



A new era of engagement: empowering the workforce with AI

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Empowering the workforce with AI

A national perspective and
ambitions of the Long Term
Workforce Plan

30 October 2023



The Topol Review (2019)



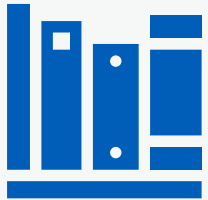
- The Secretary of State for Health and Social Care commissioned 'The Topol Review: Preparing the healthcare workforce to deliver the digital future', as part of the draft health and care Workforce Strategy for England to 2027 – Facing the Facts, Shaping the Future.
- The Topol Review, led by cardiologist, geneticist, and digital medicine researcher Dr Eric Topol, explores how to prepare the healthcare workforce, through education and training, to deliver the digital future.
- The Topol Review makes recommendations that will enable NHS staff to make the most of innovative technologies such as genomics, digital medicine, artificial intelligence and robotics to improve services.

Digital, AI and Robotics Technologies in Education



Horizon Scanning

- AI Roadmap
- Understanding healthcare worker's confidence in AI



Assessing Learning Needs

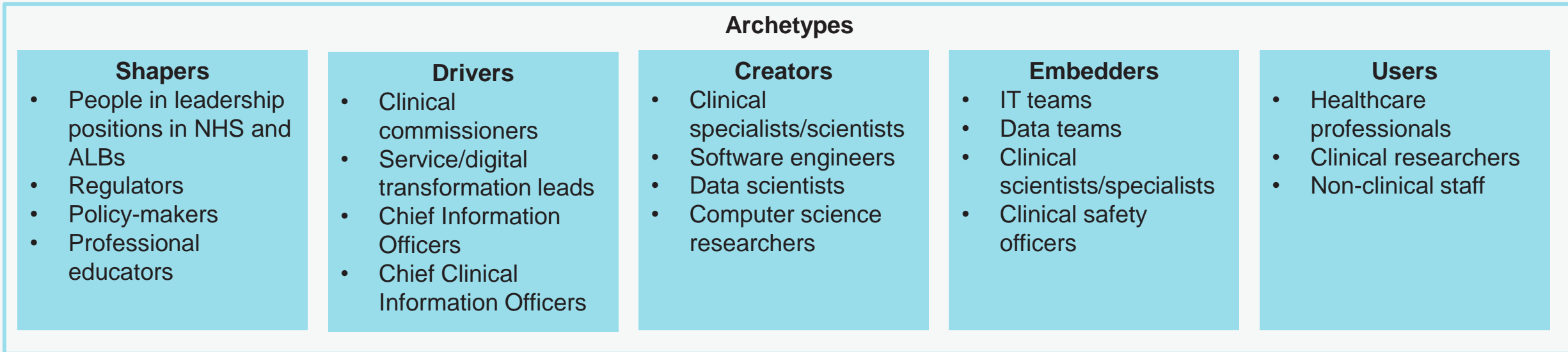
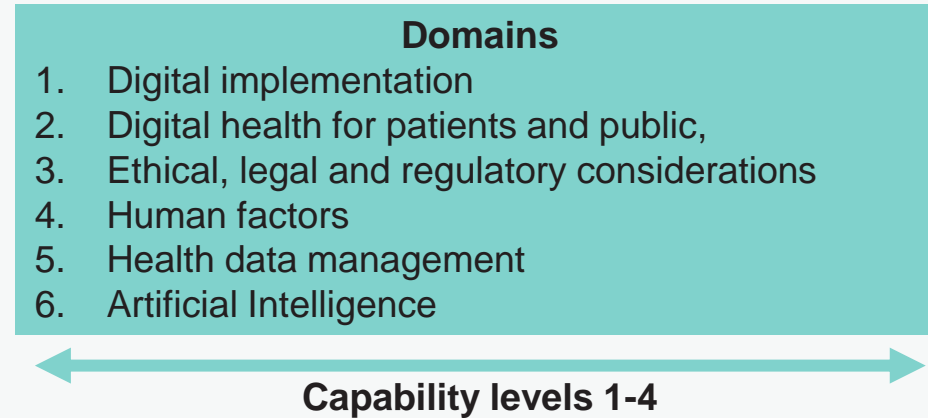
- AI and Digital Healthcare Technologies Capability Framework



Delivering Education and Training

- Collation of resources on Learning Hub
- Fellowships in Clinical Artificial Intelligence

AI and Digital Healthcare Technologies Capability Framework



Long Term Workforce Plan



NHS Long Term Workforce Plan

June 2023



Train

Retain

Reform

Building on the Topol Review, and to ensure we take advantage of the opportunities that AI can offer, NHS England, working with government, will convene an expert group to work through in more detail where AI can best be used, and what steps need to be taken so that it supports NHS staff in the coming years.

Fellowship in Clinical Artificial Intelligence:

Equipping healthcare leaders to adopt clinical AI



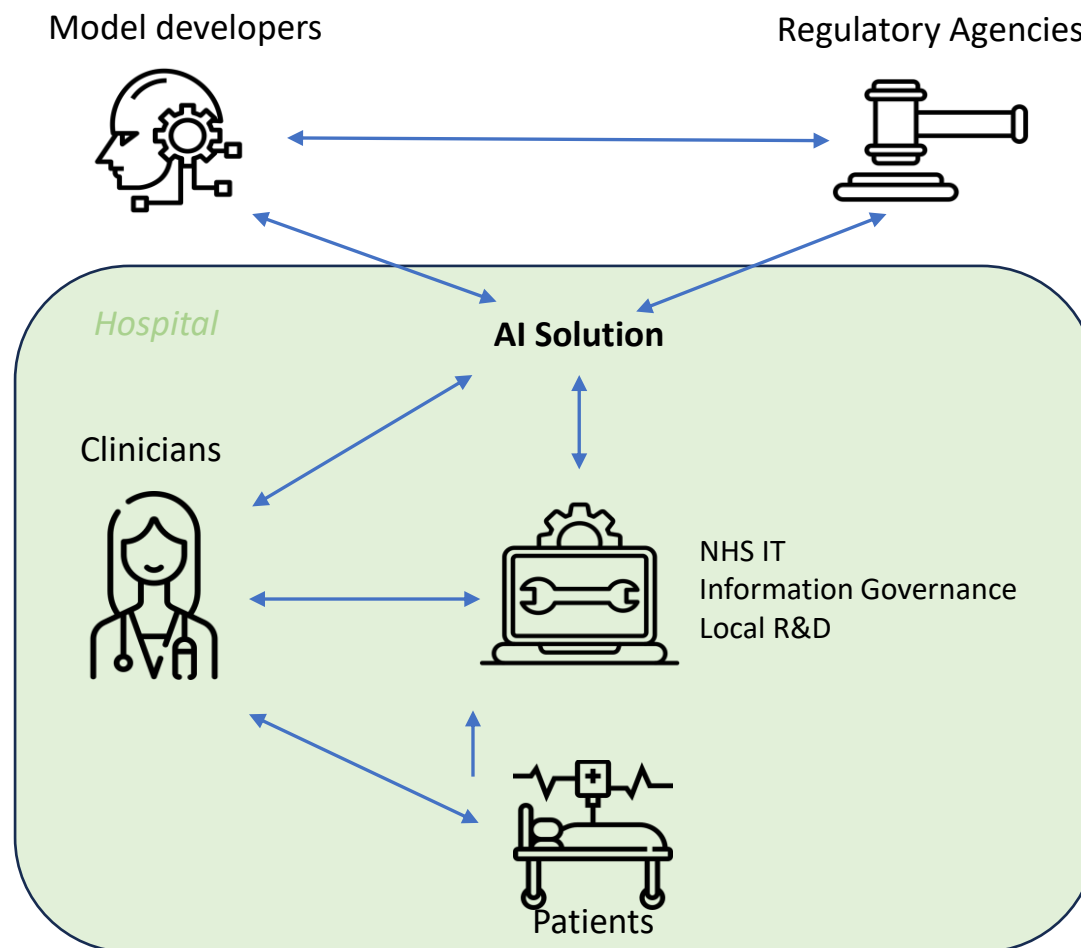
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Workforce of the future



The problem: Workforce upskilling in clinical AI

The Topol Review

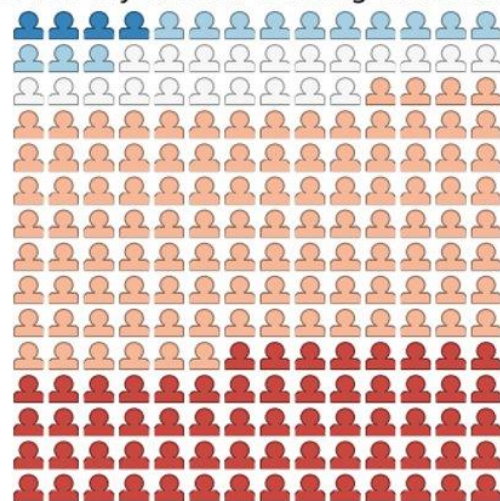
Preparing the healthcare workforce to deliver the digital future

The Digital Medicine and AI & Robotics Panels recommend:

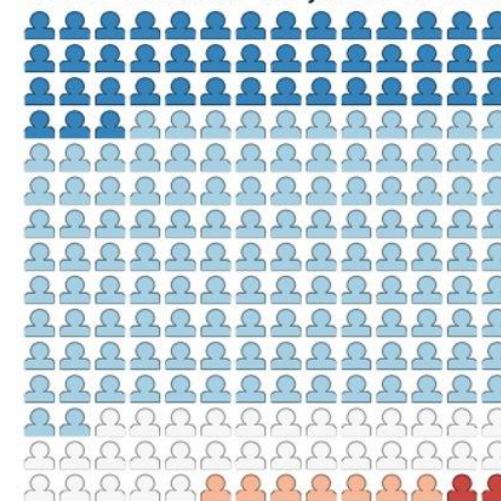
- The NHS should create or increase the numbers of clinician, scientist, technologist and knowledge specialist posts with dedicated, accredited time, with the opportunity of working in partnership with academia and/or the health tech industry to design, implement and use digital, AI and robotics technologies.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



There is currently sufficient training in AI in my clinical training curriculum



More training in AI should be made available for junior doctors

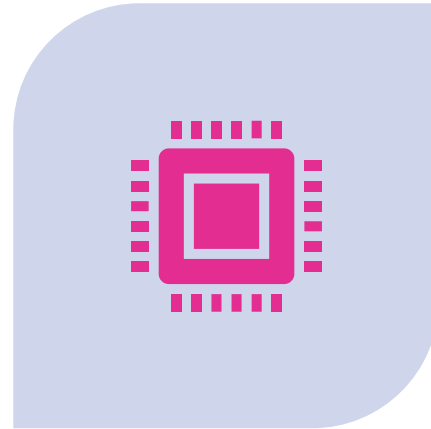


Banerjee et al. *BMC Medical Education* (2021) 21:429
<https://doi.org/10.1186/s12909-021-02870-x>

Our solution: Fellowship in Clinical AI



Fellows are embedded in a clinical
AI team at an NHS Trust



Deploy and evaluate of state-of-the-
art clinical AI software in live hospital
environments

Our solution: Fellowship in Clinical AI



Example project



Emergency Room Triage & After-Hours Support







CHALLENGE – Increase in demand, shortage in radiology workforce

OPPORTUNITY – Head CT key investigation in Trauma, time-critical treatment decision

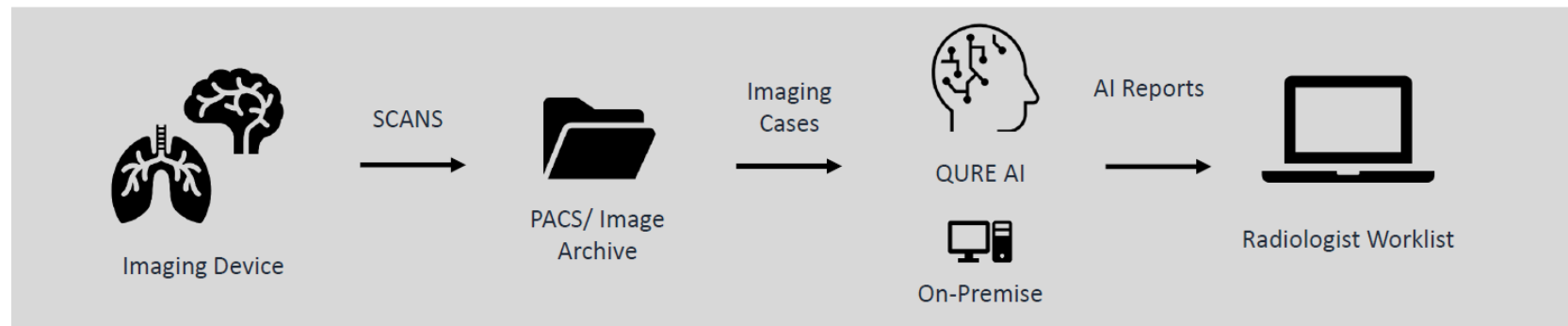
AI VALUE – Early abnormality detection & prioritisation for reporting

NHS VALUE – Faster diagnosis, earlier treatment, higher throughput

Technical Integration | qER RIS Worklists: Prioritised

TIME OF VISIT	PATIENT INFO	qER PRIORITY	WORKFLOW STATUS	
Fri Aug 19, 2021 08:44 PM	Michael Smith 24 years Female	1	Report pending	
Fri Aug 19, 2021 10:30 AM	Taeyang Suk 43 years Male	1	Report pending	
Fri Aug 19, 2021 09:30 AM	Asian Scott 55 years Male	1	Report pending	
Fri Aug 19, 2021 10:15 AM	Rhonda Crow 36 years Female	2	Report pending	
Fri Aug 19, 2021 11:00 AM	Julian Cutton 62 years Female	3	Report pending	
Fri Aug 19, 2021 11:30 AM	Andrew G 44 years Male	3	Report pending	

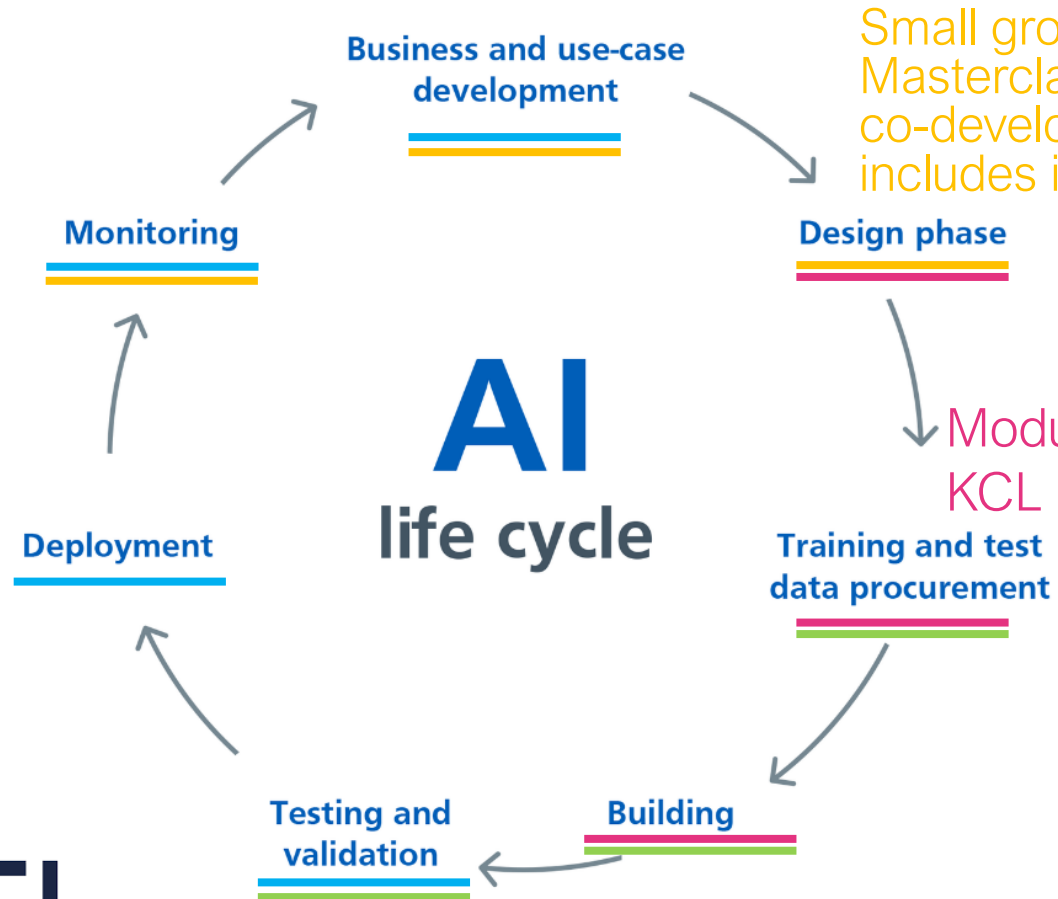
Integration into NHS IT



Multimodal curriculum design

The post lasts 1 year, at 2 days per week (0.4 FTE)

Immersive clinical project with 1:1 clinical AI supervision



Small group teaching:
Masterclass workshops
co-developed with clinical AI experts,
includes intensive 'bootcamp' course

Modular e-learning:
KCL Innovation Scholars

KING'S
College
LONDON
**Innovation
Scholars**

Self-directed e-learning:
Programming in Datacamp



NHS
England



FACULTY OF CLINICAL INFORMATICS

Core Competency Framework for Clinical Informaticians

Developing
healthcare workers'
confidence in AI

Report 2 of 2

October 2022

NHS AI Lab & Health Education England

Curriculum: themes



AI
Fundamentals



Regulation and
Standards



Validation and
Evaluation

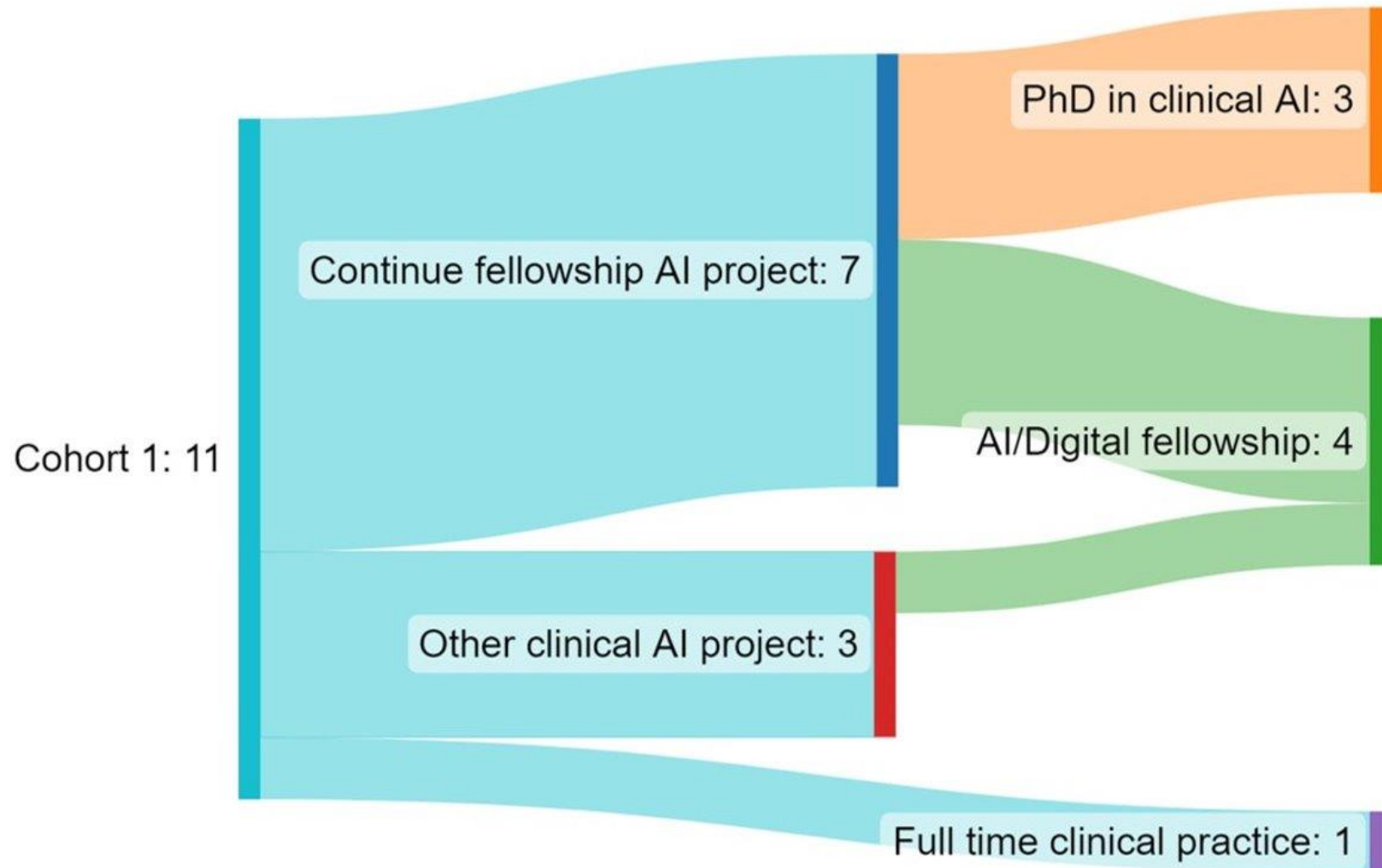


Integration &
Systems Impact



Strategy &
Culture

Post-fellowship destinations: Cohort 1



National Workforce Strategy

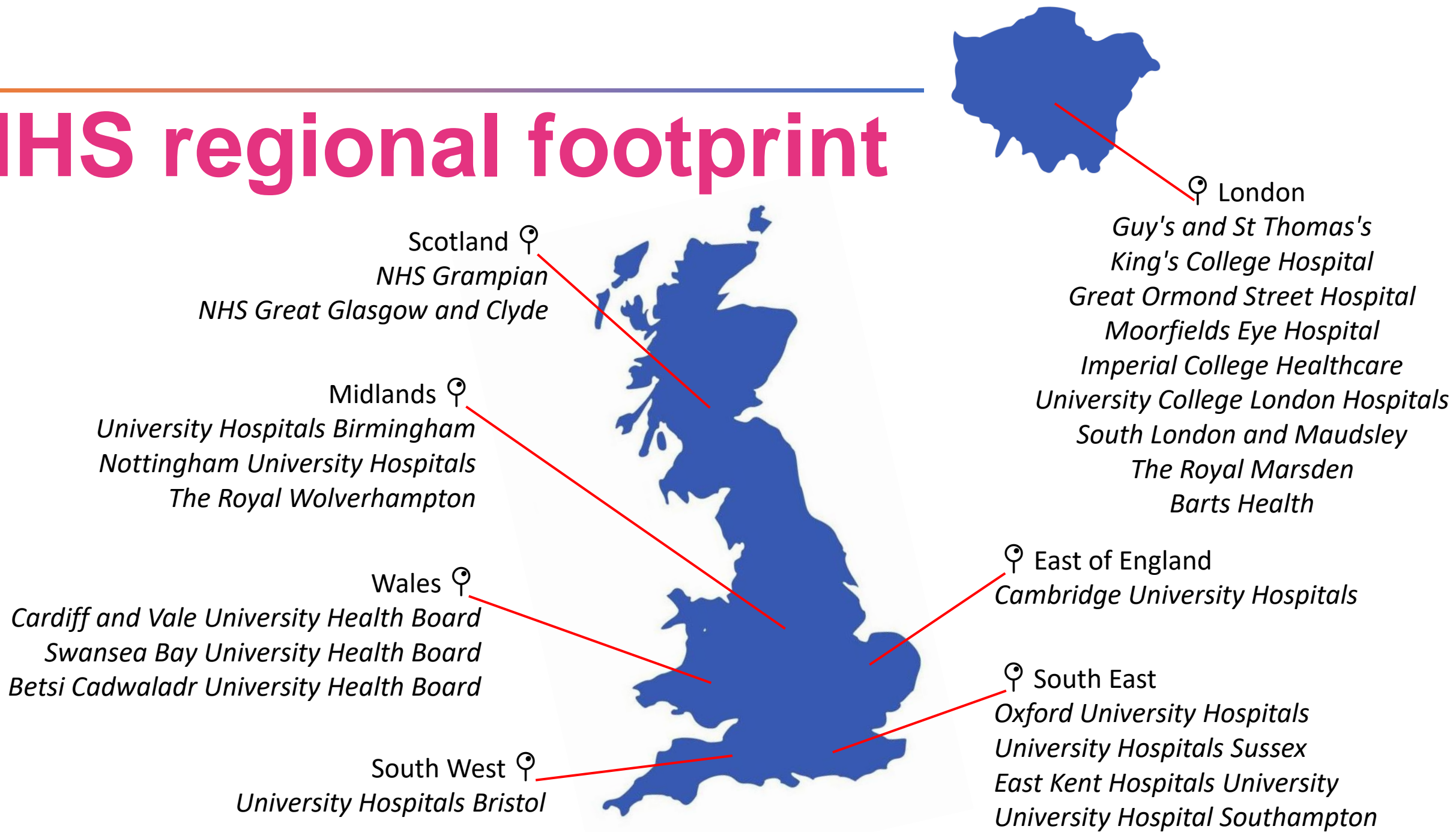


NHS Long Term Workforce Plan

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

NHS regional footprint



Acknowledgements

Faculty

Haris Shuaib
Fellowship Director
Consultant Radiographer
AI Transformation Lead



Beatrix Fletcher
Fellowship Manager
Nurse and Midwife



Lucy O'Neill
Head of AI Programmes
London AI Centre



Dr Alexander Deng
Programme Lead
Medical Doctor
Medical Educationalist



Health Education England
Digital Transformation



Health
Innovation
Network
South London



Medicines &
Healthcare products
Regulatory Agency

NICE

National Institute for
Health and Care Excellence



Digital



Digital Academy

aicentre.co.uk/fellowships



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