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A Comparative Analysis of Healthcare Workforce in Northern and Southern Nigeria: Implications for National Security

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Abstract
The healthcare of a nation is intrinsically linked to its national security due to its significant connection to the overall well-being of the population. A robust healthcare workforce is crucial for national security; conversely, shortage of healthcare workforce harms the overall well-being of the population and undermines national security. This study explores the disparities in healthcare workforce distribution between Northern and Southern Nigeria and assesses the implications for national security using secondary data from Federal Ministry of Health (FHOH) and World Health Organization (WHO). Also, the study is anchored on seven complementary theoretical perspectives, namely: Human Capital Theory, Health System Strengthening Theory, Structural Inequality Theory, Human Security Theory, Non-Traditional (Expanded) National Security Theory, Political Economy of Health Theory, and State Capacity Theory, which further analyze the unequal healthcare workforce between Northern and Southern Nigeria with its attendance implications. Findings reveal disparities in healthcare workforce distribution as 72.3% of doctors and 67.4% of nurses are concentrated in Southern Nigeria, leaving the North with only 27.7% and 32.6% respectively. In conclusion, the research highlights uneven allocation of medical professionals across regions as Southern Nigeria enjoys a higher concentration of healthcare workers compared to the North, where acute shortages persist. These disparities have consequences for health equity, socioeconomic development, and security stability. The study recommends equitable redistribution of the workforce, policy reforms, and capacity building to address regional imbalances and enhance national security.

Keywords: Healthcare, Healthcare workforce, National Security, Northern Nigeria, Southern Nigeria

Introduction

Effective healthcare systems not only save lives but also contribute to economic stability, social equity, and national security. According to Bloom *et al*., (2018), strong preventive care decreases the burden on hospitals and healthcare providers. Healthcare is very significant for Public Health and Disease Prevention as vaccinations, screenings, and health education reduce the spread of infectious diseases and lower mortality rates (Bloom *et al*., 2018). Similarly, Healthcare has a great economic impact because healthy populations are more productive. Illness leads to workforce shortages, reduced income, and increased healthcare costs (World Bank, 2019). Investment in healthcare has a multiplier effect on economic growth. According to Farmer and Kim (2020), access to quality healthcare reduces inequalities and marginalized groups benefit from improved health outcomes when healthcare is available and affordable. Ghebreyesus, (2021) linked important of healthcare to National Security as he alluded that Public Health crises, such as epidemics or pandemics, can destabilize societies. He maintained that robust healthcare system is essential for resilience against both biological threats and emergencies.

On challenges in Healthcare, Aregbeshola and Khan, (2018) stressed that many countries face shortages of medical personnel, equipment, and funding. Low doctor-to-patient ratios and limited hospital infrastructure hinder access to care. Also, according to WHO, (2020) Rural areas often lack specialized services, resulting in uneven health outcomes compared to urban centers. emerging health threats like antimicrobial resistance, new infectious diseases, and environmental hazards present ongoing challenges (Ventola, 2015).

Many scholars have proffered solutions to healthcare challenges, Dorsey and Topol, (2016), viewed that telemedicine and digital health such as remote consultations and digital records increase access, especially in underserved regions. Training community health workers improves outreach and disease prevention at the grassroots level (Lehmann & Sanders, 2007). According to WHO, (2018), Governments must prioritize healthcare spending, ensure equitable distribution of resources, and strengthen emergency preparedness (WHO, 2018). Healthcare is not merely a service but a cornerstone of sustainable development. Investing in healthcare systems, workforce training, and preventive strategies ensures healthier populations, economic stability, and stronger national resilience. Nations that prioritize healthcare are better equipped to face both current and future health challenges.

The health workforce, also referred to as Human Resources for Health (HRH), comprises all people engaged in actions whose primary intent is to enhance health. This includes clinical staff such as physicians, nurses, midwives, pharmacists, dentists, and allied health professionals, as well as public health practitioners, community health workers, and support personnel such as health managers and medical record officers (World Health Organization [WHO], 2006–2010).

Globally, the health workforce is recognized as a central pillar of resilient health systems. A well-trained, adequately distributed, and motivated workforce is essential for delivering Essential Public Health Functions (EPHFs) and ensuring effective preparedness and response to public health emergencies (WHO, 2023). Shortages and uneven distribution of the workforce have been identified as significant contributors to health insecurity, particularly in low- and middle-income countries (Brown *et al*., 2022). WHO and global HRH scholars highlight a persistent global shortage of skilled health workers especially doctors, nurses, and midwives due to underinvestment, migration, and demographic pressure (World Health Organization, 2016; Campbell *et al*., 2013; Boniol *et al*., 2022).

Africa's workforce limitations significantly weaken the capacity to deliver essential services and respond to health emergencies (Chen *et al*., 2004). Sub-Saharan Africa faces a disproportionate shortage of health workers and bears the greatest health security risks from outbreaks such as Ebola, Lassa fever, and yellow fever. According to the WHO Regional Office for Africa (2022), there is an urgent need for coordinated HRH strategies, investment in workforce training, and retention of skilled professionals to strengthen health systems and national resilience.

Nigeria's health workforce mirrors regional challenges but has unique national dimensions. The country faces numerical gaps, uneven distribution of personnel, and significant emigration of trained professionals (Bauchi State HRH Profile, 2023). The health workforce is a central determinant of health system performance and population outcomes. In Nigeria, persistent shortages, maldistribution, and workforce attrition have undermined service coverage, emergency responsiveness, and progress toward Universal Health Coverage (Abimbola *et al*., 2015). According to Okoroafor *et al*. (2022), Nigeria has one of the largest absolute stocks of health workers in Sub-Saharan Africa, but densities of core skilled cadres (physicians, nurses and midwives) remain low relative to WHO thresholds for adequate service coverage. Workforce shortfalls and maldistribution reduce availability of essential services, limit emergency and epidemic responsiveness, and increase workloads and burnout among remaining staff raising risks for equality, patient safety and provider morale (Campbell *et al*., 2013). Many healthcare workers experience poor working conditions, low motivation, and limited career growth opportunities, contributing to a sustained brain drain. These weaknesses directly affect national health security and response capacity (PHMJ Editorial, 2025). The healthcare workforce is a cornerstone of every functional health system and an important determinant of a nation's resilience and stability. In Nigeria, regional disparities in healthcare resources have become a major concern for both health equity and national security (Adebayo & Yusuf, 2022). The South has consistently outperformed the North in terms of human resource availability, training institutions, and infrastructure (Federal Ministry of Health [FMOH], 2023). Conversely, the North faces persistent shortages of doctors, nurses, and allied health professionals, leading to poor health outcomes, high mortality rates, and social unrest (World Health Organization [WHO], 2023).

Nigeria faces multiple and interrelated security challenges, including insurgency and terrorism in the North-East, banditry and kidnapping in the North-West and North-Central regions, farmer–herder conflicts, separatist agitations, oil theft in the Niger Delta, and emerging cyber threats (Adebajo, 2016). These threats are largely driven by structural factors such as poverty, unemployment, weak governance, corruption, and social inequality, which undermine state legitimacy and public trust (Eme & Onyishi, 2011).

The national security architecture of Nigeria consists of institutions such as the Armed Forces of Nigeria, the Nigeria Police Force, the Department of State Services (DSS), and the Office of the National Security Adviser (ONSA). While these institutions are constitutionally mandated to safeguard national security, their effectiveness has been constrained by challenges including inadequate funding, poor inter-agency coordination, weak intelligence sharing, and capacity limitations (Imobighe, 2003).

Increasingly, scholars and policymakers recognize that sustainable national security in Nigeria depends on development-oriented and people-centred approaches. Weak social sectors such as healthcare, education, and employment exacerbate insecurity by increasing public dissatisfaction and vulnerability to crime and radicalization (UNDP, 1994). Consequently, addressing the root causes of insecurity alongside military and law-enforcement responses is essential for long-term peace and stability. Nigeria's national security is a multidimensional concept that requires an integrated approach combining military capability, effective governance, socio-economic development, and human security. Strengthening institutions and investing in human development remain central to achieving enduring national

stability.

Nigeria faces an enduring challenge of unequal healthcare workforce distribution between its northern and southern regions. This inequality contributes to poor access to healthcare in the North, resulting in preventable deaths, increased disease burden, and migration of skilled personnel to the South or abroad (Okeke *et al*., 2021).

Statement of The Problem

The healthcare workforce is a fundamental pillar of national development, public safety, and human security. In Nigeria, however, the distribution of healthcare professionals remains highly unequal between the Northern and Southern regions. Southern states such as Lagos, Oyo, Rivers, and the Federal Capital Territory have significantly higher concentrations of doctors, nurses, and specialists compared to many Northern states such as Taraba, Yobe, Jigawa, Zamfara, and Kebbi. According to data from the Federal Ministry of Health, Lagos alone has over 8,700 doctors, while Taraba has barely 256 doctors, revealing a serious regional imbalance in healthcare manpower (Premium Times, 2026).

Nigeria's healthcare workforce crisis is further worsened by migration of medical professionals abroad, poor remuneration, insecurity, inadequate infrastructure, and weak healthcare funding. Reports indicate that nearly 19,000 Nigerian doctors migrated abroad within the last two decades, with about 3,974 leaving in 2024 alone (GOV.UK, 2025). In addition, Nigeria currently has approximately 3.95 doctors per 10,000 population and about 20.95 doctors, nurses, and midwives per 10,000 persons, which falls below the World Health Organization (WHO) benchmark of 44.5 skilled health workers per 10,000 population required for effective universal healthcare coverage (WHO, 2025).

The effects of this imbalance are more visible in Northern Nigeria, where insecurity, insurgency, poverty, and rural underdevelopment have contributed to severe shortages of qualified healthcare personnel. Many healthcare facilities in the North depend heavily on community health workers due to the absence of medical doctors and specialists (Premium Times, 2026). Consequently, the region experiences higher maternal mortality, child mortality, disease outbreaks, malnutrition, and poor emergency healthcare responses. These conditions undermine public trust in government institutions and deepen socio-economic vulnerabilities.

Beyond public health concerns, healthcare workforce shortages now pose a significant national security challenge. Weak healthcare systems can intensify humanitarian crises, increase mortality during epidemics, encourage population displacement, and aggravate social instability in conflict-prone areas. Northern Nigeria, already affected by insurgency, banditry, and communal violence, faces additional pressure from inadequate healthcare access. Scholars increasingly argue that human security and national security are interconnected, meaning that failure to provide adequate healthcare services can contribute to instability and threaten national cohesion (Human Resources for Health, 2025).

Despite numerous policy interventions, the imbalance persists, indicating a structural and policy-driven challenge that threatens Nigeria's unity and development. Although, healthcare workforce research has been conducted in other parts of the nation, but information on the comparative analysis of healthcare workforce in Northern and Southern Nigeria with implication for National Security is rare. This study fills that gap by integrating healthcare workforce analysis into the context of national security and socioeconomic resilience.

Research Objectives

General Objective

To comparatively analyze the distribution and density of the healthcare workforce in Northern and Southern Nigeria.

Specific objective

Assess the implications of healthcare workforce shortage on National Security

Review of Literature

Conceptual Framework

Healthcare

Healthcare is a complex system involving institutions, people, and resources whose primary purpose is to improve population health through preventive, curative, rehabilitative, and palliative services (Frenk, 2010). According to Shi & Singh (2019), healthcare refers to the delivery of medical care services that include public health, personal medical care, and interventions aimed at enhancing the health status of individuals and communities. Donabedian (1988) describes healthcare as a structured process involving inputs, processes, and outcomes that collectively ensure the provision of quality medical care aimed at improving health outcomes. Similarly, Starfield (1988) defines healthcare as a coordinated set of services that ensures accessibility, continuity, comprehensiveness, and accountability in meeting individual and community health needs.

World Health Organization [WHO], (2020) described Healthcare as a fundamental component of societal well-being, encompassing the prevention, diagnosis, treatment, and management of illness, injury, and disease.

Healthcare Workforce

The healthcare workforce is described as the stock of health professionals whose competencies, deployment and performance determine the effectiveness of health systems (Buchan *et al*., 2015). Dossault and Dubois conceptualize the health workforce as a critical system resource requiring balanced production, distribution and motivation to achieve health goals (Dussault & Dubois, 2003).

National Security

National Security is a concept that encompasses the protection and preservation of a nation's sovereignty, territorial integrity, political stability, economic wellbeing and the safety of its citizens against internal and external threats (Buzan, 1991). It is multidimensional, including military, economic, environmental, and human aspects that collectively ensure a country's survival and sustainable development (Krause & Williams, 1996). According to Feldbaum *et al*., (2006), National Security is not limited to military protection but also includes the health and well-being of citizens. In public-health and policy contexts, health security refers to the proactive and reactive activities required to minimize the danger and impact of acute public-health events that threaten populations across regions. According to Walt (1991), National Security is the study of threat, use of force and the conditions that make the use of force more likely. Global health security is considered an integral component of national security, with strong public-health

systems and an effective health workforce reducing the likelihood of destabilizing health crises (Centers for Disease Control and Prevention [CDC], 2024; WHO, 2023).

Analysis of distribution and density of healthcare workers in northern and southern nigeria (e.g. Doctors, nurses midwives)

Several studies have examined healthcare workforce disparities in Nigeria. For instance, according to Federal Ministry of Health, (2023), 68% of Nigeria's healthcare professionals are concentrated in Southern states, while only 32% practice in the North. Similarly, Nigerian Medical Association [NMA], (2024) reported that the doctor-to-population ratio in Lagos is about 1:3,200, compared to 1:25,000 in Borno and Yobe states. Also, empirical studies show that the Southern region of Nigeria has more than double the density of doctors, nurses, and midwives compared to the North, for instance, Lagos and Rivers States report over 25 doctors per 10,000 population, while many Northern states have fewer than 5 doctors per 10,000. (WHO, 2023), (FMoH, 2022). Relatedly, in a study carried out by the National Primary Health Care Development Agency (NPHCDA, 2022), only 32% of primary healthcare facilities in Northern Nigeria have the recommended minimum number of qualified staff, compared to 68% in Southern Nigeria.

Furthermore, Nigeria's healthcare delivery system relies on a heterogeneous workforce comprising midwives, pharmacists, dentists, public health practitioners, and community health workers (CHWs) aside from Doctors and Nurses. These cadres collectively support maternal and child health, disease prevention, pharmaceutical care, oral health, surveillance, and primary healthcare delivery. However, the distribution and effectiveness of these health workers are uneven across the country, with pronounced disparities between Northern and Southern Nigeria. These regional inequalities are shaped by socioeconomic conditions, security challenges, infrastructure gaps, and workforce migration patterns, and they significantly influence health outcomes and health security in Nigeria (Federal Ministry of Health [FMoH], 2018).

Midwives

Midwives are central to maternal, newborn, and child health (MNCH) services, including antenatal care, skilled birth attendance, postnatal care, and family planning. Their availability directly influences maternal and neonatal mortality outcomes.

In Northern Nigeria, midwife density is significantly lower, particularly in rural and conflict-affected states. Skilled birth attendance remains low, with some northern zones recording rates below 30%, reflecting limited access to qualified midwives and functional health facilities (NPC & ICF, 2019). Cultural barriers, insecurity, and poor retention further exacerbate these challenges.

In contrast, Southern Nigeria has a higher concentration of midwives, especially in the South-West and South-South regions. Skilled birth attendance in many southern states exceeds 70–80%, supported by better infrastructure, urbanization, and higher female education levels (NPC & ICF, 2019). Although national initiatives such as the Midwives Service Scheme aimed to correct regional imbalances, sustainability and retention remain problematic in northern areas (FMoH, 2017).

Pharmacists

Pharmacists play a critical role in medicine supply management, rational drug use, patient counseling, and public health promotion, including antimicrobial stewardship.

The distribution of pharmacists in Nigeria is heavily skewed toward Southern Nigeria, particularly major urban centers such as Lagos, Ibadan, and Port Harcourt. These areas host the majority of registered pharmacies and pharmaceutical industries, providing better access to regulated medicines and professional pharmaceutical care (Auta *et al*., 2018).

In Northern Nigeria, pharmacist shortages are more pronounced, especially in rural areas. This gap has led to reliance on patent and proprietary medicine vendors and informal drug markets, increasing the risk of substandard medicines, inappropriate antibiotic use, and poor treatment outcomes (Auta *et al*., 2018). The uneven distribution undermines quality pharmaceutical care and public health interventions in the North.

Dentists

Dentists are responsible for oral health promotion, prevention, diagnosis, and treatment of oral diseases. Oral health is an often-neglected component of public health in Nigeria.

Nigeria's dentist-to-population ratio remains far below World Health Organization (WHO) recommendations, with stark regional disparities. Southern Nigeria accounts for the majority of practicing dentists, largely concentrated in tertiary hospitals and private clinics in urban areas (Akinloye *et al*., 2019).

Northern Nigeria experiences acute shortages of dental professionals, resulting in limited access to oral healthcare services. Many northern communities rely on traditional practices or seek care only at advanced disease stages. This imbalance contributes to a higher burden of untreated dental conditions and poor oral health outcomes in the North (Akinloye *et al*., 2019).

Public Health Practitioners

Public health practitioners are essential for disease surveillance, health promotion, immunization programs, outbreak response, and health policy implementation.

Southern Nigeria benefits from a stronger concentration of public health institutions, training programs, and donor-supported interventions. These advantages translate into better disease surveillance systems, data reporting, and emergency preparedness (FMoH, 2018).

In Northern Nigeria, shortages of trained public health practitioners weaken surveillance and response capacity, particularly during epidemics, humanitarian emergencies, and conflicts. These gaps increase vulnerability to disease outbreaks and undermine health security at both regional and national levels (FMoH, 2018).

Community Health Workers (chws)

Community health workers—including Community Health Officers (CHOs), Community Health Extension Workers (CHEWs), and Junior CHEWs—form the backbone of primary healthcare delivery in Nigeria, particularly in rural areas.

Northern Nigeria relies heavily on CHWs due to severe shortages of doctors, nurses, pharmacists, and dentists. CHWs provide essential services such as immunization

support, maternal health education, treatment of minor illnesses, and referrals. While this reliance improves access, it often reflects task-shifting driven by workforce scarcity rather than optimal staffing (Okoroafor *et al*., 2022).

In Southern Nigeria, CHWs are better integrated into multidisciplinary healthcare teams and supported by higher-level professionals, enhancing service quality and referral efficiency.

Implications of Healthcare Workforce Shortage On National Security

Healthcare workforce availability is a critical determinant of national resilience and stability. In Northern Nigeria, persistent shortages of doctors, nurses, midwives, pharmacists, and community health workers have weakened health service delivery, particularly in conflict-affected and rural areas. This shortage has implications that transcend public health, directly affecting Nigeria's national security through human insecurity, social instability, economic fragility, and heightened vulnerability to internal and external threats.

Northern Nigeria records significantly lower health worker-to-population ratios compared to World Health Organization (WHO) standards and Southern Nigeria averages. Nigeria has fewer than 2 doctors per 10,000 people, with Northern states accounting for the lowest concentrations (WHO, 2023). Factors contributing to this shortage include insecurity, poor remuneration, inadequate health infrastructure, brain drain, and frequent industrial actions (Business Day, 2025).

Armed insurgency, banditry, and communal violence in states such as Borno, Zamfara, Katsina, and Kaduna discourage health worker deployment and retention, leading to the closure or understaffing of primary and secondary health facilities (Science Direct, 2021). Therefore, implications of healthcare workforce shortage on Nigeria's National Security are as follows:

Erosion of Human Security

Healthcare workforce shortages undermine human security by limiting access to essential health services, increasing preventable morbidity and mortality, and worsening maternal and child health outcomes. Human security failures weaken citizen confidence in state institutions, thereby reducing government legitimacy and authority (UNDP, 2022).

Intensification of Insecurity and Conflict

Weak health systems in Northern Nigeria reduce emergency preparedness and outbreak response capacity, especially in conflict zones. Disease outbreaks, untreated trauma cases, and poor mental health support in insurgency-affected communities exacerbate grievances and social tension, creating recruitment opportunities for extremist groups (Science Direct, 2021).

Economic and Productivity Loss

Poor population health resulting from workforce shortages reduces labour productivity and economic participation. A weakened workforce constrains regional economic development, increases poverty levels, and heightens dependency on state resources, thereby straining national stability and security (All Africa, 2025).

Vulnerability to Public Health Emergencies

Inadequate healthcare staffing weakens Nigeria's capacity to detect, prevent, and respond to epidemics and humanitarian crises in the North. Such vulnerabilities pose risks of cross-border disease transmission, displacement, and regional instability, affecting Nigeria's overall security architecture (WHO, 2023). The healthcare workforce shortage in Northern Nigeria represents a non-traditional but significant national security threat. By undermining human security, social cohesion, economic resilience, and emergency response capacity, the shortage contributes to cycles of instability and insecurity.

Regional Disparity/Imbalance Between Northern And Southern Nigeria

Nigeria exhibits deep-seated regional disparities between the Northern and Southern regions, shaped by historical, socio-economic, political, and developmental factors. These disparities are particularly evident in human capital development, access to social services, healthcare outcomes, and institutional capacity, with significant implications for national cohesion and security.

Socio-Economic and Developmental Disparities

Southern Nigeria has consistently outperformed the North in key socio-economic indicators such as literacy rates, income levels, urbanization, and industrial development. Colonial educational policies and post-independence economic investments favored the South, leading to higher levels of human capital accumulation and economic diversification in the region (Adejumo & Abubakar, 2020; Mustapha, 2014). In contrast, Northern Nigeria continues to experience higher poverty rates, lower school enrollment, and weaker infrastructure, limiting its capacity for inclusive development (National Bureau of Statistics [NBS], 2022).

Healthcare Workforce and Service Delivery Disparities

One of the most pronounced manifestations of regional inequality is the uneven distribution of the healthcare workforce. Southern Nigeria hosts a disproportionate share of doctors, nurses, pharmacists, and allied health professionals, largely due to better security conditions, higher remuneration opportunities, availability of training institutions, and superior living standards (Federal Ministry of Health [FMoH], 2021). Northern Nigeria, particularly the North-East and North-West zones, suffers from chronic shortages of skilled health personnel, exacerbated by insurgency, poor infrastructure, and workforce attrition (World Health Organization [WHO], 2022).

Doctor-to-population and nurse-to-population ratios are significantly lower in many northern states, contributing to weaker health system performance and poorer health outcomes, including higher maternal and infant mortality rates (NPC & ICF, 2019). These disparities undermine equitable access to healthcare and deepen regional health inequities.

Security and Governance Dimensions

Regional disparities in healthcare and development intersect strongly with security challenges. Northern Nigeria's fragile health systems have been further strained by armed conflict,

banditry, and displacement, which disrupt service delivery and discourage workforce retention (International Crisis Group, 2020). Weak access to healthcare in conflict-affected northern communities contributes to human insecurity, public distrust in the state, and increased vulnerability to radicalization and social unrest (UNDP, 2022).

By contrast, Southern Nigeria benefits from relatively stable health infrastructure and workforce availability, which enhances social resilience and state legitimacy. The persistence of these regional imbalances reinforces perceptions of marginalization and threatens national integration, positioning healthcare disparity as a non-traditional but critical national security concern (Akinyemi & Isiaka, 2021).

Concerptual Link Between Nigeria's Healthcare Workforce and National Security

Nigeria's national security extends beyond military defense to include human security, here health plays a central role. A strong healthcare workforce is essential for effective disease prevention, emergency response, and social stability. Weaknesses in Nigeria's healthcare workforce such as shortages, brain drain, strikes, and insecurity pose significant threats to national security (Ukaeje & Engel, 2025).

Human security prioritizes the protection of individuals from critical threats, including ill health. Nigeria's doctor-to-patient ratio is estimated at approximately 1:5,000, far below the WHO recommendation of 1:600, reflecting severe workforce shortages (WHO,2023). These gaps weaken healthcare delivery, increase preventable deaths, and heighten public dissatisfaction, which can translate into social unrest and insecurity.

Nigeria continues to experience significant emigration of doctors, nurses, pharmacists, and other health professionals to developed countries in search of better remuneration and working conditions. This brain drain reduces national capacity to respond to public health emergencies and weakens state legitimacy, particularly in underserved and conflict-prone regions (Guardian Nigeria, 2024). Insecurity further worsens retention, as health workers are reluctant to work in areas affected by banditry, insurgency, and kidnapping (Punch, 2024).

Also, a weak healthcare workforce undermines Nigeria's preparedness for epidemics and pandemics. During disease outbreaks, inadequate personnel limits surveillance, contact tracing, and treatment capacity, allowing diseases to spread rapidly and disrupt economic and social activities. Such health crises threaten internal stability and national security (WHO, 2023).

Frequent strikes by healthcare workers over poor pay, delayed salaries, and unsafe working environments disrupt essential services and increase mortality. Multiple analyses of the Nigeria Demographic and Health Survey (NDHS) show that maternal mortality is substantially higher in the Northern Nigeria than in Southern Nigeria. In the pooled NDHS data (2008 and 2013), the North contributed about 75% of maternal deaths whereas the South accounted for only 24%. Indicating a higher maternal mortality burden in the North. These disruptions reduce public trust in government institutions and may escalate tensions between the state and citizens, posing risks to internal security (Reuters, 2025).

Nigeria's National Policy on Health Workforce Migration aims to address workforce shortages through retention strategies, diaspora engagement, and improved working conditions. Strengthening healthcare workforce governance is therefore a strategic national security investment rather than solely a health-sector concern (WHO Afro, 2024). There is a direct and significant link between Nigeria's healthcare workforce and national security. Workforce shortages, migration, insecurity, and industrial actions weaken health systems, erode public trust, and reduce national resilience to crises. Therefore, addressing healthcare workforce challenges is essential for safeguarding Nigeria's human security, social stability, and overall national security.

Healthcare Workforce as A Component of Human Security

Healthcare workforce refers to the stock and distribution of health professionals such as doctors, nurses, midwives, pharmacists, community health workers, and public health practitioners who are responsible for delivering health services to the population. Within the human security framework, the healthcare workforce is a critical pillar because it directly affects people's ability to live healthy, productive, and dignified lives.

Human security, as articulated by the United Nations Development Programme (UNDP), shifts the focus of security from the protection of states to the protection of individuals, emphasizing freedom from fear and freedom from want (UNDP, 1994). Health security is one of the seven core dimensions of human security, and it is fundamentally dependent on the availability, accessibility, and quality of the healthcare workforce. Without an adequate and well-distributed health workforce, health systems are unable to prevent disease, respond to health emergencies, or provide essential services, thereby undermining human security.

The healthcare workforce contributes to human security by ensuring access to essential health services across the life course. Adequate numbers of skilled health workers improve maternal and child health outcomes, control communicable and non-communicable diseases, and enhance life expectancy (WHO, 2006). In contrast, shortages and maldistribution of healthcare workers increase preventable morbidity and mortality, particularly among vulnerable populations, thus intensifying human insecurity.

Healthcare workers also play a crucial role in protecting populations from health-related threats such as epidemics, pandemics, and humanitarian crises. The COVID-19 pandemic demonstrated that countries with stronger and better-prepared health workforces were more resilient in managing public health emergencies (WHO, 2020). A weak healthcare workforce compromises disease surveillance, emergency response, and risk communication, exposing populations to widespread fear, social disruption, and economic instability.

Furthermore, the healthcare workforce is central to addressing structural inequalities that threaten human security. Equitable distribution of health workers across regions, genders, and socio-economic groups promotes social justice and reduces health disparities (Scheffler *et al*., 2018). Conversely, persistent shortages in marginalized or conflict-affected areas exacerbate exclusion, fuel grievances, and may

contribute to social unrest and insecurity.

From a development perspective, investment in the healthcare workforce strengthens human capital and supports economic security, another core dimension of human security. Healthy populations are more productive, while health workers themselves constitute a vital segment of the skilled labor force (Anand & Bärnighausen, 2004). Thus, strengthening the healthcare workforce not only improves health outcomes but also enhances overall human security and national resilience.

National Security Beyond Military Dimensions

Traditionally, national security has been understood primarily in military terms, focusing on the protection of a state's territorial integrity, sovereignty, and political independence from external aggression. This state-centric and militarized conception dominated security thinking during the Cold War era (Buzan, 1991). However, contemporary global realities have revealed the limitations of defining national security solely through military strength. Increasingly, scholars and policymakers recognize that national security extends beyond military dimensions to include economic, social, health, environmental, and human security concerns.

The broadened concept of national security emphasizes the protection of citizens and critical systems from diverse threats that can undermine state stability and societal wellbeing. According to the United Nations Development Programme (UNDP), security should prioritize individuals rather than only the state, focusing on freedom from fear and freedom from want (UNDP, 1994). Under this framework, threats such as poverty, disease, unemployment, inequality, climate change, and weak governance are viewed as serious security challenges because they erode social cohesion and state legitimacy.

Economic security is a key non-military dimension of national security. Persistent poverty, unemployment, and economic inequality can fuel social unrest, crime, and political instability, thereby threatening national security (Collier *et al*., 2003). States with fragile economies often lack the capacity to provide basic services, making them vulnerable to internal conflict and external manipulation. Thus, economic resilience and inclusive development are essential components of sustainable national security.

Health security has also emerged as a critical non-military dimension of national security. Disease outbreaks, pandemics, and weak health systems can destabilize societies, disrupt economies, and overwhelm state institutions. The COVID-19 pandemic clearly demonstrated how public health crises can pose existential threats to national security, even in militarily powerful states (WHO, 2020). Consequently, the strength of a country's healthcare system and workforce is now widely regarded as a strategic security asset.

Environmental security further broadens the understanding of national security beyond military concerns. Environmental degradation, climate change, resource scarcity, and natural disasters can intensify competition over resources, trigger displacement, and exacerbate conflict, particularly in fragile states (Homer-Dixon, 1999). Addressing environmental threats is therefore integral to preventing future insecurity and maintaining national stability.

Social and political security are equally important non-military dimensions. Weak institutions, corruption, social exclusion, and identity-based grievances can undermine trust in government and create fertile ground for insurgency, terrorism, and organized crime (OECD, 2011). National security, in this sense, depends on effective governance, rule of law, and inclusive political processes that promote social justice and national unity.

Relevant Theories

Human Capital Theory

Human Capital Theory posits that investment in education, skills, and health enhances productivity, economic growth, and state stability. In Nigeria, regional disparities in healthcare workforce availability reflect unequal human capital development between Northern and Southern regions. Poor investment in health personnel weakens population health, reduces economic productivity, and can indirectly threaten national security through poverty, unemployment, and social instability (Becker, 1964; Schultz, 1961).

Health Systems Strengthening Theory

This theory emphasizes that a functional health system depends on six building blocks, particularly the health workforce. Shortages and uneven distribution of healthcare workers undermine service delivery, emergency preparedness, and system resilience. In Northern Nigeria, weak workforce capacity increases vulnerability to epidemics and humanitarian crises, which can escalate into national security threats (WHO, 2007; WHO, 2010).

Structural Inequality Theory

Structural Inequality Theory explains how historical, political, and socio-economic structures create persistent regional disparities. Differences in healthcare workforce distribution between Northern and Southern Nigeria can be attributed to long-standing inequalities in education, governance, and infrastructure. Such disparities may fuel marginalization, grievances, and instability, thereby affecting national security (Galtung, 1969; Farmer, 2004).

Human Security Theory

Human Security Theory shifts the focus of security from the state to individuals, emphasizing freedom from disease, fear, and want. Healthcare workforce shortages undermine health security, particularly in Northern Nigeria, where limited access to skilled health workers increases mortality and vulnerability. These human insecurities can aggregate into broader national security challenges (UNDP, 1994).

Non-Traditional (Expanded) National Security Theory

Non-Traditional Security Theory broadens national security beyond military threats to include health crises, pandemics, and social welfare. Healthcare workforce inadequacy weakens state capacity to respond to public health emergencies, posing serious risks to national stability and security (Buzan, Wæver & de Wilde, 1998).

Political Economy of Health

The Political Economy of Health examines how power relations, governance, and resource allocation influence health outcomes. Regional imbalances in Nigeria's

healthcare workforce reflect political priorities and economic structures. These disparities affect social cohesion, legitimacy of the state, and long-term national security (Navarro, 2007; Labonté & Torgerson, 2005).

State Capacity Theory

State Capacity Theory focuses on the ability of the state to provide essential public goods, including healthcare. A weak healthcare workforce reduces the state's capacity to protect citizens, manage crises, and maintain legitimacy—factors closely linked to national security, especially in fragile regions (Fukuyama, 2004).

Methodology

Research Design

The study adopts a descriptive and comparative design using secondary data from FMOH, and WHO publications, complemented by hypothetical data for demonstration purposes ensuring no human subjects were directly involved. Ethical standards such as data accuracy, source acknowledgment, and objectivity were maintained. All data used were sourced from credible public databases and publications (WHO, 2023; FMOH, 2023). Proper citation practices were observed to respect intellectual property rights.

The data were analyzed using simple percentage methods to identify trends and disparities in workforce distribution across the two regions.

Data Presentation

Findings are presented using tables and figures, such as pie charts and bar charts.

Table 1: Hypothetical Distribution of Healthcare Workforce by Region (WH0 2023)

Region	Doctors	Nurses	Community Health Workers
Northern Nigeria	9,000	17,500	11,000
Southern Nigeria	23,500	36,200	20,000

Table 1 highlights differences in the distribution of healthcare workforce in the two regions. It shows that Southern region has more Doctors (23,500), more Nurses (36,200) and more Community Health Workers (20,000) than the Northern region whose number of Doctors, Nurses and Community Health Workers are put at 9,000, 17,500, and 11,000 respectively.

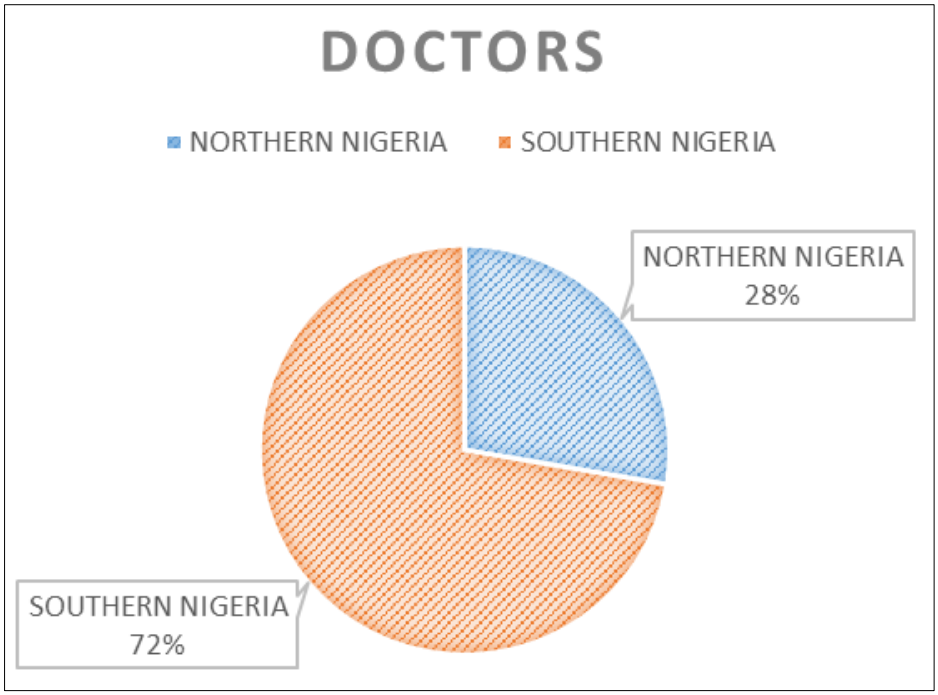

Fig 1: Percentage of Doctors in the Northern Nigeria and Southern Nigeria

Figure 1 shows the percentage of Doctors in the Northern region which is 28% and that of the Sothern Nigeria which is 72% indicating that Southern Nigeria has more percentage of Doctors than Northern Nigeria.

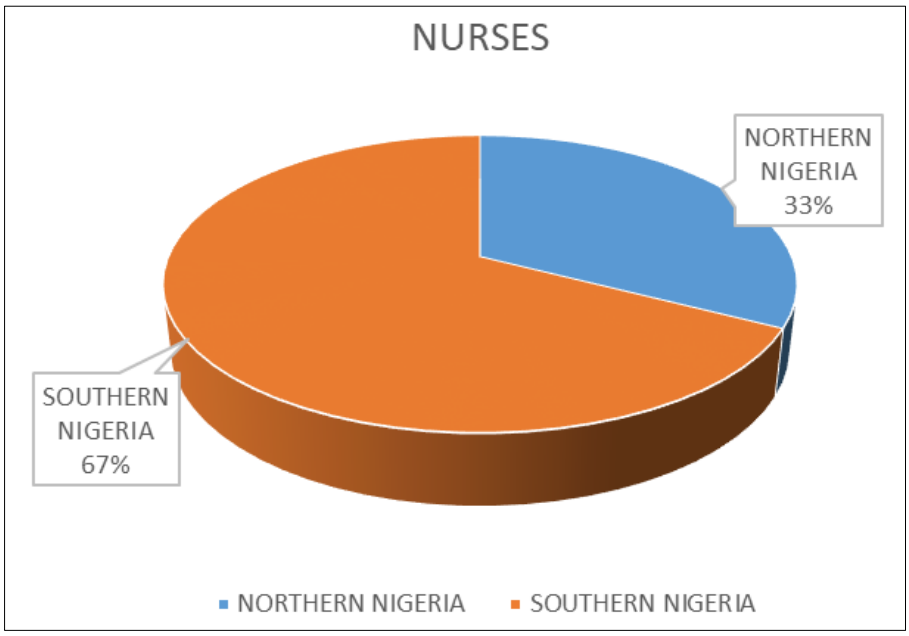

Fig 2: Percentage of Nurses in the Northern Nigeria and Southern Nigeria

Figure 2 shows the percentage of Nurses in the Northern region which is 33% and that of the Sothern Nigeria which is 67% indicating that Southern Nigeria has more percentage of Nurses than Northern Nigeria.

Fig 3: Percentage of Community Health Workers in the Northern Nigeria and Southern Nigeria

Figure 3 shows the percentage of Community Health Workers in the Northern region which is 35% and that of the Southern Nigeria which is 65% indicating that Southern Nigeria has more percentage of Community Health Workers than Northern Nigeria.

Table 2: Comparative Health Workforce Distribution in Northern and Southern Nigeria (Hypothetical) (WHO 2023)

Region	Total Health Workers (Frequency)	Percentage of National Workforce (%)	Health Worker Density (per 10,000 pop)
Northern Nigeria	120,000	38%	7.5
Southern Nigeria	195,000	62%	15.2
National Average	315,000	100%	11.3
WHO Standard (Benchmark)	-	-	23.0

Table 2 indicates a significant disparity in workforce distribution. Southern Nigeria possesses approximately 62% of the total health workforce, while the Northern region accounts for only 38%. The workforce density in the South doubles that of the North, illustrating unequal access to essential health services.

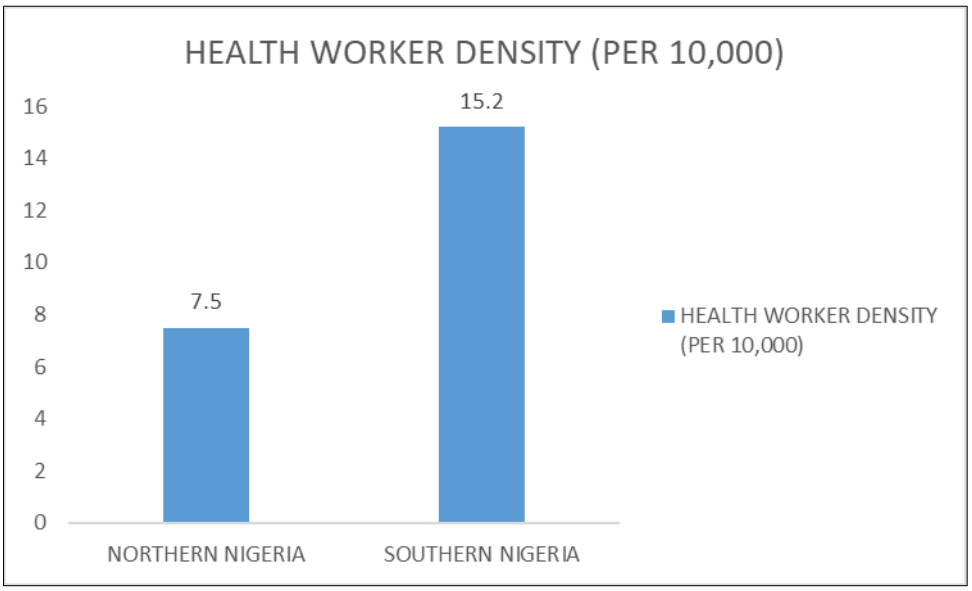

Fig 4: shows that the health worker density (per 10,000 population) is 15.2 in the Southern Nigeria and 7.5 in the Northern Nigeria indicating uneven distribution.

Ethical standards such as data accuracy, source acknowledgment, and objectivity were maintained. All data used were sourced from credible public databases and publications (WHO, 2023; FMOH, 2023). Proper citation practices were observed to respect intellectual property rights.

Data Analysis

Analysis of the hypothetical data indicates that 72.3% of doctors, 67.4% of nurses and 65% of Community Health Workers are concentrated in Southern Nigeria, leaving the North with only 27.7%, 32.6% and 35% respectively. This imbalance reinforces regional disparities in healthcare access and outcomes (WHO, 2023). The analysis is similar to with a previous study by National Primary Health Care Development Agency (NPHCDA) that reported that only 32% of primary healthcare facilities in Northern Nigeria have the recommended minimum number of qualified staff, compared to 68% in Southern Nigeria (NPHCDA, 2022).

The North's workforce shortage limits its ability to address endemic diseases, maternal mortality, and trauma care resulting from conflict (FMOH, 2024). Insecurity further discourages skilled professionals from relocating to underserved northern communities (Eze, 2023). These findings highlight a vicious cycle where poor healthcare contributes to instability, and insecurity in turn worsens the workforce crisis.

The correlation between health workforce distribution and national security is evident. The implication of this is that regions with poor healthcare access experience higher rates of poverty, migration, and social unrest. Health system inequality not only affects population well-being but also undermines public trust and governance (Adebayo & Yusuf, 2022).

Discussion of The Findings

The result of this research presented uneven comparation of distribution and density of the healthcare workforce in Northern and Southern Nigeria. The analysis shows that health workforce disparities mirror broader socio-economic inequalities. The Northern region's low density of health workers has led to higher maternal and infant mortality rates, increased disease burden, and limited emergency response capacity. These challenges weaken the human security base, making communities more vulnerable to insurgency, displacement, and social unrest. This socio-economic inequality is similar with Structural Inequality Theory that explains how historical, political, and socio-economic structures create persistent regional disparities. Differences in healthcare workforce distribution between Northern and Southern Nigeria can be attributed to long-standing inequalities in education, governance, and infrastructure. Such disparities may fuel marginalization, grievances, and instability, thereby affecting national security (Galtung, 1969; Farmer, 2004).

Similarly, data indicates that the percentage of National workforce in Northern Nigeria is shorter than that of the Southern Nigeria. This development has implications that transcend public health, directly affecting Nigeria's national security through human insecurity, social instability, economic fragility, and heightened vulnerability to internal and external threats. Northern Nigeria records significantly lower health worker-to-population ratios compared to World Health Organization (WHO) standards and Southern Nigeria averages. Nigeria has fewer than 2 doctors per 10,000 people, with Northern states accounting for the lowest concentrations (WHO, 2023). Factors contributing to this shortage include insecurity, poor remuneration, inadequate health infrastructure, brain drain, and frequent industrial actions (Business Day, 2025).

Also, the study is related to the Human Security Theory that stated that Healthcare workforce shortages undermine health security, particularly in Northern Nigeria, where limited access to skilled health workers increases mortality and vulnerability. These human insecurities can aggregate into broader national security challenges (UNDP, 1994).

Similarly, the study is in conformity with Non-Traditional Security Theory that posited that Healthcare workforce inadequacy weakens state capacity to respond to public health emergencies, posing serious risks to national stability and security (Buzan, Wæver & de Wilde, 1998).

In contrast, the Southern region benefits from greater

concentration of tertiary hospitals, private medical facilities, and trained professionals. The analysis is in conformity with the Nigerian Medical Association report that the doctor-to-population ratio in Lagos is about 1:3,200, compared to 1:25,000 in Borno and Yobe states (NMA,2024). This analysis also aligns with State Capacity Theory which focuses on the ability of the state to provide essential public goods, including healthcare (Fukuyama, 2004). The uneven distribution of health resources fuels public dissatisfaction, undermines trust in government, and contributes indirectly to national insecurity.

Relatedly, the study is similar with Health Systems Strengthening Theory that emphasizes that a functional health system depends on six building blocks, particularly the health workforce (WHO, 2007; WHO, 2010).

Conclusion

This study has undertaken a comparative analysis of the healthcare workforce in Northern and Southern Nigeria and examined its implications for national security. The findings reveal deep-seated regional disparities in the availability, density, skill mix, and distribution of healthcare professionals, with Southern Nigeria consistently recording higher concentrations of doctors, nurses, midwives, pharmacists, and specialists than the Northern region (WHO, 2006; NBS, 2022). These disparities reflect long-standing structural inequalities driven by differences in educational infrastructure, economic development, security conditions, governance effectiveness, and historical patterns of investment.

The analysis demonstrates that inequities in the healthcare workforce extend beyond public health concerns to constitute a significant non-military national security threat. In Northern Nigeria, chronic shortages of skilled health workers weaken health system performance, limit access to essential services, and undermine disease surveillance and emergency response capacity. These weaknesses heighten vulnerability to epidemics, humanitarian crises, malnutrition, and maternal and child mortality, thereby eroding human security and public confidence in the state (UNDP, 1994). In fragile and conflict-affected settings, weak health systems can further exacerbate social grievances, population displacement, and exposure to violent extremism, undermining internal stability (Buzan, 1991).

Conversely, the relative concentration of healthcare workers in Southern Nigeria enhances service delivery and system resilience in that region but simultaneously reinforces internal migration of health professionals, deepens national inequality, and perpetuates workforce imbalances. Such uneven development weakens Nigeria's overall national resilience and limits the state's capacity to respond uniformly to public health emergencies and other non-traditional security threats. In an era where pandemics, demographic pressures, climate-related health risks, and socio-economic inequality increasingly shape national security outcomes, the strength and equitable distribution of the healthcare workforce emerge as critical determinants of sustainable peace and development.

Overall, this study concludes that addressing healthcare workforce disparities between Northern and Southern Nigeria is not only essential for achieving universal health coverage but also a strategic imperative for national security. A secure, resilient, and cohesive Nigeria depends on a healthcare workforce that is adequate, equitably distributed, and capable of responding to both routine health needs and complex emergencies across all regions of the country.

Recommendations

Based on the findings of this study, the following recommendations are proposed to strengthen healthcare workforce equity and enhance Nigeria's national security:

1. Nigeria should adopt a security-sensitive healthcare workforce planning framework that explicitly integrates health workforce development into national security and development strategies. Recognizing healthcare workers as strategic national assets will elevate workforce planning beyond the health sector and promote coordinated action among the ministries responsible for health, education, finance, and security.
2. Targeted financial and non-financial incentive packages should be strengthened to attract and retain healthcare workers in Northern Nigeria and other underserved regions. These incentives should include enhanced rural and hardship allowances, secure accommodation, career advancement pathways, scholarships with bonded service, and guaranteed access to continuous professional development. Evidence suggests that well-designed incentive schemes significantly improve workforce retention in fragile and high-risk settings.
3. Federal and state governments should expand and decentralize health training institutions in Northern Nigeria. Increased investment in medical, nursing, midwifery, pharmacy, and community health training facilities will build local human capital and improve retention, as health workers are more likely to practice in regions where they are trained.
4. Improving the safety, welfare, and working conditions of healthcare workers in conflict-affected and high-risk areas must be prioritized. This includes protecting health facilities, ensuring safe deployment, strengthening collaboration between health authorities and security agencies, and enforcing international norms on the protection of health workers in conflict settings. Improved security is essential for sustaining service delivery and reducing workforce attrition.
5. Nigeria should strengthen health workforce governance, financing, and data systems to support equitable deployment and accountability. Transparent recruitment and posting processes, evidence-based workforce planning, and robust health workforce information systems are necessary to monitor regional disparities and guide effective policy interventions.
6. Healthcare workforce development should be embedded within a broader human security and social protection framework. Addressing underlying structural determinants such as education, poverty, gender inequality, infrastructure deficits, and regional insecurity will create an enabling environment for health workers and reduce the broader drivers of insecurity and instability.

In sum, bridging the healthcare workforce gap between Northern and Southern Nigeria represents a strategic investment in national security. Sustained political commitment, equitable resource allocation, and security-conscious health policies will not only improve health outcomes but also strengthen Nigeria's resilience against contemporary and future security threats.

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