

From Dispensing to Decision-Making: How AI and Telepharmacy Are Repositioning the Pharmacist at the Centre of Patient Care in Nigeria

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Abstract

Across Nigeria, pharmacists remain one of the most accessible yet underutilized healthcare professionals. Despite extensive clinical training, many are confined to dispensing roles that rely on manual workflows and product-based revenue models. This article argues that the integration of artificial intelligence (AI) and telepharmacy presents a critical opportunity to reposition pharmacists from transactional roles to continuous care providers. By enabling documentation, improving efficiency, and extending patient engagement beyond physical locations, these tools can catalyze a shift toward outcome-based pharmaceutical care. The paper introduces the concept of the “Digital Chronic Care Consultant” as a practical model for the future of pharmacy practice in Nigeria.

Introduction: The Silent Undervaluation of the Pharmacist

There is a quiet but persistent disconnect in community pharmacy practice across Nigeria.

Patients approach the pharmacy counter with questions like:

“Which drug should I buy?”

Rarely do they ask:

“What should I do about my health?”

This distinction reflects more than semantics; it reveals how the pharmacist’s role has been socially and structurally positioned. A professional trained in clinical decision-making is often reduced to a point-of-sale function.

This is not primarily a knowledge gap. It is a systems problem.

System Constraints and the Erosion of Clinical Practice

A typical day in many Nigerian pharmacies is dominated by:

- Manual or fragmented patient records
- Prescription interpretation challenges
- Inventory management pressures
- High patient volume with limited consultation time

These conditions create an environment where efficiency is prioritized over clinical engagement. The result is a model of practice that rewards speed and sales rather than depth of care.

Consequently:

- Pharmacists' clinical contributions remain undocumented and undervalued
- Patient interactions are largely transactional
- Revenue models are tied to product turnover rather than therapeutic outcomes

Without structural change, this cycle will persist.

A Transition Already Underway

Globally, healthcare delivery is undergoing a quiet but fundamental transformation. AI-driven tools are increasingly handling repetitive and data-intensive tasks, while telehealth platforms are redefining access to care.

Within pharmacy, these developments are not a threat; they are an inflection point.

The integration of AI and telepharmacy offers a pathway to:

- Reduce administrative burden
- Enhance clinical decision-making
- Extend care beyond physical pharmacy

This is not a replacement model. It is an augmentation model—one that allows pharmacists to operate at the top of their clinical capacity.

Reimagining Practice: A Near-Future Scenario

Consider a routine but transformed interaction.

A patient with a history of hypertension reports elevated readings via a digital channel. The pharmacist accesses a structured patient record, reviews medication adherence patterns, and identifies recent inconsistencies.

Within minutes, the pharmacist:

- Assesses the likely cause
- Provides targeted counselling
- Adjusts the adherence plan
- Arranges follow-up care

No congestion. No guesswork. No reliance on memory alone.

This interaction does not require expanded physical infrastructure. It requires digital integration and a shift in practice orientation.

Three Pillars of the Clinical Shift

1. From Invisible Interventions to Documented Care

Pharmacists routinely prevent medication errors, identify interactions, and optimize therapy. However, in the absence of documentation, these interventions carry little systemic weight.

Digital tools enable:

- Structured recording of clinical interventions
- Traceability of decisions
- Measurable patient outcomes

In healthcare systems, what is documented is what is recognized—and ultimately, what is funded.

2. From Activity-Driven Workflows to Value-Driven Care

High workload does not necessarily equate to high impact.

AI can support:

- Drug interaction checks
- Routine patient inquiries
- Inventory monitoring
- Basic documentation

By offloading repetitive tasks, pharmacists gain time for higher-order functions:

- Patient education
- Behavioural counselling
- Therapy optimization

The unique value of the pharmacist lies not in information retrieval, but in clinical judgment and patient engagement.

3. From Episodic Encounters to Continuous Care

Traditional pharmacy care is limited to in-person interactions. Telepharmacy removes this constraint.

With digital communication channels:

- Follow-ups become routine
- Early interventions become possible
- Patient relationships become longitudinal

The pharmacist transitions from a location-based provider to an integrated member of the patient's care continuum.

The Emergence of the Digital Chronic Care Consultant

Chronic diseases such as hypertension and diabetes continue to place a significant burden on Nigeria's healthcare system, often exacerbated by poor adherence and limited follow-up care.

Within this gap lies a strategic opportunity.

The pharmacist of the near future can function as a Digital Chronic Care Consultant, a professional who:

- ✓ Monitors patients remotely
- ✓ Tracks adherence patterns
- ✓ Intervenes proactively
- ✓ Supports long-term therapeutic outcomes

This model shifts pharmacy practice from transactional encounters to sustained clinical relationships.

Rethinking the Economics of Pharmacy Practice

A critical barrier to transformation is the current revenue structure.

When income is primarily derived from product sales:

Clinical services are undervalued

Time spent on patient care is economically disincentivised

However, a digitally enabled model supports alternative revenue streams, including:

- ✓ Structured medication therapy management
- ✓ Chronic disease care plans
- ✓ Teleconsultation services
- ✓ Patient education programs

This aligns financial incentives with patient outcomes—an essential step toward sustainable practice.

Why This Shift Is Urgent in Nigeria

Nigeria faces a dual challenge:

- A rising burden of chronic diseases
- Limited access to continuous, coordinated care

Pharmacists are uniquely positioned to bridge this gap due to their accessibility and distribution across communities.

Digital integration enables pharmacists to:

Extend care beyond geographic limitations
Manage larger patient populations efficiently
Deliver consistent, data-informed interventions

In this context, the evolution of pharmacy practice is not optional; it is necessary.

Barriers and the Path Forward

Adoption will not be without resistance. Concerns about cost, infrastructure, and patient readiness are valid.

However, meaningful progress does not require immediate large-scale transformation.

Initial steps may include:

- Basic digital patient record systems
- Structured follow-up protocols using existing communication tools
- Gradual integration of AI-assisted decision support

The primary requirement is not technology alone, but a shift in professional identity, from dispenser to care provider.

Conclusion: A Defining Moment for the Profession

The trajectory of pharmacy practice in Nigeria is at a critical juncture.

Future relevance will not be determined by:

- The size of the pharmacy
- The volume of products dispensed
- The speed of transactions

It will be determined by the ability to deliver measurable patient outcomes.

The question is no longer whether change will occur, but how pharmacists will position themselves within it. Will they remain within the confines of transactional practice?

Or will they step forward as integral contributors to patient care?

The tools to enable this transition are already within reach.

What remains is the decision to use them.

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BIO

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