

**Artificial intelligence (AI) is being talked about (and already in use) as a way to speed up diagnoses, free up staff time and personalise care. You may also hear worries about safety, mistakes and jobs. It is understandable to feel unsure about what all this means for you as a patient.**

The following explains, in everyday language, what AI and large language models are, how they are starting to be used in health, what the NHS and public bodies are doing, and how to think about these tools alongside your usual care.

## What is AI in health?

Artificial intelligence, or AI, is a broad term for computer systems that can do tasks that normally need human intelligence, such as recognising patterns, learning from data or working with language.

In healthcare, AI is already used in a number of areas. Examples include tools that help radiologists read X-rays and CT scans, systems that help triage patients or flag those at higher risk, and software that helps staff spot trends in large pools of patient data. In many cases these systems work behind the scenes, so you may benefit from them without realising it.

NHS England's own guidance emphasises that AI should support, not replace, clinicians and that patient benefit, safety and fairness must be central whenever new technology is introduced.

## Machine learning

Most of the AI you hear about in health is based on machine learning. Instead of being given fixed rules,



a machine-learning system "learns" from examples. For instance, a model can be trained on thousands of anonymised records to help predict which patients are most likely to need unplanned care, so that teams can offer support earlier.

Neural networks are a common type of machine-learning model, loosely inspired by how brain cells connect. Deep neural networks can find complex patterns in scans, pathology slides or electronic records and are used in areas such as radiology, dermatology and cardiology.

Large language models (LLMs) are a particular kind of AI that work with text. They are trained on very large amounts of written material so they become good at predicting the next word in a sentence. Because of this, they can answer questions in a chat-style conversation, summarise long documents, and help draft letters or patient information in everyday language.

In health, LLMs are being explored for tasks such as drafting clinic letters that clinicians then check and edit, turning spoken consultations into written notes, supporting staff to look up guideline snippets and helping patients understand their conditions.

## How this can help patients

Used carefully, AI and LLM-based tools can make some parts of healthcare feel more manageable. They can make information less overwhelming. For example, a patient-facing tool could help explain parts of a clinic letter or test report in simpler language, while leaving decisions to your clinical team. LLMs have also been tested for generating patient information leaflets on health conditions, with mixed but improving results.

They are available at any time of day, so you can explore questions outside clinic hours. They can help you prepare for appointments by turning your thoughts into a short list of questions or concerns you want to raise. They can help you keep track of what was agreed, by turning rough notes into a clear action plan.

Behind the scenes, AI is also helping researchers and clinicians spot patterns across large groups of patients. In psoriatic disease, for example, recent reviews describe AI being used to analyse skin photographs, estimate severity scores and identify new clusters of patients in registries, with the aim of supporting earlier diagnosis and more tailored treatment decisions.

## Real risks and limits

Despite the promise, there are important limits you should know about. LLMs can “hallucinate”: they sometimes give confident-sounding answers that are wrong or made up. A recent user study found that people who used chatbots to make decisions about medical scenarios did not make better choices than those who relied on traditional methods, and sometimes struggled to separate good and bad advice in the same answer. Separate work on patient leaflets has shown that LLMs may miss key points on psychosocial impact and shared decision-making, even when their language is clear.

AI systems also inherit biases from their training data. If some groups are under-represented, the model may work less well for them, which can worsen existing inequalities. In dermatology, reviews have raised concerns about under-representation of darker skin tones in image datasets and limited validation in diverse populations.

Crucially, AI does not know you as a person. It cannot examine you, sense when something feels “not right” in the way an experienced clinician can, or weigh up family, work and personal values. Because of this, experts and regulators stress that AI should not be used alone for diagnosis, deciding treatment or dealing with urgent symptoms.

## Who is doing what with AI in the NHS?

Several parts of the NHS and government are involved in deciding how AI is used. NHS England sets strategy and guidance. Its AI and machine-learning overview explains how these tools should be deployed safely, and its NHS AI Lab and Artificial Intelligence in Health and Care Award support and evaluate new AI technologies in real services. A growing number of case studies describe AI helping with imaging, risk prediction and workflow improvements.

The Department of Health and Social Care and central government provide policy and funding. They have announced large-scale AI trials in screening programmes and backed a major pilot of Microsoft 365 Copilot across 90 NHS organisations, reporting potential savings of hundreds of thousands of staff hours per month on administrative tasks. Government has also set out plans for an AI-enabled system to scan NHS data for early signs of patient-safety concerns.

Local NHS organisations, such as hospital trusts and integrated care systems, decide how to use AI in their own services. Examples include tools that help



predict which patients are at higher risk of repeated A&E attendance, AI to support radiology reporting, and systems to reduce missed appointments. These sit within wider digital-health programmes aimed at improving access and efficiency.

Skills and regulation are being addressed too. Programmes like the NHS Digital Academy help clinicians and managers build the skills needed to lead digital and AI projects safely. The AI and Digital Regulations Service and related guidance help organisations understand what evidence, regulatory approvals and information-governance safeguards are needed before new AI technologies are used in care.

## Using AI tools safely alongside your care

If you choose to use AI-based tools yourself, a few ground rules can help keep you safe:

Use tools offered or endorsed by trusted organisations, such as national health services, hospitals, universities or long-established charities, rather than random apps or websites. Use them to understand and organise information, and to prepare for appointments, not to make major decisions alone. Be cautious about what personal details you share, especially in general consumer apps whose privacy and data-sharing policies you do not fully know.

Above all, treat AI output as a starting point, not the final word. If something an AI tool tells you about your health feels surprising, worrying or too good to be true, bring it to your clinician and ask what they think. The safest way to think about AI is as an extra pair of hands: helpful for reading, writing and pattern-spotting, but most useful when its results are brought back into real conversations with the people who know you and are responsible for your care.