

# Blood 2020

A strategy for the blood supply  
in England and North Wales



**Save a life  
Give blood**

# About NHS Blood and Transplant

## Saving and improving lives

NHS Blood and Transplant (NHSBT) is a Special Health Authority in England and Wales dedicated to saving and improving lives through the wide range of services we provide to the NHS.

Our challenge is to provide a safe and reliable supply of blood components, diagnostic and stem cell services to hospitals in England and North Wales and tissues and solid organs to hospitals across the UK.

We collect voluntary donations from people from all walks of life, prepare them for use, dispatch them to hospitals and match them to patients who desperately need them. Each year our donors give about 1.7 million blood donations and about 4,000 organs, saving and transforming thousands of lives.

Our therapeutic services teams work with hospital clinicians to provide patients with life-saving treatments for conditions such as leukaemia. Our diagnostic work helps find the right treatment for patients with rare blood conditions and our translational research programme means we're constantly aiming to develop safer and more effective treatments.

As an organisation we are motivated by our values. They set out what we stand for and what matters to us. They are:

- **Caring** about our donors, their families, our colleagues and the patients we serve
- Being **expert** in meeting the needs of our external and internal customers and partners
- Providing **quality** products, services and experiences for donors, colleagues and patients.

Our purpose is to save and improve lives.

Our ambition is to be the best organisation of our type in the world.

---

For more information

Visit **[nhsbt.nhs.uk](https://nhsbt.nhs.uk)**

Email **[enquiries@nhsbt.nhs.uk](mailto:enquiries@nhsbt.nhs.uk)**

Call **0300 123 23 23**



# Contents

<b>Foreword</b>	4
<b>Section 1</b> Summary	5
<b>Section 2</b> Four Pillar Strategy	6
Pillar 1 Blood Donation and Donor Experience	7
Pillar 2 Manufacturing Operations	10
Pillar 3 Hospital Interface and Customer Service	12
Pillar 4 Integration with Hospitals	15
<b>Section 3</b> Finances	18
<b>Section 4</b> Measuring Success – KPIs	19

“£50m a year in savings delivered to the NHS.”

# Foreword

The safe, sufficient and timely supply of blood to NHS patients is vital to saving lives. It is NHS Blood and Transplant's responsibility to ensure the NHS receives the blood it needs to treat thousands of patients every year. At the core of this operation are the donors who voluntarily give their time to donate blood or platelets for the benefit of other people they will probably never meet.

These donations are processed within NHSBT's facilities making the products used to treat a range of conditions including: anaemia; cancer; sickle cell disease; those recovering after a bone marrow transplant; leukaemia sufferers post chemotherapy; people with haemophilia; pregnant women with certain conditions or during childbirth; and of course, for use in emergencies.

In the ten years that NHS Blood and Transplant has been managing the blood supply it has introduced new safety measures and improved stock levels of these short shelf life products. It has also delivered significant efficiencies reducing the price of red cells from £140 to £122 in real terms and after accounting for inflation – with an ambition to keep it there or lower it further. This is now delivering savings in excess of £50m per annum, savings the NHS can invest in frontline patient care.

Building on these successes, *Blood 2020 - A strategy for the blood supply in England and North Wales* sets out a range of actions to deliver a significant step-change in performance for the benefit of patients and the wider NHS while keeping the needs of its altruistic donors front of mind.

NHS Blood and Transplant will continue to use its knowledge and expertise to improve transfusion practice and to innovate and integrate its services with the wider NHS. To better match donated blood to patients in need, it will explore the potential benefits of patient and donor genotyping. It will continue to modernise its manufacturing operations to be the best in the world. It will invest in improving the NHS hospital customer experience so that it is as effective and efficient as possible. It will also use new technologies and continue to invest in its workforce to give blood donors an excellent experience, while adapting its donation programme to meet the changing demand for blood in the NHS.

This strategy builds on the excellent progress to date and gives clear direction for the years ahead, with the ambition to deliver the world's best blood service. Most importantly, it has at its heart the need to deliver an excellent and expert service to NHS hospitals, donors and patients.



**John Pattullo**  
Chair of NHS Blood and Transplant



**Jane Ellison**  
Minister for Public Health

## Section 1

# Summary

NHS Blood and Transplant aims to provide a safe, cost-effective and sustainable blood supply, and to provide excellent service to NHS hospitals, patients and donors.

*Blood 2020 - A strategy for the blood supply in England and North Wales* outlines a range of initiatives and activities that will help us achieve our ambition to be the best organisation of our type in the world. From donor to patient we will use technology to improve the experience and extend our 24/7 service. We will draw on world leading research and innovation to improve our products. We will continue to work with hospitals to improve blood usage and integrate our service.

We will also work with the Welsh Government to support the smooth transition to an All Wales Blood Service by 2016. We will ensure that our donors, customers and patients in North Wales are appropriately engaged with the changes.

The long-term strategy is based upon four pillars:

1. Delivering an excellent blood donation and donor experience to ensure a sustainable blood donor base
2. Manufacturing blood products for NHS hospitals with high levels of productivity, regulatory compliance and order fulfilment
3. Ensuring excellent tailored customer service for our NHS hospital customers
4. Driving improved patient outcomes and reducing total costs by integrating our operations with key hospitals and networks.

This document describes the four pillars in more detail, provides supporting financial analysis and sets out how we will measure success through our agreed key performance indicators. Detailed action plans and progress towards our goals will be published in the overarching rolling NHS Blood and Transplant Strategic Plan available at [www.nhsbt.nhs.uk](http://www.nhsbt.nhs.uk).

We rely entirely on the voluntary donation of blood and are acutely aware that thousands of NHS patients benefit from the products and services we make from these donations every year. As we look to 2020 this strategy will ensure we maintain a safe and sustainable supply of blood, continue to deliver financial efficiencies in line with broader NHS goals and meet the needs of our donors, hospital customers and patients.

To achieve this we will focus on:

- **Donors:** providing a safe donation experience, and a modern, attractive and easy to use service with high levels of customer service
- **Hospitals:** providing NHS hospitals with a safe, sustainable, timely and cost-effective blood supply with a high level of availability for routine and specialist components. In addition, providing leadership in transfusion medicine with a high level of technical, clinical and patient blood management support
- **Patients:** ensuring the safe and timely provision of blood, with effective matching of blood including rare blood groups.

“A strategy to be the best blood service in the world.”





## Section 2

# Four Pillar Strategy

The table below summarises the four pillars that underpin the strategy and outlines the key changes required for successful delivery of the strategy **by 2020**.

Pillar	Vision 2020	Key Changes
<b>1</b> <b>Blood donation and donor experience</b>	A modern and more productive collection model with increased donor satisfaction underpinned by segmented donor marketing matched to patient need and demand.	<p>Develop more and make better use of technology to improve the donor experience before, during and after donating.</p> <p>Continue to move to larger and longer mobile sessions which are more efficient and productive and should offer more opportunities for donors to donate.</p> <p>Offer more collection sessions in our static centres.</p> <p>Use segmented marketing to ensure we meet the need for specialist products.</p> <p>Continue the strategy to reduce the collection of platelets by apheresis.</p> <p>Explore donor genotyping to better match products to patients in need.</p>
<b>2</b> <b>Manufacturing operations</b>	High quality, productive manufacturing services, meeting hospital need while maintaining appropriate stock levels.	<p>Move to 24/7 manufacturing and testing</p> <p>Improve forecasting at hospital and blood group level through our new planning and control system (PCS).</p> <p>Consolidate our donor records and review quality monitoring as part of service improvement</p> <p>Build on our success in applying lean methodology and focus on our culture to improve processes and drive out waste.</p>
<b>3</b> <b>Customer service and hospital interface</b>	Flexible and tailored hospital customer service. High levels of satisfaction delivered through a modern single interface with hospitals. Stock integration with hospitals. Flat red cell price for two years with alternative price mechanism at year three.	<p>Develop a single customer portal to support flexible and paperless interaction.</p> <p>Offer tailored delivery options supported by our transport management system (TMS).</p> <p>NHS Blood and Transplant manage stocks of 110 hospitals using Vendor Managed Inventory (VMI) techniques</p> <p>Implement NICE and NHS England transfusion guidelines for Patient Blood Management (PBM).</p> <p>Offer menu-based service packages supporting unit red cell price.</p> <p>Continued investment in Patient Blood Management (PBM) programme.</p>
<b>4</b> <b>Integration with hospitals</b>	Integrated supply and demand planning from donor to patient. Maximise benefits of patient genotyping. Optimised Red Cell Immunohaematology (RCI) service. Integration with key hospitals / networks.	<p>Expand the Planning and Control System/ VMI to drive improved matching of demand and supply.</p> <p>Develop a national database of genotyped multi-transfused patients, supported by donor genotyping.</p> <p>Extend services and form transfusion networks with the aim of improving transfusion standards and reduce cost.</p> <p>Deliver improved RCI service: extended hours, improved sample logistics, Electronic Data Interchange, high throughput testing capability.</p>

## Pillar 1

# Blood Donation and Donor Experience

**We have identified five key challenges which we will address over the coming five years.**

## Challenge One: Sufficiency of supply

We will move to segmented recruitment and management of our donors. We cannot continue to rely on meeting demand by increasing frequency of donation - particularly for blood group O negative.

We will:

- **Move to segmented recruitment and management** of our donor base to allow special patient needs to be met more consistently.
- **Run segmented donor recruitment campaigns so that we have a resilient whole blood and platelet donor base.** This is so that we can meet demand by blood group every day without "fire fighting". This will require recruiting up to 205,000 new whole blood donors per year based on current demand forecasts, with a particular focus on O negative and B negative donors and maintaining the current platelet donor base at 13,000 donors.
- **Implement a more flexible donor invitation process** so that we can respond to changes in demand and enable specialist patient needs to be met more reliably.
- **Increase number of focused sessions** in line with the segmented recruitment and management of donors, for example more sessions in areas with large numbers of black Asian and minority ethnic (BAME) populations so that we have a diverse donor population to meet diverse patient needs.

- **Assess the efficacy and cost-effectiveness of donor genotyping.** Transfusion medicine is moving towards more personalised products for patients, in particular for those more at risk of transfusion complications. These patients are those who are multi transfused, especially those with sickle cell disease. Typing of donors for relevant antigens is currently being done by serological methods but larger scale donor-patient genotyping has the potential to facilitate more accurate testing and better matching of blood components for patients. It could also include other tests such as sickle haemoglobin screening
- **Assess implications of the Interval Study following its completion.** We will analyse the results of the trial started in 2012, this may enable us to reduce the interval donation for some of our donors and therefore might create further opportunities to tailor donor frequency.

**Katie**  
(donating every 12 weeks on the interval study)

"I started donating after my mother had an accident and needed eight pints of blood.

When I saw the information about the Interval Study I thought it sounded very worthwhile, so I signed up."



**“Greater personalisation of products for patients.”**

## Challenge Two: Modernisation/ securing the donor base of the future

We will modernise our blood donation sessions and the way we interact with donors to secure the donor base of the future.

We will:

- **Continue building** on the success of our website with the aim of having 80% of donors using it by 2020
- **Implement a paperless solution** for the invitation and Donor Health Check process
- Continue with the **migration of our donor communications towards smart mobile devices** and recruitment mainly online
- **Have the majority of our sessions with online connectivity** to our systems providing up-to-date access to donor information and electronic reconciliation at the bedside
- **Evaluate the move towards an appointment only service.** Donations by appointment have been growing over the last five years; from 53% to more than 83% in 2014. Appointment availability is the main area of donor complaint and managing better the mix of appointment and walk-ins will improve our service to donors.

“Greater use of 24/7 online channels improving communications with donors and potential donors.”

## Challenge Three: Deliver a step change in performance

We are putting in place the right organisational structure to deliver a step change in our performance.

We will:

- **Complete the implementation of our new organisational structure** – with clear lines of accountability.
- **Introduce and embed effective performance management tools**
- **Upgrade blood donation forecast and planning tools** to help us plan better to meet hospital demand and only call in donors when we need them.

“Matching donation to patient demand.”

“Just logged onto the BLOOD website... new booking system...absolutely brilliant. Well done... really pleased” Neil (blood donor)





### Challenge Four: Excelling at customer service for our donors

We need to meet donors' increasing expectations by improving the session experience and environment.

The overall aspiration would be to increase donor satisfaction above 75% and lower complainants per million to 3,500 by 2020. We will:

- **Reduce on-session and post-session adverse events** such as faints, re-bleeds and bruises. This will lead to an overall improvement in experience for donors and an improved return rate
- **Enhance our staff customer service skills** reducing the variation in experience for donors
- **Explore options to introduce a non-invasive haemoglobin (Hb) test**
- **Upgrade venues, make better use of marketing materials and modernise donor centres.** We aim to have modern, WiFi-enabled, fit-for-purpose donor centres with free parking where possible
- **Introduce more structured and proactive involvement of our existing volunteers to support donor experience on session.**

“ Give donors an excellent experience on session. ”

### Challenge Five: Improve efficiency and productivity

We will aim to maintain a flat or lower blood price to our NHS hospital customers.

We continually strive to identify ways to operate more efficiently and to maintain a flat or lower blood price to our NHS hospital customers. To improve productivity we will:

- **Consolidate sessions towards nine beds as a standard:** The aim is to improve efficiency by increasing the percentage of nine bed sessions from 47% in 2014/15 to 65% by 2020.
- **Increase donations in static centres** – use the freed-up capacity in our static centres following the reduction of apheresis platelet collection to collect more whole blood donations with two more static centres collecting only, or largely, whole blood similar to the West End donor centre in central London
- **Increase the mobile session bleeding time from 4.5 hours, on average, to 5 hours** by a combination of less travel, leaner set up process and continuous sessions
- **Invest in and use technology** on session to improve the donor experience
- **Reduce apheresis donations towards 40% following a review of the current activity to reduce to 60%.**

“ Keeping the blood price flat or lower than £122 a unit in the face of falling demand and increasing costs. ”

“ Greater 24/7 working in manufacturing to improve our responsiveness to hospitals. ”

## Pillar 2

# Manufacturing operations

We have transformed our manufacturing operations in recent years successfully consolidating our manufacturing and testing sites. We have adopted new working practices by applying the Lean methodology. We have invested in developing an integrated supply chain approach giving us a clearer picture of, and support in, balancing supply to meet demand.

This has led to an increase in productivity since 2008/09 of 75% in manufacturing and 98% in testing, placing both functions in the top quartile of the European Blood Alliance (EBA) benchmarking scheme.

This provides a firm foundation for strong performance throughout the operations. The ethos of continuous improvement is becoming embedded into daily operations and will continue to deliver incremental improvements in quality, service and efficiency.

Manufacturing operations have four challenges in support of the 2020 strategy.

### Challenge One: Sufficiency of supply

We aim to meet 99% of all customer orders for products including specialist products on time and in full.

A move towards 24/7 working across all manufacturing sites will ensure we can make the best of every donation, maximise the use of equipment and ensure flexibility to respond quickly to changes in volume and component specification.

We will:

- **Review our manufacturing sites with the aim of moving to working 24/7**
- **Implement standard scheduling and manufacturing practices** building on best Lean practices
- **Introduce Planning and Control Systems** which will improve demand forecasts.

In 2009 we conducted our first Lean event in manufacturing operations which rapidly produced improvements in productivity and quality and led to Lean methodology being rolled out across manufacturing operations.

Today, the Lean approach is becoming progressively embedded across all sites. An infrastructure has been established with ten operations staff in full time positions dedicated to driving forward continuous improvement. Four hundred and fifty staff have participated in Lean events to streamline our processes and improve productivity.



Green level training has been provided for 360 staff and we now have more than 120 staff achieving bronze, silver or gold level in Lean.

### Challenge Two: modernisation of manufacturing operations

We will increase levels of automation to increase efficiency of the blood supply chain.

Within the blood supply chain, there are areas where the processes are mainly manual, e.g. handling of testing samples, some manufacturing operations and labelling within hospital services. The introduction of more automation in some processes of the blood supply chain could improve efficiency and productivity.

### Challenge Three: Deliver a step change in performance in manufacturing operations

We need to have a customer focused, flexible, innovative and multi-skilled workforce with an embedded culture of quality and safety.

We will:

- **Introduce further operational improvements with a focus on efficiency and quality**
- **Develop leadership skills in all departmental managers.**

“**Top quartile in Europe for productivity in manufacturing and testing.**”

### Challenge Four: Improve efficiency and productivity

We want to continue improving our manufacturing and testing productivity.

We will:

- **Consolidate donor records to fewer sites**
- **Introduce standard processes using lean techniques**
- **Review testing processes/operating model** to drive a step change in productivity
- **Optimise hospital services** with the aspiration to increase productivity.

“**Continued use of Lean techniques to improve productivity.**”



“ Reduce unnecessary blood usage by 4 units per thousand population in line with world wide best in class healthcare systems. ”

### Pillar 3

# Hospital Interface and Customer Service

**In 2014 70% of NHS hospitals rated our services a 9/10 or 10/10 citing our consistent safe supply, strong clinical and educational support and improved electronic interfaces as particular strengths. There are also areas where we need to improve which will be our focus for the next five years of the strategy.**

## Challenge One: Patient Blood Management and transfusion training

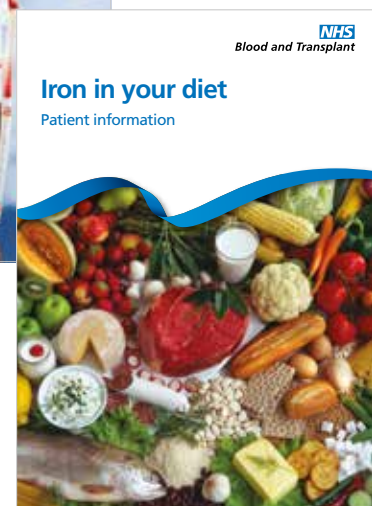
We will continue to drive the safe and appropriate use of blood in hospitals and to ensure that transfusion is evidence-based.

Following the launch of Patient Blood Management (PBM) in June 2012 red cell issues reduced by 3.4% and have reduced by a further 4.4% in 2013/14 through encouraging better clinical practice.

The key themes of the programme are based around determining appropriate transfusion triggers, managing anaemia and intra- and post-operative management. Currently, blood demand is 31 units per thousand population (ptp). However, comparable healthcare systems overseas with well-established PBM programmes and well-resourced blood services have achieved 27 units ptp and this is NHSBT's expectation for 2020.

We will:

- Continue to invest in encouraging the safe and appropriate use of blood through our rolling Patient Blood Management (PBM) programme of education for NHS hospitals
- Continue to invest in research and development, resulting in significant publications in high impact medical journals
- Continue to support transfusion training for hospital staff.



### Challenge Two: tailored service and transport optimisation

We will tailor our service and transport system to meet the changing needs of hospitals.

We make 115,000 routine deliveries per year to hospitals and provide 43,300 “ad hoc” deliveries. We have invested in a Transport Management System (TMS), which will be rolled out in 2015/16. It will improve delivery routing, vehicle tracking and help us make the most efficient use of our vehicles. We will use the information provided by this system to review hospital delivery arrangements, minimise unnecessary stock movements and provide large hospitals with a tailored service that better meets their needs.

**“Improve the sustainability and efficiency of our deliveries through use of a Transport Management System.”**

### Challenge Three: expand the vendor-managed inventory programme

We will improve stock management, customer service and blood bank efficiency by extending automatic stock replenishment for up to 110 hospitals (70% of blood demand).

In 2013-14, we undertook a successful pilot of automatic stock replenishment with eight hospitals. They benefited from a service which increased efficiency and managed stock more effectively, while we benefited from improved stock visibility and direct access to data to inform planning processes helping to smooth orders and workload.

In 2015-16 we aim to expand the pilot to a total of 20 hospitals, supported by a fully automated Planning and Control system.

If the extended pilot is successful, we will expand the service further to 65 hospitals covering around 40% of blood demand. Longer-term, we could provide this service to around 110 hospitals representing 70% of national red cell demand.

**“Extend automatic stock replenishment to 70% of hospitals.”**

**Blackpool Teaching Hospitals NHS Foundation Trust is one of the trust taking part in the automatic stock replenishment trial.**

**“The new system links the hospital with NHS Blood and Transplant where stocks are monitored. Levels are checked and the system recognises when stocks are low. The blood is then replenished as and when it is needed. This saves us money, around £12,000 a year, and also means the blood can be directed elsewhere where it might be more urgently needed.”**



**Elaine Addison, Transfusion Laboratory Manager  
Blackpool Teaching Hospitals  
NHS Foundation Trust**



#### Challenge Four: develop a modern customer interface

We will further modernise our interface with hospitals and develop paperless interaction.

NHSBT has invested significantly in electronic systems which have been well-received by hospitals. In the future we will:

- Extend our Online Blood Ordering System (OBOS) to cover all products
- Develop a single point of access entry to our systems for customers
- Introduce a Customer Relationship Management system
- Introduce a system to support flexible pricing and paperless billing
- Refresh the software supporting the Blood Stocks Management Scheme.

“ Move to paperless interaction with hospitals. ”

#### Challenge Five: develop customer-focused operations

We will continue to develop a customer focused culture in our customer facing operations.

We will:

- **Reinforce our recently launched Customer Charter by** appointing employees as customer champions who will be the voice of the customer in helping us identify and deliver improvements to our services
- **Continue our programme of market research, focus groups and customer satisfaction surveys** to understand how to improve our services further

“ Appoint customer champions to help improve our services. ”



## Pillar 4

# Integration with hospitals – Integrated Transfusion Services

**Our hospital customers are seeking innovative ways to reduce the cost of transfusion, improve performance and productivity, and reduce blood wastage. In parallel we are seeking opportunities to better match blood to patients, get better access to blood usage and patient outcomes, improve appropriate use of our products and increase our customer satisfaction.**

Against this background we have developed the concept of an Integrated Transfusion Service (ITS). The concept sees NHS Blood and Transplant moving from a transactional relationship with hospitals to one of extended services and greater partnership.

The key components of ITS are as follows and are summarised in the table:

1. **Integration of the blood supply chain** through NHS Blood and Transplant managed blood stock inventories within hospitals
2. **Integration of patient care pathways** through a single national database of transfusion-related information
3. **Integration of transfusion diagnostics and donation selection** through the creation of NHS Blood and Transplant managed laboratory networks.

## Summary of the potential benefits of ITS

Hospitals	Blood and Transplant
<ul style="list-style-type: none"> <li>• Increased productivity and less duplication through consolidation and standardisation</li> <li>• Procurement savings</li> <li>• Higher transfusion standards</li> <li>• Improved staff competencies</li> <li>• Reduced burden of regulatory compliance</li> <li>• Reduced blood wastage and inappropriate use</li> <li>• Optimal transfusion protocols with better matching of blood</li> </ul>	<ul style="list-style-type: none"> <li>• Improved access to data on blood usage and patient outcomes</li> <li>• Improved donor scheduling</li> <li>• Reduced blood wastage and inventory</li> <li>• Improved customer satisfaction</li> <li>• Establish NHS Blood and Transplant as the “supplier of choice”</li> <li>• Enhanced leadership in transfusion</li> </ul>

The creation of an NHS Blood and Transplant managed integrated transfusion laboratory network has clear benefits for us and our customers. These include better opportunities for staff training, centralised support for regulatory compliance, better patient outcomes through access to a national database of transfusion-related information, and the provision of better matched blood used more appropriately.

The financial benefits of centralising blood transfusion through integration have not been determined, although the potential savings to the NHS associated with reconfiguring laboratory activities could be significant especially if the inappropriate use of blood can be substantially reduced through our direct intervention.

“**Delivering extended services and greater partnerships with hospitals.**”

Development of the ITS concept has three challenges:

### **Challenge One: Optimising Red Cell Immunohaematology (RCI)**

We need to optimise RCI to build the competencies required for future extended services and integration.

The ITS concept requires significant development of the RCI laboratories which currently focus on low volume, highly specialist investigations. We will do this by:

- **Extending the working day** to meet changing customer needs, to support the referral of investigations out-of-hours and to improve turnaround times
- **Investing in and developing our leadership capability and customer service skills for staff**
- **Improving sample logistics – to optimise efficiency and turnaround time**
- **Improving IT systems by extending our electronic reporting tool (Sp-ICE) and improving our data interchange systems**
- **Developing high-throughput testing:** new analysers with greater capacity will be introduced in each laboratory to support extended routine and antenatal testing.

“**Extended testing to meet changing hospital needs.**”



## “ Genotyping will minimise patient sensitisation through the improved selection of blood components. ”

### Challenge Two: integrating patient care pathways

We will prospectively genotype multi-transfused patients and those with sickle cell disease with the aim of optimising transfusion therapy for such patients.

There are around 10,000 people in England with sickle cell disease and around 800 with thalassaemia. The majority of these patients receive red cell transfusion therapy on multiple occasions during their lifetime. The ethnic disparity between these patients and the UK blood donor population means that a high proportion become sensitised, forming antibodies to multiple blood groups. For some patients, it becomes impossible to identify fully compatible UK donors.

We will:

- Prospectively genotype patients to minimise patient sensitisation through the improved selection of blood components
- Improve the availability of extensively typed blood components from a larger cohort of donors from Black and Minority Ethnic groups
- Develop the role of NHS Blood and Transplant medical consultants operating within multi-disciplinary teams, advising on optimal transfusion therapy for individual patients.

Our laboratories are implementing a DNA-based typing technology (Fluorogene) which allows laboratories to obtain a full genetic type for clinically-significant blood groups. Results are available in two hours from sample receipt. The test has clinical value when urgent results are required for multi-transfused patients and patients with pan-reactive auto antibodies.

We will genotype haemoglobinopathy patients resulting in the development of a database of patient blood groups held nationally, made available locally via Sp-ICE when required, and used to inform transfusion regimens for individual patients. It will also inform an improved approach to recruit, retain and type blood donors to better meet the needs of haemoglobinopathy patients.

### Challenge Three: integrating Red Cell Diagnostics: Transfusion Hubs and Associated Networks

We will work with hospitals to extend services and form transfusion networks with the aim of improving transfusion standards and reducing cost.

We anticipate forming transfusion networks centred around NHS Blood and Transplant hosted hub laboratories. Working closely with hospitals, a detailed blueprint for an integrated transfusion network based on a hub and spoke model has been developed. In this model, the hub and RCI laboratory are co-located at a Blood Centre, with RCI providing an elective routine and specialist service for the network. Spoke laboratories provide local urgent testing. Importantly, the NHS Blood and Transplant hub site is established as a focus for quality and compliance, training, innovation, technology development and service improvement, managing stock across the network.

## “ Build transfusion networks to improve standards and reduce costs. ”

## Section 3

# Finances

Our income is generated from the products and services that we provide to NHS hospitals, with prices set at levels to recover the cost that we incur. Within our 2014/15 budget, the red cell product family generates 71% of our total blood component income and remains the primary cost driver of the blood component division.

Since 2008/09 we have matched NHS efficiency requirements. Our prices are some of the lowest in the world versus comparable developed economies. In real terms, our red cell price in 2014/15 is significantly (13%) lower than it was in 2008/09, despite the impact of a lower volume of red cells now being required by hospitals (11%), cost inflation and the introduction of new safety measures.

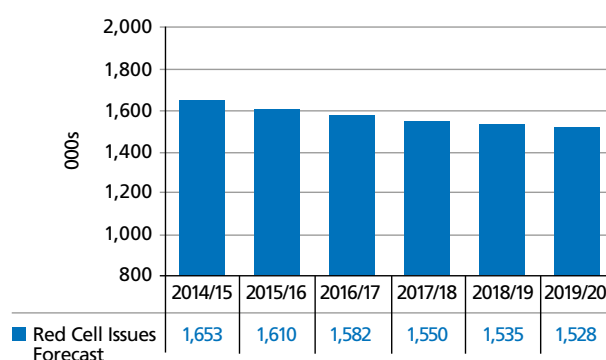
Over the next five years, we will seek to build on the significant cost reduction delivered in the price of red cells since 2008/09, with our aim to maintain flat prices (or better) for our products and services. It will be a significant challenge to continue to reduce costs in line with product demand in a period when we expect a further, sustained reduction in red cell demand from hospitals.

Our current predicted demand for blood is summarised below and is the basis of planning assumptions in this strategy:

“ Cost improvement programme of over £40m across the blood supply chain. ”

This demand forecast assumes full year impact of the “all Wales” blood service from 2016-17.

We have an ambition to keep the unit price of our standard red cells at £121.85 or lower over the course of the next five years. Keeping prices down for hospitals is based on delivering a cost improvement programme of £42.5m across the supply chain, averaging just over 3% p.a. as demand falls by a further 7.5% to ca 1.528m by the end of the period.



Over the life of this strategy it may become necessary to consider different pricing models for our products to incentivise more appropriate use of O Rh D negative red cells and to ensure we have funds to continue investing in improving our products and services.

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
<b>Whole blood issue (units)</b>	1,653,000	1,610,000	1,582,000	1,550,000	1,535,000	1,528,000
<b>O negative issue (units)</b>	198,603	195,782	194,681	193,000	193,368	194,711
<b>Platelet issues (units)</b>	275,000	279,875	284,489	289,189	295,262	301,462



## Section 4

# Measuring Success

## – Key Performance Indicators

Strategic Targets	14/15 Target	15/16 Plan	16/17 Plan	17/18 Plan	18/19 Plan	19/20 Plan
Days when stock level is below 3 days for any blood group	0	0	0	0	0	0
Number of occasions where opening stock of platelets (for any blood group) is below average daily demand	0	0	0	0	0	0
Number of donors donating over the last 12 months <sup>1</sup> (000)	911	882	867	849	841	837
Frequency of donation (overall)	1.90	1.90	1.90	1.90	1.90	1.90
Number of O neg donors donating over last 12 months <sup>2</sup> (000)	107	105	103	102	102	102
Frequency of donation of O neg donors	1.93	1.98	1.98	1.98	1.98	1.98
% of donors scoring $\geq 9/10$ in overall satisfaction	69%	70%	71%	72%	>73%	>75%
No. of complaints per million donation; ( $\leq 30\%$ reduction in five years) <sup>3</sup>	5,200	4,900	4,600	4,300	4,050	3,750
% whole blood donations in donor centres	12%	13.5%	15%	17%	>18%	>20%
% of 9 bed sessions	47%	49%	51%	55%	60%	65%
Blood donation productivity: units/FTE/year	1,352	1,370	1,450	1,490	1,600	1,700
% Orders delivered On Time and In Full	96%	96%	97%	98%	98.5%	99%
Number of critical and major non compliances at external inspection	0	0	0	0	0	0
Hospitals rating satisfaction at $\geq 9/10$	68%	70%	72%	73%	74%	75%
Hospitals served via Vendor Managed Inventory	8	20	40	65	80	110
Satisfaction with RCI at $\geq 9/10$	68%	70%	72%	73%	74%	75%
Hospital networks with extended / integrated services	0	1	2	4	5	7
Red cell usage (units per thousand population)	31	31	29	28	28	27

<sup>1</sup> Based on long term demand forecast (September 2014)

<sup>2</sup> Based on demand forecast by blood group (September 2014)

<sup>3</sup> Excluding complaints from team closures or session consolidation

---

## **NHS Blood and Transplant**

NHS Blood and Transplant (NHSBT) saves and improves lives by providing a safe, reliable and efficient supply of blood and associated services to the NHS in England and North Wales. We are the organ donor organisation for the UK and are responsible for matching and allocating donated organs.

We rely on thousands of members of the public who voluntarily donate their blood, organs, tissues and stem cells. Their generosity means each year we're able to supply around 1.9 million units of blood to hospitals in England and North Wales and around 4,200 organ and 5,800 tissue donations, which save or improve thousands of lives.

### **For more information**

**Visit** [nhsbt.nhs.uk](https://nhsbt.nhs.uk)

**Email** [enquiries@nhsbt.nhs.uk](mailto:enquiries@nhsbt.nhs.uk)

**Call** [0300 123 23 23](tel:03001232323)