

Artificial intelligence: Transformative technology

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I REMEMBER FIRST SEEING a smartphone.

It was late in 2007, and a colleague – clearly an early adopter – had brought an iPhone back to Australia with him from a trip overseas. My initial thought was that it was impressive but would not be very different from a Blackberry or similar devices that were already somewhat common. How very wrong I was. In the 17 subsequent years, this transformative technology has revolutionised how we communicate and work; how we book appointments and market products; how we experience the world and how the world impacts upon us.

Artificial intelligence (AI) might become just as transformative. Generative AI is already creating stock images, writing essays and running consumer chats. Machine learning and neural networks already have the capability to analyse enormous datasets and drive cars. In healthcare, AI has already shown excellent results in assisting radiologists with interpreting images,¹ and you might already be using AI-assisted scribing software.² Incredible opportunities exist for the application of AI in medical education, mental health, diagnostic aids and the interpretation of data from wearable devices.³

As with all emerging technology, the promise of an AI-augmented future arrives hand-in-hand with potential pitfalls for patients and general practitioners (GPs). AI interpretation of large datasets can perpetuate harmful biases.⁴ Ignoring the ethical and legal implications of AI can result in breaches of confidentiality and trust.⁵ Inappropriately applied tools can result in misdiagnosis.⁶ It is critical that research and regulation evolve in step with AI's development to prevent patient harm. This requires careful involvement of consumers,⁷ and agility in thought and publication.

It is for these reasons that the *Australian Journal of General Practice (AJGP)* has commissioned a longitudinal series into AI, which commences with this issue. It will consist of monthly articles throughout 2025 and beyond, which we hope will assist readers become familiar with AI technology, its potential novel applications, critical ethical and medicolegal considerations, and facilitate robust discussion.

We call upon authors to submit their AI-related work to *AJGP*. We also invite readers to participate in professional, constructive correspondence by writing letters to the editor. Just like the smartphone in your pocket, this transformative technology will change the way we live. Those involved in the conversation will shape this future.

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References

1. Obuchowicz R, Strzelecki M, Piórkowski A. Clinical applications of artificial intelligence in medical imaging and image processing—A review. *Cancers*. 2024;16(10):1870. doi: 10.3390/cancers16101870.
2. Nawab K. Artificial intelligence scribe: A new era in medical documentation. *Artificial Intelligence in Health* 2024;1(4):12–15. doi: 10.36922/aih.3103.
3. Olawade DB, David-Olawade AC, Wada OZ, Asaolu AJ, Adereni T, Ling J. Artificial intelligence in healthcare delivery: Prospects and pitfalls. *J Med Surg Public Health* 2024;100108. doi: 10.1016/j.glmedi.2024.100108.
4. Aquino YS. Making decisions: Bias in artificial intelligence and data driven diagnostic tools. *Aust J Gen Pract* 2023;52(7):439–42. doi: 10.31128/AJGP-12-22-6630.
5. Bradfield O, Mahar PD. Is AI A-OK? Medicolegal considerations for general practitioners using AI scribes. *Aust J Gen Pract* 2025;54(5):304–10. doi: 10.31128/AJGP-10-24-7438.
6. Garg RK, Urs VL, Agarwal AA, Chaudhary SK, Paliwal V, Kar SK. Exploring the role of ChatGPT in patient care (diagnosis and treatment) and medical research: A systematic review. *Health Promot Perspect*. 2023;13(3):183. doi: 10.34172/hpp.2023.22.
7. Carter SM, Aquino YS, Carolan L, et al. How should artificial intelligence be used in Australian health care? Recommendations from a citizens' jury. *Med J Aust* 2024;220(8):409–16. doi: 10.5694/mja2.52283.