

Editorial

Artificial Intelligence for the Ethiopian Health System: Blessing or curse?

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Though Ethiopia has achieved a lot in reducing morbidity and mortality and increasing life expectancy (1), there are still lots of bottlenecks for the health system. The health system is characterized by limited quality, equity, access to health services, efficiency, adaptive management, resilience and sustainability. Therefore, the country needs innovative, resilient, complexity aware and adaptive health system to meet these challenges and sustain the progress achieved so far.

The global community is already exploring and testing emerging technologies such as Artificial Intelligence (AI) which is among one of the greatest innovations of the 21st century to combat the above-mentioned bottlenecks of health systems. What can AI contribute to the Ethiopian health system? What are the possible opportunities and challenges in order to adapt AI as an innovation to the Ethiopian health system? This editorial tries to give some insights on these issues based on local context and global experience.

Anticipated and preliminary evidences on the benefits of using AI in the healthcare system mainly revolves around improved diagnosis and patient monitoring, medical imaging, assistance in clinical decision making and team work, human resource management, telemedicine, robotic surgery, supply chain management of medical equipment, reduced healthcare cost, research and data analytics (2, 3). AI can be a very good weapon to combat several social determinants of health such as geographical barriers and transport challenges by creating an opportunity to work remotely or mentorship and supervision of healthcare workers. It may also improve patient appointment and adherence by creating cues and reminders for treatment and follow-up. It is also hoped that AI may bring in a dramatic shift from population medicine to personalized healthcare by enhancing precision medical care and decision making.

A recent systematic review has indicated that the main potential challenges in using AI for health system included; 1) patient privacy concerns and ethical considerations in patients personal and sensitive information, 2) poor quality and quantity of data helpful to create algorithms which was the case that during the time of COVID-19 due to lack of quality and adequate data the prediction ability of AI models were limited or not accurate (4), 3) society and patient awareness, and 4) the healthcare workers AI literacy and digital technology maturity (3).

In Ethiopia, though there are good initiatives and intentions in digitalization of healthcare, there are several prerequisite challenges for AI. Still the healthcare system is struggling to transit from manual and paper-based system to digital system. For example, the digital ecosystem such as technology infrastructure including electricity and internet access, human resource capacity, leadership commitment and digital health and data use culture and literacy are lagging. The status quo cognitive bias to unlearn old manual systems can also be bottlenecks on the journey to digitalization and AI adoption in the Ethiopian health system (5). As a result, behavioral resistance and mistrust from the healthcare leadership, healthcare workers and the community when they find the dramatic shift of the humanistic touch healthcare to machine or AI assisted system can be anticipated like as in any other innovation.

The use of AI within the Ethiopian health system is not common except that some anecdotal evidence indicated that students and staff at medical and public health schools have started using AI such as ChatGPT to generate research titles and/or ideas, literature search and searching medical information. The fear here is the academia is not ready in establishing a system to control potential plagiarism, irresponsible use of AI and related concerns in the field. In this regard, the practice of AI within the research community should look ahead of the system to filter and prevent its disadvantages. On the other hand, we do not have evidence on how much AI is practiced among healthcare workers in Ethiopia while most of them have smartphone and may be with ChatGPT within their pocket.

Therefore, in order to benefit from the promised advantages of the emerging technologies of AI and minimize potential harms, the Ethiopian health system should work on improving digital infrastructure, human resource capacity and digital literacy/culture, governance legislation and policy is needed. Anticipating the future and making a good start is wise, easier and cost effective than reversing a spoiled health system.

Finally, whether we like it or not, AI is coming to the healthcare field with a blink of an eye. Whatever it brings as a blessing or a curse or both, the Ethiopian health system needs to complete its own homework to fight and/or adapt or welcome AI before it is too late.

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