

NHS England Board meeting

Paper Title: NHS Innovation, Research and Life Sciences: mobilising the NHS behind research and innovation

Agenda item: 5 (Public session)

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Paper type: For discussion

Organisation Objective:

NHS Mandate from Government	<input type="checkbox"/>	Statutory item	<input type="checkbox"/>
NHS Long Term Plan	<input checked="" type="checkbox"/>	Governance	<input type="checkbox"/>
NHS People Plan	<input type="checkbox"/>		

Executive summary:

At the NHSE Board meetings in November 2021 and March 2022 we set out work NHSE was undertaking, in partnership with other members of the Accelerated Access Collaborative¹ (AAC), to improve the research and innovation environment in the UK, supporting patients and clinicians to get access to proven technologies faster than ever before. This paper updates on progress against the 5 priorities detailed in that paper and proposes further work to help align the work of the broader NHS innovation ecosystem, to best support the research, development, and implementation of innovative technologies.

Action required:

The Board is asked to:

- i) Note the progress on delivering the improvements to the access system discussed at the AAC board in November, and the planned next steps.
- ii) Discuss and comment on the planned piece of work to mobilise the UK's health research and innovation ecosystem behind the NHS and Governments key clinical priority areas.

Background

1. The NHS has a long-standing history of innovation. From pioneering procedures such as intra-ocular lens implants and total hip replacements, to critical technologies like computerised tomography (CT) and magnetic resonance imaging (MRI), the NHS has always been at the forefront of medical innovation. These innovations have not only transformed individual patient lives but have also brought significant benefits to the UK economy and society.

¹ [NHS Accelerated Access Collaborative \(england.nhs.uk\)](https://www.england.nhs.uk/nhs-accelerated-access-collaborative/)

2. Innovation is more important now than ever before, playing a crucial role in every aspect of our work, including helping to address operational pressures and increased demand. For example, more than 100,000 patients have been treated in NHS virtual wards in the last year, with 16,000 patients treated in January alone – providing a better experience for those patients who can return home quicker with clinical support, and releasing physical capacity for other patients.
3. However, alongside these successes there are several challenges in the wider health innovation ecosystem. The ongoing pressures of pandemic recovery and the resulting limits on capacity for the system to engage in research and innovation, along with the broader inflationary and economic context, are resulting in a fall-off in collaborative life sciences activity, lower trial recruitment into late-stage trials and lost inward investment in the UK.
4. This paper provides an update to the board on progress made in delivering against the five key priorities agreed by the NHSE board and the AAC to support innovation, and sets out further planned work to better align the broader life science ecosystem to ensure the NHS can best support the development and deployment of innovation.

Progress against the five innovation and research priorities

5. Working across NHSE teams, and with our AAC partners, good progress has been made on the five priority areas of work, as detailed in Annex 1.
6. These priorities are:
 - i) **Priority 1: Embedding Research:** Increasing the speed, scale and diversity of research in the NHS.
 - ii) **Priority 2: Demand signalling and horizon scanning:** to clearly identify, and articulate NHS innovation and research needs and systematically searching for solutions.
 - iii) **Priority 3: Uptake of proven innovation:** supporting partners across the NHS to build a pipeline of innovative medicines, medical devices, diagnostics, and digital products and supporting their adoption in the NHS.
 - iv) **Priority 4: Building innovation capacity:** supporting NHS organisation and workforce to develop, test and implement innovative solutions.
 - v) **Priority 5: Innovator support:** make it easier for innovators to navigate the innovation ecosystem and delivering transformational commercial deals at scale.

Further work to maximise opportunities in IRLS

7. NHSE will continue to orientate its work around the delivery of these five priorities. But to realise potential of our innovation work, there is a need for all partners in the life sciences ecosystem to align efforts more closely.
8. To support this, Amanda Pritchard and Tim Ferris have asked Roland Sinker, Chief Executive of Cambridge University Hospitals and outgoing Chair of the Shelford Group, to work with the Innovation, Research and Life Sciences (IRLS) team in NHSE to engage national innovation partners, local systems, industry,

and research charities to develop a clear blueprint for how the NHS can best support, and benefit from, a strong life sciences ecosystem.

9. This work will seek to cover both NHS support to enable and embed clinical research, and how the NHS can most effectively drive the adoption and spread of proven and cost-effective innovations to all patients who would benefit from them.
10. It will build on previous work, including the Life Sciences Vision, the recently published Medtech Strategy, ongoing work to agree the new voluntary pricing scheme with the pharmaceutical industry, and the findings of the forthcoming review into clinical trials led by Lord O'Shaughnessy. It will also build on recent reviews of the medtech and medicines development pathways undertaken by the IRLS team on behalf of the AAC (initial findings included in Annex 2).
11. At a local and regional level, it will seek to identify:
 - How we mobilise key research, clinical and operational networks to support pipeline development.
 - How we learn from transformation during Covid around empowering teams, encouraging partnerships on all our work, and the power of galvanising action behind funded 'missions'.
 - How we can best bring local decision makers and users of innovation into national prioritisation, planning and decision making about innovation and research, and balance with the need for national direction in key areas.
 - How we identify and mobilise key centres to support real world evaluation, and learn from programmes, such as those run by Shelford Group and the Clinical Entrepreneurs InSites programme, which is assessing ways of adopting innovation across multiple NHS sites more efficiently and effectively.
12. At a national level we will explore how we set up the national operating model to support this local innovation ecosystem, including:
 - How NHS decision making on innovation can be best aligned across NHSE and between national, regional, and local decision makers.
 - How we build on best practice of preparing for the implementation of new technologies, such as that used by specialised commissioning for new specialised treatments.
 - How we best use NHS accountability, leadership, and governance to support transformation.
 - How we use data to understand adoption of innovation and support patient, clinician and system decision making.
 - How our national support and award programmes incentivise local activity.
13. The review will sit alongside ongoing work to ensure we have the right infrastructure to enable the NHS to partner with innovators and researchers. Work has already been underway to review the role of the 15 Academic Health and Science Networks (AHSNs) ahead of their new potential new licence period from 2024/25. The review will ensure AHSNs are focussed on supporting national and local NHS priorities alongside supporting innovators, are delivering the service and functions in the most effective way to enable the adoption of

innovation, and are fully aligned with the governance and delivery structure of the new NHS operating model.

14. The innovation ecosystem is incredibly complex, with multiple initiatives, organisation and a wide range of localised networks and cultures, and resolving this cannot solely be achieved by NHS action. The review will therefore prioritise wide engagement and achieving consensus and buy in from key partners.

15. We currently expect the review to deliver two elements:

- i) A long term blueprint for how the NHS can, and should, work as an innovation partner, building on best practice across the system
- ii) Learning from a set of immediate actions within a small number of localities, focussed on the key areas identified as clinical priorities² for innovation and research.

² Neurodegeneration, Mental Health (with a focus on digital products), Cancer (with a focus on early diagnosis), and cardiovascular disease.

Annex 1: Update on progress against the 5 priorities

Priority 1: Embedding Research: Increase the speed, scale and diversity of research in the NHS

1. This supports delivery of the long-term plan ambition for 1 million people to be registered to take part in research by 2023/24.
2. In February this year, 'Be Part of Research (BPoR), the online service that makes it easy for people to register their interest to take part in research was made available through the NHS App.
3. In November 2022, NHS England invested £1.6 million to support integrated care systems (ICSs) increase diversity in research participation across their geographies. Last week, we published ICS Research Guidance and the Increasing Diversity in Research Participation: A good practice guide for engaging with underrepresented groups.

Priority 2: Demand signalling and horizon scanning

4. This programme of work aims to clearly identify, and articulate NHS innovation and research needs and systematically searching for solutions through a programme of NHS Demand Signalling and horizon scanning.
5. Over the last year, we have published a series of demand signalling reports (for mental health, learning disability and autism, and stroke) in collaboration with service users, charities, clinicians, researchers and policy developers.
6. These are being translated into funding and research programmes including through our SBRI programme, with 16 stroke projects receiving £5.9m, five projects in learning disability and autism receiving a total of £470k, and three mental health projects receiving a total of £1.3m.

Priority 3: Uptake of proven innovation

7. This programme supports partners across the NHS to building a pipeline of innovative medicines, medical devices, diagnostics, and digital products and supporting their adoption in the NHS.
8. The Rapid Uptake Products (RUPs)³ programme has supported nearly 850,000 additional patients to access highly effective treatments and pathways.
9. The launch of the MedTech Funding Mandate (MTFM) signalled a change in approach, from central funding of innovation to supporting local adoption. Four technologies were selected for inclusion from 2021/22, and a further four in 2022/23. In this period an estimated 13,500 patients have benefitted from access to these innovative technologies. At Q3 2022/23, 94% of eligible sites are in the

³ RUPs include Asthma Biologics, FeNO (fractional exhaled nitric oxide), PCSK9i, high-intensity statins and Ezetimibe, with associated pathway changes (such as the lipids management pathway).

process of implementing or have adopted an MTFM product. For some products, such as Spectra Optia, uptake in year one is significantly exceeding three-year trajectories.

10. We also recently announced the winners of the third round of the AI in Health and Care Awards. This programme supports innovations such as Brainomix, which has now been deployed in five stroke networks with a total of 23 Trusts looking at its performance and impact. Initially deployed at the Royal Berkshire Hospital, between March 2020 and April 2021, it reduced door in door out time from 140 min to 79 min, increased the number of patients who achieved independence from 16% to 48% and has now supported nearly 80,000 patients.

Priority 4: Building innovation capacity

11. This programme of work supports NHS organisations and workforce to develop, test and implement innovative solutions.
12. In February, Cohort 7 of Clinical Entrepreneur Programme (CEP) was launched, taking the number of staff supported to over 1,000, boosting our workforce capability to develop and spread innovation. Previous innovations from CEP fellows include:
 - i) Apian, the world's first chemotherapy drone, which can cut the delivery time from 4 hours to 30 minutes, with the first delivery in June 2022.
 - ii) eConsult, a company set up by a GP practice in London who developed a web-based triage product called webGP, which is now reaching approximately 1.2 million consults a month following support from the CEP programme and their local AHSN.

Priority 5: Innovator support

13. These programmes make it easier for innovators to navigate the innovation ecosystem and deliver transformational commercial deals at scale.
14. We have publicly launched the NHS Innovation Service, which provides a 'front door' for innovators to get the support they need, which in turn will help ensure a ready pipeline of new ideas that meet the NHS's biggest challenges, including supporting recovery, reducing health inequalities and achieving a Net Zero NHS.
15. There has been a boost to innovative vaccine research in England following historic agreement between the UK government and BioNTech. The partnership will accelerate trials into vaccines for cancer and wider diseases, meaning cancer patients in England will get early access to trials exploring personalised mRNA therapies. Access to the trials will be through the Cancer Vaccine Launch Pad, which is being developed by NHS England and Genomics England. The launch pad will help to rapidly identify large numbers of cancer patients who could be eligible for the trials and explore potential vaccines across multiple types of cancer. Trials for innovative treatments could start as early as autumn 2023.

Annex 2: Initial findings from the medicines pathway project undertaken by NHSE's Innovation, Research and Life Sciences Team on behalf of the AAC



Emerging findings

Clinical

- Critical role of **clinical leadership** and professional bodies in raising awareness of new treatment options within the clinical community
- Demand for **greater adoption support and guidance to clinicians** published in parallel with NICE guidance (clinical pathways, education materials)
- Improved **communications networks** to place information in hands of clinicians

Governance

- Perceived **unwarranted variation and duplication of processes**, decision making and service design at local level (e.g. 42 ICS, over 120 formularies)
- Improve **transparency of decision-making** and reduce regional inequity of access and variation in adoption
- Collaboration of national bodies to **identify high impact innovations earlier** and work with system leaders to ensure preparation and readiness ahead of NICE guidance

Data & finance

- **Demand for improved data** to understand uptake of new medicines
- Explore importance of **targeted financial enablers** that support the adoption of high impact innovations, balanced against the need to prioritise 'asks' of systems
- **Early modelling and planning** to understand operational and financial impacts

Policy

- Many functions with a role in medicines adoption with a desire for greater **alignment and coordination** of resources and direction
- Clearer definition on **priorities, roles and responsibilities** of the various functions
- Importance of a **shared vision** to improve patient outcomes by reducing inequalities of access to innovative medicines