



ARTIFICIAL INTELLIGENCE, HEALTH SOVEREIGNTY & EQUITY IN AFRICA

Equity, not technological adoption alone, should be a principal measure of AI success

As AI spreads through African health systems, the decisive question is no longer whether to adopt it — but who owns the intelligence it generates, who governs it, and whether it narrows or widens health inequality.

STRUCTURAL DETERMINANT

HEALTH SOVEREIGNTY

EQUITY-FIRST GOVERNANCE

EXECUTIVE SUMMARY

Artificial intelligence is increasingly positioned as a transformative solution to Africa's health challenges — improving diagnostic accuracy, strengthening disease surveillance, supporting clinical decisions and enabling more effective allocation of scarce resources. Governments, development partners, researchers and technology companies are investing accordingly in AI-enabled diagnostics, predictive analytics, digital health platforms and supply-chain systems across the continent.

Yet this expansion raises questions that extend beyond technological innovation. Current debate concentrates on algorithmic bias, data protection, privacy, clinical safety and ethical regulation. These issues are critical — but they do not sufficiently address the underlying political and economic questions of who controls health intelligence, and to whose benefit.

WHAT IS HEALTH INTELLIGENCE?

More than the collection of health data — it is the full system through which information is interpreted and converted into action. Control over these assets shapes which conditions receive attention, which populations become visible, how resources flow, and whose knowledge guides decisions.

01

Datasets

02

Algorithms

03

Computing infrastructure

04

Technical expertise

05

**Institutional
arrangements**

06

Decision-making systems

CONVERTED INTO

Action across the health system

This brief advances three interconnected arguments

01 **AI is an emerging structural determinant of health**

It increasingly influences access to diagnosis, treatment, health financing, insurance, social protection and other essential services.

02 **Health AI governance is a question of health sovereignty**

Not solely a matter of digital regulation. Governments may own facilities and collect data while remaining dependent on externally controlled algorithms, infrastructure and platforms.

03 **A new geography of health inequality must be prevented**

Access to AI-enabled healthcare must not be allowed to follow existing divisions of income, gender, geography, disability and digital connectivity.

The policy objective is not technological isolation or the rejection of international partnerships. It is to ensure that African governments, public institutions and communities retain sufficient authority, capacity and bargaining power to determine how health AI systems are designed, procured, governed, evaluated and used.

01 Understanding artificial intelligence in health

For the purposes of this brief, artificial intelligence refers to a range of technologies — machine learning, natural language processing, computer vision, predictive analytics and clinical decision-support — that analyse complex datasets, identify patterns, generate predictions and support or automate decision-making.

These technologies could be particularly valuable in health systems facing shortages of specialist workers, fragmented information systems, limited diagnostic capacity and persistent inequalities in access. AI may enable specialist knowledge to reach underserved facilities, strengthen early detection and support more efficient deployment of workers and commodities.

However, technological potential does not automatically produce equitable outcomes.

Systems trained on unrepresentative data perform poorly for under-represented populations; tools designed for well-resourced settings may be unsuitable where electricity, connectivity, staffing or referral systems are weak. **Equity must be built into design, procurement, implementation and evaluation from the outset — not considered after deployment.**

02 The emerging policy challenge

African health systems are rapidly adopting digital technologies across surveillance, radiology, maternal health, supply chains, medical records, financing and emergency response. The Africa CDC, the African Union's Continental AI Strategy and the WHO's Global Strategy on Digital Health all recognise this potential — yet debate remains focused on the technical performance of individual tools, with far less attention to the political economy in which they are developed and deployed.

SIX QUESTIONS THAT REMAIN INSUFFICIENTLY EXAMINED

Q1 Who determines which health problems AI systems are designed to address?

Q2 Who owns the algorithms, platforms and computing infrastructure?

Q3 Who controls access to the data used to develop and improve these systems?

Q4 Who captures the intellectual and economic value generated from African health data?

Q5 Who is accountable when an AI system fails, discriminates or excludes?

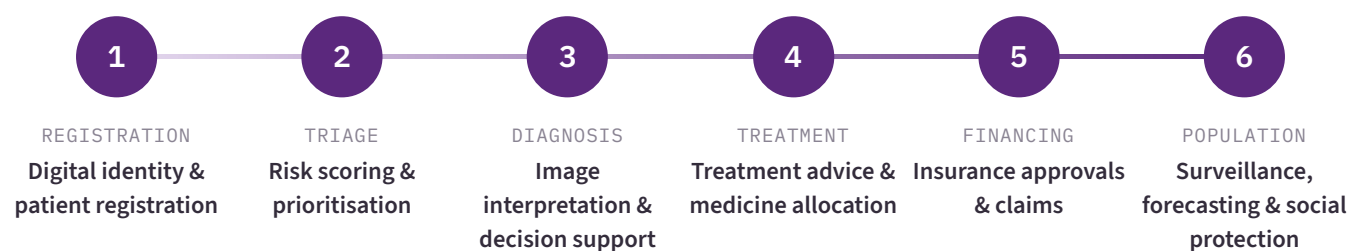
Q6 Can public institutions independently audit, modify or replace the technologies they depend on?

Historically, many African health systems have depended on external financing, imported medicines and foreign expertise. AI introduces a new dimension of dependency — through proprietary algorithms, foundation models, foreign-owned cloud infrastructure, cross-border data processing and commercial licensing. The central question is therefore *under what conditions* AI adoption can strengthen rather than weaken public authority, national autonomy and health equity.

03 AI as an emerging structural determinant of health

Health outcomes are shaped not only by clinical care but by wider social, political and economic conditions. AI is becoming a structural determinant because it increasingly operates within and through these existing determinants — embedding itself in the institutional systems through which health priorities are set, resources distributed and populations governed.

AI'S REACH ACROSS THE PATIENT JOURNEY



At each step, AI increasingly mediates who is seen, what they receive and what it costs — embedding itself in the institutional decisions behind care, not merely supporting isolated procedures.

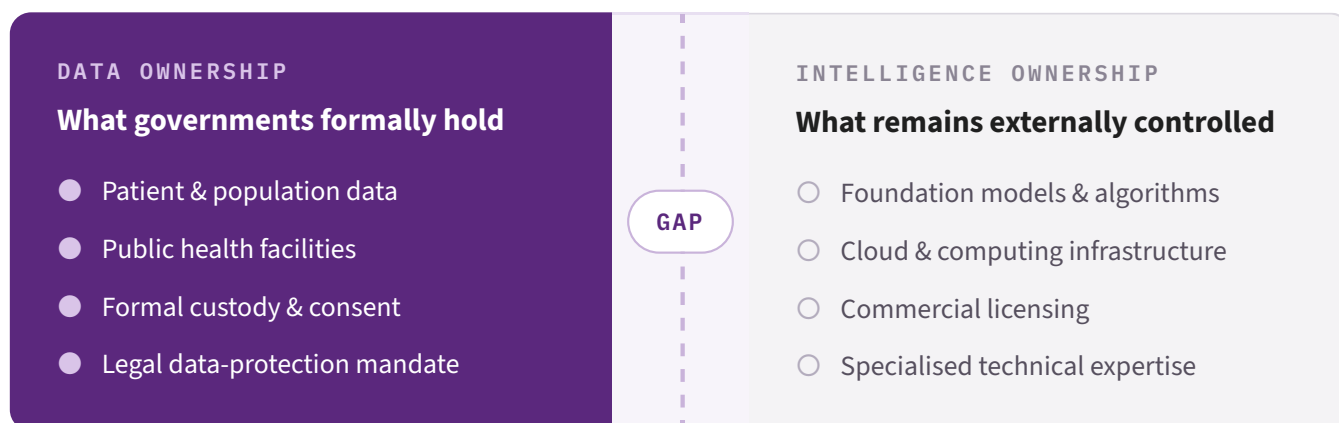
Recognising AI as a structural determinant shifts policy attention beyond the technical question of whether an algorithm is accurate. An AI system may be technically accurate yet still produce inequitable outcomes when deployed in a system marked by unequal access, inadequate financing or discriminatory practice. It compels policymakers to ask whose data and knowledge are represented, whose needs remain invisible, which institutions hold control, and whether AI redistributes power toward — or away from — patients, communities and public institutions.

04 Who owns African health intelligence?

The capacity of states, public institutions and communities to determine their health priorities and govern the data, knowledge, infrastructure and resources required to pursue those priorities in the public interest.

This does not mean every country must build every technology. It means partnerships should never leave governments unable to understand, regulate, modify or replace the systems on which essential public services depend.

Most advanced AI systems rely on privately controlled foundation models, proprietary software, foreign-owned cloud infrastructure, commercial licensing, internationally financed platforms, cross-border data processing and specialised expertise that may not exist within public institutions. Governments may therefore **formally control patient data while lacking control over the systems that organise, interpret and extract value from it**. This separation between data ownership and intelligence ownership produces five linked risks.



Owning the data is not the same as owning the intelligence derived from it — the gap between the two is where dependency takes hold.

i **Loss of decisional autonomy**

When governments cannot audit, modify or replace the systems used for health planning, decisions on disease priorities, classification and resource allocation come to be shaped by technologies whose assumptions are not fully visible.

ii **Vendor lock-in & financial dependency**

Proprietary systems create continuing costs for licensing, maintenance and upgrades. Short-term donor-funded pilots can become long-term public liabilities — technologies governments did not design, cannot operate and may be unable to replace.

iii **Extraction of economic & intellectual value**

Data from African patients and institutions may train commercial products whose value is retained off the continent — a form of *data colonialism*. Data-sharing must address not only consent but ownership, intellectual property and benefit sharing.

iv **Epistemic dependency**

Models built mainly from external datasets and assumptions may fail to reflect African disease patterns, languages, cultures and community models of care — interpreting African realities through externally defined categories.

v **Fragmented accountability**

Responsibility may be split among ministries, donors, developers, cloud providers, facilities and clinicians. When a system errs, excludes a patient or leaks data, it can be unclear who is legally, professionally or financially accountable.

African health intelligence should therefore be recognised as a **strategic public asset**. This does not require excluding private companies or international partners — it requires enforceable public-interest rules on ownership, access, interoperability, accountability, intellectual property and benefit sharing, building on the African Union Data Policy Framework.

05 The new geography of health inequality

AI-enabled diagnostics and integrated care are likely to arrive first in well-financed tertiary hospitals, private facilities and major urban centres — while rural, primary and informal-settlement facilities continue to face unreliable electricity, limited connectivity and workforce shortages. Without deliberate correction, two increasingly divergent systems may emerge.

System A — AI-integrated

- AI-assisted diagnosis
- Predictive, personalised care
- Integrated digital records
- Well-financed, well-staffed

System B — under-resourced

- Delayed diagnosis
- Fragmented referrals
- Limited data visibility
- Chronic workforce shortages

Rather than correcting existing inequalities, AI may first improve care for those already well served. Populations most at risk of exclusion include women, low-income communities, persons with disabilities, displaced people and those in rural areas or informal settlements — for whom digital identity, devices, connectivity, literacy or inclusion in formal databases may become informal conditions for accessing care.

DIMENSIONS ALONG WHICH EXCLUSION MAY DEEPEN

Inequality may also widen *between* countries: states with stronger infrastructure, financing and regulatory institutions will be better placed to shape and govern AI, while others become consumers of externally designed systems. Digital transformation should therefore be judged not by the number of AI systems introduced, but by whether they narrow inequalities, strengthen primary care, reduce patients' financial burden, reach underserved populations, complement rather than displace health workers, and contribute to measurable, equitable outcomes.

Equity, not technological adoption alone, should become a principal measure of AI success.

06 Policy recommendations

Ten measures to keep public authority, capacity and equity at the centre of health AI adoption.

1

Recognise AI as an emerging structural determinant of health

Incorporate AI into national assessments of the structural and commercial determinants of health, and integrate it into health strategies, UHC plans and equity frameworks.

2

Develop national health-AI sovereignty frameworks

Define the conditions for introducing AI into publicly financed systems — covering data ownership, rights over derived datasets, interoperability and open standards, data localisation, regulatory access to algorithms, IP and benefit sharing, procurement transparency, service continuity and clear exit provisions against lock-in.

3

Use public procurement as an instrument of AI governance

Require providers to demonstrate data portability, interoperability, transparent lifecycle pricing, independent auditing, security safeguards, genuine knowledge transfer, mechanisms to challenge automated decisions and viable exit plans that do not disrupt patient care.

4

Invest in public and regionally governed digital infrastructure

Build secure public data platforms, interoperable information systems, national computing capacity and sovereign or regionally governed cloud — pooling resources to reduce dependence on a few global firms.

5

Require health-equity impact assessments

Before deployment, assess likely effects across income, gender, disability, geography, age, ethnicity and displacement — evaluating affordability, infrastructure, workforce, language access and data representation, not only accuracy.

6

Strengthen African research and public-interest innovation

Support locally relevant models and datasets — African-language technologies, representative health data, open-source tools, public-sector expertise and sustainable career pathways — with rules ensuring publicly funded IP generates public benefit.

7

Build regulatory and institutional capacity within health systems

Governance should not sit with IT ministries alone. Establish multidisciplinary mechanisms — health ministries, regulators, data-protection authorities, academia, patient groups and civil society — to weigh safety, value, affordability, equity, rights and long-term risk.

8

Protect patients' rights and preserve human accountability

Inform patients when AI materially shapes decisions about their care or eligibility, and provide routes to question, appeal or seek human review. AI should support — not displace — professional judgement.

9

Establish meaningful public and community participation

Move beyond symbolic consultation: enable patients, health workers and communities to shape research priorities, system design, acceptable uses of sensitive data and the definition of public benefit.

10

Advance a common African position on health AI

Through the AU, Africa CDC and regional communities, develop shared principles for procurement, data governance, research and benefit sharing — strengthening bargaining power and preventing a fragmented regulatory environment.

Artificial intelligence is more than another digital innovation — it is reshaping how health systems produce knowledge, allocate resources, organise services and exercise power. The central challenge is therefore not simply to make AI more ethical or accurate, but to determine who owns African health intelligence, who controls the infrastructure behind it, who captures its value, and whether it advances health justice or reinforces inequality.

Africa does not face a binary choice between adopting AI and rejecting it. The real choice is between adopting it under conditions largely set elsewhere, and establishing governance that preserves public authority, institutional capacity, equity and accountability. The future of AI in African healthcare should be measured not by the sophistication of the technologies adopted, but by whether they strengthen public health systems, expand people's choices, protect rights, and ensure the intelligence generated from African lives serves African health priorities.

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