

## The Innovation Ecosystem Review Programme

### Executive summary

1. This paper presents an update on the Innovation Ecosystem Review Programme for review and comment by the Life Sciences Council. The paper provides an overview of the programme's scope, governance, a progress update on the agreed four workstreams and emerging themes from early engagement. This is a short paper with further detail set out in the appendices.
2. This is an ambitious programme of work, seeking to address ongoing challenges in the adoption and spread of innovation and drive improvements in the health innovation ecosystem. To drive improvements, we aim to work closely with local systems to strengthen the NHS England (NHSE) role in the national ecosystem by both building on the aspects of what we know works well and reflecting on areas of feedback for where we could improve. Ultimately, this will strengthen and utilise national policy levers as well as grow local delivery capability to adopt and spread innovation. The programme has a substantial scope informed by broad engagement of partners across the health innovation ecosystem, including national innovation partners, local systems, industry, and research charities.
3. Roland Sinker, Chief Executive of Cambridge University Hospitals and the Chair of the Shelford Group, is leading this work on behalf of Amanda Pritchard and Tim Ferris. Policy and administrative support are being provided by the Innovation, Research and Life Sciences (IRLS) team in NHSE, with support and resourcing from other partners on the advisory group. IRLS sits within the Transformation Directorate of NHSE.
4. The programme is currently in the project set-up and scoping phase. Early engagement to socialise and refine this draft scope has already been undertaken and we would like to thank all the system leaders who have kindly supported this work to date. This has included stakeholders from the National Institute for Health and Care Excellence (NICE), the Medicines and Healthcare products Regulatory Agency (MHRA), Department of Health and Social Care (DHSC), NHSE, Association of the British Pharmaceutical Industry (ABPI), Association of British HealthTech Industries (ABHI), leadership of Academic Health Sciences Networks, clinical leaders and others.
5. The programme workplan incorporates a blend of policy thinking and 'on-the-ground' learning, to ensure that any resulting recommendations are grounded in what works and that feedback from local systems is appropriately incorporated from the outset. The four workstreams are:
  - **Workstream One: Learning by doing** – Working with health innovation leadership in local systems to refine the blueprint of how to improve research mobilisation and the adoption and spread of innovation.
  - **Workstream Two: Immediate actions** – Reviewing existing work to develop an immediate set of medium-term actions to improve the ecosystem.
  - **Workstream Three: The NHS Research and Innovation Blueprint** – Developing a conceptual operating model for the health innovation landscape drawn from a full understanding of how the current ecosystem works and learnings from the other workstreams.
  - **Workstream Four: Preparing for the NHS of tomorrow** – Undertaking targeted thought leadership work to better understand how to best prepare for the NHS of the future.
6. We are seeking early input and support from the Life Sciences Council for this piece of work. The Life Sciences Council's endorsement and support will ensure the UK's health research and innovation ecosystem appropriately mobilises and real change is delivered. An update on the programme's progress will be provided to the Life Science Council at the November 2023 and May 2024 meetings.

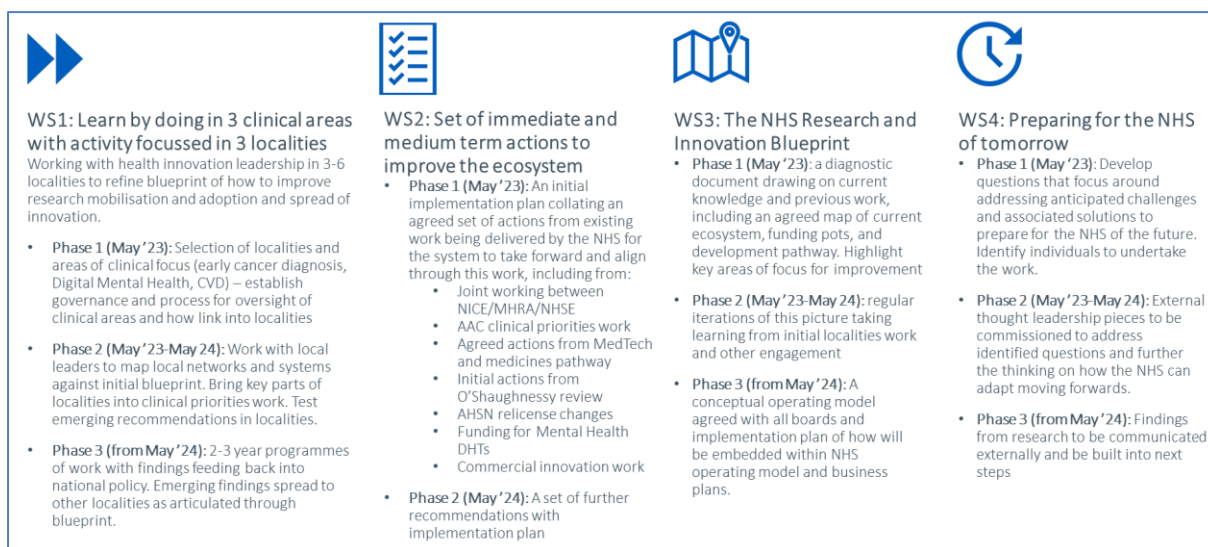
### Programme overview

7. This ambitious programme of work aims to generate real change and shift the way that the NHS does business with industry. A draft scope for the Innovation Ecosystem Review Programme is set out in Appendix A, including programme context, problem statements and programme dependencies and our early considerations for measuring benefit, preceding an evaluation framework which is currently being developed. Our vision is as follows:

*To improve how the public and private sector work in partnership across the national Life Sciences sector to drive innovation development, adoption and spread and crystallise the role of the NHS as an outstanding partner in research and innovation.*

- The programme is structured under four complementary workstreams. These are summarised in the figure below and set out in further detail in Appendix B. To deliver real change, we have designed a blended approach where we are ‘twin-tracking’ policy-thinking and working ‘on the ground’. This will ensure that any resulting policy recommendations have been tested in local systems and have the best opportunity for impact. An evaluation framework is currently being developed for benefits tracking which will review outcomes across all workstreams.

**Figure 1: Programme workstream overview**



Source: Innovation Ecosystem Programme Review, 2023

- These four workstreams will be overseen by an advisory group, and each workstream will have its own working group and chair (individuals not yet identified). As set out in Appendix C, the advisory group will be accountable to the NHSE Board and regularly provide updates to the AAC Board and Life Science Council. The advisory group is comprised of Roland Sinker, the Director of IRLS (Matt Whitty), the CEO of NICE (Samantha Roberts), Chief Executive of MHRA (June Raine), Chief Scientific Advisor for DHSC (Lucy Chappell), Director of OLS (Rosalind Champion), Managing Director of the Shelford Group (Will Warburton), Chair of the Academic Health Science Networks (AHSN) Network (Gary Ford), Executive Director of Cambridge University Health Partners (Kristin-Anne Rutter), Chief Executive at ABPI (Richard Torbett), Chief Executive of ABHI (Peter Ellingworth), CEO of UK Bioindustry Association (Steve Bates) as well as any chairs of the individual workstreams that are not already in this group’s membership. Further work is also ongoing to refine clinical leadership as part of the governance, including developing a process for a small number of senior advisors to input.
- As part of each workstream, we will be undertaking 60-100 structured interviews with system leaders, of which over 20 have already been completed. Thank you to those of you who have already participated.
- Information setting out the emerging plans for programme planning and management are included in Appendix C. Additionally, a summary of progress to date against each of the workstreams is included, in turn, below.

**Workstream One: Learning by doing**

- The first phase of workstream one requires work with different localities across areas of clinical focus that align to national priorities. In each of these localities, we will then work to pilot and test recommendations for how to do things differently to improve clinical pathways emerging from the other workstreams. We are currently

developing a longlist of 10-20 pathways against the life sciences missions in up to 10 local systems. This longlist will then be reviewed and shortlisted by the Advisory Group.

13. We are seeking to test a combination of prevention, early diagnosis, integrated medicine, and discovery science, bringing together the expertise of industry, the NHS, regulators, research, and patients. An example of a pathway and system focus would be Breast Cancer in East of England or Neurodegeneration in Greater Manchester. To note, this workstream will be focusing on the adoption and spread of existing innovations.

#### Workstream Two: Immediate actions

14. This programme of work is not starting from scratch. There are many existing ideas and policy recommendations from leaders, think-tanks, government, and research to improve the existing research and innovation landscape. Whilst there is no existing ‘silver bullet’ to solve all noted challenges, there are many aspects to consider and incorporate into this programme of work. We are also considering novel approaches to delivery, such as those exercised in the COVID-19 response. These are all being considered as part of workstream two.

15. In this work, four main priorities have already been identified to take forward. These are:

- **AHSN Relicensing.** AHSNs play a key role in driving the uptake of health innovation and economic growth. There are 15 regionally based AHSNs across England, which play a critical role in delivery of the Life Sciences Vision and the Government’s commitment to harness innovation to deliver improved public services and grow the economy, supporting Integrated Care Systems (ICSs) and local innovators across the UK to develop, test and integrate new technologies at a local, regional, and national level. NHSE is their majority funder, with the Office for Life Sciences (OLS) providing an additional commission on behalf of DHSC and Department for Science, Innovation and Technology (DSIT). The current 5-year contract with the AHSNs expired in March 2023, and was extended for a further year. We are now pleased to announce that NHSE have decided to proceed with a new five-year Master License Agreement for the fifteen AHSNs, commencing in October 2023. As part of the relicensing, the AHSNs will be working towards a fundamental shift in how they operate, to better align to NHS activities. We will implement this new way of working in 2023/24 with a break clause 18 months later.
- **Implementation of the O’Shaughnessy Review Recommendations.** Improving the speed and ease with which clinical trials can be set up and delivered can make a major contribution to increasing the attractiveness of the UK to the life sciences industry, as well as in improving patient outcomes. NHSE has plans to proactively respond with rapid and considered actions – in partnership with other ALBs and organisations with a role to play - to Lord O’Shaughnessy’s review of commercial clinical trials in the UK, which is due to be published on May 25<sup>th</sup> 2023.
- **National Support for Digital Health Therapeutics.** Digital health technologies (DHTs) have many potential benefits. However, the use of DHTs has so far varied widely across the NHS and social care. NHSE is leading a programme of work with a suite of activities which include assurance, conditional recommendations, and national commercial deals to improve the adoption and spread of proven DHTs.
- **Building on the MedTech Programme.** We are seeking to better scale proven innovations relaxing the MedTech Funding Mandate (MTFM) financial criteria so that positive NICE Medical Technologies Guidance (MTGs) will be eligible. As part of this work, we hope to announce a further 9 eligible technologies. There may also be funding available for technologies that receive a conditional NICE Early Value Assessment (EVA) to deploy and generate further evidence that would see then graduate to the MTFM if evidence generated is supported. We are also seeking to review the mechanism for implementing MTFM, including the potential for further levers to drive uptake.

#### Workstream Three: The NHS Research and Innovation Blueprint

16. The national health innovation ecosystem is complex, with many different organisations with different remits and priorities. Despite this complexity, there is a central role for NHSE to direct and coordinate so that proven innovations are better supported through research and innovation. The role of NHSE is vital at both national and regional levels, and the NHS Research and Innovation Blueprint will help articulate NHSE’s roles and responsibilities for the successfully promotion of research and innovation. This will include setting the missions for delivery, influencing local ‘pull’, funding the infrastructure (e.g., AHSNs) and how the NHS can work with

partners to horizon scan and building commercial frameworks that make innovation adoption easier. This programme will also consider other parts of the system, ensuring that NHS partners are empowered with the resources and networks they need to deliver change they are seeking.

17. However, to implement change, we must first understand how the landscape for research and innovation in the UK currently operates. As such, one of the first tasks as part of Workstream 3, is mapping the current ecosystem. Progress to date is included in Appendix D. This mapping will form a key part of the Blueprint itself. A draft structure for the Blueprint is included in Appendix E.

#### Workstream Four: Preparing for the NHS of tomorrow

18. This workstream involves a summary review of recent think pieces and articles, and - after a gap analysis - commissioning expert views on how the NHS can adapt moving forward and prepare for the future NHS. There has been very positive feedback on this workstream from stakeholders engaged to date.
19. The work has not yet started on this workstream, and the scope is currently being reviewed. We are currently considering a range of current and emerging Research and Innovation trends to focus upon (as summarised in Appendix F), including citizen empowerment, Artificial Intelligence (AI) and genomics. The advisory group will meet to discuss areas of focus and ensure we are asking the right questions of those completing the work.

#### Emerging themes

20. Early engagement has shown broad support for this programme of work, with a general feeling that the Life Sciences ecosystem is at a moment of both peril and opportunity, and a wide range of views of who should do what. We have already incorporated specific feedback from early scoping consultations into designing the programme approach, as well as feeding into our thinking of risks, project delivery and more. A short summary of some of the engagement themes from this initial feedback is included below:
- **There is an urgent need, and the time is now.** Consultees have expressed that the NHS is in a moment of significant operational pressure with a significant amount of work to do to recover from the effects of the pandemic with regard to clinical trials. There is, however, significant opportunity to be had and it is not too late if we act now.
  - **Scope and timing.** This is undoubtedly an ambitious piece of work, and it is paramount that what we are setting out to do is achievable and being delivered in realistic timescales, without losing the required momentum and pace. It is critical that we are transparent around delivery with sensible KPIs built into project set-up that hold the programme to account.
  - **Learning from elsewhere.** There is a lot of other work in this area. We must learn from other work that has taken place in this space.
  - **What is going to be different this time?** The requirement of this programme means that other work has not yet delivered us with the silver bullet to deliver the change we need. We need to build upon existing work but the delivery and thinking must be different.
  - **Evaluation.** We also need to be collectively accountable for the outcomes of the work, and consideration on how we measure the programme's success should be considered from the outset.
  - **Buy-in from leadership.** It is integral that we have leadership buy-in. Due to the complexity of the system this will be multi-layered, and leadership will need to be aligned nationally and locally, and it will need to accommodate partnerships between different sectors. However, the sponsorship of the NHS England CEO and Board shows that this work has support and ownership at the most senior level within the NHS.
  - **Making things happen.** Culture is key. Change will only be lasting if we facilitate a shift in the way clinicians and partners think.
  - **Emphasis on doing.** Policy thinking needs to be tested in localities and put into action. We don't need another strategy that sits on a shelf.
  - **The importance of access.** There is a fundamental need to improve access now, whilst also focusing on the long-term. This will ensure that the NHS stays investable in the short-term.

#### Next Steps

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21. Now is an opportune moment to deliver this important programme of work. We are hoping to build upon any feedback and comments from the Life Science Council to refine the scope and workplan and drive forward planned activity.
22. An update on the programme’s progress will be provided to the Life Science Council at the November 2023 and May 2024 meetings.

**Life Science Council members are asked to:**

1. Discuss and comment on the planned piece of work to mobilise the UK’s health research and innovation ecosystem behind these clinical priority areas.
2. Endorse the direction of travel for this piece of work.

**APPENDICES****Appendix A – Programme scope****Context and problem statements**

Patients benefit enormously from research and innovation, with breakthroughs enabling prevention of ill-health, earlier diagnosis, more effective treatments, better outcomes, and faster recovery. Linking and correlating genomics, clinical data and data from patients provides routes to new treatments, diagnostic patterns, and information to help patients make informed decisions about their care. ‘Research-active’ hospitals have lower mortality rates, with benefits not limited to those patients who participate in research.

Research and innovation are also important for the UK economy, bringing jobs and services. The Government’s Industrial Strategy set an ambition for R&D spending to reach 2.4% of GDP by 2028, which could see health R&D spending hit £14 billion. The Life Sciences Industrial Strategy highlights that the UK is one of the best places in the world to do biomedical research, with globally renowned scientists and institutions in a rich, connected ecosystem making new discoveries every day.

However, we are receiving feedback from frontline staff, researchers, and the life sciences industry that it is currently a challenging picture more broadly in the health innovation ecosystem. Overall, the ongoing pressures for the NHS stemming from recovery and the resulting limits on capacity for the system to engage in research and innovation, along with the broader inflationary and economic pressures are resulting in a consequential fall off in collaborative life sciences activity as measured in the OLS Life Sciences Competitor Index with lower trial recruitment into late-stage trials and lost inward investment in the UK health innovation system. Furthermore, there is an inconsistent workforce capability in emerging areas of innovation, and we are inconsistent in our approach to system readiness to allow NHS to be better able to respond to opportunities coming down the pipeline. At the same time, industry is not always focused on the right challenges or bringing through products that only provide marginal gain, but at significant additional costs. The complexity, misalignment and duplication in innovation ecosystem makes it difficult to navigate decision making.

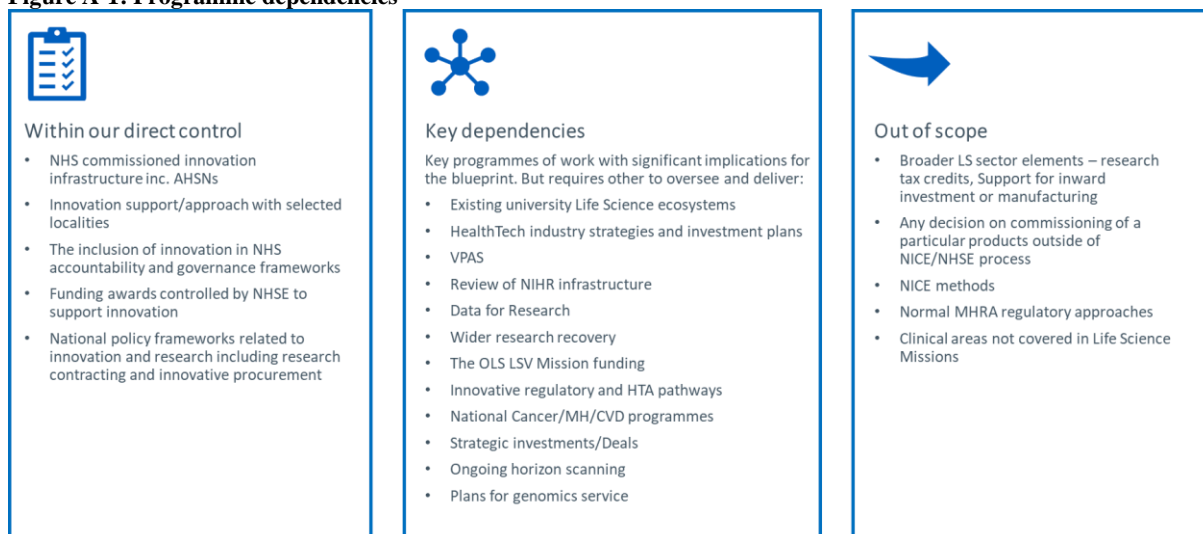
To address these challenges and deliver sustainable growth, the Life Science ecosystem must ‘leap ahead or skip a generation’ with a medium long-term vision. This will be a collective endeavour, with asks of all parts of the Life Sciences ecosystem to ensure the focus is on answering the right questions. We believe this focus should be on prevention, early diagnosis, and precision medicine.

**Dependencies**

A summary of the mapped dependencies are included in the figure below.



Figure A-1: Programme dependencies



Source: Innovation Ecosystem Programme Review, 2023

### The enablers

There are important enablers which will be required to success in this work. These can be summarised as cultural, acceptability and technical enablers, as summarised in the table below.

Table A-1: Programme dependencies

Cultural
<ul style="list-style-type: none"> <li>• <b>Awareness, Skills, and Knowledge:</b> Care providers, staff and patients need to be aware of research and innovation and understand it, use “storytelling” to tell the narrative, as well as needing specific skills to enrol and use it effectively.</li> <li>• <b>Leadership and Governance</b> – Use of external and internal clinical champions and endorsement from executive sponsors to guide and support people. Clear governance for escalation processes.</li> <li>• <b>Culture:</b> Culture of research and innovation and patient-centric approaches, with entrepreneurial personalities.</li> <li>• <b>Building and Using Networks</b> - Creating links between stakeholders to share learning, create peer support and build plans for spread on knowledge and experience.</li> <li>• <b>Capacity and Capability</b> – Staff have time, experience, permission, and resources to adopt innovations.</li> <li>• <b>Commissioners</b> – Support of commissioners for the innovation.</li> <li>• <b>Patient Involvement</b> – Co-production in the design, adoption and roll out. Ensuring there is a diverse set of experiences and skills who promote the benefits of the innovation and support others to use it.</li> </ul>
Acceptability
<ul style="list-style-type: none"> <li>• <b>Safety</b> – The innovation is perceived to be safe, and not perceived to be a risk to patient safety.</li> <li>• <b>Evidence:</b> Successful and credible demonstration of their clinical and economic value proposition compared to existing interventions (Trial and RWE). Links to national policy and guidelines, academic publications, national toolkits.</li> <li>• <b>Added Value</b> - Innovation adding value for clinicians, focusing on outcomes and impact.</li> <li>• <b>Engagement focused</b> –In depth understanding of stakeholders and work closely with them.</li> <li>• <b>Alignment with Priorities:</b> Alignment with institutional and national priorities, being clear on local problems and needs.</li> <li>• <b>Use-Centred Design and Flexibility:</b> Design of a technology meets the user’s needs, and/or there is tailoring of the scale-up approach to the local situation. There can be trialability and observability.</li> <li>• <b>Implementation Effort</b> – The cost (and opportunity cost) of adopting the new technology, as well as the effort and disruption of implementation, are seen as favourable.</li> <li>• <b>National Endorsement</b> – By Funding award, national programme etc.</li> </ul>
Technical

- **Funding:** Clear reimbursement route and sustainable funding to support long-term growth, as well as clear return on investment. Use of financial incentives.
- **Data** – Access and sharing of appropriate data.
- **Interoperability** – Ease of integration into existing workplace.
- **Clear Adoption Framework** – Clear high-level approach to spread and adoption activities, including Quality Improvement Methodologies.
- **Procurement** – Innovation on an easily accessible Procurement Framework.
- **Sustainability** – Clear plan for sustainability.
- **Support** – by central NHS teams, AHSNs, or other government or industry bodies.

Source: Innovation Ecosystem Programme Review, 2023



## Appendix B – Workstream overview

### Overview

The programme has four interlinked workstreams. These are set out in turn in the remainder of this appendix.

### Workstream One: Learn by doing

The programme will involve working with health innovation leadership in 3-6 NHS localities to test transformational pathway improvements in the chosen clinical areas outlined. Insights gained from research will help refine the blueprint for improving research mobilisation and adoption and spread of innovation. There are three phases in this workstream:

- **Phase 1 (from May '23):** Selection of localities and areas of clinical focus (early cancer diagnosis, Digital Mental Health, CVD) – establish governance and process for oversight of clinical areas and how link into localities.
- **Phase 2 (May '23 – May '24):** Work with local leaders to map local networks and systems against initial blueprint. Bring key parts of localities into clinical priorities work. Test emerging recommendations in localities.
- **Phase 3 (from May '24):** 2–3-year programmes of work with findings feeding back into national policy. Emerging findings spread to other localities as articulated through blueprint.

### Workstream Two: Immediate actions

Workstream 2 will be the implementation through partners of the immediate and medium-term actions we collectively know the system needs to adopt to improve the innovation ecosystem. This will occur in two phases.

- **Phase 1 (from May '23):** An initial implementation plan collating an agreed set of actions from existing work being delivered by the NHS for the system to take forward and align through this work, including from:
  - Joint working between NICE/MHRA/NHSE
  - AAC clinical priorities work
  - Agreed actions from MedTech and medicines pathway
  - Initial actions from O'Shaughnessy review
  - AHSN relicence changes
  - Funding for Mental Health DHTs Commercial innovation work
- **Phase 2 (May '24):** A set of further recommendations with implementation plan.

### Workstream Three: The NHS Research and Innovation Blueprint

Workstream 3 will be the development of The NHS Research and Innovation Blueprint. This will set out the NHS approach to clinical research and the development, adoption and spread of high-quality innovations. This work will consist of three phases.

- **Phase 1 (from May '23):** A diagnostic document drawing on current knowledge and insights from previous work, including an agreed map of current ecosystem, funding pots, and development pathway. Highlighting key areas of focus for improvement.
- **Phase 2 (May '23-May 24):** Regular iterations of this picture taking learning from initial localities work and other engagement.
- **Phase 3 (from May '24):** A conceptual operating model agreed with all boards and an implementation plan of how it will be embedded within NHS operating model and business plans.

### Workstream Four: Preparing for the NHS of tomorrow

Finally, workstream 4 focuses on preparing for the NHS of tomorrow. To help us develop answers for how we think the NHS could or should look like in the future, we would like to bring together leading system thinkers and organisations to consider this question.

- **Phase 1 (from May '23):** Develop questions that focus around addressing anticipated challenges and associated solutions to prepare for the NHS of the future. Identify individuals to undertake the work.
- **Phase 2 (May '23-May 24):** External thought leadership pieces to be commissioned to address identified questions and further the thinking on how the NHS can adapt moving forwards.

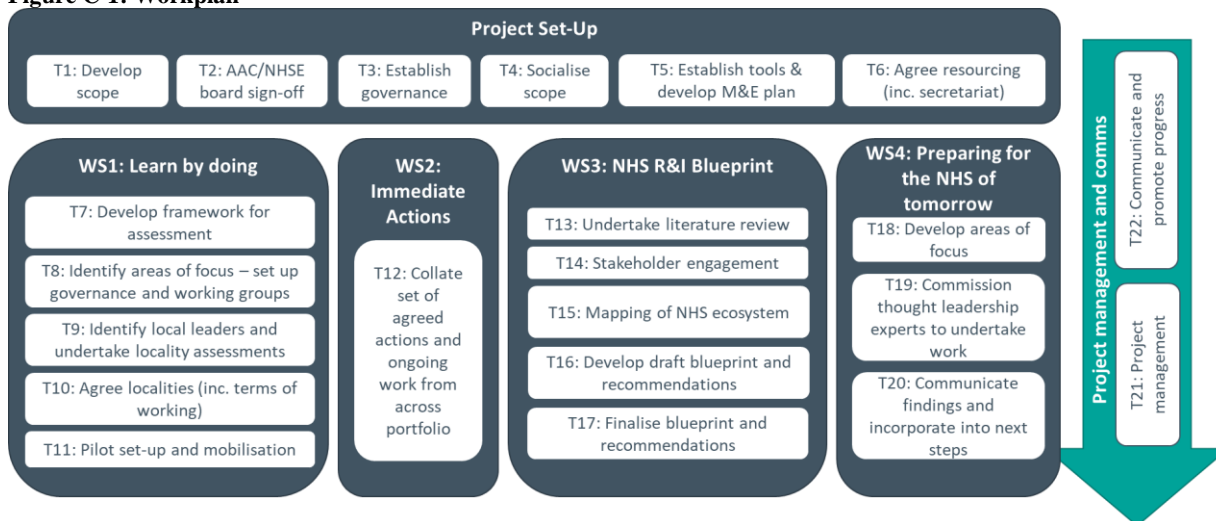
- **Phase 3 (from May '24):** Findings from research to be communicated externally and be built into next steps.

**Appendix C – Programme planning and management**

**Programme workplan**

A summary of the proposed workplan for this programme of work is included in the figure below.

**Figure C-1: Workplan**



Source: Innovation Ecosystem Programme Review, 2023

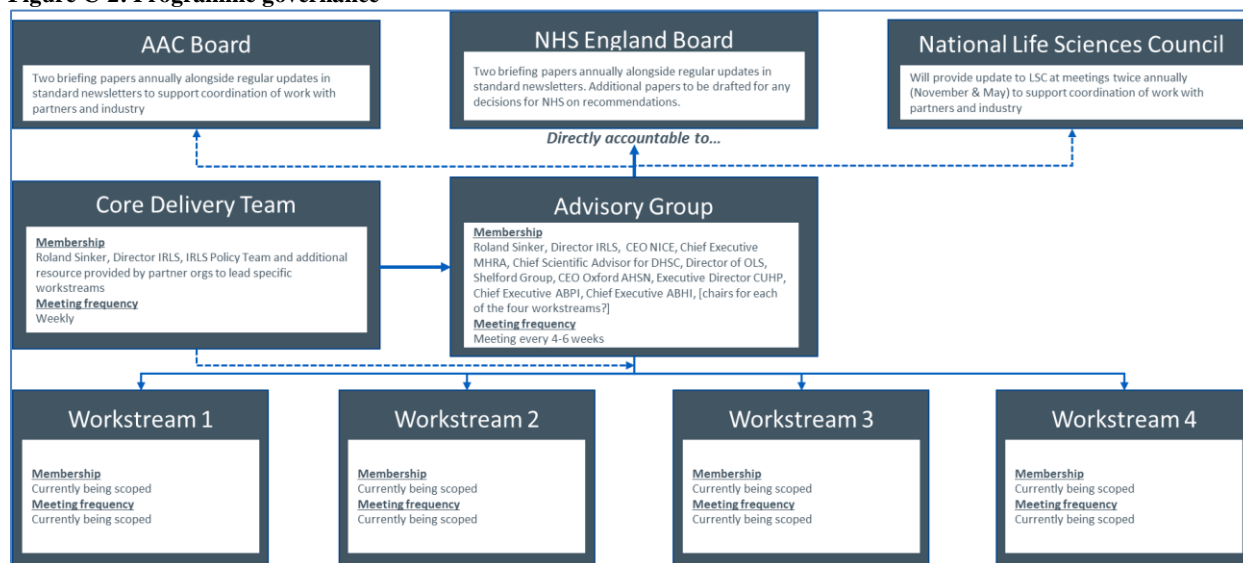
**Governance**

The Innovation Ecosystem programme will be led by a core Advisory Group made up of system leaders, who will direct the delivery of work through four main workstreams. A core delivery team based in NHSE will help resource, with support from partners. The Advisory Group will be directly accountable to the NHSE Board but will have appropriate reporting to the AAC Board and the National Life Sciences Council.

The project is closely linked to wider work remits covering life sciences and NHSE innovation including those of the AAC, DHSC, ABHI, and other boards. The programme governance set out below is intended to link to but not oversee/supersede those groups. Additional clinical input will be actively sought from relevant NHSE clinical advisory groups.

A summary of the governance arrangements are included in the figure below. To note, membership and engagement for different groups are all currently under review.

**Figure C-2: Programme governance**



Source: Innovation Ecosystem Programme Review, 2023

### Measuring success

It is imperative that the programme has measures of success that show the work can turn the dial on key areas in the innovation ecosystem. Therefore, we believe these are indicative measures of success that we should ensure we have a clear baseline to assess the programme’s success. These are included in the table below; we will develop these further as the work progresses.

**Table C-2: Measuring success.**

Clinical research
<ul style="list-style-type: none"> <li>Marked increased in speed of commercial trial set up.</li> <li>Significant increase in number and diversity of patients recruited into commercial trials.</li> <li>Increased number of sites involved in research and innovation work aligned to priorities</li> </ul>
Innovation
<ul style="list-style-type: none"> <li>Reduced time to final commercial decision on priority pathway products.</li> <li>Year on year increase in speed of uptake in first year after approval for agreed products.</li> <li>There is faster access to data around research and innovation uptake.</li> </ul>
A simpler ecosystem
<ul style="list-style-type: none"> <li>System use of the Research and Innovation Strategy which is embedded in policy/guidance/decision making structures across NHS.</li> <li>Increase in % time that local staff dedicate to research and innovation.</li> <li>Feedback indicated greater stakeholder (non-system) clarity around roles and responsibility in the innovation system.</li> <li>There is system-wide clarity on roles and responsibilities.</li> </ul>

Source: Innovation Ecosystem Programme Review, 2023

**Appendix D – Mapping the current ecosystem**

We are undertaking mapping of the current ecosystem at both a national and local level. At a national level we are considering the different ways in which to best map the ecosystem, i.e., by function, geography, stage in product development etc. Each local ecosystem will be different and visualised differently depending on its own profile. Examples of national and local ecosystem maps are included in the figures below.

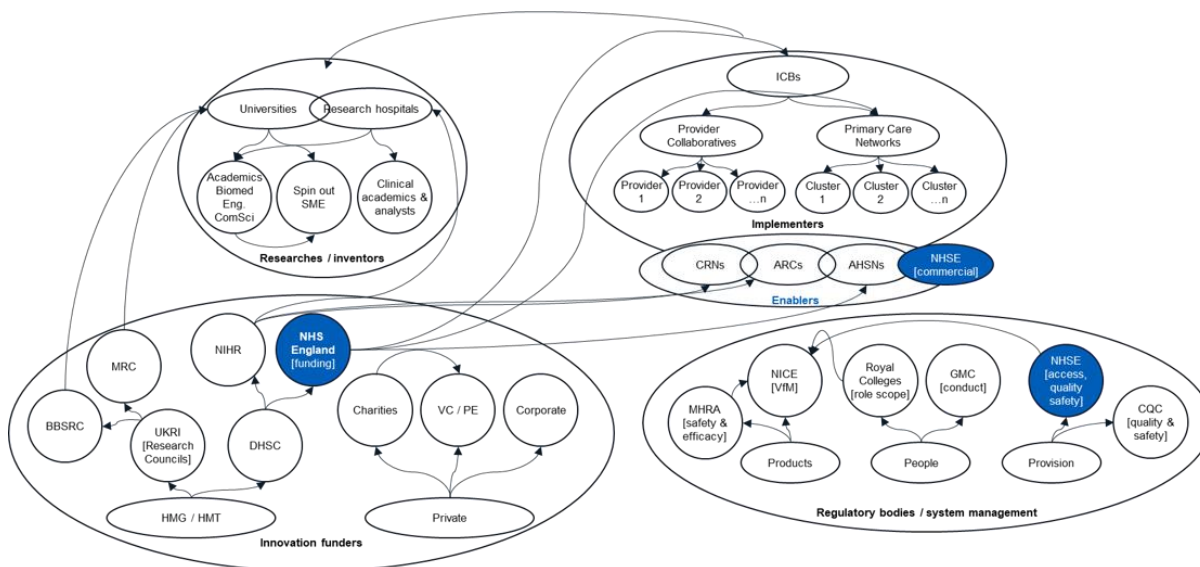
Across the mapping we are also seeking to understand the amount of spend across the system, to see how we can better coordinate costs. There are, however, considerable challenges in understanding current investment in product innovations. NHS supply chain data sets out that:

- The total cost to NHS commissioners (known as actual cost in primary care data) in England, for the issue of medicines, appliances, and medical devices in 2021/22 is estimated to be £17.2 billion. Broken down as:
  - £8.90 billion prescribed in primary care and dispensed in the community (50%)
  - £8.77 billion issued in hospitals (49.3%)
  - £85.1 million prescribed in hospitals and dispensed in the community.
  - £29.3 million prescribed by dentists and dispensed in the community. <sup>[1]</sup>
- The latest MedTech strategy estimated that the NHS spends £10 billion per year of this on MedTech. <sup>[2]</sup>

However, much of the spend outlined above is on *old* medicines and is not considered spend on new innovations. Ringfenced funding and programmes or initiatives have been set-up to support the uptake of novel MedTech and medicine innovations. These include:

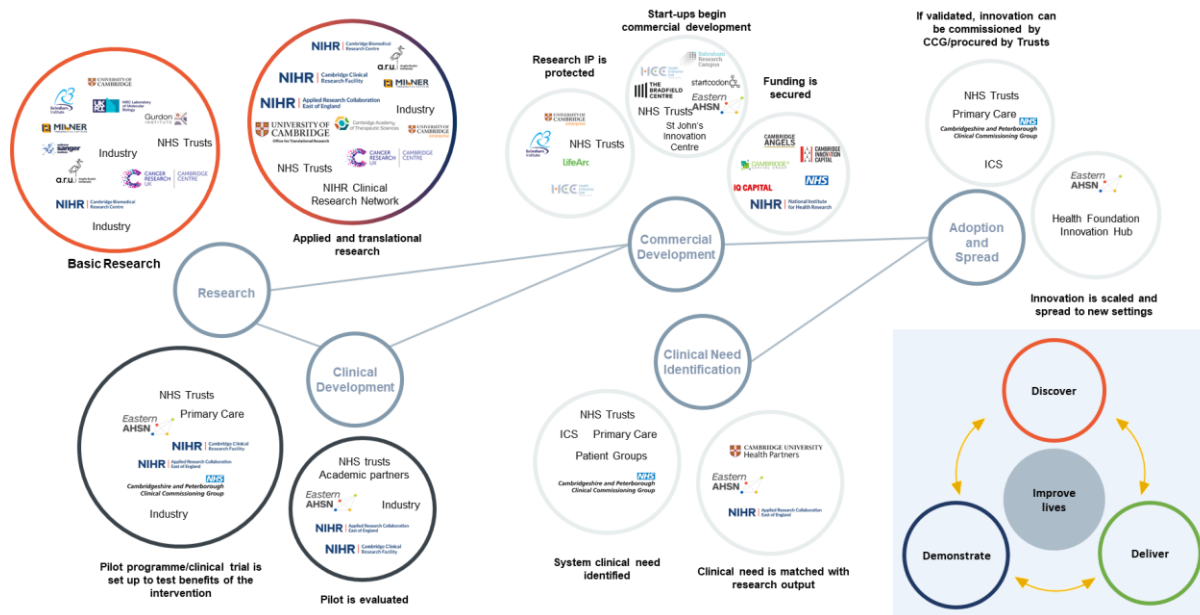
- Cancer Drugs Fund (£340m)
- Innovative Medicines Fund (£340m) <sup>[3]</sup>
- Med-Tech Funding Mandate (MTFM): MTFM is a mandate to local commissioners to ensure funding is made available diagnostics or digital products that are effective, deliver material savings, are cost-saving and affordable.
- Specialised Services Devices programme (SSDP) (prev. High-Cost Tariff Excluded Devices programme): A system covering devices that NHSE has agreed should be paid for separately from the national tariff, for the procedure in which they are used. This is because if they were included in the payment by results tariff, it would skew the average costs of the Health Resource Group (HRG) used to pay for the procedure. SSDP aims to reduce pricing variation, drive transparency, provide VfM and accelerate the adoption of effective new technologies. <sup>[4]</sup>

**Figure D-1: National mapping – An example of a national map, as themed by Function**



Source: Innovation Ecosystem Programme Review, 2023

Figure D-6: Local mapping – An example of mapping a local ecosystem (Cambridge)



Source: Innovation Ecosystem Programme Review, 2023

Appendix E – Blueprint structure

A proposed structure for the NHS Research and Innovation Blueprint, to be developed as part of Workstream 3, is included below.

**Table E-1: The NHS Research and Innovation Blueprint – Proposed Structure**

Heading	Proposed contents
<b>Vision</b>	A summary of why innovation and research are important for the NHS and a clear vision for what an effective innovation ecosystem with the NHS at its core looks like (the NHS as a central partner in the Life Science Ecosystem). Clarity provided upfront on how this document works alongside the Life Science Vision, i.e., we are not aiming to rewrite the Life Science Vision, but instead push the thinking about how we implement it. Upfront emphasis that the NHS needs to pivot to stay relevant and stop it from being left behind.
<b>The current ecosystem</b>	A summary of how the current life science ecosystem works, including a map of the current ecosystem and a how the NHS currently engages with partners in industry.
<b>The criteria for success</b>	<p><b>Overview:</b> Section that effectively sets out how success will be delivered and then how we will measure success in implementation. To be organised by the:</p> <ul style="list-style-type: none"> <li>• Short-term: Tackling immediate challenges around health service recovery (although being very clear that we are not getting involved in programme deployment in a crowded space); and then</li> <li>• Long-term: Being directive around the life science ecosystem by answering mission questions in targeted specific area</li> </ul> <p><b>Our priorities for innovation and research:</b> A statement of ambition on each of these areas, an analysis of the patient population and potential benefit from each, detail on the areas of focus within each priority area, who is leading/co-ordinating the work, who is involved across NHSE wider system, which localities supporting, and an implementation plan for each area.</p> <ul style="list-style-type: none"> <li>• Cross cutting priorities (Move to prevention, out of hospital care, patient management)</li> <li>• Clinical areas (Cancer, Mental Health, Dementia, CVD)</li> </ul> <p><b>Measuring impact:</b> Outcome and impact measures include a summary of current performance and the areas of key focus for improvement. E.g., speed/scale/diversity of trials, measure of uptake, spread and reduced variation in patient access, number of clinicians involved in research and innovation work etc. Include how this will be tracked, overseen, and published.</p>
<b>The blueprint</b>	<p><b>The “conceptual” model:</b> (i) The map of who does what - in nonspecific way (types or orgs rather than names) at national, regional, and local level – and how we interact between them; and (ii) The stages of innovation – what required at each stage in terms of decisions, evidence, preparation for implementation.</p> <p><b>The “operating” model:</b></p> <ul style="list-style-type: none"> <li>• Roles and responsibilities - specific details on who does what, how they do it and outcomes measure on in relation to innovation.</li> <li>• Detailed local maps of decision makers and networks/orgs.</li> <li>• The pathway – end to end description of bench to bedside for an innovation – decisions/evidence required/support programmes at each stage for an innovation.</li> <li>• The framework for adoption and spread – the methods and levers available to successfully deploy an innovation – who owns them and when/how they should be pulled.</li> </ul> <p><b>What will look different in the next 12 months</b></p>
<b>Delivery</b>	(i) Lessons learned from the localities and clinical priorities work; (ii) Next steps in how to deploy across the system (covering both how we commission infrastructure and expanding the way of working to more localities); (iii) Case studies on each locality with detail of how research and innovation is mobilised effectively.
<b>Key enablers</b>	How the enablers are being set up to support the conceptual and operating models and a forward plan of improvements in each. NB. Detail to be included on where we are implementing enablers in fertile ground and where we are being more directive. To include: Data; Metrics; Leadership – clinical and administrative; Workforce; Commercial – Procurement, IP, contracting for research; Information sharing/learning health systems; Finance; Governance and accountability; Culture; Key enabling technologies; Genomics; Digital and AI...
<b>Delivery and next steps</b>	Implementation plan for following 3 years including governance and oversight. NB. It is likely that the model of change to deliver this work will be nuanced and draw upon different thinking inc. IRLS existing work on methods and leavers.

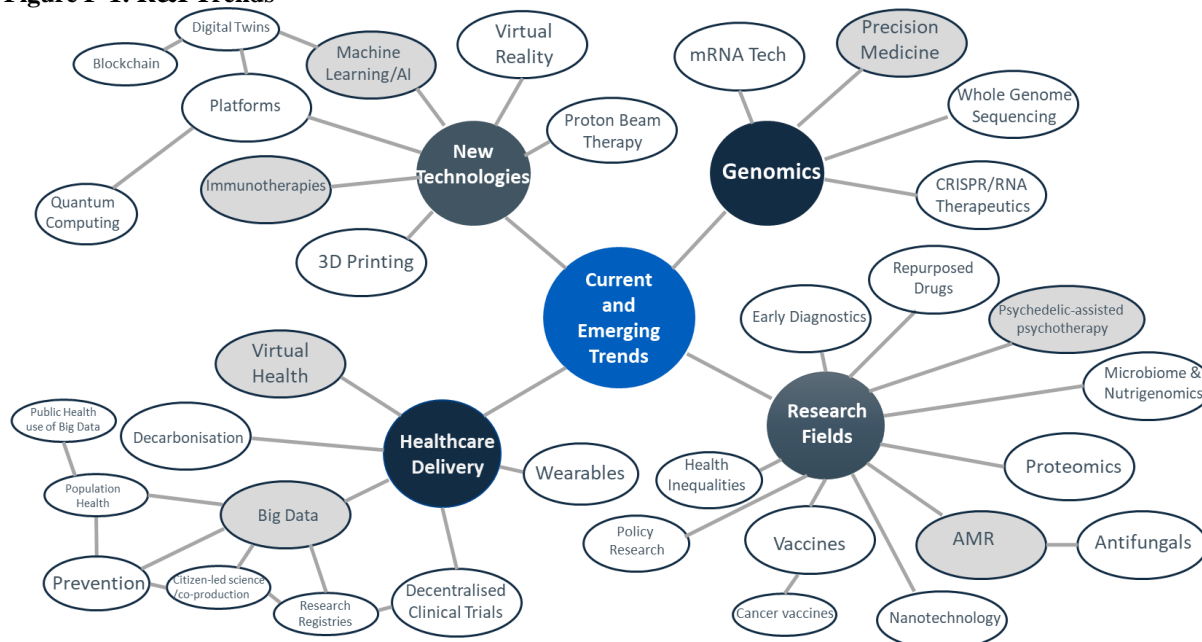
Source: Innovation Ecosystem Programme Review, 2023



Appendix F – Current and emerging R&I trends

There are several emerging trends in medical research and innovation that will significantly affect how the NHS delivers care and the ecosystem will need to be co-ordinated to respond. The following R&I trends have been mapped to support the scoping of workstream four.

Figure F-1: R&I Trends



Source: Innovation Ecosystem Programme Review, 2023