

EDITORIAL/DISCUSSION

Bringing Health Closer To People: The Case For Responsible Innovation

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“Achieving continuous, integrated care will require aligning technological progress with governance, fairness, and human-centered design.”

The conversations at ConVerge2Xcelerate (ConV2X) made one theme unmistakably clear: bringing health closer to people is the defining challenge of modern medicine. Peter Micca, Managing Partner at Caduceus Capital Partners, emphasized that meeting this challenge will require care models and technologies that shift services from high-cost environments to more accessible, lower-cost settings that engage individuals directly. Doing so reframes healthcare from a series of disconnected interventions into an ongoing, continuous dialogue between people and their health.

Healthcare has traditionally been episodic, reactive, and costly. Patients enter the system only when they are sick and leave once stabilized. Today, emerging technologies have created the potential to sustain continuous care across life. Wearables now track daily rhythms, movement, sleep, and other physiological patterns, while sensors capture behavioral and environmental data that reflect overall well-being. Digital records could follow patients across settings, but only if interoperability becomes the norm rather than the exception. What is missing is the connective tissue: the infrastructure that links these data streams into a coherent and trustworthy ecosystem of continuous, integrated care. Achieving this will require not only technological capability but also a strategy that can turn information into understanding and translate digital capacity into real-world care that meets people where they are.

Building the Foundations of Trust in Digital Health

It is no surprise that artificial intelligence (AI) was a major theme at ConV2X. More specifically, the discussion focused on AI agents, which consist of a large language model, a set of instructions, and a suite of tools, enabling interaction with their environment in pursuit of goals. These agents can read datasets, construct models, and assist in decision-making. Their potential is best realized through orchestration in multi-agent systems, where specialized agents collaborate asynchronously and synchronously, each performing distinct functions such as pulling data from medical records, summarizing clinical visits, annotating longitudinal timelines, or querying structured databases. Together, they work toward identifying the best approach to a patient’s condition.

Because agents can generate different clinical recommendations depending on how they interpret data, a central challenge is ensuring that these outputs remain aligned with patient preferences and values. The future of care is therefore moving toward collaborative intelligence in which humans and agents work together, with decision-making distributed across systems but ultimately anchored in human judgment. This makes explainability and auditability essential. Explainable AI is therefore a clinical prerequisite, one in which every automated insight must be transparent and interpretable to those involved in care—clinicians, caregivers, and patients alike—so that each can understand, validate, and act on the reasoning behind a recommendation.

This point was underscored by Dr. Muhamad Aly Rifai, a psychiatrist and internist who has practiced telemedicine since 2006. He emphasized that integrating AI agents into clinical workflows will require robust governance standards to ensure they are adopted responsibly and at scale. His experience in psychiatry and addiction care illustrated how human-centered design, when paired with reliable digital infrastructure, can support measurable outcomes and enable scalable care models without compromising trust.

This is why governance must come first. Oversight mechanisms such as ethical review, risk assessment, and auditability are conditions of responsible innovation. Governance allows organizations to innovate responsibly, with an eye to what is compliant with regulation, policy, and directives that dictate what is just. The healthcare system owes providers and patients proof that AI systems are safe, effective, and fair. Moving forward, it would be prudent to start with low-stakes deployments such as documentation support or scheduling optimization that can demonstrate reliability before expansion into diagnostic and therapeutic domains.

While governance is necessary, it cannot drive adoption on its own. Toward this end, cultural transformation is essential. Healthcare remains rooted in long-established workflows and professional norms, and enabling innovation to truly move the needle requires buy-in from clinicians, administrators, policymakers, and patients alike. Each stakeholder must understand where the value lies and how these technologies can enhance, rather than disrupt, their daily practice. The value driver is clarity: identifying who benefits, how, and why. Only by aligning incentives and rebuilding trust across this ecosystem can innovation translate into integrated care that feels seamless for both patient and provider.

From Data to Understanding: The Need for Fairness

The future of care depends on transforming data into understanding. Multimodal large language models can already synthesize text, voice, and image inputs, creating dynamic portraits of patient health. Imagine a continuously updated patient narrative, enriched by wearable data and clinical encounters, forming a living file that evolves with the person: a digital twin.

Yet data quantity is meaningless without quality. The datasets feeding these systems must be curated, secure, and representative. Otherwise, we risk codifying inequities rather than correcting them. Rather, data governance should be the hallmark of this innovation. It defines how information is collected, shared, and interpreted, ensuring that data is both well-curated and relevant. As such, the challenge is not only technical but epistemic: how to make sense of data across multiple levels, from the individual

who tracks their sleep or activity to the care team integrating diagnostic, behavioral, and environmental inputs into a coherent clinical picture. Personalized data must therefore become meaningful data: governed, contextualized, and transformed into knowledge that supports better decisions and more equitable outcomes.

However, meaningful data is only possible when all communities are able to participate in and benefit from these systems. Furthermore, the digital divide remains the greatest threat to AI-driven health. Rural hospitals, small clinics, and low-income communities often lack the infrastructure to deploy these tools, leaving them vulnerable to both technological exclusion and cyber risk. Democratizing access to innovation requires more than affordable devices. It demands investment in broadband, digital literacy, and patient education. Progress cannot be claimed if technology amplifies inequality.

Decentralized clinical trials offer one pathway toward greater equity. By allowing patients who live far from major academic hospitals to participate remotely, they expand access to research and increase the diversity of participants whose data inform modern medicine. As Keith Comito, Founder of the Lifespan Research Institute, noted, decentralization is not only about widening access but also about empowering patients as active contributors to scientific knowledge, a goal advanced through emerging decentralized and citizen science models. Broader representation strengthens both scientific rigor and fairness, and we must prioritize this as we look to new models of data-driven care and AI-enabled clinical decision-making. After all, to ensure that AI serves all patients effectively, the datasets that train these systems must accurately reflect the populations they are deployed to support. Without representative samples, these technologies risk reinforcing disparities in care rather than correcting them.

Designing Continuous and Human-Centered Care

The goal is a predictive, proactive, and preventive model of healthcare. Continuous monitoring can detect disease early, optimize treatment, and reduce hospital admissions. When evidence shows that hospital-at-home programs are as safe and less costly than inpatient care, regulation should evolve accordingly. Payment and licensing frameworks must adapt to sustain these advances rather than penalize them. We will also need regulation that safeguards telehealth and other remote care modalities, ensuring a sustainable model that allows these programs to serve more people effectively over time. Building sustainability into digital care models is as important as building innovation itself. In time, healthcare will become always on and largely invisible, embedded in the rhythms of everyday life, surfacing only when human attention is needed.

Yet technology alone cannot sustain continuous care. Patients must want to remain engaged with their health. Patient engagement is not new, but the challenge today is to cultivate it in an era of constant connectivity. Gamification, feedback loops, and personalized nudges can help bring salience to the present moment, making people care about long-term health issues that are not immediately visible. The next frontier of innovation lies in designing systems that translate invisible risk into meaningful action, helping individuals stay invested in their own well-being.

This challenge of sustaining engagement also speaks to the relational nature of care. As Dr. Ahmed Otokiti, Physician Informaticist at Mount Sinai Health System, observed during the panel on telemedicine and empathy, “having degrees and credentials does not grant the badge of empathy.” His point addresses the concern that while technology can extend the reach of care, it cannot substitute for the compassion and understanding that make medicine a human-centered practice, one that requires attentiveness to patient experience and empathy earned through presence, listening, and care.

Ultimately, the purpose of technology is not to replace clinicians but to empower them. Overreliance on automation risks eroding the pattern recognition and empathy that define clinical judgment. As various speakers

framed it, AI should act as a resident learning from an attending, not as an attending without supervision. The future of medicine depends on designing systems with empowered humans in the loop: professionals who collaborate with intelligent systems while retaining responsibility and agency over outcomes. This vision affirms that technological progress must reinforce, not replace, human judgment and empathy—the qualities that make medicine an art as much as a science.

AI: Moving Care from Hospitals to Homes

As ConV2X 2025 underscored, bringing health closer to people ultimately means bringing trust closer to technology. AI can help move care from hospitals to homes, from reaction to prevention, and from data to understanding. But progress will endure only if we build systems that are not merely intelligent but accountable, equitable, and human at their core.

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