

digitalhealth

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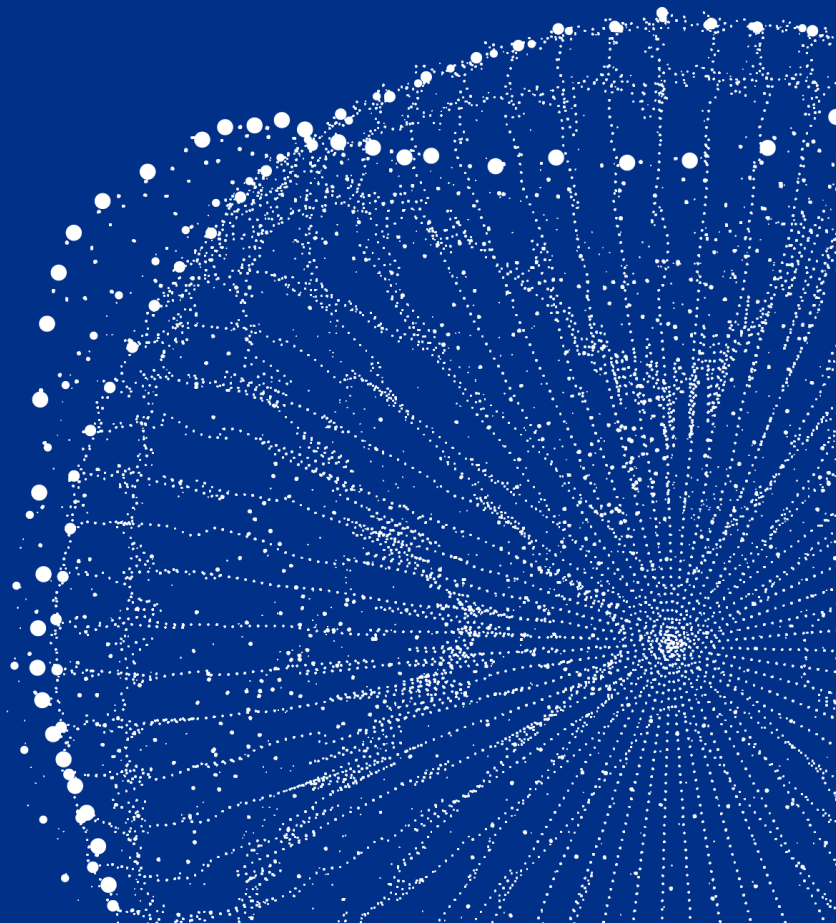
# Dominic Cushnan

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# Changing the Conversation on AI

Dom Cushnan, Director of AI, Imaging and Deployment  
NHS Transformation Directorate  
March 2023



- AI has significant potential to transform healthcare delivery by supporting clinicians, managers and support staff. For the foreseeable future, however, it's role will be to augment, not replace, human expertise.
- AI healthcare technologies are still maturing with many diagnostic products needing further refinement to demonstrate evidence of both medical and cost-effectiveness.
- To unlock larger-scale system efficiencies and improvements from AI, frontline digitisation and large-scale data-sharing across the health system are essential.
- Most of the conversation on AI in health and care so far has been on R&D – how do we move the conversation to adoption and live use?

# Barriers to AI deployment



AI adoption to date has been limited to a relatively small number of trusts and most deployments are research projects, rather than being used in frontline healthcare delivery.

While this is partly a reflection of the technology maturing, there are a number of other barriers to adoption:

## Structural

### Lack of evidence

Many AI products are still engaging in research projects to demonstrate safety and effectiveness, including cost-effectiveness. While evidential barriers are low for market authorisation, recommendations from bodies such as NICE require a high threshold for evidence.

### Commercial processes

There is a lack of clarity on procurement routes for healthcare providers. This has led to a wide disparity in product prices and contractual terms across the system as trusts are approached directly by vendors.

### Funding

Without a central funding stream to assist with AI adoption, many trusts who are eager to adopt AI products have to compete with business-as-usual demands on local budgets. With the current pressures on the health system, innovation spending is often deprioritised.

## Localised

### Workforce concerns

Workforce perceptions of AI are mixed across the system and there is a general lack of understanding of both the risks and opportunities that AI can represent. Negative perceptions around automation of treatment processes and patient safety are common.

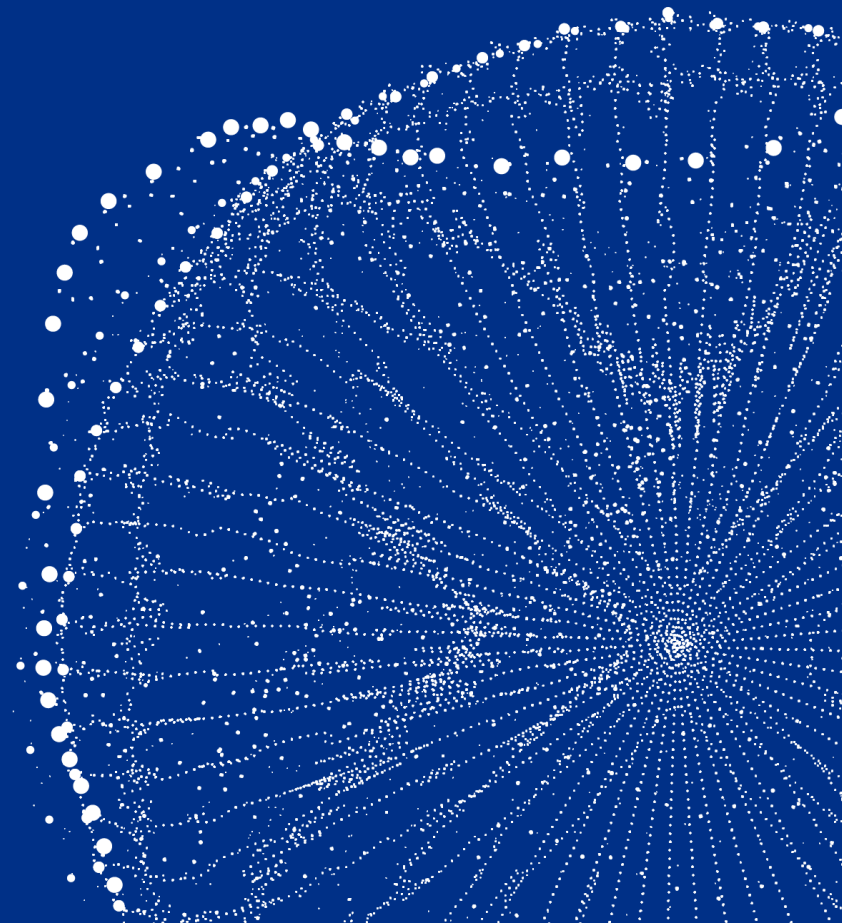
### Access to skills

Deployment of AI within healthcare delivery not only requires support from clinicians, but a multi-disciplinary team to address the regulatory compliance requirements in areas such as data protection, commercial, IP and ethics. There is a shortage of these skills across the system.

### Digital and Data infrastructure

The level of digital and data infrastructure maturity varies significantly across the health system. The full benefits of AI tools can only be captured through mature digital infrastructure and enabling data sharing at scale, e.g. Imaging Networks consisting of multiple trusts.

# How the NHS AI Lab is supporting adoption



# Artificial Intelligence: The work so far



The NHS AI Lab funds and convenes a suit of programmes in partnership with UK health and regulatory bodies to address the barriers to deploying AI-driven technologies.

## AI Ethics

Building confidence among workforce and the public by addressing ethical concerns around the use of AI

## Regulation

Working with regulators to ensure AI is safe and streamline processes to enable innovation

## Skunkworks

Collaborating with and upskilling trusts on AI proofs of concept – 16 completed to date

## The AI Awards

£123 million invested to test and evaluate 86 AI technology projects

## National COVID Chest Imaging Database

Built chest scan database for COVID-19 research (c. 100,000 images) and blueprint validation process for COVID-19 AI algorithms

## AI Imaging (AIDP)

Launching a large-scale trial of a centralised deployment platform for AI products across 14 trusts in Summer 2023



ACCELERATED  
ACCESS  
COLLABORATIVE

**NIHR** | National Institute  
for Health Research

Funding to accelerate the testing and evaluation of **AI technologies** that meet the aims set in the **NHS Long Term Plan**

Progress to date:

- 86 projects
- 99 hospitals across the UK
- ~300,000 patients impacted



## Understanding healthcare workers' confidence in AI

Report 1 of 2

May 2022

NHS AI Lab & Health Education England



- Following the publication of the Topol Review, which sought to highlight key areas and ways in which the health and care workforce should prepare to make the most of digital health technologies, Health Education England kickstarted work to update their skills and capabilities framework.
- The NHS AI Lab has been supporting this work by undertaking some research into understanding the factors that increase the workforce's confidence in using AI.
- The results of this research will feed into the skills and capabilities framework.
- The reports can be found [here](#)



## Software and AI and a Medical Device Change Programme

MHRA has published a [roadmap](#) outlining its programme of work to ensure regulatory requirements for software and AI are clear and patients are protected.

## Refreshing evidence standards framework

NICE's [Evidence Standards Framework](#) to now include standards for AI enabled technologies so that decision makers can identify AI techs that are likely to offer benefits to users and to the health and care system.

## Multi-agency advisory service (MAAS)

The Multi-agency advisory service from NICE, MHRA, CQC and HRA offers support information and advice on the regulation and evaluation pathways for AI and digital technologies in health and social care, for:

- **Developers** – to meet robust measures of assurance in safety and quality
- **Adopters** – to have the knowledge and tools to help them adopt and deploy the safety and most effective AI technologies

**NICE** National Institute for  
Health and Care Excellence



**NHS**  
**Health Research  
Authority**



**Clarity** – providing advice that is clear, specific and meaningful.



**Navigation** – one access point for advice, to foster timely access to new and promising technologies.



**Compliance** – demystifying regulatory requirements with clear signposting to necessary approvals and best practice.



**Trust** – transparent regulation in line with ethical, legal and best practice principles.

[Provide Feedback on MAAS at www.digitalregulations.innovation.nhs.uk/](http://www.digitalregulations.innovation.nhs.uk/)

# NHS AI Deployment Platform Pilot



Our vision is to make diagnostics more efficient and scalable by giving NHS organisations access to an 'AI Model Store' to choose approved AI medical imaging technologies from a range of vendors.

