

Equity by Design

A Blueprint for Inclusive AI in Africa



Capturing the Equity Dividend

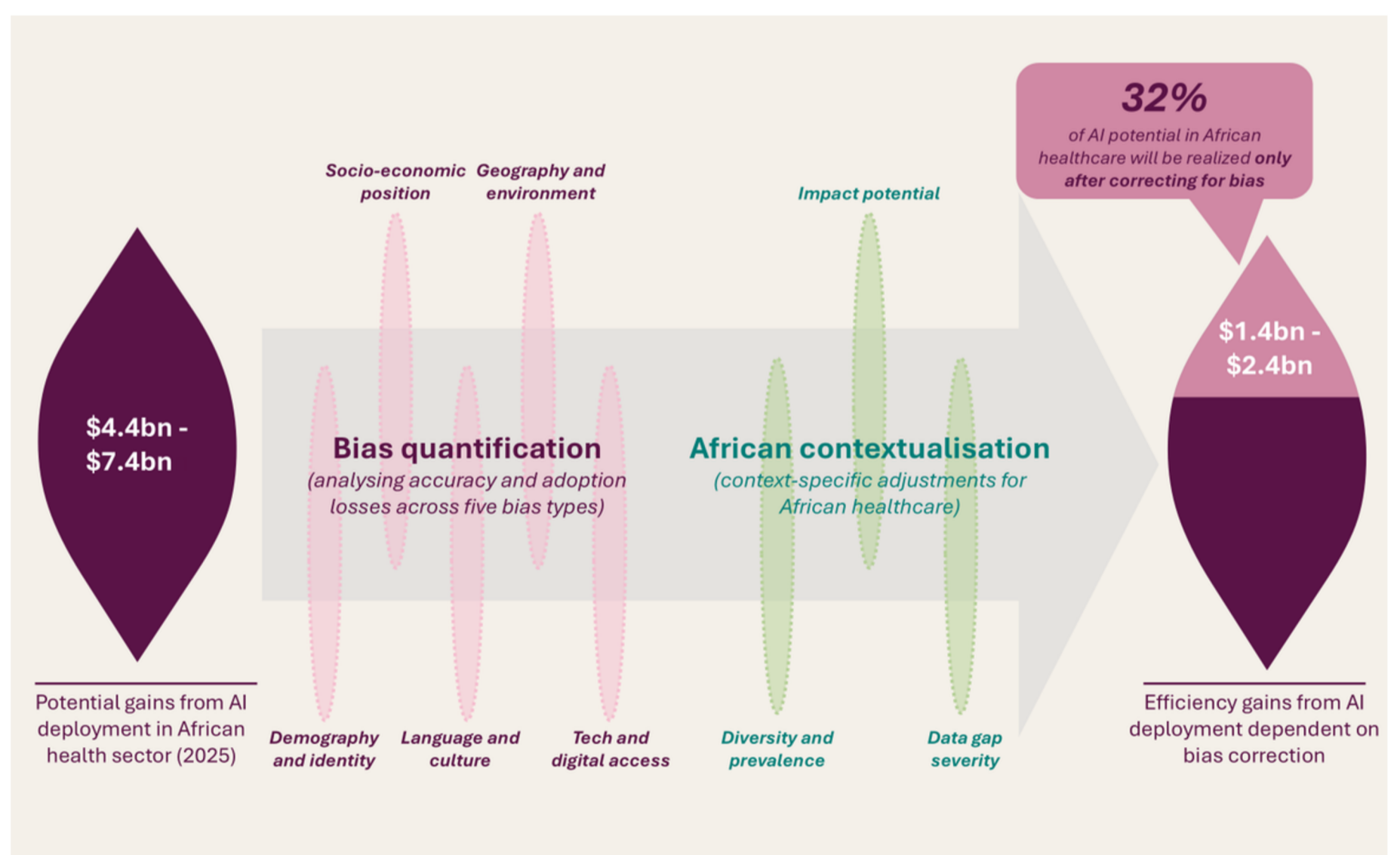
How intentionally designing inclusion across the full stack can unlock 32% of value in AI systems for African healthcare

Artificial intelligence (AI) is already reshaping healthcare across Africa, from diagnostics and clinical decision support, to surveillance and supply chain optimization. Yet a significant share of AI's promised value remains unrealized because inclusion is not intentionally built in at each level of the system. Drawing on original analysis, this paper shows that **~32% of AI's potential value in African healthcare** depends on correcting bias and exclusion across the full AI stack. In other words, nearly **one-third of Africa's healthcare AI dividend will remain unrealized if bias and inequity are not addressed**.

This paper introduces a full-stack, equity-by-design framework and lays out concrete design recommendations for innovators, funders, and policymakers seeking to unlock trust, accuracy, and scale in AI for African healthcare. The takeaway is clear. **Every layer of the AI stack offers a choice: to either replicate exclusion or create value at scale.**

Quantifying the 32% Equity Dividend

We calculated how much AI value in African healthcare is contingent on correcting bias across the system. We looked at models for how much value in healthcare could be generated by AI, and adjusted for African health system structure and adoption dynamics. We synthesized evidence from 18 peer-reviewed studies on bias and fairness in AI, assessing observed losses in accuracy, adoption, and usability across five bias domains: demographic, socioeconomic, geographic, linguistic, and digital access. These bias-impact factors were weighted for relevance, impact potential and data gap severity in African contexts and triangulated with regional benchmarks and expert interviews. The resulting **32% estimate** is intentionally conservative and represents an estimation of value at risk when equity is not intentionally designed across the AI stack.



Read the full paper: [Equity by Design. A Blueprint for Inclusive AI in Africa](#)



The Equity Stack Framework: Key Design Recommendations



AI systems do not succeed or fail at a single point in time or at a single layer. Performance is shaped by a series of design choices made across the full tech stack, from how data are collected and models are trained to how tools are funded, governed, and sustained. The equity-by-design framework introduced in this paper makes these interdependencies visible, showing how exclusion compounds across layers.

The full paper details how this framework can be applied in practice. The table below highlights **select, high-impact actions** at each layer of the AI stack, organized by key stakeholder. Key recommendations illustrate how coordinated, full-stack actions by innovators, funders, governments, and communities, are required to capture the equity dividend in AI for African healthcare.

Equity by Design: Select Recommendations by Stakeholder Group

AI Equity Stack Layer	Innovators & Implementers	Funders & Investors	Policymakers & Regulators
1 Data	Build African-led datasets that capture gender, geography, and language diversity; compensate data collectors; and document consent and provenance.	Finance shared, open data infrastructure and require disaggregated datasets and data cards summarizing which communities are represented.	Mandate data audits and transparency reporting for AI systems using public data or funds; embed inclusivity requirements in national or regional data strategies.
2 Model & Technical	Fine-tune models on local clinical/operational data; validate performance across demographic and language subgroups, not just global averages.	Fund compute access, African-led model development, & training capacity; require publication of bias audits and subgroup performance metrics.	Support open model architectures; establish independent testing and certification to evaluate model accuracy, fairness, and safety before deployment.
3 Application & Use Case	Design for low-literacy, low-connectivity, and shared-device environments using voice, offline, and low-compute interfaces; co-design with frontline users	Require evidence of user-centered design and field validation before scale-up funding; fund usability and adoption testing; invest in evaluation before scaling.	Use public procurement to enforce accessibility, localization, and interoperability standards for AI tools in health systems.
4 Funding & Infrastructure	Build AI tools that operate under real infrastructure constraints; incorporate long-term hosting, retraining, and maintenance costs into business models.	Provide multi-year financing for compute, cloud access, and infrastructure; invest in regional compute and data hubs.	Treat compute, connectivity, and data infrastructure as public digital goods; create incentives for local infrastructure provision.
5 Governance & Policy	Conduct algorithmic impact and fairness assessments before deployment; embed transparency, explanation, and redress mechanisms into products.	Fund regulatory capacity, third-party audits, and civil-society oversight of AI; tie funding to measurable accountability outcomes.	Establish independent AI oversight bodies with authority to audit systems, publish findings, and enforce compliance.
6 People & Institutions	Build locally rooted technical teams with gender and language diversity; invest in long-term skills development and institutional ownership.	Provide core, multi-year funding to African institutions, universities, and civil society to sustain AI capacity beyond pilots.	Strengthen public sector AI expertise and institutionalize partnerships between government, academia, and industry.

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