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ICB Artificial Intelligence (AI) and Automation Sub-Strategy: 2025 - 2028

September 2025 – FINAL 1v0

Introduction to Artificial Intelligence (AI) and Automation

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- The NHS defines Artificial Intelligence (AI) as the use of digital technology to create systems capable of performing tasks that typically require human intelligence. This includes clinical applications like analysing medical images, supporting virtual wards, and assisting clinicians in making faster and more accurate diagnoses
- In non-clinical settings, AI is increasingly being applied to more complex challenges such as natural language processing for summarising correspondence, intelligent document classification, and predictive analytics for workforce planning. Alongside this, automation technologies (such as Robotic Process Automation or RPA), which is not AI, are being used to automate highly repetitive, rule-based tasks such as data entry or report generation. Both AI and RPA contribute to improved productivity, but they represent different levels of capability and complexity. The next page categorises these technologies to aid understanding and strategic planning.

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AI Types and Complexity

Level of Complexity (5 = most complex)	AI Type	Description	What It Means	NHS Example
5	**Agentic AI & Autonomous Agents**	**Emerging class of AI** capable of autonomous, multi-step planning, memory, and decision-making. Examples include AutoGPT, CrewAI. Can dynamically use tools, APIs, and external systems. Still in early-stage development in most sectors, including healthcare.	This is the most advanced kind of AI. It can plan steps, make decisions, and act by itself, like a robot brain. It can use tools and websites without being told what to do.	An AI assistant that reads test results, schedules follow-ups, and updates records without help.
4	**Generative AI & Foundation Models**	Built on large-scale **Deep Learning** architectures (e.g., Transformers). Trained on massive datasets to generalise across tasks. Examples: GPT-4, DALL·E. Enables few-shot and zero-shot capabilities. Requires significant data and compute. Often built as general-purpose AI.	These AIs are trained on huge amounts of text, pictures, and sounds. They can write essays, draw pictures, or write code—like ChatGPT or DALL·E.	A chatbot that answers patient questions or writes draft reports for doctors using NHS data.
3	**Deep Learning**	Uses multi-layer neural networks such as CNNs, RNNs, and Transformers. Excels at handling unstructured data (text, images, audio). Requires large volumes of data. Minimal feature engineering. Powers applications like speech recognition, imaging, and language understanding.	This type of AI works like a very powerful brain. It can look at photos, listen to sounds, or read text and figure out patterns—like facial recognition or speech-to-text.	Analysing X-rays to spot cancer or looking at voice recordings to detect signs of stress or disease.
2	**Machine Learning**	Data-driven models that learn from training data. Includes algorithms such as Random Forest, SVM, XGBoost, and KNN. Requires manual feature engineering. Decision Trees form a foundation for interpretable, rule-based learning. Widely used in diagnostics, prediction, etc.	This AI learns from data. You give it examples, and it figures out how to make predictions. Like how Netflix learns what shows you might like based on what you've watched.	Predicting if a patient is likely to come back to A&E within 7 days based on past visits.
1	**Statistical Modelling**	Classical approaches like linear regression, logistic regression, and Bayesian inference. Manually designed, interpretable, and built on statistical assumptions. Emphasised in domains like epidemiology, public health, and policy modelling.	This is the simplest kind. It uses maths to find patterns in numbers, like figuring out if people who exercise live longer. It's good for explaining how things are related.	Showing how many people in each area have diabetes and what factors increase the risk.

It is worth noting that:

- As RPA is not AI, it is not referenced in the table above, but automation is still seen as an important part of this strategy
- AI models are evolving, and with this so are the associated complexity of the AI models and their applications. AI types will need to be refreshed during the lifecycle of this strategy to ensure rapid advancements in AI technology are addressed.

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National Context

Lord Darzi – “AI is no longer a distant dream but a reality which must be harnessed to revolutionise the healthcare system”.

Wes Streeting – “We are bringing our analogue NHS into the digital age” By embracing technological advancements, we can both make substantial savings for the taxpayer and build a health service fit for the 21st Century.”

NHS 10 Year Plan – Reference to AI can be found in most sections of the document, and is classed as one of the 5 ‘big bets’. Specific regular reference to Ambient Scribe and Generative AI

Clearly AI and Automation are:

- Seen by politicians and senior NHS leaders as an important technology to help solve some of the NHS’ biggest challenges
- Theoretically capable of prediction, diagnosis and treatment of disease as well as automating a wide range of operational tasks.

Our strategy needs to help bridge the gap between expectations and reality.

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Purpose of the AI and Automation Sub-Strategy

- The **purpose** of this AI and Automation Sub-Strategy is to set out a future vision for the use of AI and Automation in health and care across Cheshire and Merseyside, along with an approach to enable the ICB and its constituent organisations to safely, consistently, effectively, ethically and responsibly adopt AI and Automation across our system both locally and 'at scale'
- This strategy:
  - Aligns with and supports our overarching C&M ICS Digital and Data Strategy as well as the delivery of national and local NHS priorities (as outlined in documents such as the NHS Planning Guidance, the Model ICB guidance, the forthcoming 10 Year Plan for Health and the C&M Strategic Commissioning Intentions and Joint Forward Plan)
  - Identifies potential opportunities for acceleration of 'at scale' use of AI and Automation across C&M
  - Supports organisations to navigate the rapidly expanding AI and Automation marketplace and increasingly complex AI and Automation adoption landscape
  - Helps build momentum for the increasingly innovative use of AI and Automation to support the NHS deliver its objectives.

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Our Vision for AI and Automation

Transforming Health and Care in Cheshire & Merseyside

Smarter, faster, safer care for every patient

Empowered staff with more time for what matters

System-wide efficiency through intelligent technologies

Scalable innovation that meets today’s needs and tomorrow’s challenges

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Strategic Objectives for AI and Automation

We will accelerate the strategic use of AI and Automation ‘at scale’ and in local organisations in the NHS in Cheshire and Merseyside to to achieve significant efficiency, productivity gains, and cost savings in both clinical and non-clinical environments.

By embracing this approach, we aspire to enhance patient experience, deliver superior patient outcomes, and elevate staff experience and satisfaction, all while rigorously upholding patient safety and maintaining the highest standards of quality care.

Benefits of accelerating the use of AI and Automation in C&M

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For NHS Staff

- Automates routine admin tasks
- Frees up time for patient care
- Boosts job satisfaction
- Builds digital and AI skills

For Patients

- Faster, safer diagnoses and treatment
- More consistent, high-quality care
- Better health outcomes
- Personalised, accessible services

For NHS Organisations

- Greater efficiency and productivity
- Data-driven planning and delivery
- Cost savings at scale
- Accelerated innovation and agility

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Strategic Drivers

Policy Drivers

- Significant financial challenges in the NHS require radical and innovative solutions to meet efficiency and productivity targets
- Demand for NHS services increasing, requiring new solutions to help with backlogs
- Significant ‘push’ on AI and Automation adoption from ministers / government and NHSE
- NHS success measures in elective recovery, unplanned care, diagnostics, cancer detection and treatment and primary care transformation can all be enabled to be delivered through automation and AI approaches

Market Drivers

- New AI and Automation solutions being developed at pace and being heavily marketed into the NHS, often by start-up companies with a lack of ‘track record’ in the health and care space
- AI has a strong role to play in driving innovation and research in the health and care space, potentially benefiting the local economy as well as the health and care outcomes of local people

Society Drivers

- Lack of common understanding of what AI and Automation technologies are, what they can do now, and the potential future developments
- Staff and patients are using AI and Automation solutions now without a good understanding of what they are, how they work, and the benefits and risks of using AI and Automation
- Concerns over privacy, bias (increasing inequality), security and ethics from staff, patients and the public, particularly with respect to AI

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Strategic Risk Management

- The value of AI and Automation will only materialise if the risks and limitations of AI and Automation are properly managed, based on AI and Automation risk policies that provide clarity and transparency to all stakeholders. Our health and care system will only apply AI and Automation in a safe, fair, unbiased, responsible, ethical, human-centric, secure, integrated and compliant manner. This will be balanced with the need to take responsible risks to foster an innovation culture and influence organisational risk appetite
- To manage this, we will set up:
  - Appropriate ICB governance, aligned to existing clinical, risk management and digital governance processes, to define an AI and Automation framework and appropriate policies for the application of AI and Automation across C&M, and to manage strategic risks arising from ‘at scale’ deployment of AI and Automation
  - An AI Community of Practice to bring together interested parties to inform the definition and on-going update of the AI and Automation framework and policies, and to share ‘good practice’, innovation and information across our system
- We will also utilise existing patient engagement forums across the ICB to engage patients, carers and the wider population in the development of AI and Automation priorities and plans, taking on board specific concerns as they arise.

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AI and Automation Strategic Priorities

- Maximise the value from existing investments in ‘at scale’ AI and Automation technologies, evaluate impact / benefits and share learning to drive increased adoption and scaling of accepted and proven AI and Automation solutions. This includes:
  - National ‘at scale’ investment in Commercial Off The Shelf (COTS) products (such as MS Co-Pilot) as well as ICB wide COTS initiatives
  - Locally developed or fine-tuned AI solutions, such as models built or adapted in-house by NHS data science teams or academic partners.
- In conjunction with C&M system partners (including our local universities, devolved administrations and other non-health organisations involved in AI and Automation), and using available evidence, agree clinical and non-clinical ‘use cases’ where AI and Automation has the potential to have the biggest impact on health and care service planning and delivery
- Implement and undertake widespread adoption and scaling of ‘at scale’ AI and Automation solutions that address agreed priority ‘use cases’ in our system and monitor impact and value delivery through a series of agreed metrics. Additional ‘at scale’ solutions could be a new procurement of a system or an expansion of a local development that would deliver significant benefits from being ‘scaled up’ across C&M
- Continuously review AI and Automation developments in health and care for further opportunities for AI and Automation development and adoption to help deliver the AI and Automation vision for C&M
- Support and develop the AI, automation and data science workforce in C&M, investing in and nurturing local capability to further enable development of the AI and Automation priority work programme
- Support the wider health and care workforce in gaining a better understanding of the opportunities for AI and Automation to deliver individual, organisational and wider NHS objectives, and to gain knowledge and skills in maximising the use of existing AI and Automation tools in the workplace.

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AI and Automation Strategic Delivery Roadmap

- Given the pace of change of AI and Automation, there is likely to be a need to agree a small number of priorities and then review on a regular basis
- A programme of work will be established for delivery of the digital solutions and associated transformation activity to address the priority clinical and non-clinical ‘use cases’ (both short and long term). A Programme Board (known as the C&M AI Transformation Group) will be established to oversee programme delivery, manage risks etc, and will report into the Digital and Data Strategy Management Board to align with the wider portfolio of developments that support delivery of the ICS D&D strategy. Patient and staff input will be sought to shape the priority ‘use cases’ and the overall delivery plan (as per the other ICB Digital and Data Sub-Strategies)
- Responsibility for delivery of ‘at scale’ projects will be agreed between parties (CMPC, ICB, NHS Provider organisations etc.)
- Resources to support ‘at scale’ delivery will be allocated as required and managed in line with the planned resource management capability to be established as part of the ICB D&D Portfolio Office
- Funding for ‘at scale’ developments will be provided in line with any national allocations and/or agreed local investments, and collaborative bids will be pursued where possible

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Appendix 1 – Proposed AI and Automation Programme of Work and Initial ICB Commitments to AI Collateral and Engagement Development

NOTE: Correct as of September 2025 and likely to change at pace

Potential Scope of AI and Automation Programme of Work

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Robotic Process Automation (RPA)

Uses Software Robots to automate repetitive tasks
Users configure scripts to activate keystrokes automatically

AI Driven Telephony

Mental Health Crisis line – AI solution detects mood of caller- improved call routing
AI transcription reduces manual data capture supports quality management

Generative AI Admin Support

Create content, agendas, presentations strategies etc.
Analyses large data sets to understand relationships.
Adapts and improves over time

C&M AI & Automation Programme

Underpinned by:

Development of AI and Automation Specialists

AI and Automation Skills in the Wider Workforce

Ambient AI Scribe

Listens to consultation with patients, creates all notes and correspondence. Uses RPA to upload into EPR – investigating intelligent coding

Clinical Decision Support- improving access to diagnostic tests

- Stroke - Reduced time spent identifying head trauma in stroke presentations - % of patients thrombolysed within 1 hr increased from 33.3% to 66.7%
- Prostate AI, Polyp Detection
- Echo AI – automates image measurement & Report creation

Chest X-Ray AI

Large Action Model (LAM)

An AI model which can understand and execute complex tasks by translating human intentions into action – Lower overhead in build and operation

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Initial ICB wide AI and Automation Commitments

- Draft AI and Automation Strategy
- AI communications material (e.g. simplified guide for responsible use of MS Co-Pilot)
- Draft ICB AI policy
- Draft ICB position statement on the use of Ambient Voice Technology across the system
- Draft AI Assurance Framework and Toolkit
- Draft assurance responsibilities and guidance for AI and AVT for primary care

Collateral and Guidance

- C&M AI Working Group
- C&M Ambient Voice Technology (AVT) Forum
- Establishment of more formal governance through the AI Transformation Group to develop ‘at scale’ programmes of work, coordinated funding bids etc.

Engagement