New Zealand Blood Service
Briefing to the Incoming Minister of Health





February 2025

About New Zealand Blood Service

- Founded in **1998**, New Zealand Blood Service celebrated 25 years on July 1, 2023.
- The **only provider** of blood and blood products, organ donation coordination, tissue and tissue typing services in New Zealand.
- Around **900** staff working across North and South Island sites.
- Maintains relationships with more than **122,000** blood, plasma and platelet donors.
- **Ten donor centres** (Auckland, Waikato, Tauranga, Palmerston North, Wellington, Christchurch, Dunedin).
- **Three manufacturing sites** (Auckland, Wellington, Christchurch).
- **Seven mobile collection teams**: Auckland x 3 (two blood, one plasma), Waikato x 2 (blood), Wellington/Central x 1 (blood/plasma), Christchurch x 1 (blood/plasma). A second plasma mobile will also soon be added in Auckland.
- Provides services for **matching patients and donors** prior to organ donation/tissue transplantation, tissue banking (skin and bone), and stem cell services.
- Runs **six hospital blood banks** in Auckland, Hamilton, Palmerston North, Wellington, Christchurch and Dunedin, and
- Provides a **Clinical Oversight** Programme for **ALL blood banking services** across the country.
- Operates the **New Zealand Heart Valve Bank**.
- Home of the **New Zealand Transplantation and Immunogenetics Laboratory** (NZTIL) – the only one of its kind in Aotearoa.
- Home of New Zealand's only **National Red Cell Reference Laboratory** – the only one of its kind in Aotearoa.
- Home of **Organ Donation New Zealand** (ODNZ).
- Home of the **New Zealand Bone Marrow Donor Registry** (NZBMDR).
- Home of the **National Skin Bank and Bone Banks.**

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1.0 Overview of New Zealand Blood Service

Founded in 1998, New Zealand Blood and Organ Service (NZBS)[1] is the only provider of blood and blood products, organ donation coordination, tissues and tissue typing services in Aotearoa New Zealand.

With around 900 staff across the North and South Islands, NZBS exists for the safe, timely, high quality, and efficient provision of blood, blood products, tissues, and related services to clinicians for the people of Aotearoa New Zealand.

Prior to 1998, there were regional, hospital-based blood services throughout New Zealand; the establishment of NZBS brought these fragmented services into a single, national organisation.

Across the motu, NZBS has ten donor centres, three processing sites, and seven mobile collection teams operating. The service runs six major hospital blood banks while also providing a Clinical Oversight Programme for all blood banking services across the country.

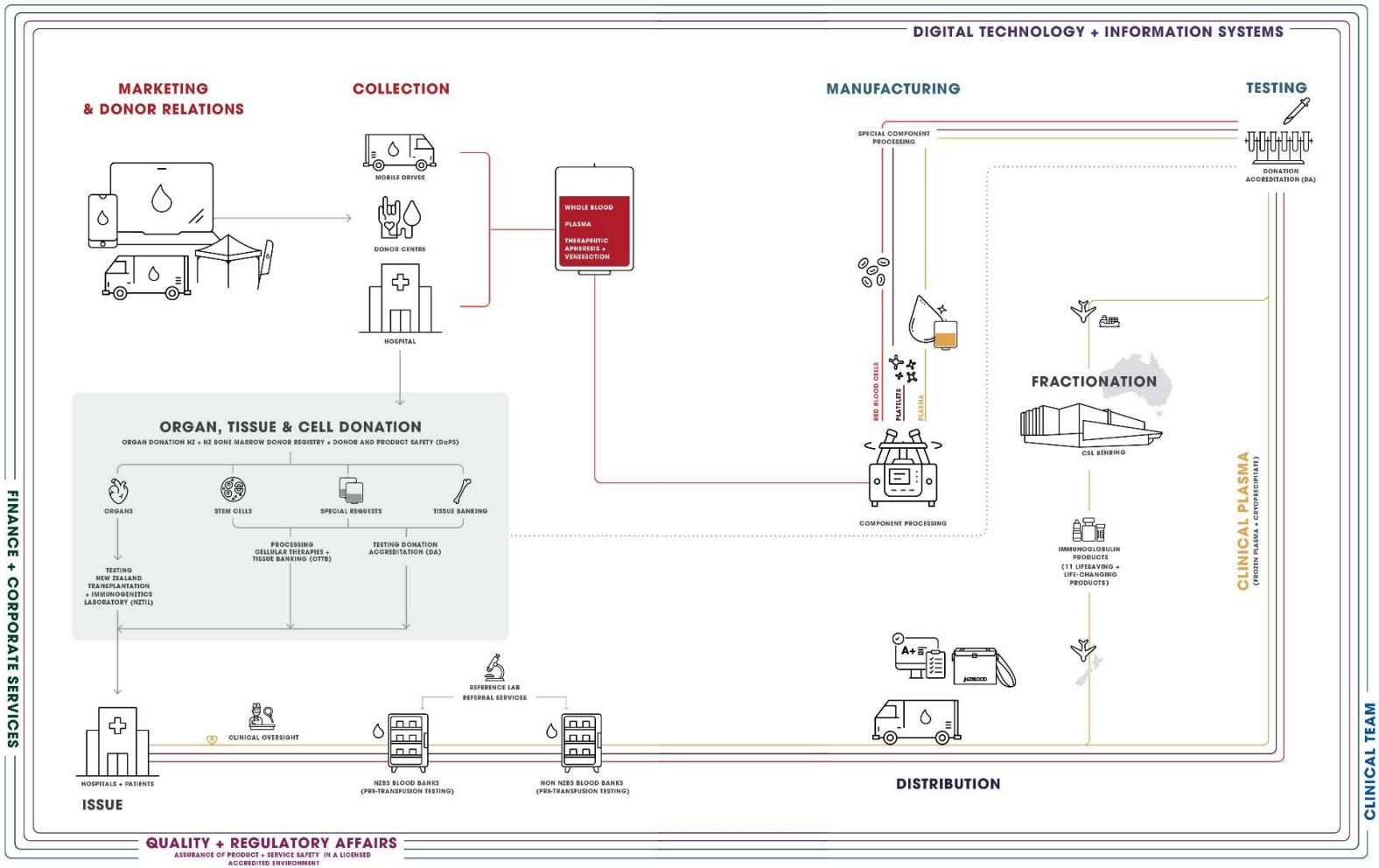
New Zealand Blood Service is primarily known for its blood and plasma-collecting functions. But the organisation is also responsible for a vital range of other complex activities that support the functioning of the wider health sector (see Section 3.0).

NZBS is funded on a fee-for-service basis and has key relationships with various regulatory and accreditation bodies, including Medsafe and International Accreditation New Zealand (IANZ).

The organisation's most precious asset is its volunteer donors; it currently maintains relationships with around 122,000 blood, plasma and platelet donors.

1 New Zealand Blood Service (NZBS) was established in 1998 under the New Zealand Public Health and Disability Act 2000 (replaced by the Pae Ora Healthy Futures Act from July 1, 2022). In 2019, the Organ Donors and Related Matters Act was passed, and Organ Donation New Zealand (ODNZ) was subsequently integrated into New Zealand Blood Service in 2020. As a result, New Zealand Blood Service's legal name became New Zealand Blood and Organ Service. However, the organisation continues to operate as New Zealand Blood Service (NZBS). Where 'New Zealand Blood Service' and 'NZBS' appear in this document, they refer to the work of New Zealand Blood and Organ Service.

AN OVERVIEW OF NZBS



2.0 Our vision, purpose, and values

NZBS's legislated primary purpose and core activity is the safe, timely, high quality, and efficient provision of blood, blood products, tissues, and related services to clinicians for the people of Aotearoa New Zealand.

Our vision

To be recognised for excellence in meeting the needs of donors, patients, our staff, and the wider healthcare community.

Our purpose

To ensure the health needs of people in New Zealand are supported by the availability of safe and appropriate blood, blood products, tissues and related services.

Underpinning our vision and purpose are our three, core strategic objectives:

- **Building foundations for growth**
- **Delivering operational effectiveness**
- **Providing exceptional service**

NZBS' values are at the heart of the organisation's culture and guide our behaviour.

Kia tau ki te tihi
Striving for excellence

Te mahi ngātahi
Teamwork

Te pono me te tika
Integrity and respect

Te whakawhitiwhiti whakaaro i runga I te māharahara
Open communication

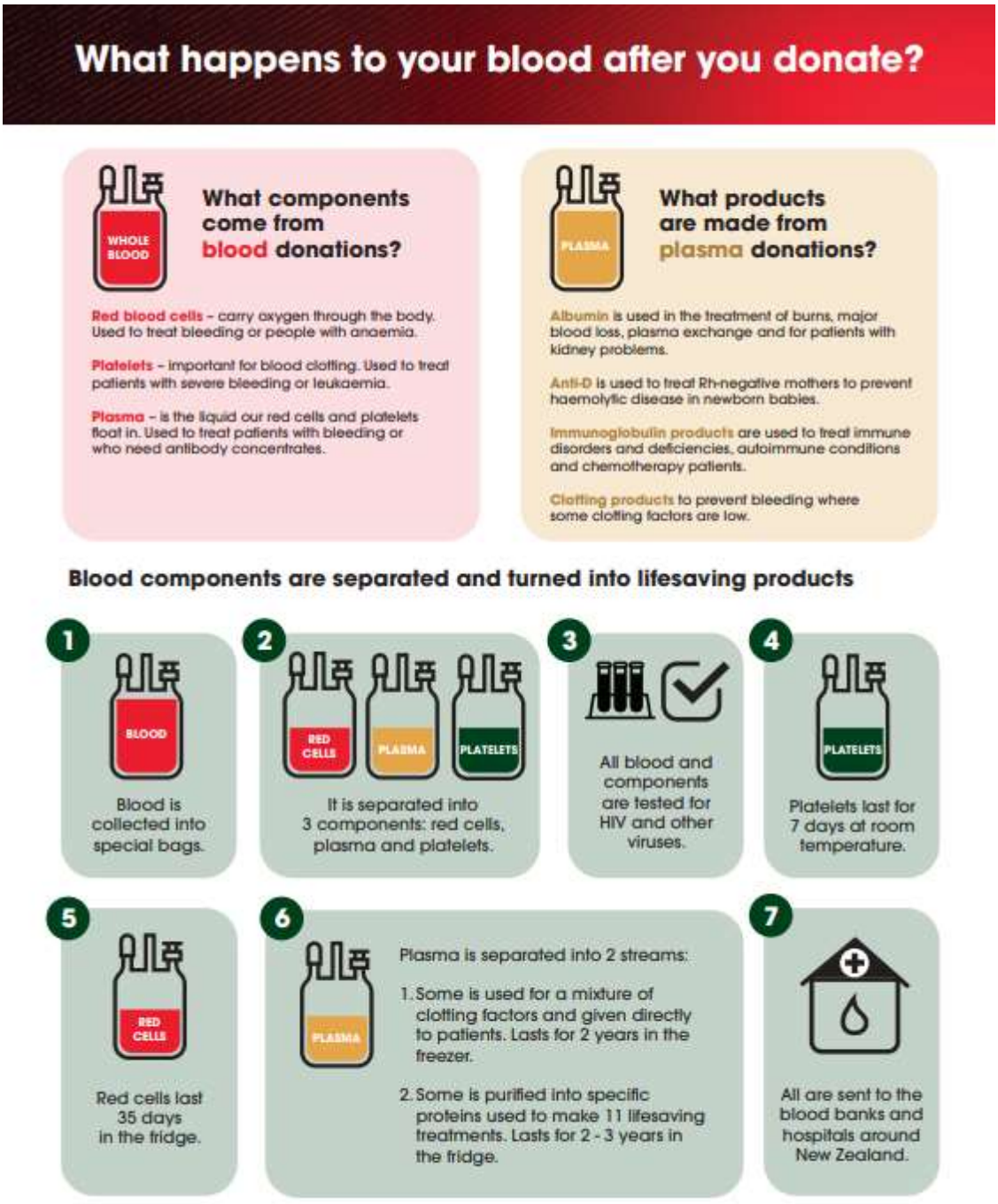
Te haumaru hoki te katoa
Safety for all

Safety is our cornerstone | Ko te haumaru tā mātau mātāpono taketake
Everything we do contributes to the safety of our donors, products and the recipients of the services we provide to New Zealanders

3.0 What we do and how we do it

New Zealand Blood Service provides blood, blood products, organs, tissues, and services to healthcare providers, thereby contributing to the good health and wellbeing of New Zealanders throughout their lives.

NZBS has rigorous donor eligibility criteria and tests every single donation (this involves two distinct processes: blood grouping and screening for infectious markers) to ensure the product collected is safe for transfusion to patients. We continue to monitor international developments in donation and testing to assure the safety of New Zealand's blood supply.



New Zealand Blood Service processes around 150,000 blood donations annually, separating each one into its principal components; red cells, platelets, and plasma.

NZBS also:

- operates New Zealand's six largest blood banks (the pre-transfusion testing laboratories where blood products are matched to suit each individual patient; this includes determining the patient's blood type and matching this with appropriate products), and

- provides a Clinical Oversight Programme for ALL New Zealand blood banks.

More than just blood

Less visible to the public is the range of other complex functions NZBS carries out for the wider health sector and people of New Zealand:

Plasma fractionation

NZBS sends the plasma it collects from whole blood or plasma apheresis donors to CSL Behring in Melbourne, Australia (also see Section 9.0). There, it is fractionated and transformed into up to 11 products that are then returned to New Zealand for use by patients here (plasma can treat up to 50 illnesses). These products can serve a range of purposes, including preventing bleeding during surgery, providing temporary protection against specific infections like chickenpox, tetanus or hepatitis B, preventing complications during pregnancy or after childbirth, and supporting patients who have suffered severe burns or experienced significant blood loss.

These products are also relied upon by many New Zealanders who require them to manage life-long health conditions. Immunoglobulin therapy harnesses the antibodies contained in plasma to replace, treat, or modulate the immune systems of these patients. Treatment is administered regularly, either intravenously or subcutaneously, with specialised intramuscular immunoglobulins also available.

During COVID-19, NZBS was able to introduce a new COVID-19 treatment option called Convalescent Plasma, which is collected from individuals who have recovered from the virus.

As a limited and precious resource, the use of intravenous and subcutaneous immunoglobulin is closely monitored. NZBS has adopted the National Blood Authority (NBA) Criteria for Clinical Use of Immunoglobulin in Australia to guide and support appropriate access.

- *Vyron Mete needed 150 plasma transfusions over nine days after being diagnosed with a rare, life-threatening, and progressive autoimmune disease. Vyron's story here (https://www.youtube.com/watch?v=Xc2rE2CHhJo).*

- *Ella Rose lives with an immune deficiency she was first diagnosed with at the age of two. Her condition means her body can't ward off infection, but she has been able to live a healthy life thanks to Ig treatments. She will rely on these for the rest of her life. Watch her story here (https://youtu.be/PEpOE8I0_Ts).*

Organ Donation New Zealand

Since 2020, NZBS has been the home of Organ Donation New Zealand (ODNZ). Organ transplants can be lifesaving or dramatically improve quality of life for people who receive them. In New Zealand, it's possible to donate your heart, lungs, liver, kidney and pancreas following your death to help someone who is very ill or dying. Organ donation is only possible when a person is on a ventilator in an intensive care unit, usually with severe brain damage. Less than one per cent of all deaths happen in this way.

Tissue donation

In New Zealand, it is also possible to donate tissues following your death to help others who need them. This can include eye tissue, heart valves and skin.
Eye tissues (cornea and sclerae) are used to restore sight or to repair eyes damaged by trauma or disease, heart valves are used often in life-saving surgery for babies and young children with congenital heart conditions, and donated skin (taken from the front and backs of the legs only) is the preferred dressing for people with severe burns.
Tissue donation can take place in most circumstances when people die, whether that is in hospital, a hospice or at home. There are very few medical conditions, including cancers, that prevent the donation of eye tissue for transplantation.

Hip bone donation

If you are having a hip replacement surgery, you can donate your hip (femoral head) bone to be used in treatments to help New Zealanders in need. Bone donations help:

- children with scoliosis having spinal surgery
- children with cancer who have bone fractures that won't heal
- adults having repeat hip replacement surgery
- adults needing bone grafts for spinal or other orthopaedic surgery

For donors, there's no impact on their surgery because the bone will be removed anyway, but for the recipient, the donation is making a life-changing difference.

National Heart Valve Bank

The National Heart Valve Bank, currently based at Starship Children's Hospital, has been part of NZBS since October 4, 2021. It manufactures approximately 60-70 homografts per year, from about 30-40 donated hearts. These are used to repair congenital defects in new babies and small children, and to replace diseased heart valves in children and teenagers with rheumatic heart disease. During 2023/24, 41 heart donations resulted in 89 cardiovascular homografts being banked and 55 implanted.

Read the story of heart valve recipient, James Keith.

New Zealand Bone Marrow Donor Registry

The New Zealand Bone Marrow Donor Registry became part of NZBS in December 2022. While the NZBMDR team had been physically co-located with NZBS at its Epsom site for more than 20 years, responsibility for administering the team had previously sat with Leukaemia and Blood Cancer New Zealand (LBC).
When a person in New Zealand requires a bone marrow transplant but doesn't have a suitable family donor, the NZBMDR team is responsible for searching all registries for an unrelated volunteer donor – anywhere in the world - who could be a match. The team is also responsible for managing volunteer bone marrow donors, who are recruited through NZBS donor centres and mobile blood drives.

Therapeutic apheresis

NZBS supports hospitals by carrying out therapeutic apheresis procedures that improve patient health by removing unwanted cells or abnormal proteins from a patient's blood. These procedures are carried out by NZBS staff in a number of New Zealand's larger hospitals or at our fixed collection sites. NZBS currently performs seven therapeutic apheresis procedures, including stem cell collections, plasma exchanges, and red blood cell exchanges. NZBS will operate a new Therapeutic Apheresis Service in Dunedin from March 2025, treating patients previously cared for in Dunedin Hospital's ICU or who've had to travel to Christchurch.

Achieving our blood and plasma collection targets

NZBS achieves its collection targets thanks to the generosity of voluntary donors, and via the activities of our Donor, Technical and Clinical Services' teams. They, in turn, receive critical support from other NZBS teams such as the Planning and Supply Chain, Quality and Regulatory Affairs, Human Resources and Organisational Development, and Digital Technology and Information Management functions.

	Key activities	Responsible for
DONOR SERVICES 	Marketing & Communications	Building brand awareness and increasing donor panels and understanding through campaigns and media relations.
	Donor Relations	Maintaining a sustainable donor population and retaining existing donors through relationship development and appointment scheduling to achieve collection targets.
	Administration	Making our donors and patients feel welcome, booking appointments and supporting the wider Donor Services team.
	Collections	Collecting whole blood, plasma and platelets whilst ensuring donor health is protected and maintained.

	Key activities	Responsible for
TECHNICAL SERVICES 	Donation Accreditation and Testing	Blood grouping and screening every blood donation for infectious diseases.
	Component Processing	Separating whole blood into red cells, plasma and platelets through a range of manufacturing processes.
	Advanced Processing	Processing specialised products such as bones and tissues.
	Tissue Bank	The national skin and bone banks.
	National Heart Valve Bank *(Based at Starship Children's Hospital)*	Manufacturing around 60-70 homografts per year from some 30-40 donated hearts. Homografts are used to repair congenital defects in new babies and small children. They are also used to replace diseased heart valves in children and teenagers with rheumatic heart disease.
	Blood Banks (Auckland, Hamilton, Palmerston North, Wellington, Christchurch, and Dunedin hospitals)	Cross-matching and antibody screening to ensure compatibility between the donated blood and the patient before it is dispatched to the appropriate hospital staff for transfusion.
	National Red Cell Reference Laboratory	Undertaking complex, high-incidence and difficult red cell antigen/antibody pre-transfusion testing and antibody identification.
	National Tissue Typing Laboratory	Key testing and assessment services for Health New Zealand hospitals and clinicians undertaking organ and haematopoietic stem cell transplantations.

	Key activities	Responsible for
CLINICAL SERVICES 	Clinical Support	24/7 medical and transfusion nursing support to both Health New Zealand and NZBS staff on all transfusion medicine-related issues. Clinical oversight for all blood banks.
	Clinical Services	Provision of therapeutic services such as plasma exchanges, stem cell collections, and therapeutic venesections, and dispensing of products direct to patients.
	Organ Donation New Zealand (ODNZ)	Coordinating a 24/7, national organ and tissue donation service. ODNZ's primary responsibility is to co-ordinate the donation of organs and tissues from deceased donors in New Zealand for transplant units and tissue banks in New Zealand and sometimes Australia.
	New Zealand Bone Marrow Donor Registry (NZBMDR)	NZBMDR is part of a worldwide network of registries containing more than 40 million unrelated volunteer donors and cord blood units. When a person in New Zealand requires a bone marrow transplant but doesn't have a suitable family donor, the NZBMDR team is responsible for searching all registries for an unrelated donor – anywhere in the world – who could be a match. The team is also responsible for managing volunteer blood donors, who are recruited through NZBS donor centres and mobile drives and are willing to donate their bone marrow.

	**FINANCE** This function ensures NZBS meets its obligations and contributes to the strategic direction and overall performance of the organisation. Finance and Corporate Services is accountable for financial management, financial strategy, policy development, and operational analysis.
	**HUMAN RESOURCES AND ORGANISATIONAL DEVELOPMENT** This area holds responsibility for providing strategic human resource and people development leadership to enable a high-performing culture supportive of the organisation's purpose, vision, and values.
	**DIGITAL TECHNOLOGY AND INFORMATION MANAGEMENT** In addition to maintaining day-to-day equipment and systems, Digital Technology and Information Management is responsible for the complex, bespoke blood management systems used by all blood banks across New Zealand. These systems enable vein-to-vein oversight of all products, from donation to treatment.
	**PLANNING AND SUPPLY CHAIN** This function is responsible for providing a nationally integrated planning, supply chain, and logistics solution to enable the safe and timely delivery of the right blood products and services, to the right places, at the right time. Additionally, this function leads organisational procurement activities.
	**QUALITY AND REGULATORY AFFAIRS** In a highly regulated environment, NZBS's QRA team ensures the service is fully compliant with relevant statutory requirements and maintains world-class laboratory and manufacturing standards and practices. This team also manages the organisation's document systems, champions continual quality improvement, and oversees NZBS's privacy programme.

4.0 Our people

New Zealand Blood Service employs around 900 staff across clinical and non-clinical roles, ranging from nurses, scientists and transfusion medicine specialists to donor relations co-ordinators, IT specialists, planning and logistics staff, and a variety of support function staff.

More than 80 per cent of NZBS' employees are frontline staff – their role is directly related to the collection and provision of blood, blood products, organs and tissues.

With increasing demand for its products and services, NZBS continues to balance its resources to appropriately manage staffing levels while achieving the right workforce skills mix to meet future needs.

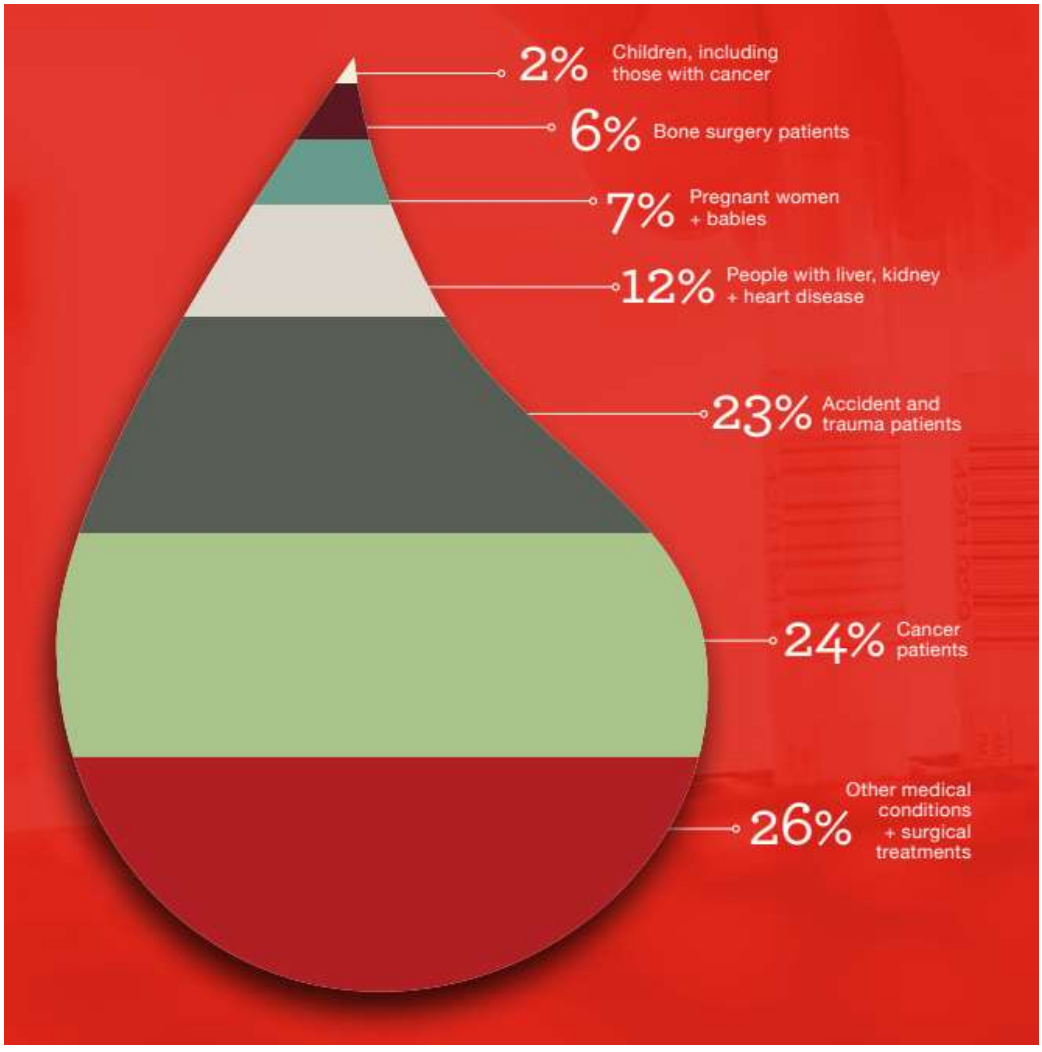
5.0 Our products and the people who use them

Blood is made up of four main components: red blood cells, white blood cells, platelets, and the protein-rich liquid that suspends them all, plasma.

Red Blood Cells are stored in refrigerators at 2-6°C for up to 35 days. Red cell components carry oxygen around the body and are used to treat maternity, paediatric, and transplant patients, and people with cancer. They are also used to treat acute blood loss resulting from trauma or surgery.

Platelets are stored at room temperature and have a shelf-life of up to seven days. They are used to control bleeding following surgery and trauma, and to manage some blood diseases and cancer.

Plasma makes up more than half the volume of blood and is packed full of proteins and antibodies. It is used to treat accident and trauma victims, and patients who have compromised immunity. Plasma can be frozen for up to two years or made into up to 11 lifesaving products that help patients with compromised immune systems.



6.0 Facts, figures, and 'good to know'

In 2023/24:

- NZBS received around **4,230 donations** per week on average
- Blood donors gifted more than **123,560 units** of **whole blood**
- **93,749 units** of **plasma** were collected
- NZBS ran **350 mobile plasma** drives at **10 locations** and **1185 mobile blood drives** at **321 locations**
- NZBS had more than **122,000 active donors**
- **217,000 units** of plasma were processed for **fractionation**
- **98,000cm²** of **skin** allografts were issued
- **556 stem cell donations** were processed into **931 units** ready for issue.

- You can give plasma every two weeks and blood every 84 days. A plasma appointment is 90 minutes in duration, a blood donation can take up to 60 minutes (including registration, donation and recovery).

- For a collection of whole blood, we take one unit, or 470 ml.

- NZBS is the main supplier of human bone (cranial bone flaps and femoral heads), and the sole supplier of human skin to New Zealand's public and private hospitals. New Zealand is not currently self-sufficient in skin collection so NZBS also co-ordinates skin importation to meet demand.

- NZBS operates within the scope of the Carbon Neutral Government Programme (CNGP) and has gained Toitū carbonreduce certification after partnering with Toitū Envirocare to measure our carbon emissions. As an example of how we practically apply our commitment to sustainability, during the redevelopment of our major site in Epsom, we installed EV rapid charging stations for our blood donors' use.

- NZBS is involved in clinical research, including the Clip II trial – an investigation into the use of cryopreserved platelets vs. conventional liquid-stored platelets for the management of post-surgical bleeding.

  NZBS's Chief Medical Officer has also been a member of the Investigation Team for the SPOTS: Sex and Prevention of Transmission Study; a survey about sex between men, blood donation, and HIV prevention. The information gathered has been used to investigate alternatives to the current blood donation policy that excludes many men who have sex with men (MSM). As a result, and having received Medsafe approval, NZBS plans to move to more inclusive, individualised donor assessments, from early 2026. Information from SPOTS is also being used to improve HIV prevention and sexual health services.

7.0 Te Tiriti o Waitangi

As part of New Zealand's public health sector, New Zealand Blood Service acknowledges the importance of Te Tiriti and hauora kounga mō te katoa – quality health for all.

As a Crown entity established under the New Zealand Health and Disability Act 2000, now the Pae Ora Healthy Futures Act, we recognise and are committed to delivering products and services in accordance with this Act. In particular, we are cognisant of the Health sector principles set out in Section 7 and their relationship to key Te Tiriti principles, including:

- **Ōritetanga** Equity
- **Pātuitanga** Partnership
- **Tino rangatiratanga** Providing opportunities for Māori to exercise decision-making authority on matters of importance to Māori
- **Pātuitanga** Partnership
- **Kōwhiringa** Options
- **Whakamaru** Active protection

We acknowledge the significance of these principles not only to the way we design and deliver products and services with and for the donors, patients and recipients we engage with – but also to creating a culturally safe environment for our people at NZBS.

We are early in our journey but have a genuine commitment to this work.

8.0 Governance and leadership

New Zealand Blood Service Board

Fiona Pimm – Board Chair

Fiona is an independent consultant and director with more than 40 years' experience in the health sector and extensive governance experience. She has previously worked in senior executive roles in primary care and District Health Board (DHB) management, as well as in Māori Health with Ngāi Tahu. Fiona is currently a Chairperson for Whai Rawa Fund Limited and represents her Arowhenua marae on the Board of Te Runanga o Ngāi Tahu. She has a Postgraduate Diploma in Public Health and an MBA from Massey University.

Dr Bart Baker

Bart is a consultant haematologist at Palmerston North Hospital's Regional Cancer Treatment Service. He is an active and experienced committee member, including for Leukaemia & Blood Cancer New Zealand. He is a member of the Haematology Society of Australia and New Zealand and the American Society of Haematology and is registered with the New Zealand Medical Council as a specialist in Internal Medicine and in Pathology (Haematology).

Roger Jarrold

Roger Jarrold is a Chartered Accountant with more than four decades' experience. He has worked across the engineering, construction, and health sectors, including in Chief Financial Officer roles in construction and health. Alongside several other positions, Roger is currently Chair of the Health Research Council's Audit and Risk Committee, Board Member and Chair of Health New Zealand Te Whatu Ora's Finance and Audit Committee, and a trustee of the Auckland Hospitals Research and Endowment Fund (AHREF) charitable trust. He joined the New Zealand Blood Service Board in July 2023.

	**Nicole Anderson** Nicole Anderson is a chartered professional director (CMInstD) with a background in financial management and public health. She is a member of various public and private sector governance bodies, including being a director on the Top Energy Ltd and Scion Boards, and Chair of the International Accreditation Council (IANZ). Ko Ngāpuhi tōna iwi, nō Hokianga ia.
	**Anthony Bow** Anthony is an independent director and a principal of Waimana Capital, a business strategy and expansion capital firm. He has more than 30 years of investment management, banking and finance, mergers and acquisitions experience, and has held CEO and senior executive leader positions in financial services entities. Anthony's governance roles include being Chair of Medical Sciences Secretariat Limited, Deputy Chair of the Medical Radiation Technologists Board, Director of Whai Rawa Fund Limited, and Councillor of InternetNZ. Anthony has a Bachelor of Commerce from the University of Auckland and holds Chartered Accountant designation from the professional accounting bodies of New Zealand and Singapore.
	**Dr Edward Tanetoa Hutchins** Edward is a consultant ophthalmologist at Wellington and Kenepuru hospitals, and at Wairau Hospital, Blenheim. He has a Bachelor of Medicine and a Bachelor of Surgery from the University of Auckland, and a postgraduate diploma in Ophthalmology from the University of Otago. He is a fellow of the Royal Australia and New Zealand College of Ophthalmologists, and has undertaken subspecialty fellowship training in corneal surgery, retinal surgery and ocular oncology. Ko Ngāi Tahu / Waitaha toku iwi. Huirapa toku hapu, Puketeraki toku marae.

Edie Moke, Independent Chair, NZBS Finance and Audit sub-committee
(DBS, BBS, PgDBA, MBS)

Edie is a chartered member of the Institute of Directors New Zealand and an independent director with more than 25 years' governance experience across organisations related to health services, broadcasting, audio-visual archiving, regional development, philanthropy, and kaupapa Māori community services' delivery. She is a former Massey University business studies lecturer and worked as an accountant for the Canterbury Area Health Board before expanding her health service delivery knowledge at Healthlink South Ltd. Her consulting skills were cultivated as a principal consultant with Ernst & Young where she established the Māori health and Māori business development teams, and later with Cap Gemini Ernst & Young NZ.

Edie is Independent Chair of New Zealand Blood Service's and the New Zealand Human Rights Commission's Finance and Audit Subcommittees. She is also an independent member of the Ministry of Health's Risk Assurance Committee. In June 2023 she was appointed to the Board of the International Accreditation NZ Council (IANZ) and recently also became Chair of their Audit and Risk committee.

Governance and leadership

New Zealand Blood Service Executive Leadership Team

	**Sam Cliffe, Chief Executive Officer** As CEO Sam leads the Executive Leadership Team (ELT), has overall responsibility for organisational performance, and is accountable to New Zealand Blood Service's Board. The Executive Leadership Team members act as partners to the CEO, providing critical advice and support to enable the organisation to perform effectively and deliver on its objectives.
	**Dr Sarah Morley, Chief Medical Officer** The Chief Medical Officer leads the Clinical Services Team, which plays a key role in ensuring that clinically appropriate blood products and services are provided to patients. The multi-professional expert team provides transfusion and blood donation advice, and clinical expertise in cellular therapies and apheresis, and organ and tissue donation. Sarah's team works closely with clinicians across the health sector and includes Organ Donation New Zealand and the New Zealand Bone Marrow Donor Registry.
	**Kyle Beuth, Chief Financial Officer** As Chief Financial Officer (CFO) Kyle plays a key role in ensuring New Zealand Blood Service meets its financial and legal obligations. The CFO also contributes to the strategic direction and overall performance of the organisation. Kyle leads a team responsible for delivering effective financial management, financial strategy, policy development, and operational analysis. A key function of the CFO is also to drive business improvement and enhanced performance using analytics and business intelligence practices.

	**Karen Didovich, Director - Human Resources and Organisational Development** The Director, Human Resources and Organisational Development is responsible for providing strategic leadership across these areas. The role ensures policies, programmes and HR services support a high-performing culture that is underpinned by NZBS' values and contributes to NZBS's vision and purpose. Working in partnership with other Executive Leadership Team members and senior management teams, HR&OD work to attract, select, motivate, and retain a highly qualified and diverse workforce; promote effective leadership and management practices; manage salary and benefits; develop employee recognition programmes; promote fair and equitable treatment of employees through employee relations services; lead health and safety, inclusive of wellbeing initiatives; and provide training and development.
	**Dr Mandy Suddes, Director - Technical Services** Mandy leads and is accountable for the Technical Services function, from strategy development to operational service delivery, including managing major change programmes. This work is central to ensuring we can meet the clinical demand for products and services and deliver them in accordance with statutory and regulatory requirements. Technical Services' functions include manufacturing and donation accreditation, and operating six national blood banks, the National Reference Laboratory, and the New Zealand Transplantation and Immunogenetics Laboratory. Technical Services also carries out cellular therapy and tissue banking activities with support from NZBS' Learning and Development and Technical Facilities and Equipment teams.
	**Joshua Bankers, Director – Digital Technology and Information Management** Josh provides vision and leadership for strategically developing and managing information, information resources, digital platforms, and technology. He is responsible for enabling New Zealand Blood Service's business strategy through the smart application and management of technology and information. He is also accountable for information services' systems and infrastructure across all locations.

	**Fidelma Murphy, Director - Quality and Regulatory Affairs and NZBS Privacy Officer** Fidelma is accountable for ensuring NZBS works within required legislation and international best practice standards for blood, tissue, and cells' services. NZBS works within a complex regulatory framework for the collection, testing, manufacturing, and distribution of substances of human origin in New Zealand. Fidelma's role ensures NZBS is fully compliant with all the required standards, ensuring the organisation provides safe products and services. She is also the organisation's Privacy Officer and ensures compliance with New Zealand's Privacy Act 2020.
	**Brett Paradine, Director – Donor Services** Brett leads and is accountable for the Donor Services' function, from strategy development through to operational service delivery. This work is central to ensuring collection targets are achieved so that clinical demand for products and services can be met. Donor Services' functions include donor strategy, planning, marketing, donor administration, donor recruitment and collections, training, the Donor Product and Safety (DaPS) Team, therapeutic services, and contact centre oversight.
	**Justin Scott, Director – Planning and Supply Chain** Justin is accountable for providing strategic direction and oversight of NZBS' Planning and Supply Chain function. He leads the operational activity that sees the timely distribution of blood and blood products to New Zealand hospitals and, with his team, heads up NZBS' integrated planning process to ensure product demand can be met. Justin's role also manages the organisation's facility, property, and procurement functions, and he is the lead executive for NZBS' emergency planning management.

9.0 Current environment and challenges

Known as 'liquid gold' for its value and lifesaving properties, plasma can be transformed into up to 11 different products that can treat up some 50 different illnesses.

Plasma demand

In New Zealand, plasma-derived products are being increasingly used to treat a growing list of illnesses, particularly in people living with autoimmune conditions. NZBS manages and holds the nation's inventory of plasma derived products and is tasked with ensuring the life-saving medications are available to meet clinical demand across all New Zealand hospitals.

Compared to many other countries, New Zealand manages its clinical use of plasma well (in Australia, plasma demand is approximately three times higher per-head-of-population than here). There is good evidence showing that clinicians are judicious in their use of plasma-derived products and that they are being used appropriately in the New Zealand health system. And while some countries pay plasma donors to encourage more frequent donations, in New Zealand we continue to meet demand while relying on voluntary donors.

Nevertheless, demand for plasma is growing rapidly – and that growth is projected to increase by around 10 per cent year-on-year for the next five years.

Overseas, some countries are addressing this by restricting the use of plasma-derived products – something NZBS is working to avoid through its commitment to self-reliance. In FY25, NZBS's self-reliance for immunoglobulin (Ig) products sits at 74 per cent with commercial product (plasma sourced from remunerated, overseas donors) making up the rest (26%). Self-reliance is projected to continue a downward trend in FY26 and FY27, with recovery towards 85 per cent expected in FY28, because of planned collection initiatives.

International demand for plasma also continues to rise and the availability and reliability of commercial product is not guaranteed. Looking ahead, the global plasma market is forecast to become extremely tight, with the ability to import plasma products becoming compromised and prices rising. This provides further justification for NZBS adopting a self-reliance strategy.

The cost and complexity of plasma fractionation

Plasma is the liquid component of blood obtained through blood fractionation. Plasma fractionation, in turn, is the process of separating plasma into its various components. Plasma-derived immunoglobulins are used to treat a wide range of autoimmune inflammatory diseases, as noted above.

New Zealand is fortunate to have a state-of-the-art fractionation facility (CSL Behring, Australia) within reasonable proximity to New Zealand (the expertise, infrastructure, and investment required for a similar facility here would make such an operation untenable).

However, freighting New Zealand plasma to Melbourne does introduce significant complexity to NZBS's manufacturing and supply chain operations. This, along with recent changes introduced at CSL Behring, has resulted in both process and budget implications for NZBS. These include:

- **The cost (included in the fees paid to CSL Behring) of shipping plasma in a timely and temperature-controlled manner:** Until 2024, plasma was freighted by air, weekly, using dry ice ($C0_2$). However, air freight is the costliest transport method, relies on dry ice (the cost of which has increased by more than 300% with the closure of the Marsden Point facility), and is constrained by available air cargo space. For these reasons, and others, NZBS sought an alternative solution.

  The development of Highbrook (see Section 10.0), while a significant investment, is a big part of that solution and has been designed to future-proof New Zealand in the face of growing demand for immunoglobulin products. It has reduced freight costs and complexities and improved reliability by enabling the containerised transport of frozen plasma by ship every three weeks to four weeks (frozen plasma can be stored for up to two years) (fractionated products are returned to New Zealand by air). It has also removed polystyrene and more than 70 tonnes of dry ice from the shipping process, while reducing environmental impacts:

  - Sea freight uses half the fuel per unit of cargo than air freight
  - Ships are more fuel-efficient than aircraft
  - Unlike aircraft, which emit other pollutants and gases at high altitudes, sea freight does not contribute to non-CO_2 climate impacts.

- **Process Migration:** In 2022, CSL Behring expanded and modernised its facilities and introduced new global manufacturing processes. This directly affected a number of NZBS's plasma-derived products, requiring that they be manufactured differently. As a result, older immunoglobulin products were replaced with new ones. This significantly impacted NZBS - in particular, due to the shift from *mixed manufacture outputs* to *single manufacture outputs*. Previously, a manufacture of 11.5 tonnes of plasma (a 'production pool') could be split across multiple vial sizes and product types. Now, the production pool results in only one product in one vial size. This has

led to a significant increase in inventory investment for NZBS, as we now have to hold much higher stocks. Product ranges have also had to be rationalised for cost effectiveness and some smaller vial presentations, for which there was low demand, have been discontinued. Some manufactured products were also replaced with commercial products where this was the most financially prudent option. In addition, NZBS was also forced to hold both new and existing products during the changeover, placing significant pressures on inventory levels and cashflow.

A multi-disciplinary NZBS Process Migration project team established in late 2022 has ensured that prescribing clinicians and administering health care professionals, dispensing blood banks, and patients (some of whom have been receiving the same product every month for many years and are reliant on it for their quality of life) have had the support and information they need to navigate the product changes smoothly. The project team has also ensured that retiring inventory has been used judiciously to avoid waste. Less than 50 vials of product were discarded during the migration.

- **Introducing 5-NAT testing***:* In January 2025, after a considerable period of planning and scoping, NZBS initiated a project that will see it move from 3-NAT (Nucleic Acid Testing) to 5-NAT in its Auckland and Christchurch Donation Accreditation Laboratories. The expanded, 5-NAT testing is a CSL Behring requirement that will enable NZBS's transition to Individualised Donor Risk Assessments; a vital step in creating more inclusive eligibility criteria for donor groups such as men who have sex with men (MSM) and, in turn, potentially helping to grow the donor pool. Alongside NZBS's other testing protocols, the current 3-NAT testing regime screens for HIV, Hepatitis B and Hepatitis C. Under 5-NAT, Human Parvovirus and Hepatitis A will also be screened for. The introduction of 5-NAT will require Medsafe approval, and significant changes to processes, equipment, training, and technology. It is anticipated to go live by the second half of 2025. This evolution in NZBS's testing will also facilitate future operational and strategic improvements.

Whole blood demand

To meet FY25 demand, NZBS will need to collect around 125,000 units of whole blood , with projected growth of two per cent year-on-year for the next five years.

Impact of COVID-19

Since COVID-19, NZBS has worked to recover from the impact of the pandemic on whole blood collections. In 2021, NZBS's donor panel decreased by around 3,500 donors. Between July and December 2024, we collected the most plasma we've collected since the COVID-19 lockdowns.

Business model

New Zealand Blood Service does not own any of the sites from which it operates, leaving it vulnerable to the decisions and actions of the properties' landlords. This model - combined with aging infrastructure, growing product and service demand, and the need to ensure continuity of service - has required NZBS to make significant investment in vital infrastructure upgrades over the past few years - work that is ongoing (see *10.0 Growing to meet demand* below).

Greater scope of responsibility

As noted elsewhere in this document, NZBS's scope of responsibility has expanded far beyond blood and blood products in the last five years:

- Organ Donation New Zealand (ODNZ) transferred to NZBS in 2020. The transfer of clinical expertise and supporting services enables NZBS to:

  - Provide 24/7 support to hospitals on organ donation and support for transplantation.
  - Raise the profile of organ donation
  - Support effective clinical governance
  - Work with the health sector to coordinate donation and transplantation processes
  - Provide expert advice and information to the sector, government, media and public.

- The National Heart Valve Bank transferred to NZBS in October 2021.

- The New Zealand Bone Marrow Donor Registry transferred to NZBS in late 2022

NZBS welcomes this increased scope and the synergies and opportunities it offers for the benefit of all New Zealanders.

Changes in donor behaviour and expectations

People's lives are busy as they juggle competing demands and receive rapid-fire information delivered via multiple channels. Changing donor preferences are also leading to expectations of more personalised and convenient experiences. Understanding donor needs and identifying opportunities to improve their experience presents an ongoing challenge – and an important one as we aim to maintain and increase our donor register to meet the growing needs of the population.

Financial constraints

The fiscal restraint required in the current economic climate has called for challenging decisions across NZBS operations. The rationale underpinning these decisions has been predicated on balancing fiscal responsibility with the need to continue delivering safe, sustainable, products and services for the New Zealand health sector and the people it cares for.

What do these trends and challenges mean for NZBS?

- Acquiring new donors and retaining existing ones is vital yet challenging work. New Zealand Blood Service will require a 64 per cent increase in booked appointments over the next five years to meet demand.

  Continued investment in campaigns, promotions, and recruitment will be required to maintain and grow visibility/awareness of the need for blood/plasma – and

operational adaptations made, where possible, to accommodate donors at times and places that work best for them.

Donor satisfaction with the quality of the service they receive at NZBS is high (95.6% in 2023/24). In 2024, as part of its consumer engagement work and commitment to the *Code of Expectations for health entities' engagement with consumers and whānau*, New Zealand Blood Service also developed a Customer Service Standard and Customer Service Promise. These will be introduced in 2025, alongside staff training, to support a positive and consistent donor experience - one that encourages them to keep donating, and to become advocates for donation.

- Greater demand for blood and blood products means greater pressure on existing infrastructure (fixed sites, mobile units, blood banks, laboratories, logistics, storage, and equipment) and the need for investment in new or upgraded facilities and technology (see 10.0 below). While significant progress has been made, there is more to do, including working with Health New Zealand to identify a new location for Wellington's small and outdated blood bank.

- Increased demand, plus growth in the range of services and procedures NZBS performs or supports, also means a requirement for more staff, plus investment in the people we already have, to ensure the right skill mix.

- NZBS must strike a careful balance so that both whole blood and plasma targets can be met without one being achieved to the detriment of the other. Effective collection of plasma is needed to ensure national security of supply (self-reliance model), but this comes with challenges.

- Having a greater scope of responsibility is an opportunity NZBS embraces. It is important, however, that adequate resourcing accompanies the transfer of any service or function so that the potential can be fully realised.

- During 2024, NZBS undertook a line-by-line review of its budget and introduced cost-saving measures across the organisation. Travel and use of contractors was reduced, projects were paused or re-scoped where necessary (including infrastructure and technology projects), almost all recruitment activity was brought in-house, and a *Savings and Improvements Group* was established.

10.0 Growing to meet demand

During the past four years NZBS has embarked on the following projects to help address several of the challenges details above:

Highbrook


Highbrook is NZBS's biggest-ever infrastructure investment and is being completed in two stages. Once finished, it will comprise:

- A **Cellular & Tissue Laboratory -** advanced processing suite 'clean rooms', laboratory space (wet and dry), cryogenics processing and storage, tissue freezers, quality control and research and development.

- **Logistics -** freezer storage, retention storage, cool room storage, ambient storage, receivables and distribution processing.

- **Plasma for fractionation -** inwards receipt, processing, quality control sampling, freezing, release, labelling and storage in logistics freezers for subsequent sea-freighting to CSL Behring in temperature-controlled shipping containers.

- **Administration -** staff facilities and offices (with the possibly of also undertaking mobile blood drives at the site).

- **Plant and Utilities -** located within the building and service yard.

The first stage of this multi-million-dollar, 4000m^2, development in South Auckland was completed and operationalised in October 2024 (national warehouse with plasma freezing and storage capacity to support plasma dispatch to Melbourne for fractionation). The new facility has been designed to handle refrigerated containerisation for the efficient shipping of source plasma to Australia; the move away from using air freight will save around $900,000 annually and remove around 77 tonnes of dry ice from the NZBS supply chain.

Due to budget constraints, the second phase, which had been due to proceed in 2025, has been paused. This important phase will ultimately provide a suite of clean rooms, additional laboratory space, and a national cryogenic store to meet the processing and storage demand for our growing cellular therapy (stem cell processing) and tissue banking needs. During 2025, NZBS will engage with the wider health sector and those working in the field of cellular therapies to determine the best way forward for this important facility.

Hamilton Donor Centre | Waikato Hub

Our Hamilton Donor Centre (below) was opened in August 2023, replacing the outdated, 34-year-old, premises on the Waikato Hospital site. The approximately 1886m^2 three-level facility is 938m^2 bigger than the old donor centre and is prominently located on a corner site. Unlike its predecessor, this easy-access site is future-equipped with capacity to double the number of donor couches (to 24). It has an additional 14 on-site donor carparks and greater flexibility in the number of available appointments.

Tauranga Donor Centre

Our Tauranga Donor Centre was officially opened in April 2024 and occupies a building NZBS co-tenants with one other occupier. On opening, the centre more than doubled the number of beds available at the old Tauranga centre (from six to 15). It is located on an easy-to-access, high-visibility site on the corner of Cameron Road and Hamilton Street. It has 15 carparks (up from five at the current site) plus convenient street parking to accommodate donors.

Christchurch collection site

In 2022 we introduced a temporary, plasma-only 'mobile' donor centre in Christchurch to collect antihemophilic factor (AHF) plasma and accommodate increasing plasma targets. The Tuam Street facility opened with six beds, which then increased to ten. The donor panel in the region is strong, and the demand for appointments is high, making the facility an important addition for helping to achieve the region's plasma targets. In June 2023, a successful Medsafe submission allowed us to add Fresh Frozen Plasma (FFP), Cryoprecipitate, and some whole blood collections at this site. The facility was modified accordingly and began operating in this new capacity from September 11, 2023.

Epsom site redevelopment

Since November 2018, extensive work has taken place at NZBS's Epsom site as part of a multi-year redevelopment project. To date, the Epsom project has delivered a suite of modern, fit-for-purpose facilities, including a donor centre, manufacturing facilities, and specialist laboratories (the New Zealand Transplantation and Immunogenetics Laboratory and National Red Cell Reference Laboratory, above, were officially opened in October 2022). The redevelopment work is also providing improved facilities for logistics and administration functions. Due to the budget constraints delaying Highbrook's completion, it is particularly important that the Epsom site is safe and fit-for-purpose for carrying out cellular therapies and tissue-related work.

Christchurch Blood Bank

NZBS opened its new, Christchurch Blood Bank at Christchurch Hospital in October 2022. The new facility is around three times bigger than its predecessor and is better located to support acute care across maternity services and Waipapa Hospital. The facility provides accommodation for the Blood Bank team of 18 scientists and technicians who had previously worked in a lower ground floor location without natural light. It also introduced a second blood analyser to support the increased work volumes and provider operational contingency.

Waikato Blood Bank

NZBS opened its new Waikato Blood Bank on Health New Zealand Waikato's site on 15 November 2022. The $700,000 facility provides accommodation for the Waikato Blood Bank team of 18 scientists and technicians and is around double the size of the old space. The previous Blood Bank had been housed in a building identified as an earthquake risk.

Adding to and upgrading our mobile drives

NZBS currently operates seven mobile blood and plasma drives. In late 2023, a new four-to-six bed mobile for blood collection was added for Auckland, giving the region two blood mobiles and one plasma mobile. The new addition provided capacity for another 50 appointments each day and is smaller in size, meaning greater flexibility when it comes to the sites it can visit. A second plasma mobile will also soon be added in Auckland.

We have also begun upgrading our existing mobile vehicles, with the first (of four) already operating in the Waikato. The remainder of these vehicles will hit the road during 2025, one in Christchurch and the others joining their existing counterpart in Hamilton. The new Isuzu FSD700 buses are automatic, accommodate 16 staff plus equipment, are air-conditioned, and have internal power so that equipment is charged and ready to go on arrival at site.

Wellington collection sites and blood bank

New Zealand Blood Service's Wellington Donor Centre is located in a Health New Zealand property on Hospital Road. The lease for this property is currently due to expire in late 2026 and it is likely the centre will remain at this location should Health New Zealand extend the lease. However, the site operates with severe space constraints; in 2023, NZBS had to lease a second location close by (Adelaide Road) to accommodate overflow. Currently, planning is progressing to open a Donor Hub in Porirua by the first half of 2026; this would enable NZBS to relinquish the Adelaide Road site and to co-locate critical staff such as Donor Relations Co-ordinators, Clinical Coaches, Collections staff, and Administration staff. It will ease pressure on the Hospital Road centre and provide a more convenient location for a number of existing and potential new donors.

New Zealand Blood Service continues to work with Health New Zealand on a new location for its Wellington Blood Bank. The current blood bank is aged, no longer fit for purpose, and risks losing its IANZ accreditation due to its current condition. NZBS has funding set aside to fit out a new blood bank but is reliant on Health New Zealand identifying a suitable alternative location on the Wellington Hospital site. This is a matter of urgency as the Wellington region would be without blood banking services should IANZ accreditation be withheld.

Auckland collection sites

The lease for NZBS's Takapuna Donor Centre will expire early this year and will, if possible, be renewed. Work is also well-advanced on establishing a second Donor Centre in Rosedale which, in parallel with the Takapuna site, will increase the opportunities for people on the North Shore to donate.

It is also intended to this year seek Medsafe approval to turn the Henderson mobile venue (established last year) into a permanent, fixed donor centre.

Upgrade and replacement programmes

NZBS's Technical Services team is continuing its equipment upgrade programme. Over the past two years, the team has replaced all the incubators used in Auckland, Wellington, and Christchurch to screen platelet and serum eye drop products for bacterial contamination. New batch freezing technology has been introduced to better manage increasing plasma volumes, and a replacement programme for the equipment used to freeze plasma and cryoprecipitate for clinical use has also been completed. This year, attention will turn to the national upgrade of the benchtop presses used in NZBS's laboratories during blood manufacture.

Between late 2023 and April 2024, NZBS also introduced new plasma apheresis machines ('Auroras') for collecting plasma from donors. As a result, each plasma donation takes a little less time for donors, and some have said it feels gentler on their veins. For staff, the equipment is easier and better to use, and for NZBS, it will eventually support the move to a paperless process.

Other key initiatives

New Zealand Blood Service is part way through the biggest transformation in its history, with other key projects having recently included:

- The introduction of a new Donor Relationship Management System and upgrades to the NZ Blood Donor app.
- The re-platforming of NZBS' Blood Management Systems (from servers to the cloud).
- Lifting of the vCJD ('Mad Cow') donor deferral criteria, and
- The introduction of ISBT 128 – the global standard for labelling and identifying medical products of human origin.

A further significant initiative this year will be a change to NZBS's Nucleic Acid Testing (NAT) model, with a move from 3-NAT to 5-NAT testing in our Auckland and Christchurch Donation Accreditation laboratories from the second half of 2025.
Introducing this testing will bring NZBS in line with international best practice and ensure we can meet the requirements of our fractionator, CSL Behring.
It will also constitute a critical step forward in our journey to introduce Individualised Donor Assessments; assessments that use a risk-based approach tailored to each person. More information is available on our website.

11.0 Barriers to progress

Vital infrastructure - equity injection only a partial solution

NZBS has a mandated responsibility to supply safe products and services for the New Zealand health sector and the people it serves. Having modern, fit-for-purpose infrastructure (facilities and equipment) that meets quality and safety standards is essential. As demand for our products and services, especially immunoglobulin products made from New Zealand-sourced plasma[2], continues to grow, this infrastructure focus takes on even greater importance.

NZBS has been working through a multi-year programme of investment to modernise aging facilities and expand collection and manufacturing infrastructure capabilities. It is estimated that this programme of work, excluding Stage 2 of the Highbrook processing facility (see Section 10.0), will cost $116 million over the five-year period to June 2028. While Government provided capital injections to support this program ($65 million in 2023), a large portion of these funds has been utilised to meet the growing operational cash flow activities and requirements of NZBS, particularly the investment in the carrying value of inventory (+$37.1 million in two years) and operational deficits ($26.3 million in the last two financial years).

The need for a different model

While the current funding challenges have been addressed in the short term through price increases above expected levels and increased short-term bank financing facilities, there is a pressing need to consider a new and more appropriate funding model than the current cost recovery pricing mechanism in place between Health New Zealand and NZBS. Options for consideration could include access to central funding for material infrastructure projects, which would better reflect NZBS's independent role and function as an essential product and service provider to the New Zealand health sector, and the ability for NZBS to extend its current external financing arrangements for working capital requirements for a longer period (current arrangements expire December 2025, with forecasted funding levels required until 2028).

[2] Key to this is NZBS's commitment to its policy of self-reliance for fractionated products manufactured from New Zealand-sourced plasma, meeting 85 to 90% of demand from domestically-collected plasma. One of NZBS's main strategic objectives is 'Building Foundations for Growth,' which includes ensuring that our infrastructure can meet the increasing demand for our products and services, particularly the continued growth in demand for immunoglobulin products from NZ-sourced plasma.

12.0 Looking to the future

Having marked its 25th anniversary in 2023, New Zealand Blood Service has reached a critical stage in its journey to date.

Ever-increasing demand for products, new treatments, technological advances, evolving donor expectations, an expanded scope of operation, plus the need for upgraded equipment and infrastructure has meant this relatively young organisation has had to adapt and undergo significant change and transformation over the past three-to-five years – transformation that is not yet complete.

The future NZBS will be one that works alongside Health New Zealand to achieve partnership, equity, sustainability, person and whānau-centred care, and excellence. NZBS is pleased to now be working with Health New Zealand on a Service Level Agreement to take effect by 31 March 2025. We look forward to the operational, financial, and clinical clarity this will provide both parties, and to further strengthening our relationship.

While the future is very likely to see the evolution of synthetic blood, blood products and tissues, for now, NZBS is committed to ensuring New Zealanders' health needs are supported by the human-derived version of these products, and their related services.

More information:

- nzblood.co.nz
- NZBS Statement of Intent 2023-2027
- NZBS Statement of Performance Expectations