

Strategic Plan 2014-15







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Donated blood saves and improves lives, as the parents of three-year-old Chester girl Erin Cross know only too well.

Little Erin is battling acute lymphoblastic leukaemia and is currently being treated at Alder Hey Children's Hospital in Liverpool.

1 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 also provide diagnostic and therapeutic services outside the UK.

We collect donations from voluntary donors, prepare them for use, dispatch them to hospitals and match them to patients who desperately need them. Each year our donors give about 1.8 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 developing safer and more effective treatments.

Our purpose is to save and improve lives. Our ambition is to be the best organisation of our type in the world.



One unit of donated blood can potentially save or improve three lives.



One organ donor can save or enhance the lives of up to nine people.



A dad who owes both his own life and the lives of his wife and his daughter to donated blood is helping to recruit new donors through a series of gruelling cycle rides and runs.

Rick Mills asks sponsors to pledge blood rather than money in exchange for him completing the challenges. Rick needed a transfusion himself as a child and then the life of his wife Kerry was saved by blood twice following complications during childbirth.

We are responsible for:

- Encouraging people to donate organs, blood, stem cells and tissues
- Optimising the safety and supply of blood, organs, stem cells and tissues and matching them to patients
- Helping to raise the quality, effectiveness and clinical outcomes of blood and transplant services
- Providing expert advice to other NHS organisations, and to the health departments of the four UK countries
- Commissioning and conducting research and development to improve outcomes for patients
- Implementing relevant EU statutory frameworks and guidance.

We depend entirely on the voluntary donation of blood, organs, stem cells and tissues. We take great pride in supporting the incredible altruism and generosity of our donors by providing the services which allow them to save and improve the lives of NHS patients.

We are operationally unique and have characteristics that are only found in similar services in other countries. Most notable is the fact that we supply blood, organs, stem cells and tissues from one organisation. In support of this we are organised into three operating divisions:

- Blood Components
- Organ Donation and Transplantation
- Diagnostic and Therapeutic Services.

Diagnostic and Therapeutic Services (DTS) is divided into a number of strategic operating units, namely:

- Tissues
- Stem Cells
- Red Cell Immunohaematology (RCI)
- Histocompatibility & Immunogenetics (H&I)
- Specialist Therapeutic Services (STS).

The following pages provide a glimpse of the scope of our work, our donors, the patients we serve and set out our priorities for the years ahead.

For more information, please visit
www.nhsbt.nhs.uk



Enfield man Roy Cole had reached almost 100 blood donations when he died suddenly aged 62 in July.

The quantity surveyor collapsed at work following a major stroke and it quickly became clear Roy would never recover.

Roy's wife Jean had passed away from cancer in 2005. As a result, it fell to the couple's three sons – Paul, James and Chris, who were only in their 20's – to agree to donate their father's organs and tissues.



2 Our strategy

This document summarises our high-level plans for 2014-15. It is supplemented by discrete strategies for each of our operating units which set out in more detail their respective aims and objectives.¹

Our ambition is simple, we want to be recognised as the best service of our type in the world, and evidence this through rigorous benchmarking and comparison of our performance.

Our strategy for the next five years is ambitious and is focused on:

- Delivering a modern world-class blood service that is responsive and attractive to our donors providing a safe and sustainable supply of blood products
- Better integration and planning of the end-to-end blood supply chain from donor through to patients providing better service at the lowest possible cost to hospitals
- Working with NHS hospitals so our services are as accessible and effective as they can be to meet patient needs
- Saving and improving more lives by facilitating the maximum number of deceased organ donations
- Matching world-class performance in organ donation and transplantation – specifically by generating a detailed action plan and funding commitment in support of the new strategy – *Taking Organ Transplantation to 2020*
- Building on our unique skills and capabilities in tissues, stem cells, diagnostic and apheresis services to deliver high-quality, cost-effective therapies for NHS patients and become a preferred supplier of cost-effective specialist services to the NHS
- Developing and delivering innovative research programmes.

In addition, and in the shorter term, we will 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.


We will also continue to support the Welsh Government as it implements the deemed consent legislation in December 2015 and deliver the new NHS Organ Donor Register (across the UK) needed to support the new law's implementation.

1. NHSBT strategies are published on our website: www.nhsbt.nhs.uk following review and approval by the Board.



Motorcycle enthusiast Pete Elliott's life was saved by a kidney transplant after suffering from polycystic kidney disease for several years.

Pete is so grateful for the new lease of life the transplant gave him, he has sponsored several top motorcycle racers to promote the Organ Donor Register on their helmets and leathers.



There are three major challenges facing us as we enter the next phase of our development as an organisation. We will address these challenges through the strategies we have in place for each business unit:

- **Reduction in hospital demand for blood** – there has been a reduction in the demand for blood over and above that planned for when we published our last strategic plan. Demand dropped from a predicted 1.8 million red cell units to 1.708 million actual issued units in 2013-14. This is the result of a number of changes – including advances in medical practice and the success of our own programme to improve the appropriate use and management of blood by our hospital customers. As such we welcome the reduction in hospital blood use. However, the challenge for us is to successfully deliver cost savings over the next two years so we can maintain the flat pricing for blood over the period of this strategy.
- **Increase in deceased organ donation** – there has been an ongoing increase in the number of deceased organ donations across the UK, especially in the first half of 2013-14. This increase in activity is very welcome and will help save and improve more lives than ever. But increased activity increases our costs – especially in organ retrieval, a service that we commission. We will work with the four UK Health Departments to agree both the short and longer-term solutions to sustaining the UK wide transplant programme.
- **Matching world-class performance in organ donation and transplantation** – there is a need to invest in the infrastructure supporting the organ donation pathway so that it is resilient and can safely support increased activity. At the same time we have committed to increase consent/authorisation rates. We are working with others to change attitudes to organ donation and make it a normal part of end of life care.

Taken together our plan and the challenges we face are complex requiring change across our operations in the short and long-term. They also require substantial investment in supporting IT systems and processes. The potential benefits are, however, significant. As well as ensuring the ongoing safety and resilience of the critical products and services that we provide, we will be capable of generating better therapies for patients and delivering further demonstrable improvement in value for money to NHS hospitals.

We remain acutely aware of the financial pressures facing public sector services and, in particular, our NHS hospital customers. We work on the basis that every £1 saved on the price of our products and services is £1 available to treat patients.



Nitin Shukla has been a dedicated blood and platelet donor for 21 years and knows how important it is for people from different ethnic backgrounds to donate.

3 Caring for donors

Over six thousand donors give blood every day, some also choose to become stem cell and living organ donors. Every year, hundreds of people support the decision of their loved one to donate their organs after their death, or make this decision on their behalf, so turning the loss of someone close into the ultimate gift of life to others. Our priority is to ensure that we care for those generous individuals and their families as best as we possibly can.

We are proud that our services support the altruism and generosity of our donors.

In 2013-14 they:

- donated 2.0 million units of whole blood and platelets
- provided 4,650 organs for transplant²
- made 5,400 tissue donations³
- added 2,400 cord blood units to the NHS Cord Blood Bank.

These precious donations helped save and improve thousands of lives.

Our donors:

20m
people on the
NHS Organ Donor Register (ODR)

1.3m
registered blood and
platelet donors

300,000
stem cell donors on the British
Bone Marrow Registry (BBMR)

20,000
cord blood donations in
the NHS Cord Blood Bank

2. Includes living and deceased donors (subject to validation).

3. Subject to validation.

Blood and platelet donors

We are proud to have 1.3 million active voluntary blood and platelet donors in England and North Wales. We collect whole blood and platelets from these donors, process and test it and deliver the resulting blood components to hospitals to help save and improve patients' lives.

Our main aim is to provide donors with an accessible, safe and appealing service so they can give blood at a convenient time for them. We have 24 fixed blood donation centres across England and 88 mobile blood collection teams running about 23,000 blood collection sessions a year in communities across England and North Wales.

Our challenge is to attract donors in sufficient numbers at the right time and from the right blood group to match the needs of hospital patients.

Our aim is to secure the donor base for the future. This means that we need to recruit and retain donors across a range of age groups. In the last year we have run successful campaigns to attract 17-35 year olds as new donors and potentially the long-term donors of the future. We have however, seen an increase in donors over the age of 55, in part due to a shift of donors between the age groups. We have also worked hard to attract donors from Black, Asian and Minority (BAME) communities ensuring we meet patient need.

While the overall demand for blood is slightly less than it was, blood is always needed. However the reality is we need less of some blood groups to meet the needs of patients and more of others. This means that we need to make changes to when and where we collect blood.

In the last year we closed or merged a number of mobile collection teams and reduced the number of donation sessions overall in response to the reduced demand for blood products.

The donor digital experience

In November 2013 we made a series of changes to our website – blood.co.uk – which gives donors online real-time access to their donation history and the added convenience of booking their appointments online.

The system is fully secure and lets donors create their own online account which links to their existing records and gives them details about their donation history, blood group and personal details. Using the system donors can book, cancel or update donation appointments online without having to phone.

This offers a more efficient registration process for both new and existing donors and builds on our approach to engage donors digitally which includes a Facebook community of 300,000 – the largest of any blood service in the world. In 2014-15 we will continue with this work further developing our website and introduce smart phone apps.



We constantly keep our collection programme under review. If needed we will make more changes to ensure the blood we collect meets patient need and we do not waste precious donations.

We will also look to optimise the way our blood sessions are run. In some places we may merge teams or collect at larger sessions less often to reduce the cost to the NHS of collecting blood.

We need to modernise our blood collection operations. We will continue to offer donors a mixture of pre-booked and walk-in appointments, as this is what they tell us they want.

We want donors to leave a session looking forward to coming back. Current donor satisfaction is 68% (donors rating our service as 9 or 10 out of 10). We want to improve this through a mixture of technology and delivering great personal experiences on session.

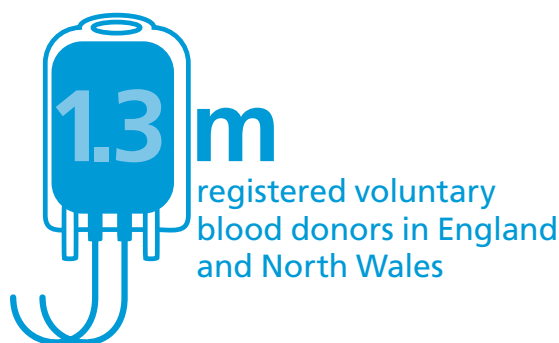
We are continuing to refurbish and modernise our fixed donor centres to make them more welcoming and attractive environments. We are investing in technology so that donors and staff can access information online. This will reduce paperwork and save administrative time on sessions, enabling our staff to focus on caring for our loyal donors.

Technology and smart phone devices are changing the way people interact with organisations. The ability to stay connected and be more productive or have social interactions no matter where we are is becoming an expectation of all organisations. Therefore, we need to invest where possible in new technology to meet those expectations where we can. We aim to have our donation sessions connected to our live systems, allowing donors to self check-in and make the Donor Health Check available online.

We are investing time and money in instilling in our teams a customer service culture aligned to the behaviours we all expect to see on session. This is a long-term investment

Our priorities:

- Retain our existing donors and attract new donors, especially those from rarer groups
- Respond to the changing demand for blood while delivering an efficient and convenient service
- Build on our blood website and roll out more technology to modernise our sessions and service
- Complete our research into donors' optimal donation frequency.



which ensures our values of Caring, Expert and Quality really shine through for our donors on sessions or in their online or phone interactions.

We will continue to build on successful initiatives to improve donor safety and experience through reduction in fainting, bruising and re-bleeding.

Our priorities:

- Publish our Organ Donation Behaviour Change Strategy aimed at delivering a revolution in public attitudes to consent /authorisation to organ donation
- Increase representation of Black, Asian and Minority (BAME) communities on the NHS Organ Donor Register Provide excellent care for donors and their families, ensuring each donor can donate as many organs as possible.

Organ donors

Since achieving the 50% increase in deceased organ donation (versus 2007-08 levels) in March 2013 we have continued to see a further increase in the growth of deceased donations to 63% in March 2014. Despite this the percentage of those who are approached to consent to their loved one becoming a donor has remained stubbornly low over recent years.

This means there is still a chronic shortage of organs available for transplant. Sadly on average three people die every day because there are not enough organs available to transplant for those who need one.

In July last year we published a new UK strategy, *Taking Organ Donation to 2020*. This set aims to build on the success of increased donation seen in recent years and identified the action needed to increase consent/authorisation rates.

The strategy (available at www.nhsbt.nhs.uk/to2020) is supported by all four UK Governments. It aims to achieve the following outcomes for organ donation and transplantation in 2020:

Outcome 1

Action by society and individuals will mean that the UK's organ donation record is amongst the best in the world and people can donate when and if they can.

Outcome 2

Action by NHS hospitals and staff will mean that the NHS routinely provides excellent care in support of organ donation and every effort is made to ensure that each donor can give as many organs as possible.

Outcome 3

Action by hospitals and staff means that more organs are usable and surgeons are better supported to transplant organs safely into the most appropriate recipient.

Outcome 4

Action by NHSBT and Commissioners means that better support systems and processes will be in place to enable more donations and transplant operations to happen.

Changing public attitudes to organ donation to increase overall consent/authorisation rates is vital. In 2014 we will publish an Organ Donation Behaviour Change Strategy, which will sit alongside the overall strategy. It sets out a short and long-term programme intended to promote a shift in behaviour and increase consent/authorisation rates from 57% to 80% by 2020.

As part of the Organ Donation Behaviour Change Strategy we will be looking to develop national strategies to promote a shift in behaviour and increase consent/authorisation which will be informed by experience across the UK.

We will ensure that it is easy to pledge support for organ donation and once a pledge has been given, to honour the individual's wish wherever possible.

We will continue our work to increase Black, Asian and Minority (BAME) community awareness of the need for donation, to benefit their own communities and provide better support for people in these communities to donate. This has been an area of recent work with partners and is supported by our publication of a Faith Engagement and Organ Donation Action Plan intended to appeal to all faiths and encourage conversations about donation to increase numbers on the ODR and long-term consent/authorisation rates.

We will continue to work with the UK Governments on the implementation of any legislative changes to organ donation. Specifically, we will support the Welsh Government as it implements the Human Transplantation (Wales) Act in December 2015 and deliver the new NHS Organ Donor Register (for the UK) needed to support the new law's implementation. We are keen to learn from the experience of legislative change in Wales and their experience of running a public awareness campaign which supports the change in law.

We will continue to make sure that every potential donor is identified, and that skilled staff have the right conversations with families so that potential donors go on to donate. As we roll out elements of the Organ Donation Behaviour Change Strategy we will be looking to learn more about how best to approach families and raise the issue of donation, whether the potential donor is on the Organ Donor Register or not.

In the meantime our Specialist Nurses in Organ Donation will continue to approach, work with and care for potential donor families. Clinical Leads in Organ Donation will continue to promote donation at Trust, Board and hospital level and our Donation Committees will continue to promote donation at local and community level.

We intend to invest further to maximise the opportunities and benefits of promoting donation in partnership with local councils, in schools, communities, faith groups and commercial partners. This work is in addition to those who already provide an opportunity to join the register such as Boots and the DVLA.

We will continue to promote both deceased and living donation across the UK through programmes such as National Transplant Week and the Order of St John recognition for donor families. These encourage people to sign up to the Organ Donor Register, tell their family and friends of their decisions to be an organ donor and celebrate the selfless gift of life given to others after death.



Our staff worked with volunteers and local hospital staff to publicise National Transplant Week.

Tissue donors

We operate the UK's largest tissue bank and are the largest not-for-profit organisation and sole supplier of certain critical tissues (particularly skin) to the NHS. Each year our donors provide around 8,500 tissue implants that help save and improve the lives of 2,600 patients.

Our strategic objective is to be recognised by the NHS as the preferred provider of high-quality, ethically sourced and cost-effective tissue allografts in England, Wales and Northern Ireland.



Physics teacher Ross Kirk from Mansfield, Nottinghamshire, became a stem cell donor in June 2012. Ross donated stem cells by peripheral blood stem cell collection. This involves around four injections to stimulate the donor's stem cells before they are removed from the donor's blood by a specialist apheresis machine.

1,800

eye-only donor consents
gained per year

The tissues we supply include skin, bone, heart valves, arteries, tendons and amniotic membranes. Living donors can donate tissue such as bone that is no longer needed, for example following a hip replacement. People who have died are also able to donate tissue, along with organs as they wish.

Our specially trained nurses work with bereaved families to explain the process of tissue donation, how it helps patients and to consent for donation. We will continue to invest in our nurses who manage those sensitive conversations and develop relationships with donor families.

We are very proud of the fact our donors help us meet the NHS need for tissue and tissue products. We will continue to promote the need for, and benefit of, tissue donation wherever we can. At present one in three tissue donors is also on the NHS Organ Donor Register or becomes an organ donor and we are acutely aware of the need to provide seamless, compassionate, quality care for donor families.

In the period ahead we will look to join up better and improve the process of consent for organ donation and tissue donation which are currently managed separately.

We will develop a donor family focused culture across our organisation, driving much greater awareness of tissue donation at the Donation Committee level within hospitals. We will also establish a dedicated Tissues Help Line for donor families.

We will continue to administer the National Fulfilment System for Heart Valves, which ensures the fair and transparent allocation of donated heart valves in the UK.

Our priorities:

- Develop a donor family focused culture across our organisation
- Establish a dedicated Tissues Help Line for donor families.

Our strategy is to build on our unique capabilities in order to provide bespoke services in support of unmet clinical needs and which can be provided ethically and cost-effectively 'for the NHS, by the NHS'.

Stem Cell donors

As a natural extension of our blood service we provide expert support to Haematopoietic Stem Cell Transplantation (HSCT) often described as 'bone marrow transplantation' for half of all stem cell transplants performed on patients in the UK each year. We expect this figure to grow by 5% per year.

We will work in partnership with third sector organisations, especially Anthony Nolan along with the UK Health Services in the provision of an efficient and effective source of donor haematopoietic stem cells for the treatment of UK patients. We will establish ourselves as a prime partner for NHS, academic and commercial organisations seeking to take next generation stem cell therapies to the clinic.

More than 400 patients each year in the UK, however, are denied access to a stem cell transplant, with around 200 lives lost due to the lack of a matched stem cell donor. This loss of life disproportionately affects Black, Asian and Minority (BAME) patients because of the particular challenges in identifying suitable donors for members of these communities. In December 2010, the UK Stem Cell Strategic Forum set out a strategy for saving 200 lives per year through increasing the UK inventory of cord blood donations and by improving the performance of the UK based stem cell registries to match the best in the world.

As part of the strategy we will continue our collaboration with Anthony Nolan in order to establish them as the single point of access for UK transplant centres searching for stem cell donors and cord blood donations. We will aim to bank an additional 2,300 cord blood donations each year by leveraging our extended collection activities and embedding 24/7 operations. We will also move to high resolution (including use of NIMA and HLA-C) typing of adult, ethnically diverse donors to reduce the time taken to provide stem cells for transplantation and improve patient outcomes. We will seek out further opportunities to improve the way our IT systems work together with other bone marrow registries.

Our priorities:

- **Attract additional 2,300 cord blood donations per year**
- **Implement high resolution typing for BAME donors to speed up the process of finding a match.**

We already have over 300,000 donors who are willing to donate their stem cells to patients having treatment for conditions such as leukaemia. Donors come from the British Bone Marrow Registry and the NHS Cord Blood Bank, both of which we run.

British Bone Marrow Registry

The British Bone Marrow Registry (BBMR) holds details of around 300,000 blood donors who have volunteered to donate stem cells for patients who need them. They do this by giving a small extra sample of blood with their donation which is 'tissue-typed' and added to the register.

The NHS Cord Blood Bank

The NHS Cord Blood Bank collects stem cells from umbilical cord blood at six NHS Hospitals:

- [Barnet General Hospital](#)
- [Northwick Park Hospital](#)
- [Luton and Dunstable Hospital](#)
- [Watford General Hospital](#)
- [University College Hospital](#)
- [St George's Hospital](#).

The NHS Cord Blood Bank currently contains more than 20,000 units of cord blood suitable for either clinical transplant or research. Those suitable for treatment are available to any patient who is a match and needs a stem cell transplant in the UK or abroad. It is the fourth largest internationally accredited cord blood bank in the world, with the second highest percentage of rare tissue types.



Sheeba Young

Sheeba Young, from Corby, went into kidney failure due to a genetic condition which claimed her sister's life, leaving her young children without a mother. She faced several operations before having a combined kidney and liver transplant. The 36-year-old is now making the most of her second chance at life – she holds down two jobs as a neighbourhood warden and youth worker, has taken part in the Transplant Games, volunteers at her church and is learning sign language.

4 Our expertise

Our 6,000 dedicated and expert staff collect donations from our loyal donors, turn their voluntary donations into life-saving and life-enhancing products and distribute them to hospitals throughout the UK for life-saving treatments for patients. We do this in many different ways using our specialist skills and expertise to ensure a safe, sufficient and efficient service to patients and NHS hospitals.

Blood

Over 1,000 dedicated staff care for our blood and platelet donors. To better support them in improving productivity and providing a better experience for our donors, we are mid way through making changes to our organisational structure and the way our blood sessions are configured. We are also reviewing our blood supply chain processes.

We will continue to make changes to blood donation sessions in response to changes in demand from NHS hospitals and to improve productivity and efficiency. In doing so we will ensure we remain agile and able to respond if the reduction in demand reverses or changes dramatically for specific blood groups.

Our staff work 24/7 365 days per year to process donated blood at our centres in Manchester, Filton, Sheffield, Colindale and Newcastle and test in Manchester and Filton.

We will continue to implement lean manufacturing principles which have already contributed to us achieving world-class productivity levels in processing and testing. This has helped us reduce the price of blood from £140/unit in 2008-09 to £122/unit for 2013-14. Our aim is to maintain this low price for the period ahead, absorbing increases in our costs by delivering efficiencies.

We are implementing a transport management system that will make sure our transport network, supporting what is a complex logistical supply chain operation, is as effective and efficient as possible.

Our priorities:

- Implement new organisational structures to support our strategy
- Make changes to sessions in response to demand changes from hospitals
- Continue to implement lean manufacturing initiatives
- Complete our platelet manufacturing strategy
- Implement a transport management system.

24/7/365

our staff process, test
and issue donated blood
at our centres all year



Our priorities:

- Continue to support hospital colleagues in achieving their objectives as set out in the new UK strategy
- Support UK Governments – especially Wales – with the changes being made
- Identify and deliver savings in our organ retrieval services
- Deploy IT solutions to improve the donor registration process.

We are completing a full review of our platelet manufacturing strategy following the decision by the Advisory Committee on the Safety of Blood, Tissues and Organs (SaBTO) to relax the requirement that 80% of platelet demand is provided through component donation. We will identify any possible efficiencies that can be made short and long-term as a result of this relaxation and will, along with other UK Blood Services, be setting our own future targets for platelet supply through component donation.

We have significant experience and expertise at successfully delivering changes of this nature and will look to this to inform any future change. We will work with our donors, customers, staff and external stakeholders to ensure they are fully engaged in any possible changes. Specifically we will refurbish our key sites where appropriate and in others, such as Brentwood, we will bring to a conclusion our work to ensure we have the appropriate estate to support our operations in the area.

Our focus is on continuous improvement and we will benchmark our performance against other international blood services. We will focus on strategic procurement and collaboration with the other UK and European blood services delivering efficiencies wherever possible.

Organs

Our Specialist Nurses in Organ Donation cover every hospital in the UK. They are trained to talk sensitively and compassionately to the families of all potential donors (including those not on the NHS Organ Donor Register).

We will continue to work with our NHS colleagues to remove the obstacles to organ donation and manage the identification and referral of potential donors. We will ensure that the NHS provides excellent care in support of organ donation and that every effort is made to ensure that each donor can give as many organs as possible.

We will work with NHS colleagues to increase adherence to national standards and guidance, increasing the number of people who are able to donate following circulatory death and learn from the Scottish pilot on donation after failed resuscitation. We will use our experience and our network of Clinical Leads for Organ Donation to provide hospital staff with the support, training, resources and information they need to provide an excellent organ donation service that ensures the best possible care for every donor.

Within NHSBT we will complete a number of tactical improvements to the Organ Donor Register as well as make the more fundamental changes required to support the legislation in Wales which comes into law from 1 December 2015. We will also implement a range of initiatives to improve the donor registration process, which will result in a significant reduction in the paper forms used during the registration process. This will be facilitated by the use of tablet computers and will provide far richer management information to inform future activity. It will also reduce the number of times donor data is captured or transcribed, thereby reducing the possibility for errors.



3 people die a day
in need of an organ

Our priorities:

- Invest in our people to develop the leadership and management capability to deliver against our strategies
- Maximise the value of our expertise for wider benefit to the NHS and patients in need
- Work with others to develop improved patient therapies saving and improving more lives.

We will also complete a review of the configuration and process of organ retrieval services in order to drive better cost effectiveness and, where possible, accelerate cost savings so that this funding can go into supporting the increased volumes of donors we are seeing and hope to see in future. This activity sits alongside a critical review of the donation/transplantation clinical pathway within NHSBT to ensure our processes are as effective and robust as possible and we make any improvements identified.

Diagnostic and Therapeutic Services

Staff in Diagnostic and Therapeutic Services (DTS) have a wealth of experience and expertise not seen elsewhere in the NHS. Each of the operating units in DTS has a clear strategy and plan. Common across all of these is the opportunity to use our facilities and skills to help consolidate services across the NHS. This will deliver better, more cost-effective services and allow us to develop improved treatments, saving and improving more lives as a result.

Our Red Cell Immunohaematology (RCI) staff ensure the safety and clinical efficacy of red cell transfusion therapy providing unrivalled expert diagnostic and donation selection activities.

Our aim is for RCI to be an innovative, integrated, technologically-enabled service saving patients' lives by ensuring they have access to precisely matched blood when needed.

Our strategy will see us move from a provider of low volume, speciality services to a high volume commodity services provider. We will do this by:

- Investing in our people
- Growing referrals from hospitals, including a return to routine antenatal screening
- Improving patient outcomes by developing a national database of transfusion-related data from which to inform activity and advance development of our services.



Using our expertise to better support the NHS

We believe that we have a role to play in helping improve not only our services to the NHS but also using our expertise to enable the NHS to continue to evolve its services to patients and the public.

We believe we can do that and achieve better patient outcomes, improve our own customer services and increase savings across the whole blood supply chain – from donor to patient – by more closely integrating our operating model with that of hospitals. We also believe that this could deliver significant savings for NHSBT and our Hospital customers which could then be reinvested in frontline patient care.

Our aim over the coming years is to develop and test a model which tracks blood and blood products from donor to patient, with associated improvements in safety, sufficiency and efficiency.

We have already started this work through a number of initiatives to help foster closer integration across the blood supply chain. This includes exploring:

- A system of integrated blood supply management based on NHSBT-managed blood stocks within hospitals (based on industry standards of vendor-managed inventory);
- An integrated care pathway managed through electronic requesting and reporting into a national patient results database;
- An integrated supply and demand planning tool to replace the current labour intensive systems which are inefficient.

Once we have delivered the above, we believe NHSBT would have the basis upon which to build a hub, spoke and satellite model of diagnostic transfusion provision at hospital level, using integrated NHSBT-managed transfusion laboratory networks.

Our Histocompatibility and Immunogenetics (H&I) services focus on the genetic testing and matching of solid organ donors, stem cell donors, and platelet donors with the requirements of individual patients – generally known as HLA typing or tissue-typing. Each year around 1,000 lives are saved through our support for stem cell and organ transplantation. A further 18,000 platelet donations are issued on the basis of their HLA types for patients.

Our expertise and support for HLA-matched platelet provision and for the diagnosis and prevention of transfusion reactions such as transfusion-related acute lung injury (TRALI) is unique in the English NHS. We are by far the single largest provider of H&I services to the NHS and have a market share of approximately 40% which we hope to grow by 5% per annum over the next five years through understanding and meeting our customers' needs.

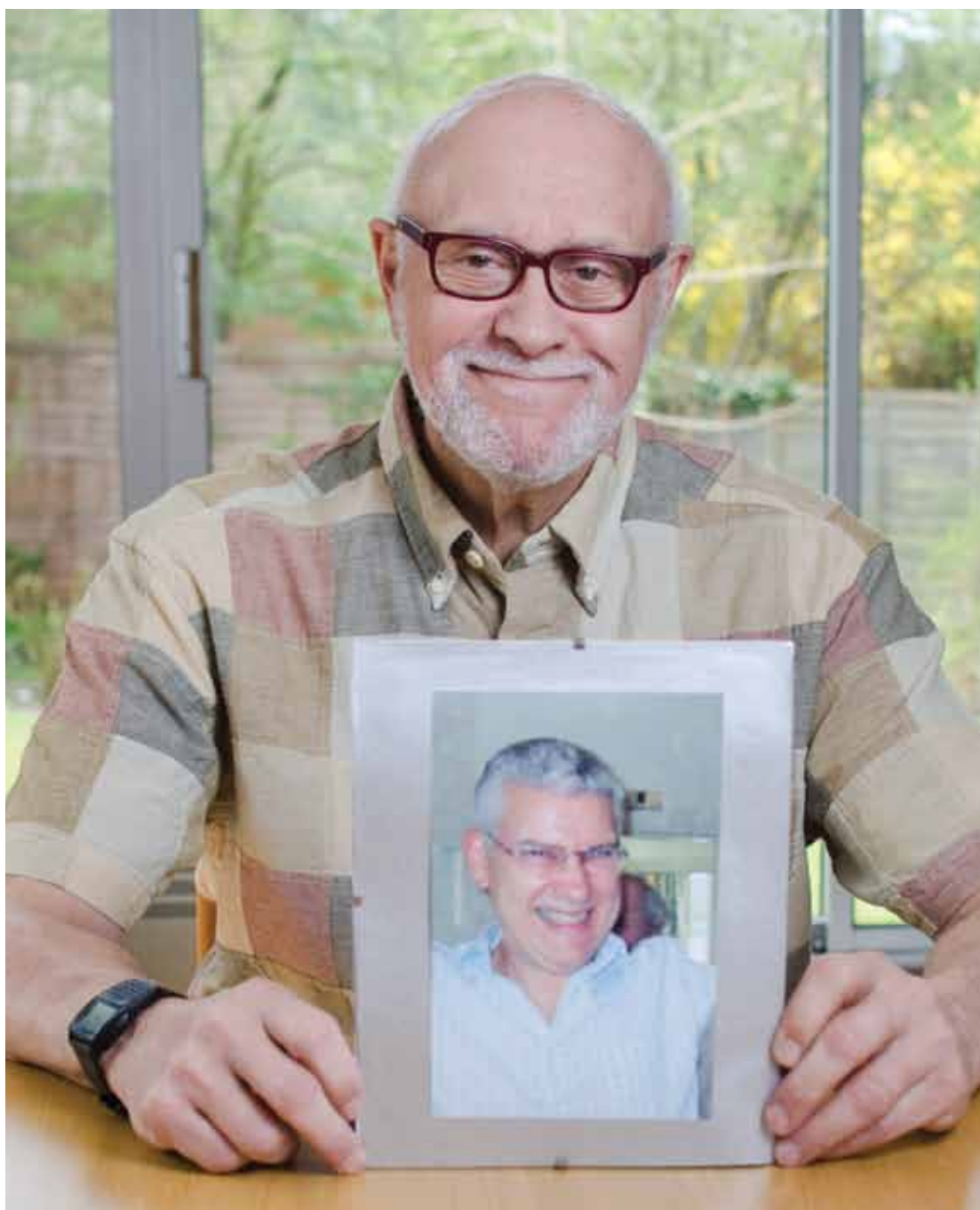
Our over-arching ambition is to improve patient outcomes via the development and deployment of state-of-the-art diagnostics. We aim to save an additional 50 to 100 lives over the next five years by increasing the number of patients eligible for solid organ transplantation, and by improving patient survival after transfusion and transplantation.



Tissues

Our aim is to build on our unique capabilities to pursue a focused, high potential and strategically relevant product development strategy. We will collaborate with innovative small and medium enterprises in the UK that are developing new products and therapies. In return for providing access to their R&D and innovation capability we will provide them with supporting infrastructure and a route to the clinic for new products.

We will build our sales and marketing capacity and capability and underpin these with high quality market engagement strategies and professional marketing plans to maximise the opportunity. We will implement a simple but effective customer relationship management system, supporting this with structured product and customer data management (enabling access to improved and real time management information). We will continue to focus our business development on dCELL dermis and demineralised bone (DBM) products.



Barry Hyman

In just over 50 years, Barry Hyman has donated enough blood to save the lives of more than 450 adults. The first time Barry gave blood he was in his early 20's but due to his brother contracting haemolytic anaemia at a young age he already knew all about the need for blood and had experienced first hand what a difference it can make.

5 Quality products and services

Our aim is to provide quality products and services that save and improve patient lives. We do this as efficiently as possible as every £1 we save can be released for frontline patient care. We never compromise on patient care and safety.

All the activities we carry out to save and improve patients' lives are subject to strict regulations. To enable us to manage and comply with these requirements we operate a single Quality Management System. We have a Quality Assurance Department which provides advice on regulatory compliance.

We promote a culture of continuous improvement taking every opportunity to improve our efficiency and the quality of our products and services. This ensures that blood, tissues and organs meet the highest quality and safety standards to ensure the best care for our donors and best outcomes for patients.

Blood

We hold a Blood Establishment Authorisation for blood and component manufacture and are regularly inspected by the Medicines Healthcare products Regulatory Agency (MHRA) to verify compliance with the Blood Safety and Quality regulations.

We want to be as easy to do business with as possible through the implementation of modern, integrated supply chain models that ensure ease of access, reliability, dependability and which minimise wastage 'vein to vein'. We have already delivered an innovative Online Blood Ordering System (OBOS) which modernises and speeds up the way we interact with hospital customers. We want to ensure that we will always remain the NHS's most cost-effective option for the provision of the complete range of services and clinical advice needed to support transfused patients.

Our priorities:

- Continue to work with hospitals to ensure best use made of blood through the Patient Blood Management (PBM) initiative
- Proactively identify and address any quality issues through internal inspection and not through external reviews
- Implement safety initiatives that are identified or mandated.

We aim to proactively identify and manage risks to the safety and continuity of the national blood supply and to implement the highest standards of safety and regulatory compliance across the full range of our products and services. Through our Patient Blood Management initiative we will continue to work with NHS hospitals to minimise the inappropriate use of blood and reduce the overall volume of blood that is transfused where it is safe to do so.

Working with the UK Forum and Public Health England, we will continue to assess the availability and performance of prion assays/ filters in support of any further steps that can be taken to reduce the potential risk from vCJD.

Organs

We hold a Procurement License and are inspected regularly by the Human Tissue Authority under the Quality and Safety of Organs intended for Transplantation Regulations. The MHRA also licence us for the manufacture of Medicinal products such as 'Specials' and Investigational Medicinal Products.

We are responsible for managing the National Transplant Database which includes details of all donors and patients who are waiting for, or who have received, a transplant. We maintain the NHS Organ Donor Register (ODR) and provide a 24-hour service for supporting donor families. We are also responsible for matching and allocating donated organs in a fair and unbiased way, including the transport arrangements to get the organs to patients.

Our priorities:

- Work with hospitals and others to deliver against their areas of the new UK strategy
- Work with our regulators to ensure a compliant service is delivered
- Publish data and share our experience to improve practice and outcomes across the donation and transplantation pathway.

As part of the new UK strategy, *Taking Organ Transplantation to 2020*, we will work with hospital colleagues to ensure that more organs are usable and surgeons are better supported to transplant organs safely into the most appropriate recipient. To achieve this action needs to be taken to:

- Increase the number of organs that are retrieved from both Donation after Brain Death and Donation after Circulatory Death donors
- Increase the number of organs that can be transplanted safely
- Provide surgeons with the information and guidance to make decisions about organ suitability
- Improve transplant recipient survival by improving understanding of the donor organ/recipient compatibility.

We will continue to provide and publish data about donation and transplantation activity across the UK so that performance can be improved. We will continue to share our experience and experiences across the UK with clinicians and staff so that the organ donation pathway is as effective and efficient as possible and that patients who desperately need organs receive them. We will continue to identify and address any clinical issues raised across the pathway and share lessons to improve overall practice. We will also work to ensure that each deceased donor donates as many organs as possible and that information about the quality of the organ and the outcomes associated are shared across those working in the pathway.



We are responsible for the crucial task of matching and allocating donated organs throughout the UK

Diagnostic Services

Our laboratories are accredited and subject to audit from professional bodies such as the Clinical Pathology Accreditation scheme and the Joint Accreditation Committee – ISCT & EBMT (JACIE).

Tissue Services

We are licensed by the Human Tissue Authority and as such comply with the Tissue Quality and Safety Regulations. The blood and tissue products we make must conform to the specifications outlined in the Guidelines for the Blood Transfusion Services in the United Kingdom (current edition).

Specialist Therapeutic Services

Our aim is to become the NHS preferred provider of high quality, cost-effective therapeutic apheresis services.

We provide life-saving and life-enhancing therapeutic apheresis services to patients at dedicated Specialist Therapeutic Services sites within NHS facilities across the country. We use a portfolio of therapies to treat a variety of conditions such as sickle cell disease, Hodgkins Lymphoma and leukaemia across a range of clinical specialities using technology that exchanges, removes, or collects certain components within the blood.

Our facilities are regulated by the Care Quality Commission and classified as an 'acute' service. Our recent inspections report that our units are fully compliant with all the expected standards of quality and safety. We are uniquely positioned to improve the quality and efficiency of therapeutic apheresis services and aim to become the preferred supplier to the NHS.

Our service is delivered through a team of highly experienced medical, nursing and ancillary staff with a breadth and depth of experience in therapeutic apheresis. We treat over 1,000 patients each year at:

- The Christie NHS Foundation Trust
- Oxford University Hospitals NHS Trust
- Sheffield Teaching Hospitals NHS Foundation Trust
- Leeds Teaching Hospitals NHST Trust
- North Bristol NHS Trust
- Royal Liverpool and Broadgreen University Hospitals NHS Trust.

Each unit operates as a regional service provider as part of a national infrastructure. This has established a scale that enables us to offer a robust, responsive and comprehensive portfolio of high-quality and cost-effective services for the NHS.

As such, and given there is increasing recognition within the NHS that delivery of specialised services should be delivered through centres of excellence, we are uniquely positioned to improve the quality and efficiency of therapeutic apheresis services to the NHS, initially focusing outside the London area.

In the short-term we will conduct a detailed market appraisal to identify the sources and drivers of demand for future apheresis based therapies. We will aim to secure a national contract for supply with NHS England and we will tender to supply the Anthony Nolan's regional collection requirements.

We aim to provide apheresis therapies that meet the highest standards of safety and regulatory compliance. We will develop the regional service delivery model and national network to deliver the highest quality and most cost-effective therapies in the NHS. This will result in us positioning ourselves as the national NHS 'Go To' supplier for apheresis therapies.



Daljit Kalair

Regular donor Daljit Kalair has been donating blood for a number of years. In 2012 Daljit enrolled on the Interval Study, a clinical trial to determine the optimum frequency for blood donation.

Daljit said "I've never had a problem donating blood and I'm fit and in good health. I am interested to see if it will have an impact on me. I'd be very happy to donate more frequently if I can."

6 Our research

We run an innovative national and international research programme critical to maintaining our aspiration to be the best organisation of our type.

The aims of our Research & Development programme are:

- The generation of evidence to inform national safety policies, as well as clinical practice in transfusion and transplantation
- The development of new/improved products and diagnostic services.

The R&D programme is now over half way through its current strategic cycle (Oct 2010 – Sept 2015), and we are preparing for the next strategy in the context of changing funding arrangements from the Department of Health/ National Institute for Health Research (NIHR).

Our R&D activities, with 17 Principal Investigators and close to 200 staff, are largely conducted in partnership with leading universities (Oxford, Cambridge, UCL and Bristol). We also have:

- Statistics and Clinical Studies (Bristol/Oxford/ Cambridge/London), which supports clinical studies and trials
- Systematic Reviews Initiative (Oxford)
- The Component Development Laboratory, which evaluates commercial products designed to improve blood safety/quality.

Our R&D activities are organised into eight research themes, the key activities of which are:

Donor health and behaviour

In collaboration with the Universities of Cambridge and Oxford we are conducting an ambitious randomised clinical trial to determine the optimum frequency for blood donation. We have already recruited over 49,000 of a 50,000 recruitment target for this study and know that donors in the trial are attending at, or close, to the intended donation intervals. Through this trial we will be able to determine whether blood donation intervals can be tailored to donors on the basis of demographic, haematological, genetic and lifestyle factors (www.intervalstudy.org.uk).

Transfusion and transplantation virology and microbiology

We will continue to monitor and respond to known and emerging infections which impact upon blood, tissues, stem cells and organs. We will continue to develop screening assays and provide data to inform policy making by the Joint UKBTS Professional Advisory Committee (JPAC) and the Advisory Committee on the Safety of Blood, Tissues and Organs (SaBTO). Current initiatives are on prion screening and hepatitis E.

Appropriate and safe use of blood components

Our Clinical Trials Unit will continue to support clinical trials to inform the appropriate use of the products we supply to the NHS and to support our Patient Blood Management activities. This work will be built upon the 21 studies which have been completed since 1999, many of which have informed national clinical guidelines. Current studies include the use of platelets in premature babies and study of factors that influence clinician prescribing.



49,000

donors recruited to the interval trial with a target of 50,000

Erythrocyte (red cell) biology and immunology

We will focus our activities on the development of systems for growing red cells from stem cells in the laboratory under GMP conditions, with the aim of developing new products suitable for patients with rare blood groups for whom matched blood is difficult to obtain. Through this work, we will also gain knowledge to improve storage of donor red cells. This theme includes the Component Development Laboratory, whose activity is focused on assessing ways of storing red cells that have been grown from stem cells, the use of improved solutions for washing red cells and platelets, and systems to inactivate pathogens in cryoprecipitate.

Platelet biology and genomics

We are defining the relationship between genes and blood cell parameters to identify new markers which can be used to improve the quality of the products which we supply. We will continue to apply Next Generation Sequencing to characterise the genetic basis of inherited platelet disorders with the aim of developing diagnostic tests.

Organ donation and transplantation

Our focus will continue to be on improving the number and quality of donated organs. We are establishing a national bioresource of samples collected from organ donors through the Quality in Organ Donation (QUOD) initiative (www.quod.org.uk).

Stem cells and immunotherapies

We aim to improve outcomes following haematopoietic stem cell transplantation by investigating approaches to expand umbilical cord blood transplants, and minimise the risk of graft-versus-host disease. We will also aim to develop novel immunotherapies in leukaemia.

Molecular and tissue engineering

We will continue to develop methods to decellularise and then recellularise tissue matrices with recipient cells to develop improved products that overcome graft rejection.

Future research strategy

We aim to develop (1) a behavioural research programme with the objective of improving family consent/authorisation rates for organ donation and blood donor recruitment/retention and (2) a genomics strategy to ensure that we obtain maximum benefit from the advances in Next Generation Sequencing and related technologies.

Our research activity:

17

Principal Investigators

170

staff

£10m

budget per year



Strategic partnerships with Universities in Cambridge, Oxford, London and Bristol

Specialist activity in Birmingham and Liverpool

7 Our organisation

Throughout the UK, we have teams of people doing extraordinary things – from recruiting and caring for our generous voluntary donors; to treating, testing and transporting their life-saving donations to people in need – every single person within NHSBT contributes to this amazing process.

A single thread unites and connects everyone at NHSBT – our vital role in making sure the precious altruistic donations we receive from the public continue to save and improve as many lives as possible.


We do this by focusing on our key values: Caring, Expert and Quality. These values cut through everything we do and shape how we work together, and with others, to achieve our ambition to be the best organisation of our type in the world, and deliver our purpose to save and improve lives.

- We care about the patient, our donors, their families and colleagues, who together meet patient needs
- We are expert in meeting the needs of our customers and partners
- We provide quality products and services and positive experiences for donors, staff and patients.

It is essential that we maintain the trust of those we work with – trust that has developed over the years. Our donors and their families need to be certain that we will treat their donations with the respect and care they deserve, and that their gift will save or improve other people's lives.

We continue to work to ensure that we reflect the communities and people we serve through compliance with the Single Equality Act. Most recently, we have adopted a new strategic target which is to increase by 15% over the coming three years the number of Black, Asian and Minority (BAME) community staff employed at senior levels in the organisation. This will address a current imbalance and see us take action to increase the BAME population in the recruitment pool for future posts at other levels in the organisation so that we can recruit and develop our future talent.

We continue to review and develop our organisational structure and leadership capabilities to make sure we are the best organisation of our type in the world and that we are a great place to work. Specifically we have agreed a new strategic target to increase the number of staff answering positively to the staff survey question 'are you enthusiastic about your job?'



We will continue to invest in developing our people at all levels. We will continue to share our expertise and experience with other organisations through programmes such as the Cross Sector Leadership Exchange. We will develop and implement a Talent Management Strategy across the organisation so that increasingly we can develop future leaders from within the organisation and ensure that potential is identified at all levels, nurtured and supported.

Our aims include:

- Applying sustainable principles to all that we do. We will, as a minimum, meet all government and statutory targets for carbon reduction and will be fully aligned with the Greening Government Commitment
- Reviewing organisational capacity and leadership/functional skills to ensure effective and efficient delivery of our plans
- Investing in our IT applications to support our aim of using common standards and fit for purpose platforms
- Benchmarking our central functions to confirm their effectiveness and capacity to support change
- Working with a wide range of individuals and organisations who share our ambition to save and improve more lives
- Ensuring our buildings estate is effectively used to support the organisation in achieving its objectives.

8 Finances

The majority of our income is generated from the products and services we provide to hospitals. Prices are set at levels to recover the cost that we incur. We additionally receive subsidy funding from the Department of Health, along with funding from the Welsh Government, Scottish Government and the Department of Health Social Services and Public Safety in Northern Ireland to support our UK wide accountabilities in support of organ donation and transplantation. We also receive funding from the Department of Health in support of our work to deliver the objectives of the UK Stem Cell Forum.

In Blood Components we will seek to build on the significant reductions in the price of red cells delivered since 2007-08 and the £50 million pa saving that this has delivered to the NHS. Our aim is to maintain prices for our products/services over the longer term. However, this is becoming increasingly challenging in a period where we have seen a significant and sustained reduction in red cell demand from hospitals.

Since 2008-09 we have exceeded NHS efficiency requirements and can demonstrate that our prices are some of the lowest in the world versus comparable developed economies. In real terms our prices in 2013-14 are significantly lower than 2005-06 despite the lower volume of red cells now being required by hospitals, inflation and the introduction of new safety measures.

The headline price for red cells of £121.85 in 2014-15 will be achieved by delivering efficiency savings of 5.2% to our cost base for 2013-14. These savings include a mix of productivity improvements, consolidation, procurement and operational efficiencies.

Our Diagnostic and Therapeutic Services strategies describe our intent to leverage our unique national network and capabilities to establish NHSBT as a preferred national supplier to the NHS. Consolidating products and services with NHSBT in this way will

provide benefits of scale to the NHS and generate improved financial efficiencies. In turn this will allow us to reduce prices to the NHS and invest in new patient therapies. Examples of the latter include the new Demineralised Bone Matrix and Dcell Dermis products that we have recently launched.

Organ Donation and Transplantation plans are funded through programme funding from the Department of Health and contributions from each of the UK Health Departments. In 2014-15 this includes funding to deliver a new NHS Organ Donor Register for the UK that is required to support the presumed consent organ donation process that will be introduced in Wales by the Human Transplantation (Wales) Act.

The very successful growth that has been seen in deceased organ donation in the UK is, however, starting to create significant funding pressures. We thank all of the UK Health Departments for the additional funding they have provided in 2014-15 in order to cover the cost of the increased numbers of donor and transplants that we expect to see in 2014-15. We will be working with the UK Health Departments during 2014-15 to identify better and more robust mechanisms for the funding of organ donation and transplant in the future and to support the objectives of the *Taking Organ Transplantation to 2020 strategy*.

9 Appendix: Strategic Targets 2014-15

Blood Supply

Strategic Targets – Blood Components	2013-14 Plan	2013-14 Actual	2014-15 Plan
Percentage of Products Issued On-Time-In-Full (OTIF)	96.0%	93.4%	96.00%
% of hospitals scoring $\geq 9/10$ for satisfaction with overall service	70%	69%	70%
Number of occasions where red cell stocks (for any blood group) are below the daily alert level	0	0	0
Number of occasions where opening stock of platelets (for any blood group) is below average daily demand	0	0	0
% of blood donors scoring $\geq 9/10$ for satisfaction with overall service	68%	67.6%	69%
Number of active O neg donors in the donor base	130k	135k	136k
Number of 'critical' regulatory non-compliances	0	0	0
Number of 'major' regulatory non-compliances	0	8	0
Number of Severe Untoward Incidents (SUI's)	0	0	0
Unit price of red cells	£122.09	£122.09	£121.85

Notes:

i. 2013-14 actual performance is based on the position as at 31 March 2014.

ii. Unit price of red cells assumes no further instructions to implement additional blood safety initiatives.

Organ Donation and Transplantation

Strategic Targets – Organ Donation and Transplantation	2013-14 Plan	2013-14 Actual	2014-15 Plan
Increase % Consent/Authorisation rate (Overall)	61.5%	59.6%	61.5%
Number of Deceased Organ Donors	1,272	1,320	1,439
Deceased Donors per million of population	20.0	20.8	22.5
Number of Living Organ Donors	1,112	=/>1,112	1,143
Number of Organ Transplants	4,328	=/>4,328	4,901
Deceased Transplants per million of population	50.7	55.3	59

Notes:

- 2013-14 actual performance is based on the position as at 31 March 2014.
- The targets for improving the rate of organ donation and transplant are a shared objective of all stakeholders within the DH, the other UK Health Departments and partners across Government.

Diagnostic and Therapeutic Services

Strategic Targets – Diagnostic and Therapeutic Services	2013-14 Plan	2013-14 Actual	2014-15 Plan
Sales income – DTS	£59.1m	£58.5m	£62.6m
Number of Severe Untoward Incidents (SUI's)	0	0	0
Number of 'critical' and 'major' regulatory non-compliances	0	3	0
Banked Donations (Cumulative) TNC > 140	2,300	2,400	2,300
CBB growth BAME Donations	30%	33%	30%
Number of Cord Units Issued	72	60	75
Percentage of hospitals scoring =/> for satisfaction with RCI	62%	49%	60%
Percentage of Patients rating patient experience =/> 9/10 with the service from STS	95%	97%	98%

Note:

- 2013-14 actual performance is based on the position as at 31 March 2014.

Corporate

Strategic Targets – Corporate	2013-14 Plan	2013-14 Actual	2014-15 Plan
Corporate Service costs as a percentage of total costs (IT, HR, Finance & Procurement, as per VFM definitions)	7.7%	7.8%	7.6%
Estate costs as a percentage of total costs (As per VFM definitions)	9.0%	8.9%	8.4%
Reduction of CO ₂ emissions (tonnes) (estate based emissions as per the Carbon Reduction Commitment)	21%	=/>21%	25%
Number of BAME staff employed by NHSBT at AfC Band 8a or above.	New	37	39
Employee Satisfaction – % of employees surveyed that are enthusiastic about their work.	New	64%	67%

Notes:

- i. 2013-14 actual performance is based on the position as at 31 March 2014.
- ii. CO₂ emissions is reported annually, next return is due June 2014.



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

Email enquiries@nhsbt.nhs.uk

Call **0300 123 23 23**