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FROM THE EDITOR-IN-CHIEF

Emerging Technologies in Health Care: Bridging the Promise and the Gaps

We are delighted to present this edition of the journal, featuring a diverse range of articles that address some of the most pressing health issues across the region. The papers in this issue reflect the growing breadth and depth of medical scholarship in Africa-encompassing innovative technologies, evolving clinical practices, and persistent systemic challenges. Together, they underscore the complexity of healthcare in our setting and the continuing efforts of researchers and practitioners to improve outcomes through evidence, creativity, and collaboration.

In the rapidly changing world of medicine, the boundary between human intelligence and machine precision continues to blur. The current issue of the West African Journal of Medicine presents three compelling papers that together invite reflection on Africa's position in this evolving frontier. They span the spectrum-from the promise of artificial intelligence and robotics in healthcare delivery to the persistent challenges of financing chronic disease care. Collectively, they remind us that the continent's future in health care will depend not only on its openness to innovation but also on its ability to ensure that such innovations are accessible, affordable, and equitable. The role of artificial intelligence within the field of medicine is becoming increasingly ubiquitous and critical. In addition to its application in medical education, artificial intelligence is transforming nearly every aspect of medicine-from enhancing diagnosis and imaging interpretation, to guiding surgical precision, personalizing

treatment, monitoring patients in real time, streamlining health records, and accelerating drug discovery.¹⁻⁴

The review article by Akanbi and colleagues is both an exposition and a call to action. It highlights the transformative role of artificial intelligence (AI) in clinical practice and challenges African practitioners to move from spectators to contributors in this global revolution. Drawing on over seventy articles from multiple databases, the authors provide an instructive overview of AI concepts, terminologies, and applications across medicine-from image interpretation and predictive analytics to surgical guidance and drug development. They note that AI technologies are already enhancing diagnostic accuracy in radiology, ophthalmology, oncology, and cardiology, while enabling remote monitoring, decision support, and personalized treatment strategies. Yet, the authors also emphasize a glaring paradox: while AI is reshaping global health, many clinicians in sub-Saharan Africa remain unfamiliar with its principles and possibilities. This knowledge gap, compounded by infrastructural limitations and ethical concerns, risks widening the divide between technologically advanced and resource-constrained regions. The continent must build capacity, strengthen regulatory frameworks, and create local datasets that reflect its unique patient populations. Only then can Africa move from being a consumer of imported algorithms to a co-creator of context-relevant AI solutions.^{6,8}

In their work, Sanusi et al highlight the

practical application of these emerging technologies in the rehabilitation of stroke survivors. Their study provides a rare insight into the realities of adopting high-tech innovations in a resource-limited setting. Using a qualitative design, the authors engaged 52 stroke survivors attending neurology clinics in two tertiary hospitals in Nigeria to explore their awareness, perceptions, and readiness to participate in a robotic rehabilitation programme. The findings were striking: more than half of respondents had no prior knowledge of robotic rehabilitation, and nearly half identified financial constraints, transportation difficulties, and distance to care as major barriers to participation. Facilitators, on the other hand, included increased awareness, patient education, and transportation support.

Beyond statistics, Sanusi et al. draw attention to deeper structural issues-from limited technological infrastructure and shortage of trained personnel to the absence of targeted health financing for rehabilitation services. While patients expressed optimism about trying robotic therapy if proven effective, the study underscores a broader challenge: the readiness of the health system to accommodate innovation. In essence, the study illustrates that technological breakthroughs alone are insufficient; their success depends on cultural acceptance, financial accessibility, and system preparedness. It reinforces the need for an ecosystem that supports innovation adoption — where policy, training, and patient engagement evolve alongside technology.⁵⁻⁷

At the other end of the spectrum, Mariere and colleagues remind us of the enduring socioeconomic realities confronting patients in low- and middle-income countries. Their paper examined how individuals living with long-term conditions such as hypertension, diabetes, tuberculosis, and HIV navigate the costs of care in Bayelsa State, Nigeria. Involving patients across three specialist hospitals, the study paints a sobering picture: nearly four in five patients pay for care out-of-pocket, and even among those enrolled in health insurance schemes, many still resort to additional personal spending. Coping mechanisms were often economically distressing-missing clinic visits, forfeiting essential needs, or borrowing money from friends and cooperatives. The type of chronic disease influenced both the payment method and coping pattern, with patients managing non-communicable diseases being somewhat more likely to use health insurance than those with communicable diseases. This study vividly demonstrates the financial fragility of healthcare access in the subregion. Despite the introduction of state and national insurance schemes, coverage remains shallow, leaving many households exposed to catastrophic expenditures. These findings further underscore one of the major limitations to the potential integration of technological and therapeutic advances in medical care i.e. the barrier of access and affordability.

Together, these articles thus illuminate the intertwined challenges and opportunities confronting African health systems. The message is clear: technological progress must be matched by social preparedness and systemic reform. AI and robotics hold immense potential to revolutionize medical education, diagnostics, rehabilitation, and patient management. Yet, these innovations can only reach their full

impact if our health systems are equipped-financially, ethically, and infrastructurally-to support them. The future of healthcare in West Africa depends on empowering healthcare workers to harness emerging technologies, strengthening systems through investment in infrastructure and local research, and ensuring that innovation reaches everyone, regardless of poverty, geography, or digital literacy. Only by aligning technological progress with equity and preparedness can the region build a truly resilient and inclusive health system. The challenge before us is to ensure that the digital transformation of healthcare becomes not a new source of inequity, but a catalyst for shared progress across the continent.

As we reflect on the contributions in this issue, we are reminded that the advancement of medicine in our region depends on continuous inquiry, innovation, and collaboration. Each study featured here adds to the growing body of knowledge that informs practice and policy across West Africa. We encourage researchers, clinicians, and scholars to continue sharing their experiences and findings through this platform, so that together we can strengthen the evidence base for improving health outcomes in our communities. *The West African Journal of Medicine* remains committed to promoting rigorous scientific discourse and welcomes submissions that contribute to the pursuit of excellence in healthcare across the subregion.

Professor G. E. Erhabor

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