Assessing the Poor State of Nigeria's Healthcare System: Infrastructure, Workforce Gaps, Uneven Access, Maternal Mortality, Communicable Diseases, and the COVID-19 Pandemic

Sola ALUKO-AROWOLO[*]
Stephen NWAOBILOR OGNONNA [**]

Abstract

Nigeria's healthcare system continues to face serious challenges, including weak infrastructure, shortages of healthcare workers, and unequal access to care. This scoping review examines these long-standing problems and explores how they affect maternal mortality, communicable diseases, and the country's response to the COVID-19 pandemic. Six databases: PubMed, Scopus, CINAHL, APA PsycINFO, Web of Science, and Google Scholar were searched for studies published between 2020 and 2024. The review focused on research related to Nigeria's healthcare infrastructure, workforce, healthcare access, maternal mortality, communicable diseases, and COVID-19. The review was guided by the Joanna Briggs Institute methodological framework and reported in line with the PRISMA-ScR guidelines. The evidence shows that Nigeria's healthcare system is weakened by poor infrastructure, especially in rural communities where health facilities are often under-equipped or unavailable. Shortages of healthcare workers, absenteeism, and migration further reduce the quality and availability of care. Access to healthcare remains uneven, with poorer households and rural populations facing the greatest barriers. Maternal mortality remains high, while communicable diseases such as malaria, tuberculosis, and HIV/AIDS continue to place heavy pressure on the system. The COVID-19 pandemic exposed these weaknesses even more clearly by disrupting essential services and revealing major gaps in emergency preparedness. Nigeria shares many health system challenges with other low- and middle-income countries, including chronic underfunding, weak governance, and unequal distribution of resources. The findings point to the need for stronger investment in health infrastructure, better strategies to retain healthcare workers, wider access to universal health coverage, and improved disease

[*] PhD, Department of Sociology, Olabisi Onabajo University, Ago-Iwoye. Nigeria, Corresponding author: aluko.sunday@oouagoiwoye.edu.ng.
[**] Department of Sociology Olabisi Onabanjo University, Ago-Iwoye, Ogun State, Nigeria, E-mail: s.nwaobilor@yahoo.com.

Copyright: © 2026 by the authors.
Open access publication under the terms and conditions of the
Creative Commons Attribution (CC BY) license
https://creativecommons.org/licenses/by/4.0/

surveillance. Building a more resilient healthcare system is essential for reducing preventable deaths, improving equity, and preparing the country for future health emergencies.

Keywords: *Nigeria's healthcare system; infrastructure; maternal mortality; healthcare access.*

Background

A strong healthcare system is essential for any country's development. It affects how long people live, how productive they can be, and how well communities are able to respond to illness and emergencies. In Nigeria, however, the healthcare system remains fragile despite many years of reforms and policy efforts. With a population of more than 200 million people, Nigeria continues to carry a heavy burden of preventable diseases, maternal and child deaths, and emerging health threats.

The problems facing Nigeria's healthcare system are complex and deeply connected. One of the most visible challenges is inadequate infrastructure. Many hospitals and primary healthcare centres lack basic equipment, reliable facilities, essential medicines, and modern technology. Tertiary hospitals, which are meant to serve as referral centres, often operate beyond their capacity. This leads to overcrowding, long waiting times, and pressure on already limited resources.

Rural communities are often the most affected. In many villages, functional health posts are either absent or poorly equipped, forcing residents to travel long distances for basic care. Urban areas may have more facilities, but they also face rising demand due to population growth, rural-to-urban migration, and limited investment in healthcare infrastructure. As a result, both rural and urban populations experience different but serious barriers to quality care.

Another major challenge is the shortage of healthcare workers. Nigeria's doctor-to-patient and nurse-to-patient ratios remain far below what is needed to meet the health needs of the population. The migration of skilled professionals to other countries—often described as brain drain—has made the situation worse. Many healthcare workers who remain in Nigeria face poor working conditions, low pay, limited career opportunities, and insecurity. These conditions lower morale and contribute to strikes, absenteeism, and reduced quality of care.

Access to healthcare is also highly unequal. Wealthier households, especially in urban areas, are more likely to use private hospitals that are better equipped and staffed. Poorer households, particularly in rural areas, often depend on underfunded public facilities. Out-of-pocket payments make healthcare unaffordable for many families, widening the gap between those who can access

care and those who cannot. Women and children are especially affected because maternal and child health services are often limited by cost, distance, and cultural barriers.

Problem Statement

The weaknesses in Nigeria's healthcare system have serious consequences for health outcomes. Maternal mortality remains alarmingly high, and many deaths occur from preventable causes such as haemorrhage, eclampsia, and obstructed labour. These conditions can often be managed when women have timely access to skilled health workers, emergency obstetric care, and well-equipped facilities.

Communicable diseases also remain a major public health concern. Malaria continues to affect millions of Nigerians and contributes significantly to childhood deaths. Tuberculosis and HIV/AIDS remain persistent challenges, worsened by weak diagnostic systems, poor treatment adherence, stigma, and uneven access to treatment. These diseases thrive in settings where health facilities are under-resourced, staffing is inadequate, and surveillance systems are weak.

The COVID-19 pandemic further exposed the fragility of Nigeria's healthcare system. The country's response was limited by weak diagnostic capacity, shortages of personal protective equipment, inadequate emergency preparedness, and limited intensive care capacity. Many health facilities lacked ventilators, oxygen systems, and trained personnel to manage severe cases. At the same time, the redirection of resources toward COVID-19 disrupted essential services such as immunization, antenatal care, and treatment for chronic conditions. The pandemic therefore highlighted the urgent need for deeper and more sustainable healthcare reforms.

Objectives

This study critically examines the poor state of Nigeria's healthcare system, focusing on three major issues: inadequate infrastructure, shortage of healthcare personnel, and uneven access to services. It also explores how these weaknesses contribute to maternal mortality, communicable disease burdens, and the challenges experienced during the COVID-19 pandemic.

The specific objectives are to:

- Examine the current state of healthcare infrastructure in Nigeria and how it affects service delivery.

- Analyse the challenges linked to shortages of healthcare personnel and their effects on patient outcomes.
- Evaluate inequalities in healthcare access across socio-economic and geographic groups.
- Investigate how systemic weaknesses contribute to maternal mortality and communicable disease burdens.
- Assess how the COVID-19 pandemic exposed and intensified existing weaknesses in Nigeria's healthcare system.

Significance of the Study

This study is important because it brings together the major issues affecting Nigeria's healthcare system and shows how they are connected. By focusing on infrastructure, workforce shortages, and unequal access, the study provides a clearer understanding of why poor health outcomes persist across the country.

The study also highlights how these systemic weaknesses affect maternal mortality, communicable diseases, and pandemic preparedness. These insights are useful for policymakers, healthcare professionals, researchers, and international partners working to improve health outcomes in Nigeria.

In addition, the study supports evidence-based policy reform. It draws attention to the need for stronger investment in health infrastructure, better workforce training and retention, and fairer distribution of healthcare services. By reflecting on the lessons from COVID-19, the study also emphasizes the importance of building a healthcare system that can respond effectively to future emergencies.

Ultimately, this research contributes to ongoing conversations about healthcare reform in Nigeria. It supports advocacy for better health financing, improved disease control, reduced maternal deaths, and stronger emergency preparedness. A functional healthcare system is not only a matter of public health; it is also essential for national development, economic productivity, and social stability.

Methodology

Research Design

This study uses a scoping review design guided by the Joanna Briggs Institute methodological framework and reported according to the PRISMA-ScR guidelines. A scoping review is appropriate because it allows the researcher to map the available evidence on Nigeria's healthcare system and identify key themes, gaps, and patterns.

This approach is especially useful for examining broad and interconnected issues such as poor infrastructure, workforce shortages, unequal access, maternal mortality, communicable diseases, and COVID-19 response. It provides a structured way to understand how these challenges interact and how they shape health outcomes in Nigeria.

Search Strategy

Six databases were searched for studies examining the poor state of Nigeria's healthcare system, with particular attention to infrastructure, workforce, and healthcare access. The review focused on empirical and policy-relevant studies because these provide useful evidence on how systemic weaknesses affect maternal mortality, communicable diseases, and COVID-19 response.

The databases searched were PubMed, Scopus, CINAHL Complete, APA PsycINFO, Web of Science, and Google Scholar. Search terms included combinations of keywords such as "Nigeria," "healthcare system," "health services," "health infrastructure," "health workforce," "access," "equity," "universal health coverage," "maternal mortality," "communicable diseases," "malaria," "tuberculosis," "HIV/AIDS," "COVID-19," and "pandemic." Boolean operators and relevant subject headings were used where appropriate.

Inclusion and Exclusion Criteria

Studies were included if they focused on Nigeria's healthcare system, examined issues related to infrastructure, personnel, or healthcare access, and addressed maternal mortality, communicable diseases, or COVID-19 in the Nigerian context. Eligible studies were published in English between 2020 and 2024 and included peer-reviewed articles, government reports, and policy briefs.

Studies were excluded if they did not focus on Nigeria, lacked empirical or policy relevance, were opinion pieces, or were not available in English.

Data Extraction

Data were extracted using the JBI template, which helped organize key details from each included study. The extracted information included the authors' names, article title, year of publication, country of publication, study area, setting, research tradition, study design, research instrument, and sample size.

Using this template strengthened the review process by ensuring that information was collected consistently across studies. It also helped provide context for the analysis and discussion of findings.

Data Analysis

The data were analysed using thematic content analysis. Findings were grouped into major themes that reflected the key weaknesses of Nigeria's healthcare system and their effects on health outcomes. The results were presented narratively and supported with tables and thematic summaries to show how infrastructure, workforce shortages, access barriers, maternal mortality, communicable diseases, and COVID-19 response are connected.

Healthcare Infrastructure in Nigeria and Its Effect on Service Delivery

Healthcare infrastructure plays a major role in the quality, fairness, and resilience of service delivery in Nigeria. Evidence shows that health facilities are unevenly distributed, with rural communities facing the greatest disadvantages. Many rural facilities lack adequate equipment, essential medicines, reliable electricity, and trained staff. This makes it difficult for people in these communities to receive timely and effective care.

The lack of basic technologies, such as oxygen supply and diagnostic equipment, also weakens clinical care. When facilities do not have the tools needed to diagnose and treat patients, preventable deaths become more likely. Conditions such as pneumonia, pregnancy complications, and infectious diseases require timely intervention, but weak infrastructure often delays or limits care.

Evidence from hospital oxygen programmes in Nigeria shows that targeted investments can make a real difference. When oxygen systems are improved and supported with training and maintenance, hospitals become better prepared to manage severe illness. However, these improvements can only be sustained when there is reliable funding, proper maintenance, and enough skilled personnel to support the systems.

Workforce Shortages and Their Implications for Patient Outcomes

Shortages of healthcare workers remain one of the most serious barriers to quality care in Nigeria. In many primary healthcare centres, staffing gaps are made worse by absenteeism, weak supervision, and poor accountability. When health workers are absent or too few in number, patients experience delays, reduced access to preventive care, and poorer management of illnesses.

Health worker migration has also placed additional pressure on the system. Many doctors, nurses, and other skilled professionals leave the country in search of better

pay, safer working conditions, and career development opportunities. Those who remain often face heavy workloads, low morale, and limited resources.

These workforce challenges directly affect patient outcomes. A facility may exist, but without enough trained and motivated staff, it cannot provide effective care. Patients may wait longer, receive incomplete services, or be referred elsewhere because the available workers are overwhelmed. Addressing workforce shortages therefore requires better pay, safer working conditions, stronger governance, and fairer distribution of health workers across the country.

Inequalities in Access to Healthcare Services

Access to healthcare in Nigeria is shaped by both geography and socio-economic status. People living in rural areas often travel long distances to reach health facilities, while those in poorer households may avoid care because they cannot afford treatment. These barriers are often connected, meaning that rural and low-income communities face multiple disadvantages at the same time.

During the COVID-19 pandemic, areas with stronger financing, better staffing, and more adaptable health systems were more able to maintain essential services. In contrast, under-resourced areas struggled to recover and continue routine care. This shows how local differences in funding, staffing, and infrastructure can widen health inequalities.

Socio-economic inequality also affects the type and quality of care people receive. Wealthier Nigerians are more likely to use private facilities, while poorer households often rely on overstretched public services. High out-of-pocket payments make healthcare unaffordable for many families, increasing the risk that people delay care until conditions become severe.

Systemic Weaknesses, Maternal Mortality, and Communicable Diseases

Maternal mortality and communicable diseases in Nigeria are closely linked to wider weaknesses in the healthcare system. Many maternal deaths occur because women do not receive timely access to skilled birth attendants, emergency obstetric care, blood transfusion services, or well-equipped facilities. These deaths are often preventable, which makes them a clear sign of system failure.

The quality of maternal and newborn care also varies greatly across states and facilities. Some regions have stronger systems, better staffing, and more functional services, while others remain poorly resourced. This unevenness means that a

woman's chance of surviving pregnancy and childbirth can depend heavily on where she lives and what she can afford.

Communicable diseases such as malaria, tuberculosis, HIV/AIDS, and outbreaks such as COVID-19 also reveal the limits of the system. Weak surveillance, limited diagnostic capacity, poor treatment access, and inadequate funding make disease control more difficult. These diseases are not only medical problems; they are also signs of deeper issues in governance, financing, infrastructure, and equity.

How COVID-19 Exposed Nigeria's Healthcare Challenges

The COVID-19 pandemic did not create Nigeria's healthcare problems, but it made them more visible and more urgent. The pandemic exposed gaps in surveillance, testing, emergency preparedness, coordination, and hospital readiness. Many facilities were not equipped to manage large numbers of severe cases, and shortages of oxygen, personal protective equipment, and trained staff placed both patients and health workers at risk.

COVID-19 also disrupted routine health services. Immunization, antenatal care, chronic disease management, and other essential services were affected as attention and resources shifted toward pandemic response. This created additional risks for vulnerable groups, especially women, children, older adults, and people with existing health conditions.

At the same time, the pandemic showed that targeted investments can improve resilience. Programmes that strengthened oxygen systems and facility readiness demonstrated that practical solutions are possible when resources are directed effectively. This suggests that Nigeria's healthcare system can improve if reforms are sustained, well-funded, and focused on equity.

Discussion of Findings

The findings show that Nigeria's healthcare system remains weakened by long-standing structural problems. Inadequate infrastructure, workforce shortages, unequal access, high maternal mortality, communicable disease burdens, and weak emergency preparedness are not separate issues. They reinforce one another and create a cycle of poor service delivery and preventable health outcomes.

Healthcare infrastructure remains unevenly distributed, with rural communities carrying the greatest burden. Many facilities lack the equipment and supplies needed to provide quality care. Evidence from oxygen system interventions shows

that targeted investments can save lives, but weak maintenance systems and underfunding threaten sustainability.

Workforce shortages also continue to undermine service delivery. Absenteeism, poor pay, insecurity, weak accountability, and migration all reduce the availability and quality of care. These problems are especially serious in rural and underserved areas, where staffing gaps are often most severe.

The findings also confirm that access to healthcare is deeply unequal. Wealthier households and urban residents are more likely to access better-equipped services, while poorer and rural populations face financial and geographic barriers. These inequalities contribute to different health outcomes across communities and regions.

Maternal mortality and communicable diseases remain major indicators of system weakness. High maternal deaths reflect gaps in emergency care, skilled attendance, referral systems, and facility readiness. Similarly, the persistence of malaria, tuberculosis, HIV/AIDS, and other infectious diseases reflects weaknesses in surveillance, prevention, diagnosis, and treatment.

Finally, COVID-19 revealed the fragility of the system. The pandemic exposed weaknesses in coordination, diagnostic capacity, emergency response, and health security. However, it also showed that improvement is possible when interventions are targeted and supported. Nigeria's challenge is not simply to respond to crises, but to build a system that is strong enough to protect people before crises occur.

Limitations

One major limitation of this study is its reliance on secondary data through a scoping review design. Although this approach provides a broad overview of existing evidence, it does not capture the real-time experiences of healthcare workers, patients, and policymakers in the same depth as primary research.

Another limitation is that the review was restricted to English-language studies published between 2020 and 2024. This may have excluded earlier studies or non-English publications that could offer additional insights. As a result, while the study identifies major systemic weaknesses, it may not fully represent the lived experiences of all stakeholders across Nigeria.

Conclusion

This study highlights the fragile state of Nigeria's healthcare system. The evidence shows that inadequate infrastructure, shortages of healthcare workers, unequal access, high maternal mortality, and communicable disease burdens continue to weaken health outcomes across the country. The COVID-19 pandemic further exposed these problems and showed the urgent need for stronger preparedness, surveillance, and service delivery.

The findings suggest that Nigeria's healthcare challenges are deeply structural. Rural populations, low-income households, women, and children are among the groups most affected. Addressing these problems requires reforms that are practical, well-funded, and focused on equity.

To strengthen the healthcare system, policymakers should invest more in health infrastructure, especially in rural areas. They should also improve workforce retention through better pay, safer working conditions, and clearer career pathways. Expanding universal health coverage is also essential to reduce financial barriers and improve access to care.

In addition, Nigeria needs stronger systems for emergency preparedness, disease surveillance, and facility readiness. These reforms would help reduce preventable deaths, improve health equity, and strengthen the country's ability to respond to future health threats. A stronger healthcare system would not only improve public health, but also support national productivity, social stability, and sustainable development.