

Reimagining access: Harnessing artificial intelligence for equity in global health

Artificial intelligence could close the global health gap – or widen it

Artificial intelligence (AI) is transforming global health. It is rapidly reshaping how medicines are discovered, changing how services are delivered and creating new possibilities for reaching people who have been left behind. The United States Food and Drug Administration has authorized more than 1,200 AI-enabled medical devices and the first drug discovered entirely using AI has already reached clinical trials.

Yet technological progress is not a guarantee of equitable impact.^{1,2} AI could bring better healthcare within reach of millions of people currently underserved by health systems – or deepen the inequalities that already determine who benefits from medical innovation.

The central challenge is therefore twofold: to ensure that AI-enabled health innovations are accessible and appropriate for the people who need them, and to use AI responsibly to accelerate equitable access to health innovations more broadly. Both require access to be designed in from the beginning, rather than addressed after technologies are developed.

What do we mean by AI?

In this paper, “artificial intelligence (AI)” refers to computer systems that learn patterns from data to make predictions, recommendations or new content – from image-reading algorithms and risk scores to forecasting models and large language models – usually embedded in wider digital health tools. These systems are already being applied across the health innovation and access value chain. In research and development, they help identify drug targets, design molecules and speed up clinical trials. In quality and regulation, they can flag safety signals or help detect substandard and falsified medicines. In procurement and supply, they can forecast demand and anticipate stock-outs. At introduction and delivery, they can read a chest X-ray for signs of tuberculosis where no radiologist is available or analyze a smartphone image of the cervix to identify precancerous lesions. And in reaching people, digital assistants and self-testing platforms help people find services and stay in care.

1 U.S. Food and Drug Administration. Artificial Intelligence-Enabled Medical Devices (device list).

2 Xu Z, et al. A generative AI-discovered TNK1 inhibitor for idiopathic pulmonary fibrosis: a randomized phase 2a trial. Nature Medicine, 2025.

Without deliberate action, AI could widen the health gap it promises to close

AI is moving into healthcare faster than the conditions for equitable, sustainable access are being established. An algorithm may make expert-level screening possible in a remote clinic, but it may also perform poorly for populations underrepresented in the data used to develop it, be unaffordable to public programs, or identify patients who cannot obtain follow-up care. The question is not only whether a tool works, but for whom, in what setting, at what cost and with what consequences.

One of the most significant risks is bias in the data used to develop and validate AI tools. Many AI health tools are trained primarily on data from high-income settings, leaving billions of people inadequately represented in diagnostic models, risk assessments, and treatment algorithms. Without representative data, AI-enabled tools may misdiagnose conditions or fail to identify them in underserved people, thereby reinforcing rather than reducing global health inequalities.

For example, research has found that when leading dermatology AI models were tested on a diverse, curated set of clinical images, their performance dropped substantially on darker skin tones.³ Even tools developed for high-burden settings

can perform unevenly: in an evaluation of five AI products reading chest X-rays for tuberculosis (TB) in Bangladesh, all performed worse among older people and those with a previous history of TB.⁴ These findings highlight the importance of testing and validating AI technologies in the populations and settings where they will be used.

Infrastructure, affordability and control are further constraints. Around 2.2 billion people were still offline in 2025, most of them in low- and middle-income countries.⁵ As AI becomes embedded in clinical guidelines, procurement and health financing, countries that cannot afford recurring subscription and cloud costs – or lack the connectivity and power to run them – could fall further behind.

Health data generated in the Global South could be used to build commercial products that are then priced out of reach of the people who contributed them. Tools validated once may drift as populations, devices and workflows change, with errors falling hardest where monitoring is weakest.

Where a small number of suppliers control models, data and infrastructure, countries may have little say over updates, prices or continuity of service. For example, partners working with Unitaid on cervical cancer screening reported having to retrain and

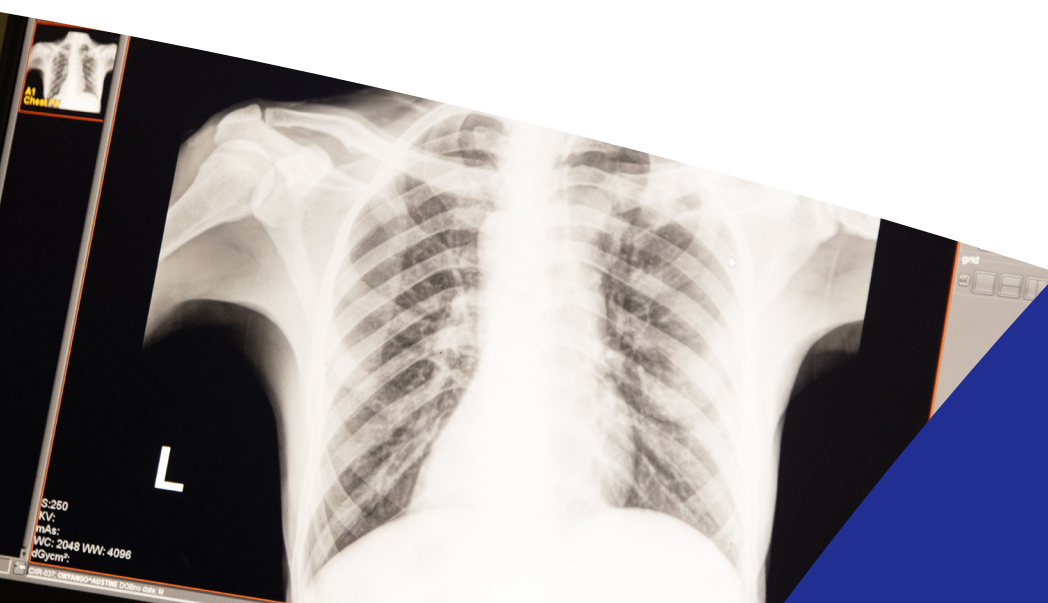


Photo: AI-powered software can help detect TB from chest X-rays. Unitaid and CHAI negotiated price reductions of up to 65%, making the technology more affordable in 138 low- and middle-income countries.

AI risks reinforcing the very inequalities it promises to overcome. A woman poorly represented in training data, treated in a clinic with unreliable power and no referral options, may be left further behind.

revalidate a tool when the smartphone model it ran on was discontinued, and pilots slowed by unresolved questions over who owned the image data.

AI also brings risks beyond access: unreliable outputs, breaches of confidentiality and security, an environmental footprint, and the erosion of skills when health workers over-rely on a tool. These risks compound: a woman who is under-represented in training data, served in a language the tool handles poorly, at a facility with intermittent power and no specialist to refer her to, faces several disadvantages at once. If staff place too much trust in an unreliable recommendation, she may receive inappropriate care, while weak safeguards could expose her sensitive health information. The energy and resource demands of these systems also carry environmental costs that extend beyond her individual care.

Equitable access must therefore shape decisions from the outset: which health challenges are prioritized, whose data are used, how technologies are validated, and how they are priced, governed and maintained.

Why innovation alone does not deliver access

Our two decades of experience across more than 150 health innovations demonstrates that a promising technology does not reach people by default. Evidence suited to local populations, regulatory pathways, affordable prices, dependable supply, trained providers and sustainable financing all need to come together. AI should be assessed through the same lens: both as an innovation that must overcome access barriers and as a potential means of removing barriers faced by medicines, diagnostics and other health solutions.

The difference between innovation and access is already evident in practice. In rural Nigeria, a program using AI-enabled portable chest X-rays screened 9,585 people for TB while also identifying possible cardiovascular and respiratory conditions. Among people with bacteriologically confirmed TB, 95% started treatment, supported by an established diagnostic and treatment pathway. Yet only 12% of the 2,367 people flagged with other possible conditions completed referral, with centralized specialist services and transport barriers limiting follow-up.⁶

This contrast illustrates a fundamental access challenge: AI can help identify people who need care, but its impact depends on whether health systems can reliably deliver that care. Investment in AI-supported devices alone is insufficient. Access has to be mapped and built along the entire care pathway – and that is where our work begins.

- 3 Daneshjou R, et al. Disparities in dermatology AI performance on a diverse, curated clinical image set. *Science Advances* 2022;8(32):eabq6147.
- 4 Qin ZZ, et al. Tuberculosis detection from chest x-rays for triaging in a high tuberculosis-burden setting: an evaluation of five artificial intelligence algorithms. *The Lancet Digital Health* 2021;3(9):e543–e554.
- 5 International Telecommunication Union. Measuring digital development: Facts and Figures 2025.
- 6 Integrated AI-enabled portable chest X-ray screening in rural Nigeria. PubMed Central, PMC13445830.

Identifying where AI can make the greatest difference

Our ongoing analysis of digital and AI-enabled applications suggests that activity is unevenly distributed across the pathway to equitable access. Many tools focus on screening, diagnosis and other point-of-care functions, while fewer address challenges such as regulation, supply, market intelligence, affordability and continuity of care. This is a gap because improving one step does not necessarily improve the outcome. Faster diagnosis may have little impact if referral fails, treatment is unavailable or procurement does not respond to demand. The opportunity is therefore not to add more AI tools, but to connect access decisions across research, evidence, regulation, supply, introduction and sustained use.

Our role as a pathfinder is to identify where these capabilities could make a meaningful difference, and what would be required to translate them into sustained improvements in access.

We are formalizing the principles that will guide how we develop, fund, procure, use and recommend AI – but their direction is already clear. Any AI we support must start with a defined public health or access problem and show credible value over the alternatives available. It must be validated in the populations and settings where it will be used. It must be affordable over its full cost of ownership, from licenses to connectivity and maintenance. The countries, communities and health workers involved must have a real say in how it is designed and used, and those whose data are used must keep clear rights over those data and share in the benefits. And it must come with a viable plan for long-term operation, with transparency, human accountability, interoperability and a proportionate environmental footprint built in. These commitments will inform our investment

and partnership decisions throughout the access pathway, rather than stand apart as a checklist.

How Unitaid can turn AI innovation into equitable access

We are already applying our experience in making health innovations accessible to AI-enabled technologies across multiple portfolios. Working with the Clinton Health Access Initiative (CHAI), we negotiated reductions of up to 65% in annual licensing fees for AI software used to interpret chest X-rays for TB, benefiting public and not-for-profit programs in 138 low- and middle-income countries. We also secured commitments from suppliers to train their software to detect TB in children, ensure interoperability with national data systems, and provide regular testing, servicing and maintenance.⁷

The levers we use are the same ones we have used for medicines and diagnostics, pricing for public programs, license terms, data rights and interoperability, and they work best when they are applied before a tool goes to scale. Our contribution is not to fund AI for its own sake, but to help countries and partners turn useful capabilities into sustainable public-health outcomes.

As AI transforms healthcare, we can build on our established role as a pathfinder, investor and influencer to identify where AI could address important access barriers, generate evidence of its effectiveness, shape affordable and sustainable markets, and bring together the partners needed to support adoption at scale.

First, identify where AI can overcome barriers to access. We will consider opportunities to use AI within our Access Roadmaps for relevant health products and approaches in our current investment portfolio. Starting from country and

⁷ Clinton Health Access Initiative. Unitaid and CHAI cut cost of AI screening software, unlocking affordable TB detection in communities without radiologists, 17 July 2026.

community-defined needs, we will identify specific bottlenecks where AI might improve reach, speed, affordability, product availability or continuity of care. We will compare AI-enabled approaches with non-AI alternatives and specify the complementary actions needed for impact.

Second, bring the partners together. We will work with countries, communities, developers, implementers, regulators, research institutions and financing partners to establish conditions for equitable adoption. Priorities include representative evidence, locally appropriate validation, affordable lifetime costs, data rights, interoperability, local capabilities, human oversight and sustainable financing. Partnerships with Global South universities, technology institutions and manufacturers should help shape solutions and build long-term capacity.

Third, invest and shape markets where it counts. We will explore targeted catalytic investment and market-shaping opportunities where there are demonstrable access gaps and a credible route to scale. Potential areas include AI-enabled tools that strengthen demand forecasting, supply continuity, regulatory and market intelligence, referral completion, and connections between stages of the access pathway.

Fourth, practice what we propose. We will continue testing secure AI-enabled approaches within our own access work to connect country evidence, market information, implementation experience and institutional knowledge. These capabilities could support earlier barrier diagnosis and more responsive Access Roadmaps, with traceable sources, appropriate safeguards and human judgment retained.

Access outcomes, not AI activity, are the measure of success

Success is not measured by the number of algorithms deployed, scans completed or pilots launched. It is measured by whether more people can access effective health services, receive timely diagnosis and treatment, and benefit from reliable, affordable products that countries can sustain and control.

AI has the potential to transform global health, but who benefits from that transformation will depend on the choices made today. By bringing equity and access considerations into the development and deployment of AI technologies – and harnessing AI to overcome existing barriers to healthcare – we can help ensure that this new generation of innovation delivers on its promise. This is work for many hands – countries and communities, innovators, regulators, implementers and funders. Part of our role is to bring them together. The goal is not more AI in health for its own sake. The goal is faster, more equitable and sustainable access to health.

Photo: AI-assisted tools have been used to help health workers identify women with early signs of cervical cancer and connect them to timely preventive treatment.

