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Clinicians and artificial intelligence

To the Editor: We are living in the age of artificial intelligence (AI), 'technology that enables computers and machines to simulate human learning, comprehension, problem solving, decision making, creativity and autonomy.'[1] As noted by Junck and Adams,[2] 'AI increasingly plays a role in public life – often behind the scenes in areas like healthcare, credit scoring and social media moderation.' Yet according to a recent survey, for 73% of South Africans, 'AI' is either an unfamiliar term or one they know little about. Only 21% of participants felt able to explain it to a friend, with a further 6% simply unsure, yet 43% of respondents expressed optimism that AI would contribute toward improvement in health and wellbeing.[3] Despite the substantial lack of awareness about AI and the extent to which it already impacts daily lives, there are people in South Africa (SA) who use AI in everyday life, from searching for information to assistance with work duties, and even asking AI for help in analysing and drafting communication between individuals. Patients increasingly engage with AI-driven applications before seeking formal healthcare.[4] As clinicians, our fiduciary responsibility obligates us to have a working knowledge of what AI is, how it might be used in the best interests of patient care, and where it is indeed being currently used, either clinically or administratively.

While it has been stated that AI is a technology and not a device *per se*,[1] in relation to healthcare this is not so. The UK government has recently specifically classified software applications as medical devices, referencing products that could be described as a digital mental health technology with guidance on such technology in terms of qualification and classification.[5] The recently released SA Health Products Regulatory Authority (SAHPRA) communication to stakeholders 'Regulatory requirements of artificial intelligence and machine learning (AI/ML)-enabled medical devices' is quite clear: 'An AI/ML-enabled medical device is therefore defined as a product that conforms to the definition of a medical device.'[6] The communication explicitly addresses the key issues of: patient safety and risk management; transparency and explainability; cybersecurity, data integrity and privacy; performance monitoring and adaptability; and clinical evaluation and performance. The communication further speaks of a 'responsible innovation' mindset, i.e. that ethical issues and potential risks need to be considered upfront and not in response to problems after they have occurred. This should pertain to both developers and clinicians.

Clinicians contemplating the use of AI should ensure that their awareness of the fundamentals of AI enables them to interpret the SAHPRA communication accordingly. The mere licensing or regulation of an AI-powered device does not absolve the clinician of responsibility for its safe use. The Health Professions Council of SA has published draft 'Ethical guidelines on the use of artificial intelligence',[7] and the Medical Protection Society the 'AI safer practice framework',[8] with both providing comprehensive guidance for clinicians.

Ultimately, regarding medical AI, ethics and law in an SA context, finding a balance is necessary whereby innovation does not compromise 'core ethical and legal principles that underpin trust in healthcare systems.'[9]

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