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Health Workers' Migration Syndrome and National Policy on Non-Communicable Diseases

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Abstract: The health system in Nigeria is faced with the twin challenge of a growing burden of non-communicable diseases (NCDs) and health workers migration, which are threatening the attainment of Universal Health Coverage (UHC) and Sustainable Development Goals (SDGs). Systemic challenges such as chronic under funding, infrastructure gaps, poor governance, and insufficient human resource capacity remain a major obstacle in implementing the policies, especially at the primary healthcare (PHC) level, despite the adoption of strategic plans and policies including the National Policy and Strategic Plan of Action on NCDs (2019-2025). This study explored the relationship between health workers' migration and NCD policy implementation in Nigeria, viewing migration as a systemic limiting factor that contributes to inequities in access to care and health system fragility. The research design used was qualitative with a documentary research approach. Thematic content analysis was applied to identify core patterns and themes such as migration push-pull factors, policy fragmentation and workforce planning challenges. Results show that the main reasons for migration of health workers are low pay, poor working conditions, limited career development opportunities and insecurity, whereas the destination countries provide better pay, training and infrastructure. The study suggested the following measures for competitive wage, career progression, rural labour incentive packages and better health governance to control migration.

Keywords: Health Workforce, Migration Syndrome, Non-Communicable Diseases, Health Policy, Brain drain

Introduction

One of the most serious problems facing health systems in Nigeria is the migration of health workers, also known as "brain drain." In the last 10 years, there has been significant migration of health professionals, including doctors, nurses, and allied health workers, to high-income countries like the United Kingdom, the United States, Canada, Australia, and Saudi Arabia. The COVID-19 pandemic has further heightened this trend, as it revealed the inadequacies of Nigeria's health system and increased the appeal of working overseas for better conditions, salaries, and professional growth (Adebayo, Ayenigbara, & Akinyemi, 2023; Oleribe, Momoh, Uzochukwu, Mbofana, Adebiyi, Barbera, Williams & Taylor-Robinson, 2021). National reports and surveys have consistently shown that a significant number of Nigerian healthcare professionals are either intending to emigrate or have already emigrated, leading to a significant shortage of healthcare professionals at the primary, secondary and tertiary levels of care. This migration not only distorts the distribution of workforce but also poses a risk to the quality and equity of healthcare delivery (Oladipo, Adebayo, & Adewole, 2022).

At the same time, Nigeria is facing a rapidly growing burden of non-communicable diseases (NCDs) such as cardiovascular diseases (hypertension, stroke), diabetes, cancers, chronic respiratory diseases, and mental health disorders, which now account for a large proportion of the country's morbidity, mortality, and catastrophic household health expenditure (World Health Organization [WHO], 2022). A well-trained, well-distributed health workforce is needed to provide preventive care, early diagnosis, and long-term treatment for these chronic conditions. Skilled health professionals are essential to the implementation of Nigeria's National Multi-Sectoral Action Plan for the Prevention and Control of Non-Communicable Diseases (2019-2025), the achievement of WHO "best buys," and to meet Sustainable Development Goal (SDG) targets for health (Federal Ministry of Health [FMoH], 2019). The ambitions are undermined by workforce shortages, inequitable distribution and technical capacity gaps, which are significant threats to Nigeria's response to the NCD epidemic.

Despite the evidence that workforce depletion negatively affects service delivery and policy implementation, the relationship between health workers' migration and NCD policy implementation in Nigeria is under-researched. Skilled staff departures result in decreased service coverage, loss of continuity of care, increased waiting times, increased

workloads for remaining staff, and increased costs for training replacements, which all lead to declining morale and health system resilience (Onyema, Umeh & Okechukwu, 2021). Furthermore, systemic problems like decentralization, chronic underfunding, weak governance, and limited human resources for health further compound the difficulties of scaling up NCD interventions, especially at the primary healthcare level (Akande, Ogunrinde & Olatunji, 2022).

This study places the conceptual framing of "Health Workers' Migration Syndrome" - the interrelated drivers, intentions and systemic effects of sustained workforce loss - in the context of Nigeria's challenges in the implementation of NCD policy. It highlights the broader implications for health equity, morbidity reduction, and health system resilience by examining the interplay between migration dynamics and policy delivery. Nigeria's health system is facing a complex situation, with the double burden of non-communicable diseases (NCDs) and the ongoing migration of health workers. This is happening in the context of inadequate funding for the health sector, poor governance and infrastructure that have historically constrained health service provision. The country has done commendable work in the development of strategic plans and policy documents like the National Policy and Strategic Plan of Action on NCDs, but these have had limited impact because of systemic barriers that hinder effective implementation, especially at the primary healthcare level.

Even with this comprehensive policy, Nigeria is still facing challenges in the implementation of effective NCD interventions at the frontline of care. Challenges to operations include primary healthcare facilities not being ready to provide NCD services, inconsistent training and supervision of health workers on standardized protocols, weak supply chains for essential NCD medicines, and poorly developed health information systems for surveillance and monitoring. These challenges threaten the nation's ability to provide timely and equitable care to an increasing number of citizens with chronic conditions. One of the most important issues exacerbating these problems is the increasing emigration of health workers. The healthcare workforce in Nigeria has been slowly depleted by both the documented emigration of doctors, nurses, and allied health workers and the high emigration intent among these groups. There is evidence that a large number of medical trainees and practicing physicians are actively looking for opportunities abroad, with substantial numbers of professionals going to other countries such as the United Kingdom, United States and Canada. This trend worsens the current shortage of workers and leads to a mismatch of skills, especially in rural and less developed areas.

The health workforce is weak, which directly affects the implementation of Nigeria's NCD policy, resulting in poor health outcomes at the population level. The consequences include late diagnosis, suboptimal disease control, increased out-of-pocket spending on healthcare, and a rising economic burden on households without decisive and targeted interventions to address health workers' retention, strengthen governance structures, and secure sustainable financing for NCD programs, Nigeria risks falling short of national and international NCD control targets, including Sustainable Development Goal (SDG) indicators. This study explored the link between health workers' migration and the implementation of the National Non-Communicable Diseases (NCD) Strategic Policy in Nigeria and the implications of the evolving health workers' landscape on healthcare service delivery and NCD management outcomes. In particular, the study aims to examine the existing trends and patterns of health workers' migration in Nigeria and determine the impact of the trends on the effective implementation of the National NCD Strategic Policy.

In this respect, the study examined the extent to which the ongoing migration of doctors, nurses and other health workers to other countries contributes to workforce shortages and impacts on the ability of the health system to deliver NCD-related interventions, especially at the primary health care level. It thus seeks to answer the question of what the current trend of health workers' migration in Nigeria is and the impact of the trend on the implementation of the National NCD Strategic Policy. The study also explored the key factors that influence health workers' migration from Nigeria and their implications for health service delivery. Special focus is placed on the institutional, economic, professional and working environment factors that affect health workers' decisions to migrate, and the impact on the availability, distribution and capacity of the health workforce. The study therefore aims to identify the key factors influencing health workers' migration in Nigeria and the implications of this on the provision of health services particularly in rural, under-resourced and underserved areas.

The study also examined the association between health worker shortage due to migration and the management of non-communicable diseases in Nigeria. It evaluates the impact of workforce limitations on the health system's ability to deliver critical NCD services throughout the continuum of care, from health promotion and prevention to screening and early diagnosis, treatment, follow-up and continuity of care. The study aims to identify the impact of health worker shortages on NCD management outcomes, including prevention, diagnosis, treatment and continuity of care. The study seeks to explore these interrelated dimensions to gain a holistic view of the

potential impact of health workers' migration on the effective implementation of Nigeria's NCD policy and on gaps in healthcare delivery and population health outcomes.

Research Methodology

The study used a qualitative research design with a documentary research approach, which is appropriate for the study of complex social and policy-oriented phenomena like health workers' migration and the implementation of national policies on non-communicable diseases (NCDs). The documentary approach allows for a detailed analysis of a variety of secondary data sources such as peer-reviewed journal articles, books, official health policy documents, government reports and datasets from reputable international organizations.

Thematic content analysis was used as an interpretative method to systematically code, recognize patterns and categorize key themes in the collected documents. Thematic categories such as push and pull factors of migration, health system capacity, policy implementation strategies, and global best practices were derived inductively to synthesize findings from various sources. This robust analytical framework was used to cross-validate and interact with results, which gave a holistic view of the relationship between workforce migration and NCD policy implementation in Nigeria.

Conceptual Issues

Health Workers' Migration Syndrome

The term "Health Workers' Migration Syndrome" is intended to signify the complex, interrelated role of factors, behavior and systemic impact associated with both the health workers' migration and desire to migrate by trained healthcare workers. It encapsulates a self-perpetuating crisis that can happen in health systems, where push and pull factors, coupled with a strong desire to migrate, feed into a circular effect. Brain drain has been reported in Nigeria in various studies, including the health sector such as medicine and nursing (Ikuabe et al., 2024; Adesokan et al., 2023).

The push factors are embedded in the local socioeconomic environment and professional conditions which includes the poor remuneration, poor working conditions, inadequate work facilities, political instability, insecurity etc., that negatively affect job satisfaction that gives rise to emigration. (Adesokan et al., 2023). For instance, Ikuabe et al (2024), discovered that more than 70% of medical consultants who responded to a survey in Nigeria said they were seeking employment abroad because of poor remuneration and opportunities for professional growth. Likewise, Health Care's high workload, staffing shortages, and poor career prospects are also significant factors in intention to emigrate by doctors and nurses (Okeke et al., 2024).

Pull factors, on the other hand, are linked to the opportunities in countries of destination, including better wages, improved training facilities, career advancement options, better health facilities and conditions, and safer places. It is consistently found that Nigerian health workers prefer working abroad in acquiring professional support and personal benefits (Ogunjimi et al., 2023). Numerous respondents in such studies stated that while these opportunities can secure their economic security, they can also help them progress in their careers, which is mostly lacking in the domestic system (Okeke et al., 2024). Such an intention to migrate is a significant and important but frequently underappreciated part of this syndrome and has implications for workforce planning and morale. High migration-intent is an indicator of potential future workforce shortages among health workers, even before they are gone from the country as well as being an indicator of institutional investments in training and retention. In a recent study, Oyetunde, Ikuabe, & Ogwu (2024) found that over 80% of healthcare workers in Nigeria would leave the country despite burnout and dissatisfaction with Nigeria being significant predictors of this intention. Adepoju, Okeke & Okojie (2024) reported similar findings as they discovered that more than half of the psychiatrists sampled were already planning to leave Nigeria within five years of start of practice.

It is a phenomenon with its systemic implications. Loss of staff through mass migration or loss of staff due to the expectation of migration both causes increases in workloads and hinders services quality and continuity of care with particular impact on chronic disease management, as well as increasing stress and burnout among the health workers who remain. This forms a negative feedback loop with poor conditions leading to greater desire to migrate and ultimately migrate away. Moreover, the expenses encounter while training replacements, hiring new employees, and using temporary staffs create a significant financial burden on the health system, exacerbating the existing financial difficulties (Ogunjimi et al., 2023; Adepoju et al., 2024).

Describing this as a "syndrome" is analytically helpful since the factors act upon one another and reinforce one another: the impact of these factors cumulates. As an illustration, if working conditions are poor, people are more likely to feel intent on migrating; a migrants' intent leads people to turn over; a migrants' impetus leads to increased workload, loss of morale and a decline in service quality, which increases the push to migrate again. While there is a strong body of work relating to migration drivers, the literature documenting the direct relationship between health workers' migration patterns and implementation of the National Policy on Non-Communicable Diseases (NCDs) in Nigeria is lacking. The knowledge of

effective NCD management, one of the domains of the study, is central to filling this gap, as it delves into the effectiveness of strategies such as continuity of care, prevention, and surveillance in effective management of NCD, to address the issue of workforce shortage, which contributes to continuity problems in NCD management (Okeke et al., 2024; Adepoju et al., 2024).

Non-Communicable Diseases (NCDs)

Non-Communicable Diseases (NCDs) are diseases that are non-contagious, mainly chronic in nature, that require long-term care and often time go on for a lifetime within a patient. They are agents of a multifaceted and resource-intensive risk that comes about only through the complexity of genetic, physiological, environmental and behavioural risk factors (Allen, Nicholson, Yeung & Goiana-da-silva, 2022). Worldwide, NCDs are the biggest contributor to morbidity, mortality and disability in low and middle income countries (LMICs) including Nigeria (Adebayo, Ayenigbara & Akinyemi, 2021).

Cardiovascular diseases (including heart attack and stroke), cancer, chronic respiratory diseases (including chronic obstructive pulmonary disease and asthma), and diabetes are the four broad categories of NCDs most associated with global health discussions and commentaries. These conditions are collectively responsible for most deaths globally with around 80% of all NCD deaths in LMICs (Allen et al., 2022). NCDs in Nigeria are a relevant public health priority as they place a huge burden on health systems, catastrophic household spending, as well as loss of productivity (Ogunmola, Olufunke, & Adebayo, 2023).

NCDs are closely related to a series of modifiable behavioural and environmental risk factors to which they are linked. These involve the use of tobacco products, excessive drinking, sedentary lifestyle, poor eating habits and polluted air (Olufunke, Adepoju & Adebayo, 2020). These determinants are influenced by the social and economic structures and trends of urbanization and globalization and should be tackled with an integrated approach. In Nigeria, for instance, there is a need to emphasis the changing dietary habits linked to a growing sedentary lifestyle that have contributed to the increasing prevalence of obesity, hypertension, and type 2 diabetes (Adebayo, Ilesanmi, & Omole, 2021).

The response required at the health system level to achieve effective NCD control should include interventions across all levels of prevention and treatment, which include primary prevention, population-level education and awareness campaigns, and basic, routinely delivered screening services, as well as timely treatment and, as needed, palliative and rehabilitative care (Adepoju et al., 2024). Further, there are underdeveloped surveillance systems for monitoring disease trends and informing policy and for assessing the impact of interventions in many LMICs, including Nigeria (Ogunmola et al., 2023). The NCDs are a multi-faceted and dynamic problem with understanding for the planning of health systems, allocation of resources, and social equity. Any approach to shifting NCD care that does not include workforce retention strategies is a policy imperative, especially in settings with high rates of health workers' migration where NCD care is particularly vulnerable to being disrupted.

National Policy on Non-Communicable Diseases in Nigeria

Non-Communicable Diseases (NCDs) including cardiovascular diseases, diabetes, cancers and chronic respiratory illnesses contribute to more than a quarter (29%) of overall deaths in Nigeria and impose a burden on the already over burdened health system (Adeniyi & Ilesanmi, 2022). As a reaction to this challenge, Nigeria has undertaken to create comprehensive policy structures for addressing prevention, control and management of NCDs. The National Policy for the Prevention and Control of NCDs approved by National Council on Health (NCH) 64, is a paradigm changer to integrated & multi sectoral approach to healthcare delivery. This policy underscores the integration of the NCD services into the Primary Health Care (PHC) system thereby making prevention and management of these diseases accessible at the grassroots level (Eze & Anyanwu, 2023). Aside from this, the policy has strategies for achieving lifestyle changes such as finding ways to stop people using tobacco, reducing consumption of salt and sugar, and raising awareness of the need for physical activity (Okeke & Adebayo, 2023).

A further development in Nigeria's policy response is the National Task-Shifting and Task-Sharing Policy (NTSTS) which aims to address human resource shortages by reallocating, redistributing and re-engineering roles as required between cadres of health professionals to optimally leverage existing resources (Oladapo, Okoli, Adebiyi 2022). The country also has hypertension prevention and management guidelines that seek to improve early detection, adherence to treatment, and health education at all tiers of healthcare delivery (Onwuchekwa & Adebiyi, 2022). Such measures are supported by the recently approved National Health Workforce Migration Policy and other interventions on the issue which particularly highlights the distress migration of health professionals and the need for retention initiatives and ethical recruitment practices, in addition to dealing with issues of evidence-based workforce planning (Okojie & Adepoju, 2023). As a whole, the policies reflect Nigeria's acknowledgement of NCDs as a major health security and development threat to the nation.

However, structural and systemic challenges before the implementation of health policies in Nigeria and other developing world countries remain unaddressed. Nevertheless, governance and decentralization challenges continue to be major hurdles; for instance, a lack of coordination between national and subnational health agencies has an impact on how best to adapt policy goals to local needs (Abubakar, Basiru, Oluyemi, Adulkareem, Jimoh, & Tsofo, 2020). In addition, there is also a recurring problem of inadequate and inconsistent financing with health sector funding not meeting the norm of the Abuja Declaration of 15% of national budgets leading to gaps in implementation of the programmes (Adebayo et al., 2021). The effect of Human Resource is another hindrance in implementing the policy with Nigeria having one of the highest embolization standards for health workers which leads to low workforce, lack of skill and high workload for the remaining manpower (Ogbolu, Adekeye, & Adebayo, 2022). This scarcity is worsened by poor supply chain mechanisms, which make inadequate access to essential medicines and diagnostic equipment, including for chronic disease management. (Chukwu, Okoro, & Onyeneho, 2021). Also, poor health information systems result in ineffective evidence-informed policymaking, with underdeveloped health surveillance and monitoring mechanisms for NCD indicators (Adeloye, David, Olaogun, Auta, Adesokan, Gadanya, & Thompson, 2021).

Additionally, poor health-seeking behaviours, low awareness on the risk of NCDs, and stigmatisation of chronic diseases further impact the effectiveness of policies (Iheanacho & Nwachukwu, 2022). Furthermore, while some policies are in theory, they have been poorly implemented on the ground, primarily because stakeholders lack adequate capacity, engagement is limited, and there are institutional constraints (Eze & Anyanwu, 2023). These suggest that if Nigeria wants to achieve the intended results of its bold NCD policy pathways, it will need to tackle systemic constraint areas of health governance, financing, human resources and health literacy.

Health Workers' Migration and Non-Communicable Disease Policy in Nigeria

Nigeria's health sector is currently in a double jeopardy situation of increasing migration of health workers and the growth of non-communicable diseases (NCDs). These are interwoven problems, putting health systems under stress and putting a dent in universal health coverage efforts. The migration of health workers is a dynamic resulting from the interplay of push and pull factors, the systemic effects of migration, and behavioral trends, described as "health workers' migration syndrome" (Ogbolu, Okoke, & Adepoju, 2022). Low salary, poor infrastructure, political unrest, lack of professional development opportunities are push factors that makes the Nigerian health system inhospitable and stimulate migration (Adebayo, et al., 2021). Conversely, pull factors encompass better job opportunities overseas and the affordance of high income countries overseas, high job satisfaction, and high social status (Okojie & Adepoju, 2023).

This migration phenomenon is compounded by the "intent to migrate" phenomenon -- individuals who have not yet left the country drive to leave and therefore experience lower morale, less loyalty to institutions, and inefficiencies in training investment (Ogbolu et al., 2022). The impact of this trend, especially on health workers, is much more dire than just these as it also leads to reduced workforce capacity, higher patient-to-provider ratio, overburdened health workers and continuity of care problems, all of which are threatening Nigeria's provision of essential services, particularly in the management of chronic diseases such as NCDs (Chukwu, et al., 2021). There is a debate that such movement is a result of structural inequalities globally, as healthcare workers in low- and middle-income countries (LMICs) are more likely to be recruited to fill shortages in wealthier nations, resulting in workforce depletion and dependency in LMICs (Abubakar, Dalglish, Ihekweazu, & Aliyu, 2020).

Concurrently, Nigeria is experiencing skyrocketing rates of NCDs. Nowadays, cardiovascular diseases, diabetes, cancer and chronic respiratory diseases account for more than 25% of the total death rate in the country, making it disproportionate as it affects the younger ones and contributes to higher long-term healthcare costs (Adeniyi & Ilesanmi, 2022). To address this, several policy instruments exist including the National Policy for the Prevention and Control of NCDs, The Task-Shifting and Task-Sharing Policy (NTSTS) and guidelines for hypertension prevention and control which were approved by the 64th National Council on Health (Eze & Anyanwu, 2023; Onwuchekwa & Adebiyi, 2022). They highlight the need for mainstreaming of NCD services within primary health care (PHC) system, lifestyle changes and improved availability of essential medicines and diagnostic equipment (Okeke & Adebayo, 2023). Moreover, the recently released National Health Workforce Migration Policy highlights Nigeria's recognition of migration as a key challenge of the health system and aims to increase retention, ethical recruitment, and informed planning of health services. (Okojie & Adepoju, 2023).

Nevertheless, Nigeria faces systemic barriers endemic to LMICs that limit effective implementation of NCD policies. Governance challenges such as notable dis-coordination amongst federal, state and local governments, also affect implementation of the policies, with policies often looking non-adaptive to the realities on the ground (Abubakar et al.,

2020). Financial resources are also a hurdle as they are inconsistent and insignificant, especially when compared with health sector financing of other countries of the world including the Abuja Declaration target (Adebayo et al., 2021). Additionally, the shortage of human resources is compounded by migration, with many health facilities overstaffed and under staffed, particularly in rural communities where the prevalence of NCDs is increasing (Ogbolu et al., 2022).

Additionally, poor data systems impede surveillance and informed decision-making; while logistics issues, such as supply chain problems for needed medicines and diagnostic equipment, further constraints service delivery (Chukwu et al., 2021; Adeloye, Basquill, Auta, & Balogun, 2021). Sociocultural factors like inadequate health literacy, and the stigmatization of chronic diseases affect early detection and follow-up of care plans. (Iheanacho & Nwachukwu, 2022). The challenges foster a policy to practice gap and some even supposedly good policies miss the mark of desired effect (Eze & Anyanwu, 2023).Health workers migration and NCD management are interlinked crises as migration affects the pool of people needed to realize NCD policies, and rapidly increasing NCDs adds to an already strained workforce resulting in dissatisfaction and subsequent egress. A comprehensive solution that takes all of this into consideration and brings together workforce retention policy with bolstered NCD prevention and control is the only way to address these challenges. Nigeria can build the resilience of their health system and reduce the long-term impacts of these trends through multi-sectoral, evidence-based interventions and learning from successful global practices.

The numbers of Health Workers have become a worrisome situation and a critical threat to the implementation of the National Non-communicable diseases (NCD) Strategic Policy in Nigeria. World Health Organization (WHO) projects a shortage of 18 million health workers globally by 2030, including the highest number in low- and middle-income countries (LMICs) (Cometto et al., 2023). Nigeria is a major source of this scarcity as thousands of health professionals including doctors, nurses, and other health workers leave the country for HICs like UK, US, and Canada, in the pursuit of better salaries, advanced training and better working conditions (Akinwumi, 2022; Ogunjimi, 2024). A recent study revealed that 80.1% of the 513 Nigerian health professionals surveyed planned to become expatriates (Badru, 2024) and another study of medical and nursing students in six universities showed that 72.9% wanted to work internationally with many of them not planning to return home (Ojo et al., 2025). This is consistent with studies on social networks which demonstrate that migration decisions are often bolstered by institutionally organised support networks, access to networks abroad and information (Benedict et al., 2022).

These are central themes in the Nigeria health system, which retards the migration of these professionals. Push factors comprise low wages, unsafe workplaces, inadequate medical facilities, for instance, inadequate continuing professional development opportunities and increase in insecurity (Yarhere, 2023; Tensaba and Akafa, 2023). On the other hand, pull factors remain such as well-established residency training programs, exposure to cutting-edge technology, job prospects, and favorable regulatory conditions in other countries to encourage Nigerian health workers to work abroad (BMC Medical Education, 2025). This mass exodus has left Nigeria with the health workers' density of about 1.83/1000 population, which is below the health workers required density per 1,000 population (known as health workforce density) for achieving Universal Health Coverage (UHC) recommended by WHO (4.45/1000 population) (Ogunjimi, 2024). The impact of this shortage is worse in rural and less resourced settings, where Primary Health Care (PHC) facilities are crucial for early detection and prevention of NCDs, yet find it harder to keep qualified staff resulting in more waiting times of patients and loss of access to basic medicines and diagnostics (Ogbolu et al., 2022).

This means that Nigeria's NCD Strategic Policy, based on an integrated approach to prevention, screening, treatment and follow-up services at the PHC, is faced with great implementation problems. The scaling up of hypertension and diabetes screening programs has been constrained by staff shortages, and informal task-shifting efforts to address these shortages often result in inadequate training and supervision of staff, thereby compromising the quality and safety of care delivery (Ajisegiri et al., 2023; Adejumo et al., 2023). Migration of health workers from rural to urban areas, fuelled by unequal distribution of health workers, contributes to the unequal access to health services for the care of NCDs in rural areas (Yakubu, 2023). This has economic consequences, too, as the migration of publicly funded health professionals amounts to a "double loss" for the Nigerian health system, both because of the significant healthcare workforce investment made by the Nigerian government in schools of medicine and because health professionals are needed in the workforce to provide essential care to the population. Despite the formal implementation of the National Health Workforce Migration Policy (2024) aimed at resolving some these issues through ethical recruitment practices, enhanced retention packages and better human resource data system (Ogunjimi, 2024), governance studies reinforce the observations of policy fragmentation, poor inter and intra-sectoral coordination, and inadequate funding of NCD

interventions (Yakubu, 2023). Overall, the continued migration of skilled human resources is occurring at a rate that threatens Nigeria's efforts to move toward UHC, as even skilled HRH are losing the fight to provide quality healthcare, leading to gaps in service, inequities and loss of trust in the health system.

Drivers of Health workers' Migration in Nigeria

Various factors of push and pull which are interwoven into each other shape health workers' migration in Nigeria. Poor remuneration and financial incentives have been one of the key factors, as Akinwale and George (2023) report that Nigerian health workers are not adequately paid and this has seen them seek their fortune outside the country. Likewise, Onah et al. (2022) revealed that pay differences play a key role in influencing migration choices; as a result, the enormity of the cost of living and the level of satisfaction in Nigeria constitute strong push forces as studied in recent literature on the "Japa" phenomenon. Another major factor is the shortage of good training opportunities and access to up-to-date medical equipment, as per a 2025 study, 75.2 percent of all medical and nursing students reported better training facilities abroad, 61.1 percent reported access to improved medical equipment, and 56.7 percent pointed to better job opportunities as reasons for migration (BMC Medical Education, 2025). A content analysis of a study that uses a combination of quantitative and qualitative methods, such as policy documents and interviews with field actors and stakeholders, further suggests a lack of specialization slots, inadequate continuing education, and mentorship arrangements (Sciety, 2024).

Poor working conditions, under-resourced infrastructure and resource constraints are other substantial factors: studies have reported poor medical equipment in public hospitals, with some doctors expressing frustration, and poor quality work life (Akinwale and George, 2023). Burnout, excessive workloads, and psychosocial stresses increase the complexity, with a cross-sectional study in 2023 associating burnout and longer working years with an increase in migration intention and social network analyses suggesting that being immersed in psychosocial strain or receiving migration norms from others have a significant impact on migration (PMC, 2023; PubMed, 2022). Weak policy implementation, low level of accountability and lack of good human resource management are among the governance issues that are reported to make health workers dissatisfied with their jobs (Onah et al., 2022; DOAJ, 2023). The external pull is also quite key, with other countries such as the United States, United Kingdom, and Canada all recruiting Nigeria's health care practitioners with a better training, compensation and regulatory environment (Sciety, 2024; BMC Medical Education, 2025). Lastly, health professionals are also looking for viable and safe work opportunities elsewhere because of socio-political instability and insecurity, as well as lack of a healthier quality of life domestically (The Emerald, 2024; The Undip Journal, 2023). All of these help elucidate that migration is determined by a mix of domestic factors and opportunities abroad and that the impacts on Nigeria's health system are significant.

Nigeria is facing a shortage of health workers that impacts at every point of its efforts in preventing, diagnosing, treating and providing continuity of care in non-communicable disease (NCD) efforts. The World Health Organization (WHO) is predicting a shortage of 18 million health workers globally by 2030, and low and middle income countries (LMICs) such as Nigeria will be most affected by this (Cometto et al., 2023). Nigeria's estimated health workforce density of 1.83 per 1000 population is lower than the recommended rate by the WHO of 4.45 per 1000 recommended to deliver UHC (Ogunjimi, 2024). Nurse expert migration is alarming, with more than 42,000 leaving Nigeria between 2021 and 2023, as the migration of doctors continues to increase, affecting service access in under-resourced and rural areas (LSE, 2024). This shortage becomes a challenge for NCD prevention programs because primary health care (PHC) facilities that are the main point of contact and outreach for hypertension, diabetes, and cancer screening, find staff difficult to keep (Ogbolu et al., 2022). The importance of the role of PHCs cannot be overstated, particularly in the domain of primary healthcare, where they are primarily expected to engage predominantly in health promotion activities, yet due to under staffing they have not been able to pursue this as a significant priority.

Furthermore, the community assessment indicated that due to the waiting time for primary care, individuals avoided going to their PHC for preventative care, thus incurring delays (WHO, 2023), while Ajisegiri et al. (2023) highlighted that the lack of staffing capacity of PHCs restricts the extent to which they can prioritize health promotion activities. Furthermore, diagnostic services are also affected with more than 60% of PHCs with inadequate laboratory technologist, and imaging service providers (Adejumo et al., 2023). Diagnostic delays are also caused by lack of time for patients resulting from the high workload, lack of training opportunities, and poor morale amongst workers, which also increases the likelihood of misdiagnosis (Yakubu, 2023).

Staffing gaps are particularly relevant in the case of NCDs in terms of their treatment and continuity of care. Ogbolu et al., (2022) find that there are regular interruption of drugs at treatment services as a result of frequent attrition of nurses and doctors involved in the care of individuals with hypertension and diabetes, which reduces the effective control of the diseases when needed the most. Shortages often end up with

task-shifting strategies that do not match quality standards, as poorly supervised community health workers receive and deliver interventions intended for specialists and face increased risks and poorer results (Adejumo et al., 2023).

To add to this, the inequitable distribution of health workers makes these problems worse as urban centres attract more health workers, leaving rural areas critically underserved which further contribute to health inequities and aggravates the burden of disease (Ajisegiri et al., 2023). These systemic workforce issues make it difficult to achieve the country's National NCD Strategic Policy (2019-2025) to mainstream prevention, early detection and long term management of NCDs at the PHC level (Yakubu, 2023). Policy analysis shows that health professional migration trends have continued to divert public investment in health worker training, with a lack of sustained investments in HRH, weak health worker retention strategies and fragmented HRH governance structures (Ogunjimi, 2024). All evidence from empirical studies, policy reports and facility-based assessments indicate that there is a cyclical relationship, with the shortage of health workers leading to poor coverage of prevention, delayed diagnosis, disrupted treatment, and a loss of continuity of care, which further undermines trust of health workers and exacerbates health inequities, further straining the already fragile health system in Nigeria.

Review of Empirical Literature

In the article "Investigating the Emigration Intention of Health Care Workers: A Cross-Sectional Study," Badru explored the extent to which health care workers in Nigeria may feel inclined to leave the country, assuming that emigration intentions could be measured reliably, and that emigration intentions were related to workplace factors including burnout and years of service. Based on push pull and human capital theories, the study used a quantitative, cross-sectional online survey of 513 health professionals that was self-administered by using questionnaires. Logistic regression found that 80.1% of the respondents indicated a desire to emigrate, with burnout and years of practice being significant predictors, and with recommendations to improve remuneration, mental health supports and workforce data systems.

Moreover, Toyin-Thomas, (2023), did Drivers of Health Workers' Migration, Intention to Migrate and Implications for Nigeria, where the authors identified macro, meso and micro migration drivers. The analysis - based on a mixed-methods design incorporating survey and primary study information - identified remuneration, insecurity, and a lack of training opportunities as important push factors and multi-sectoral retention strategies. Akinwumi (2022) studied a cross section of the tertiary hospitals and concentrated on the young doctors who were in the residency and internship rotation using the push-pull theory. An understanding of trainees' migration intentions was assumed to have inputs in guiding interventions, and logistic regression pointed towards poor remuneration and training conditions being strong predictors of the willingness to leave, while interventions such as career development and scholarship schemes were called for.

Tensaba and Akafa (2023) conducted a national survey to quantify push-pull factors affecting migration of physicians, found that security, working environment and a pay gap all were significant motivators for migration and advocated for increased mobility and wages for physicians. In addition to this, Yahere & Adeboye (2023) assessed push-pull factors for a doctor's migration with an emphasis on insecurity and poor job structures. Through regression analysis, Yahere concluded that systemic conflict accentuates migration inflows, pointing towards security, and career pathway reforms. However, researchers Ajisegiri, Odusanya, Adeniji, Fagbamigbe & Oyediran (2023) examined informal task-shifting by community health workers (CHWs) for hypertension and diabetes care based on two methods: Qualitative interviews and ethnographic observation with implementation theory as their theoretical foundation. It was also found that CHWs routinely stepped outside of their formal scope of duties as a result of a shortage of clinicians, and argued that policies must be formalized and CHWs be trained and supervised to support task shifting.

In like manner, in a cross sectional survey study, Adejumo, Lawal & Olatunde (2023) investigated doctors' perspectives on task-shifting in the management of hypertension and reports that physician-based support for task-shifting provides opportunities for scaling primary health NCD services with policy and regulatory support. In order to understand the drivers and consequences of migration, Eaton (2023) conducted a systematic review of the literature using a multi-level approach and a design with a better understanding of and affinity to PRISMA. The review noted that migration produces equity issues, exacerbates skill shortages and is a huge economic cost to the country of origin, which suggests the need for ethical recruitment policy and greater incentives to retain workers. Yakubu (2023) used a Document Review and stakeholder interviews to assess the health workers' migration governance framework in Nigeria, and found that the migration governance is seldom implemented comprehensively and lacks HRH data which compromises planned recruitment implications, suggesting comprehensive migration governance strategies and bilateral health workers' recruitment agreements.

Ogbolu, et al., (2022) performed a quantitative estimation of the economic and service delivery impacts of migration, concluding that migration negatively impacted primary health

readiness, waiting time and was accompanied by substantial fiscal losses from training investments. Retention of staff, deployment in the rural areas and organized ethical recruitment schemes were recommended. All these studies show the importance of viewing migration as a systemic challenge residing in structural, institutional and personal factors. Overall, evidence suggests that emigration of health workers negatively affects the ability to deliver NCD services, exacerbates inequities, and undermines public funding, continuing to highlight the need for subnational to national policies that govern health worker emigration, enhance compensation, and provide training and access to equitable opportunities to protect the health system and achieve NCD control objectives.

Adebayo and Akinyemi (2022) studied the intent to migrate of Nigerian medical doctors on residency training and the factors influencing their intention to migrate. Mixed method cross sectional design with a structured questionnaire and in-depth interviews was used for the study where the resident doctors in the University College Hospital, Ibadan were selected. Results showed that the majority of respondents had a very strong desire to emigrate, whilst a better salary, better working conditions, professional development and prospects for emigration and further training emerged as factors in this consideration. The qualitative data also revealed that the poor perceived environment of the Nigerian health system, as well as the prospect of better professional and socioeconomic opportunities in other countries, were factors influencing their preference for migration. The findings of the study led to the conclusion that further migration of doctors may make a stronger, already weak, health system weaker and suggested that human-resource management, salary, training and working conditions need improvement. The relevance of the findings in the current study is outlined to the fact that the extent of health-worker migration is closely related to institutional conditions and has some relevance to availability and sustainability of skilled health personnel in Nigeria.

Onah et al. (2022) conducted a study on physician emigration from Nigeria, and factors associated with physicians' intention to leave the country. The researchers investigated the prevalence and determinants of the intention to emigrate based on a cross-sectional survey of 913 physicians from 37 states in Nigeria. The study revealed a high percentage of physicians planned to migrate, and dissatisfaction with remuneration, working conditions, career development, infrastructure, and the state of the health system was prominent among the reasons for migration. The investigators believed that doctors' attrition would be yet another reason for Nigeria's already poor ratio of doctors to people and reduce the country's healthcare capacity. They called for broad changes in areas of remuneration, conditions of work, professional training and development, infrastructure, and health-system governance. This evidence suggests that health-worker migration is not simply a decision regarding individual mobility, but a question of health-worker and health-system dynamics that has implications for the delivery of health-related services.

With data from the CHARTING study, Adeniyi et al. (2022) investigated the profile and predispositions of early-career doctors who were willing to migrate from Nigeria. The data were obtained through a cross-sectional study of 763 early career doctors in nine tertiary hospitals. The results revealed that about two third of the respondents planned to emigrate and identified better remuneration, improved quality of life and better post graduate training as inter alia among the major reasons for wanting to emigrate from Nigeria. It also revealed that most of those intending to migrate desired migrated to developed countries. The authors explained that "high intentions to emigrate" among the surveyed early-career doctors might have negative consequences for Nigeria's fragile health system, especially since the exodus of younger medical practitioners impacts future physician availability.

Yarhere and Adeboye (2023) conducted an empirical assessment of the push and pull factors of medical consultants' emigration from Nigeria. A questionnaire-based survey of 238 consultants in the online setting from major postgraduate medical schools and professional bodies in Nigeria was used. It was revealed that lower job opportunities, lower pay, job insecurity and need for a better professional skills were significant push factors. Conversely, all aspects of a good job, higher wages, opportunities for members of the family, and security were cited as big attractions to destination countries. Another reason for keeping medical consultants in Nigeria according to the respondents was the need for improved incentives and security. The study shows that there is an interplay of economic, professional, security and institutional conditions determining the migration of health workers. The insights from these findings are significant to explaining that lost expertise of experienced healthcare professionals may contribute to the decreased ability of health facilities in Nigeria to deliver quality and continuous healthcare services.

Otu et al (2022) examined how the use of a mobile-health guideline training can be used for enhancing non-communicable disease care by primary healthcare nurses in Nigeria. The pilot study was a mixed-methods study, conducted in rural and urban communities in Cross River State; involving 19 Primary Healthcare facilities and 24 health workers. The intervention involved delivering a mobile-health education intervention to nurses in the context of NCD care, a situation where the care of NCDs was not previously integrated into

regular training. The study was a proof of concept for the potential of targeted training, coupled with e-support, to enhance health workers' capacity and knowledge on primary health care for NCDs. The research also revealed the constraints of classroom training and on site supervision of traditional manual methods in challenging resource environments. The study is relevant to the present study as it demonstrated that availability, preparedness, and ongoing learning and growth of health workers are necessary for effective NCD services, especially when human resources at primary care are limited.

Chukwuonye et al., (2026), evaluated the capacity and readiness of the Primary Health Care (PHC) facilities in Nigeria to implement a multi-level programme for the diagnosis, treatment and control of hypertension. The study adopted a World Health Organization (WHO) adapted framework of Service Availability and Readiness Assessment (SARA) and was implemented in 50 primary healthcare centres in five states as a nationwide cross-sectional study. While most facilities had at least two fulltime staff, no facilities assessed had a fulltime physician. A gap in many premises was identified as a lack of staffing and equipment, guidelines and availability of medicines for hypertension screening and diagnosis. These results confirms that if NCD interventions are to be implemented at primary health care, then there is a high need to prepare health facilities and adequate human resources. The study therefore presents empirical direct evidence of the impact of health-worker shortage on the role of NCDs in Nigeria in terms of prevention, diagnosis and treatment.

Oyedokun et al. (2025), examined emigration aspirations of medical and nursing students in Nigeria and the factors influencing their emigration desire. The study comprised of 2,152 undergraduate medical and nursing students across six universities across the six geopolitical zones in Nigeria. 72.9% intended to practise abroad, with other key motivators found to be specialist training opportunities, equipment, and career opportunities. United States, United Kingdom and Canada were the top destination choices. There was a significant minority of respondents who were not planning on returning to Nigeria after migration, which presents concerns for the sustainable health workforce. The researchers found limited resources, working conditions, payment and lack of career and professional development opportunities are areas that must be addressed as policy. This study adds to the existing evidence by showing that the migration challenge starts not when health workers go fulltime, but early in professional development, meaning that Nigeria may see ongoing health-worker shortages if effective health-worker retention measures are not taken at the earliest opportunity, when health workers are still in training.

Theoretical Framework

This study used the institutional perspective and the Social determinants of health (SDH) theory as a framework to explore the systemic and context drivers health workers' migration in Nigeria. The Institutional Theory was originally suggested by John W. Meyer and Brian Rowan (1977) and extended by W. Richard Scott (1987, 2014) and argues that individual and organizational behaviours are driven by institutional environments consisting of regulatory, normative and cultural-cognitive structures. One basic premise of this argument is that institutions shape patterns of action through the formal and informal creation of "rules of the game" (North, 1990) that direct the behavior of actors within a specific system. Weak institutions, fragmented governance, and policy instability exist in a health system that fosters an environment that enables health workers to leave. Health professionals frequently observe status quo conditions inherent in institutional reality and the low morale creates a situation of migration to find stability and step-up in their career elsewhere as witnessed in Nigeria (Akinwale & George, 2023).

The Social Determinants of Health (SDH) approach to health and health care was introduced through the Commission on Social Determinants of Health of the World Health Organization (Solar & Irwin, 2010), and assumes that social and non-medical factors like education, income, housing, employment, security and social protection influence health outcomes and health decisions. It is central that inequalities in such determinants lead to differences in health outcomes and, specifically, affect individual decisions, such as migration. Precarious factors militating against highly trained health personnel leaving Nigeria are security, lack of social protection, poor infrastructure, and poor standard of living (Yakubu, 2023).

By combining these theories it is possible to show how the migration of health workers is inseparable from institutional weaknesses, systemic inequalities, and global labor market dynamics and is not just an individual's rational choices. The SDH approach gives attention to the wider socio-economic and political context in which migration occurs and Institutional Theory highlights the importance of governance, policy, and organisational stability on migration. These insights collectively form a strong undercurrent to consider Migrant and Universal Health Coverage (UHC) and Sustainable Development Goals (SDGs) as a problem across various dimensions as suggested by WHO 2022 and Cometto, Boerma, Campbell, and Diallo (2023).

Findings

The results show that health workers' migration is Nigeria is a systemic problem that undermines the country's ability to put into practice the National NCD Strategic Policy (2019-2025). The health workforce to population ratio is much lower than the recommendations for other countries and has led to a shortage

of health workers particularly at PHC facilities which bear the brunt of NCD prevention and management in Nigeria. These shortages are creating a vicious cycle, contributing to poor health outcomes as well as extended waiting times and death rates for patients with NCDs (Ajisegiri et al., 2023). Push factors like inadequate remuneration, unsafe working conditions, and fewer advancement prospects and pull factors such as higher salaries and training opportunities outside the country are among the elements that shape migration trends (Yahere et al., 2023). Also the health system is characterised by policy fragmentation - although there are migration and retention strategies, there is not enough funding, monitoring mechanisms and incentives to keep health workers in Nigeria. There is an economic cost, because trained doctors and nurses who leave for other countries cost the public the investment that was made in them, which will in turn lower the nation's supply of doctors and nurses (Ogbolu et al., 2022).The results reveal how Nigeria is set to fall short of the aim of universal health coverage (UHC), nurse uranium rural-urban gaps and further compound the high burden of NCDs unless urgent actions are taken.

Health workers migration in Nigeria is at a critical level with more than 42,000 nurses emigrating during the 2021-2023 period, as well as a doctor-patient ratio of 1.83 per 1,000, which is far short of the WHO target of 4.45 per 1,000 (Ogunjimi, 2024). Health personnel retention rates shows that more than 70% of students and 80% of health practitioners in Nigeria intend to leave the country when they graduate from health training institutions or complete their training respectively (Badru, 2024). The underfunding of the National Health Workforce Migration Policy (2024), retention incentives and poor coordination negatively influenced the achievement of the limited success recorded so far (Yakubu, 2023). This has led to continued gaps in services, staff morale issues and loss in trust of the health system from the public. Migration exacerbates rural health inequalities, because fewer Health Workers in rural areas results in underserved NCD patients, and NCD+ provides fewer of experienced Health Workers, compromising the institutional memory and mentorship capacity in the health sector.

Conclusion

Nigeria's health system is at a critical turning point, faced with the necessity to tackle both the dual burden of non-communicable diseases (NCDs) and mass exodus of health workers to both Nigeria and other countries, both of which have a negative impact on national health policies and Sustainable Development Goal (SDG) pledges. Though supported by the National Policy and Strategic Plan of Action on NCDs, effective implementation has faced many barriers both at the national and subnational levels, including chronic under investment, poor governance, non-functional health infrastructure, and poor retention in the health workforce where the majority of the population have contact with health systems. The ongoing emigration of doctors, nurses and allied health workers (AWHWs) has aggravated the shortage of the workforce and the inequities of service delivery and cost to households, thereby putting more pressure on a health system already under immense pressure in Nigeria.

Migration of health workers is not just a matter of staffing, but a systemic problem; it is linked to the financing, implementation of policies, and the structure of service delivery and exacerbates inequities and impacts on NCD outcomes. Low wages, unsafe working conditions, poor prospects and job insecurity have all been sine qua nons of the migration phenomenon, also known as "brain drain," as well as above-average pay and higher prospects of training and development in other countries (Adesina, Oladipo & Balogun, 2021). This talent loss contributes to health inequalities, delays diagnosis and treatment and jeopardizes efforts towards UHC and SDG targets (WHO, 2022). There is global evidence that countries with similar challenges have developed workforce retention programs, distribution policies and integrated approaches that promote equity, with the PHC these programs and policies as the entry point for access to NCD care that have successfully led to improved health outcomes. To turn around these trends, a combination of measures is needed to boost the health workforce, improve PHC infrastructure, provide competitive compensation, and implement ethical migration management practices, all of which are necessary for Nigeria. If left unaddressed, Nigeria faces the potential of growing health disparities, increased morbidity and mortality due to NCDs and failure to attain its national and global health targets through urgent and coordinated action.

Recommendations

i.Increase retention incentives and career paths.

Retention can be improved if the Nigerian government invests in competitive remuneration, safe working conditions, housing schemes and so on and also provides continuous professional development programs. An increase of the number of specialization places can offer opportunities for the development of the health professional's career by working in partnership with teaching hospitals and universities.

ii.Expand schemes for scale up workforce, and rural incentives.

Workforce maldistribution cannot be solved without targeted interventions like those related to rural posting bonuses, housing allowances, and infrastructure. Enabling PHCs through access to diagnostic services and community-based support will help ensure access to NCD services in underserved areas.

iii.Strengthen the management of the health system by reinforcing health governance and migration regulation.

International ethical engagement of migrants in knowledge development, such as bilateral relations between the countries

for the exchange of knowledge, should be introduced to the National Health Workforce Migration Policy. Also, strong HRIS and clear monitoring processes are required to ensure that migration is in keeping with the policy objectives for NCDs**.**

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