Our purpose

We stand for hope. We stand for life.
We stand for helping ordinary people to do something extraordinary – to save and improve the lives of others.
We are an essential part of the NHS and we take pride in playing our part to make the most of every donation – whether it’s blood and organs, tissues or stem cells.
Our purpose is to save and improve lives. We are incredibly proud of what we do.

For more information:
Visit: nhsbt.nhs.uk
@NHSBT
NHS Blood and Transplant
Email: enquiries@nhsbt.nhs.uk
Call: 0300 123 23 23

To support donation:
Blood.co.uk
@GiveBloodNHS
NHS Blood Donation
Organdonation.nhs.uk
@NHSOrganDonor
NHS Organ Donor
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1 | Introduction

In 2015/16 our donors:

- Donated nearly 1.8m million units of blood and platelets
- Provided 3,529 organs for transplant
- Enabled us to issue over 13,000 individual tissue donations (incl. corneas)
- Added 1,950 units to the NHS Cord Blood Bank

Our plan – Saving and Improving Lives – sets out our role in ensuring as many patients as possible get the specialist life-saving or life-enhancing treatment that they need from the NHS. It gives an update on our recent work and sets out clear targets for the period ahead.

I am fortunate enough to lead an extraordinary organisation. NHS Blood and Transplant saves and improves the lives of thousands of people each year. But we do something more than that – we enable ordinary people in our communities to do something extraordinary for someone else through donating blood, organs, tissues or stem cells. Someone else who they will probably never know.

We have well-developed strategies for each area of our organisation. Some of these, such as for blood and organ donation, are available separately and have clear targets for 2020. Wherever each business unit is in its strategic cycle, I hope this plan gives you a good overview of progress to date and our priorities for the year ahead.

We take our responsibilities seriously. Our responsibility to our loyal and generous donors who give of their time and/or register their wishes with us. Our responsibility to our employees who care for our donors and their families and ensure quality products and services get to NHS hospitals for patients. Our responsibility to patients, many of whom have their lives transformed or saved as a result of our work and the altruism of donors.

We also have a responsibility to contribute to the wider health and social care community. We do this by delivering year on year efficiencies through continued consolidation and modernisation of our activities, and through developing innovative new treatments and services.

We are a unique and diverse organisation. We bring together all forms of donation in one organisation. In some parts, such as organ donation, we work across the UK. In others, such as blood donation, we now operate in England only. In some specialist areas, such as stem cells, we are part of a global network. Wherever we operate we live by our values – Caring, Expert and Quality – they drive what we do and how we do it.

I am incredibly proud to lead an organisation that is unique, setting and striving for world class performance and helping treat more people as effectively and efficiently as possible. I hope you enjoy reading about our progress and exciting plans.

Ian Trenholm
Chief Executive
2 | Our five year strategy

NHS Blood and Transplant (NHSBT) has three operational areas:
- Blood Supply (BS) – made up of Blood Donation, Manufacturing and Logistics, and Customer Services
- Organ Donation and Transplantation (ODT)
- Diagnostic and Therapeutic Services (DTS)

Diagnostic and Therapeutic Services is itself comprised of five distinct operating units:
- Tissue and Eye Services
- Stem Cells
- Red Cell Immunohaematology (RCI) and Reagents
- Histocompatibility and Immunogenetics (H&I)
- Therapeutic Apheresis Services (TAS)

Our overall strategy for NHSBT combines and summarises the long term strategies of each of these operational areas which are now aligned to 2020 and, in some cases, beyond. Our current key operational strategies are available to read at nhsbt.nhs.uk

Successful track record

Since it was formed in 2005, NHSBT has established a strong track record for driving continuous improvement in the safety, availability, quality and efficiency of our services. This applies across all of our portfolio but is most obviously recognised in the blood supply chain area where the headline price of red cells has been reduced from £140/unit in 2008/9 to £120/unit in 2015/16 (see below) despite 15% lower volumes, inflation and the introduction of new safety initiatives. This has been delivered on the back of a consistent delivery of 4% pa efficiency savings with, for example, a 76% increase in our manufacturing productivity and a 109% increase in testing productivity.

![Graph showing Red Cell Price changes from 2009 to 2016](image)

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>NHSBT Red Cell Price Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-10</td>
<td>-4.7%</td>
</tr>
<tr>
<td>2010-11</td>
<td>-6.7%</td>
</tr>
<tr>
<td>2011-12</td>
<td>0.5%</td>
</tr>
<tr>
<td>2012-13</td>
<td>-1.2%</td>
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<tr>
<td>2013-14</td>
<td>-1.0%</td>
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<tr>
<td>2014-15</td>
<td>-0.2%</td>
</tr>
<tr>
<td>2015-16</td>
<td>-1.5%</td>
</tr>
<tr>
<td>Average</td>
<td>-2.1%</td>
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<table>
<thead>
<tr>
<th>Cost Reduction</th>
<th>2008/09</th>
<th>2015/16</th>
<th>Change</th>
</tr>
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<tbody>
<tr>
<td>Standard Red Cell Price</td>
<td>£140</td>
<td>£120</td>
<td>-14%</td>
</tr>
<tr>
<td>Red Cell Volumes Issued per annum</td>
<td>1.86m</td>
<td>1.585m</td>
<td>-15%</td>
</tr>
<tr>
<td>Red Cell Cost per annum</td>
<td>£260m</td>
<td>£190m</td>
<td>-27%</td>
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</table>
Along with ongoing efficiency improvement, our strategies are also designed to offer the NHS significant opportunities with regard to:

- the development of Integrated Transfusion Services that enable NHSBT to offer NHS hospitals improved management of blood stocks and the potential for integrating and consolidating blood transfusion laboratories (as part of the broader consolidation of pathology services);
- the provision of low volume, highly specialist products and services on a national basis, offering the NHS opportunities to consolidate services within NHSBT and hence secure lower costs through economies of scale, along with consistent high quality, safety and 24/7 availability; and
- support for the development of the regenerative medicine industry in the UK through the unique infrastructure that NHSBT possesses, from stem cell donation through to cell selection, cell manipulation/expansion, cryostorage, delivery to the bedside and monitoring of outcomes.

Challenges for 2016/17
The following three challenges need to be addressed this year:

1. Productivity in Blood Donation
We recognise the need to continue to address the financial pressures on the NHS, most obviously, but not only, in the prices that we charge for our products and services.

Within Blood Supply this pressure is exacerbated by an ongoing reduction in red cell demand due to improved surgical procedures and our work to reduce unnecessary transfusions through better patient blood management. The challenge we face is to reduce costs that are mostly fixed in nature at the same rate as demand reduction so that flat, or reducing, prices can be maintained.

Given that further reduction in demand is anticipated, a continued strong focus on efficiencies will be required and we will continue to see changes to the services that blood donors will see, such as fewer and larger sessions, reduced frequency of mobile sessions in some areas and greater use of fixed donation sites. We will continue to work hard to explain the rationale for these changes to our loyal donors as we should only be collecting the blood that patients need.

2. Modernising our IT infrastructure
We need to continue with our investment to replace an ageing IT infrastructure and desktop, migrate to cloud-based services and replace Pulse – the critical operational application underpinning the Blood Supply chain. This is essential to maintain a safe and sustainable supply of products to hospitals.

The overall cost of this investment is substantial but we anticipate that funding can be broadly accommodated within the existing flat pricing aspirations within the Blood 2020 plan. However, we will need to continue to prioritise other changes and deliver some additional cost savings to do so.

While the funding presents a challenge, our IT investments are important for our long-term future. They will support the extension of and greater flexibility in our services, enabling further LEAN improvements which will ultimately provide greater efficiencies. They will also allow us to provide greater integration of services with hospitals, a more personalised donor service and offer the opportunity of joining up of data to improve ways of working across the NHS.

3. Organ Donation sustainable funding
The Organ Donation and Transplantation 2020 strategy includes ambitious objectives to increase the levels of organ donation and transplantation in the UK. The intention remains to increase the number of donors and transplants, with the need to influence public behaviours and increase the levels of donor consent continuing to be the major theme.

This will have a significant impact on costs through the investment required in behaviour change and due to the resulting increase in activity.

In addition, the National Transplant Database (NTxD) which supports the donation and transplantation pathway, needs to be replaced over the next four years at a cost of circa £8m. We will continue to work with the four UK Health Departments to explore and review priorities so that the most effective use of available funds can be made to support our long-term investment in IT systems, while continuing the work to change public attitudes to donation.
Priorities for 2016/17
Our priorities in 2016/17 are to:

• make substantive progress in delivering the IT investment and related change management required to improve our desktop infrastructure and replace the critical applications underpinning Blood Supply (Pulse) and ODT (NTxD);

• implement the Blood 2020 strategy with a particular emphasis on:
  – ensuring we have the right blood stock mix to meet hospital needs;
  – recruiting more donors from specific communities – notably Black-African and Black-Caribbean communities;
  – maintaining the productivity improvement/cost saving initiatives;
  – improving our digital interface with donors; and
  – building capability in supply chain planning and process effectiveness;

• continue to increase the numbers of people prepared to donate organs after their death or as living donors and work with hospitals to make sure that as many donated organs as possible can be transplanted safely;

• continue to support the implementation of the soft opt out legislation for organ donation in Wales and support any further changes in legislation that may potentially emerge from the other national UK Governments;

• grow our income within Diagnostic and Therapeutic Services;

• review the outcomes and effectiveness of the stem cell donation and transplant strategy;

• work with other parts of the public and private sector to help bring advanced cell therapies to the bedside, building and investing in our supporting infrastructure and capabilities, and collaborating in R&D with the other UK blood services;

• support the Department of Health in delivery of the ‘Shared Delivery Plan’ for the whole health and care system;

• continuously improve our ‘back office’ functions and engage with Government and others in exploring opportunities to improve efficiency or share functions; and

• implement the recommendations of the Triennial Review as and when published.
Our strategic objective:

To ensure for all patients, including patients with complex needs, that the right blood components are available at the right time, and are supplied via an integrated, cost efficient and best in class supply chain and service.

The Blood 2020 strategy (www.nhsbt.nhs.uk/who-we-are/strategy) outlines our ambition to provide an excellent donor experience, extended services to the NHS, and to integrate our services with hospitals. The strategic objective is underpinned by the following four pillars, with the safety of our service to patients and donors assumed as core activity.

Our strategy is focused around four pillars:

1. Blood Collection

We will deliver an excellent blood donation and donor experience to ensure a sustainable blood donor base, underpinned by flexible collection and donor invitation processes and high levels of collection productivity.

Our priority is to deliver a sustainable blood supply that recognises the ever increasing demand for O- whole blood, A- platelets and Ro donations.

Donor satisfaction is essential to ensure we maintain a strong donor base to meet current and future patient need. Therefore, we will continue to improve the donor experience and maintain an effective donor base whilst also restructuring the service to ensure that we achieve upper quartile productivity levels when compared to our international peers.

Specifically in the coming year we will begin the process of retiring the remaining small number of donation sessions serviced by bloodmobiles – where donors donate blood on a vehicle – and replace them with alternative community based sessions. We will continue to move more of our collection sessions to nine bed ones – which are more efficient. We will explain to our donors how this can sometimes mean they are invited to donate less often but at larger sessions. We will continue to invest in our fixed donor centres as part of our long term future – as we did last year in Nottingham – where we moved to a new site, and as we have recently in Tooting where we refurbished our current site.

We will also aim to recruit more donors from specific communities who are more likely to have blood groups that are in more demand than others, notably Black-African and Black-Caribbean, mixed race and Asian communities.

We will also build on the success of the new website and donor portal, and keep investing in giving donors a positive online experience – making it easier to interact with us online – particularly for younger donors whose digital expectations are higher.

Paul Reeve

This was Paul’s second time giving blood. He is a biker and recently retired from the fire brigade.

Paul said: “We always used to talk in the fire brigade about how we should give blood, but because of the shift patterns we were never really able to. When I retired from the service it was the perfect opportunity for me to start giving something back. “All the staff are really helpful and put your mind at rest.”
2. Supply chain
Our supply chain will be hospital focused with high levels of safety, service, quality, productivity, regulatory compliance and order fulfilment.

We have strong and clear plans for the year ahead. We will complete the implementation of an internal system to help improve blood stock inventory management. We will complete construction work in Manchester and progress the transfer of some manufacturing activity from Sheffield and Newcastle. We will build on the Transport Management System to deliver efficiencies and develop and test a tailored transport service for larger hospitals.

3. Customer service
We will provide excellent customer service with a tailored, cost-effective offering and a modern interface with hospitals.

We already achieve high customer satisfaction scores. However, analysis of customer feedback indicates regional variation in the quality of service. In addition, larger hospitals (with generally more complex practices) are less satisfied than medium or small hospitals. As a result, hospitals have asked us to:

• increase the availability of specialist components;
• improve turnaround times, and extend the working times in laboratories;
• provide integrated systems for ordering and invoicing, and improve our website content;
• provide bespoke delivery services for large hospitals to offer better stock management and improved blood bank efficiency; and
• continue to provide education and leadership in transfusion practice.

4. Integration
Integration of NHSBT’s supply chain with key hospitals, and any related networks, to drive improved patient outcomes and reduce system costs through integration of blood supply from ‘vein to vein’.

As a result of changes in hospital transfusion capability and capacity, we developed the Integrated Transfusion Service (ITS) concept which could see NHSBT integrating services with hospitals to unlock efficiencies and improve effectiveness. Although these are explicit ambitions of the Blood 2020 strategy, in the next three years the replacement of our IT system (Pulse) will take precedence over this and some other strategic projects. We believe this investment in our core systems is vital but also an opportunity to deliver greater flexibility in our services and the ability to offer more personalised donor services in future.

The future demand for blood
The key demand assumptions which underpin our five year plan are described below:

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</thead>
<tbody>
<tr>
<td>Red cell demand (units)</td>
<td>1,594,000</td>
<td>1,540,000</td>
<td>1,507,000</td>
<td>1,507,000</td>
<td>1,509,000</td>
<td>1,512,000</td>
</tr>
<tr>
<td>Platelet issues (units)</td>
<td>271,000</td>
<td>273,000</td>
<td>273,000</td>
<td>273,000</td>
<td>273,000</td>
<td>273,000</td>
</tr>
</tbody>
</table>

Note: The demand forecast also assumes full year impact of the ‘all Wales’ blood service from 2016/17.
Over the next five years the forecast broadly assumes that red cell demand will fall to 27 units per hundred thousand population by 2019/20 with little impact of changing demographics seen during the period. Despite further reduction in demand, our medium term pricing aspirations are to continue delivering the average 4% efficiency improvement seen over the last six years and deliver flat pricing of components over the planning period. This will require savings in excess of £40m over the period.

**Strategic targets**

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</thead>
<tbody>
<tr>
<td>% of donors scoring ≥9/10 for satisfaction</td>
<td>70%</td>
<td>72.4%</td>
<td>72%</td>
<td>73%</td>
<td>74%</td>
<td>77%</td>
<td>80%</td>
</tr>
<tr>
<td>No. of complaints per million donations (&lt;30% reduction in five years*)</td>
<td>4,900</td>
<td>4,900</td>
<td>4,900</td>
<td>4,900</td>
<td>4,050</td>
<td>3,750</td>
<td>3,350</td>
</tr>
<tr>
<td>Number of donors donating in the last 12 months</td>
<td>882k</td>
<td>881k</td>
<td>852k</td>
<td>834k</td>
<td>834k</td>
<td>835k</td>
<td>837k</td>
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<tr>
<td>Frequency of donation (overall)</td>
<td>1.90</td>
<td>1.89</td>
<td>1.88</td>
<td>1.88</td>
<td>1.88</td>
<td>1.88</td>
<td>1.88</td>
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<tr>
<td>Number of active O neg donors donating over the last 12 months</td>
<td>105k</td>
<td>106k</td>
<td>105k</td>
<td>105k</td>
<td>106k</td>
<td>108k</td>
<td>109k</td>
</tr>
<tr>
<td>Frequency of donation (O neg donors)</td>
<td>1.98</td>
<td>1.96</td>
<td>1.975</td>
<td>1.975</td>
<td>1.975</td>
<td>1.975</td>
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</tr>
<tr>
<td>% of whole blood donations in donor centres</td>
<td>13.5%</td>
<td>15.7%</td>
<td>17%</td>
<td>19%</td>
<td>21%</td>
<td>23%</td>
<td>25%</td>
</tr>
<tr>
<td>% of nine bed sessions</td>
<td>49%</td>
<td>63.2%</td>
<td>60%</td>
<td>65%</td>
<td>67%</td>
<td>69%</td>
<td>70%</td>
</tr>
<tr>
<td>Blood Donation productivity (units/FTE/year)</td>
<td>1,362</td>
<td>1,338</td>
<td>1,390</td>
<td>1,450</td>
<td>1,550</td>
<td>1,700</td>
<td>1,750</td>
</tr>
<tr>
<td>Days when stock level is below three days for any blood group</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of occasions where opening stock of platelets (for any blood group) is below average daily demand</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Number of critical and major non compliances at external inspection</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>% On Time In Full delivery (OTIF)</td>
<td>96%</td>
<td>96.2%</td>
<td>96.5%</td>
<td>96.75%</td>
<td>97%</td>
<td>97.5%</td>
<td>98%</td>
</tr>
<tr>
<td>Manufacturing productivity (units/FTE/year)</td>
<td>9,800</td>
<td>10,200</td>
<td>10,500</td>
<td>11,000</td>
<td>11,500</td>
<td>12,000</td>
<td>12,500</td>
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<tr>
<td>Testing productivity (units/FTE/year)</td>
<td>24,000</td>
<td>24,500</td>
<td>26,500</td>
<td>27,000</td>
<td>27,500</td>
<td>30,000</td>
<td>30,500</td>
</tr>
<tr>
<td>Hospitals rating satisfaction at ≥9/10</td>
<td>70%</td>
<td>74%*</td>
<td>70%</td>
<td>70%</td>
<td>70%</td>
<td>70%</td>
<td>70%</td>
</tr>
<tr>
<td>Red cell price (£/unit)</td>
<td>£121.85</td>
<td>£120.00</td>
<td>£120</td>
<td>£120</td>
<td>£120</td>
<td>£120</td>
<td>£120</td>
</tr>
<tr>
<td>Hospitals served via Vendor Managed Inventory</td>
<td>20</td>
<td>8</td>
<td>14</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
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<tr>
<td>Hospital networks with extended/integrated services</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

*2015/16 Actual as at the end of December 2015.

1 2020/21 targets subject to work to define post 2020 strategy.

2 Excluding complaints from team closures or session consolidation.
4  Organ Donation and Transplantation

Our strategic objective:

‘Taking Organ Transplantation to 2020’ seeks to build on the excellent progress of the last five years and aims to match world class performance in organ donation and transplantation.

The ‘Taking Organ Transplantation to 2020’ strategy (www.nhsbt.nhs.uk/who-we-are/strategy) was published in June 2013. It aims to achieve the following outcomes for organ donation and transplantation.

The strategy seeks to deliver four outcomes:

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.

We will support the UK to:

• develop national strategies to promote a shift in behaviour and increase consent;
• ensure that it is easy to pledge support for organ donation and, once a pledge has been given, to honour the individual’s decision;
• increase Black, Asian and Minority Ethnic community awareness of the need for donation, to benefit their own communities and provide better support for people in these communities to donate; and
• learn from the experience of legislative change in Wales.

Keith Buckley

Keith Buckley, a retired Fire Officer, suffered serious head injuries following an accident. He went on to donate his organs.

Keith’s daughter Jane said “It’s like he is living on, his legacy is still out there.”
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.

We will support the UK to:
- increase adherence to national standards and guidance;
- increase the number of people who are able to donate following circulatory death and promote donation throughout hospitals
- provide hospital staff with the support, training, resources and information they need to provide an excellent organ donation service; and
- ensure every donor’s care, prior to retrieval, optimises organ quality.

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.

We will support the UK to:
- increase the number of organs that are retrieved from both DBD and DCD donors;
- increase the number of organs that are able to be transplanted safely, providing surgeons with the information and guidance to make decisions about organ suitability and exploring the contribution of new technology to safe organ use; and
- improve transplant recipient survival by improving understanding of donor organ/recipient compatibility.

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.

We will support the UK to:
- support Regional Collaboratives to lead local improvement in organ donation;
- review and improve the workforce, IT, systems and processes which operate throughout the donation and transplant pathway; and
- build a sustainable training and development programme which can be tailored to meet local needs, in order to support organ donation and retrieval.

In support of this, four strategic targets have been defined:
- A consent/authorisation rate in excess of 80%
- 26 deceased donors per million population (currently 20.5 pmp)
- An aim to transplant 5% more of the organs offered from consented, actual donors
- A deceased donor transplant rate of 74 per million population (currently 53.9 pmp)

Simon Elmore at the Transplant Games
Simon received a kidney transplant in 2015, giving him a new lease of life.
Progress in 2015/16

The detailed Transplant Activity Report for 2015/16 will be published this summer once the data has been verified and analysed. However, the headline figures for 2015/16 are 1,364 deceased donors, versus 1,325 in 2013/14 and deceased donor transplants increased to 3,529. We also saw the consent rate hit 65% for the last three months of the year. This is broadly in line with the targets set out in the UK strategy.

![Number of Deceased Donors](image)

**Number of Deceased Donors**

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
<th>Target</th>
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<tbody>
<tr>
<td>2008</td>
<td>700</td>
<td></td>
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<tr>
<td>2009</td>
<td>900</td>
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<tr>
<td>2010</td>
<td>1,100</td>
<td></td>
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<tr>
<td>2011</td>
<td>1,300</td>
<td></td>
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<tr>
<td>2012</td>
<td>1,500</td>
<td></td>
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<tr>
<td>2013</td>
<td>1,700</td>
<td></td>
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<tr>
<td>2014</td>
<td>1,900</td>
<td>ODT 2020 Targets</td>
</tr>
<tr>
<td>2015</td>
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<td></td>
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<td>2021</td>
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**Living donation**

We work with transplant commissioners and transplant centres to support living donation. The living donor target for 2015/16 was set at 1,223 donors, equivalent to 18.5 pmp. Progress during 2015/16 has been difficult with a current moving annual total of around 1,085 donors (11% lower than plan). It is not unusual to see living donor numbers increase in the latter part of the financial year but it is anticipated that the outturn for 2015/16 will be below our expectations. On confirmation of this, we will collaborate with transplant commissioners to develop a plan to close the gap between performance and target in 2016/17.

**Financial challenges**

For 2015/16 additional funding of £5.5m was provided by the four UK Health Departments, including £4.2m from the Department of Health in England. The funding was generated to meet the planned levels of activity and provided £5.9m of funding in support of major transformational initiatives. Slower progress than planned on a number of the projects means spend is lower than budget and ODT made a surplus of circa £5.6m in 2015/16, reducing to circa £2.9m after agreed returns of surplus funding.

The UK Health Departments have all provided funding figures for 2016/17 and, based on this, NHSBT will be able to generate a balanced budget that will support planned funding for a range of projects. However, should the final IT replacement costs be higher, we will have to prioritise this over other projects and planned activity.

**Legislative change**

We continue to support the introduction of the deemed consent donation process in Wales as prescribed by the Human Transplantation (Wales) Act 2013, along with the implementation of a new Organ Donor Register (across the UK) that is required to support it. We will provide appropriate support as required for any further legislative change that may emerge across the UK.
Activities in 2016/17:
Based on the agreed funding for 2016/17, the key actions to be undertaken by ODT over the plan period include:

- Implementing the new Donor Registration Transformation Project – to make it safer, simpler and more supportive for our colleagues to capture donor information
- Implement our workforce strategy to develop people with the skills and capabilities to deliver against our plans
- For England only – run a series of public awareness campaigns throughout the year to increase the number of people registering an intention to donate their organs, particularly from Black and Asian communities where donors are urgently needed
- Implement the planned contractual changes to retrieval teams stemming from the National Organ Retrieval Service Review
- Progress work to replace our core IT systems and review processes supporting our activity
- Develop a strategy for organ utilisation to support transplant centres to use more organs safely.

The strategic targets below assume the appropriate funding will be provided but may need to be adjusted if this is unavailable.

Our strategic targets

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<tbody>
<tr>
<td>Increase % consent/authorisation rate (overall)</td>
<td>64%</td>
<td>62%</td>
<td>70%</td>
<td>72%</td>
<td>77%</td>
<td>80%</td>
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<td>Increase % consent/authorisation rate (DBD)</td>
<td>72.5%</td>
<td>69%</td>
<td>72%</td>
<td>77%</td>
<td>81%</td>
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<tr>
<td>Increase % consent/authorisation rate (DCD)</td>
<td>58.5%</td>
<td>58%</td>
<td>68%</td>
<td>69%</td>
<td>74%</td>
<td>77%</td>
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<td>Number of deceased organ donors</td>
<td>1,365</td>
<td>1,364</td>
<td>1,440</td>
<td>1,620</td>
<td>1,728</td>
<td>1,776</td>
<td>1,776</td>
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<tr>
<td>Deceased donors per million population</td>
<td>21</td>
<td>21.2</td>
<td>22</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>27</td>
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<tr>
<td>Number of living organ donors (reported one month in arrears)</td>
<td>1,223</td>
<td>970 (YTD Feb 2016)</td>
<td>1,260</td>
<td>1,368</td>
<td>1,512</td>
<td>1,728</td>
<td>1,728</td>
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<tr>
<td>Living donors per million population</td>
<td>19</td>
<td>16.7 (Dec 2015/16)</td>
<td>19.5</td>
<td>21</td>
<td>23</td>
<td>26</td>
<td>26</td>
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<tr>
<td>Organ Donor Register – number of new registrations (millions)</td>
<td>2.0</td>
<td>1.0</td>
<td>1.6</td>
<td>1.8</td>
<td>2.2</td>
<td>2.4</td>
<td>2.0</td>
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<tr>
<td>Number of deceased donor transplants</td>
<td>3,694</td>
<td>3,529</td>
<td>3,900</td>
<td>4,404</td>
<td>4,716</td>
<td>4,872</td>
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<tr>
<td>Deceased transplants per million of population</td>
<td>57</td>
<td>54.8</td>
<td>60</td>
<td>67</td>
<td>72</td>
<td>74</td>
<td>74</td>
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<tr>
<td>NHSBT cost per transplant (£Ks)</td>
<td>18.3</td>
<td>18.2</td>
<td>17.9</td>
<td>15.7</td>
<td>15.3</td>
<td>15.0</td>
<td>15.6</td>
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</table>

12020/21 targets subject to wider consultation about post 2020 strategy.
Diagnostic and Therapeutic Services (DTS) is composed of individual business units that supply biological products and services to support blood transfusion and organ/stem cell transplantation. It also provides therapeutic apheresis services.

DTS is comprised of the following strategic business units:

- Tissue and Eye Services
- Stem Cells – made up of Stem Cell Donation and Transplantation (SCDT) and Cellular and Molecular Therapies (CMT)
- Red Cell Immunohaematology (RCI), including Reagents
- Histocompatibility and Immunogenetics (H&I)
- Therapeutic Apheresis Services (TAS)

Each business unit has its own strategic plan. A common theme across all the plans within DTS is the opportunity for NHSBT to make the most of its unique national footprint and capabilities in order to consolidate services across the NHS. The primary objective is to leverage scale across low volume specialist products and services in support of lower costs, higher safety, consistent quality and better availability of specialist therapies for NHS patients.

The individual strategies and plans are summarised on the following pages.
5.1 Tissue and Eye Services

Our strategic objective:

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.

NHSBT is the sole supplier of certain critical tissues (particularly skin) to the NHS. Our strategy builds on our unique capabilities to provide bespoke services in support of unmet clinical needs, which can be provided both ethically and cost effectively. We are ideally positioned to work with surgeons, due to our access to deceased donor tissue and the dedicated donation facility in Speke. This provides an opportunity to consolidate supply across the NHS and hence generate efficiencies of scale that can be re-invested in new and improved tissue allografts and/or lower prices for the NHS.

We have four strategic goals:

To provide high quality care for donor families
There should be a consistent approach to gaining consent from donor families, but this approach should be based on compassion.

To reinforce NHSBT Tissue Services as the preferred provider for tissue allografts in England, Wales and Northern Ireland
We will supply allografts including femoral heads, skin, bone grafts, tendons, heart valves, amnion and autologous serum eye drops (ASE). We will consolidate supply across the NHS and hence leverage the capacity and capability of the Speke tissue bank and deliver cost benefits through scale.

Jo Galloway
Jo donated her mother’s corneas, helping transform lives.
To implement new systems in support of the core business processes
Core business processes will be introduced to support the implementation of greater sales and marketing capability and move us from being a passive to a proactive supplier to the NHS. This will be supported by improvements to customer and product coding processes and the provision of real time management information.

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, sharing our R&D and innovation capabilities and supporting infrastructures as a route to clinic for novel products.

The strategy will be refreshed to include the recent acquisition of the Manchester and Bristol eye banks.

Activities in 2016/17:
In the coming year we will:
• complete the transfer of the Bristol Eye Bank into our facility in Filton, Bristol;
• increase efficiency through applying continuous improvement methodology to our processes; and
• research, develop and trial new products and processes including recellularised trachea.

All activities are funded within the income envelope established by the plan. Flat prices were proposed and accepted for all products in 2016/17.

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<td>£11.7m</td>
<td>£12.7m</td>
<td>£14.4m</td>
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<td>£16.1m</td>
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<td>Contribution to overheads</td>
<td>£0.82m</td>
<td>£0.5m</td>
<td>£0.7m</td>
<td>£1.7m</td>
<td>£2.2m</td>
<td>£2.8m</td>
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<td>% of hospitals rating ≥ 9/10 for satisfaction*</td>
<td>80%</td>
<td>83%</td>
<td>80%</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>On Time In Full delivery (OTIF)*</td>
<td>98%</td>
<td>99.4%</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
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* 2015/16 Actual as at December 2015
5.2 Stem Cells

Our strategic objectives:

**Stem Cell Donation and Transplantation (SCDT)**
To maximise the number of patients offered a potentially curative stem cell transplant by providing an effective, affordable and financially sustainable supply of well-matched unrelated donor stem cells.

**Cellular and Molecular Therapies (CMT)**
To establish NHSBT as the preferred provider of established cell therapies to the NHS and innovative cellular and DNA-based therapies for academic and commercial organisations.

Haemopoietic stem cell transplantation (HSCT) or ‘bone marrow transplantation’ is firmly established worldwide as a curative therapy for patients with leukaemia and other haematological malignancies. For the majority of these patients, alternatives to using HSCT do not exist. NHSBT supports HSCT through:

- recruitment of donors and registration on the British Bone Marrow Registry (BBMR);
- sample collection;
- collection and storage of donated cord blood in the NHS Cord Blood Bank (NHS-CBB);
- Histocompatibility and Immunogenetics (H&I) laboratories that support stem cell transplant programmes at hospitals throughout England (tissue matching);
- donor typing, including typing of cord blood units, at Colindale; and
- donor satisfaction and patient monitoring.

As a result of these activities we directly support around 50% of all stem cell transplants in the NHS through collection, processing and cryopreservation of the donated stem cells.

More than 400 patients each year in the UK are denied access to a transplant, with around 200 lives lost due to the lack of a matched stem cell donor. This loss of life disproportionately affects black and ethnic minority 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 a result of our support for HSCT, NHSBT has developed a unique national footprint and capability. This provides us with the capabilities to support the development of the next generation of stem cell therapies that are using stem cells and bioactive molecules to regenerate tissues (‘regenerative medicine’) and to selectively destroy cancerous cells (‘cancer vaccines’) and viruses. In support of this, NHSBT is able to provide the donor stem cells and bring strengths in specialist manufacturing, regulatory expertise, distribution and R&D in support of this developing industry. This includes the operation of the Clinical Biotechnology Centre (CBC) in Bristol that has unique capabilities in the manufacture of plasmids/gene therapy vectors in small volumes to support early stage clinical trials.

Within Stem Cells we therefore recognise two distinct strategic objectives for:

- **5.2.1 Stem Cell Donation and Transplantation**, and
- **5.2.2. Cellular and Molecular Therapies**.
5.2.1 Stem Cell Donation and Transplantation (SCDT)

Our strategic objective:

Our strategic objective is ‘to maximise the number of patients offered a potentially curative stem cell transplant by providing an effective, affordable and financially sustainable supply of well-matched unrelated donor stem cells’. This is supported by the following three goals that deliver the objectives of the 2010 UK Stem Cell Strategic Forum, as updated by the Oversight Committee in 2014:

Goal 1. To improve the quality of adult donors and cord blood donations listed on the BBMR by:

- increasing the number of BBMR ‘fit panel’ donors from 23,000 donors to 53,000 donors by 2018;
- increasing the NHS-CBB inventory from 11,500 donations to 20,000 donations by 2018;
- adopting a ‘smart’ approach to donor recruitment using tag-SNP typing of blood donors to identify those likely to improve the genetic diversity of the BBMR and platelet donor panels; and
- minimising investment in additional cryogenic storage capacity by reducing the stock of R&D grade cord blood donations to 5,000.

Goal 2. To improve the characterisation of adult donors and cord blood donations by:

- typing all newly recruited donors and banked cord blood donations at an allelic level using Next Generation Sequencing (NGS).

Goal 3. To improve the visibility of donors and donations on international search reports by:

- completing the implementation of EMDIS-cord, implementing EMDIS-adult, and hosting an EMDIS hub for UK and European stem cell registries.

However, over the last two years, the number of cord blood issues and BBMR matches has reduced significantly. On an annualised basis, around 30 cord blood units are currently being issued versus 60 two years ago and the 150 that were anticipated at this time by the UK Stem Cell Strategic Forum. Income is therefore significantly lower than planned and puts the intention for SCDT to be less reliant on the Department of Health funding at risk. As a result the SCDT strategy is due for fundamental review in 2016/17.

DH funding of £2m provided for 2015/16, to maintain cord blood collection as a 24/7 operation at its existing six sites, is contracted to continue for 2016/17.

In the coming year we will:

- implement a Customer Relationship Management (CMS) system to improve the management of donors;
- recruit more male Caucasian donors under 30yrs and Black, Asian and Minority Ethnic donors under 40yrs to meet patient need;
- complete the rollout of EMDIS – our donor database – to establish reciprocal connections with similar organisational databases in France, Italy and Spain; and
- continue working with Anthony Nolan to promote donation.

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<tbody>
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<td>Income</td>
<td>£10.7m</td>
<td>£9.6m</td>
<td>£10.1m</td>
<td>£11.4m</td>
<td>£10.0m</td>
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<td>£10.0m</td>
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<tr>
<td>Contribution to overheads</td>
<td>£2.03m</td>
<td>£1.0m</td>
<td>£2.3m</td>
<td>£1.6m</td>
<td>£1.4m</td>
<td>£1.5m</td>
<td>£1.5m</td>
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<tr>
<td>Number of ‘critical’ and ‘major’ regulatory non compliances</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>% confirmatory typing within 14 days</td>
<td>80%</td>
<td>76%</td>
<td>85%</td>
<td>85%</td>
<td>90%</td>
<td>90%</td>
<td>90%</td>
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<tr>
<td>Banked donations TNC &gt; 140</td>
<td>2,300</td>
<td>1,950</td>
<td>2,300</td>
<td>2,300</td>
<td>1,400</td>
<td>500</td>
<td>500</td>
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### Strategic targets (cont.)

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<td>BAME cord units added to the bank</td>
<td>30%</td>
<td>43%</td>
<td>40%</td>
<td>40%</td>
<td>40%</td>
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<tr>
<td>Number of cord units issued</td>
<td>60</td>
<td>45</td>
<td>53</td>
<td>59</td>
<td>66</td>
<td>73</td>
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<td>Adult donor provisions</td>
<td>270</td>
<td>213</td>
<td>234</td>
<td>285</td>
<td>343</td>
<td>391</td>
<td>.391</td>
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<tr>
<td>Donors recruited to fit panel (Caucasian males &lt;30 years old)</td>
<td>6,000</td>
<td>5,900</td>
<td>7,000</td>
<td>8,000</td>
<td>9,000</td>
<td>10,000</td>
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<tr>
<td>BAME donors &lt;40 years old</td>
<td>2,000</td>
<td>2,100</td>
<td>3,000</td>
<td>4,000</td>
<td>5,000</td>
<td>6,000</td>
<td>6,000</td>
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### 5.2.2 Cellular and Molecular Therapies (CMT)

#### Our strategic objective:

Our strategic objective is ‘to establish NHSBT as the preferred provider of established cell therapies to the NHS, and of innovative cellular and DNA-based therapies for academic and commercial organisations’. This objective is supported by three goals:

**Goal 1. To meet customer demand for increasingly sophisticated haemopoietic stem cell therapies by:**
- providing complex processes and products to existing customers;
- promoting complex processes and products to new customers lacking the capability for in house production;
- improving safety through continuous improvement initiatives and the electronic transfer of data from laboratory analysers to Hematos; and
- refurbishing clean rooms to comply with current quality standards.

**Goal 2. To more than double the provision of innovative cell therapies for regenerative medicine by 2020 by:**
- producing a range of advanced cell therapy products under MHRA license intended for early phase clinical trials;
- collaborating closely with the National Institute for Health Research (NIHR) Blood and Transplant Research Units (BTRUs) and other academic and biotechnology enterprises;
- developing close and effective links with the Cell Therapy Catapult, Centres of Excellence for regenerative medicine, and UK regenerative medicine networks; and
- developing additional laboratory capacity and capability for the manufacture of advanced cell therapies at a single selected site.

**Goal 3. To more than double the provision DNA-based therapies by 2020 by:**
- producing a range of advanced molecular therapy products under MHRA license intended for early phase clinical trials;
- collaborating closely with NIHR BTRUs and other academic and biotechnology enterprises; and
- developing additional laboratory capacity and capability at our Clinical Biotechnology Centre (CBC).

In the coming year we will:
- drive improved quality and safety – replacing paper with digital transactions;
- establish protocols around new product developments; and
- create additional capacity for the production of DNA plasmids and viral vectors.
5.3 Red Cell Immunohaematology (RCI)

Our strategic objective:

To position RCI as an innovative, integrated, technologically-enabled service saving patients’ lives by ensuring they have access to precisely matched blood when needed.

Red Cell Immunohaematology (RCI) ensures the safety and clinical efficacy of red cell transfusion therapy by providing expert diagnostic and donation selection activities which are beyond the capability of hospital transfusion laboratories. The workload in our RCI laboratories has increased by between 2% and 5% per annum for the last two years. Working with hospitals during 2011 and 2012, we developed a blueprint for a hub and spoke ‘Integrated Transfusion Services’ model based on models used successfully in other countries. A transition towards such a model would represent enormous change. In response, the strategy is expressed in three discrete phases (Optimise, Extend and Integrate) to ensure that the strategy is executable. We believe we are currently in the ‘extend’ phase of our strategy.

Optimise RCI
Build the competencies required to meet changing customer needs and the challenges of future integration

Extend – through integrating patient care pathways
Prospectively genotype patients (e.g. multi-transfused patients) with the aim of optimising transfusion therapy

Integrate red cell diagnostics
Work with hospitals to extend services and form transfusion networks to drive higher standards at lower cost

### Strategic targets

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<tbody>
<tr>
<td>Income</td>
<td>£13.5m</td>
<td>£13.3m</td>
<td>£13.7m</td>
<td>£13.9m</td>
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<tr>
<td>Contribution to overheads</td>
<td>£1.5m</td>
<td>£1.1m</td>
<td>£1.2m</td>
<td>£1.2m</td>
<td>£1.3m</td>
<td>£1.3m</td>
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<tr>
<td>Percentage of hospitals scoring =/&gt;9/10 for satisfaction with RCI</td>
<td>65%</td>
<td>56%</td>
<td>61%</td>
<td>62%</td>
<td>63%</td>
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<tr>
<td>Number of ‘critical’ and ‘major’ regulatory non compliances</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Turnaround time vs SLA</td>
<td>95%</td>
<td>95.1%</td>
<td>95%</td>
<td>95%</td>
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5.4 Histocompatibility and Immunogenetics (H&I)

**Our strategic objective:**

To maintain our position as the UK’s largest provider of H&I services through delivering an innovative, integrated and technologically enabled service which will save more patients’ lives by ensuring they have access to precisely matched blood, stem cells and organs when needed.

Histocompatibility and Immunogenetics (H&I) services is concerned with the genetic testing and matching of solid organ donors, stem cell donors, and platelet donors with the requirements of individual patients (i.e. HLA 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 to meet specific patient HLA types.

We are by far the single largest provider of H&I services to the NHS with a market share of approximately 40%. We offer a unique and comprehensive portfolio of tests supporting cutting-edge transplant programmes and extensive clinical and scientific interaction with customers.

Continued growth is anticipated in stem cell and solid organ transplantation, with limited short-term threat from alternative providers and with emerging opportunities in the developing field of pharmacogenetics. Rapid advances in genetic testing are likely to change the way in which H&I services are delivered. We intend to be an early adopter of Next Generation Sequencing (NGS) technology for high throughput, high quality, and low cost donor and patient typing.

In support of this, three strategic themes have been identified:

- **Grow services** by offering additional services to existing customers, improving productivity and developing new business.
- **Improve patient outcomes** through better matching of blood components and transplants to meet the needs of patients.
- **Increase the repertoire of testing services** by leveraging our core capabilities in HLA-related testing and diagnostics to undertake a wider range of pharmacogenetic tests.

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<td>£13.9m</td>
<td>£14.1m</td>
<td>£14.3m</td>
<td>£14.3m</td>
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<tr>
<td>Contribution to overheads</td>
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<td>£1.9m</td>
<td>£1.9m</td>
<td>£1.9m</td>
<td>£1.9m</td>
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</tr>
<tr>
<td>Percentage of hospitals scoring =/&gt;9/10 for satisfaction with H&amp;I</td>
<td>=/&gt;60%</td>
<td>74%</td>
<td>61%</td>
<td>62%</td>
<td>63%</td>
<td>64%</td>
<td>64%</td>
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<tr>
<td>Number of ‘critical’ and ‘major’ regulatory non compliances</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>% of patients receiving A or B1 platelets</td>
<td>=/&gt;78%</td>
<td>75%</td>
<td>=/&gt;78%</td>
<td>=/&gt;78%</td>
<td>=/&gt;78%</td>
<td>=/&gt;78%</td>
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<tr>
<td>Time to type DCD Organ Donors</td>
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<td>64%</td>
<td>=/&gt;80%</td>
<td>=/&gt;80%</td>
<td>=/&gt;80%</td>
<td>=/&gt;80%</td>
<td>=/&gt;80%</td>
</tr>
<tr>
<td>Turnaround time vs SLA</td>
<td>98%</td>
<td>93%</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
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</table>
5.5 Therapeutic Apheresis Services

Our strategic objective:
To become the NHS preferred provider of high quality, cost effective therapeutic apheresis services.

We have a long history of providing life-saving and life-enhancing therapeutic apheresis services within the NHS. These services were traditionally provided as a result of utilising staff and equipment that was used to collect apheresis platelets. We have built on this to establish the largest installed therapeutic apheresis equipment base in the NHS.

As a result, Therapeutic Apheresis Services (TAS) now provides treatment to over 1,000 patients each year. The service provides access to a portfolio of therapies across a range of clinical specialties using technology that exchanges, removes, or collects certain components within the blood. It is the only area where NHSBT provides treatment directly to NHS patients. The main therapeutic apheresis procedures offered by TAS are:
- Extracorporeal Photopheresis (ECP)
- Plasma Exchange
- Peripheral Blood Stem Cell Collection.

The strategy for TAS is underpinned by the following three themes:
- **Become the preferred provider of therapeutic apheresis services**
  - Deliver 6,000 patient treatments per annum (40% market share)
  - Meet patient demand for specialised therapies.
- **Deliver high quality acute services from six NHS trusts**
  - Regional service provision for adults and children integrated with trust clinical teams
  - Meet the highest standards of safety and regulatory compliance.
- **Ensure leadership in therapeutic technology**
  - Largest number of machine platforms in the NHS
  - Wide portfolio of therapies covering a broad range of clinical specialities
  - Lead introduction of new therapies, for example, immunoabsorption.

**Nikki Clouden**

Nikki has a rare autoimmune disease which makes her allergic to water. She is dependent on regular plasma exchanges to make her life more bearable.
The service is delivered from seven units that are based within NHS trusts and which operate an outpatient model for non-acute patient procedures. Delivering services from within an acute setting also enables TAS to offer a peripatetic outreach model for paediatrics and acutely unwell patients. Units are located in the following NHS trusts:

- The Christie NHS Foundation Trust
- Oxford University Hospitals NHS Foundation Trust
- Sheffield Teaching Hospitals NHS Foundation Trust
- Leeds Teaching Hospitals NHS Trust
- University Hospitals Bristol NHS Foundation Trust
- Royal Liverpool and Broadgreen University Hospitals NHS Trust
- Great Ormond Street Hospital for Children NHS Trust.

Each unit operates as a regional service provider as part of a national infrastructure.

In the coming year we will:

- aim to increase market share by responding to the Anthony Nolan tender for the provision of regional collection services;
- secure new opportunities and space to establish new services; and
- implement a Customer Relationship Management (CRM) tool.

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<tbody>
<tr>
<td>Income</td>
<td>£6.9m</td>
<td>£6.4m</td>
<td>£6.52m</td>
<td>£6.61m</td>
<td>£6.71m</td>
<td>£6.81m</td>
<td>£6.91m</td>
</tr>
<tr>
<td>Contribution to overheads</td>
<td>£1.26m</td>
<td>£1.28m</td>
<td>£1.22m</td>
<td>£1.21m</td>
<td>£1.19m</td>
<td>£1.16m</td>
<td>£1.13m</td>
</tr>
<tr>
<td>Number of ‘critical’ and ‘major’ regulatory non compliances*</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Percentage of patients rating patient experience =&gt;9/10 with the service from TAS*</td>
<td>95%</td>
<td>99%</td>
<td>95%</td>
<td>95%</td>
<td>95%</td>
<td>95%</td>
<td>95%</td>
</tr>
<tr>
<td>Percentage of hospitals scoring =&gt;9/10 for satisfaction with TAS**</td>
<td>=&gt;60%</td>
<td>68%</td>
<td>62%</td>
<td>63%</td>
<td>64%</td>
<td>65%</td>
<td>65%</td>
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*2015/16 measure is the position as at December 2015 (except ** which is June 2015).
6 | Our research

We conduct a world-leading research and development programme to underpin our strategic objectives in transfusion, transplantation and regenerative medicine. Our Research and Development Strategy for 2015-20 was published last summer and is available at: http://www.nhsbt.nhs.uk/research-and-development/research-and-development-strategy/

The strategy is founded on eight goals:

Goal 1: To establish and ensure delivery of NIHR Blood and Transplant Research Unit objectives through partnership working
- Working with the Directors of the NIHR BTRUs we will support delivery of the objectives of each of the four research units and the translation of their outputs into clinical practice.

Goal 2: To enhance our programme of research in transfusion/transplantation microbiology and virology to maintain blood, tissue and organ safety
- Working in partnership with Public Health England we will focus on hepatitis E (HEV) and hepatitis B (HBV) in the early years of this strategy and emerging infections throughout to maintain transfusion and transplant safety.
- We will work with the University of Cambridge and clinical colleagues to fill the vacant lectureship in virology and appoint a successor to the current Director of the Blood Borne Virus Unit.
- We will conclude development of potential screening and confirmatory assays for vCJD. Any further evaluation of assays developed by others or epidemiological studies will form part of the UK Blood Services’ safety programme.

Goal 3: To deliver clinical trials to support patient blood management
- We will complete ongoing studies focused on the appropriate use of platelets and red cells in the multi-transfused, neonates, and patients with low platelet counts.
- We will conduct a clinical trial on patients requiring coagulation replacement – this was identified as a priority by the Patient Blood Management strategy group. Different funding sources will be explored.

Goal 4: To strengthen our position in the development, assessment and clinical delivery of regenerative medicine based therapies
- We will conduct a first-in-man clinical trial of manufactured red cells to compare the survival of red cells manufactured from stem cells with that of donated red cells.
- We will continue to support pre-clinical science on manufactured red cells and platelets with cell biology research to understand how stem cells turn into blood cells.

Goal 5: To establish a Behavioural Research programme to identify behavioural change interventions which significantly increase donation and consent rates
- We will establish a Donor Behaviour research strategy group across blood, tissues and organs that will develop a programme of research in behavioural change interventions.
- We will prioritise behavioural change interventions which could have a positive impact on organ donation and utilisation rates in support of the TOT2020 strategy.

Goal 6: To establish a Translational Data Science programme to build and exploit big data resources that deliver improvements to our services
- We will invest in people with relevant quantitative inter-disciplinary expertise for building and exploiting big data resources for donor and patient benefit.
- We will prioritise and deliver studies using these unique linkages, for example, applying genomics data to donor management and the identification of donor factors which predict component storage characteristics and post-treatment effects of transfusions and transplants.
Goal 7: To provide facilities and resources to support an innovative research programme

• We will work with our academic partners to ensure that our scientists and clinicians are embedded within environments which facilitate the successful delivery of innovative research programmes.

• We will continue the practice of providing core funds to our Primary Investigators through rolling work packages prepared in conjunction with the Research Strategy Groups and approved by the R&D Committee.

• We will introduce a specific funding stream to support pilot and preliminary studies to help secure external grant funding.

Goal 8: To ensure that our workforce have the skills and expertise to deliver the R&D Programme

• We will establish a tenure track programme to support mid-career researchers linked to succession planning, starting with one post in 2016/17.

• We will aim to increase the proportion of female group leaders and Principal Investigators, in line with the Athena-Swann programme for academic centres.

Our R&D programme is overseen by a formal committee of our Board. The total spend is budgeted at £7.4m in 2016/17 with £3.0m of this spend conducted by the four NIHR BTRUs. The NIHR provide funding of £1.0m directly to us. The balance of the funding for R&D is provided by an internal levy on blood prices (£3.1m) and from ODT funding (£0.3m).
7 | Supporting our ambition

An ambitious organisation like NHSBT needs excellent corporate support services in order to achieve its strategies and objectives.

Our corporate support services are focused on:
• promoting advocates for the voluntary donation of blood, organs and tissues;
• developing organisational capacity, capability and lean processes;
• identifying opportunities for effective collaboration across our operating divisions;
• improving our IT services while harnessing the power and potential of digital;
• championing a culture of sustainability across all of our activities; and
• developing an excellent estate of buildings in which to base our people.

We have established a highly recognised set of corporate values: Caring, Expert and Quality, supported by a behaviours framework used throughout the organisation. Employee engagement is a priority for us and progress is measured through our employee surveys. Other priorities include further enhancing our HR self-service model and ongoing talent and succession planning.

Key to our future success is investing in our IT systems and services for the long-term, and continuing to harness the power and potential of digital. While there are a number of key systems that we need to replace in the coming years, we have a clear focus on the long-term. The investments we are making now will support greater flexibility in our services, enable us to provide greater integration of services with hospitals and will enable us to give a more personalised donor service.

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<tbody>
<tr>
<td>Reduction of CO2 emissions (tonnes)</td>
<td>25%</td>
<td>26%</td>
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<td></td>
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<td></td>
<td>Further 50% reduction by the end of 2025</td>
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<tr>
<td>Number of BAME staff employed by NHSBT at AfC band 8a or above</td>
<td>40</td>
<td>44</td>
<td>47</td>
<td>48</td>
<td>49</td>
<td>50</td>
<td>51</td>
</tr>
<tr>
<td>Employee satisfaction – % of employees surveyed that are enthusiastic about their work</td>
<td>68%</td>
<td>70%</td>
<td>69%</td>
<td>70%</td>
<td>71%</td>
<td>72%</td>
<td>73%</td>
</tr>
<tr>
<td>Reduce the number of servers (physical and virtual) hosted and managed directly by NHSBT</td>
<td>1,352</td>
<td>1,098</td>
<td>998</td>
<td>772</td>
<td>438</td>
<td>127</td>
<td>100</td>
</tr>
<tr>
<td>Reduce the number of obsolete or end of life software products used across NHSBT</td>
<td>60</td>
<td>TBC</td>
<td>48</td>
<td>36</td>
<td>24</td>
<td>12</td>
<td>0</td>
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</table>
To save and improve lives, we need to encourage ever more people to become donors.

We work closely with partners in the public and private sector to spread the message about donation. We also work closely with Black, Asian and Minority Ethnic groups to make sure we recruit enough donors to meet the needs of patients and ensure our donor base reflects the diversity of the patients we serve.

We are always looking for new ways to promote the donation message – whether it is in the form of attending festivals such as V festival, holding blood donor recruitment events in shopping centres or using social media to share stories and encourage people to share the donation message with their own social media community.

We regularly use real people’s stories – whether they are a donor or a recipient – to motivate people to become donors. We are incredibly grateful to everyone who agrees to share their story either in the media or in social media or in documents like this. Seeing the real people whose lives are saved and improved through donation is a real motivator to encourage others to become donors.

Campaign highlights 2015/16:

**Missing Type**

During National Blood Week 2015 we launched a campaign to encourage those who have never donated blood before to sign up as donors.

We asked brands, organisations and influencers to remove A, O and B (the letters that make up the blood groups) from their websites, Twitter names and signage without explaining why. It was then revealed that the letters had mysteriously gone missing to highlight the need for new donors.

The campaign generated a huge amount of national print, online and broadcast media. On social media 1,000 brands showed support on Twitter and 478,480 people engaged with the campaign on Facebook.

Thanks to the huge support from our companies, influencers, charities and blood donors the campaign was a huge success, with over 30,000 people registering to donate.

**The Wait**

In November 2015 we launched our Winter campaign across England encouraging people to join the NHS Organ Donor Register. The campaign, which ran until 31 January, used digital and social media to draw attention to what life is like waiting for a transplant and encouraged people that now is the #TimeToSign the register. Five original videos featuring waiting patients were shared on social media – the first video featured 10 year old Matthew and received 81,000 views, 1,800 likes and 1,200 shares, with a potential reach of over 483,000. Our innovative partnership with Tinder achieved over 5,000 directly attributable registrations as well as global social and media interest and celebrity endorsement.
The majority of our income is generated from the products and services we provide to hospitals. We receive programme funding from the Department of Health and funding from the Welsh Government, Northern Irish Government and Scottish Government to fund our organ donation activity. We also receive funding from the Department of Health to implement the recommendations of the Stem Cell Strategic Forum.

The headline price for basic red cell units has been maintained at £120/unit in 2016/17. This will be achieved by delivering efficiency savings of 3.3% on our cost base for 2015/16 and include a mix of productivity improvements, cash releasing consolidations, operational efficiencies and procurement savings. Our plans assume that no safety initiatives will be mandated by the Department of Health.

In our Diagnostic and Therapeutic Services, our strategies have a common theme of utilising our significant network and capabilities to establish NHSBT as the preferred national supplier of these services to the NHS. This provides us with the opportunity to generate year on year reductions in unit cost over the medium term and hence lower prices to NHS hospitals, whilst improving the quality and reliability of the service overall. In 2016/17 our prices will remain broadly flat.

Organ Donation and Transplantation funding for 2016/17 has been confirmed by all four UK Health Departments.

### NHSBT revenue statement

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<tr>
<td></td>
<td>£m</td>
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<tr>
<td>Income – Blood/DTS/other</td>
<td>340.2</td>
<td>343.3</td>
<td>333.1</td>
<td>334.9</td>
<td>335.7</td>
<td>338.8</td>
<td>340.4</td>
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<tr>
<td>Programme funding – DH</td>
<td>61.9</td>
<td>61.9</td>
<td>66.1</td>
<td>66.1</td>
<td>66.1</td>
<td>66.1</td>
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<tr>
<td>Additional subsidy for ODT</td>
<td>4.2</td>
<td>1.5</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Income from UK HDs (ODT)</td>
<td>12.2</td>
<td>12.2</td>
<td>12.0</td>
<td>12.0</td>
<td>12.0</td>
<td>12.0</td>
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<tr>
<td>Total Income</td>
<td>418.5</td>
<td>418.9</td>
<td>411.2</td>
<td>413.0</td>
<td>413.8</td>
<td>416.9</td>
<td>418.5</td>
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### Net I&E position

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<td>Blood/DTS</td>
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<td>ODT</td>
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<tr>
<td>Surplus/(deficit)</td>
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The contributions for Organ Donation and Transplantation provided from the other UK Health Departments in 2016/17 are summarised in the table below.

<table>
<thead>
<tr>
<th>ODT</th>
<th>2015/16 Budget</th>
<th>2015/16 Actual</th>
<th>2016/17 Plan</th>
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<tbody>
<tr>
<td></td>
<td>£m</td>
<td>£m</td>
<td>£m</td>
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<tr>
<td>Scotland</td>
<td>5.5</td>
<td>5.5</td>
<td>6.1</td>
</tr>
<tr>
<td>Wales</td>
<td>4.6</td>
<td>4.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Total income</td>
<td>12.2</td>
<td>12.2</td>
<td>12.0</td>
</tr>
</tbody>
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