Generative AI in Health Sciences Education and Practice.
Part 2: Supporting Thinking and Decision Making

One of the key features of Generative AI is its versatility, and a range of surveys have shown that people use tools like ChatGPT for everything from companionship to coding. One of the important ways in which GenAI is being used is to support thinking – helping people understand ideas, check logic, structure arguments, and – hopefully – make better decisions. This applies in the healthcare domain as much as elsewhere: Around 20% of UK GPs report using a tool like ChatGPT in their practice, with one of the most common uses being to help with differential diagnoses (Blease et al., 2024). In education and training, one of the main ways UK students use GenAI for their studies is to help explain concepts, to summarise articles, and to structure thought (Freeman 2025).

This article explores some of the ways in which GenAI is being used – both formally and informally – to support thinking and decision making in healthcare practice and training. It reviews current trends and innovations, as well as looking at the risks and their mitigation.

Practice

Clinical decision making is difficult, and mistakes are costly and impactful. Medication errors alone cost the NHS £98.5m per year (Elliott et al. 2021), and a significant proportion of avoidable harm comes from nursing-sensitive events. At an individual level, many of the processes to reduce errors in nursing and other areas of practice focus on structuring the decision environment, through mechanisms such as checklists and structured decision aids, as well as more advanced computer-based decision support tools (see Labkoff et al. 2024). For example, triaging of 111 and 999 calls follows a strict set of pathways based on responses to questions about the patient's condition (NHS

Digital 2023); similarly, NEWS2 and QRISK3 scores provide a consistent, quantitative, formalised approach to assessing patient risk.

But these decision aids have limitations: They usually have a rigid logical structure to them, and often have to exclude complex combinations of issues to avoid becoming unwieldy. There are clearly large areas of practice which are complex, nuanced, and contain uncertainty about key elements, in which clinicians make judgements unaided. It is therefore not surprising that researchers have started looking at the potential for Generative AI to support rapid and accurate processing of information and decision making in complex healthcare situations.

Supporting Decision Making

Specialist AI decision support systems have been used for some time in areas such as interpretation of x-rays and other images, and are increasingly used to process complex streams of information. AI stethoscopes can record ECG and audio input and use machine learning models to identify cardiovascular disease (Kelshiker et al. 2026). Other examples include a machine-learning model for detecting sepsis risk from real-time monitoring of electronic patient records (Adams et al. 2022), and a specialist AI tool that improves urinary tract infection prescribing decisions (Shapiro Ben David 2025).

These approaches use narrow, purpose-built models that are designed and trained on niche datasets to achieve a single aim. The arrival of multifunctional Generative AI has meant that general tools like the large language models (LLMs) behind ChatGPT can be put to use in supporting aspects of clinical decision making without training a new bespoke model each time. This gives them the flexibility to support a wide range of clinical decision making and to handle novel clinical situations.

This is a new – but rapidly expanding – area, and most of the research to date has looked at feasibility, across different areas of healthcare. For example, in pharmacology, Ong et al. (2025) found that pharmacists who made judgements unaided made more prescription errors than those who were supported by a GenAI evaluation of risks. However, when used in isolation, Bischof et al. (2025) found

that ChatGPT missed a large proportion of drug-drug interactions in clinical vignettes, and gave inconsistent results from one trial to the next. These and other findings suggest that GenAI is most effective when it supports clinician judgement rather than making its own evaluations.

Within nursing, early research (Saban and Dubovi 2025) indicated potential risks for using GenAI to support nurses' decision making. The authors found that ChatGPT showed indecisiveness when evaluating the severity and treatment approach for cases from descriptions of signs and symptoms, and limited capacity to handle new information, as well as suggesting unnecessary diagnostic tests. This was, however, early work using the more limited GPT-3.5 model that was available at the time.

GenAI has also been used in nursing to support the preparation of care plans. Dos Santos et al. (2024) developed a procedure for prompting ChatGPT to create care plan suggestions. For their scenario, they found that the AI recommendations were very close to the gold standard for care plans in scope and nature, albeit sometimes using non-standard terminology.

Organising Information

A less intrusive – and less risky – way of using GenAI to support thinking and decision-making is to use it to record, collate, structure and summarise information to allow clinicians to make their own decisions more effectively. Healthcare workers often have to handle long and complex patient records, and this takes time and introduces the risk that important information is not included in clinical decision making. Using GenAI to summarise patient notes has the potential to help clinicians attend to the most important information, if the summaries are accurate and appropriately focused.

Empirical support for this usage is emerging. Shemtob et al. (2025) compared summaries of patient records created by doctors and GenAI. They found that although clinicians slightly preferred the human-written summaries, GenAI summaries were equally accurate and less likely to omit important information. Silberlust et al. (2025) found that AI patient record summaries integrated into an electronic health record system reduced consultation times for a majority of the clinicians who used them, and reported that many clinicians felt more informed about a patient's circumstances.

A new AI workflow comes from the introduction of Ambient Scribing AI. Here, AI-linked microphones capture encounters between clinicians and patients, creating transcripts and structured medical notes summarising interactions. Trials of Ambient AI in the UK have reported positive findings in terms of reduced administrative time and resultant increased time available to spend with patients (e.g., Delaney 2025; Great Ormond Street Hospital 2025); other research outside the UK has noted a reduction in cognitive load from Ambient Scribing (Stults et al. 2025). The main focus has been on efficiency; however, another noted advantage is the potential for improving decision making from complete, organised notes (NHS 2025).

The fact that GenAI is not involved in the decision-making process itself means that there are fewer regulatory barriers to adoption. Yet even when GenAI is used to support summarisation, its influence needs to be monitored. Chen et al. (2024) examined the effect of using LLMs to assist medics in the writing of responses to patient queries. They found that although LLM-assisted responses were longer and more thorough than those written from scratch by physicians, they were significantly skewed towards advising patients to self-manage rather than take direct clinical action such as arranging to see a clinician. So there is already a hint that AI summarising and drafting tools, even when merely supporting clinicians who make the final recommendations, may subtly influence clinical judgement.

Implications for Nursing

Although current deployment of GenAI support tools is limited, it appears that this is the direction of travel (World Health Organisation 2025; Royal College of Physicians 2026). Current focus has been on medicine, but the examples from nursing suggest the potential and desire to integrate GenAI to support nurses' decisions as well. There are substantial issues to be addressed along the way: governance, accountability, usability, data security, fairness and equity; however, one key issue is around acceptance and integration into practice. There is a degree of mistrust and anxiety among nursing professionals around the use of GenAI, which will need to be addressed. That said, many nurses who use GenAI report positive experiences, noting the way in which an AI recommendation

challenged them to evaluate and reflect on best practice, and appreciating the autonomy to make their own decisions with input from AI (Alruwaili et al. 2025).

Education and Training

As well as being integrated into practice, GenAI support for thinking and decision making is also being included in the university education of new nurses and other healthcare workers. The higher education sector faces challenges in offering high-quality education and support on a tight budget, and GenAI is starting to be used to offer personalised support to help students understand, reason, and think about the concepts they are learning. There are many examples of GenAI supporting student learning. Thesen and Park (2025) used a GenAI tool in a basic science course that could answer queries about course content. Commercial tools like StudyStash (https://studystash.com) allow students to ask questions and test their knowledge on uploaded lecture materials. Individual institutions are also developing their own tools. City St George's, the author's institution, is rolling out a 'cognitive copilot' system that sits alongside students as they go through certain modules, and can answer questions, check understanding, and provide concrete examples as needed. Ghane et al. (2024) emphasise the potential for GenAI to support nursing education by providing personalised learning experiences, supporting a diverse range of thinking styles and preferences.

Although GenAI is increasingly being used to support learning, there has been much less focus on the training needed to upskill nursing and other students in how to use the GenAI decision support tools that are starting to emerge. It will be crucial for students to learn to take a critical approach to AI output, and understand the specific ways in which it can be convincing yet inaccurate or incomplete. Direct experience with GenAI, and its limitations, is likely to help the next generation of nurses to combine confidence with a suitable level of scepticism when using GenAI to help them make decisions.

In addition to university and commercial approaches to using GenAI to support student learning, students themselves are using generic tools like ChatGPT to explain concepts, check their logic and

suggest structure to arguments. These strategies are directly transferable to practice. For example, clinicians could enter a (fictional) case history into tools like ChatGPT along with their proposed course of action, and have it critique or give feedback on the plan. Often the most useful type of question to ask is 'What might I not have considered that could be relevant here?'. This is similar to the pre-mortem approach in management decision making: Before starting a project, management teams attempt to answer the question "If this project fails, what are the causes likely to be?". GenAI is good at supporting that kind of exploration.

Similarly, it can be used for reflective activities. After handling a situation in which the right course of action was not obvious, a debrief with ChatGPT can help evaluate the decisions made, the other options available, and what might be different next time. As ever, it is crucial not to include any confidential information or anything that could identify the individual.

Risks and barriers

Although this area of cognitive and decision-making support is in its infancy, the direction of travel is clear: AI is likely to become increasingly integrated into decision-making processes. While this has the potential to improve efficiency, there are also issues to overcome. Some of these are common to deploying new technologies in large organisations – data security, accountability, infrastructure. But there are some that are specific to AI decision support tools.

Bias. Generative AI models show a variety of biases that generally reflect the data they were trained on. In supporting decision making, the understanding of bias is crucial. One core property of Generative AI models is that they pull out the central tendency or dominant patterns in data, which means that outputs will fit less well to underrepresented groups than groups for which more data is available. This is not just a theoretical issue: Research on use of AI to interpret chest x-rays found that classification was less accurate for members of ethnic minority groups than White groups (Seyyed-Kalantari et al. 2021).

Cognitive offloading. People get good at something by doing it repeatedly. This applies to thinking as much as physical activities, and there are concerns that people can offload thinking to an AI system, they will struggle more when they have to do it themselves. This is a topical issue in education, where a common argument used to try to convince students to do the work themselves is that they wouldn't send a robot to the gym to work out on their behalf. Thinking and problem solving is where learning happens, and if this is offloaded to an AI system, students and practitioners alike may lack the key thinking skills that their professional roles require.

The Clinician's Role. Finally, there is the issue of where this ultimately leaves clinicians. In an ideal world, nurses, medics and other health professionals will be empowered by Generative AI to make confident, accurate decisions that benefit their patients. On the other hand, there is the more dystopian world where the clinician's role is reduced to monitoring the decisions made by AI at pace, and taking the blame when the AI makes an error that they fail to spot (see Doctorow 2026).

Conclusion

Generative AI is already being used to support thinking and decision making in practice and in training. There is much potential for using GenAI to sift and present information in ways that optimises clinical decision making. But it seems likely that humans will ultimately take the final decision for the foreseeable future. Across multiple sectors, AI's initial integration into workflows will be to assist human decision making rather than replace it, summarising and highlighting key clinical information, identifying potential errors or risks, and filling gaps in areas that the clinician may not have thought about. AI may well be primarily incorporated into existing tools like patient record and e-prescribing systems, in the same way that Microsoft Copilot is being integrated into word processing and email applications.

Whatever happens, there are important implications for training and practice. Nurses and other clinicians will need to develop their critical evaluation of the advice that a GenAI system gives them, and to work out the best ways of interacting with an AI system to get the most accurate and actionable

output, avoiding hallucinations and biases. Some of this can be taught, but direct experience of interaction with GenAI systems can also provide valuable intuitions about when and how GenAI can effectively support clinical judgement (see Box 1).

Box 1: Trying out AI as a cognitive copilot

If you've already tried using chatbots such as https://chatgpt.com/, https://claude.ai/ or https://gemini.google.com/, for example for testing out roleplaying in the previous article (Reimers 2026), just log in and get started. If you don't have an account yet, it is very easy to set up, and most have a free tier that will work well with this kind of approach. You'll then want to get it to support your thinking and decision making. A few things worth trying:

- With separate prompts, ask it to explain a difficult concept, policy, or treatment as if the recipient were a ten-year-old, a bright teenager, an undergraduate student, and an experienced practitioner.
- Give it a fictional case history or current vitals and symptoms. Add your proposed intervention or care plan and ask it to evaluate it, or to think about things that you might not have considered, or arguments against your approach.
- Type in a proposed course of action for a particular generic case type. Prompt: 'If this plan were to end with a negative outcome, suggest three likely causes for its failure'.

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