

# Brain Drain Issue and Health Professionals' Migration from West Africa

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## Abstract

Despite being home to 25% of the global burden of disease, sub-Saharan Africa only has 3% of the global health workforce. A major contributory factor to this lack of human resources for the health workforce includes the migration of health professionals to rich countries. Using nominal, ordinal and scale items, this paper investigates the migration intentions of West African health professionals, and the factors that are likely to predict their decision to emigrate. An online survey of 118 health professionals who participated in the Young Professional Internship Program (YPIP) of the West African Health Organization (WAHO) from 2005-2013 was undertaken. The response rate was 84.7% (100/118), of which 74% were public health officers and 26% were medical doctors. The results of the descriptive analysis show that health professionals intending to emigrate will generally do so for career development related factors. These include opportunities for career development, suitable job match, job promotion, and independent control of practice. Multiple regression analysis shows that variables such as gender, marital status, working hours, previous job tenure and country of previous job tenure, and source of job information are all significant predictors in their decisions to migrate ( $p < 0.05$ ). The migration intentions expressed in this study suggest high emigration potential among these West African health professionals, and calls for the development of effective interventions to reduce their brain drain from the West African health sector.

***Keywords: West Africa, migration, young professionals, brain drain, health professionals***

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## I. Introduction

Sub-Saharan Africa has 25% of the global burden of disease but only 3% of the global health workforce (Crisp and Chen 2014; Naicker et al. 2009). The West African health sector in particular is characterized by a human resource base lacking in numbers and specialized skills (Sanou et al. 2014). Among the factors contributing to this lack of human resources for health in the West African health sector are the migration of health professionals to rich countries. Anecdotal evidence suggests that West-African-trained physicians in particular have been migrating from the sub-continent, primarily to the US and the UK, since medical education began in Ghana and Nigeria in the 1960s (Hagopian et al. 2005).

The factors responsible for the emigration of health professionals have long been studied, as early as in the 70s. One study reported that emigration of health professionals is a result of economic, social, political, legal, educational and cultural factors (Mej'ia et al. 1979). This study by Mej'ia et al. classified migration factors as push and pull factors which are present in source as well as in receiving countries. A study by El-Jardali and associates (El-Jardali 2008) also mentioned financial reasons as the main driving force for health professionals' migration. Another study in Uganda cited difficulty in securing a job after graduation and political instability as driving forces for some nurses to emigrate (Nguyen et al. 2008). Other related studies identified poor remunerations, stress, and exhaustion, civil unrest, and lack of opportunities for professionals and academic development as push factors (Aiken 2007; Muula 2005). Low salary, working conditions, limited professional development opportunities, and socio political factors were also mentioned as factors responsible for health professionals' migration (Aiken

2007). Other studies also mentioned heavy workloads, limited access to technology, and medicine (Buchan and Calman 2004). Career development, better working conditions, job security and satisfaction, and greater financial rewards have also been found as pull factors influencing nurses to migrate.

While the consequences of this medical migration can have positive outcomes at the individual and aggregate level, the prognosis for West African countries is not encouraging. It has been estimated that of the 489 physicians who graduated from the University of Ghana between 1985 and 1994, fewer than 40% remained in the country, with more than half (54.9%) in the UK, and about a third (35.4%) in the US (Dovlo and Nyonator 1999; Hagopian et al. 2005). This trend of loss to migration of health professionals is also evident in other West African countries. In the Gambia, it has been reported that between 30-50% of nurses, physicians and public health officers left the public sector in 2005. This is apparent as indicated by a report that none of the cadres (both physicians, nurses or environmental health officers) has not met the minimum 1: 1,000 health worker population ratio (World Health Organization 2010). This lack in numbers and specialized skills due to migration of health professionals has wider health and financial implications.

It has been reported that the loss of nurses in Zimbabwe has significantly increased the waiting times of patients, resulting in many deaths which could have been prevented with quick attention (Buchan 2001). African countries also lose huge production returns from the money invested to train and educate health professionals. Kenya alone loses an estimated financial investment of about \$ 500,000 for every doctor who emigrates (Kirigia et al. 2006) Ghana has lost to emigration an estimated \$60 million in the training of healthcare workers (Martineau et al. 2004). Save the Children (a UK-based charity organization) in 2005 revealed that the UK saved 65 million

pounds from 1998 to early 2000s in training cost by recruiting from Ghana (Fox 2005). This lost to countries importing healthcare workers to reduce their own training costs as reported in Kenya and Ghana typifies the case in the Gambia. It is estimated that the Government of the Gambia sponsors the training of 95% of nurses, but still spends significant part of its budget on foreign experts, especially on nurses and doctors (Darboe et al. 2016; World Health Organization 2010).

Besides the economic loss from emigration of health professionals, there are also societal losses. Studies have shown that the loss of experienced workers hinders mentoring and supervising of new health professionals and health sector students, which ultimately has implications for the future growth of nursing and medical profession, and which is also associated with decreased quality of the health care delivery system resulting from a lack of proper mentoring and supervision (Kingma 2007; Kirigia et al. 2006). Taken together, these issues highlight the magnitude and consequences of the problem of health worker emigration. This underscores the significance of this study, whose objective was to gain a deeper understanding of the factors influencing the migration intentions of West African health professionals and to determine the factors predicting their decisions to emigrate. This understanding has implications for how to curb the potential brain of health professionals in the West African health sector.

## **Study Context**

The study is based on the Young Professional Internship Program (YPIP) of the West African Health Organization (WAHO). YPIP was developed in 2005 by WAHO and its partner, the US Agency for International Development (USAID), in recognition of the inadequate human resources for health in West Africa, with the primary objective

of providing young professionals with knowledge, practical skills and experience for sustainable management of health issues in West Africa (Sanou et al. 2014). It is a one-year program and comprises basic training in management and principles of public health, information communication technology, and language proficiency in English and French. In addition, young professionals are sent out to different host institutions within West Africa for practical work experience on reproductive health and HIV/AIDS, malaria, child survival, prevention of blindness, health service research and disease control.

Since its inception in 2005, the program has graduated 118 health professionals. Evaluation research suggests that YPIP has substantial potential to contribute to strengthened health systems (4). However, no study has been conducted to determine some of the factors associated with the potential emigration of these health professionals. This study seeks to provide answers to the following questions: What are the basic socio-demographic characteristics of these health professionals? What do their work preference and characteristics of their work experience look like? On a personal level, what are the relative contributions of economic, career development, personal, social and environmental factors on their intentions to migrate? Finally, what are the demographic, socio-economic and job-related characteristics that are likely to predict their decisions to migrate? These questions delineate the line of enquiry followed in this study.

The study was undertaken based on data from 118 health professionals who have participated in the Young Professional Internship Program (YPIP) of the West African Health Organization (WAHO) from 2005-2013. They were recruited from fifteen (15) West African countries (Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, the Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo).

These West African countries are all located in the westernmost sub-continent of Africa (Figure 1). They speak different official languages such as English, French and Portuguese, and are all classified as developing countries based on income and development level.

## Review of Related Literature

Understanding the complex factors that influence migration intentions of health professionals is essential both to inform health workforce planning and to enable policy makers to develop and implement interventions to modify the migration patterns of healthcare professionals (Gouda et al. 2015b). Many studies evaluating medical migration have revealed a number of factors influencing the migration of healthcare professionals. These factors have been broadly grouped into “push” factors (i.e., factors that



Figure 1. Map of Africa showing countries in West Africa

Source: <http://www.worldatlas.com/>

drive people away to richer countries) and “pull” factors (i.e., factors that lure people to move to the developed countries) (Eliason et al. 2014). The “push” factors include adverse working condition, poor lifestyle, lack of career opportunities and financial hardship (Ahmad 2005; Bezuidenhout 2009; Gouda et al. 2015a). The “pull” factors on the other hand include such issues as better remuneration, upgrading qualification, gaining experience and family commitments (Eastwood et al. 2005; Gouda et al. 2015a). Both the push and pull factors are based on the migration results from push and pull theory, which explains the circumstances at play at the country of origin and destination (Kalipeni et al. 2012). Neoclassical economics, which is based on the push-pull theory of migration, also looks at the growing economy and scarce labor force in developed countries with higher wages, which has resulted in the emigration of people from low- and middle-income countries. This theory differs from the new household economics, which looks at the household as its appropriate unit of analysis. While the neoclassical economics uses the individual as the unit of analysis, the new household economics on the hand argues that the decision to migrate is a household decision based on what is best for the entire family or household (Shields and Shields 1989). Another theory of migration is the dual market theory. This theory argues that developed regions of the world have two kinds of job markets: the primary sector, which employs the educated elites with good pay, job security and benefits, and the secondary labor market, which is characterized by low wages, unreasonable work conditions and limited opportunities for career development (Kalipeni et al. 2012). This separation of job markets has been influential in low- and high-skill workers’ migration decisions.

The extant literature has also pointed out that social networks play a vital role in the migration decision making process, as they exist in the form



of interpersonal links that connect not only migrants from the same place but also former migrants and non-migrants both in the place of origin and destination (Massey et al. 1993). The role of migrant social networks in facilitating the migration process has been highlighted in the existing literature (Garip 2008), although less attention has been paid to the conditions under which this form of location-specific social capital leads to migration (Massey et al. 1999). Using Portes' typology, Garip (2008) redefined social capital based on three distinct dimensions such as resources (information about or assistance with migrating) that recipients (potential migrants) access through their social ties to sources (prior migrants). Social capital resources have been shown to provide a foundation for the dissemination of information as well as for patronage or assistance for those intending migration (Haug 2008). Many migrants have ties to institutions and organizations (like universities, diaspora organizations, government and nongovernmental organizations, private employment agencies, corporations, and religious and cultural organizations) that help them to migrate, get jobs, or adjust to society in the destination country (Massey et al. 1993; Portes 1995). Massey et al. (1993) argued that members of a social network use their social capital to gain access to employment or information about job assistance.

## **Research Issue and Hypothesis**

In the issue of migration, there is no all-inclusive theoretical model that is capable of analyzing and explaining the situation. Different research objectives reflect various theoretical models. For instance, labor mobility and social demographic studies have shown that individual-level factors such as gender, age, work experience, marital status, social groups and relationship including migration networks and families are important correlates in the decision to migrate (Adrian et al. 1998; Goss and Paul 1986; Massey 1990). However, they

have been inadequately explored within the context of health worker migration in the West Africa region. On the basis of this gap in knowledge and based on the migration decision-making model by Haug (2008), we examined whether demographic variables (such as age, gender, and marital status), and socio-economic characteristics (such as occupation, working hours, work shift and previous work experience), and job related characteristics (such as previous job tenure, country of previous job tenure and personal resources available through social networks, such as source job information) will make an important difference in the migration decisions of West African health professionals, who have participated in the Young Professional Internship Program of the West African Health Organization (WAHO).

Figure 2 shows the conceptual framework.

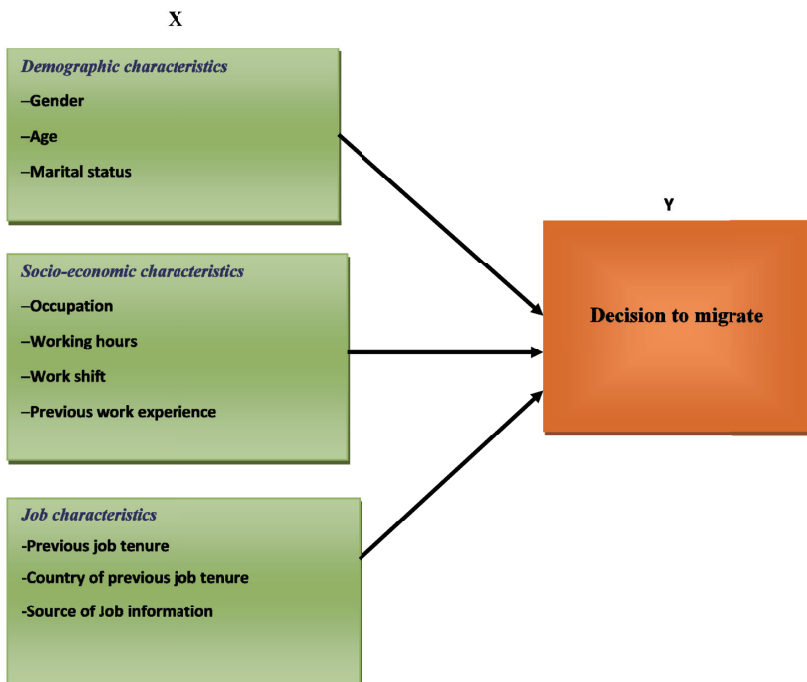


Figure 2. conceptual framework

## II. Methods

We conducted an online survey during the months of March and June 2015 of 118 health professionals who have participated in the Young Professional Internship Program (YPIP) of the West African Health Organization (WAHO) from 2005-2013. The survey questionnaire was designed based on relevant literature and empirical research (Akl et al. 2008; Akl et al. 2007; George and Reardon 2013; Hagopian et al. 2005). The questionnaire was disseminated by email with a link to the survey URL (Gouda et al. 2015b). All YPIP alumni were invited to complete the online survey. Others who were not part of the alumni page were contacted through their private emails with attached link to the survey. The survey questionnaire contained a combination of nominal, ordinal, and scale items (Gouda et al. 2015a), which were divided into three sections: (1) Socio-demographic information of respondents, (2) Factors that influenced their intention to migrate, (3) Factors predicting their decision to migrate.

Section (1) of the questionnaires inquired about respondents' profile such as gender, age, marital status, dependency level, professional occupation, posting region, working hours and work shift.

In section (2), respondents were asked, "If you were to work in a foreign country, what are the factors that are likely to influence your intention to migrate?" to identify their migration intentions. Response choices to this question varied and were generally grouped into economic, career development, personal, social and environmental-related factors. The importance of each factor was assessed on a five-point Likert scale from very important to not important at all.

The survey questionnaire in section (3) collected job-related

characteristics (such as previous work experience, previous job tenure (in years), country of previous job tenure and source of job information). This information was collected to determine whether there is convergence between the study hypothesis and the predictors of migration decisions assumed in the existing literature (Ullah 2010).

For the statistical analysis, a descriptive analysis of respondents' profile and migration intentions was first conducted using mean and standard deviation for continuous variables, and frequencies and percentages for categorical variables. Second, a multiple logistic regression analysis was run to determine the predicting variables that triggered migration decisions of respondents. Microsoft Office Excel 2007 was used for data management, and IBM SPSS Statistics 20 for data analyses. Ethical approval for the study was granted by the YPIP Management Team and the Institutional Review Board of the Institute of Health Policy and Management of National Taiwan University. Individual informed consent was also sought and obtained from the study participants.

### **III. Results**

The response rate was 100/118. Of these 100, 72% were males and 28% were females. Their ages ranged from 31 to above 35 years old. In terms of marital status, a clear majority (82%) were married, while 18% had never been married. With regard to their family background, 70% indicated that they had a high dependency level from their family members as opposed to 30% who reported low level of dependency. Categorizing by profession, 74% were public health officers while 26% were medical doctors. With respect to work region, 78% were posted to urban areas while 22% were posted to rural or semi-urban areas. This suggests that these

West African healthcare professionals were distributed in a way which disadvantaged the rural population in their countries, such as reported by a study in Ghana (Anarfi et al. 2010). The study argues that the problem is because many health workers refuse to work in rural areas. This situation calls for the adoption and effective implementation of strategies to improve rural recruitment and retention. These strategies may include career development plans, free housing and hardship allowances, on-call-duty allowances for staff who are always on call and responsibility allowances for officers in charge of rural health facilities (African Health Workforce Observatory 2009). These types of policy interventions are largely favored by healthcare professionals (Mullei et al. 2010).

Analysis of normal working hours also showed that the majority (55%) of the respondents worked beyond the maximum permitted working hours in some West African countries (Anarfi et al. 2010). This lends support to other reports showing that the workload of healthcare professionals has increased, which was found to be independently associated with the decision to migrate in our multivariate analysis. In terms of work shift, while (64%) of the respondents were not on double shift, the remaining (36%) indicated that they worked both day and night. Table 1 shows respondents' profile.

### **Factors Associated with Intentions to Migrate**

Generally, career-development-related factors such as better opportunities for career development (93%), suitable job match (90%), job promotion (73%), and independent control of practice (72%) exerted the greatest influence on migration intentions. Personal factors cited included self-actualization (85%), fair level of workload (84%), higher level of life satisfaction (80%) and better living condition (79%). Social and environmental-related factors cited included better working condition (89%), adequate equipment to work with

Table 1. Profile of respondents

Variable	Frequency (%)
Gender	
Male	72 (72.0)
Female	28 (28.0)
Age (in years)	
≤ 31	25 (25.0)
32-34	42 (42.0)
≥ 35	33 (33.0)
Marital status	
Single	18 (18.0)
Married	82 (82.0)
Dependency level <sup>†</sup>	
High	70 (70.0)
Low	30 (30.0)
Professional occupation	
Public health officer*	74 (74.0)
Medical doctor	26 (26.0)
Posting region	
Rural/semi-urban	22 (22.0)
Urban	78 (78.0)
Working hours	
Exactly 40 hours	25 (25.0)
Less than 40 hours	20 (20.0)
More than 40 hours	55 (50.0)
Work shift	
Yes	36 (36.0)
No	64 (64.0)

<sup>†</sup>Whether a person has many or few people (such as a wife, husband, father or mother) he or she is supporting; \*Public health officer category comprises not only purely public health specialists but also other allied health professionals (like nurses, laboratory technicians, pharmacists, nutritionist, and biologists).

(84%), family or social support (70%) and social security such as retirement benefits (69%). Some of the economic factors cited also included a desire to have more income or better salary (89%), followed by better benefits such as risk allowances (80%). The least favored reasons for the intention to migrate were to have health insurance coverage (64%) and social safety nets (69%). Table 2 shows reasons for intention to migrate.

## Predictors of Migration Decisions

As indicated earlier, healthcare professionals migrate for different

Table 2. Reason for intention to migrate

Reason	Percentage (%)
Economic	
To have more income/ better salary	89 (89.0)
To have better benefits such as risk allowance	80 (80.0)
To have health insurance coverage	64 (64.0)
Career-development-related factors	
To have better opportunities for career development	93 (93.0)
To have control of your practice	72 (72.0)
Find a job that matches your skills	90 (90.0)
To get promoted when due for promotion	73 (73.0)
Personal factors	
To have higher level of life satisfaction	80 (80.0)
To have a fair level of work load	84 (84.0)
To achieve self-actualization	85 (85.0)
To have better living condition	79 (79.0)
Social and environmental-related factors	
To have social security (e.g. retirement benefit)	69 (69.0)
To have family or social support	70 (70.0)
To have adequate equipment to work with	84 (84.0)
To have better working conditions	89 (89.0)

Note: % represents respondents who answered very important or important; multiple factors are also cited by respondents.

reasons, and any attempt to address their emigration potential should try to ascertain the variable influencing their decisions to migrate (Anarfi et al. 2010). Variable influencing migration decisions have been analyzed by multiple regressions to determine the predicting variables that triggered migration decisions of the respondents, and in order to determine whether there is convergence between the study hypothesis and predictors of migration assumed in previous studies (Ullah 2010).

Here, the dependent variable is the migration decision. Respondents were asked to provide two job positions (first and second job positions) they have held, and for each job position to specify which country it was in. The first job position means a job title or position a respondent had held prior to participating in the YPIP. The second job was a job title or position a respondent has occupied after he or she graduated from YPIP. The different countries provided by respondents for their first and second job positions were coded numerically. If the code for the country of the first job position differs from the code of the country of the second job position, it means the respondent changed from a job in the first country to a second job in another country. This means that he or she took the decision to migrate. However, for those who had no first job position or were unemployed prior to their participation in the YPIP, their first job position was entered as “0.”

The independent variable included are gender, age, marital status, previous work experience, occupation, working hours, work shift, previous job tenure (in years), and country of previous job tenure and source of job information.

Variables found to be independently associated with the decision to migrate were being male (OR = 1.93; 95% CI 1.22-3.06), married (OR = 1.72; 95% CI 1.11-0.07), and having previous work experience (OR = 2.77; 95% CI 1.10-6.95). Those who worked more than 40 hours per week



were also more likely to migrate (OR = 2.59; 95% CI 1.56-4.29) than those who work exactly or less than 40 hours per week. Holding a previous job tenure ranging from 5 up to 10 years was also statistically associated with the decision to migrate, compared with those with previous job tenure of greater than or less than 0.5 years. It was also found that respondents who have worked in a country different from their country of origin for their first job position following graduation from YPIP were more likely to migrate. The effect of social network was also found to be fairly important in respondents' source of job information and emigration decisions. It was found that those with personal contacts for job information were 3.21 times more likely to migrate, and this result was significant at the  $p$ -value 0.05 significance level. Table 3 shows the multivariate logistic regression analysis linking predictors with the decision to migrate.

Table 3. Multiple logistic regression analysis linking predictors with decision to migrate

Predictors of decision to migrate	Adjusted OR <sup>a</sup>	95% CI
Gender		
Female	1	
Male	1.93	1.22-3.06*
Age (in years)		
≤ 31	1	
32-34	2.26	0.65-7.78
≥ 35	1.72	0.46-6.31
Marital status		
Single	1	
Married	1.72	1.11-0.07*
Previous work experience		
No	1	
Yes	2.77	1.10-6.95*

Table 3. Multiple logistic regression analysis linking predictors with decision to migrate (continued)

Predictors of decision to migrate	Adjusted OR <sup>a</sup>	95% CI
Occupation		
Public health officer	1	
Medical doctor	1.4	0.49- 4.35
Working hours		
Exactly 40 hours	1	
Less than 40 hours	2.41	0.57-10.11
More than 40 hours	2.59	1.56-4.29*
Work shift		
Yes	1	
No	0.85	0.31-2.28
Previous job tenure (in years)		
< 0.5	1	
> 0.5	1.07	0.20-5.70
> 1	1.96	0.33-11.5
5	2.77	1.10-6.95*
10	2.92	1.57-4.29*
Country of previous job tenure		
Same as country of birth	1	
Different from country of birth	2.19	1.12-4.30*
Source of job information		
Mass media	1	
Personal contacts	3.21	1.15-8.96*
Informal internal employment	2.94	0.82-10.4

<sup>a</sup>Adjusted odds ratio was estimated by entering all variables simultaneously; The 95% confidence intervals were calculated using Fisher's exact test P. Abbreviation: OR, odds ratio; CI, confidence intervals; \*significant at  $p < 0.05$ .

## IV. Discussion

The principal aim of the study was to explore some of the factors associated with migration intentions and decisions of West African health professionals. Many studies evaluating medical migration have revealed a number of factors influencing the migration of health professionals. These factors have been broadly grouped into “push” factors (i.e., factors that drive people away to the so-called richer countries) and “pull” factors (i.e., factors that lure people to move to the developed countries) (Eliason et al. 2014). Both the push and pull factors are based on the theory of push and pull, which explains the circumstances at play at the countries of origin and destination (Kalipeni et al. 2012). Other migration theories such as neoclassical economics also looks at the growing economy and scarce labor force in developed countries with higher wages, which has resulted in the emigration of people from low- and middle-income countries. Another theory of migration is the dual market theory. This theory argues that developed regions of the world have two kinds of job markets: the primary sector, which employs the educated elites with good pay, job security and benefits, and the secondary labor market, which is characterized by low wages, unreasonable work conditions and limited opportunities for career development (Kalipeni et al. 2012). This separation of job markets has been influential in low- and high-skilled workers’ migration decision-making.

The threshold model pioneered by Wolpert (1965) have also been used to describe a behavioral model of internal migration, which is similar to a cost-benefit analysis, but it assumes individuals who migrate tend to be rational, which is not necessarily true. In this model, individuals have a threshold level of utility they aspire to achieve, and they compare utilities in

each location to this threshold in order to decide whether to migrate or not, and to which place (Wolpert 1965). The model further states that individuals assess utilities at their current location based on past and future rewards and also assess their utilities at possible destinations based on anticipated rewards (Kalipeni et al. 2012).

Ortmeyer's (1973) value-expectancy model also stated that migrants make conscious decisions to migrate based on more than economic considerations. Rather, the potential migrant's strength of migration intentions depends on a multiplication of the value of migration outcomes and expectations that migration will actually lead to these outcomes (Smetana and Adler 1979).

The extant literature has also pointed out the role of social network theory in explaining the migration decision-making process. Social networks exist in the form of interpersonal links that connect not only migrants from the same place but also former migrants and non-migrants in both the place of origin and destination (Massey et al. 1993). The role of migrant social networks in facilitating the migration process has been underscored by many scholars, although less attention has been paid to the conditions under which this form of location-specific social capital leads to migration (Massey et al. 1999). Social capital has been shown to provide a foundation for the dissemination of information as well as for patronage or assistance for intending migrants (Haug 2008). Many migrants have ties to institutions and organizations that help them to migrate, get jobs, or adjust to society in the destination country (Massey et al. 1993; Portes 1995). Massey et al. (1993) argued that members of a social network use their social capital to gain access to employment or information about job assistance.

Drawing on these theories of migration, this study showed that West African health professionals who have participated in the Young

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Professional Internship Program (YPIP) of the West African Health Organization (WAHO) expressed migration intentions similar to those of health sector students in other low and middle countries (LMICs). A study of Indian medical students, for instance, demonstrated that a high proportion of students (59%) considered leaving India for further training (13). Another study of 425 Lebanese medical students reported that 96% intended to travel abroad for specialty training, with only 25% intending to return after completion of their program (8). This migration intention among health sector students as reported in India and Lebanon is also evident in South Africa, where 59% of medical students indicated that they were likely or very likely to emigrate within 5 years of graduation (14). A common factor in the health systems of all the countries mentioned above is the lack of opportunities for career development (Gouda et al. 2015), which confirms this study finding that career-development-related factors exerted the greatest influence on motivation to stay and intention to migrate among West African health professionals who participated in YPIP.

In examining intentions to migrate, it was found that the overwhelmingly most important reason respondent gave for planning to work abroad was career-development-related factors. This issue, as previously emphasized, needs to be corrected in the West African health sector. Creation of professional development support is needed, such as on-the-job and specialist training programs that commence directly after graduation. This can reduce the need for health professionals to look abroad for career development opportunities (Gouda et al. 2015).

Other factors influencing the intention to migrate also included desire to have better working condition, salary, adequate equipment to work with, self-actualization, a fair workload, higher level of life satisfaction, better living conditions and family support. These factors should also be the

targets for health policy makers if their aim is to reduce the migration flows (Vörk et al. 2004).

In the multiple regression analysis, it was found that age was not a significant predictor of the decision to migrate. This could be due to the grouping or the effect of low statistical power considering the sample size of the study. However, it was found that the decision to migrate was significantly associated with being male. This finding is in keeping with previous studies showing that the decision to migrate may be influenced by factors such as gender behavior (Adrian et al. 1998). Other studies have argued that couples generally move to accommodate men's, rather women's career opportunities (Brandén 2013). This pattern of male-led migration is attributed to gender differences in bargaining power (Brandén 2013; Jürges 2006). However, there is no consensus in literature regarding the role of bargaining power as significant predictor of male-centered migration (Boyle et al. 1999; Shauman and Noonan 2007).

In terms of marital status, compared with being single, respondents who were married were more likely to migrate. This finding does not support the assumption that being single is associated with higher propensity of migration (Akl et al. 2008). It also contradicts the argument that being married may mean that the decision to migrate is made substantially difficult given family considerations, such as the social cost of leaving family members behind (Adams and Stilwell 2004). This contradictory finding is, in a way, difficult to explain, but it could be because respondents who are married have higher dependency levels; there is often positive correlation between household dependency level (i.e. whether a person supports many dependents) and decision to migrate (Ullah 2010).

Research has also shown that more experienced workers proved to be more geographically mobile. This confirms the study finding suggesting

that both previous job tenure (in years) and country of previous job tenure were independently associated with the decision to migrate. Especially as it relates to country of previous job tenure, it was found that those who had their previous job in another country different from their country of birth were more likely to initiate the decision to migrate. This is in agreement with Goldstein (Goldstein and Wilkins 1954), who argues that people who have previously moved are disproportionately likely to do so again.

The effect of social capital was also found to be strikingly important in respondents' decision to migrate. It was found that those with personal contacts for job information were 3.21 times more likely to migrate, and this result was statistically significant. This is in support of the finding showing that drawing on network ties such as friends, family members, acquaintances, employers, or coworkers can improve an individual job search (Trimble and Kmec 2011). Studies have also shown that some activities related to the creation of social networks (e.g. the frequency of participation in informal meetings and work groups and the attendance at training courses) positively and significantly affect the probability of getting a job if unemployed (Degli Antoni 2009; Di Stasio and Gërxhani 2015). However, in this study the fact that those with personal contacts for job information were 3.21 more likely to migrate and that 46% of the respondents reported that their first job position after graduation from YPIP was obtained through informal channels (such as friends and coworkers) draws attention to the "dark side of social capital" (Gargiulo and Benassi 1999). It also shows the role of social capital in job placement and migration of health professionals and the interaction effects of these two. The simultaneous existence of the dark side alongside the positive effects of social capital has been widely documented by scholars (Numerato and Baglioni 2012). Its roots can also be traced back to the work of social capital

theorists (Bourdieu 2006; Coleman 1988). There exist different methods of research into how networks influence migration including macro-level studies (see, for example, Alvarez-Plata et al. 2003; Straubhaar 2002) and meso-level studies involving ethnic communities and economies or ethnic institutions (Dietz 2004; Pichler 1997; Wilpert 1992), as well as studies on micro-level analysis of the living conditions and integration of foreign workers (Angenendt 1992; Diehl and Haug 2003). However, there is little evidence of the use of social capital in studying health professionals' migration. This study therefore contributes to the agenda of "talking across disciplines" (Haug 2008) and advances beyond existing research by applying an understanding of the interaction and influence of social capital and network resources in job placement and career mobility patterns of West African health professionals.

Another strand of the literature related to this study is job satisfaction. Job satisfaction, according to Warr, Cook, and Wall (Warr et al. 1979) refers to the extent to which a person is satisfied with the intrinsic (the job itself) and extrinsic (work conditions) aspects of the job. Many studies have documented various reasons for job dissatisfaction among health professionals (Bonnenberger et al. 2014; El-Jardali et al. 2009). These include lack of involvement in decision-making, poor relationship with management, low salaries and poor benefits, lack of job security, poor recognition and lack of flexibility in scheduling (Albaugh 2003; El-Jardali et al. 2009). In this study, the highest level of satisfaction expressed by respondents was with their work itself and the significance of their task, followed by collegial relations and the level of supervision they received from their supervisors. In only two categories was there low satisfaction, that is, with their pay and future prospects, and these two categories were also less favored in the qualitative findings. In the qualitative part, many



participants were seemingly disgruntled about their future prospects. This is in agreement with one South African study, which reported that 38% of health sector students believed that their prospects for professional advancement will get worse or much worse in the future (Crush and Pendleton 2012).

### **Strengths and Limitations of the Study**

Taken together, our findings highlight the brain drain potential of healthcare professionals in the West African health sector. Among the most salient point of this study is its reasonable inclusion of different health professionals group across fifteen West African countries. The study, however, is limited in its use of a cross-sectional design and purposive sampling of only health professionals who participated to YPIP. Inclusion of other West African healthcare professionals who were not part of the YPIP could have provided deeper understanding of the migration intentions and decisions of West African healthcare professionals. Therefore, the ability to generalize the study findings to other West African healthcare professionals is limited by the limited sample.

### **Further Research**

This study provides new exploration and understanding of the emigration intentions of healthcare professionals in the West African health sector and the factors influencing their decision to migrate. Further research is needed with perhaps a larger sample size to look into the intentions of emigrant healthcare professionals to return to their country of training. There are few studies on intention to return to country of training (Aboderin 2007; Oberoi and Lin 2006), and this is an area of research which has been inadequately explored.

## V. Conclusions

In conclusion, this study has provided understanding of some of the factors associated with migration of West African health professionals, including their most important reasons for going to most likely destinations (MLDs). The study has also provided both post- and pre-migration information on West African health professionals. Pre-migration data, in particular, provides valuable information about motivations, perceptions and expectations concerning migration, which could be used in modifying the migration patterns of health professionals. The study findings show that career-development-related factors are largely behind the desire to migrate, and have advanced beyond existing research by applying an understanding of the interaction and influence of social capital and network resources in career mobility patterns of West African health professionals. Our conceptual framework also intersects with the concept of micro- and macro-level decision-making and migration networks of healthcare professionals, defined as sets of interpersonal relations that link migrants with relatives, friends or fellow countrymen who give support in various forms including information about job assistance (Akl et al. 2007; Brown and Connell 2004; Massey et al. 1999).

### Competing Interests

The first author, ML participated in the YPIP from 2010-2011.

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## 西非衛生醫療專業人員的外流及遷移議題

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### 摘要

非洲的疾病負擔占全球的25%，但其衛生專業人員則只占全球的3%。缺少衛生專業人力的最主要原因在於衛生專業人員的全球遷移。本研究調查西非衛生專業人員的遷移意圖，並找出預測遷移的影響因子。利用網路問卷，收集118位曾經參與2005-2013年間世界衛生組織在西非（WAHO）成立的青年專業實習計畫（YPIP）的衛生專業人員。問卷回收率93.2%（100/118），其中公共衛生官員74%，醫療人員26%。描述性分析結果顯示出衛生專業人員的遷移受到職涯發展的相關因子影響，包括職涯發展機會（93%）、適合的工作配對（90%）、工作升遷（73%）和工作上的獨立性（72%）。多元迴歸分析顯示性別、婚姻狀況、工作時數、以前的工作資歷、以前工作的國家和工作資訊是否透過社會網絡而來，是影響遷移重要預測因子（ $p < 0.05$ ）。西非衛生專業人員具有全球遷移的傾向，呼籲進行有效干涉以降低西非衛生領域的潛在人才外流。

**關鍵詞：**西非、遷移、年輕專業人員、人才流失、衛生專業人員

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