

Artificial Intelligence and Medicine

Tariq, Saba; Tariq, Sundus

DOI:

[10.37723/jumdc.v13i3.759](https://doi.org/10.37723/jumdc.v13i3.759)

License:

Creative Commons: Attribution (CC BY)

Document Version

Publisher's PDF, also known as Version of record

Citation for published version (Harvard):

Tariq, S & Tariq, S 2022, 'Artificial Intelligence and Medicine: The Next Era', *Journal of University Medical and Dental College*, vol. 13, no. 3, pp. v-vi. <https://doi.org/10.37723/jumdc.v13i3.759>

[Link to publication on Research at Birmingham portal](#)

General rights

Unless a licence is specified above, all rights (including copyright and moral rights) in this document are retained by the authors and/or the copyright holders. The express permission of the copyright holder must be obtained for any use of this material other than for purposes permitted by law.

- Users may freely distribute the URL that is used to identify this publication.
- Users may download and/or print one copy of the publication from the University of Birmingham research portal for the purpose of private study or non-commercial research.
- User may use extracts from the document in line with the concept of 'fair dealing' under the Copyright, Designs and Patents Act 1988 (?)
- Users may not further distribute the material nor use it for the purposes of commercial gain.

Where a licence is displayed above, please note the terms and conditions of the licence govern your use of this document.

When citing, please reference the published version.

Take down policy

While the University of Birmingham exercises care and attention in making items available there are rare occasions when an item has been uploaded in error or has been deemed to be commercially or otherwise sensitive.

If you believe that this is the case for this document, please contact UBIRA@lists.bham.ac.uk providing details and we will remove access to the work immediately and investigate.

Artificial Intelligence and Medicine: The Next Era

Saba Tariq^a, Sundus Tariq^b

^aProfessor/ Head of Department, Pharmacology and Therapeutics University Medical & Dental College, The University of Faisalabad, Pakistan. PhD, University of Health Sciences, Lahore, Pakistan.

^bProfessor/ Head of Department, Physiology University Medical & Dental College, The University of Faisalabad, Pakistan. PhD, University of Health Sciences, Lahore, Pakistan.

Correspondence*: drsabatariq1@gmail.com

Tariq S, Tariq S. *Artificial Intelligence and Medicine: The Next Era. Journal of University Medical & Dental College. 2022; 13(3):v-vi.*



Attribution 4.0 International (CC BY 4.0)

The world is changing rapidly into digitalization. Future of healthcare will be greatly improved and reshaped by artificial intelligence (AI), which refers to a wide range of computer-executed tasks that resemble human intelligence. The concept of Artificial intelligence is now being used in medicine, including human biology, robotics, medical diagnosis, and therapeutics. The two primary fields of AI in medicine are virtual and physical. The virtual branch consist of informatics techniques ranging from deep learning information management to control of health management systems, including electronic health records, and active physician treatment decision-making support. The physical branch is best represented by robots used to assist the elderly patient or the attending surgeon. There is another important thing that comes under physical branch is the nanorobots, a unique new drug delivery system ^[1].

However, there are certain concerns that need to be addressed before full implementation of AI in medicine. The top most concern existed in clinical setting with regards to AI is following ^[2].

- 1) The anthropological implications of AI in the clinical setting.
- 2) The approaches and frameworks utilized to address ethical issues in medicine.
- 3) The impact of AI on clinical practice, particularly its relation with clinical judgement ^[2].

Further analysis, evidence of these applications' medical utility and economic worth, and the creation of interdisciplinary application strategies are all necessary due to the societal and ethical complexity of these applications. It is also important that implementation of AI should have a positive impact in reducing the workload of physician rather than in replacing him. AI is frequently considered as a "black box," where it is impossible to understand how an algorithm came to make a specific suggestion. One could argue that the "black-box" issue need not be as worrisome for algorithms in applications where the stakes are not patient-centered but rather concentrated on efficiency or enhanced managerial operations. However, when thinking about AI applications that try to enhance patient outcomes, especially when things go wrong, the issue of accountability is far more important. As a result, it is ambiguous who should bear accountability in the event that the system is flawed. Since the physician neither developed nor was involved in the control of the algorithm in any way, it may seem unjust to hold them responsible, while holding the developer responsible seems also unreasonable as he is far from clinical context ^[3].

Contrary to the generally hopeful perspectives promoted in the media, the general public is less trusting in AI in medicine. The degree of trust depends on the medical discipline being examined. Higher levels of AI trust are highly correlated with specific demographic traits and those who have a generally favourable opinion of AI and its effectiveness ^[4].

Undoubtedly, AI can reduce error and enhance precision in medical diagnosis. It could lessen the effort for healthcare personnel while also improving the quality of the job performed. It might give people greater control over how they maintain their health and cut down on needless hospitalizations. Additionally, it might broaden the field of medical understanding and enhance present clinical advice.

However, it's crucial to avoid exaggerating AI at this point. Its implementation in healthcare will be a methodical, gradual, and progressive process that involves stringent control and monitoring of its application and effectiveness. AI can help patients and raise the standard of care when combined with feedback and oversight from medical personnel.

REFERENCES:

1. Hamet P, Tremblay J. Artificial intelligence in medicine. *Metabolism*. 2017;69:S36-S40. Doi:10.1016/j.metabol.2017.01.011
2. Jotterand F, Bosco C. Artificial intelligence in medicine: a sword of damocles?. *Journal of Medical Systems*. 2022;46(1):1-5. Doi:10.1007/s10916-021-01796-7
3. Aung YY, Wong DC, Ting DS. The promise of artificial intelligence: a review of the opportunities and challenges of artificial intelligence in healthcare. *British medical bulletin*. 2021;139(1):4-15. Doi:10.1093/bmb/ldab016
4. Yakar D, Ongena YP, Kwee TC, Haan M. Do people favor artificial intelligence over physicians? A survey among the general population and their view on artificial intelligence in medicine. *Value in Health*. 2022;25(3):374-381. Doi:10.1016/j.jval.2021.09.004