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THE CONUNDRUM OF MEDICAL BRAIN-DRAIN: STRATEGIES FOR ENHANCING EMPLOYEE RETENTION FOR QUALITY HEALTHCARE SERVICE DELIVERY IN NIGERIA.

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Abstract
The exodus of skilled medical professionals poses persistent challenges that significantly constraints to quality healthcare service delivery in most developing nations such as Nigeria. Employee retention strategies will play a critical role in enhancing the quality of healthcare. Understanding the dynamic relationships between medical brain-drain, employee retention and quality healthcare will be crucial for developing effective interventions to address workforce shortages and improve healthcare outcomes. This study investigated how employee retention can reduce medical brain-drain and enhance the quality of healthcare in the selected tertiary healthcare organisations in Lagos State, Nigeria. The study had 3 objectives and questions with 1 hypothesis. The methodology in this study involved descriptive research design with a survey method. A sample of 360 healthcare workers was selected through simple random sampling procedure. The method of data collection was through questionnaire on strategies for enhancing employee retention for quality healthcare service delivery in Nigeria. to gather insights on research phenomenon. Data analysis involved descriptive techniques and inferential methods. The Pearson correlation was used to test the hypotheses and provide answers for the research questions. The findings revealed the negative significant influence of medical brain-drain on the quality of healthcare and demonstrated how employee retention strategies can mitigate this impact. This study provided actionable strategies to mitigate brain-drain through targeted retention initiatives such as appropriate compensation, professional development opportunities and conducive working conditions, that are aimed to elevate the standard of healthcare delivery across Nigeria.

Keywords: Employee Retention, Healthcare, Medical Brain-Drain, Quality of Health Care.

Introduction

The rising complexities and intricacies among medical practitioners and practices in Nigeria has severely impacted on quality of health care services and development in the Nigerian healthcare industry (Abasilim & Obozekhai, 2024; Atiomo, 2026). The concept of brain drain has historical background from the writings of Khatkhate (1970), which is defined as the migration of highly educated, qualified and talented individuals from the developing countries to developed countries. Over the years, this phenomenon has increased from various evident migrations to countries such as the United Kingdom, Canada and the United States of America, more recently, Nigeria has been observed to have its own share of the brain-drain phenomenon especially in recent years in the healthcare sector (Amorha, Irobi & Udoh, 2022; Ikhide, 2021; Akinwale & George, 2023; Rukema & Nkoko, 2024).

Since, the global pandemic rising consciousness has been placed on healthcare workers and medical practitioners with respect to improving their working conditions and retention so as to enhance quality of service delivery of health (Amorha et al., 2022; Makuku & Mosadeghrad, 2022). The challenge of shortage of healthcare workers driven by brain-drain is an expanding global as well as local health crisis, with significant implication in terms of political, economic, social and technological context.

The medical brain drain and its dynamic influences on developing countries such as Nigeria, Ghana and South Africa, as well as Malaysia and Pakistan (Kanyumbaya & Msosa, 2020; Ajayi, Ajayi & Ogunleye, 2022; Akinwale & George, 2023; Adjei-Mensah, 2023; Orhungul, Onugu, Udo, Udoh & Omoronyia, 2023; De-Vries, Boone, Godderis, Bouman, Szemik, Matranga & De-Winter, 2023), has continued to attract interest, attention and reactions among the research community, thus continuous analysis and review of studies tackling the phenomenon are pivotal. There is need for research in identifying the factors causing the medical brain-drain in Nigerian health care industry as well as establishing how to integrate management strategies towards employee retention of medical practitioners and ultimately improve quality of healthcare service delivery.

The significance of this study is to present insights that are practical and evidence-based insights on the plaguing challenge of medical brain drain in Nigeria and its implications for employee retention and the quality of healthcare service delivery. The study would generate information on the key factors that drive healthcare professionals to seek employment abroad. The findings will provide information that can assist healthcare leaders, executives, managers, and administrators in designing policies that can enhance workforce retention and stability to facilitate quality of healthcare service delivery. From the perspective of research and academics, this study contributes to the growing body of knowledge on medical brain drain, human resource management, organisational behaviour, workplace dynamics and healthcare service delivery by providing empirical evidence.

Aim and Objective of the Study

This study investigates medical brain-drain in Nigerian healthcare industry and proffer strategies for employee retention that can enhance quality of healthcare service delivery. The specific objectives include to:

1. examine the determinants of medical brain-drain in the Nigerian healthcare sector.
2. evaluate the influence of medical brain-drain on the quality of healthcare service delivery in the Nigerian healthcare sector.
3. ascertain the employee management and retention strategies that can be used to eradicate medical brain drain in the Nigerian healthcare sector.

Research Questions

1. What are the determinants of medical brain-drain in the Nigerian healthcare sector?
2. To what extent is the influence of medical brain-drain on the quality of healthcare service delivery in the Nigerian healthcare sector?
3. What are the employee management and retention strategies that can be used to eradicate medical brain drain for quality healthcare services in the Nigerian healthcare sector?

Research Hypothesis

1. There is no significant relationship among medical brain drain, employee retention, and the quality of healthcare service delivery.

Literature Review

Medical Brain Drain

Goga (2020) defines brain-drain as a terminology that relates with the emigration of highly skilled workers from developing countries to developed ones, driven by desirable factors in the destination country. Initially conceptualised by the Royal Society of Britain in the 1960s, brain-drain originally referred to the migration of scientists from the United Kingdom to North America, specifically the United States and Canada (Osigbesan, 2021). Since then, this phenomenon has significantly impacted various industries in developing countries, becoming a longstanding issue that continues to attract scholarly attention. Medical brain-drain refers to healthcare professionals migrating from developing to developed countries for better opportunities, salaries, and working conditions, which significantly impacts Nigeria's healthcare system with critical personnel shortages and compromised quality (Adesote & Osunkoya, 2018; WHO, 2020).

Rubagumya, Hardy, Uwase, Kamanzi, Kyamanywa, Petroze and Calland (2016) reported that as of 2011, over 17,000 medical doctors in the United States were born or trained in Africa. The Nigerian Medical Association (NMA) highlighted that Nigeria allocates only 7% of its budget to healthcare, below WHO recommendations, this shows that government as a key stakeholder in the healthcare sector is not investing enough in the sector and its professionals. In recent years, over 5,000 Nigerian medical professionals migrated to the UK, highlighting systemic issues like poor conditions, inadequate infrastructure, and leadership failures (O'Connor, 2018; Amorha, Irobi, & Udoh, 2022).

Adesote and Osunkoya (2018) noted that for decades, there has been a significant exodus of skilled workforce from the African continent, particularly from the health sector to foreign countries. The Nigerian Medical Association (NMA) has highlighted that Nigeria's population, which currently stands at 200 million, will exacerbate the challenges in managing patient care over the next 15 years (Kareem, 2021). This imbalance between the number of medical personnel and the patient population has directly contributed to the deterioration of quality healthcare delivery. Research has underscored the correlation between the inadequate number of medical professionals and increased mortality rates in Nigeria (Suleiman & Mikail, 2020; Akinwale & George, 2023). The findings demonstrated that medical brain-drain is associated with decline in healthcare service delivery. This shortage is primarily driven by the emigration of medical personnel seeking improved quality of life abroad.

Determinants of Medical Brain-Drain

Medical brain-drain in any economy is influenced by push and pull factors, also known as determinants of brain-drain. Push factors originate within a country and drive individuals to emigrate, including low salaries, economic instability, poor working conditions, and political instability. Conversely, pull factors are attributes of destination countries that attract migrants, such as better pay, improved working conditions, and greater career advancement opportunities (Abasilim & Obozekhai, 2024; Atiomo, 2026). These factors collectively contribute to medical brain drain in Nigeria, prompting healthcare professionals to seek opportunities abroad where conditions are perceived as more favourable (Akinwale & George, 2023; Chioke, Sule, Enabunene, Agbo & Onoyemeakpo, 2026). Addressing these challenges in Nigeria necessitates comprehensive reforms that are embedded in management and organisational behaviour such as infrastructure improvements, competitive compensation, organisational support, and professional development opportunities (Jinah, Sharin, Bakit, Adnan & Lee, 2024; Chioke et al., 2026).

Employee Retention

Employee retention involves comprehensive strategies and initiatives to retain employees such as healthcare professionals within Nigeria, Amstrong and Taylor (2023) posited that employee management and retention strategies refer to the deliberate policies, practices, and organisational efforts designed to reduce staff turnover and encourage employees to remain within an organization for an extended period. Gorde (2019) underscored the importance of the three R's in employee retention which are respect, recognition and rewards. The author highlighted that the deficiencies in these areas, particularly respect, can significantly increase employee turnover rates. Retention strategies typically entail both financial and non-financial incentives. Financial strategies include competitive salaries, bonuses, hazard allowances, and pension benefits. Non-financial strategies, which are often equally or more influential, include opportunities for career advancement, continuous professional development, supportive leadership, recognition programs, and improved working conditions (Armstrong & Taylor, 2023). For healthcare professionals, apart from the above mentioned, work-life balance

initiatives, such as flexible scheduling and manageable workloads, are also essential in driving retention (Kaur, 2017; Sari & Dewi, 2020; Akinwale & George, 2023). Employee growth and development contribute significantly to retention, as noted by Ochurub, Jeremiah and Lipumbu (2022). Therefore, it is essential in this study to evaluate strategies that can lead to employee retention as a panacea to medical brain-drain such as compensation benefits, working conditions, opportunities in professional development and government policy interventions.

Quality Healthcare Service Delivery

Quality healthcare, synonymous with quality healthcare delivery, denotes the standard of healthcare provided to individuals or populations (WHO, 2022). Healthcare delivery, defined by the WHO, spans essential health services from primary to specialized medical treatments and preventive care, shaped by policies, infrastructure, workforce capabilities, and financing (WHO, 2022). Quality healthcare delivery is increasingly recognized as a strategic asset for healthcare providers globally, emphasizing the importance of optimizing organizational structures and processes to reduce inefficiencies, manage costs, minimize errors, and harness medical advancements (Okafor & Chimereze, 2020; Akinwale & George, 2023). Quality healthcare delivery aims to ensure that patients receive the right care, at the right time, in the right manner, and with the best possible outcomes.

Quality of healthcare service delivery refers to the degree to which health services provided to individuals and populations enhances desired health outcomes. It encompasses multiple dimensions, including effectiveness, safety, patient-centeredness, timeliness, efficiency, and equity. High-quality healthcare ensures that patients receive appropriate, evidence-based interventions in a manner that minimizes harm and maximizes satisfaction (Osigbesan, 2021; Adovor, Czaika, Docquier & Moullan, 2021).

Theoretical Review

Push-Pull theory

Ravenstein (1885) is considered as the originator of the push-pull theory, which explains the causes of rural-urban migration. Niu (2022) opined that push-pull theory is a widely used basis to rationalise migration such as medical brain drain. It proposes that migration is influenced by a combination of push factors (forces that causes individuals to leave their home country) and pull factors (forces that attract them to a new country). The push-pull theory is necessary in this study in comprehending the complex determinants that drive medical brain-drain, highlighting the need for source countries such as developing nations to solve push factors and destination countries such as developed nations to consider the ethical implications of attracting medical talent (Iglesias, 2017).

Resource Based-View Theory (RBV)

Resource-based theory (RBT) was developed by Barney (1991) asserting the strategic role of organisational resources in driving performance of an organisations. The theory asserts that organisations can only attain desired results through the acquisition, development,

deployment of resources and capabilities. The theory relates to this literature review by identifying medical practitioners as key resources of the healthcare sector and nation as a hole. The consideration of medical brain drains through the perspective of Resource based theory shows that countries with brain drain face a depletion of medical practitioners as critical resources that can effectively contribute to providing quality healthcare service.

Model of the Study

The model was adapted from previous studies such as Okafor and Chimereze (2020). Akinwale and George (2023), Abasilim and Obozekhai (2024), Atiomo (2026) as well as Chioke et al (2026).



Figure 1: Conceptual model of the study ***Source: Researcher (2026)***

Methodology

This study adopted quantitative research based on descriptive design for evaluating the study variables. Saunders, Lewis, and Thornhill (2023) offered clear justification for using descriptive research design, because it allows for the collection of primary data that can quantify the effects of medical brain-drain, employee turnover, and quality of care.

The study population comprises of employees from Lagos University Teaching Hospital (LUTH) and National Orthopaedic Hospital, Igbobi. The medical staff population of LUTH is 2301 (Lagos University Teaching Hospital, 2024), while that of the National Orthopaedic Hospital, Igbobi is 1252 (National Orthopaedic Hospital, Igbobi, 2024). Therefore, the cumulative population for this study is 3,553. For this study, the targeted sample size was calculated using the Yamane formula (1979) stated as $n = \left(\frac{N}{(1+N(e^2))}\right)$ where n is the targeted sample size, N represents the Total Population (3553), e is the precision estimate at confidence level of 95% and plus or minus 5%. This is implemented below as

$\left(\frac{3553}{(1+3553(0.05^2))}\right) = \left(\frac{3553}{(1+3553\ (0.0025))}\right) = 359.50 = 360.$

Therefore, to ensure an even distribution of the questionnaires, the sample size of 360 respondents was used in this study for the survey across the selected healthcare institutions in Lagos state. A simple random sampling technique was utilised to administer the research instrument among participants in the selected hospitals. This method ensures that all health workers in the population are fully represented in the study. The primary data collected in this study was done using a questionnaire distributed to selected health workers from the targeted population. The questionnaire is divided into Section A that focuses on the demographic background of the respondents and Section B is the main body of the questionnaire that seek information on related study variables. To effectively measure these opinions, the 5-point Likert scale was used in this survey. The scale ranges from strongly agree, agree, undecided, disagree, and strongly disagree.

To check the validity of the research instrument was forwarded to research experts for editing and reviewing. For reliability, a pilot study involving 20 health workers was conducted to test the research instrument using Cronbach's alpha values. All the research items used in the research instrument in this study were found to be above 0.7. This study employed both descriptive and inferential statistical techniques for analysis the data based on the quantitative nature of the study. Descriptive analysis involved calculating frequency counts, means, and standard deviations, while inferential analysis included the use of Pearson Correlation to examine relationships between the study variables. The analysis was carried out using Statistical Packages for Social Science (SPSS).

Ethical considerations regarding privacy and confidentiality were prioritised in this study based on informing respondents of the sole academic intent of the study and that no private or confidential information was gathered. Also, permission was sought from respondents before conducting and embarking in the survey. Finally, ethical approval was given from the research committee of the University of Lagos Business School.

Data Analysis, Results and Discussions

A total of 331 responses were gathered for this study out of the total sample of 360 respondents from the selected healthcare organisations. From the study, it is shown that female respondents are more than male respondents in the healthcare sector in Nigeria. In addition, the study demonstrated that the average age of health care professionals in Nigeria is between 41 to 50 years with Doctorate degree as a highest educational qualification and work experience for 11 to 15 years. This shows that majority of the respondents as healthcare professionals are well educated and knowledgeable to give relevant insights about the study and dynamics to give inferences on medical brain-drain, employee retention and quality of healthcare services.

Descriptive Statistics of the Main Research Questions

Research Question 1: What are the determinants of medical brain-drain in the Nigerian healthcare sector? The table 1 shows responses to the survey statements and the calculated means and standard deviation base on Likert scale 5 to 1.

Table 1: Means and Standard Deviations on the determinants of medical brain-drain in the Nigerian healthcare sector.

Survey Statements	Mean	Standard Deviation
I consider remuneration and financial incentives in adequate in my job as a medical professional, and this significantly influences decisions to migrate abroad.	4.77	0.34
I believe that limited career opportunities for promotion and advancement encourage medical personnels to leave the country.	2.11	0.45
The level of healthcare infrastructure and medical equipment inadequacy contributes to my desire to seek employment outside Nigeria.	4.86	0.23
I consider working conditions such as excessive workload and job-related stress, drive healthcare workers to migrate.	4.92	0.12
Aggregate average of means and standard deviations	***4.17***	***0.29***

The table 1 indicated an overall mean of 4.17 and standard deviation of 0.29 that means that the respondents were in agreement to the fact that some of the mentioned determinants contributed to brain-drain of medical professionals in Nigeria.

Research Question 2: To what extent is the influence of medical brain-drain on the quality of healthcare service delivery in the Nigerian healthcare sector? The table 2 shows responses to the survey statements and the calculated means and standard deviation base on Likert scale 5 to 1.

Table 2: Means and Standard Deviations on the extent of the influence of medical brain-drain of the quality of healthcare service delivery in the Nigerian healthcare sector.

Survey Statements	Mean	Standard Deviation
Medical brain-drain has led to a shortage of skilled healthcare professionals that strains quality of healthcare services.	4.81	0.22
Because of medical brain-drain increased workload due to staff shortages reduces efficiency and effectiveness in healthcare service delivery.	4.87	0.19
The migration of healthcare workers negatively affects the quality of patient care and treatment outcomes.	4.87	0.19
Brain-drain in the healthcare sector contributes to reduction in access to care and longer patient waiting times.	4.95	0.10
Aggregate average of means and standard deviations	***4.88***	***0.18***

The table 2 indicated an overall mean of 4.88 and standard deviation of 0.18 evidencing that the respondents were in strong agreement that medical brain-drain has significant influence on quality of healthcare service delivery in Nigeria to a large extent.

Research Question 3: What are the employee management and retention strategies that can be used to eradicate medical brain drain for quality healthcare services in the Nigerian healthcare sector? The table 3 shows responses to the survey statements and the calculated means and standard deviation base on Likert scale 5 to 1.

Table 3: Means and Standard Deviations on employee management and retention strategies that can be used to eradicate medical brain drain in the Nigerian healthcare sector

Survey Statements	Mean	Standard Deviation
Strong leadership and support from management can enhance job satisfaction and retention of medical professionals.	4.85	0.17
Competitive renumeration and enhanced financial incentives would encourage healthcare workers to remain in Nigeria.	4.86	0.18
Provision of continuous professional development and training opportunities can improve staff retention.	4.89	0.14
Improvements in workplace conditions and ensuring adequate medical facilities would reduce migration intentions.	4.95	0.10
Aggregate average of means and standard deviations	***4.89***	***0.15***

The table 3 indicated an overall mean of 4.89 and standard deviation of 0.15 demonstrating that the respondents were in strong agreement to the mentioned employee management and retention strategies.

Inferential Statistics – Pearson Correlation

The null hypothesis tested in this study is stated as follows: There is no significant relationship among medical brain drain, employee retention and quality of healthcare service delivery.

Table 4: Pearson Correlation Analysis of the Research Variables

Variables		Medical Brain-Drain	Employee Retention	Quality of Healthcare Service Delivery
Medical Brain-Drain	Pearson Correlation	1	-0.933	-0.967
	Sig (2-tailed)		0.03	0.03
	N		331	331
Employee Retention	Pearson Correlation	-0.933	1	0.981
	Sig (2-tailed)	0.03		0.03
	N	331		331
Quality of Healthcare Service Delivery	Pearson Correlation	-0.967	0.981	1
	Sig (2-tailed)	0.03	0.03	
	N	331	331	

Overall, the results demonstrated a clear pattern: medical brain-drain is detrimental to both workforce stability and healthcare quality, while employee retention plays a vital role in strengthening healthcare service delivery. The high degree of the correlation coefficients suggests that these relationships are not only statistically significant but also practically substantial. Therefore, reducing medical brain-drain through the implementation of effective retention strategies are essential for advancing healthcare system performance in Nigeria.

Discussions

This study showed the prevalence of medical brain-drain in the Nigerian healthcare sector and the need for employee retention strategies to facilitate quality healthcare service delivery. It was identified that poor working conditions, lack of infrastructure and insufficient compensation

are essential determinants of medical brain-drain in Nigeria. This was in line with the arguments of Osigbesan (2021), Orhungul et al., (2023) as well as Akinwale and George (2023) based on their argument that medical brain drain was elicited from factors that are management and organisational behaviour related. However, the study disagreed with the works of Abasilim and Obozekhai (2024) as well as Atiomo (2026) where medical brain-drain has been attributed to grander socio-economic dilemma in Nigeria where human capital is fleeing the country due to socio-cultural insecurities and economic downturn that direct influence healthcare sector.

More so this study showed that medical brain-drain has significant influence on quality healthcare service delivery in Nigeria. It causes reduction in availability of expert healthcare professionals that causes reduction in the assess of healthcare and patient waiting times for care. The outcome of this study aligns with the arguments of Okafor and Chimereze (2020) as well as Jinah et al (2024) showing that without adequate workforce in healthcare, quality of services suffers detrimentally.

Finally, the study pointed out the need for enhancing healthcare working conditions, stronger leadership commitment and better compensation packages as means of advancing employee retention. It was found that employee retention of healthcare professionals has to be considered as a collaborative effort between organisations, industry regulators and governments. The findings agreed with Yanai et al (2020), Akinwale and George (2023) as well as Rukema and Nkoko (2024) based on the fact that issues of migration of human capital needs to be faced with employee management and retention.

Conclusions and Implications of the Study

In conclusion, this study identified reasons medical professionals leave Nigeria to include excessive workload and job-related stress as well as poor renumeration. The study established and demonstrated how medical brain-drain influences health outcomes, including patient care quality and treatment effectiveness. The study revealed specific ways in which the migration of medical professional impacts overall healthcare delivery. Finally, this study affirmed the significance of employee management and retention strategies in improving health outcomes, highlighting that retention strategies such as improving workplace conditions, strong leadership, recognition, and support from management as well as paying competitive salaries and improved financial incentives can effectively mitigate brain-drain and enhance quality of healthcare services. The study has implications in affirming the RBV theory that shows healthcare professionals are strategic resources and capabilities of the Nigerian healthcare sector. Medical brain-drain negates the RBV theory and employee retention strategies strengths healthcare professionals to contribute to quality healthcare service delivery.

Recommendations

The findings of this study offer valuable guidance and recommendations for management and organisations as well as policymakers and healthcare administrators, in addressing medical brain-drain challenges and improve the quality of care in Nigeria's healthcare system.

Firstly, it is advised that government and private sector stakeholders of healthcare sector in Nigeria should increase investments in conducive working conditions. This can be supported appropriate remuneration and financial incentives, career opportunities and sounder healthcare infrastructure and medical equipment adequacy.

Secondly, quality healthcare service delivery can be enhanced through government policy interventions that target managing medical brain-drain.

Finally, it is recommended that employee retention should be integrated into the foundation of Nigerian healthcare sector by taking deliberate steps to ensure employee welfare of medical professionals through financial and non-financial approaches.

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