AI Health Literacy vs. Traditional Education: A New Imperative for Digital Health

Rasit Dinc

Rasit Dinc Digital Health & AI Research

Published: April 20, 2023 | AI Diagnostics

DOI: 10.5281/zenodo.17997535

Abstract

AI Health Literacy vs. Traditional Education: A New Imperative for Digital Health The rapid integration of Artificial Intelligence (AI) into healthcare ...

AI Health Literacy vs. Traditional Education: A New Imperative for Digital Health

The rapid integration of Artificial Intelligence (AI) into healthcare is fundamentally reshaping the landscape of patient-provider interaction, diagnosis, and treatment. This technological shift introduces a critical new dimension to public health: **AI health literacy**. While traditional health education has long focused on foundational knowledge—understanding medical information, navigating the healthcare system, and making informed decisions—AI health literacy demands a new set of cognitive and digital skills. For both professionals and the general public, understanding this divergence is not merely academic; it is essential for navigating the future of digital health [1].

Defining the Divide: Traditional vs. AI Health Literacy

Traditional health literacy is broadly defined as the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions [2]. It is rooted in print, verbal communication, and basic digital skills, emphasizing comprehension of medical terminology, prescription instructions, and preventative care guidelines. **AI health literacy**, conversely, is a more complex, multi-faceted concept. It encompasses the ability to understand, critically evaluate, and effectively engage with AI-driven health tools and information [3]. This includes recognizing when AI is being used in a healthcare context, understanding the concepts of algorithms, data privacy, and the potential for bias or error in AI-generated recommendations.

The core difference lies in the nature of the information source. Traditional literacy deals with human-curated knowledge, while AI literacy deals with

machine-generated insights. This shift requires a move from passive comprehension to active, critical engagement with algorithmic outputs.

Feature	Traditional Health Literacy	AI Health Literacy
Core Focus	Comprehension of human-curated health information and services.	Critical evaluation and engagement with AI-driven health tools and data.
Key Skills	Reading, numeracy, communication, system navigation.	Algorithmic understanding, data privacy awareness, bias recognition, digital proficiency.
Information Source	Physicians, nurses, pamphlets, websites, human experts.	Diagnostic algorithms, predictive models, generative AI chatbots, wearable device data.
Primary Challenge	Low comprehension, complex medical jargon, access barriers.	Lack of transparency (the "black box" problem), data security, algorithmic bias.

The Challenge of Algorithmic Transparency

One of the most significant challenges in the transition to AI-driven healthcare is the issue of algorithmic transparency. Traditional health education assumes a clear chain of information, where the source (e.g., a doctor or a public health campaign) is identifiable and accountable. AI systems, particularly complex deep learning models, often operate as "black boxes," making it difficult for users to understand *why* a specific diagnosis or treatment recommendation was made [4].

For the public, this lack of transparency can erode trust and lead to non-adherence to AI-guided care. For healthcare professionals, it complicates the ethical and legal responsibility of using these tools. Effective AI health literacy must therefore equip individuals with the skills to question, validate, and contextualize AI outputs, rather than accepting them at face value.

The Path Forward: Integrating Literacies

The future of health education is not a replacement of traditional literacy by AI literacy, but a necessary integration of the two. A truly health-literate individual in the digital age must possess both the foundational knowledge to understand their condition and the critical skills to evaluate the technology assisting their care.

Educational strategies must evolve to include: 1. **Foundational AI Concepts:** Teaching basic principles of machine learning, data input, and model training. 2. **Risk and Benefit Assessment:** Training individuals to weigh the convenience and accuracy of AI tools against the risks of data misuse or algorithmic error. 3. **Ethical and Social Implications:** Discussing the impact of AI on health equity and access.

This integrated approach is vital for ensuring that AI serves as an equitable tool for health improvement, rather than a source of new disparities. For more in-depth analysis on this topic, the resources at www.rasitdinc.com provide expert commentary and further professional insight into the intersection of technology and health policy.

Conclusion

The shift from traditional health education to a model that incorporates **AI health literacy** marks a pivotal moment in public health. It is a transition from simply understanding health information to critically engaging with the intelligent systems that generate it. By proactively developing these new literacies, we can empower both patients and professionals to harness the transformative potential of AI while mitigating its inherent risks, ultimately leading to a more informed and equitable digital health ecosystem.

**

References

[1] Adegboye, M. (2024). Impact of artificial intelligence on health information literacy: guidance for healthcare professionals. Library Hi Tech News*. https://www.emerald.com/insight/content/doi/10.1108/lhtn-03-2024-0048/full/html [2] Nutbeam, D. (2023). Artificial intelligence and health literacy—proceed with caution.* Health Literacy and Communication Open*, 1(1), 1-3. [https://www.tandfonline.com/doi/full/10.1080/28355245.2023.2263355] (https://www.tandfonline.com/doi/full/10.1080/28355245.2023.2263355) [3] Kobeissi, M. M., et al. (2025). Artificial intelligence 101: Building literacy with the AI-ABCs framework.* Nurse Education Today*. [https://www.sciencedirect.com/science/article/abs/pii/S0029655425000983] (https://www.sciencedirect.com/science/article/abs/pii/S0029655425000983) [4] Abeo, A. N. A. (2025). Artificial Intelligence Techniques and Health Literacy.* Artificial Intelligence in Health*. [https://www.sciencedirect.com/science/article/pii/S2949761225000768] (https://www.sciencedirect.com/science/article/pii/S2949761225000768)
