

## News and Perspectives

# From Spatial AI to Clinical Readiness: Lessons From Augmented World Expo USA 2026

Jose Ferrer Costa, JMIR Correspondent

## Abstract

Augmented World Expo (AWE) USA 2026 took place from June 15 to 18 in Long Beach, California, and brought together researchers, developers, investors, start-ups, and tech experts from across the extended reality (XR) ecosystem. In this *News and Perspectives* article, JMIR Correspondent José Ferrer Costa reports on the major themes and trends he observed at the conference.

**Key Takeaways:**

- Augmented World Expo (AWE) USA 2026 suggested that extended reality (XR) is not simply returning after the AI hype cycle but being reassembled around spatial AI, smart glasses, wearable computing, and enterprise infrastructure.
- The main clinical question that emerged was whether health systems can turn promising XR demos into reliable care processes, with the staffing, hygiene routines, workflow fit, reimbursement pathways, governance, and accountability needed to move beyond the pilot stage.

*José Ferrer Costa is a family physician, clinical researcher, and extended reality (XR) implementation lead at Badalona Serveis Assistencials in Barcelona. His work focuses on bringing immersive technologies into real clinical settings, while his PhD research at the Universitat Oberta de Catalunya examines how health systems can decide when XR is ready for adoption. Note: he has invested in Biel Glasses but has no financial or commercial relationships with Augmented World Expo (AWE) or any of the products reported here.*

[AWE USA 2026](#) opened with a clear theme: “I, Spatial: Humans Empowered by Spatial AI.” More than 5000 attendees, 250 exhibitors, and 400 speakers gathered around a field that now feels less centered on headsets than on spatial infrastructure. For health care, this was the most relevant signal. XR is not only gaining momentum again; it is becoming part of a wider ecosystem of spatial AI, smart glasses, wearable computing, robotics, digital twins, and enterprise platforms.

After years of pilots in [education, rehabilitation, pain care, mental health and procedural support](#), the central issue in clinical XR is no longer whether immersive technologies can produce meaningful clinical experiences but whether health care organizations can [implement them](#) safely, reliably, and sustainably.

## From Headsets to Spatial Infrastructure

The shift was visible in the attention given to smart glasses, on-device AI, hand tracking, and cross-device development. Together, these pointed toward lighter, more flexible, and more context-aware systems.

Several [examples from the expo floor](#) made this change concrete. [XREAL AURA](#), formerly Project Aura, pointed toward lightweight, optical, see-through glasses built around Android XR, Gemini integration, and split-compute architecture. [MentraOS](#) suggested another part of the emerging infrastructure: an open-source platform for deploying applications across different smart glasses brands in real-world workflows. Avalon Holographics’ [NOVAC](#) offered a different angle, showing how shared, glasses-free, 3D holograms could allow teams to work around the same spatial content without requiring everyone in the room to wear a headset. In medicine, that matters for collaborative settings, such as tumor boards, where professionals with different roles and levels of technical comfort need to reason around the same anatomy or planning problem.

These details are not cosmetic. A device that fits better in a rehabilitation room, training space, or procedural environment is more implementable. Hand tracking may reduce controller-related friction, while on-device AI could support faster and more privacy-sensitive workflows. Smart glasses could eventually document laboratory procedures, surgical workflows, or training encounters from the clinician’s point of view, thereby supporting teaching and documentation and turning clinical action into data.

Hospitals are no longer evaluating only an app and a headset. They are evaluating an ecosystem, making clinical readiness harder to define.

## Health Care Was No Longer Peripheral

Health care had a structured presence across the [program](#), expo floor, professional association spaces, and

enterprise discussions. The [International Virtual Reality Healthcare Association \(IVRHA\)](#) area gave clinical XR a practical meeting point, bringing together the American Medical Extended Reality Association (AMXRA) and several health-focused XR companies. The newly introduced [Research Poster Track](#) presented 15 posters from 40 submissions, reporting health care as the largest category. Together, these elements reinforced a broader shift: medical XR is developing its own professional networks, evidence standards, and implementation agenda.

This visibility created constructive pressure. Clinical XR was being discussed beside enterprise infrastructure, AI wearables, smart glasses, start-up pitches, research presentations, and implementation roundtables. That proximity made the field feel less like a niche application area and more like a test case for whether spatial computing can survive contact with real clinical constraints.

A few [awarded](#) product examples made this shift tangible. [Biel Glasses](#) represented assistive XR for low vision and daily autonomy, [ARVIS](#) pointed toward augmented reality surgical navigation, and [Immergo Labs](#) and [AVRwell](#) reflected the growing role of XR in rehabilitation and movement care. No single product defined the field; clinical XR is diversifying into use cases with very different requirements for safety, validation, workflow integration, and long-term support.

A good prototype can show that an immersive experience is technically possible. It does not show whether a hospital can maintain it, clean it, update it, evaluate it, reimburse it, or place it safely inside a patient pathway. The presence of health care across AWE mattered because it exposed clinical XR to those harder questions earlier.

## The Implementation Test

The most useful lesson from AWE was simple and slightly inconvenient: a good XR demo is not the same as a clinical service.

Across roundtables, enterprise sessions, and informal conversations, the same issue kept resurfacing: what makes an XR pilot survive after the first enthusiastic demonstration?

In health care, this becomes very concrete. Who prepares the headset? Who cleans it? Who resets the software? Who supports the clinician? Who explains the experience to the patient? And, perhaps most importantly, who is responsible when the technology becomes part of care?

In our Healthcare - Scaling and Solutions [roundtable](#), the discussion quickly moved from clinical promise to operational reality. Participants moved from abstract enthusiasm to practical barriers, shared responsibilities, and the everyday work needed to make immersive tools usable in care.

Enterprise sessions echoed the same logic from a different angle: XR programs need internal champions, well-chosen use cases, measurable value, device and content management, staff adoption, and enough flexibility to avoid early dependence on a single platform.

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*The most useful lesson from AWE was simple and slightly inconvenient: a good XR demo is not the same as a clinical service.*

In industry, this is often framed as return on investment and scalability. In health care, the translation is more demanding: clinical value, safety, staff time, patient experience, reimbursement, and governance. Clinical XR should not be treated as a headset purchase or a content library. It behaves more like a service layer, requiring people, protocols, maintenance, infection-control routines, technical support, and a clear place in the patient pathway.

AWE highlighted that the future of clinical XR will not be decided only by the most impressive devices. It will be decided by the health systems that can turn immersive experiences into reliable clinical processes.



*Healthcare - Scaling and Solutions roundtable at Augmented World Expo (AWE) USA 2026. Credit: José Ferrer Costa.*

## The Future of Clinical XR

Health care remains one of the most credible domains for XR because medicine is already spatial, embodied, and procedural. Clinicians learn anatomy in three dimensions; rehearse procedures through movement; interpret spatial relationships in imaging; and support rehabilitation, exposure-based care, attention training, and behavior change. XR does not need AI

to justify its relevance in health care, although spatial AI may change what clinical XR can become.

That may be the real lesson from AWE USA 2026. Clinical XR is not waiting only for its next technical breakthrough. It is waiting for health systems capable of deciding, responsibly and realistically, when immersive experiences belong in care

and when they do not. In health care, responsible implementation is not the slow administrative phase after innovation. It is what makes innovation clinically meaningful. The future rarely arrives as a keynote. More often, it arrives as a workflow.

**Keywords:** extended reality; XR; virtual reality; augmented reality; spatial computing; spatial AI; digital health; implementation science; clinical adoption; health care innovation

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