PATTERNS AND CONSEQUENCES OF MIGRATION OF SKILLED PROFESSIONALS IN HEALTH INSTITUTIONS IN SOUTHWESTERN NIGERIA, 1986 - 2010

BY

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Certification Page

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Dedication

The thesis is dedicated to the Lord God Almighty, the source of all things, and all the people that taught me paths of wisdom, knowledge and understanding.

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ABSTRACT

There has been large scale migration of health professionals from Nigeria to other countries with estimated 40,000 emigrants between 1975 and 1984 and over 90,000 in 2000. However, the patterns of movement and the associated consequences on non-migrants health professionals have not been empirically researched. This study, therefore, analysed the patterns and consequences of migration of skilled professionals in health institutions in Southwestern Nigeria from 1986 to 2010.

The Push-Pull model provided the framework, while survey design was adopted. Ten percent of the population in each category of health professionals (doctors, nurses, pharmacists, and medical laboratory scientists) were selected in the University College Hospital (UCH) Ibadan, Obafemi Awolowo University Teaching Hospital Complex (OAUTHC), Ile-Ife and 20.0% in Adeoyo Maternity Teaching Hospital (AMTH), Yemetu, Ibadan. A structured questionnaire on demographic, spatial and temporal characteristics, factors and consequences of colleagues' movement was purposively administered on selected professionals at UCH- 165, OAUTHC- 129 and AMTH- 54. Three sessions of focus group discussion were held with skilled professionals in the institutions, while in-depth interviews were conducted with three management officials in each of the institutions. Descriptive statistics, ANOVA, Logistic Regression and Chi-Squares were used to analyse the data at $p \leq 0.05$. Qualitative data were content analysed.

Over sixty-eight percent of health professional emigrants were males, with age 35.5 ± 8.9. A total of 576 (UCH - 83 doctors, 135 nurses, 9 pharmacists and 11 medical laboratory scientists (MLS); OAUTHC - 84 doctors, 163 nurses, 12 pharmacists and 9 MLS and AMTH - 16 doctors and 73 nurses) emigrated from the institutions. Only 33 (UCH - 3 doctors and 7 nurses; OAUTHC - 6 doctors and 2 nurses and AMTH - 12 nurses) foreigners immigrated into the institutions between 1986 and 2010. Health professionals from the institutions that emigrated were: the United Kingdom (33.3%), the United States of America (USA) (27.0%), Canada (12.0%), Saudi Arabia (5.2%) and Dubai (4.0%), while health professionals immigrated into the institutions from Italy and Sweden (24.0% each), Finland (20.0%) and the USA and South Africa (6.9% each). Age (β=0.78), year of qualification (β=0.929), designation (β=1.038), marital status (β=1.224) and sex (β=1.238) were perceived factors predisposing migration of health professionals from the institutions. The loss of expertise due to poor working conditions was perceived as significant negative consequence by non-migrant skilled professionals: UCH (doctors - χ^2=3.95, nurses - χ^2=1.72 and pharmacists - χ^2=3.00); AMTH (doctors - χ^2=1.33 and nurses - χ^2=4.02) and OAUTHC (nurses - χ^2=2.19) (F=2.32). There was a shortage of skilled professionals in neurosurgery, oncology and plastic surgery in the health institutions. Few emigrated professionals assisted in facilitating the procurement of books, laboratory and theater equipment and presentation of seminars/lectures.

Migration patterns of skilled professionals to different countries varied across the selected health institutions in Southwestern Nigeria from 1986 to 2010 with loss of skilled professionals in the sensitive areas of healthcare delivery. The returning health professionals should be encouraged in order to mitigate the consequences.

Keywords: Migration of health professionals, Health institutions in Southwestern Nigeria, Skilled health professionals.

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CHAPTER ONE
INTRODUCTION

1.1 Background to the study

Migration of highly health skilled professionals is on the increase, and constituted a major challenge in developing countries of the world. The volume of migration of these professionals from Nigeria between 1975 and 1984 was estimated 40,000 and over 90,000 in 2000 (Astor et al, 2005; DRC, 2007 and Batista et al, 2007). However, the patterns of movement and the associated consequences on non-migrants health professionals have not been empirically researched. The patterns and processes of migration of skilled health professionals is essentially due to the rate of flow of this group of professionals to other countries (Stilwell et al, 2003). This is due to certain factors, such as inadequate data on absolute numbers of health workers on the move and knowledge of the occurrences (Hagopian et al, 2004 and DRC, 2006). Emigration of highly skilled professionals from origin to destination is often the main stream, with the higher volume, while the reverse stream (immigration or returning) of such professionals are with lower volume. In other words, the former is often referred to as a drain; hence, labeled brain drain, while the latter, the reverse flow, is known as the gain, or brain gain or brain circulation (Adepoju, 2004a).

Africa, in particular Nigeria, has experienced the two flows, which are of varying dimensions over space and time. It is said that the pre-colonial period had the largest numbers of brain drain records in the continent, in which Africans were forcefully transferred into the Americas through slavery (Emeagwali, 2003). Furthermore, dating to the colonial interlude in Africa, emigration (drain) and returning (circulation) of the brains took a new dimension, some Africans moved to the country home of their colonizers to acquire advanced education and skills. This therefore, led to the growing elitist group that desired overseas higher institutions for themselves and their children and most often had government scholarships to pursue the same.

The results of all these are in two-fold: some of them returned to their country of origin immediately after their graduation to fill the newly developing critical

openings, as administrators and professionals, among others, while, others stayed away throughout their active period, becoming the first acknowledged generation of professional emigrants.

On the other hand, the counter flow (brain gain) phenomenon also had its precedence during the colonial period. The period witnessed expatriates of high-level manpower of different professions from overseas countries into some African countries. They came in to man sensitive sectors of the economy; Nigeria in particular was a beneficiary of a few numbers of non-Nigerian immigrants from developed economies. This comprised expatriates that contributed to the development of various sectors of the country's economy during the first half of the 20th century. Moreover, the political independence of the country in 1960 demanded the continuous supply of highly-skilled professionals for its sustenance. The discovery of oil in the south-south region of the country also aided the influx of highly-skilled manpower in oil and gas sector of the economy. In addition, indigenization of all sectors of the economy in the early part of the 1970s called for experts, mostly Nigerians that were trained abroad. However, not all trained Nigerians were returning after their graduation.

These trends took a new form by the middle and late 1970s, with a relatively larger number of emigrants, of higher education and skills leaving the country for other countries. This was basically a result of economic depression, of which the crash in oil price was a major cause (Adegbola, 1990). In connection with this, the Federal Government of Nigeria pronounced a series of austerity measures in September 1981, in order to cut public expenditure; save foreign exchange and relieve some of the strains on the economy. The measures later culminated in the launching of the Structural Adjustment Programme (SAP) in June 1986, which dictated a shift from the official policy of full employment to that which substantially reduced government spending on critical social services, such as, quality health service delivery, qualitative education and housing facilities (Afolayan, 1996). Consequently, the political terrain of governance and societal environment were marred by incessant workers' strikes, terrorism and criminalities, among others. These prompted the emigration of some other categories of highly-skilled professionals, particularly the medical personnel.

Accordingly, emigration of health personnel has been increasing, both within and outside the African continent, causing a growing interest worldwide because of its positive and negative impacts on health system in developing countries; Nigeria inclusive. The negative impact has been glaring on the health sector, in forms of drain

of most of the core medical professionals, the transferred cases of patients abroad for sensitive and intensive health care and declining medical facilities. On the positive side, it has been enriching the receiving countries, among others (Afolayan and IOM, 2009).

However, a comprehensive study of the brain drain and brain gain in Africa, in particular Nigeria is yet to emerge. This is because no single data source has been able to adequately capture the exact figures of the main stream and reverse flows (de Hass, 2008). Even the available ones are mostly in aggregate forms and the data provided do not tally. Docquier and Marfouk (2006) and Clemens (2007) for instance, gave the estimates of emigrant physicians that were trained in Africa and in particular Nigeria, but, who are practicing in developed countries. The numbers of Nigerian medical personnel working in the United States (US) and the United Kingdom (UK) were 8,954 and 3,415 respectively in 2000. For nurses, the US and UK are said to have attracted most of the Nigerian trained nurses. Clemens (2007) also estimated the number of emigrated nurses to be 12,579, or 12 per cent of the total number of nurses in Nigeria as of 2000. Yet, other sources estimated the figure of doctors and nurses trained in Nigeria and working in developed countries of the US, UK, Canada and Ireland in 2005 as 8,805 (AMA, 2005, CIHI, 2005, GMC, 2005, MCI, 2005).

Also, data on brain gain or reverse flow of medical personnel are not readily available both at the international, regional and national levels. This does not mean that these categories of professionals are not returning to their different areas/countries of origin, but their returns are mostly in small volumes; therefore, they are hardly documented. Consequently, there are wide gaps in knowledge of the two occurrences and very little attempts are made at balancing them. There is, therefore, a necessity to address this situation, through generating data of the main stream and reverse flow of health professionals at both macro and micro levels; in particular, the latter, which informs the present study.

Moreover, the impacts of both flows on the health sector are usually not explicitly gauged. Outflow of medical professionals is often regarded as a drain of needed human resources on those, whom the source country has expended much for the development of its health sector. On the other hand, the reverse flow is considered the gain, since it is perceived to be a replenishing of the loss that the source region incurred from the brain drain. However, since the whole wide-world is the ‘parish’ for skilled professionals such that their movement could hardly be curtailed, there should

be a way of cashing in on their movements. Vulnerable areas happened to be countries, in the present case, Nigeria, where income is relatively low; job satisfaction is not met and where standard training is not adequate to retain them rather than letting them move to perceived better destinations, which are beyond these inadequacies (Aiken, 2004). In return, the reverse stream should be promoted, such that the professionals come back to the source area to domesticate the innovation and technological know-how that was acquired elsewhere, including sending remittances, in form of cash or in kind to the source region (Guarnizo, 2003).

In general, the result of balancing the two sides of the occurrences may be dim, that is, what is perceived to be a loss may be in the short or long run again. The emigration of a qualified health professional may connote 'gain' in the face of inadequate facility to work with; or the exit of the practitioner may be for equipping his/her skill rather than staying in-situ to rot and or be dissatisfied with the system. In other words, gauging the loss or gain may not be an easy exercise to carry out. Often, it depends on whose perspective the judgment is made, the context of and the scale of the occurrences. Therefore, the general feeling of a loss or gain should be an objective evaluation. This is necessary as the management of international migration of health professionals has attracted much attention by both the sending and receiving countries. Presently, there is a growing interest, both on the part of scholars and governments to have better understanding of the movement and its impacts on the sending and receiving countries, since the state of knowledge of the contemporary scene is extremely fragmentary (Afolayan, 1996; NNVS, 2007; The Guardian, 2008; DRC, 2009).

Therefore, the premise for the present thesis is to close gaps in knowledge, in order to resolve the undecided 'drain' and or 'gain' of health professionals from secondary and tertiary health institutions in Nigeria. This is to be achieved by documenting the volumes and directions of flows of the migration of health professionals at the micro level and from the perspectives of institutions that experienced the two types of flows: brain drain and brain gain. Also, the documentation of the two flows from a secondary source over a defined period can be adjudged an alternative source for proper evaluation of the flows, as it holds ground for factual evidence. Nonetheless, both sources of information would give a better understanding of the features or characteristics of the two flows, in terms of their volumes, categories of health professionals affected and measures of their impact at the

micro level. The concerns of the study would, therefore, be to answer questions of what, why and how brain drain and brain gain impact on the development of the Nigerian health sector overtime, focusing on the selected health institutions as case study.

1.2 Statement of Problem

The migration of health professionals, (comprising doctors, nurses, pharmacists and medical laboratory scientists), that is, the emigration from and immigration or returning into Nigeria of highly skilled medical practitioners connote either gain or loss. Most of the literature on the Nigerian case gives the impression that emigration of medical professionals from the country is negative; indicative of an obvious insufficient level of expertise necessary to build up the health care infrastructure. For instance, the large out-flow of physicians is considered responsible for the country's higher doctor-population ratio, of 1:30,000, as against 1:5,000 recommended by the World Health Organization (WHO). This would have caused a great set back in the health delivery system in both tertiary and secondary health institutions in the country. However, a few of the literature gives hints on the positive side of the issue, as it notes that the emigrated medical professionals earned more wages and acquired sophisticated skills in complex areas of medicine, which they transfer in cash and or in kind back to the country or on the Non-migrant colleagues. These assertions are yet to be empirically established in any of the health institutions in Nigeria. Moreover, the dominance of the orthodox destination of health professionals from the country as the UK is being challenged, as there are other emerging destinations and data on the volumes and directions of the main stream and reverse flows are inadequate; where they exist, they are at best guess work.

In addition, the demographic characteristics and categories of health professionals affected have not been adequately ascertained over time. The same applies to the forms and amount of remittances, which are not established. Therefore, the impacts of the two flows on non-migrant colleagues, the health institutions and the country at large have not been adequately spelt out; hence, government policy on the two flows is poorly informed without these facts.

1.3 Research Questions

The research problem is, therefore, expressed in seven questions, as follows:

1. Where do health professionals move to?
2. What has been the trend of the volumes and directions of their moves over defined years, that is, at national level, Nigeria, four decades ago (1970-2010) and at institutional level, for the past two decades and half (1986–2010)?
3. How do the socio-demographic characteristics of health professionals predispose their non-migration and migration from and into the country?
4. What factors stimulate or facilitate the brain drain and brain gain of health professionals?
5. What impacts do the two flows have on the nation and the institutions under study, in terms of the types of links emigrants maintain with the home-based colleagues, the sampled institutions and the nation in general and remittances received by colleagues Non-migrant, the sampled institutions and the nation?
6. To what extent is brain gain or its benefits commensurate with brain gain or its benefits?
7. What are the policy implications of emigration and immigration of health professionals on Nigeria?

1.4 Aim and Objectives

1.4.1 Aim

The aim of the study is to examine the trends, predisposing factors and impacts of migration of highly-skilled health professionals of two selected tertiary and one secondary health institutions in Southwestern Nigeria.

1.4.2 Objectives

The specific objectives are to:

i. examine the volumes and direction of migration of highly-skilled health professionals into and out of Nigeria and into and out of the selected tertiary and secondary health institutions in Southwestern Nigeria between 1986 and 2010,

ii. determine the causes of the migration and non-migration of core health professionals in Nigeria and in particular the selected health institutions between 1986 and 2010,

iii. evaluate the impacts of emigration and immigration on non-migrant colleagues in the selected health institutions and in the nation in general; and

iv. examine migration policy in Nigeria and its implications on migration of skilled professionals in the health sector.

1.5 Research Hypotheses

1 H_0: There is no significant difference in the mean values of health professional emigrants to destinations, 1986-2010.

$H_{1:}$ There is significant difference in the mean values of health professional emigrants to destinations, 1986-2010.

2 H_0: There is no significant relationship between age, sex, marital status, year of qualification, designation and modern equipment and migration.

H_1: There is significant relationship between age, sex, marital status, year of qualification, designation and modern equipment and migration.

3 H_0: The emigration impact does not vary significantly on non-migrant colleagues, in terms of number of vacancies, patients-health personnel ratio, number of consulting hours, and advanced training in each of the selected health institutions.

H_1: The emigration impact varies significantly on non-migrant colleagues, in terms of number of vacancies, patients-health personnel ratio, number of consulting hours, and advanced training in each of the selected health institutions.

1.6 The Study Area

The study area is south western Nigeria, which consists of Lagos, Ogun, Oyo, Osun, Ondo and Ekiti states. It is also known as the South-West geographical zone of Nigeria. The area lies between longitude $2^0\ 31^1$ and $6^0\ 00^1$ East and Latitude $6^0\ 21^1$ and $8^0\ 37^1$N (Agboola, 1979) with a total land area of 77,818 km2 and a projected population of 36398, 525 in 2012. The study area is bounded in the East by Edo and Delta states, in the North by Kwara and Kogi states, in the West by the Republic of Benin and in the south by the Gulf of Guinea (Figure 1.1). The climate of Southwest Nigeria is tropical in nature and it is characterize by wet and dry seasons. The temperature ranges between 21^{o}C and 34^{o}C while the annual rainfall ranges between 1500mm and 3000mm. The wet season is associated with the Southwest monsoon

wind from the Atlantic Ocean while the dry season is associated with the northeast trade win from the Sahara desert. The vegetation is Southwest Nigeria is made up of fresh water swamp and mangrove forest at the belt, the low land in forest stretches inland to Ogun and part of Ondo state while secondary forest is towards the northern boundary where derived and southern Savannah exist (Agboola, 1979).

Out of the six states that make up the Southwestern Nigeria, Oyo and Osun States were the sampled states. The reason for choosing Oyo and Osun States is because they accommodated the first and second generation tertiary teaching hospitals and the one of the oldest secondary teaching hospital in the geo-political zone. The locations, physiological, social and economic descriptions and healthcare service delivery and institutions of the states, among other features, are discussed. Within the study area, Adeoyo Maternity Teaching Hospital (AMTH), Ibadan, serves as a case study of secondary health institutions, while the University of Ibadan (UI) and its teaching hospital complex, University College Hospital (UCH), and Obafemi Awolowo University (OAU), Ile-Ife and its teaching hospital complex (OAUTHC) are representatives of tertiary health institutions in the states.

Oyo state is located between Latitudes $8^0\,00^{'}$ and $8^0 45^{'}$ North of the Equator and Longitudes $2^0\,45^{'}$ and $4^0\,00^{'}$ East of the Greenwich Meridian. The state has a land area of about 28,454 square kilometers. It borders Ogun State to the south, Kwara State to the north and Osun State to the east and shares an international border with the Republic of Benin to its north-west.

On the other hand, Osun state is to the south-east of Oyo state, as it lies between Latitudes $6^0\,30^{'}$ and $8^0\,10^{'}$ North of the Equator and Longitudes $3^0\,55^{'}$ and $5^0\,05^{'}$ East of the Greenwich Meridian. The State has a land surface area of about 12,820 square kilometers and it is bounded in the north by Kwara State, in the east partly by Ekiti and Ondo States and in the south-west by Ogun State.

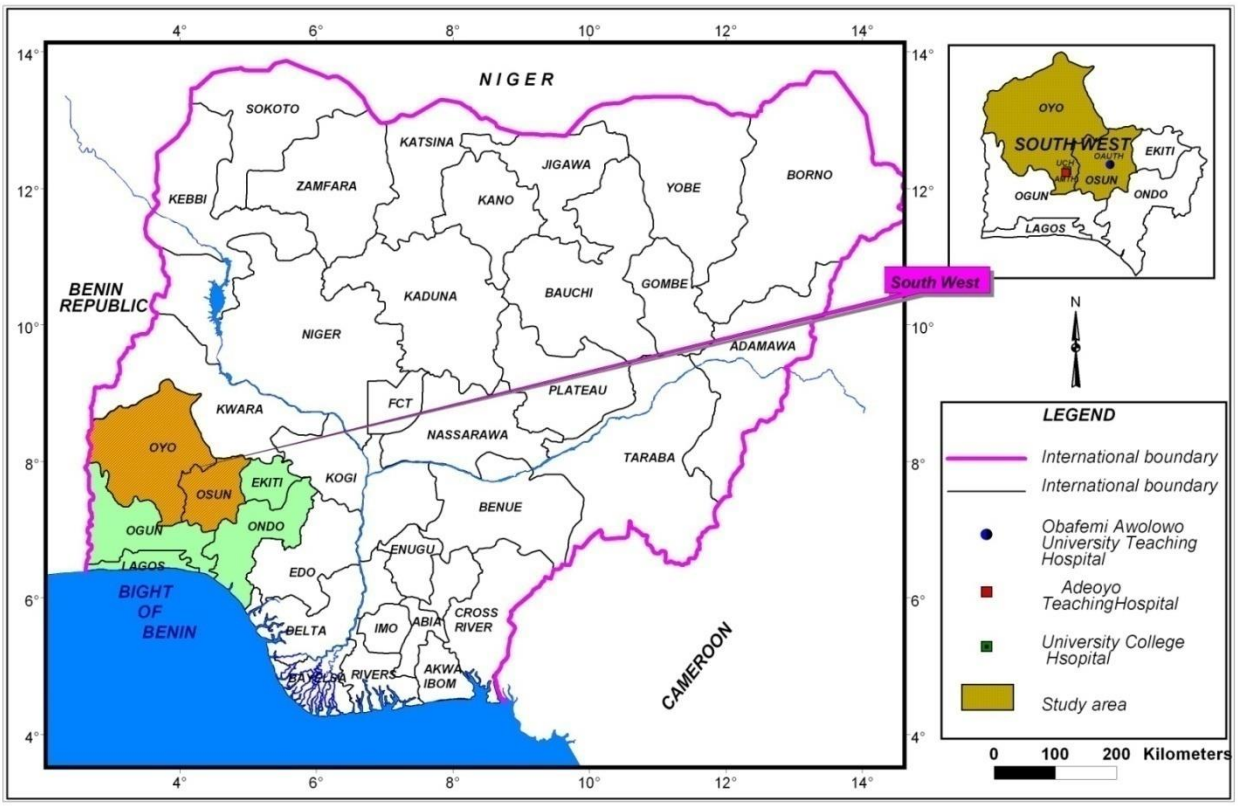

Figure 1.1: Sampled States within South-west Geo-Political Zone, Nigeria

Source: Author, 2012

The relief features of Oyo State comprise of old hard rocks and dome-shaped hills, which rise gently from about 500m in the south to a height of about 1,219m above sea level in the north. Stretches of the latter fall within the transition woodland or Southern guinea, while some other parts are in the derived guinea savannah, where the Asabari Hill is a prominent relief feature. In addition, Oyo state is relatively well drained, with Osun and Oyan rivers as the main rivers. Osun River serves as the source of the man-made Asejire Lake, which is a reservoir of water storage for domestic and industrial consumption. Other rivers of note in Oyo state are Ogun, Oba, Sasa, Oni and Erinle.

In contrast, Osun state depicts a gentle, undulating landscape, with an average altitude of between 300m and 600m above the sea level. However, its relief is much more rugged towards the northern part, with elevations that range between 35m and 400m above the sea level. Make your presentation chorological in each case: that is, location, physiology/physical features –major hills, drainage and soil for each of the states.

The tropical rainforest climate and vegetation, designated by the Koppen climate classification are characteristic of much of the southern part of Oyo State. The climate is equatorial: with temperatures being generally high and almost uniform throughout the year. The mean annual temperature ranges from 27.2°C in the month of June to 39.0°C in December (Hassan et al, 2012). Between December and January is the harmattan, when average daily temperature ranges between 25 °C (77.0 °F) and 35 °C (95.0 °F), almost throughout the year.

Also, the climate classification is characterized by dry and wet seasons, which are differentiated by rainfall and humidity, among others. The dry season runs from November to early March, while the rainy season is from March to October; characterized by high humidity and occasional gusty winds. Also, the beginning and end of the rainy season are marked by torrential rains and thunderstorms. The average rainfall ranges from 1125mm in the drier areas of the derived savannah to 1475mm in the rain forest belt.

About the same applies to Osun state, although there are patches of savannah vegetation in the northern part, the greater part features tropical rainforest vegetation in particular the large expanse of forested areas of Ife South and North and Isokan LGAs, which are to the forest reserved areas of the state.

The climatic conditions and type of vegetation endowed by nature to Oyo State have contributed to its tree crops' agriculture. Coupled with this is the two-peak period of rainfall that enhances multiple cultivations of food crops in the state. The state produces maize and cassava and various other food crops, such as, yam, millet, and plantains in relatively large quantities. It is also noted for production of tree crops, such as, cocoa, along with edible fruits, like orange, banana, lime, lemon, mango and cashew fruit and nuts and pineapples. There are also vast cattle ranches at Saki, Fasola and Ibadan and a dairy farm at Monatan in Ibadan.

Many programmes and cooperative societies that focus on agriculture abound in the state and are sometimes thought of as modernizing socio-economic institutions. For example, the Oyo State Agricultural Development Programme (OSADEP), with headquarters at Saki was initiated to boost food production in other three areas at Ibadan, Ogbomosho and Oyo. Also, in order to boost agriculture, the state has a number of government farm settlements in Ipapo, Ilora, Eruwa, Ogbomosho, Iresaadu, Ijaiye, Akufo and Lalupon.

On the other hand, Osun state is noted more for cocoa and banana compared to Oyo State. However, since the climatic characteristics of the state are quite similar to those of Oyo State, similar tree and food crops are cultivated in both states. In addition, farmers in the two states cultivate other food crops, such as beans and cocoyam, and other cash crops, such as tobacco and palm trees.

The Oyo State capital, Ibadan is the business hub for the state, with various commercial and industrial activities, such as banking and trading along Dugbe and Iwo Road and Bodija axis. Trading in foodstuff is mainly carried out in Bodija, Sasa, Oja'Oba and Oritamerin markets, while trading in household utensils and textiles is prominent in both old and new Gbagi markets, Ogunpa and Agbeni markets. Other towns noted for major commercial activities are Oyo, Ogbomosho and Iseyin; to mention but, just a few.

Furthermore, there are various medium and large scale industrial ventures of note in Oyo state. For instance, the former Nigeria Tobacco Company (NTC) that is sited in Ibadan has been turned into the Small and Medium scale enterprises. The industrial sites in the city comprise industries producing Fast Moveable Consumable Goods (FMCG) in Oluyole and Olubadan industrial estates, which are respectively located along Lagos-Ibadan expressway.

In addition, there are other notable centers of traditional crafts, such as leather, cloth weaving and carving; prominent among them are Awe, Oyo, Fiditi, Iseyin, Ogbomosho and Saki. In the northern part of the state, some big towns, for instance, Oyo and Ogbomosho are known for sawmilling and bread making. In general, trading (whether wholesaling or retailing) and food processing are significant employers of labour in the state.

Moreover, Oyo state is blessed with varied tourist centers and entertainment industry. Some major tourist attractions in Ibadan are Agodi Botanical Garden, Mapo Hall, University of lbadan Zoological Garden, Ido Cenotaph, Trans-Wonderland Amusement Park, and Bowers Tower. Other centers of importance are Oke-Ogun National Park in Old Oyo-Ile, Iyamopo and Agbele Hill in Igbeti. The state has scattered within it 'three star' hotels, and suites mostly owned by private investors. These include the Premier Hotel and De Rovans Hotel in Ibadan and Labamba Hotel in Oyo. The entertainment centers include the Cultural Centre, Mokola, Jogor Centre and the Civic Center (all located in Ibadan), and Haruna de Plaza at Oyo town.

Osun state also records varied commercial outlets. Osogbo, being the state capital, is both the administrative and commercial headquarters of companies and firms operating in the state. These include banks, insurance companies and financial firms. Most of the commercial activities concentrate on the Station road, Okefia Igbonna and MDS areas. Also, the state capital houses the machines and tools industry, many cottage industries and small and medium scale enterprises. In addition, trading features in designated markets of different towns in the state. Such markets are Atakumosa market in Ilesa, Lagere and Sabo markets in Ile-Ife and the popular foodstuff Owena market in Owena Ijesa.

Osun state also plays a prominent part in the entertainment and or tourist industry. The state has a rich cultural heritage; evident in music, art, dances, dresses and cultural festivals. The state is well known for its talking drums and Bata music. Tourist attractions in the state include the popular Osun-Osogbo cultural festival, the famous Ife bronze and the Oranmiyan Staff; the latter is believed to be the fighting stick of Oranmiyan, the son of Oduduwa, the founder of Yoruba kingdom and a great warrior. Other tourist attractions are the Ife Museum, Obafemi Awolowo University Zoological Garden, Yeyemolu Shrines and Oduduwa groove, Ile-Ife, Osun Osogbo Sacred Groove (a UNESCO, world heritage site), Jalumi War Site, Inisa and the Olumirin Water-Falls, Erin-Ijesa and the Ayikunugba Water- Falls at Oke-Ila. The

artistic sites of the state include the Adunni Susan Wengers Centre, Genesis Arts Gallery and Nike Arts Gallery, all in Osogbo.

The population of Oyo state, as of 2006 national census, was 5.59 million (NPC, 2006) and estimated as 6.90 million in 2012at 2.54 per cent (UNFPA, 2010). Oyo State is homogenous, as it is mainly inhabited by the Yoruba. They are primarily agrarian; but, have a predilection for living in high density urban centres. The people of the state are divided according to the political regionalization and not on their social and economic characteristics. The political cum ethnic divide comprises the Oyo, Ibadan, Ogbomoso, Ibarapa and Oke-Ogun people; but, all of them belong to the Yoruba language-speaking family. Other ethnic groups in the state that are from within the country are majorly Igbo and Hausa. They are mostly migrant traders and settlers in the state, particularly in urban areas of Oyo state. Also, the state hosts different races from other countries of the world. The most common race is the Lebanese in old Gbagi market (Lebanon Street) and in Oluyole Industrial Area.

On the other hand, Osun state population is smaller; recorded as 3.42 million in 2006 (NPC, 2006) and estimated as 4.17 million in 2012 at 2.54 per cent (UNFPA, 2010). The Yoruba form the major ethnic group in Osun state just it is in the case of Oyo State. The sub-ethnic groups are the Ife-Ijesha, in Osun Central, the Oyo and Ibolo in Osun West, and the Igbomina in Osun North. Other ethnic groups also feature: the Igede of Benue state, who are very prominent in the rural areas of the state and are noted for their farming skills, and the Igbo and Hausa, who are resident mainly in urban centers of the state and engage mostly in trading.

Oyo state houses four main educational institutions, which are nursery, primary, secondary and post-secondary/tertiary/universities. The state has 1,703 public nursery and primary schools and an estimated figure of 971 private nursery and primary schools. There are 335 public secondary schools, including seven Schools of Science and 57 private secondary schools. Also, there are 15 special primary schools and eight special units in secondary schools catering for handicapped children. The post-secondary schools include five government technical colleges at Oyo, Ogbomoso, Ibadan, Saki and Igbo-Ora and two Cooperative Colleges in Ibadan and Oyo. The tertiary institutions in the state are Emmanuel Alayande College of Education, Oyo, and College of Agriculture, a Monotechnic at Igbo-Ora. In addition, the Polytechnic, Ibadan has two satellite campuses at Eruwa and Saki. However, the state has no university of its own; but, it jointly owns Ladoke Akintola University of Technology

(LAUTECH), Ogbomoso, with Osun state. Nonetheless, it has one privately-owned university, the Lead City University in Ibadan.

Oyo state also houses different federal tertiary institutions. Those in Ibadan are the premier university in Nigeria, University of Ibadan (UI), Institute for Agricultural Research and Training (IAR&T), the Nigerian Institute of Science Laboratory Technology (NISLT), the Federal School of Forestry Idi-Ishin, the Nigeria Institute for Social and Economic Research (NISER) and the Cocoa Research Institute of Nigeria (CRIN). Two other federal institutions are in Oyo town: the Federal College of Education (Special) and the Federal School of Surveying.

Osun state also has numerous public and private nursery-primary and secondary schools. The state has 1,200 public nursery and primary schools, including nomadic schools and an estimated figure of 254 private nursery and primary schools. There are 334 public and 25 private secondary schools across the state. The two post-secondary institutions in the state comprise technical colleges in Osogbo and Gbongan and advanced level continuing education centers situated in major towns of the state. The tertiary institutions in the state are the School of Health Technology, Ilesa, Osun State Polytechnic, Ire, College of Technology, Esa-Oke, College of Education, Ilesa and Osun State University, Osogbo, with its six campuses in Osogbo, Okuku, Ikire, Ejigbo, Ifetedo and Ipetu-Ijesa. In addition, the jointly-owned university with Oyo state, Ladoke Akintola University (LAUTECH), Osogbo is the other tertiary institution in the state.

The federal tertiary institutions in Osun state are fewer compared to those in Oyo state, probably because Osun state was carved out of the old Oyo State; hence, had most federal institutions located in Ibadan, the old Oyo state capital. Therefore, the only two federal institutions present in the state are Obafemi Awolowo University (OAU), Ile-Ife and the Federal Polytechnic in Ede. Privately-owned universities in the state are Joseph Ayo Babalola University (JABU) in Ikeji-Arakeji, Fountain University in Osogbo, Adeleke University at Ede and Oduduwa University in Ipetumodu. The institutions however, produce thousands of graduates of diverse fields yearly, including health professionals that compete for few jobs available in the selected states and the country at large. In a situation where jobs are not available for the teeming graduates, they become potential migrants.

1.6.1 Healthcare Services

Healthcare services in Oyo state are provided by the three tiers of government: the local, state and federal governments, while the system for their provisions in the state is referred to as the primary, secondary and tertiary healthcare. The main providers of healthcare services in the state are the State Ministry of Health, Hospital Management Boards and Local Governments. The general hospitals that provide secondary healthcare in the state are strategically placed across the state, at the State General Hospitals at Adeoyo, Yemetu and at Ring Road, the State Paediatric Hospital Oni & Sons and the State Tuberculosis Hospital, Jericho, all in Ibadan, and the State General Hospitals at Oyo, Ogbomoso, Saki and Eruwa. The Primary Health Centers (PHCs) are located in the headquarters of the Local Governments and a clinic and or dispensary in each of their wards. The Adeoyo Maternity Teaching Hospital (AMTH) in Ibadan was the first secondary teaching hospital that has capacity for training and teaching medical students, nurses and other medical-related fields.

In addition, private hospitals, clinics and maternity centers are located in different parts of the state. Majorities of the privately-owned hospitals in the state have been complimenting the provision of healthcare in the state for a long time. They include Alafia Hospital, Ibadan Central Hospital and Oluyoro Catholic Hospital, all in Ibadan and Baptist Hospital, Ogbomoso, Oyo state. UCH, Ibadan, together with its outstation, Ibarapa is the only federal institution that provides tertiary healthcare to the people of the state and beyond. Also, it offers teaching and training to students in diverse areas of healthcare.

Similarly in Osun State, healthcare services are provided by the local, state and federal governments. The bulk of the health provision lies on the shoulder of the State Ministry of Health and its agencies, the Local Government's health centres and clinics in the headquarters and/or wards. The prominent secondary healthcare provision is given by the General Hospitals, which are situated in big towns, such as Ilesa, Ife, Osogbo, Ikire, Ede and Iwo. Also, LAUTECH Teaching Hospital in Ayetoro, Osogbo is equally providing secondary healthcare and teaching and training of medical professionals.

Osun state also has privately-owned hospitals, clinics and maternity centres that are spread all over the state to compliment the health service delivery (primary, secondary and tertiary healthcare, as well as teaching and training of healthcare personnel). Prominent among them are Seventh Day Adventist Hospital, Lagere Ile-

Ife, Our Lady of Apostles Catholic Hospital, Ikire, the Wesley Guild Hospital, Ilesa, and a unit of Obafemi Awolowo University Teaching Hospital Complex (OAUTHC), Ile-Ife. The OAUTHC in Ile-Ife is the only public tertiary health institution in the state.

1.6.2 Health Institutions

The degree awarding institutions in Oyo State, for instance, University of Ibadan and University College Hospital (UCH) in Ibadan and Ladoke Akintola University of Technology (LAUTECH) and its teaching hospital, Ogbomoso, train physicians, pharmacists and laboratory scientists. Also, Adeoyo Maternity Teaching Hospital (AMTH) partly trains physicians in some aspects of healthcare. The public institutions that train nurses in the state are the State School of Nursing, Eleyele, School of Nursing, UCH and School of Midwifery, Yemetu, all in Ibadan, and the state School of Nursing, Saki, to the north-western tip of Oyo state. Privately-owned institutions training nurses in the state are the School of Midwifery, Oluyoro, Ibadan and the Baptist School of Nursing, Ogbomoso. The Catholic Hospital, Oluyoro and the School of Medical Laboratory, Ibadan train laboratory technologists, while the School of Hygiene, Eleyele, Ibadan trains environmental health officers.

In Osun state, OAUTHC, Ile-Ife and LAUTECH Teaching Hospital trains physicians, nurses, pharmacists and laboratory medical scientists. Also, nurses are trained in the School of Nursing, Osogbo, the OAUTHC School of Nursing, Ile-Ife and the School of Nursing, Ila-Orangun. The only privately-owned school of nursing in the state is the Seventh-Day Adventist Hospital School of Nursing, Lagere Ile-Ife. The school of Health Technology in Ilesa trains environmental health officers.

Three of these teaching hospitals (UCH, AMTH & OAUTHC) are considered in more detail below, with reference to their historical background, health service delivery, teaching and training of medical professionals, and the effect of brain drain and brain circulation.

1.6.3 University College Hospital (UCH)

1.6.3.1 Historical Background

The University College Hospital (UCH), Ibadan is situated in Ibadan North Local Government Area of Oyo State, which is very close to the core of the city of Ibadan. It is bounded by Mokola axis in the west, Total Garden-Orita-Mefa in the east, the Oyo State Secretariat towards the north and Yemetu Alaadorin to the south. It was established by an Act of Parliament in November 1952 in response to the need for training of medical personnel and other healthcare professionals for the country and

the West African sub-region. The establishment of the hospital was sequel to a Visitation Panel in 1951 that was to assess the clinical facilities for the clinical postings of medical students registered for MB;BS., Degree of the University of London. The Visitation Panel, led by Dr. T. F. Hunt of the University of London rejected the enhanced facilities provided by the Government/Native Authority Hospital at Adeoyo, Ibadan for the Faculty of Medicine in the University College, Ibadan (now University of Ibadan), which was established in 1948.

The physical development of the hospital commenced in 1953 on its present site and was formally commissioned after completion on 20th November 1957. UCH, Ibadan was initially commissioned with 500 bed spaces; but, presently, in 2012 the hospital has 850 bed spaces and 163 examination couches. The current bed occupancy ranges from 55-60 per cent. The hospital, at inception in 1948, had two clinical Departments (Medicine and Surgery). Presently, the hospital has about 60 departments, among which is the first-ever Department of Nuclear Medicine in Nigeria; commissioned by the Honourable Minister of Health, Professor Eyitayo Lambo on 27th April, 2006. The hospital and UI function in excellent symbiosis, that is, it is impossible to think of one without the other, in the areas of health manpower training, research and health (clinical) service delivery. In sum these health institutions serve as the producers of both migrating and non-migrating health professionals from South-west Geo-political zone of the country.

1.6.3.2 Health Service Delivery

UCH has 56 service and clinical departments and runs 96 consultative out-patient clinics a week in 50 specialty and sub-specialty disciplines. In addition to the College of Medicine, the institution houses a Virus Research Laboratory, a World Health Organization (WHO) collaborating centre in the Department of Immunology and an Institute of Advanced Medical Research and Training (IAMRAT). Also, UCH houses the Special Treatment Clinic (STC), a state-of-the-art clinic for research, training and treatment of sexually transmitted diseases (STD) and runs clinics for people living with HIV/AIDS. Accreditation has been given for the setting up of a Department of Nuclear Medicine, while approval has also been given by the Federal Ministry of Health for the establishment of an Institute of Neurosciences. Satellite pharmacies are provided on each specialty floor for easy access for the procurement of drugs for patients on admission. A pain clinic and a hospice services are also in place for the care of terminally ill patients.

The patients turn out in the Accident and Emergency (A & E) Department averages 6,000 annually and about 150,000 new cases are attended to through various clinics of the institution every year. As far back as 2001, the institution marked one million patients; facilitated by the aforementioned medical facilities, manpower and track record. Consequently, the hospital enjoys wide patronage of both national and international clientele.

1.6.3.3 Teaching and Training of Medical Professionals

UCH has trained 6,051 doctors, 501 dentists, 4,513 nurses, 2,307 midwives, 471 peri-operative nurses, 1,062 laboratory scientists and 576 environmental health officers' tutors from 1957 to 2010. Also, 451 nurse/midwife/public health educators, 326 primary health care tutors and 590 community health officers have been trained. In addition, 640 physiotherapists, 551 health information management personnel (formally referred to as medical records officers) and 1,394 resident doctors have qualified as medical professionals from the institution (UCH Souvenir, 2007).

In addition to the undergraduate medical programme that is based in the College of Medicine, University of Ibadan, UCH provides Postgraduate Residency Training Programmes in all specialties. These are Internal Medicine, Surgery, Obstetrics and Gynaecology, Paediatrics, Otohinolaryngology (ENT), Ophthalmology, Anesthesia, Laboratory Medicine, Psychiatry, Community Medicine, General Medical Practice, Radiology, Radiotherapy and Dentistry. The hospital also provides diploma/professional programmes in the School of Health Records and Statistics, and tutors' courses for Environmental Health Officers, Primary HealthCare, Community Health Officers, Nurse/Midwife/Public Health Nurses and Post-Registration Courses in Nursing, for example, Peri-operative Nursing and Occupational Health Nursing. Also, the hospital has in-house continuous education programmes for Nurses and Midwives in Administration and Management (CEPNAM), as well as in Plaster Room Technician Programme.

1.6.3.4 Effect of Brain Drain and Brain Circulation

The Management of UCH, spurred by the Federal Government efforts in refurbishing the teaching hospitals, has taken steps to widen the scope of services provided by the resuscitation of the open heart surgical operation in the hospital. The performance of this service was stopped in the hospital due to shortage of personnel and lack of functional equipment. These are symptomatic effect of brain drain. However, with the refurbishment of the hospital under the FGN/VAMED arrangement

in 2006, the hospital has commenced sending its medical personnel for update training courses on open heart surgery by sending its medical personnel abroad. In May 2006, a surgical team of 13 members from the United States, in collaboration with UCH surgical team, successfully performed an open heart surgery on three paediatric patients in the hospital. Spatial movements of these health personnel portend either brain drain or brain circulation/brain gain; dependent on the context of its occurrence, duration of stay and purpose, among others.

1.6.4 Adeoyo Maternity Teaching Hospital (AMTH)

1.6.4.1 Historical Background

Adeoyo Maternity Teaching Hospital (AMTH) is situated right within the core of the city, in the Ibadan North-West Local Government Area. The hospital was founded as a Native Authority Hospital in 1927 by the Colonial Administration for the indigenous population. This shows that the hospital is one of the oldest in Nigeria. The hospital has since then gone through different transformations; inclusive of upgrading its status as the State hospital in 1971 and presently as a Maternity Teaching Hospital in 1987. As a result of the latter, many specialized services, including medicine, surgery, ear-nose-throat (ENT), ophthalmology out-patient and in-patient clinical services were transferred to the Ring Road State Hospital.

In essence, Adeoyo Maternity Teaching Hospital can be said to have served as the foundation stone for many of the teaching hospitals in the South-west geo-political zone of Nigeria. These include UCH, Ibadan, (Oyo State), OAUTHC, Ile-Ife, (Osun State) and Lagos University Teaching Hospital (LUTH), Lagos (Lagos State).

1.6.4.2 Teaching and Training Institution

The need to further upgrade Adeoyo Maternity Hospital to a Maternity Teaching Hospital (AMTH) in 2000 became a reality between 2003 and 2011. However, accreditation of the hospital was withdrawn due to inability of the government to meet up with the accreditation standard. But, the final accreditation was given to the hospital as a full-fledge teaching hospital in 2010.

1.6.4.3 Health Service Delivery

AMTH has 250 beds and consists of both medical and clinical services departments and units. The medical and clinical services departments units are 1) Obstetrics and Gynaecology 2) Paediatrics 3) Nursing 4) Records 4) Medical Laboratory 5) Pharmacy 6) Radiology 7) Physiotherapy, and 8) Casualty/Emergency departments.

In addition, the upgrading and renovation of AMTH for final accreditation added the following health facilities to the institution. They are Special Care Baby Unit (SCBU), Blood Bank, three Lying-in wards and Children Out-Patient (CHOP). Others are Immunization Clinic, Ante-Natal Clinic (ANC) and Live Saving Scheme (LSS). The LSS is a training ground for medical personnel in the Southwestern Nigeria and is being funded by the United Nations Children's Fund (UNICEF) and World Health Organization (WHO). LSS's theatres are divided into four compartments; two of the theatres serve the Labour ward, while the other two serve the Gynaecology and other wards. Also, the information and communication technology (ICT) system was donated to the hospital in 2008; courtesy US-PEPFAR United States President Emergency Plan for Aid Relief.

1.6.5 Obafemi Awolowo University Teaching Hospital Complex (OAUTHC)

1.6.5.1 Historical Background

Obafemi Awolowo University Teaching Hospital Complex (OAUTHC), Ile-Ife, is one of the first generation teaching hospitals established by the Federal Government of Nigeria to provide qualitative health care to people in the defunct Western State of Nigeria in 1967 and to provide manpower that would tackle the health problem of the state. After a period of careful planning, the Faculty of Health Sciences was created in the then University of Ife (now Obafemi Awolowo University) on 8th May, 1972.

On the 1st of July, 1975, the defunct Western State Government established the State Health Council, which was a novel development in Nigeria's health management system. Soon after, the government created the Ife/Ijesa Zonal Health Board, which is to compliment the delivery of health services to people both in bigger towns and smaller communities. Consequently, the Obafemi Awolowo University Hospital Complex came into existence (as Ife Teaching Hospitals Complex) on the November 1, 1975.The initial corporate name of the institution was changed from Ife University Teaching Hospital Complex (IUTHC) to Obafemi Awolowo University Teaching Hospital Complex (OAUTHC) in 1987, in honour of the late distinguished elder statesman, Chief Obafemi Awolowo, who died in the same year.

The philosophy of OAUTHC is to provide an integrated health care delivery system. It emphasizes comprehensive health care services; based on a pyramidal structure that comprises primary health care at the base, secondary and tertiary services at the top hierarchy hospital settings. This was designed to secure improvement in the

physical, mental and socioeconomic well-being of Nigerians through preventive, rehabilitative services.

The primary healthcare was provided to communities at three health centers in two urban centers, Ife and Ilesa and one rural, Imesi-Ile. The secondary and tertiary levels of healthcare delivery services are offered in two major hospitals, Wesley Guild Hospital Unit, Ilesa and Ife Hospital Unit, Ile-Ife. By the recognition of and establishment of primary healthcare as an integral part of the country's health system and first level of contact with individuals, OAUTHC was ahead of the World Health Organization (WHO) in its Alma Mata declaration of 1978 that primary healthcare is the key to attaining health for all by the year 2000 and beyond. Against this backdrop, OAUTHC has become a multi-campus facility.

1.6.5.2 Health Service Delivery

OAUTHC currently provides comprehensive healthcare services through six units. They are OAUTHC, Ile-Ife, with 364 beds, Wesley Guild Hospital, Ilesa, with 212 beds and Urban Comprehensive Healthcare Centre, at Eleyele in Ile-Ife with 20 beds. Others are the Rural Comprehensive Healthcare Center, Imesi-Ile, with 20 beds, the Multipurpose Maternal and Child Healthcare, Ilesa, with three (3) beds and the Dental Hospital in Obafemi Awolowo University, Ile-Ife, with 36 dental chairs.

OAUTHC offers both secondary and tertiary health services in the following areas of medicine: Nephrology, Orthopaedic Surgery, Paediatric Surgery and Child Health, Virology and Dermatology, Mental Health (Psychiatry), Gastro-Intestine Endoscopy, Cardiac and Cardio-Thoracic Surgery and Dental Surgery.

The catchment area of the OAUTHC is very large, one by virtue of its location and two, due to the scarcity of healthcare facilities in the neighbourhood areas. Consequently, the hospital serves neighbouring states, such as Ekiti, Ondo and part of Oyo, Edo and Kwara.

1.6.5.3 Teaching and Training of Medical Professionals

Apart from the clinical services being handled by the comprehensive units of OAUTHC (both Ife and Ilesa units), the institution offers quality training of medical doctors and specialization in some residency programmes. The residency programmes include Paediatrics, Obstetrics and Gynaecology, Orthopaedics, Oncology, Otohinolaryngology (ENT), Surgery and Dental.

1.6.5.4 Effect of Brain Drain and Brain Circulation

OAUTHC is well known in some areas of residency training programme; but still coming up in areas like Neurosurgery and Cardiothoracic Surgery. The consultants are not enough, and facilities required for attracting experts to take part in training in the residency programme are not readily and adequately available. Consequently, the conditions could lead to and have led to the emigration of young doctors wishing to specialize in some of these areas of medicine to countries with available required manpower and facilities.

1.7 Summary and Conclusion

The chapter has presented the rationale for the study, while problems that needed to be solved were posed in form of questions. Answers to the questions posed for the study were therefore transposed to aim and objectives and further, hypotheses were formulated for deeper understanding of the study. Also, the study area (Oyo and Osun States) was explicitly described, in terms of social, economic political and environmental milieu, while information about the targeted health institutions for the data collection for the study was succinctly discussed.

In conclusion, the chapter has shown that the selected institutions have produced large number of medical professionals over time. Also, that these professionals due to some constraints in the course of practicing of their professions and their perceptions towards them have decided to migrate or stay put.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter is in two main parts: the conceptual framework and review of relevant literature. The first considers basic terms that are relevant to the study, such as brain drain and brain gain and reviews theories and models on the determinants and consequences of international migration on the emigrants/returnees, the source and destination countries, with a view to deriving a conceptual framework for the thesis. Theories on determinants that are reviewed are distance decay or the gravity model, the intervening opportunity model, the push- pull theory of migration, the behavioural model and others. The latter comprises neoclassical economic theory, labour-market theory and world system theory. The major model on the consequences is the pure and private gain theory. All these are summed up towards the presentation of a conceptual framework for the migration of health professionals

The second part is on the review of some of the available literature and empirical works on the trends, causes and impact of migration of highly-skilled professionals on the Non-migrant colleagues, source and receiving countries. This is carried out in order to pin-point gaps in knowledge on the issue.

2.2 Definition of Basic Terms

2.2.1 Brain Drain

The literature on brain drain shows there are different perspectives on the phenomenon. Nonetheless, one main evolving definition from diverse perspectives is of emigration of trained and talented individuals (human capital) to other nations or jurisdictions, due to conflicts, lack of opportunity, health hazards where they are living, discrimination or other reasons leads to a loss or drain of health professionals of the source country (Dolvo, 2003, Buchan and Sochalski, 2004; Astor et al, 2005; Stilwell et al, 2003 and 2004; Pillay, 2007; Kangasniemi, et al, 2007). The World Bank (2008) also corroborates brain drain to be massive flow from small and poor developing countries to developed ones; leaving the source region with depleted trained and talented manpower.

In addition, the Organization for Economic Cooperation and Development (OECD) describes the process more specifically in terms of a country's loss of human resources in science and technology (OECD, 2008; 2011). Nadeem and Ashfaq (2004) corroborate brain drain as a term that designate international transfer of resources in the form of human capital, that is, the migration of relatively highly educated individuals from the developing to developed countries as a loss to the developing country, the source region (Batista, Lacuesta and Vicente 2007).

However, Nwosu (2003) referred to brain drain in developing world, particularly in African states as superfluous resources to the developed world, which does not need it. By this, he meant developed countries that serve as destinations of these human resources from Africa have more than enough; therefore, the worth was not fetched as "gold" outside the continent. Therefore, he decried the incidence in some large cities of the United States, where it was not unusual to see Africans with higher degrees operating taxicabs or performing other odd jobs that do not commensurate with their level of education or training.

2.2.2 Brain Gain

The reverse, brain drain, is defined as the movement of human capital from more developed countries to less developed countries, with a logical outcome of a calculated strategy, where migrants net earnings, are sent as remittances that can be used in their home country (Logan, 1987; Kangasniemi, et al, 2007). In other words, brain gain occurs when highly skilled professionals migrate or return to their source country from the host developed country; taking back with them additional training and skill and other economic benefits that they might have acquired or gained while working in the host country. Thus, the several years of experience such professional might have acquired are lost to the source country, when they are absent. Paradoxically, they become gain to the source country when the emigrants return to their home country and start applying the knowledge in related professions.

In other words, brain gain or brain circulation is the movement of highly skilled professionals from destination countries (developed world) back to the home countries of emigrants after they might have acquired skills and advanced training. The same applies to people with relatively higher education and or no skills that have emigrated from their countries of origin to developed countries, where after they might have acquired skills and training go back/return to their countries of origin immediately.

A few instances can be cited to buttress the above. For example, the acquisition of higher education or skills through emigration of young people was evident in the accumulation of human capital in Cape Verde (Basita et al, 2007). It was recorded that almost 40 per cent of Cape Verdean University graduates would not have enrolled in the local university had they not had the opportunity of emigrating first (Batista et al, 2007). Furthermore, Calì, (2008) reveals that nursing, as a profession, is becoming more attractive in India than ever before due to the rapid growth in migration opportunities for nurses.

2.3 Theories of Migration Determinants

Most of the early theories on determinants of migration are on internal migration, in which the determinants were considered singly or in combinations of more than one determinant. They cover spatial, economic and social determinants (Zipf, 1946; Stouffer, 1960; Claeson, 1969; Greenwood, 1968; Sjaastad, 1962; Gallaway, 1967; Harris and Todaro, 1970; Mabogunje, 1972; Shaw, 1978; Massey, 1990; Schoorl, 1994; Afolayan, 1972; 2001). Others are behavioural notions.

2.3.1 The Gravity Model

The gravity model is not only used in explaining human interaction from one place to another, based on physical distance alone; but, it also considers the product of two masses, the population sizes of both the origin and destination of the movements in the explanation of level of interaction of two places. The model derives from the Newtonian theories of gravitational attraction between any two celestial masses and was adopted by geographers to estimate the spatial interaction or movement between any two places (Carey, 1850). Carey (1850) explained that the essentiality of human existence is pivoted on the attractive force that exists between two areas, which is akin to the force of gravity. In other words, there is a force of attraction of people (migration) from a low-populated small city to a highly-populated big city. The gravity model posits that any two objects (in places *i* and *j*) attract each other with a force that is proportional to the product of their masses (populations of *i* and *j*) and inversely proportional to the square of the distance (D_{ij}) between them. Thus, the interaction (volume of migration) between/from place *i* and *j* is denoted below, as:

$$\frac{I_{ij} = kP_iP_j}{D_{ij}^2} \qquad 2.1$$

Where I_{ij} = volume of migration from place i to place j

P_i and P_j = population of places i and j

k= derived constant

D_{ij} = distance separating the two places i and j

Furthermore, Tobler (1970) and Johnston et al (2000) used distance decay concept to explain gravity model, in that everything is related to everything else, but near things are more related than distant things. This concept basically influences the costs (time and distance-cost) of human mobility. The concept further weighs into the decision to migrate; leading to the movement of many migrants moving over less distant areas than they originally contemplated. However, it has been argued that the rate at which the distance decay factor operates depends on the type of activity or interaction (Fellman, Getis and Getis, 2008). Again, the concept of social distance has been used to critique gravity model and distance decay. The concept explains that proximity does not connote propinquity. In other words, the destination of a potential migrant is not being determined by the closeness of next destination.

Therefore, the concepts of gravity model and distance decay appear more applicable to internal migration. For instance, the attraction of health personnel from developing countries with higher population size to developed countries with lesser population does not obey the gravity model. Also, a potential migrant moving from poor origin and to better destination does not think of the distance separating the two locations but the opportunities.

As well, the gravity model has come under criticisms, among which is Stouffer's (1940) that the nature of particular places may be more important than the distance in determining where migrants move to. Also, Rushton (1969) pointed out that the direction in migration pattern, unequal opportunities and human perceptual dimension lead to differences in spatial interaction patterns, which were not taken into consideration in the model. In addition, Afolayan (1976) argued that the gravity model cannot explain migration history over more than two places; neither can it be applied over a long period. Other criticisms centre on the facts that though the gravity model appears simple to estimate, it offers no insight into the categories of movers and how changes in policies or social system affect migration; hence, the postulations of other models.

2.3.2 The Intervening Opportunity Model

Stouffer (1940) extended the gravity model by introducing the notion of intervening opportunities, in which migration over a given distance is said to be directly proportional to the number of opportunities at different distances (destination versus source region) and inversely proportional to the number of possible alternative migration destinations between *i* and *j*. This is denoted below, as:

$$\mathbf{M_{ij} = (\mathit{k}.\Sigma a_j/v_j)} \qquad \mathbf{2.2}$$

Where;

a_j= the total number of destination opportunities in zone j

v_j= the number of intervening destination opportunities between zones i and j

k =a proportionality constant to ensure that all trips with origins at zone i are distributed to destination opportunities.

2.3.3 Push-Pull Model

Also, distance and opportunity alone were adjudged not sufficient in explaining migration behaviour; therefore, Lee (1966) hypothesized the push-pull model. He posited that both the destination and the origin have characteristics that attract or repel migrants; represented by positive and negative symbols. Individuals perceive these characteristics differently; hence, subjectivity plays an important role in their reaction to the stimuli they receive from outside environ. But, basically, the push-pull model gives an idea of movement of people away from an area emitting 'push' factors/stimuli to an area with absorbing 'pull' factor/stimuli that is an area that 'pull' them towards itself. Without a consideration of people's differences in perceiving the stimuli and reacting accordingly, the criticism levied against the mechanistic nature of the model holds, as it does not allow for individuals' perception and evaluation of the stimuli/factors.

2.3.4 Other Theories of International Migration

There are several theories on international migration; but, often those theories are modifications of the push-pull theory. For the present study, the following three theories are discussed. First is the neoclassical economic theory, developed by Sjaastad (1962) and later modified by Todaro (1969). The theory suggests that international migration is related to the global supply and demand of labour. Therefore, countries with scarce labour supply and high demand will have high wages that pull immigrants in from countries with a surplus of labour and with low wages. On the contrary, the

theory is not applicable to health professionals in Nigeria. The supply of health professionals is low to the number of population demanding for health services in the country. For instance, the country falls far short of the World Health Organization (WHO) global standard, of 1:5,000 patients to a health giver (Modern Ghana, 2009) and the wages are relatively lower compared with those in the destination countries.

The second theory reviewed is the segmented labour-market theory by Piore (1979). This presents structured First World economies that require a certain level of immigration. The theory suggests developed economies are dualistic, in the sense that they have a primary market, of secure, well-remunerated work and a secondary market of low-wage work. Segmented labour-market theory argues that immigrants are recruited to fill those jobs that are necessary for the overall economy to function; but are avoided by the native-born population because of the poor working conditions associated with the secondary labour market.

The third theory is the world-systems theory postulated by Wallerstein (1974) but modified by Sassen (1988), whose argument is that international migration is a by-product of global capitalism. Contemporary patterns of international migration tend to be from the periphery (poor nations) to the core (rich nations) because factors associated with industrial development in the First World tended to have generated structural economic problems; hence, they act as push factors in the Third World. When applied to the present discourse, the core health professionals emigrating from Nigeria to a new destination might not get jobs equivalent to their qualification instantly in the destination country, due to some employment conditions, but somehow go for a job that is lower to his/her former level in the country of origin. In the similar vein, nuance emigrated health professionals without proper migration documents go for any job less than their qualifications.

In all, the above theories expatiate on factors that prompt migration from country of origin to a new destination; after resisting ‘push’ forces at origin, while consenting to ‘pull’ forces in the destination; the latter promises better conditions and opportunities. Therefore, taking into considerations these postulations, the present study equates the ‘pull’ factors with those factors that prompt health professionals to emigrate and or return, such as better pay and working conditions, career mobility, professional development, equipment and laboratory apparatus a better quality of life, personal safety, or sometimes just novelty and adventure, among others. On the other hand, the inflows of remittances and technological transfer are regarded as pure gain

from emigrated health professionals back to individual colleagues and or to health institutions back home. Also, information that is sourced from home-based colleagues is related to 'pull' factor, when they serve as facilitators and if otherwise as negative 'push' factor.

2.3.5 Behavioural Theory of Migration

In the light of the above, Shaw (1974) modified the push-pull theory, as he presented the behavioural theory that introduces perception and evaluation of humans to push-pull factors. The behavioural theory considers potential migrants' subjective thought, their weighing of the situation of the prospective destination in the light of their limited level of knowledge and information available to them and their personal needs (Shaw, 1974; Afolayan, 2004). Also, the theory depicts human responses to external stimuli or forces that emanate from the environment, as intervening (endogenous) factors or variables that predispose an individual's reaction to external stimuli (exogenous) factors, both at the source and destination.

2.3.6 System Modeling of Determinant and Consequences

The model explaining the determinant and consequences of migration of highly-skilled health personnel is conceptualized and presented in the schematic representation on Figure 2.1. The model depicts on the one hand, donor/sending country, which produces the highly-skilled health personnel, who responded to push (endogenous) forces and were unable to stay-put by the stick factors; therefore, emigration (brain drain) occurs. Consequently, their movement results into series of negative and positive effects/impacts, both at the sending and receiving countries. Furthermore, non-migratory forces are in operation in the sending country, such forces are the influence of the natural attrition of health workers, such as the turnout of graduates from different health training institutions.

On the other hand, the recipient/receiving country attracts migrating health personnel because of its pull forces, due to the strong push factors emanating from the donor country. However, counter migration (immigration/returning) in form of brain gain/brain circulation occurs, due to strong push factors emanating in the recipient country that override the stay factors, hence, immigration/returning (brain gain/brain circulation) occurs. The consequences of immigration/returning (brain gain/brain circulation) of health professionals are in form of negative or positive impacts in both the sending and receiving countries.

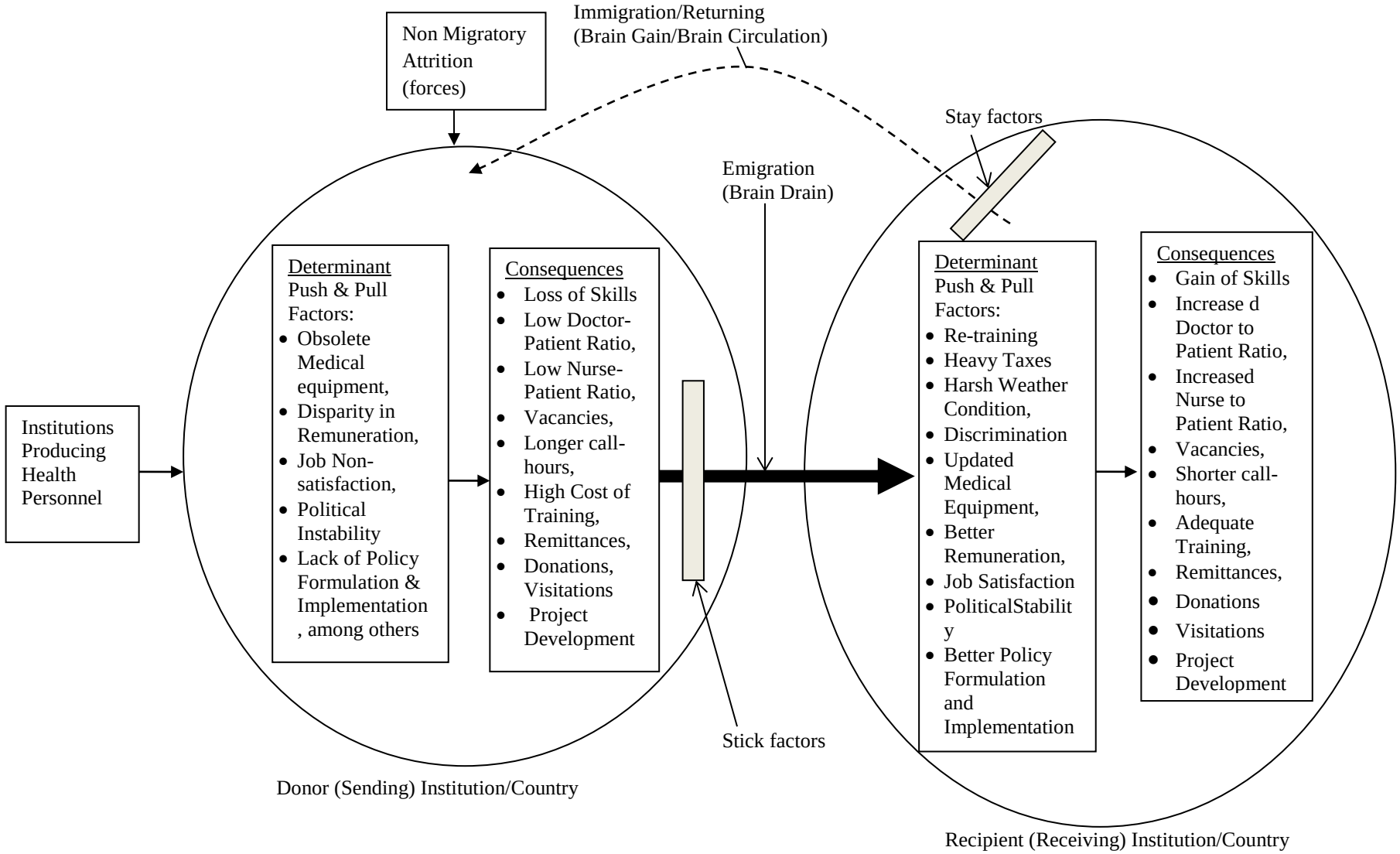

Figure 2.1: System modeling of detrminant and consequences

Source: Push-Pull Model (Modified by Present Author, 2012)

2.4 Migration Impact Theories

2.4.1 Pure or Private Gain

Theories on impact of migration are fewer and less quantified; inclusive is the theory of pure or private gain postulated by Palmer (1985). The latter theory gauges the direct and indirect gains or losses that potential migrants perceived they would receive in proposed destination, which are expected to bring about positive or negative socio-economic change to the migrants and their family in their area of origin. Moreover, the net earnings of migrants become pure gain or private gain to out-migrants/emigrants when such earnings are transmitted through remittances to Non-migrant members in the country of origin.

The concept of pure or private gain runs through works on international migration of health professionals that are reviewed below. Padarath, et al. (2005), Shinn (2008) and Bhargava et al (2011) examined the current pattern of health personnel movement and distribution as regressive or harmful and debilitating to an already strained and under-resourced health system in developing countries. By this, they considered brain-drain increases inequities and represents a poor-to-rich transfer. They also presented the other side of the coin, that is, that emigration of health personnel would have positive effect on source countries and communities, if there is the flow back of improved knowledge and skills and transfer of remittances (Padarath, et al., 2005).

The impact of brain drain of highly-skilled health professionals has, therefore, been placed on two opposite ends: negative and positive effects. The negative has been termed the 'knock-on' effects that are often captured as costs, while the positive is the brain gain, in form of remittances and transfer of knowledge and technology (Martineau, et al. 2002; Nadeem and Ashfaq 2003; Stilwell, et al. 2003; Padarath, et al. 2005; Nwajiuba, 2005). Furthermore, Shinn (2008) conceived emigration of experienced health personnel from health institutions would lead to deficiencies in the training of professional attachment in form of internship and supervision of new graduates.

In addition, de Hass (2006) and Docquier and Marfouk (2006) stated the major positive impact of brain gain of health personnel to the source country is cash remittances. Emigrated healthcare professionals, who send back a portion of their earnings to their country of origin, usually to their family and friends, contribute to the overall economy of the source country. However, remittances may not boost the

general economy of the source country, if the cost, that is, loss on account of the emigration of highly-skilled professional is greater than the remittances sent back (Ikwuyatum, 2006). As Taylor and Adleman stated in 1995 (also quoted in Padarath et al. 2005), "remittances may not offset declining economic growth that results from human resource loss".

Also, it has been argued that the transfer of technology and skills is more likely to be superfluous, if the new knowledge and technology are not relevant to the healthcare and medical priorities of the country of origin (Nwosu, 2003; Rosenzweig, 2007). This assumption is premised on non-availability of sophisticated and hi-tech medical equipment and the inefficiency and ineffectiveness of infrastructural facilities on the healthcare services in the source country; leading to none return of knowledge (Padarath, et al. 2005). Therefore, the balancing of the two sides of the coin: positive (gain) and negative (loss) is problematic; hence, the study examined the problem.

2.5 A Conceptual Framework for International Migration of Health Professionals

The present study presents a conceptual framework for examining the interlocking nature of trends in the context of volumes, causes and impacts of international migration of health professionals via a modified push-pull model. The model implies that on the one hand, the socioeconomic and political push forces in country of origin, as determinants, overwhelmed the push forces in country of destination. And, on the other hand, the socioeconomic and political pull forces in country of destination outweighed the pull forces in country of origin, therefore, prompting large volume of emigration of health professionals. The model equally depicts the counter migration, in terms of immigration or returning into country of origin is scanty and few due to the push forces at sending country exceeding that of the receiving country. Evidently, on the short run, due to large volume of emigrated skilled health professionals from the sending country, negative impacts (drain) such as loss of skills and longer call hours due to shortage of personnel would be experienced in country of origin, while gain of skilled, shorter call hours, among others would be occurring in country of destination. However, on the long run, few immigrant or returnee health professionals possibly negate the negative impact through knowledge transfer, remitting in cash or in kind, among others (gain) back to country of origin

(Figure 2.1). The framework, therefore, is towards balancing the losses or the 'drain' as against the 'gain' at both the macro and micro levels of study.

2.6 Literature Review

Literature is replete of discussions on international migration of highly-skilled professionals and highly educated persons in developing countries, in particular, Nigeria. For the convenience of exposition, the salient themes discussed in the review are the trends and patterns of the courses, causes and consequences of migration of highly-skilled professionals in many African countries, particularly, Nigeria.

2.6.1 Trends in African Emigration

The United States Census Bureau revealed that there were an estimated 881,300 African immigrants in the United States in 2000 (Wilson, 2003). During that year, West African immigrants comprised 326,507 or 37 per cent of the total African immigrants; out of which Nigerians constituted 134,940 (41.3%), Ghana 65,572 (20.1%), and Sierra Leone 20,831 (6.4%). East African immigrants followed; comprising 213,299 or 24.2% of the total African immigrants. Ethiopians were 69,531 in number (representing 32.6% of the total immigrants from Africa). Next were the North Africans, comprising 190,491 or 21.6 per cent of the total African immigrants; out of which 113,396 were Egyptians (59.5%). The Southern African immigrants followed. They comprised 66,496 or 7.5 per cent of all African immigrants in the United States. South African immigrants formed the majority, of 63,558 (95.6%) of the Southern Africans total. Last, but not too significant were the Middle African immigrants; comprising 26,900 (3%) of all African immigrants in the United States. There were 57,607 other African immigrants (6.5% of all African immigrants) in the United States, whose origin was not classified (Wilson, 2003).

Literature notes the educational qualification of African emigrants. African emigrants in the United States that have only a primary education are very few. According to 2001 U.S. Census Bureau report, 94.9 per cent of the African immigrants, aged 25 and over have at least a high school diploma; compared with 87 per cent of the American population. Furthermore, among the 700,000 Africans in the United States (as at March 2000), those aged 25 and over with at least a bachelor's degree formed substantially higher percentage, of 49.3 per cent compared with the average for the general population, of 25.6 per cent, and other foreign born populations in the country, such as the Asians (44.9%).

A survey of the American Community conducted in 2006 by the Census Bureau revealed Nigerians were the highest educated ethnic or racial group in the US. Among all groups surveyed, Nigerians had 37 per cent of the population with Bachelor degree, while other races, residing in the US, had 17 per cent. Also, 17 per cent of Nigerians had Masters' degree, while other races had 7 per cent. They also formed 5 per cent of immigrants with professional degrees, while other races had 2 per cent. Nigerians also formed 4 per cent of those with Doctorate degree, while other races had just 1 per cent (Casmir, 2008).

Additionally, a World Bank policy research paper in 2003 pointed out that in 2000 there were 90,620 Nigerian immigrants and 75,170 Egyptian immigrants, aged 25 and older, who had attained tertiary education in the United States. The paper further points out that in 2000, there were 361,773 Moroccan immigrants, and 91,019 Tunisian immigrants, aged 25 and over, who had attained tertiary education in OECD countries. In addition, figures for other African countries are given. For example, Leman (2004) states that hardly were there any educated people in Sierra Leone to help a country with literacy rate of only 15 per cent; judged against a high proportion of highly educated Sierra Leoneans that reside in the United States. Faye (2002) also notes that in the West African region, over 105 lecturers and researchers that emigrated from Senegal went primarily to American and French universities in recent years, leaving the educational development of their country in the hands of a few academics.

2.6.2 Trends in Volume of Emigration of Highly-Skilled Professionals

Studies on international labour migration show that within 1961 and 1983 at least 700,000 scientists, engineers, doctors and other highly skilled persons migrated from developing countries to developed countries (Stalker, 2001). Khan (2003) reports that between 1960 and 1975 an estimated 27,000 highly qualified Africans left the continent for the developed West (comprising medical personnel, engineers, lecturers, among others). Although the quantitative estimates and reliable statistics of the brain drain from Africa have always been difficult to come by, it is known that of all African countries, Nigeria has consistently led other countries in exporting students and professionals outside the continent and has the largest number of nationals living abroad (Shinn, 2008). Therefore, the outflow of professionals from Nigeria increased to approximately 40,000 between 1975 and 1984, representing 30 per cent of the highly skilled manpower stock and between 1991 and 2007; this was reported to have increased (Development Research Centre, 2007).

About the same scenario obtains for data on emigrated health professionals. Although the scale or volume and or rate of occurrence of emigration of health professionals from Africa, particularly Nigeria, is difficult to quantify, due to lack of reliable data, literature on brain drain of health professionals points to the development of a critical situation. It is estimated that 23,000 health care professionals emigrate from Africa annually (South African Institute of International Affairs, 2005). The USA, UK and Canada are said to be the main destinations for African trained doctors, while nurses migrate to the oil-rich Gulf States (Hagopian, 2003, McDonald et al, 2010, Inoue, 2010, Lesky, 2011).

There are also variations in the performance of the different African countries. Between 1993 and 2002, Ghana lost 630 medical doctors, including 50 per cent of its medical school graduates that emigrated within four and a half years (Shinn, 2008). Zambia was able to retain just 50 (8.3%) out of 600 doctors trained in the country (Frommel, 2002). In South Africa, out of the 19,500 graduates produced by the medical schools between 1990 and 2005, only 9,304 doctors registered to be practicing in the country (Pillay, 2007). Others were scattered abroad: with 10 per cent said to be practicing in Canada, 6 per cent in the UK and the remaining proportion in the USA and OECD countries (OECD, 2003, 2008, Sankore, 2006).

For Nigeria, between 1986 and 1990, an estimated figure of 10,694 professionals from the tertiary institutions left the country to live and work in different countries abroad (Anekwe, 2003). Also, Oyesiku (2009) gives the figure of nearly one-third of medical graduates from Nigeria Medical schools emigrating within 1-10 years of graduation to the US, UK or Australia. Further still, it is estimated that Nigeria lost nearly 21,000 doctors to the USA alone, all of whom were not registered as practicing physicians in the USA (Sankore 2006). Anekwe (2003) estimated that by the time one adds the number of doctors practicing in the UK and other OECD countries, Saudi Arabia and the Gulf States, the figure would be close to 30,000 in 1995.

As well, both the numbers of nurses and other paramedics are said to be depleting fast and the direction of their emigration varying. It is observed that the major destination of African nurses is the UK, but the USA, Saudi-Arabia and the Gulf States were showing an upward trend (OECD, 2002). By 2000, Ghana had only half of its trained nurses of the 1980s remaining in the country (Ghana Ministry of Health, 2000). Besides, Zimbabwe lost 18,000 nurses to the UK between 2000 and 2001 and recently, it was losing about 300 nurses per annum (Pillay, 2007). Nigeria is placed

second in Africa as the most common training country of the nurses practicing in London (Buchan, et al, 2006). In addition, nurses from Nigeria, South Africa, Zambia, and Malawi constitute the majority of health care personnel in the UK and the USA (PHR, 2004).

2.6.3 Causes of Emigration of Highly-Skilled Professionals

Although most of the works accuse the industrialized nations of sheer exploitation and economic haemorrhage for liberalizing their policies for the admission of highly skilled professionals from developing countries (Nwosu, 2003; Anekwe, 2004), yet, some of them see the trend as a necessary development (Vakin, 2002; Stalkers, 2006), judging from unreasonably low wages paid to African professionals (Padarath, 2003; Stilwell, 2004), in sharp contrast to the willingness of African government and investors that spend $4 billion dollars annually to recruit and pay 100,000 expatriates to work in Africa. Even then, there appears to be a paradox, as the same government failed to spend a proportional amount to recruit and or recall close to 250,000 African professionals that were then working outside the continent (Emeagwali, 2003). In other words, African professionals working in Africa are paid considerably less than what similarly qualified expatriates earn and of government's unwillingness to invest effectively in the health sector, such as to retain and lure its medical personnel (Emeagwali, 2003).

In addition, in terms of purchasing power parity, most African countries' currencies have been highly devalued and depreciated; thus, the African professionals typically earn about 25 per cent less what they would have earned if they worked in Europe, North America and/or the Middle East, all things being equal, that is, without differentiating for the cost of living (Stilwell, et al, 2004). Lack of job satisfaction, propelled by obsolete equipment and depleting infrastructure to work with, has many times gingered up the emigration of skilled workers, like doctors and engineers (Padarath, 2003; Nwosu, 2003, Sankore, 2006). Coupled with all the above factor is the non-maximization of the potentials of highly-skilled professionals through in-service-job training (Stilwell, 2004; Fadayomi, 2009).

In more detail, the less-functional and insufficient public infrastructural facilities, such as power supply, pipe-borne water supply, roads and bad governance have triggered brain drain of skilled Africans. The poverty level in sub-Saharan Africa remains the highest among all other regions of the world (MDGs Report, 2008; PRB,

2010, 2011). Besides, health system is in a crisis (Sankore, 2006; Bhargava et al, 2011), while housing facilities have turned out to be a nightmare (MDGs Report, 2008). These and other factors have made it difficult for highly skilled professionals in sub-Saharan Africa to achieve their potential. In addition, ethnic and religious clashes in the continent are sending highly skilled persons away. The instance of spates of ethnic clashes of the Hutus and the Tutsi in Rwanda in 1989, civil war in Somalia in 1988, Uganda in 1988, Cote d'Ivoire in 1990 and religious clashes of Northern Islamists and Southern Christians in the Sudan since 1991, among others, are pointed out as cases of political instability that made such countries not conducive to peaceful living (Deng, 2001). Both intra- and inter-national border disputes, land and resource control crises are almost everywhere in the continent (Afinotan, 2009). Also, Nigerians residing in Bakassi were formerly handed over to Cameroon in 2008 and the oil rich Niger-Delta region (the south-south geo-political zone of Nigeria), among others, have had intensified pressure on the emigration of persons to developed countries of the North (Uno, 2003; Peluola, 2008; Afinotan, 2009).

Political instability and devastating civil wars have, therefore, contributed to the erosion of Africa's intellectual capital. In the case of wars, in late 1990s alone, 20 countries were plagued with civil wars, forcing many citizens to flee, including highly qualified persons. For example, 30 per cent of engineers, 20 per cent of university lecturers and 17 per cent of doctors were estimated to have left Sudan in search of safer havens (Tettey, 2003). The political volatility increased the rate of emigration virtually in most African nations. For example, the regimes of Idi Amin in Uganda between 1971 and 1979, SaniAbacha in Nigeria, from 1986-1993 and Mobutu SeseSeko in Zaire (now, the Democratic Republic of Congo) between 1965 and 1997, past apartheid regimes of South Africa, up to the eve of 1994, among others, have led to the outflow of many highly-skilled professionals to developed nations. In addition, the poor and falling standards of African educational system have prompted many African young graduates to seek foreign education from the West (Anekwe, 2003). In 1998, 36 and 43 per cent of young medical doctors from Malawi and Ghana respectively pursued their postgraduate medical career in developed countries (Padarath, et al, 2003).

2.6.4 Consequences of Emigration of Highly-Skilled Professionals

Literature on brain drain and brain gain has specified short and long-terms negative and positive socio-economic impacts of emigration of highly-skilled professionals from Africa, in particular Nigeria. Each of these is considered below:

2.6.4.1 Short Term (Positive) Effects

The short-term benefit to Africa of emigration of highly skilled persons is seen in the increase in cash and in kind of remittances from the destination countries to the continent, especially since the 1990s (Emeagwali, 2003; Batista, 2007). This is based on the fact that Africans in industrialized nations, such as the United States and Canada, tend to be employed, in substantial numbers, in top and well-paid occupations of the two host nations; thus, giving those African immigrants the ability to send money to their origin countries (Stilwell, 2003, 2004; Mutume, 2005).

Such educational attainment of African emigrants in the United States is an important factor in the type of occupation, earning potential or prospective for upward mobility of workers; hence, their increased ability to remit back home. The small, but significant proportion of African immigrants in the US that is heavily concentrated in the top occupational hierarchy of Managerial and Professional Specialty (MPS) occupation is quite significant (Kollehlon and Eule, 2003). A 2001 U.S. Census Bureau report shows that of the 400,000 African immigrant workers aged 16 and over, in the US in March 2000, 36.5 per cent were in MPS occupation, compared to 30.9% of native workers. The report also shows the median income for all households in the country was $40,816. Of the 300,000 African immigrant households in the United States in that year, their median income of $36,371 was higher than the average of all foreign-born households, of $36,048.

In addition, remittances to the developing world were being reported to be the second largest financial in-flow to developing countries, this comes behind official Foreign Direct Investment (FDI), and exceeding non-official international aid (Seymour, 2001; World Bank, 2011). In 2000, worldwide remittances to developing countries was estimated at $81.3 billion, which increased to $192.1 billion in 2003 (Stilwell, et al, 2003; Wucker, 2004) and by 2009 and 2010, estimated figures were $307.1 and $325.5 billion respectively (World Bank, 2011).

The increase is more obvious in developing countries, where remittances grew rapidly during 2007 and 2008, but slowed down in many corridors since the last quarter of 2008 due to economic melt-down (World Bank, 2009). The newly available

data show remittance in-flows to developing countries reached $324.8 billion in 2008 (World Bank, 2009 and 2011). The sub-Saharan Africa received an estimated figure of $18.6 billion in 2007 and $21.6 billion in 2010 (World Bank, 2008 and 2011). The remittance inflows of an estimated figure of $18.6 billion to sub-Saharan Africa in 2007 were higher than FDI, estimated at $15 billion (UNCTAD 2008).

However, due to unreliable data concerning remittance flows to Africa, series of contradictions have emerged. According to IFAD (2007) estimates, Morocco had the highest remittance flows of over $6 billion; followed by Algeria and Nigeria, with flows of $5.5 billion each and Egypt with less than $4 billion. Contrary to this, the World Bank (2008) estimates for 2007 and 2008, recorded that Nigeria had the highest remittance flows for the two years, of $9.2 and $9.9 billion respectively; followed by Egypt, with cash flows of $7.6 and $9.4 billion respectively and Morocco, with $6.7 billion each. Whatever the situation, no doubt, the remittance flows to the developing countries have had a significant impact on the GDP of those countries. For instance, the World Bank Yearbook, 2008, reveals remittances contributed 5.6 per cent to the GDP of Nigeria, 5.9 and 9.0 per cent to that of Egypt and Morocco respectively. In addition, one of the countries in sub-Saharan Africa that earned very high percentage of remittance flows is Senegal. The country had 10.7 per cent of its GDP from remittances.

2.6.4.2 Long Term (Positive) Effects:

One of the long-term positive benefits of the African brain drain is the returning of some highly skilled emigrants back to the continent. Many economies that transitioned from low to middle-income status recently have relied on the contributions of expatriates and or Diaspora populations. In terms of investment of capital, knowledge transfer and partnership building that involves the economic sector and or businesses contributed to the critical mass of expertise and practical experience in the country of residence in UK and US. Indeed, Africa's own independence came about as a result of tapping into the knowledge and experiences of African emigrants in the U.S. and Europe, alongside the historic African communities in the Americas and the Caribbean (ModernGhana.com, 2009). African Diaspora involvement in reversing brain drain has, therefore, had a lasting effect on the continent as a whole.

Nonetheless, remittances in cash and or in kind alone cannot replace the efficiency, experience and skills of professional emigrants outside the continent (Emeagwali, 2003, Mbanefoh, 2007). A step towards ensuring long term brain gain in

Africa was taken by Hewlett Packard (HP) and UNESCO with a longitudinal scientific project launched in 2006 and which was expected to end in 2010; based on bridging the gap between the young academics and universities in five countries in Africa, namely, Ghana, Senegal, Nigeria, Algeria, and Zimbabwe (Schrempf, 2008).

In addition, another long term (positive) effect of the Diaspora in the development of country of origin is their involvement in collective investment in community project through hometown association. Ghana is a typical example; the Ghanaian home town associations in the UK have obliged to improve the living conditions of those back home by providing schools, hospitals, internet cafes and plumbing systems. Also, they are involved in constructing roads and organizing literacy programmes for those in the rural areas (DRC, 2009). The Nigerians in Diaspora Organization (NIDO), in Nigeria also seems coming on-board in creating synergy with the national government to developing the economy of the country, as reported by Nigerian National Volunteer Service, (NNVS, 2007).

2.6.4.3 Short and Long Terms (Negative) Effects

An outflow of such a critical manpower creates many dislocations. It seriously affects skill formation and involves the loss of money invested in education and training. The loss of strategic manpower affects education, research and training, infrastructure building, creative talents and present and future technology. Above all, it deteriorates the entire intellectual milieu of a country and creates a growth retarding backwash effect (Nadeem and Ashfaq (2004).

In addition, the loss of highly skilled professionals is thought to be costly for developing countries; not only in terms of skill shortages but also in the loss of educational subsidies (Wadda, 2000; Sankore, 2006). For example, Emeagwali (2003) lamented the situation in Africa thus:

> We are operating one-third of African universities to satisfy the manpower needs of Western nations. One-third of the African education budget is a supplement for the American education budget.

Also, findings of a study carried out by the International Development Research Centre (IDRC), cited by Sankore (2006), reported that developing countries invest about US$500 million each year in training healthcare professionals, who are then recruited by or otherwise moved to industrialized countries. About the same idea is portrayed in the writings of Mullan (2005) and Mills et al, (2011).

Furthermore, Schrempf (2008) estimated the costs to African countries to be up to US$4 billion annually, of replacing qualified professionals who emigrate, which is an immense sum. In Pillay's (2007) assertion, Ethiopia would have lost 75 per cent of its skilled workforce between 1980 and 1991, which harms the ability of such nations to get out of poverty. Physicians and nurses from Nigeria, Ghana, Kenya, Zimbabwe and Malawi are believed to be the most affected countries (Stalker, 2001; PHR, 2004; Pillay, 2007; Shinn, 2008, Chikanda, 2010, Mills, et al. 2011). In the case of Malawi, Shinn (2002; 2008) recorded that there are more Malawi-trained doctors in Manchester City in England than those practicing in the country; additionally, Malawi and Zimbabwe hardly have any neurosurgeons.

In Nigeria, most of the critical and sensitive occupations, such as, engineering, oil and gas exploration, medical professionals and ICT, to mention but a few, which are supposed to be manned by Nigerians in the Diaspora are managed by expatriates. For instance, it is said that over $1.5 billion was being paid to foreign seafarer annually. Also, it was reported that few Nigerians (<1000) seafarers, who are mostly from coastal states of the country, are involved in the operation of major marine, oil and gas exploration companies, while the majority of the companies workers are expatriates (The Punch, 2008).

In essence, even though Africa is getting foreign remittances as a result of brain drain, yet, the monies are not directly re-invested in human capital to make up for the loss of highly skilled professionals. This means that countries sending more skilled persons than they are receiving or producing will end up with a net loss of human capital in all human development indices (HDI). Besides, Nadeem and Ashfaq (2004) are of the opinion that we cannot conclude that the money the Diaspora Africans send is a better substitute in exchange of the services that they are extending to others in the destination countries; thus, they are becoming a source of their rapid economic, scientific and technological development transfer. Meanwhile, African countries are struggling to slow down the pace of the exodus of scientists, academics and other professionals; many of them with irreplaceable skills and experience. Even though the capacity of many countries may ultimately be strengthened in the long-term through this effort; yet, the short-term loss of skilled professionals in all socio-economic sectors could have serious implications for coverage of and access to basic services in developing countries; inclusive medical services (Stilwell, et al, 2003; Mullan, 2005).

2.7 Conclusion

In conclusion, therefore, the review of relevant concepts and literature on trends, causes and consequences of emigration and immigration of professionals, in particular, the returning of health professionals have shown that the flows are two-sided: the main streams and counter streams, ironically, the push-pull theory reviewed and proposed for capturing consequences for the study does not take into cognizance the stick-stay explanations of non-mover health professionals, therefore, creating an inadequate explanation of motives or causes of migration of highly-skilled health professionals. In addition, the forces that prompted migration of health professionals from origin into receiving destinations were primarily: social and economic imbalance, political instability and environment/economic depression could be managed, if the political will is there or is enacted. The literature review identified migration of health professionals as a long standing issue. Migrant health workers moved to destinations where they could maximize their potential; therefore, the outflow in itself, could not completely be termed detrimental, but, to some extent, beneficial, that is, there are traits of brain gain and brain circulation in the outflows. However, the review has shown that spatial-temporal trends of brain drain and brain gain at micro levels have not been empirically studied. This therefore, forms the pivot of the present work, as it conceptualized and verified trends and causes of emigration and immigration of health professionals in the Southwestern Nigeria and its consequences on the Non-migrants in the selected institutions.

CHAPTER THREE
METHODOLOGY

3.1 Introduction

The chapter discusses the methodology of the study, in terms of the sampling framework, study population and design, methods of collecting the data and analyses carried out. Data for the study were collected from both primary and secondary sources. The primary sources of data for the study are field observations, protocol approvals and administration of a one-time, structured questionnaire. In addition, there were group discussions and oral interviews of key informants in the selected health institutions.

Also, considered in the chapter are the analytical techniques employed to test the research hypotheses. The adopted techniques are in line with the methodological approach of variability processes in comparative study. These are Analysis of Variance (ANOVA), Chi-square, Multiple Correlation Analysis (MCA) and Logistics Regression. In addition, descriptive statistics of mean, standard deviation and cross-tabulations are used to explain relationships.

3.2 The Sampling Framework

Two tertiary teaching health institutions out of 30 teaching health institutions in Nigeria and one secondary teaching health institution out of many were purposively selected for the study. The two tertiary health institutions are the University College Hospital (UCH), Orita-mefa, Ibadan and Obafemi Awolowo University Teaching Hospital Complex (OAUTHC), Ile-Ife, while Adeoyo Maternity Teaching Hospital (AMTH), Yemetu, Ibadan is the only secondary health institution selected. All the three health institutions are public-owned and that are located in Oyo and Osun States in the Southwestern Nigeria.

The justification for the selection of these institutions is premised on three yardsticks: One, the three institutions are the first generation health institutions in the two states and this is evident by the years of their existence. The UCH, for instance was the first tertiary health institution to be established in Nigeria, while OAUTHC was established 10 years after (1967). On the other hand, though, AMTH is a

secondary health institution, it was established in 1927; making it the first secondary health institution in the whole of Southwest geo-political zone of Nigeria. Therefore, the three selected health institutions are expected to have experienced substantial emigration and possibly immigration of core medical professionals over time.

Again, in the case of UCH, according to Hagopian et al, (2004), it was among the top 10 teaching hospitals with high number of medical professionals and graduates, in particular, physicians that are practicing in the US. And, for AMTH, the hospital has served as the springboard for the establishment of most tertiary health institutions in the Southwestern Nigeria. Therefore, with the year of establishment and status as teaching hospitals, the selected health institutions were adequate for capturing data on the spatial, temporal, social, economic and environmental characteristics of highly-skilled health professionals and the dynamics of their migration on healthcare delivery, training and research Southwestern Nigeria.

3.3 Study Population

The population for the study consisted of the core highly-skilled health professionals from the two selected teaching hospitals in Ibadan, Oyo State Southwestern Nigeria; that is, UCH and AMTH and from OAUTHC in Osun state. The targeted population is classified into four (4) groups: the first comprises doctors (medical and dental); the second, nurses, the third, pharmacists, and the fourth, medical laboratory scientists (MLS). These are core medical professionals that are internationally reckoned as highly skilled professionals.

3.4 Research Design and Sampling Techniques

The study adopted a survey research design. The design puts emphasis on accessing empirically-sourced data on emigration and immigration of core health professionals in tertiary health institutions in Southwestern, Nigeria. Primary source was to achieve two purposes, of one, the administration of a designed, structured questionnaire for acquiring quantitative data and two, conduct of Focus Group Discussions (FGDs) and In-depth Interviews (IDIs) in order to obtain qualitative data. The secondary source, which includes relevant information on the internet, previous empirical studies in academic journals, migration policies in government gazette and public records were used to supplement data gathered from the primary source.

Due to lack of official records on the movement of highly-skilled health professionals from and back into the country, the study requested for staff records and lists of core health professionals from the Establishment/Personnel Unit through the Directorate of Administration of each of the two selected teaching hospitals. The lists and records of medical professionals comprised designation/status/cadre and number of staff for each designation. This formed the sampling frame for the selection of respondents for the study.

Stratified sampling method was used in selecting the respondents for the study. In applying this technique, the lists of core health professionals for each of the teaching hospitals was categorized into class of designation. The doctors (medical and dental) were classified into Consultant, Senior Registrar, and Registrars I and II. The nurses were also classified according to their designation and status, as Assistant Director of Nursing (ADN), Chief Nursing Officer (CNO), Principal Nursing Officer (PNO), Senior Nursing Officer (SNO), and Nursing Officers (NO) I and II. Others are Chief Pharmacist, Principal Pharmacist, Senior Pharmacist and Pharmacist Grades I and II. Laboratory Scientists were also classified according to each of the institution's hierarchical organ gram.

3.5 Selection of Respondents

The total sample size for the study was the representation of the total population of the core health professionals on the lists acquired from the Establishment/Personnel Unit of the three institutions. Ten percent of the population in each category of health professionals (doctors, nurses, pharmacists and medical laboratory scientists (MLS)) were selected in UCH and OAUTHC; while 20 percent of doctors, nurses and MLS were selected in AMTH. The variation in the percentage of sampled categories of respondents in AMTH was due to the small population size of these categories of health personnel in the institution (Table 3.1).

In all, a total sample size of 348 home-based core health professionals were selected. The respondents for were randomly selected from the total population in each institution, based on designation, status or cadre using systematic random sample of $1+k^{th}$, where k is 2. Self-administered questionnaire was given to the first health professional on the list, next, the third professionals, and so on. The profession's ethical conditions were strictly followed; any health professional not willing to take part in the survey was replaced by willing colleague in the same systematic order of sampling.

Table 3.1: Numbers of respondents and questionnaire distributed in the selected institutions

Health Institution	[1]UCH		[1]OAUTHC		[2]AMTH		TOTAL	
Category of health professionals	Tot. Population	Number of forms Allocated	Tot. Population	Number of Questionnaire Allocated	Tot. Population	Number of forms Allocated	Total Population	Total number of forms allocated
Doctors	494	50	460	46	45	10	999	106
Nurses	905	90	692	70	201	40	1798	200
Pharmacists	91	10	48	5	2	0	141	15
Laboratory Scientists	155	15	78	8	18	4	151	27
Total	1645	165	1278	129	266	54	3089	348

Source: [1]Establishment Units of UCH (2011) and OAUTHC (2011), [2]Oyo State Hospital Management Board (2008)

3.6 Method of Data Collection

3.6.1 Sampling and Sample Size

Data collection was carried out in two phases, of reconnaissance survey and field work. The first phase consisted of the series of applications and requests for the lists of health professionals in the two tertiary and one secondary health institutions selected for the study. Also, it involved meeting with different health administrators and executives of relevant medical unions. The second phase was divided into three sections, first, is the administration of a one-time self-administered questionnaire to systematically randomly selected 348 Non-migrant core health professionals. Second, is the conduct of in-depth interviews (IDIs) with volunteered hospital administrators and third, is organizing of focus group discussions (FGDs) with volunteer health professionals in each of the three institutions.

3.6.2 Questionnaire and Measurement of Variables

The questionnaire was a self-administered and the rationale for adopting this for the study is based on the fact that all respondents are knowledgeable and highly educated; therefore, the set of questions in the questionnaire could not pose any language barrier. The questions in the research tool were simple and straight forward. The selected respondents reported or gave information on emigrants, immigrants and returnees, known to them and if they happened to be immigrants or returnees themselves, as the case may be. This method of data collection was adopted due the population space of the health professionals; they are scattered all over the world. The questionnaire was structured in a way to capture the demographic characteristics and the spatial and temporal behaviour of emigrated, immigrated and non-migrated healthcare professionals, such as place of destination and return and year of leaving and coming back to the country, as applicable to each respondent. Factors triggering emigration or immigration, such as age, sex, marital status and year of qualification of returnee and non-migrant health professionals, salaries/wages, continuous training and job satisfaction, quality of life and security of life and property, working environment and facilities. On social network, data on presence of relatives/colleagues in either origin or destination country and frequency of interactions/visits between the home-based and emigrated medical personnel were collected. Others are the mode and type of linkages that exist between those at home and their colleagues in different destination countries.

Furthermore, the questionnaire captured measures of the effect of emigration (brain drain) and immigration (brain gain) of core health personnel on health service delivery. Measures/variables on emigration included are number of lost skills and specialties; length of consulting hours, and increase or otherwise of call duties, among others. Other variables on immigration are number/volume of returnees, direction/country of immigration, availability of fund for research and training, and of experienced staff for consultation and training. Variables collected on the impact of emigrated health professionals on non-migrants and their institutions were the inflow of remittances (in cash and/or in kind), time of year and/frequency of visiting of the Diaspora, provision, type and source of acquired hi-tech medical equipment and state-of-the-art laboratory apparatus, library and information and communication technology.

3.6.3 In-Depth Interviews (IDIs)

In-depth Interviews (IDIs) formed the second primary source of data. The interviews carried out involved nine (9) selected members of management, heads of departments or units, executive officers of health workers' association and other key informants within the medical profession. The salient questions asked are on whether or not the migration of colleagues have had negative or positive impact on the institutions/associations, the motivating factors propelling/holding back colleagues from/in the institutions, among others.

3.6.4 Focus Group Discussions (FGDs)

The third main primary source of data collection was the Focus Group Discussions (FGDs). One FGD session was held with classified medical personnel in each of the selected institutions. Each FGD session comprised ten (10) categories of home-based core medical professionals, depending on their availability and their willingness to spare some time for the discussion. Some of the salient questions asked were on migration status of their colleagues and the trends of the migration over time. Questions on Non-migrants and impacts of emigration and immigration were asked. In addition, the return of colleagues, the re-integration of those that returned and assessment of brain drain and brain gain, among others, were treated by the discussants.

3.7 Analytical Techniques

Descriptive Statistics, such as Frequencies and Percentages were used in appropriate sections. Also, Inferential Statistics, including Chi-squares, and Analysis of Variance (ANOVA) were applied alongside with Multiple Regression Analysis and Logistic Regression Model and Multiple Correlation Analysis to test the hypotheses.

3.7.1 Chi-Square

The Chi-square (χ^2) statistics is employed to examine if the joint distribution of two variables, in a sample can be said to reflect the actual situation in the real population. It is therefore applied, to test the homogeneity or difference in set of data. The population and sample are classified according to several attributes, but the probability distributions of the classification are not known.

The Chi-square model is expressed as:

$$\chi^2 = \sum_{i=1}^{n} \frac{(o_i - e_i)^2}{e_i} \qquad 3.1$$

Where:

O_i = the observed frequencies

E_i = the expected (probabilistic) frequencies

The Chi-square was used to test whether or not there is significant difference between measures of impact of emigration and Non-migrant colleagues

3.7.2 Multiple Regression Analysis

Multiple Regression Analysis was used to test hypothesis 2, and stated on page 8. The hypothesis stated that there is no significant relationship between age, sex, marital status, year of qualification, designation and modern equipment and migration.

A Multiple Regression Analysis was chosen because of its capacity not only to show strength of the relationship between many independent variables and a single dependent variable but also the degree of influence of each independent variable on the dependent variable, when other independent variables are controlled.

Linear regression model expressed as:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 \ldots\ldots\ldots\ldots, + b_nx_n + e \qquad 3.2$$

Where:

Y= Volumes of migration of health professionals

b= constant for independent variables (x_1.....x_n)

b_1.... b_n = regression coefficients (Beta coefficients that indicate how much of a change there is in x for any change in Y

a= Y intercept

e= Error/Residual

n=number of independent variables

x_1..... x_n= predictive/independent variables (measures of impact of migration)

3.7.3 Multiple Logistic Regression Model

Multiple Logistic Regression Model helps to predict the probability of the dependent variable Y based on known values of the several independent variables. Therefore, the Logistic Regression Model was used to explain the strength of each of the scaled values on the independent variable. Hence, the cumulative logistic probability function is expressed as:

$$P(Y) = \frac{1}{1 + e^{-(a + b_1 X_1 + b_2 X_2 + \ldots + b_n X_n)}} \qquad 3.3$$

Hence, logistic regression was used to predict the probability of emigration of health professionals in the future based on some of the predisposing factors.

3.7.4 Analysis of Migration Policy Implications

Migration policy of healthcare professionals from and into Nigeria was analyzed by reviewing the guidelines of Nigerian National Volunteer Service (NNVS), a Federal government agency monitoring Nigerian emigrants and returnees. In addition, guidelines of the Nigerians in Diaspora Organization (NIDO) and the Nigeria Diaspora Commission, a national commission that was proposed by the House of Representative of the National Assembly were assessed.

3.8 Ethical Considerations

Ethical considerations of respondents were based on three (3) ethics principles. One, autonomy: the respondents were treated as autonomous agents who have the right to decide whether or not they will like to participate in the research and their identities were kept confidential. Two, beneficence and non-malfeasance: the respondents were informed of benefits and harm the research would bring to them while participating in the study. And, three, justice: the benefits that are to be gained in while participating in the research were to be distributed equally and fairly.

However, ethical approval to access data/information about, or on health professionals in UCH was accredited and granted by UI/UCH IRC (Institutional Review Committee); after passing through basic tests of the RCR. In the case of

OAUTHC, the ERC (Ethics and Research Committee) gave ethical approval to carry the research survey and to collect data/information in the institution after serious scrutiny of the protocol. In Adeoyo Maternity Teaching Hospital, ethical approval was endorsed by the Research and Statistics Department of the State Ministry of Health through the hospital's Chief Consultant.

3.9 Summary

This section outlined the methodology of selecting respondent sand methods of data collecting adopted to achieve the specific objectives set for study. Questionnaire was self-administered by the randomly selected respondents, FGDs sessions were held to volunteered health professionals and IDIs were conducted with three management officials in each of the selected institutions. The analytical techniques provided were to explain the quantitative data collected on the migration behaviour of health professionals in the institutions; as the validation of which is presented in the next chapters.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Volumes and Directions of Emigration, Immigration and Return of Health Professionals 1986-2010

The chapter describes the spatial and temporal trends in the volumes and directions of flows of emigrant, immigrant and returnee health professionals from and into Nigeria, particularly from the four selected health institutions between 1986 and 2010. The period of analysis is further considered over four phases: that is, between 1986 and 1999; mostly characterized the military dictatorship and transition to the democratic rule. The remaining three phases that is 2000-2003, 2004-2007 and 2008-2010 experiencing nascent democracy, and subsequent sections are on explanatory factors for the observed trends.

4.2 Spatial and Temporal Trends of Emigrated Health Professionals

4.2.1 Spatial Trends in Volumes and Directions of Moves of Emigrated Doctors, Nigeria

Table 4.1 and Figure 2 depict the aggregate volumes and directions of emigrated doctors from the South-west geo-political zone of Nigeria. The United Kingdom (UK) is the major orthodox destination for the South-North move of doctors from the country, in particular from its south-west geo-political zone.

Table 4.1 Destinations of Health Professionals from South-West, Nigeria

Destination	Doctors	Nurses	Pharmacists	MLS	Total
UK (London, Dublin, etc)	61	122	5	2	190
USA	44	103	7	5	159
Canada	15	51	3	0	69
Saudi Arabia	2	22	0	6	30
Dubai	8	12	1	2	23
South Africa	9	5	1	0	15
Australia	11	1	0	0	12
China	1	2			3
India	7	2	1		10
Jamaica	0	8			8
Ireland	3	10			13
Omar	0	3			3
Caribbean	0	4			4
Gambia	2	1			3
Qatar	0	2			2
Kuwait					0
Germany	4	1	1	1	7
Egypt	1				1
Spain	2	1			3
Ghana	1	1		1	3
Trinidad & Tobago	3				3
Brazil	1	2			3
Cote d'Iviore	5		1		6
Botswana	1				1
Netherlands	0	1			1
Sweden	0	1			1
Japan	2				2
Finland	0	1	0	0	1
Total	183	356	20	17	576

Source: Author's Analysis, 2012

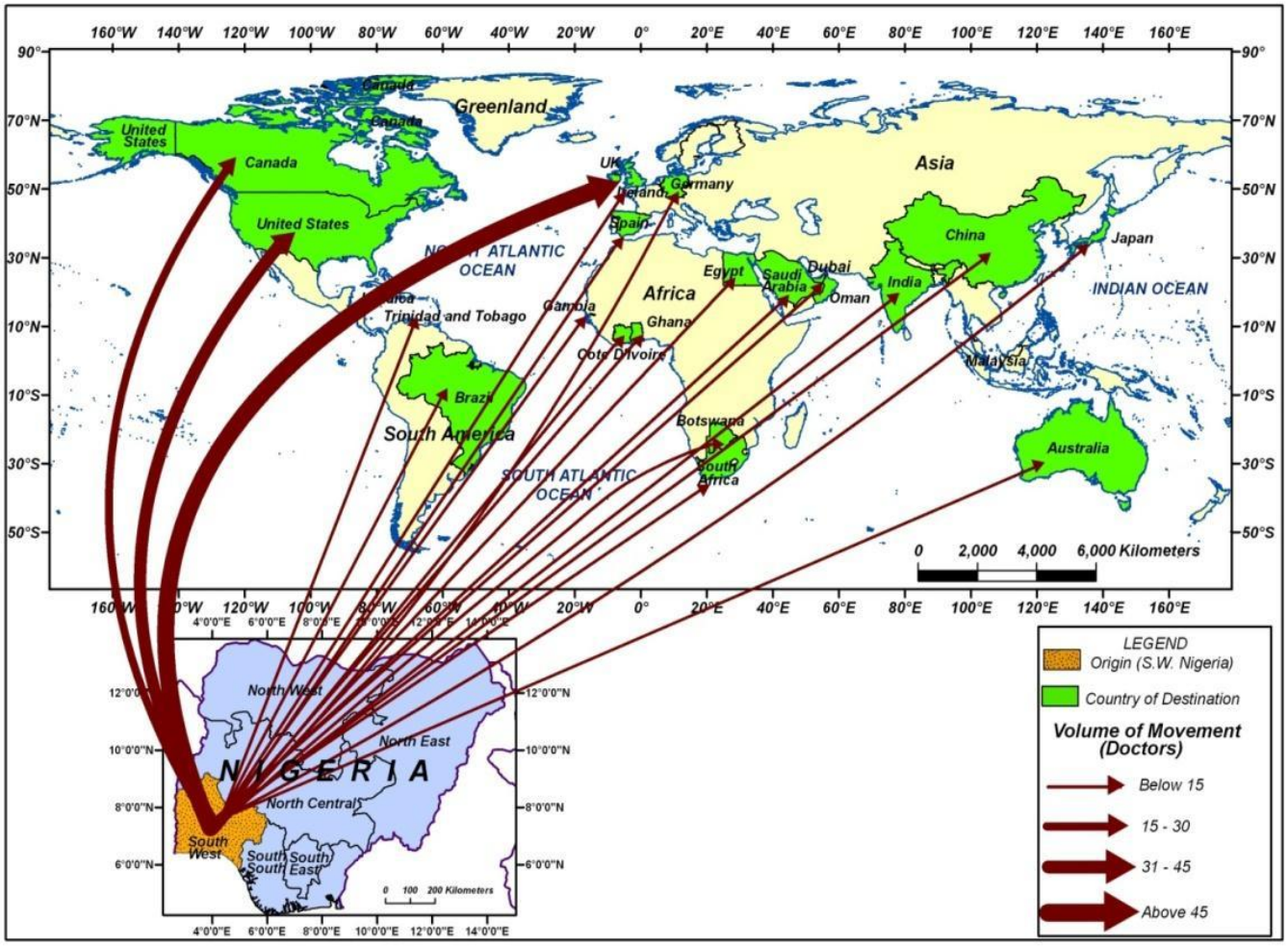

Fig 4.1: Destinations of Emigrated Doctors from South West, Nigeria, 1986-2010

Source: Author's Analysis, 2012

The vectors, showing the volumes and directions of the moves, indicate the United States (US) and Canada come next; followed by Australia, South Africa, Dubai and India, to mention but a few.

4.2.2 Spatial Trends in Volumes and Directions of Moves of Emigrated Nurses, Nigeria

Table 4.1 and Figure 4.2 reveal the directions of the moves of nurses from the South-west geo-political zone of the Nigeria. The major direction is towards the developed North, which comprises the UK, US and Canada; followed by those in the south-west, that is, Jamaica and Brazil.

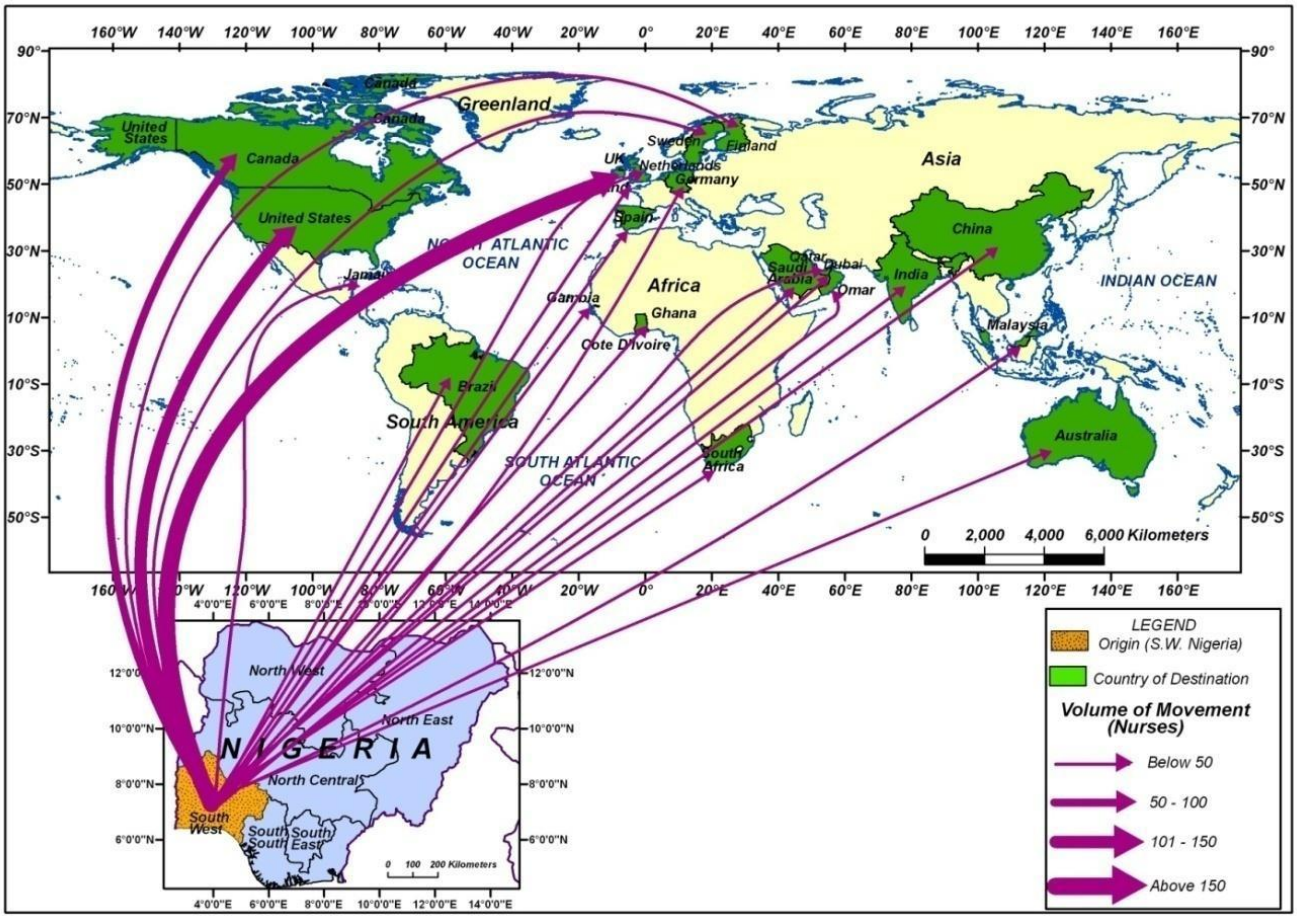

Fig 4.2: Destinations of Emigrated Nurses from South-West, Nigeria, 1986-2010

Source: Author's Analysis, 2012

Other destinations are the Middle-East, Europe, South-East Asia and Far East. Countries featuring among these other destinations include Saudi-Arabia and Dubai, Germany and Spain, India, China and Australia.

4.2.3 Spatial Trends in Volumes and Directions of Moves of Emigrated Pharmacists

Table 4.1 and Figure 4.3 show the trends in volume and direction of pharmacists from south-west of the country. The US and Canada have the highest volumes of movers; followed by the UK.

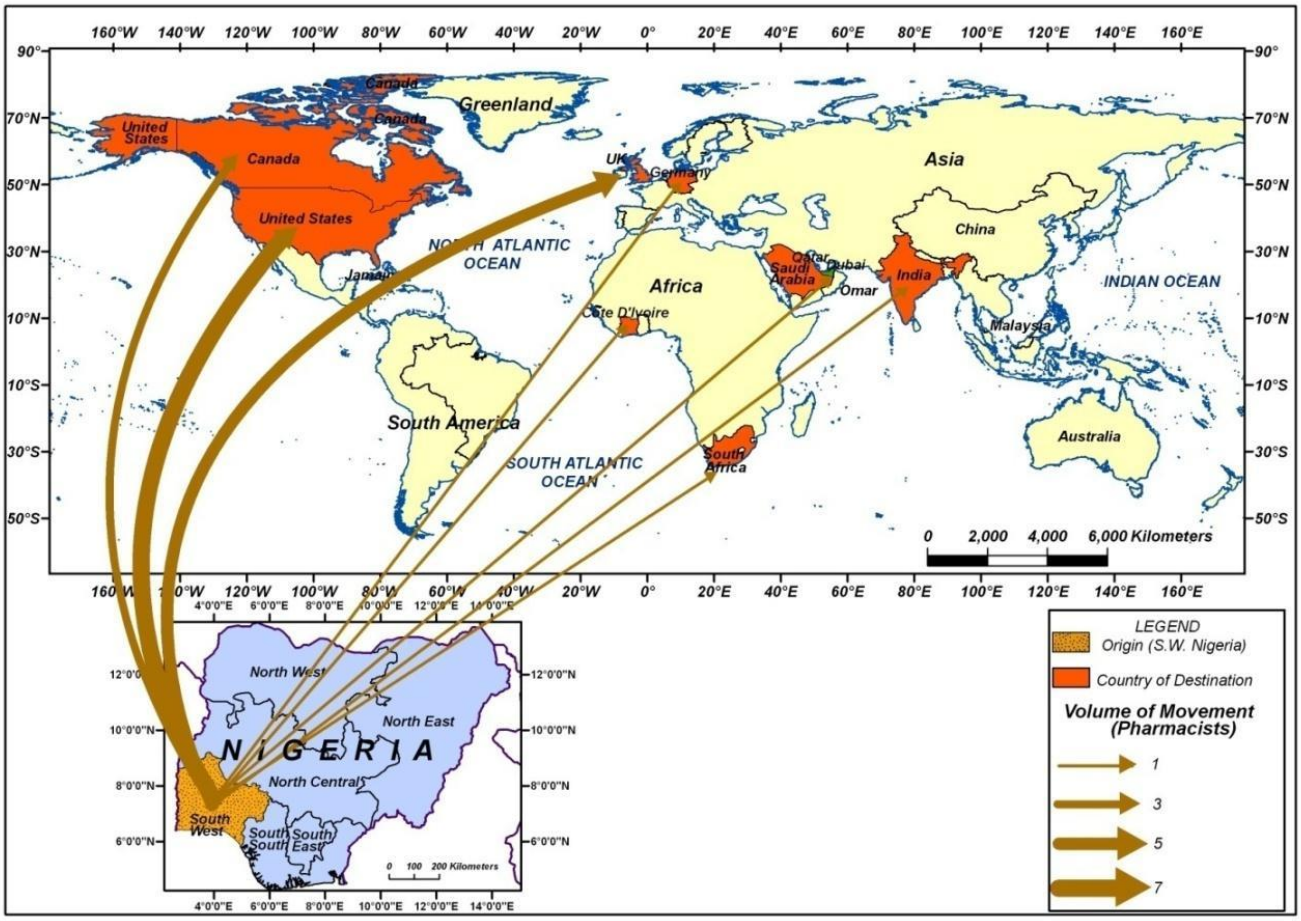

Fig 4.3: Destinations of Emigrated Pharmacists from South West, Nigeria, 1986-2010

Source: Author's Analysis, 2012

Others are the Middle-East and Far East of South Asia, with Saudi Arabia and India as main hosting countries. Next is South Africa, that is, South-South route within the continent, as the destination of emigrated pharmacists from the geo-political zone.

4.2.4 Spatial Trends in Volumes and Directions of Moves of Emigrated MLS, Nigeria

The Middle-East, as revealed by Table 4.1 and Figure 4.4 is the major direction of Medical Laboratory Scientists (MLS) from the south-west geo-political zone of Nigeria, with Saudi Arabia as the major country.

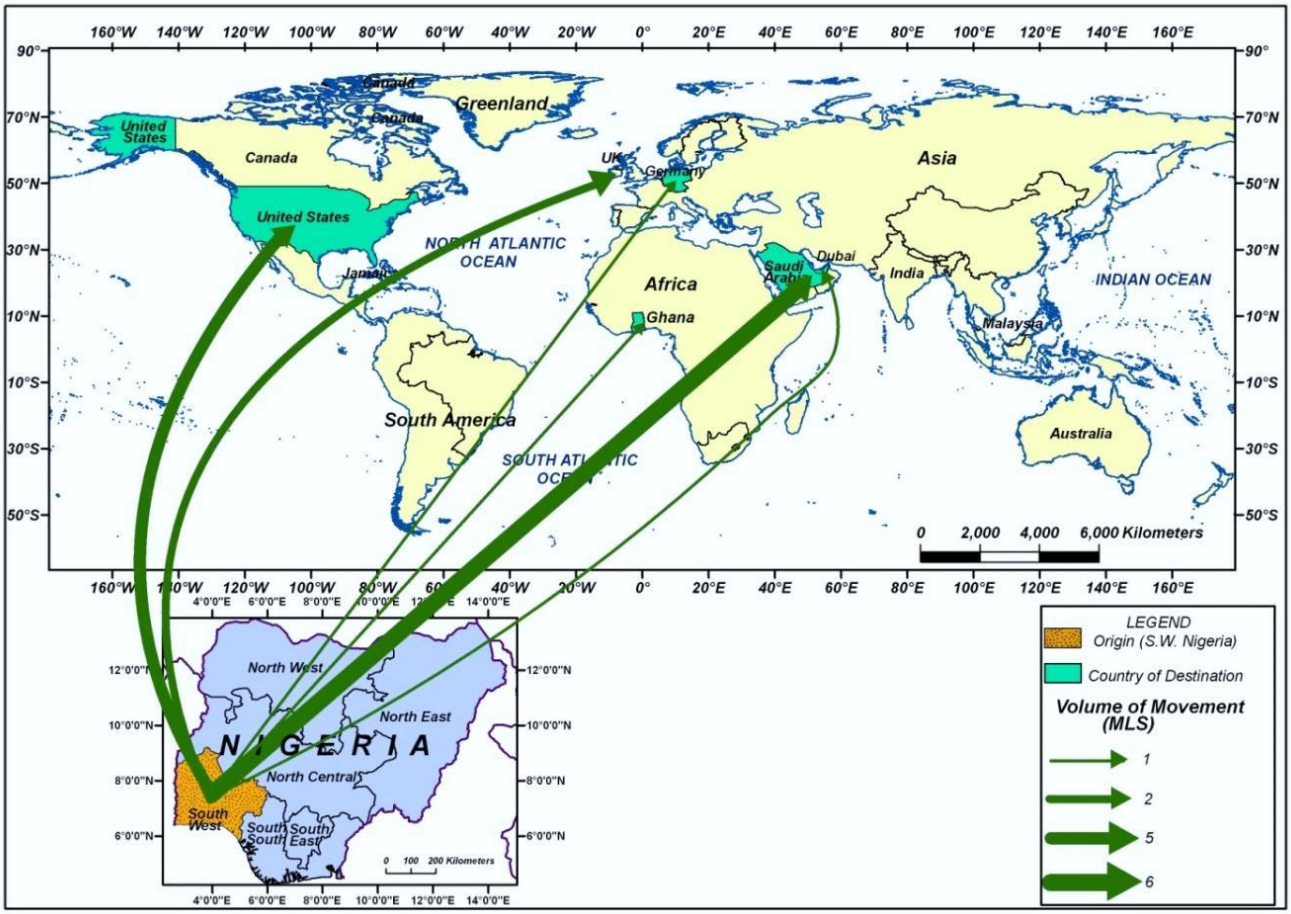

Fig. 4.4: Destinations of Emigrated MLS from South-West, Nigeria, 1986-2010

Source: Author's Analysis, 2012

It was followed by the US and UK, while very few of the MLS moved to Europe and within the sub-region.

4.3 Spatio-Temporal Trends in Volumes of Emigrated Health Professionals; 1986-2010

The spatio-temporal analysis is presented to explain the trends of moves of health professionals from the three selected institutions. The temporal differences were based on categorizing 1986 to 2010, into four phases: 1986-1999, 2000-2003, 2004-2007 and 2008-2010. Each of the phases had peculiar political scenario and policies that served as push or stay forces in the country.

4.3.1 Trends in Volumes of Emigrated Health Professionals, 1986-2010

Table 4.2 depicts that majority (69.1%) of the respondents reported that their colleagues emigrated between 1986 and 2010, while the remaining proportion, 30.9 per cent did not have information on any emigrant. At the institutional level, respondents in UCH were the most aware, affirming 78.4 per cent of health professionals emigrated during the period, unlike the situation in OAUTHC, with just a little above three-thirds (69.5%). The lowest level of reported occurrence is at AMTH; with less than half (44.1%). Consequently, there is significant difference in the awareness and or knowledge of the occurrence among the selected institutions.

Table 4.2: Trends in Volumes of Emigrated Health Professionals, 1986-2010

Institution	UCH		AMTH		OAUTHC		Total	
Colleagues ever traveled outside Nigeria, 1986-2010	Count	%	Count	%	Count	%	Count	%
Yes	69	78.4	15	44.1	41	69.5	125	69.1
No	19	21.6	19	55.9	18	30.5	56	30.9
Total	88	100	34	100	59	100	181	100

Source: Author's Analysis, 2012

There are noticeable differences in the proportions of reported categories of emigrated professionals in the study. Table 4.3 discloses that nurses were reported to have emigrated most, with the highest volume (55.2%) over the 25 years of analysis. They are followed distantly by doctors (34.4%), MLS (6.4%) and pharmacists (4.0%).

In addition, there are significant spatial differences in the reported occurrence for the categories of emigrated professionals. Again, UCH recorded the highest percentage of emigrated nurses (44.6%); followed by those from OAUTHC (37.1%) and AMTH (18.3%). However, among doctors, OAUTHC had the highest (73.7%); followed by AMTH (21.1 %) and UCH (5.3%).

Table 4.3 Trends in Volumes of Emigrated Health Professionals by Categories of Professions

Class of Professionals	Doctors		Nurses		Pharmacists		MLS		Total	
Colleague ever traveled outside Nigeria between 1986 and 2010?	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	43	34.4	69	55.2	5	4.0	8	6.4	125	69.1
No	9	16.1	40	61.5	4	6.2	3	4.6	56	30.9
Total	52	28.7	109	58.6	9	5.0	11	6.1	181	100

Source: Author's Analysis, 2012

4.3.2 Direction and Destinations of Emigrated Health Professionals, 1986 and 2010

The directions of emigrated health professionals from the selected health institutions between 1986 and 2010 have been majorly towards the developed North and rich countries of the Middle-East axis. The sum of 418 emigrants out of 576, translating to 72.5 per cent of the reported emigrated health professionals left Nigeria for the developed North. The United Kingdom (UK) had the highest number, of 190, representing 45.5 per cent of the total emigrated health professionals from the study institutions. This is followed by the United States (US), with 159 (38.0%) and Canada, with a distant third of 69 (16.5%),as depicted in Table 4.1.

4.3.3 Spatial Destination Patterns of Health Professional

4.3.3.1 Destinations of Doctors

Figure 4.5 and Appendix 2 present variations in the spatial patterns of destinations of each of the health professionals at institutional level; starting with doctors. In UCH, almost two-fifths (38.0%) of the reported doctors emigrated to the US and over one-quarter (28.0%) left for the UK. Other destinations of importance were Australia (11.0%), India (6.1%) and South Africa (4.9%), while Canada, The Gambia and Germany were other destinations, with 2.4 per cent each.

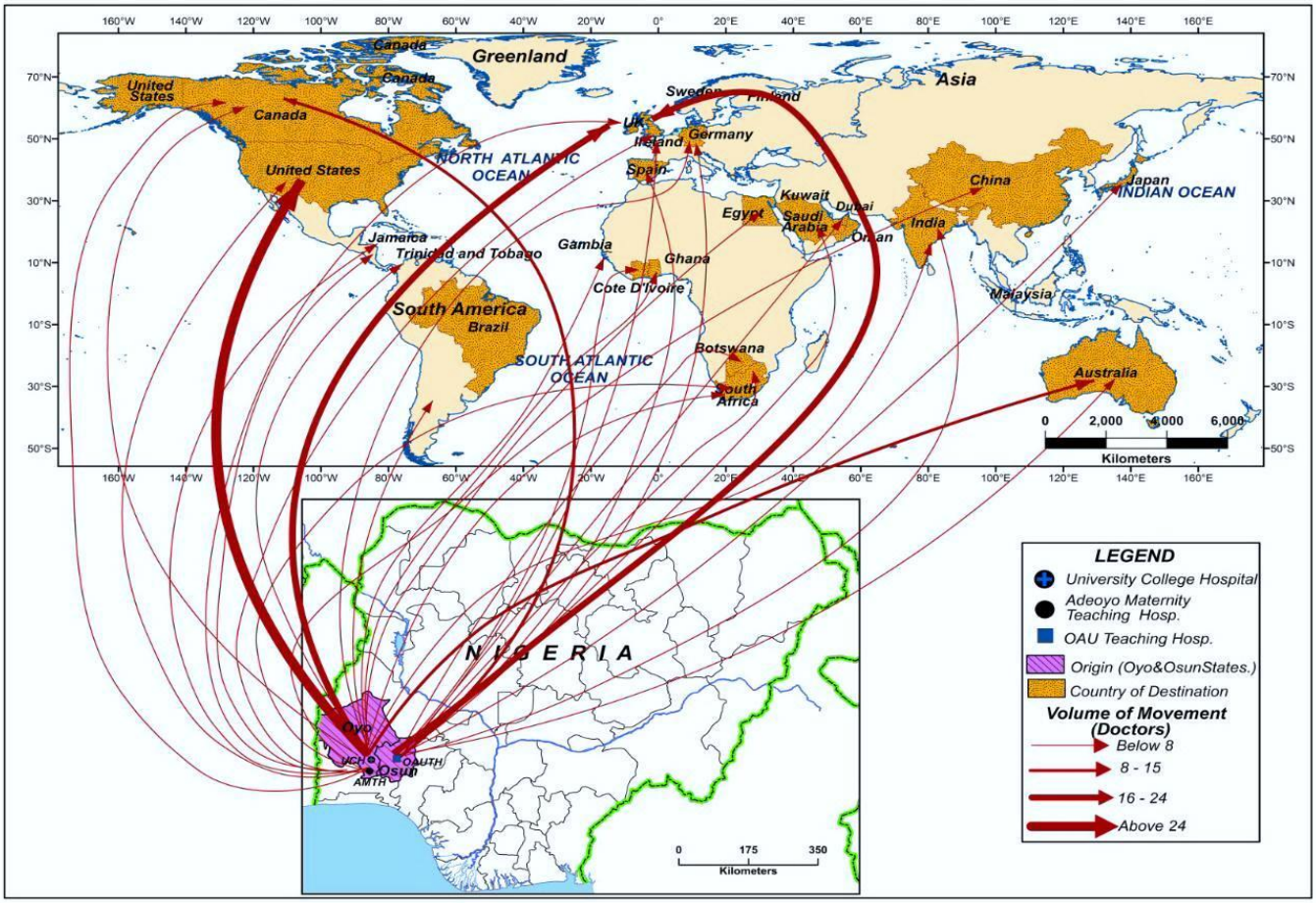

Fig 4.5: Destinations of Emigrated Doctors, UCH, AMTH and OAUTHC, 1986-2010

Source: Author's Analysis, 2012

The situation differs a bit for doctors in AMTH, where close to one-third (31.3%) were reported to have migrated to the UK; followed by the US, with 18.8 per cent, while 12.6 per cent each left for Trinidad & Tobago and Ireland., Other destinations of doctors from AMTH were Canada, Saudi Arabia, South Africa and China, each of which accounted for 6.3 per cent (Fig 4.5 and Appendix 3)

For OAUTHC, Fig 4.5 and Appendix 4 indicate that the major destination of its doctors was the US, with less than one-third (31%); followed by the UK (19.0%), Canada (14.3%), Dubai (9.5%), Cote d'Ivoire (6.0%) and South Africa (4.8%). India, Spain, Germany, Japan and Australia were other destinations, with 2.4 per cent each, while destinations of less importance were Saudi Arabia and Ireland with 1.2 per cent each for doctors from OAUTHC.

In addition, the in-depth interview with the Chairman, Association of Resident Doctors (ARD) at UCH corroborates the above, when he said:

> The United Kingdom, particularly the city of London, used to be the country to embark on postgraduate programs in medicine in the 1960s, 70s and 80s; whenever one finishes from the University. Then, the UK had experts and equipment for different cases in medicine. Unfortunately, at present, things changed; the United States seems to be the best choice of any doctor. The country has the latest and sophisticated equipment for different diseases and surgical operations you may think of. Also, they have the experts in different fields of medicine that can train young doctors for their residency. And you know what; most of the experts are Philippines, Indians and American Jews that have made the US a case study when we talk of 21st century medical exploration (IDI, UCH, 2012).

4.3.3.2 Destinations of Nurses

Destinations of nurses are much more diversified than that of doctors. The UK was the renowned destination of40.0 per cent of the nurses in UCH; (Figure 4.6 and Appendix 2), followed by the US, (23.0%), and Canada and Saudi Arabia, with a distant 9.6 per cent each. Other notable destinations were Ireland (4.4%), South Africa and the Caribbean, 3.0 per cent each, Oman (2.2%), and India and Qatar, with 1.5 per cent each. Other less prominent destinations were Australia, Jamaica, and other African countries, apart from South Africa, The Gambia and Ghana; each of received 0.7 per cent of nurses.

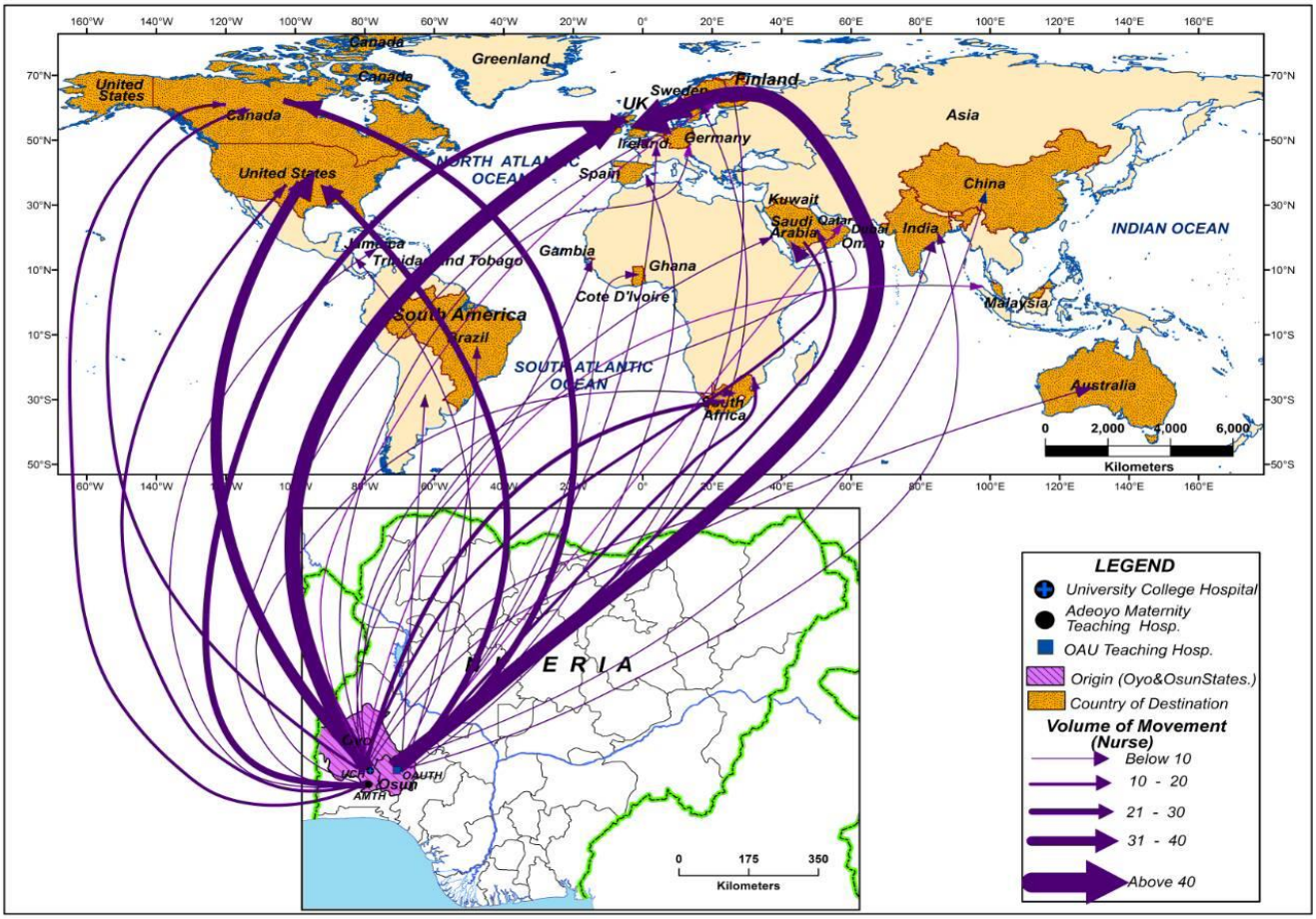

Fig 4.6: Destinations of Emigrated Nurses, UCH, AMTH and OAUTHC, 1986-2010

Source: Author's Analysis, 2012

The scenario seems similar in AMTH, with almost two-fifths (39.8%) of emigrated nurses in the UK; followed by the US, with 27.4 per cent and a significant percentage (17.8%) moved to Canada. Other notable destinations were Saudi Arabia and Jamaica, with 4.1 per cent each, and South Africa, Finland, Dubai, Malaysia and Germany, which individually accounted for 1.4 per cent (Appendix 3).

In the case OAUTHC, close to one third of emigrated nurses (31.9%) moved to the UK; followed by the US (23.9%), Canada (15.3%), Dubai (6.7%), South Africa (6.1%), Jamaica (4.3%), Saudi Arabia (3.7%) and Ireland (4.3%). Other less prominent destinations were China (1.2%), and Spain, Finland, Sweden, Brazil, Netherland and Ghana, each of which contributed 0.6 per cent (Appendix 4)

Furthermore, the in-depth interview with the Chairman, National Association of Nurses and Midwives of Nigeria (NANNM) at OAUTHC buttresses the above, as:

> Nursing profession has its root in the UK; therefore, it is a thing of pride for a nurse to have a touch of London during or after being trained in the country (Nigeria). And, if I may put it in another way, it was the tradition for nurses to travel to the UK, particularly London, either for further training or to work in some of the hospitals. In fact, in our own time, it was an opportunity every nurse looked forward to have in a lifetime, of nursing career (IDI, OAUTHC, 2012).

The above excerpt upheld UK as the destination for majority emigrated and potential migrant nurses from the south-west geo-political zone of the country, particularly from the selected health institutions. By implication, majority of the nurses wanted to be aligned with the historical genealogy of their profession and has been identified as one of the major basis for professionals' move to the UK.

4.3.3.3 Destinations of Pharmacists

Figure 4.7 and Appendix 2, the UK was the predominant destination for pharmacists in UCH, with over two-fifths (44.4%) of them that migrated to that country; followed by those who moved to the US (33.3%) and Canada (22.2%).

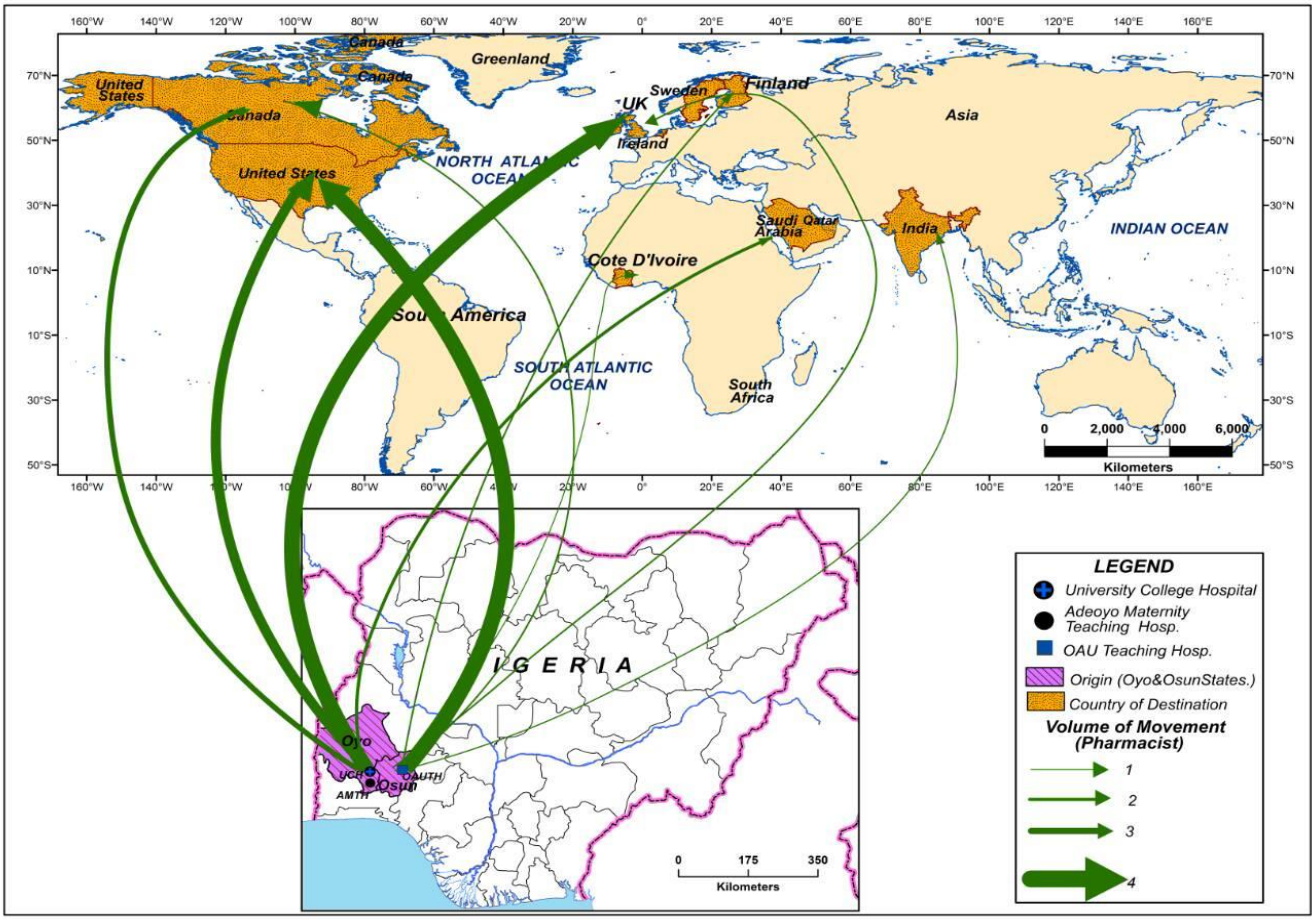

Fig 4.7: Destinations of Emigrated Pharmacists, UCH and OAUTHC, 1986-2010

Source: Author's Analysis, 2012

However, none of the respondents in AMTH indicated they knew any of the pharmacists emigrated from the institution.

But, pharmacists in OAUTHC, reported the US was the major destination of emigrated colleagues, with one-third (33.3%) of them to the US within the period of 25 years of analysis. Sweden came next as a major destination, with 16.7 per cent of emigrated pharmacists from the institution. Other destinations were the UK, Canada, Dubai, India, Germany and Cote d'Ivoire, each accounting for 8.3 per cent (Appendix 4).

4.3.3.4 Destinations of MLS

Destinations of reported emigrated MLS from UCH were multifarious; apart from the few (18.2%) that moved to the US, Figure 4.8 and Appendix 2 revealed that over half of them (54.6%) moved to different countries in the Middle-East; inclusive Saudi Arabia, Oman and Dubai, each contributing 18.2 per cent, while the remaining 9.1 per cent each of the emigrants went to the UK, Germany, and Ghana. About the same pattern obtained for emigrant MLS from OAUTHC, that is, Saudi Arabia, with over two-fifths (44.4%); closely followed by US (33.3%), UK and South Africa, with 11.1 per cent each, as indicated on Appendix 6. Again, there was no emigrant MLS reported for AMTH.

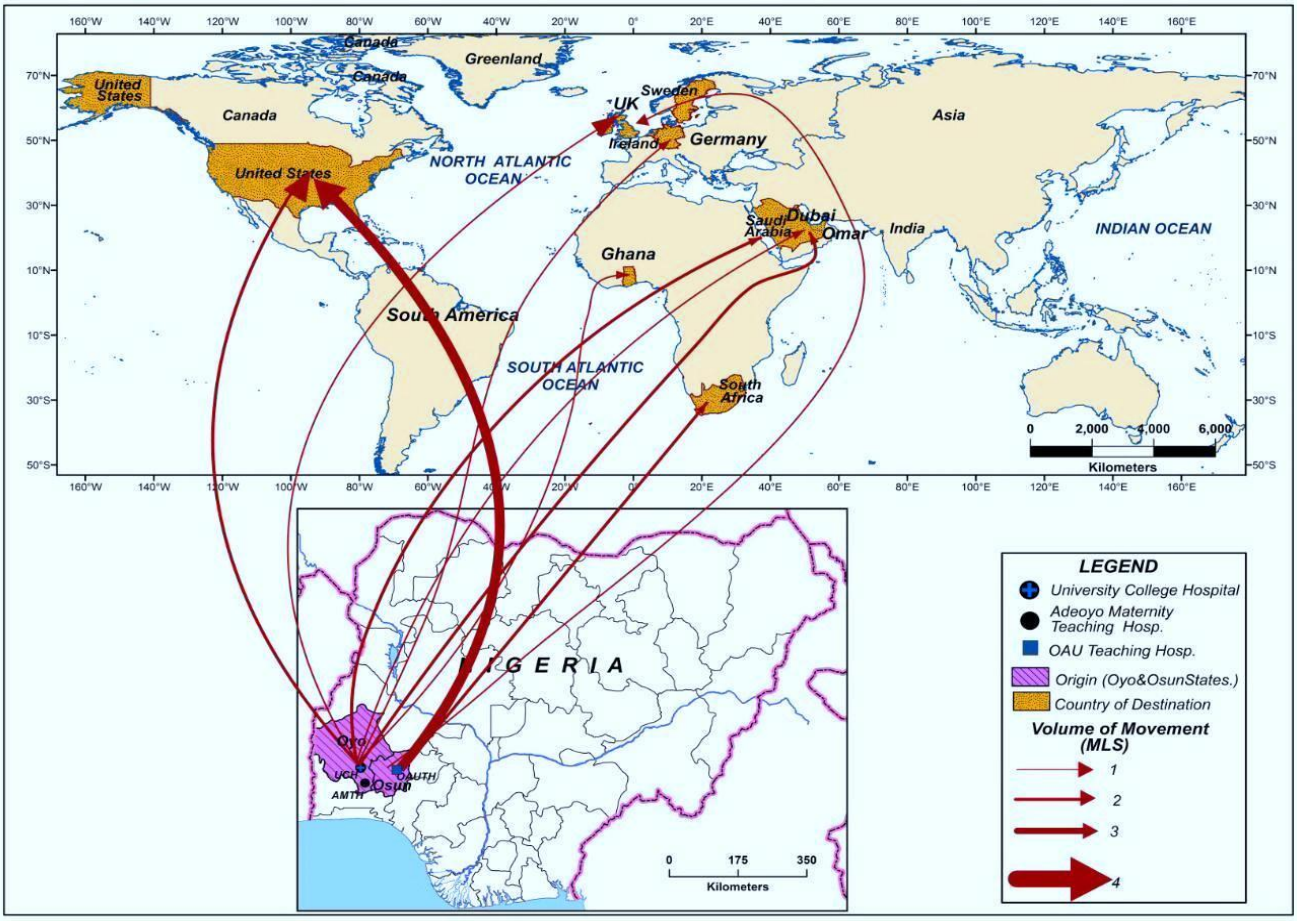

Fig 4.8: Destinations of Emigrated MLS; UCH, AMTH and OAUTHC, 1989-2010

Source: Author's Analysis, 2012

The preference of African health professionals for the UK and US has been reiterated by many scholars in literature (Stilwell et al, 2003, Hagopian et al, 2005, Astor et al, 2005, Kirigia et al, 2006, Pillay, 2007). This is often adduced to availability of employment, differences in wages and working conditions. Furthermore, Hagopian et al (2005) added one other important reason why core health professionals, particularly doctors from Nigeria and Ghana, prefer US and UK, 'The physician culture in West Africa,' by which is meant young doctors imitating or following the footsteps of their senior colleagues or teachers. Most of them wanted to have same experience of studying in universities or colleges where their tutors and consultants in pre-medical and clinical schools had studied. Training and practicing abroad is a mark of success and medical school faculty members measure their own success as teachers by whether or not their students are competent enough to practice in the competitive medical environment of the UK and US; hence, they encourage their students training abroad in same or similar colleges.

Furthermore, some oil-rich countries of the Middle East, such as Saudi Arabia, Qatar, United Arab Emirate (UAE) and Oman have attracted health professionals from Africa, particularly Nigeria (Mbanefoh, 2007). This corroborates the work of Badr and Hays (2008), which submitted that 75 per cent of doctors and 79 per cent of nurses working in Gulf Cooperation Council (GCC) countries are expatriates. This, according to the authors brought about change in the conception of the conventional South-North route to that of the South-Middle East route of health workers. However, the probable reason for the new horizon in emigration of health professionals towards the Gulf States is because of disparity in wages paid in orthodox destinations, of the UK and US as against that in the Gulf States.

4.3.4 Tests for Significant Difference in the Mean Value of Emigrated Health Professionals, 1986-2010

ANOVA was employed in testing Hypothesis 1, that is, the volumes of emigration of health professionals have not been increasing over the defined three phases, (1986-2010) at 0.05 per cent level of significance. This hypothesis was tested in two ways: one, determining the significant difference of emigrated health professionals between 1986 and 2010 and two, between 1986-1999, 2000-2003, 2004-2007 and 2008-2010. The first test states:

H_0: There is no significant difference in the mean values of health professional emigrants to destinations,1986-2010.

$H_{1:}$ There is significant difference in the mean values of health professional emigrants to destinations,1986-2010.

The procedure and result of the first test is described on Tables 4.4

Table 4.4: ANOVA Test of Mean Value of Emigrated Health Professionals, 1986-2010

			Sum of Squares	df	Mean Square	F	Sig.
Total Number of Health Professionals emigrated between 1986-2010 in the Selected Institutions	Between Groups	(Combined)	2337.423	2	1168.711	3.497	.033
	Within Groups		52136.175	156	334.206		
	Total		54473.597	158			

P = 0.05 level of significance

Source: Author's Analysis, 2012

The decision is to accept H_1, while reject H_0, which is to say there is significant difference in the mean value of emigrated health professionals between 1986-2010, with F value that is lower than .05 or 5% level of significance and at 2 degrees of freedom (i.e. P=0.33), as on Table 4.4.

In sum, it indicates gradual increases in the volume of emigrated health professionals over time.

The second test states as follows:

H_0: There is no significant difference in the Mean values of temporal flow of emigrated health professionals to destinations (i.e. $H_{0:}\ \mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$).

H_1: There is significant difference in the Mean values of temporal flow of emigrated health professionals to destinations (i.e.$H_{1:}\ \mu_1 = \mu_2 = \mu_3 = \mu_4$).

The procedures and results of the first test are described on Tables 4.3.

Table 4.5: ANOVA Test of Mean Values of Temporal Flow of Emigrated Health Professionals, 1986-2010

		Sum of Squares	df	Mean Square	F	Sig.
Total number of Health Professionals emigrated between 1986-1999	Between Groups	5700.115	28	203.576	48.272	.000
	Within Groups	113.867	27	4.217		
	Total	5813.982	55			
Total number of Health Professionals emigrated between 2000-2003	Between Groups	3336.117	31	107.617	14.081	.000
	Within Groups	374.500	49	7.643		
	Total	3710.617	80			
Total number of Health Professionals emigrated between 2008-2010	Between Groups	2750.767	32	85.961	17.570	.000
	Within Groups	327.793	67	4.892		
	Total	3078.560	99			
Total number of Health Professionals emigrated between 1986-1999	Between Groups	10311.103	28	368.254	109.734	.000
	Within Groups	221.487	66	3.356		
	Total	10532.589	94			

P = 0.05 level of significance

Source: Author's Analysis, 2012

The result of the test of ANOVA in Table 4.5 indicates that the alternative hypothesis (H_1) should be accepted, while the null hypothesis (H_0) should be rejected. In other words, there was a significant increase in the mean value of emigrated health professionals in the defined periods, with F value that is lower than .05 or 5% level of significance at the degree of freedom 28, 31, 32, and 28 respectively for 1986-1999 (F= 48.27), 2000-2003 (F= 14.08), 2004-2007 (F= 17.57) and 2008-2010 (F= 109.73).

4.4 Temporal Trends in Volumes of Emigrated Health Professionals, 1986-2010

4.4.1 Temporal Trends in Volume of Emigrated Doctors, 1986-2010

In the first phase of 1986 to 1999, very few doctors emigrated when compared to the situation of the nurses. The relatively low volume of emigrated doctors between 1986 and 1999 corroborates the work of Mbanefoh (2007), which noted the incipient or emergent stage of loss of doctors from UCH in the early 1980s, but, much considerably by mid-1980s.

But, by the second phase, a significant increase occurred, in particular for emigrated doctors in UCH and OAUTHC, as depicted by Figs 4.1 and 4.3 and Table 4.6, when a dramatic increase in total number of emigrated doctors took place, from 19 to 73 (284.2%) for the three institutions. The increase was overwhelming in UCH (4000%), compared to those for OAUTHC (85.7%) and AMTH (50.0%) The situation remained the same in the third phase (2004- 2007), when all the institutions witnessed a dramatic increase of: 70.7, 16.7 and 123.1 per cent respectively for UCH, AMTH and OAUTHC.

Table 4.6: Temporal Trends in Volumes of Emigrated Health Professionals, 1986-2010

Institution	Categories of Professional UCH				Categories of Professional AMTH				Categories of Professional OAUTHC			
Volume of Emigrants – during:	Doctors	Nurses	Pharmacists	MLS	Doctors	Nurses	Pharmacists	MLS	Doctors	Nurses	Pharmacists	MLS
1986 – 1999	1	180	NA	6	4	74	NA	NA	14	150	2	4
2000 – 2003	41	154	3	3	6	97	NA	NA	26	122	3	2
2004 – 2007	70	148	6	7	7	112	NA	NA	58	98	4	2
2008 – 2010	153	80	10	4	7	97	NA	NA	34	23	3	3

Source: Author's Analysis, 2012

About the same applied to UCH and AMTH in the fourth phase (2008 to 2010); with the exception of OAUTHC. While UCH had over 118.6 per cent increase, AMTH had the same number of emigrated doctors (7) as it had in the third phase. On the other hand, OAUTHC had a decrease close to 100 per cent (-70.5%).

4.4.2 Temporal Trends in Volume of Emigrated Nurses, 1986-2010

Figures 4.9 4.10 and 4.11 and Table 4.6 indicate temporal variations in volumes of emigrated professionals. In general and at institutional levels, nurses formed the largest group of emigrated health professionals in all the four phases of study. However, there was a gradual decline in their number at institutional level, during the second phase (2000-2003), when the numbers of emigrated nurses from UCH and OAUTHC reduced respectively by 14.4 and 18.7 per cent. On the contrary, the number increased by 31.1 per cent for AMTH. Again, during the third phase, 2008-2010, the number of emigrated nurses from some of the institutions declined: UCH and OAUTHC experienced a decline in volume of emigrated nurses, respectively -3.9 and -19.7 per cent, as against an increase, of 15.5 per cent for AMTH.

The trend in the decline of emigrated nurses became more obvious by the fourth phase (2008-2010), with a significant decrease in their number in the three institutions. UCH, AMTH and OAUTHC, respectively experienced a decrease, of -45.9, -13.4, and 41.4 per cent in their emigrated nurses.

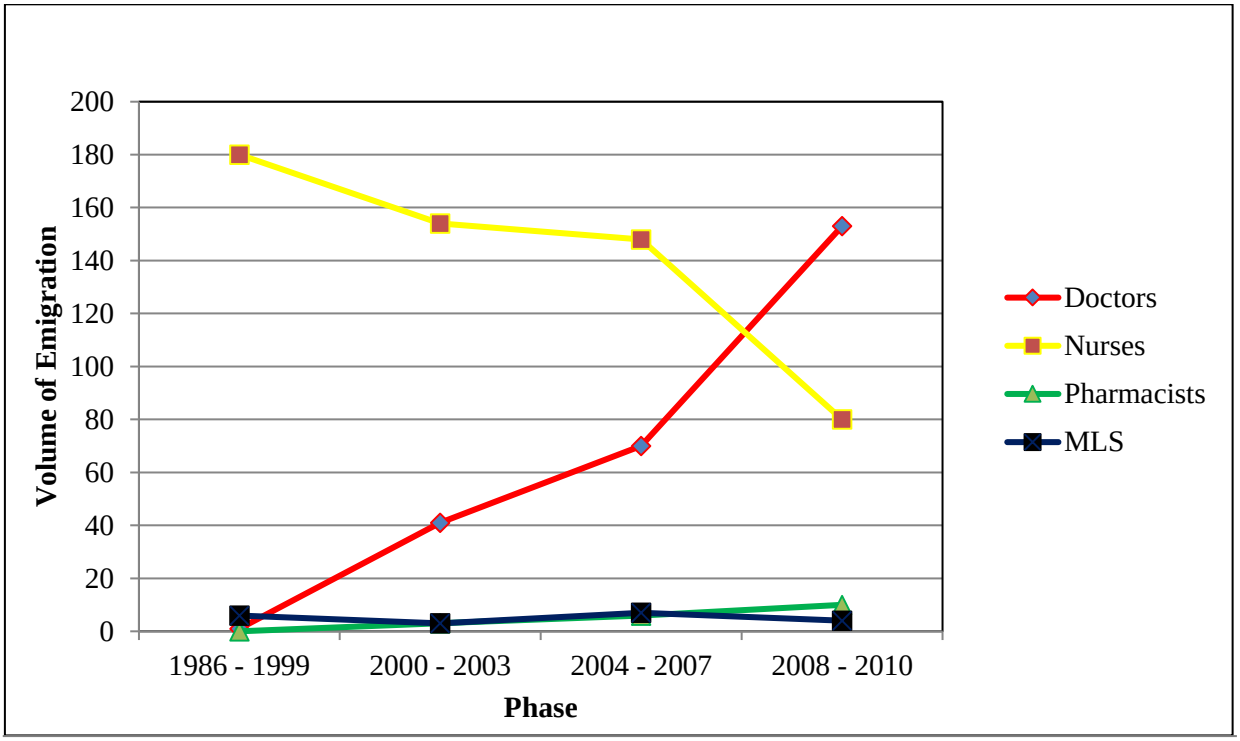

Fig 4.9: Temporal Trends in Volumes of Emigrated Health Professionals: UCH, 1986-2010

Source: Author's Analysis, 2012

4.4.3 Temporal Trends in Volume of Emigrated MLS, 1986-2010

The numbers of emigrated MLS fluctuated during the four phases, when there were either very few or none from the institutions. While UCH and OAUTHC had six (6) and four (4) reported emigrated MLS, respectively, there was none reported for AMTH during the first phase. By the second phase (2000-2003), the number dropped by 50 per cent for UCH and OAUTHC; that from six (6) to three (3) emigrated MLS for UCH and in OAUTHC from four (4) to two (2) emigrated MLS, as depicted on Fig 4.1 and Table 4.6. On the contrary, during the third phase (2004-2007), UCH witnessed an increase: from three (3) to seven (7) emigrated MLS, while OAUTHC recorded just two (2) additional emigrated MLS. However, the number of emigrated MLS from UCH decreased, from 7 in the third phase to 4 (-42.9%) during the fourth phase, compared to an increase, of 50.0 per cent for OAUTHC.

4.4.4 Temporal Trends in Volume of Emigrated Pharmacists, 1986-2010

Likewise, there was no emigrated pharmacist from UCH and AMTH during the first phase, and only OAUTHC had two (2) emigrated pharmacies during this phase, as indicated on Fig 4.10 and Table 4.6.

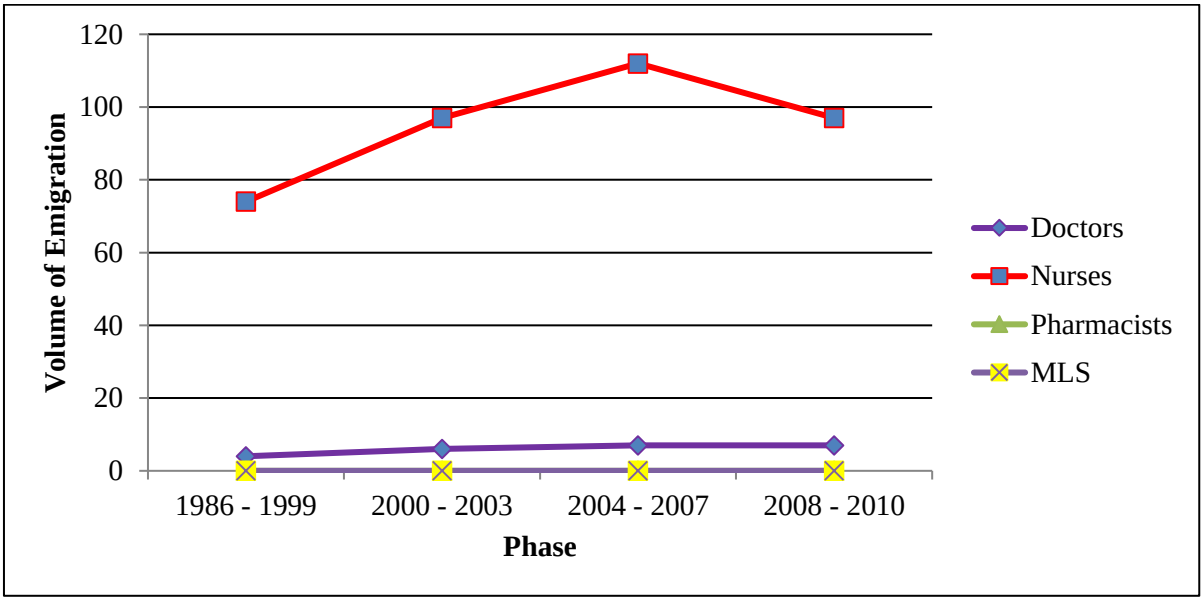

Fig 4.10: Temporal Trends in Volumes of Emigrated Health Professionals: AMTH, 1986- 2010

Source: Author's Analysis, 2012

The picture remained the same in UCH and OAUTHC, with a loss of an additional three (3) pharmacists in the second phase. By the third phase, the number of emigrated pharmacists from UCH had doubled has increased from three (3) to six (6), and from three (3) to four (4) emigrated pharmacists in OAUTHC.

The picture remained about the same in the fourth phase (2008-2010) in UCH, when there was an increase in number from 6 to 10 (66.7%) pharmacists, contrary to a decline, of 4 to 3 (-25%) emigrated pharmacists from OAUTHC (Figure 4.11).

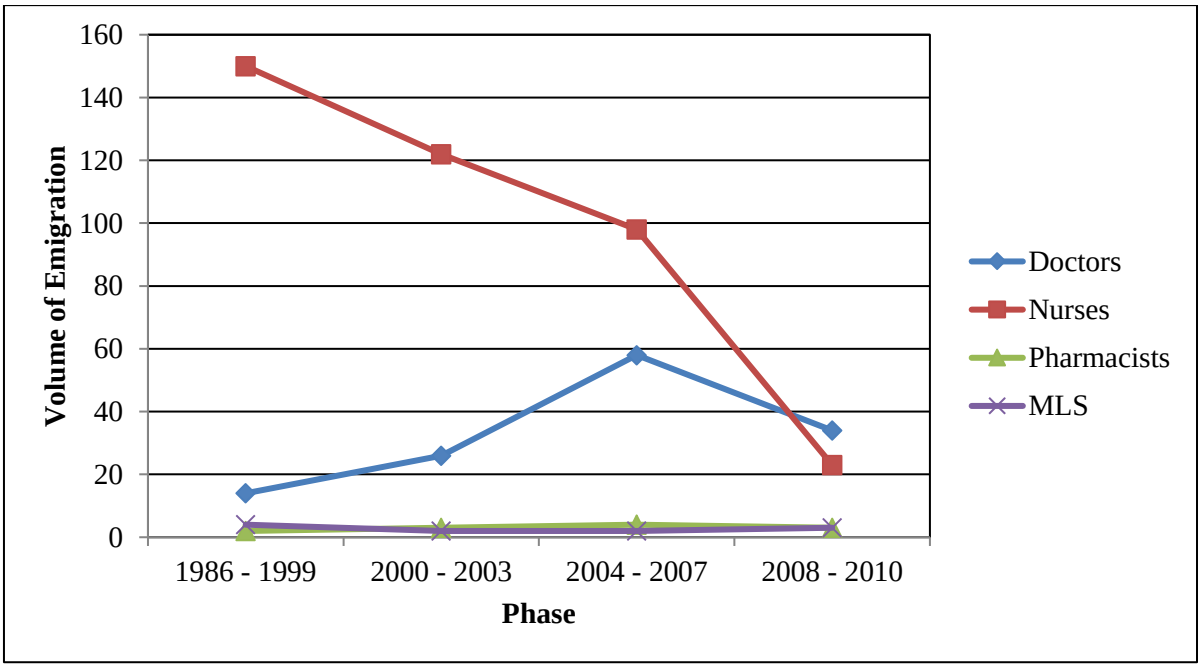

Fig 4.11: Temporal Trends in Volume of Emigrated Health Professionals: OAUTHC, 1986- 2010

Source: Author's Analysis, 2012

4.4.5 Explanations for Spatio-Temporal Variations in Emigrated Health Professionals

The reasons for the variations in the volumes of the three categories of emigrant health professionals and among the selected institutions from 1986 to 2010 are multi-faceted. First, the populations of nurses and doctors at any level of health institution, whether primary, secondary or tertiary are always higher than that of pharmacists and MLS. Therefore, the variations in the numbers of the different categories signify, among others the relative proportions of each of the professions in the delivery of health care and services. For instance, the number of nurses employed in any public and private health institutions either doubles or triples that of the doctors and that of the doctors double that of pharmacists, under normal circumstances (Tables 6.4 and 6.5).

Secondly, the variations are premised on the level of demand abroad for different categories of health professionals and the foreign currency/income they would earn. Doctors are needed for timely clinical diagnoses and surgical operations of patients. Nurses are to administer drugs and carry out other therapeutic plans of treatment to patients in the hospitals/clinical wards; in short, they are in charge of hospitals/clinical wards. Apart from doctors and nurses, whose skills are specialized, the skills of pharmacists and MLS cannot easily be brushed aside, as they are specialists in their own right. In addition, foreign currency/income of health professionals abroad is 'a lot of money'. One of the in-depth interviews with the Chairman of National Association of Nigerian Nurses and Midwives (NANNM) portrays the situation as:

> The motivating factor and reason why nurses move en-mass abroad is because of the financial reward. An average African nurse works 84 hours in a week, while his/her foreign counterpart works for just 40 hours per week. So, when you work there for about six months or one year, you would have made a lot of money in foreign currency. And since the society recognizes/associates with persons based on financial standing, people are forced to travel out (IDI, OAUTHC 2011)

The third possible reason for the variation in the volume of emigrated nurses, but, an increase in the volume of emigrated doctors is the socio-economic and political factor prevailing in Nigeria. Between 1986 and 1999, the military was in charge of the governance of the country and the period was characterized by series of harsh economic policies, which led to continuing devaluation of Nigeria currency and

incessant strikes (Mbanefoh, 1992). There was an embargo placed on employment during the period; thus, many medical professionals were forced to seek greener pasture elsewhere. In addition, the political environment during the military rule was life-threatening; many professionals, particularly those in academics were incarcerated because they confronted the military rulers. However, majority of medical equipment and laboratories in hospitals and health institutions during the military regime have become obsolete, whereas skilled health professionals could not confront the junta for the fear of going to jail or being assassinated, hence they migrated. These and other factors prompted the massive flight of health professionals from the country, in particular the study institutions.

Almost diametrically opposed was the seeming decline in emigration of nurses during the period of democratic rule in the country, that is, since 1999. This seemed to be the result of apparent return to decorum in the political cum socio-economic environment ushered in by the civilian government.

In addition, many nurses believed curiosity or the vogue to migrate is a thing of the past. In one of the Focus Group Discussions (FGDs) in UCH, the nurses unanimously agreed that traveling abroad appears as a passing fad in comparison to the situation prior to the 1999 transition to democratic dispensation of the country, as they stated in their own words:.

> …Many of us had wanted to travel during the military government era, but during the government of Abdulsalam Abubakar, that is, between 1998 and 1999, things changed. Our salary scales were adjusted upwards/changed; our take-home income increased and all pending promotions were attended to. Above all, when Obasanjo became the President, things changed for the better.
> There is nothing those that travelled abroad did that we have not done. They built houses; we have built ours; they are riding exotic cars; we also ride good cars. Even, some of them envy our position whenever they come around or are visiting. They comment that we look fresher than them. It is common knowledge that they work extra hard over there: running two, three jobs at a time in order to prove their capability and make up for the higher cost of living there compared to that at home. All these have caused most of them to look older than their age (FGDs, UCH 2011).

Ironically, many of the health professionals, particularly doctors were emigrating in larger numbers than before. However, in the case of doctors, the increase

could have been the result of information and or encouraging words that they received from their colleagues abroad. At present, the reasons for migrating are beyond words of encouragement and economic preference, but now include lack of modern and sophisticated medical equipment to work with at home compared to the situation abroad, and increasing level of specialization in tackling diseases and of new challenges in the field of medicine. Again, an In-depth Interview (IDI) with the Chairman, Association of Resident Doctors (ARD),UCH branch corroborates the above, when he said:

> Our colleagues are moving out; there is no doubt about that; but, they are doing this because of the challenges we have in the field of medicine. Most of the infections and diseases we diagnose presently have surpassed the use of ordinary 2-D radiological examinations, which can be better diagnosed using 3-D radiological examinations. These were not available in the 1980s and even up to the early 1990s. Besides, the present medical and laboratory equipment are not the same as those we were trained on in the early 1990s. Things are changing very fast in medicine, and we have to catch up with the tide of the events.
> Why do you think rich people are going abroad? It is because over there, they have many modern medical facilities for their health care and this is exactly what we are proposing for UCH. Note, I want to say loud and clear that all our products here in UCH are good; but, they will come out better, when they have modern facilities to work with and whenever they travel abroad, they are able to put their skills to use. I'm assuring you, UCH is not left behind in striving towards excellence; we are moving. The private suite of the hospital is a testimony of what I am saying, when I said, we are moving forward (IDI, UCH 2011).

In summary, migration of health professionals, particularly, doctors from the country has been on the increase over time and the major destinations for the doctors, nurses and pharmacists have been the UK and USA, while the MLS have been moving to the Middle-East, specifically, Saudi Arabia. Again, there has been a significant decline in the rate at which the nurses emigrate as the country embraced again democratic form of government in 1999, as against what used to be the case during the military regime between 1983 and 1999.The next section examines the spatio-temporal trends in volumes counter-flow of emigration of health professionals.

4.5 Spatio-Temporal Trends in Volumes of Immigrated Health Professionals

This section presents findings and explanations on the trends of the volumes and directions of immigrated health professionals from source countries into the country and particularly from the three selected institutions. The analysis in the section revealed the wide gap in the volumes of emigration between the source country (Nigeria), and immigration (from destination country and Nigeria) particularly for the study institutions and recipient countries.

4.5.1 Spatial Trends in Volumes of Immigrated Health Professionals, 1986-2010

Just as there was the emigration of health professionals out of the country, the country has attracted a few number of health professionals over time and space, though not equal in size compared to the volumes for emigration.

Table 4.7: Trends in Volumes of Immigrated Health Professionals, 1986-2010

Institution	UCH		AMTH		OAUTHC		Total	
Non-National ever practiced in Nigeria	Count	%	Count	%	Count	%	Count	%
Yes	5	5.2	1	2.5	3	4.7	9	4.5
No	92	94.8	39	97.5	61	95.3	192	95.5
Total	97	100	40	100	64	100	201	100

Source: Author's Analysis, 2012

Table 4.7 shows nearly all of the respondents (95.5%) did not report any immigrated health professional practicing among the core professionals in the selected institutions. The very few respondents that reported non-Nigerian immigrated health professionals feature mostly in UCH (5.2%); followed by OAUTHC (4.7%) and AMTH (2.5%).

4.5.2 Temporal Trends in Volume of Immigrated Health Professionals, 1986-2010

Figs. 4.12, 4.13 and 4.14 and Appendix 5 present the very few immigrated professionals as comprising mainly doctors and nurses, as the primary, more mobile core health professionals, while pharmacists and MLS are secondary, less mobile health professionals.

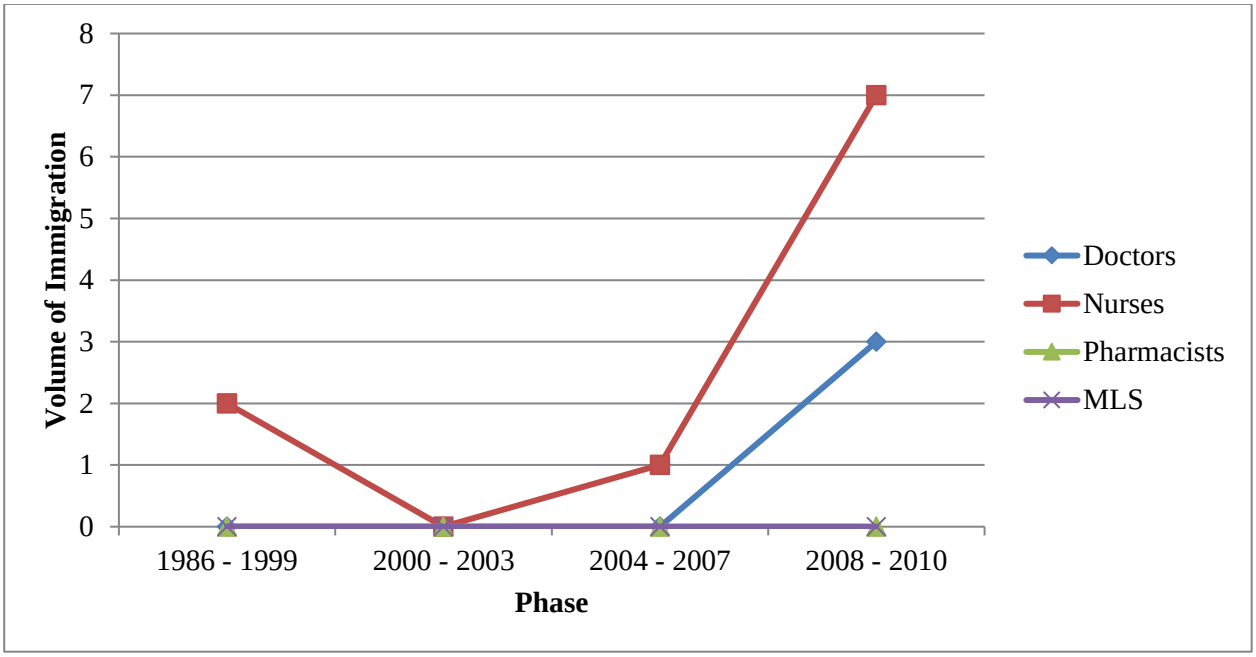

Fig 4.12: Temporal Trends in Volume of Immigrated Health Professionals, UCH, 1986-2010

Source: Author's Analysis, 2012

Fig 4.13: Temporal Trends in Volume of Immigrated Health Professionals, AMTH, 1986-2010

Source: Author's Analysis, 2012

In the first phase of immigration, that is, 1986 to 1999, UCH, AMTH and OAUTHC reported just 2 immigrated nurses each, while no number was reported for doctors, pharmacists and MLS.

In the second phase, that is, between 2000 and 2003, only AMTH reported 6 immigrated nurses; OAUTHC had just 1 immigrant doctor and UCH none had reported. In the third phase that spans 2004 and 2007, UCH and OAUTHC each reported only 1 immigrated nurse, while AMTH had 2 immigrated nurses.

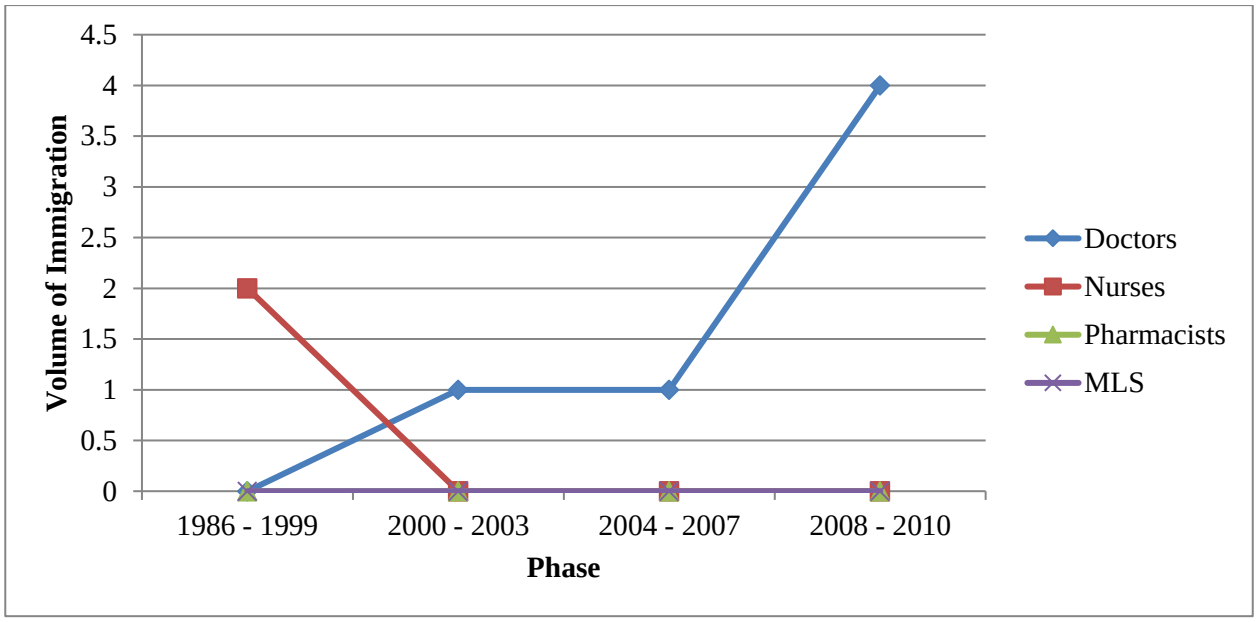

Fig 4.14: Temporal trends in Volume of Immigrated Health Professionals, OAUTHC, 1986 and 2010

Source: Author's Analysis, 2012

The fourth phase, 2008-2010, was marked by an increase in number of immigrated health professionals: 3 doctors and 7 nurses into UCH, and only 2 and 4 immigrated nurses respectively for AMTH and OAUTHC.

The very low volumes of health professionals into Nigeria, in particular into the selected health institutions can be attributed to 'push' forces operating within the country. The health sector and all its institutions in the country are still lagging behind in all ramifications, indicating they are deprived of adequate attention. Apart from the UCH that was acknowledged as the best neuro-surgery hospital in the sub-region of West-Africa (Mbanefoh, 2007, The Sun, 2009, p 41), other tertiary health institutions in the country are yet to have the breakthrough in major areas of medicine and are yet to be acknowledged as medical centers of excellence.

4.5.3 Direction of Immigration Flows of Health Professionals, 1986 and 2010

The main direction of movement of immigrant health professionals was North-South, that is, nationals from Europe dominated the flows, as indicated on Figure 4.15 and Appendix 6 reveals the volumes of the inflow of immigrant health professionals into the country, in particular into the selected institutions in south-west geo-political zone; with one (1) doctor each from Italy, Sweden and Finland and six (6) nurses each from Italy and Sweden and five (5) from Finland.

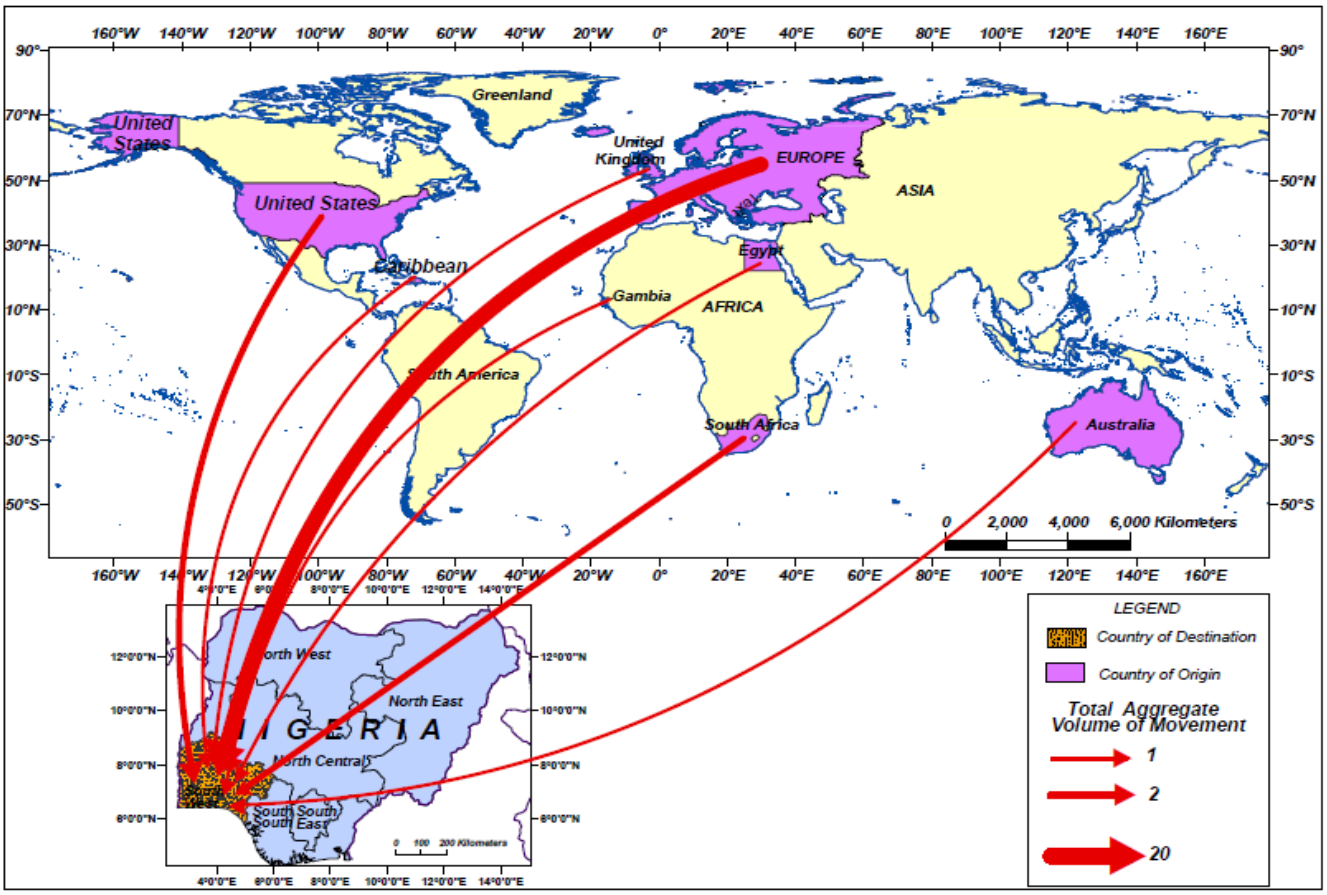

Fig 4.15: Direction of Immigration flows of Health professionals

Source: Author's Analysis, 2012

Also, two (2) doctors were from the US and one was from the UK. Other countries of less significance from where expatriate nurses from African countries immigrated are South Africa (2), The Gambia (1) and Egypt (1), and from Australia (1) and the Caribbean (1).

4.6 Returnee Health Professionals, 1986-2010

4.6.1 Trends in Spatial Patterns Before Returning

Figure 4.16 shows high percentage of returnee health professionals have been in the UK and US. Canada was also a notable destination of the returnees, while few of them had stayed in some African countries, such as Sierra Leone, Ghana and Botswana before returning. Furthermore, Appendix 7 shows half of the returnee doctors in UCH had been in the US, while the other half was in Sierra Leone. The same applies to the very few returnee doctors in OAUTHC (62.5%) that came back from the US, and the remaining percentage, of 12.5 per cent each that moved in from the UK, Canada and Botswana. On the other hand, AMTH had no records of returnee health professionals moving into the country in order to practice.

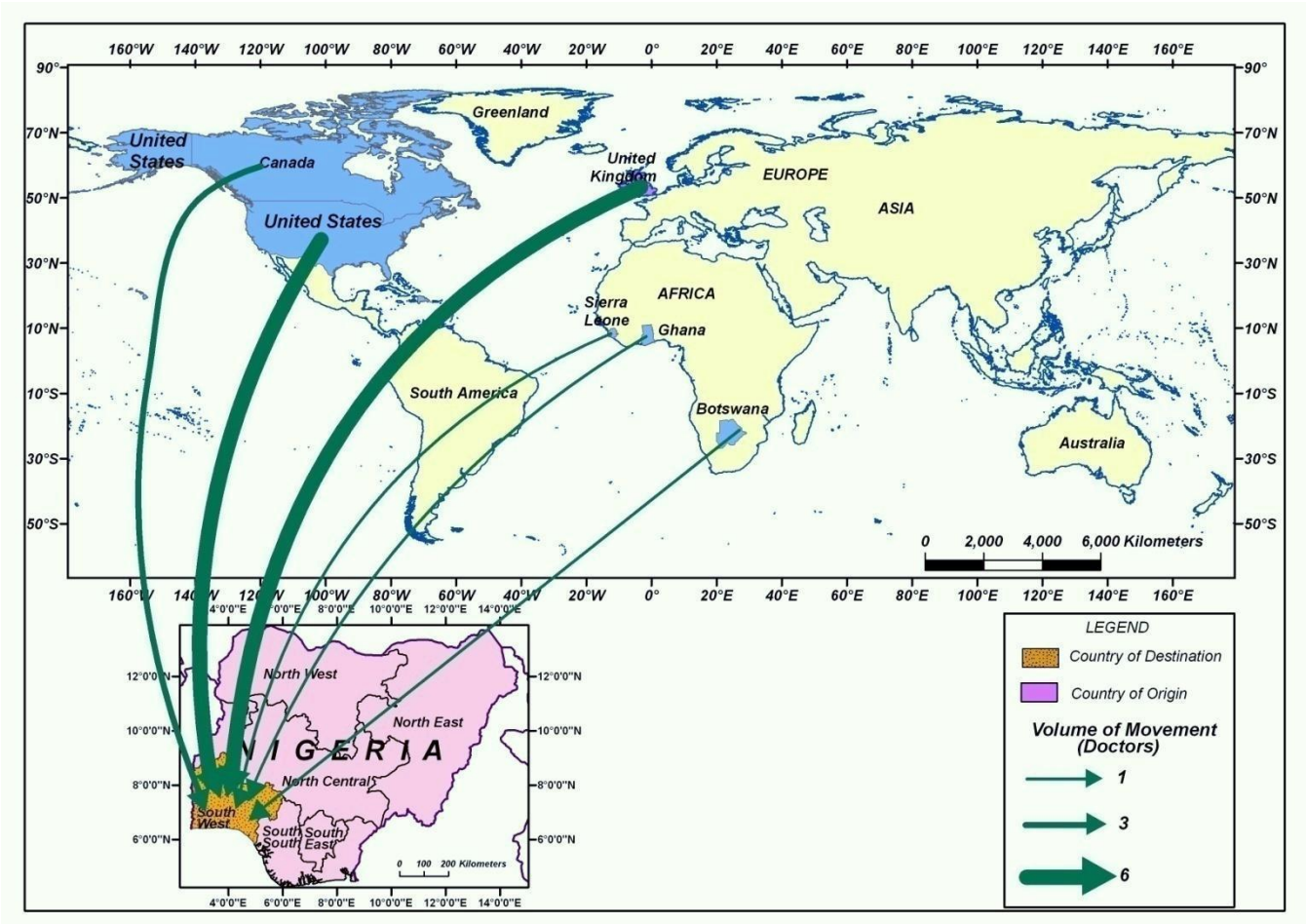

Fig 4.16: Spatial Patterns and Directions of Emigrated Health Professionals before Returning

Source: Author's Analysis, 2012

Only nurses in OAUTHC were reported to have practiced their profession outside of the country. Half (50.0%) of them practiced in the UK; one-quarter (25.0%) in Canada, while 12.5 per cent each in Ghana and the US. In all, the US had the bulk percentage of health professionals that ever practiced outside Nigeria.

4.6.2 Temporal Trends in Volumes of Returnee Health Professionals, 1986-2010

The volumes of reported returnee health professionals in the selected institutions between 1986 and 2010 were very low. According to Appendix 8, 72.0, 82.1 and 92.3 per cent of respondents in UCH, AMTH and OAUTHC reported their colleagues have not returned, while the remaining 28.0, 17.9 and 7.7 per cent, in the same order indicated very few could report any of their colleagues had returned to the institutions.

Also, Appendix 11 shows nurses were in the majority and had the highest percentages for or among the returnees, (18 in number; 35.3%- UCH; 5 in number; 21.7%– AMTH and 3 in number; 7.0%- OAUTHC). However, it was only UCH that recorded the very few returnee doctors (7 in number). Equally, there was no reported returnee pharmacist in all the institutions. In the case of returnee MLS, just one person each was acknowledged in UCH; three (3) of them were reported in OAUTHC and none in AMTH.

4.6.3 Duration of Stay in Last Destination before Returning

Appendix 9 shows majority of the returnee health professionals spent between 1 and 2 years practicing outside Nigeria, with their mean duration of stay being 1.4 years. Further breakdown of the data in Appendix10 reveals just one doctor captured in UCH and two-thirds (66.7%) of those in OAUTHC spent less than two years in their various destinations, while just one-third (33.3%) of doctors in OAUTHC spent between 2 to 3 years in their last destinations. However, all nurses in OAUTHC were reported to have spent between 1 and 2 years in the destinations they stayed to practice.

By implication, apart from the fact that some of them were sent by their institutions to practice abroad, the short periods of stay in the destinations of practice and prompt return to their institutions indicates the health professionals are not willing to stay permanently in the host countries. This could be as a result of domesticating the skills and knowledge they have accrued within the short time in the system of Nigeria. Hence, brain circulation and technology transferred being displayed in the health sector to become and this makes the sector becoming viable for the professionals.

On the other hand, the intention of health professionals staying beyond the expiration of the programmes in the destinations could as well meet with insurmountable migration barriers. The findings (next chapter) revealed that extending visa for stay in the destinations and requalification processes have pushed health emigrants back home. Chandra and Willis (2005) corroborated these by describing such barriers in the case of nurses; as the process of requalification, adapting to different clinical practices and time-consuming as well as costly immigration procedures that ended the visa duration given to the professionals, thus, constraints of extending their stay beyond the stipulated time.

According to the findings, the low volumes of emigrated health professionals from Nigeria returning back to the country is as a result of strong pull forces, such as restarting training, high taxes, discrimination, among others . Apart from these forces, high percentages of them moved with their immediate family members, and this could serve as major obstacle to breakeven. Appendix 11 discloses that between 1986 and 2010, majority (78.0%) of emigrated doctors in UCH and all in AMTH were reported to have travelled with their immediate family. The same scenario happened with the nurses, with three-fifths (61.0%) of them in UCH and close to three-quarters (73.0%) in AMTH travelled with their immediate family. All pharmacists and half of MLS in UCH and all of MLS in AMTH travelled with their immediate family.

In the case of OAUTHC, the situation of travelling with immediate members of the family is quite different, as majority of the emigrated health professionals did not travel with their immediate family. Appendix11 indicates that close to four-fifths (78.9%) of the doctors, over half (55.3%), of the pharmacists and three-quarters of the MLS did not migrate with their immediate family. This scenario could be linked to the short length of stay of health professionals that emigrated from the institution.

However, uprooting the established family settings in the destination is likely to be impossible. Although, the first generation of migrants might have seen or had had reasons for returning to their country of origin, but, subsequent generation of migrants may not or have not seen such reasons. This, at times has to do with the kind of information about the country of origin that is available to successive migrants. Again, the stay back attitude, now and then, has to do with the push factors, such as harsh economic policy, high cost of living, political instability, among others persisting in the country. The potential returnee health professionals could be having problem of reintegration into or quick adaptability of the new working environment. On the other

hand, some of the health professional returnees might have spent their active years in their chosen destinations, and by the time they are willing to retire back home, but 'where' to reside that would match up with the destination he/she coming from could become a difficult question to answer.

4.7 Summary and Conclusion

In sum, within the defined period of study, the prominent destination of skilled professionals from the southwest of Nigeria was the United Kingdom; followed by the United States and Canada. However, new destinations which emerged, include, the Middle East, some other countries in Europe, South America and Asia and a few African destination such as South Africa and The Gambia. Also, the length of stay of emigrated health professionals in the country of destination was on the average one and half years. This scenario was prominent in OAUTHC and could be linked to the possibility of training programmes the professionals had abroad; hence, majority of them could not travel with their immediate family. On the other hand, majority of emigrated health professionals had not returned to the country, because they travelled with their immediate family; hence, making the return of health professionals become a nightmare.

In conclusion, firstly, emigration surpasses immigration and returning professionals; hence making emigration appears negative. Secondly, non-migrant returnee health professionals from developed countries for short period of time connote possibility of transfer of skills, knowledge and circulation. Thirdly, the declining volume of emigrating nurses, low, but significant trickles of immigration and returning health professionals are indicative of a mobile and essential circulation of brains.

CHAPTER FIVE

PREDISPOSING FACTORS FOR EITHER RETURNING OF, OR NON-MIGRATION OF, HEALTH PROFESSIONALS

5.1 Introduction

The chapter discusses the socio-economic characteristics and perception of returnee and non-migrant health professionals, in terms of their age, sex, marital status, and designation, year of qualification, as well as their perceptions on working conditions in Nigeria as against other countries as predisposing factor for either returning to or of non-migrating out of Nigeria. In addition, the chapter examines the reasons why the returnees returned and likelihood of their not migrating again, as well as reasons why non-migrants had not migrated as a factor that underlies mobility behaviour.

5.2 Age Structure of Returnee and Non-Migrant Health Professionals

Table 5.1 shows the prominent age group (mode) for both the returnee and non-migrant health professionals as 35.5 years and their mean age is 37.7 years. Also, while about one-quarter (24.3%) of the professionals were between 21 and 30 years old, those between 41-50 and 50+ years old respectively formed lower percentages, of 18.0 and 12.2 per cent. However, there were significant differences in the mean ages of the professionals, irrespective of whether they were returnees or non-migrants, of 32.7, 40.5, 32.6 and 39.4 years old, for doctors, nurses, pharmacists and MLS, according to ANOVA test carried out, as presented in Appendix14.

In more depth, the prominent age group (mode) for returnees is 35.5 years, with less than two-fifths (38.9%) of them, as against a lower age, of 25.5 years for 46.2 per cent of the non-migrant health professionals.

Table 5.1: Age groups of returnee and non-migrant health professionals

		Age Group (Years)									
		21 – 30		**31 – 40**		**41 - 50**		**51+**		**Total**	
Profession	Migration Status	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %
Doctors	Returnee	1	14.3	6	85.7	0	0.0	0	0	7	100
	Non-migrant	17	34.7	32	65.3	0	0.0	0	0	49	100
Nurses	Returnee	0	0.0	1	9.1	4	36.4	6	54.5	11	100
	Non-migrant	24	22.9	37	35.2	27	25.7	17	16.2	105	100
Pharmacists	Returnee	0	0	0	0.0	0	0	0	0	0	100
	Non-migrant	4	36.4	7	63.6	0	0	0	0	11	100
MLS	Returnee	0	0	0	0.0	0	0	0	0	0	100
	Non-migrant	0	0	3	50.0	3	50.0	0	0	6	100
Column Total	Returnee	1	5.6	7	38.9	4	22.2	6	33.3	18	100
	Non-migrant	45	26.3	79	46.2	30	17.5	17	9.9	171	100

Source: Author's Analysis, 2012

Furthermore, Appendix 13 shows variations in the ages of both returnee and non-migrant health professionals at institutional level are statistically significant. The modal age of returnee and non-migrant doctors in OAUTHC was 30.5 years. Also, the mean age of 30.5 years for non-migrant doctors in UCH and AMTH tallies with those in OAUTHC.

The mean age of returnee nurses in OAUTHC of 40.5 years was higher than that of their non-migrant colleagues of 25.5 years. Non-migrant nurses in UCH and AMTH have the same mean age, of 35.5years, which is higher than that of OAUTHC of 25.5 years. However, non-migrant pharmacists in UCH and OAUTHC mean age, of 30.5 years is lower, while non-migrant MLS mean age in all the institutions of 40.5 years was higher.

In sum, returnee and non-migrant nurses were older than any other returnee and non-migrant health professionals. The youthful age of returnee doctors indicates majority of them moved at the early stage of their adulthood and returned, possibly after they might have acquired or reached their desired level of knowledge and or skills needed to continue practicing their profession in their home country. However, for most of the nurses, possibly, they had moved at the early years of their adulthood, but might have spent most of their active years working in country of destination.

5.3 Sex Pattern of Returnee and Non-migrant Health Professionals

Table 5.2 shows there were more males returned to the country, with over two-thirds (68.2%) of them as against less than one-third (31.8%) of the returnee females. Majority of the non-migrants (68.4%) were females, as against 31.6 per cent for the males; therefore, implying sex selectivity factor among returnees, rather than among non–migrants.

Table 5.2: Sex Pattern of Returnee and Non-Migrant Health Professionals

		Sex					
		Male		Female		Total	
Profession	Migration Status	Count	Row %	Count	Row %	Count	Row %
Doctors	Returnee	7	70.0	3	30.0	10	100
	Non-migrant	41	71.9	16	28.1	57	100
Nurses	Returnee	8	66.7	4	33.3	12	100
	Non-migrant	11	8.8	114	91.2	125	100
Pharmacists	Returnee	0	0.0	0	0.0	0	100
	Non-migrant	6	42.9	8	57.1	14	100
MLS	Returnee	0	0.0	0	0.0	0	100
	Non-migrant	8	61.5	5	38.5	13	100
Column Total	Returnee	15	68.2	7	31.8	22	100
	Non-migrant	66	31.6	143	68.4	209	100

Source: Author's Analysis, 2012

In more depth, majority (70.0%) of returnee doctors were males as against 30.0 per cent of returnee female doctors. The same applies to non-migrant doctors, with just a little less than three-quarters (71.9%) of them being males, while the remaining over one-quarter (28.1%) was females. Furthermore, two-thirds (66.7%) of returnee nurses were males, while one-third (33.3%) were females. The reverse was the case among non-migrants, as majority (91.2%) of the non-migrant nurses were females and just less than one-tenth (8.8%) were males.

In addition, less than three-fifths (57.1%) of female pharmacists were non-migrants; the remaining (42.9%) were males. Also, over three-fifths (61.5%) of the MLS were males and less than two-fifths (38.5%) were females. By implication, very insignificant percentage of male and female pharmacists and or MLS had migrated over time, contrary to both male and female doctors and nurses. Also, the high mobility of doctors and nurses could be as a result of the differentials in their demand-supply in the health sector.

Appendix 14 presents the sex pattern of returnee and non-migrant health professionals according to institutions. UCH recorded the only female doctor returnee, representing (11.1%) compared while one-quarter (25.0%) of returnees female doctors in OAUTHC. Returnee male doctors in OAUTHC were more than returnee female doctors, with one-third for the former and one-quarter for the latter. All non-migrant doctors in UCH were males and virtually all were females. In the same vein, all male and female doctors in AMTH were non-migrant, while three-fifths of male doctors in OAUTHC were males and three-quarters were females.

The Chi-square analysis employed to test for difference or homogeneity in age-sex pattern of returnee and non-migrant health professionals is shown on Table 5.3. The result therefore shows no significant difference between the ages of returnee and non-migrant health professionals and their gender.

Table 5.3: Chi-square Test for Difference or Homogeneity in Age-Sex Structure of Returnee and Non-migrant Health Professionals

Institution		Value	df	Asymp. Sig. (2-sided)
UCH	Pearson Chi-Square	6.876(a)	3	0.076
	Likelihood Ratio	9.937	3	0.019
	Linear-by-Linear Association	4.202	1	0.04
	N of Valid Cases	87		
AMTH	Pearson Chi-Square	1.971(b)	3	0.578
	Likelihood Ratio	2.409	3	0.492
	Linear-by-Linear Association	0.054	1	0.816
	N of Valid Cases	39		
OAUTHC	Pearson Chi-Square	5.813(c)	3	0.121
	Likelihood Ratio	5.952	3	0.114
	Linear-by-Linear Association	2.401	1	0.121
	N of Valid Cases	85		

P = 0.05 level of significance

In a nut shell, the age structure and sex patterns of returnee and non-migrant health professionals revealed the likelihood of a high propensity of young-adults of both sexes migrating. In addition, male doctors are likely to migrate than their female colleagues, whereas, both male and female nurses have high tendency of returning. According to the findings, the youthfulness of the ages of the doctors and the high proportion of male returnee nurses category have corroborate the law of migration that affirmed the sex selectivity factor and age differentials as major determinants of migration (Udo, 1993).

Based on the above, of virile, agile, young adult health professionals mostly migrated from the country's health systems; therefore, leaving behind the older one. Thus, resulting into fatigue and stress of the fewer older and even young colleagues that are non-migrant. This would be detrimental to offering of prompt and quick delivery of health services and a threat to the livelihood of the populace. Furthermore, many inexperienced young doctors and nurses would likely take over vacancies that would be created; thus, resulting in shortages of experienced and expertise surgeons and consultants in some sensitive and delicate areas of health services, and to the provision of good medical care.

The likelihood of migration not occurring among female health professionals, particularly the nurses, between ages 45 and above can be explained by the fact that many of them might have reached or were moving closer to the peak of their careers; thus, planning for retirement. Again, there are likelihoods of stronger family ties and other social engagement, such as majority of the females aged 51 years and above becoming grandmothers. These and other factors may dictate that they stay behind in order to support their daughters or daughters-in-law, among others.

5.4 Marital Status of Returnee and Non-migrant Health Professionals

Table 5.4 shows that nearly all returnees (95.5%) were married, while the remaining few (4.5%) were single or never married. The picture is slightly different among the non-migrants, when close to three-quarters (74.9%) of them were married, leaving about one-fifth (23.6%) single or never married and the remaining small percentage (1.5%) for either the widows/widowers or divorcees.

At individual level of the health professionals, nearly all (90.0%) returnee doctors were married, while just one-tenth (10.0%) of them were single. A slightly different picture holds for returnee nurses, because all of them were married. There is, therefore, a very high likelihood that majority of returnee doctors and nurses would have been married prior to their migrating out of the country in the first instance.

Table 5.4: Marital Status of Returnee and Non-migrant Health Professionals

N		Marital Status							
		Single/Never Married		Married		Widow/Divorced		Total	
Profession	Migration Status	Count	%	Count	%	Count	%	Count	%
Doctors	Returnee	1	10.0	9	90.0	0	0.0	10	100
	Non-migrant	18	36.0	32	64.0	0	0.0	50	100
Nurses	Returnee	0	0.0	12	100.0	0	0.0	12	100
	Non-migrant	21	16.7	102	81.0	3	2.4	126	100
Pharmacists	Returnee	0	0.0	0	0.0	0	0.0	0	100
	Non-migrant	6	46.2	7	53.8	0	0.0	13	100
MLS	Returnee	0	0.0	0	0.0	0	0.0	0	100
	Non-migrant	2	15.4	11	84.6	0	0.0	13	100
Column Total	Returnee	1	4.5	21	95.455	0	0.0	22	100
	Non-migrant	48	23.6	152	74.877	3	1.5	203	100

Source: Author's Analysis, 2012

Table 5.4 equally shows the highest percentage, of 46.2 per cent of Singles/Never Married is recorded among non-migrant pharmacists as against lower percentages among doctors (36.0%), nurses (16.7%) and MLS (15.4%). On the other hand, non-migrant MLS has the highest percentage of married (84.6%), compared with percentages for other non-migrant married professionals: pharmacists (53.8%), doctors (64.0%) and nurses (81.0%). However, the very few (2.4%) non-migrating nurses who were widows or widowers or divorced stand out against other marital statuses. In sum, marital status is a selectivity factor in either returning or not migrating.

Appendix 15 shows the breakdown of the marital status of returnee and non-migrant health professionals at the institutional level. OAUTHC has the highest percentage of returnee doctors and nurses, as well as the highest percentage of non-migrant married nurses in all the institutions. In contrast, non-migrant single or never married and married professionals featured more in UCH.

It can, therefore, be deduced based on the above tables that there is tendency that more professionals are returning to OAUTHC when compared with the situation in UCH and AMTH. Appendix 10 affirmed this assertion that though few number of health professionals coming to the institutions, but more significant than the other two institutions. This could be explained in the context of OAUTHC allowing its medical staff traveling abroad for advance training than the other two institutions. Also, males are more mobile than females, which is obvious especially in the case of OAUTHC.

However, a Chi-square analysis of marital statuses at institutional level shows, there is no significant difference in the marital status of returnee and non-migrant health professionals in the three institutions at a level of significance of 0.05at 9, 4 and 3 degrees of freedom. Therefore, there is significant homogeneity in the marital statuses of health professionals in UCH (0.164), AMTH (0.327) and OAUTHC (0.086) respectively (Table 5.5). In other words, marital statuses of both returnees and non-migrant health professionals indicated on Table 5.4 are virtually the same in all the institutions. There is no significant difference among the respondents (returnees and non-migrants) that are single or never-married, married and widow/divorced. Therefore, marital status does not necessarily a predisposed factor for migration of health professionals, hence not a selective factor of migration in the selected institutions.

Table 5.5: Chi-square Test of Difference or Similarity in Marital Status of Returnee and Non-Migrant Health Professionals

Institution		Value	df	Asymp. Sig. (2-sided)
UCH	Pearson Chi-Square	12.980(a)	9	0.164
	Likelihood Ratio	14.786	9	0.097
	Linear-by-Linear Association	5.969	1	0.015
	N of Valid Cases	106		
AMTH	Pearson Chi-Square	4.631(b)	4	0.327
	Likelihood Ratio	4.223	4	0.377
	Linear-by-Linear Association	0.155	1	0.693
	N of Valid Cases	45		
OAUTHC	Pearson Chi-Square	6.594(c)	3	0.086
	Likelihood Ratio	5.45	3	0.142
	Linear-by-Linear Association	0.027	1	0.868
	N of Valid Cases	98		

P = 0.05 level of significance

Source: Author's Analysis, 2012

5.5 Year of Qualification of Returnee and Non-migrant Health Professionals

Table 5.6 presents the year of qualification of returnee and non-migrant health professionals, as a predisposing factor for either returning or non-migrating of health professionals, at least for those in the sample. This is cross-tabulated in relation to classified phases of forms of governance in the country. The first phase covers those of them that qualified before 1983, which is described as the civilian regime. The second phase is from 1984 to 1999, the military regime and the third phase is 2000 to 2010, the back-to-civilian or democratic regime. Out of all the returnees in the sample, over 90 per cent (27 out of 29) qualified during the military regime, while the remaining few qualified pre-civilian regime. The situation is quite in contrast for the non-migrants, among whom 57.9 per cent qualified during the military transiting to civilian regime; followed by 38.2 per cent during the military regime and 3.8 per cent in the pre-military or civilian regime.

The scenario is much more complex among the four categories of health professionals. None of the respondents (returnee and non-migrant doctors) qualified before1983, which was during the second democratic rule, however, in the second phase, between 1984 and 1999 which characterized the military regime, the situation changed a bit, all the returnee doctors had qualified, while one-tenth of non-migrant (10.8%) also qualified. In the third phase, when the military was transiting into a civilian regime, no returnee doctor was reported to have been qualified. However, close to 90 per cent of non-migrant doctors were qualified.

In the nursing category, only two (2) returnee and six (6) non-migrant nurses were reported to have qualified during the first phase. However, noticeable high percentages of returnee (90.0%) and non-migrant (55.8%) nurses qualified during the second phase. The third phase had no record of returnee nurses qualified at this period, but with substantial percentage of non-migrant nurses (39.1%) been qualified as registered nurses.

The percentage of non-migrant pharmacists qualified to practice in the second phase was very low, only two (16.7%) of them were recorded, but none for the returnees. The third phase witnessed noticeable percentage of pharmacists (10; 83.3%) qualified during the third phase.

On the other hand, two (2) MLS qualified during the first phase, translating to 16.7 per cent, while the second and third phases recorded four (4) and six (6) qualified MLS, representing 33.3 and 50.0 per cent of respondents respectively.

Table 5.6: Year of Qualification of Returnee and Non-migrant Health Professionals

		Class of Professionals									
		Doctors		Nurses		Pharmacists		MLS		Total	
Year of Qualification	Migration Status	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %
Before 1983 (Civilian Regime)	Returnee	0	0.0	2	9.1	0	0.0	0	0.0	2	6.9
	Non-migrant	0	0.0	6	5.0	0	0.0	2	16.7	8	3.8
1984-1999 (Military Regime)	Returnee	7	100.0	20	90.9	0	0.0	0	0.0	27	93.1
	Non-migrant	7	10.8	67	55.8	2	16.7	4	33.3	80	38.3
2000-2010 (Military transiting to Civilian Regime)	Returnee	0	0.0	0	0.0	0	0.0	0	0.0	0	0
	Non-migrant	58	89.2	47	39.1	10	83.3	6	50.0	121	57.9
Row Total	Returnee	7	100.0	22	100.0	0	0.0	0	0.0	29	100
	Non-migrant	65	100.0	120	100.0	12	100.0	12	100.0	209	100

Source: Author's Analysis, 2012

In sum, the inclusion of all the categories of non-migrant health professionals that qualified during the third phase (transition from military to civilian regime) and none of the returnees non-migrant indicate that democracy, to some extent, has stem-down some elements of push factors. Again, the period of qualification of health professionals has influenced their decisions to migrate or stay back at home. Each of the phases being characterized with different administrations and policies have facilitated the decision of many health professionals to move and yet to return.

The oral interviews conducted with volunteered senior health professionals in the selected health institutions buttressed the propensity of qualified health professionals migrating during the military rule but stemmed down when democracy was institutionalized. Their responses were as follows:

> …I attempted going abroad when I qualified as a nurse during the reign of Abacha, who was the President then (i.e. 1993-1998), but the opportunity was not forth coming. Then, we used to go on strike every time, until the time Abdulsalami Abubakar became the Head of States (i.e. 1998 -1999) when there seemed to be a thawing in the situation of things, in particular salaries were increased. Above all, when the democratic government was put in place in 1999, the salary structure was changed and things were getting better. Therefore, I have no more interest moving abroad (IDI, UCH).
>
> …When I qualified during the Babangida's reign as the President (i.e. 1985-1990), there was an embargo on public appointments. I, therefore, took up an appointment with a private hospital and started planning to move out of the country. I tried the US Visa Lottery for many years to no avail; but, immediately the democratic government came on board, the embargo on employment was lifted and many of us got employment with the State Hospital Board. Since then, I have stayed back (IDI, AMTH).
>
> … The early 1990s was a turbulent time of military government. By then, I was a medical student. Our lecturers and consultants used to go on strike virtually every year, just because of the poor conditions of the universities and teaching hospitals in the country. But, in the present day, things have changed. (IDI, OAUTHC).

The interviews have shown that the situations on ground during the military regime predisposed emigration of health professional, while the transition to democratic rule happened to reduce the yearning of these professionals from emigrating out of the country.

5.6 Designations of Returnee and Non-migrant Health Professionals

Table 5.7 shows only one (1) doctor, a consultant, as a high ranked returnee as against non-migrants in the same designation during the period of study. Close to one-third (31.8%) of the returnee doctors were in the rank of senior registrars and or senior medical officers, in contrast with over two-thirds (68.2%) them as non-migrants. However, very few percentage of returnee doctors (12.2%) were in the rank of registrar and or medical officer I and II, as against a very high percentage (87.8%) of same cadre, as non-migrants.

In the case of nurses, close to one-fifth (17.8%) of the non-migrant returnees were within the ranks of Assistant Director of Nursing (ADN), Principal and Chief Nursing Officer (CNOs & PNOs), as against over four-fifths (82.2%) of the non-migrants in the same designations. However, the percentage of non-migrant nurses (98.5%) of intermediate and junior ranking, that is, Senior Nursing Officers and Nursing Officers I and II was extremely high, when compared with just one (1.5%) returnee Senior Nursing Officer (SNO). In other words, non-migrant nurses were more spread out in all categories or designations, as against returnee nurses and doctors, who were in the upper cadres. By implication, there is a selectivity factor in the returning and or non-migration of doctors and nurses, since returnee doctors and nurses were of high ranks, as against middle and low ranking of the non-migrants.

Table 5.7: Designations of Returnee and Non-migrant Health Professionals

		Designation							
		Consultant		Senior Registrar / Medical Officer		Registrar's / Medical Officer's I & II		Total	
Class of Professional	Migration Status	Count	Col %	Count	Col %	Count	Col %	Count	Col %
Doctors	Returnee	1	100.0	7	31.8	6	12.2	14	19.4
	Non-migrant	0	0	15	68.2	43	87.8	58	80.6
	Total	1	100	22	100	49	68.1	72	100
		Principal Nursing Officer / Chief Nursing Officer / Assistant Director of Nursing (Matrons)		Senior Nursing Officer (Sisters)		Nursing Officer I & II (Staff)		Total	
	Migration Status	Count	Col%	Count	Col%	Count	Col%	Count	Col%
Nurses	Returnee	13	17.8	1	4.0	0	0.0	14	10.1
	Non-migrant	60	82.2	24	96.0.	41	100	125	89.9
	Total	73	100	25	100	41	100	139	100
		Senior Pharmacist		Pharmacist I & II		Total			
	Migration Status	Count	Col%	Count	Col%	Count	Col%		
Pharmacists	Returnee	0	0	0	0	0	100		
	Non-migrant	1	100	11	100	12	100		
	Total	1	100	11	100	12	100		
		Deputy Director MLS		Senior & Principal MLS		MLS I & II		Total	
	Migration Status	Count	Col%	Count	Col%	Count	Col%	Count	Col%
MLS	Returnee	1	33.3	0	0.0	0	0.0	1	8.3
	Non-migrant	2	66.7	3	100	7	100	11	91.7
	Total	3	100	3	100	7	100	12	100

Source: Author's Analysis, 2012

But, this cannot be inferred for both pharmacists and MLS since virtually all of them were non-migrants, even though with varied designations. However, at the institutional level, explanation for the distribution of designations of the health professionals is based on two premises. The first is related to the reason for the relative high level of returnees in some specific designations and secondly, the grounds for certain professionals not migrating. Even though health professionals, whether of junior or intermediate cadres, could move as internal or international migrants, the former, the junior officers, move more from one organization to another within the country than the intermediate ranked officers. This could have been due to their seeking promotion and or increase in remuneration.

To corroborate this, an oral interview with the Chief Nursing Officer in AMTH narrated her experience, as well as other junior nurses while trying to use state-owned secondary hospitals as springboards to migrate, as she put it:

> …I had tried migrating abroad when I was a Senior Nursing Officer; but I couldn't succeed. The same is happening to many junior and intermediate cadre nurses that are working in State Hospitals. Most of them wanted to use Adeoyo as a starting point for them to travel abroad. But, for me, now that I am the Chief Nursing Officer and a Deputy Director of Nursing in the State Civil Service ranking, I do not think of migrating anymore (IDI, AMTH).

The above interview affirmed the tendency of health professionals in the junior or intermediate cadre to be more mobile within and across the borders of the country, as against their senior colleagues.

The second premise has to do with the socio-economic factor, of family tie, being patriotic to ones country, timely promotion; hence, many of the professionals in the same rank are ready to seize the opportunity, however slim it may be, in particular since the advent of civilian government in 1999 had given some form of respite and more and more health professionals re-assess staying back in the country a likely choice.

5.7 Other Predisposing Factors for Returning and Not-Migrating Health Professionals.

5.7.1 Duration of Visa at Country Destination

The predominant factor for the returning of health professionals was visa expiration, as indicated on Table 5.8. This is indicated by 70.0 per cent of the returnee doctors as a reason for returning, while 30.0 per cent of them reported the domestication of skills acquired at home as their reason. Over half (52.3%) of returnee nurses equally mentioned visa expiration as main reason for returning. This is distantly followed by domesticating skills (18.7%), xenophobia/discrimination (12.5%), while very few of them cited harsh weather and loose family ties as reasons for returning.

Table 5.8: Reasons for Returning of Health Professionals

Reasons for returning	Class of Professionals									
	Doctors		Nurses		Pharmacists		MLS		Total	
	Count	Col %	Count	Col %	Count	Col %	Count	Col %	Count	Col %
To domesticate skills	3	30.0	3	18.7	0	0	0	0	6	23.1
Visa Expiration	7	70.0	9	52.3	0	0	0	0	16	61.5
Xenophobia/discrimination	0	0.0	2	12.5	0	0	0	0	2	7.7
Harsh weather condition	0	0.0	1	6.25	0	0	0	0	1	3.8
Loose family ties	0	0.0	1	6.25	0	0	0	0	1	3.8
Total	10	100	16	100	0	0	0	0	26	100

Source: Author's Analysis, 2012

These predisposing factors, in particular visa expiration as analyzed earlier on short duration of stay buttress the likelihood of brain circulation among the highly-skilled health professionals. Therefore, it can be said that, to some extent, their emigration out of, and returning back to, the country is for the betterment of their status and development of the society at large, that is, as they acquire more skills and knowledge that are relevant to their fields of professions.

5.7.2 Perception on Working Condition, as a Predisposing Factor for Migrating or Not-Migrating

Table 5.9 shows majority of each of the categories of health professionals (73.1%) were not satisfied with their working conditions, while only one-quarter (26.9%) of them were contented. MLS were prominent (40.0%) health professionals that were contented with their working condition in their institution; followed by nurses (34.8%), pharmacists (23.1%) and doctors (8.7%), On the contrary, doctors (91.3%) were in the forefront in disagreeing that the working conditions in their institution were satisfactory; followed by pharmacists (76.9%), nurses (65.2%) and MLS (60.0%).

Table 5.9: Perception on Working Condition

	Class of Professionals									
	Doctors		Nurses		Pharmacists		MLS		Total	
Were you satisfied with the working conditions in this institution?	Count	Col. %	Count	Col. %	Count	Col. %	Count	Col %	Count	Row %
Satisfactory	6	8.7	49	34.8	3	23.1	6	40.0	64	26.9
Not Satisfactory	63	91.3	92	65.2	10	76.9	9	60.0	174	73.1
Total	69	100.0	141	100.0	13	100.0	15	100.0	238	100

Source: Author's Analysis, 2012

In essence, the likelihood is higher for doctors and pharmacists to migrate than for the other two categories of health professionals. At the institutional level, as contained in Appendix18, majority of sampled doctors (94.3%), and pharmacists (80.0%) in UCH reported that they were not satisfied with the working conditions, leaving just 5.7 and 20.0 per cent of them being satisfied. In the case of interviewed nurses and MLS in the institution, the likelihood for them to migrate is of equal chances(50.0% each),

In AMTH, all doctors and MLS and majority of the nurses (82.9%) were not satisfied with the working conditions. The reason for this adverse reaction of health professionals in the institution could have been negligence or poor funding of state-owned health institutions, generally in the country.

Also, majority of the doctors, (85.7%), nurses (86.0%) and pharmacists (75.0%) in OAUTHC were not satisfied with the working situation of their institution, while 50.0 per cent each of the MLS were either satisfied or not satisfied with their working condition.

5.7.3 Components of Working Condition, as Predisposing Factor for Likelihood of Migrating

Table 5.10 reveals the multi-faceted reasons that sum up as either good or otherwise working condition; prominent among which was inadequate medical equipment that was cited by doctors (64.6%), nurses (58.4%), MLS (62.5%) and pharmacists (36.3%). This is followed by low remuneration, by about one-fifth of the nurses (22.5%) and doctors (17.8%), a quarter of the MLS (25.0%) and a little bit above two-fifths of the pharmacists (45.5%).

Table 5.10: Component of Working Conditions as a Predisposing Factor for Likelihood of Migrating

	Class of Professionals									
Class of Professionals	Doctors		Nurses		Pharmacists		MLS		Total	
Reasons	Count	%	Count	%	Count	%	Count	%	Count	%
Inadequate medical facilities	40	64.6	52	58.4	4	36.3	5	62.5	101	59.4
Low Remuneration	11	17.8	20	22.5	5	45.5	2	25	38	22.5
Inadequate funds for research	6	9.6	15	16.9	0	0	1	12.5	22	13.0
Inadequate training	3	4.8	2	2.2	2	18.2	0	0	7	4.1
Poor staffing	2	3.2	0	0	0	0	0	0	2	1.2
Total	62	99.8	89	100	11	100	8	100	170	100.0

Source: Author's Analysis, 2012

According to Table 5.10, it has been revealed that close to two-thirds (59.4%) of health professionals in the institutions were not satisfied with the equipment and facilities they are working with, hence making the component first on the list of the predisposing factors for migration. However, it is evident according to the study that health professionals are not particular about salary and wages, but the provision of the state-to-art equipment.

Other reasons predisposing migration of health professionals were inadequate funds for research that nurses (16.9%), doctors (9.6%) and MLS (12.5%) cited. In addition, fewer percentages of the pharmacists (18.2%), doctors (8.0%) and nurses (2.2%) cited, inadequate training and poor staffing as another prompting factor of migration.

By inference, the above analyses showed that emigration (brain drain) of health professionals is not generally based on the orthodox economic preference (wage differentials and benefits)of the push-pull forces; rather, it is more often than not the lack of modern equipment and high-tech medical facilities for practice (Stilwell, 2004, Vujicic, 2004, Pillay, 2007). Findings of the present study have, therefore, corroborated earlier studies, such as Astor et al (2005) and Dovlo (2007), which indicated the desire for increased access to enhanced technology, equipment and health facilities, rather than the desire for a higher income as the major predisposing factor of migration of highly-skilled health professionals.

5.8 Reasons for Not-Migrating by Non-Migrant Health Professionals

Table 5.11 reveals family and social engagement as the most prominent reason for health professionals not migrating, which was cited by 44.8 per cent of the non-migrant respondents. This was distantly followed by fear of retraining (19.0%), patriotism (15.8%), and lack of opportunity to travel (13.6%). Among the least of the reasons cited were fear of heavy taxation in potential destination by 4.5 per cent, while 2.3 per cent of them reported of harsh weather condition.

Table 5.11: Reasons for Not-Migrating

	Class of Professionals									
	Doctors		Nurses		Pharmacists		MLS		Total	
Reasons for not migrating	Count	%	Count	%	Count	%	Count	%	Count	%
Fear of re-training	15	6.8	19	8.6	5	2.3	3	1.4	42	19.0
Family ties/social engagement	13	5.9	73	33.0	4	1.8	9	4.1	99	44.8
Patriotism	18	8.1	14	6.3	3	1.4	0	0.0	35	15.8
Lack of opportunity to migrate	16	7.2	11	5.0	2	0.9	1	0.5	30	13.6
Heavy taxation	0	0.0	6	2.7	2	0.9	2	0.9	10	4.5
Fear of harsh weather condition	1	0.5	4	1.8	0	0.0	0	0.0	5	2.3
Total	63	28.5	127	57.5	16	7.2	15	6.8	221	100

Source: Author's Analysis, 2012

At the professional level, the reasons given for not migrating by some doctors were patriotism; this was indicated by 8.1 per cent. Others were lack of opportunity (7.2%), fear of re-training (6.8%) and family ties (5.9%).The fear of harsh weather was the least reason given (0.5%). In the case of non-migrant nurses, one-third (33.0%) of them gave family ties and other social engagement as the major reason for not migrating, while the fear of re-training(8.6%), patriotism (6.3%) and lack of opportunity to move (5.0%) were other notable reasons cited by the nurses. Very few of them gave fear of heavy taxation and fear of harsh weather condition as reasons for not migrating.

For the pharmacists, the fear of retraining was given by 2.3 per cent, while family ties and patriotism were respectively given by 1.8 and 1.4 per cent. The least reasons given by pharmacists for not migrating were lack of opportunity and fear of heavy taxation. In the case of MLS, family ties was the main reason given for not migrating, with 4.1 per cent of them cited such, while some of them could not move due to fear of restarting/re-training, heavy taxation and lack of opportunity.

By implication, family ties and patriotism that were mentioned as main reasons for not migrating depict very strong ties Nigerians have for the socio-cultural entities (Pillay, 2007). Besides, the stringent immigration measures being put in place by many recipient countries of recent are added factors for the high percentages of non-migrant health professionals in the study. Such measures range from writing of aptitude tests and or English Language examination, with stipulated cut-off marks, learning official language of potential countries of destination, and adhering to some religious and cultural behaviours of host countries, among others. This was corroborated in the report on the Gulf Cooperation Council (GCC) and health worker migration by Badr (2008). Some of these reflected in the responses gathered in the Author's Analysis, such as cultural, linguistic and religious similarity or otherwise, as a significant part of reason why health professionals from Sudan and other Low-Income Middle-Eastern African countries were specifically being recruited to work in GCC countries.

Writing and passing of English Language as one of the reasons by health professionals for not migrating was affirmed in interviews with a PNO in UCH:

> ….They said I have to write Tofel Aptitude Tests, which I did. But, I could not get up to 50 per cent in the English test; that was why I could not go move to the United Kingdom. (IDI, UCH).

5.9 Test of Hypothesis 2

Furthermore, test of second main hypothesis of the thesis is to find the relative importance of some of these predisposing factors; stated as:

The volumes of migration of health professionals are a function of age, sex, and marital status, year of qualification, designation/position and availability of modern equipment.

The step was to test the likelihood of migrating as a function of predisposing factors, in which multiple and logistic regression analyses were adopted. The procedures are stated below and results are shown on Tables 5.12.and 5.13.

H_0: There is no significant relationship between age, sex, marital status, year of qualification, designation and modern equipment and migration.

H_1: There is significant relationship between age, sex, marital status, year of qualification, designation and modern equipment and migration.

Table 5.12: Multiple Regression of Likelihood of Migrating as a Function of Predisposing Factors

Independent Variables (VR)	Standardized Coefficients (Beta)	t	Sig.
VR 1 Designation	-0.019	-0.16	0.146
VR 2 Age	0.029	0.16	0.00
VR 3 Sex	-0.027	-0.27	0.038
VR 4 Marital Status	-0.116	-1.18	0.206
VR 5 Year of Qualification	-0.358	-1.87	0.00
VR 6 Modern Equipment	-0.09	-0.876	0.383

P = 0.05 level of significance

Table 5.12 depicts the joint influence of independent variables on the dependent, the volumes of migration of health professionals in the following order of level of significance: VR 2 (Age), VR 3 (Sex), and VR 5 (Year of qualification). The significance of the variables can also be considered based on the sign of their beta standardized coefficients from the regression analysis. Age, VR 2 has $\beta = 0.029$, which means that it influences migration of health professionals in a positive way. Therefore, the analysis indicated that age as a variable as a strong relationship with migration. In other words, age is a determinant of health professional migrating from and into the selected institutions. The decision is that only VR 2 (Age) is significant; therefore, the variable has direct influence on likelihood of migrating.

Table 5.13: Logistic Regression Analysis of Likelihood of Migrating, as a Function of Predisposing Factors

Independent Variables (VR)	B	S.E.	Wald	df	Sig.	Exp(B)
VR 1 Designation	0.038	0.036	1.074	1	0.3	1.038
VR 2 Age	-0.249	0.095	6.839	1	0.009	0.78
VR 3 Sex	0.214	0.582	0.135	1	0.713	1.238
VR 4 Marital Status	0.202	0.623	0.105	1	0.746	1.224
VR 5 Year of Qualification	-0.073	0.088	0.685	1	0.408	0.929
VR 6 Modern Equipment	0.411	0.578	0.506	1	0.477	1.509

P = 0.05 level of significance

Also, the results of the logistic regression on Table 5.13 show that migration of health professionals could be predicted on the long run with the variables listed. Variables with the Exp(B) greater than 1 depict the probability of such variables prompting future increase in migration of health professionals. This means Exp(B) values for VR3 (1.238), VR4 (1.224), VR1 (1.038), and VR6 (1.509) indicate variables of higher probability, that is, higher likelihood or tendency of migration of health professionals increasing in the future. In particular, Exp(B) value for VR6 (modern equipment/working conditions), with the highest value conveys it is the variable with the highest probability of increasing future migration of health professionals.

5.10 Summary and Conclusion

In sum, average age of returnee health professionals (35.5 years old) was higher than that of non-migrant (25.5 years old).There were noticeable variations in the average age of returnee and non-migrant doctors being the youngest with 30.5 years old, as against returnee nurses, the oldest with an average age of 42 years. There were more male returnees of all health professionals, than their female returnees, as against female non-migrants being more than the male non-migrants. Male nurses recorded highest number of returnees, as against male doctors and other professions. About same scenario was for the female nurses, having highest number of their returnees, as against other professions. Majority of returnees and non-migrants were married with greater part of them being nurses, while few returnees and non-migrants were never married. Majority of returnee doctors and nurses qualified during the military regime between 1984 and 1999, which possibly mean that they had moved out of the country immediately the qualified. Majority of non-migrants qualified during the third phase, between 2000 and 2010, an indication that the democratic rule has brought relative peace and tranquility to the country; hence they stayed put at home. Most of returnees were in very high designations, as against majority of non-migrants that were mostly in middle and low ranked position; hence, propensity of migration is likely to be high among those in the middle and low ranked personnel. Moreover, majority of health professionals were not satisfied with their condition, prominent among the reasons cited were lack of modern medical equipment and facilities and non-improved staff welfare and remuneration.

The multiple and logistics regression analyses revealed age as a significant variable, that has direct influence on likelihood of migrating. Other variables

(designation, sex, marital status, year of qualification and modern equipment) have future tendency of prompting or influencing migration of health professionals from the selected institutions.

The main predisposing factor that prompted the return of emigrated health professionals was expiration of stay at country at the destination; indicated by majority of the returnee doctors and nurses. Moreover, majority of non-migrant health professionals were not satisfied with their working conditions in particular lack of modern medical equipment and facilities and non-improved staff welfare and remuneration. But for majority of non-migrant health professionals, the major predisposing factor was family ties and other social responsibility they have to perform in their setting.

In conclusion, the interwoven or causal link of socio-economic characteristics as predisposing factors for returning and non-migration, for example, the returnees and non-migrants were older and their marital status was about the same; hence, both staying back. Also, both the returnees and non-migrants were in high designations; hence, a predisposing factor to stay put. In addition, modern equipment was the main predisposing factor for propensity or likelihood of future movement; hence, migration policy and programme, particularly on international migration are to be put in place so as to encourage the non-migrants from leaving the country's health system.

CHAPTER SIX

IMPACT OF MIGRATION ON NON-MIGRANT HEALTH PROFESSIONALS IN SELECTED INSTITUTIONS AND MIGRATION POLICY AND ITS IMPLICATIONS ON HEALTH PROFESSIONALS IN NIGERIA.

6.1 Introduction

The terms brain drain and brain gain already connote the respective phenomena, of emigration and immigration of health professionals have negative and positive impacts. Often, the former is the main stream, of higher magnitude and force; thus, connoting detrimental consequences on the emigrants, if at all, the source health institutions and the source country in general.

Nonetheless, the negative effect of emigration could be lessened; turned positive or entirely cancelled out, if remittances, in the forms of cash and or kind are received at comparable level from emigrants by the non-migrant colleagues, the source institutions and or the home country in general.

On the other hand, the latter, immigration, in forms of international migration of professionals into the source country, which to the immigrants becomes the host country and to returnee emigrant professionals that move in on either a short or long term basis in their home country, connote positive, brain gain or brain circulation. This has positive impact on the non-migrant, the receiving institutions and or country of origin. The positive impact of immigration, particularly of returnee health professionals is assumed discernable in the social, economic and political milieu of the non-migrant, the source institutions and the country in general.

Accordingly, the chapter examines the negative and positive impacts of emigration of health professionals on the Non-migrant colleagues, the three selected health institutions and the country in general between 1986 and 2010. The examination covers the health services provision, training and research, linkages in visitation and consultation, book donation, project collaboration and organization of lectures and seminars. Others are economic linkages between emigrated health professionals and their home-based colleagues, particularly in terms of remittances, both in cash and kind. Furthermore, the chapter examines the effect of emigration on various

associations of health profession that the Non-migrant might have belonged to, in terms of regulation of the 'flight' of their members out of the institutions, as well as from the country. Finally, the chapter analyzes various suggestions given by the home-based health professionals on what government should do to discourage emigration and encourage those in the Diaspora to return back into the institutions and the country in general.

6.2 Primary Source of Data on Negative Impact of Emigration of Health Professionals on Non-migrant and Selected Health Institutions

Tables 6.1 depicts majority of respondents from UCH (76.9%), AMTH (86.2%) and OAUTHC (83.3%) citing loss of expertise and experienced personnel as the leading negative impact of emigration of health professionals on the selected institutions. This is followed by decline in research work and training by 15.3, 11.2 and 2.1 per cent of respondents respectively in UCH, AMTH and OAUTHC and increase in workload by 7.8, 2.8 and 10.5 per cent respectively of those in UCH, AMTH and OAUTHC.

Table 6.1: Emigration Consequence on Non-Migrant Health Professionals

Institution	**UCH**									
	Class of Professionals									
	Doctors		Nurses		Pharmacists		MLS		Total	
Impact of emigration	Count	%	Count	%	Count	%	Count	%	Count	%
Loss of expertise and experienced personnel	15	79.2	0	0	3	100	2	50	20	76.9
Increased workload	2	10.4	0	0	0	0	0	0	2	7.8
Decline in research work & training	2	10.4	0	0	0	0	2	50	4	15.3
Total	**19**	**100**	**0**	**0**	**3**	**100**	**4**	**100**	**26**	**100**
Institution	**AMTH**									
	Doctors		Nurses		Pharmacists		MLS		Total	
Impact of emigration	Count	%	Count	%	Count	%	Count	%	Count	%
Loss of expertise and experienced personnel	4	66.6	26	96.2	0	0	1	33.4	31	86.2
Increased workload of Non-migrant	1	16.7	0	0	0	0	0	0	1	2.8
Decline in research work & training	1	16.7	1	3.8	0	0	2	66.6	4	
Total	6	100	27	100	0	0	3	100	36	100
Institution	**OAUTHC**									
	Doctors		Nurses		Pharmacists		MLS		Total	
Impact of emigration of health professionals	Count	%	Count	%	Count	%	Count	%	Count	%
Loss of expertise and experienced personnel	15	93.7	22	79.4	0	0	3	75	40	83.3
Increased workload of Non-migrant	1	6.3	4	14.2	0	0	0	0	5	10.5
Decline in research work & training	0	0	1	3.2	0	0	0	0	1	2.1
No effect, vacancies are filled up	0	0	1	3.2	0	0	1	25	2	4.1
Total	16	100	28	100	0	0	4	100	48	100

Source: Author's Analysis, 2012

Further breakdown of the analysis shows majority of the doctors in UCH (79.2%), AMTH (66.6%) and OAUTHC (93.7%) affirmed emigration of their colleagues resulted in loss of skilled colleagues. Similarly, AMTH (96.2%) and OAUTHC (79.4%) had majority of their nurses assenting to a loss of expertise and experienced personnel. as leading negative impact of emigration on the Non-migrant. The same applies to all the pharmacists in UCH (100%) and to substantial percentages of MLS in UCH (50%), AMTH (33.4%) and OAUTHC (75.0%).

Increase in workload was mentioned by relatively very few doctors in UCH (10.4%), AMTH (16.7%) and OAUTHC (6.3%), while decline in research work and training scored lowest among doctors in UCH (10.4%) and AMTH (16.7%). In addition, very few nurses (3.2%) and MLS (25.0%) in OAUTHC believed emigration of colleagues had little or no effect on either they themselves or their institutions.

6.3 Measures of Impact of Emigration of Health Professionals on Non-Migrant Colleagues in the Institutions – Chi-square & ANOVA Tests

Both primary and secondary sourced data were used in the summary measures of impact of emigration of health personnel on the selected institutions. For the former, they are in terms of number of vacancies and health personnel-patients ratio in the selected institutions, while the latter comprises the number of consulting hours/call duties and level of training of the respondents that were interviewed, the non-migrants.

Chi-square test was adopted to test significant difference or homogeneity (association) between and or among selected measures of impact of emigration and its impact on non-migrant colleagues that is, number of vacancies, patients-health personnel ratio, number of consulting hours and advanced training.

Hypothesis 3: To test whether the emigration impact varies significantly on non-migrant colleagues, in terms of number of vacancies, patients-health personnel ratio, number of consulting hours, and advanced training in each of the selected health institutions.

The procedure of the hypothesis is stated below, while the results of the hypothesis are contained in Tables 6.2 and 6.3.

H_0: The emigration impact does not vary significantly on non-migrant colleagues, in terms of number of vacancies, patients-health personnel ratio, number of consulting hours, and advanced training in each of the selected health institutions.

H_1: The emigration impact varies significantly on non-migrant colleagues, in terms of number of vacancies, patients-health personnel ratio, number of consulting hours, and advanced training in each of the selected health institutions.

Chi-square results on Table 6.2presents whether or not there is association between emigration impact and non-migrant health professionals at individual institutional level. For UCH, the calculated χ^2 values are greater than the table values that are written within the brackets, of 3.945 (0.711), 1.718 (0.352), and 3.000 (0.00393) at degrees of freedom of 4, 3 and 1 respectively for doctors, nurses and pharmacists and at $P>$ 0.05, indicating that emigration of health professionals had impacted negatively on non-migrant colleagues.

Table 6.2: Chi-square Tests of Homogeneity or Difference of Measures of Impact of Emigration on Non-Migrant Colleagues

Institution	Class of Professionals		Value	Df	Asymp. Sig. (2-sided)
UCH	Doctors	Pearson Chi-Square	3.945	4	0.413
		Likelihood Ratio	3.821	4	0.431
		Linear-by-Linear Association	0.083	1	0.773
		N of Valid Cases	47		
	Nurses	Pearson Chi-Square	1.718	3	0.633
		Likelihood Ratio	2.259	3	0.52
		Linear-by-Linear Association	1.228	1	0.268
		N of Valid Cases	71		
	Pharmacists	Pearson Chi-Square	3.000	1	0.083
		Continuity Correction(a)	0.75	1	0.386
		Likelihood Ratio	3.819	1	0.051
		Linear-by-Linear Association	2.5	1	0.114
		N of Valid Cases	6		
	MLS	Pearson Chi-Square	0.00		0.00
		N of Valid Cases	11		
AMTH	Doctors	Pearson Chi-Square	1.333	2	0.513
		Likelihood Ratio	1.726	2	0.422
		Linear-by-Linear Association	0.086	1	0.769
		N of Valid Cases	8		
	Nurses	Pearson Chi-Square	4.022	3	0.259
		Likelihood Ratio	4.622	3	0.202
		Linear-by-Linear Association	0.141	1	0.707
		N of Valid Cases	58		
	MLS	Pearson Chi-Square	0.00		0.00
		N of Valid Cases	9		
OAUTHC	Doctors	Pearson Chi-Square	19.000	3	0
		Likelihood Ratio	7.835	3	0.05
		Linear-by-Linear Association	6.947	1	0.008
		N of Valid Cases	19		
	Nurses	Pearson Chi-Square	2.197	3	0.533
		Likelihood Ratio	3.342	3	0.342
		Linear-by-Linear Association	0.488	1	0.485
		N of Valid Cases	63		
	MLS	Pearson Chi-Square	0.00		0.00
		N of Valid Cases	5		

Level of Significance = 0.05

Source: Fieldwork, 2012

The same applies to the χ^2 computed values for doctors (1.333) and nurses (4.022) in AMTH which at 2 and 3 degrees of freedom respectively are greater than the expected values, of 0.103 and 0.352 respectively. These, therefore, translate to emigration effect on these two categories of health professionals in the institution at $P<0.05$ has adversely affected the non-migrant colleagues On the other hand, the χ^2 result for doctors in OAUTHC, of 19.00 shows emigration had no negative effect on the non-migrant doctors, since the level of significance is zero, which is less than $P<0.05$, the set significance value. This is in contrast to the computed χ^2 value, of 2.197, at 3 degrees of freedom and $P = 0.533$, which is greater than set level of significance, of $P<0.05$, indicating/showing a significant effect of emigration on nurses that were non-migrant colleagues in the institution.

Table 6.3: ANOVA Test of Mean Value of Emigration Impact on Non-Migrant Colleagues

			Sum of Squares	df	Mean Square	F	Sig.
Emigration impact on non-migrants colleagues in the selected institutions (UCH, AMTH & OAUTHC)	Between Groups	(Combined)	369.056	2	184.528	2.323	.005
	Within Groups		982.833	33	29.783		
	Total		1351.889	35			

P = 0.05 level of significance

Source: Author's Analysis, 2012

The ANOVA test of Table 6.3 in which F =2.323 at p =0.005 shows that emigration impact is significant on non-migrant colleagues in all the selected institutions; hence, the H_0 is accepted. This is noticeable in terms of increased vacancies; discussed in later section, and based on the data set from values in Tables 6.4 and 6.5 below. This is an indication of loss of expertise and experienced colleagues.

Definitely the loss has increased the workload of those non-migrant, for instance, a doctor with an average of 90 units call, operates above the norm of 80 units call per week. Also, the health personnel-patient ratio in the selected institutions is high. According to the Chief Medical Director, Lagos University Teaching Hospital (LUTH), even though the doctor-patients ratio in Nigeria has decreased from 1:5 million in 2009 to 1:8,000 in 2012 (The Nigerian OBSERVER 2013), is still high judged against the global ratio of 1:400. In the case of nurses, the CMD, National Orthopeadic Hospital, Enugu (NOHE) stated the nurse-patients ratio in the country was 1:3,000 in 1999, but decrease to 1:300 in 2009, as against the global ratio, of 1:30 (The Daily SUN, 2009). Furthermore, the country's ratios are comparable to those of studied institutions; based on the population of the states hosting each of the institutions as: for UCH, the doctor-patient ratio is 1:10,000 and nurse-patient ratio, 1:5,500;for AMTH, the doctor-patient ratio is1:30,000 and nurse-patient ratio, 1:4,500 and for OAUTHC, the doctor-patient ratio is, 1:6,500 and nurse-patient ratio, 1:4,500. These imply fewer health professionals attend to a large population of patients; hence, consulting hours and or call duties are high.

In addition, emigration of health personnel has contributed to a relatively reduced level of research and training during the defined period of study. According to OAUTHC Newsletter (2012), the institution lost some of its supervising consultants to brain drain; therefore, it has had problem in running residency programme in some sensitive areas of medicine.

6.4 Secondary Source of Data on Negative Impact of Emigration of Health Professionals on Non-Migrant and Selected Health Institutions

Moreover, the secondary data source assists on the measurement of the impact of emigration on the institutions. The loss of expertise and experienced personnel is corroborated by the interview held with the past Chief Medical Director (CMD) of the

institution, as recorded in The Sun, August 17, 2009, as follows: “Between 1970s and early 1980s, UCH was rated No 4 in the whole of the Commonwealth”.

Furthermore, he lamented the impact of emigration of health personnel in the institution vis-à-vis what was on the ground in 2009, as follows:

> …If we had sustained the momentum that has built up since the establishment of UCH and at least up to the end of the 70s; if we had sustained that momentum, this hospital would have advanced far ahead of the present situation. As I mentioned earlier, the first renal transplant was carried out here; open heart surgery was even done here. There is no land-breaking operation you read about elsewhere that has not taken place here. But you recollect that the medical sector was confronted with the problems of brain drain and so many things, and people started going abroad to work (quote: The Sun, August 17, 2009).

Also, Tables 6.4 on the staff strength of some core healthcare professionals in UCH between 2003 and 2006 shows fluctuation and or stagnancy in the number of medical staff working in the institution during the period. The number of hospital consultants in the institution was seven (7) in 2003 and remained the same till 2006, while that of resident doctors, excluding house officers, decreased from 435 in 2003 to 274 in 2004.As well, the number of doctors decreased drastically by over 300 per cent in just one year, 2004 to 2005, from 274 to 82; but, increased by more than 200 per cent the following year, to 165.

In the case of nurses, the records were not available for 2003-2006; after which their number shows remarkable increase between 2009 and 2010 and a bit of a decrease the following year. On the other hand, the number of pharmacists did not change much between 2003 and 2004; but, it decreased from 54 to 53 in 2005 and increased in 2006 to 58. For MLS, their number increased from 59 in 2003 to 65 in 2004; remained unchanged in 2005; but, increased to 101 and 253 respectively in 2006 and 2009; fluctuated a bit to a lower figure, of 228 by 2012.

Table 6.4: Staff Strength of Core Healthcare in UCH, 2003 and 2012

Class of profession	**2003**	**2004**	**2005**	**2006**	**2009**	**2010**	**2011**	**2012**
Consultants	7	7	7	7	119	200	234	250
Doctors	435	274	82	165	347	305	423	342
Nurses	NA	NA	NA	NA	1217	1190	1228	1205
Pharmacists	54	54	53	58	92	74	98	97
MLS	59	65	65	101	253	250	235	228
Total	**555**	**400**	**207**	**331**	**2028**	**2019**	**2218**	**2122**

Source: Establishment Unit, UCH, Ibadan

A plausible explanation for the general pattern of an increase in number of some of the highlighted personnel above (even though there were no records available for the staff strength of selected health professionals in the institution between 2007 and 2008) is the filling up of vacancies created possibly as a result of emigration as from 2009. During these latter years, the number of hospital consultants in 2009 was 119, which increased to 200, 234 and 250 respectively in 2010, 2011 and 2012. In addition, even though the number of doctors also increased, there were fluctuations in their numbers between 2009 and 2012, when it was 347 in 2009; decreased to 305 in 2010; rose to 423 in 2011; only to decrease to 342 in 2012. Again, a plausible reasoning is emigration of doctors that seems to be on course gradually during these years.

Moreover, available records of nurses between 2009 and 2012 show a fluctuating pattern, as the number decreased from 1,217 in 2009 to 1,190 by 2010. By the following year, their number rose again to 1,228; but, it decreased to 1,205 in 2012.

About the same pattern is observable for the pharmacists. There was a significant increase in their staff strength, of 92 in 2009, which declined in 2010 to 74; witnessed a rise in 2011 and a slight decrease in 2012 to 97. The same scenario is presented by the data for the MLS in the institution, of a rise alternating with a fall in the number of MLS, that is, 253 MLS in 2009 to 228 MLS in 2012.

In addition, OAUTHC Newsletter (2012, pg. 2) buttresses challenges posed by the loss of medical skills, as it put it: “the residency programme in Neurosurgery and Cardiothoracic Surgery in the institution (OAUTHC) has been facing challenges of supervising consultants, basically because of emigration of specialists”. Even then, new appointments to vacancies created by emigrated health professionals have been carried out, as occasion demanded. The same source of information, OAUTHC Newsletter (2012, pp.38-39), shows between January and April, 2012, 81 doctors were appointed as Registrars, 17 nurses as Nursing Officer II and one (1) person as a pharmacist.

The same scenario of filling up vacancies with new appointments, and even, recruiting additional staff becomes obvious or is seen in the activities of Oyo State Hospitals Management Board, which is the coordinating body for AMTH, between 1996 and 2000. According to Table 6.5, in 1996, the number of specialist doctors was 14, medical and dental practitioners, 96, nurses 1,121, while pharmacists were just 13 and the MLS, 47. Moreover, in 1997, the structure seemed unchanged or slightly

altered; this could have been as a result of the embargo placed on employment then by the military government or because of civil services' job bureaucracy that is, following the hierarchical steps of promotion. Therefore, the number of specialist doctors remained 14, while the figure of medical and dental practitioners increased by 3 per cent, from 96 to 99. The number of nurses reduced by one (1) person; possibly through emigration, leaving 1,120, while the number of MLS remained unchanged, 47.

Table 6.5: Staff Strength of Core Healthcare in AMTH Between1996 and 2000

Class of profession	1996	1997	1998	1999	2000
Specialist doctors	14	14	20	20	23
Medical and dental practitioners	96	99	122	125	140
Nurses	1121	1120	1291	1460	1450
Pharmacists	13	13	18	18	22
MLS	47	47	53	53	73
Total	1291	1293	1504	1676	1708

Sources: Oyo State Hospital Management Board, Ibadan

However, in 1998, there were remarkable increases in the numbers of both specialist doctors and medical and dental practitioners, that is, from 14 to 20 for the former and for the latter, from 99 to 122. A phenomenal increase in the number of nurses took place a year later in 1999, when their figure rose to 1,460 from 1,291 nurses. Likewise, the number of pharmacists increased from 18 to 22, and for MLS, from 53 to 73 between 1999 and 2000. These increases can also be linked to thawing political condition of the country, as the events coincided with the return of the country to democracy in 1999.

6.5 Primary Source of Data on Positive Impact of Emigration of Health Professionals on Non-Migrant and Selected Health Institutions

The positive impact of emigration was examined, based on responses on whether or not emigrants organized seminars/lectures; donated books and or modern equipment; had project collaboration with the institution and or had short-term consultancy/visitation to the institutions. In all the selected institutions, Table 6.6 shows close to one-third (31.4%) of the health professionals responded positively, they benefitted from emigrated colleagues from their institutions, while over two-thirds (68.6%) stated the opposite. In more depth, gain in form of seminars/lectures was cited by more than four-fifths of the doctors and MLS (83.3% each), which is far above one-quarter of the nurses (27.3%), that stated this as a gain and by the only pharmacist (100.0%). Book donation and modern equipment donation were scored mostly by doctors (50%; 56.3% respectively), compared to proportion among the nurses (15%; 28.6%), MLS (20.0%; 20.0%) and by none of the pharmacist. Project collaboration and short-term consultancy/visitation are the least cited gains.

Table 6.6: Positive Impact of Emigrated Health Professionals on Institutions

		Class of Professionals									
Positive impact of emigration	Does your institution benefit in kind from emigrants?	Doctors		Nurses		Pharmacists		MLS		Total	
		Count	Col %	Count	%	Count	%	Count	%	Count	%
Organized seminars / lectures	No	2	16.7	6	66.7	0	0	1	16.7	9	100
	Yes	10	83.3	16	27.3	1	100.0	5	83.3	32	100
Books donation	No	8	50.0	17	85.0	1	100.0	4	80.0	30	100
	Yes	8	50.0	3	15.0	0	0 0.0	1	20.0	12	100
Donation of modern equipment	No	9	56.3	15	71.4	1	100.0	4	80.0	29	100
	Yes	7	43.8	6	28.6	0	0.0	1	20.0	14	100
Project Collaboration	No	15	93.8	17	85.0	1	100.0	4	80.0	37	100
	Yes	1	6.3	3	15.0	0	0.0	1	20.0	5	100
Short-term consultancy visit	No	14	87.5	19	95.0	1	100.0	5	100.0	39	100
	Yes	2	12.5	1	4.5	0	0.0	0	0.0	3	100
Column Total	No	48	63.2	74	71.8	4	80.0	18	69.2	144	68.6
	Yes	28	36.8	29	28.2	1	20.0	8	30.8	66	31.4
Grand Total		76	100	103	100	5	100	26	100	210	100

Source: Author's Analysis, 2012

Appendices 17, 18 and 19 reveal gains of emigration cited by non-migrant health professionals in each of the institutions. In UCH, organized seminars/lectures were mentioned by 83.3 per cent each of doctors and nurses and 75.0 per cent of MLS. Book donations were other notable gains cited by half (50.0%) of the doctors and over two-fifths (43.8%) of them reported modern equipment; also, one-quarter of the nurses cited the same gains mentioned by the doctors (Appendix 20).

Furthermore, Appendix 20 shows only nurses and MLS responded to the question of whether or not the institution has ever gained from emigration of colleagues in AMTH. Among those surveyed, only 4 nurses (50.0%) and one MLS (100%) cited organized seminars/lectures as the main gain of emigration in the institution. Other gains mentioned by few of the nurses and MLS were donation of modern equipment and project collaboration.

Appendix 21 shows the responses of surveyed health professionals in OAUTHC were similar to those of AMTH. Only two (2) nurses and one (1) MLS mentioned organized seminars or lectures, while just one (1) nurse specified donation of modern equipment as a gain from emigrated colleagues to the institution.

The probable explanation for the very low response from health professionals in AMTH on the issue is probably because 1) the hospital is a secondary teaching hospital; 2) there is no training school that is directly attached to the hospital and 3) the hospital is run by the state government; hence, dictates its pace of development, focus and key provider of the highlighted or necessary needs and requests of the institution. In the case of OAUTHC, the low response was due to the fact that all the surveyed health professionals were not from the institution's management; therefore, they claimed ignorance of what gains accrued to the institution.

6.6 Secondary Source of Data on Positive Impact of Emigration of Health Professionals on Non-Migrant and Selected Health Institutions

The benefits or gains of emigrated medical doctors from UI-UCH can be appreciated furthermore from the involvement of the Diaspora group o in the development of the institution. According to Corporate Affairs & Alumni, College of Medicine (COM), UI (2012), the benefits are demonstrated in activities of Ibadan Medical Specialist Group (IMSG). The group is based in UK and works in collaboration with the COM of UI-UCH. The group was established in 1995 and since then has impacted many spheres of life of COM, in particular the promotion of medical education, training and research, as presented on Table 6.7.

Table 6.7: Diaspora Involvement in UI-UCH Medical Education and Research Development

Date	Benefit/Gain
1995	Computers for E Latunde Odeku Medical Library
Since 1995	Annual College Prize for Outstanding Medical Students
1996 to 2010	Theatre Clothing and Pairs of Shoe Covers for Medical Students
1997	Heavy-duty Photocopier for E Latunde Odeku Medical Library, through UK Fund- raising
1998 till date	Journal Subscriptions for E Latunde Odeku Medical Library
2000	Overhead Projectors for College of Medicine and its various Departments
2001 till date	Annual IMSG Symposium at the College Annual Alumni Week
2001 till date	Travelling Fellowship for Resident Doctors
2003	Fax Machine for E Latunde Odeku Medical Library
2003 till date	An Audiovisual Package of Laptop & Overhead Projector for various Faculties
Since 2005	Undertaken Four (4) Fund-raising Dinners in the UK on behalf of the College, at an average of £10,000 per event.
2005-2006	Fund raised used for purchasing: Projection Microscope Package for Pathology Lecture Theatre, 4th Floor, Clinical Sciences Building (Installed 2006);
2007	Wireless Network (Internet Access) System for College of Medicine (Installed 2007)
2009	Projection Microscope Package for the Physiology Lecture Theatre in the Pre-clinical School of the College of Medicine (Installed 2009)
2009 till date	Support for Sponsorship IT Department in the form of Staff Training
2011	Some other on-going Projects

Corporate Affairs & Alumni Unit, College of Medicine (COM), UI (2011.),

IMSG had been organizing seminars and lectures on different topics in medicine, since its inception in 1995. The group donated theatre clothing and pairs of shoe covers for medical students from 1996 to 2010 and the purchase of a heavy-duty photocopier to Odeku Medical Library in 1997 and has assisted COM's library journal subscription since 1998 till date. In addition, the group has been donating overhead projectors for various departments in COM, UI since 2000. In 2003, the group donated audiovisual packages of laptops and digital projection microscope kit to the College for the training of medical students and fax machine for E. Latunde Odeku Library. It has also been organizing annual donation for the development of COM since 2001. Furthermore, the group gives travelling fellowship to resident doctors in UCH, since 2001 and endowment prizes for medical students in UI-UCH annually.

In addition, between 2005 and 2006, projection microscope package for Pathology Lecture Theatre was purchased and installed, and since 2005, the group has raised an average of £10,000 annually for different projects in the College towards completion of clinical buildings. In 2007, a wireless network (Internet Assess) system for COM was installed by the group and by 2009; the projection microscope package for the Physiology Lecture Theatre in the pre-clinical school of COM was donated by the group. Again, in 2009, support for staff training in the IT Department of COM was organized and sponsored by the IMSG (Corporate Affairs & Alumni, COM, UI).

6.7 Non-Migrant Recipients of Remittances in Kind or in Cash

Although remittances (often classified as cash and or kind) have been identified in the literature, as one major index of positive impacts of migration (Stilwell 2003), there is still the need to show the level of its significance, in particular on the health sector, either at the institutional or on individual colleagues Non-migrant (Pillay 2007). This was attempted as part of the study.

However, the data presented on Table 6.8 shows nearly all respondents in the selected institutions have not received any remittance both in kind and in cash from their emigrated colleagues over time. This is buttressed by the fact that less than one-tenth (9.5%) of the professionals had ever received remittances in kind and or in cash; leaving majority (90.5%) of those that had never received any remittance. In addition, there are variations even among those that had benefited from remittances in kind and or in cash. Close to two-thirds of the nurses (64.3%) as against one-third of the doctors (35.7%) were recipients, as indicated on Table 6.8.

Table 6.8: Non-Migrant Health Professionals as Recipients of Remittances from Health Professionals in the DIASPORA

	Class of Professionals									
Ever received remittances from emigrated colleagues?	Doctors		Nurses		Pharmacists		MLS		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	5	35.7	9	64.3	0	0	0	0	14	9.5
No	54	40.3	57	42.5	12	9.0	11	8.2	134	90.5
Total	59	39.9	66	44.6	12	8.11	11	7.4	148	100

Source: Author's Analysis, 2012

Also, at the level of institutions, Appendix 20 reveals the very low percentages of recipients of remittances among non-migrant health professionals: in UCH and AMTH, they were 2.6 and 3.6 per cent respectively and only in OAUTHC were they over one-tenth (14.1%).

6.8 Non-Migrant Health Professionals' Recipients of Remittances in Cash

Again, Table 6.9 presents very few health professionals had ever received remittances in cash from emigrated colleagues. The overview result indicates three-quarters (75.0%) of the home-based health professionals had ever received remittance in cash as against one-quarter (25.0%) of those that had never received cash remittances. Also, majority (66.7%) of the very few recipients were nurses, while the remaining one-third was a doctor.

Table 6.9: Non-Migrant Health Professionals' Recipients of Remittances in Cash

	Class of Professionals									
Ever received remittance in cash from emigrated colleagues?	Doctors		Nurses		Pharmacists		MLS		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	1	33.3	2	66.7	0	0	0	0	3	75.0
No	0	0	1	100	0	0	0	0	1	25.0
Total	1	25	3	75	0	0	0	0	4	100.0

Source: Author's Analysis, 2012

Furthermore, Appendix 21 shows recipients were mostly in UCH, where the only one doctor and a nurse affirmed they were recipients; followed by AMTH that had the other second nurse. There was none recipient in OAUTHC.

By inference, remittances (in cash and or kind) that the literature has affirmed the major index of positive effect of emigration on the left behind may have been obtained from another category of left behind recipients other than left behind health professionals.. The larger part of the remittances from emigrated health professionals, in form of cash might have been sent directly to immediate family members, relatives and/or kinsmen, while less might have been sent to friends or colleagues.

The above sounds plausible as cash remittance is often meant to compliment basic family's needs and or assist immediate family member's need, such as, for school fees and business development, among others. In another dimension, cash remittance serves as back-up for re-integration of an emigrant whenever he/she returns. The remitted cash could also be used to build houses or acquire landed properties, set up businesses and many more on behalf of an emigrant (Ikwuyatum, 2006; Pillay, 2007).

Therefore, the low responses to receiving cash remittance by the home-based from the Diaspora could be explained from the fact that they (home-based) are of the middle-income class, despite the disparity in the salaries of those of them here in Nigeria and elsewhere. Consequently, the Non-migrant health professionals would not or might not necessarily need to look up to their friends abroad for financial compliment; if at all it happens, it would be in very rare cases.

6.9 Types of Remittance in-Kind to Non-Migrant Health Professionals

Remittances in-kind come in different forms, as depicted on Table 6.10; the very few numbers of recipients not-withstanding. In all, computers and accessories topped the form of remittance in-kind benefitted by non-migrant health professionals. Clothing and shoes, and receipt of books and journals were other types of remittances in-kind received by home-based professionals, while the gift of vehicle or car was the least type of remittances in-kind from colleagues abroad.

According to Appendix 22, less than three-quarter(71.4%) of doctors in OAUTHC claimed to have received computers from emigrated colleagues, while over one-eighth each received books and journals and vehicle/car by those in the Diaspora. In case of nurses, three-fifths (60.0%) of them received clothing and shoes as remittance in kind while, two-fifths (40.0%) received vehicles/cars from emigrated colleagues.

Table 6.10: Types of Remittance in Kind Received by Non-Migrant Health Professionals

	Class of Professionals									
Form of remittances received by Non-migrant (in kind)	Doctors		Nurses		Pharmacists		MLS		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Books & Journals	3	50.0	3	50.0	0	0	0	0	6	100
Vehicle/Car	1	50.0	1	50.0	0	0	0	0	2	100
Computers& Accessories	4	100	0	0	0	0	0	0	4	100
Clothing & Shoes	0	0	3	100	0	0	0	0	3	100
Total	8	53.3	7	46.7	0	0	0	0	15	100

Source: Author's Analysis, 2012

Not only was the number of recipients of remittances in both cash and kind very low, participants in many of the Focus Group Discussions (FGDs) criticized or detested the attitudes of emigrated colleagues as regards remittances, as follows:

> …We have benefited nothing from our colleagues abroad. Unfortunately, before they left, we were in the same boat and shared same fate. We ate; worked and toiled together and did so many things together. But, by the time they travelled out of the country, they did not remember us again. Just ordinary phone call, they cannot make. The irony of it all is that whenever they (Diasporas) come around, they came with 'Tokunbo' wears as gifts for us, which is very insulting (FGD, AMTH 2011).
>
> …What do we expect from them in the first place? Is it money, clothes, household utensils or what? We equally have them here. Most of them do ask us to send our local food stuffs and clothes, like yam flour ('elubo'), grounded melon ('egusi'), pepper, dry fish ('panla') and locally woven cloths ('asooke'). We would buy these items with our money and send to them. Most times they do not reciprocate at commensurable level nor pay back in cash but, often they pay back in-kind (FGD, UCH, 2011).
>
> …One of our friends came around some years ago during the Easter period. At that time, we were planning to have Easter party for our department, when she bumped into our meeting as if to say she would field the whole bill. But, she gave us only 5,000 naira. To be sincere with ourselves, how much is 5,000 naira to what some of us had donated for the party. What we are saying is majority of them have not been contributing significantly to either individuals or this institution that they left behind. They know where they send their money to; but, we are very sure, not to us in this hospital, but to their immediate families (FGD, OAUTHC 2011).

In sum, the above interviews have revealed negative and or low social and economic links in terms of remittances (both in cash and kind) between non-migrants health professionals and their colleagues in the Diaspora.

6.10 Perception on Roles of Association and Government Towards Migration of Health Professionals

6.10.1 Association Membership of Health Professionals

Generally, various associations and unions of health professionals are known to be in existence in public health institutions in the country. These associations and unions have the backing of the Nigeria Labour Congress (NLC) and or Trade Union Congress (TUC), in only that they are particularly for the medical and paramedical professions. Any staff becomes an automatic member by virtue of his/her profession.

Therefore, Table 6.11 and Appendix 23 indicate that virtually all (98.3%) respondents belong to one association/union or the other, while the remaining 1.7% declined being members of any association.

Table 6.11: Association Membership of Health Professionals

	Class of Professionals									
Membership in any professional association?	Doctors		Nurses		Pharmacists		MLS		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	68	30	130	57.3	14	6.2	15	6.6	227	98.3
No	0	0	4	100.0	0	0	0	0	4	1.7
Total	68	30	134	58.0	14	6.1	15	6.5	231	100

Source: Author's Analysis, 2012

In other words, a doctor in UCH and OAUTHC could either be a member of Association of Resident Doctors (ARD), if he/she is a Registrar. At the same time, such a doctor could be a member of Medical and Dental Consultants of Nigeria (MDCN), if he/she is a hospital or an honorary consultant. Equally, doctors working in the secondary health institution, AMTH, have their own association, namely, Association of Medical Doctors in Oyo State (AMDO). However, the umbrella body for all doctors' associations in the country is the Nigerian Medical Association (NMA).

Similarly, the umbrella body for nurses' associations is the National Association of Nigerian Nurses and Midwives (NANNM). In UCH, the nurses retained the name NANNM; but, in OAUTHC, the association is known as the Federal Health Institution National Association of Nigeria Nurses and Midwives (FHINANNM). Also, nurses that are engaged in nursing education in schools of nursing and midwifery in UCH and OAUTHC have their own faction association called, the Association of Nigerian Nurses Educators (ANNE).

However, there is only one association for pharmacists in the institutions, which is, the Pharmacist Society of Nigeria (PSN). In the same vein, MLS are known to have an umbrella union, known as, Association of Medical Laboratory Scientists of Nigeria (AMLSN). In addition, some MLS and medical laboratory technicians belong to the Senior Staff Association of University Technologists Research and Allied Institutions (SSAUTHRAI).

It is perhaps no wonder that membership in these many associations does not necessarily facilitate emigration. Table 6.12 depicts over three-fifths (62.6%) of them stated the effect of emigration on their associations has not been significant, while less than two-fifths (37.4%) claimed otherwise. However, majority (50.0%) of the doctors were more concerned with the effect of reduction in the number of 'great minds with ideas'. The same applies to nurses, with 45.0 per cent of them and a few of the MLS (5.0%). On the contrary, close to three-fifths (59.7%) of the nurses, a quarter of the doctors (25.4%), 10.4 and 4.5 per cent respectively of the MLS and pharmacies stated emigration had no effect on the number of members of their association.

At the level of institutions, according to Appendix 24, reduction of number of people of great minds with ideas was reported by more than half (55.2%) of health professionals in UCH, less than one-quarter (24.0%) in AMTH and over one-fifth in OAUTHC (21.2%) as effect of emigration on their associations, while, the remaining over two-fifth members (44.8%) in UCH and majority of them in AMTH and OAUTHC claimed no significant effect of emigration on their association.

Table 6.12: Impact of Emigration on Health Professionals' Associations

	Class of profession									
Effect of emigration of healthcare professionals on association	Doctors		Nurses		Pharmacists		MLS		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Reduced number of great minds with ideas	20	50	18	45	0	0	2	5	40	37.4
No significant effect	17	25.4	40	59.7	3	4.5	7	10.4	67	62.6
Total	37	34.6	58	54.2	3	2.8	9	8.4	107	100

Source: Author's Analysis, 2012

The apparent notion that emigration of health professionals may not have any significant negative on various associations of health professions in the study institutions was substantiated during one of the sessions of FGDs, as the discussants summarized it this way:

> …This institution recruits as vacancies are declared. Every year, nurses, doctors and other medical professionals graduate from different institutions and are inducted, while majority of the inductees are used as replacement of vacancies. Therefore, anyone appointed in this institution, has become a full member of his/her profession's association, by virtue of appointment. Another important thing to the association is the membership fees and other charges, which are being deducted from the accounts unit and remitted to them. So, whether one is an active or a dormant member, migrated or stayed, is of little concern to the associations. All they care for are the replacement and membership dues (FGD, UCH, 2011).

The automatic membership of the association by appointment in the health institutions has made emigration of members having less or no significantly impact on a professional's body in the selected institutions.

6.10.2 Roles of Associations in Migration of Health Professionals

Salary review is the major suggestion by majority of the respondents (51.5%) in the study institutions. This is what they stated should be championed by their different associations towards mitigating emigration (brain drain), while facilitating the returnees (brain gain). However, according to Table 6.13, almost one-fifth (19.8%) of them opined that the associations have no role to play, while above one-eighth each suggested that their associations should advocate more funds for training and research, and campaign against brain drain (emigration).

Table 6.13: Role of Associations towards Brain Drain and Brain Gain of Health Professionals

	Class of profession									
Role of associations towards brain drain and brain gain of members	Doctors		Nurses		Pharmacists		MLS		Total	
	Count	Col %	Count	Col %	Count	Col %	Count	Col %	Count	Col %
Campaign against brain drain	4	10.5	7	12.3	0	0	3	60.0	14	13.9
Review of salaries	17	44.7	34	59.6	0	0	1	20.0	52	51.5
Advocate funds for training & research	2	5.3	12	21.1	0	0	1	20.0	15	14.9
No Role	15	39.5	4	7.0	1	100	0	0	20	19.8
Total	38	100	57	100	1	100	5	100	101	100

Source: Author's Analysis, 2012

According to class of professionals, nurses were more concerned about the roles their associations could play towards brain drain and brain gain than other professionals. Close to three-fifths of them wanted their associations to: work on review of salaries (59.6%; advocate more funds for training and research (21.1%) and embark on campaign against brain drain (12.3%).

On the other hand, close to two-fifths of the doctors (39.5%) were of the opinion that the associations have no role to play in the issue, while above two-fifths (44.7%) suggested review of salaries; 10.5 per cent wanted their associations to embark on campaign against brain drain and just 5.2 per cent suggested advocacy for more funds for research and training.

Moreover, majority (60.0%) of MLS equally suggested that their association should embark on campaign against brain drain, while very few of them proposed review of salaries and more funds for training and research. Just one (1) member of Pharmacists Society of Nigeria (PSN) recommended no role for the association.

A plausible reason why nurses seemed to be more vocal than the other professionals in giving the various suggestions could have been: one, more nurses are migrating than any other medical professionals; this is based on their population size and high demand for their services elsewhere. Two, the undisclosed rivalry between nurses and other medical professionals, particularly, doctors when it comes to supremacy, as regards, the administration and management of the institutions. As a result of this, they (nurses) believed that most of the training and workshop opportunities (locally and internationally), favoured more doctors than their members. In case of doctors, the probable reason for majority of them to have suggested 'no role' of their associations towards emigration and or immigration/returning of members could be as result of high demand and inevitability of their services in health sector of both countries of origin and destination

On the other hand, Appendix 25 presents roles of the associations suggested by members at the institutional levels. Majority of them in UCH (69.2%) and AMTH (44.8%) suggested the review of members' salaries as main duty of the associations in the institutions, as towards emigration of the Non-migrant and possibly, encouragement for returnees. However, majority (35.8%) of respondents in OAUTHC proposed 'no role' for associations in the institution. Another notable role for associations suggested by respondents in the institutions was to embark on campaign against brain drain, with over one-tenth each (10.3%) in UCH and AMTH and above

one-third (34.0%) in OAUTHC. Also, advocacy for more funds for training and research was proposed by 7.7, 20.7 and 7.5 per cent in UCH, AMTH and OAUTHC respectively.

To buttress the roles of associations in the selected institutions, Responses from in-depth interviews (IDIs) that were held with key informants of NANNM, FHINANNM and ARD were generally in favour of the associations playing radical role in mitigating brain drain. The excerpts of the interviews are as follows:

> …Our association is trying to sensitize our members on the issue of brain drain; but, we have no power to stop anybody from doing whatever he or she deems fit. And again, the association has tried to put up some enticing measures so as to let our members that stay behind not feel they are marginalized. For instance, we have helped some of them secure landed property and many have built their houses. Even, we are advocating the issue of overseas' training for them, and this is yielding positive results. For example, in 2005, two of our members were part of the team that was sent to the US for training in the use of Magnetic Resonance Imaging (MRI) for radiological diagnoses. And, in 2010, some of our members were part of the team sent to the US for training in Nuclear Medicine. Again, many have gone for workshops locally and outside the country.
>
> On the issue of the returnees, some of them came back and we have tabled their case before the management; some have been reappointed, while others are still waiting for their reappointment letters (IDI, NANNM's Chairman, UCH).
>
> …The issue of brain drain or brain gain is not an association's matter per se, but that of the management and government. We virtually have no say in any decision made by any member, particularly if such member decided to travel out of the country. You see, in this country, what many of the union leaders mostly think about is that all what their members wanted is increase in salaries and or other financial incentives. But, let me tell you this, it is not like that in the health sector. You know we deal with human lives; therefore, not everything is money, but, the joy and happiness of working in the right place, with the right equipment and the right people. These and other issues apart from money could either push someone out of the system or make one glued to the system. Having said all these, within our capacity as a union, we sometimes organize seminars, where issues of brain drain and brain gain are addressed (IDI, FHINANNM's Chairman, OAUTHC).
>
> … As an association, we have no constitutional right or obligation to stop any of our members not to move. Although, brain drain is a dangerous monster to our health system in this country, yet, any of our members migrating abroad does that based on his or her choice. However, our association is making

> move in all directions to encourage members not to leave the system. One of such move is adequate remuneration; we are somehow sentimental about good wages and other welfare packages for our members. We have to be paid very well just like our counterparts in the UK and US. As union leaders, we always make our positions known to the government through the institution's management what 21st century medical practices entail. The government has been trying to keep the pace of medical practice in our institution; for instance, some state-of the-art medical equipment has been installed and our members are trained to make use of them. Still, more holistic steps are to be taken, so as to discourage our physicians from moving out, while encouraging those outside, to come back (IDI, ARD Chairman, UCH).

6.10.3 Roles of Government towards Emigration and Returning of Health Professionals

Emigration (brain drain) and immigration/returnee flows (brain gain or circulation) of health professionals are majorly motivated by government's all-encompassing policies and programmes. As earlier discussed in chapter two, quite a number of social, economic, political and environmental policies and programmes of the government, over the years, have turned out to be push forces for the highly-skilled professionals.

Table 6.14, therefore, presents the various roles of the government that respondents on the issue gave. The most prominent among the roles they perceived the government should be playing is provision of modern medical equipment to health institutes, which over two-fifths (42.7%) of them suggested. This is followed by creating conducive environment that about a quarter of respondents (24.7%) gave. Others are increased budgetary allocation to health sector (17.4%), better remuneration and other welfare incentives (13.5%), and increase in staff strength of health institutions (1.7%).

Furthermore, among the professionals, high percentages of doctors (52.6%), pharmacists (70.0%) and MLS (57.1%) were more concerned with the provision of modern medical equipment, while majority (36.1%) of the nurses preferred favourable working environment to the provision of modern medical equipment claimed by less than one-quarter (32.0%). Also, better remuneration and increased budgetary allocation to health sector were suggested by doctors (19.3%; 15.8%), nurses (11.3%; 18.6%) and MLS (14.3% each). However, very few nurses (2.1%) and one MLS (7.1%) canvassed for increased staff strength.

Table 6.14: Suggested Roles Government should Play in Mitigating Emigration and Facilitating Immigration of Health Professionals

Suggestion	Class of Profession									
	Doctor		Nurse		Pharmacist		MLS		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Provision of modern medical equipment	30	52.6	31	32	7	70	8	57.1	76	42.7
Conducive working environment	7	12.3	35	36.1	1	10	1	7.1	44	24.7
Better remuneration and incentives	11	19.3	11	11.3	0	0	2	14.3	24	13.5
Increased budgetary allocation to health sector	9	15.8	18	18.6	2	20	2	14.3	31	17.4
Increase in staff strength	0	0	2	2.1	0	0	1	7.1	3	1.7
Total	57	100	97	100	10	100	14	100	178	100

Source: Author's Analysis, 2012

In addition, Appendix 26 reveals the suggested roles of government to mitigate emigration and facilitate immigration at the levels of institutions. High percentages of health professionals in UCH (48.0%) and OAUTHC (60.1%) suggested the provision of modern medical equipment, while those in AMTH (48.6%) proposed favourable working environment. Better remuneration was proposed by quite a number of respondents in all the three selected institutions. In addition, very few respondents in all the institutions, apart from AMTH, suggested increased budgetary allocation to health sector and staff strength. These accounted for 2.7 and 1.4 per cent in UCH and 11.3 and 2.5 per cent in OAUTHC.

Meanwhile, the concerns of doctors and MLS in all the selected institutions for the provision of state-of-the-art medical equipment cannot be overemphasized. As has been discussed earlier, the sensitivity of diseases diagnoses and laboratory tests and examinations and current challenges in the field of medicine called for appropriate and updated diagnosing machines, therapeutic and laboratory equipment. Equally, favorable working environment, in terms of adequate provision of infrastructural facilities, such as constant supply of electricity and pipe borne water, security and serene atmosphere are very important. The discussants in one of the Focus Group Discussions held in the institutions lamented on the role of government this way:

> …The working condition in this hospital is very poor, particularly during the night duty, imagined one night, a set of armed robbers held us in ransomed. They came to rescue a member of their gang that was shot by the police, eventually; those old and retired legions being put at the gate could not stop them. It was a terrible night; those of us on night duty saw hell on that evil day. Again, electricity supply to this place is very bad; most of us on night duty sometimes use rechargeable lantern or GSM torchlight to attend to patients. Therefore, the state government needs to do something on these inadequacies (FGD, AMTH, 2011)

In sum, the above discussion corroborates some of the poor working environment and conditions in which the health professionals work; thus, prompting emigration.

6.11 Migration Policy in Nigeria and its Implications on Migration of Skilled Professionals in the Health Sector.

6.11.1 Migration Policy in Nigeria

The drafted Nigeria migration policy in 2010 provides, among other things, a framework to strengthen the linkages with Nigerians abroad and their contribution to the development of the country and a framework to better integrate migration into the development and poverty reduction agenda of Nigeria (IOM, 2010). With respect to the above, one of the contents of the policy that concerns international migration is referred to as, initiatives by national and internationals institutions related to the transnational life of migrant. These initiatives were to be anchored by the following national agencies and international organizations: the Nigerian National Volunteer Services (NNVS), the National Universities Commission (NUC), the Nigerians in Diaspora Organization (NIDO) and National Commission for Refugees (NCfR) and United Nations Educational, Scientific and Cultural Organization (UNESCO) and Hewlett Packard (IOM, 2010).

The NNVS as a national agency is charged with following responsibilities, one, to link emigrant communities with Nigerian institutions and groups, and encourage their participation in the national development process of Nigeria, two, to build partnership with Nigerian emigrant communities and three, to identify the profile of skilled Nigerians living abroad and link them to sectors and communities in need of their services as volunteers. Four, to facilitate medical missions established by Nigerian Medical Associations abroad, for instance, the Association of Nigerian Physicians in the Americas and finally, to compile information on the contribution of Nigerians abroad towards Nigeria's development through an annual report that includes the projects in which they are involved, types of volunteering undertaken (medical missions, social work), scholarships etc.(IOM, 2011).

NIDO, an organization formed by the Nigerians in Diaspora and facilitated by the federal government and its allied agencies is aimed to create a databank of Nigerian skills abroad, so as to enable the country benefit from their skills for national development. Again, the NUC, which is a national educational agency, is tasked to secure highly skilled Nigerians that reside abroad for temporary placements in Nigerian universities, that is short term academic appointments aiming to strengthen the university system. However, the following disciplines are given priority:

Information and Communications Technology (ICT), Management Science and Business Administration, Mathematics, Medicine and Dentistry, Mining Engineering, Natural Sciences and Oil and Gas Engineering.

The UNESCO and Hewlett Packard are to help reduce brain drain in Africa by providing grid computing technology to universities in Nigeria, to establish links between researchers who have stayed in their home countries and those who have left and to connect scientists to international colleagues, research networks and potential funding organizations (IOM, 2011).

Also, embed in the migration policy were the initiatives by national and international institutions related to 'return' migration'. These initiatives involve the NNVS and the United Nations Development Programme (UNDP). The aim of the former is to incite skilled Nigerians abroad to return temporarily and or permanently and engage in volunteer efforts and to reduce financial burden on equipment being brought to Nigeria for assistance. In case of the latter, its aim is creating Nigerian Diaspora Trust Fund so as to enable the Nigerian Government mobilize Nigerian professionals resident abroad to assist in national development through short-term (three months to one year), medium-term (two to three years), and long-term basis stays in Nigeria (IOM, 2011).

The Nigeria migration policy further indicates linkages between migration and development in national policy of vision 20:2020 (IOM, 2010). The policy is for stimulating Nigeria's economic growth and launching the country onto a path of sustained and rapid socio-economic development. Therefore, with regard to migration, parts of the section of the policy provided for labour and employment/job protection and guaranteeing the well-being and productivity of the people (IMI, 2006). The policy initiatives for effective labour management include, one, enhancing youth employability and progression to higher levels of training. This will include measures to check and reverse brain drain and foster brain gain'; and two, enforcing expatriate quotas through appropriate legislation, specifying the classes of jobs that can be taken by expatriates as highly skilled labour only, ensuring that non-nationals do not take up the majority of unskilled and medium skilled labour, at the expense of Nigeria's teeming unemployed population. In addition, pursue local content initiatives vigorously to enhance employment opportunities for Nigerians (IMI, 2006).

In addition, the migration policy has included the bilateral agreements and other frameworks of cooperation on migration. Presently, Nigeria has bilateral

agreements with some European countries, such as Ireland (ratified on 30November 2002), Italy (ratified on 30November 2000), Spain (ratified on November 2001), Switzerland and the UK. The agreements also extended to some West African countries on mutual administrative assistance in matters relating to Customs, Trade and Immigration between the Government of the Peoples' Republic of Benin, the Government of Ghana, the Federal Military Government of the Federal Republic of Nigeria and the Government of Togo, ratified on 10 March, 1985 (IOM, 2011).

Another initiative of migration policy involving the Nigeria government and other countries in West Africa is the regional framework of cooperation on free movement of persons within the Economic Community of West African States (ECOWAS). The policy aims at one, right of entry and abolition of visa, two, right of residence and three, right of establishment (Center for Migration Studies, 2010)

6.11.2 Migration Policy Implications on Emigrated, Immigrated and Returned Health Professionals

Emigration of highly-skilled professionals in Nigeria, particularly of health professionals has received policy initiatives and implementation by both federal legislative arm of government and federal government and its agencies. For instance, the House of Representatives in 2009 set up Committee on Diaspora. Earlier in 2000, the Federal government had established NNVS whose task among others is to organize Nigeria Diaspora day, on the 25th July of every year (NNVS, 2006). In furtherance of this task, NIDO was formed in all prominent countries of destination with the mandate to unify the Nigerians community aboard galvanize and mobilize their movement in Nigeria's development process. NIDO therefore, becoming the umbrella organization for different professional associations of Nigerians in Diaspora. In particular, one of the viable associations of health professionals in Diaspora is the Association of Nigerian Physicians in the Americas (ANPA) (NNVS, 2006, IOM, 2010).

Although the Nigerian government has made some overtures toward Diasporas since its return to democratic rule in 1999, but the drafted migration policy that covers initiatives and implementation of programmes concerning them is yet to be adopted (IOM, 2011). However, a legislative bill for an act to establish the Nigeria Diaspora Commission (NIDCO), as a one stop agency that will deal with Diaspora matters, so as to get them involved in the development of the country had been submitted by the House Committee on Diaspora to the House of Representative (Dabiri-Erewa, 2012).

On immigration of health professionals into the country, legal or policy framework on free movement of persons within the ECOWAS region covered the rights of all highly skilled professionals, including the health professionals. However, the immigrated health professionals outside the sub-region of West Africa were not covered in this policy but in the drafted migration policy.

In the case of the returnee health professionals, policy initiatives by national and international institutions related to return migration had been imbed in the migration policy. However, the country has not developed a coherent position on returning migration issues, such as, repatriation, engagement, retirement, investment and reintegration (Dabiri-Erewa, 2013).

By implication, Nigerians in Diaspora possess immense human, material, intellectual and professional resources. Majority of them in Diaspora are extremely skilled and have added immeasurable value to their countries of residence. Lack of a structured institutional framework has inhibited the effective contribution of this important resource to national development. It is therefore necessary to re-visit the necessity for a policy that will mainstream the Nigerian Diaspora in the development agenda.

6.12 Summary and Conclusion

The analyses of migration of health professionals under the scenario of emigration (brain drain) have shown that the loss of expertise and experienced personnel have significant negative impact on Non-migrant colleagues, health service delivery, training and research in the selected health institutions. But, most times, both immigrants (brain gain) and returnee (brain circulation) health professionals constitute the counter stream, of lower magnitude and force; consequently, the two streams (main and counter-streams) do not cancel each other out, as the loss exceeds or surpasses the benefits.

On the other hand, the positive impact of emigration (brain gain) was not as prominent as its negative impact. It seems there were little or no socio-economic linkages between the migrated health professionals and their colleagues in the selected health institutions. Very few of them in the Diaspora have economic linkages with their former institutions, in terms of remittances, either in cash or kind. On the other hand, the impact of the returnees (brain gain/circulation) of health professionals into

the selected health institutions and perhaps into the country, in general, was not noticeable.

Furthermore, the perception of Non-migrant health professionals, as regards the effects of emigration on, and the roles played by the various associations have revealed little or no significant effect of emigration of colleagues on such associations. They claimed the associations have no audacity or obligation to stop anyone migrating and the fact that replacements are made for any vacancy is a prove of the limitation of the health professional's associations in curbing emigration or encouraging immigration and or the return of emigrants into the country.

Finally, some of the government policies and programmes have been identified by health professionals in the selected health institutions, as the cause, as well as the remedy for emigration in the health sector. The provision of hi-tech state-of-the-art medical equipment, conducive working atmosphere, coupled with good remuneration have been suggested by health professionals, as major steps to curtail the mass exodus of medical workers out of the country and encourage those in Diaspora to come back home.

CHAPTER SEVEN

SUMMARY OF RESEARCH FINDINGS, CONTRIBUTIONS TO KNOWLEDGE, AREAS OF FURTHER RESEARCH, RECOMMENDATIONS AND CONCLUSION

7.1 Summary of Research Findings

According to the first objective of the study that examined the volumes and direction of migration of highly-skilled health professionals into and out of Southwestern Nigeria, particularly in the selected health institutions: UCH, AMTH and OAUTHC between 1986 and 2010, the thesis established that:

1. Among the three institutions, UCH had the highest magnitude of emigrated professionals- doctors, nurses, pharmacists and MLS.
2. The volumes of emigration of doctors and pharmacists are increasing, while that of the nurses is declining over time.
3. The volumes of medical professionals, in terms of immigration into the institutions were highly insignificant.
4. The direction of flow of emigrated health professionals was majorly South-North route, that is, the orthodox United Kingdom (UK); however, various destinations emerged within the defined periods. The UK had the highest volume of emigrants from Nigeria, which was closely followed by the US and far behind, but notable was Canada.
5. The preference for each of the destinations was determined by class of professions. Majority of doctors and pharmacists preferred the US, while nurses preferred the UK and MLS, Saudi-Arabia.
6. The rationale for preference in destinations was premised on professional's specialty, skills and availability of working equipment.
7. The direction of immigration of health professionals into the country was majorly a North-South route with majority of them from the European countries and UCH had the highest magnitude of such immigrants.
8. OAUTHC had the highest percentage of returnee professionals.
9. The average duration of stay of emigrated health professionals in the destinations before returning was1.4 years, hence depicts brain circulation. Nurses were the majority emigrants within the defined periods, followed by doctors.

10. Apart from returnees with short length of stay, emigrants with long-time duration of stay in destinations were very few; hence, brain gain was highly insignificant.
11. Majority of health professionals emigrated had never returned, while few of them had returned. The probable reason of health professionals not returning to the country in good time was that majority of them migrated with their immediate family.

The second objective determined the key elements of causes or determinants of migration and non-migration of health professionals that:

1. The migration and non-migration of health professionals were predisposed by socio-economic milieu and majority of non-migrant colleagues were not willing to migrate, whether socio-economic milieu is favorable or weird.
2. The study revealed summed that majority of returning and non-migrating health professionals were having the mean age of 35.5 years.
3. On basis of the class of professions, majority of the doctors moved at the early years of their adulthood and returned, while most of the nurses, though, moved at the early years of their adulthood, yet have spent most of their active years working in country of destination.
4. There were more males returned to the country as against the returned females. On the other hand, majority of the females were non-migrants as against non-migrant males. This, therefore, implies sex as a selectivity factor of returning and or not migrating.
5. Majority of returnees were married, while few were single or never married.
6. The year of qualification of migrating and non-migrating of health professionals was divided into three phases, in relation to era of military and civilian governments in the country.
7. Majority of returnees and non-migrants qualified during the military and civilian regimes (1984–2010), hence becoming a selectivity factor of migration.
8. The highly ranked health professionals were returnees, while majority of the intermediate and junior ranked professionals were non-migrants.
9. Among the returnee doctors, over half of them were of high ranked designation, as against less than half of non-migrants doctors in the middle and junior rankings.

10. Majority of the returnees nurses were of high ranks of Assistant Director of Nursing (ADN), Principal and Chief Nursing Officers (CNOs & PNOs).
11. Majority of non-migrant nurses were of intermediate and junior ranking: Senior Nursing Officers (SNOs) and Nursing Officers I and as against few returnee of the same designations. The probability of high percentage of non-migrating professionals in the intermediate and junior ranks that could be migrating in the nearest future would be high.
12. The probable reasons are because those within the lower ranked cadre were young, ambitious and or adventurous; hence, ready to move, either for advancement of their professions or for green or pasture.
13. The dominant predisposing factor for the returning of health professionals was because the visa expiration, particularly among the doctors.

The third objective of the thesis evaluated the impacts of emigration and immigration on non-migrant colleagues in the selected health institutions and the finding were summarized that:

1. Majority of the health professionals were not satisfied with the working conditions in the selected health institutions, given different reasons for their dissatisfaction.
2. Prominent of the dissatisfaction was the inadequate modern medical equipment followed at a distant by low remuneration and inadequate funds for research. Basically, it means that returning and or non-migrating of health professionals is less dependent on the socioeconomic milieu; thus, the behaviour could be propelled by any of the predisposing factors.
3. Various reasons were attributed for health professionals in the institutions not migrating, but, the prominent reason was family ties. Other notable reasons for not migrating of health professionals were fear of retraining, patriotism to one's country and lack of opportunity to migrate.
4. Emigration of health professionals from the health selected institutions within the period of study has significant negative impacts on the institutions and non-migrants colleagues.
5. Majority of the health professionals in UCH (76.9%), AMTH (86.2%) and OAUTHC (83.3%) complained of the loss of expertise and experienced colleagues to emigration (brain drain).

6. Majority of doctors and nurses in the institutions were of much concerned of the loss of expertise and experienced personnel than other health professionals.
7. Very low positive impacts (brain gain) of emigrated health professionals on non-migrant colleagues, as well as on the institutions, in terms of remittances were recorded.
8. The major form of remittances to the institutions by emigrants was in kind, but, not in cash. Also, the major type of remittance given to the institutions was in form of organizing seminar and lectures and the donation of modern equipment.
9. The positive impact of emigration of health professionals (brain gain) has not benefited the non-migrants colleagues.
10. Majority of respondents in the institutions have not received any type of remittances from their colleagues abroad over time.
11. The only form of remittances in kind received by non-migrant doctors was telephone call, while few nurses benefited from clothing and shoes from colleagues abroad.
12. All non-migrant health professionals belong to their various professional associations, but majority of them did not know of any effect emigration of members have on their associations.
13. The roles of various professional associations regulating emigration of their members and encourage the returnees of emigrants are multifaceted.
14. Majority of members in UCH and AMTH believed that the association executives should play a vital role in the review of salaries and other welfare incentives, while few members in OAUTHC believed the associations has no role to play in regulating emigration.
15. The provision of modern medical equipment has the major role of government in regulating emigration and encouraging returnees. Out of 178 respondents, 42.7 per cent suggested such a role, 24.7 per cent proposed better working environment, 17.4 per cent recommended increased budgetary allocation to health sector.
16. At institutional level, majority of the respondents in UCH and OAUTHC were in support of provision of modern medical equipment to health institutions, while less than half in AMTH suggested better working environment as the

leading role of government in regulating emigration and promoting the returning of emigrated colleagues.

The last objective of the thesis examined the migration policy and its implications on healthcare professionals in Nigeria.

1. The study revealed that a legislative bill for an act to establish the Nigeria Diaspora Commission (NIDCO), submitted by the House Committee on Diaspora to the House of Representative has not been passed to law.
2. And, that if the law is passed, it would strengthen the relationship between non-migrant health professionals in Nigeria and their colleagues in the Diaspora.

7.2 Contributions to Knowledge

The study has made a lot of contributions to knowledge. To start with, the spatial-temporal comparative analysis approach adopted to examine migration of health professionals, in the context of trends, volumes, directions, causes and impacts at micro levels, of secondary and tertiary health institutions, is a giant stride contribution to knowledge. There was no earlier study that had adopted such a methodology to study international migration of any of the highly-skilled professionals, particularly, migration of core health professionals, of doctors, nurses, pharmacists and MLS in the literature.

Also, the study has endeavoured to provide disaggregated figures in the trends and volumes of emigrated health professionals instead of stock or aggregated figures. Additionally, the flows of emigration were mapped from the country, particularly, of different categories of health professions. This has, therefore, exposed the gradual leakage (outflow) of best and efficient health personnel from the pool of the country's health sector, without little or no counter inflows, as succour of manpower replacement.

Furthermore, the study has identified other directions of emigration of health professionals from the country. The newly identified route of destination is towards the Middle East axis, with countries like Saudi Arabia, Oman and Qatar emerging. On the other hand, the route of immigration, in terms of expatriates into the country is the North-South direction. In addition, the study has added to knowledge that the health professionals have deviated from the orthodox economic preference as the leading

push factor for emigration; rather, job satisfaction is prioritized, in terms of state-of-the-art equipment and better practicing environment.

The study has equally added to knowledge that emigration of health professionals, though, a dreadful phenomenon, has not completely depleted the structure of core health personnel from the health system in the country; but, gradually, it oozes out the expertise and experienced ones, as well as the young and future medical generation. Also, the study has revealed that though, the emigration of health professionals cannot be abated, still, the speculation of mass exodus among the professions, particularly, the nurses and other allied medics, is reducing; but, for the doctors, the rate is increasingly alarming.

Moreover, the study has shown that the case of emigrated health professionals is quite different from other forms of labour migration, in terms of remittances. It was established that migrated health personnel hardly send remittances to Non-migrant colleagues and institutions and if they do, it is rather in kind and not in cash. The logical reasons for this are: one, they (emigrants) sent remittance in kind, probably thought of as the best way of assisting their former institutions, by providing logistics to facilitate medical education, rather than giving raw cash. Two, possibly they perceived their Non-migrant colleagues as middle-income earners; hence, they are economically viable, buoyant and self-independent. And finally, it might have been because of egocentric attitude of both parties in giving and receiving remittances.

The study has also shown that the emigration of health professionals from the country has negative effect on health service delivery, training and research. Nevertheless, the vacancies left by emigrants are being filled up over time. It has been established that the high rate of outflow of health professionals, particularly among nursing profession is declining, while that of physicians is gradually increasing. On the other hand, the study has established that immigration of health professionals (expatriates) would be diminishing, while the volume of returnees becomes insignificant.

7.3 Areas of Further Research

The approach adopted in the study for collecting information on migration processes of health professionals in the Diaspora was deductive in nature. Data on health Diasporas from Nigeria, as regards the socio-demographic characteristics, specialties, location, contacts, linkages and other information are not available here

locally. However, some respondents had more knowledge and experience about their colleagues in the Diaspora than the other. Since there is no way to separate out the more informed and which are relatively less informed, there is a need to conduct another study in one of the major destinations, of health migrants from Nigeria that would supply authenticated information about their migration processes.

Another area of future research is on the methodology; examined two-folds. As the data collection should be at both origin and destination, but in the case of this study, only at origin. There is a need to conduct another study in one of the major destinations, of health zone of Nigerians that would supply first-hand information about their migration dynamics.

Again, the study covered two tertiary and one secondary teaching health institutions in the south-west Geo-political zone of Nigeria; there is need to replicate same study in other zones, in order to have better understanding of some questions, such as, how many health professionals had left tertiary and secondary levels of health institutions in other zones? What has been the trend in other parts of the country? Were the migrants from other zones moved to the developed North and West? Are the remittances beneficial to the Non-migrant, as against what we have in the studied zone? Are the tripartite functions (service delivery, training, and research) of teaching hospitals/institutions in other Geo-political zones of the country suffering same setbacks as in the South-west?

7.4 Recommendations

Migration of highly-skilled health workers is inevitable in the country, because of the overwhelming pressure of push-pull forces in the past years and till present, particularly during the military rule. On the one hand, skilled health professionals, particularly doctors, nurses have always taken the opportunity to migrate, in pursuit of new opportunities and better career prospects. On the other hand, their flights from the country have posed serious problems in the health sector in the context of, service delivery, training and research, and within the society at large. On these backdrops, the following recommendations are therefore presented:

1. Government at all levels should acquire state-of-the-art medical equipment for operating rooms (theaters), laboratories, wards and consulting rooms in the selected health institutions.

2. The management of the selected health institutions should improve the working conditions and provide enabling environment to work, infrastructure; good communication, efficient power and water supply.
3. Government should approve special pay and allowances for health professionals in the selected institutions that would give them international recognition when compared with their peers elsewhere.
4. The management of the health institutions should promote career prospects among all health professionals
5. The federal and state government should give highest priority to the health sector and increase its budgetary allocations yearly.
6. The legislative arm of government should enact a migration bill that would facilitate policy and programme to reduce emigration from and encourage returning of health professionals into the country.
7. Ministry of Health both at the federal and state levels should conduct a mini-census of all categories of skilled health professionals in the country. This would allow the policy-makers to assess the trends in the outflow of each of the categories and the specialty of medicine that is incessantly migrating, so that necessary correction could be made as deemed fit.
8. The government should facilitate bilateral and multilateral agreements and code of conduct with the destination countries. This would help the country to share from the skilled and experience of its emigrated health professionals via granting temporary or short working visas to intending health professional migrants or exchange between Nigeria and recipient countries.
9. Based on the growing population of the country, the WHO standard ratio of a doctor or nurse to patients is increasing; therefore, both federal and state government should establish more universities offering medicine and related medical courses and teaching hospitals.
10. Financial incentives and sponsorship should be given to students studying any form of medical courses, both in the universities and colleges in the country.
11. Both secondary and tertiary health institutions should create links with their colleagues in the Diaspora to generate robust database about their contact. This would create a synergy with them in terms of remittances; both cash and kind and transfer of knowledge, in form of visitations, exchange programmes and other benefits compensating the loss of their absence.

12. Lastly, government should intensify its move to integrate the Nigerians in Diaspora Organization (NIDO) and the association of Nigerian Physicians in the Americas (ANPA) in the development of healthcare system, science and technology in the country.

7.6 Conclusion

The study has shown that the selected institutions have produced large number of medical professionals over time. Also, that these professionals due to some constraints in the course of practicing of their professions and their perceptions towards them have decided to migrate or stay put.

The review of relevant concepts and literature on trends, causes and consequences of emigration and immigration of professionals, in particular, the returning of health professionals have shown that the flows are two-sided: the main streams and counter streams. Ironically, the push-pull model reviewed and proposed for capturing consequences for the study does not take into cognizance the stick-stay explanations of non-migrant health professionals, therefore, creating an inadequate explanation of motives of migration of highly-skilled health professionals, hence, the modification of the model.

In addition, the forces that prompted migration of health professionals from origin into receiving destinations were primarily: social and economic imbalance, political instability and environment/economic depression could be managed, if the political will is there or is enacted. The literature review identified migration of health professionals as a long standing issue. Migrant health workers moved to destinations where they could maximize their potential; therefore, the outflow in itself, could not completely be termed detrimental, but, to some extent, beneficial, that is, there are traits of brain gain and brain circulation in the outflows. However, the review has shown that spatial-temporal trends of brain drain and brain gain at micro levels have not been empirically studied. This therefore, forms the pivot of the present work, as it conceptualized and verified trends and causes of emigration and immigration of health professionals in the Southwestern Nigeria and its consequences on the non-migrants in the selected institutions.

Emigration of health professionals surpasses their immigration and returning; hence making emigration appears negative. However, non-migrant returnee health professionals from developed countries for short period of time connote possibility of

transfer of skills, knowledge and circulation. The declining volume of emigrating nurses, low, but significant trickles of immigration and returning health professionals are indicative of a mobile and essential circulation of brains.

The interwoven or causal link of socio-economic characteristics as predisposing factors for returning and non-migration, for example, the returnees and non-migrants were older and their marital status was about the same; hence, both staying back. Also, both the returnees and non-migrants were in highly ranked designations; therefore, migration could hardly occur.

Poor working conditions and lack of the state-to-the-art equipment were the major predisposing factors for propensity or likelihood of future movement; hence, migration bill that would facilitate migration policy and programme, bilateral and multilateral agreements, particularly on international migration are to be put in place, so as to discourage the non-migrants from leaving and encourage emigrated health professionals back into the country.

References

Adegbola, O. 1990. 'Demographic effects of economic crisis in Nigeria: The brain drain component'. In: A. Adepoju (Ed), South-North Migration-The African Situation, 9th IOM seminar, Geneva.

Adepoju, A., 2004a. 'Trends in international migration in and from Africa' in Massey, D. S. and J.E. Taylor (Eds).International Migration Prospects and Policies in a Global Market. Oxford: Oxford University Press.

Adepoju, A. 2004b.'Changing configuration of migration in Africa', *Migration Information Source.* September, Migration Policy Institute, Washington DC, USA.

Adepoju, A., 2004c. 'Review of research and data on human trafficking in Sub-Saharan Africa' Paper presented at the IOM International Expert Meeting on Improving Data and Research on Human Trafficking, Rome 27-28 May.

Adepoju, A. 2009. 'Promoting managed migration through bilateral and multilateral agreements between Europe and Africa'. A Paper Presented at the Inaugural NOMRA Scientific Conference on: Challenges of African Migration in a Globalizing World. Lagos. 15th -16th January, 2009.

Adelman, I.Y. and Taylor, J.E. 1996. 'Village Economies: The Design, Estimation and Use of Village ECONOMIC models'. Cambridge University Press, Cambridge.

Afinotan, L.A. 2009. 'The Niger Delta Crisis: Issues, Challenges and Prospects'. A Seminar Paper of the College of Social and Management Sciences, Joseph Ayo Babalola University, Ikeji-Arakeji.

Afolayan, A.A. 1976. 'Behavioural approach to the study of migration into, and mobility within the metropolitan Lagos. 'Unpublished PhD Thesis, Department of Geography, University of Ibadan.

Afolayan, A.A. 1988. 'Immigration and expulsion of ECOWAS Aliens in Nigeria'. *International Migration Review, Vol*. 22, pp 4-27, 1988.

Afolayan, A.A. 1996. 'Comparison in the structure and change in the political and legal system of regulation hindering or promoting emigration in Sub-Saharan Africa'. In: Adepoju, A and T. Hammar. (eds.) International Migration from Africa: Dimension, Challenges and Prospects. Chap. 4, Pp53-88.

Afolayan, A.A. 1997. 'Internal and international migration: flows and rates'. In: Nigeria Migration and Urbanization Survey, 1993 Chap.6, Pp 67-88, Ibadan. Nigerian Institute of Social and Economic Research, NISER), Ibadan.

Afolayan, A.A. 2001. 'Issues and challenges of emigration dynamics in developing countries'. *International Migration.* Quarterly Review, 39 4): Pp 6- 10

Afolayan, A.A. 2004. 'Circulatory migration in West Africa: a case study of Ejigbo in Southwestern Nigeria'. Migration Internationales, Mobiliteset Development, E. Guerassimoff (Ed). L'Harmattan. Paris.

Agboola, S.A. 1979.An Agricultural Atlas of Nigeria, Oxford University Press, Nigeria Pp 248.

Aiken, L.H., Buchan, J., Sochalski, J., Nichols, B., and Powell, M. 2004.'Trends in international nurse migration'. *Health Affairs.* Vol. 23, No. 3, Pp 69-77, May.

Ajala, O.A; Lekan, S., and Adeyinka, S., 2005.'Accessibility to health care facilities: a panacea for sustainable rural development in Osun State, Southwestern', Nigeria. *Journal of Human Ecology,* 182): 121-128.

Astor, A., Akhtar, T., Matallana, M., Muthuswamy, V., Olowu, F., Tallo,V., Lie, R., 2005. 'Physician migration: views from professionals in Columbia, Nigeria, Indian, Pakistan, and the Philippines'. *Social Science and Medicine,* 61, pp 2492-2500.

American Medical Association, 2005."Short supply of foreign doctors". Archived from the originalversion edition, on 2005-09-29 (www.ama.org)

Amin, S. 1974. Modern migration in Western Africa, London: Oxford University Press, pp 65-124.

Anekwe, C. 2003. 'Brain drain: the Nigerian experience', www.nigedeltacongress.com

Alberts H.C. and Hazen H.D. 2005. 'There are always two voices: international students' intentions to stay in the United States or return to their home countries.' *International Migration,* Vol. 43 (3) Blackwell Publishing Ltd.

Badr E and Hay N. 2008.Policy brief for the global policy advisory council, the gulf cooperation council (GCC) and health worker migration. Available at http://www.gcc-sg.org/eng/index.php.

Bärnighausen, Till, and David. E. Bloom 2011. "The global health workforce", in Sherry Glied and Peter C. Smith (Eds.), *Oxford Handbook of Health Economics,* Oxford: Oxford University Press, pp. 486-519.

Batista, C. 2007. 'Why doesn't labour flow from poor to rich countries? The European integration experience', Working Paper, University of Oxford.

Batista, C.A., Lacuesta, A. and Vicente, P.C., 2007.Brain drain or brain gain? Micro evidence from an African success story. Working Paper 343, Department of Economics, University of Oxford.

Beine, M., Docquier, F., Rapoport, H., 2001. "Brain drain and economic growth: theory and evidence." *Journal of Development Economics*. Vol. 64, pp 275-289

Bhargava, Alok, Frédéric Docquier, and Yasser Moullan, 2011. "Modeling the effects of physician emigration on human development" *Economics and Human Biology,* **9,** 2, 172-183, 29

Black, R., Ammassari, S., Mouillesseaux, S and Rajkotia, R., 2004.'Migration and pro-poor policy in West Africa. Working Paper C8. University of Sussex: DRC on Migration, Globalization and Poverty.

Buchan, J., Jobanputra, R., Gough, P. and Hutt, R., 2006. 'Internationally recruited nurses in London: a survey of career paths and plans', *Human Resources for Health* 2006, 1478-4491.

Calì, M. 2008. Trade in health services and health systems: does regulation hinder or help? Some evidence from India. Overseas Development Institute, London.

Carling, J., 2005.'Trafficking in women: from Nigeria to Europe. *Migration InformationSource*http://www.migrationinformation.org

Carrington, W.J. and Detragiache, E., 1999. "How extensive is the brain drain?" Finance and Development, 36, 2, 46-49.

CareyH.C 1858. Principles of Social Science3 Vols, (1858-1860) Philadelphia: J B Lippincott & Co. USA.

Casmir Leslie 2008. 'Bachelor's and beyond in America, Nigerians' education pursuit is above rest'. Houston Chronicles. USA.

Cátia Batista, AitorLacuesta, Pedro C., Vicente, 2007.'Brain Drain or Brain Gain? Micro Evidence from an African Success Story' *Discussion Paper No. 3035, September 2007,* Cape Verde.

Center for Migration Studies 2010.Legal and Institutional dimensions of migration in Ghana, University of Ghana.

Chalkley, Martin, Colin Tilley, Shaolin Wang 2011. 'Comparing the treatment provided by migrant and non-migrant health professionals: dentists in Scotland', Dundee Discussion Papers, in Economics, Working Paper No. 249, Department of Economic Studies, University of Dundee, Scotland.

Chandra, A., Willis, W.K. 2005.Importing Nurses: Combating the Nursing Shortage. *Hospital Topics*.(832):33–7. Healthcare and Public Policy

Chikanda, A. 2010.'Emigration of Medical Doctors from Zimbabwe: Migrant Experiences, Transnational Linkages and Prospects for Diasporic Engagement.' Unpublished PhD Thesis, University of Western Ontario, Canada

Claeson, C.F. 1969.A two-stage model for in migration to urban centres.A deductive development of a variant of the gravity formulation. *Geografiska Annaler*, 57, Series B: 127-139

Clemens, M. 2007. Do visas kill? Health effects of African health professional emigration, Working Paper 114, Centre for Global Development.

Dabiri-Erewa, A. 2012.Nigeria needs a Diaspora Commission. A paper presentation at the opening session of the Global African Diaspora Summit, Johannesburg, South Africa.

Dabiri-Erewa, A.2013.Nigeria Diaspora Commission: The time is now. A paper presentation at the11th Pravasi Bharatiya Divas 2013 India in the Diaspora Convention.

Deng M. Francis 2001. Sudan civil war and genocide: disappearing Christians of the Middle East. *Middle East Quarterly Winter,* Volume viii: Number 1, pp.13-21

Development Research Centre (DRC) on Migration, Globalization and Poverty 2005.'Migration and the Millennium Development Goals for Health'. Briefing No 1, February, 2005.

Development Research Centre (DRC) on Migration, Global Migrant Origin Database, March, 2007, version 4

Development Research Centre on Migration, Globalization and Poverty 2009. 'Diaspora and Development: Building Transnational Partnerships'. Briefing No 19, August, 2009.

Docquier F. and Marfouk A. 2006, International migration by educational attainment (1990-2000), in C. Ozden and M. Schiff, International migration, remittances and development, Palgrave Macmillan, New York.

DovloDelanyo 2003. "The Brain Drain and Retention of Health Professionals in Africa" A case study prepared for a regional training conference on improving tertiary education in sub-Saharan Africa: Things that work! September 23-25, 2003.

Ekanem, I. 1982. 'The dynamics of urban growth: A case study of medium-sized towns in Nigeria, In Kosinski, L. A. and Prothero, R. M. (eds.) London: Mentuen, pp 109-116.

Emeagwali, P. 2003. October 24. "How do we reverse the brain drain," A paper delivered at the Pan African Conference on Brain Drain, Elsah, Illinois, www.africanamericanspeakers.biz

Fadayomi, T.O. 2009. 'Emigration of skilled professionals from Africa: A paper presented at the inaugural NOMRA scientific conference on Challenges of African migration in globalizing World, Lagos, January, 15th -16th , 2009.

Faye, A. 2002. "Issue of the International Migration of Highly Skilled Persons," International Migration Papers No 46. International Migration Branch, International Labour Office. Geneva, Switzerland.

Federal Republic of Nigeria, Decree No 6 Land Use Decree 1978. Official Gazette Extraordinary 65, 14, Government Notice, No 272.

Fellman, J. D., Getis, A. & Getis, J. 2008.Human Geography-Landscapes of Human Activities, Tenth Edition, Sidan 68.McGraw-Hill.

Frankman, M.J., 1972. 'Labour migration in less developed countries: comment,' *Manpower and Unemployment Research in Africa,* (5):1-5.

Frommel D. 2002.'Exporting health: Global market in medical workers', Le Monde Diplomatique.

Gallaway, L. E. 1967. Industry variation in geography labour mobility. Journal of Human Resources, 2: 461-474.

Gordon, A. 1998.The new Diaspora-African immigration to the United States.' Journal of the Third World, 15 (1): 79-104

Ghosh, B. 2005. 'Managing Migration: Whither the missing regime?' *Migration without Border Series.*

Goldmann, G., Arthur, S. and Casey, W,2011. 'The portability of new immigrants' human capital: language, education and occupational matching', IZA Discussion Paper 5851, Institute for the Study of Labor, Bonn.

Gould, W. T. S., and Prothero, R. M., 1975.'Space and time in African population mobility', *In People on the Move*, Kosinski, L. A. and Prothero, R. M. Eds.) London: Mentuen, pp 39-49.

Green, L.,1974.'Migration, urbanization and national development in Nigeria'. In Modern Migration in West Africa, Amin S. ed.) London: Oxford University Press)

Grether, J. M., Muller, T. and de Melo, J., 2001.'The political economy of international migration in a Ricardo-Viner Model.' In S. Djajic (Ed) *International Migration: Trends, Policy and Impact*. Pp 42-68. Routledge.

Greenwood, M.J. 1968. An analysis of the determinant of geographical labour mobility in the United States. Review of Economic and Statistics, (51):189-204.

Grignon, M.Y., Owusu, A, Sweetman, 2012.'The international migration of health professionals.' IZA Discussion Paper No 6517, April. Germany.

Guarnizo, L. Fall 2003. The Economics of Transnational Living. *International Migration Review*, 37 (3), 666-699.

Haas de, H. 2006. 'International migration and national development: Viewpoints and policy initiatives in countries of origin - The case of Nigeria' *Working papers Migration and Development Series*. Nijmegen and The Hague: Radboud University, Nijmegen and Directorate General for International Cooperation (DIG), Ministry of Foreign Affairs, The Netherlands.

Haas de, H. 2008. International Migration, National Development and the Role of Governments: The Case of Nigeria. In A. Adepoju, Naerssen, T. and Zoomers, A. (eds.), International Migration and National Development in Sub-Saharan Africa: View points and policy initiatives in the countries of origin Leiden: BRILL.

Hagopian, A.,Ofosu, A., Fatusi, A., Biritwum, R., Essel, A., Hart, G. and Watts, C., 2005. 'The flight of physicians from West Africa: views of African physicians and implications for policy.' Social Science & Medicine Volume: 61

Human Development Index, 2008. 'In: Encyclopedia of Earth. Eds. Cutler J. Cleveland Washington, D.C.: (Environmental Information Coalition, National Council for Science and the Environment).

Hansen Peter 2008. 'Remittances to Africa: Challenges and Opportunities'. Danish Institute for International Studies, Migration Unit. A paper presentation at the 8th Brussels development Briefing. Harris, J. R., and M. P. Todaro. 1970. Migration unemployment and development: a two sector analysis. American Economic Review, LX, 139-149.

Hatton T.J. and Williamson J. G., 2003. "Demographic and economic pressure on emigration out of Africa," Scandinavian Journal of Economics, Blackwell Publishing, vol. (1053), pp 465-486,

Hauser, P.M. and Duncan, O.D. 1969.'The study of population-an inventory and appraisal'.(Chicago University Press).

Hawthorne, Lesleyanne and Jan Hamilton 2010. 'International medical students and migration: the missing dimension in Australian workforce planning?' *Medical Journal of Australia*, 262–265

International Fund for Agricultural Development (IFAD) 'Migration and Remittances' 2009.World Bank Review.

Imoagene, S.O, 1974.'Some sociological aspects of modern migration in Western Africa'.in Amin, S., pp 343-57.

Inoue, Jun 2010. 'Migration of nurses in the EU, the UK, and Japan: regulatory bodies and push-pull factors in the International mobility of skilled practitioners', Discussion Paper Series A No.526, Institute of Economic Research, Kunitachi, Tokyo.

IOM, 2005.'International agenda for migration management' *Berne Initiative,* pp 29-31.

IOM, 2010.Linking emigrant communities for more development- inventory of institutional capacities and practices. Joint ICMPD-IOM project report.

IOM, 2011.Interactive map on migration in Africa, the Middle-East and Mediterranean region (MTM i-map).

Institute for Migration, 1999. 'Return of Qualified African Nationals Programme', *Factsheet*, 7 July.

Johnston, R.J., Gregory, D., Pratt, G and Watts, M., 2000. The Dictionary of Human Geography, 4th edition. Blackwell Publishers Ltd.

Kaestner and Kaushal, 2012.'Effects of immigrant nurses on labour market outcomes of US nurses', *Journal of Urban Economics*, 71, 219–229.

Kalist, David, Stephen Spurr and Tatsuma Wada, 2010.'Immigration of nurses', *Industrial Relations*, (493), 406–427.

Kanchanachitra, C., Lindelow, M., Johnston, T., Piya,M., Lorenzo, M., Huong, N., Wilopo, S and dela Rosa, J., 2011. 'Human resources for health in South-east Asia: shortages, distributional challenges, and international trade in health services', *Lancet*, 377, 769-781. 31

Kangasniemi, Mari, Alan L. Winters, Simon Commander, 2007. 'Is the medical brain drain beneficial? Evidence from overseas doctors in the UK', *Social Science and Medicine*, 65**,** 2007**,** 915–923.

Kelo M. and Wachter B., 2004. 'Brain Drain and Brain Gain: Migration in the European Union after Enlargement'. A study presentation for the European conference on brain gain held in The Hague, Sept, 29-30.

Khan, F. 2003 "Population: African Union Courts Africans in the Diaspora," Global Information Network, p.1.

Kingma Mireille, 2007 Nurses on the Move: A Global Overview Health Services Research. June; 423 Pt 2): 1281–1298.

Kollehlon, K. T. and Eule, E. E. 2003. "The Socioeconomic Attainment Patterns of African in the United States," *The International Migration Review*, 37, 4, 1165-1190.

Labonte R., Packer C., Klassen N., 2006 Managing Health Professional Migration from Sub-Saharan Africa to Canada: a Stakeholder Inquiry into Policy Options. *Human Resources for Health*; Volume: 4, Issue: 22: pp 1-26

Lee, E. S. 1966 'A theory of migration'.*Demography.*Vol.3, No 1, Pp 47-57

Leiman, L,. 2004. "Should the Brain Drain Be Plugged? A Behavioural Economics Approach," *Texas International Law Journal*, 39, 4, 675-695.

Leipziger, D. M. 2008 'Brain drain and the global mobility of high-skilled talent'.The World Bank. PREM NOTES, No 123.

Lesky, Linda G. 2011. 'Physician migration to the United States and Canada: criteria for admission', in Barry R. Chiswick ed.), *High-Skilled Immigration in a Global Labour Market*, DC, USA: American Enterprise Institute Press, pp. 155-164.

Longombe, A., O., Burch, V., Luboga, S., Mkony, C., Olapade-Olaopa, E., O., Otieno-Nyunya, B., Afolabi, B., Nwobodo, E., Kiguli, S., Burdick, W., P., Boulet, J., R., and Morahan, P., S., 2007. 'Research on medical migration from sub-Saharan medical schools: usefulness of a feasibility process to define barriers to data collection and develop a practical study' http://www.educationforhealth.net

Logan, B. I. 1987. The reverse transfer of technology brain drain): factors, scope and implications. Journal of Modern African Studies, December 25 4), 289-312.

Logan, B. I. 1999 'The reverse transfer of technology from sub-Saharan Africa: the case of Zimbabwe.' *International Migration* Vol. 25, 2): 437-462.

Logan, J. R. & Deane, G. 2003 "Black Diversity in Metropolitan America,", "Income and Poverty for selected Ancestry Groups," 1989.Published February 18, 1998.U.S. Census Bureau. http://www.census.gov/population

Martineau, T., Decker, K. and Bundred, P., 2002.'Briefing note on International Migration of Health professionals: Levelling the playing field for developing health systems. *International Health Division School of Tropical Medicine*, Liverpool. Available from: www.liv.ac.uk

Massey, D., S., 1990.The social and economic origins of immigration. Annals of the American Academy of Political and Social Science, 510: 60-72.

Massey, D., S., Arango, J., Hugo, G., Kouaouci, A., Pellegrino, A., and Taylor, J., E, 1993. 'Theories of International Migration: A review and Appraisal, *Population and Development Review,* Vol. 19, No. 3, 431-466.

Mbanefoh, N., 2007 'Brain drain in the health sector in Africa: Examples from the University College Hospital (UCH) Ibadan, Nigeria'. A paper presented at the conference of Rectors, Vice Chancellors and Presidents of African Universities (COREVIP).

Mbeki Thabo 1999 'The African renaissance Statement'. Office of the Executive Deputy President. South Africa.

McDonald, James Ted and Christopher Worswick, 2010.'The determinants of the migration decisions of immigrant and non-immigrant physicians in Canada', SEDAP Research Paper No. 282, McMaster University, Canada. 32

Mclymont, R. 2001. "Africa's Brain Drain" *Network Journal,* 8, 10, 32.

MCI 2005 'Human resources strategies, in consolidating the gains: Managing the challenges. 1999 Health Sector Review, Government Republic of Ireland.

Mills, E. J., Kanters S., Hagopian, A., Bansback, N., Nachega, J., Alberton, M., Au-Yeung, C., G., Mtambo, A., Bourgeault, I., L., Luboga, S., Hogg, R., S. and Ford, N, 2011. 'The financial cost of doctors emigrating from sub-Saharan Africa: human capital analyses, *British Medical Journal,* 343**,** 1-13.

Modernghana.com 2009. 'Obama's Africa Trip: A press release by US-West Africa Group communication Team.

Modernghana.com 2009.'Reducing doctor-patient ratio: Daily Graphic, Monday, 22 June 2009.

Mullan F. 2005 'The metrics of the Physicians brain drain' *The New England Journal of Medicine,* Vol. 353: No 17, 1810-1818.

Mutume, G. 2003 'Reversing Africa's 'brain drain': New initiatives tap skills of African expatriates' *Africa Recovery,* Vol.17 No 2, p 3.

Nadeem, N and Ashfaq, M. 2004, 'Brain Drain: Causes and Implications, DAWN Business, http://DAWN.com

Newland, K. 2003 'Migration as a factor in development and poverty reduction'. Source: www.migrationinformation.org

Nguyen D., T. 2006 'Self-Selectivity in Brain Circulation' Vietnam Development Forum VDF) Workshop, Hanoi.

Nigeria National Volunteer Service (NNVS) 2006. 'Connecting Nigeria with Her Diaspora', 2nd Nigeria Diaspora Day and the 3rd Science and Technology Conference, 25th—27th July

Nwajiuba, C. 2005.'International migration and livelihoods in south-eastern'. *Nigeria Global Migration Perspectives*. No. 50.

Nwosu, O. R. 2003. 'Brain Drain Is a Euphemism for Modern Slavery'. *www.nigerdeltacongress.com*

Nyberg-Sorensen, N., Van Hear, N. and Engberg-Pedersen, P. 2002. 'The migration-development nexus: evidence and policy options, *International Migration.* Vol. 40, (5): 49-47.

Odimuko, C. I. 1978. 'Urban-rural remittances and rural household expenditure on education: evidence from south-eastern Nigeria'. Paper presented at the AAG, New Orleans, USA

OECD, 2001. 'Trends in International Migration: Continuous reporting system on Migration. *Annual Report.* SOPEMI. Paris: France.

OECD, 2002. 'International migration of physicians and nurses: causes, consequences and health policy implications.' Working Party on Social Policy pp 6-8.

OECD, 2003.'Trends in international migration, at 122, OECD, Paris.

OECD 2008.*The Looming Crisis in the Health Workforce How Can OECD countries respond?* Paris: OECD Health Policy Studies, Organisation for Economic Co-operation and Development.

OECD 2011.Factbook 2011: Economic, Environmental and Social Statistics. Paris: Organisation for Economic Co-operation and Development.

O'Connell Davidson, J and Taylor Jacqueline, S. 1996.A research paper prepared for ECPAT as preparation for the World Congress against the Commercial Sexual Exploitation of Children; UNICEF.

Ohagi, E. J. 1989, 'Brian drain and the University College Hospital, Ibadan. Unpublished M.Sc. Sociology) Dissertation, University of Ibadan, Ibadan.

Ojiji O. O. 1998.'Value orientation and preference for methods of conflict resolution in Nigeria'. An Unpublished PhD thesis, University of Nigeria, Nsukka.

Okonkwo Osili 2006. 'Remittances and savings from international migration: Theory and evidence using a matched sample'. *Journal of Development Economics 83: 446–465*.

Olateru-Olagbegi, B., 2004., 'Brief overview of the situational analysis of human trafficking in West Africa.' A paper presented at the Seventh African Regional Conference on Women. Decade Review of the implementation of the Dakar and Beijing Platforms for Action, Addis Ababa.

O'Rourke, K. H., and Sinnott R. 2004. 'Migration flow: political economy of migration and empirical challenges', pp 1-11.

Oucho, J. O. 1998. 'Recent internal migration processes in Sub-Saharan Africa: Determinants, consequences, and data adequacy issues, pp89-120, in R. E.

Bilsborrow ed.*), Migration, Urbanization and Development: New Direction and Issues*. New York: UNFPA and Kluwer Academic Publisher.

Overseas Development Institute(ODI)2008. 'Migration restrictions and the 'brain drain': the wrong response to an ill-defined problem'www.odi.org.uk

Oyesiku, N.M. 2009.'The lost generation: perils and pains of brain drain' A guest lecture presented at the University of Ibadan, Ibadan Nigeria.

Ozden C. and Schiff M. 2005 'International migration, remittances and the brain drain.' *Population and Development Review*, Palgrave Macmillan, New York.

Padarath A., Chamberlain, C., McCoy, D., Ntuli, A., Rowson, M., and Loewenson, R. 2003."Health Personnel in Southern Africa: Confronting mal-distribution and brain drain", in R Loewenson, and C Thompson (Eds.) International Development Research Centre Canada.

Palmer, I. 1985.'The Impact of out Migration on Women in Farming'. Women's role and gender differences in development: Cases for planners, No 7

Peluola, A. 2008. 'Bakassi controversy is scramble for oil, not the peoples' interest'. Socialist Democracy, September –October.

Physicians for Human Right PHR) 2004) 'An action plan to prevent brain drain: Building equitable health systems in Africa.

Pillay, R. 2007. 'A conceptual framework for the strategic analysis and management of the brain drain of African health care professionals', *African Journal of Business Management*, pp 026-083.

Ricca S. 1989. 'International migration in Africa: legal and administrative aspects'. International Labour Office, Geneva.

Rushton, G, 1969.'Analysis of spatial behaviour by revealed space preferences. Annals of American Association of Geographers, 59: 391-400.

Rosenzweig, M. 2007 'Higher education and international migration in Asia: brain circulation'; Working Paper, Yale University.

Rutten, Martine, 2009a.'The economic impact of medical migration: a receiving country's perspective', *Review of International Economics,* **17**1), 156–171.

Rutten, Martine, 2009b.'The economic impact of medical migration: an overview of the literature', *The World Economy,* 291-325.

Sassen S., 1988.'The mobility of labour and capital: a study in international investment and labour flow' Cambridge University Press, Cambridge, England.

Shaw R., P. 1974. Migration Theory and Fact: A Review and Bibliography of Current Literature, Bibliography Series. No.5. Regional Science Research Institute, Philadelphia, Pennsylvania

Sjaastad, L., A. 1962.'The cost and return of human migration'. *The Journal of Political Economy.* 5, Part 2, Investment in Human Beings), Pp. 80-93.

Sankore, R. 2006. 'How the brain drain to the west worsen African's public health crisis'. Pambazuka News, Issue 269. www.pambazuka.org

Schrempf, J. 2008.'Reversing Brain drain into Brain gain in Africa'. HP-UNESCO project in Africa.www.epractice.eu

Shaw, R., P. 1974. 'Migration and Theory and Fact: A review and bibliography of current literature. *UN Population Report*, Pp 105-115.

Shinn, D., H 2002. 'Reversing the brain drain in Ethiopia', lecture at the Elliot School of International Affairs at George Washington University, Nov 23, 2002. Available from: www.gwu.edu

Shinn, D., H. 2008.'African Migration and the Brian Drain'. A paper presentation at the institute for African Studies and Slovenia Global Action, Ljubljana, Slovenia.

Smith, T., L. and Zipf, P., E. 1970.'Demography principles and methods'. F A Davis Company, Philadelphia, USA.

Stilwell, B., Diallo, K., Zurn, P., Dal Poz, M., R., Adams, O. and Buchan, J. 2003.'Developing evidence-based ethical policies on the migration of health workers: conceptual and practical challenges'. Human Resources for Health, Vol.1:8.

Stilwell, B., Diallo, K., Zurn, P., Vujicic, M. and Adams, O. Dal Poz, M., R. 2004. 'Migration of health-care workers from developing countries: strategic approached to its management'. Bulletin of the World Health Organization, August, 82 8), Pp 595-600.

Stalker, P. 2001 'The No-nonsense guide to international migration'; New International Publications Limited, Oxford, Pp 21-22.

Stark, O. 1991 'Migration in LDCs: risk, remittances and the family.' finance and development, 284): 39-41.

Stark, O. and Bloom, D. 1985. 'The New Economic of Labour Migration' *American Economic Review*, 75: 173-178.Stouffer, S. A. 1960) "Intervening opportunities and competing migrants". *Journal of Regional Science, 2: 1 26*

Stouffer, S., A. 1940.'Intervening opportunities and competing migrants. *Journal of Regional science.*

Tettey W., J. 2003.Africa's options: return, retention or Diaspora? Science and Development Network, www.SciDev.net/en)

The Guardian, 2008. 'Stemming brain drain in nursing profession, Tuesday, May 20, p35

The Nigerian Observer, 2008. 'Nigeria doctor/patient ration now 1:4000- LUTH CMD, Sept. p25

The Punch, 2008. 'Nigeria loses over $1.5 billion annually to Foreign Sea Fearers, April, p5.

The SUN, 2009. 'UCH plans fee 10 renal transplants: To spend N100 million' Monday, August 17, p22

Todaro, M., P., 1976.'Internal migration in developing countries' International Labour Organization (ILO), Geneva.

University College Hospital's(UCH) Golden Jubilee, 2007. 'History of UCH: Background of Medical Excellence.' Anniversary souvenir.

Udo, R., K. 1975.'Migrant tenant farmers of Nigeria'. A Geographical study of Rural Migrants in Nigeria. Lagos African University Press.

Udo, R., K. 1993.'Modules on migration, urbanization and development' UNDP, NIR/91/001- Population and Development.

Umez, B., N. 1998. 'Brain drain and problems of development in Nigeria', Paper presented to commemorate 38th year of Nigeria's independence, Oji-River People's Forum, Houston, USA.

Uno, Edet 2003. 'Bakassi: The Oron Perspective' A paper presentation of the Leader of the Oron People's Right

United Nations 1998.'Recommendations on statistics of international migration. Revision 1, Statistical Paper, series M, No 58, Rev 1, New York, p 95.

United Nations Conference on Trade and Development (UNCTAD), 2008. 'Strong performance in foreign direct investment in Africa but resource-rich countries dominates'. A Conference on Trade and Development, Accra, Ghana.

United Nations Funds for Population Agency (UNFPA), 2012.'Population Projection in the States, Nigeria.'

United Nations Statistics Division and EUROSTAT, 2001. 'Is the measurement of international migration flows improving in Europe'. Working paper No 12.

Vakin, S. 2002. 'Migration and Brain Drain, United Press International.

Wadda, R. 2000. 'Brain drain and capacity Building in Africa: the Gambian Experience'. A paper delivered at the regional conference on brain drain and capacity building in Africa, Addis Ababa, Ethiopia.

Wallerstein, I. 1974. 'The Modern World System: Capitalist Agriculture and the Origins of the European World-Economy in the 16th Century'. New York: Academic Press.

Wilson J. 2003.'African-born residents of the United States.' *Migration Information Source*, August. www.migrationinformation.org

WHO, 2010, 'Global Code of Practice on the International Recruitment of Health Personnel.' Sixty-third World Health Assembly-WHA63.16, Geneva: World Health Organization. 34

Wismar M., Claudia B., M. 2011.'Health Professional Mobility and Health Systems: Evidence from 17 European Countries', Copenhagen: World Health

Organization, on behalf of the European Observatory on Health systems and Policies.

World Bank, 2008. Prospect: Migration and Remittances Factbook.

World Bank, 2011. Prospect: Migration and Remittances Factbook

World Trade Organization 2003.'Technology transfer'. Agreement on Trade Related Aspects of Intellectual Property Rights TRIPS), Article 66.2, Feb. 2003

www.hdr.undp.org 2006.Africapedia Health Report.

Zeleza T. 1990. 'The intelligentsia and academic freedom: The Question of Expatriate African Scholars in African Universities'. Symposium on Academic Freedom Research and the Social Responsibility of the Intellectual in Africa. November, Kampala Uganda.

Zipf, G., K. 1946. The P^1 P^2/D hypothesis on the inter-city movement of persons. American Sociological Review, 11: 677-686.

Appendix 1

Questionnaire

Survey of Migration of Healthcare Professionals from and into Tertiary and Secondary Health Institution in Southwestern Nigeria

Introduction

We are carrying out survey of **Migration of Healthcare Professionals from and into Tertiary and Secondary Health Institution in Southwestern Nigeria.** The survey is an academic research; it focuses on international migration of healthcare professionals in teaching hospitals, namely: University College Hospital (UCH) Ibadan, Obafemi Awolowo University Teaching Hospital Complex (OAUTHC) Ile-Ife and Adeoyo Maternity Teaching Hospital (AMTH) Ibadan. The survey aims at studying the volume, pattern and courses of brain drain and brain gain of healthcare professionals and how these dynamics have effect on training, research and healthcare delivery systems of the institutions. We are, therefore, soliciting for your cooperation in answering questions pertaining to yourself, emigrated colleagues and generally on healthcare system and facilities. These are towards appreciating the topic of research. In this regards, your answers, views and information given would be treated as highly confidential.

Thank you.

Questionnaire for Healthcare Professionals: Doctors (Medical and Dental), Nurses, Pharmacists, Medical Laboratory Scientists/Technologists

Interviewer Please Note: Tick or write in full where appropriate

Basic information of the location

1 Name of institution …….

2 Name of department …….. and Unit …….

Section A: Demographic Characteristics

3. Sex (1) Male ( ) (2) Female ( )
4. Age in years as at last birthday…….
5. Religion: (1) Christianity ( ) (2) Islam ( ) (3) Traditional Religion ( ) (4) Others (Specified)……..
6. Marital Status: (1) Single/Never Married ( ) (2) Married ( ) (3) Widow/Widower ( ) (4) Divorced/Separated ( ) (5) Others (Specify)……
7. Educational/Professional/Fellowship Qualification (1) RN ( ) (2) HND ( ) (3) Bachelor ( ) (4) Masters ( ) (5) Doctorate ( ) (6) Others (Specify) ……

8. Area of Specialization ……
9. Present Designation/Position ……..
10. Nationality ……..
11. State of Origin: ……
12. When did you qualify to practice this profession? ……
13. Where did you qualify? Place Name ……and Country……

Section B: Migration Status of Respondent

14. When was your first appointment in this department/unit? .....
15. How many years of working experience have you had? .....
16. Have you ever practiced you profession outside Nigeria since you are qualified? (1) Yes ( ) (2) No ( )
17. If yes, where ……and when……
18. If no, please, go to Q 24
19. Who motivated your practicing outside the country? (1) Senior Colleague ( )(2) Colleague ( )(3) Friend (...) (4) Spouse ( ) (5) Relatives ( ) (6) Others (Specify)……
20. What motivated your practicing outside the country? (Multiple Responses Allowed) (1) Acquiring professional degrees ( ) (2) High salary ( ) (3) Availability of modern equipment ( ) (4) Better working environment ( ) (5) Family ties ( ) (6) Others (Specify)……
21. How long did you stay in the country you have practiced? …….
22. When did you come back Nigeria ……
23. Why did you come back to the country? (Multiple Responses Allowed) (1) Patriotism ( ) (2) Fear of Discrimination ( ) (3) Heavy taxation ( ) (4) Fear of harsh weather condition ( ) (5) Re-union of family ties ( ) (6) Others (Specify)……

Section C: Details on Non-Migration and Emigrated Colleagues of Respondent

24. Why do you stay in the country to practice you profession? (Multiple Responses Allowed) (1) Fear of re-starting training ( ) (2) Fear of being discriminated against ( ) (3) Heavy taxation ( ) (4) Fear of harsh weather condition ( ) (5) family ties/social engagement ( ) (6) Others (Specify)….
25. Are you satisfied with the working conditions in this institution? (1) Yes ( ) (2) No ( )
26. If yes, please go to Q 28
27. If no, what are your expectations? ……
28. Have any of your colleagues in your department traveled out of Nigeria to practice? (1) Yes ( ) (2) No ( )
29. If yes, kindly give information on table below:

Period	Number of colleagues (s) that Traveled	Kindly list major country(ies) of Destination
1986-1999		
2000-2003		
2004-2007		
2008-2010		

30. Has any non-Nigerian colleague(s) joined your department/unit? (1) Yes ( ) (2) No ( )

31. If yes, kindly give information on table below:

Period	Number of colleagues (s) that joined your department	Kindly list major country(ies) of Origin
1986-1999		
2000-2003		
2004-2007		
2008-2010		

32. Has any of your colleagues that travelled out go with their immediate family members? (1) Yes ( ) (2) No ( )
33. Did any of your colleagues that travelled out come back to practice his/her profession in Nigeria? (1) Yes ( ) (2) No ( )
34. If yes, did they return to this institution? (1) Yes ( ) (2) No ( )
35. If yes, kindly give following information about them:

Period	Number of colleagues (s) that returned to your department	Qualification (s) when returned	Specialty when returned
1986-1999			
2000-2003			
2004-2007			
2008-2010			

36. If no, where are they practicing? (1) In another institution (Specify)……
(2) Set-up their own private practice ( ) (3) Others (Specify) …….

Section D: Perception of Emigration of Colleagues on Tertiary Health Institution

37. In what way do you think the emigration of healthcare professionals has affected health care delivery, training and research? (i) In your institution?
……
(ii) In your department?.....
What linkage do emigrated colleague(s) have
With your institution (1) Cash ( ) (Please, give estimate) ……
(2) In kind (i) Give seminar/lectures ( ) (ii) Books donation ( ) (iii) Donation of modern equipment ( ) (iv) Project collaboration ( ) (v) Short-term consultation ( )
(vi) Others (Specify)……..
(3) Cash and In kind ( ) Please, specify estimate and duration ……
With your department (1) Cash ( ) (Please, give estimate)……..
(2) In kind (i) Give seminar/lectures ( ) (ii) Books donation ( ) (iii) Donation of modern equipment ( ) (iv) Project collaboration ( ) (v) Short-term consultation ( )
(vi) Others (Specify ……..
(3) Cash and In kind ( ) Please, specify estimate and duration ……
38. Do your emigrated colleague(s) send remittance to you? (1) Yes ( ) (2) No ( )
39. If yes, in what form? (1) Cash (Please, give estimate)……
In kind ( ) (Please specify)…….
In cash and kind ( ) (Please specify) ……

Section E: Socio-Political Environment on Brain drain and Brain gain

40. Do you belong to any professional association? (1) Yes ( ) (2) No ( )
41. Name of the association ……
42. If yes, what is/are the role(s) of your association towards brain drain and brain gain of members…….
43 In your opinion, how has emigration brain drain of healthcare professionals affected the association you belong to?……..
44 In your opinion, what is/are your suggestion(s) to government to curb brain drain and encourage brain gain in tertiary health institution?…….

Appendix 2:
Destinations of Health Professionals, UCH

	Class of Profession	Doctor		Nurses		Pharmacists		MLS		Total	
Health Institution	Country of Destination	Count	%	Count	%	Count	%	Count	%	Count	%
UCH	UK (Dublin, London, etc)	23	28	54	40	4	44	1	9.1	82	34
	USA	32	38	31	23	3	33	2	18.2	68	29
	Canada	2	2.4	13	9.6	2	22			17	7.1
	Saudi Arabia			13	9.6			2	18.2	15	6.3
	Australia	9	11	1	0.7					10	4.2
	South Africa	4	4.9	4	3					8	3.4
	India	5	6.1	2	1.5					7	2.9
	Ireland			6	4.4					6	2.5
	Omar			3	2.2			2	18.2	5	2.1
	Caribbean			4	3					4	1.7
	Gambia	2	2.4	1	0.7					3	1.3
	Qatar			2	1.5					2	0.9
	Kuwait										
	Germany	2	2.4					1	9.1	3	1.2
	Egypt	1	1.2							1	0.4
	Jamaica			1	0.7					1	0.4
	Dubai							2	18.2	2	0.9
	Ghana	1	1.2					1	9.1	2	0.9
	Trinidad & Tobago	1	1.2						100.1	1	0.4
	South America	1	1.2							1	0.4
	Total	83	100	135	100	9	100	11	100	238	100

Source: Author's Analysis, 2012

Appendix 3:
Destinations of Health Professionals, AMTH

	Class of Profession	Doctors		Nurses		Total	
Health Institution	Country of Destination	Count	%	Count	%	Count	%
AMTH	UK (Dublin, London, etc)	5	31.3	29	39.8	34	38.2
	USA	3	18.8	20	27.4	23	25.8
	Canada	1	6.3	13	17.8	14	15.7
	Saudi Arabia	1	6.3	3	4.1	4	4.5
	Jamaica			3	4.1	3	3.4
	Trinidad & Tobago	2	12.6			2	2.2
	South Africa	1	6.3	1	1.4	2	2.2
	Ireland	2	12.5			2	2.2
	Finland			1	1.4	1	1.1
	Dubai			1	1.4	1	1.1
	Malaysia			1	1.4	1	1.1
	Germany			1	1.4	1	1.1
	China	1	6.3			1	1.1
	Total	16	100	73	100	89	100

Source: Author's Analysis, 2012

Appendix 4:
Destinations of Health Professionals, OAUTHC

Health Institution	Class of Profession	Doctors		Nurses		Pharmacists		MLS		Total	
	Destination Country	Count	%	Count	%	Count	%	Count	%	Count	%
	USA	26	31	39	23.9	4	33.3	3	33.3	72	26.9
	UK (Dublin, London, etc)	16	19	52	31.9	1	8.3	1	11.1	70	26.1
	Canada	12	14.3	25	15.3	1	8.3			38	14.2
	Dubai	8	9.5	11	6.7	1	8.3			20	7.5
	South Africa	4	4.8	10	6.1			1	11.1	15	5.6
	Saudi Arabia	1	1.2	6	3.7			4	44.4	11	4.1
	China			2	1.2					9	3.4
	Jamaica			7	4.3					7	2.6
	Ireland	1	1.2	4	2.5					5	1.9
OAUTHC	India	2	2.4			1	8.3			3	1.1
	Spain	2	2.4	1	0.6					3	1.1
	Germany	2	2.4			1	8.3			3	1.1
	Japan	2	2.4							2	0.7
	Australia	2	2.4							2	0.7
	Ghana			1	0.6					1	0.4
	Finland			1	0.6					1	0.4
	Côte d'Ivoire	5	6			1	8.3			1	0.4
	Sweden			1	0.6	2	16.7			1	0.4
	South America			1	0.6					1	0.4
	Botswana	1	1.2							1	0.4
	Brazil			1	0.6					1	0.4
	Netherlands			1	0.6					1	0.4
	Total	84	100	163	100	12	100	9	100	268	100

Source: Author's Analysis, 2012

Appendix 5:
Temporal Trends in Volumes of Immigrated Health Professionals

Institution	UCH				AMTH				OAUTHC			
	Class of Professionals				Class of Professionals				Class of Professionals			
Volume of Immigrant	Doctors	Nurses	Pharmacists	MLS	Doctors	Nurses	Pharmacists	MLS	Doctors	Nurses	Pharmacists	MLS
Immigrants between 1986 – 1999	0	2	0	0	0	2	0	0	0	2	0	0
Immigrants between 2000 – 2003	0	0	0	0	0	6	0	0	1	0	0	0
Immigrants between 2004 – 2007	0	1	0	0	0	2	0	0	1	0	0	0
Immigrants between 2008 – 2010	3	7	0	0	0	2	0	0	4	0	0	0
Total	3	10	0	0	0	12	0	0	6	2	0	0

Source: Author's Analysis, 2012

Appendix 6:
Source Countries of Immigrant Health Professionals into UCH, AMTH & OAUTHC

Country of Origin	Class of Professionals									
	Doctors		Nurses		Pharmacists		MLS		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Italy	1	14.3	6	85.7	0	0	0	0	7	24.2
Sweden	1	14.3	6	85.7	0	0	0	0	7	24.2
Finland	1	16.7	5	83.3	0	0	0	0	6	20.8
UK (Dublin, London, etc)	1	100	0	0	0	0	0	0	1	3.4
USA	2	100	0	0	0	0	0	0	2	6.9
Gambia	0	0	1	100	0	0	0	0	1	3.4
South Africa	0	0	2	100	0	0	0	0	2	6.9
Australia	0	0	1	100	0	0	0	0	1	3.4
Egypt	0	0	1	100	0	0	0	0	1	3.4
Caribbean	0	0	1	100	0	0	0	0	1	3.4
Total	6	20.7	23	79.3	1	3.4	0	0	30	100.0

Source: Author's Analysis, 2012

Appendix 7:
Spatial Patterns of Health Professionals before Returning in UCH, AMTH & OAUTHC

	Class of Professionals									
	Doctors		Nurses		Pharmacists		MLS		Total	
Destination outside Nigeria	Count	%	Count	%	Count	%	Count	%	Count	%
Ghana	0	0	1	100	0	0	0	0	1	5.6
UK (Dublin, London, etc)	2	33.3	4	66.7	0	0	0	0	6	33.3
USA	5	83.3	1	16.7	0	0	0	0	6	33.3
Canada	1	33.3	2	66.7	0	0	0	0	3	16.7
Sierra Leone	1	100.0	0	0	0	0	0	0	1	5.6
Botswana	1	100.0	0	0	0	0	0	0	1	5.6
Total	10	55.6	8	44.44	0	0	0	0	18	100.0

Source: Author's Analysis, 2012

Appendix 8:
Trends in the Volume of Returnee Health Professionals, 1986-2010

		Class of Professionals									
Institution	Did the returnee health professionals come back to the institution?	Doctors		Nurses		Pharmacists		MLS		Total	
		Count	%	Count	%	Count	%	Count	%	Count	%
UCH	Yes	7	20.6	18	35.3	0	0	1	25	26	28.0
	No	27	79.4	33	64.7	4	100	3	75	67	72.0
	Total	34	100	51	100	4	100	4	100	93	100
AMTH	Yes	0	0	5	21.7	0	0	0	0	5	17.9
	No	4	100	18	78.3	0	0	1	100	23	82.1
	Total	4	100	23	100	0	0	1	100	28	100
OAUTHC	Yes	0	0	3	7.0	0	0	3	60	6	7.7
	No	22	100	40	93.0	8	100	2	40	72	92.3
	Total	22	100	43	100	8	100	5	100	78	100

Source: Author's Analysis, 2012

Appendix 9:
Mean Length of Stay in Destination

Institution		Length of stay in destination (year)
UCH	N	1
	Minimum	1
	Maximum	1
	Mean	1
	Std. Deviation	.
AMTH	N	1
	Minimum	4
	Maximum	4
	Mean	4
	Std. Deviation	.
OAUTHC	N	21
	Minimum	1
	Maximum	3
	Mean	1.381
	Std. Deviation	0.4976
Total	N	23
	Minimum	1
	Maximum	4
	Mean	1.478
	Std. Deviation	0.7305

Source: Author's Analysis, 2012

Appendix 10:
Duration of Stay in Last Destination before Returning

		Class of Professionals									
Institution	Duration of stay at destination	Doctors		Nurses		Pharmacists		MLS		Total	
		Count	%	Count	%	Count	%	Count	%	Count	%
UCH	Less than 2yrs	1	100	0	0	0	0	0	0	1	100
	(2 - 3)yrs	0	0	0	0	0	0	0	0	0	0
	Above 3yrs	0	0	0	0	0	0	0	0	0	0
	Total	1	100	0	0	0	0	0	0	1	100
AMTH	Less than 2yrs	0	0	0	0	0	0	0	0	0	0
	(2 - 3)yrs	0	0	0	0	0	0	0	0	0	0
	Above 3yrs	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
OAUTHC	Less than 2yrs	6	66.7	12	100	0	0	0	0	18	85.7
	(2 - 3)yrs	3	33.3	0	0	0	0	0	0	3	14.3
	Above 3yrs	0	0	0	0	0	0	0	0	0	0
	Total	9	100	12	100	0	0	0	0	21	100

Source: Author's Analysis, 2012

Appendix 11:
Health Professionals Migrated with Immediate Family

		Class of Professionals									
Institution	Did any of your colleagues travel go with immediate family?	Doctors		Nurses		Pharmacists		MLS		Total	
		Count	%	Count	%	Count	%	Count	%	Count	%
UCH	Yes	25	78.1	31	60.8	4	100	2	50	62	68.1
	No	7	21.9	20	39.2	0	0	2	50	29	31.9
	Total	32	100	51	100	4	100	4	100	91	100
AMTH	Yes	4	100	16	72.7	0	0	1	100	21	77.8
	No	0	0	6	27.3	0	0	0	0	6	22.2
	Total	4	100	22	100	0	0	1	100	27	100
OAUTHC	Yes	4	21.1	21	44.7	0	0	1	25	26	33.3
	No	15	78.9	26	55.3	8	100	3	75	52	66.7
	Total	19	100	47	100	8	100	4	100	78	100

Source: Author's Analysis, 2012

Appendix 12:
Age Differences among Non-migrant and Returnee Health Professionals

			Sum of Squares	df	Mean Square	F	Sig.
Age of Non-migrant and Returnee health professionals	Between Groups	(Combined)	2925.950	3	975.317	14.438	.000
	Within Groups		14050.630	208	67.551		
	Total		16976.580	211			

Source: Author's Analysis, 2012

Appendix 13:
Age groups of returnee and non-migrant health professionals by institutions

		Age Group										
			(21 - 30)yrs		(31 - 40)yrs		(41 - 50)yrs		51yrs & above		Total	
Institution	Profession	Ever practiced profession outside Nigeria?	Count	%	Count	%	Count	%	Count	%	Count	%
UCH	Doctors	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	8	100	21	100	0	0	0	0	29	100
		Total	8	100	21	100	0	0	0	0	29	100
	Nurses	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	7	100	17	100	12	100	9	100	45	100
		Total	7	100	17	100	12	100	9	100	45	100
	Pharmacists	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	1	100	2	100	0	0	0	0	3	100
		Total	1	100	2	100	0	0	0	0	3	100
	MLS	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	0	0	1	100	2	100	0	0	3	100
		Total	0	0	1	100	2	100	0	0	3	100
AMTH	Doctors	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	2	100	1	100	0	0	0	0	3	100
		Total	2	100	1	100	0	0	0	0	3	100
	Nurses	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	5	100	10	100	7	100	5	100	27	100
		Total	5	100	10	100	7	100	5	100	27	100
	MLS	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	0	0	2	100	1	100	0	0	3	100
		Total	0	0	2	100	1	100	0	0	3	100
OAUTHC	Doctors	Returnee	1	12.5	6	37.5	0	0	0	0	7	29
		Non-migrant	7	87.5	10	62.5	0	0	0	0	17	71
		Total	8	100	16	100	0	0	0	0	24	100
	Nurses	Returnee	0	0	1	9.1	4	33.3	6	66.7	11	25
		Non-migrant	12	100	10	90.9	8	66.7	3	33.3	33	75
		Total	12	100	11	100	12	100	9	100	44	100
	Pharmacists	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	3	100	5	100	0	0	0	0	8	100
		Total	3	100	5	100	0	0	0	0	8	100
	MLS	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	1	100	3	100	0	0	1	100	5	100
		Total	1	100	3	100	0	0	1	100	5	100

Source: Author's Analysis, 2012

Appendix 14:
Sex pattern of returnee and non-migrant health professionals

			Sex					
			Male		Female		Total	
Institution	Profession	Ever practiced profession outside Nigeria?	Count	%	Count	%	Count	%
UCH	Doctors	Returnee	0	0	1	11.1	1	2.9
		Non-migrant	25	100	8	88.9	33	97.1
		Total	25	100	9	100	34	100
	Nurses	Returnee	0	0	0	0	0	0
		Non-migrant	2	100	52	100	54	100
		Total	2	100	52	100	54	100
	Pharmacists	Returnee	0	0	0	0	0	0
		Non-migrant	1	100	5	100	6	100
		Total	1	100	5	100	6	100
	MLS	Returnee	0	0	0	0	0	0
		Non-migrant	3	100	0	0	3	100
		Total	3	100	0	0	3	100
AMTH	Doctors	Returnee	0	0	0	0	0	0
		Non-migrant	2	100	2	100	4	100
		Total	2	100	2	100	4	100
	Nurses	Returnee	0	0	0	0	0	0
		Non-migrant	0	0	31	100	31	100
		Total	0	0	31	100	31	100
	MLS	Returnee	0	0	0	0	0	0
		Non-migrant	1	100	2	100	3	100
		Total	1	100	2	100	3	100
	Total	Returnee	0	0	0	0	0	0
		Non-migrant	3	100	35	100	38	100
		Total	3	100	35	100	38	100
OAUTHC	Doctors	Returnee	7	33.3	2	25	9	31
		Non-migrant	14	66.7	6	75	20	69
		Total	21	100	8	100	29	100
	Nurses	Returnee	8	47.1	4	11.4	12	23.1
		Non-migrant	9	52.9	31	88.6	40	76.9
		Total	17	100	35	100	52	100
	Pharmacists	Returnee	0	0	0	0	0	0
		Non-migrant	5	100	3	100	8	100
		Total	5	100	3	100	8	100
	MLS	Returnee	0	0	0	0	0	0
		Non-migrant	4	100	3	100	7	100
		Total	4	100	3	100	7	100

Source: Author's Analysis, 2012

Appendix 15:
Marital Status of Returnee and Non-migrant Health Professionals

			Marital Status									
			Single/Never Married		Married		Widow/ Widower		Divorced/ Separated		Total	
Institution		Ever practiced profession outside Nigeria?	Count	%	Count	%	Count	%	Count	%	Count	%
UCH	Doctors	Returnee	1	6.3	0	0	0	0	0	0	1	3
		Non-migrant	15	93.8	17	100	0	0	0	0	32	97
		Total	16	100	17	100	0	0	0	0	33	100
	Nurses	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	10	100	43	100	1	100	1	100	55	100
		Total	10	100	43	100	1	100	1	100	55	100
	Pharmacists	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	2	100	3	100	0	0	0	0	5	100
		Total	2	100	3	100	0	0	0	0	5	100
	MLS	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	0	0	3	100	0	0	0	0	3	100
		Total	0	0	3	100	0	0	0	0	3	100
AMTH	Doctors	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	3	100	1	100	0	0	0	0	4	100
		Total	3	100	1	100	0	0	0	0	4	100
	Nurses	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	4	100	27	100	0	0	1	100	32	100
		Total	4	100	27	100	0	0	1	100	32	100
	MLS	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	1	100	2	100	0	0	0	0	3	100
		Total	1	100	2	100	0	0	0	0	3	100
OAUTHC	Doctors	Returnee	0	0	9	39.1	0	0	0	0	9	39.1
		Non-migrant	0	0	14	60.9	0	0	0	0	14	60.9
		Total	0	0	23	100	0	0	0	0	23	32.1
	Nurses	Returnee	0	0	12	27.3	0	0	0	0	12	23.5
		Non-migrant	7	100	32	72.7	0	0	0	0	39	76.5
		Total	7	100	44	100	0	0	0	0	51	100
	Pharmacists	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	4	100	4	100	0	0	0	0	8	100
		Total	4	100	4	100	0	0	0	0	8	100
	MLS	Returnee	0	0	0	0	0	0	0	0	0	0
		Non-migrant	1	100	6	100	0	0	0	0	7	100
		Total	1	100	6	100	0	0	0	0	7	100

Source: Author's Analysis, 2012

Appendix 16:
Perception on Job Satisfaction

		Class of Professionals									
		Doctors		Nurses		Pharmacists		MLS		Total	
Institution	Are you satisfied with the working conditions in this institution?	Count	%	Count	%	Count	%	Count	%	Count	%
UCH	Yes	2	5.7	27	48.2	1	20	2	50	32	32
	No	33	94.3	29	51.8	4	80	2	50	68	68
	Total	35	100	56	100	5	100	4	100	100	100
AMTH	Yes	0	0	6	17.1	0	0	0	0	6	13.6
	No	6	100	29	82.9	0	0	3	100	38	86.4
	Total	6	100	35	100	0	0	3	100	44	100
OAUTHC	Yes	4	14.3	16	32	2	25	4	50	26	27.7
	No	24	85.7	34	68	6	75	4	50	68	72.3
	Total	28	100	50	100	8	100	8	100	94	100

Source: Author's Analysis, 2012

Appendix 17:
Positive Impact of Emigrated Health Professionals on Institutions in UCH

Institution	Class of Professionals	Doctors		Nurses		Pharmacists		MLS		Total	
UCH	Does the institution benefit in kind from emigrants?	Count	%	Count	%	Count	%	Count	%	Count	%
Organized seminars/lectures	No	2	16.7	2	16.7	0	0	1	25	5	17.2
	Yes	10	83.3	10	83.3	1	100	3	75	24	82.8
	Total	12	100	12	100	1	100	4	100	29	100
Books donation	No	8	50	9	75	1	100	4	100	22	66.7
	Yes	8	50	3	25	0	0	0	0	11	33.3
	Total	16	100	12	100	1	100	4	100	33	100
Donation of modern equipment	No	9	56.3	9	75	1	100	4	100	23	69.7
	Yes	7	43.8	3	25	0	0	0	0	10	30.3
	Total	16	100	12	100	1	100	4	100	33	100
Project Collaboration	No	15	93.8	10	83.3	1	100	3	75	29	87.9
	Yes	1	6.3	2	16.7	0	0	1	25	4	12.1
	Total	16	100	12	100	1	100	4	100	33	100
Short-term consultancy visit	No	14	87.5	11	91.7	1	100	4	100	30	90.9
	Yes	2	12.5	1	8.3	0	0	0	0	3	9.1
	Total	16	100	12	100	1	100	4	100	33	100

Source: Author's Analysis, 2012

Appendix 18:
Benefits of Emigration of Health Professionals on Non-migrant and in AMTH

Institution	Class of Professionals	Doctors		Nurses		Pharmacists		MLS		Total	
AMTH	Does the institution benefit in kind from emigrants?	Count	%	Count	%	Count	%	Count	%	Count	%
Organized seminars/lectures	No	0	0	4	50	0	0	0	0	4	44.4
	Yes	0	0	4	50	0	0	1	100	5	55.6
	Total	0	0	8	100	0	0	1	100	9	100
Books donation	No	0	0	8	100	0	0	0	0	8	88.9
	Yes	0	0	0	0	0	0	1	100	1	11.1
	Total	0	0	8	100	0	0	1	100	9	100
Donation of modern equipment	No	0	0	6	75	0	0	0	0	6	66.7
	Yes	0	0	2	25	0	0	1	100	3	33.3
	Total	0	0	8	100	0	0	1	100	9	100
Project Collaboration	No	0	0	7	87.5	0	0	1	100	8	88.9
	Yes	0	0	1	12.5	0	0	0	0	1	11.1
	Total	0	0	8	100	0	0	1	100	9	100
Short-term consultancy visit	No	0	0	8	100	0	0	1	100	9	100
	Yes	0	0	0	0	0	0	0	0	0	0
	Total	0	0	8	100	0	0	1	100	9	100

Source: Author's Analysis, 2012

Appendix 19:
Benefits of Emigration of Health Professionals on Non-migrant and in OAUTHC

Institution	Class of Professionals	Doctors		Nurses		Pharmacists		MLS		Total	
OAUTHC	Does the institution benefit in kind from emigrants?	Count	%	Count	%	Count	%	Count	%	Count	%
Organized seminars/lectures	No	0	0	0	0	0	0	0	0	0	0
	Yes	0	0	2	100	0	0	1	100	3	100
	Total	0	0	2	100	0	0	1	100	3	100
Books donation	No	0	0	0	0	0	0	0	0	0	0
	Yes	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Donation of modern equipment	No	0	0	0	0	0	0	0	0	0	0
	Yes	0	0	1	100	0	0	0	0	1	100
	Total	0	0	1	100	0	0	0	0	1	100
Project Collaboration	No	0	0	0	0	0	0	0	0	0	0
	Yes	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Short-term consultancy visit	No	0	0	0	0	0	0	0	0	0	0
	Yes	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0

Source: Author's Analysis, 2012

Appendix 20:
Health Professionals as Recipients of Remittances from Health Professionals in the Diaspora

	Class of Professionals	Doctors		Nurses		Pharmacists		MLS		Total	
Institution	Have you ever received remittances from emigrated colleagues?	Count	%	Count	%	Count	%	Count	%	Count	%
UCH	Yes	0	0	2	5.6	0	0	0	0	2	2.6
	No	32	100	34	94.4	4	100	4	100	74	97.4
	Total	32	100	36	100	4	100	4	100	76	100
AMTH	Yes	0	0	1	5	0	0	0	0	1	3.6
	No	5	100	19	95	0	0	3	100	27	96.4
	Total	5	100	20	100	0	0	3	100	28	100
OAUTHC	Yes	5	22.7	6	13.6	0	0	0	0	11	14.1
	No	17	77.3	38	86.4	8	100	4	100	67	85.9
	Total	22	100	44	100	8	100	4	100	78	100

Source: Author's Analysis, 2012

Appendix 21:
Cash Remittance Ever Received by Non-migrant Health Professionals, by Institutions

	Class of Professionals	Doctors		Nurses		Pharmacists		MLS		Total	
Institution	Have you ever received remittance in cash from emigrated colleagues?	Count	%	Count	%	Count	%	Count	%	Count	%
UCH	Yes	1	100	1	100	0	0	0	0	2	100
	No	0	0	0	0	0	0	0	0	0	0
	Total	1	100	1	100	0	0	0	0	2	100
AMTH	Yes	0	0	1	50	0	0	0	0	1	50
	No	0	0	1	50	0	0	0	0	1	50
	Total	0	0	2	100	0	0	0	0	2	100
OAUTHC	Yes	0	0	0	0	0	0	0	0	0	0
	No	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0

Source: Author's Analysis, 2012

Appendix 23:
Types of Remittance in Kind Received by Non-migrant Health Professionals, by Institutions

	Class of Professionals	Doctors		Nurses		Pharmacists		MLS		Total	
Institution	Form of remittances received by Non-migrant (in kind)	Count	%	Count	%	Count	%	Count	%	Count	%
UCH	Books & Journals	0	0	1	100	0	0	0	0	1	50
	Vehicle/Car	1	100	0	0	0	0	0	0	1	50
	Computers	0	0	0	0	0	0	0	0	0	0
	Clothing & Shoes	0	0	0	0	0	0	0	0	0	0
	Total	1	100	1	100	0	0	0	0	2	100
AMTH	Books & Journals	0	0	1	0	0	0	0	0	0	100
	Vehicle/Car	0	0	0	0	0	0	0	0	0	0
	Computers	0	0	0	0	0	0	0	0	0	0
	Clothing & Shoes	0	0	0	0	0	0	0	0	0	0
	Total	0	0	1	100	0	0	0	0	1	100
OAUTHC	Books & Journals	1	14.3	0	0	0	0	0	0	1	8.3
	Vehicle/Car	1	14.3	2	40	0	0	0	0	3	25.0
	Computers	5	71.4	0	0	0	0	0	0	5	41.7
	Clothing & Shoes	0	0	3	60	0	0	0	0	3	25.0
	Total	7	100	5	100	0	0	0	0	12	100

Source: Author's Analysis, 2012

Appendix 23:
Association Membership of Health Professionals by Institutions

	Class of Professionals	Doctors		Nurses		Pharmacists		MLS		Total	
Institution	Do you belong to any professional association?	Count	%	Count	%	Count	%	Count	%	Count	%
UCH	Yes	34	100	47	95.9	6	100	4	100	91	97.8
	No	0	0	2	4.1	0	0	0	0	2	2.2
	Total	34	100	49	100	6	100	4	100	93	100
AMTH	Yes	7	100	31	93.9	0	0	3	100	41	95.3
	No	0	0	2	6.1	0	0	0	0	2	4.7
	Total	7	100	33	100	0	0	3	100	43	100
OAUTHC	Yes	27	100	52	100	8	100	8	100	95	100
	No	0	0	0	0	0	0	0	0	0	0
	Total	27	100	52	100	8	100	8	100	95	100

Source: Author's Analysis, 2012

Appendix 24:
Impact of Emigration on Health Professionals' Associations, by Institutions

Institution	Class of Professionals	Doctors		Nurses		Pharmacists		MLS		Total	
UCH	Effect of emigration of healthcare professionals on association	Count	%	Count	%	Count	%	Count	%	Count	%
	Reduced number of great minds with ideas	16	76.2	11	47.8	0	0	0	0	30	55.2
	No significant effect	5	23.8	12	52.2	2	100	3	100	22	44.8
	Total	21	100	23	100	2	100	3	100	49	100
AMTH	Reduced number of great minds with ideas	2	50	4	27.1	0	0	0	0	6	24
	No significant effect	2	50	14	72.9	0	0	3	100	19	76
	Total	4	100	18	100	0	0	3	100	25	100
OAUTHC	Reduced number of great minds with ideas	2	16.6	3	17.7	0	0	2	66.7	7	21.2
	No significant effect	10	83.4	14	82.3	1	100	1	33.3	26	78.8
	Total	12	100	17	100	1	100	3	100	33	100

Source: Author's Analysis, 2012

Appendix 25:
Role of Associations towards Brain Drain and Brain Gain of Health Professionals, by Institutions

	Class of Professionals	Doctors		Nurses		Pharmacists		MLS		Total	
Institution	Roles of association towards brain drain and brain gain of members	Count	%	Count	%	Count	%	Count	%	Count	%
UCH	Campaigning against brain drain	3	18.8	1	5.6	0	0	0	0	4	10.3
	Review of salaries	13	81.3	13	72.3	0	0	1	33.3	27	69.2
	Advocate funds for training & research	0	0	2	11.1	0	0	1	33.3	3	7.7
	No role	0	0	2	11.2	2	100	1	33.3	5	12.8
	Total	16	100	18	100	2	100	3	100	39	100
AMTH	Campaigning against brain drain	0	0	2	9.5	0	0	1	33.3	3	10.3
	Review of salaries	4	80.0	9	42.9	0	0	0	0.0	13	44.8
	Advocate funds for training & research	0	0	5	23.8	0	0	1	33.3	6	20.7
	No role	1	20.0	5	23.8	0	0	1	33.3	7	24.1
	Total	5	100	21	100	0	0	3	100	29	100.0
OAUTHC	Campaigning against brain drain	1	7.1	12	38.7	1	50	4	100.0	18	34.0
	Review of salaries	0	0	12	38.7	0	0	0	0.0	12	22.6
	Advocate funds for training & research	1	6.3	3	9.7	0	0	0	0.0	4	7.5
	No role	14	87.5	4	12.9	1	50	0	0.0	19	35.8
	Total	16	100	31	100	2	100	4	100	53	100

Source: Author's Analysis, 2012

Appendix 26:
Suggested Roles of Government towards Emigration and Immigration of Health Professionals by Institutions

Institution	Class of Professionals	Doctors		Nurses		Pharmacists		MLS		Total	
UCH	Suggestion to government to curb brain drain and encourage brain gain	Count	%	Count	%	Count	%	Count	%	Count	%
	Provision of modern medical equipment	15	57.7	13	33.4	3	75	4	100	35	48
	Conducive working environment	5	19.2	14	35.9	1	25	0	0	20	27.4
	Better remuneration and incentives	5	19.2	10	25.7	0	0	0	0	15	20.5
	Increased budgetary allocation to health sector	1	3.8	1	2.6	0	0	0	0	2	2.7
	Increased staff strength	0	0	1	2.6	0	0	0	0	1	1.4
	Total	26	100	39	100	4	100	4	100	73	100
AMTH	Provision of modern medical equipment	5	71.4	7	28	0	0	1	33.3	13	37.1
	Conducive working environment	1	14.3	15	60	0	0	1	33.3	17	48.6
	Better remuneration and incentives	1	14.3	3	12	0	0	1	33.3	5	14.3
	Increased budgetary allocation to health sector	0	0	0	0	0	0	0	0	0	0
	Increased staff strength	0	0	0	0	0	0	0	0	0	0
	Total	7	100	25	100	0	0	3	100	35	100

OAUTHC	Provision of modern medical equipment	12	50	25	58.2	6	100	5	71.5	48	60.1
	Conducive working environment	1	4.2	6	14	0	0	0	0	7	8.8
	Better remuneration and incentives	5	20.8	8	18.6	0	0	1	14.3	14	17.5
	Increased budgetary allocation to health sector	6	25	3	7	0	0	0	0	9	11.3
	Increased staff strength	0	0	1	2.3	0	0	1	14.3	2	2.5
	Total	24	100	43	100	6	100	7	100	80	100

Source: Author's Analysis, 2012