Assessing the Impact of Medical Brain Drain on the Quality and Sustainability of Public Healthcare Delivery in Southwest Nigeria

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Abstract

The healthcare system in Nigeria is increasingly strained by the persistent migration of medical professionals, with reports indicating that over 40% of trained doctors have left the country in the past decade, while the doctor-to-patient ratio remains far below the World Health Organization's recommended standard. This ongoing medical brain drain has contributed to staff shortages, longer waiting times, and declining quality of care, particularly in Southwest Nigeria. Despite growing concerns, there is a limited body of empirical research that examines how medical brain drain specifically affects both the quality and sustainability of healthcare delivery within this region, and this created a critical gap that this study seeks to address. This study examined how medical brain drain influences the quality and sustainability of public healthcare delivery in Southwest Nigeria. The study focused on healthcare professionals and administrators in selected public hospitals across Lagos, Oyo, Ogun, Ondo, Osun, and Ekiti States. The research was anchored on Human Capital Theory. An explanatory research design was adopted, and the study employed a quantitative approach. The population comprised 1,920 healthcare workers, from which 320 respondents were selected using a stratified sampling technique. Data were collected using a structured questionnaire (google form) and analysed using descriptive and inferential statistics. The findings revealed that medical brain drain significantly reduces healthcare quality through increased workload, burnout, and limited patient care time. It also undermines sustainability by weakening institutional capacity, increasing dependence on less experienced staff, and reducing continuity of care. The study concluded that addressing medical brain drain is essential for improving healthcare outcomes. It recommended improved remuneration, better working conditions, and targeted retention policies for healthcare professionals.

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1. Background and Problem Statement

Medical migration from developing to developed countries has grown to be a major concern of the world for the healthcare sustainability and public health systems. Medical brain drain is the migration of trained doctors, nurses and other health care professionals from one country to another for better income, better working environment, better job prospects and better quality of life (Akinwale & George, 2023). Countries like United Kingdom, United States, Canada, Australia and Saudi Arabia started increasingly depending on foreign trained medical staff to maintain their healthcare systems across the globe. In 2024, it is estimated that more than 42% of the newly registered doctors in the UK were foreign-trained doctors, many of whom came from African countries such as Nigeria (Samuel & Haruna, 2025). The international medical graduates, who made up about 25% of practicing physicians in the United States, and the recruitment of health care workers from developing countries to work in Canada and Australia to address shortages in their health sectors continued. Likewise, the poor salaries, lack of facilities and welfare packages in India, South Africa, Ghana and Kenya were responsible for attracting healthcare workers from other countries. These trends led to significant challenges in healthcare workforce capacity in developing countries, such as an increase in the ratio of patients to doctors and a strain on healthcare delivery systems (Aleyomi, 2024; Bassey et al., 2025).

Economic instability, insecurity, medical working conditions and lack of healthcare facilities in Nigeria worsened the medical brain drain. It was reported that more than 15,000 Nigerian doctors have moved to other nations since 2019, and thousands of nurses and other healthcare workers have followed suit, seeking to take up employment in countries with more advanced healthcare systems and welfare benefits (Akinwale, Kuye, & George, 2024). Nigeria is reported to have only one doctor for every 10,000 patients, which is below the World Health Organization (WHO) target of having one doctor for every 600 patients. The region of Southwest Nigeria (Lagos, Ogun, Oyo, Osun, Ondo and Ekiti States) reported escalating strain on public hospitals caused by a lack of qualified health care workers. It is reported that the public healthcare institutions in the region experienced long waiting times, overworked medical staff, poor quality of patient care and poor emergency response systems (Olalekan et al., 2011). In some government hospitals, patients have been said to be receiving delayed medical care due to insufficient staffing and the growing

workload of the limited number of health care workers. The migration of experienced doctors and nurses also weakened mentorship, training and knowledge transfer within public healthcare institutions (Aibinuomo et al., 2025).

This escalating medical brain drain problem in Nigeria attracted attention to sustainability of public health care service delivery and attainment of sustainable development goals. The problem is directly connected to the United Nations Sustainable Development Goal 3 – Ensure healthy lives and promote well-being for all. The situation of Nigeria's healthcare remains weak, with poor healthcare financing and a shortage of healthcare providers (Joseph-Aluko, 2024). Research indicates that low remuneration, limited career progression opportunities, and low levels of in-hospital motivation were some of the reasons for migration among healthcare workers in Nigeria (Salau et al., 2022; Oluwatunmise et al., 2020). The COVID-19 pandemic reportedly has accelerated the migration of healthcare workers, particularly developed countries that ramped up their recruitment of skilled medical staff from Africa (Aleyomi, 2024). Nigerian-trained nurses and doctors contributed to addressing critical shortages in the workforce in countries like the United Kingdom and Canada, while public hospitals in Nigeria faced challenges with staffing and the quality of care (Samuel & Haruna, 2025). As a result, healthcare accessibility in many health institutions of the government in Nigeria became restricted particularly in rural areas where health institutions lacked sufficient medical facilities and manpower (Aluko-Arowolo, 2021).

The effect of medical brain drain was felt on the healthcare administrative sector, healthcare workers' sustainability and national development in Nigeria in the long run. Due to the continuous healthcare worker migration, the efficiency of institutions was diminished, healthcare workers' burnout was increased and the trust in public healthcare institutions was lowered (Esan, 2023). The study also revealed healthcare workers' growing desire to emigrate from Nigeria because of their poor welfare, lack of job promotion and salary, as well as limited job opportunities (Oyedokun et al., 2025). The retention of qualified healthcare professionals in public hospitals reportedly posed a challenge in Southwest Nigeria, especially as demands for the healthcare system rose with its growing population (Akinwale & George, 2023). While the studies conducted on healthcare migration and challenges of healthcare workforce turnover in Nigeria, as well as the challenges of healthcare infrastructures in Nigeria, have been studied, to the best of the researcher's knowledge, no empirical study has been conducted to examine the combined effect of medical brain drain on the quality and sustainability of public healthcare delivery in Southwest Nigeria (Lucas, 2025; Bassey & Bassey, 2024). This

therefore made this study imperative to evaluate the effects of the continuous migration of healthcare professionals to the quality of healthcare, sustainability of institutions and public healthcare service delivery in Southwest Nigeria.

2. Literature Review and Theoretical Synthesis

2.1 Concept of Medical Brain Drain

Medical brain drain is the movement of trained medical staffs (doctors, nurses, and medical specialists) from one country to another for the purpose of better career prospects, working conditions, and economic opportunities. According to Akinwale and George (2023), medical brain drain is the unending flow of qualified health care workers from developing countries to developed countries, resulting in a scarcity of qualified health care workers in the home country. According to Esan (2023), medical brain drain refers to the emigration of qualified medical personnel in search of better welfare conditions, insecurity and inadequate health facilities. Likewise, Bassey et al. (2025) defined medical brain drain as the high migration of healthcare professionals from developing countries, which compromises the healthcare systems and undermines the effectiveness of institutions in these countries. The concept got growing significance as qualified people are important in providing medical services and emergency response and care to patients in the healthcare delivery system. Poor remuneration, high workloads and lack of professional development opportunities in Nigeria fueled the migration of doctors and nurses by a large margin to countries like the United Kingdom, Canada and United States (Samuel & Haruna, 2025). One of the reasons for the shortage of skilled medical personnel in public healthcare institutions all over the country was the growing trend of migration.

Medical brain drain poses serious challenges to access to medical care, quality of medical services and sustainability of medical institutions. However, the research revealed that the movement of experienced healthcare professionals resulted in a decline in healthcare administration, a lack of mentoring opportunities and increased workload for the remaining healthcare workers in Nigerian hospitals (Akinwale, Kuye, & George, 2024). There was a shortage of doctors, nurses and laboratory specialists in public healthcare institutions, which impacted timely treatment and management of patients. Inadequate staffing and growing patient loads in many hospitals in Nigeria have been reported as the cause of burnout, stress and job dissatisfaction among healthcare workers (Salau et al., 2022). There were also

arguments that brain drain was a factor in the low quality of health service provision because many of the experienced professionals who went overseas had specialized knowledge and clinical expertise needed for the effective delivery of health services (Aibinuomo et al., 2025). In addition, healthcare training institutions were impacted by the migration of health workers, as there were fewer professionals to teach and mentor younger healthcare workers. Previous studies have looked at migration and the shortage of labour, limited studies have however focused on the impact of medical brain drain on the quality and sustainability of public healthcare delivery in Nigeria, hence the need for this study.

2.2 Quality of Public Healthcare Delivery

Quality of public healthcare delivery is the degree to which the health care services rendered by government hospitals and medical institutions are effective, safe and satisfactory to the patient. Joseph-Aluko (2024) defined Quality Healthcare Delivery as effective, accessible and patient-centred provision of healthcare services that can enhance public health outcomes. According to Aloysius, Onah and Fred (2025), quality healthcare delivery is defined as the ability of healthcare institutions to provide the medical services in a timely, efficient and reliable manner, with the qualified personnel and appropriate healthcare facilities. Likewise, Bassey and Bassey (2024) defined quality health care delivery as the regular provision of health care services by health professionals that meet patient's health care needs and keep healthcare standards acceptable. A good health care delivery is dependent on the availability of skilled health care workers, modern equipment, effective communication and efficient patient management systems. Public health institutions in Nigeria assume huge responsibilities in delivering health care services to large numbers of people, especially those in the low income group who rely on government hospitals to seek medical treatment and health care services (Aluko-Arowolo, 2021).

In Nigeria, healthcare delivery has been impacted by a shortage of healthcare workers, lack of infrastructure, and insufficient funding for healthcare. One of the reasons for the reduction in patient care quality was the movement of health workers to other health facilities, particularly public hospitals, which had inadequate staffing and staff workload (Akinwale & George, 2023). In a few Nigerian public hospitals, patients reportedly waited for longer to have consultations, were overcrowded in wards, and did not receive specialist medical services because of the lack of medical personnel. Lack of staffing also amounted to poor efficiency in emergency response and limited ability of healthcare institutions to effectively respond to public health issues (Lucas, 2025). In addition, there was a decline in the number of experienced

healthcare workers, which reduced the ability to transfer knowledge and provide professional mentorship in healthcare institutions, thereby impacting healthcare performance and institutional development (Esan, 2023). The current literature focused mainly on migration of the workforce and healthcare infrastructure, and little empirical research had been conducted on the link between medical brain drain and healthcare service quality in public hospitals in Nigeria.

2.3 Sustainability of Public Healthcare Delivery

Sustainability of public health care delivery is the ability of health care systems and institutions to sustain the provision of accessible, affordable and quality health care services over a long period of time without any significant drop in performance. Abasilim and Obozekhai (2024) defined sustainability in healthcare delivery as the ability of healthcare institutions to provide effective healthcare services using the appropriate workforce, infrastructure and organizational efficiency. According to Obianagwa and Ejiofor (2025) sustainable healthcare delivery is the capacity of healthcare systems to address current and future health needs with stable policies and human resource management. Likewise, Musa et al. (2025) believed sustainability of healthcare delivery was the continuous provision of resources for healthcare, healthcare providers and healthcare institutional capacity to perform public health effectively. The retention of qualified healthcare professionals is an important part of sustainable healthcare systems as medical personnel are a vital resource for diagnosis, treatment and healthcare administration. In Nigeria, sustainability of public health service delivery became a growing concern, as many health care workers migrate and the capacity of institutions in public hospitals decreases over time.

Nigeria's healthcare delivery system has been facing threats to its sustainability due to the persistent medical brain drain and the lack of funding and healthcare infrastructure. Many doctors and nurses leaving the public hospitals to seek better opportunities abroad caused a problem in maintaining effective healthcare services in public hospitals (Aleyomi, 2024). This situation led to more work for the remaining employees, low morale and poor health care conditions in many government hospitals. Scholars contended that healthcare sustainability was impossible without having strategies to retain the workforce, provision of better welfare packages and adequate investment in the healthcare infrastructure (Abasilim & Obozekhai, 2024). Poor remuneration, inadequate promotion and working conditions also were found to enhance the desire to migrate among healthcare workers in Nigeria (Oyedokun et al., 2025). This led many healthcare

institutions to face challenges in providing quality healthcare services and addressing the increasing demands for healthcare. There was a need for this study since previous studies discussed migration and shortage of healthcare workers, but there was insufficient attention on the impact of medical brain drain on the sustainability of healthcare delivery in Nigeria.

2.4 Theoretical Synthesis

This study was anchored on Human Capital Theory. In 1961, Theodore Schultz introduced Human Capital Theory, which was further developed in 1964 by Gary Becker. The theory is that the acquisition of education, training, skills, and work experience is a valuable asset that enhances productivity, institutional performance, and national development. The theory also posits that human resources investment like doctors, nurses and Healthcare providers play a significant role in organizational efficiency and economic growth as they are equipped with specialized knowledge that is required to provide services effectively (Ifejika, 2017). In this study, Human Capital Theory is the theory that explains that the healthcare professionals in Nigeria are assets in the public health sector, and their emigration to other countries leads to loss of expertise, productivity and institutional capacity. The constant emigration of trained medical and nursing staff to other countries like the UK, Canada and the USA resulted in poor healthcare quality, high workload for the remaining health workers and the unsustainability of public health services in Nigeria (Akinwale & George, 2023). The theory is relevant because it underlines the fact that the loss of skilled healthcare workers has an adverse impact on healthcare administration, delivery and long-term healthcare development in Nigeria (Esan, 2023). Studies also revealed that low remuneration, poor welfare packages, poor infrastructure and limited career prospects among the healthcare professionals influenced their migration intentions, which impacts on the retention of the workforce and healthcare sustainability (Abasilim & Obozekhai, 2024; Oyedokun et al., 2025). In view of the above, the Human Capital Theory is apt to explain the effect of medical brain drain on the quality and sustainability of public healthcare delivery in Nigeria.

3. Methods and Materials

3.1 Research Design and Philosophy

The study was of explanatory research design using quantitative research approach to evaluate the effect of medical brain drain on quality and sustainability of public healthcare delivery in Southwest Nigeria. The explanatory design was deemed

suitable as it moves beyond describing phenomena to examining relationships between variables like medical brain drain and healthcare quality and sustainability outcomes. The quantitative approach was adopted due to the ability of this approach to collect numerical data which could be analysed statistically to produce objective and generalisable findings. This method was chosen over the qualitative design as qualitative designs are mainly subjective, involve interviews, and narratives, and do not give measurable evidence of the level of brain drain and the impact on the health care systems (see Table 1).

Table 1. Population Distribution of Healthcare Workers

State	Estimated Population of Healthcare Workers
Lagos State	520
Oyo State	340
Ogun State	280
Ondo State	260
Osun State	240
Ekiti State	280
Total	1,920

3.2 Participants and Procedure

The study focused on healthcare professionals and administrators found in selected public hospitals in Southwest Nigeria. This included doctors, nurses, pharmacists, laboratory scientists and hospital administrators, since they are the ones who are directly involved in the delivery of healthcare services and most affected by medical brain drain. A total of 1920 healthcare workers were identified in the selected hospitals. Stratified random sampling technique was used to select a sample of 320 respondents from the population. Stratified sampling was selected due to the fact that it ensures representation of each category of healthcare workers and each state in the study in the correct proportions. This method was selected as a more appropriate method compared to simple random sampling, since simple random sampling may result in an over or under-representation of specific professional groups (e.g., doctors, nurses) thus influencing the results. Stratification was used to increase the accuracy and decrease any sampling bias. Data collection was done by using a structured questionnaire which was prepared on Google Forms. The questionnaire link was sent to healthcare workers via official hospital communication channels and professional networks. The respondents had enough time to answer the questionnaire as well as reminders were sent to increase the rate of return. The justification for using online data collection was that it was a cost-saving, time-saving, and having access to health care professionals in different locations at once. It was also more efficient than distribution in reality, particularly

in the hectic schedules of healthcare workers and hospital administration constraints (see Table 2).

Table 2. Sample Distribution of Respondents

State	Population	Sample Size
Lagos State	520	87
Oyo State	340	57
Ogun State	280	47
Ondo State	260	43
Osun State	240	40
Ekiti State	280	46
Total	1,920	320

3.3 Materials

A structured questionnaire was used as the primary tool for data collection to gather information related to medical brain drain, quality and sustainability of healthcare delivery. The questionnaire was segmented into parts on demographic data, reasons for medical brain drain, and its effect on the quality of healthcare services and sustainability issues. The questions in each section were close-ended with ratings on a 5-point Likert scale from Strongly Agree (5) to Strongly Disagree (1). Structured questionnaire was chosen due to the fact that it makes it possible to get uniform answers, can be used to analyse the data and can produce the same answers from a large sample. It was preferred because interviews are time consuming, expensive and interviewer bias can be present. It was also also preferred over observation as the study focuses on the perceptions and experiences of the healthcare workers, which is not something that can be directly observed. Google Forms was utilized as it enables automated data collection, minimizes data entry errors and enhances the speed and accessibility of data responses.

3.4 Measures and Analysis

Three major constructs were measured: medical brain drain, quality of healthcare delivery and sustainability of healthcare services. Migration intention, job dissatisfaction, workload pressure, and emigration rate of healthcare workers were used as indicators for medical brain drain. The quality of healthcare delivery was assessed through indicators like waiting time of patients, efficiency of services, availability of skilled staff and satisfaction of patients. Measures of sustainability included workforce retention, institutional stability, service continuity, and efficiency of the healthcare system. Descriptive and inferential statistics were used

to analyse the data collected. The views of the respondents were summarised in terms of descriptive statistics (frequency distribution, percentage, mean scores and charts). Inferential statistics were also used to test relationships between variables, such as the relationship between brain drain and the sustainability and quality of healthcare. The use of both descriptive and inferential statistics was more appropriate than descriptive statistics only as it would enable the study to describe patterns and look at the relationship between variables. This hybrid methodology enhanced the credibility and comprehensiveness of the results, enabling meaningful inferences regarding the impact of medical brain drain on health service provision in Southwest Nigeria.

4. Data Presentation, Analysis and Discussion of Findings

4.1 Response Rate

Three hundred and two (320) copies of the questionnaire were administered to the healthcare workers in selected public healthcare institutions in Southwest Nigeria. Of the 320 copies mailed, 304 copies were retrieved, found suitable for analysis, and completed, and 16 copies were not returned or were unsuitable for analysis due to incomplete use. This was a response rate of 95.0 % which was considered to be satisfactory for the study since it indicated active participation by respondents and hence increased the confidence level of the results obtained. The high response rate also improved the validity of the data collected for the impact assessment of medical brain drain on quality and sustainability of public health service delivery in Southwest Nigeria (see Table 3).

Table 3. Response Rate of Questionnaire Distribution

Questionnaire	Frequency	Percentage (%)
Copies Distributed	320	100
Copies Retrieved and Used	304	95.0
Copies Not Retrieved/Invalid	16	5.0
Total	320	100

The data collected were analyzed using descriptive statistics involving frequency counts, percentages and mean scores based on a 5-point Likert scale of Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and Strongly Disagree (SD). A criterion mean score of 3.00 was used for decision making. The mean scores accepted were 3.00 and above and mean scores less than 3.00 were rejected. The study aims were to:

i. To examine the causes of medical brain drain among healthcare professionals;

ii. To assess the impact of medical brain drain on the quality of public healthcare delivery; and

iii. To examine the effects of medical brain drain on the sustainability of public healthcare delivery in Southwest Nigeria.

4.2 Objective One: Causes of Medical Brain Drain among Healthcare Professionals

This objective examined the major factors responsible for the migration of healthcare professionals from Nigeria to developed countries. Descriptive statistical tools involving percentages and mean scores were used for the analysis (see Table 4).

Table 4. Causes of Medical Brain Drain among Healthcare Professionals

Items	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean
Poor remuneration encourages healthcare workers to migrate abroad	52.0	31.6	4.3	7.2	4.9	4.190
Inadequate healthcare infrastructure influences migration intention	48.7	34.5	5.6	6.3	4.9	4.152
Lack of career development opportunities contributes to migration	45.1	36.5	5.9	7.2	5.3	4.094
Excessive workload and burnout influence migration of healthcare workers	50.3	30.9	4.6	8.2	6.0	4.124
Poor welfare and insecurity increase migration intentions	47.0	35.2	5.3	7.6	4.9	4.116

The results from the findings in Table 4 showed that poor remuneration, inadequate healthcare infrastructure, lack of career opportunities, excessive workload and poor welfare conditions were major factors that caused medical brain drain in Nigeria. The highest mean score (4.190) was obtained for the 'poor remuneration' question, which respondents strongly agreed was an incentive for healthcare workers to leave for employment overseas. The respondents also agreed that the lack of health care infrastructure was a factor that affected intention to migrate with a mean score of 4.152. This particular finding indicates that health workers were not happy with the state of healthcare facilities and wanted to improve their situation in countries that had better health care systems. The high workload and high stress level were also found to be one of the significant factors affecting migration with the mean score of 4.124. The results showed that economic and institutional factors play very significant roles in the decision making of healthcare professionals in Nigeria. The study is consistent with the findings of Akinwale and George (2023) which revealed

that bad working environment and low remuneration played significant role in brain drain of health workers in Nigeria. The results also support the findings of Akinwale, Kuye and George (2024) which showed that healthcare infrastructural challenges and weak capacity development led to higher migration intentions among Nigerian doctors. Moreover, the findings echo the findings of Salau et al (2022) and Oluwatunmise et al (2020) which noted that low job satisfaction, substandard welfare and high work pressure were connected to turnover intentions of the frontline healthcare workers. The results also corroborated with the study of Oyedokun et al. (2025) that noted lack of professional growth and poor working conditions had an impact on the emigration intentions of medical and nursing students in Nigeria.

But the results contradict studies done in developed countries where healthcare workers reportedly were enjoying better welfare systems and higher institutional support, which were reported to have lowered intentions to migrate. The implication of the present findings is that if the welfare condition of the healthcare workers in Nigeria does not improve, and they are better remunerated, as well as the healthcare infrastructure, skilled healthcare workers will continue to migrate, which will compromise the Nigerian healthcare system.

4.3 Objective Two: Impact of Medical Brain Drain on the Quality of Public Healthcare Delivery

This objective assessed how medical brain drain affected the quality of healthcare services provided by public healthcare institutions in Southwest Nigeria. Descriptive statistical methods involving percentages and mean scores were adopted for the analysis (see Table 5).

Table 5. Impact of Medical Brain Drain on Healthcare Quality

Items	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean
Medical brain drain reduces the availability of skilled healthcare professionals	56.3	28.0	3.9	7.2	4.6	4.241
Brain drain contributes to delayed patient care and treatment	49.0	34.2	5.3	6.6	4.9	4.165
Shortage of healthcare workers increases workload among remaining staff	53.6	29.9	4.3	7.0	5.2	4.204
Brain drain weakens mentorship and professional training in hospitals	46.4	36.5	5.6	7.2	4.3	4.133
Medical brain drain affects the quality of patient care in public hospitals	51.6	31.9	4.6	6.9	5.0	4.182

The results presented in Table 5 showed that medical brain drain had a negative impact on the quality of public health care delivery in Southwest Nigeria. The brain drain was rated as the most strongly agreed upon by the respondents with a mean score of 4.241. The mean score for "shortage of healthcare workers" led to an increase in workload among the remaining workers, which was also agreed by respondents. This finding in particular indicates that the movement of health workers—doctors and nurses—created an additional burden for the remaining health workers, which resulted in the decrease of efficiency and effectiveness in the health sector. They also concurred that medical brain drain led to delayed patient care, a decline in mentorship and quality of healthcare services in public hospitals. The results indicate that migration of health workers has caused a considerable decline in healthcare quality and institutional performance in Nigeria. The study confirms the findings of Bassey and Bassey (2024) which showed that brain drain affected the effectiveness of Primary Healthcare Systems in Nigeria. The findings also corroborate the findings of Lucas (2025) which showed that the migration of health care workers has negative consequences on the delivery of health care and patient management in Nigeria. Likewise, the study's results align with the research of Aloysius, Onah and Fred (2025) that human capital flight affected the delivery of services in public hospitals. The results also corroborate the findings of Esan (2023) who observed that healthcare quality and sustainable development of the country was being undermined by the constant movement of healthcare workers in Nigeria. The results also showed that medical brain drain had reduced the professional mentoring and training in Public Hospitals. This suggests that more skilled workers in the health care sector who left the country also brought with them useful knowledge, skills and expertise that were required for the development of younger workers. The under implication is that if the migration trend continues, the quality of healthcare service provided to patients may continue to deteriorate and institutional capacities may continue to be reduced in healthcare institutions.

4.4 Objective Three: Effects of Medical Brain Drain on the Sustainability of Public Healthcare Delivery

This objective examined the extent to which medical brain drain affected the long-term sustainability of public healthcare delivery in Southwest Nigeria. Descriptive statistics involving percentages and mean scores were used for the analysis (see Table 6).

Table 6. Effects of Medical Brain Drain on Healthcare Sustainability

Items	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean
Medical brain drain threatens the sustainability of public healthcare delivery	54.0	30.6	4.0	6.9	4.5	4.236
Public hospitals experience difficulty retaining experienced healthcare professionals	51.3	32.2	4.6	6.9	5.0	4.187
Brain drain contributes to increased healthcare costs in public hospitals	47.0	34.5	5.3	8.2	5.0	4.104
Continuous migration weakens healthcare workforce stability	52.6	30.3	4.3	7.2	5.6	4.176
Medical brain drain reduces institutional efficiency in healthcare administration	49.7	32.6	5.0	7.2	5.5	4.142

Table 6 showed that the medical brain drain had a significant impact on the sustainability of public healthcare delivery in Southwest Nigeria. The medical brain drain had the highest mean score of 4.236 indicating strong agreement by the respondents. Also, respondents indicated that difficulty in retaining experienced healthcare professionals was a challenge for public hospitals (MS = 4.187). This finding in particular indicates that the continuous migration resulted in less workforce stability, and also to a loss of the capacity of public healthcare institutions to provide effective healthcare services over time. Respondents also agreed that brain drain added to the costs of healthcare and contributed to the inefficiency of the institutions when it comes to the administration of healthcare. The results suggest that retention of qualified health care workers is a major determinant of the sustainability of health care delivery in Nigeria. The study resonates with the findings of Abasilim and Obozekhai (2024) that workforce retention plans must be put in place to maintain the healthcare systems in Nigeria. The results also support those of Bassey et al. (2025) who found migration of health workers to be a significant problem in sustainable healthcare development in Nigeria. Likewise, the results are consistent with the work of Obianagwa and Ejiofor (2025) who asserted that migration of healthcare workers reduced healthcare sustainability and institutional effectiveness. The results also corroborate the study conducted by Aleyomi (2024) who reported that the COVID-19 pandemic hastened migration of health care workers and exacerbated health care worker shortage in Africa. However, results were at odds with those in countries with better healthcare systems and more comprehensive workforce retention policies in which healthcare sustainability was found to be comparatively stable despite migration patterns. The implication of the present findings is that the Nigerian healthcare system can continue to suffer from

the instability of its workforce, poor healthcare quality and poor institutional performance unless steps are taken urgently to retain healthcare professionals in the system. The results further suggested the importance of better funding of healthcare, better welfare packages, and better career opportunities and infrastructure development to ensure effective healthcare delivery in Nigeria.

5. Conclusion

The effect of medical brain drain on quality and sustainability of public health services delivery in Southwest Nigeria was assessed. The results showed that medical brain drain is negatively affecting the delivery of health services as it leads to a continuous loss of qualified doctors, nurses and other health sector workers to developed countries. This migration has led to a significant lack of staff, overworked employees and delayed treatment for patients and poor quality of care in public hospitals. The study also confirmed the negative impact of healthcare sustainability when public health institutions face difficulties in retaining qualified staff, maintaining efficiency in performing their duties and adapting to increasing healthcare needs. From the study it was also observed that the main factors that contribute to medical brain drain in Nigeria include poor remuneration, inadequate healthcare infrastructure, lack of career advancement opportunities and excessive workload and poor welfare conditions. These have led to the dissatisfaction of healthcare workers, which has raised their intention to migrate. As a result, the capacity of the public healthcare institutions in Nigeria is progressively being undermined, and they lack mentorship capabilities, training, and effective service delivery. These challenges are a clear threat to achieving sustainable healthcare systems and national health development generally in Nigeria.

5.1 Policy Recommendations

i. Government should adopt a holistic approach to the retention of healthcare workers by improving salaries, hazard allowances and regular review of salaries in accordance with international standards. This must be realised by greater budgetary allocation to health, with at least the recommended 15% of national budget allocation in accordance with international standards on health financing.

ii. Healthcare organizations should establish career development plans, such as merit-based promotions, continuous professional development (CPD) and funded postgraduate training. This can be done via cooperation with local and

international training institutions to keep skilled personnel.

iii. A system of "bonds" should be in place and enforced, requiring newly trained doctors and nurses to spend a minimum number of years in Nigeria before they are allowed to migrate overseas. Legislation and monitoring should support implementation. There should be laws and policies that govern migration of health workers, including incentives for service in the country and disincentives for early retirement.

iv. Finally, the private sector should be encouraged to make the healthcare infrastructure better by investing in modern medical equipment, hospital facilities, and digital health systems to mitigate migration push factors.

5.2 Contributions, Limitations and Suggestions for Further Studies

This study contributes to knowledge by providing empirical insights into the relationship between brain drain and quality and sustainability of public health care services delivery in the Southwest region of Nigeria. It further reinforces the theory of Human Capital Theory through its insight into how brain drain hinders institutional performance and the effectiveness of service delivery. The study is confined to a few healthcare institutions located in Southwest Nigeria and used only quantitative data for its analysis, failing to consider deeper aspects of the experiences of health care workers. Further research in this area needs to employ the mixed method and widen the scope of research geographically to cover private healthcare institutions and other regions within Nigeria.

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