

Algorithmic Community Health Literacy: extending health literacy into the age of artificial intelligence

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Dear Editor,

At present, Algorithmic Community Health Literacy (ACHL) does not appear as a clearly defined concept within the health literacy literature (Paakkari & Okan, 2020; Kickbusch et al., 2013). This absence is notable, given how frequently algorithmic systems are now embedded in public health decision making. The aim here is not to offer a definitive framework or a closed model. Rather, the intention is to give a name to an emerging set of practices and challenges that are already shaping everyday public health work (Rajkomar et al., 2019; Topol, 2019). By bringing these issues into the language of health literacy, ACHL may help researchers, educators, and practitioners better describe what is already happening, even if the concept itself remains open to refinement.

The concept of algorithmic literacy has been widely discussed in media and education studies, where it refers to individuals' ability to understand and critically engage with recommendation systems and digital platforms. However, this discourse has not yet been translated into the literature of health literacy or applied to public health practice (Wright, 2020). We see this as a critical gap.

To address it, we propose the concept of ACHL the collective capacity of populations to interpret, evaluate, and act upon health information generated by AI-driven systems. ACHL goes beyond eHealth literacy, which emphasizes navigating static online resources, by focusing on the dynamic, probabilistic, and sometimes opaque nature of algorithmic outputs. Importantly, ACHL also highlights the community dimension: in pandemics, disasters, or climate-related crises, AI-based early warning systems are only effective if entire communities can interpret and act upon them (Paakkari & Okan, 2020; Rajkomar et al., 2019). The main dimensions of ACHL are summarized in [Table](#).

Table. Dimensions of Algorithmic Community Health Literacy (ACHL)

Dimension	Description	Public health relevance
Understanding AI outputs	Ability to interpret probabilistic and dynamic information generated by AI systems.	Prevents misinterpretation of risk scores, health alerts, or chatbot advice.
Critical appraisal	Capacity to evaluate reliability, bias, and limitations of AI-driven recommendations.	Reduces algorithmic harm and builds trust in digital health tools.
Community engagement	Collective skills to act on AI-based early warning systems during crises (pandemics, disasters).	Strengthens preparedness and resilience at the population level.
Ethical awareness	Recognition of privacy, equity, and ethical implications of algorithmic health interventions.	Promotes equitable and responsible use of AI in public health.

Without ACHL, vulnerable populations risk not only digital exclusion but also algorithmic harm over-trusting opaque outputs, ignoring data privacy implications, or misinterpreting health alerts (Topol, 2019; Wright, 2020). Conversely, with ACHL, communities can be empowered to engage critically with AI while reinforcing resilience, equity, and collective preparedness. Schools, primary care centers, and community health programs are critical venues to embed ACHL in public health practice (Kickbusch et al., 2013).

Based on available studies, ACHL has not been clearly defined in the health literacy literature so far. In this study, the concept is introduced and named in order to support further academic discussion and conceptual development. The proposed framework aims to connect existing discussions on complex information use with current public health needs. In this way, ACHL may contribute to future research, educational approaches, and policy-related considerations in the field of health literacy.

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Health literacy once bridged the gap between medical expertise and lay understanding. Today, ACHL must bridge the gap between human judgment and machine intelligence at the population level.

Sincerely,

ETHICAL DECLARATIONS

Peer Review Process

This letter was externally peer-reviewed.

Conflict of Interest

The authors declare no conflicts of interest.

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