

The main conference covered a range of topics which generated much interest and lively discussion during the different question and answer sessions. The conference was represented with national and international speakers. The clinical focus of the meeting addressed numerous transfusion based categories including: upcoming new therapies, Haemovigilance systems in Norway and France, audit and improvement, education and case studies.

A poster competition was also held in conjunction with the Conference, giving staff an opportunity to showcase their work and initiatives in the area of transfusion. The competition attracted 8 entries from hospitals and the IBTS with the judges from nursing, scientific and medical background. The winning poster was entitled 'Use of Audit to evaluate the feasibility of stocking an Emergency Group A Rh D Positive platelet pool'.

A number of industry exhibitors' maintained stands throughout the day. Overall the conference was well evaluated by delegates and some of the suggestions received will assist with the design of the programme for future conferences. The presentations are available on the IBTS website (where permission has been given by the presenter) <https://healthprofessionals.giveblood.ie/clinical-services/reporting-to-nho/haemovigilance-publications/>



e-Learning

The IBTS continued to provide the 'Learnbloodtransfusion' e-learning programme under licence to hospitals via LearnPro NHS.

The majority of Irish hospitals and a number of third level institutions are registered on the programme. This includes hospital staff and health care undergraduates in several universities undertaking the modules as a mandatory course requirement.

Therapeutic Apheresis Service (TAS)

The TAS in the Cork Centre provided therapeutic apheresis for patients at Cork University Hospital (CUH), Mercy University Hospital (MUH) and Bon Secours Hospital Cork. Patients in other hospitals in the region requiring TAS are transferred to these facilities.

TAS is led by IBTS Consultants, supported by Specialist Medical Officers (SpMO), Specialist Registrar (SpR) and nurses trained in therapeutic procedures. Procedures are carried out at the patient's bedside using mobile apheresis equipment; Terumo Spectra Optia. Individualised apheresis protocols are prepared for each patient in conjunction with the requesting clinical hospital team, guided by the American Society for Apheresis 'Guidelines and Indications for Treatment' (ASFA, 2019-2023), and cognisant of the other guidelines including those from the British Society of Haematology (BSH 2015).

TAS operates within the Irish Blood Transfusion Service quality management system, with trained personnel, controlled documentation, Standard Operating Procedures (SOPs), validated technology and adverse event monitoring, subject to HPRA inspection. Adverse events are subject to ongoing review and changes are incorporated into the IBTS therapeutic SOPs, relevant hospital policies and procedures. TAS staff attend national and international meetings

and comply with continuing professional development (CPD) including audits. During 2023 there were 21 patient referrals and 120 procedures undertaken. This included Therapeutic Plasma Exchange (TPE) and Red Cell Exchange (RCE). TAS also attended on 12 other occasions when procedures were cancelled following pre procedure patient assessment. The demand for TAS is varied and unpredictable. The trend in increasing neurology referrals is balanced by a reduction in haematology and to a lesser extent, renal referrals over recent years.

Service demand trend

Variability in TAS demand is captured below by 'requesting hospital', 'clinical specialities', 'referring consultants', 'degree of urgency', 'ASFA category', and 'service trends by month, weekend and out of hours'.

Our service from 2017 to date typically provides 97 to 181 procedures per annum, with an average amount of **129** procedures per year. **120** procedures were performed in 2023.

Weekend, Bank Holiday and Out of Hours Service

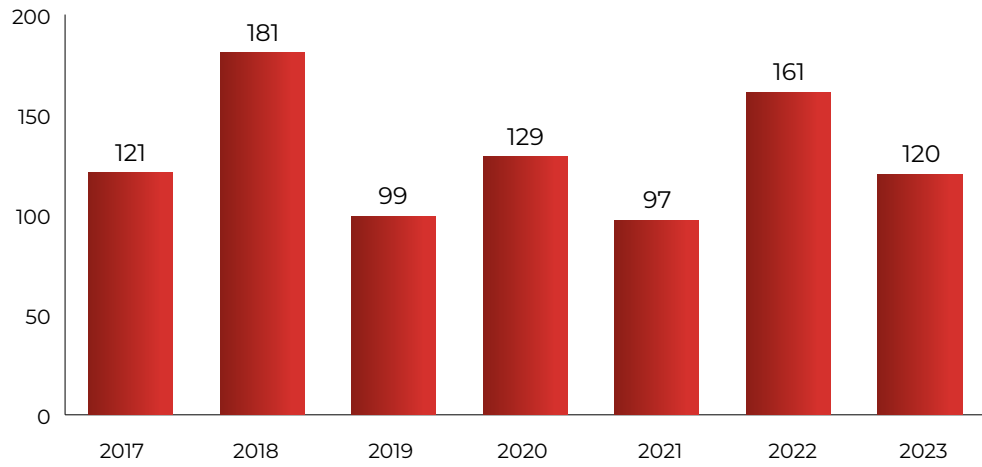
Emergency apheresis may be required in acutely life or organ threatening cases.

Daily/alternate day protocols may also require weekend service. Of the procedures carried out in 2023, 23 (19%) were performed at the weekend and there were very few procedures carried out of hours compared to previous years.

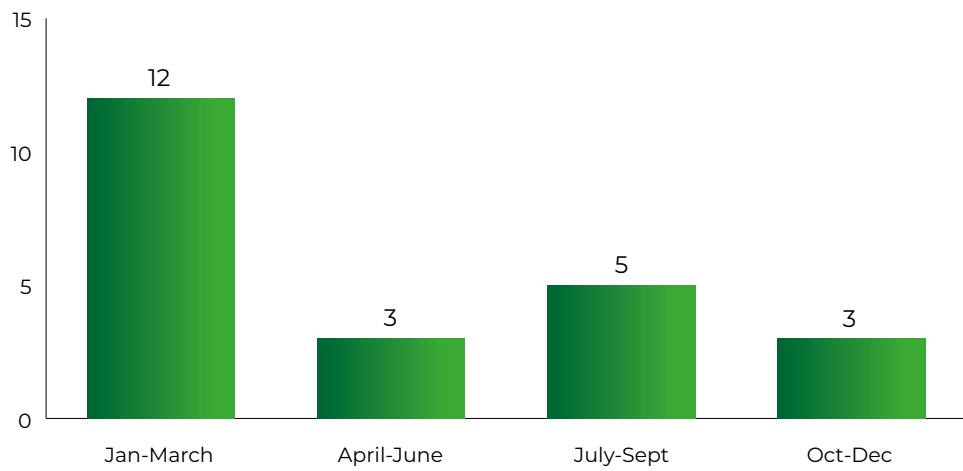
Clinical speciality by patient and procedure

In line with recent trends the majority of referrals were for patients presenting with Neurological conditions 15 (71%) followed by Renal 1 (5%), Haematology 4 (19%) and General Medicine 1 (5%). This includes TAS and RCE procedures.

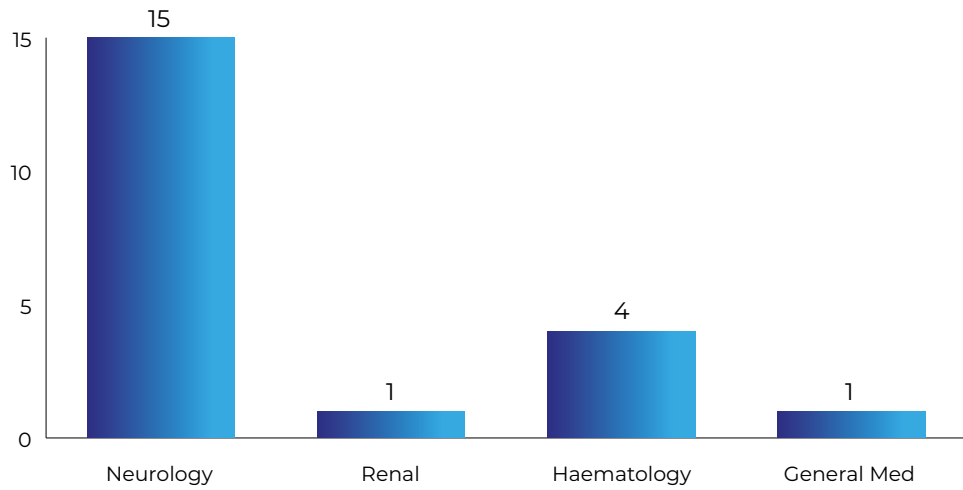
Total Annual Procedures 2017 - 2023



Weekend & Bank Holidays 2023



Patients by Speciality





Sickle Cell Disease

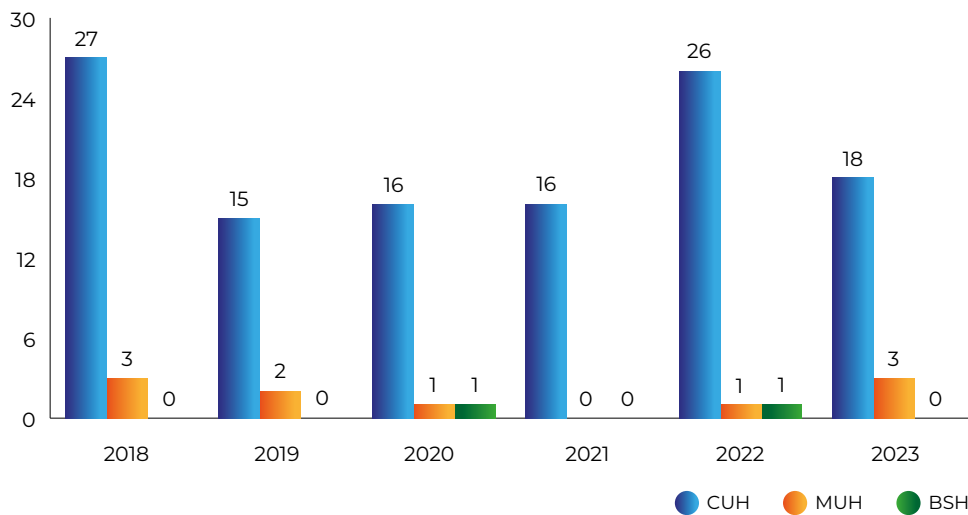
TAS continued the elective Red Cell Exchange programme which had commenced in 2020 for a patient with Sickle Cell Disease (SCD), guided by laboratory and clinical parameters. Additionally one other patient required a single RCE procedure. In 2023 a total of 13 RCEs were performed. It is anticipated that this demand will increase as the regional paediatric patient cohort matures into adulthood.

Service Provision to hospitals

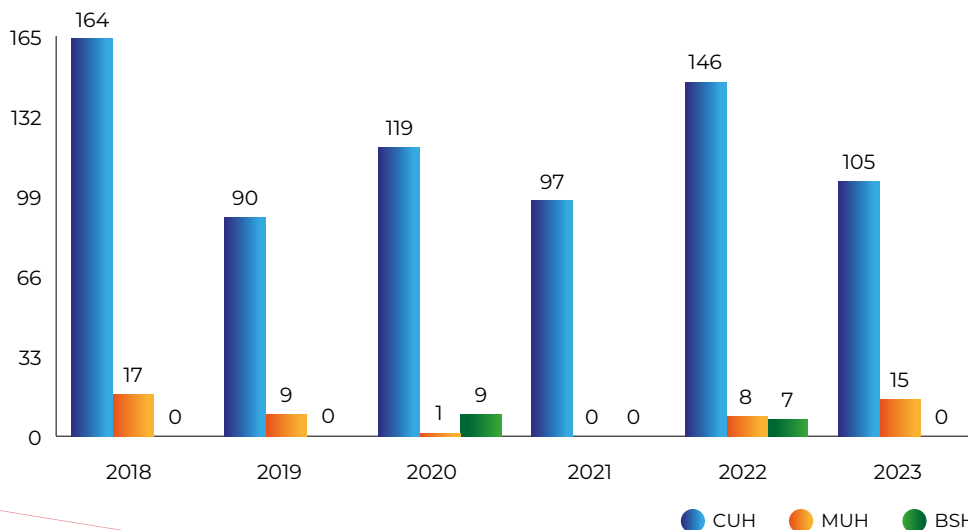
CUH had the greatest demand for TAS referring 18 patients in 2023. MUH referred 3 patients to the TAS. We had no referral from Bon Secours Hospital Cork (BSHC) and have discontinued service from BSHC as of November 2023.

A comparison of service provision to CUH, MUH, and BSHC over the past 5 years by patients and procedures.

Service provision to patients by hospital 2018 - 2023



Procedures by Hospital 2018-2023



The American Society for Apheresis (ASFA) guidelines

ASFA guidelines are the basis of planning individual patient treatment protocols. These are based on both quality of supporting evidence as well as the strength of the recommendation derived from that evidence. The most recent guidelines (9th Ed.) were published in 2023.

Category I	Disorders for which apheresis is accepted as first-line therapy, either as a primary standalone treatment or in conjunction with other modes of treatment.
Category II	Disorders for which apheresis is accepted as second-line therapy, either as standalone or in conjunction with other treatments.
Category III	Optimum role of Apheresis is not established – Decision making is individualised.
Category IV	Disorders in which published evidence demonstrates or suggests apheresis to be ineffective or harmful.

Degree of urgency of TAS required

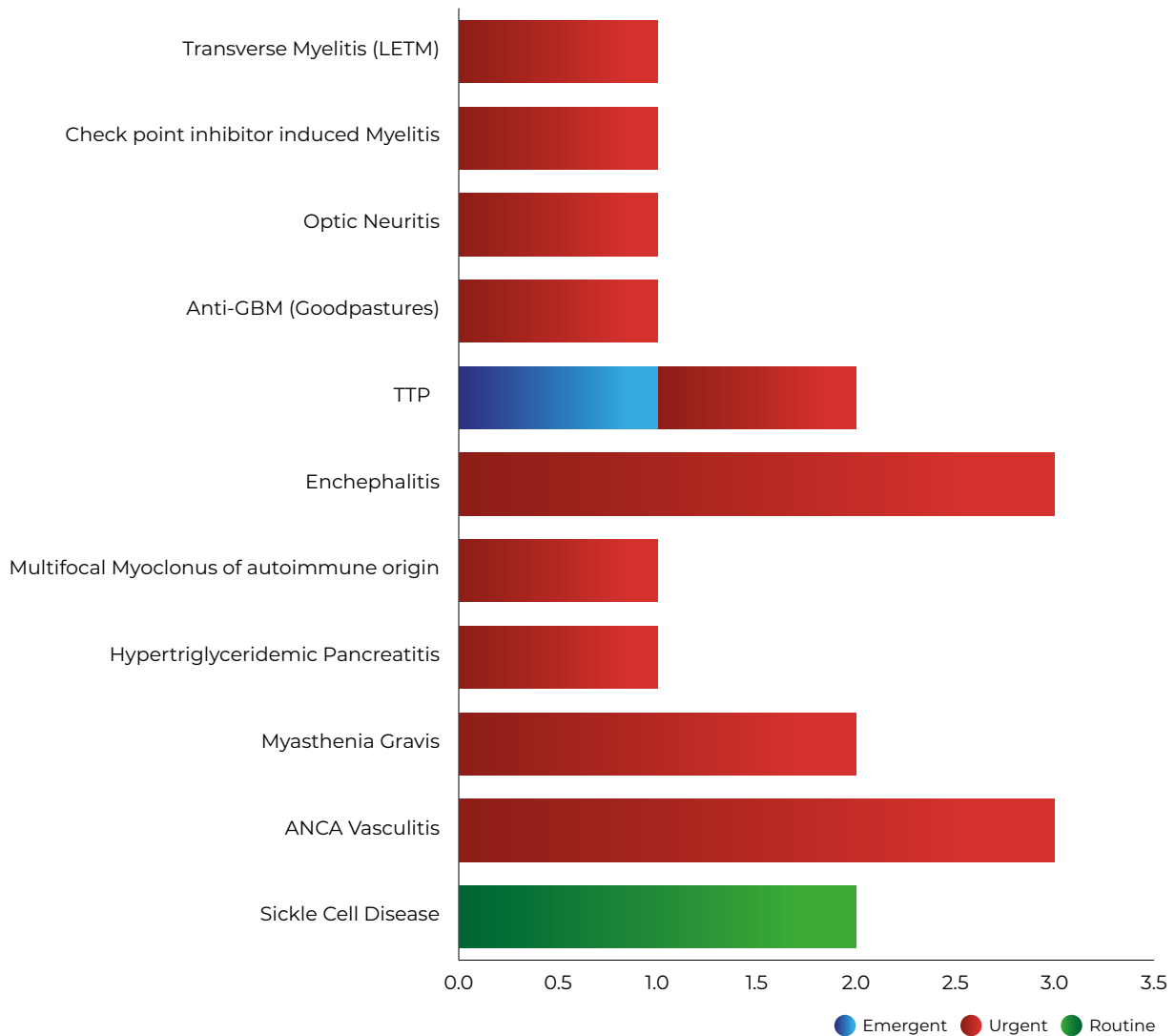
Depending upon the clinical presentation of the patient, the available resources (eg. personnel and equipment), and other treatment available options. Emergent, Urgent and Routine has been classified by IBTS with reference to ASFA guidance as follows:

- Emergent:** Immediate/out of hours TAS required – “life or limb” threatening eg. TTP, Red Cell Exchange Acute Crisis, Symptomatic Hyperviscosity.
- Urgent:** TAS required, however can wait until the next working day –Case dependant. Not immediately “life or limb” threatening and if TAS delayed, there is no rapid deterioration of patient’s condition. Likely no permanent harm on patient if delayed 24/48 hours and treatment will not immediately reverse disease process.
- Routine:** TAS provided the next suitable working day or planned/ routine TAS. Not imminently “life or limb” threatening and delay in TAS causes no rapid deterioration of patient’s condition. No permanent harm on patient if delayed and treatment will not immediately reverse disease process.

Out of **21** patients who received Therapeutic Apheresis in 2023, 18 patients presented as urgent, 1 as emergent and 2 presented as routine.



Patients by diagnosis and degree of urgency



Vascular access for patients and procedures

Therapeutic Apheresis requires excellent blood flow which, especially for an intensive programme over a short number of days, may require support by the placement of Central Venous Catheters (CVC) by anaesthesiology or radiology services at the referring hospital.

In 2023, most patients required a central line in 2023 for Plasma Exchange. CVC allowed apheresis to be performed at higher rates with an ease of use, as well as consistent availability to vascular access without regular venepuncture to the patient. Peripheral lines are particularly suited for apheresis treatment plans for which the anticipated therapy is elective day case or short term, such as RCE.

Quality & Compliance

Quality Framework

A quality management system is defined as a formalised system that documents processes, procedures and responsibilities for achieving quality policies and objectives. Communication with other apheresis services and attendance at UK and international conferences also ensures that a service is evidence based.

The Quality function remains committed to delivering the highest standards of quality by making this part of everything we do. Processes in place continue to meet regulatory requirements to ensure safe, high-quality products and services for customers. Quality is a key enabler which underpins strategic goals to support better healthcare, achieve operational excellence and improve customer service. The IBTS aims to be an industry leader in implementing and supporting a culture of quality which supports the organisation and continually meets its objective of delivering value to donors and patients.

Our key objectives

- Support IBTS medical laboratories and other departments in meeting international standards
- Improve efficiencies across a range of quality activities
- Introduce a flexible risk based approach.

Meeting regulatory requirements

The HPRA is the main regulatory body who authorise the IBTS to manufacture Blood and Tissue products. It is responsible for administering the provisions under relevant EU Directives and legislation for blood and tissue products.

During 2023 the HPRA continued their comprehensive inspection programme with the following areas completed:

HPRA Inspections

Authorisation Type	Inspection Site/ Area	Inspection Days	Compliance Actions
Blood Establishment	Limerick Centre (& Castletroy clinic)	1	1
	Ardee (& Oldcastle Clinic)	1	11
	Carlow (& Carlow town Clinic)	1	6
	National Blood Centre	5	11 ¹
	Tuam (& Claremorris Clinic)	1	3
Tissue Establishment	IUBMR	1	3
	National Blood Centre	3	2
Totals	7	13	37

1. One major deficiency



INAB Assessments

INAB Accreditation Surveillance Visit	Assessment Site / Area	Assessor days	Compliance Actions
EN ISO 15189:2012	Red Cell Immunohaematology Laboratory	1	10

The Irish National Accreditation Board (INAB) is the national body with responsibility for the accreditation of laboratories in Ireland to ISO 15189:2012. During 2023 the IBTS Red Cell Immunohaematology Laboratory received its first surveillance visit following award of accreditation in 2022.

Supporting Products and Services

Over the last year the Quality Department supported all teams across the organisation to ensure the IBTS continues to maintain the highest standard in blood collection, production and testing systems and services. 2023 also saw the introduction of a Quality, Regulatory and Safety Governance Group, who will perform a key role in establishing, developing and implementing organisational wide quality, regulatory and safety governance approach, across the service.

Quality Assurance

Throughout 2023 the QA team improved Quality Systems training across the organisation for the management of internal quality incidents and CAPA investigations. Dedicated CAPA meetings were initiated and held with various departments throughout 2023.

Quality Business partnering continued with the areas of RCI, Tissue Bank, IUBMR and Collections with the Clinic Nurse Managers.

To further enhance the skills and capabilities of the QA function a dedicated team development programme was been initiated and will progress in 2024.

Quality Assurance Activity

Quality System	Total
Incident Reports	494
Blood Complaints	799
Recalls	350
Change Controls	380
Change Control Plans	85
Change Orders for document changes	421
Serious Adverse Events	143
Serious Adverse Reactions	35
Tissue Vigilance (including IUBMR)	51 ²

Quality Testing

During 2023 continued support was provided by the Quality Testing teams. This area comprises of the following laboratories:

- Material Management Laboratory
- Bacterial Testing Laboratory
- Quality Control Laboratory (Dublin and Cork)

2. Investigated

Material Management Laboratory

The Material Management Laboratory performs a range of essential functions for the IBTS, working closely with RCI Laboratory, SSCD Laboratory, Tissue Bank, Inventory Control, Practice Development and Quality Control in executing these. The main responsibilities of the laboratory include:

- Management and batch acceptance of critical consumables such as blood packs, platelet sets, critical labels, reagents and solutions
- Investigating, reporting and trending of material defects and validation of material related changes
- Inspection and controlled release of IBTS medicinal products and management of related medicinal product recalls
- Participation in External Quality Assurance programmes
- Implementing significant changes such as the TRIMA Apheresis sets and critical Donation Identification Number labels
- Review and optimisation of the critical material procedure and related defect trending and tracking
- Validation of new blood bags which included participation in the International Blood Pack (IBP1) consortium
- Providing continued support to other organisational areas such as the RCI laboratory on ISO15189 accreditation activities
- Cross-training of staff from the Quality Control Laboratory and completion of Responsible Person training in Good Distribution Practice for Medicinal Products.

Material Management Activity

2023	Critical Materials Batch Accepted (including Medicinal Products)	Potential Defects Investigated Whole Blood Packs	Potential Defects Investigated Platelet Sets
Total	>900	178	23

Bacterial Testing Laboratory

The Bacterial Testing Laboratory performs a range of essential functions for the IBTS, working closely with the Tissue Bank in the IBTS as well as the Cryobiology Laboratory (SJH). The main responsibilities of the laboratory include:

- Screening all IBTS Platelet products for the presence of bacteria, reducing the risk of transfusion-transmitted bacterial infection
- Environmental Monitoring of IBTS Clinics, Production and Hospital Service Despatch areas
- Environmental Monitoring of IBTS Cleanrooms to Annex I requirements
- Investigation of Suspected Transfusion Reactions (STRs) referred by customer hospitals
- Introduction of MYLA Software for management of BACT/ALERT 3D Instruments
- Completion of significant validation testing for the Pathogen Reduction project
- Introduction of required regulatory changes in accordance with Annex I of EU GMP Guidelines 'Manufacture of Sterile Medicinal Products'
- Participation of EDQM EQA exercise for Bacterial Screening of Platelets.



Platelet testing activity

2023	Pooled Platelets	Apheresis Platelets	Total ³	Pooled Platelets expired	Apheresis Platelets expired	Total expired
Total Screened	8,854	8,165	17,019	694	2,250	2,944

Environmental monitoring activity

- 5,026 environmental monitoring samples from clinics, production and hospital services areas
- >15,000 environmental monitoring samples from Grade A/B/C Cleanroom areas
- Introduction of new Aerotrak Particle counters for monitoring Cleanrooms
- Associate Certification with the Cleanroom Testing Certification Board International (CTCB-I) by two key members of staff and membership of the Irish Cleanroom Society.

Quality Control Laboratory

The Quality Control Laboratories (Dublin and Cork) perform a range of essential functions for the IBTS, working closely with the Apheresis Clinics, Production Department, Components Laboratory, Medical and Quality Assurance. The main responsibilities of the laboratory include:

- Quality Monitoring testing of platelets, red cells and plasma products in line with requirements set out by the European Directorate for Quality in Medicines (EDQM); confirming platelet count, haemoglobin, haematocrit and leuco-depletion (residual white cells)
- Management of recalls for donor-related or product-related reasons
- Management of HemoCue 301 blood testing instruments for IBTS Blood clinics
- Providing testing support for SSCD and Material Management driven validation projects

Quality Control Testing Activity

2023 ⁴	Platelet Count & Residual White Cells	Platelet Count & Residual White Cells	Haemoglobin, haematocrit & residual white cells
Platelet Apheresis	8165	Pooled Platelets 1978	Red Cells 2681

3. 26 platelets with bacteria identified
42 suspected transfusion reaction investigations performed

4. Specialised red cell products tested for haemoglobin and haematocrit:
 • 224 plasma-reduced red cells
 • 11 washed red cells
 • 8 red cells for intra-uterine transfusion

- Validation and replacement of FACSCalibur flow cytometers with new FACSLyric flow cytometers
- Validation testing and analysis for the introduction of TRIMA Software v7.0.4 for Apheresis instruments
- Support testing for Northern Ireland Blood Transfusion Service (NIBTS) for residual white cell testing during instrument downtime
- Batch acceptance of >150 deliveries of reagents for use by Diagnostics Laboratory in Cork.

Validation activity

2023	Change Control Plans (Closed)	Preventative Maintenance / Calibration	Corrective Maintenance	Requalification	Supplier Level Agreements
Total	164	1816	308	562	33

During 2023 a significant amount of equipment and systems were validated some of which include; the Trima 7.0.1 instrument introduction in the Collections area and subsequent Trima 7.0.4 upgrade. In Production, the validation team supported the Pathogen Reduction project and a number of blood component product validations. The Laboratories completed validations of the Virology Abbott Architect, NAT UltrioPlexE Assay, Medica 120 Water System and Environmental Monitoring CO2 Incubator, alongside a number of laboratory test methods. Tissue qualified tissue transportation (on Dry Ice) and the IT validation of the ePROGESA Donor Web Portal and an Electronic Asset Management System were completed.

Quality Systems Development

The Quality Systems Development team continued to provide on-going support to the Quality function and wider organisation during 2023. In the area of Document Management, this team provided significant business continuity support for Document Control activities during the year, due to a period of staff shortages in QA. This also included review and reorganisation of

the System Administrator and Document Controller tasks. In person training in NBC for the SmartSolve Document Management system was also re-instated, which included relevant training policies and procedures. New training procedures were developed with Collections and Production, alongside on-going review and management of training requirements for external contractors.

Other IBTS projects supported by this area were:

- Gap Analysis to ISO 15189:2022
- Learning and Development and Innovation working group participation
- Learning Management System
- Donor Web Portal
- Bi-Directional Testing Project
- Medical Guidelines Review
- Windows 10.



Risk & Resilience

The risks and potential threats to business continuity were continually managed through the corporate risk register and quarterly risk reporting to the Executive Management Team, Audit, Risk and Compliance Committee and the IBTS Board.

The Emergency Blood Management (EBM) Group established in 2021 continued to utilise the *'IBTS Emergency Blood Management (EBM) Plan for Managing Shortages of Red Cell Components'*. This plan dovetails with the *'National Transfusion Advisory Committee (NTAG) Plan for IBTS, HSE and Hospitals in the Republic of Ireland to address Red Cell Shortages'*. The IBTS went to national appeal three times in 2023 to assist with the national blood supply.

The Business Continuity Management System was further embedded in the organisation in 2023. Contingency testing of our testing laboratories was successfully carried out. Business Impact Analysis was also conducted across the entire organisation. The output from this analysis will aid the IBTS in business continuity planning measures.



Academic Activities, Research and Innovation

Key achievements

- Contributed to 15 peer-reviewed academic publications and give 22 presentations at numerous national and international conferences
- Launched the Centre for Research in Major Haemorrhage and transFusiON (CRIMSON), a joint research initiative between the Royal College of Surgeons of Ireland and the IBTS
- Began working towards a Global Health partnership with our counterparts in the Tanzanian National Blood Transfusion Service (NBTS)
- Ensured our contribution to the various issues impacting the Blood and Tissue Services through our on-going representation on European Blood Alliance (EBA), Biomedical Excellence for Safer Transfusion (BEST), International Society for Blood Transfusion (ISBT) and European Haematology Association (EHA) working groups
- Showcased the breadth of our research programme with our first-ever 'Research Away Day'
- Continued our contribution to academia through participation in undergraduate and postgraduate university medical and scientific courses.

Research Activities & Strategic Initiatives

Research activities continued to grow in 2023. Our attendance at the International Society of Blood Transfusion in June, with the IBTS leading on 5 conference presentations. In addition, we presented new research data on African donor recruitment and donor infectious disease screening at the European Conference on Donor Health and Management. As the national Blood and Tissue Establishment for Ireland, we are uniquely placed to lead donor-based research, contribution at these conferences, and others, demonstrated our progress of 'putting donors at the heart of public health surveillance'.

This year, a specific focus was placed on building long-term research partnerships. In 2023 we were awarded funding through ESTER Ireland to develop a Global Health partnership with our counterparts in the Tanzanian National Blood Transfusion Service. This partnership will prioritise the reciprocal sustainability, education and research benefits, health partnerships, and will place a specific focus on expanding platelet production in Tanzania. Crucially, the cultural exchange between our two organisations will serve to help us learn more about African donor recruitment, retention and diversity.

In October we launched the Centre for Research In Major Haemorrhage and transFusiON (CRIMSON), which marked the beginning of a long-term research partnership and academic affiliation between the IBTS and the Royal College of Surgeons of Ireland. This initiative was covered by the national press and aims to understand the underlying biological mechanisms that impact platelet function, storage and ultimately their capacity to prevent bleeding.



The expanding role of Blood, Tissue and Cells (BTC) in the provision of Advanced Therapeutic Medicinal Products (ATMP) was assessed through our own research, and in a collaborative peer-reviewed publication which proposed a 'BTC for ATMP Development and Manufacture' (BADAM model). This role will be further evaluated by deepening research partnerships with many of the Irish ATMP stakeholders in the coming year.

Overall, we continued to meet our strategic commitment to provide the evidence-base from which to build future improvements in blood and tissue services.

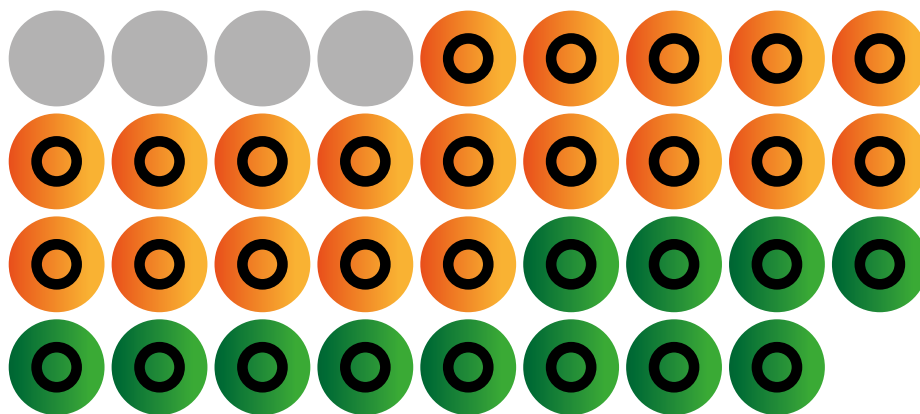
We have contributed to 14 peer-reviewed publications and presented our research findings at numerous international and national conferences. Key research findings are summarized below:

1. Description of the changing strategies for the detection of bacteria in platelet components in Ireland (O'Flaherty *et al*, 2023).
2. Body-mass index may impact the quality and function of cold-stored platelets following transfusion (Lorusso *et al*, 2023).
3. *In vitro* assessment of the safety and feasibility of platelet transfusion in the neonatal intensive care unit indicates the PICC line is non-inferior to other long catheters (Moore *et al*, 2023).
4. A lack of information and the difference between altruistic and replacement donation are key barriers to address when recruiting donors of African-ancestry in Ireland.
5. Ferritin testing may be a superior method to identify iron deficiency, especially in female blood donors.

Strategy

2023 was the IBTS' third year of delivering the strategic objectives outlined in our strategy, **ConnectionsthatCount-DevelopingtheIBTS 2021 to 2025**. The Strategy Implementation Group oversees the implementation of the annual strategic plan and met six times during the year. Business operations continued as normal, however there were challenges in delivering all of the intended 35

strategic initiatives. Notwithstanding these challenges, a significant majority of the initiatives were initiated and progressed to varying levels during 2023. The image below provides an overview of the progress made during the year. Green indicates completed, amber indicated progressing, grey indicates the initiative has not yet commenced.



Some of the successes in 2023 include:

- Launch of the online donor web portal
- Implementation of Malaria testing
- Education and Training Strategy approved
- Pathogen reduction technology validated
- Design thinking workshop hosted
- Assessment of Needs as part of health partnership in Tanzania completed
- Implementation of a Bi-directional interface
- Deployment of an electronic asset management system
- Campaign to recruit new blood donors commenced.

In May the Board held a mid-term strategy review and agreed the strategic priorities for the remainder of the strategic cycle. The Board also agreed to have an increased focus on cyber resilience, sustainability and increasing the donor pool and diversity.



Human Resources

People Services

Human Resources Operations

Aligned with our strategic priorities outlined in 'Transforming Together' we advanced our strategic workforce plan ensuring that we had the necessary talent to support the delivery of our overall strategic ambitions. The market for health care and administrative resources remains very challenging and competitive. There was a total staff turnover rate of 15.7% which represents a slight decrease of 5% on

the previous year (16.8%) aided by a targeted recruitment and retention work plan that commenced in quarter three of 2022 to support proactive Talent Acquisition & Talent Management with complimentary wellbeing and socialisation actions. A total of 136 recruitment campaigns were activated in 2023 of which 101 were due to leavers.

Recruitment / Turnover



620 employees
(540 full time equivalents)



190 new appointments
(75 of the 190 were internal appointments)



101 leavers



8 staff retired in 2023
(a further 3 staff remained working past their minimum retirement age)

136 recruitment campaigns activated

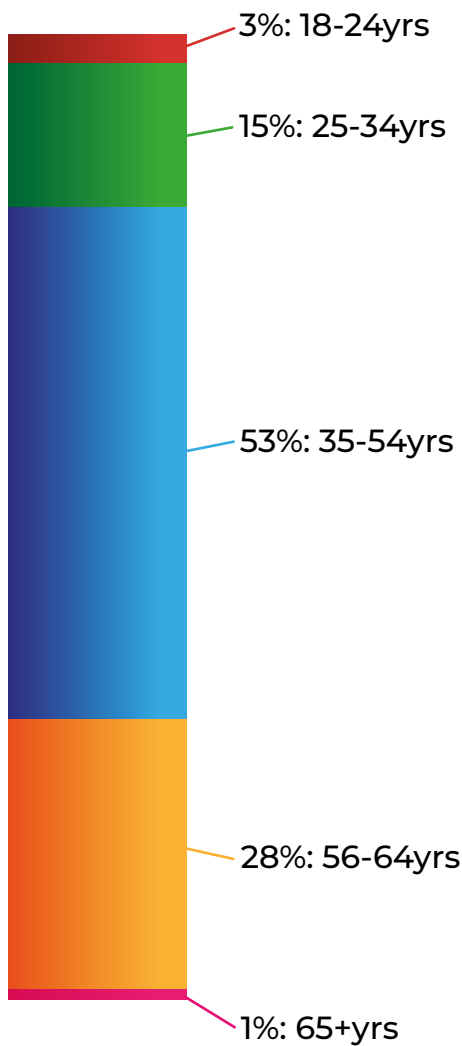


Long Service Awards



In 2023;
2 staff celebrated **40** years of service
3 staff celebrated **30** years of service
26 staff celebrated **20** years of service
and **8** staff celebrated **10** years of service.

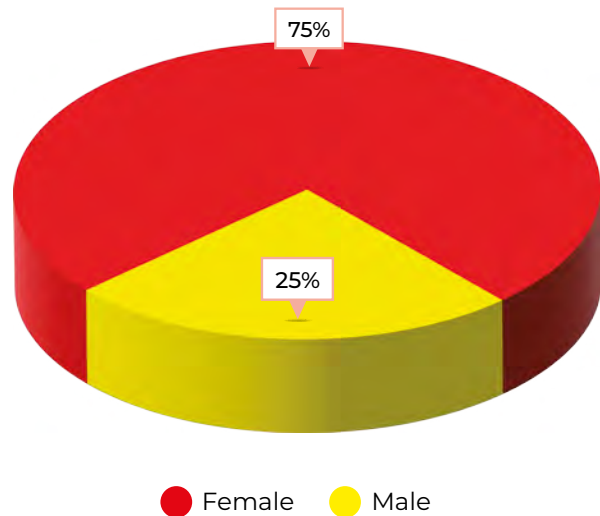
Age profile



Absence

Total sick leave absence rate was **6.00%** (v 6.35% HSE average rate). COVID-19 related absence made up only **0.37%** of the total rate for the IBTS (and 0.66% of the HSE average total in comparison).

Gender profile



Organisation Structure Review

The Organisational Structure Review Implementation Work Plan continued in 2023. Key achievements for the year were the development and initial implementation of the Medical Model of Care and the progression of the Lean Process Framework. The following Governance Groups were established, Strategic Work Force Planning, Quality & Compliance, Clinical and Supply and Demand. Key also to the Organisational Structure Review work plan was the development of the IBTS Strategic Workforce plan presented to the Department of Health in 2023.

Implementing the Public Sector Equality & Human Rights Duty

Policy Development:

Guided by legislation and national policy development, the IBTS progressed the following policies during the year:

- Development of our Gender Pay Gap reporting
- Implementing updated legislation into our Maternity Leave Policy, Parental & parents' Leave Policy; Medical Care Leave Policy and Domestic Violence and Abuse Support and Leave Policy
- Implementation of our blended working policy and updated our Code of Conduct to include reference to impartiality.

Training Programme Development:

The following training modules relating to equality and inclusion were made available to staff in 2023:

- Dignity @ Work; Overcoming Unconscious Bias; Gender Bias Awareness; LGBTQI Awareness at Work; Transgender Awareness; Equality, Diversity and Inclusion Awareness; Intercultural Awareness.

Engagement at Work:

- We had organisation-wide celebrations to acknowledge International Womens' Day; Neurodiversity Celebration Week; and Pride 2023
- A new module dedicated to Womens' Health was made available on our Employee Assistance Portal.

Inclusion Programme:

We partnered with National Council of the Blind (NCBI) in relation to supportive technology to enable people with disabilities at work in the IBTS. We are also partnering with community group, Festina Lente to provide paid work placements for people with learning difficulties and were a sponsor organisation partnering with IBEC on their Refugee Education and Placement Programme (REAP) to provide 'preparation for work' supports.

The IBTS continues its membership of the Department of Health Disability Monitoring Committee.





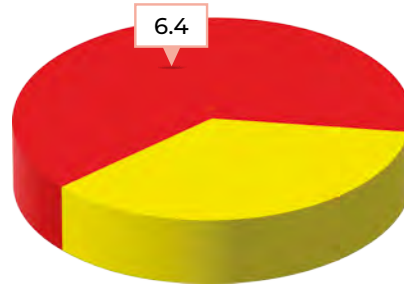
Employee Engagement

Our annual all staff survey was conducted with a response rate of 43%. We measured promotion scores, staff satisfaction rates and pride scores.

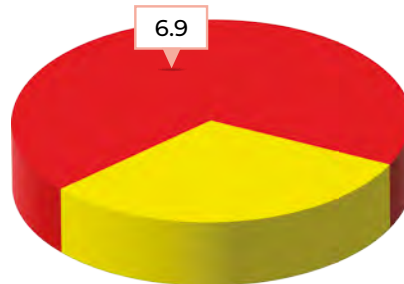
- Average organisational promotion scores were 6.4 and team/department promotion scores were 6.9. This reflects a moderate to moderately high rate of promotion of the IBTS as a great place to work.
- Staff satisfaction levels varied depending on the factors assessed. Total satisfaction levels averaged a moderately high 63% an increase of 3% of overall satisfaction from the previous year. The highest satisfaction rates were recorded for employee's ability to apply skills in their role 78% and satisfaction with their managers 74%. The lowest satisfaction score reported were for career progression opportunities 41%. Overall slight increases in satisfaction were recorded on previous years results
- Staff reported extremely high levels of pride working in the IBTS with a total average score of 83.

What we can generalise from the responses is that we have extremely proud staff, with moderately high levels of job satisfaction, who are likely to promote the organisation and their teams as a great place to work.

Organisation Promotion



Team/Department Promotion



Staff satisfaction - overall



Staff satisfaction - ability to apply skills



Staff satisfaction - with managers



Staff satisfaction - career progression



Internal Communications

The Internal Communications Group progressed the Internal Communication Work Plan in 2023, with the key objective being the development of Terms of Reference, governance responsibilities and a branding and content template for a corporate newsletter.

PULSE

The corporate newsletter PULSE is to be published on a quarterly basis, and this commenced in quarter 3 of 2023.

Two issues were published in 2023. We are experimenting with using an online-only version and plan to seek feedback to assess the level of access and applicability of content for all staff.

Another initiative achieved was updated communication of the Corporate Communications Guidelines and Email Etiquette Guidelines through the All Staff policies and procedures shared folder.

Learning & Development Services

Leadership

A key strategic item for the IBTS is the continued investment in the formation of leaders across all areas of the IBTS. An on-going partnership with University of Limerick (UL) continues, with an emphasis on investment in the formation of our leaders across all areas of the service.

Talent Management

Talent Management remains an ongoing challenge across the employment arena in all sectors. Partnering with our medical function we supported the development of the first Model of Care in transfusion medicine 'Developing a Centre of Excellence'. The Transfusion Medicine Model of Care has been designed to enable the expansion of current transfusion medicine services, donor care, patient services, screening, research and development and facilitate the introduction of new services in component development and cellular therapies over a 5 year period. Similarly, strategies have been implemented to meet the evolving scientific talent needs of the IBTS in a difficult market.

Performance Development

With renewed motivation, post pandemic, Performance Development (PD) integration and alignment into operational activities remained a priority in 2023. PD tools to support engagement and bespoke workshops continued to be provided by the L&D team with a significant increase in engagement on 2022 figures.

Lean/Agile

Improving people experiences by responding in an agile way to our customers' needs is one of the ambitions set out in the ONEHR People and Culture Strategy. A LEAN pilot programme concluded in 2023 with positive results across all four pilot projects. Some of the benefits that were realised included cost reduction, process improvement and increased employee engagement. Consequently, the IBTS will be scaling up and investing in LEAN deployment as an organisation wide programme of work thereby contributing to improving our people experiences.



Gender Pay Gap

Gender pay gap highlights systematic inequalities and discrimination in the workplace, impacting women’s financial well-being and perpetuating gender disparities. Addressing the gap is crucial for promoting fairness, diversity and economic empowerment. Gender pay gap report is the difference in the average gross hourly pay of women compared with men in a particular organisation expressed as a percentage. It does not represent equal pay, which refers to providing equal compensation for work of equal value, regardless of gender.

The IBTS gender pay gap results show that, on average, females in fulltime permanent employment and those in temporary employment earn less per hour than their male counterparts. This trend is reversed slightly for part time employees.

The median hourly remuneration is less across all categories for females when compared with males.

There are more females across all quartiles in all categories which is representative of the demographics of the organisation (75%F, 25%M). However, only 64% of females occupy from 82% to 88% in the lower and lower middle part time and temporary quartiles.

IBTS membership in the IMI 30% Club continued with participation in the IMI mentorship programme, demonstrating our commitment to incorporating diversity ambitions within our ONEHR strategy and aiming to achieve a minimum of 30% gender balance at most senior levels in our organisation.

Percentage of Females and Males by Quartile

Full Time

65%F 35%M	80%F 20%M	69%F 31%M	64%F 36%M
Lower	Lower Middle	Middle Upper	Upper

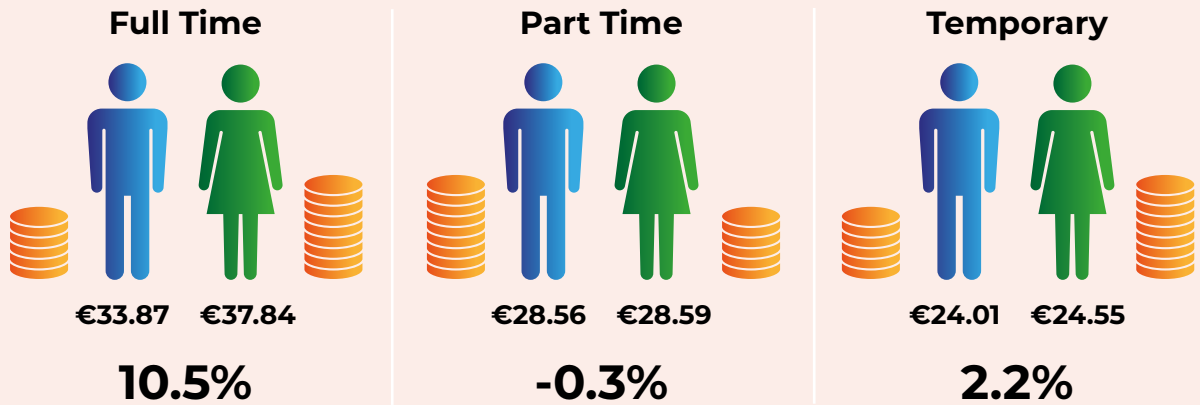
Part Time

87%F 13%M	86%F 14%M	73%F 27%M	83%F 17%M
Lower	Lower Middle	Middle Upper	Upper

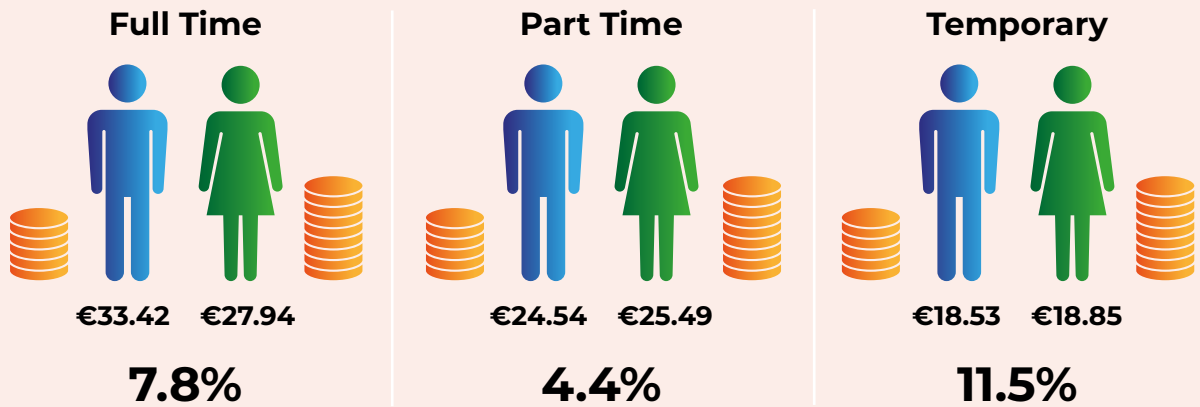
Temporary

82%F 18%M	88%F 12%M	69%F 31%M	67%F 33%M
Lower	Lower Middle	Middle Upper	Upper

IBTS Gap in Mean Hourly Remuneration



IBTS Gap in Median Hourly Remuneration

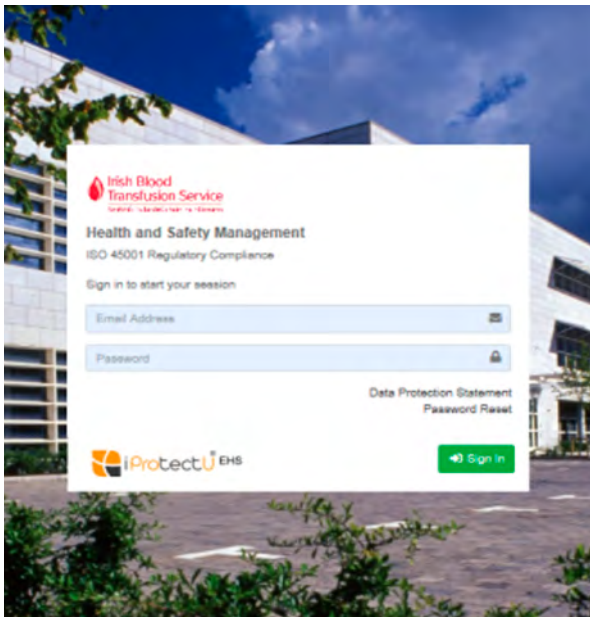




Environmental, Health and Safety

Health and Safety Management System

The IBTS successfully completed a public procurement process to deliver an electronic Health and Safety Management System. The enterprisewide cloud based solution for all staff will assist in the management and reporting of health and safety incidents (accident, near misses, dangerous occurrences, good catch/safety observations), risk assessments and audits and inspections. The electronic system will also support the IBTS People & Culture Statement of Strategy 2021 to 2025 to build 'on internal compliance, competency and engagement standards' and monitor 'our health and safety performance to guide decision making'.



Safety Recognition

To coincide with European Week for Safety and Health at Work 2023 and building on the success of the initiative in 2022, the EHS department ran a Safety Recognition initiative to recognise and share the contribution of departments and individuals who raise awareness of H&S within their teams and with colleagues.

Blended Working

In support of the organisation's blended working policy and in compliance with the Safety, Health & Welfare at Work (General Application) Regulations 2007, the IBTS teamed up with a third party provider to undertake remote DSE assessments and provide associated support for all applicants availing of blended working.

Health & Wellbeing Supports

To celebrate National Workplace Wellbeing Day in April, the IBTS ran a Wellbeing Week which included a selection of live and pre-recorded events and useful resources focused on individual mental and physical wellbeing. In conjunction with our trained Mental Health First Aiders (a key objective in our People and Culture Statement of Strategy 2021 to 2025), the IBTS also launched the IBTS Help & Support Resource Card for staff. The pocket/wallet size resource card which is accessible to staff in electronic and hard copy formats provides details of support services available nationally including helplines in relation to mental health, bereavement and addiction supports. This staff resource also provides contact details of Employee Assistance Service provided by the IBTS.

To provide staff with access to information on health and wellbeing initiatives and supports we regularly publish IBTS Health and Wellbeing Bulletins which include links to a dedicated Health & Wellbeing Folder accessible on all employee desktops.





Information Communication Technology

The most significant technology project delivered in 2023 was the introduction of online appointment booking for donors. The system went live in June and by the end of the year, more than 30,000 donors had registered for self-service online bookings, with 24,000+ bookings made online.

The team also supported a significant number of other business-led projects, including the introduction of Malaria testing for donors, Phase 1 of the upgrade to the Medibridge system interface which enables test results to be sent to and from hospitals and the National Virus Reference Laboratory, an upgrade to the Myla system used for the screening of Platelets and Moda which is used for monitoring and management of cleanrooms.

On the infrastructure front, the ongoing programme of system upgrades continued, with upgrades to various servers and operating systems, Anti-Virus software, Wi-fi networks in all centres as well as our ongoing programme of cyber-resilience improvements.

The screenshot displays the 'Sign in' page of the Irish Blood Transfusion Service website. At the top left is the logo with the text 'Irish Blood Transfusion Service' and 'Seirbhís Fuiláistrúcháin na hÉireann'. To the right are 'LOGIN' and 'Create an account?' buttons. Below the header is a breadcrumb trail 'Home / Sign In'. The main content area features a 'Sign in' form with fields for 'Username (email)' and 'Password', a 'Sign in' button, a 'Keep me logged in' checkbox, and links for 'Problems logging in?' and 'Create an account?'. The footer contains the service logo, social media icons for Facebook and Twitter, contact information for the National Blood Centre, and legal notices including 'FOI Privacy Disclaimer Re-use of Public Sector Information' and 'Copyright 2022 (c) MAK-SYSTEM International Group'.

Sustainability

The Government’s Climate Action Mandate aims to reduce energy related greenhouse gas emissions by 51% by 2030. The Irish Blood Transfusion Service has commenced its Climate Action Roadmap and list of proposed projects to meet this target.

The IBTS is required to ensure all energy consumption is uploaded correctly and per the SEAI M&R guidelines. The data available from the M&R system is utilised to identify our Gap to Target (i.e. our 51% reduction in carbon emissions and 50% improvement in energy efficiency by 2030), and highlight any spikes in yearly consumption, or areas of concern. We can input our potential energy efficiency upgrade projects to the M&R

database which will highlight the scale of resources and capital involved to meet our mandated 2030 targets.

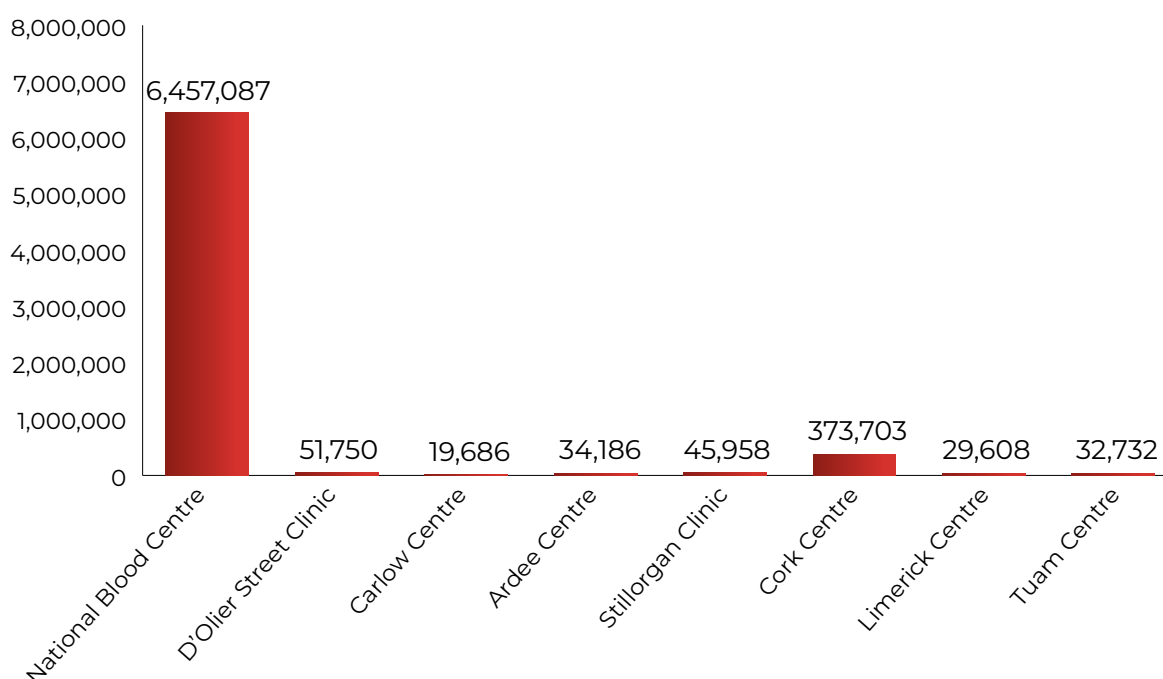
The organisation’s energy consumption is recorded annually for each site. This data is provided by the relevant energy supplier for electricity, thermal (Gas, Oil, LPG). This information is uploaded to the SEAI’s public sector Monitoring and Reporting (M&R) system.

Total Annual Energy Consumption (kWh)

The IBTS consumed a total of 7,044,710 kWh of energy and generated 1,836 tonnes of carbon emissions in 2023.

Utility 2023	Energy Consumption		CO2	
	kWh/Year	%	TCO/Year	%
Electricity	3,646,785	52%	1,211	66%
Natural Gas	3,297,925	48%	625	34%

Total building stock energy consumption 2023 (kWhrs)



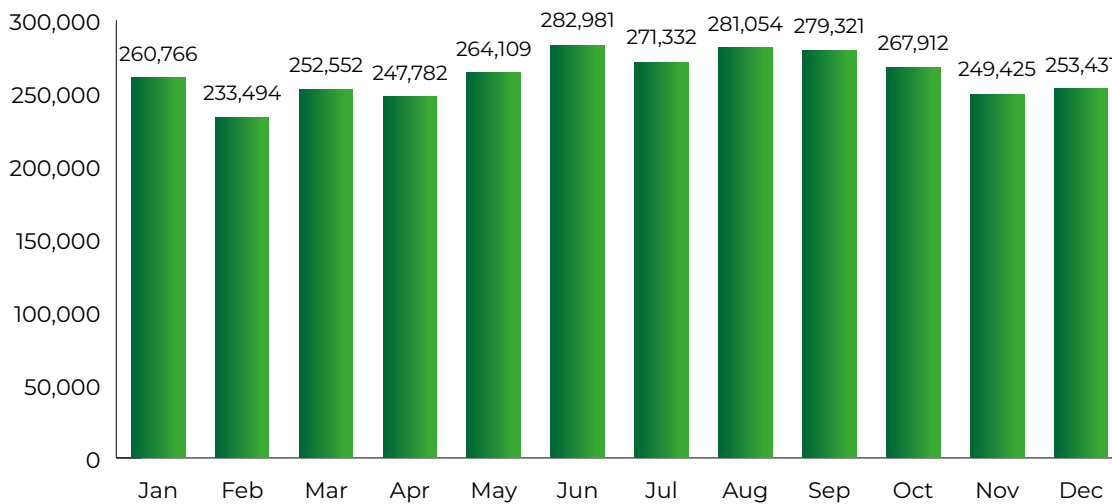


National Blood Centre total annual energy consumption (kWhrs)

The National Blood Centre is the largest energy user amongst all the sites within the organisation building stock. Overall the National Blood Centre accounts for 92% of annual energy consumed by the organisation.

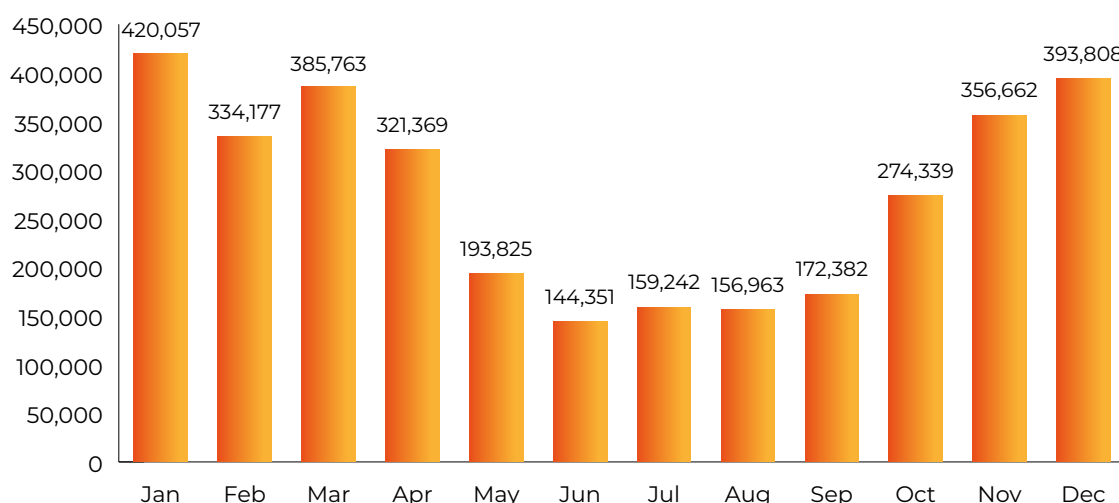
Due to the size, energy consumption and complexity, the IBTS will focus on the National Blood Centre to implement energy savings projects. The energy upgrade measures implemented in the facility will have a greater impact on the organisation as a whole as the associated energy and carbon savings will always be greater than those available at other IBTS facilities. In order to reach the 2030 climate action targets we will aim to decarbonise the National Blood Centre.

National Blood Centre monthly electrical consumption 2023 [kWh]



The average monthly consumption is 262,012 kWh with the highest recorded consumption occurring in June 2023. The usage on site is relatively uniform across 12 months. There is a constant requirement for cooling throughout the facility. The increase across the Summer months can be attributed to the increased load on the NBC three cooling chillers.

National Blood Centre monthly gas consumption 2023



2023 gas consumption was analysed to determine the delivered heat by the boilers to the facility. The analysis interrogated the daily gas consumption from the billing data and applied the following factors:

- An allowance for the gas consumption associated with the kitchen has been deducted for the calculation
- The boiler efficiency of = 77% has been applied to the calculations, which means that of the kWhrs of gas delivered to site, only 77% of the gas has been converted into useful thermal energy by the boilers. The remaining 33% can be attributed to equipment losses due to inefficiencies, age and the original design of the boilers.

Climate action roadmap

The IBTS climate action roadmap is a living document which is reviewed and updated annually to reflect the following:

- Changes in our reported energy consumption
- Any energy upgrade projects implemented
- Gap to Target Progress

(iv) Greenhouse gas emissions reduction by 51% by 2030, and 50% reduction in energy efficiency

(v) Any changes in government policy related to climate action plan

To further support our climate action efforts, the IBTS procured external support to carry out a detailed energy audit of the National Blood Centre. This will be completed in 2024 and will provide a register of opportunities of the projects that the IBTS can undertake and that would support good energy efficiency practices and address the gap to the 2030 targets. While our Sustainability Committee worked on local departmental initiatives, e.g. 'green merchandising' and recycling on clinic it was recognised that sustainability expertise would be needed to support development of our first ever sustainability strategy. The decision was made to recruit a Sustainability and Climate Action lead and this will be in place in 2024. As in 2022, the IBTS continued to participate in the public sector's 'reduce your use' energy efficiency campaign which included reducing temperature and duration of heating in appropriate areas in the NBC. The IBTS looks forward to making meaningful progress on its sustainability journey in 2024.



Green lab

The My Green Lab (MGL) Assessment Programme is an international, non-profit organization, which offers sustainability certification for laboratories, worldwide. The National Donor Screening Laboratory (NDSL) in the IBTS successfully achieved green laboratory certification with MGL in 2021 and the NDSL laboratories was re-certified as a Green Level Certified Lab in December 2023. The remaining IBTS laboratories have completed the My Green Laboratory baseline

assessment in April 2023 and are in the process of implementing actions identified in the assessment to reduce the environmental impact of their laboratory space and improve laboratory sustainability over the next 6-12 months. Green environmental practices have been implemented and efficiencies achieved by reviewing existing practices including energy and water use, waste management, sustainable purchasing and travel.



Finance

	2023	2022
	€'000	€'000
Income		
Recurring income	81,835	71,394
Non-recurring income	2,467	3,629
Total Income	<u>84,302</u>	<u>75,023</u>
Expenditure		
Total expenditure	<u>80,966</u>	<u>80,009</u>
Surplus / (Deficit) for year	3,336	(4,986)
Actuarial gain / (loss) on pension schemes	(2,071)	73,052
Transfer to Capital Reserves	(90)	-
Transfer to Research Reserve	(192)	(264)
Accumulated Deficit at 1st January	<u>(5,061)</u>	<u>(72,863)</u>
Accumulated Deficit at 31st December	<u>(4,078)</u>	<u>(5,061)</u>

Income

The Board's total income for 2023 of €84.3 million (2022 €75 million) is analysed into recurring and non-recurring income. Recurring income consists of revenue generated from sales of products and services provided to hospitals of €81.8 million (2021 €71.4 million). Non-recurring income of €2.5 million (2022 €3.6 million) includes a grant from the Department of Health in respect of HEV testing and deferred funding for the single public service pension scheme. The increase in recurring income represents a price increase from January 1st 2023 and also increased testing volumes on the previous year.

Expenditure

Expenditure for 2023 amounted to €81 million (2022 €80 million). There was a reduced pension charge under FRS102 in 2023 which has offset higher expenditure in terms of bought in products for Tissue and Bone Marrow along with Octaplas and Blood Products. There was also higher expenditure in terms of reagents for the increased volumes of testing.

Reserves

The Board has a Capital reserve for the development of new facilities in Cork. The balance in the fund at the year ended 31st December 2023 was €10.68 million. (2022 €10.59 million)

At the 31st December 2023 the balance of research funds was €3.3 million. (2022 €3.1 million).



Capital Expenditure

The Board invested €2.1 million in capital projects and equipment during 2023 (€1.4 million 2022).

The main capital investments during the year were the replacement of our biological safety cabinets and flow cytometers along with the launch of our online donor appointment system.

As part of the project to redevelop the IBTS Centre on St Finbarrs' Hospital Campus in Cork, work on developing a design brief began in 2023. This will be completed in early 2024 and will allow for a full project design team to be procured. This will be a multi-year project for the IBTS.

Prompt Payment Legislation

The Board complies with the requirements of Prompt Payment Legislation except where noted below. The Board's standard credit taken, unless otherwise specified in specific contractual arrangements, are 30 days from receipt of the invoice or confirmation of acceptance of the goods or services which are subject to payment. It is the Board's policy to ensure that all accounts are paid promptly. During the year ended 31st December 2023, under the terms of applicable legislation, invoices to the value of €260,235.47 were late, by an average of 13.59 days. These invoices constituted 1.02% by number and 0.57% by value of all payments to suppliers for goods and services during the year. Total interest and fines paid in respect of all late payments amounted to €6,706.81

The Board continuously reviews its administrative procedures in order to assist in minimising the time taken for invoice query and resolution and the approval and payment process.

Contact Details

Auditors

Comptroller and Auditor General
Treasury Building
Lower Castle Yard
Dublin Castle
Dublin 2

Solicitors

Philip Lee LLP
Connaught House
One Burlington Road
Dublin 4
D04 C5Y6

Bankers

Allied Irish Bank
Dame Street
Dublin 2

Irish Blood Transfusion Service

National Blood Centre

James's Street, Dublin 8
D08 NH5R
t: 01/4322800
e:contactus@ibts.ie

www.giveblood.ie
Donor infoline 1800731137
www.facebook.com/giveblood
www.twitter.com/giveblood.ie

Cork Centre

St Finbarr's Hospital
Douglas Road
Cork
t: 021/4807400
T12 Y319

Dublin Blood Donor Clinic

2-5 D'Olier Street
Dublin 2
t: 01/4745000
D02 TK51

Stillorgan Blood Donation Clinic

6 Old Dublin Road
Stillorgan
Co Dublin
t: 1850 808 808
A94 NX47

Ardee Centre

John Street
Ardee
Co Louth
t: 041/6859994
A92 HCP4

Carlow Centre

Kernanstown Industrial Estate
Hackettstown Road
Carlow
t: 059/9132125
R93 AC82

Tuam Centre

Unit 2
Beechtree Business Park
Weir Road
Tuam
Co Galway
t: 093 70832
H54P229

Limerick Centre

Carrig House
Cloghkeating Avenue
Raheen Business Park
Limerick t: 061 306980
V94 AH97



B-
population

AB+
2%
of the irish population

AB-
1%
of the irish population



**Irish Blood
Transfusion Service**

Seirbhís Fuilaeistriúcháin na hÉireann