



RESEARCH ARTICLE

ETHICAL IMPLICATIONS OF ARTIFICIAL INTELLIGENCE IN HEALTHCARE

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Abstract

This paper discusses the ethical implications of AI for health care, suggesting that health care professionals and AI developers should collaborate with ethicists and philosophers to create a moral code of conduct. These issues include concerns about privacy, data security, and accuracy of diagnostic results. Published ethical issues related to AI in health care include algorithmic bias and discrimination, data misuse and technical problems, patients autonomy in making decisions, and confidence in accuracy of outcomes generated by AI.

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Introduction:-

A human brain is typically thought to be required for doing activities, hence artificial intelligence (AI) is described as "the portion of digital technology that demonstrates the utility of coded computer technology routines with precise instructions to carry out tasks"¹. One of the most significant developments in medical history has been the development of artificial intelligence, which has applications across all medical specialities². Artificial intelligence holds tremendous promise for effective, precise, and timely preventive care and therapeutic interventions³.

Patient adherence to medication regimens, diagnosis and treatment plans, and hospital administrative matters are included in the main class of applications⁴. The use of AI applications in hospitals helps relieve burden on medical staff, is economical, and eventually raises the standard of healthcare services⁵. By converting everyday language into a clinical narrative, evaluating patient data, spotting clinical diagnostic similarities, and supporting medical hypotheses, AI can be used to organize the available medical data⁶.

The remarkable amount of health data and computer power are used by AI in the healthcare industry to support evidence-based decision-making. This opens the door for new moral conundrums involving the privacy of acquired data, its secrecy, its use's openness, its responsibility, and potential disparities in AI deployment⁷. The majority of artificial intelligence algorithms operate in a "black box" setting where the process of analysis is opaque. Basic ethical issues with autonomy, beneficence, justice, non-maleficence, and respect for knowledge are present in AI. The right to privacy should be respected in the healthcare system as required by patient autonomy or self-governance, personal identity, and well-being. From this point forward, it is ethically imperative to respect patients privacy and uphold confidentiality⁸.

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Artificial intelligence and machine learning systems have an algorithmic bias that predicts the likelihood of a disease diagnosis based on sex or race although these may not be the primary causal factors⁴. Patients unwavering faith in medical personnel, which is bolstered by the placebo effect, is one aspect that sets the medical sector apart from other service industries. Patients in AI-assisted healthcare must establish a relationship with an artificial system rather than a human. This has a substantial impact on the effectiveness of the treatment⁹.

The European Commission's proposed law requires documentation of AI technology and data sheets containing details on training methods and implementation procedures, including their scope and characteristics¹⁰. There are no specific regulations governing AI in healthcare in India. If implemented, the Digital Information Security in Healthcare Act, or DISHA, will cover the rules in this area¹¹.

Ethical Challenges

The question of whether AI "fits within existing legal categories or whether a new category with its own features and implications should evolve" is one that is constantly being discussed. Although using AI in clinical settings has immense potential to improve healthcare, it also poses ethical issues that must now be addressed. Four significant ethical concerns need to be resolved in order for AI in healthcare to completely realize its potential:

1. Informed consent for data use.
2. Safety and visibility.
3. Fairness and biases of algorithms.
4. Data privacy is a crucial element to take into account¹².

Political controversy surrounds the legality of AI systems, in addition to being a legal one (Resolution of the European Parliament, 16 February 2017)¹³.

The goal is to support policymakers in making sure that the morally challenging problems that are brought about by implementing AI in healthcare settings are dealt with swiftly¹⁴. Most legal discussions on artificial intelligence have been influenced by the limits of algorithmic openness. AI design and governance must now be more accountable, egalitarian, and transparent as AI is used more frequently in high-risk circumstances. The two most crucial components of transparency are information accessibility and understandability. It is common practice to make access to information on how algorithms work difficult¹⁵.

Machines that may operate by flexible rules and acquire novel behavioral patterns are said to pose a danger to our ability to determine responsibility's origin and operator. As it undermines "both the moral structure of society and the foundation of the liability principle in law," the allegedly "ever-widening" divergence is cause for concern. If AI is used, we might not have anyone to hold responsible for any harm that occurs. Humans don't understand just how hazardous things exist, and using machines will make it very difficult for us to decide who is to blame and to take responsibility for our actions¹⁶.

Artificial Intelligence Systems (AIS) output can be rendered incomprehensible by modern computing techniques, preventing meaningful examination. Therefore AIS's output generation method is "opaque," as the name implies. When AIS uses a process, it may be so complex that it is effectively hidden from a clinical user who is not technically trained but is easily discernible to a techie who is knowledgeable in that field of computer science¹⁷.

AISs are designed to support clinical users and hence directly affect clinical decision-making, such as IBM's Watson for oncology. The AIS would then assess the data and suggest a course of treatment for the patient. Future clinical decision-making may be altered by the use of AI, which, if implemented, could also lead to new stakeholder dynamics. If implemented, the possibility of using AIS to assist physicians might change clinical decision-making and establish a new paradigm in healthcare. Clinicians have an interest in the safe implementation of new technology in the clinical setting, including physicians, nurses, and other medical professionals¹⁷.

In terms of their objectives, potential construction methods, and potential applications, new ML-HCAs have a very broad reach. In primary care settings, ML-HCAs range from fully self-sufficient synthetic intelligence diabetic retinopathy prognosis to non-self-sufficient mortality forecasts, manual coverage, and resource allocation. ML-HCAs, on the other hand, can be a "black box" problem because their internal workings aren't apparent to evaluators, medical professionals or patients¹⁸.

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Conflict of interest

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