News and Perspectives

Can AI in Health Care Be Truly Inclusive?

Beth Rush, JMIR Correspondent

Abstract

A new equity-driven framework offers a road map for building equity and inclusivity into the life cycle of AI in health care. In this *News and Perspectives* article, JMIR Correspondent Beth Rush reports on whether meaningful equity and inclusivity is possible in AI-enabled health care.

Key Takeaways:

- AI in health care risks reproducing existing disparities at scale unless equity, diversity, and inclusion are integrated throughout the AI life cycle.
- The EDAI framework provides actionable guidance across micro, meso, and macro levels to integrate equity, diversity, and inclusion in health and oral health care.

AI is transforming health care delivery, with applications spanning diagnostic imaging, clinical decision support, predictive analytics, and administrative automation. With adoption accelerating, how can AI systems be designed, developed, implemented, and monitored to avoid perpetuating or amplifying existing health and social inequities?

On April 30, 2026, Samira A Rahimi, PhD, presented findings from a multiphase research initiative designed to answer this question. Her webinar, "Towards Equitable and Inclusive AI in Health and Oral Health Care," hosted by JMIR Publications, introduced the EDAI framework for Integrating Equity, Diversity, and Inclusion Throughout the Lifecycle of AI to Improve Health and Oral Health Care using a comprehensive approach developed with input from international stakeholders across clinical, technical, policy, and community domains.

The Problem of Invisible Populations

Health care AI systems are typically trained on data generated through existing care pathways. This creates a fundamental problem: populations who face barriers to accessing care are not appropriately reflected in the datasets used to build these tools.

Rahimi, who led the framework's development, explains how this pattern creates what she calls "invisible populations" in AI systems. "If people cannot access care, or are misclassified, under-diagnosed, or are inadequately represented in health records," she notes, "they become invisible to the algorithm, because in the first place, we don't have their data sets."

The groups most at risk include people with unstable housing, migrants and refugees, individuals with disabilities, those living in rural or remote areas, caregivers of older adults, people with low digital access, and patients with complex multimorbidity. When AI models are developed using incomplete or unrepresentative data, they risk systematically underserving the populations who need care most.

Research supports these concerns. A 2024 study in *PLOS Digital Health* noted that disparities driving bias in medical AI are rooted in long-standing structural inequalities within health systems. The underlying forces are not recent developments—they reflect historical patterns of discrimination that have shaped clinical data for decades.

Building the EDAI Framework: A Participatory Approach

The EDAI framework was developed through a three-phase process that included systematic evidence synthesis, stakeholder workshops in Montreal and Geneva, and iterative refinement based on expert input.

"The principles of equity, diversity, and inclusion in AI can be universal," Rahimi explains, "but when it comes to implementation, it could be very context specific." Equity does not look identical across health care systems. Local history, infrastructure, governance, and community needs shape how these principles must be operationalized.

The framework operates across three levels: micro (individual patients and providers), meso (organizations and institutions), and macro (policy and societal structures). It addresses barriers and facilitators at each level, with specific guidance for patients, clinicians, AI developers, and policymakers.

One of the framework's most distinctive contributions is its explicit inclusion of oral health—a domain often excluded from digital health innovation despite strong evidence linking oral health to cardiovascular disease, diabetes, pregnancy outcomes, and quality of life.

"Oral health is often separated from the rest of health care, both in how it is structured and financially managed,"

Rahimi notes. “Dental care is frequently less integrated, or not integrated at all in some counties, into electronic health records and less prioritized in digital health policies. Excluding oral health from AI reinforces inequities that already exist.”

Why Equity Remains an Afterthought

Despite evidence that incorporating equity-related factors such as social determinants of health can improve AI model performance, these considerations are rarely prioritized during development. Rahimi’s systematic review found that very few studies addressed the integration of equity and inclusion principles across the full AI life cycle—from problem formulation and community engagement through data governance, deployment, and monitoring.

> *The issue is that equity work is often treated as optional rather than as a core infrastructure for safe AI development.*
>
> Samira A Rahimi, PhD

“Health AI decisions are not usually driven only by evidence,” she explains. “They are also shaped by incentives, timelines, funding structures, and technical cultures. Many systems still prioritize speed, scalability, and commercial readiness over equity and long-term safety.”

Underprioritization of equity concerns is not about genuine scarcity or misplaced priorities, says Rahimi: “It’s often framed too conveniently as a scarcity problem, but it is not. The issue is that equity work is often treated as optional rather than as a core infrastructure for safe AI development.”

Clinical Realities and Implementation Gaps

Health care leaders with frontline clinical experience echo these concerns. Greg Carroll, MD, MBA, an emergency physician and founder of ClinNEXUS, a company focused on whole-person care for complex patient populations, recalls a turning point in his approach to health care delivery.

“I repeatedly treated a patient struggling with addiction who continued relapsing despite appropriate clinical care,” he explains. “Eventually, I discovered the patient was returning each day to housing directly adjacent to his narcotics supplier. The clinical interventions alone were never going to solve the problem.”

That realization informed his work developing AI-driven care coordination systems designed to identify hidden behavioral, social, and clinical risk factors before vulnerable patients escalate into crisis. His experience underscores a central challenge in health care AI: tools built without understanding the social context of illness risk missing the very factors that drive poor outcomes.

Implementation challenges extend to workforce readiness as well. Frontline health care workers—particularly those in temporary or travel roles—often encounter AI systems with minimal training or technical support. This creates inconsistent access to tools that could improve care, and in high-stress environments, unfamiliar technology can compound existing workload pressures rather than alleviate them. Without intentional implementation strategies, AI adoption risks widening the gap between well-resourced and underresourced care settings.

From Framework to Action

For existing AI systems already deployed in clinical settings, the path forward is not straightforward.

Rahimi emphasizes that retrofitting is possible in some cases, but not always sufficient. “If the original design of the AI system excludes key populations or was built on fundamentally biased assumptions, starting over would be the best and safer option,” she argues. “We shouldn’t normalize patching equity after the harm has already occurred.”

Moving forward will require concrete action from all stakeholders. Rahimi offers specific recommendations:

- Patients and communities should be involved as partners in defining problems, not only as data sources
- Clinicians should ask what populations were included, excluded, or misclassified before trusting an AI tool in clinical practice
- AI developers should conduct equity impact assessments throughout the AI life cycle
- Policymakers should require transparency, bias monitoring, and accountability before AI tools are scaled in health care settings

“AI will shape the future of health care, but the real question is: for whom and under whose values?” she concludes. “If equity, diversity, and inclusion are not built into these systems from the beginning—not just at the end as a fixing issue—AI risks reproducing the same disparities health care has struggled with for decades, but at greater scale and speed.”

Keywords: equity-driven AI; health equity; artificial intelligence; algorithmic bias; digital health; oral health disparities; health inequities; clinical decision support systems; patient-centered AI; AI implementation; health care access; bias mitigation

Please cite as:
Rush B
Can AI in Health Care Be Truly Inclusive?
J Med Internet Res 2026;28:e104527
URL: https://www.jmir.org/2026/1/e104527
doi: 10.2196/104527