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Title: Navigating AI in Nursing: Promise, Perils, and Pragmatic Considerations

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Abstract

Artificial intelligence (AI) is rapidly transforming various industries, including healthcare and nursing education. This paper explores AI's potential to enhance nursing by aiding the acquisition of knowledge, skills, and delivery of patient care. However, nurses must remain vigilant to the potential perils associated with AI use. Indeed, the need for critical thinking skills is becoming ever increasingly important in a fast-paced world. This article reflects on the use of AI from the perspectives of two nurse educators and a generative AI source. The paper also offers potential strategies to recognise misinformation, AI hallucinations and consider ways to help nurses apply safe and effective nursing care.

Introduction

Early definitions of Artificial Intelligence (AI) focused on letting machines simulate intelligent behaviour, as precisely as a human can (McCarthy et al, 1956). As such, AI seemed like an entity restricted to the genre of science fiction, conjuring powerful imagery of a dystopian future, subject to the perils of "Skynet" and "Terminator-type" machines. Nurses may feel sceptical about AI as an epistemic source, therefore it is vital that nurses develop and utilise their critical thinking skills, to mitigate the potential for mi misinformation and subsequent serious patient safety issues.

In the evidence base, there is a clear proliferation of AI use in nursing (Lora and Foran, 2024; Su-Yeon Park et al. 2025).   In nurse education, AI offered a significant improvement in sepsis care knowledge compared to medical students in a recent RCT exploring virtual reality simulation (Liaw et al. 2023a). Furthermore, "human like" AI provided a rich opportunity to revise and hone interprofessional communication skills (Liaw et al. 2023b). More broadly, AI is revolutionising patient care, with tremendous advances in the field of telemedicine (Remes et al. 2020); radiology diagnostics (Hwang et al. 2019); and digital therapeutics (Gabrielli et al. 2023).

In short, the rapid proliferation of AI across many fundamental platforms, such as Google, Social media algorithms and AI chat bots, it is apparent that this dystopian vision is now a reality. Consequently, as nurses, we have a duty, as accountable and ethical practitioners to examine its impact.

The NMC's position on AI:

The NMC (2023), as a regulator, recognises the changing demands on professionals. As such, new competencies, skills and behaviours are required for the delivery of safe and effective care (NMC, 2023).

They are developing a new strategy to help outline expectations for regulators, registrants and legislative developers to help mitigate risk from use of AI (NMC, 2023). Understandably, the NMC remains unclear about where the accountability lies when AI is used, other than subtle signalling towards the regulated professional themself. Social media memes such as Snoop Dogg (TikTok, 2024) offer a witty, but serious message, outlining the perils of misused AI to gain graduation and registered status. The increasing demands of multiple comorbidities and the complexities of clinical areas add to the challenges. As a result, never has the need for critical thinkers in nursing been more important to analyse information and critique AI as a critical epistemic source.

Wielding AI and managing misinformation:

Furthermore, Hicks (2024) highlights how machine learning systems, such as generative AI, are frequently plagued with persistent inaccuracies. In the absence of factual information, it becomes the job of the AI programme to convince the reader that this information provided is "truth", with no ethical concerns or moral obligation to contemplate the impact of misinformation on patient care. Herein lies the vital need for nurses to hone their critical thinking skills, to help address the potential for misinformation, "hallucinations" and Frankfurtian "bullshit" produced from generative AI. To combat misinformation, Macmillan (2024) from Yale, suggest these top tips when using generative AI:

1.Use it provide context or education

2.Know that some AI platforms are not updated in real time

3.Consider the source

4.Maintain some scepticism

In view of these considerations, nurses should remain vigilant and sceptical when using generative AI to inform their practice. The following section reflects on the potential challenges, benefits, and implications of AI in nursing.

Reflections of a Digital Native (Dr Alex Carlin)

As a millennial born in the late 1980s, I am comfortable using technology to develop knowledge and skills. Raised in an age of dial-up connections, internet search engines, video games, smartphones, social media, and electronic record-keeping (such as SystmOne), my life has been mapped out digitally, akin to a digital panopticon (Han, 2017). Generally, I embrace the potential that technology has to offer. However, I remain dubious about the unregulated use of AI within nursing, turning a slight "blind eye" to its use until I recently presented at an international conference in Singapore (Carlin, 2024). There was a clear proliferation of research on AI, from virtual reality chat bots to full blown video-game style metaverses, for simulation.

I recognise the benefits of AI use, such as its ability to "tidy up" written language, generate creative outputs, such as posters or diagrams, and its ability to reduce potential administrative burden (try asking AI to generate a meeting agenda!). However, AI, in my view, does not have the capacity to replace human, critical, organic thinking necessary to process the variegated intricacies of everyday decision-making required in nursing life. The need for critical thought has never been more important when assessing and using information to help people to make decisions about their care. I will embrace AI, when it suits my use, but I will maintain sense of Cartesian Scepticism regarding the knowledge AI offers for evidence-based practice.

Reflections of a Digital immigrant (Dr Liz Charalambous)

My nursing journey has evolved from an analogue age to becoming what is now referred to as a 'digital immigrant' as I grapple with new technology. In a pre-digital world, I developed

assessment and audit tools in response to patient care needs when striving to improve practise in a changing world. However, as these tools became normalised, I discovered nurses often slavishly following the tools with little regard for the holistic needs of the patient, which is a problem that appears to persist today (Massey et al, 2025). Tools are there to assist us with clinical decision making. There is no 'one size fits all tool' and clinical judgement is the trump card. Nurses are the ones who will stand before the judge in a coroner's court, not the tool, be it paper documentation or AI generated information.

I have also witnessed the professional grow from a patriarchal top down hierarchical set up to one where nurses use their critical thinking and leadership skills to manage complex situations. I would guard against this being insidiously taken away from us, especially if partly or wholly by our own making.

Nevertheless, there are many benefits to using AI which I suspect will take us in exciting new directions in the future. However, the implications are that we could witness a long-term drift into losing the critical thinking skills so vital in nursing. We consider so many variables when caring for patients and this often changes minute by minute as the patient's condition, and the clinical context in which we work changes.

As accountable practitioners we need to take control of this possible 'master/slave' relationship to become the masters, not the slave. However difficult this seems it is vital to protect patients and ourselves, as well as the nursing profession.

Reflections of AI Co-Pilot (ran through copilot 07.05.2025)

AI in nursing presents a mix of challenges, benefits, and implications that could shape the future of healthcare.

Challenges: One major concern is the risk of losing the human touch in patient care. AI can analyze vast amounts of data quickly, but it lacks the empathy and intuition that nurses provide. Additionally, integrating AI into healthcare systems requires significant investment, staff training, and cybersecurity measures to protect sensitive patient information. There's also the ethical dilemma of relying on AI for critical decision-making—how much trust should be placed in algorithms when patient lives are at stake?

Benefits: AI has the potential to enhance nursing efficiency by automating routine tasks like documentation and scheduling, freeing up nurses to focus on patient care. It can also assist in early diagnosis by analyzing symptoms and predicting potential health risks with remarkable accuracy. AI-driven robotic assistants can support nurses with physical tasks, reducing strain and improving workplace safety.

Implications: The integration of AI into nursing might reshape the role of nurses, making their work more data-driven while requiring proficiency in technology. It could also bridge healthcare gaps by offering remote patient monitoring and virtual assistants, expanding access to medical care. However, AI in nursing must be implemented cautiously to ensure it complements rather than replaces human care.

Ultimately, AI holds great promise for nursing, but its success depends on finding the right balance between technology and compassionate, patient-centered care.

Conclusion

The genie is out of the bottle—AI will shape the future of nursing whether welcomed or resisted. As nurses remain accountable practitioners in ensuring patient safety, a cautious and intentional approach to AI integration is necessary. Moving forward, the focus must remain on ethical, evidence-based practise while mitigating AI's potential risks.

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