NHS England and NHS Improvement Board meetings held in common

Paper Title:	Innovation, Research and Life Sciences and Accelerated Access Collaborative (AAC) update
Agenda item:	4 (Public session)
Report by:	Matthew Whitty, Interim Director of Innovation, Research and Life Sciences, and Chief Executive of the Accelerated Access Collaborative
Paper type:	For discussion

Organisation Objective:

NHS Mandate from Government	☒	Statutory item	☐
NHS Long Term Plan	☒	Governance	☐
NHS People Plan	☐		

Action required:

1. To note the work being delivered by the Innovation, Research and Life Sciences team with partners across the health system; and
2. Advice how continue to build upon this work and how to ensure the health system and wider stakeholders are aware and support our work.

Executive summary:

The Innovation, Research and Life Sciences team's mission is to ensure research and innovation meets the needs of the NHS, to improve NHS research efficiencies, and to accelerate adoption and spread of proven innovations to get the best treatments to patients faster. This paper summarises our programmes and impact.

Background

1. The NHS Long Term Plan outlines how research and innovation will drive improvements in future outcomes, deliver benefit to patients and support the UK economy with the NHS endorsing and committing to play its full part in the Life Sciences Sector Deal.

2. The Innovation, Research and Life Sciences (IRLS) group is responsible for implementing the Research and Innovation strategy in the NHS Long Plan and supporting NHS commitments to the Life Sciences Sector Deal including delivering the expanded remit of the Accelerated Access Collaborative (AAC).

3. We sit within the Commercial Directorate and are delivering on these commitments by:

    a. making it easier to undertake research in the NHS;
    b. ensuring that research meets the needs of the public, patients and clinicians of the NHS;
    c. increasing patient participation in research;

d. increasing the pipeline of innovations[1] that meet NHS needs; and
e. accelerating the adoption and spread of proven innovations to deliver patient and system benefits.

Annex provides a breakdown of our programmes.

4. In March 2019, the Secretary of State asked NHS England and NHS Improvement to establish a new AAC function hosted in the Innovation, Research and Life Sciences team, led by an AAC chief executive appointed in NHS England and NHS Improvement with joint reporting to the Secretary of State. Annex 2 describes this reporting structure and the AAC board.

Our Impact – Almost 750,000 patients have benefitted from our programmes in 19/20 and we are supporting research and the faster adoption of innovation using the lessons learnt from the response to COVID-19.

5. We monitor our impact via the AAC scorecard (Annex 3) and in 19/20 our programmes:

a. Led to innovations reaching **nearly 750,000 patients**;
b. Helped patients spend **over 100,000 fewer days in hospital;**
c. Supported over **2,700 innovations**;
d. Helped over **2,780 innovators**, including **150 NHS staff** as part of the clinical entrepreneurs programme; and
e. **Saved the NHS between £40-60m**[2]

We also track the number of jobs created and safeguarded, and the value of investment secured by supported innovators and companies. In19/20: over a **1,000 jobs were created and safeguarded**, and companies supported through our programmes secured **£463.5m of external investment.**

Our Progress – as an example of our work, here is a summary of two of our key programmes: the Rapid Update Products and AI in Health and Care Award.

Rapid Uptake Products

6. As part of the AAC's work to support stronger adoption and spread of proven innovations, the AAC selects a range of late-stage innovations (post-NICE appraisal) to accelerate spread in the NHS ('Rapid Uptake Products').

7. Each Rapid Uptake Product receives focused support from AAC partners against an agreed action plan which is delivered in partnership with the suppliers to address identified barriers to spread. This includes dedicated support from the Academic Health Science Networks (AHSNs) who deliver nationally-coordinated regional implementation support. Two examples of the products supported in round 1 are included in Annex 4.

8. The second round of Rapid Uptake Products were proposed to the March 2020 AAC Board and following the due diligence process four have been

[1] These include medicines, medical devices, diagnostics, digital products and pathway changes
[2] Final figures subject to internal validation and will be included in AAC annual review publication

recommended:

i. Devices that measure fractional exhaled nitric oxide concentration in asthma (FeNO)
ii. Asthma biologics – Medicines for treating severe asthma.
iii. Tamoxifen – repurposed medicine as a preventative treatment for people with a familial risk of breast cancer.
iv. Ezetimibe and High Intensity Statins – to be added to the existing Proprotein Convertase Subtilisin/Kexin Type 9 (PCSK9) inhibitors Rapid Uptake Product programme to provide a wider scope of options and approaches to lipid management.

9. We have formed product working groups and agreed the bespoke project delivery plans. We also ran launch events to the AHSNs to brief them on the products and have appointed clinical champions.

10. We will shortly hold a national stakeholder launch event covering NHS stakeholders and the AAC partner organisations to gather further support and as part of delivering our communications & engagement strategies.

Artificial Intelligence (AI) in Health and Care Award

11. The AI in Health and Care Award is run by the AAC in partnership with NHSx and the National Institute of Health Research (NIHR). It is part of the £250m NHS AI Lab run by NHSx and through a competitive process makes £140m available for AI technologies that support the NHS Long Term Plan.

12. The first AI Award call for applications ran from 28 January 2020 to 4 March 2020. It received more than 500 applications for Award funding from AI developers in the UK and internationally.

13. The Award is split into four phases based on product readiness, as described in Annex 5. Phases 1-3 are designed to accelerate promising ideas and products to the point of initial real-world testing in clinical settings. Phase 4 identifies promising products which have been feasibility tested in clinical settings, and allows for robust evaluation across multiple NHS sites.

14. The Phase 4 evaluations are designed to help build the evidence for national roll-out, including supporting the development of relevant National Institute of Health and Care (NICE) and National Screening Committee guidance.

15. Round 1 award winners were announced by Secretary of State on 8 September, committing £54m of funding across 10 phase 4 winners and 32 winners in phases 1-3. Round 2 opened on 3 November with a closing date of 8 December.

Supporting the COVID-19 response – this year the AAC infrastructure also rapidly changed to support the COVID-19 response and demonstrated how health system partners working together can accelerate adoption of innovations to benefit patients.

16. Prior to COVID-19 there was no agreed existing approach to accelerate therapies in a time of national need with confidential discussions held by each individual organisation 'in sequence' even where the discussion was highly relevant to more than one body/activity.

17. To support the COVID-19 response, the AAC redeployed our horizon scanning function resources and expertise, including the commissioned NIHR Innovation Observatory (NIHRIO) scanning and AAC secretariat analytical function.

18. In early April 2020, these functions together with NICE, NHS England & NHS Improvement, the Medicines & Healthcare Regulatory Agency (MHRA) and the NIHR created the Research to Access Pathway for Investigation Drugs in COVID-19 (RAPID-C19).This multi-agency approach enables safe and timely patient access to medicines showing evidence of benefit in treating symptomatic COVID-19 patients or for disease prevention. The initiative is now also supported by the Therapeutics Taskforce (TTF), the Department of Health and Social Care (DHSC) and the devolved nations.

19. RAPID-C19 supported rapid access for three COVID-19 treatments that, because of this process, were available in the NHS within hours of the study read outs (these are remdesivir, dexamethasone, and hydrocortisone).

20. Building on the established AAC infrastructure, the response to COVID-19 through RAPID-C19 provides an excellent example of how the overarching AAC aim of health system partners working together in a collaborative and integrated approach to accelerate innovations can benefit patients.

Next steps – incorporating any learning from the COVID-19 response to help deliver on our ambitions to ensure research and innovation meets the needs of the NHS and accelerates innovations to deliver patient benefit.

21. The response to COVID-19 has been a catalyst which sparked new partnerships and accelerated the speed and scale at which COVID-19 research was undertaken and innovations were adopted across the health and social care system. It is vital that we learn lessons from this period to inform the current and future priorities.

22. We are working in three ways with the Beneficial Changes Network to identify and understand the high impact opportunities from the COVID-19 response:

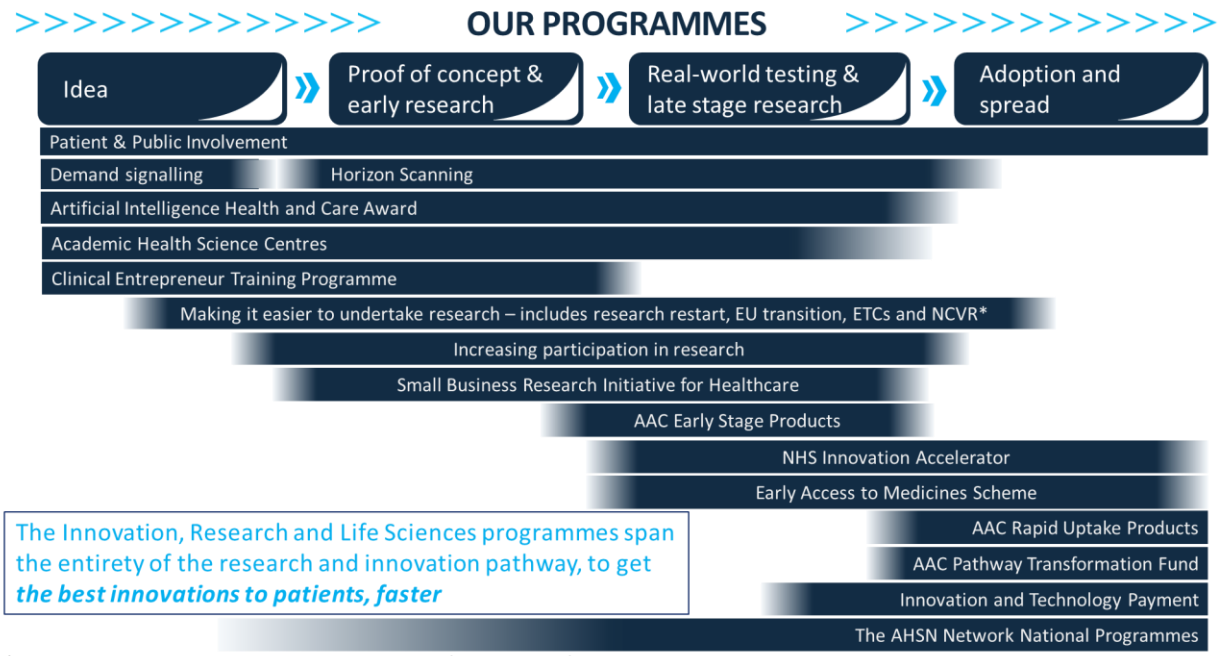
    i. through a jointly-commissioned review to identify recommendations for research, adoption of innovation and collaborative partnership working;
    ii. by identifying innovations with evidence to support wider roll-out and providing implementation supporting to enable their rapid spread; and
    iii. by identifying other promising innovations which need further evidence to be generated and working with NIHR to commission the Applied Research Collaborations (ARCs) and the AHSNs to support evaluation.

23. One of the areas of immediate focus for IRLS is supporting the restart of non-

COVID-19 research across the NHS. COVID-19 has reconfirmed the importance of research for the NHS and the population in order to deliver improved treatments and to increase the speed at which vaccines are being developed and tested. During the first stage of the pandemic, many clinical trials paused as the focus shifted to COVID-19 studies which have recruited 239,988 people up until 4 November in the UK. An additional 115,781 participants have been recruited into 1,587 different non-COVID-19 studies in the period 1 June to 4 November. We are working with NIHR, DHSC and other key stakeholders to ensure that during wave 2 this trend is not reversed and where possible more trials are supported to recruit patients.

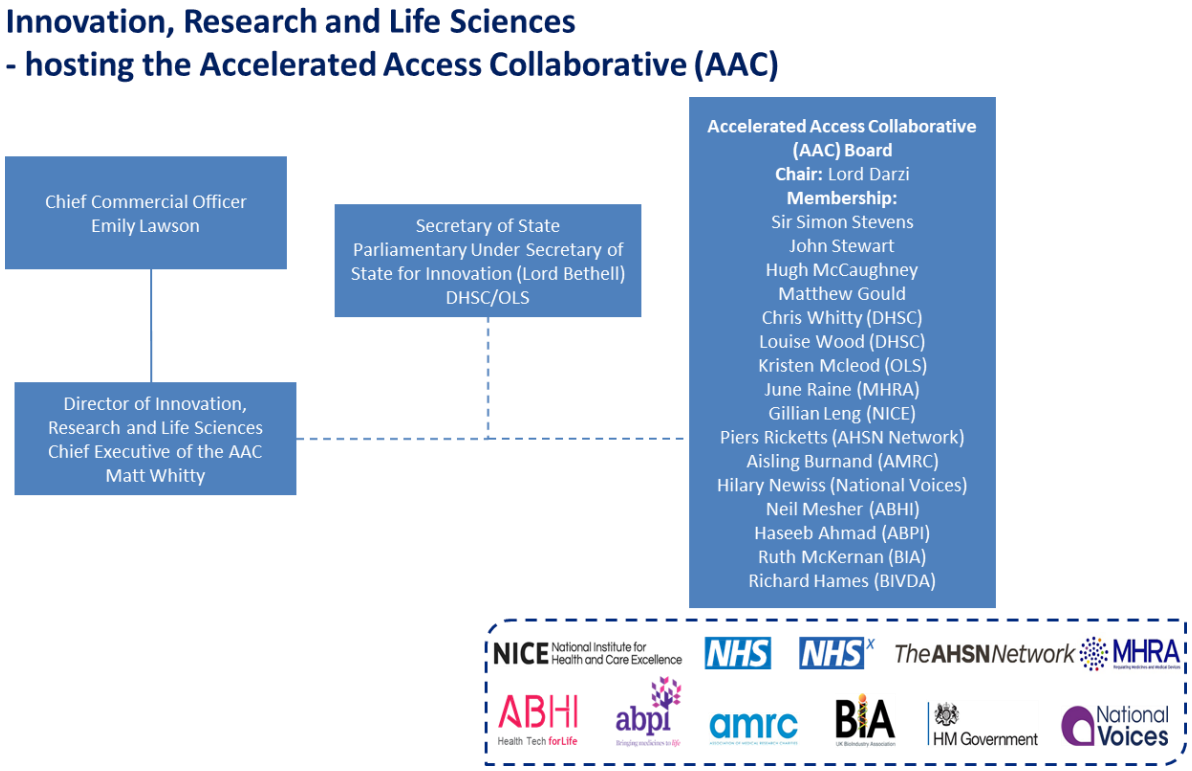
24. Finally, before the end of the year we will publish the first AAC review. This will highlight our progress in our ambition to help the NHS support clinicians and patients to access new innovations at pace and scale, to make the NHS a great place to innovate, and to accelerate the development of the best and most effective new products and technologies for our citizens.

Annex 1: Work Programmes delivered in Innovation, Research and Life Sciences



*ETCs - Excess Treatment costs; NCVR - National Contract Value Review

Annex 2: Governance of the Innovation, Research and Life Sciences team hosting the AAC



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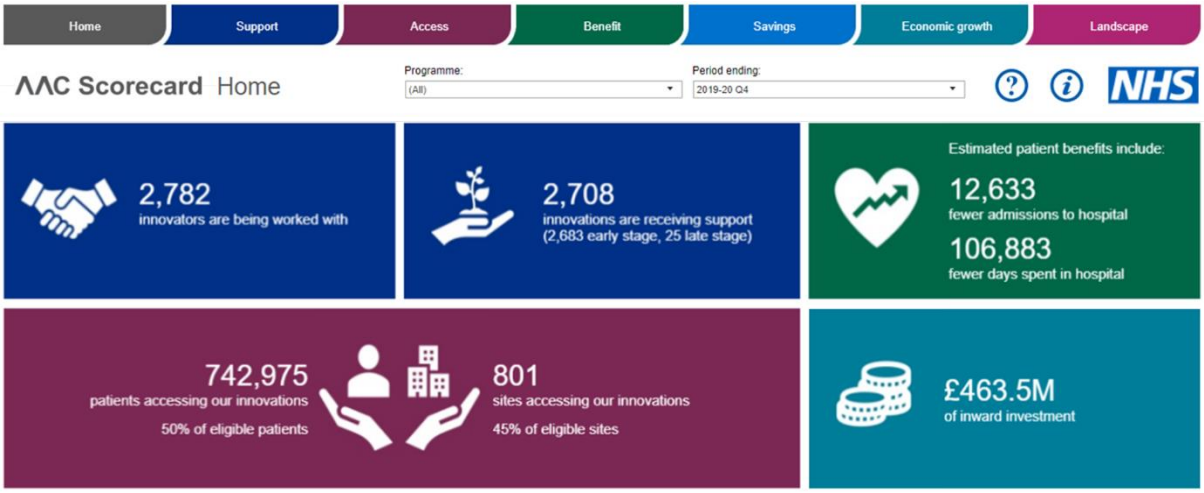
Annex 3: Delivery Metrics Financial year 2019-20 – full year (1st April 2019 to 31st March 2020)



Notes:

1. A subset of Home screen tiles is shown and figures are subject to change pending full quality assurance.
2. The value for in-year savings is likely to be £40-60m (consisting of the Rapid Uptake Products and AHSN national programmes).

Annex 4: Two examples from round 1 of Rapid Uptake Products

Diagnostics: Over 21,000 pregnant women in 60 hospitals across England had access to a blood test for pre-eclampsia (Placental Growth Factor Based-testing, PlGF). This helps clinicians quickly rule out pre-eclampsia and provide appropriate care, **including the ability to safely send pregnant women home without the need for an overnight stay in hospital, where appropriate**. This compares to this diagnostic being available to just 2,000 women and only one hospital site in Oxford the whole of the previous year. Access has continued to be accelerated throughout this year alongside the response to COVID-19; **in the first 6 months of 20/21, a further 16,100 pregnant women across 86 sites had access** to PlGF-based testing.

Digital technologies: 22 new trusts changed clinical pathways for patients with chest pain and adopted a digital heart scan technology (HeartFlow FFRct) that reduces the need for more invasive procedures. **This brings the total number of trusts utilizing HeartFlow to 50, and more than doubles the number of patients who received this test than the previous year taking the total number of patients to 11,000**. The UK is well ahead of others in Europe and Japan in providing patients access to this technology, accounting for 1/3 of all cases globally. Despite the company being US-based, the UK is ahead of the USA on a per population basis with uptake in the UK over **10 times greater than in the USA on a per population basis.**

Annex 5: The AI in Health and Care award phases