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# Driving global health equity with artificial intelligence: the global initiative on AI for health (GI-AI4H)

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The Global Initiative on Artificial Intelligence for Health (GI-AI4H) is a World Health Organization-led collaboration with the International Telecommunication Union and the World Intellectual Property Organization to support safe, ethical, and equitable Artificial Intelligence (AI) adoption in health. This perspective introduces the RISE framework (Robust capacity building, Inclusive research, Smart infrastructure, and Equitable data practices) as a pragmatic, adaptable approach for advancing responsible AI implementation across diverse health system contexts globally.

Artificial Intelligence (AI) has enormous potential to transform health by revolutionizing detection, diagnosis and treatment of critical ailments and supporting good health across the life course<sup>1</sup>. As these tools rapidly advance, they are being integrated into healthcare systems at an increasing pace. However, this swift adoption can heighten risks and widen existing inequalities due to the lack of standardized governance and the regulatory lag in many countries. To ensure safe, reliable, and equitable use, ethical principles, standards, and governance mechanisms must be embedded in the development and deployment of AI technologies. In this paper “AI for health” refers to the application of data-driven and algorithmic techniques to support health system functions across prevention, diagnosis, treatment, and service delivery, while “responsible AI” denotes AI systems that are ethical, transparent, safe, inclusive, and aligned with human rights principles.

Globally, there is growing momentum for AI and data governance, with countries advancing regulatory frameworks aligned to their legal and health system contexts. In Europe, the EU AI Act<sup>2</sup> establishes a risk-based approach to regulating AI systems, including those used in healthcare. In Africa, Zambia’s National AI Strategy (<https://www.mots.gov.zm/?p=4492>) and Malawi’s Data Protection Act 2023<sup>3</sup> reflect increasing attention to AI governance and health data protection in low- and middle-income settings. In India, while no standalone AI-specific legislation currently exists, the Digital Personal Data Protection (DPDP) Act, 2023<sup>4</sup> and the DPDP Rules, 2025<sup>5</sup> provide an operationalized framework for the responsible processing and protection of digital personal data, including data used in AI-enabled

health applications. In the United States, health data governance is primarily guided by the Health Insurance Portability and Accountability Act (HIPAA)<sup>6</sup> (<https://www.hhs.gov/hipaa/index.html>), which establishes safeguards for the privacy and security of protected health information. In Saudi Arabia, the Personal Data Protection Law (PDPL)<sup>7</sup> (<https://sdaia.gov.sa/en/PDPL/>) establishes a national framework for personal data protection that is relevant to the governance of data used in digital health and AI systems. Together, these diverse approaches highlight the importance of globally coordinated yet locally adaptable governance frameworks for AI in health.

## The global initiative on AI for health (GI-AI4H)

World Health Organization (WHO), together with sister United Nations agencies, the International Telecommunication Union (ITU) and the World Intellectual Property Organization (WIPO), have come together to establish a one-of-its-kind Global Initiative on AI for Health (GI-AI4H). The launch of this initiative is a pivotal step towards enabling, facilitating, and implementing AI adoption for health across all WHO Member States (hereafter referred to as ‘member states’). Building on the foundations laid by the Focus Group on AI4H (FG-AI4H)<sup>8</sup>, and recognizing growing global interest in AI, the GI-AI4H brings together diverse stakeholders- researchers, policymakers, donors, regulators, patients, and communities- across public, private, and civil society sectors to operationalize AI for health at scale.

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The GI-AI4H is underpinned by three fundamental pillars:

- **ENABLE:** Establishing robust governance standards, policies, and normative technical guidance to guide evidence-based adoption of AI for health, ensuring trust and ethical practices.
- **FACILITATE:** Creating a global community of experts and resources through collaborative efforts and pooled investments, fostering knowledge sharing, and promoting collective action to accelerate the impact of AI in health.
- **IMPLEMENT:** Developing and promoting sustainable models for implementation of AI programs at the country level, making AI solutions accessible and impactful across diverse socioeconomic and healthcare settings.

## The RISE framework for health equity

GI-AI4H promotes health equity through the “RISE” framework:

- **Robust Capacity Building:** Empower individuals and experts from member states through training and knowledge sharing.
- **Inclusive Research Agenda:** Identify key challenges and foster collaboration to ensure that research addresses diverse priorities and populations.
- **Smart and Accessible Infrastructure:** Create robust governance and affordable technology solutions to facilitate smooth AI implementation and adoption in low-resource settings.
- **Equitable and Secure Data Practices:** Foster fair, safe, and transparent data collection to enable development of accurate and reliable AI models that serve the needs of diverse populations.

The four RISE components are not intended as a fixed sequence, but as modular and mutually reinforcing elements that countries may prioritize and phase based on their existing capacities, regulatory maturity, and health system needs. Together, RISE provides the foundation for fostering positive change in global health and advancing Universal Health Coverage (UHC) through the utilization of AI. This paper does not present novel empirical or experimental AI models. Rather, it provides a policy- and implementation-oriented synthesis grounded in multi-country consultations, normative guidance, and operational experience under the GI-AI4H. The objective is to translate global principles for responsible AI into a pragmatic framework that can guide countries at varying levels of digital and health system readiness.

## Motivating RISE through country experience

The work of the GI-AI4H with member states (WHO Member States) and all other stakeholders underscores the importance of the RISE framework to enable the adaptation of AI for health tools to local needs, scale-up efforts, and impact. Decades of implementation research have taught us that just having new tools is not enough. To prevent misunderstanding, misuse, or underuse, we must grasp the rationale behind the use, design, implementation, and scale-up of such tools. Implementation is relative to the specific characteristics of local health systems and local communities and the challenges they face; success depends on the deep understanding that only local populations have of their public health needs, local health care delivery, local barriers and enablers, and local social and environmental determinants of health and well-being.

The four components of RISE are designed to empower local decision makers as they seek to tailor AI4H to their unique needs. Recent consultations with several countries provided valuable insights into the distinct challenges and priorities they face in leveraging AI to enhance their own health outcomes. Such perspectives underscore the relevance of GI-AI4H’s four-component RISE framework.

## Robust capacity building

Many countries have been focusing on health workforce training and capacity building in digital skills to effectively adopt AI tools. These insights

motivate the RISE components of robust training, aiming to empower individuals from member states through knowledge sharing and tailored training programs. Initiatives undertaken by countries like Saudi Arabia contribute to local capacity building and advance training for researchers and practitioners in addition to building global networks and alliances. Through its health sector transformation program (HSTP)<sup>9</sup>, SEHA virtual hospital uses AI to provide services and optimize processes<sup>10</sup>. Capacity-building efforts must also align with existing national and regional regulatory frameworks governing health data and AI, such as data protection laws and sector-specific privacy regulations, to ensure that workforce training supports compliant and responsible AI deployment.

## Inclusive research agenda

Countries like South Africa and Mozambique highlighted the need to understand local contexts, engage stakeholders, and prioritize targeted research for relevant AI solutions<sup>11</sup>. They stressed localization over one-size-fits-all approaches, calling for an inclusive research agenda driven by LMIC needs and aligned with cultural contexts and health priorities. Such localization is closely linked to regulatory context, as research priorities, data access, and ethical approvals are shaped by national data protection and AI governance frameworks, including consent requirements, data sharing rules, and protections for vulnerable populations. Saudi Arabia recognizes health and wellness as a national R&D priority, promoting equity through digital and emerging technologies (<https://saudiminds.rdia.gov.sa/account/sigp-about>).

## Smart and accessible infrastructure

During the WHO-ITU workshops, several countries highlighted infrastructure limitations as key barriers to AI adoption. This reinforces the RISE components of mainstreaming smart, efficient, and secure systems tailored for resource-constrained LMIC environments. Infrastructure readiness must also account for regulatory interoperability, ensuring that digital and AI systems comply with applicable data protection, privacy, and security requirements across jurisdictions while remaining feasible for low-resource settings.

## Equitable and secure data practices

Within the RISE framework, data practices are treated as a foundational pillar because data quality, representativeness, governance, and protection directly shape the safety, fairness, and trustworthiness of AI systems, while broader ethical considerations are embedded across all four RISE components. Nations have emphasized data governance, privacy, and ethical AI implementation challenges. Similarly, regulatory frameworks such as India’s DPDP Act and Rules, Saudi Arabia’s PDPL, and the United States’ HIPAA illustrate different legal approaches to governing personal and health data used in AI systems. These experiences reinforce the RISE emphasis on equitable and secure data practices as a core requirement for trustworthy AI in health.

## Operationalizing RISE: action plan for GI-AI4H

The GI-AI4H RISE framework provides a pragmatic foundation to enable responsible and equitable AI adoption in healthcare. It seeks to accomplish this by adopting a holistic approach that prioritizes not only technological advancements but also focuses on patient well-being, fairness in data practices, accessible infrastructure, and locally tailored interventions, all aimed at ensuring a positive impact on health globally. These activities are operationalized through WHO-led technical assistance, country consultations, benchmarking processes, and multi-stakeholder governance mechanisms developed under GI-AI4H, rather than as abstract principles.

The key activities along the four components are:

- **Robust Capacity Building:** This component focuses on empowering member states to harness AI tools by - (i) conducting specialized training programs on AI development, evaluation, and ethics for healthcare professionals; (ii) creating knowledge-sharing platforms

- and open-access repositories with best practices; (iii) facilitating mentorship programs that pair LMIC and global health AI experts, (iv) promoting research partnerships and initiatives to boost in-country AI expertise.
- **Inclusive Research Agenda:** This component focuses on facilitating collaborative and timely research by - (i) organizing summits for researchers, academicians, and other relevant stakeholders to understand specific LMIC health priorities and challenges; (ii) fostering multidisciplinary consortiums that align AI solutions with local needs; (iii) advocating for policies requiring community participation in AI research and development; (iv) curating open datasets that capture diversity of social-environmental contexts.
  - **Smart and Accessible Infrastructure:** This component aims to facilitate smooth AI adoption by - (i) creating shared technology repositories and cloud infrastructure for collaborative research; (ii) developing open standards for quality, interoperability, and benchmarking of health AI systems; (iii) providing guidelines for context-appropriate system design within the constraints faced by member states; (iv) partnering with technology leaders, including those emerging within LMICs, and funding agencies to co-invest in supportive infrastructure.
  - **Equitable and Secure Data Practices:** This component promotes responsible data use by: (i) aligning with existing norms on privacy, consent, and vulnerable populations; (ii) building capacity for algorithm audits, bias checks, and data annotation; (iii) forming inclusive data governance committees; and (iv) enabling context-specific policies for data regulation, access, and sharing to support model training on under-resourced populations.

## Engaging AI researchers in GI-AI4H

### How can the GI-AI4H support AI researchers?

- **Understanding Specific Member State Challenges:** Through GI-AI4H summits and engagements with relevant stakeholders including government leaders and policy makers, AI researchers can gain valuable insights into the unique challenges faced by member states, especially in LMICs in their healthcare domains. This understanding enables researchers to identify technical challenges that arise due to limited resources and can motivate them to explore innovative solutions to these challenges.
- **Validation in Diverse Environments:** GI-AI4H provides an opportunity for AI researchers to validate their solutions in diverse healthcare environments across member states. This validation process ensures that AI models are robust, reliable, and effective across different cultural contexts and healthcare settings.
- **Deployment at Scale:** By collaborating with GI-AI4H, researchers can directly access countries that are willing to implement AI technologies for health solutions. This access allows researchers to deploy their AI-based tools at scale and make a significant difference to the health of billions of people, including those in LMICs.
- **AI for Health Benchmarking:** Impact under GI-AI4H is assessed through a combination of technical benchmarking metrics (e.g., accuracy, fairness, safety, efficiency), implementation fidelity indicators, and equity-relevant outcomes, including accessibility, representativeness, and suitability across diverse health system contexts. The AI for Health benchmarking process under GI-AI4H assesses the performance of AI systems across medical tasks such as diagnostics, patient monitoring, predictive analytics, and personalized treatment, with attention to effectiveness, accuracy, fairness, efficiency, and safety. It addresses the gap in evaluating AI-enabled solutions across both technology and health domains. Leveraging existing governance structures, it promotes a multi-track evaluation in collaboration with global AI research institutes. The AI and health community, including researchers, are invited to submit solutions ranging from single algorithms to complex systems. This approach tests conventional

parameters and examines regulatory, digital readiness, and economic impact considerations, thereby forming an enabling environment for successful implementation at the local level.

- **Cross-Jurisdiction IP Support:** GI-AI4H's collaboration with the WIPO offers AI researchers cross-jurisdictional support for intellectual property rights. This support streamlines the process of productionizing, and protects their AI-based innovations, ensuring that their work is safeguarded while being utilized for the benefit of populations across member states.

### How can AI researchers support the GI-AI4H?

- **Robust Capacity Building:** Conduct workshops and training to enhance AI expertise among stakeholders. Foster research partnerships and educational initiatives to advance safe AI adoption in healthcare. Support mentoring networks and empower LMIC researchers to cultivate local AI talent.
- **Inclusive Data Practices:** Engage policymakers to address healthcare challenges and conduct research on prevalent issues, especially in LMICs. Contribute to AI policy formulation tailored to local contexts.
- **Smart and Accessible Infrastructure:** Develop resource-efficient AI algorithms for low-resource settings. Collaborate with local experts to adapt AI solutions to existing infrastructure and advocate for healthcare AI investment.
- **Equitable Data Practice:** Build AI models that address bias and promote fairness in data collection. Work with communities to gather representative healthcare data and enable its use for local benefit. Promote responsible data handling in all AI research.
- **Measuring Impact:** AI solutions offer broader impact than traditional methods, providing opportunities to integrate perspectives from enterprises, public systems, Non-Governmental Organizations (NGOs), and charities.

### Limitations and scope

This work has several limitations. First, it is based on policy analysis, stakeholder consultations, and country-reported experiences rather than controlled empirical evaluation. As such, the framework reflects implementation insights and normative guidance rather than causal evidence of impact. Second, country examples are illustrative and not exhaustive, and levels of readiness, regulatory maturity, and infrastructure vary widely across contexts. Third, insights derived from consultations depend on the availability and completeness of information provided by participating countries. Finally, while GI-AI4H provides a global coordination mechanism, its effectiveness ultimately depends on national adoption, sustained political commitment, and local capacity for implementation and evaluation (See Table 1).

### Conclusion

The Global Initiative on Artificial Intelligence for Health (GI-AI4H) represents a coordinated global effort to support the responsible and equitable integration of Artificial Intelligence (AI) into health systems, rather than a one-size-fits-all solution. However, realizing this vision requires a nuanced understanding of on-ground challenges and member states' priorities. The RISE framework captures these insights to outline a pragmatic roadmap for capacity building, research-agenda setting, infrastructure readiness, and data governance. By participating in GI-AI4H, AI researchers and developers can contribute to efforts aimed at advancing universal health coverage, particularly in underserved settings. The multidimensional barriers to 'Health for All' call for an integrated strategy underscored by partnership. Alongside responsible governance, continuous learning, and community participation, we can together build patient-user-centered inclusive AI systems that harness technological ingenuity to promote human health and dignity and leave no one behind.

**Table 1 | Introducing the RISE framework for enabling responsible and equitable AI adoption in low-middle income countries to drive high-quality affordable UHC globally**

Component	Goal	Key Priorities	Expected Impact
Robust Capacity Building	Empower member states to harness health AI	- Training programs - Mentorship initiatives - Research partnerships	- Enhanced adoption of tools - Local capacity building - Sustainable solutions
Inclusive Research Agenda	Foster locally relevant AI solutions	- Summits on member states priorities with specific focus on LMICs - Needs-based research - Community participation	- Solutions catering to health priorities - Restored trust and transparency
Smart and Accessible Infrastructure	Mainstream systems for smooth AI adoption	- Shared technology repositories - Interoperability standards - Context-appropriate system design	- Affordable and scalable tools - Integrated workflows - Responsible governance
Equitable and Secure Data Practices	Ensure equitable, secure, and trustworthy data usage	- Norms-aligned frameworks - Algorithm auditing capacities - Inclusive data governance - Data sharing policies	- Unbiased and accurate AI models - Trustworthy data practices - Patient safeguards

### Data availability

No datasets were generated or analysed during the current study.

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### Author contributions

R.R., S.P., S.A. and A.C. contributed to the conceptualization of the manuscript and the development of the RISE framework. R.R. and A.C. led the drafting of the manuscript. S.A. coordinated cross-institutional inputs, contributed to the initial draft, and led the integration of country perspectives. S.P. contributed to the conceptual framing and provided strategic guidance aligned with WHO priorities. S.A., K.K., R.S., R.G. and Y.Z. supported background research and refinement of the manuscript. C.A., M.N. and S.X. contributed institutional and regional perspectives. S.C. and N.P. provided perspectives aligned with their respective United Nations agencies. A.F., L.T.Y. and B.B. contributed insights on contextualization and policy implications. A.L. and S.P. offered strategic oversight and critically reviewed the manuscript. All authors reviewed and approved the final version.

### Competing interests

The authors declare no competing interests.

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