

Vision for Science: People Strategy

Enquiring minds; innovative approaches; expert knowledge



Why have a Science Strategy?

This *Vision for Science* is aligned to our People Strategy but targeted at scientific roles. It highlights the essential scientific knowledge, skills and foundations which lie at the heart of saving and improving patient lives, both now and into the future.

NHSBT must maintain world leading status as a provider of excellence in service to patients and donors, research and development, and training and education. Implementation of this strategy will better align scientific training and workforce development across the organisation to meet internal and external needs in a modern NHS.

We aspire to be an employer of choice: recruiting, developing and retaining talented scientists capable of translating exciting scientific and therapeutic advances into patient benefits.

Background

Approximately 25% of NHSBT's workforce are in Scientific and Technical roles (c1400 employees). Roles include technical officers, biomedical scientists and clinical scientists, employed mainly in diagnostics, research or the laboratory areas of the blood supply chain. This number has stayed steady for the last four years despite decreases in overall NHSBT staff numbers.

The age profile of scientific and technical staff within NHSBT compares favourably with other staff groups within the organisation, with a significant percentage being in the 26-35 age band in the relatively early stages of their career, developing as specialists. This growing younger workforce, supported by experienced staff, are ready to embrace new developments. Across NHSBT strategies are being implemented to attract a younger workforce, such as re-introducing work experience, utilising apprenticeships, holding open days and increasing the use of social media.

However, 205 employees are aged over 56 years, and over 30% are over 46, between them they hold a large bank of specialist knowledge, and significant levels of skills and experience. The knowledge and skills drain on their retirement may have significant impact with successors needing several years to develop similar levels of specialist knowledge and experience.



Scientific knowledge and understanding is rapidly changing with high levels of technological advancement and growth in fields such as genomics, bioinformatics and regenerative medicine that align to NHSBT's predicted future needs. Capturing the benefits offered by these technologies requires investment in people. We do not yet have the capacity, skills or resources to fully embrace these developments. Significant investment will be required to ensure that we have the appropriate scientific skills required in modern transfusion and transplantation practice.

Scientists in NHSBT provide excellence in service, research and development and training and education. This strategy will build on this success and ensure we maintain our expertise and excellence as scientific and medical advances transform the NHS. It aims to raise the profile of science and the scientific workforce to maintain our reputation as knowledge experts and increase our attractiveness as an employer of scientific staff.

NHSBT needs to invest if it is to continue attracting, recruiting, developing and retaining a scientific workforce supported in the right environment that are:

- Engaged
- Innovative – with the capacity to embrace new technological and scientific advances
- Patient-centred
- Forward-looking
- Creative and have enquiring minds
- Have expert knowledge but willing to consider new ways of working.



The goals within this strategy address operational and strategic challenges and opportunities. We will identify geographical and specialism-related areas where there are particular opportunities and challenges with:

- Recruitment
- Retention of knowledge
- Expertise gaps
- Training requirements.

The Scientific and Political Context

There have been significant scientific and political changes that have impacted, or will impact on scientists within NHSBT. These have affected individuals, their career structure and roles they perform.

Modernising Scientific Careers (MSC) was a Department of Health initiative (UK Health Departments 2010) to better align scientific and technical roles across all disciplines in the NHS and attempted to increase flexibility and sustainability and introduce modern career pathways. This led to significant changes in training across the NHS to develop a workforce with wider base of knowledge and competency and less specialisation earlier in the career pathway, but also pathways to develop Consultant Clinical Scientists to support aspects of a doctor's role. These new training programmes, changed roles and education quality frameworks have had a significant impact on the way NHSBT has supported scientists in their professional training.

However these programmes are not fully aligned to NHSBT's needs as trainees undertake very wide range of specialist rotations in specialisms not represented in NHSBT with little time within the organisation, producing scientists less suitable for our specialist needs. As these programmes may attract significant funding from Health Education England (HEE), full and appropriate engagement with the MSC networks should ensure better alignment to our needs, alongside appropriate financial support for development.

New developments in science, clinical medicine and technologies such as genomics, bioinformatics and regenerative medicine, combined with our ambitions in these areas, mean that we need a strategy which will develop a scientific workforce with the expertise to capitalise on these new technologies.



Because of healthcare improvements, the population is aging, which may lead to an increase in the need for transfusion (Williamson 2013), and may also bring differences in the requirement for diagnostic testing, and associated changing requirements for training. These predicted changes need to be considered throughout the strategy.

Training a fully qualified, skilled and knowledgeable scientist able to fully guide hospitals requires a long lead time. A minimum of 8 years postgraduate training is required to produce a fully independent, registered Consultant Clinical Scientist. In order to deliver an effective strategy over such an extended training period will require actions across the entire career pathway. Where new science may also be involved, this creates potential unknown issues for recruitment and training, and so we need to react quickly to stay abreast of these advances.

NHSBT employs many experts in their fields, especially in transfusion, and we should be leading in decisions and political agendas, as well as in the development and utilisation of new science. We are world class in many areas, and want to maintain our reputation, but we also want to build on our corporate knowledge by being seen to be experts in a wider range of scientific areas, including newer science, such as advanced cellular therapies.

The NHS context/Supporting the NHS

NHSBT's People Strategy details many of the issues affecting the NHS and our employees, but in addition there are some challenges and opportunities unique to scientific roles that this strategy must address.

The Medical Consultant role is widening and moves have been made to increase levels of expertise in other professional roles, such as advanced nurse practitioners prescribing medicines and authorising blood. Within the scientific arena, Consultant Clinical Scientists will become more involved in interpreting results and communicating those results to patients and we need to ensure development and succession plans are in place across the organisation to fully embrace this change.

There is increased demand to offer the best or most effective patient experience. Innovative, novel and personalised treatments and therapies are being developed to improve patients' outcomes and experience, while still offering value for money. NHSBT needs to continue to adapt to the changing scientific arena, differing clinical needs and technological advances.

As the NHS has responded to austere financial times, considerable amounts of consolidation, integration and automation have been introduced into laboratories. This has led, in many cases, to a move to a multi-disciplinary workforce, with the ensuing dilutional impact on skills and knowledge. More mistakes in hospital laboratories have been reported to the Serious Hazards of Transfusion committee (SHOT reports 2014, 2015), and this will require increased support from NHSBT in transfusion training.



The requirement for a 7 day, 24 hour NHS will necessitate changed patterns of work for our staff with innovative staffing models, and suitable remuneration for out of hours services required to respond to increasing overnight throughput. Increases in organ transplantation have also led to increased need for scientists in Histocompatibility and Immunogenetics, and supply of qualified scientists needs to keep up with changing demand.

Pathology services are increasingly offering a hub and spoke service, with small numbers of large hub laboratories with high throughput systems, integrating closely with small spoke laboratories interfacing directly with the hospitals. This could lead to increased throughput through NHSBT departments. NHSBT needs to align service provision to these different delivery models, and work closely with customer hospitals. Future roles may require closer alignment of NHSBT and the wider NHS, hence require scientists to be equipped to work across conventional organisational divides.

Our Vision

This ambitious organisation-wide *Vision for Science* aligns with the NHSBT People Strategy and our organisation objectives. It describes priorities for scientists within NHSBT. This will include the scope of our training and education offering, and identify what opportunities could support or complement this in the wider NHS, and opportunities for income generation to provide support for the delivery and implementation.

Implementation of this strategy will be supported through cross-directorate partnership working, and engaging with our external stakeholders.

Science People Strategy: The five themes in NHSBT People Strategy are utilised throughout this strategy, with emphasis on scientific and technical roles:

NHSBT People Strategy Theme	<i>Vision for Science</i> Aim
Attract the best people	Attract innovative and creative scientific talent to NHSBT.
Develop and grow our talent	Provide access to appropriate development for all scientific and technical employees to enable them to undertake their current and future roles in NHSBT.
Retain our people and skills	Recognise and reward people in scientific and technical roles. Retain specialist knowledge and expertise.
Lead with passion	Develop leaders with scientific and management skills.
Create the right environment	As we need to create a safe environment which encourages a respect for wellbeing, employee engagement, innovation and continuous improvement and maintain our commitment to work in partnership.

In order to deliver our *Vision for Science* this strategy proposes:

- working across Directorates to identify key strategic challenges and opportunities
- identify geographic and specialism gaps in knowledge and expertise
- develop an action plan to address these challenges and capitalise on opportunities
- enabling us to be recognised as a scientific organisation to attract the best
- create a scientific academy delivering high quality learning opportunities delivered by a range of innovative and traditional methods
- delivering on the action plan over five years to 2022.

Successful delivery will result in NHSBT being recognised as a world-class scientific organisation that can attract and retain the best people.



Each of the five People Strategy themes will be addressed individually with appropriate actions:

Attract the best people

NHSBT wants to ensure that we have the most talented individuals working and leading in scientific roles and become an employer of choice for scientists. Currently there are some geographic areas, such as London, where recruitment of scientists is more challenging because of the competitive market. We need to understand the reasons for this and develop plans to address them, to make NHSBT an attractive employer. For some specific scientific roles there may not be a resource pool of qualified people available. Identifying key areas, both geographic and specialism-related will lead to focused initiatives to address these gaps.

Considering new ways to recruit, such as apprenticeships and “growing-our-own” offers one solution, and developing NHSBT as an innovative and inspiring place for scientists to work will also increase successful recruitment.



Our Actions

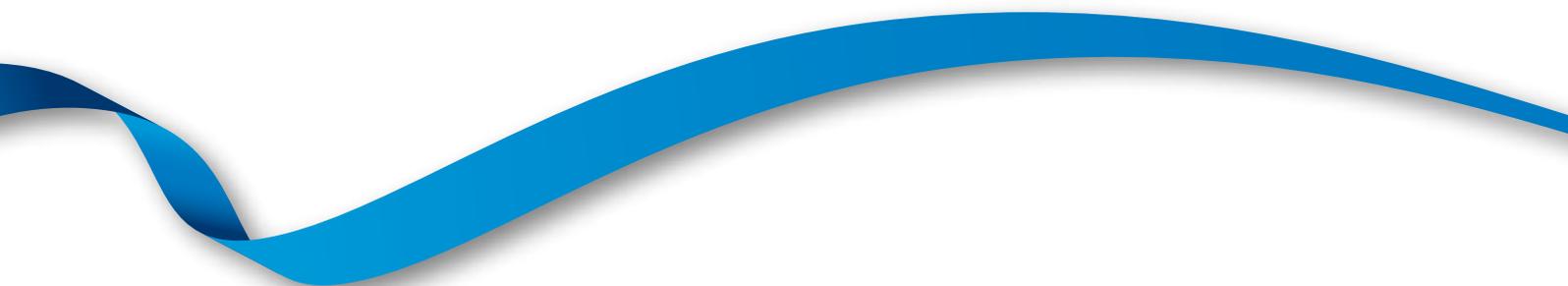
Strategic Aims	Strategy for Scientists: strategic objective
<p>Attract the Best People – to deliver our life saving work and to bring innovation to an organisation that continually needs to evolve</p>	<p>We will develop plans to attract a dynamic, creative, innovative, scientifically excellent workforce – undertaking activities to actively attract them.</p>
	<p>We will ensure that scientific roles are accessible to people from any background, and seek to redress any areas of reduced diversity in the scientific workforce.</p>
	<p>We will create a plan to address difficulties in recruiting to specialist roles (RCI,SCI,H&I) where there are shortages – also in specific geographical areas (such as London).</p>
	<p>We will develop a plan to increase recruitment to scientific and technical posts where appropriate.</p>
	<p>We will investigate options to recruit trainees to train in-house.</p>

Develop and grow our talent

Developing a unique workforce skill mix from grass roots up to senior leaders with clear development pathways will support the science agenda. Implementing appropriate scientific apprenticeships will engage with a younger workforce, and “growing our own” will enable tailored programmes to meet current and future scientific need from our existing workforce. Developing robust succession planning and talent management will enhance development pathways.

Implementing cross-directorate training at apprenticeship and registration level will improve resilience and knowledge-sharing, and building partnerships with hospitals will widen the opportunities of sharing expertise. Operational and OWD partnerships will also help to plug skills and knowledge and expertise in the wider NHS.

Developing a culture which supports inquisitive minds, enabling the exploration of ideas and concepts and use lawful audacity to implement technological changes that improve patient outcomes. Remembering that “Training is patient safety for the next 30 years” (*Professor Sir John Temple, 2010*) will ensure our development strategy aligns to patient and business need.



Our Actions

Strategic Aims	Strategy for Scientists: strategic objective
<p>Develop and Grow our Talent – ensuring all our employees in scientific and technical roles have access to appropriate development to enable them to undertake their current and future roles in NHSBT</p>	<p>We will create clear end to end development and succession plans from grass roots to senior Consultant Clinical Scientist Grades.</p>
	<p>We will support talent management to identify high potential scientists early in their careers within areas already under pressure and in new science areas.</p>
	<p>We will identify In terms of the ‘new science’ future state what is the current state skills mix in bioinformatics, big data and computational biology and develop appropriate plans.</p>
	<p>We will investigate opportunities to develop greater flexibility in roles such as rotating apprentices and scientific staff across Functions and Directorates in specific areas, and between NHS trusts, where rotation would benefit the business.</p>
	<p>We will support the development of appropriate equivalence routes to registration grades, and identify suitable staff to receive suitable funding and support.</p>
	<p>We will continue our strong relationship with Health Education England and school of Healthcare Science to continue to influence and shape the MSC agenda and improve and/or develop suitable curricula as appropriate to ensure MSC delivers what we need to support our workforce.</p>
	<p>We will ensure appropriate internal and external qualification opportunities are identified and/or developed to support current and future need.</p>
	<p>We will create a development plan for a range of areas of specialist knowledge needing enhancing in the scientific workforce such as intellectual property and commercialisation.</p>
	<p>We will continue to support the development of staff from the wider NHS where appropriate, particularly in areas of transfusion science and medicine.</p>
	<p>We will continue to support NHSBT staff and employed trainees through appropriate qualifications that are aligned to Directorate current and future requirements.</p>
<p>We will work to establish and sustain a continuous learning culture.</p>	

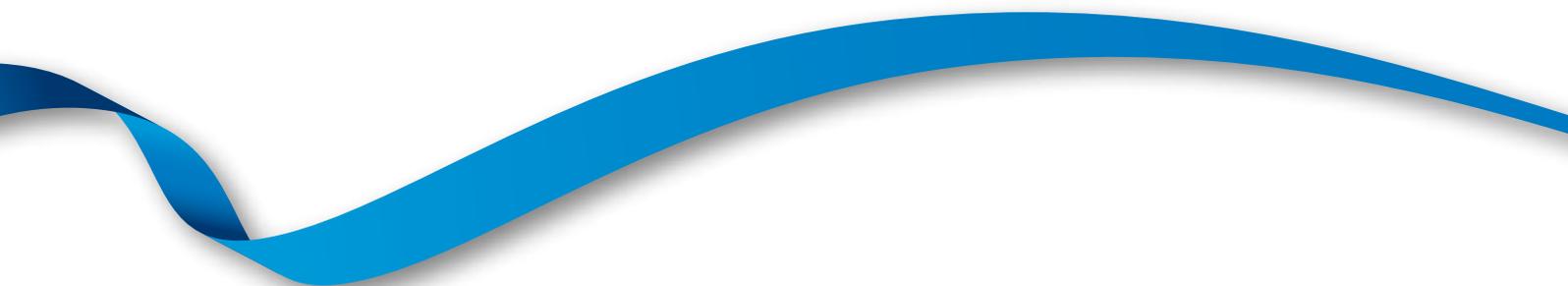
Retain our people and skills

Getting the environment right and developing the employees in post will support the retention of trained scientists. Higher numbers of trainees leave NHSBT on receiving their qualification than is ideal, so strategies will be developed to increase retention. We will offer more attractive developmental pathways following qualification and review with trainees the future opportunities which NHSBT can offer. More cross-department and cross-directorate training programmes will be established to create more adaptable employees with more fluidity of workforce able to respond to a dynamic environment and widen the opportunities available within NHSBT.

Supporting the 1,400 people in scientific and technical roles to remain with NHSBT will support maintenance of knowledge, skills and competency in senior scientists, but other workforce strategies such as enabling people to work more flexibly towards retirement may help to ensure knowledge transfer.

Our Actions

Strategic Aims	Strategy for Scientists: strategic objective
<p>Retain our People and Skills – ensuring we recognise and reward our people for their contribution to achieving our purpose</p>	<p>We will ensure transparency between functions regarding roles and expectations of different grades and different roles.</p>
	<p>We will review all current trainees and contract status to ensure their contract clearly shows our commitment to their learning, and develop a plan to reduce the turnover on completion of training.</p>
	<p>We will ensure the registration status of Biomedical Scientists and Clinical Scientists reflects current or new roles required in a modern NHS.</p>
	<p>We will investigate different methods and models of training, to determine whether there are ways of training staff to create a more resilient/adaptable workforce (e.g. rotational) capable of adjusting to changing needs within the NHS.</p>
	<p>We will actively promote a culture where scientists feel valued and enabled to reach their full potential.</p>



Lead with passion

Promoting science within and beyond NHSBT will raise the profile of World Leading work we do. Developing scientific leaders able to work across NHS organisations will improve transfusion safety. We need to continue to work closely with HEE and other appropriate external organisations to lead in delivering key scientific agendas.

We will develop a Transfusion and Transplantation Science Academy to support us becoming and remaining academically credible. Shared scientific posts between NHSBT and NHS trusts and/or Universities, paralleling the partnerships seen in the Clinical Directorate may also strengthen this vision.

Aspiring to be more proactive not reactive to the changing economic, political and scientific environment will ensure rapid assimilation of new developments or strategies. Having more scientists at very senior levels in NHSBT’s leadership pool will also inspire scientists to aim high.

Our Actions

Strategic Aims	Strategy for Scientists: strategic objective
<p>Lead with Passion – we need scientific leaders with the passion to deliver services whilst leading diverse teams in a front-line service</p>	<p>We will support our senior scientists to acquire new skills and knowledge adjunctive to their main roles:</p> <ul style="list-style-type: none"> • new skills to support the identification of commercial opportunities • hospital-based transfusion to continue with the Integrated Transfusion Science (ITS) agenda.
	<p>We will continue to develop leaders from within the scientific workforce, developing their leadership skills alongside their specialist scientific knowledge and skills.</p>
	<p>There is an opportunity to lead scientific training in transfusion and transplantation, by building on our status as national guardian of knowledge and expertise in traditional areas such as transfusion. This can be extended by development of a transfusion and transplantation academy with innovative and high quality education offering.</p>
	<p>We will develop a structured approach to training and education on new cell therapies and other new areas where NHSBT has either a need or expertise.</p>



Create the right environment

Creating an exciting environment where scientists are enabled to be innovative and passionate about making a difference to donors and patients will ensure our workforce feel empowered, informed and able to make decisions. Encouraging and nurturing employees while giving them permission or lawful audacity to challenge the status quo will enhance their ability to be creative and innovative. Using Continuous Improvement in a balanced and appropriate way should release capacity to innovate and be creative.

Our Actions

Strategic Aims	Strategy for Scientists: strategic objective
<p>Create the Right Environment – we need to create a safe environment which encourages a respect for wellbeing, employee engagement, innovation and continuous improvement and maintain our commitment to work in partnership</p>	<p>Creating an innovative, exciting, creative learning culture to engage employees with enhanced opportunities:</p> <ul style="list-style-type: none"> • Continuing professional development events • Innovative e-learning including brief transfusion education (Tx-ED) talks • Secondments/shadowing • Projects/problem-solving events • Knowledge – sharing opportunities.
	<p>We will seek opportunities to generate more income from scientific and technical training to create capacity within laboratories.</p>
	<p>We will ensure understanding and promotion of roles of scientists in NHSBT to promote NHSBT as a great place to work.</p>
	<p>In critical areas, we will develop our staff to be at the cutting edge scientifically:</p> <ul style="list-style-type: none"> • Genomics and biotherapies are advancing quickly and we need to be ready • We need to transfer knowledge from academia to specialist services before translating the science into application • Develop the right knowledge base to make the inevitable transition from diagnostics to prognostics (big data).
	<p>We will ensure library and knowledge resources are suitable for scientific and clinical needs.</p>

Strategy delivery

The strategy will be delivered through cross directorate working groups comprising senior members of the different functions employing scientists working with Workforce colleagues from Recruitment, Human Resources and Organisation and Workforce Development.

Regular reports to DTS and Workforce Senior Management Teams will ensure accountability for strategy delivery.

Summary and Conclusions

NHSBT has a strong brand and has strong relationships with HEE and the ambition to deliver greater training, particularly transfusion training, for us and the wider NHS alongside our services and products. We can lead the science Agenda in the NHS, and our scientists can remain at the forefront of the science community.

This strategy will support NHSBT in getting recognition and remuneration for what we do well, attract funding, and enable us to capitalise on our reputation, ensuring our science and training is globally recognised so that NHSBT is seen as the place to be for science.

This is an exciting opportunity to raise the profile of our scientists, to develop scientists ready for the changing face of science in an environment where innovation is supported and experimentation is normal.

If this strategy is delivered, by 2022 NHSBT should have:

- A robust career structure for scientists in all functions
- Identified clear talent pipelines for each area with an academy running alongside which provides for the pipeline, external science and our own development needs
- Employees will have greater oversight of science careers in NHSBT and how you can move and flex across the organisation
- We are recognised as leaders in scientific, clinical and technical training, delivering high quality training and development using a series of innovative platforms and methods as an Academy
- Started to put in steps to meet the needs of future science
- Created greater capacity for science to be innovative and have time to 'play' or experiment through our income generation work
- Scientists who have enquiring minds; innovative approaches and expert knowledge.

References

Uk Health Departments (2010) Modernising Scientific Careers: The UK Way Forward http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/documents/digitalasset/dh_113990.pdf. Accessed 17/05/2017

SHOT Annual Report 2014 <https://www.shotuk.org/shot-reports/>

SHOT Annual Report 2015 <https://www.shotuk.org/shot-reports/>

Professor Sir John Temple (2010) Time for Training https://www.hee.nhs.uk/sites/default/files/documents/Time%20for%20training%20report_0.pdf Accessed 18/05/2017

L Williamson and DV Devine (2013) Blood Transfusion 3: Challenges in the management of the blood supply. *The Lancet* **381**: 1866-1875

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Appendices

Supporting data

This data gives some background to the current scientific workforce at NHSBT.

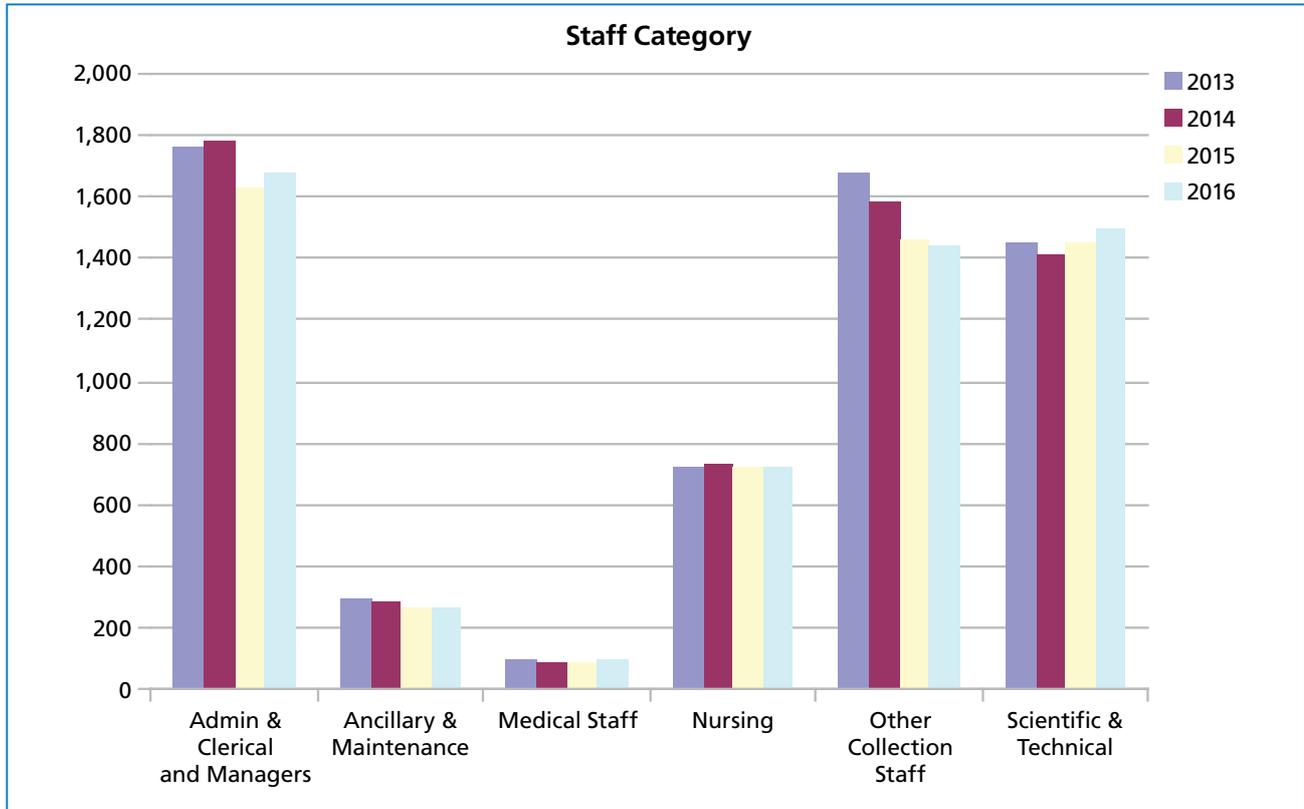


Figure 1: Staff Categories within NHSBT 2013 to 2016. Scientific and technical staff made up 24% of workforce in 2013, 26% in 2016.

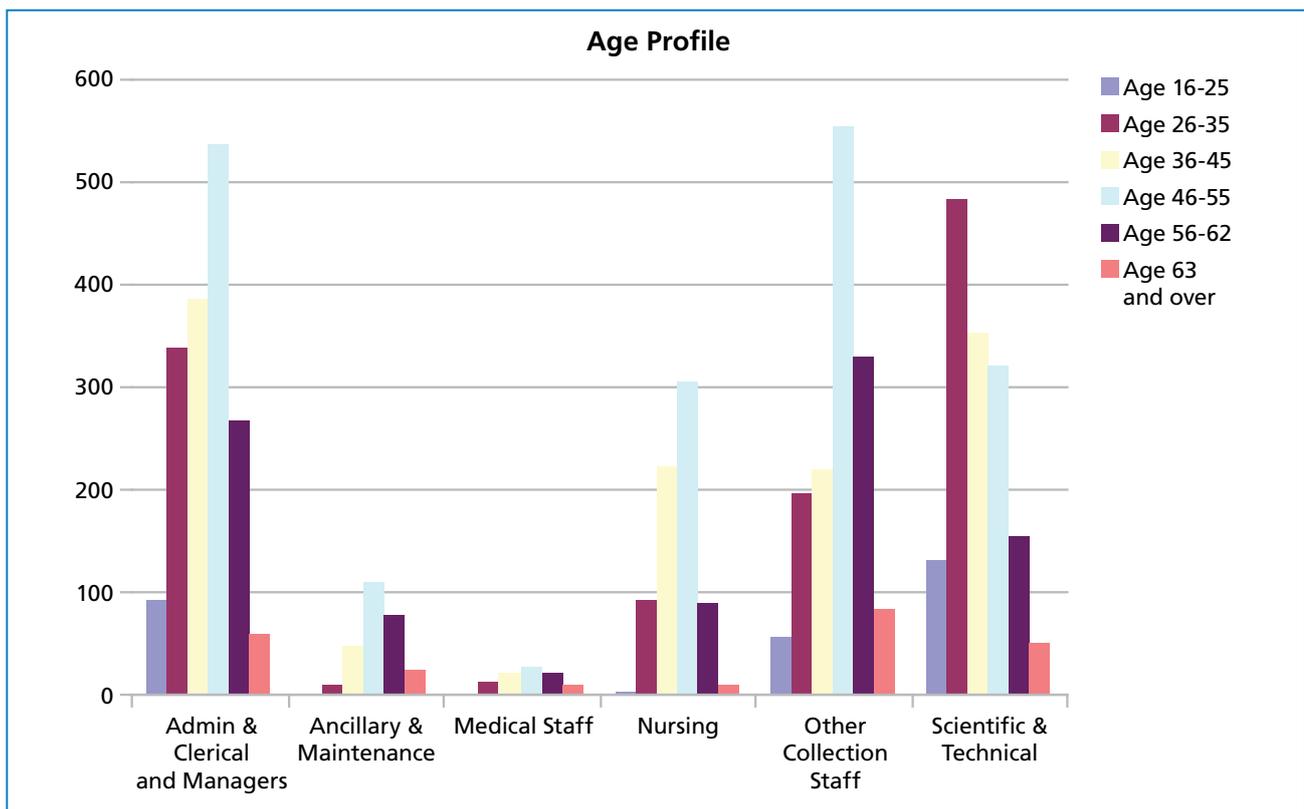


Figure 2: Age profile for NHSBT employees.