Benefits Realisation Paper

NHS Fellowship in Clinical AI

Equipping healthcare leaders to adopt clinical AI

August 2025

NHS
Fellowship in Clinical AI
NHS Digital Academy Programme

Executive Summary

The **NHS Fellowship in Clinical AI** is a unique 12-month, part-time programme designed to equip NHS clinical leaders with the skills to safely deploy and evaluate AI in real-world healthcare settings.

Key benefits shown in this report include:
- Building NHS clinical AI workforce capability
- Growing and connecting expert clinical AI communities
- Generating real-world evidence and impact for clinical AI

Now in its 4th cohort, the Fellowship has successfully trained diverse workforce, building a national network of AI-capable leaders aligned with NHS workforce and digital transformation priorities as highlighted by the *Topol Review (2019) , NHS Long Term Workforce Plan (2023)*, and recently by *Fit for the Future: 10 Year Health Plan for England*

The programme addresses a critical AI skills gap by delivering a curriculum mapped to national competency frameworks, covering themes of: AI fundamentals, regulation & standards, validation & evaluation, systems integration, and strategy & culture. Fellows apply learning through supervised projects and receive mentoring to foster innovation and sustainable culture change.

This paper aims to outline the problems, solutions, benefits realised, and lessons learned from across all 3 successfully delivered cohorts to date and plans for sustainability for the future.

Previous lessons learned have driven curriculum improvements and streamlined recruitment, promoting transparency and diversity. Future plans focus on sustainability through embedding the fellowship within NHS workforce frameworks, expanding workforce eligibility, and deepening partnerships to maintain relevance and impact.

This Fellowship is a vital investment in building an AI-ready NHS workforce, enabling safe and effective digital transformation that will improve patient care and health system resilience.

NHS
Fellowship in Clinical AI
NHS Digital Academy Programme

Contents

The Problem: Clinical AI Workforce Gap

Despite growing interest in and need for AI, frontline clinicians often lack the time, training pathways, and institutional support to engage meaningfully with AI deployment and evaluation. This has contributed to a disconnect between innovation and implementation at the point of care.

The _Topol Review (2019)_ first identified the urgent need for upskilling the NHS workforce to safely adopt digital technologies. It explores implications for recruitment, education, training, and lifelong learning to best equip staff to deploy these technologies in patient care.

This call has since been reinforced by white papers such as the _NHS Long Term Workforce Plan (2023)_ , and by _Fit for the Future: 10 Year Health Plan for England_ highlighting the importance of embedding digital and AI capabilities across the healthcare system.

While initiatives such as the _Topol Digital Fellowship_ and _NIHR Academy Programmes_ have supported digital and data-driven innovation in healthcare, there remains a critical gap in preparing clinicians to effectively use AI in practice. Other programmes often focus on broader digital leadership or research, but lack the hands-on experience needed for clinicians to confidently **deploy and evaluate AI tools in live clinical settings**. Without this practical capability, frontline teams risk being underprepared for the growing integration of AI into healthcare delivery.

The Topol Review
Preparing the healthcare workforce to deliver the digital future

The Digital Medicine and AI & Robotics Panels recommend:

- The NHS should create or increase the numbers of clinician, scientist, technologist and knowledge specialist posts with dedicated, accredited time, with the opportunity of working in partnership with academia and/or the health tech industry to design, implement and use digital, AI and robotics technologies. (DM4/AIR5)

NHS England

NHS Long Term Workforce Plan

June 2023

- Ongoing investment in the Fellows in Clinical Artificial Intelligence programme, which has initially focused on diagnostics and is now supporting more clinical AI programmes aligned to solutions for radiotherapy, disease surveillance and patient transfers.[188]

FIT FOR THE FUTURE
10 Year Health Plan for England

We will ensure staff have the skills they need in a digitally enabled NHS

Our 10-year vision is for a workforce where every individual is supported to reach their full professional potential. As part of our objective to give the NHS the most AI-enabled workforce in the world, staff will be AI trained, digitally confident and have skills in modern leadership, transformation and innovation. Staff will be supported to develop

The Solution: NHS Fellowship in Clinical AI

In response to the growing workforce need, the *NHS Fellowship in Clinical AI* was launched in 2021 at Guy's and St Thomas' NHS Foundation Trust (GSTT) within the Clinical Scientific Computing (CSC) team. The programme was designed to directly address the national skills gap by preparing clinicians to safely and effectively deploy and evaluate AI tools in live clinical settings.

The Fellowship is building sustainable capacity within the NHS workforce by enabling clinicians to continue their clinical role while developing specialist AI skills part-time in this programme. This practical, implementation-driven approach ensures that clinicians gain the expertise needed to **translate AI innovations into real improvements in clinical workflows.**

Supported and funded by *NHS England Workforce Training and Education, NHS Education for Scotland, Health Education and Improvement Wales,* and other partners, the programme represents a strategic investment in equipping the NHS workforce with the skills required to harness AI at scale.

Now in its 4th cohort, the Fellowship is delivered through a multi-modal educational delivery model combining interactive in-person workshops, virtual learning, peer collaboration, and (most importantly) immersive clinical AI project work under expert mentorship. This multi-modal approach reflects the complexity of AI adoption in healthcare, ensuring clinicians access both the depth and breadth of exposure in this cutting-edge field. By combining academic content, practical deployment experience, and cross-sector engagement, the Fellowship builds both capability and confidence to implement AI in ways that benefit patients and healthcare services.

Based on themes identified at the design stage, the Faculty has developed a list of key features for the programme aimed at addressing the problem of the clinical AI workforce gap. These features then become the programme's objectives, which in turn shape its modalities.

Each programme feature is evaluated against these objectives iteratively, providing a robust foundation for measuring the programme's impact and realising its long-term benefits for patients, services, and the healthcare workforce.

Problem Identified	Programme Objective
Lack of specialised training programme for NHS clinical leaders to adopt clinical AI technology	1. To create a specialised training programme for NHS AI readiness and workforce transformation: the NHS Fellowship in Clinical AI
Lack of standardised curriculum for upskilling NHS workforce in clinical AI adoption	2. To create, maintain, and deliver a cutting-edge curriculum for high-quality education and training of healthcare leaders to adopt clinical AI
Risk of unsafe, ineffective, inequitable, or non-existent adoption of clinical AI without suitable clinical oversight	3. To build a portfolio of exemplar clinical AI projects across broad clinical domains that demonstrate safe, ethical, and clinically informed AI adoption
Piecemeal regional opportunities for training in clinical AI skills, resulting in inequity of access and 'postcode lottery' for learners	4. To coordinate the standardised national recruitment for the NHS Fellowship in Clinical AI
Piecemeal regional and specialty-specific approaches to integration of clinical AI projects, training, education, and networks of expertise	5. To foster regional and specialty-specific growth and development in clinical AI expertise
Lack of cross-institutional networks for cooperation and knowledge-sharing in clinical AI	6. To foster cross-institutional cooperation and networks of expertise in clinical AI involving NHS, academia, industry, regulators, and other bodies
Lack of a sustainable, scalable model of NHS clinical AI training	7. To establish a sustainable, scalable delivery model for the NHS Fellowship in Clinical AI with funders and delivery partners
Limited choices of onward career pathways in clinical AI and digital medicine for healthcare leaders	8. To support the onward career trajectory of the clinical AI community of practice

Methodology: Measuring Impact

The NHS Fellowship in Clinical AI employs a structured, outcomes-driven approach to monitor progress and measure impact at the individual, organisational, and system levels. Impact is assessed through a combination of the following methods:

Recruitment data:

Recruitment performance and demographic data (collected under Equality Act 2010 and anonymised) are analysed and presented following each recruitment cycle. Interview panellists are surveyed for their feedback each cycle.

Fellows' AI Portfolio:

Fellows maintain a portfolio of their output in clinical AI achieved during the programme, including but not limited to: certificates and qualifications earned, grants, prizes, publications, presentations, panel/speaker invitations, acceptance onto onward programmes, and code repositories. Fellows also document the outcomes of their AI project in a detailed graduation poster, and summarise their experience and impact of the fellowship in a narrative testimonial (Cohort 3 exemplar).

Fellowship AI projects:

AI supervisors submit project proposals for inclusion on the fellowship, and the project documentation is amended and refined to reflect progress on milestones through the fellowship year.

Workshop surveys:

Post-session workshop surveys assess the relevance of workshop material to the curriculum, and the engagement, clarity, interactivity, and depth of content. Feedback from these surveys is shared with speakers and used to refine future content and logistics.

Exit surveys and alumni surveys:

Fellows complete an anonymised structured exit survey upon graduation from the programme, asking for their recommendation of the programme to others, confidence in applying curriculum themes, the fellowship educational modalities that led to the them achieving learning objectives, and anticipated onward career trajectories. Alumni are periodically surveyed to ascertain their continuing career trajectory with respect to clinical AI, including scope of work, achievements, and challenges.

External literature:

Both peer-reviewed and NHS white paper publications have documented the impact of the fellowship.

Retrospective evaluation:

A formal retrospective evaluation of the pilot cohort (Cohort 1) commissioned from Health Innovation Network South London identified the programme's strengths and areas for growth through surveys and structured interviews and focus groups.

Results: Benefits Realised

The NHS Fellowship in Clinical AI has made significant progress in developing clinical AI capability, supporting service transformation, and fostering a national community of clinical leaders with expertise in AI. Below are the benefits realised across 3 successfully delivered cohorts, and a 4th underway.

Programme Objective	Stakeholders	Evidence	Benefit Realised
1. To create a specialised training programme for NHS AI readiness and workforce transformation: the NHS Fellowship in Clinical AI	Funders Fellows	**Recruitment data:** 57 NHS clinicians have graduated from cohorts 1, 2, and 3, the NHS Fellowship in Clinical AI. Another 34 fellows are in in post for cohort 4.	More NHS clinical leaders equipped to adopt and evaluate clinical AI tools, leading to increased NHS workforce capacity to deliver digital transformation with AI technology
		Exit survey (Cohort 3): Q: 'Would you recommend this fellowship to an eligible colleague interested in a career in clinical AI?' | Strongly Recommend	90%
Recommend	5%
Neutral	5%		The overwhelming majority of graduates strongly endorse the programme for its benefits on their career in clinical AI
		Exit survey (Cohort 3): Q: 'What archetype roles in the clinical AI ecosystem are you interested in pursuing after this fellowship?' (multiple pick) | Driver- Champion and lead AI development and deployment at a regional/local level	81%
Embedder: Implement, evaluate and monitor AI technologies deployed within healthcare	86%		The overwhelming majority of graduates plan to pursue career roles that directly drive NHS AI adoption and evaluation.
		Exit survey (Cohort 3): Q: What is your onward career trajectory in the next 12mo? (multiple pick) | Direction continuation of fellowship AI project	71%
Continuation of another clinical AI project	57%
MSc/PhD in AI	10%
Private sector roles	19%
Full time clinical work	5%		Graduates are retained in NHS roles whilst maintaining a portfolio career in clinical AI. The overwhelming majority continue to participate in clinical AI activities in a clinical setting, with some spending time in academia and industry.

NHS
Fellowship in Clinical AI
NHS Digital Academy Programme

Programme Objective	Stakeholders	Evidence	Benefit Realised
1. To create a specialised training programme for NHS AI readiness and workforce transformation: the NHS Fellowship in Clinical AI	Funders Fellows	***External literature:*** The NHS Transformation Directorate report *Developing Healthcare Workers' Confidence in AI*(2022) describes the fellowship's role in training digital and AI specialist clinicians The *NHS Long Term Workforce Plan* (2023) referenced the fellowship as an exemplar programme in upskilling and training staff to maximise AI technologies Salisbury et al. described how our fellows 'learn how to safely deploy, maintain, and evaluate AI software in real clinical workflows' in an editorial in *npj Digital Medicine* (2023) Misra et al. described the fellowship's role in creating 'clinical champions' in 'AI-powered care' in the *Future Healthcare Journal* (2024) of the RCP The fellowship was showcased as an opportunity to acquire 'skills to implement and adopt AI safely and effectively' in NHS OneLondon's *Framework for the safe, efficient and effective implementation, use and maintenance of AI in health and care in London* (2025)	The programme's track record of successful delivery has earned its reputation as an exemplar of clinical AI training in both NHS white papers and peer-reviewed publications
2. To create, maintain and deliver a cutting-edge curriculum for high-quality education and training of healthcare leaders to adopt clinical AI	Funders Fellows Workforce Leads	***Curriculum:*** The programme curriculum was created by the faculty and is reviewed and updated annually . It is systematically aligned with digital capability frameworks from HEE, NHS AI Lab, the Faculty of Clinical Informatics, and NHS Digital Transformation.	Iterative updates to the curriculum document are informed by NHS partners, evolving national priorities and best practice. This ensures clinical AI training remains responsive, relevant, and aligned with workforce needs.
		Exit survey (Cohort 3): Graduate self-ratings for **Achieved learning objectives in curriculum theme | Able to apply theme in practice:** | AI Fundamentals	100% | 86%
---	---
Regulation & Standards	100% | 100%
Validation & Evaluation	100% | 95%
Integration & Systems Impact	100% | 100%
Strategy & Culture	100% | 100%		Fellows universally achieved learning objectives in curriculum themes through the programme's multi-modal educational delivery. On graduation, the overwhelming majority are confident to apply these learnings in practice.

Programme Objective	Stakeholders	Evidence	Benefit Realised
2. To create, maintain and deliver a cutting-edge curriculum for high-quality education and training of healthcare leaders to adopt clinical AI	Funders Fellows Workforce Leads	**Exit survey (Cohort 3):** Q: 'This course component was educationally valuable for me'- do you agree with this statement? Answered 'Strongly Agree' or 'Agree': <table><tr><td>AI project placement</td><td>95%</td></tr><tr><td>Masterclass workshops</td><td>100%</td></tr><tr><td>Networking opportunities</td><td>91%</td></tr><tr><td>DataCamp (e-learning)</td><td>100%</td></tr><tr><td>KCL Innovation Scholars (e-learning)</td><td>52%</td></tr></table>	Individual course components of the multi-modal educational delivery are independently rated as educationally valuable by fellows, signalling strong alignment between curriculum delivery and learner needs.
3. To build a portfolio of exemplar clinical AI projects across broad clinical domains that demonstrate safe, ethical, and clinically informed AI adoption	Funders Fellows Supervisors Patients	**Fellowship AI projects:** Each fellow is matched to a vetted AI project delivered by a multidisciplinary NHS team. There are a total of 91 matched projects to date, in partnership with >30 NHS Trusts and teams.	AI fellows benefit from the immersive experiential learning in AI adoption that happens uniquely in a live clinical setting. Clinical AI project teams benefit from the contribution in-kind of an AI fellow (0.4FTE) and their knowledge and skills gained on the programme.
		Fellowship AI projects: Projects proposals conform to a standard template, and are quality controlled according to a checklist covering risk mitigation and hazard identification, roles, responsibilities, resources, and educational aims.	Robust and transparent project proposal vetting ensures that the portfolio of exemplar clinical AI projects is safe, ethical, and clinically informed.
		Fellowship AI projects: Clinically relevant outcomes of projects include: • Significant reduction in clinical time spent contouring for pelvic radiotherapy • Deployment of AI dashboards to monitor bias in clinical settings for governance and audit • Evaluation of a predictive tool to identify patients at risk of high intensity mental health care	AI projects focus on the deployment and evaluation of clinical AI technology, leading to the evidence generation for the safe and effective adoption of AI tools in the NHS, as well as the dissemination of emerging best practices in this fast-moving field.

NHS
Fellowship in Clinical AI
NHS Digital Academy Programme

Programme Objective	Stakeholders	Evidence	Benefit Realised
3. To build a portfolio of exemplar clinical AI projects across broad clinical domains that demonstrate safe, ethical, and clinically informed AI adoption	Funders Fellows Supervisors Patients	*Fellowship AI projects:* The clinical domains of AI projects are broad, though their numbers reflect the relative digital maturity of different clinical specialties. The top 5 most highly represented domains (as of Cohort 4) are: <table><tr><td>Radiology</td><td>26</td></tr><tr><td>Oncology/Clinical Oncology</td><td>9</td></tr><tr><td>Cardiovascular</td><td>6</td></tr><tr><td>Haematology</td><td>5</td></tr><tr><td>Pathology</td><td>4</td></tr></table>	Broad clinical domains (and AI modalities) are represented in the subject matter of AI projects, reflecting the the strategic aim of embedding AI technology across NHS care pathways.
4. To coordinate the standardised national recruitment for the NHS Fellowship in Clinical AI	Funders Fellows Supervisors Workforce Leads	*Recruitment data:* Recruitment is coordinated nationally as a standard and transparent process in terms of application portal, deadlines, documentation, comms (including Q&A webinar), and interviews panels Interview panellists responded to a survey positively on the recruitment process, with high satisfaction for: clarity of evaluation criteria, fairness and consistency, structure and flow, coordination and logistics, and overall effectiveness.	A standardised and robust system of recruitment enables the identification of the most promising applicants for this programme at scale.
		Recruitment data: Aggregate equality and diversity monitoring (Cohort 4), on male/female ratios, due to known structural under-representation of women in AI: **Applicants:** <table><tr><td>Male</td><td>162 (53%)</td></tr><tr><td>Female</td><td>114 (37%)</td></tr><tr><td>Not stated</td><td>32 (10%)</td></tr></table> **Fellows:** <table><tr><td>Male</td><td>19 (56%)</td></tr><tr><td>Female</td><td>11 (32%)</td></tr><tr><td>Not stated</td><td>4 (12%)</td></tr></table> Women made up 37% of applicants and 32% of fellows, suggesting a relative drop-off in appointment rates compared to men	Recruitment conforms to good practices on equality and diversity monitoring, and the faculty commits to ongoing monitoring of selection processes to ensure equity of opportunity and to understand how structural or procedural factors may contribute to differential outcomes.

Programme Objective	Stakeholders	Evidence	Benefit Realised
4. To coordinate the standardised national recruitment for the NHS Fellowship in Clinical AI	Funders Fellows Supervisors Workforce Leads	*Recruitment data:* Non-medic fellows represent 14% of fellows in cohorts in which they have been eligible (9/63). Multiprofessional recruitment is region-specific depending on the the sponsoring body. Systematic stakeholder engagement by the faculty with NHSE's CNIO, CPhIO, CAHPIO, head of national school for healthcare science, national clinical lead for eyecare, and national clinical lead for psychological professions led to consensus recruitment criteria in these professions. As of Cohort 4, the total number of fellows from non-medic backgrounds are: <table><tr><td>AHP</td><td>2</td></tr><tr><td>Dentistry</td><td>1</td></tr><tr><td>Pharmacy</td><td>3</td></tr><tr><td>Optometry</td><td>1</td></tr><tr><td>Public Health</td><td>1</td></tr><tr><td>Healthcare Science</td><td>1</td></tr></table> Future plans for increasing professional diversity will focus on active outreach to under-represented groups such as nursing and midwifery.	Numbers of multiprofessional fellows have been modest but are rising. The faculty's active engagement with national multiprofessional stakeholders has led to increased participation of multiprofessional clinicians, reflecting the strategic aim of upskilling the NHS workforce in AI across professional backgrounds.
5. To foster regional and specialty-specific growth and development in clinical AI expertise	Funders Fellows Alumni Supervisors Academia Workforce Leads	*Fellowship AI Projects* Fellows in each region are matched to AI projects in the same region, for the purposes of logistics and also to compound the benefits of regionally funded posts by ensuring the AI project benefits the regional healthcare system. The faculty collaborates with funders to identify centres of excellence with the capacity and capability to host fellows for immersive AI project.	When the faculty researches regional centres of excellence in clinical AI in partnership with regional funders, this process also serves to surface and map existing regional AI capabilities, creating a clearer picture of strengths and networks as sources of intra-regional collaboration.

Programme Design/Objective	Stakeholders	Evidence	Benefit Realised
5. To foster regional and specialty-specific growth and development in clinical AI expertise	Funders Fellows Alumni Supervisors Academia Workforce Leads	*Educational delivery* Of the 11 days (~55hrs total small group teaching) of formal educational delivery in the fellowship year, 3 are designated as 'regional showcase' workshops to demonstrate the breadth of clinical AI implementation across the NHS. Fellows, funders, and local stakeholders are invited. **Regional showcases have been hosted at (or are planned for):** • Oxford University Hospitals • University Hospitals Birmingham • Leeds Teaching Hospitals • NHS Greater Glasgow and Clyde.	Regional showcase workshops hosted in-person at NHS centres of excellence in clinical AI are catalysts to connect local networks, reducing the barriers to collaborative working between e.g. educators, clinical AI supervisors, multidisciplinary AI teams, and AI academics. .
		Educational delivery Incoming AI fellows can apply be matched to mentor alumni. 16 mentor-mentee pairs were matched by the faculty in Cohort 4, the overwhelming majority of which were specific to region, clinical specialty, or AI project domain.	The alumni mentoring scheme facilitates vertical networking between cohorts by region and clinical specialty.
		Funders: Exemplar: The British Society for Haematology has funded AI fellow posts for its members, and in these posts the assigned AI projects are themed for haematology. Over the course of 2 cohorts, haematology-themed AI projects climbed into the top 5 most common project themes, and haematology fellows grew from no representation to the 2nd most common physicianly specialty overall. AI projects and supervisors originally recruited for the purpose of BSH fellows are now also routinely matched to other fellows once BSH posts are fully assigned.	Specialty-specific investment in the programme sees an outsize effect beyond simply the fellows recruited, by raising the visibility of AI projects in that domain and spotlighting the potential for clinical AI transformation for the specialty.

Programme Design/Objective	Stakeholders	Evidence	Benefit Realised
5. To foster regional and specialty-specific growth and development in clinical AI expertise	Funders Fellows Alumni Supervisors Academia Workforce Leads	***Fellowship AI portfolios*** Fellows leverage their learnings from the fellowship to shape AI policy and guidelines in specialty specific setting such as the Royal College of Radiologists, Royal College of Physicians, and Royal College of Emergency Medicine.	Fellows with knowledge, skills, and networks from the programme act as catalysts for specialty-specific communities of expertise, and are positioned to shapes specialty-specific initiatives and policies that align with national AI transformation priorities.
		Fellowship AI portfolios Fellows have been the subject of media pieces in specialty-specific publications spotlighting their innovative career paths including: • Association of Optometrists • Faculty of Intensive Care • Royal College of Pathologists	Fellows act as high-visibility brand ambassadors for the emerging career sub-specialism of clinical AI to their own profession, and inspire colleagues to follow their trailblazing lead.
6. To foster cross-institutional cooperation and networks of expertise in clinical AI involving NHS, academia, industry, regulators, and other bodies	Funders Fellows Academia Industry Regulators	***Fellows' AI portfolios*** Many fellows publish work related to their AI projects in peer-reviewed scientific journal with academic co-authors from their fellowship networks	Fellows collaborate with their immediate AI project teams and broader academic networks to publish their findings.
		Educational delivery 'Regional showcase' workshops (see above) bring an audience of fellows, and supervisors from out-of-region for an intensive education day at NHS centres of excellence in clinical AI.	Regional showcase workshops foster collaboration by signposting emerging best practice in NHS centres of excellence in clinical AI to a a highly engaged and well-connected audience from elsewhere in the NHS.

Programme Design/Objective	Stakeholders	Evidence	Benefit Realised
6. To foster cross-institutional cooperation and networks of expertise in clinical AI involving NHS, academia, industry, regulators, and other bodies	Funders Fellows Academia Industry Regulators	*Educational delivery* Industry affiliated speakers with clinical AI expertise who delivered workshops (Cohort 3) included • Newton's Tree: Governance Lead • Hardian Health: CEO • Skin Analytics: Medical Director • Microsoft Health: Partner and Product Manager	Fellows learn from and network with key figures in the clinical AI industry.
		Educational delivery Regulatory and public sector speakers in workshops (Cohort 3) included • MHRA: AI Airlock team • NHS Shared Business Services: AI procurement team • KHP Ventures (NHS Venture capital vehicle): Venture Partner	Fellows learn from and network with key figures in AI regulation and other public sector bodies.
7. To establish a sustainable, scalable delivery model for the NHS Fellowship in Clinical AI with funders and delivery partners	Funders Workforce Leads	*Funders:* The fellowship is funded by NHS regional education bodies, professional societies, and individual NHS Employers. The combination of region/profession-specific AI project placements, complemented by domain-agnostic clinical AI education, has facilitated our sustained growth, because both region/profession-specific needs in AI upskilling can be met in the same programme. Relationships with funders are formalised and sustained through mutual agreement to Memoranda of Understanding, setting out respective commitments and responsibilities. **Funders include:** • NHS England Workforce, Training and Education (NHSE WTE) • Health Education and Improvement Wales (HEIW) • NHS Education for Scotland (NES) • British Society for Haematology	The programme has steadily grown from serving only London and KSS regions in Cohort 1 (2 regions; 11 fellows), to now serving geographies covering most of the NHS in Cohort 4 (10 regions; 34 fellows). This was enabled by the scalable nature of curriculum delivery and a track record of success. Growth of the programme reflects the ambition that AI transformation should be embedded as a national NHS capability rather than siloed regional initiative.

NHS
Fellowship in Clinical AI
NHS Digital Academy Programme

Programme Design/Objective	Stakeholders	Evidence	Benefit Realised
7. To establish a sustainable, scalable delivery model for the NHS Fellowship in Clinical AI with funders and delivery partners	Funders Workforce Leads	***Funders:*** In cohort 4, the fellowship is piloting the admission of international fellows, with the same standard of appointability as NHS fellows. This pilot is a partnership with the delivery team of the International Clinical Fellowship Programme (ICFP) at Guy's and St Thomas' NHS Foundation Trust.	Income from international fellows enables reinvestment into expanding training opportunities for NHS clinicians, ensuring continued high quality educational delivery in the public interest. International reputational and networking benefits for the NHS AI community are anticipated.
8. To support the onward career trajectory of the clinical AI community of practice	Funders Fellows Alumni	***Fellowship AI projects:*** Alumni are invited to submit AI project proposals and become AI supervisors in turn once they reach suitable career stages. The first alumnus to have an accepted AI project proposal (Cohort 4) as a supervisor was James Lai (Cohort 1).	Alumni participate in a mutually beneficial and eventually self-sustaining ecosystem of supervision when they re-engage with the fellowship as AI supervisors.
		Fellows' AI portfolios: Fellows apply for funded programmes for career development in AI and digital medicine. As an example following fellows were accepted onto the Topol Fellowship programme with projects, networks, and pastoral support from this programme: Caolan Roberson, Rishi Ramessur, Nikunj Davda, Robert Miller, Adam Julius	Fellows are actively supported to take their learnings from this programme and apply them to further career development opportunities to maximise cross-pollination with other NHS initiatives
		Alumni network: The fellows and faculty maintain a community of expertise through an active alumni group. Opportunities shared include fellowships, grants, prizes, conferences, advice and troubleshooting. Alumni are invited to connect with each future fellowship cohort at an annual graduation showcase, and alumni are invited to facilitate workshops including at the AI bootcamp.	The programme's alumni network has become an enduring community of expertise centred on deep interest and immersion in the field of clinical AI

NHS
Fellowship in Clinical AI
NHS Digital Academy Programme

Reflections:

Fellowship stories, lessons learned and next steps

The NHS Clinical AI Fellowship has provided rich insight into the challenges and enablers of building a digitally capable, AI-enabled clinical workforce. Key lessons to date include:

1. Structured, Immersive Learning Drives Engagement and Impact

Clinicians are motivated to engage with AI when training is directly relevant to patient care and grounded in real-world service improvement. The Fellowship's immersive model, combining foundational teaching, mentoring, and project delivery, is central to its success.

Fellows consistently report that the combination of hands-on experience and structured support is transformative to their confidence and career direction.

> *"I have been able to gain important foundational knowledge [...] and put these lessons into practice through the real-world evaluation of systems through my project work. This year has accelerated my growth into a future clinical AI leader within the NHS."*
>
> *Robert Crichton, NHS Fellow in Clinical AI, Cohort 3*

Lesson: Experiential learning, embedded in service contexts, is essential for capability-building in clinical AI.

2. Cross-Disciplinary Collaboration Unlocks Innovation

The most impactful projects involve close collaboration between clinicians, data scientists, informaticians, and operational teams. These interdisciplinary approaches lead to safer, more usable AI tools and foster innovation cultures within organisations.

> *"One of the biggest lessons I've learned is that successful AI projects in healthcare hinge on teamwork. Clinicians need to be involved in AI implementation, but they can't do it alone."*-
>
> *Akriti Nanda, NHS Fellow in Clinical AI, Cohort 3*

Lesson: AI capability is not a solo endeavour, multidisciplinary teamwork is essential for success and sustainability.

NHS
Fellowship in Clinical AI
NHS Digital Academy Programme

3. Central Coordination Supports Quality and Equity

National recruitment, curriculum design, and project assurance have enabled a consistent standard of delivery and more equitable access to opportunities across the UK. Without central oversight, regional variation in digital maturity and support would risk uneven quality and inequity.

Lesson: A centrally coordinated model ensures both quality assurance and equitable access across diverse NHS settings.

4. Fellowship as a Leadership Catalyst

Many fellows go on to shape digital strategy within their trusts, lead procurement, develop policies and deployment of AI tools, or could take national roles in digital policy and regulation in the future. Their credibility as frontline clinicians enables them to bridge the often-fragmented space between innovation and implementation.

"Directly because of this Fellowship learning I have been appointed to the Subject Access data Review Committee for the Secure Data Environment in my region. I have career opportunities to be part of AI deployment in the AHP space at local Trust level and with professional groups"

Charlie Winward, NHS Fellow in Clinical AI, Cohort 3

Lesson: Targeted investment in clinicians catalyses leadership at multiple system levels, local, regional, and national.

FCAI Cohort 4

5. Sustainable Funding and Career Pathways Remain Critical Gaps

Despite strong outcomes, short-term funding cycles and a lack of formalised post-fellowship roles risk undermining the long-term impact of the programme. Many alumni report challenges in continuing to apply their skills without dedicated roles or progression structures.

Lesson: Workforce transformation in AI requires sustained investment, institutional commitment, and clear career progression routes.

18

Fellowship in Clinical AI
NHS Digital Academy Programme

6. Scalable Models Require Agile Infrastructure

The demand for Fellowship places continues to grow, but scaling effectively has been slowed by inflexible team structures, and financial constraints. Programmes of this complexity and scale need **dedicated infrastructure, funding**, **protected time**, and **administrative agility** to grow sustainably.

Lesson: High-impact, cross-system programmes must be supported by agile, fit-for-purpose operational structures.

7. AI Readiness Varies Widely Across the System

Some organisations are highly advanced in digital maturity, while others lack basic infrastructure or governance processes. This variation affects the feasibility and pace of Fellowship projects and highlights the need for local readiness assessments and support.

Lesson: Embedding AI requires tailored support for organisations at different stages of digital maturity.

These lessons underpin proposed strategic reforms to ensure the Fellowship remains impactful, scalable, and system-aligned. They also offer valuable insight for wider NHS digital workforce initiatives, reinforcing the Fellowship's role as a national exemplar in clinical AI capability-building.

Next Steps:

Building on these lessons, our strategic direction will:

- Ensure the Fellowship remains impactful, scalable, and fully aligned with NHS system priorities.
- Inform wider NHS digital workforce initiatives, positioning the Fellowship as a national exemplar in clinical AI capability-building.
- Equip the NHS with AI-ready leaders and a connected AI network that drives safe, ethical innovation.
- Position the UK as a global leader by exporting this model internationally.

Fellows by region as of Cohort 4