

The Issue of the Implementation of Artificial Intelligence in the Diagnosis of Illness

Artificial intelligence can assist providers in a variety of patient care and intelligent health systems. Artificial intelligence techniques ranging from machine learning to deep learning are prevalent in healthcare for disease diagnosis, drug discovery, and patient risk identification.

Generally, the legal and ethical issues that confront society due to Artificial Intelligence (AI) include privacy and surveillance, bias or discrimination and, potentially, the philosophical challenge of the role of human judgment. It is important to consider the positive and negative perspectives on this matter.

There are various magnitudes of AI in healthcare. AI often utilizes a web database, allowing doctors and practitioners to access thousands of diagnostic resources. As doctors are deeply educated in their field and current with the latest research, AI produces rapid results that can be matched with their clinical knowledge.

Conversely, AI presents generates fears due to the prospect that they may eventually replace or reduce the need for human physicians, especially in clinical settings. However, recent research and data have shown that it is more likely that this tool will benefit and enhance clinical diagnostics and decision-making rather than reduce the need for clinicians.

Medical imaging is one of the most promising areas for the application and innovative use of AI. The use of AI in radiology has the potential to improve the efficiency and efficacy of medical imaging. Its use may also alleviate some of the burden and burnout experienced by radiologists who feel overwhelmed by the proliferation in the volume of imaging studies performed, and unable to devote sufficient time to providing meaningful, patient-centric care.

The WHO emphasises that systems trained primarily on data collected from individuals in high-income countries may not perform well for individuals in low- and middle-income settings. AI systems should therefore be carefully designed to reflect the diversity of socio-economic and healthcare settings. They should be accompanied by training in digital skills, community engagement and awareness-raising, especially for millions of healthcare workers who will require digital literacy or retraining if their roles and functions are automated, and who must contend with machines that could challenge the decision-making and autonomy of providers and patients.

Points to consider:

- What are the key challenges of delivering clinical services using artificial intelligence?
- What are the main uses of AI diagnostics?
- What are the positives and negatives of the AI diagnostic uses of today?
- What are the legal restrictions of AI use in various member states (and to what extent are these applied)?
- How can effective AI be provided for low-income countries? How would this work in practice?

Useful links:

<https://www.brookings.edu/research/risks-and-remedies-for-artificial-intelligence-in-health-care/>

<https://www.frontiersin.org/articles/10.3389/fsurg.2022.862322/full>

<https://htn.co.uk/2021/06/29/who-issues-first-global-report-on-ai-in-health/>