

Artificial Intelligence in Healthcare: Ethical, Legal, and Social Implications

Emerging developments in the Artificial Intelligence (AI) field have the potential to solve many existing global healthcare challenges. In 2019, the World Medical Association acknowledged the broad potential of AI and suggested “augmented intelligence” as a narrow form of AI to emphasize its support.¹ In addition, recent studies regarding the intersection of AI and the medical field have shown “promising results in dermatological diagnosis of skin cancer, in predicting the risk of emergency admissions, or in detecting breast cancer, outperforming radiology practitioners.” However, it is outwardly difficult to develop ethical and regulatory frameworks as healthcare AI progresses.

Accordingly, the *International Journal of Medical Informatics* published a recent article on the underlying Ethical, Legal, and Social Issues (ELSI) related to “AI-based medical decision-support tools.”² *Ethical, Legal, and Social Considerations of AI-Based Medical Decision-Support Tools: A Scoping Review* praises the advancements of AI in the medical field, while recognizing a need for surfacing the underlying ELSI. The authors refer to the “current trend of reducing context-specific issues, namely healthcare, to abstract ethical principles or guidelines” as “ethical whitewashing.”

The authors hold that ELSI deserves equal attention in the early development stage, and especially before AI’s implementation in healthcare. Their goal is to guide designers, engineers, and clinicians in addressing the ELSI of AI at the design stage. The article states that further inequalities and the possibility of discrimination is caused by “[e]xisting disparities and social inequalities in global health risk being replicated in AI-powered healthcare through biases in AI algorithms.” Furthermore, the early development of ethical and regulatory frameworks may address ELSI concerns and demonstrate ethical responses to AI in the medical field.

To determine the most overlooked ELSI, the authors ask, “Which ELSI are most reported for AI-based medical decision support tools?” Hence, the analysis classifies the corresponding issues into three categories: ethical, legal, and social.

Ethically, the most prevailing issue revealed by the analysis is patient safety, followed by transparency, decision-making bias, and explain-ability of results, respectively. Accordingly, “[n]ot disclosing the use of an opaque AI-based decision-making support tool may be unethical in that it may negatively impact patient-physician relationship, undermine, patient autonomy and trust, and potentially compromise informed consent.” The study indicates that patient-physician relationships and issues of consent need to be addressed early on in the development of AI-based decision-making tools.

¹ *WMA Statement on Augmented Intelligence in Medical Care*, WORLD MEDICAL ASSOCIATION (Nov. 26, 2019), https://www.wma.net/policies-post/wma-statement-on-augmented-intelligence-in-medical-care/#_ftn1.

² See Anto ŹCartolovni, Ana Tomi Źci’c & Elvira Lazi’c Mosler, *Ethical, Legal, and Social Considerations of AI-Based Medical Decision-Support Tools: A Scoping Review*, 161 INTERNATIONAL JOURNAL OF MEDICAL INFORMATICS, at 1 (2022).

The analysis points to the lack of appropriate regulation as the prevailing legal issue. Moreover, studies show that the regulatory void will need to be addressed as AI becomes more prevalent in healthcare. Regulation is particularly important in the medical field due to “safety-effectiveness and liability within fault-based legal systems in case of self-learning algorithms embedded in AI-based decision-making tools.” Another prevailing issue is liability and accountability for patient harm as AI-based decision-making tools are designed to suggest medical recommendations and guidance. Moreover, it is difficult to demonstrate whether treatment is inappropriate, whether a patient’s rights were violated, and if that harm was caused by AI algorithms.

The most prominent social issue identified by the author’s analysis is AI’s impact on patient-physician relationships. “AI-based decision-making tools are expected to have a major impact on the fiduciary relationship between physician and patient.” Governance and policy, public trust, and acceptability were among the other social issues that were highly raised in studies. On the contrary, the authors note that AI is beneficial because it increases availability in time, resulting in “more trustworthy and empathic care,” and it has also “reduced stress and work overload for healthcare workers.”

In conclusion, “[t]he results of [the author’s study] confirm the potential of AI to significantly improve patient care, but the drawbacks to its implementation relate to complex ELSI that have yet to be addressed.”

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