Review Article

Revitalizing the state of primary healthcare towards achieving universal health coverage in conflict affected fragile northeastern Nigeria: Challenges, strategies and way forward

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Abstract

The Alma-Ata Declaration of 1978 defined primary healthcare as a critical way to obtain universal health care and 'health for all.' In Nigeria, the National Health Policy (NHP) and the subsequent formation of the Primary Health Care (PHC) system aim to modernize healthcare delivery, at the grassroots level. In recent decades, however, the status of primary healthcare in Nigeria, particularly in the northeastern region, has significantly deteriorated, further posing significant threats to health equity and universal access to healthcare. Armed conflicts, humanitarian crises, insufficient finance, inadequate infrastructure, and labor shortages have negatively impacted the region's PHC facilities. This article discusses the poor state of primary healthcare in northeastern Nigeria and its implications for achieving universal health coverage in the region. In addition, the article elaborates on the historical context, highlights the difficulties and challenges in the development of primary healthcare, and explores potential solutions to improve the system.

Keywords: Primary health care, northeastern Nigeria, universal health coverage, conflict, Nigeria

Introduction

Since the Alma-Ata declaration of primary health care (PHC), the initiative has become an essential health care approach. This is based on practical, scientifically sound, and socially acceptable methods and technology that are made universally accessible to individuals and families in the community through their full participation [1]. PHC is aimed at providing person-

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centered and holistic health care with a focus on prevention [2,3]. The Alma-Ata declaration, which emerged as a major milestone in the field of public health, was made during the International Conference on Primary Health Care held in Alma-Ata, USSR, in 1978. The declaration emphasized that health is a fundamental human right and that the highest possible level of health is a worldwide social goal that requires in collaboration with the health sector, the action of various social and economic sectors [1]. Since then, PHC has become the cornerstone of healthcare systems providing health services for communities, where approximately 80% of the healthcare needs of individuals could be met at the primary healthcare level [4]. This indicates that a functional primary healthcare is integral to the sustainability of health systems around the world.

The development of the National Health Policy (NHP) and the subsequent formation of the Primary Health Care (PHC) system in Nigeria in the 1980s and 1990s aimed to modernize healthcare delivery, especially at the grassroots level [5]. However, in recent decades, the status of PHC in the country has deteriorated. This is particularly worrisome in the northeastern region of the country. Currently, the PHC system in Nigeria is in a dire state, with only approximately 20% of the functional PHC facilities operating across the country [6]. This can be attributed to a lack of government commitment to revitalize and reposition the primary healthcare system to meet set targets. Most PHC facilities in Nigeria, especially in the northeastern region, face significant challenges, including inadequate capacity to provide essential medical services, acute shortages of healthcare workers, poor infrastructure, inadequate equipment, and insufficient drug supplies [7]. Furthermore, the northeastern region has been for over a decade suffering from armed conflicts, leading to a serious humanitarian crisis especially due to the Boko Haram insurgency. This crisis has resulted in the closure of 26% of health facilities in the region and the displacement of healthcare professionals, further hampering access to and provision of basic healthcare services for the population [8].

Obviously, the goal of the PHC system is to provide accessible health care for all under global leaders through renewed action on a roadmap for achieving the 2030 Sustainable Development Goals (SDG 3.8) through universal health coverage (UHC) [9]. The 'health for all' global call to achieve access and equity in health care services with no financial burden therefore hinges on the effectiveness of PHC services. However, populations living in conflict-affected regions, such as northeastern Nigeria, face several challenges and barriers to accessing basic healthcare services [10]. Therefore, the poor state of primary healthcare poses a significant challenge to achieving health for all' in Nigeria, especially in the northeastern region. In the light of this, this paper aims to discuss the current state of PHC in northeastern Nigeria. It further investigated the challenges faced by PHC in the region and proffered solutions towards its revitalization.

State of healthcare in northeastern Nigeria

The provision and accessibility of healthcare services in Nigeria face significant challenges, posing a formidable barrier to the overarching goal of achieving universal health coverage and ensuring health for all in the country [1]. This trend is further worsened in northeastern Nigeria following the aftermath of the Boko-Haram insurgency within the region [12].

The National Health Act of 2014 aimed to address these challenges by mandating financing for primary healthcare services through various sources, including the federal government's annual grant and international donor funds, with the goal of enhancing the provision of basic health services to citizens [13-17]. However, insufficient funding and resources allocated to healthcare in northeastern Nigeria have led to a decline in healthcare services. Budgetary allocations often fall short of actual needs due to the diversion of funds meant for healthcare to security, impeding the procurement of essential medical supplies, maintenance of healthcare facilities, and hiring of qualified healthcare professionals. This resource scarcity has further weakened the already fragile healthcare system, rendering it inadequate for the population's health needs. Despite the reasonable number of primary healthcare centers in the region, their performance is impeded by these challenges, primarily stemming from financing and governance issues.

Coupled with the security challenges, Northeastern Nigeria faces a myriad of socioeconomic and political issues, including persistent poverty, limited infrastructure, internal conflicts, and

the resultant displacement of communities [12]. These adversities have placed immense strain on the already fragile healthcare system, exacerbating the inadequacies in delivering essential health services, especially at the primary level. Unqualified healthcare professionals, poorly equipped facilities, and geographical inaccessibility are among the core factors that contribute to the direness of the primary level of healthcare [13]. This state of the PHC represents a major hurdle in achieving health for all in the region. Addressing this challenge demands urgent and sustained efforts from various stakeholders to revitalize and fortify the system, ensuring equitable access to quality healthcare services for the population [14].

Moreover, Widespread poverty, high unemployment, and limited economic opportunities directly hinder access to healthcare services for individuals and communities in this region. The situation is worsened for the displaced, such as those in Internally Displaced Camps, as they are forced to make difficult choices between healthcare and fulfilling basic needs, ultimately compromising their health [15]. The conflict in northeastern Nigeria has severely disrupted the healthcare system, causing extensive damage to infrastructure and prompting skilled healthcare workers to leave the region. This exodus has left the healthcare system understaffed and struggling to provide adequate care.

Impact of insurgency on primary health care

The six states that constitute Nigeria's North–East geopolitical zone—Adamawa, Bauchi, Borno, Gombe, Taraba, and Yobe—are among the least developed in the country. Insecurity, notably the Boko-Haram insurgency has negatively impacted maternal and child mortality rates, making the region the most affected in Nigeria. Additionally, almost a million people displaced by the conflict have limited access to primary healthcare, making disease diagnosis and management challenging. This situation threatens the progress made in controlling diseases such as HIV, tuberculosis, hypertension, diabetes, and malaria in pregnancy due to potential underreporting and inadequate detection, hence deteriorating the already overburdened primary healthcare in the region [16].

The pervasive inability of the healthcare system to provide even the most basic health demands of the populace is further compounded by this violence against healthcare professionals. It was discovered that PHC facilities within the region are unable to offer basic medical services due to the displacement of healthcare workers who occasionally suffer unintentional harm or even becoming the target of planned attacks [18, 19]. Such incidents have resulted in scarcity of medical personnel in the region, further exacerbating the unequal distribution of qualified health workers, especially nurses and doctors, wreaking havoc on access to high-quality PHC interventions [20] in the region.

Not just the Boko Haram insurgency, other conflicts or drivers of insecurity such as banditry, kidnappings and cattle rustling have afflicted the people in northeastern Nigeria and which have further impacted the growth of PHC in the region [19] and beyond. This is because instabilities related to the insecurity have resulted into an increase in internally displaced persons, food insecurity, the spread of fatal illnesses, and violence against women.

Due to overcrowding, PHC centers in internally displaced person camps and resettlement areas, in northeastern Nigeria, are becoming less functional and in danger of collapsing. As a result, people are forced to travel or trek great distances to obtain medical care in places [18,19]. This results in delays in reaching a healthcare facility, further complicating the matter, as more people are unable to transport themselves to a health facility with a reliable vehicle (car/motorcycle) coupled with lack of functional ambulance services, which could lead to a high incidence of preventable deaths in emergency situations [21].

It is also important to note that numerous PHC centers have been demolished, and others abandoned. Additionally, immunization programs have been disrupted as healthcare workers, including nurses, physicians, pharmacists, and other caregivers, have fled for their lives [18], thereby increasing the rate of death from vaccine preventable diseases.

Impacts of poor primary healthcare coverage and accessibility

The development of universal health coverage and fair access to healthcare services is significantly hampered when primary healthcare is insufficient or of poor quality [23]. Inadequate medical care is a major factor in excess mortality, highlighting its widespread influence on a variety of health outcomes, most of which are considered deadly [22,23]. The poor health status of patients in northeastern Nigeria is a major contributor to the high mortality and morbidity rates from cardiovascular disease, trauma, problems related to newborns, and infectious diseases [22].

Early detection, management, and preventive care for common diseases and disorders depend on effective primary healthcare in northeastern Nigeria. Poor basic healthcare can increase the prevalence of diseases that can be prevented, which can increase morbidity and mortality rates among mothers and children in the general population [23,24]. Furthermore, poor primary healthcare has a detrimental effect on maternal and infant mortality rates by limiting community engagement, preventing early interventions, preventing preventative measures, and increasing the cost and accessibility of healthcare [24]. Therefore, promoting mothers' and children's well-being and health requires access to high-quality basic healthcare services. Inadequate access to primary healthcare perpetuates an ongoing cycle of poverty and underdevelopment in northeastern Nigeria [24,25]. Children born into families without access to good primary healthcare inherit poor health and limited economic potential, keeping the cycle of generational poverty alive. Higher rates of sickness and death caused by a lack of affordable, high-quality healthcare services have a direct financial impact and indirectly affect the productivity of workers in the region, further entrenching the cycles of poor health and poverty [25,26]. Addressing these major healthcare problems is crucial to overcoming the intergenerational cycles of poor health, underdevelopment, and poverty in the region.

The financial burden of healthcare services within the region further drives families into poverty, lowering workforce productivity and hindering the growth of the economy as a whole [26,27]. This has exacerbated the existing socioeconomic gaps and threats to health security within the region [27,28]. The spread of infectious diseases has been accelerated by poor disease surveillance, limited access to basic healthcare, and difficulties in addressing emergencies and health cases [28,29]. The lack of well-equipped medical facilities restricts the ability to provide health education, preventive measures, and timely emergency response, contributing to overall health security threats in northeastern Nigeria [9,29,30,31].

Barriers to strengthening primary health care systems

While PHC management is constitutionally the responsibility of the local government areas, the majority of PHCs are ineffective due to inadequate funding resulting from the country's lopsided federal allocation system and local government administrators' failure to prioritize healthcare [32]. The collapse of PHC in northeastern Nigeria has also been attributed to inadequate leadership and administration, which is reflected in subpar organizational structures, a lack of financing, and corruption. The corruption epidemic has afflicted every sector of the country. This is usually evident in several instances involving the misuse and diversion of funds at all levels of government. Numerous funders of the country's health services have started to cut back on their contributions, withdraw entirely, or closely monitor how the initiatives and programs they fund are carried out [32].

Additionally, the region's PHC system has suffers due to mismanagement caused by inadequate policy formation, analysis, and proper program execution [33,34]. Rather than addressing the grave issues affecting primary health care, policies are designed to further political objectives and financial benefits. The adoption of numerous policies and initiatives intended to advance primary healthcare has also been hampered by corrupt practices such as report fabrication and resource misappropriation for personal gains [34]. As a result, funds meant for the provision of PHC services have been embezzled. Furthermore, Nigerian financial mismanagement at all levels has made it harder to pay for healthcare and thus increased health disparities among communities [34], especially for vulnerable communities in the northeastern

region of the country. Inadequate and discriminatory spending practices allow the impoverished to continuously suffer disproportionately from the limited resources intended to provide the public with high-quality healthcare that is affordable and accessible [34,35]. The undersupply and unequal distribution of medical professionals are other important obstacles to the growth of PHC in northeastern Nigeria. Even though the government intends to ensure that resources are distributed more fairly, there are still clear inequities [33,35].

Moreover, the complexity of the PHC system has worsened over time due to the shifting political landscape marked by erratic governance. As a result, policies change frequently and have different effects on health outcomes [36]. Unfortunately, more than half of the National Council of Health's authorized policies were not implemented at the subnational level between 2013 and 2015, notwithstanding a decrease in the percentage of implementation gaps [36]. The challenges for improving PCH systems in conflict-affected Northeastern Nigeria are summarized in **Figure 1**. To address these persistent barriers and revitalize PCH in northeastern Nigeria, a comprehensive and collaborative approach is therefore necessary.

Potential solutions for revitalizing primary health services

It is without doubt that conflicts in northeastern Nigeria has had a significant impact on the region and the lives of its inhabitants, with just half of the region's 700 healthcare institutions operating [37]. It is therefore obvious that strengthening the region's health-care system should be a top priority. This would help in addressing the devastating impact of the Boko-Haram insurgency and other conflicts, particularly on healthcare delivery. Rehabilitation and the construction of additional healthcare facilities in the region will greatly improve healthcare access and delivery.

Leveraging digital health technologies can also be a transformative solution to enhance healthcare in the region. The effective utilization of telemedicine and mHealth initiatives can connect distant healthcare practitioners with specialists and patients, enabling remote consultations, early diagnoses and treatment. This can be particularly valuable in areas with limited access to healthcare facilities and providers in times of insecurities. Implementing user-friendly mobile applications and platforms to provide health education, appointment scheduling, and medication adherence support can empower patients and communities to take a more active role in managing their own health.

Improving the recruitment, training, and retention of healthcare workers is crucial for revitalizing primary healthcare in northeastern Nigeria. Strategies should include providing competitive compensation packages, attractive and safe working conditions, furnished accommodations, and clear pathways for career advancement and professional development. Offering specialized training such as healthcare provisions in conflict areas and situations, capacity-building workshops, and continuous education opportunities can equip healthcare workers with the necessary competencies to deliver high-quality care. Addressing the brain drain of healthcare professionals from the region through these incentive schemes is essential for building a sustainable and resilient primary healthcare workforce.

Additionally, engaging local communities and stakeholders in providing collective and context-specific solutions is key to improving healthcare delivery in the region. Implementing health literacy initiatives, especially among internally displaced populations, can empower individuals to make informed decisions about their health and access available services. Collaborating with community leaders, religious figures, and influential local groups can foster trust, address cultural barriers, and leverage existing social structures to enhance healthcare-seeking behaviors and community participation in program planning and implementation.

Moreso, advocating for increased healthcare budget allocation to the northeastern region is crucial to address the persistent inequities and resource gaps, particularly at the primary level. Alongside enhanced funding, implementing robust monitoring and transparency mechanisms will ensure that allocated resources are utilized efficiently and effectively to strengthen the primary healthcare system. With a comprehensive and collaborative approach, the potential solutions and strategies can help break the cycle of poor health and underdevelopment in the region. The proposed strategies for improving PHC systems in conflict-affected Northeastern Nigeria are presented in **Figure 1**.

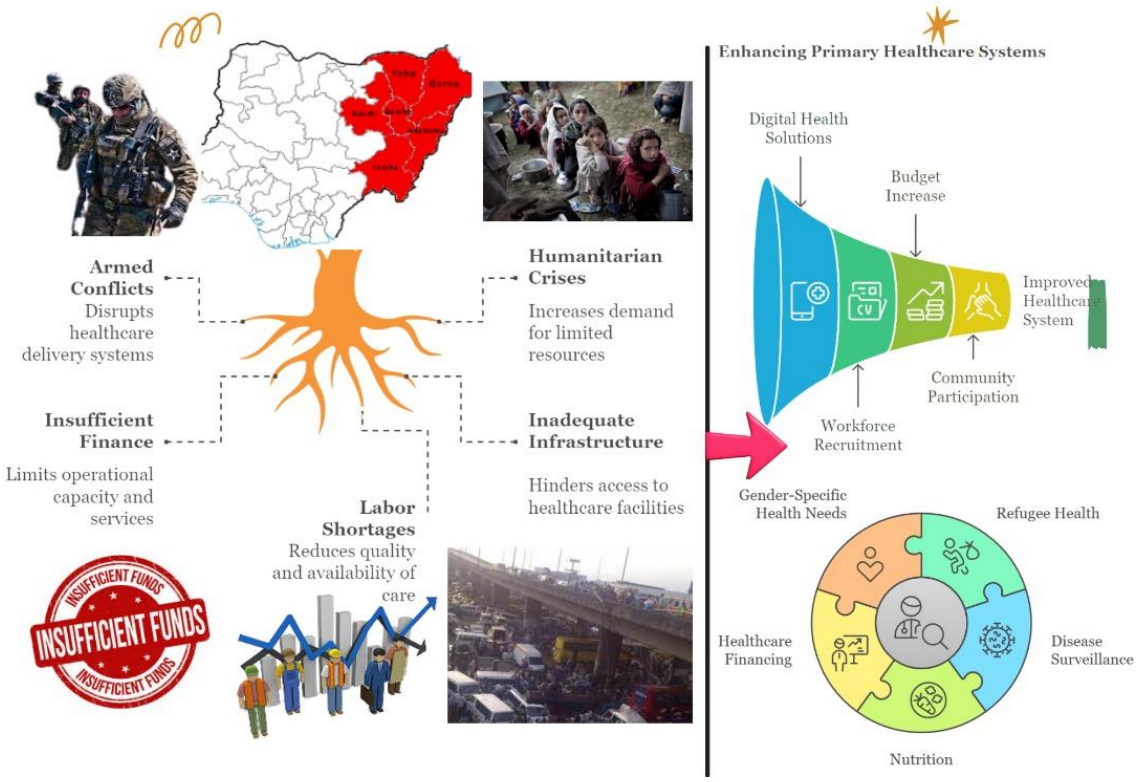

Figure 1. Summary of challenges and strategies for enhancing primary healthcare systems in conflict-affected Northeastern Nigeria. The key challenges, including armed conflicts disrupting healthcare delivery, insufficient finances limiting operational capacity, labor shortages reducing care quality, humanitarian crises increasing resource demand, and inadequate infrastructure hindering access to facilities. The potential strategies to enhance healthcare systems could be leveraging digital health solutions, increasing budgets, recruiting a skilled workforce, involving community participation, and addressing gender-specific health needs. These approaches aim to strengthen healthcare financing, nutrition, refugee health, disease surveillance, and overall health system resilience for effective and inclusive care delivery.

Priority research areas for strengthening primary healthcare

Improving PHC in conflict-affected areas of northeastern Nigeria requires a multifaceted approach that addresses the unique challenges posed by ongoing violence and instability. Establishing essential elements such as infrastructure assessment, supply routes, and skilled personnel is necessary for the efficient delivery of PHC [38]. To guarantee that healthcare providers can address the unique requirements of communities affected by war, training and human resource investments are crucial [39], especially in research areas such as refugee health, food security assessment and gender-specific health needs. Resolving the authority divide and ensuring consistent funding are essential for the sustainability of health initiatives such as the Saving One Million Lives project [40]. The effectiveness and acceptability of PHC services can be strengthened by involving local communities in health decision-making and research participation [39]. Research indicates that internally displaced person often prefer facility care over non-facility options, influenced by perceptions of illness severity and living conditions [41]. Therefore, integrating non-facility care providers into the health system can enhance access to and responsiveness toward health needs [41]. Additionally, key research areas needing improvement in conflict-affected Northeastern Nigeria include nutrition, diarrheal diseases, anemia disorders, geriatrics, and mental health. Equally critical are infectious disease surveillance, disease burden assessment, health system resilience, and public health governance and policy.

Conclusion

To conclude, the findings of this article highlight the critical role of PHC as an essential, person-centered health improvement, and disease preventive approach to all. However, the state of PHC in Nigeria, particularly in the northeastern region, faces significant challenges. The Boko-Haram insurgency and resulting humanitarian crises have led to the destruction and or closure of healthcare facilities, exacerbating the existing issues of infrastructural inadequacy, insufficiency of qualified personnel, and inadequate funding. Hence, the poor state of PHC in northeastern Nigeria poses substantial difficulty in achieving the goal of "health for all" in the region. This will further exacerbate the existing mortality and morbidity rates, the perpetuation of poverty and underdevelopment, economic setbacks, and heightened health security risks.

While the goal is to break the cycle of poor health, poverty, and underdevelopment in the region and ensure access to quality healthcare for all, addressing these challenges will require urgent and sustained efforts from all concerned stakeholders. Improving primary healthcare in conflict-affected northeastern Nigeria requires addressing challenges like infrastructure, skilled personnel, and consistent funding while incorporating local community participation. Key research priorities include refugee health, nutrition, infectious disease surveillance, mental health, and health system resilience to ensure effective and inclusive healthcare delivery.

Ethics approval

Not required.

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Competing interests

All the authors declare that there are no conflicts of interest.

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Underlying data

No new data are generated in this study.

Declaration of artificial intelligence use

Artificial intelligence-based language model, Quillbot, was employed for improving the grammar, sentence structure, and readability of the manuscript. We confirm that all AI-assisted processes were critically reviewed by the authors to ensure the integrity and reliability of the results. The final decisions and interpretations presented in this article were solely made by the authors.

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