

Is the biggest problem of health-related artificial intelligence an ethical one?

Maria ALUAȘ^a and Sorana D. BOLBOACĂ^{b,*}

^a Department of Abilities and Human Sciences, Iuliu Hațieganu University of Medicine and Pharmacy, Emil Isac Str, no. 13, 400023 Cluj-Napoca, Romania

^b Department of Medical Informatics and Biostatistics, Iuliu Hațieganu University of Medicine and Pharmacy Cluj-Napoca, Louise Pasteur Str., No. 6, 400349 Cluj-Napoca, Romania
E-mails: maria.aluas@umfcluj.ro; sbolboaca@umfcluj.ro;

* Author to whom correspondence should be addressed; Tel.: +4-0374-834506

Abstract

Artificial intelligence (AI) is defined by MeSH (Medical Subject Headings) as “theory and development of computer systems which perform tasks that normally require human intelligence. Such tasks may include speech recognition, learning; visual perception; mathematical computing; reasoning, problem solving, decision-making, and translation of language”. The keyword has been introduced in 1986 but received lately special attention due to the access to a considerable amount of organized/structured data. The AI technology in health care has raw medical data as input on which apply machine learning algorithms and provide as a specific output. The main feature of the AI is represented by the creation of its own logic by recognizing patterns in the input data but are “black boxes” that predict well without explaining why and are case-specific, the received goal is not self-adjusted. The health-related AI applications are developed to assist the diagnosis, development of the treatment protocol, drug development, personalized medicine, and healthcare monitoring. High-Level Expert Group on Artificial Intelligence (AI HLEG, <https://ec.europa.eu/digital-single-market/en/high-level-expert-group-artificial-intelligence>) published the Ethics Guidelines for Trustworthy AI that listed “seven key requirements for Trustworthy AI: (1) human agency and oversight, (2) technical robustness and safety, (3) privacy and data governance, (4) transparency, (5) diversity, non-discrimination and fairness, (6) environmental and societal well-being and (7) accountability.” The use of AI technology in health care and medical education arise several ethical issues regarding patient autonomy, privacy, and confidentiality, informed consent, discrimination, quantification of AI risks and benefits, responsibility, misuses, responsible conduct of AI research and testing, etc. Several AI ethical issues in health-care are introduced and discussed.

Keywords:

Artificial Intelligence (AI); Healthcare; Biomedical Ethics