Using artificial intelligence in healthcare – some ethical and legal considerations

Artificial intelligence (AI) has immense potential to transform and improve health care, yet significant uncertainty surrounds its current and future application in the field. AI encompasses a range of tools aimed at enhancing efficiency, diagnosis and treatment. While no single definition of AI exists, it broadly refers to technologies that simulate human intelligence to perform complex tasks. In healthcare, this includes applications such as healthcare administration, clinical decision-making, improving diagnostics, personalised treatment, providing digital therapies, population health data analysis and biomedical research.[1]

While there is considerable optimism surrounding the use of AI in healthcare and its potential applications across various sectors, several significant ethical concerns arise. These include the risk of AI making erroneous decisions, the question of accountability when AI is used to support decision-making, challenges in validating AI outputs and the potential for inherent bias in the data used to train AI systems. Other concerns involve maintaining the security and privacy of potentially sensitive data, securing public trust in the development and use of the technology, the potential for social isolation, effects on people's sense of dignity, changes in healthcare workers' roles and skill requirements and the possibility of AI being used for malicious purposes.[2]

Legal liability is another issue that requires clarification. Several complex legal challenges and risks have to be considered as the implementation of AI in healthcare settings increases. An area of particular concern is the attribution of legal liability when patient safety is compromised owing to the use of AI in patient care and treatment. Since AI systems lack 'legal personality', the responsibility for their actions or omissions falls on their human or corporate creators, suppliers, and users. Just as a doctor has a legal duty to provide reasonable care under current laws, AI system developers and users could be held accountable if their technology results in harm. Additionally, if a doctor misuses equipment, they may be held accountable for any resulting harm. Furthermore, in terms of vicarious liability, employers can be held liable for the actions of their staff.[1]

The uncertainty around liability when using AI is recognised globally and efforts are ongoing to provide clarity in this regard. For example, the 2019 European Union (EU) Commission's AI liability guidelines[3] identify many challenges in this area. They call for strict liability (responsibility for misconduct with liability irrespective of fault) for some AI applications. The guidelines also state that manufacturers of AI-integrated products should be held liable for damages caused by defects, similar to non-AI products.[1,3] Additionally, the EU Commission's *White Paper on Artificial Intelligence: A European Approach to Excellence and Trust*[4] specifies that high-risk AI applications, such as those in healthcare, transport and energy, must meet additional compliance requirements, including record-keeping of algorithms used.[1,4] The 2022 European Commission's proposal for an AI Liability Directive further addresses claims for harm caused by AI systems and adapts non-contractual civil liability rules for AI.[5] While the legal principle of liability attribution is well-established, its application in the context of AI is still evolving.

Pillay, in his book '*Code to Care: A Leaders' Guide to Implementing AI in Healthcare*'[6] highlights six key principles for responsible AI: accountability; inclusiveness; reliability and safety; fairness; transparency and privacy and security. Creating responsible AI goes a long way to making AI trustworthy. For AI in healthcare to be implemented ethically, fairness and inclusivity in its medical assessments and recommendations must be ensured. Diverse patient populations and health conditions must be considered. Accountability for diagnostic and treatment decisions needs to be maintained and clear oversight mechanisms must be in place. Discrimination must be avoided. There must be equitable healthcare access and outcomes for all people irrespective of race, abilities and background.[6]

South Africa's *National AI Policy Framework*[7] has as a key rationale the fostering of sectoral strategies that address specific needs and opportunities within different industries such as healthcare, education and finance. In the healthcare context, social equity is underscored as a key goal. Social equity could be achieved if AI is used to address disparities and improve access to services. AI can help bridge gaps, promote inclusiveness and reduce inequalities. AI technologies need to thrive and contribute meaningfully to health care.

There are immediate benefits to the use of AI in South Africa's public health sector. These benefits are already materialising in the private healthcare sector. It is ethically imperative that the tools are harnessed and implemented appropriately and effectively to transform the nature of work and healthcare delivery. The public, patients and staff need to be assured that AI will not replace healthcare workers but could augment the work they do. Ethics, governance and regulation are critical to build trust and ensure the responsible use of AI.

A Dhai
Editor
Ames.Dhai@wits.ac.za

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