AI on Friday

What to Know, Why It Matters

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Pan American Health Organization
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Department of Evidence and Intelligence for Action in Health

This weekly email shares key developments, use cases and practical AI-in-health concepts in plain English, helping us apply AI in our technical cooperation and discuss emerging opportunities with Member States and partners.

DEVELOPMENT TO WATCH

Digital twins move closer to cancer care

What is happening: Research institutions are developing cancer patient digital twins that combine clinical, imaging, genomic and treatment data to simulate disease progression and compare possible interventions.

Potential value: These models could help researchers conduct virtual experiments, identify promising treatment strategies and support more personalized care.

What to keep in mind: A 2026 systematic review identified only 26 eligible healthcare studies published between 2023 and 2025. Few described digital twins that had been validated and integrated into routine clinical practice.

Why it matters: The broader vision of a continuously updated virtual patient remains a research ambition. Data quality, interoperability, local validation and clear clinical accountability will determine whether these models generate meaningful health benefits.

A concrete example: Researchers *used FarrSight-Twin* to recreate completed phase II and III clinical trials involving patients with breast, pancreatic and ovarian cancers. The digital trials accurately predicted the outcomes of the simulated studies. Technology is now being evaluated in an observational study involving patients with triple-negative breast cancer. These findings were presented at the 2024 EORTC-NCI-AACR Symposium and still require prospective clinical validation. Read more here.

AI IN PLAIN ENGLISH

Anthropomorphism

Anthropomorphism occurs when people attribute human qualities such as understanding, intention, empathy or concern to an artificial system.

Health example: A patient may believe that a chatbot understands their emotional situation because it uses a warm voice, remembers personal details and responds with empathetic language.

Why it matters: Human-like communication can make health information easier to access and discuss. It can also generate misplaced trust, emotional dependence or excessive confidence in a system that does not possess human understanding or clinical judgment.

Essential safeguard: Clearly disclose that the user is interacting with an artificial system. Human-like design should never exaggerate the system's capabilities, imitate a real professional or manipulate emotional vulnerability.

Before adopting a digital twin, ask:

- *What does the system represent, and what does it leave out?*
- *How complete, current and representative are its data?*
- *Has it been validated in the population and setting where it will be used?*
- *Do its voice, appearance or language make it seem more human or capable than it is?*
- *Can patients and professionals understand, question and override its recommendations?*
- *Who remains accountable if the system contributes to a harmful decision?*

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FROM THE AMERICAS

The United States advances cancer patient digital twins

The US National Cancer Institute is supporting research and software development for cancer patient digital twins. These models are intended to integrate different sources of patient data and simulate how cancer or treatment may evolve over time.

The initiative reflects growing interest in moving digital twins from conceptual models toward practical oncology applications. It also recognizes that progress will require common definitions, interoperable data, multidisciplinary collaboration and rigorous methods for evaluating performance.

This work could eventually support more personalized treatment decisions. Its clinical value will depend on whether predictions are accurate, explainable and validated across diverse populations and health settings.

Red more here.

RELATED CONCEPT 1

Synthetic reality

The expanding environment of AI-generated text, images, audio, video, simulations, digital twins and synthetic data that can shape what people see, trust and decide.

RELATED CONCEPT 2

Digital twin

A dynamic digital representation of a person, biological process, health facility or health system that uses data to simulate conditions, predict possible outcomes and compare interventions.

Additional recommended readings

Digital twins in healthcare: A systematic review of current applications, frameworks, and future directions

Published in 2026 in Digital Health, this systematic review examines the emerging use of digital twins in diagnosis, treatment optimization, physiological monitoring and hospital operations.

The review finds considerable potential but limited evidence of validated digital twins operating in routine care. It provides a useful distinction between stand-alone simulations, digital shadows receiving updated data and fully connected digital twins.

Read the article here.

Represent me, please! Towards an ethics of digital twins in medicine

Published in the Journal of Medical Ethics, this article examines whether a digital twin can adequately represent the person whose data it uses.

The authors explore questions of identity, representation and responsibility. The article is an important reminder that even a highly sophisticated model captures only selected aspects of a patient and should never be treated as the complete person.

Read the article here.

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