Ethics of AI in global health research

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Ethical concerns in the use of AI in patient safety research: an examination of the adequacy of Nigerian laws

Dorcas A. Akinpelu (presenter), Simisola O. Akintola. Faculty of Law, University of Ibadan, Nigeria

Brief description of the context

Available literature reveals that artificial intelligence (AI) could be useful in researching to the causes of medical errors and developing effective contextual solutions to improve health outcomes and patient safety particularly in low and middle income countries such as Nigeria, where there are not enough skilled medical professionals to care for the rapidly growing population. Nevertheless, using AI to improve patient safety raises ethical concerns and complexities such as algorithmic fairness and biases, erosion of confidentiality, breach of privacy and data security, complications around obtaining informed consent, assignment of responsibility and liability, among others. These concerns are fundamental and require careful consideration and attention; non-consideration of these concerns can also impact patient safety in an adverse manner. Although Nigeria has a legal framework for health research, the extent to which it addresses ethical concerns in the use of AI for patient safety research is unclear.

Ethical concerns in AI-assisted patient safety research

Patient safety research, like other types of health-care research, is fraught with ethical issues. These issues are exacerbated when AI is used as a research tool because AI has its own set of ethical implications, some of which will still unfold as AI evolves. In the first place, the quality of data entered into the AI system determines the predictability of the outcomes. When an AI device with underrepresented data is utilized for patient safety research, there is a possibility of bias and discrimination, which is an ethical concern that must be addressed. Also, disclosure of AI predictions about an individual, particularly to third parties, can lead to discrimination against that person.

The use of AI in patient safety research also has the potential to erode confidentiality, violate privacy and data security, and disregard autonomy, particularly when research subjects' data is made available to third parties. Addressing privacy and data security concerns is critical, and strict oversight of data use and transfer will be required to protect personal information and interests of data subjects. In addition, obtaining informed consent from data subject could be challenging because of the black-box problem arising from the novelty and technological intricacies of AI. Furthermore, the use of AI in patient safety research makes assigning responsibility and liability onerous. It's worth noting that AI forecasts are far from perfect. Also contributing to this onerousness is the opaque nature and unpredictable effects of black-box AI, as well as the problem of many hands, which obfuscates blame attribution.

Nigerian laws on the use of AI in patient safety research

Given the ethical concerns raised above, the need for governance and regulation cannot be overstated. The Constitution of the Federal Republic of Nigeria 1999, the National Health Act, the National Code of Health Research Ethics, the Cybercrimes (Prohibition, Prevention, etc.) Act 2015, and the Nigeria Data Protection Regulation of 2019 can be relied on for ethical guidance in patient safety research. A review of these laws reveals that although they provide guidance for some ethical issues in the use of AI for patient safety research, they do not adequately address the ethical concerns raised and those that may arise in the future as the use of AI for patient safety research advances. This is because they were not developed with patient safety and/or AI in mind, as these are emerging disciplines in Nigerian health research.

Recommendation and conclusion

It is highly expedient to have a framework to guide the use of AI in patient safety research. This is needed to fill the lacunae of the existing laws and to specifically address the identified ethical issues while leaving room for future issues that may arise. There should also be established a body which will oversee the activities of stakeholders in the use of AI for health research. Members of this body should be well-versed, knowledgeable and skilled in both AI and health research.

This paper was prepared for GFBR 2022. Further details on the meeting are available at www.gfbr.global.