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**Innovative Healthcare
Technologies Transforming West
Africa's Medical Landscape**

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Innovative Healthcare Technologies Transforming West Africa's Medical Landscape

Healthcare systems in West Africa are transforming rapidly with the integration of advanced technologies. Telemedicine plus mobile health applications streamline service delivery, expand regional access, and support health outcomes. Regional collaborations, notably led by ECOWAS as well as international partners like the German Development Bank, have accelerated the integration of digital solutions into public health initiatives.

Key innovations, such as Electronic Health Records (EHRs), point-of-care diagnostics, wearables, and data analytics, have amplified vaccination campaigns, disease surveillance, along with emergency response efforts. Emergent technologies, including 5G, the Internet of Things (IoT), and Artificial Intelligence

(AI), are paving the way for remote together with personalized healthcare, as well as precision medicine tailored to regional needs.

The West African Health Organisation (WAHO) aims to leverage digital tools to set up surveillance systems and diagnostic laboratories to mitigate the risk of disease outbreaks. WAHO's PROALAB programme strengthens health infrastructure with point-of-care testing devices and portable diagnostic tools while also training healthcare workers to use laboratory equipment.

However, the region faces challenges related to inadequate healthcare facilities, a shortfall in medical staff, limited insurance coverage, and a heavy burden of infectious as well as chronic diseases.

It is imperative to strengthen collaboration among ECOWAS member countries, enhance governance structures of medical institutions, and integrate innovative technologies to address the gaps in the current health systems.

WAHO's PROALAB programme strengthens health infrastructure with point-of-care testing devices and portable diagnostic tools while also training healthcare workers to use laboratory equipment.

Snapshot of healthcare technology market by country

Cameroon

Though Cameroon is not a part of ECOWAS, it occupies a strategic location between West and Central Africa, creating extensive opportunities for healthcare technology expansion. Statista forecasts that the digital health and medical technology market in Cameroon will generate USD 198 million in 2024, mainly driven by the diagnostic device segment.

The market is projected to grow at a CAGR of 7.10% to USD 279 million by 2029, reflecting increased demand for portable and point-of-care diagnostic devices.

Cameroon is experiencing a rise in non-communicable diseases, a trend echoed throughout the region, highlighting the demand for improved diagnostic and healthcare technologies.

Ghana

Ghana, the second-most populous country in West Africa, with an industrialized economy, offers promising opportunities for healthcare technology. Statista estimates the medical technology and digital health market size will reach USD 281 million in 2024, fueled by growth in medical devices, fitness, as well as wellness.

These segments are expected to account for USD 201 million or 71.5% of the market. By 2029, the industry's revenue is forecasted to rise to USD 414 million, reflecting a CAGR of 8.06%. Government investment in medical technologies is set to drive growth, with increasing demand for innovative healthcare solutions, particularly among urban residents who comprise around 60% of the population.

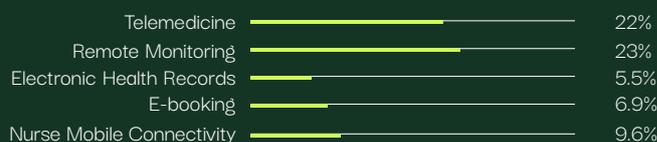
Nigeria

Nigeria, as Africa's most populous nation with 229.5 million people and the continent's fourth-largest economy, presents significant potential for healthcare technology. Statista projects the medical technology and digital health market revenue to reach USD 1.27 billion in

2024, driven by healthcare equipment demand.

This segment alone is forecasted to contribute USD 595 million, accounting for 47% of the market. The overall market volume is expected to grow to nearly USD 2 billion by 2029, at a compound annual growth rate (CAGR) of about 9.4%. Telemedicine is anticipated to be the fastest-growing segment, as the government seeks to expand healthcare access in remote northern and eastern regions.

Projected Share (%) of Total Healthcare Expenditure Savings from Digital Adoption in Nigeria, 2030



Advancements in healthcare technologies

In West Africa, digital health technologies aim to reduce maternal as well as child mortality rates in a region with some of the highest rates in the world. A startup in Cameroon has developed a mobile platform that provides prenatal care insights, medication reminders, plus appointment alerts for pregnant women. The app also enables healthcare providers to monitor patients and deliver personalised care.

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Another startup in Nigeria applies AI to predict the likelihood of birth asphyxia in newborns, a critical condition where the brain's oxygen supply is compromised. Its algorithms assess asphyxia risk within moments of birth, allowing healthcare providers to respond quickly.

The International Finance Corporation (IFC) is promoting the use of innovative technologies like AI to streamline workflows as well as overcome limitations in staff and equipment in West African countries such as Senegal.

A unified digital model of the healthcare system, integrating EHRs, lab results, pharmaceutical records, and insurance data can enhance the speed, accuracy, and quality of healthcare delivery in the region.

With the cost of advanced technologies being an inhibiting factor, local firms are tying up with multinational equipment manufacturers to offer affordable payment plans to healthcare facilities looking to invest in high-end digital tools. For example, Crown Healthcare Nigeria has partnered with China-based Mindray for In-vitro diagnostic equipment (IVD) and patient monitors, Japan-based Fujifilm and Sonoscape for radiology tools and Germany-based Karl Storz for endoscopy instruments to enable hospitals and diagnostic centres across Nigeria to acquire high-end medical devices.

Similarly, PPC Healthcare leveraged its partnership with Philips to set up a Cath-lab at Nizamiye Hospital in Abuja. The facility will enable healthcare professionals to obtain clear medical images and assist in the diagnosis of non-communicable diseases and chronic ailments. Nigeria has one of the highest rates of cardiovascular ailments with 25% of adult Nigerians at risk and such facilities are expected to reduce the incidence of heart disease with early detection.

Innovations in healthcare - digital platforms, telemedicine, and mobile clinics

Healthcare technologies have evolved in West Africa beyond basic tools to a dynamic suite of apps offering integrated features such as insurance and payment processing. For example, telemedicine currently offers much more than video consultations, including valid medical prescriptions, delivery of pharmaceuticals, and remote monitoring.

Digital platforms

Healthtech firms are leveraging digital platforms to connect hospitals with blood banks and back it with multimodal distribution for quick delivery. Such initiatives seek to revolutionize blood supply in West Africa with innovative services like cold transportation chains with remote digital temperature tracking devices.

Additional examples include inventory management tools for hospitals and drone fleets for delivering vital medical products in remote areas. Healthcare facilities can also



avail of forecasting as well as prediction tools for ensuring uninterrupted access to vital medical resources such as oxygen. Blockchain-powered platforms can further strengthen supply chain resilience with complete visibility from the manufacturing phase to the end-user stage for branded drugs.

Telemedicine

Telemedicine has proved to be an effective alternative to address gaps in the healthcare system. A single app can potentially connect over 50,000 patients across the region with certified healthcare professionals through chat, audio, and video options. Privacy protection, access to valid prescriptions, and an AI-powered symptom checker for self-assessment further enhance the patient's experience.

Mobile clinics

Mobile clinics equipped with digital health tools are part of a unique strategy to address the shortage of health workers in Nigeria. Modular diagnostic centers or tech-enabled mobile clinics can provide secondary healthcare services in the country's underserved areas.

Such clinics can provide advanced diagnostic services such as ultrasound, mammography, electrocardiogram, x-ray, echocardiogram, immunoassay, and hematology to low-income patients. Digital platforms can be integrated with mobile clinics for quick patient referrals, real-time communication, along with data sharing across the country. Modular centers have served more than 260,000 patients in 25 locations so far in Nigeria.



A single app can potentially connect over 50,000 patients across the region with certified healthcare professionals through chat, audio, and video options.

Opportunities and challenges

Nuclear medicine

The African Medical Centre of Excellence (AMCE) plans to establish a cyclotron facility in Abuja, Nigeria, to improve diagnostics and treatment for chronic as well as complex diseases. This facility will enable precise disease detection using medical isotopes, with an initial focus on cancer, sickle cell disease, cardiovascular issues, and blood disorders.

Brian Deaver, CEO of AMCE, said that the amenity will help produce radiopharmaceuticals locally and reduce dependence on external organisations.

Currently, West Africa lacks dedicated cyclotron units, with only one facility covering the entire region. According to the International Atomic Energy Agency (IAEA), most cyclotrons are concentrated in North and South Africa, forcing patients to travel long distances for advanced imaging services like PET-CT scans.

Costing USD 237 million, the facility's first phase will serve as a regional hub, supplying medical isotopes to healthcare providers across West Africa. This initiative will reduce patient outflow to foreign nations, help retain skilled professionals as well as establish West Africa as a centre for nuclear medicine and medical tourism. The cyclotron facility is set to be completed in April 2025, with operations commencing by June.

Genomics/ precision medicine

African startups are increasingly tackling the critical underrepresentation of African genomic data in global medical research and drug development. Currently, approximately 90% of genetic material used in pharmaceutical research is derived from Caucasian sources, while African genetic material accounts for a mere 2%. This disparity severely limits the effectiveness of many pharmaceutical products for African populations.

These initiatives aim to create advanced diagnostic and risk assessment tests tailored to African genetic diversity, one of the most varied in the world.

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African biotech firms seek to address this gap by expanding the representation of African genomes in pharmaceutical research. This will not only enhance drug development processes but also improve the efficacy of new medications for African individuals.

The African Medical Centre of Excellence (AMCE) has also entered the genomics field, partnering with King's College London and pharmaceutical leader Novartis to locally produce genome-specific medicines in Nigeria.

This collaboration aims to adapt treatment plans in line with African genetic profiles, furthering the development of precision medicine in the region.

Sustainable healthcare

Nigeria is at the forefront of sustainable healthcare in West Africa, with initiatives like the Rural Electrification Agency's (REA) deployment of containerised 50kW solar hybrid systems across 100 healthcare centres in the first phase of the Nigeria Electrification Project. Phase two will extend to more than 400 primary healthcare facilities, significantly strengthening emergency healthcare services by powering critical care equipment such as ventilators and cold-chain storage for vaccines plus other temperature-sensitive pharmaceuticals.

Workforce constraints and AI

West Africa faces a substantial shortage of healthcare professionals. A survey by the World Health Organisation found that the ratio of health workers to the number of people is 1.55 per 1000 people in West Africa, well below its recommended threshold of 4.45. This poses a considerable challenge in delivering adequate healthcare services and highlights an urgent need for solutions that can ease the burden on existing medical personnel.

To this end, Nigerian startups are tapping the potential of AI to reduce the administrative workload on healthcare professionals. Tools like speech-to-text transcription software allow doctors, nurses, and lab technicians to concentrate on patient care, significantly enhancing productivity. With over 90% accuracy in recognising more than 200 African accents, such apps cut paperwork time to one-sixth, freeing up healthcare workers for essential duties. AI tools can be integrated with electronic health records (EHRs) and provide opportunities to expand their implementation across healthcare facilities and resolve one of the region's most pressing challenges.

Regulatory landscape

West African nations are making strides toward a cohesive regional regulatory framework for healthcare technologies. Leading the way, Nigeria, as the region's largest economy, has launched several initiatives to advance the digitalisation and regulation of healthtech. Confidentiality remains a key consideration in Nigeria's digital health sector, particularly with rising cyberattacks and concerns over patient data misuse.

The National Health Act (NHA) and the Nigeria Data Protection Regulation provide a structured approach to safeguarding health-related data and privacy, prioritising user consent for disclosures to third-party providers, including healthtech firms.

Telemedicine services in Nigeria are governed by the Code of Medical Ethics, which prevents professional misconduct and mandates confidentiality for any patient information shared during online consultations. The Nigerian government is also actively incorporating telemedicine within its public health programmes. Recently, Nigerian Communications Satellite Limited (NIGCOMSAT) introduced a telehealth platform that allows citizens to schedule medical appointments and receive professional advice from mobile devices, enhancing healthcare accessibility.

Additionally, the National Information Technology Development Agency (NITDA) is initiating a National

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To further integrate digital health within mainstream healthcare, the government recently launched the Nigeria Digital in Health Initiative (NDHI). This initiative has digitised more than 720 facilities, supported 125 million patients, empowered over 2.5 million healthcare workers, and attracted USD 50 billion in investments from international and multilateral agencies to drive sectoral growth.

Blockchain Policy aimed at creating a secure digital system for managing patient data, healthcare information, and medical supply chains.

This policy will protect patient records, improve data integrity, and reduce cyberattack risks. NITDA, the Ministry of Health, and the Ministry of Communications are collaborating with the private sector to establish a robust regulatory framework for healthcare technologies.

Ghana, similarly, has initiated regulatory reforms with the launch of a nationwide e-pharmacy platform, advancing digital support and oversight for pharmacies across the country.





Conclusion

West Africa is experiencing a transformative shift in healthcare, where digitisation presents an opportunity to drive equitable access to quality care. With a young population and the rising burden of noncommunicable diseases, the region stands to benefit greatly from digital health innovations.

Collaborative efforts among countries are essential to expand service reach through sustainable finance and to address pressing healthcare gaps. Developing comprehensive EHR platforms will play a critical role in advancing patient-centred care, monitoring disease trends, and managing emerging health threats effectively.

Open-source health systems offer the potential to enhance access to healthcare in remote regions, furthering West Africa's commitment to universal healthcare goals. Through initiatives like the digital health network (ReSAF), actions are being coordinated among digital experts, health professionals, civil

society, and organisations to empower stakeholders and facilitate the adoption of digital tools within health systems.

Although technological hurdles persist, ReSAF underscores the importance of strong caregiver-patient relationships, universal health coverage, and a collaborative approach with public and private partnerships.

Integrating digital finance solutions into healthcare systems is equally critical. By reducing out-of-pocket expenses and enabling access through microinsurance and digital payment platforms, these solutions can increase healthcare accessibility for low-income populations. Sustained investment, ongoing innovation, and strengthened partnerships among governments, NGOs, and the private sector are essential not only for overcoming current challenges but also for realising the full potential of healthcare technologies in creating a resilient, inclusive healthcare future for the region.

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Where healthcare and laboratory innovation drives progress in West Africa

For more than a decade, Medic West Africa has been the go-to event for healthcare professionals, manufacturers, and distributors across West Africa. Now, as WHX Lagos, we're taking it even further offering greater opportunities, wider reach, and stronger industry connections as part of WHX, the world's leading network of healthcare and laboratory events.

In 2025, WHX Lagos will be co-located with WHX Labs Lagos, creating a powerful, unified platform that brings together the healthcare and laboratory sectors under one roof. This integration opens new avenues for collaboration, encourages innovation, and ensures a richer experience for every attendee-whether you're looking to expand your business, explore new partnerships, or discover the latest in healthcare and lab technology.

As West Africa's most influential healthcare and laboratory event, WHX Lagos & WHX Labs Lagos are more than just exhibitions-they're where manufacturers, distributors, and medical professionals come together to build relationships, gain industry insights, and explore the innovations shaping the future of treatment and diagnostics in the region.

Join us from 2-4 June 2025 at Landmark Centre, Lagos, Nigeria, for an expanded and dynamic experience.

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By:



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