

MIGRATION INTENTIONS OF GHANAIAN MEDICAL STUDENTS: THE INFLUENCE OF EXISTING FUNDING MECHANISMS OF MEDICAL EDUCATION (“THE FEE FACTOR”)

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SUMMARY

Background: To explore the effects of fee paying status on migration intentions of Ghanaian medical students.

Design: Cross sectional questionnaire based survey

Setting: All established Ghanaian medical schools with students in their clinical years

Participants: Fee-paying and non-fee-paying Ghanaian medical students in their clinical years

Interventions: None

Main outcome measures: Migration intentions of Ghanaian medical students after graduation, Allegiance to Government of Ghana

Results: Approximately half (49%) of the medical students surveyed had intentions of migrating after school. Over 48% of those with migration intentions plan on doing so immediately after completing their house job, while 44% plan to migrate at least one year after their house job. The most popular destination chosen by the potential migrant doctors was North America (38%). Fee-paying students were significantly more likely (OR=2.11, CI=1.32, 3.38) than non-fee-paying students to have intentions of migrating after their training. Secondly, fee-paying students were more likely (OR=9.66, CI=4.42, 21.12) than non-fee paying students to feel they owe no allegiance to the Government of Ghana because of their fee-paying status.

Conclusions: Medical Students' fee-paying status affects their intentions to migrate and their allegiance to the country after completion of their training.

Keywords: Migration intention, fee paying, medical students, allegiance

INTRODUCTION

The current wave of international migration of doctors has a longer history to it than can be acknowledged¹. It has become even more pronounced as a result of rapid globalization, where doctors leave in search of better pay, better working conditions, professional development and better life for their families.² The issue of migration of health personnel, especially doctors, was recognized by the World Health Organization (WHO) as a global setback during the world health assembly in 2005, to the extent that they included human resources for health development as a top-priority area in their Programme of Work 2006–2015.³ The WHO sponsored Global Health Work Alliance estimates that 1 in 4 doctors will leave Africa to pursue higher-paying jobs abroad.⁴

Migration of doctors is not a new phenomenon in Ghana. The country lost 60% of its medical doctors in the 1980s and approximately 600 to 700 Ghanaian physicians were practicing in the USA alone at the time, a figure that represented roughly 50% of the total population of doctors in Ghana.⁵ Between 1986 and 1995, 61% of the output of one medical school in Ghana had left the country mostly to the United Kingdom and USA⁶, amounting to a loss of USD 5.96 Million in tuition fees to the country.⁷ Statistics from the Government of Ghana (GOG) sources indicate that 31% of health professionals, including six hundred (600) doctors left the country between 1993 and 2002. These historical trends made the Ministry of Health (MOH) estimate that by 2006 Ghana would experience a shortfall of 1,800 doctors.⁸

Factors influencing migration have generally been 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).

The push factors include: delay/lack of promotion prospects, poor management, heavy workload, lack of facilities, a declining health service, inadequate living conditions, high levels of violence and crime, poorly structured local postgraduate program and lack of incentives for hard work. The pull factors include: Better remuneration, Upgrading qualifications, gaining experience, a safer environment and family-related matters (family living abroad).⁹ Research has shown that Ghanaian health personnel intending to migrate will do so: to gain experience, to find better living conditions, to save money quickly to buy a car and build a house, to upgrade professional skills and for better remuneration.¹⁰

One phenomenon that is gradually emerging in Ghana as a potential “Push factor” is the “FEE factor”. The cost of supporting a Ghanaian medical student is very high. Prior to 1998, medical training had been free and entirely sponsored by the government. The government paid for tuition, boarding and lodging, transport and utilities as well as other costs of running the schools. A book and living expenses soft loan was provided by the Social Security and National insurance trust (SSNIT).⁸

From 1998, a cost-sharing program was instituted by the government of Ghana whereby regular or non-fee-paying Ghanaian students (defined as those who met the competitive departmental requirements and cut-off points) paid living and other educational expenses except tuition and other educational funding, which were borne by government. Fee-paying Ghanaian students (defined as those who met the minimum university requirements for the course but did not make the competitive departmental requirements and cut-off points) paid full fees including tuition.

Available figures from the 2008/2009 academic year showed that fees paid by tertiary Ghanaian students ranged from four hundred and ten Ghana Cedis (GH¢410) per year for non-fee-paying students to about one thousand, seven hundred Ghana Cedis (GH¢1,700) per year for fee-paying students. Foreign or private students who qualified, paid fees in full (up to GH¢3,300).¹¹

The cost of higher education, especially medical education has increased over time. At the University of Ghana Medical School (UGMS), non-fee-paying (regular) students currently pay between GH¢940 and GH¢1,300 per annum to support government, whilst the fee-paying students pay between GH¢4,059 and GH¢4,387 as full fees. Students of a recently introduced graduate entry medical program (fee-paying) in UGMS also pay GH¢13,856 as full fees.¹²

At the Kwame Nkrumah University of Science and Technology School of Medical Sciences, fees range between GH¢824 and GH¢873 for non-fee-paying students, whilst that for fee-paying students range between GH¢2012 and GH¢7,000 per annum depending on the level.¹³ The fees for the University for Development Studies range from GH¢599 to GH¢1,358 per annum depending on the level of student. Foreign and private students paid between GH¢14,950 to GH¢21,850 per annum.¹⁴ The University of Cape Coast School of Medical Sciences is strictly fee-paying. The continuing students paid GH¢6,391 whilst freshmen paid GH¢6,764.¹⁵ These fee paying schedules, for average Ghanaians, with grossly inadequate salaries and benefits, are not inexpensive. The fee-paying and some non-fee-paying students may have the feeling that they do not owe any allegiance to the country, and may want to emigrate to greener pastures to recoup the monies spent on their education. Anecdotal evidence suggests that the fee-paying phenomenon may worsen the already bad physician migration situation.

The aim of this study is to explore the effect of fee-paying status on migration intentions of Ghanaian medical students. In that respect, two main hypotheses were postulated for testing: (1) fee-paying medical students are significantly more likely than their non-fee-paying counterparts to have intentions of migrating after their training and, (2) fee paying medical students are significantly more likely than their non-fee paying counterparts to feel they owe no allegiance to the country based on their fee-paying status. The view is that fee-paying as a mechanism of funding medical training might as well be an important determinant of migration decisions of medical doctors. Understanding the impact of fee-paying status on migration of medical doctors will therefore contribute to the development of a new generation of interventions to prevent exodus of medical doctors.

METHODS

A survey was conducted from November to January 2012, involving all fee-paying and non-fee-paying Ghanaian clinical students in levels 400, 500 and 600 from all the four public medical schools in Ghana, namely: University of Ghana Medical School (UGMS), Accra; Kwame Nkrumah University of Science and Technology School of Medical Sciences (KNUST SMS), Kumasi; University for Development Studies School of Medical and Health Sciences (UDS SMHS), Tamale; and University of Cape Coast School of Medical Sciences (UCC SMS) Cape Coast. Foreign nationals and pre-clinical students were excluded from the study. Lists of all targeted population of medical students were obtained from the various schools.

With the help of three focal persons in each of the schools, students were traced to their hostels or lecture rooms. Once the students were met, the objectives of the research were explained to them and their consent sought. As many who were available within the period of the study, and consented, were included in the study. A total of 393 available and consenting medical students consisting of 181 fee-paying and 212 non-fee paying students were recruited into the study.

Participants were asked to complete a 15 minute survey questionnaire consisting of closed and open ended questions designed to elicit information including socio-demographic information, educational sponsorship and migration intentions among others. The survey and protocol were reviewed and approved by the University of Cape Coast, School of Medical Sciences.

Approval was also sought from the Deans of the various medical schools before the commencement of the study. The data was entered using SPSS software and exported to STATA for further processing and analysis. Descriptive statistics were used to describe the background characteristics of the sample and the relationship between each background characteristic and the migration intentions of the medical students.

The two main hypotheses for the study were tested using binary logistic regression, since each dependent variable of interest was constructed as a binary outcome. The dependent variable for the first hypothesis was derived from the question "Do you intend migrating outside of the county after medical school?" Those who responded "Yes" were coded 1 and 0 otherwise.

In a similar manner, the dependent variable of interest for the second hypothesis was derived from the question "Does your payment status make you feel you owe allegiance to the government of Ghana?" All "Yes" responses were coded as 0 while "No" responses were coded 1. Two successive logistic regression models were run in order to test each hypothesis while controlling for the effect of other mediators. The Hosmer-Lemeshow goodness-of-fit test was used to test the fitness of the data for each model.

RESULTS

Background characteristics of respondents

The mean age for the sample was 23.3 ± 2.2 and 24.6 ± 3.6 for men and women respectively. As shown in Table 1, majority of participants were younger than 25 years, with a greater proportion of men (74%) compared with women (71%).

Table 1 Background characteristics of respondents

Characteristics	Men (n = 211)		Women (n = 182)	
	Frequency	%	Frequency	%
<i>Age*</i>				
20-24	149	73.7	125	71.4
25 -29	47	23.2	47	26.9
30 +	6	3.1	3	1.7
Total	202	100	175	100
<i>Marital status</i>				
Single	200	94.8	160	87.9
Married	11	5.2	22	12.1
Total	211	100	182	100
<i>Medical school</i>				
UG MS	69	32.7	50	27.5
KNUST SMS	52	24.6	55	30.2
UDS SMHS	49	23.2	33	18.1
UCC SMS	41	19.4	44	24.2
Total	211	100	182	100
<i>Level</i>				
400	86	40.8	67	36.8
500	61	28.9	51	28.0
600	64	30.3	64	35.2
Total	211	100	182	100
<i>Fee Status</i>				
Non fee paying	119	56.4	93	51.1
Fee paying	92	43.6	89	48.9
Total	211	100	182	100
<i>Sponsor</i>				
Self	5	2.4	3	1.7
Guardian	23	10.9	13	7.1
Parents	165	78.2	158	86.8
Other	18	8.5	8	4.4
Total	211	100	182	100
<i>Allegiance to government*</i>				
No	164	78.5	157	86.3
Yes	45	21.5	25	13.7
Total	209	100	182	100

Source: Fieldwork, 2012

* The 'n' for characteristic excludes cases with missing information

The majority of the respondents (95%, men and 88%, women) were single, whilst a greater proportion consisted of men from UGMS (33%) and women from KNUST (30%). Level 400 students dominated the sample (38.9%) followed by those in level 600 (32.5%). A little over half of the participants (53.9%) were non-fee paying students while the others were fee-paying. While men constituted the majority (56%) among the non-fee paying students, women (49%) dominated the fee-paying students.

Parents were the major sponsors of the medical students in the survey, with a greater proportion of women (87%) being sponsored by their parents compared with men (78%). More than three quarters of the participants felt they owed no allegiance to the government of Ghana based on their fee-paying status, with the proportion of women (86%) higher compared with men (79%).

Seventy percent (70%) of non-fee-paying compared with 95% of fee-paying students felt they owed no allegiance to the Government.

Migration intentions

As indicated in Table 2, approximately half (49%) of the medical students surveyed had intentions of migrating after school. Almost half (48%) of those who intend migrating plan on doing so immediately after completing their house jobs, while 44% plan to migrate a year or more afterwards. The most popular destination chosen by the potential migrant doctors was North America (38%), followed by Europe (13%).

Table 2 Migration intentions

Intentions	Frequency	%
<i>Intend to migrate)</i>		
Yes	194	49.1
No	199	50.9
Total	393	100
<i>*Intended destination</i>		
North America	74	38.1
Europe	26	13.4
North America/Europe	21	10.8
Not sure	56	28.9
Other	17	8.8
Total	194	100
<i>*Intended departure</i>		
Before house job	12	6.3
Soon after house job	92	48.4
1yr after house job	22	11.6
>1yr after house job	64	33.7
Total	190	100

Source: Field work, 2012

*Only those who intend to migrate.

About 11% would go anywhere between North America and Europe while approximately 9% chose other destinations. Another 29% of potential migrant doctors were uncertain about their destinations as at the time of the survey.

Intention to migrate by background characteristics

More than half of those younger than 25 years (55%) and those aged 30years or more (56%) had intentions of migrating from Ghana after their medical training (see Table 3).

Men (56%) seemed more likely to have intentions of migrating compared with women (42%). Medical students from UGMS (61%) and UCCSMS (60%) appeared to be more likely to migrate after their training, compared with just about a quarter of their counterparts in UDSMHS. Intention to migrate after medical training appeared to decrease with increasing level of training, with a higher proportion (54%) among those in level 400.

Table 3 Intention to migrate by background characteristics

Characteristics	Intend to migrate (n = 194) %
<i>Age</i>	
20-24	54.9
25 -29	31.9
30 +	55.6
<i>Marital status</i>	
Single	55.5
Married	42.3
<i>Medical school</i>	
UG MS	61.3
KNUST SMS	44.0
UDS SMHS	26.8
UCC SMS	60.0
<i>Level</i>	
400	54.2
500	53.6
600	39.1
<i>Fee Status</i>	
Non fee paying	41.1
Fee paying	58.6
<i>Sponsor</i>	
Self	50.0
Guardian	47.2
Parents	50.2
Other	38.5
<i>Allegiance to government</i>	
No	52.2
Yes	35.2

Source: Field work, 2012. % indicates proportion within each category who intend to migrate

As hypothesized, a greater proportion of fee paying students (57%) compared with non-fee paying students (41%) had intentions of migrating after their medical training. Half of the self-sponsored students, and those being sponsored by their parents had intentions of migrating after their medical training. Those who felt (52%) they owe no allegiance to the government of Ghana based on their fee-paying status were more likely to have intentions of migrating after their training compared with their counterparts who felt otherwise.

Table 4 Results of logistic regression on intent to migrate and non-allegiance to government

Characteristics	Intend to migrate		Non allegiance to government	
	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)	Model 4 OR (95% CI)
<i>Fee status</i>				
Non fee paying	1.0	1.0	1.0	1.0
Fee paying	2.02** (1.35, 3.02)	2.11** (1.32, 3.38)	0.89*** (4.13, 19.23)	9.66*** (4.42, 21.12)
<i>Age</i>				
20-24	1.0	1.0	1.0	1.0
25 -29	N/a	0.37** (0.20, 0.68)	N/a	0.66 (0.31, 1.39)
30 +	N/a	0.63 (0.12, 3.32)	N/a	0.42 (0.37, 4.91)
<i>Sex</i>				
Men	Na	1.0	Na	1.0
Women	N/a	0.56* (0.36, 0.87)	N/a	1.56 (0.87, 2.78)
<i>Marital status</i>				
Single	N/a	1.0	N/a	1.0
Married	Na	1.04 (0.46, 2.34)	N/a	1.62 (0.47, 5.60)
<i>Level</i>				
400	N/a	1.0	N/a	1.0
500	N/a	0.82 (0.48, 1.42)	N/a	1.05 (0.52, 2.11)
600	N/a	0.71 (0.41, 1.24)	N/a	1.39 (0.68, 2.83)
Psuedo R2	0.0709	0.0751	0.1254	0.0709
Wald chi2 (df)	11.78 (1)	35.84 (7)	31.14 (1)	33.97 (7)
Prob chi2	0.000	0.000	0.000	0.000
N	375	375	377	377

Source: Field work, 2012

OR = Odds Ratio; CI = confidence interval in parenthesis; NA = not applicable; *P<0.05, **P<0.01, ***P<0.001; Ref = Reference category

Multivariate analysis

This section (see Table 4) addresses the main hypotheses that fee paying students are significantly more likely than non-fee paying medical students to have intentions of migrating after school; and are significantly more likely to feel they owe no allegiance to the government of Ghana based on their fee status, net of other factors.

As shown in Model 1, fee paying medical students were two times more likely (OR = 2.0, p = 0.001) than their non-fee paying counterparts to have intentions of migrating after their medical training. The inclusion of background factors in Model 2 did not change the direction or strength of association between fee paying

medical students and intention to migrate; neither did it change the statistical significance.

Among the factors introduced in Model 2, a negative but significant association was found between intention to migrate and those aged 25-29 (OR = 0.37, p = 0.001), as well as women (OR = 0.57, p = 0.010). In other words, students aged 20-24 are 2.7 times more likely to migrate than those aged 25-29, whilst men are 1.8 times more likely than women to migrate.

A similar procedure was followed in addressing the hypothesis that fee paying medical students are significantly more likely to feel they owe no allegiance to the government of Ghana. Again this was confirmed as shown in Models 3 and 4. With only fee status in Model 3, a very strong and significant association was found between fee status and non-allegiance to the government of Ghana based on fee status. Fee paying medical students were about nine times more likely (OR = 8.91, p = 0.000) to feel they owe no allegiance to the government of Ghana based on their fee status. The association became stronger (OR = 9.66, p = 0.000) when background factors were fitted in Model 4. None of the background factors considered in the model was statistically significant.

DISCUSSION

This study suggests that the students' fee-paying status does affect their intentions to migrate after the completion of their training. This is a relatively new and emerging factor to be considered (in addition to the traditional post-graduation 'pull' and 'push' factors) in strategies aimed at curbing excessive health worker migration. In the currently widely favoured neo-liberal economic model, the trend is for more and more central governments to gradually shift from a fully public funded tertiary education through shared funding, and on to full fee paying training. In the study by WHO-AFRO, the reasons given by health personnel for their intention to emigrate from Ghana largely centered on socio-economic and professional development issues.¹⁰

Whilst several studies have looked at the brain drain in Africa and the migration of doctors, we found none that specifically attempted to understand the role of educational funding mechanisms in influencing the desire to migrate. This study argues that the seeds of flight are now being shown a lot earlier, with those who have funded their own education intending to leave well before even experiencing the traditional push factors. At the time of previous studies, fee payment was not an issue as it is today in local medical education and was not considered as a factor in their final analysis.^{8,16}

This study found a similar percentage of medical students having the intention to migrate compared with earlier work done among actual graduates of Ghanaian Medical schools (49% in this study versus 50% 4.5 years after graduation⁸). This appears higher than the average found in a study of medical students from six African countries (excluding Ghana) where about one fifth (21%) intended to relocate outside sub-Saharan Africa.¹⁷ Our work however reveals that North America has become the preferred choice of destination for Ghanaian students compared with the other studies^{8, 10} which found Europe to be the most popular destination.

Our findings however, contrasted with those of Huntington et al. in Nepal¹⁸ where students on Government scholarships were no more likely to practice in Nepal than fee paying students at private medical schools. Our findings also differ from Bailey's work in Malawi¹⁹ where all the students sampled indicated a desire to emigrate (with the hope of eventually returning to work in Malawi).

The students in the Malawi study had their medical education at least partly publicly funded through donor funding and Government subsidized fees. Similarly, high emigration intentions (95.5% of respondents) were also found among Lebanese medical students²⁰. In a peculiar twist, fee paying medical students in Karachi, Pakistan were less likely to consider a career abroad compared to merit students.²¹ These international differences are to be expected given differing socio-economic climates and cultural attitudes towards migration between countries. It underpins the need for ongoing, specific, country-based research to understand the magnitude of the problem in each case and to understand its evolving driving forces.

The reasons for the findings that the students aged 20-24 are 2.7 times more likely to migrate than those aged 25-29 and that men are 1.8 times more likely to migrate than women are not very clear from this study. More research is needed to clarify this finding.

The Government of Ghana has made some progress in addressing the traditional push factors that saw the mass exodus of doctors in the past, including going some way in addressing remuneration, adding other economic incentives, and providing a means of local postgraduate training, with the establishment of the Ghana College of Physicians and Surgeons.

The trend towards an increasing proportion of fee-paying students enrolled into medical schools and establishing medical schools that enroll only fee paying students may undermine some of the progress made in years past. Inferences to be drawn from the finding of a

lack of allegiance to the government of Ghana based on their fee status, would include, a likely unwillingness to serve in otherwise deprived areas and less likelihood to serve in the public sector.

Whilst it seems inevitable that more and more of the burden of funding tertiary education is likely to fall on the shoulders of students and their families, it might be prudent for developing countries like Ghana to explore funding mechanisms that are less likely to add to the push factors that make physician retention difficult after graduation. Further follow-up work is planned to see how assessed intentions have translated into actual behaviour.

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