

Artificial Intelligence as a Transformative Force in Interdisciplinary Care

Golnar Ghane¹ , Raoofeh Karimi¹ , Amir Mohammad Chekeni¹ 

Published: 22 December 2025
© The Author(s) 2025

Dear Editor,

In an era characterized by increasing disease complexity and rising patient expectations, effective interdisciplinary collaboration has become indispensable to the delivery of high-quality healthcare.^[1] Nevertheless, traditional approaches to care coordination often encounter challenges related to fragmented communication, conflicting clinical recommendations, and poor continuity of care. In this context, the integration of advanced technologies such as Artificial Intelligence (AI) is no longer merely an innovation but an influential component of contemporary healthcare systems, offering new opportunities to support care coordination and facilitate interdisciplinary collaboration.^[2]

One of the most significant contributions of AI is its capacity to enhance care across the continuum of healthcare delivery. By synthesizing diverse sources of information, including electronic health records, laboratory findings, clinical notes, discharge summaries, and care plans, AI can generate a comprehensive understanding of patients' health status and support more informed clinical decision-making.^[3-5] In personalized medicine, AI enables the integration and analysis of genetic, biochemical, and behavioral data to facilitate individualized treatment strategies that extend beyond conventional symptom-based approaches.^[6,7] Such precision may improve therapeutic outcomes while reducing the risk of adverse drug reactions.^[3,8] Likewise, AI has transformed disease diagnosis through the rapid and accurate interpretation of complex clinical data, particularly medical imaging such as computed tomography scans, magnetic resonance imaging, and radiographs. Machine learning, deep learning, and fuzzy logic approaches have demonstrated substantial potential in detecting cancers, cardiovascular diseases, and neurological disorders, including Alzheimer's and Parkinson's diseases, often with performance comparable to that of expert clinicians.^[9] Furthermore, AI-enabled wearable technologies and Internet of Things (IoT) devices facilitate continuous patient monitoring through real-time transmission of health information. These innovations have shown promise in a range of applications, including glycemic control, fall-risk prediction, and the early identification of psychological crises and suicidal ideation.^[3,5,10]

Beyond its technical capabilities, AI may also offer opportunities to support interdisciplinary collaboration. By integrating information from multiple sources into a shared evidence base, AI may facilitate communication and collaborative decision-making among healthcare professionals while promoting a common understanding of patients' conditions across physicians, nurses, pharmacists, and other members of the healthcare team. Such comprehensive insights could support more coordinated care planning and enable more timely and synchronized responses to changing patient needs, potentially reducing the risk of adverse events and medication-related errors.^[2,11,12] Consequently, AI appears to hold promise not only for enhancing diagnostic and therapeutic accuracy but also for fostering more integrated and patient-centered healthcare delivery.

✉ Golnar Ghane
golnarghane@gmail.com

1. Medical Surgical Department, School of Nursing and Midwifery, Tehran University of Medical Sciences, Tehran, Iran

Nevertheless, the growing implementation of AI in healthcare is accompanied by significant ethical, legal, and professional challenges. Concerns related to data privacy, algorithmic bias, transparency, accountability, and informed consent require ongoing scrutiny and robust regulatory oversight. In addition, unequal access to AI technologies across low- and middle-income countries raises important concerns regarding global health equity.^[13] Another critical consideration is the possibility that excessive reliance on algorithm-generated recommendations could inadvertently reduce direct communication and shared clinical reasoning among healthcare professionals. In light of this concern, AI should not be viewed as an autonomous decision-maker. Rather, its greatest value is likely to lie in its ability to complement human intelligence, support clinical judgment, and facilitate informed decision-making within interdisciplinary healthcare teams.^[1] When implemented responsibly, AI can enhance both the quality of clinical care and the collaborative processes that underpin effective healthcare delivery.

Keywords Artificial Intelligence, Interdisciplinary Health Team, Multidisciplinary Care Team, Patient Care Team

Declarations

Acknowledgments

The author thanks the editorial board of the Nursing and Midwifery Journal for their support and guidance in preparing this manuscript.

Artificial Intelligence Disclosure

The authors declare that no Artificial Intelligence tools were used in the preparation of this manuscript.

Authors' Contributions

All authors contributed to writing, revising, and approving the manuscript, meeting the International Committee of Medical Journal Editors' criteria for authorship.

Availability of Data and Materials

Not applicable.

Conflict of Interest

There are no conflicts of interest.

Consent for Publication

Not applicable.

Ethical Considerations

Not applicable.

Funding

Not applicable.

Open Access

This article is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License, which permits any non-commercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <https://creativecommons.org/licenses/by-nc/4.0>.

References

1. Fuseini M, Esezobbo S, Bello A, Mohammed M, Ubakaeze C. Leveraging Artificial Intelligence: Driven Decision Support Systems to Improve Care Coordination and Health Outcomes in Underserved Populations. *BioMedPha*. 2024;1:34-54. doi:10.13140/RG.2.2.24431.70564.
2. Kibibi Muthoni L. The Role of AI in Enhancing Patient Care Coordination. https://kiu.ac.ug/assets/publications/2685_the-role-of-ai-in-enhancing-patient-care-coordination.pdf.
3. Amann J, Blasimme A, Vayena E, Frey D, Madai VI, Consortium PQ. Explainability for artificial intelligence in healthcare: a multidisciplinary perspective. *BMC Med Inform Decis Mak*. 2020;20:1-9. doi: 10.1186/s12911-020-01332-6.
4. Jiang F, Jiang Y, Zhi H, Dong Y, Li H, Ma S, et al. Artificial intelligence in healthcare: past, present and future. *Stroke Vasc Neurol*. 2017;2(4). doi: 10.1136/svn-2017-000101.
5. Bajwa J, Munir U, Nori A, Williams B. Artificial intelligence in healthcare: transforming the practice of medicine. *Future Healthc J*. 2021;8(2):e188-e94. doi: 10.7861/fhj.2021-0095.
6. Johnson KB, Wei WQ, Weeraratne D, Frisse ME, Misulis K, Rhee K, et al. Precision Medicine, AI, and the Future of Personalized Health Care. *Clin Transl Sci*. 2021;14(1):86-93. doi: 10.1111/cts.12884.
7. Schork NJ. Artificial Intelligence and Personalized Medicine. *Cancer Treat Res*. 2019;178:265-83. doi:10.1007/978-3-030-16391-4_11.
8. Ali M. A comprehensive review of AI's impact on healthcare: revolutionizing diagnostics and patient care. *BULLET: Jurnal Multidisiplin Ilmu*. 2023;2(4):1163-73.
9. Kaur S, Singla J, Nkenyereye L, Jha S, Prashar D, Joshi GP, et al. Medical Diagnostic Systems Using Artificial Intelligence (AI) Algorithms: Principles and Perspectives. *IEEE Access*. 2020;8:228049-69. doi:10.1109/ACCESS.2020.3042273.
10. Shaik T, Tao X, Higgins N, Li L, Gururajan R, Zhou X, et al. Remote patient monitoring using artificial intelligence: Current state, applications, and challenges. *Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery*. 2023;13(2):e1485. doi:10.1002/widm.1485.
11. Palma GD, Scendoni R, Benedictis AD, Tambone V, Micco FD. Leveraging artificial intelligence for collaborative care planning: Innovations and impacts in shared decision-making – A systematic review. *Open Medicine*. 2025;20(1). doi:10.1515/med-2025-1232.
12. Moser EC, Narayan G. Improving breast cancer care coordination and symptom management by using AI driven predictive toolkits.

- The Breast. 2020;50:25-9. doi:10.1016/j.breast.2019.12.006.
13. Farhud DD, Zokaei S. Ethical Issues of Artificial Intelligence in Medicine and Healthcare. Iran J Public Health. 2021;50(11):i-v. doi: 10.18502/ijph.v50i11.7600.