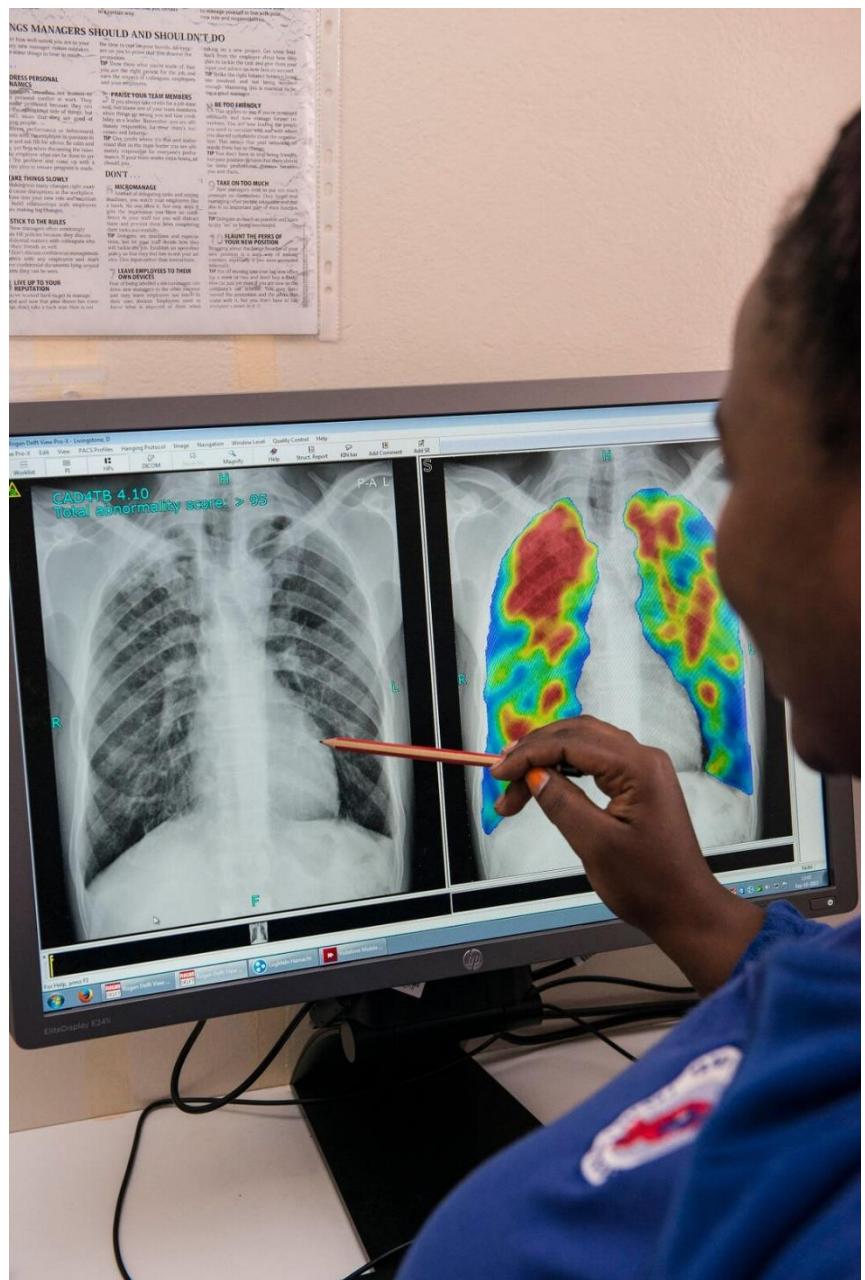


South Africa

Digital Health Case Study

November 2025



Use of AI-powered CAD4TB software in Pollsmoor Prison, Cape Town, South Africa for faster, more accurate, and more cost-effective TB diagnosis.

Credit: © Delft Imaging

Digital Health in South Africa

The Global Fund has been investing in the South African HIV, TB, health and community systems since 2001. In 2023, South Africa deployed Global Fund investments to support 5.44 million people on HIV antiretrovirals (ART) and the treatment of over 210,000 cases of tuberculosis (TB). The ability to provide data on these impacts is largely made possible by South Africa's evolving digital health investments.

South Africa has long been an African leader in digital health: Per the Global Innovation Index, it leads Sub-Saharan Africa's technology sector, in data and infrastructure. The country's private sector is a large part of this success and as part of its role as G20 President for 2025, South Africa is highlighting focus on digital economies, including connectivity, infrastructure, innovation, and equitable, inclusive and just AI.

The South Africa Digital Health Strategy¹ 2019-2024's vision is "better health for all South Africans enabled by digital health" and builds on the government's learnings implementing the eHealth Strategy 2012-2016. The forthcoming Digital Health Strategy (2025-2029) will extend to the full implementation of the electronic medical record system called e-impilo, developed by the National Department of Health (NDOH).

For the Global Fund's 2023-2025 grant cycle, South Africa was chosen to be one of five countries prioritized in the Digital Health Impact Accelerator, a Catalytic Fund that runs parallel to the country's grant for HIV and TB². The work under DHIA is focused on catalyzing digital data system interoperability, as well as the national roll-out of the e-impilo system, and is closely aligned to leverage other government and partners funding.

Notably, South Africa's Minister of Health and the United Kingdom's Prime Minister are co-leading the Global Fund's Eighth Replenishment process for the 2026-2028 funding period, emphasizing solidarity, sustainability, innovation, equity, and reform. This leadership underscores South Africa's commitment to global health and positions it to advocate for increased investments in digital health solutions relevant to the developing context during the replenishment summit.

¹ National Digital Health Strategy for South Africa 2019-2024 available at <https://knowledgehub.health.gov.za/elibrary/national-digital-health-strategy-south-africa-2019-2024>

² The Digital Health Impact Accelerator is supported by the Global Fund through donations from Anglo American, the Patrick J. McGovern Foundation, Medtronic LABS, Dimagi, Medic, Orange and Zenysis.

HIV Prevention

South Africa has the largest HIV epidemic globally, with an estimated 7.7 million people living with HIV. New HIV infections have been reduced by 40% since 2010, and AIDS-related deaths have decreased by 66% since 2010. Today, the HIV burden is disproportionately higher among women, especially adolescent girls and young women between the ages of 15 and 24.

Through its grants for the 2023 to 2025 grant cycle, the Global Fund is supporting an integrated digital system for Global Fund-partnered South African civil society organizations that provide HIV prevention services to adolescents and young people. This integrated digital system will enable programming to decrease HIV incidence, teenage pregnancy, and gender-based violence while increasing economic opportunities and retention in school.

The digital data system will facilitate the collection, updating, and tracking of program participants across interventions to enhance program management, ensure data accuracy, streamline reporting, and optimize service delivery.

Patient-centered longitudinal care

Electronic medical records (EMRs) strengthen patient-centered, longitudinal care by consolidating data into a single record, giving clinicians a complete view across time and settings. This improves continuity and coordination, especially for chronic conditions such as HIV and TB. South Africa's health system spans public and private providers; while National Health Insurance (NHI) is not yet fully implemented, it is designed to support the majority of the population and will rely on robust, interoperable digital tools in the public sector.

To knit the ecosystem together, the NDOH is linking platforms through the Health Patient Registration System, which uses biometric verification against the Department of Home Affairs fingerprint database to establish reliable unique identifiers. This backbone supports the rollout of the e-Impilo EMR, with beta implementation beginning in primary health-care facilities in 2025. Implementation follows the NDOH ecosystem approach³:

EMR maturity models, structured stakeholder engagement and train-the-trainer programs led by provincial and facility champions unblock issues quickly and scale skills. Biometrics used for patient identification further improve patient matching, reduce duplicate records and enable secure data exchange—advancing truly integrated, patient-centered care as national health insurance is set to be rolled out.

³ Botha, A., Herselman, M., & Rousseau, P. (Eds.). (2024). *The Emerging South African National Health Information System: Strategies, Approaches and Experiences*. NDoH & CSIR

Spotlight on e-impilo: South Africa's new electronic medical record system

e-Impilo is complementary to the existing health system, uses a modular approach and links with existing core registries, ultimately supporting patient-centered care. e-Impilo's beta rollout in primary health care facilities began in 2025 and aims to save time for patients and clinicians alike, as well as reduce the duplication of services, while ensuring that patient information is protected.

Once rollout is complete, any patient can go to any clinic, identify themselves and give clinicians access to the care history linked to the patient's unique identification number, dramatically simplifying access to information, improving longitudinal patient care, and eliminating issues such as fraud and duplication.

Through beta implementation, e-impilo is already in use at 55 health facilities and will be rolled out to 3,300 more in the coming 2 years

Governance, standards and interoperability

Digital strategy, policy, and governance establish and maintain the vision, platforms, interoperability and linkage across systems and applications. South Africa's governance and privacy legal structure is a "best practice"; its Protection of Personal Information Act (POPIA) law is a strong model for other countries to follow on handling patient data sensitively and securely. Additionally, POPIA is well enforced and supports robust data protection across sectors.

Interoperability is a key pillar of digital health transformation that enables different health systems to exchange information securely, reliably and in real time. Currently, the data systems and the overall digital health architecture – including HIV and TB data, TIER.net, the District Health Information System, the Electronic Drug-Resistant TB Register and Notifiable Medical Conditions - are fragmented and not interoperable. The e-impilo system aims to, among other objectives, address this through connecting each health facility and allow the exchange of patient data, leveraging standards like Fast Healthcare Interoperability Resources.

These efforts are complemented by monitoring and evaluation frameworks that promote participatory learning, ensuring systems are resilient.

Using AI and innovative tools

Currently, computer-aided diagnostics (CAD) using digital chest x-rays to detect TB is the premiere example of South Africa's use of AI in health.

Informed by the 2018 South African National TB Prevalence Survey, the NDOH has adopted digital chest X-ray equipped with integrated CAD software, AI image interpretation and a real-time patient-level health management information system. This approach enhances TB screening accuracy and efficiency, in addition to helping address the radiologist shortage and late health care seeking behavior in men in South Africa.

CAD screening for TB has been deployed with Global Fund support since 2020 using 15 movable containers and 23 mobile vans, each equipped with CAD software, AI image interpretation and an integrated monitoring and evaluation system. These mobile units – which will increase to 55 in total

by 2028 – are deployed to high-volume primary health care facilities and communities, where they have assisted with finding 11,621 people with TB, 38% of whom were without symptoms and could have been missed if symptom screening only was used.

Future Directions

South Africa, given its legal and infrastructural frameworks, as well as the robust digital health interventions above, is well-positioned to integrate and lead on AI tools in health settings. With strategic partnerships, national and international, the focus on innovation in data centers, AI, and digital infrastructure positions South Africa as a hub for Africa's digital transformation, overcoming contextual constraints.

These digital health advancements are intricately linked to long-term sustainability, as emphasized in South Africa's National Digital Health Strategy, which aligns with the National Development Plan's goals for addressing disease burdens and health system challenges over extended periods. Efforts prioritize building resilient systems that foster maturity in digital health information architectures, leading to efficient, sustainable health ecosystems. By focusing on scalable business models, capacity building, and integration with national health efforts, these initiatives ensure ongoing impact beyond immediate grant cycles, supporting institutionalized community services and long-term epidemic control.

About the Global Fund

The Global Fund is a worldwide partnership to defeat HIV, TB and malaria and ensure a healthier, safer, more equitable future for all. We raise and invest more than US\$5 billion a year to fight the deadliest infectious diseases, challenge the injustice that fuels them, and strengthen health systems and pandemic preparedness in more than 100 of the hardest hit countries. We unite world leaders, communities, civil society, health workers and the private sector to find solutions that have the most impact, and we take them to scale worldwide. Since 2002, the Global Fund partnership has saved 70 million lives.

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