The Pharmaceutical Industry in Nigeria: Drug Accessibility, Affordability and Competitiveness in the Economy.

olayisade, Adeyemi

22 June 2025

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OLAYISADE, Adeyemi; Department of Economics, Federal University Oye-Ekiti, Ekiti state, Nigeria

Abstract

The study focuses on reviewing factors that influence accessibility, affordability, efficiency in Nigeria's pharmaceutical industry and its impact on healthcare delivery. Despite the Nigeria's increasing population coupled with a high disease burden, it imports most of its drugs from India and China since its own pharmaceutical sector is not self-sufficient. The study noted certain difficulties such as poor infrastructure, inflation, exchange rate volatility, poverty and weak regulatory structure in the health sector made it tough for people to get access and afford basic medicines. The study deployed a semi-log regression to see how accessibility and affordability of medicines interact with the capacity of pharmaceutical sector in the Nigerian economy. Findings from the study revealed significant interrelatedness between level of access to essential medicines and the pharmaceutical industry contribution to GDP; other variables, such as costs of Malaria treatments, minimum wage, and inflation, showed weak or no statistical impact on the response variable. In conclusion, the study suggests that the federal government should discontinue the NHIS program to allow the private sector takeover this programme, this can free up resource and strengthen local pharmaceutical production, it also recommends applying regulatory measures to ensure medications are accessible and affordable for better health outcomes and a stronger economy.

Keywords: National Health Insurance Scheme (NHIS), Accessibility, Affordability, Competitiveness.

Introduction

The pharmaceutical industry in Nigeria is vital to healthcare delivery, as of mid-2025, Nigeria's population stood at 237,123,130 (Worldometer, 2025); the country holds one of the largest share of Africa's pharmaceutical market, yet the sector experiences difficulties with problems of unaffordability, inaccessibility to drugs even as numbers of patient requiring healthcare keeps soaring.

Literature Review

Access, Affordability and Growth of the Pharmaceutical sector in Nigeria

Nigeria's pharmaceutical industry comprises the local drug manufacturers, importers, wholesalers, and retail distributors which is regulated by the National Agency for Food and Drug Administration and Control (NAFDAC). The body revealed that over 60 percent of drugs used in Nigeria are imported from India and China (NAFDAC, 2019); this is largely due to inadequate infrastructure, poor funding, and weak research and development (R&D) programmes (Akande-Sholabi & Adebisi 2020). A major setback to access of necessary medications is the scarcity of drug manufacturing businesses and the high cost of raw materials. Disappointingly, Africa produces only 3 percent of the global pharmaceuticals (Bright et al., 2021), the market is heavily fragmented, with both regulated and unregulated players operating within the country. The presence of an overly price sensitive consumer base continues to distort the market price mechanism, while the problem of counterfeit drugs continues to rage unabated which has now become a major public health concern in Nigeria.

Medicine supply in Nigeria is available through hospitals, health facilities and the over 100,000 Patent and Proprietary Medicine Vendors (PPMVs) in the country (Pharma-West Africa, 2025). The PPMVs are licensed to provide over-the-counter drugs to consumers; these vendors represent about 80 percent of the source of medicine available to the entire Nigerian population.

In Nigeria today, poor healthcare infrastructure and widespread poverty have exacerbated the difficulties in accessing pharmaceutical products, and without losing sight of the increasing cost of medications, low income and high poverty levels have turned a basic human need into a financial burden for many Nigerians. Government efforts to intervene for better accessibility to the pharmaceutical market through the Essential Medicines List (EML) and public procurement have not achieved significant results; it has been undermined by corruption, poor logistics, and inadequate funding. Similarly, the National Drug Policy remains poorly implemented, and coordination between federal, state, and local authorities remains weak. While localising pharmaceutical production through public-private partnerships (PPPs) and policy incentives, the outcomes have been counterproductive; the quality of such medicines produced has not met basic requirements for consumption, these substandard pills have further exacerbated the health conditions of consumers, ultimately killing such its users.

Affordability remains a critical challenge in Nigeria's pharmaceutical market. For the average Nigerian, access to quality medicines often competes with other basic needs like food, education, and shelter. According to a 2022 World Bank report, about 40 percent of Nigeria's population lives below the poverty line. With limited or no health insurance coverage, many individuals must pay out of pocket for medicines, making healthcare financially devastating.

Nowadays in Nigeria, people are struggling to get medicines due to poor logistics delivery and general poverty, consumers have to spend more due to inflationary pressure and low wages, despite the government attempts to boost accessibility in the pharmaceutical market, such efforts have not yielded its desirability owing to corruption and lack of transparency in the procurement process. The National Drug Policy remains poorly implemented, and coordination between federal, state, and local authorities remains weak. While stakeholders have suggested localising pharmaceutical production through public-private partnerships (PPPs), it is feared that such policy outcomes could be counterproductive. It is observed that the quality of medicines produced locally has not met basic requirements for consumption; as such, these substandard pills have worsened the health conditions of consumers, ultimately killing such patients. It is difficult for most Nigerians to buy medicines due to their cost, as rural poverty reaches an alarming level of 75.5 per cent and urban poverty level at 41.3 per cent, as reported by the World Bank (2025).

Figure 1: ***Foreign exchange volatility in Nigeria.***

Xe.com (2025)

The rise in prices of medicine has not been matched by an increase in income. The minimum wage is ₦77,000 (less than $49 per month as of 2025 exchange rates), and many Nigerians in the informal sector earn even less. A simple course of malaria treatment pills with antibiotics, for instance, can cost as much as ₦7,000, which is about 9 percent of the minimum monthly wage. For chronic illnesses such as hypertension or diabetes, recurring costs for daily medications have become unsustainable for low-income households. This unaffordability encourages patients to self-medicate, rely on traditional healers, or patronize unauthorised vendors; such practices have worsened health outcomes, thereby increasing drug resistance in users.

Empirical Reviews

Alenoghena, et al. (2014) in their investigation revealed that difficulties experienced in health care and pharmaceutical accessibility in Nigeria are due to mismanagement of sectorial allocations, pilfering of medical supplies, diversion of drugs and other necessities, all to the detriment of patients' needs.

Bright et al. (2021), in their investigation, found out that a major barrier to the ease of access of medications is the scarcity of drug manufacturing businesses in Africa in comparison to the high cost of raw materials, the study revealed that Africa produces only 3 percent of the world's pharmaceutical stock.

Giralt et al. (2017), in their study, revealed that the presence of low-quality medications in the pharmaceutical supply chains in Sub-Saharan Africa is a serious one because national drug regulatory organisations do not carry out their basic regulatory duties in an efficient manner.

Ekeigwe (2019), in a study, found out that the poor manufacturing capacity in Nigeria was due to power outages, infrastructure problems, poor logistics and transportation which deters local drug production resulting in high drug costs.

LuceroPrisno et al. (2020). In their investigation, they found out that the Sudanese drug regulatory agency permitted the importation of medications 10 times more expensive than the global reference price; this was necessary to meet the local aggregate consumption of pills in the country.

Usar et al, (2017), in their study, revealed that Nigeria has notably weak pharmaceutical policy implementation capacity, despite its well-articulated policy formulation and regulations, problems occurring today are offshoots of poorly coordinated inspection plans and bias in enforcement and widespread corruption.

Doua and Van Geertruyden (2014) attributed regulatory weakness in the pharmaceutical sector to a lack of adequate and trained enforcement staff, insufficient budgets, and poorly coordinated regulatory and legal frameworks, which had far-reaching impacts for new pharmaceutical companies in Ghana and Nigeria, undermining their capacity to innovate, produce, and supply drugs efficiently.

Some Barriers to Accessibility and Affordability of Pharmaceuticals in Nigeria

- **High inflation**: Continuous rise in prices make drugs unaffordable for Nigerians; exorbitant prices have become a pressing concern for patients in middle- and low-income countries (Oridanigo, Salgedo & Kebene, 2021).

- **Foreign exchange volatility:** This significantly takes a toll on prices of medications, particularly foreign-made drugs. Inflation is a key driver of the increased prices of drugs due to volatile foreign exchange and reliance on imports (Uzor et al., 2024).
- **Existence of market fragmentation**: A situation where the drug markets serve different segments of customers, issues of skewed distribution and marketing of medical products have turned the pharmaceutical industry and its governance into a significant source of conflict (Pezzola & Sweet, 2016).
- **Absence of effective drug pricing policies:** The absence of policies to close the wide variations in drug costs is another cause for concern.
- **Poor price regulation**: This has created weak enforcement and a lack of a harmonised price control mechanism, causing the market to be vulnerable to opportunistic pricing.

Table 1*: Data on Access, Affordability and Growth of Pharmaceuticals in Nigeria (2013–2023)*

Year	Contribution of Pharmaceutical industry to GDP (%)	Population with Access to Essential Medicines (%)	Total cost Of Malaria Treatment pills	Inflation rate (%)	Monthly Minimum Wage (₦)	NHIS Coverage (%)	Exchange Rate (₦ to $)
2013	0.14	47	1800	8.48	18,000	4	157.31
2014	0.17	49	2000	8.06	18,000	5	158.55
2015	0.17	51	2200	9.01	18,000	6	192.44
2016	0.19	52	2500	15.68	18,000	7	253.49
2017	0.21	53	2800	16.52	18,000	8	305.79
2018	0.22	54	3200	12.09	30,000	9	306.08
2019	0.32	56	3300	11.40	30,000	10	306.92
2020	0.33	58	3500	13.25	30,000	10	358.81
2021	0.35	59	3700	16.95	30,000	11	403.50
2022	0.36	61	3900	18.85	30,000	12	423.72
2023	0.43	63	4600	24.66	30,000	13	638.70
2024	0.44	64	6000	34.80	70,000	19	1535.0

Source: NBS, NHIS, WHO Country Health Profile (2024)

Estimation Method

To investigate the access, affordability and contributions of the pharmaceutical industry to Nigeria's GDP, this study deployed a semi-log regression model where the independent variables were log-transformed and the dependent variable remained in its original form (linear).The model was presented below as thus:

$(Y)=\beta_0+\beta_1 \ln(X_1) +\beta_2 \ln(X_2) +\cdots+ \beta_k \ln(X_k)+\epsilon$

$\beta=(X^1X)^{-1}X^1Y$

The preference between two choices; accessibility or affordability were assessed for their interdependence

$\log (\theta_{ii'jj'}) = \log(\mu_{ij}\mu_{i'j'}/\mu_{i'j}\mu_{ij'})$

The odds ratio θ measures the strength of the preference between two choices based on either accessibility or affordability of general health care e.g. availability of medicines, presence of health facilities, manpower etc.

$\log (\mu_{ij}) = \lambda + (X_{ij}^1 X_{ij})^{-1} X_{ij}^1 Y_{ij}$

$= \log (\mu_{ij}) + \log (\mu_{i'j'}) - \log (\mu_{i'j}) - \log (\mu_{ij'})$

$= \{\lambda^{XY}_{ij}\}.$

Analysis of Data

Table 2: Descriptive Statistics

	GDPt	EXC Rate	Min Wage	Infl rate	NHIS	Access	Treatment Cost
Mean	0.27	420.0	28333.33	15.8	9.5	55.6	3291.7
Median	0.27	306.5	30000.00	14.4	9.5	55.06	3250.0
Maximum	0.44	1535.0	70000.00	34.8	19.0	64.0	6000.0
Minimum	0.14	157.3	18000.00	8.0	4.0	47.0	1800.0
SD	0.10	375.4	14418.00	7.6	4.1	5.5	1190.5
Skew	0.22	2.4	2.1	1.3	0.8	0.1	0.845146
Kurt	1.59	7.7	7.0	4.1	3.5	1.8	3.283946
J-Bera	1.08	23.0	17.1	4.0	1.5	0.7	1.5
Prob	0.58	0.0	0.00	0.1	0.5	0.7	0.5
Obs	12	12	12	12	12	12	12

The average contribution of the pharmaceutical industry to GDP between 2013 and 2024 stood at 0.27, with a relatively narrow spread (standard deviation of 0.10), indicating modest growth. The maximum growth rate was 0.44, while the lowest recorded was 0.14, pointing to its economic insignificance. The mean exchange rate was ₦420/$, with a sharp increase up to a maximum of ₦1535/$ and a low of ₦157.3/$.

The inflation rate averaged 15.8 percent, with a range from 8.0 percent to 34.8 percent and a standard deviation of 7.6, indicating moderate to high inflation. Access to medicine averaged 55.6 percent, ranging from 47.0 percent to 64.0 percent, showing moderate access across the population. The average cost of treatment for malaria was ₦3,291.7, with values between ₦1,800 and ₦6,000.

Table 3: Estimated coefficients and p-values

Variable	Coefficient	p-value	Interpretation
Intercept	-6.0319	0.010	Statistically significant. Intercepts the log-linear model.
% Access to Essential Medicines	**1.3654**	**0.036**	Statistically significant. A 1% increase in access is associated with a 1.37% increase in GDP contribution.
Malaria Treatment Cost	0.1147	0.743	Not significant. Slight positive relationship but not impactful.
Inflation Rate	-0.0474	0.658	Not significant. Minor negative relationship.
Minimum Wage	0.0215	0.828	Not significant. Nearly flat effect.
NHIS Coverage	-0.2014	0.248	Negative relationship, but not statistically significant.
Exchange Rate	0.0432	0.729	Not significant. Exchange rate increases appear weakly associated.
Dependent variable: Contribution of Pharmaceutical industry to GDP *R-squared: 0.975* *Adjusted R-squared: 0.944* *F-statistic: 32.18 (p = 0.000769)*			

Summary of Estimates

From the results, the percentage of the population with access to essential medicines, which has a positive and statistically significant effect (p = 0.036), on the GDP contribution of the pharmaceutical industry at the 5% level (p = 0.036), the results also reveals that the cost of treatment of malaria and minimum wage in the economy has positive and statistically insignificant relation with the GDP contribution of the pharmaceutical industry, meaning that it is a necessary component but not sufficient to boost the GDP of the pharmaceutical sector, also exchange rate has positive and insignificant influence on the response variable indicating that consistent appreciation of a country's currency will reduce the cost of imported raw materials, thereby

boosting productivity, also inflation rate had a minor negative relationship with the response variable, indicative of the fact that rising costs of production in an economy kill productivity, while NHIS coverage has a negative relationship with productivity. This suggests that subsidising health services reduces governments' funding to the productivity of the pharmaceutical sector in the economy. An R-squared of 0.975 shows that about 97.5 percent of the variation in the explanatory variable contributes to the pharmaceutical sector's GDP. The nature of the results may imply that their short-term fluctuations have limited direct influence on the pharmaceutical sector's contribution to GDP and their effects are mediated by other structural factors.

Discussion of Findings

Based on this study, the result showed that when more people have access to essential medicines, the pharmaceutical sector's role in the economy expands significantly, and this reflects the importance of accessibility in driving industrial growth and market demand, meaning that, as more people access necessary drugs, domestic production will increase, raising the sector's GDP contribution.

Investigations also revealed that affordability of drugs by users is a reflection of the pharmaceutical market's structure in place. The study identified issues of selective availability of key drugs affecting their affordability. It observed that high-quality drugs were hoarded by hospitals and pharmacy centers in health facilities. The market is highly fragmented; this is a situation where the drug market serves different segments of customers, and some drugs remain inaccessible in Nigeria due to unwholesome practices by health practitioners.

The NHIS coverage in Nigeria faces significant challenges due to poor coverage, low enrolment rates, and inadequate funding. Only a small percentage of the population is enrolled in the scheme, with many reliant on out-of-pocket payments for healthcare, this affects the quality of life satisfaction, invariably, subsidising medicines health services could crowd out funding and the retard the productivity of the pharmaceutical sector in the economy, the NHIS program largely is a poorly thought policy that will not guarantee the competitiveness of the pharmaceutical sector of the economy, the challenges of corruption and spurious public procurement system in the health sector should be dealt with.

In addition to findings in this study, rising inflation and currency devaluation have threatened the pharmaceutical sector's position in the economy. These economic factors increase import costs, impact profitability, and ultimately affect the affordability and accessibility of essential medicines. Hospitals often pass operational costs to patients, making healthcare expensive. Other miscellaneous factors contributing to this low contribution of the pharmaceutical sector to the Nigerian economy include heavy reliance on imports, limited local manufacturing capacity, regulatory challenges, and insufficient investment in the sector, among others.

Increasing commitments to accessibility, affordability of basic health care needs is critical towards improving the health outcomes of the populace. The government' intentional actions towards availability of this public good is invaluable Adebisi, et al. (2020).

Policy Recommendations

To ensure better access and affordability of medicines for better economic outcomes, the following recommendations are made:

i. The federal government should discontinue the NHIS program and allow the private sector takeover, this will free up funds needed in scaling up Infrastructures, constructing motor-able roads, rail system and guaranteeing reliable power for manufacturing operations in the pharmaceutical sector, also incentives like tax concession and tariff protection can help local manufacturers compete with foreign imports.
ii. The relevant anti-corruption agencies in Nigeria (EFCC, ICPC) should be enabled to consistently perform by tackling corruption relating to spurious procurement of pharmaceutical supplies and medicines in the Nigerian health sector.
iii. The sole health regulator (NAFDAC) should eliminate market fragmentation by ensuring that the drug market serves every segment of customers; this will ensure better access and affordability of necessary drugs for patients, thereby raising the sector's GDP contribution.
iv. Stakeholders should formulate effective drug pricing policies, while the implementation of such policies must be pursued and seen to be achieved in the medium term by strengthening the regulatory capacity to monitor and enforce standards.
v. Efforts should be geared to boost local manufacturing to incentivise local pharmaceutical companies through tax breaks and access to credit.

vi. Moves at improving the distribution and logistics infrastructure particularly in rural areas to ensure equitable access must be taken strategically.

Conclusion

In conclusion, access to essential medicines is integral to enhancing the role of the pharmaceutical sector in the economy. More so, affordability of drugs for consumers is a reflection of the pharmaceutical market's structure; hence, in addressing emerging and existing challenges through targeted strategies, this will significantly pave the way for a more efficient and competitive pharmaceutical sector that ultimately benefits the economy as a whole.

Acknowledgments

The authors gratefully acknowledge the support of the Department Of Economics, Federal University Oye-Ekiti, Ekiti, Nigeria

Funding

This work was solely funded by the author.

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