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New Zealand Blood Service

Annual Statement of Performance Expectations

1 July 2019 – 30 June 2020

NZBS National Office
71 Great South Road
Epsom 1051
Private Bag 92 071
Victoria Street West
AUCKLAND 1142

NZBLOOD
Te Ratonga Toto O Aotearoa

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1 INTRODUCTION

Purpose

This Annual Statement of Performance Expectations has been prepared in accordance with the Crown Entities Act 2004 and should be read in conjunction with the July 2017 – June 2021 NZBS Statement of Intent (SOI).

It sets out how the New Zealand Blood Service (NZBS) will organise itself and prudently deploy resources (in line with both the April 2018 Government Expectations on Employment Relations in the State Sector and the 2019/20 financial year Letter of Expectation from the Minister of Health) to ensure transparency, collaboration and value for money in the support of New Zealand's healthcare sector.

It identifies for Parliament and the New Zealand public what NZBS intends to achieve and how performance will be assessed to deliver on the organisation's strategic goals[1] and its single enduring Output Class and Outcome:

Health needs of people in New Zealand are supported by the availability of safe and appropriate blood, blood products, tissue products and related services.

Government Expectations for the 2019/20 Financial Year

This *Statement of Performance Expectations* has been prepared having regard to the Minister's 14 March 2019 Letter of Expectations for the 2019/20 financial year, requiring NZBS as a member of the public health system to ensure all its functions are strong and equitable, performing well, and focused on the right things to make all New Zealanders' lives better.

The whole of sector expectation is to achieve equity within the New Zealand health system and NZBS acknowledges its responsibilities to meet its Treaty of Waitangi obligations as specified in the New Zealand Public Health and Disability Act 2000.

The New Zealand Blood Service is expected to continue to perform its core work to provide the people of New Zealand with safe, appropriate and timely access to blood and tissue products and related services to meet their health needs.

NZBS has the following specific areas of focus in the 2019/20 financial year, namely;

- Focus on keeping costs to district health boards as low as possible while continuing to ensure the safe supply of blood and blood products as and when needed and continue to innovate where appropriate to support this goal.
- Maintain ongoing fiscal discipline and prudent financial management;
- Work collaboratively across the health and social sectors to continue to improve service delivery, building on progress that has already been made to achieve better results for New Zealanders;
- Ensure all laboratories are safe and of a standard to maintain regulatory compliance;
- Work constructively with the Ministry of Health to respond to the Health and Disability System Review, and implementing the resulting recommendations together with any other matters required for all functions undertaken by the New Zealand Blood Service;

[1] See Section 4 of SOI

Organ Donation

NZBS is aware of the Government's intention to establish a national agency for organ donation and the decision that NZBS will act as the national agency. The establishment of the national agency will take time with legislative change required.

NZBS is excited at the opportunity to establish the national agency and will work collaboratively with the Ministry of Health, Auckland DHB and sector stakeholders to agree and progress a comprehensive work programme to establish the national agency.

Public Health and the Environment

NZBS acknowledges the Government's priority outcomes of environmental sustainability and is committed to playing its part in working to reduce carbon emissions, to address the impacts of climate change on health.

In 2019/20 NZBS will establish an environmental sustainability programme that incorporates both mitigation and adaption strategies, underpinned by cost-benefit analysis of co-benefits and financial savings.

NZBS Strategy

The NZBS strategy is explained in detail in the Statement of Intent. What NZBS plans to achieve in the 2019/20 year as detailed in Part I of this document is linked to the following seven strategic goals:

	Strategic Goal
1.	NZBS builds on core capabilities to provide a range of products and services which are appropriate to New Zealand health needs and priorities.
2.	NZBS achieves the highest possible safety and quality standards in all that it does.
3.	NZBS manages a sustainable donor population capable of supporting ongoing product demand in New Zealand.
4.	NZBS relationships with other health sector entities are mutually supportive and productive.
5.	NZBS has a sustainable, competent and engaged workforce.
6.	NZBS uses international best practices and internal Research and Development capabilities to improve and develop products and services for the New Zealand health and disability sector.
7.	NZBS is a financially sustainable organisation operating effectively and efficiently.

NZBS confirms it will refresh its *Statement of Intent* in the 2019/20 financial year.

Business Improvement Activities

In addition to maintaining a safe and secure supply of blood, blood products, tissue products and related services, NZBS's main areas of focus for the 2019/20 financial year are related to the following business improvement activities:

Ensuring Appropriate Blood Product Utilisation

NZBS is a demand driven service. It works in partnership with prescribing clinicians in the District Health Boards (DHBs) and with Hospital Transfusion Committees to ensure clinically appropriate utilisation of blood and blood products.

This is very effective, as evidenced by the ongoing reduction in demand for Red Blood Cells (RBCs) as DHBs with the support of NZBS, have progressively implemented patient blood management programmes. This reduction in RBC prescribing, whilst good medical practice and overall reducing DHB costs, does create financial challenges for NZBS with the associated loss of production volume and product dispensed.

Immunoglobulin product (IVIg) utilisation is also closely managed and monitored, as immunoglobulin usage drives the requirements for source plasma and in turn plasmapheresis collection activity. Historically, the rate of growth in New Zealand has been lower than that seen internationally. For example, growth in Australia is consistently around 11% per annum, whereas over the last 10 years NZBS growth has been on average 6.4% per annum with some volatility occurring year to year over that time.

The 2018/19 financial year has witnessed an increase in the average growth rate to a forecast 7.0% increase in IVIg demand. Over the current 4 year planning horizon NZBS, recognising the potential for demand volatility has elected to use a moderate growth outlook for immunoglobulin product.

Demand changes are ever present in any health system and NZBS expects such demand change to continue in the 2019/20 financial year and will therefore maintain its practice of flexing its collection activity to align with actual demand profiles to minimise expiry levels.

Collections and Facilities

Over the period of this SPE and the associated SOI, NZBS will seek to ensure optimum efficiency of the blood collection and processing network. This will include;

- The continued redevelopment and refurbishment of the main Auckland site at 71 Great South Road. NZBS has occupied this site for nearly 20 years and this redevelopment will address the current site and facility issues and create a modern Auckland facility that will be fit for purpose into the foreseeable future. The redevelopment is a major capital expenditure undertaking and will be a multi-year activity with completion expected late in 2021 or early 2022.

  Network resilience, both capacity and location, is also a key deliverable for the redevelopment. By 2022 NZBS will have a second, future proofed processing facility, along with the Christchurch facility, capable of servicing the blood supply needs for the whole of New Zealand if required.

  The Auckland site also houses the National Tissue Typing and National Reference Laboratories. Growth and new technologies in these areas has necessitated an update in space and configuration and will be addressed as part of the wider Auckland facility redevelopment.

- NZBS leases all buildings and regularly reviews its overall facility infrastructure in response to changes in forecast collection and manufacturing requirements. The major changes planned are to ensure that New Zealand maintains at least two hub sites capable of processing the blood product supply for the entire country whilst providing the most cost-effective method of supply chain management and service delivery.
- NZBS will continue its deployment of business improvement programmes across our major sites, utilising LEAN methodologies to ensure that we can minimise the capital outlay needed to extend and refurbish those sites. Staff will be supported to lead the redesign of their working environments with a short-term focus on the Auckland site redevelopment where LEAN methodologies are being extensively deployed.
- NZBS will continue to review the collection mix across its collection network in the knowledge of a continued decline in red cells and an increasing demand for source plasma requirement for fractionated product manufacture. We will continue to

ensure that donors continue to have the ability to donate locally by enhancing mobile collections where efficient to do so.

Business Improvement activities

Safety is the cornerstone of everything NZBS does, therefore quality and ongoing process improvement is embedded in the way we work.

- A major focus for business improvement activity for the 2019/20 financial year will be the area of productivity improvements in donor services and technical services. We have built in savings to reflect this activity both in cost avoidance terms and real savings in operations.
- During 2019/20 NZBS will continue to build on process improvements through our '*Process Excellence'* programme, aimed at implementing LEAN systems and processes across NZBS operations. This remains a multi-year activity based on a programme of work which engages and develops staff from the front-line in delivering meaningful improvements, building on NZBS's culture of safety and excellence. In addition to direct process improvements, savings targets associated with these projects have been incorporated within the financial projections.
- Productivity Modelling – NZBS has developed a productivity model for Donor Services to ensure we maximise the efficiency of our collection network. This model looks to forward plan resource requirements based on high level product demand and provides guidance for management to control resources into the future. The model also predicts facility requirements influenced by capacity considerations and highlights where potential capital investment is required.

  During 2019/20 NZBS plans to continue to further operationalise its productivity work and progressively implement the same methodology for its technical and laboratory services.
- Plasma Product Framework – during 2019/20 NZBS plans to develop a framework for the safe, sustainable and affordable supply of plasma products to meet the needs of New Zealanders for the next 5 to 10 years. The development of this framework will assist NZBS in determining its strategic and operational settings for plasma products into the future.

  NZBS is modelling demand / capacity considerations to ensure we can manage both the cost of plasma collection balanced with the consideration of commercial product importation.

  Agreeing a clear set of parameters for ongoing supply requirements to the health sector will be crucial in a globally changing, demand driven international plasma market.

Sector Relationships

The critical relationship for NZBS is with the District Health Boards (DHBs). Over the term of the current *Statement of Intent (SOI)*, NZBS aims to further develop its strategic relationship with the DHBs to ensure the sector works collaboratively to align our strategies for blood management in New Zealand, so providing a proactive response to changing demand patterns whilst ensuring prudent financial considerations.

Addressing the overall cost to the sector remains challenging and will require NZBS to focus strongly on business improvement opportunities for cost containment, use technologies to drive efficiencies and ensure optimal skill mix models are in place for our workforce.

As New Zealand's national blood service we are proud and honoured to support the health needs of New Zealanders. As a demand driven organisation, central to our purpose and decision making is our core focus to meet the needs of patients, donors and health sector stakeholders who utilise our services, in a safe, sustainable, high quality manner.

Customer feedback, clinical engagement, research and surveys help inform and guide our focus on business improvement and service strategy. Over the coming year we will continue to build on our ongoing efforts to grow our external partnerships and strategic engagements to ensure we are proactively planning and meeting changing service demand.

As always, NZBS will continue to provide its wide range of support services to the District Health Boards, as and when required.

Financial Plan – balancing competing expectations

As a demand responsive service within the public health and disability sector, NZBS has an enduring responsibility to constantly focus on improving its performance, increasing efficiencies and containing costs wherever possible.

Business improvement initiatives, centred on the application of LEAN methodologies that aim to improve performance by systematically removing waste, reducing variation and improving procurement practices have been incorporated in the financial forecasts covering this planning period. The financial forecasts reflect an expectation of saving, at minimum, $600k per financial year over this planning period.

Infrastructure investment has, over the last few years, been a focus and this focus remains ongoing over this 4 year planning period. NZBS acknowledges such investment introduces additional cost to the business, for example higher depreciation charges not all of which could / can be immediately offset by savings initiatives with the inevitable impact on price setting decisions.

NZBS has a statutory responsibility to balance the Minister's and DHBs' expectation of minimising costs to the DHBs with the Crown Entities Act 2004 obligation to maintain financial viability.

Achieving that necessary balance is always a challenge, particularly in a generally low to moderate growth environment noting a mix of a low growth outlook for fresh products and a moderate growth for immunoglobulin product has been forecast by NZBS over this 4 year planning period.

Price Setting

In its annual setting of prices for the sector NZBS is required to balance a range of price setting considerations not all of which naturally align. The considerations NZBS must consider as part of the price setting process comprise;

- Working to a breakeven earnings position accepting that does not mean NZBS cannot plan for a deficit or surplus. Over this planning period NZBS is forecasting combined earnings of $101k;
- Maintaining the Board's collective duty to ensure the ongoing financially viability of NZBS;
- Ensuring cash generated from operating activities is sufficient to provide funding for capital expenditure requirements that ensure equipment and infrastructure can be adequately maintained. Over the forecast period NZBS has planned $27.9 million of NZBS funded capital expenditure;
- Ensuring the Crown's *Capital Charge levy* totalling $8.7m over the 4 year planning period can be funded in addition to its normal operational expenditures.

As an operating principle NZBS is committed to working to keep its annual price settings to a minimum but of necessity must, balance such expectation with the need to ensure NZBS behaves in a financially responsible manner, having regard to all the various business needs NZBS is required to address.

It remains extremely challenging to set prices at a desired minimum in a low growth environment combined with cost input pressures ranging from recent significant increases in labour costs through to the costs associated with the manufacture of fractionated products from NZBS source plasma.

NZBS also recognises that as an essential service provider it is required to ensure its key areas of infrastructure continue to be adequately maintained and remain fit for purpose and resilient at times of heightened demand.

The price settings forecast for the key product categories and overall weighted price increases over the 4 year planning period are set out below.

Heading	Forecast 2018/19	Forecast 2019/20	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23
Weighted Price Increase % – All Products & Services	3.95%	**3.79%**	3.58%	2.84%	2.71%
Weighted Price Increase % – Fresh Products	3.53%	**2.88%**	2.85%	2.53%	2.24%
Weighted Price Increase % – Fractionated Products	4.80%	**4.87%**	4.49%	3.00%	2.94%
Weighted Price Increase % – All Blood Products	4.21%	**3.87%**	3.66%	2.80%	2.66%
Weighted Price Increase % – All Services	2.87%	**3.80%**	3.25%	3.02%	3.07%

Over the 2019/20 to 2022/23 4 financial year planning period NZBS is forecasting a compound volume increase of 8.5% (last year's SPE 7.2%) and a compound price movement of 13.9% (last year's SPE 14.1%). This price movement compares with a same period forecast *'all groups'* compound CPI movement of 8.90% (last year's SPE 6.90%).

Price Rebate Mechanism

NZBS has a mechanism in place to provide a price rebate to the DHBs in the event there is a level of earnings surplus which is not required by NZBS to meet and discharge its own financial obligations and responsibilities.

NZBS may generate additional revenue or make savings, as against budget setting, by events such as:

- Unplanned increases in demand for products and services;
- improved fractionation yields;
- exchange rate gains; and/or
- internal cost efficiencies.

Since the price rebate mechanism was introduced in 2009 NZBS has paid $9.95m in price rebates to DHBs, the last such payment in the 2014/15 financial year.

There is no planned price rebate for the 2019/20 financial year. Accordingly, the 4-year financial projections show no planned price rebates.

Earnings Performance Outlook

NZBS is forecasting deficits for the first 2 years of the planning period effectively absorbing cost on behalf of the sector and a $101k cumulative surplus over the 4-year planning period. The reported earnings results incorporate non-operating items relating to expenses associated with the Auckland facility redevelopment project ($700k forecast over the 4 financial year planning period) as well as those charges that arise from international accounting standards compliance obligations.

There are two reporting compliance charges classified by NZBS as non-operating items namely;

- ➢ *Accrued Rent Payable* which is a charge arising from the compliance requirement to amortise the Christchurch Blood Centre lease over the term of the initial lease. In the first half of the lease term the amortised charge is higher than the actual lease payment. This difference is treated as a non-operating charge to earnings with a matching liability accrual within the Statement of Financial Position.
- ➢ *Unrealised Foreign Exchange gains/(losses)* arising from the requirement to mark forward exchange contracts held by NZBS to the market 'spot rate' at a month end or at balance date.

Both these charges are non-cash in nature but impact the final reported earnings surplus or (deficit). A *cumulative operating surplus of $2.37m* is forecast over the 4-year planning period prior to these non-operating items.

This financial forecast outlook remains consistent with the then Minister's 30 April 2012 letter to the NZBS Chairman that clarified the expectation of ending the financial year at a breakeven position wherein it was further clarified as:

> "*The requirement to end the financial year at a break-even position does not necessarily mean NZBS should not plan for a deficit or surplus. Rather, it reflects the Board's collective duty to ensure that NZBS operates in a financially responsible manner*." (letter from Minister to NZBS Chairman dated 30 April 2012)

The NZBS earnings performance outlook over the forecast period is detailed below.

Earnings Performance Outlook	Actual 2017/18	Forecast 2018/19	Forecast 2019/20	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23
Earnings before Interest, Tax, Depreciation and Amortisation - (EBITDA) ($000s)	5,768	**6,830**	7,319	9,629	10,987	11,721
Earnings before Interest and Tax - (EBIT) ($000s)	1,934	**2,840**	2,414	3,892	4,635	5,319
Operating surplus / (deficit) ($000s)	(1,246)	**(254)**	(856)	556	975	1,697
Non-Operating items ($000s)	679	**(1,441)**	(247)	(998)	(536)	(490)
Reported surplus (deficit) ($000s)	(567)	**(1,695)**	(1,103)	(442)	439	1,207

Demonstrating Financial Sustainability

NZBS considers its financial sustainability and the ability to fund its capital programme from within its own financial resources is best demonstrated by the following specific measures namely;

- *EBITDA* representing the underlying **E**arnings performance **B**efore **I**nterest (finance and capital charges), **T**axation (noting NZBS is income tax exempt), **D**epreciation and **A**mortisation (accrued rental liability) charges as well as any foreign exchange gains or (losses) - realised or unrealised.

- *Cash generated from operating activities* noting NZBS is required to meet all its capital investment requirements from its operating earnings.

- *Available working cash* without recourse to either the term deposit programme or external funding sources to assist in meeting planned capital expenditure when that cannot be fully funded from operating cash flows, noting that those operating cash flows are in turn influenced by NZBS price settings.

- *Liquidity capability* that is available over and above the working cash position that could be utilised in a timely manner if the need arose. In the NZBS context in addition to the available working cash balance, liquidity capability would comprise the balance of the term deposit programme, excluding the Adverse Fractionation Event reserve funds of $4.0m, plus the available undrawn funds under the NZBS multi option credit line (MOCL) funding facility.

The following table sets out these key NZBS financial sustainability metrics over the planning period.

Heading	Actual 2017/18	Forecast 2018/19	Forecast 2019/20	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23
EBITDA ($000s)	5,768	**6,830**	7,319	9,629	10,987	11,721
% EBITDA to Revenue	4.79%	**5.25%**	5.33%	6.64%	7.23%	6.36%
Cash Generated from Operating Activities ($000s)	5,835	**5,023**	4,199	7,418	5,182	6,405
that provides for;						
Capital Expenditure Programme ($000s)	5,569	**9,872**	14,592	8,529	6,490	6,977
% of capital expenditure funded from operating activities	95.44%	**50.86%**	28.77%	86.97%	94.39%	91.80%
Available Working Cash at year end ($000s)	3,956	**3,827**	1,926	2,997	2,454	784
Liquidity Capacity within existing arrangements ($000s)	11,956	**8,518**	3,113	13,997	10,454	8,784
Equity ratio %	82.34%	**74.32%**	64.18%	60.69%	60.45%	62.63%
Term Borrowings including finance leases ($000s)	8,229	**12,832**	20,110	23,050	23,573	22,219

The forecast levels of capital expenditure over the planning period include the planned redevelopment of the Auckland site at 71 Great South Road, Epsom. The redevelopment has a planned capital spend of $15.70m covering the 2018/19 financial year through to the 2021/22 financial year. NZBS is planning to fund $14.55m of this redevelopment via a term debt facility increasing term borrowings over the forecast planning period.

NZBS considers the financial management approach reflected in this set of financial forecasts represents an acceptable balancing between operational imperatives, the various competing stakeholder expectations and the requirement to maintain a sound financial position.

NZBS confirms compliance over the 4-year planning period with its credit facility banking covenant obligations.

Note: The Financial Plan has made no allowance for the financial impact of any loss caused by blood component contamination or major manufacturing problems where the outcome is the responsibility of NZBS. In the 2014/15 financial year NZBS established an Adverse Fractionation Events reserve to ensure a measure of financial mitigation is in place. The current level of reserve at $4.0m applies over the planning period. This level was determined followed a risk assessment of the Toll Fractionation Agreement with CSL Behring (Australia) Pty Limited.

While component contamination has never occurred, these risks remain ever present and if triggered would represent a significant adverse financial event for the organisation. NZBS considers the establishment of the Adverse Fractionation Event reserve combined with the maintaining of a sound financial position provides reasonable assurance NZBS has the financial capacity to manage such an event out of its own financial resources.

Recourse to the process outlined in 2005 by the Ministry of Health would only occur when NZBS financial resources proved to be inadequate[2].

This *Statement of Performance Expectations* is structured in two parts:

- Part I provides a concise tabulated explanation of how performance is to be assessed for the period 1 July 2019 to 30 June 2020 and in more general terms for the subsequent 3 financial years and consists of:
  - the Forecast Statement of Externally Focused Service Performance which NZBS will report against in its Annual Report for 2019/20; and
  - Forecast Statement of Internally Focused Service Performance (Capability and Input Measures) relating to internal NZBS activities;

- Part II presents:
  - Forecast Financial Statements for the 4 years to 30 June 2023;
  - Supporting assumptions; and
  - Statement of Accounting Policies.

David Chamberlain	Dr Jackie Blue	Sam Cliffe
Chairman	**Deputy Chairman**	**Chief Executive**

Date: 30 May 2019

[2] Please see Assumption 19 on page 27

PART I

2 FORECAST STATEMENT OF SERVICE PERFORMANCE ACTIVITIES - 1 JULY 2019 TO 30 JUNE 2020

NZBS has one overall Output Class, comprising three interrelated outputs related to:

- Donors (and patients)
- Products and Services
- Supply Chain Management – aligning supply with demand

Each of which collectively contributes to the achievement of the outcome below:

New Zealand Blood Service Outcome

Health needs of people in New Zealand are supported by the availability of safe and appropriate blood, blood products, tissue products and related services

OUTPUT	Value 2019/20 $000's (excl. GST)
Provision of a safe and effective blood service for all New Zealanders through supply and delivery of: • Fresh Blood Components • Fractionated Blood Products • Other products and related services	Revenue $138,559 Expenses $139,662 Deficit $1,103

IMPACT STATEMENT
District Health Boards (DHBs) and private health providers receive a safe and secure supply of blood, blood products, tissue products and related services at the right place, at the right time to meet demand at ALL times.

The following table details the external service output performance measures for 2019/20 that will be reported against in the NZBS 2019/20 Annual Report.

These output performance measures are linked to NZBS's enduring outcome and the following two externally focused strategic goals:

Strategic Goal 1:

***NZBS** builds on core capabilities to provide a range of products and services which are appropriate to New Zealand health needs and priorities*; and

Strategic Goal 4:

***NZBS** relationships with other health sector entities are mutually supportive and productive.*

The outputs outlined below will apply for the 2019/20 year and as forecast on current indications for the subsequent 3 financial years to 30 June 2023.

2.1 FORECAST STATEMENT OF EXTERNALLY FOCUSED SERVICE PERFORMANCE

Performance measures relate to achievement of NZBS's two externally focused strategic goals and will be reported in the NZBS Annual Report.

WHAT is intended to be achieved	HOW performance will be assessed each year								
Performance Measures	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**
1. External output measures related to Key Products and Services which contribute to achievement of NZBS Enduring Outcome and Strategic Goal 1.	**Actual**	**Actual**	**Actual**	**Actual**	**Forecast**	**Target**	**Target**	**Target**	**Target**
Product and Service availability 1.1 Key products and services are available at all times (24 x 7). Measure is instances when this is not achieved and which could potentially have a negative consequence for patients.	**ACHIEVED** 0	**ACHIEVED** 0	**ACHIEVED** 0	**ACHIEVED** 0	0	0	0	0	0
2. External output measures related to Demand Management and the relationship with DHBs which contribute to achievement of Strategic Goal 4.	**Actual**	**Actual**	**Actual**	**Actual**	**Forecast**	**Target**	**Target**	**Target**	**Target**
2.1 Planning and Communication with District Health Boards (DHBs) NZBS will demonstrate a productive and supportive relationship with the DHBs consistent with maintaining a strategic partnership, including proactively engaging with them through the Lead DHB CEO to agree pricing matters in a timely manner in order to inform preparation of DHB Annual Plans. NOTE: Exact measure has changed over recent years.	**ACHIEVED** Feedback received from the Lead DHB CEO stated: "I can confirm from a DHB point of view NZBS has fully met the requirements of its "Planning and Communications with DHBs" performance measure in the 2014/15 financial year".	**ACHIEVED** Lead DHB CEO confirmed an open communication process with DHBs over price setting and utilisation patterns to inform the new financial year. To quote: "I believe you have developed an open partnership with me which will hopefully see a greater strategic partnership developed".	**ACHIEVED** NZBS assesses its communication obligations to the DHBs and relationship management were met over the course of the 2016/17 financial year However the Lead CEO changed twice during the year with an extended period of no Lead CEO. In these circumstances formal feedback could not realistically be expected.	**ACHIEVED** NZBS has received the following feedback from the Lead DHB CEO on meeting this target. NZBS has engaged in a positive and proactive relationship with the DHBs throughout the year, via the nominated lead DHB CEO. NZBS via its CEO has remained accessible, available and attentive to the challenges faced by both NZBS and the DHBs. The pricing discussion was well researched and informed leading to a mutually acceptable outcome for both parties.	NZBS to receive favourable feedback from the Lead DHB CEO on maintaining a strategic partnership and the timely and relevant provision of information, including any issue resolution over the course of the 2018/19 financial year.	NZBS to receive favourable feedback from the Lead DHB CEO on maintaining a r strategic partnership and the timely and relevant provision of information, including any issue resolution over the course of the 2019/20 financial year.	NZBS to receive favourable feedback from the Lead DHB CEO on maintaining a strategic partnership and the timely and relevant provision of information, including any issue resolution over the course of the 2020/21 financial year.	NZBS to receive favourable feedback from the Lead DHB CEO on maintaining a strategic partnership and the timely and relevant provision of information, including any issue resolution over the course of the 2021/22 financial year.	NZBS to receive favourable feedback from the Lead DHB CEO on maintaining a strategic partnership and the timely and relevant provision of information, including any issue resolution over the course of the 2022/23 financial year.

Performance Measures	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
2.2 NZBS Reports for DHBs	**Actual**	**Actual**	**Actual**	**Actual**	**Forecast**	**Target**	**Target**	**Target**	**Target**
Monthly demand management reports outlining purchase volumes by key product line are provided to DHBs to assist them to manage local usage and costs.	**ACHIEVED** Monthly reports detailing product use and expiry information provided to all 20 DHBs throughout 2014/15.	**ACHIEVED** Monthly reports detailing product use and expiry information provided to all 20 DHBs throughout 2015/16.	**ACHIEVED** Monthly reports detailing product use & expiry information were provided within set timeframes to all 20 DHBs throughout 2016/17.	**SUBSTANTIALLY ACHIEVED*** Monthly reports detailing product use & expiry information provided with 1 exception, to all 20 DHBs throughout 2017/18.	Reports are provided to each DHB by the 10th working day of the following month.	Reports are provided to each DHB by the 10th working day of the following month.	Reports are provided to each DHB by the 10th working day of the following month.	Reports are provided to each DHB by the 10th working day of the following month.	Reports are provided to each DHB by the 10th working day of the following month.
2.3 Clinical Oversight Programme	**Actual**	**Actual**	**Actual**	**Actual**	**Forecast**	**Target**	**Target**	**Target**	**Target**
All blood banks located in main DHB hospitals (other than the 6 DHBs where NZBS is responsible for blood bank provision) will receive at least 1 NZBS Clinical Oversight visit (and audit report) per year to enable them to meet the requirements of ISO15189 for IANZ Accreditation.	**ACHIEVED** 100% achievement of a minimum one clinical visit and report per year to all non NZBS managed blood banks in main DHB hospitals	**ACHIEVED** 100% achievement of a minimum one clinical visit and report per year to all non NZBS managed blood banks in main DHB hospitals	**ACHIEVED** 100% achievement of a minimum one clinical visit and report per year to all non NZBS managed blood banks in main DHB hospitals	**ACHIEVED** 100% achievement of a minimum one clinical visit and report per year to all non NZBS managed blood banks in main DHB hospitals	100%	100%	100%	100%	100%
2.4 Haemovigilance[3] - Patient safety (measured in calendar years)	**Actual for 2013 calendar year**	**Actual for 2014 calendar year**	**Actual for 2015 calendar year**	**Target for 2016 calendar year**	**Target for 2017 calendar year**	**Target for 2018 calendar year**	**Target for 2019 calendar year**	**Target for 2020 calendar year**	**Target for 2021 calendar year**
2.4.1 To promote risk awareness and best practice in transfusion, NZBS will publish an annual Haemovigilance Report for each calendar year and will share this information with all DHBs to assist them to reduce the incidence of adverse transfusion related events.	**ACHIEVED** 2013 Annual Haemovigilance Report published and distributed to all DHBs in December quarter of 2014 and posted on the NZBS website.	**ACHIEVED** 2014 Annual Haemovigilance Report published and distributed to all DHBs in December quarter of 2015 and posted on the NZBS website.	**ACHIEVED** 2015 Annual Haemovigilance Report published and distributed to all DHBs in December quarter of 2016 and posted on the NZBS website.	**ACHIEVED** 2016 Annual Haemovigilance Report published and distributed to all DHBs in December quarter of 2017 and posted on the NZBS website	**ACHIEVED** 2017 Annual Haemovigilance Report published and distributed to all DHBs in the December Quarter of 2018 and post on NZBS website	2018 Annual Haemovigilance Report published and provided to all DHBs in the December quarter of 2019 and post on NZBS website	2019 Annual Haemovigilance Report published and provided to all DHBs in the December quarter of 2019 and post on NZBS website.	2020 Annual Haemovigilance Report published and provided to all DHBs in the December quarter of 2021 and post on NZBS website.	2021 Annual Haemovigilance Report published and provided to all DHBs in December quarter 2 of 2021 and post on NZBS website
2.4.2 Number of transfusion related adverse events occurring due to an NZBS "system failure" reported to the National Haemovigilance Programme, with a severity score greater than 1 and imputability score classified as likely/probable or certain.[4]	**ACHIEVED** 0	**ACHIEVED** 0	**ACHIEVED** 0	**ACHIEVED** 0	0	0	0	0	0

[3] As part of the National Haemovigilance programme DHBs report adverse or unexpected transfusion related events or reactions in blood product recipients to NZBS. Internationally recognised Haemovigilance classification systems are used to determine severity and imputability (definitions included in glossary). More information on the NZBS Haemovigilance Programme can be found on the NZBS website at: http://www.nzblood.co.nz/Clinical-information/Haemovigilance-programme

[4] This measure reports adverse events that have occurred as a result of NZBS "*system failures*" and therefore excludes adverse events resulting from a physiological reaction to the transfusion of a biological product.

2.2 FORECAST STATEMENT OF INTERNALLY FOCUSED SERVICE PERFORMANCE (CAPABILITY & INPUT MEASURES)

The following measures relate to achievement of NZBS's five internally focused strategic goals. They could be considered "proxy output measures" in the context of NZBS activities and are key contributors to NZBS's success in achieving its enduring outcome and the external output measures identified in Section 4 of the SOI. They will therefore also be reported in the NZBS Annual Report.

WHAT is intended to be achieved	HOW Performance will be assessed each year								
Performance Measures	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**
3. Internal measures related to Products and Service Quality which contribute to achievement of Strategic Goal 2	**Actual**	**Actual**	**Actual**	**Actual**	**Forecast**	**Target**	**Target**	**Target**	**Target**
3.1 Donation Testing Each donation will be tested prior to use in accordance with the NZBS Manufacturing Standards (as approved by Medsafe). No product is released for issue to a patient until it has passed all safety tests and associated records are maintained.	**ACHIEVED** 100% tested	**ACHIEVED** 100% tested	**ACHIEVED** 100% tested	**ACHIEVED** 100% tested	To maintain 100% donation testing	To maintain 100% donation testing	To maintain 100% donation testing	To maintain 100% donation testing	To maintain 100% donation testing
3.2 Regulatory Compliance - Medsafe NZBS will ensure it maintains Medsafe licences for its 6 main sites 100% of the time, to provide an assurance of GMP compliance. NZBS is required to maintain a licence, in order to manufacture medicines. The licence requires mandatory compliance with GMP code, at all times.	**ACHIEVED** 100% GMP Licensing Compliance maintained	**ACHIEVED** 100% GMP Licensing Compliance maintained	**ACHIEVED** 100% GMP Licensing Compliance maintained	**ACHIEVED** 100% GMP Licensing Compliance maintained	100% GMP Licensing Compliance	100% GMP Licensing Compliance	100% GMP Licensing Compliance	100% GMP Licensing Compliance	100% GMP Licensing Compliance
3.3 Regulatory Compliance – IANZ (International Accreditation New Zealand) NZBS will ensure it maintains IANZ accreditation 100% of the time at all of its diagnostic laboratories. IANZ is the national authority for accreditation of testing and calibration laboratories, inspection bodies and radiology services.	**ACHIEVED** 100% IANZ accredited	**ACHIEVED** 100% IANZ accredited	**ACHIEVED** 100% IANZ accredited	**ACHIEVED** 100% IANZ accredited	100% IANZ accredited	100% IANZ accredited	100% IANZ accredited	100% IANZ accredited	100% IANZ accredited
3.4 Regulatory Compliance – ASHI (American Society of Histocompatibility and Immunogenetics) NZBS will maintain ASHI accreditation 100% of the time at the national Tissue Typing laboratory. ASHI accreditation is a programme to evaluate laboratory personnel, procedures and facilities to determine compliance with published ASHI standards. Maintaining ASHI accreditation is a mandatory NZBS requirement.	**MAINTAINED** 100% ASHI accredited	**MAINTAINED** 100% ASHI accredited Biennial on-site audit completed	**MAINTAINED** 100% ASHI accredited	**MAINTAINED** 100% ASHI accredited Biennial on-site audit completed	100% ASHI accredited	100% ASHI accredited Biennial on-site audit to be conducted	100% ASHI accredited	100% ASHI accredited Biennial on-site audit to be conducted	100% ASHI accredited

Performance Measures	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**
4. Internal measures related to Donors which contribute to achievement of Strategic Goal 3	**Actual**	**Actual**	**Actual**	**Actual**	**Forecast**	**Target**	**Target**	**Target**	**Target**
4.1 Donor Population NZBS maintains a donor population capable of meeting the ongoing demand for blood and blood products. • Active whole blood & apheresis donor panels.	**These reported numbers represent the donor population required to meet demand and in any given year is constantly flexed to ensure demand alignment to minimise expiry.**								
	109,158	110,746	109,751	107,210	106,000	107,500	107,500	107,600	108,000
NOTE: The NZBS active Donor population, split between whole blood and apheresis donor panels maintained at levels to support ongoing demand and therefore may be above or below the original target set.									
4.2 Donor Satisfaction Measure of overall satisfaction with the quality of service • 90% of donors give an 8 or higher score out of 10 of their experience/satisfaction with the service.	**NEW MEASURE IN 2016/17 FINANCIAL YEAR**		**ACHIEVED 91.35%**	**ACHIEVED 92.78%**	Greater than 90% satisfaction with the service	Greater than 90% satisfaction with the service	Greater than 90% satisfaction with the service	Greater than 90% satisfaction with the service	Greater than 90% satisfaction with the service
Note: This is ascertained by internal NZBS donor surveys conducted 6 monthly over the financial year. The first survey was conducted in June 2017. The surveys over the 2017/18 financial year were undertaken in November 2017 (91.98%) and May 2018 (93.58%). The reported donor satisfaction figure is the average of the two surveys conducted over the financial year.									
Performance Measures	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**
4.3 Targeted donor recruitment strategies	**Actual**	**Actual**	**Actual**	**Actual**	**Forecast**	**Target**	**Target**	**Target**	**Target**
4.3.1 Recruit 2,900 new and reinstated Māori donors to the active donor panel (each year measure).	**NEW MEASURE IN 2017/18 FINANCIAL YEAR**			**NOT ACHIEVED 2,731 (94%)**	2,900	2,900	2,900	2,900	2,900
4.3.2 Recruit 11,000 new and reinstated youth donors between the ages of 16-25 on the active donor panel (each year measure)[5].	**NEW MEASURE IN 2017/18 FINANCIAL YEAR**			**NOT ACHIEVED 10,211 (93%)**	11,000	11,000	11,000	11,000	11,000

NOTE: For clarity, the definition of a New Donor is a donor who has made a valid blood donation for the very first time in New Zealand. The definition of a Reinstated Donor is a person who has made at least two donations of which one blood donation was made within the last 12 months and the interval between that donation and the prior donation is more than 24 months excluding autologous or therapeutic donations.

4.4 Raw Material (Collections) Inputs – based on Demand Forecasts	**Actual 2014/15**	**Actual 2015/16**	**Actual 2016/17**	**Actual 2017/18**	**Forecast 2018/19**	**Forecast 2019/20**	**Forecast 2020/21**	**Forecast 2021/22**	**Forecast 2022/23**
4.4.1 Total Whole Blood donations.	120,099	119,967	111,146	111,588	110,350	109,300	108,000	108,700	108,700
4.4.2 Total Plateletpheresis donations.	3,436	3,145	2.852	2,637	2,800	2,860	2,865	2,915	2,945
4.4.3 Total Plasmapheresis donations.	41,438	52,026	53,081	58,441	65,000	66,500	68,000	70,500	72,000
4.4.4 Total donations.	164,973	175,138	167,079	172,666	178,150	178,660	179,665	182,115	183,645

Note: Collection inputs targets are not fixed. The collection inputs have / will be flexed over the year to meet demand indications and minimise expiry.

Performance Measures	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**
5. Internal measures related to People which contribute to achievement of Strategic Goal 5	**Actual**	**Actual**	**Actual**	**Actual**	**Forecast**	**Target**	**Target**	**Target**	**Target**
5.1 Annual Employee turnover.	8.1%	9.9%	10.6%	**12.5%**	12.0%	12.0%	12.0%	12.0%	12.0%
5.2 Employee Engagement Index Score from biennial Staff Engagement Survey using the JRA and Associates Survey Tool.	No survey	No survey	71.4% with an 84% survey participation rate	No survey	Better than the last survey	No survey	Better than the last survey	No survey	Better than the last survey
6. Internal measure related to Development which contributes to achievement of Strategic Goal 6		**Actual**	**Actual**	**Forecast**	**Target**	**Target**	**Target**	**Target**	**Target**
6.1 Auckland Facility Redevelopment Project Successful completion of key project milestones in accordance with Board approved project plan.	**A new measure in 2015/16 Financial Year**	**PROJECT DEFERRED** The Board deferred this project to enable further scoping work to be completed on the whole of site redevelopment.	No performance Measure set for 2016/17 as project deferred pending further redevelopment planning work.	**ACHIEVED** A comprehensive Redevelopment plan scoping paper was presented to the May 2018 Board meeting. The Board approved the Redevelopment subject to Ministry of Health sanction.	Key milestones achieved by 30 June 2019 in accordance with the approved Project Plan noting the primary milestone is successful relocation of National Office no later than 31 March 2019.	Key milestones achieved by 30 June 2020 in accordance with the approved Redevelopment Plan.	Key milestones achieved by 30 June 2021 in accordance with the approved Redevelopment Plan.	Key milestones achieved by 30 June 2022 in accordance with the approved Redevelopment Plan. **The target date for whole of project completion is currently no later than 30 June 2022.**	

Performance Measures	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
7. Internal measures related to Financial Sustainability which contribute to achievement of Strategic Goal 7	**Actual**	**Actual**	**Actual**	**Actual**	**Forecast**	**Forecast**	**Forecast**	**Forecast**	**Forecast**
7.2 Financial Management Assure cost efficiency and value for money management through maintenance of financial sustainability in an environment which is demand driven (i.e. changes in product demand – mix and volume by the DHBs, impacts on the NZBS financial result).	**ACHIEVED** Surplus Reported of $4.7m on revenues of $109.0m	**NOT ACHIEVED** A reported Deficit of $2.34m on revenue of $115.6m.	**ACHIEVED** A reported deficit of $0.08m on revenue of $114.4m.	**ACHIEVED** A reported deficit of $0.57m on revenue of $121.62m.	Achievement of budget or better. Budget setting is a deficit of $1.43m on revenue of $131.10m.	Achievement of budget or better. Forecast setting is a deficit of $1.10 on revenue of $138.56m.	Achievement of budget or better. Forecast setting is a deficit of $442k on revenue of $146.32m.	Achievement of budget or better. Forecast setting is a surplus of $439k on revenue of $153.17m.	Achievement of budget or better. Forecast setting is a surplus of $1.21m on revenue of $160.47m.
	Price Rebate paid to DHBs of $3.55m.	No Price Rebate paid to DHBs	No Price Rebate paid to DHBs	No Price Rebate paid to DHBs	No Price Rebate planned to DHBs	No Price Rebate planned to DHBs	No Price Rebate planned to DHBs	No Price Rebate planned to DHBs	No Price Rebate planned to DHBs

PART II

3 FINANCIAL PLAN

3.1 OVERVIEW OF THE 4 YEAR FINANCIAL PLAN

The 2019/20 financial year plan together with the following three financial year projections have been based on the 2018/19 base year forecast, incorporating actual results and trending demand patterns evident in quarter 3 of the base year forecast.

The NZBS planning environment remains '*challenging*' with a demand outlook consistent with blood management practices evident in the current demand profiles of the District Health Boards (DHBs). The demand forecast for the primary fresh products is low growth being a forecast mix of a small decline in red cell demand and a low growth outlook forecast for platelets, cryoprecipitate and fresh plasma product lines. A low growth environment is also forecast for the majority of testing services. A moderate growth outlook is expected for Immunoglobulin product noting volatility can occur in this product's demand, year to year.

Forecast Demand Patterns

Using the benchmark of "*Product issued / tests performed per 1000 head of population*" NZBS is forecasting the following demand trends over the planning period for its key blood products and services.

(a) Fresh Products – 4.17% decline forecast in issues per 1000 head of population

The historic and forecast metrics for the overall fresh product category is set out below.

OVERALL FRESH PRODUCT DEMAND TREND LINE	ACTUAL FY16	ACTUAL FY17	ACTUAL FY18	Base Yr FY 19	Budget FY 20	Year 2 FY 21	Year 3 FY 22	Year 4 FY 23
- Total Fresh Products - units	140,978	135,363	136,437	139,001	138,788	138,764	138,780	139,094
- Fresh Products Annual % Volume Growth	(1.37%)	(3.98%)	0.79%	1.88%	(0.15%)	(0.02%)	0.01%	0.23%
- Fresh Products per 1000 Head of Population	30.04	28.24	27.95	28.13	27.77	27.45	27.17	26.96
- Per 1000 Head of Population % Movement	(3.42%)	(6.00%)	(1.03%)	0.67%	(1.29%)	(1.15%)	(1.03%)	(0.77%)

The overall expectation is for a continuing volume decline over this planning period. Fresh product demand is forecast to be at 26.96 units issued per 1000 head of population by 2022/23. This represents a 4.17% decrease in issues per 1000 head of population over the 4 year planning period.

To put the quantum of fresh product decline in historic perspective the volume of fresh product issues in the 2008/09 financial year totalled 169,567 issues. The compound volume decline from that time to the 2022/23 volume forecast of 139,094 issues equates a volume decline of 17.97%.

This compares to last year expectation of a 20.67% decline, an indication the decline in fresh product use, primarily red cells has slowed. Nonetheless volume decline of any magnitude makes it extremely difficult for any manufacturing operation to sustain a minimum price setting position.

The individual product trends within the fresh product category are detailed below;

FRESH PRODUCT - INDIVIDUAL PRODUCT SETTINGS	FY 16	FY17	FY18	FY 19	FY 20	FY 21	FY 22	FY 23
- Red Cells - Units (excluding AB Credits)	**106,389**	**101,228**	**101,837**	**100,585**	**100,120**	**99,893**	**99,659**	**99,677**
- Red Cells Annual % Volume Growth	(1.48%)	(4.85%)	0.60%	(1.23%)	(0.46%)	(0.23%)	(0.23%)	0.02%
- Red Cells per Head of Population	22.67	21.10	20.86	20.36	20.03	19.76	19.51	19.32
- Per Head of Population % Movement	(3.53%)	(6.92%)	(1.14%)	(2.40%)	(1.59%)	(1.36%)	(1.27%)	(0.97%)
- Platelets - Adult Doses excluding Buffy Coat sales	**13,511**	**14,295**	**14,523**	**15,697**	**15,798**	**15,901**	**16,051**	**16,202**
- Platelets Annual % Volume Growth	1.75%	5.81%	1.59%	8.09%	0.64%	0.65%	0.94%	0.94%
- Platelets per Head of Population	2.88	2.98	2.97	3.18	3.16	3.15	3.14	3.14
- Per Head of Population % Movement	(0.36%)	3.59%	(0.25%)	6.80%	(0.50%)	(0.49%)	(0.11%)	(0.06%)
- Cryoprecipitate - units	**5,358**	**5,048**	**5,589**	**6,600**	**6,615**	**6,625**	**6,650**	**6,700**
- Cryoprecipitate Annual % Volume Growth	7.25%	(5.79%)	10.72%	18.09%	0.23%	0.15%	0.38%	0.75%
- Cryoprecipitate per Head of Population	1.14	1.05	1.14	1.34	1.32	1.31	1.30	1.30
- Per Head of Population % Movement	5.02%	(7.76%)	8.71%	16.69%	(0.91%)	(0.99%)	(0.67%)	(0.25%)
- FFP Plasma - units	**15,720**	**14,792**	**14,488**	**16,120**	**16,255**	**16,345**	**16,420**	**16,515**
- FFP Plasma Annual % Volume Growth	(5.71%)	(5.91%)	(2.05%)	11.26%	0.84%	0.56%	0.46%	0.58%
- FFP Plasma per Head of Population	3.35	3.09	2.97	3.26	3.25	3.23	3.21	3.20
- Per Head of Population % Movement	(7.67%)	(7.88%)	(3.83%)	9.94%	(0.31%)	(0.59%)	(0.59%)	(0.42%)

(b) Immunoglobulin Product – 15.0% forecast increase in grams issued per 1000 head of population

Unlike fresh product, Immunoglobulin product (comprising Intragam P, Evogam and Privigen product) is forecast to see moderate growth averaging a 4.69% year on year increase in demand.

The historic and forecast metrics for immunoglobulin product usage is set out below.

KEY INDICATORS	ACTUAL FY 16	ACTUAL FY 17	ACTUAL FY 18	FORECAST Base Yr FY 19	FORECAST Budget FY 20	FORECAST Year 2 FY 21	FORECAST Year 3 FY 22	FORECAST Year 4 FY 23
IMMUNOGLOBULIN VOLUMES - GRAMS	FY 16	FY17	FY18	FY 19	FY 20	FY 21	FY 22	FY 23
- Total immunoglobulin Sales Volumes - Grams	**356,927**	**355,374**	**391,794**	**419,302**	**438,170**	**458,982**	**480,785**	**503,624**
- Total IVIg Annual % Volume Growth	6.54%	(0.43%)	10.25%	7.02%	4.50%	4.75%	4.75%	4.75%
- IVIg Average Annual Compound % Growth since 2008	6.21%	5.45%	6.43%	6.89%	6.98%	7.11%	7.26%	7.41%
- Total IVIg Grams per 1,000 Head of Population	76.05	74.13	80.25	84.87	87.68	90.80	94.12	97.62
- Per 1,000 Head of Population % Movement	4.33%	(2.52%)	8.25%	5.75%	3.31%	3.56%	3.66%	3.71%

Over the 10 years to 30 June 2018 immunoglobulin annual demand growth averaged 6.43% per annum. In the 2018/19 financial year the rate of annual increase is forecast at a 7.0% growth rate. This rate of increase year on year is not considered sustainable. Accordingly, a moderate future growth outlook has been assumed for immunoglobulin product equating a 4.69% year on year increase over the planning period.

On a per 1000 head of population basis Immunoglobulin usage in 2011/12 totalled 64.67 grams per 1000 head of population. By 2017/18 this had increased to 80.25 grams per 1000 head of population, a 24.1% increase over that 6 year period. The level of immunoglobulin usage in New Zealand is significantly lower than what is reported internationally.

Based on the growth assumptions inherent in this plan the use of immunoglobulin product by 2022/23 is forecast to have grown to 97.62 grams per 1000 head of population. This translates to a 15.0% forecast demand increase per 1000 head of population over the 4 year planning period.

(c) Services – forecast 3.33% decrease in test volumes per 1000 head of population

The testing services and related activities performed by NZBS are forecast to have overall a very low growth outlook over the 4 year planning period.

The historic and forecast metrics for all testing services performed by NZBS are set out below.

SERVICES	FY 16	FY17	FY18	FY 19	FY 20	FY 21	FY 22	FY 23
- All testing Services - Total Test Volumes	555,032	559,877	566,995	554,465	555,777	557,007	558,319	559,704
- All Testing Annual % Test Volume Growth	(3.24%)	0.87%	1.27%	(2.21%)	0.24%	0.22%	0.24%	0.25%
- All Tests Per 1,000 Head of Population	118.26	116.79	116.13	112.22	111.21	110.19	109.30	108.49
- Per 1,000 Head of Population % Movement	(5.25%)	(1.24%)	(0.56%)	(3.37%)	(0.90%)	(0.92%)	(0.81%)	(0.74%)

In 2011/12 the overall test volumes per 1000 head of population stood at 127.34 tests. By 2017/18 the test rate per 1000 head of population had dropped to 116.13 tests, a 9.65% decline over this 6 year period.

For the 2018/19 base financial year the test volumes are forecast to have further reduced to 112.22 test units per 1000 head of population. This current plan expects that decline to continue and is forecasting that by 2022/23 test volumes will have continued their decline to 108.49 test units per 1000 head of population.

This represents a forecast decline in total service testing demand of 3.33% per 1000 head of population over the 4 year planning period.

The overall growth outlook contained within the financial projections over the 4 year planning period is set out below.

Growth Outlook	Actual 2017/18	Forecast 2018/19	Forecast 2019/20	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23
Blood Products - % Growth	4.06%	3.81%	**1.82%**	2.28%	1.95%	2.29%
Services - % Growth	3.55%	4.87%	**1.42%**	1.17%	1.20%	1.24%
Overall NZBS % Growth Profile Forecasts	4.19%	4.01%	**1.84%**	2.07%	1.81%	2.09%

The forecast outlook within a generally low growth demand profile for NZBS products and services creates financial challenges. NZBS is funded solely via the sector's demand profile and the financial challenges presented in a low growth setting are expected to be mitigated by;

- *The delivery of operational efficiencies* aimed at reducing operational cost wherever possible and,
- *the price setting mechanism*, acknowledging the sector's expectation of price increases being kept to a minimum. This sector expectation of necessity must also be balanced against the requirement to ensure NZBS behaves in a financially responsible manner.

  This fiscal responsibility setting requires NZBS to ensure adequate internal funding is generated to meet capital funding needs identified as to main infrastructure appropriately, as would be expected of an essential service provider.

Operational Efficiencies

Over this planning period, as noted above, an ongoing focus on delivering operational efficiencies remains a key focus to mitigate input cost pressures and reduce the pressure on the price setting mechanism.

NZBS has set itself a target of delivering $2.25m in operational efficiencies over the planning period. This represents an average annual operational cost savings target of $563k. Based on its experience to date of actively adopting LEAN methodologies, better procurement practices and other business improvement techniques NZBS considers it is well positioned to secure the operational efficiency target settings.

Infrastructure Maintenance

Over this planning period the programme of infrastructure maintenance and renewal continues with the level of forecast capital spend and depreciation over the planning period set out below.

Capital Plan and Depreciation Forecasts	Actual 2017/18	Forecast 2018/19	Forecast 2019/20	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23
Capital expenditure	5,569	9,872	**14,529**	8,529	6,490	6,977
Depreciation	3,832	3,995	**4,905**	5,737	6,352	6,403
Capital Spend Vs Depreciation (capital greater = positive)	1,737	5,877	**9,687**	2,792	139	574

Over the 4 year planning period NZBS is projecting a total capital spend of $36.53m which is $13.13m in excess of forecast depreciation charges and directly attributable to the planned redevelopment of the Auckland hub site at 71 Great South Road.

This excess spend over depreciation directly relates to the redevelopment costs associated with the Auckland facility at 71 Great South Road.

The planned capital programme over the 4 year planning period comprises the following category spends;

- Facilities - $20.42m. Key projects covered in this plan are;
    - Refurbishment of the Wellington blood bank in 2020/21 - $300k.
    - The redevelopment of the Auckland hub site located at 71 Great South Road Epsom which commenced in November 2018 with the relocation of the National Office back to the Auckland in March 2019.

      This redevelopment programme is a multi-year project expected to be completed in the 2021/22 financial year. The NZBS cost envelope for this project inclusive of all related activities is $17.14m of which $14.55m is being met via a term debt facility with the balance met out of NZBS cash resources over the next 3 financial years.
- Business Systems and IT Infrastructure - $9.25m over the planning period with the key areas of expenditure identified as;
    - NZBS Blood Management Systems - $2.40m for the ongoing enhancements to the main blood management systems, eProgesa and eTraceline that are the backbone of NZBS information systems across both NZBS and the DHBs.
    - A Capital allowance of $4.0m to enable NZBS to adopt the international human tissue labelling system ISBT128. Development of the business case is currently in preparation acknowledging implementing ISBT128 is necessary if New Zealand via certain DHBs is to maintain its ongoing participation in international clinical trials.
    - Business Systems - $1.70m. Reflects planned upgrades to various business systems to improve functional performance. Investment is planned in the donor management system, the human resources / payroll areas combined with the ongoing investment in business intelligence capabilities.
    - Network Infrastructure - $1.15m. Investment required to maintain the existing NZBS network infrastructure noting this level of planned investment is lower than historically provided for. This is due to NZBS moving to adopt, where appropriate, 'software as a service' (SaaS) cloud service delivery within the current planning period.

- Equipment - $6.86m. A reflection of the ongoing need to maintain all NZBS equipment across the supply chain in suitable working condition, particularly where the supply chain is subject to strict GMP compliance requirements. An emerging trend within the management of the general equipment capital programme has been the willingness of suppliers to offer a finance leasing alternative to outright purchase.

  NZBS plans to finance a total of $4.0m of the above equipment capital plan purchases via finance lease.

Price Setting

The Minister and sector's expectation remain set on keeping the costs to district health boards as low as possible. However, NZBS is also required to balance that expectation against;

- The requirement to fund ongoing capital needs primarily from operational cash flows and approved funding options,
- the setting of price increases at the minimum required to maintain overall NZBS financial viability.

  The forecast weighted price settings for all blood products and services over the 4 year planning period is set out below.

Heading	Forecast 2018/19	Forecast 2019/20	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23
Weighted Price Increase % – All Products & Services	3.95%	**3.79%**	3.58%	2.84%	2.71%
Consumer Price Index % – movement All Groups	1.50%	**2.14%**	2.01%	2.19%	2.27%

NZBS in taking the above often competing factors into account, considers it has taken a balanced view in coming to a position on the required price settings over the 4 year planning period.

In terms of price increases, the price increases forecast over the 4 year planning period are a compound increase of 13.92% off the base year compared with a forecast compound CPI % movement of 8.90% over the same period.

Within the current environment it has not been possible to deliver price settings more aligned to the CPI index when having regard to elevated wage settlements and the expected flow on to other impending award settlements, and other input cost increases particularly for consumables and fractionation input costs. The price settings represent the inevitable balancing between minimising cost to the DHBs and NZBS maintaining its financial viability.

In the event NZBS generates surpluses that are in excess of immediate NZBS need, a policy mechanism is in place via the Financial Guidelines policy to effectively return price increases to the DHBs via a price rebate mechanism.

Under this mechanism NZBS last paid a price rebate in the 2014/15 financial year and has rebated $9.95m since the policy was introduced in the 2008/09 financial year.

No price rebates are forecast over this 4 year planning period.

Financial Position and Liquidity

The utilisation of a term debt facility to fund the redevelopment of the Auckland facility significantly alters the gearing over the planning period.

Heading	Forecast 2018/19	Forecast 2019/20	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23
Term Debt % - both current and non current term debt	25.68%	**35.82%**	39.31%	39.55%	37.37%

The combination of the redevelopment borrowing combined with the planned utilisation of finance leasing for certain equipment purchases over the planning period indicates the debt ratio will likely exceed the current debt cap of 37.50% contained in the Financial Guidelines policy.

It is NZBS expectation that at the next review of the Financial Guidelines policy would contain a recommendation to increase the debt cap to 40%, in the knowledge a sound financial position can still be sustained at that 40% setting.

Importantly NZBS is forecast to operate at all times within its banking covenant obligations over the 4 year planning period.

Ongoing financial sustainability is considered appropriately maintained over the 4 year planning period with a forecast average annual EBITDA of $9.91m. The average year-end available working cash position is forecast at $2.04m supported by available liquidity of $3.0m together with various levels of undrawn approved credit facilities. Over the planning period the annual average available liquidity from all the above sources is $9.8m.

Disclosure Statement

This financial forecast has been prepared as required by the Crown Entities Act 2004 for disclosure in this Statement of Performance Expectations (SPE) and may not be appropriate for any other purpose. If NZBS becomes aware that there are changes to the assumptions detailed below, which may materially impact the stated financial position, this SPE and the SOI (if necessary) will be amended accordingly under section 148 of the Crown Entities Act 2004.

Board Approval

The NZBS Board has agreed the financial forecast at the date of signing this *Statement of Performance Expectations*.

3.2 KEY ASSUMPTIONS

The following assumptions (and risk assessments[6] where appropriate) are key elements underpinning the financial forecasts for 2019/20 through to 2022/23:

Assumption / **Comment / Risk**

1. Price Setting – while NZBS works to keep price increases to a minimum, this is tempered by the need to maintain financial viability. Based on the assumed demand mix and input cost increases, the weighted price movements over the 4-year forecast period are set out below.

Year	**Overall Weighted Price Increase**	Overall Blood Product Price Increase	Overall Services Price Increase
2019/20	**3.79%**	3.87%	3.80%
2020/21	**3.58%**	3.66%	3.25%
2021/22	**2.84%**	2.80%	3.02%
2022/23	**2.71%**	2.66%	3.07%

Comment / Risk:

NZBS when assessing its price settings acknowledges the provision of imported skin is generally denominated in USD and as with any foreign currency brings the risk of currency fluctuation which is outside NZBS control.

Also if unbudgeted costs create unforeseen financial risks over the period then NZBS may require a price increase greater than indicated in the three outer years.

Risk Assessment: MEDIUM – Cost increases could exceed indicated price increases causing deterioration in the NZBS financial position, resulting in a requirement for price increases greater than currently indicated in the outer 3 financial years.

2. Revenue Forecasts – Revenue growth over the forecast period has been forecast as:

Year	**% Growth**	**Growth ($000's)**
2019/20	**5.63%**	**7,461**
2020/21	**5.65%**	**7,759**
2021/22	**4.65%**	**6,851**
2022/23	**4.80%**	**7,304**

Comment / Risk:

Revenue growth is a combination of price and demand (volume) movements. The specific demand assumptions for the key revenue categories are detailed in Assumption 3.

Risk Assessment: MEDIUM - With price settings set annually, the major risk to revenue growth stems from the uncertainty of demand for any given product or service. The demand assumptions taken within these forecasts reflect recent trend indications as well as an allowance for any known forward demand impact factors.

3. Demand (Volume) Assumptions – Demand (sales) growth over the forecast period has been assessed on a weighted product by product basis. The outcome of those assessments is detailed below at product category level.

(a) Summary of Product and Services Demand Growth

Product	2019/20	2020/21	2021/22	2022/23
Fresh	(0.01%)	0.13%	0.20%	0.38%
Fractionated	3.60%	3.84%	3.86%	3.89%
Blood Products	**1.82%**	**2.28%**	**1.95%**	**2.29%**
Services	1.42%	1.17%	1.20%	1.24%
Overall Total	**1.84%**	**2.07%**	**1.81%**	**2.09%**

(b) Key Forecast Fresh Blood Product Issues

Product	2019/20	2020/21	2021/22	2022/23
RBCs (units)	100,120	99,893	99,659	99,677
Platelets (Adult doses)	15,798	15,901	16,051	16,202
Fresh Plasma (units)	6,615	6,625	6,650	6,700
Cryoprecipitate (units)	16,255	16,345	16,420	16,515
Total Fresh Product Issues	**138,788**	**138,764**	**138,780**	**139,094**

Comment / Risk:

Sales volumes are totally dependent on health sector demand and outside NZBS direct control. Demand volatility is an ever-present reality for NZBS, although the health and disability sector demographics indicate that low demand growth can reasonably be assumed despite the last few years of growth in the New Zealand population.

As a manufacturer, NZBS endeavours to maintain flexibility within its production settings to minimise product expiry and ensure inventory levels are kept aligned to the current individual product demand profiles, having regard to supply chain logistics, manufacturing requirements and product shelf life.

Red Blood Cells (RBCs): RBCs are the primary fresh product. NZBS works with the DHBs to actively manage their utilisation of RBCs which has seen a 6.3% decline in use over the last 4 years. With DHBs ongoing focus on their patient blood management activities or plans, short term decline is expected however population growth and an ageing population is starting to see an offsetting increase in RBC demand.

If demand increases or decreases beyond that forecast, whole blood collections (refer Assumption (4)) will be flexed as required and managed within the current donor panel population.

[6] Risk Assessment is based on severity and likelihood.

Assumption	Comment / Risk

(c) Key Fractionated Blood Product Issues

Product	2019/20	2020/21	2021/22	2022/23
Immunoglobulin Issues (grams)	438,170	458,982	480,785	503,624

(d) Other Key Product Issues

Product	2019/20	2020/21	2021/22	2022/23
Femoral Heads	865	875	890	900

(e) Key Services Test Volumes

Product	2019/20	2020/21	2021/22	2022/23
Tissue Typing – Total Test Volumes	17,634	17,921	18,205	18,506
Compatibility Testing	113,500	113,550	113,550	113,575
Blood Grouping	152,500	152,550	152,600	152,650
Antibody Screen	146,700	146,750	146,850	146,900
Total test Volumes	555,777	557,007	558,319	559,704

Immunoglobulin Product (IVIg) – Intragam P and Evogam are the primary manufactured fractionated products supported by the second line commercially sourced Privigen product. Since 2008 the average annual growth rate for IVIg product has been 6.43%. From a peak of a 12.2% growth spike in 2014/15 the growth rate has steadily declined with 2018/19 indicating a 7.0% annual growth rate. The IVIg growth rate in these financial forecasts reflect a moderate growth setting of an average compounded growth rate of 4.69% per annum.

Over this planning period an average annual growth rate of 4.69% has been assumed. Should prescribing increase or decrease from the budgeted average annual growth assumption, then collection targets will be flexed to ensure demand is met and product expiry is minimised. (Note: IVIg product has a two year shelf-life which enables stock management to be flexed as required). Inventory levels for fractionated product will be managed at a minimum holding of 4 month's supply to ensure surety of supply.

Risk Assessment: HIGH - Demand volatility, both upside and downside, is an inherent risk within the NZBS business model. Historically NZBS has been required to manage uneven demand growth across all products. This plan forecasts fresh product demand volumes to further fall per 1,000 head of population from an actual 27.95 units in 2017/18 to a forecast 26.96 units in 2022/23 – a decline of 3.54% over the planning period. Should Immunoglobulin demand increase beyond NZBS's ability to collect the required levels of source plasma for manufacture, the commercial second line Privigen product would be used to supplement supply.

4. Collection Volumes - Based on forecast demand patterns the required collection volumes over the planning period are forecast to be:

Collection Method	2019/20	2020/21	2021/22	2022/23
Whole Blood	109,300	108,800	108,700	108,700
Plasmapheresis	66,500	68,000	70,500	72,000
Plateletpheresis	2,860	2,865	2,815	2,945
Total Collections	**178,660**	**179,665**	**182,115**	**183,645**

Within these collection volumes the assumed kilograms (kgs) of plasma shipped to CSL Behring to be manufactured into fractionated products and returned to NZ as finished products has been forecast as:

Product	2019/20	2020/21	2021/22	2022/23
Plasma for Fractionation (Kgs)	73,727	74,701	76,520	77,592

With Whole Blood collections forecast to slowly decline the increase in source plasma is being secured via increased plasmapheresis collections. If demand exceeds this assumption then product may be supplemented via the purchase of a second line commercial product.

Blood collection volumes are based on forecast demand with collection levels flexed as required over a financial year to minimise product expiry.

The growth in plasmapheresis collections forecast over the period is required to meet the forecast source plasma required for the manufacture of Fractionated Product (see Assumptions 4).

Risk Assessment: MEDIUM - collection volumes are very sensitive to product demand assumptions. NZBS recognises that reality and will always flex its collection levels up or down to align with trending demand patterns.

This would be managed with an increase (or decrease) in donor recruitment activity and associated encouragement to existing donors to increase (or decrease) their donation frequency.

	Assumption	Comment / Risk
5.	Only surplus Albumin production bulks will generate revenue via their sale to NZBS fractionator, CSL Behring (Australia) Pty Limited. **NOTE:** there is no market for the sale of surplus Biostate (Factor VIII).	NZBS has developed its stock management process to minimise product expiry and maximise product utilisation. **Risk Assessment: LOW** – clearly defined contract arrangements are in place for the management of surplus Albumin production bulks via the NZBS fractionated product manufacturer, CSL Behring (Australia) Pty Limited.
6.	New Zealand is maintaining resilience of supply over the planning period for all major blood products including manufactured fractionated products of which Immunoglobulin Products (Intragam P and Evogam) are the driver products derived from NZBS provided source plasma. In 2015, as part of ensuring resilience of supply, a second line commercial immunoglobulin product Privigen was introduced. This product is supplied by CSL Behring (Australia) Pty Limited. This established a hybrid supply arrangement for immunoglobulin product that mitigated a potential supply risk. The hybrid supply model continues to operate with Privigen usage representing some 12% of total immunoglobulin usage in New Zealand. NZBS continually assesses its supply chain to ensure mechanisms are in place to maintain resilience of supply and that those mechanisms remain appropriate and cost effective in meeting New Zealand's demand needs for fractionated products.	The principle of ensuring resilience of supply is framed within the wider context of self-reliance. NZBS is regularly reviewing its supply arrangements, based on financial, clinical and surety of supply criteria. **Risk Assessment: MEDIUM** – NZBS on current demand forecasts collects sufficient blood (including plasma) and produces sufficient blood products to maintain the current hybrid supply arrangement over the short term. The forward outlook indicates the level of commercial product usage will grow unless NZBS elects to expand its capacity for plasmapheresis collections. A higher than forecast demand for immunoglobulin could be expected to see the level of second line product use increase. NZBS is currently developing a framework associated with setting a longer term plasma product strategy for New Zealand. The outcomes and option choices will in due course require engagement with health sector stakeholders. The ability to revert or not to full self-sufficiency will be evaluated as part of this strategy development.
7.	Current fractionation yields are expected to be maintained over the 4 year planning period.	Changes in the yield of fractionated product obtained by CSL Behring from a volume of plasma will impact either adversely (in the case of reduced yield) or favourably (in the case of improved yield) on the NZBS forecast financial position. **Risk Assessment: LOW** – based on the prior yield performance of the manufacturer CSL Behring.
8.	Plasma fractionation costs in 2019/20 and subsequent years will increase in accordance with any agreed increases as provided for in the CSL Behring Toll Manufacturing Agreement. The current Toll Manufacturing Agreement operates until 30 June 2022.	The CSL Behring (Australia) Pty Ltd Toll Fractionation Agreement is priced in Australian dollars so an exposure to movements in the AUD:NZD cross rate exists. **Risk Assessment: MEDIUM** – NZBS endeavours to mitigate this risk via Forward Exchange contracts purchased in accordance with the NZBS Treasury Policy. Also refer to the foreign exchange assumption 15 below.

<table>
<tr><th colspan="2">Assumption</th><th>Comment / Risk</th></tr>
<tr><td>9.</td><td>The weighted stock turn ratios for the total inventory holding over the forecast period is set out below:
<table>
<tr><th>Stock Turns (all Products)</th><th>Turns per Annum</th></tr>
<tr><td>2018/19 Year</td><td>3.78</td></tr>
<tr><td>2019/20 Year</td><td>4.07</td></tr>
<tr><td>2020/21 Year</td><td>4.58</td></tr>
<tr><td>2021/22 Year</td><td>4.61</td></tr>
<tr><td>2022/23 Year</td><td>4.44</td></tr>
</table></td><td>NZBS sets a minimum stock holding aligned to 3 to 4 months of demand across its non-fresh product range to ensure surety of supply. This sets the minimum benchmark stock turn for all inventory held at an ideal stock turn of between 4.0 to 4.5 times, a benchmark figure NZBS applies in the context of ensuring efficient working capital management.
Risk Assessment: MEDIUM – an unexpected drop in demand increases the risk of product expiry (fresh product) and higher short-term inventory holding (fractionated product). The primary stock risk category is fractionated product (due to 3 - 4 month minimum stock holding) however the risk, as regards expiry, is mitigated in large part by this product category having a 2 to 3 year shelf life depending on the product.</td></tr>
<tr><td>10.</td><td>FTE requirements net of an assumed vacancy factor have been revised with the new levels incorporated in the financial forecasts, as per below:
<table>
<tr><th>Year</th><th>Forecast FTE Levels as at 30 June each Year</th></tr>
<tr><td>2018/19</td><td>556.41</td></tr>
<tr><td>2019/20</td><td>559.48</td></tr>
<tr><td>2020/21</td><td>559.48</td></tr>
<tr><td>2021/22</td><td>570.48</td></tr>
<tr><td>2022/23</td><td>574.48</td></tr>
</table></td><td>As an essential service provider NZBS must adapt quickly to changes in demand and/or safety and regulatory requirements. Staffing levels are therefore subject to increase or decrease in response to changing business requirements, particularly changes in demand for products and in turn collection volumes.

Over the planning period, assumptions have been made based on forecast demand levels and efficiencies stemming from business improvement initiatives expected over the planning period.

Risk Assessment: MEDIUM – turnover is relatively low. The main risk is the inability to source new/replacement appointments with the required skill mix. NZBS is competing with the health and disability sector generally for resources, mitigated in part by participating in the same collective agreements as the DHBs in the context of wage levels.</td></tr>
<tr><td>11.</td><td>The majority of NZBS staff will continue to be employed on collective agreements (either Multi-Employer Collective Agreements (MECAs) or Single-Employer Collective Agreements).

Assumptions regarding employee cost increases have reflected the Government's updated Expectations on Employment Relations in the State Sector published in 2018 and direct consultation with the Ministry of Health.

Known information combined with best estimates in respect of possible future settlements have been included in the financial forecasts over the planning period.</td><td>Staff costs make up on average 47% of NZBS's direct input costs. Most collectives have built into them an annual increase together with merit step increases as well as various leave entitlements tied to length of service, all of which have an impact on NZBS's overall annual cost increases.

Settlements in relation to Collective Agreement negotiations have a flow on effect to costs associated with staff working under Individual Employment Agreements.

Risk Assessment: MEDIUM to HIGH - risk of settlement outside of budgeted parameters, dependent on wider sector settlements outside of NZBS direct control. (Assumption 1 also refers.)</td></tr>
<tr><td>12.</td><td>Consumable costs (based on current contracts, expected CPI increases or contract indexed adjustments) and employee costs (FTEs required) are based on meeting the projected collection volume targets as set over the 4 year planning period and as summarised in Assumption 4.</td><td>Forecast collection volumes are subject to change in response to changes in demand patterns for products, variation in production yields and/or collection / processing methods. Further staffing and consumable reductions would be considered in the event collection volume requirements decrease further than forecast for a sustained period.

Likewise, if collection volume levels are required to increase significantly beyond those currently forecast, an increase in staffing and consumables may be required to collect and process additional volumes.</td></tr>
</table>

<table>
<tr><th colspan="2">Assumption</th><th>Comment / Risk</th></tr>
<tr><td></td><td></td><td><u>Note</u>: Many NZBS consumables purchased from international markets are subject to foreign exchange fluctuations.

Risk Assessment: MEDIUM - that input price increases are higher than budgeted allowances. (Assumption 1 also refers.)</td></tr>
<tr><td>13.</td><td>Existing regulatory cost framework will be maintained on current settings and understandings.</td><td>NZBS has reflected its regulatory compliance costs over the planning period based on the existing regulatory framework and associated cost structures.

Risk Assessment: LOW – the existing regulatory environment is well understood by NZBS.</td></tr>
<tr><td>14.</td><td>Foreign exchange rates over the forecast period have been assumed as:

<table><tr><th>Year</th><th>AUD</th><th>USD</th><th>Euro</th></tr><tr><td>2019/20</td><td>0.9317</td><td>0.6475</td><td>0.5820</td></tr><tr><td>2020/21</td><td>0.9315</td><td>0.6730</td><td>.5575</td></tr><tr><td>2021/22</td><td>0.9338</td><td>0.6904</td><td>.5399</td></tr><tr><td>2022/23</td><td>0.9333</td><td>0.6994</td><td>.5385</td></tr></table>
These rates have been based on the latest information that was available at the time the financial forecasts within this document were prepared.</td><td>NZBS has exposure to foreign exchange fluctuations, primarily the Australian dollar through its Toll Fractionation contract with CSL Behring (Australia) Pty Limited.

Based on 2019/20 settings a 1 cent movement in the AUD exchange rate increases or reduces fractionation costs by approximately NZD$250k.

The financial forecasts assume currency management is reflected over the planning period in accordance with the requirements set out in the NZBS Treasury Policy. All realised and unrealised currency movements are incorporated in the financial forecasts.

NZBS manages this operational currency risk via forward exchange contracts managed in accordance with the NZBS Treasury Management Policy.

Risk Assessment: MEDIUM – any ongoing volatility in global financial markets has the potential to impact New Zealand’s economic settings in the medium term. The short term, defined as the initial 12 to 18 months of the planning period, is risk mitigated via forward exchange contract cover.</td></tr>
<tr><td>15.</td><td>As a demand-driven service provider to the health and disability sector, NZBS will share with the DHBs any unbudgeted realised net financial gains that it may achieve due to optimal product mix demand, improving yields and cost efficiencies, in accordance with the NZBS Financial Guidelines Policy.
No price rebates have been incorporated in these financial forecasts.</td><td>NZBS has a Financial Guidelines Policy that clearly sets out the Board’s obligations (having regard to NZBS’s longer term financial viability) to assess on an annual basis, whether any realised net financial gains will be shared with the DHBs as a price rebate.</td></tr>
<tr><td>16.</td><td>The Capital Charge, paid to the Crown, is based on the forecast closing equity position and has been assumed at the current rate of 6% per annum on closing equity over the forecast period.</td><td>This is a Government mandated charge over which NZBS has no direct control.</td></tr>
<tr><td>17.</td><td>The quantum of capital expenditure will be tightly managed year on year over the planning period to ensure the capital plan in any given year will not be exceeded.

The current 4 year forecast indicates a capital spend of $36.59m compared with a depreciation charge of $23.40m. This additional capital expenditure is directly tied to the redevelopment of the Auckland facility at 71 Great South Road. This project commenced in 2018/19 and will be completed in the 2021/22 financial year.</td><td>Safety requirements and the capital intensive nature of the blood service operations often means a variable capital spend on a year-on-year basis.

NZBS allows capital substitution to apply in any given year.

Risk Assessment: LOW - the capital expenditure plan is a carefully considered and managed document ensuring a low risk of being greater than budget.</td></tr>
</table>

<table>
<tr><th>Assumption</th><th>Comment / Risk</th></tr>
<tr><td>18. Interest rates on the NZBS funding facility over the planning period have been based off projected 90 day interest rates. The weighted interest rates contained in these financial forecasts are detailed below:
<table>
<tr><th>Year</th><th>Interest Rate</th></tr>
<tr><td>2019/20</td><td>2.81%</td></tr>
<tr><td>2020/21</td><td>2.81%</td></tr>
<tr><td>2021/22</td><td>3.02%</td></tr>
<tr><td>2022/23</td><td>3.37%</td></tr>
</table></td><td>The level of available funds are set to ensure forecast funding needs can be accommodated. NZBS has received Crown approval to increase its funding facility for the period of the Auckland facility redevelopment. The term of the facility is 2 years with a rolling review mechanism.

The facility is operated in accordance with its banking covenants.

Risk Assessment: LOW - based on the forecast level of facility debt NZBS exposure to any interest rate movement is minimal in the context of the overall NZBS cost structure.</td></tr>
<tr><td>19. There will be no adverse material financial impact on the forecast financial position in the event of any plasma pool loss or product recall incident (e.g. loss of a pool of plasma through contamination or an identified manufacturing problem requiring the recall and potential destruction of product).</td><td>NZBS would expect to manage such adverse financial impact via its Adverse Fractionation Event Policy where a $4.0m reserve exits to mitigate the initial financial impact of such an event prior to engaging in the ‘last resort’ process outlined in 2005 by the Ministry of Health. Such action would only be initiated if the financial impact exceeded NZBS financial capacity.

Risk Assessment: LOW – a plasma contamination has not yet occurred and is considered a low frequency high financial impact event. However a product recall event did occur in November 2013 with an adverse NZBS financial impact outcome of $750k.

The basis for managing such situations is now well established and is actively monitored by NZBS as to its financial capacity to deal with such events.</td></tr>
</table>

3.3 FORECAST FINANCIAL STATEMENTS

Forecast Statements of Comprehensive Revenue and Expense

	Budget FY 19	Forecast FY 19		Forecast FY 20		Forecast FY 21		Forecast FY 22		Forecast FY 23	
	$000	$000	%	$000	%	$000	%	$000	%	$000	%
Summary											
Total Revenue	127,397	131,098		138,559		146,318		153,169		160,473	
Total Expenditure	128,823	132,794		139,662		146,760		152,729		159,266	
Surplus / (Deficit) for the Year	**(1,426)**	**(1,696)**		**(1,103)**		**(442)**		**439**		**1,207**	
Further detailed as:											
Revenue											
Revenue from supplying Blood Products	103,121	102,319	78.05%	109,671	79.15%	115,937	79.24%	121,663	79.43%	127,659	79.55%
Revenue from supplying Services	22,760	27,616	21.07%	27,586	19.91%	29,087	19.88%	30,112	19.66%	31,412	19.57%
Revenue from Overseas Sales	1,201	876	0.67%	1,013	0.73%	994	0.68%	1,086	0.71%	1,110	0.69%
Interest Income	308	278	0.21%	282	0.20%	294	0.20%	301	0.20%	284	0.18%
Other Income	7	9	0.01%	7	0.00%	7	0.00%	7	0.00%	7	0.00%
Total Revenue	**127,397**	**131,098**	100.00%	**138,559**	100.00%	**146,318**	100.00%	**153,169**	100.00%	**160,473**	100.00%
Expenditure											
Cost of Consumables & Changes in Inventory ***	46,487	50,375	38.43%	50,739	36.62%	53,534	36.59%	55,685	36.36%	58,812	36.65%
Employee Benefit Expense	49,813	47,822	36.48%	53,179	38.38%	55,114	37.67%	57,653	37.64%	60,452	37.67%
Other Operating Expenses	24,742	26,167	19.96%	27,412	19.78%	28,050	19.17%	28,922	18.88%	29,490	18.38%
Operating Expenditure	121,042	124,364	94.86%	131,330	94.78%	136,698	93.42%	142,259	92.88%	148,754	92.70%
Earnings - EBITDA	**6,355**	**6,734**	**5.14%**	**7,229**	**5.22%**	**9,621**	**6.58%**	**10,909**	**7.12%**	**11,719**	**7.30%**
Depreciation (Depn)	4,244	3,990	3.04%	4,905	3.54%	5,737	3.92%	6,352	4.15%	6,403	3.99%
Finance Costs	631	630	0.48%	985	0.71%	1,179	0.81%	1,434	0.94%	1,422	0.89%
Capital Charge	2,277	2,368	1.81%	2,195	1.58%	2,149	1.47%	2,149	1.40%	2,198	1.37%
Operational Earnings post Depn & Financing Costs	(796)	(254)	(0.19%)	(856)	(0.62%)	556	0.38%	975	0.64%	1,697	1.06%
Non Operating Expenditure											
Accrued Rent Payable	560	560	0.43%	560	0.40%	472	0.32%	428	0.28%	428	0.27%
Revaluation of Derivative Financial Instruments	(56)	757	0.58%	(439)	(0.32%)	51	0.03%	8	0.01%	62	0.04%
Redevelopment Expenses - 71 Great South Road	125	125		125		475		100		-	
Total Non Operating Expenditure	**629**	**1,442**	1.10%	**247**	0.18%	**998**	0.68%	**536**	0.35%	**490**	0.31%
Surplus / (Deficit) for the Year	**(1,426)**	**(1,696)**	**(1.29%)**	**(1,103)**	**(0.80%)**	**(442)**	**(0.30%)**	**439**	**0.29%**	**1,207**	**0.75%**
Other Comprehensive Revenue and Expense	-	-		-		-		-		-	
Total Other Comprehensive Revenue and Expense	**-**	**-**		**-**		**-**		**-**		**-**	
Total Comprehensive Revenue and Expense for Year	**(1,426)**	**(1,696)**	**(1.29%)**	**(1,103)**	**(0.80%)**	**(442)**	**(0.30%)**	**439**	**0.29%**	**1,207**	**0.75%**

Forecast Statements of Changes in Equity

	Budget FY 19	Forecast FY 19	Forecast FY 20	Forecast FY 21	Forecast FY 22	Forecast FY 23
	$000	$000	$000	$000	$000	$000
Opening balance	**38,656**	**38,833**	**37,137**	**36,034**	**35,592**	**36,031**
Total comprehensive Revenue and Expense for year	(1,426)	(1,696)	(1,103)	(442)	439	1,207
Movement in Adverse Fractionation Event Reserve						
Contribution from owners	-	-	-	-	-	-
Closing balance	**37,230**	**37,137**	**36,034**	**35,592**	**36,031**	**37,237**
Forecast changes in Equity over the forecast period						
(a) Crown Equity						
Opening Balance	15,717	15,717	**15,717**	**15,717**	**15,717**	**15,717**
Contribution from Owners	**-**	**-**	**-**	**-**	**-**	**-**
Closing balance	**15,717**	**15,717**	**15,717**	**15,717**	**15,717**	**15,717**
(b) Retained Earnings						
Opening Balance	18,940	19,116	17,420	16,317	15,875	16,314
Total Comprehensive Income for year	(1,426)	(1,696)	(1,103)	(442)	439	1,207
Transfer to Adverse Fractionation Event Reserve						
Closing balance	**17,514**	**17,420**	**16,317**	**15,875**	**16,314**	**17,521**
(c) Adverse Fractionation Event Reserve						
Opening Balance	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**
Transfer from Adverse Fractionation Event Reserve		**-**	**-**	**-**	**-**	**-**
Closing balance	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**	**4,000**
Closing Equity Balance	**37,230**	**37,137**	**36,034**	**35,592**	**36,031**	**37,237**

*** Note re Changes in Inventory

For ease of reporting, the '*Changes in Inventory*' category is an aggregated reporting category comprising 'cost of goods sold, production recoveries and inventory valuation adjustments' consistent with the application of manufacturing standard costing methodologies and generally accepted inventory valuation principles.

Forecast Statements of Financial Position

	Budget FY 19 $000	Forecast FY 19 $000	Forecast FY 20 $000	Forecast FY 21 $000	Forecast FY 22 $000	Forecast FY 23 $000
Equity						
Crown Equity	15,717	15,717	15,717	15,717	15,717	15,717
Retained Earnings/(Losses)	17,514	17,420	16,317	15,875	16,314	17,521
Adverse Fractionation Event Reserve	4,000	4,000	4,000	4,000	4,000	4,000
Total Equity	**37,230**	**37,137**	**36,034**	**35,592**	**36,031**	**37,237**
Equity as a % of Total Assets	46.2%	44.8%	40.0%	37.8%	37.8%	38.2%
Represented by:						
Assets						
Current Assets						
Cash and Cash Equivalents	1,974	3,832	1,931	3,001	2,458	789
Trade and Other Receivables	13,595	13,854	14,805	15,586	16,282	17,014
Inventories	29,845	29,812	29,230	27,626	28,686	31,169
Investments	7,000	7,000	6,000	7,000	7,000	7,000
Derivative Financial Instruments	227	-	92	41	32	-
Total Current Assets	52,640	54,498	52,058	53,254	54,459	55,972
Non Current Assets						
Property, Plant and Equipment	18,968	19,826	30,372	33,603	32,683	31,736
Intangible Assets	8,901	8,522	7,664	7,224	8,283	9,804
Total Non Current Assets	27,869	28,349	38,036	40,827	40,966	41,540
Total Assets	**80,509**	**82,847**	**90,093**	**94,082**	**95,425**	**97,512**
Liabilities						
Current Liabilities						
Trade and Other Payables	12,135	13,278	13,282	13,437	12,435	13,080
Provisions	4,216	5,042	4,893	5,033	5,196	5,403
Employee Entitlements	7,054	6,309	7,035	7,496	7,966	8,649
Derivative Financial Instruments	-	347	-	-	-	30
Borrowings	800	702	1,279	1,710	1,869	1,858
Lease Incentive Liability	26	26	26	26	26	25
Total Current Liabilities	24,230	25,704	26,515	27,702	27,492	29,045
Non Current Liabilities						
Employee Benefit Liabilities	1,763	2,017	2,203	2,377	2,611	2,763
Provisions	2,401	2,649	2,764	2,879	2,994	3,109
Accrued Rent and Lease Incentive Liability	3,212	3,212	3,746	4,192	4,594	4,997
Borrowings	11,672	12,129	18,831	21,340	21,704	20,361
Total Non Current Liabilities	19,048	20,006	27,544	30,788	31,902	31,229
Total Liabilities	**43,279**	**45,710**	**54,059**	**58,490**	**59,393**	**60,275**
Net Assets	**37,230**	**37,137**	**36,034**	**35,592**	**36,031**	**37,237**

Forecast Statements of Cash Flows

	Budget FY 19 $000	Forecast FY 19 $000	Forecast FY 20 $000	Forecast FY 21 $000	Forecast FY 22 $000	Forecast FY 23 $000
Cash Flows from Operating Activities						
Cash was provided from:						
Receipts from Blood Products and Services Revenue	125,618	129,180	136,323	144,357	151,219	158,476
Interest Received	70	49	67	52	59	28
Receipts from Other Revenue	763	779	1,030	914	985	1,014
	126,451	130,007	137,420	145,323	152,263	159,518
Cash was disbursed to:						
Payments to Employees	49,151	47,410	52,099	54,422	56,875	59,534
Payments to Suppliers	71,172	74,610	77,960	80,343	86,721	90,041
Distributions to Primary Stakeholders	-	-	-	-	-	-
Interest Paid	583	570	937	1,128	1,384	1,372
Capital Charge Paid	2,277	2,368	2,195	2,149	2,149	2,198
Net GST Payable to IRD	113	26	31	(136)	(46)	(32)
	123,295	124,985	133,222	137,906	147,081	153,112
Net Cash Flow from Operating Activities	**3,156**	**5,023**	**4,199**	**7,418**	**5,182**	**6,405**
Cash Flows from Investing Activities						
Cash was provided from:						
Proceeds - Interest on Term Deposits > 3 Months	237	206	214	243	242	256
Proceeds from the sale of Property, Plant & Equipment	-	11	-	-	-	-
	237	218	214	243	242	256
Cash was disbursed to:						
Acquisition of Property, Plant & Equipment	(8,472)	(9,566)	(13,837)	(7,219)	(3,605)	(3,692)
Acquisition of Intangible Assets	(832)	(307)	(755)	(1,310)	(2,885)	(3,285)
Acquisition of Investments - Term Deposits	(5,000)	(3,000)	(4,000)	(5,000)	(5,000)	(4,000)
Receipts from Maturity of Investments	5,000	3,000	5,000	4,000	5,000	4,000
	(9,304)	(9,872)	(13,592)	(9,529)	(6,490)	(6,977)
Net Cash Flow from Investing Activities	**(9,068)**	**(9,654)**	**(13,378)**	**(9,286)**	**(6,248)**	**(6,721)**
Cash Flow from Financing Activities						
Cash was provided from:						
Proceeds from Term Facilities	4,836	3,309	13,260	12,531	-	-
Proceeds from Term Borrowings - Finance Leases	-	1,742	370	893	2,233	515
	4,836	5,051	13,630	13,424	2,233	515
Cash was disbursed to:						
Repayment of Term Facilities	-	-	(5,378)	(9,172)	-	-
Repayment of Term Borrowings - Finance Leases	(677)	(548)	(973)	(1,312)	(1,710)	(1,869)
	(677)	(548)	(6,351)	(10,484)	(1,710)	(1,869)
Net Cash Flow from Financing Activities	**4,159**	**4,502**	**7,279**	**2,940**	**523**	**(1,354)**
Net increase/(Decrease) in Cash and Cash Equivalent	**(1,753)**	**(129)**	**(1,900)**	**1,071**	**(543)**	**(1,669)**
Cash and Cash Equivalents at the beginning of the yea	3,727	3,961	3,832	1,931	3,001	2,458
Cash and Cash Equivalents at the end of the year	**1,974**	**3,832**	**1,931**	**3,002**	**2,458**	**789**

Reconciliation of Surplus / (Deficit) with Net Cash Flow from Operating Activities

	Budget FY 19 $000	Forecast FY 19 $000	Forecast FY 20 $000	Forecast FY 21 $000	Forecast FY 22 $000	Forecast FY 23 $000
Total Comprehensive Revenue and Expense for Year	(1,426)	(1,696)	(1,103)	(442)	439	1,207
Add Back Non Cash Items:						
Depreciation - Property Plant and Equipment	2,424	2,464	3,291	3,987	4,525	4,638
Depreciation - Intangible Assets	1,821	1,530	1,614	1,749	1,827	1,764
Property, Plant & Equipment Write Off Provision	-	-	-	-	-	-
Change in Premises Reinstatement Provision	99	235	115	115	115	115
Change in Lease Incentive Liability	(26)	(26)	(26)	(26)	(26)	(26)
Add / (Less) Items Classified as Investing Activity:						
Net (Gain) / Loss on Sale of Property, Plant & Equipment	-	(4)	-	-	-	-
Proceeds - Interest on Term Deposits > 3 Months	(237)	(206)	(214)	(242)	(242)	(256)
Movement in Working Capital:						
(Increase)/ Decrease in Trade and Sundry Receivables	(709)	(884)	(925)	(753)	(664)	(699)
(Increase) / Decrease in Prepayments	(16)	(232)	(26)	(28)	(32)	(34)
(Increase) / Decrease in Inventories	(445)	4	582	1,603	(1,060)	(2,483)
Increase / (Decrease) in Trade Creditors & Other Payables	566	141	1,401	(330)	(410)	258
Increase / (Decrease) in Other Payables	(560)	835	(1,295)	523	(545)	440
Increase / (Decrease) in General Accruals	627	986	(249)	103	114	155
Increase / (Decrease) in Employee Entitlements	535	429	912	635	703	836
Increase / (Decrease) in Accrued Rent Payable	560	560	560	472	428	428
Revaluation of Derivative Financial Instruments	(56)	886	(439)	51	8	62
Net Cash Inflow/(Outflow) from Operating Activities	**3,156**	**5,023**	**4,199**	**7,418**	**5,182**	**6,405**

1) STATEMENT OF ACCOUNTING POLICIES

2) Reporting Entity

The New Zealand Blood Service (NZBS) is an appointed entity pursuant to Section 63 of the Human Tissue Act 2008, primarily responsible for the performance of functions in relation to blood and controlled human substances in New Zealand.

NZBS is a Crown entity under the New Zealand Public Health and Disability Act 2000, and, more specifically a Statutory Entity under the Crown Entities Act 2004. NZBS's ultimate parent is the New Zealand Crown.

NZBS is a public benefit entity as its primary objective is to support the New Zealand healthcare community through managing the collection, processing and supply of blood, controlled human substances and related services. Accordingly, NZBS has designated itself as a public benefit entity (PBE) for the purposes of applying the Public Benefit Entities Accounting Standards (PBE Standards), issued by the External Reporting Board (XRB).

3) Authorisation Statement

These forecast financial statements were authorised for issue on 30 May 2019 by the Chief Executive Officer of NZBS who is responsible for the forecast financial statements as presented. The preparation of these financial statements requires judgements, estimations and assumptions (refer section 3.2 for key assumption details) that affect the application of policies and reported amounts of assets, liabilities, income and expenses. The estimates and associated assumptions are based on historical experience and various other factors that are believed reasonable under the circumstances.

Actual financial results achieved for the period covered are likely to vary from the information presented and the variations may be material.

It is not intended that the prospective financial statements will be updated subsequent to presentation.

4) Basis of Preparation

The financial statements of NZBS have been prepared in accordance with the requirements of the Crown Entities Act 2004 and the New Zealand Public Health & Disability Act 2000.

These financial statements have been prepared in accordance with New Zealand generally accepted accounting practice (NZ GAAP), in accordance with Tier 1 PBE Standards. They comply with PBE Standards, as appropriate for PBEs.

The accounting policies set out below have been applied consistently to all periods presented in these financial statements.

The financial statements have been prepared on a historical cost basis with the exception of certain items identified in specific accounting policies.

The financial statements are presented in New Zealand dollars. The functional currency of NZBS is New Zealand dollars.

5) Significant Assumptions

These forecast financial statements are based on the financial results reported to 31 January 2019 and the inherent trends reflected in those results and have been prepared on the basis of key assumptions as detailed in Section 3.2 as to future events that NZBS can reasonably expect to occur, associated with actions it reasonably expects to take.

These forecasts have been compiled on the basis of the strategic plan (as detailed in the Statement of Intent) and Ministerial expectations at the date the information was prepared. Estimated year-end information for 2018/19 is used as the opening position for the 2019/20 forecasts.

The forecast financial statements have been prepared in compliance with *NZFRS 42 Prospective Financial Statements.*

6) Standards and Interpretation issued and not yet adopted

There are no standards issued and not yet effective that are relevant to NZBS.

7) Significant Accounting Policies

Early adoption of PBE IFRS 9

NZBS has elected to early adopt PBE IFRS 9 Financial Instruments (2014) ("IFRS 9") from 1 July 2018 without restatement, in accordance with the transition requirements. The date of initial application is 1 July 2018. IFRS 9 was issued in January 2017 and is applicable for accounting periods beginning on or after 1 January 2021. This standard sets out the new requirements for classification and measurement, impairment and hedge accounting for financial instruments.

The following changes to accounting policies due to application of IFRS 9 have been applied to these financial statements.

Classification and measurement of financial assets

NZBS classifies its financial assets as subsequently measured at either amortised cost or fair value depending on NZBS's business model for managing the financial assets and the contractual cash flow characteristics of the financial assets. On adoption of IFRS 9, investments previously classified as loans and receivables are now classified as financial assets at amortised cost. However there is no material impact as these are still measured at amortised cost.

Classification and measurement of financial liabilities

Classification of financial liabilities remained unchanged for NZBS. Financial liabilities continue to be measured at either amortised cost or at fair value through profit and loss.

Changes to impairment of financial assets

The PBE IFRS 9 impairment requirements are based on an expected credit loss model, replacing the incurred loss methodology under PBE IAS 39. NZBS applies the simplified approach for trade and other receivables, which requires the lifetime expected credit losses to be applied when measuring the loss allowance. The impact of adopting IFRS 9 has not had a material impact on the loss allowance.

Revenue

Revenue is measured at the fair value of consideration received or receivable. The specific accounting policies for significant revenue items are explained below.

Sales of Products

Revenue from the sales of products is recognised at the time the risk and effective ownership transfers to the customer.

Provision of Services

Revenue from the rendering of services is recognised as the services are provided.

Price Rebate to District Health Boards

NZBS also considers annually in accordance with the financial guidelines policy, price rebates to District Health Boards which if elected by the Board to be paid are recognised at the point of decision and deducted from the amount of revenue received or receivable.

Interest Income

Interest income is recognised using the effective interest method.

Capital Charge

The capital charge is recognised as an expense in the financial year to which the charge relates.

Leases

Finance leases

A finance lease is a lease that transfers to the lessee substantially all the risks and rewards incidental to ownership of an asset, whether or not title is eventually transferred.

At the commencement of the lease term, NZBS recognises finance leases as assets and liabilities in the statement of financial position at the lower of the fair value of the leased item or the present value of the minimum lease payments.

The amount recognised as an asset is depreciated over its useful life. If there is no certainty as to whether NZBS will obtain ownership at the end of the lease term, the asset is fully depreciated over the shorter of the lease term and its useful life.

Operating leases

An operating lease is a lease that does not transfer substantially all the risks and rewards incidental to ownership of an asset. Lease payments under an operating lease are recognised as an expense on a straight-line basis over the lease term.

Cash and Cash Equivalents

Cash and cash equivalents include cash in hand, deposits held at call with banks, other short-term highly liquid investments with original maturities of three months or less, and bank overdrafts. Cash and cash equivalents are classified and measured at amortised cost in the statement of financial position. These financial instruments are short term in nature and the carrying amount is considered to be a reasonable approximation of fair value.

Bank overdrafts are shown within borrowings in current liabilities in the statement of financial position. Bank overdrafts are classified and measured at amortised cost. As these are short term in nature the carrying amount is considered to be a reasonable approximation of fair value.

Trade and Other Receivables

Trade and other receivables are initially measured at fair value and subsequently measured at amortised cost using the effective interest method, less any provision for impairment. Trade and other receivables are short term in nature and the carrying amounts are considered to be a reasonable approximation of fair values.

NZBS applied the simplified approach to measure the loss allowance for trade and other receivables. Under this approach the loss allowance is the lifetime expected credit loss. Trade receivables which are significant on an individual basis are evaluated on a line by line basis. For those are not determined to be significant individually, the loss allowance is assessed on a portfolio basis, taking into account days past due and historical loss experience in portfolios with shared characteristics. Historical loss rates are adjusted for forward-looking indicators and relevant macro-economic factors.

A provision for impairment of receivables is established when there is objective evidence that NZBS will not be able to collect all amounts due according to the original terms of receivables.

Inventories

Inventories are measured at cost upon initial recognition. To the extent that inventory was received through non-exchange transactions (i.e. donated goods) for no cost or for a nominal cost, the cost of the inventory is its fair value at the date of acquisition.

However, as NZBS is not legally permitted to purchase blood from the public, the accounting fair value of blood from donors is considered nil. Therefore, the cost of inventories comprises all costs of collection, costs of conversion, and any other costs incurred in bringing the inventories to their present location and condition.

After initial recognition, inventory is measured at the lower of costs and net realisable value. The cost of inventory is determined using the FIFO or weighted average methods. The valuation includes allowance for slow moving items. Obsolete inventories are written off.

The write down from cost to net realisable value is recognised in the surplus or deficit except for fractionated derived products manufactured from New Zealand sourced plasma (refer below).

Inventories are recognised as an expense when deployed for utilisation or consumption in the ordinary course of NZBS's operation.

Fractionated derived products manufactured from a principal pool

Fractionated derived products are manufactured into finished blood products by a third-party manufacturer on a "toll" manufacturing basis using NZBS provided sourced plasma. Fractionated derived products in the main are manufactured from plasma pools ranging in the size from a minimum 10.4 tonne pool through to a maximum 13.0 tonne plasma pool. The NZBS rolling manufacturing plan generally allows for between 5 and 6 production pools in a financial year. The driver product group within the manufacturing process is the immunoglobulin product represented by Intragam P and Evogam product.

The principal pool work in progress (WIP) is included at full standard cost as the final output that the manufacturer must produce is locked in via the agreed production plan for a pool and contract yields per the toll manufacturing agreement. This high level of certainty enables the WIP to be viewed in the same light as finished fractionation product for the purposes of inventory valuation.

Valuation of fractionated derived products from these plasma pools, both finished goods and WIP, is based on allocating the actual input cost of manufacturing a plasma pool (NZBS source plasma input plus third-party toll fractionation manufacturing fee) to prorated finished/WIP product output using actual product plasma yield, reported by the manufacturer.

Post this product cost allocation, if there are any products where cost exceeds the net realisable value then that cost excess is reallocated to the driver product group.

Financial Assets

NZBS classifies its financial assets within the scope of PBE IFRS 9 *Financial Instruments* into the following three categories: (1) Financial assets at fair value through surplus or deficit, (2) Financial assets at amortised cost, and (3) Financial assets at fair value through other comprehensive revenue or expense.

Financial assets are initially measured at fair value plus transaction costs unless they are carried at fair value through profit or loss in which case the transaction costs are recognised in the surplus or deficit.

Purchases and sales of investments are recognised on trade date, the date on which NZBS commits to purchase or sell the asset. Financial assets are derecognised when the rights to receive cash flows from the financial assets have expired or have been transferred and NZBS has transferred substantially all the risks and rewards of ownership.

The fair value of financial instruments traded in active markets is based on quoted market prices at the balance date. The quoted market price used is the current bid price.

The fair value of financial instruments that are not traded in an active market is determined using valuation techniques. NZBS uses a variety of methods and makes assumptions that are based on market conditions existing at each balance date. Quoted market prices or dealer quotes for similar instruments are used for long-term debt instruments held. Other techniques, such as estimated discounted cash flows, are used to determine fair value for the remaining financial instruments.

The subsequent measurement of financial assets depends on their classification. NZBS classifies financial assets into three categories depending on their contractual cash flow characteristics and NZBS's business model for managing financial assets.

The categories of financial assets are:

Category (1) - Financial assets at fair value through surplus or deficit

This category has two sub-categories: financial assets held for trading, and those designated at fair value through surplus or deficit at inception. A financial asset is classified in this category if acquired principally for the purpose of selling in the short term or if so designated by management to eliminate or significantly reduce an accounting mismatch.

Derivatives are also categorised as held for trading unless they are designated as hedges. Assets in this category are classified as current assets if they are either held for trading or are expected to be realised within 12 months of the balance date.

After initial recognition they are measured at their fair values. Gains or losses on re-measurement are recognised in the surplus or deficit.

Category (2) - Financial assets at amortised cost

A financial asset is measured at amortised cost only if both of the following conditions are met:

- It is held within a business model with an objective to hold assets in order to collect contractual cash flows; and
- The contractual terms of the financial asset give rise to cash flows that are solely payments of principal and interest.

After initial recognition they are measured at amortised cost using the effective interest method, less impairment. Gains and losses when the asset is impaired or derecognised are recognised in the surplus or deficit.

Category (3) - Financial assets at fair value through other comprehensive revenue or expense

A financial asset is measured at fair value through other comprehensive revenue or expense if both the following conditions are met:

- The financial asset is held within a business model whose objective is to hold financial assets in order to collect contractual cash flows; and
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Impairment of Financial Assets

At each balance date NZBS assesses whether there is any objective evidence that a financial asset or group of financial assets is impaired. Any impairment losses are recognised in the surplus or deficit. The loss allowance is measured based on expected credit losses, taking into account external factors and forward-looking indicators. NZBS has recognised a loss allowance in relation to trade and other receivables measured at amortised cost. The methodology applied is described in more detail in 'Trade and other receivables' section.

Financial Liabilities

NZBS classifies its financial liabilities within the scope of PBE IFRS 9 *Financial Instruments* as either financial liabilities at fair value through surplus or deficit or financial liabilities at amortised cost. The classification of financial liabilities are determined on initial recognition. NZBS may choose at initial recognition to designate a financial liability as at fair value through surplus or deficit if doing so eliminates or significantly reduces an accounting mismatch.

All financial liabilities of NZBS are measured at amortised cost except derivative financial instruments which are measured at fair value. Gains or losses on re-measurement are recognised in the surplus or deficit.

All financial liabilities are recognised initially at fair value, and in the case of loans and borrowings, plus directly attributable transaction costs.

NZBS's financial liabilities include trade and other payables, loans and borrowings.

Foreign Currency Translation

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Transactions denominated in foreign currency are reported at the reporting date by applying the exchange rate on that date. Foreign exchange gains and losses resulting from the settlement of such transactions are recognised in the surplus or deficit.

Accounting for Derivative Financial Instruments and Hedging Activities

NZBS uses derivative financial instruments to manage exposure to foreign exchange risks arising from financing activities. In accordance with its Treasury Management Policy, NZBS does not hold or issue derivative financial instruments for trading purposes. NZBS has not adopted hedge accounting.

Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently re-measured at their fair value at each balance date. The resulting gain or loss is recognised in the surplus or deficit.

Property, Plant and Equipment

Property, plant and equipment consists of operational assets which include plant and equipment, computer hardware, motor vehicles, furniture and fittings / office equipment and leasehold improvements.

Property, plant and equipment is shown at cost less accumulated depreciation and impairment losses.

Additions

The cost of an item of property, plant and equipment is recognised as an asset if, and only if, it is probable that future economic benefits or service potential associated with the item will flow to NZBS and the cost of the item can be measured reliably.

Property, plant and equipment is initially recognised at cost. Where an asset is acquired at no cost, or for a nominal cost, it is recognised at fair value as at the date of acquisition.

Work in progress is recognised at cost less impairment and is not depreciated.

Disposals

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount of the asset. Gains and losses on disposals are included in the surplus or deficit.

Subsequent costs

The cost of replacing or improving part of an item of property, plant and equipment is recognised in the carrying amount of an item. The costs of day-to-day servicing of property, plant and equipment are recognised as incurred in the surplus or deficit.

Depreciation

Depreciation is provided on a straight-line basis on all property, plant and equipment, at rates that will write off the cost of the assets to their estimated residual values over their useful lives.
The useful lives of major classes of assets have been estimated as follows:

Computer equipment:	- 3 to 6 years
Furniture and fittings:	- 5 to10 years
Motor vehicles:	- 3 to 4 years
Plant and equipment:	- 5 to10 years
Leasehold improvements:	- Shorter of term of lease or useful life

The residual value and useful life of an asset is reviewed, and adjusted if applicable, at each financial year end.

Intangible Assets

Acquired computer software licenses are capitalised on the basis of the costs incurred to acquire and bring to use the specific software.

Costs associated with maintaining computer software are recognised as an expense when incurred.

Amortisation

The carrying value of an intangible asset with a finite life is amortised on a straight-line basis over its useful life. Amortisation begins when the asset is available for use and ceases at the date that the asset is derecognised. The amortisation charge for each period is recognised in the surplus or deficit.

The useful lives of major classes of intangible assets have been estimated as follows:

Computer software - 3 years

Computer software - blood management system (eProgesa) - 10 years

Computer software - blood bank system (eTraceline) - 10 years

Changes in the expected useful life or the expected pattern of consumption are treated as changes in accounting estimates.

Intangible assets with a finite useful life are assessed for impairment whenever there is an indication that the asset may be impaired.

Impairment of Non-Financial Assets

NZBS does not hold any cash-generating assets. Assets are considered cash-generating where their primary objective is to generate a commercial return.

Non-Cash-Generating Assets

Property, plant, and equipment and intangible assets held at cost that have a finite useful life are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable service amount. The recoverable service amount is the higher of an asset's fair value less costs to sell and value in use.

Value in use is determined using an approach based on either a depreciated replacement cost approach, restoration cost approach, or a service units approach. The most appropriate approach used to measure value in use depends on the nature of the impairment and availability of information.

If an asset's carrying amount exceeds its recoverable service amount, the asset is regarded as impaired and the carrying amount is written-down to the recoverable amount. The total impairment loss is recognised in the surplus or deficit.

The reversal of an impairment loss is recognised in the surplus or deficit.

Creditors and Other Payables

Creditors and other payables are classified as financial liabilities measured at amortised cost. As these are short term in nature the carrying amount is considered to be a reasonable approximation of fair value.

Employee Benefits

- **Short-term benefits**

  Employee benefits that NZBS expects to be settled within 12 months of balance date are measured at nominal values based on accrued entitlements at current rates of pay. These include salaries and wages accrued up to balance date, annual leave earned to, but not yet taken at balance date, retiring and long service leave entitlements expected to be settled within 12 months, and sick leave.

  NZBS recognises a liability for sick leave to the extent that absences in the coming year are expected to be greater than the sick leave entitlements earned in the coming year. The amount is calculated based on the unused sick leave entitlement that can be carried forward at balance date, to the extent that NZBS anticipates it will be used by staff to cover those future absences.

  NZBS recognises a liability and an expense for bonuses where contractually obliged or where there is a past practice that has created a constructive obligation.

- **Long-term benefits**

  Long service leave and retirement leave

  Entitlements that are payable beyond 12 months, such as long service leave and retirement gratuities, have been calculated on an actuarial basis. The calculations are based on:

  - Likely future entitlements accruing to staff, based on years (of service years) to entitlement, the likelihood that staff will reach the point of entitlement and contractual entitlements information; and

  - The present value of the estimated future cash flows. The discount rate is based on the weighted average of Government interest rates for stock with terms to maturity similar to those of the relevant liabilities. The inflation factor is based on the expected long-term increase in remuneration for employees.

Superannuation Schemes

Defined contribution schemes

Obligations for contributions to defined contribution superannuation schemes are recognised as an expense in the surplus or deficit.

Defined benefit schemes

NZBS belongs to the Defined Benefit Plan Contributors Scheme (the scheme), which is managed by the Board of Trustees of the National Provident Fund. The scheme is a multi-employer defined benefit scheme.

Insufficient information is available to use defined benefit accounting, as it is not possible to determine from the terms of the scheme, the extent to which the surplus/deficit will affect future contributions by individual employers, as there is no prescribed basis for allocation. The scheme is therefore accounted for as a defined contribution scheme.

Provisions

NZBS recognises a provision for future expenditure of uncertain amount or timing when there is a present obligation (either legal or constructive) as a result of a past event, it is probable that expenditures will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

Provisions are not recognised for future operating losses.

Provisions are measured at the present value of the expenditures expected to be required to settle then obligation using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the obligation. The increase in the provision due to the passage of time is recognised as an interest expense.

Borrowings

Borrowings are initially recognised at their fair value. After initial recognition, all borrowings are measured at amortised cost using the effective interest method.

Borrowings are classified as current liabilities unless NZBS has an unconditional right to defer settlement of the liability for at least 12 months after balance date.

Adverse Fractionation Event Reserve and Matching Investment Funds

NZBS collects source plasma and contracts a third party to manufacture that source plasma, via a complex series of processes known as fractionation, to produce a range of derived fractionation products for use within the New Zealand health sector. The manufacturing contract clearly defines the party's respective risks and responsibilities inclusive of financial risk attribution should certain of those risks inherent in the manufacturing process occur. NZBS attributed financial risks have, based on historical performance, been classified as being of low frequency but with a potentially high financial impact if an event did occur.

Accordingly, NZBS has elected to mitigate this manufacturing financial risk with the establishment of the Adverse Fractionation Event Policy that mandates the establishment of an Adverse Fractionation Event Reserve within the Equity section of the Statement of Financial Position that is complemented by a matching term deposit fund to ensure access to liquidity in the event of an adverse event occurring.

Under this policy NZBS is required to assess, on an annual basis, the upper level of potential financial risk, the current level of the reserve and whether further funds should be transferred to the reserve with matching liquidity also required to be then set aside.

Equity

Equity is the Crown's interest in NZBS.

The components of equity are:

- *Crown Equity* - Crown Equity is the net asset and liability position at the time NZBS was established plus any subsequent equity injections.
- *Accumulated Comprehensive Revenue and Expense* - is the accumulated surplus/deficit since NZBS establishment.
- *Adverse Fractionation Event Reserve* - is the transfer from accumulated comprehensive revenue and expense commencing financial year ending 30 June 2015. The reserve has been established to mitigate the financial manufacturing risk associated with the production of fractionated derived products.

Good and Service Tax (GST)

All items in the financial statements are stated exclusive of GST, except for receivables and payables, which are stated on a GST inclusive basis. Where GST is not recoverable as input tax then it is recognised as part of the related asset or expense.

The net amount of GST recoverable from, or payable to, the Inland Revenue Department (IRD) is included as part of receivables or payables in the Statement of Financial Position. The net GST paid to, or received from the IRD, including the GST relating to investing and financing activities, is classified as an operating cash flow in the statement of cash flows.

Commitments and contingencies are disclosed exclusive of GST.

Taxation

NZBS is a statutory corporation under the New Zealand Public Health & Disability Act 2000 and is exempt from income tax under Section CW38 of the Income Tax Act 2007.

Budget Figures

The budget figures are those approved by the Board of NZBS at the beginning of the year as presented in the *Annual Statement of Performance Expectations*. The budget figures have been prepared in accordance with NZ GAAP and comply with NZ GAAP, using accounting policies that are consistent with those adopted by the Board for the preparation of the financial statements.

Critical Accounting Estimates and Assumptions

In preparing these financial statements NZBS has made estimates and assumptions concerning the future. These estimates and assumptions may differ from the subsequent actual results. Estimates and assumptions are continually evaluated and are based on historical experience and other known or expected factors, including expectations or future events that are believed to be reasonable under the circumstances. Where this is the case the basis of those assumptions are detailed in the relevant accounting policy and / or Section 3.2 of this document.

Critical Judgements in Applying the NZBS Accounting Policies

In preparing these financial statements NZBS management has made judgements in applying the NZBS accounting policies. These judgements have been applied consistently to all periods presented in these financial statements. There are no material judgements that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities that need disclosing.

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