HEALTHCARE SCIENTIST FUTURE STRATEGY

Introduction: Science Serving Health

The science underpinning modern healthcare is advancing rapidly. Academia, industry and the health service are making scientific and technical advances at an ever increasing rate. Large areas of NHS practice are increasingly dependent on technology. At the same time, NHS services are under mounting pressure to deliver ever more personalised care with fewer resources. How can the NHS achieve its goal of improving the nation’s health and also implement these new technologies safely and effectively?

In 2014 NHS England set out its vision for high quality health care over the next five years. This has been followed by business plans setting out medium term priorities within its long term strategy. Key elements include developing leading edge science and innovation and bringing this into a redesigned and strengthened healthcare system. The strategy recognises that scientific and diagnostic services are central to achieving the NHS’s ambitions.

Healthcare scientists are the group in the NHS who understand how to apply scientific knowledge and technology to improve the health and wellbeing of people and patients. Their work creates a solid foundation for the delivery of safe and effective patient diagnostics and therapies. They also improve patient and public outcomes by developing and introducing new techniques into routine service.

We want to act on our vision that healthcare science is at the heart of future improvements in the nation’s health. In this document we set out some ideas as to how healthcare scientists should start to realise this vision and meet the challenges facing the NHS.

Below you will find a list of strategic aims that we believe are crucial to creating the NHS of the future. We are seeking to develop these aims into concrete objectives.

Who are Healthcare Scientists?

The NHS employs over 50,000 healthcare scientists. They are the largest single group of scientists in the UK. Healthcare scientists apply science to the diagnosis, treatment and prevention of disease. They are involved in 80% of all clinical decisions affecting patient care and deliver over a billion diagnostic tests every year. They work across healthcare to get the best value from science and technology for the benefit of patients and apply technology safely, effectively and consistently to patient diagnosis, therapy and disease prevention.

Every day, healthcare scientists deliver and support cost-effective and innovative patient care. They work with clinical and academic colleagues and manufacturers on new developments and how to apply them in practice, evaluating new ideas, investigating and overcoming problems and improving safety, reliability and cost effectiveness. As healthcare technology advances, this workforce and its unique skill set provides an essential NHS resource.

Healthcare scientists work in more than 50 different specialisms across four broad themes:

1. **Physiological sciences** which study how the body and its systems function and react to interventions in areas such as audiology, cardiology, respiratory medicine and critical care.

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1. *The Five Year Forward View, NHS England*
2. **Physical sciences** which develop and manage technologies to deliver safe and effective patient diagnostics and treatment in areas including; medical physics; clinical, biomedical and rehabilitation engineering; medical illustration; reconstructive science; and renal technology.

3. **Life sciences** which deliver a huge number of diagnostic tests each year in pathology and genetics and contribute through embryology and andrology to the creation of new life.

4. **Bioinformatics** which covers data analysis and information management for health related applications. Informaticians process information to understand individual patient conditions; apply the vast amount of data within health care to guide its development; and link data in a distributed healthcare system through information technology.

**The challenge**

The NHS and healthcare providers worldwide face multiple challenges – to manage growing demand, reduce service costs, improve patients’ experiences and outcomes, and speed up the translation of research into improved diagnostics and therapies. Meeting these challenges requires collaboration, coordination and information sharing.

Healthcare scientists have the skills and knowledge to engage with these challenges. Harnessing their commitment and skills is essential to achieving NHS priorities and the longer term NHS vision. Whether fostering innovation, supporting healthcare wherever it is delivered, or ensuring that technology and services meet individual patient needs, healthcare scientists working together can integrate the very best of scientific and technical practice across a decentralised and distributed healthcare system.

**Our strategic approach**

Our strategy aims to ensure that prevention, diagnostics, therapy and care are underpinned by scientific principles and understanding. To address this, healthcare scientists will work with patients, all professional groups in healthcare and commissioners to deliver safe, cost effective and patient centred services built on a scientific foundation that supports the NHS Business Plan.

1) **Innovation:**

- We will put systems in place for scientific foresight and horizon scanning and prepare proactively for new developments and future service demands.
- We will forge closer links between academia, industry and healthcare to develop new ideas and disruptive technologies.
- We will critically evaluate and introduce evidence based scientific discoveries into healthcare and prevention to improve the health and well-being of the nation.

2) **Collaboration:**

- We will set up effective professional networks to encourage the implementation of best practice and coordinate research and development at scale in healthcare science across the NHS.
- We will inform and educate other health professionals about the science and technology that underlies their practice, to help them be more effective.

3) **Patient centred services:**

- We will explore and develop new technologies and services to personalise patient pathways in healthcare.
- We will deliver healthcare science wherever it is needed.
• We will engage with the public to understand their needs, support prevention initiatives, and inform patients how to improve their care.

• We will improve access to healthcare for all groups using novel and innovative modalities.

4) Standards:
• We will introduce and operate healthcare science services within a governance and quality framework, to provide continuing confidence in scientific outcomes.

5) Workforce:
• We will support the implementation of structured training using best educational practice for Healthcare Scientists at all levels.

These strategic aims are underpinned by national and local objectives and implementation plans.

Summary

Healthcare Scientists are committed to improving patient care. Working together, Healthcare Scientists are developing and applying science and technology to meet the challenges facing the NHS and address its priorities. Adopting and implementing a shared strategy will help Healthcare Scientists direct their energy and expertise to meeting the challenges of the future.
APPENDIX: NHS England Business Plan 2015/16 – key priorities

Four of our priorities aim to improve health:

• **Cancer** will affect one out of every two of us at some point in our lives. Outcomes have been steadily improving but prevention, earlier diagnosis and better care offer the opportunity of saving many thousands more lives.

• **Mental health** problems represent about a quarter of the nation’s ‘illness burden’, but access to services is worse than for physical health conditions and funding has been lower.

• There have been major improvements in the support and care for people with **learning disabilities** over several decades but there remains much more to do.

• Obesity prevention, which will slow the growth of Type 2 **Diabetes** will have a substantial benefit to the health of our people, and the future sustainability of the NHS.

Four of our priorities aim to redesign NHS care around patients and what they need most:

• We need to **reshape the NHS’ urgent and emergency care services** so they respond effectively to the increasing demands placed on them.

• We need to **strengthen primary care** as the foundation for personalised NHS care.

• We must ensure **elective care continues to meet service standards** and remain accessible for patients.

• We must **reshape specialised services** to improve their quality and future affordability.

We can only succeed with these eight priorities, in both the short and long term, if we ensure the NHS is **financially sustainable**. For 2015/16 the revised Government mandate allocated an extra £1.83 billion to NHS England - this, along with a further £150 million of our own reallocated resources, has resulted in a total of £1.98 billion for frontline services. This will help us further invest in primary care and kick start investment in new models of care. But the financial challenge remains substantial and will inevitably require broad-based and fundamental action by all parts of the NHS next year, and in the years to come.

That requires us to build and invest in the **foundations for improvement to happen**. This work is broad and has several important elements including building on existing work to **use data and technology more effectively**, encouraging and investing in the benefits of **innovation and science**, such as Genomics, and **building the capability and organisational infrastructure** across health and care systems. Most critically, and underpinning all of our work today, is the need to ensure our work is based on a clear understanding of what the people we serve need and want. So we will continue to **engage and involve our patients, their carers and families and, more broadly, our fellow citizens and communities**, to ensure high quality health and care now and for future generations.
High quality health and care now and for future generations

Improve health
1. Improving the quality of care and access to cancer treatment
2. Upgrading the quality of care and access to mental health and dementia services
3. Transforming care for people with learning disabilities
4. Tackling obesity and preventing diabetes

Redesign care
5. Redesigning urgent and emergency care services
6. Strengthening primary care services
7. Timely access to high quality elective care
8. Ensuring high quality and affordable specialised care

Whole system change for future clinical and financial sustainability
9. Enabling whole system change
10. Delivering value and financial sustainability through a step-change in efficiency

Foundations for improvement
11. Harnessing the information revolution
12. Developing capability and infrastructure for transformational change
13. Developing leading edge science and innovation
14. Supporting patient and public participation