IJAAR PUBLISHING®

Research Journal of Management Practice | ISSN: 2782-7674
Vol. 4, Issue 2 (February, 2024) | www.ijaar.org/rjmp

BRAIN DRAIN AND HEALTHCARE SERVICE DELIVERY IN TERTIARY HOSPITALS IN AKWA IBOM STATE

Ubong Etokabasi Udom
Department of Business Administration, Faculty of Management Sciences,
Akwa Ibom State University, Obio Akpa Campus, Oruk Anam, Akwa Ibom State, Nigeria

Anietie E. Efi and Don M. Baridam
Department of Business Administration, Faculty of Management Sciences,
Akwa Ibom State University, Obio Akpa Campus, Oruk Anam, Akwa Ibom State, Nigeria.

Abstract: *This study centered on brain drain and healthcare service delivery in tertiary hospitals in Akwa Ibom State. Two specific objectives as well as two research questions and hypotheses were designed for the study. Survey research design was used in the study as structured questionnaire were used for data collection. The population of the study was 1,816, while the sample size was 328, as determined using Taro Yamane sample size determination technique. Using simple linear regression analysis and at 0.05 level of significance, results from the analysis showed that pull factors has a positive and significant effect on healthcare service delivery in tertiary hospitals in Akwa Ibom State (R^2 = 0.156), and push factors has a positive and significant effect on healthcare service delivery in tertiary hospitals in Akwa Ibom State (R^2 = 0.156). It was concluded that brain drain has positive and significant effect on healthcare service delivery in tertiary hospitals in Akwa Ibom State. The researcher recommended that management of the studied tertiary hospitals should endeavour to improve the work conditions of the healthcare workers as this will enhance the chances of retaining them in the hospitals, and factors that constitute push factors in the tertiary hospitals should be improved on to keep healthcare workers satisfied with their jobs and place of work.*

Keywords: Brain Drain, Push Factors, Pull Factors, Healthcare Service Delivery, Tertiary Hospital.

Udom, E. U., Efi, E. A. & Baridam, M. D. (2024). Brain Drain and Healthcare Service Delivery in Tertiary Hospitals in Akwa Ibom State. *Research Journal of Management Practice*. 4(2), 13-27.

Introduction

Healthcare workers (HCW) are an integral part of any healthcare facility. Nevertheless, one of the problems that is bedeviling developing countries, Nigeria inclusive, is the turnover of their healthcare professionals (Adebisi, 2023). In brain drain analysis in hospitals, the healthcare workers (HCW) that are mostly concerned are doctors and nurses (Kalipeni *et al.,* 2012). According to Etuk *et al.,* (2023), the rate of migration of Nigerian doctors is disturbing as this has created gap within the healthcare sector. For instance, in 2020, about 3,895 Nigerian doctors migrated to United Kingdom (UK), and by 2021, 8, 983 Nigerian doctors are already working in United Kingdom (UK) (Najib *et al,* 2019). More pathetically, about 12 Nigerian medical doctors move to developed countries every week (Joel, 2021). Overtime, quality healthcare delivery has become a mirage in Nigeria to achieve. To this end, tertiary hospitals are now seeking for better ways to improve their service offerings in order to reduce the number of healthcare turnover experience. Consequently, studies on brain drain and healthcare service delivery has increasingly gained momentum (Okafor and Chimereze, 2020).

Brain drain entails the transnational movement of resources in the form of human capital, which implies the migration of highly learned and skilled personalities from developing nations to developed countries (Okafor and Chimereze, 2020). Relatedly, brain drain is described as the movement of healthcare physicians searching for a better living and quality of life. There are several factors that could trigger brain drain among healthcare workers (Adesote and Osunkoya, 2018; Akinyemi *et al.,* 2022). Nevertheless, pull and push factors were considered in this study. Pull factors are factors in developed countries that could trigger or attract to leave their country of origin or location of work (Okafor and Chimereze, 2020), while push factors are the conditions of the recipient countries that attract and facilitate the movement of nurses towards that country (Ma *et al.,* 2010). Contexts where it is properly explained, features of pull and push factors include: low salary payment, job satisfaction, job opportunities and opportunities to advance ones professional career (Okafor and Chimereze, 2020).

Tertiary hospitals are institutions that provide specialised medical care to patients who are in need of healthcare services. As such, tertiary hospitals, the ones in Akwa Ibom State included, are usually organised into units or departments, with each department charged with the responsibility of providing one specialised healthcare service or the other. Though these specialised departments are characteristically considered as ancillary departments; yet, they offer key time-sensitive healthcare services that contribute to effective diagnosis and treatment of patients with different ailments. Poor healthcare service delivery due to brain drain reports in tertiary hospitals affects both healthcare personnel and patients who receive healthcare service themselves. Patients expect quality healthcare service delivery from tertiary hospitals. Variance in such expectation could make patients less likely to comply with medical prescriptions and return for hospital appointments. Given this situation, there is a need for a study in this direction.

Statement of the Problem

Recently, it was reported that no fewer than 5,405 Nigerian trained doctors and nurses are currently working with the National Health Service (NHS) in the United Kingdom (Okafor and Chimereze, 2020). More so, the figure released by the British Government revealed that Nigerian medics constitute 3.9 percent of the 137,000 foreign staff of 202 nationalities working alongside British doctors and Nurses (Onyekwere and Egenuka, 2019). Relatedly, the UK immigration report in 2022 put the number of Nigerian healthcare

professionals granted working visas in the UK in 2021 at 13,609; also, between December 2021 and May 2022, a total of 727 Nigerian-trained medical doctors relocated to the UK (Adebisi, 2023).

The aforementioned reports create massive brain drain challenge in most tertiary hospitals in different states in Nigeria, including Akwa Ibom State. Resultantly, the problems that eschews from these reports have always been excessive complain from patients, queue challenge in tertiary hospitals, low ratio of healthcare personnel to patients, self-medication, and patients refusal to patronize the hospital. These are outcomes of poor healthcare service delivery due to cases of brain drain that is tied to pull and push factors. These variances as well as the identified problem open up a window for a study in this direction.

Research Questions

The research questions in this work are as follows:

i. What is the effect of pull factors on healthcare service delivery in tertiary hospitals in Akwa Ibom State?
ii. What is the effect of push factors on healthcare service delivery in tertiary hospitals in Akwa Ibom State?

Objectives of the Study

The main objective of this study was to assess the effect of brain drain on healthcare service delivery in tertiary hospitals in Akwa Ibom State. Specific objectives of the study were:

i. To assess the effect of pull factors on healthcare service delivery in tertiary hospitals in Akwa Ibom State; and
ii. To examine the effect of push factors on healthcare service delivery in tertiary hospitals in Akwa Ibom State.

Research Hypotheses

The following null hypotheses will be formulated for this study:

i. **H_{01}:** Pull factors has no significant effect on healthcare service delivery in tertiary hospitals in Akwa Ibom State; and
ii. **H_{02}:** Push factors has no significant effect on healthcare service delivery in tertiary hospitals in Akwa Ibom State.

Scope and Limitations of the Study

This study centered on brain drain and healthcare service delivery in tertiary hospitals in Akwa Ibom State. The content scope of this study was limited to the concept of brain drain, antecedents of brain drain, the concept of healthcare service delivery, and brain drain factors affecting healthcare service delivery in tertiary hospitals. In terms of unit scope, individuals assessed are healthcare workers in the proposed tertiary hospitals. In this study, the researcher grouped them as medical and non-medical staff. Geographically, tertiary hospitals that were covered in this study are all situated in Akwa Ibom State.

The study is a survey study which involves the use of questionnaire in generating responses from the respondents. Hence, the results of this study are limited to the truthfulness of the responses generated from the respondents. Factors that influence brain drain and healthcare service delivery in tertiary hospitals in Akwa Ibom State may not be generalized in other hospitals. The researcher acknowledged this limitation. Most of the

respondents sampled were careful in disclosing what they refer to as classified information. The researcher resolved this challenge by putting up questions that did not elicit information on the private life of the respondents.

Review of Related Literature

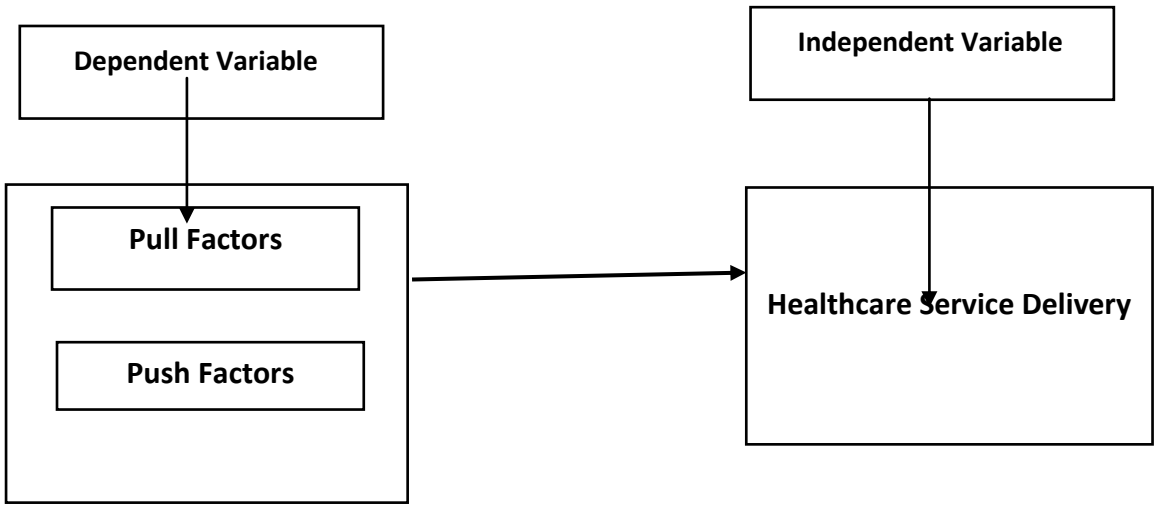


Fig 2.1: Conceptual Model of the Study

Source: Researcher (2023)

The Concept of Brain Drain

Brain drain is regarded as international transfer of resources in the form of human capital which mainly involves migration of relatively highly educated and skilled individuals from developing countries to developed nations (Chimenya and Qi, 2015). Brain drain in the healthcare sector is defined as the movement of health personnel in search of a better standard of living and quality life, higher salaries, access to advanced technologies and more stable political and better working conditions in different places worldwide (Kadel and Bhandari, 2018). More so, Eyerusalem (2016) described brain drain as the movement of health workers in search of better standard of living and life quality, higher salaries, access to advanced technology and more stable political conditions in different places worldwide.

In tertiary hospitals, results of inadequate healthcare personnel, of any kind, are very glaring. In Nigeria, this scenario has gradually gone from bad to worse, as there are still increase reports on limited healthcare professionals, especially with regards to the ratio of healthcare practitioners to patients (Ogundipe *et al.,* 2015). Added to that, Adesote and Osunkoya (2018) further opined that there are still cases of inadequate specialized healthcare workers and underutilization of the skills of few that has acquired specialized trainings. With consistent imbalance between healthcare workers and patients, a heavy burden is placed on the healthcare system and professionals to provider quality healthcare services, resulting in the healthcare needs of the patients not being adequately met. Thus, most tertiary hospitals are not equipped to provide access and quality healthcare services to their patients.

In the course of this study, pull and push factors were identified as proxies of brain drain. These factors are considered as shown hereunder:

Pull Factors: Push factors are internal in nature, and they are those factors that exist in the country of origin and drive a health worker away from the health system in which they were trained (Christoph, Tweabech and Martina, 2014). Push factors include economic, social, and political difficulties in source countries. In such context, the pull factors include: Family reunification Ethnic homeland Freedom from discrimination. It also comprise of potential for improved standard of living Personal or professional development, discrimination based on ethnicity, gender, religion, among others.

Push Factors: As Christoph, Tweabech and Martina (2014) pull factors are external, because they describe those circumstances in the destination countries which provide an incentive for health workers to immigrate. Pull factors include the comparative advantages of destination countries that attract immigrants from source countries. When it is conflict induced, features of push factors include: Conflict, insecurity violence, poor governance, corruption and human rights abuses.

The Concept of Healthcare Delivery

Evidence from prior studies are of the view that patients' healthcare service delivery in tertiary hospitals in Nigeria are relatively low due to various reasons (Abodunrin, Adeomi and Adeoye, 2018). Iliyasu, Abubakar, Lawan and Gajida, (2018) revealed that the cost of patronising tertiary hospitals are too expensive since 30% of healthcare services in Nigeria are only provided by the government, while 70% are provided by private healthcare vendors. Medical facilities are very pivotal for effective healthcare service delivery in tertiary healthcare hospitals. It is worth emphasising that tertiary healthcare is a kind of healthcare service that offers advanced specialised medical diagnosis and treatment, as well as engage in consultancy medical services to patients. The types of healthcare services offered in tertiary healthcare hospitals include: outpatient care, inpatient care, medical rescue service, and emergency service, work-related medical services, dispensary care, rehabilitative care and preventive care, among others. Obviously, lack of hospital facilities in the tertiary hospitals directly affects the aforementioned healthcare services in a negative manner, which impairs on patients' satisfaction (Loughrey, Fitzpatrick, Connolly and Donnelly, 2002).

Relatedly, some of the organisational-related factors that could equally affect healthcare services in tertiary hospitals are: the attitude of healthcare workers, admission and diagnosis procedures, physical environment; poor remuneration of healthcare workers, and inadequate communication (Ransome-Kuti, Sorungbe and Oyigbite, 1998). These factors inevitably increase patients' rehospitalisation, healthcare delays, unprecedented staff stress, serious frustration among patients and family members and could be expressed in various ways, and negative hospital and healthcare workers image (King and Debono, 2013). More than the aforementioned negative outcomes, unsatisfactory healthcare services has overwhelmingly reduced the number of patients who visits tertiary hospitals. For instance, Ogunnowo, Olufunlayo and Sule (2017) reported that 60% to 70% of the population in Lagos visit private hospitals for their medical needs.

Brain Drain and Healthcare Service Delivery in Tertiary Hospitals

Globally, the free movement and easily interaction of highly professionals and experts is a positive thing. But attendant cost to the home nations of losing their highly skilled professionals is incalculable in terms of both development opportunities and loss of investment (Oyowe, 1996). Evidence from meta-analytic studies in this direction has shown that there are direct effects between pull factors and effective healthcare service delivery. For instance, for those nurses remaining in the public sector the workload dramatically increases,

working conditions deteriorate and the level of stress nurses experiences is escalated (Kingma, 2018). With the migration of nurses there is a move of skilled nurses to developed countries leaving behind a brain drain in the country and having less skilled nurses to deliver healthcare. More so, brain drain has also increased the challenges associated with the recruitment and retention of health professionals. Shortages have been found to increase workload and therefore burnout among those health workers who remain in the country. In developing countries there is also a shortage of supplies needed to provide appropriate healthcare to the larger public accessing care at these facilities.

Too few staff to meet care demands leads to burnout and high turnover of staff which this could contribute to poor work environment (Imagha *et al*., 2023). In countries like Jamaica, shortage of healthcare workers is responsible for shortage in the implementation of care and prevention strategies for a large portion of the population affected (Lindsay and Findlay, 2001). More so, migration of healthcare workers has also increased the challenges associated with the recruitment and retention of health professionals (Jones, Bifulco and Gabe, 2009). This problem is worsened because health workers who migrate tend to be those with experience, reducing the quality of care available to patients and the sources of leadership and mentoring available to professionals who remain (World Bank, 2009).

Brain drain is generally associated with decrease in the number of health workers in low-income countries like Nigeria where Nurses workload is too much and concomitantly with high rates of deaths related to pregnancy and child mortality (Labonte, Mohindra and Lencucha, 2011). On a positive note, when nurses leave to work in the health care system of a developed country, they gain experience through practicing in a more advanced setting and use of modern technology. Returning migrant nurses create a positive impact in Nigeria healthcare system by the spread of health-related knowledge and good practices through the high quality training they received overseas, introduce new practices, procedures and medical training which in turn improve the quality of care rendered in our health institutions (Okafor and Chimereze, 2020). They introduce the skills and knowledge they have obtained in their practice at home country and establish health facilities, such as clinics, maternity hospitals and hospitals with proceeds from their sojourn overseas.

Theoretical Framework

The World System Theory: The world systems theory was developed by Immanuel Wallerstein in 1970. Later on, other proponents of the theory were: Andre Gunder Frank, Cardoso, Rodney, Samir Amin, Falleto, and Dos Santos. The theory posits that the economic system is divided into two-the one who gives (the exploited) and the one who takes (the benefiter). The theory views the entire system as a web of global capitalism and is more-larger than a single juridical political unit (Lechtner, 2009).

The theory borrows heavily from modernization theory that adopts the principle of ‘dependency’, between the ‘haves’ and the ‘have-not’. It could be recalled that the modernization theory stated that before the current world system, the events within the 16th century gave upper hands to the Western nations; where a great capital base was created with advances from technological innovations as well as global international affairs. With this, the Westerners controlled a greater part of the world. Today, the world system, according to Lechtner (2009), is divided between the ‘core’, ‘periphery’ and ‘semi-periphery’. The core nations (Western countries especially America and Europe) are highly influential in global affairs, have sophisticated technological systems, and manufacturer of complex products. Periphery nations (Southern nations such as Nigeria, Ghana, Serbia, and the Haiti) are the production nerves, who provide raw materials like cheap labour and agricultural products to

the world system. The periphery nations are technologically poor, lack sway in global affairs, have limited capital base, as well as buys the finished products and services from the core at high prices. The semi-periphery nations are in-between. Although struggling, but are better-off the periphery. They are found across different areas of the world. They act as core (buffer) to the periphery countries. Such countries include: Brazil, China, India, South Korea, and South Africa.

Summary of Literature Reviewed and Gaps in Reviewed Literature

S/N	Authors/Year	Topic	Methodology	Major Findings	Gap in Literature
1.	Akinwale and George (2023).	Personnel brain-drain syndrome and quality healthcare delivery among public healthcare workforce in Nigeria.	Structural Equation Modeling (SEM).	Poor quality work life experienced by Nigerian medical personnel was attributed to the brain-drain effect and poor healthcare delivery.	This study differs from the study in terms of geographical scope and method of data analysis used.
2.	Brennan *et al.* (2023)	Drivers and barriers of international migration of doctors to and from the United Kingdom: A scoping review.	Literature review approach.	Drivers of international migration were poor working conditions, employment opportunities, better training and development opportunities, better quality of life, desire for a life change and financial reasons, while the barriers were immigration policies, the registration process and short-term job contracts	This reviewed study differs from the present study in the area of geographical scope and methodology used.

3.	Hamid, Ali and Han (2022).	Determinants Affecting Brain Drain Among Generation Y in Malaysia.	Literature review approach.	Compensation package, career prospect, working environment, work-life balance and quality of life are factors that could cause brain drain among generation Y in Malaysia.	By assessing Malaysia and the adoption of literature review, both studies differ in terms of geographical scope and methodology applied.
4.	Akinwumi *et al.*(2022).	Prevalence and pattern of migration intention of doctors undergoing training programmes in public tertiary hospitals in Ekiti State, Nigeria.	Univariate, bivariate and multivariate analyses.	The determinants of migration intention are the stage of residency training and level of job satisfaction.	Both studies differ in geographical scope, variables assessed and methodology used.
5.	Cosmas *et al.* (2022).	Physician emigration from Nigeria and the associated factors: the implications to safeguarding the Nigeria health system.	Cross-sectional research design and multiple regression analysis.	The commonest reasons for emigration are poor remuneration, rising insecurity and inadequate diagnostic facilities.	Both studies differ in geographical scope, variables assessed and methodology used.
6.	Ajayi, Ajayi and Ogunleye (2022).	Determinants of Brain Drain among Health Workers in Public Teaching Hospitals in Ekiti State, Nigeria.	Descriptive research design	Career development, among others, has a positive significant effect on brain-drain among health workers in public teaching hospitals in Ekiti State.	The reviewed study differs from the present study in terms of geographical scope, variables assessed and methodology used.

7.	Adebayo and Akinyemi (2021).	What are you really doing in this country?: emigration intentions of Nigerian doctors and their policy implications for human resource for health management.	Cross-sectional research design and chi-square.	Major factors that encouraged resident doctors to immigrate to developed countries included better working and living conditions, good salary and the opportunity for career advancement in destination countries.	This reviewed study differs from the present study in the area of geographical scope and methodology used.
8.	Buowari (2021).	Brain Drain of the Nigerian Doctors-A Review.	Literature review approach.	There is an increasing number of doctors who are leaving the shores of Nigeria to high-income countries for greener pastures, and the push and pull factors contribute to medical migration in Nigeria.	Both studies differ in geographical scope, variables assessed and methodology used.
9.	Osigbesan (2021).	Medical Brain Drain and its Effect on the Nigerian Healthcare Sector.	Survey research design	Brain drain phenomenon is caused by the Nigerian government and its lack of support in rebuilding the healthcare system.	Both studies differ in geographical scope but are similar in variables assessed.
10.	Domagała and Dubas-Jakóbczyk (2019).	Migration intentions among physicians working in Polish hospitals-Insights from survey research.	Cross-sectional research design, simple and multivariable logistic regression analysis.	The significant predictors of migration among physicians working in Polis hospitals are higher earnings, better working conditions and better work-life balance abroad.	Both studies differ in geographical scope, variables assessed and methodology.

Source: Researchers Compilation (2023).

Methodology

Survey-based research design was applied in this study as it is an effective way of obtaining information that used for developing hypotheses and for proposing the relations. Survey-based research design is found to be most suitable for this research since it involves asking close-ended questions from participants, which enabled the researcher to easily collect information from a large sample of participants. The data were collected using questionnaire survey. The two tertiary hospitals in Akwa Ibom State are University of Uyo Teaching Hospital (UUTH) and Ibom Specialist Hospital. The staff strength of healthcare workers in the hospital is one thousand, eight hundred and sixteen (1,816).

Analysis on the generated primary data was done using simple linear regression analysis. The rationale for using this model was to explain the causal relationship between each independent variable and the dependent variable. The linear regression model is represented thus:

HSD	=	Healthcare Service Delivery	(Y)
PF	=	Pull Factor	(X_1)
PSF	=	Push Factor	(X_2)
β_0	=	Regression Intercept	
β_1- β_3	=	Regression Parameters	
e	=	Stochastic Term	

The functional model will be presented as:

$Y = f(X_1, X_2)$ Equation 1

Where:

HSD = f (PLF, PSF) Equation 2

The simple linear regression model with parameter estimates is decomposed thus:

$Y = \beta_0 + \beta_1 X_1 + \ldots\ldots\ldots\ldots..e_0$ Equation 3

$Y = \beta_0 + \beta_2 X_2 + \ldots\ldots\ldots\ldots..e_0$ Equation 4

Where Y is the dependent variable (Healthcare Service Delivery), X_1-X_2 are the explanatory variables or the independent variables (Pull and Push factors respectively).

Data Analysis and Findings

Hypothesis 1

H_{01}: Pull factors has no significant effect on healthcare service delivery in tertiary hospitals in Akwa Ibom State.

Table 1: Regression Result of Hypothesis 1

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.395[a]	.156	.154	1.59216

a. Predictors: (Constant), PULL_FACTOR

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	149.429	1	149.429	58.947	.000[b]
	Residual	806.121	318	2.535		
	Total	955.550	319			

a. Dependent Variable: HCSD_
b. Predictors: (Constant), PULL FACTOR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.495	.582		19.743	.000
	PULL FACTOR	.271	.035	.395	7.678	.000

a. Dependent Variable: HCSD_

Source: SPSS Computed Result (2023).

Table 1 shows the result of hypothesis one. Looking at Table, the correlation co-efficient (r) which depicts the relationship that exist between pull factors and healthcare

delivery in tertiary hospitals is 0.395. This shows that there is a positive relationship between the two correlated variables. Equally, the Table shows R^2 which indicate changes in the dependent variable that is caused by the independent variable. From the Table, R^2 value of 0.156 shows that the independent variable used in the model is able to explain 15.6% variation in healthcare service delivery in the studied tertiary hospitals. Furthermore, the Table shows result of goodness of fit between the regressed variables. The f statistics value of 58.947 with a P< 0.000 evidenced the fact that the regressed variables are significant and also exhibit goodness of fit between them. Relatedly, the Table equally shows the coefficients of the regressed variables. A look at the Table shows a β value of 0.395 with a t value of 7.678 and P< 0.000. Statistically, this result implies that pull factors contribute 39.5% changes in healthcare service delivery in the model. The null hypothesis is therefore rejected and the alternative hypothesis accepted.

Hypothesis 2

H_{02}: Push factors has no significant effect on healthcare service delivery in tertiary hospitals in Akwa Ibom State.

Table 2: Regression Result of Hypothesis 2

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.396[a]	.156	.154	1.59205

a. Predictors: (Constant), PUSH FACTOR

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	149.540	1	149.540	58.999	.000[b]
	Residual	806.010	318	2.535		
	Total	955.550	319			

a. Dependent Variable: HCSD_
b. Predictors: (Constant), PUSH FACTOR

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13.832	.285		48.504	.000
	PUSH FAC.	.643	.084	.396	7.681	.000

a. Dependent Variable: HCSD

Source: SPSS Computed Result (2023).

Table 2 shows the result of hypothesis two. The Table shows correlation co-efficient **(**R**)** with the value 0.396. By implication, it shows that there is a positive and significant relationship between push factors and healthcare service delivery in the studied tertiary hospitals. Relatedly, R^2 value of 0.156 showed that push factors could explain 15.6% changes observable in healthcare service delivery in the studied tertiary hospitals. More so, the Table shows the goodness of fit result between the regressed variables. A look at the Table shows that, with f statistics value of 58.999 and with P (0.000 <0.05), there is an excellent fit between the two variables being regressed. Equally, a look at the Table shows a β value of 0.387with a t value of 6.737 and P< 0.05**.** This further strengthened the fact that push factors have significant effect on the regressed variables. The null hypothesis is therefore rejected and the alternative hypothesis accepted.

Conclusion

The findings of the study revealed that pull and push factors has a positive and significant influence on healthcare service delivery in Akwa Ibom State. It was concluded that brain drain has positive and significant effect on healthcare service delivery in tertiary hospitals in Akwa Ibom State.

Recommendations

Based on the major findings in this study, the following recommendations are made:

i. Pull factors in the studied healthcare facility should be improved as this will enhance the chances of retaining healthcare workers in the hospitals; and
ii. Push factors in the tertiary hospitals should be worked on to keep healthcare workers satisfied with their place of work.

References

Abodunrin, O., Adeomi, A. and Adeoye, O. (2018). Clients' satisfaction with quality of healthcare received: Study among mothers attending infant welfare clinics in a semi-urban community in south-western Nigeria. *Sky Journal of Medicine and Medical Sciences, 2* (7): 45-51.

Adebayo, A. and Akinyemi, O. (2021). What are you really doing in this country?: Emigration intentions of Nigerian doctors and their policy implications for human resource for health management. *Journal of International Migration and Integration,* 23:1377–1396.

Adebisi, A. (2023). The Brain drain of healthcare professionals in Nigeria: The buck stops with government. Retrieved from https://www.bsg.ox.ac.uk/blog/brain-drain-healthcare-professionals-nigeria-buck-stops-government on 2/06/2023.

Adesote, S. and Osunkoya, O. (2018). The brain drain, skilled labour migration and its impact on Africa's development, 1990s-2000s. *The Journal of Pan African Studies,* 12(1): 395–420.

Ajayi, P., Ajayi, O. and Ogunleye, T. (2022). Determinants of brain drain among health workers in public teaching hospitals in Ekiti state, Nigeria. *IIARD International Journal of Health and Pharmaceutical Research,* 7(12022):45-55.

Akinwale, O. and George, O. (2023). Personnel brain-drain syndrome and quality healthcare delivery among public healthcare workforce in Nigeria. *Arab Gulf Journal of Scientific Research,* 41(1): 18-39.

Akinwumi, A., Solomon, O., Ajayi, P., Ogunleye, T., Ilesanmi, O. and Ajayi, A. (2022). Prevalence and pattern of migration intention of doctors undergoing training programmes in public tertiary hospitals in Ekiti State, Nigeria. *Journal of Human Resource for Health,* 20(76):2-10.

Brennan, N., Langdon, N., Bryce, M., Burns, L., Humphries, N., Knapton, A. and Gale, T. (2023). Drivers and barriers of international migration of doctors to and from the United Kingdom: A scoping review. *Human Resource Health,* 14:21(1):11.

Buowari, D. (2021). Brain drain of the Nigerian doctors-A Review. *Gazette of Medicine,* 9(1): 1-7.

Chimenya, A. and Qi, B. (2015). Investigating determinants of brain drain of health care professionals in developing countries: A review. *Net Journal of Business Management* 3(2): 27–35.

Christoph A., Tewabech, B. and Martina, W. (2014). The workforce for health in a globalized context- Global shortages and international migration. *Global Health Action,* 7:1

Cosmas, K., Benedict, N., Casmir, N., Christian, O., Kingsley, C., Anthony, O., Hassan, M. and George, O. (2022). Physician emigration from Nigeria and the associated factors: the implications to safeguarding the Nigeria health system. *Journal of Human Resource for Health,* 20(85):1-15.

Domagała, A. and Dubas-Jakóbczyk, K. (2019). Migration intentions among physicians working in Polish hospitals- Insights from survey research. Health Policy, 123(8), 782-789.

Etuk S.G., Imagha O.K., Akpan A.P., Nkanor W.N. (2023) Working conditions and Human Capital Flight Intentions among Medical Doctors in Federal Tertiary Healthcare Institutions in South-South Nigeria, European Journal of Business and Innovation Research, 11 (2), 31-54

Eyerusalem, M. (2016). Assessment of the factors leading to brain drain and implications to the development of health Sector in Addis Ababa: A case study of two public hospitals. A thesis submitted to the university of Addis Ababa.

Hamid, N., Ali, H. and Han, C. J. (2022). Determinants affecting brain drain among generation Y in Malaysia. *International Journal of Academic Research in Business and Social Sciences,* 12(4), 195–205.

Imagha, O. A., Akpaetor, U. A., Samuel V. Akpan, and Ebiere U. A. (2023). Exploring the influence of Work Environment on Employees' Commitment in Selected Oil Servicing Firms in Rivers State, Nigeria. International Journal of Economics and Business Management, 9(10), 145-171

Iliyasu, Z., Abubakar, I., Lawan, U. and Gajida, A. (2018). Patients' satisfaction with services obtained from Aminu Kano teaching hospital, Kano, Nigeria. *Nigeria Medical Journal,* 52 (2): 175-180.

Joel, M. (2021). Are 20,000 Nigerian doctors practicing in the US, Compared to 50,000 in the country? Africa Check. 2021. Retrieved from: h t t p s : / / a f r i c a c h e c k . o r g / f a c t - checks/spotchecks/are-20000-nigeriandoctors-practising-us-compared-50000-country on 2/06/2023.

Jones, A., Bifulco, A. and Gabe, J. (2009). Caribbean nurses migrating to the UK: A gender focused literature review. *International Nursing Review,* **56**(3):285–90.

Kadel, M. and Bhandari, B. (2018). Factors intended to brain drain among nurses working at private hospitals of Biratnagar, Nepal. *Mamata Kadel and Menuka Bhandari/ BIBECHANA,* 16: 213-220.

Kalipeni, E., Semu, L. and Mbilizi, M. (2012). The brain drain of healthcare professionals from Sub-Saharan Africa: A Geographic Perspective. *Progress in Development Studies,* 12(2-3): 153-171.

King, R. and Debono, D. (2013). Irregular migration and the 'southern European model' of migration. *Journal of Mediterranean Studies*, 22(1):1-31.

Kingma, M. (2018). Nurse migration and the global health care economy. *Policy Politics & Nursing Practice,* 9(4): 328-333.

Labonté R, Mohindra K, Lencucha R (2011) Framing international trade and chronic disease. *Globalization and Health,* 7: 21.

Lindsay, B. and Findlay, A. (2001). *Migration of highly skilled persons from developing countries: impact and policy responses.* Geneva: International Labor Office.

Loughrey, J., Fitzpatrick, G., Connolly, J. and Donnelly, M. (2002). High dependency care: impact of lack of facilities for high-risk surgical patients. *Irish Journal of Medical Science,* 171(4):211.

Najib, M., Abdullah, S., Narresh, S. and Muhamad, H. (2019). Brain-drain phenomenon among healthcare workers. *International Journal of Public Health and Clinical Sciences*, 6(3): 90-103.

Ogundipe, S., Obinna, C. and Olawale, G. (2015). Shortage of medical personnel: Tougher times ahead for Nigerians. Vanguard, January 27, 2015 p.11.

Ogunnowo, B. , Olufunlayo, T. and Sule, S. (2015). Client perception of service quality at the outpatient clinics of a General hospital in Lagos, Nigeria. *Pan African Medical Journal*, 22: 68.

Okafor, C. and Chimereze, C. (2020). Brain drain among Nigerian nurses: Implications to the migrating nurse and the home country. *International Journal of Research and Scientific Innovation,* 7(1): 15-21.

Onyekwere, J. and Egenuka, N. (2019). Nigeria groans as medical professionals' emigration worsens. *Guardian Newspapers*. Retrieved from https://guardian.ng/news/nigeria-groans-as-medical-professionals-emigration-worsens/ on 2/06/2023.

Osigbesan, O. (2021) Medical brain medical brain drain and its effect on the Nigerian healthcare sector. Dissertation, College of Social and Behavioral Sciences, Walden University.

Oyowe, A. (1996). Brain drain: Colossal loss of investment for developing countries. The Courier ACP-EU, No. 159.

Ransome-Kuti, A., Sorungbe, A. and Oyigbite, K. (1998). Strengthening primary health care at the local government level. The Nigerian experience. *Academy Press*, 44-47.

World Bank (2009). The nurse labor and education markets in the English-speaking CARICOM: Issues and Options for Reform.