The Digital Divide: How Patients Acquire AI Literacy in Modern Healthcare

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Published: September 24, 2022 | Medical Imaging AI

DOI: 10.5281/zenodo.17997775

Abstract

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The rapid integration of Artificial Intelligence (AI) into clinical practice marks a significant paradigm shift in modern medicine. From diagnostic imaging to personalized treatment planning, AI promises to enhance efficiency and improve patient outcomes. However, the successful adoption of these technologies hinges not just on their technical efficacy, but on the **patient's understanding and acceptance** of AI in their care pathway [1]. This raises a critical question for healthcare professionals and policymakers: **How do patients learn about AI in their care?**

The Current State of Patient AI Literacy

Patient AI literacy—the ability to understand, evaluate, and use AI-related information in healthcare—is currently a significant challenge. Studies indicate that while patients are generally open to the potential benefits of AI, a substantial knowledge gap exists, often coupled with underlying distrust and concerns about data privacy and algorithmic bias [2]. Transparency and explainability are paramount; patients require clear, non-technical explanations of how an AI system works, what its limitations are, and how it directly impacts their diagnosis or treatment plan. Without this foundational understanding, the ethical principle of informed consent is undermined, and patient engagement suffers.

Formal Channels: The Clinical Encounter

The most direct and formal channel for patient education about AI is the clinical encounter. This involves communication from healthcare providers, including physicians, nurses, and allied health professionals. These providers serve as the primary interpreters of AI-driven results.

Channel	Description	Challenge
Clinician Communication	Direct, personalized explanation of AI's role in diagnosis or treatment.	Clinician AI literacy and time constraints.
AI-Enhanced

Patient Education Materials (PEMs) | Use of AI tools to simplify complex medical information into patient-friendly language. | Ensuring materials are accessible and culturally appropriate [3]. | | **Informed Consent** | Explicit discussion of AI's use, risks, and benefits before a procedure or treatment. | Often technical language that can confuse or overwhelm patients. |

The effectiveness of this formal channel is directly tied to the **AI literacy of the healthcare workforce**. Adult educators are increasingly recognizing the need to incorporate AI training into health professions education to ensure providers can effectively communicate these complex concepts to their patients [4].

Informal Channels: Media, Digital Platforms, and Peer Networks

Outside the clinic, patients acquire information about AI through a vast and often unregulated landscape of informal channels. These include news media, social media platforms, online health forums, and conversations with family and friends.

While these channels can raise awareness and spark interest, they often present a distorted or sensationalized view of AI in medicine. Misinformation and a lack of critical evaluation skills can lead to undue fear or, conversely, unrealistic expectations. The challenge for patients is discerning credible, evidence-based information from speculative or commercially driven content.

Strategies for Effective AI Communication and Engagement

Bridging the AI literacy gap requires a multi-pronged strategy focused on clarity, personalization, and trust-building.

1. **Plain Language and Analogies:** Healthcare providers must move beyond technical jargon, using simple language and relatable analogies to explain AI concepts like machine learning and predictive modeling. 2. **Visual Aids and Interactive Tools:** Utilizing visual aids, such as diagrams or interactive digital tools, can help patients visualize how AI processes data and arrives at a conclusion. 3. **Human-in-the-Loop Emphasis:** Reassuring patients that AI is a *tool* supporting a human clinician, not replacing them, is crucial for maintaining trust and reducing anxiety.

Effective communication is not just about explaining the technology; it is about addressing the patient's underlying ethical and emotional concerns. For more in-depth analysis on the ethical and communication challenges of AI in healthcare, the resources at www.rasitdinc.com provide expert commentary and professional insights.

Conclusion: Prioritizing Patient-Centric AI Literacy

The question of how patients learn about AI in their care is fundamentally a question of **equity and ethical deployment**. As AI becomes a standard component of healthcare, systems must prioritize patient-centric education strategies. This involves empowering clinicians with the necessary communication skills, developing standardized, accessible educational materials, and fostering a culture of transparency. Only through a concerted

effort to enhance patient AI literacy can we ensure that the promise of artificial intelligence in medicine is realized for all.

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References

[1] [Patients' Perceptions of Artificial Intelligence Acceptance in Medical Care: A Scoping Review](https://www.jmir.org/2025/1/e70487) [2] [Patient Perspectives on Artificial Intelligence in Health Care] (https://pmc.ncbi.nlm.nih.gov/articles/PMC12288699/) [3] [Artificial Intelligence Tools Make Education Materials More Patient-Friendly] (https://nyulangone.org/news/artificial-intelligence-tools-make-education-materials-more-patient-friendly) [4] [Incorporation of artificial intelligence in healthcare professions and patient education for fostering effective patient care](https://onlinelibrary.wiley.com/doi/10.1002/ace.20521)
