



Where are the Doctors? - Tracking Study of Medical Doctors

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LIST OF ABBREVIATIONS

BUCHS	Bugando University College of Health Sciences <i>currently</i> known as Catholic University of Health and Allied Sciences (CUHAS)
DMO	District Medical Officer
HCW	Health Care Worker
HKMU	Hubert Kairuki Memorial University
HRH	Human Resources for Health
HSSP III	Health Sector Strategic Plan III
HTIs	Health Training Institutions
IMTU	International Medical and Technological University
KCMC	Kilimanjaro Christian Medical College
MAT	Medical Association of Tanzania
MD	Medical Doctor
MDGs	Millennium Development Goals
MMAM	Mpango wa Maendeleo ya Afya ya Msingi (Primary Health Services Development Programme)
MoHSW	Ministry of Health and Social Welfare
MUHAS	Muhimbili University of Health and Allied Sciences
NGOs	Non Governmental Organisations
PHC	Primary Health Care
PHFs	Public Health Facilities
PHSDP	Primary Health Service Development Programme (2007-2017)
PER	Public Expenditure Review
PO-PSM	President's Office - Public Service Management
PMO-RALG	Prime Minister's Office – Regional Authorities and Local Government
UDOM	University of Dodoma
WHO	World Health Organisation

EXECUTIVE SUMMARY

A functional healthcare system in any country depends on a number of building blocks, namely; health workforce, information, service delivery, medicines and medical supplies, vaccines & technologies, financing and leadership & governance (stewardship). Human resources for health (or health workforce) remains the core block. With this regard, it is important to mobilise competent and motivated health workers to become key drivers in the delivery of healthcare services.

Almost all healthcare facilities in Tanzania face multiple critical challenges as far as the human resources for health is concerned. The health sector suffers severe understaffing marked by uneven distribution of healthcare workers between urban and rural areas, low productivity, poor working conditions as well as ineffective financial and non-financial incentives accompanied by both internal and external migration of health workers.

Concerned about the lack of up-to-date information on clinical practice status and the extent of internal and external migration of graduate medical doctors in Tanzania, Sikika in collaboration with the Medical Association of Tanzania (MAT) conducted this study with the aim of understanding the whereabouts and clinical practice status of medical graduates in Tanzania.

Multiple methods were utilised to collect data including Survey Monkey questionnaires, snowball sampling, direct interviews, and doctors' networks, e-mails and phone calls. Information from 2246 medical graduates were gathered and analysed using the Statistical Package for Social Sciences (SPSS). Total number of doctors in Tanzania was estimated at about 2250 medical doctors basing on the current census (2012) and the current doctor to population ratio of 0.5 per 10,000 population.

The results show that overall, 39.6% of the tracked medical graduates were not practising clinical medicine. The tracked graduate medical doctors practising clinical medicine (60.4%) sample, is made up by medical graduates working in hospitals, NGOs, health training/research institutes and those taking further studies. With

regard to current jobs/occupation, results show that, 42.8% of graduate doctors are working full time in hospitals, 15.5% are pursuing further studies, 13.7% work in NGOs, 11.9% are working in health training or research institutions and others (16.1%) are either working in non-health businesses, MOHSW/health related firms or are suspended. Generally, the number of medical graduates not working full time in hospitals exceeds those working full time.

The cities of Arusha, Dar es Salaam, Mbeya and Moshi town have 41.6% of the tracked graduate doctors where medical training/research institutions and other major hospitals are located, whereas other regions have 11.3% of the tracked doctors. Dar es Salaam alone accounted for 32.2% of all tracked graduate medical doctors. Among the tracked medical graduates 8.2% were residing outside the country. More than one third (38.8%) of the tracked medical graduates did not have a workstation at the time of the study.

Based on these findings, Sikika and the Medical Association of Tanzania recommend that the Tanzanian Government needs to attract and retain an adequate and qualified health workforce in the country's hospitals. There is a need for new systems, rules and regulations to influence doctors in other jobs/careers to devote some time to clinical healthcare delivery in order to lessen the workload of those working full time in hospitals. Since a large majority of doctors reside in major towns, there is a need for improved infrastructure for transportation in rural areas and a better referral system that will make it easier for people to access quality services. Further research should be conducted to find out the factors that cause a high number of graduate medical doctors to abandon clinical medical practice in hospitals. Due to limited availability of records, an information system should be established to inform the whereabouts of medical doctors and other healthcare workers and their clinical practice status right from the point of their graduation.

Sikika and MAT expect that MoHSW, President's Office - Public Service Management (PO-PSM), PMO-RALG and other healthcare stakeholders will use the results of this study in making informed decisions so as to maximize clinical practice of graduate medical doctors and thereby improve the quality of health services for all Tanzanians.

CHAPTER ONE: INTRODUCTION

The World Health Organisation (WHO) defines health workers as "all people engaged in actions whose primary intent is to enhance health" and considers them as people whose job is to protect and improve the health of their communities. Moreover, research and programme reports show that nearly all countries, rich and poor, face a critical shortage of competent health workers in rural areas, where the need for basic care is usually greatest. The human resources for health (HRH) crisis in Tanzania is characterised by severe shortages of health professionals. The shortage has seriously eroded the capacity of local health systems to function effectively, efficiently and equitably in the delivery of health services to the poorest members of the country's communities.

Furthermore, the crisis is characterised by the HIV/AIDS disease burden that has impacted on health workers by increasing their workloads and exposing them to the risk of contracting HIV; the migration of health professionals (from sub-Saharan Africa to other countries, from one African country to another, from the rural to the urban health facilities, and from public to private health systems in the same country) and the chronic under-investment in public sector healthcare systems are major contributing factors to the health crisis (Naicker et al, 2009).

Like it is a case in other sub-Saharan countries, the Tanzanian health sector is not only understaffed, it is also characterised by uneven distribution of health care workers with rural and remote places being most disadvantaged. It is noted that Tanzania has the lowest per capita of highly trained health workers (physicians) in the world (Joint Learning Initiative, 2004). The WHO documented that 57 African countries, Tanzania included, have a shortage of 2.4 million doctors and nurses (WHO Report, 2006). Additionally, while Africa has 25% of global disease burden, it only has 1.3% of the world's experienced healthcare workers (Naicker et al, 2009).

The shortage is further compounded by low productivity, ineffective financial and non-financial incentives, a poor working environment, lack of supportive supervision, poor career schemes, migration to other attractive healthcare labour markets in Africa and developed world, and absenteeism and the loss of health workers due to AIDS (Munga & Mbilinyi, 2008).

The Health Sector Performance Profile Report (2011) reports that there were 52,637 workers in the entire health sector. The report also shows trends of health care workers in the previous year; that is 33,715 in 2005/2006; 38,527 in 2006/2007; 41,537 in 2007/2008; 44,547 in 2008/2009 and; 48,637 in 2009/2010 (MoHSW, 2012). This reflects an average annual increase of healthcare workers of about 3,730.

The HRH PER Survey (2011) reveals an average of 60% of the available medical doctors against the required number in 11 local government authorities that were surveyed (MOHSW 2012). The WHO estimated Tanzania as having a doctor to population ratio of 0.02 physicians per 1,000 population in 2006 (WHO 2006)¹ which has improved to about 0.05 physician per 1,000 population in 2011 (MOHSW, 2012)².

In 2009, Sikika carried out a survey in 103 districts of Tanzania to track the deployment of various cadres of health workforce in Tanzania. The HRH tracking study revealed an overall HRH gap of 54% and a follow up study in 2012 revealed an overall HRH gap of 49.1%. In addition, it was also found out that some cadres are unavailable in some districts. Some of these cadres are medical doctors, medical technicians, pharmacists, physiotherapists, etc. The study found out that there were no graduate medical doctors in 30 out of 103 districts (Sikika 2010).

During the 2012 doctors' strike in Tanzania, it was evident that neither the MoHSW, the Medical Association of Tanzania, researchers nor the activists presented a correct figure of the number of graduate medical doctors in Tanzania. Moreover, the extent of internal migrations, on top of emigration of this scarce cadre, is not well documented. One of the complaints by the striking doctors was excessive workload and poor working conditions characterised by poor/lack of working tools. Given the high cost of training medical doctors in Tanzania and around the world, Sikika and MAT wanted to find out the whereabouts and if graduate medical doctors practise clinical medicine. Sikika and MAT also wanted to find out the proportion of those who leave clinical practice and engage in other activities. The information gathered will help Sikika and other stakeholders to advocate for improved retention of graduate

¹ http://www.aho.afro.who.int/profiles_information/images/c/c8/Tanzania-Statistical_Factsheet.pdf
² From this ratio one can estimate the total number of doctors in the country to be around 2250

medical doctors and other healthcare workers, thereby enabling the citizens to access services offered by qualified health providers.

The study aimed at generating information on a sample of graduate medical doctors who trained within the country and those who studied abroad. The study also wanted to determine such doctors' current workstations and whether they are practising clinical medicine. Findings from this study will establish baseline information on the available graduate medical doctors, their location, and clinical practice status. This information will help the Medical Association of Tanzania, Ministry of Health and Social Welfare, PO-PSM, and Development Partners to understand the dynamics of graduate medical workforce in Tanzania and the extent of both internal and external migration of the medical doctors. Understanding of medical doctors' dynamics will help formulate mechanisms to retain and attract more doctors into clinical practice.

Sikika and the Medical Association of Tanzania will use the results as evidence to advocate for improved work conditions in hospitals, improved incentives for clinical practice and the establishment of a progressive strategy by the MoHSW and other bodies for tracking and documenting the number of graduate medical doctors, their clinical practice status and whereabouts.

In this chapter, this report reviewed relevant literature and has described the significance of the study. Chapter Two describes the objectives and study methodology; Chapter Three presents the study findings. Discussion and recommendations are found in Chapter Four and Five.

CHAPTER TWO: STUDY OBJECTIVES AND METHODOLOGY

STUDY OBJECTIVES

The overall objective of the study was to determine the clinical practice status as well as the extent of internal and external migration of Tanzania's medical graduates in 2012.

The specific objectives were to:

1. Determine the clinical practice status of graduate medical doctors in Tanzania
2. Determine the current job of graduate medical doctors in Tanzania.
3. Identify workstation of graduate medical doctors in Tanzania.
4. Determine the extent of internal³ and external migration of medical doctors in Tanzania.

METHODOLOGY

The study was a descriptive cross-sectional study. The main study population was graduate medical doctors in Tanzania. The aim was to determine their current job, workstation and clinical medicine practice status. The study took place between August and October 2012.

Information was gathered from 2246 medical doctor graduates through convenient sampling. Multiple methods were utilized to collect data. Contact information of medical graduates was extracted with the support of Registrars and Admission Officers of relevant universities. Second, for tracking purposes, such methods as 'Snowball'⁴, Survey Monkey⁵ questionnaires, direct interviews and doctors' networks e-mails and phone calls were utilized. Sikika's HRH Department staff together with

³ Internal migration is regarded as not practicing medicine and/or not working full time in Hospital

⁴ Snowball sampling: In this method the researcher can ask the interviewed person(s) to nominate other individuals who could be asked to give information or opinion on the topic; then the new individuals are interviewed, they nominate more participants and continued in the same way until enough data is gathered.

⁵ Survey Monkey is the world's most popular online survey tool used to send free surveys, polls, questionnaires, customer feedback and market research

two researchers from the Medical Association of Tanzania (MAT) collected data from the target sources.

Data was analysed using Statistical Package for Social Sciences (SPSS) and then the output was summarised and presented in tables and figures. This study was part of the HRH Enrolment Study for which a written permission was obtained from the Ministry of Health and Social Welfare (MoHSW). Prior to data collection, a joint introduction letter was prepared for researchers who conducted physical visits. For tracking purposes, the aims and objectives of the study which were put in writing were communicated to target respondents who had the opportunity to withdraw from the study at anytime. The Medical Association of Tanzania will keep all research data with identifying information of medical doctors, while Sikika maintains the non-identifying data.

Study Limitation

The study did not involve foreign doctors working as expatriates or volunteering in NGOs and hospitals (especially FBO). The study did not enquire about the age of respondents, which would have been helpful in estimating the trend of retirement (longevity of service provision). The study was not designed to capture the reasons why doctors abandon their career/jobs as medical practitioners.

CHAPTER THREE: STUDY FINDINGS

The study collected data from a total of 2246 medical doctors. The total number of doctors was estimated from the current doctor to population ratio of 0.5 per 10,000 population, which resulted into an estimate of about 2250 medical doctors (basing on total population of 44,928,923 in Tanzania (NBS, 2012), therefore the study covered more than 95% of available graduate doctors).

Table 1. Tracked graduate medical doctors with their respective Medical Training Institutions

University	Tracked Medical Doctors			
	Female	Male	TOTAL	%
BUCHS	59	88	147	6.5
HKMU	8	10	18	0.8
IMTU	5	3	8	0.4
KCMC	159	256	415	18.5
MUHAS	439	1178	1623	72.0
MD Graduated Outside the Country	15	26	41	1.8
TOTAL	685 (30.5%)	1651 (69.5%)	2246	100

A large proportion of tracked doctors were male (69.5%) and nearly three quarters (72.1%) were Muhimbili graduates followed, by KCMC graduates (18.4%). IMTU and HKMU had fewer tracked medical doctors.

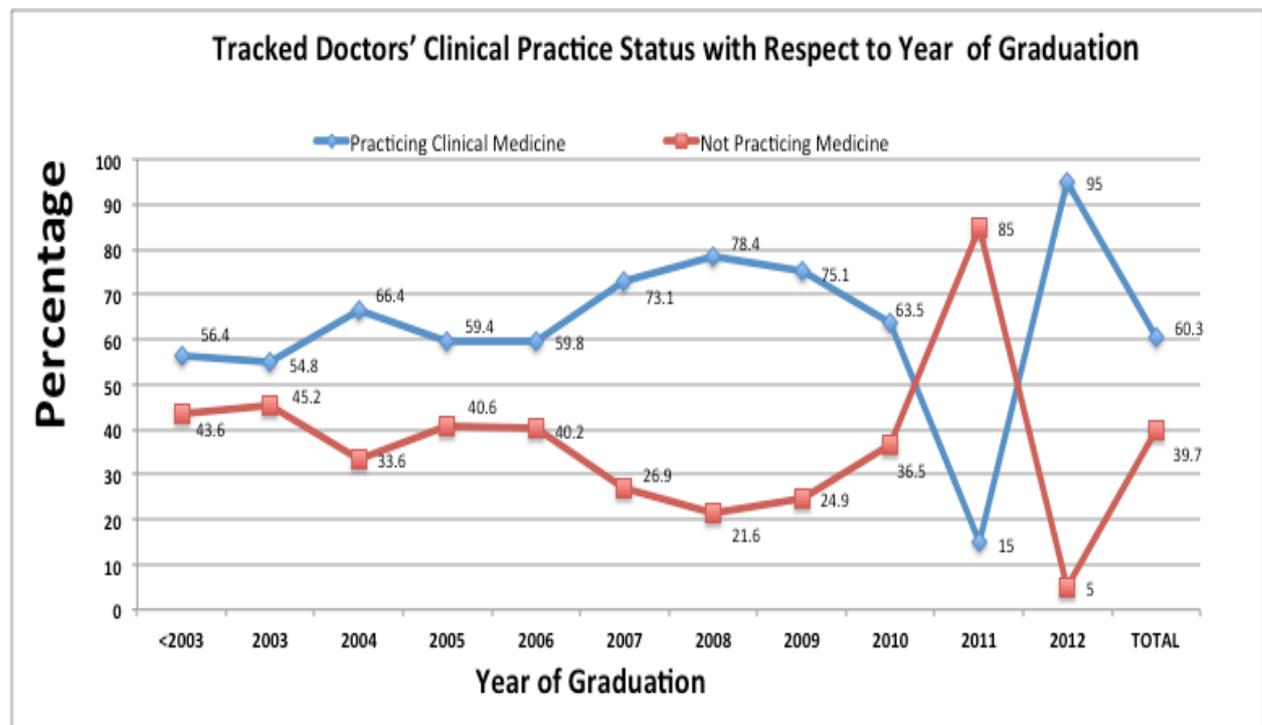
Clinical Medicine Practice Status

Table 2: Clinical medicine practice status of tracked graduate medical doctors

		Sex		Total (%)
		Female (%)	Male (%)	
Practicing Clinical Medicine	Yes	400 (58.5)	956 (61.2)	1356 (60.4)
	No	285 (41.5)	605 (38.8)	890 (39.6)
Total		685	1561	2246

About 40% of graduate medical doctors (39.6%) are not practising clinical medicine. There is a small difference in percentage by gender between the proportions of those who are practising medicine and those who are not.

Figure 1: Tracked graduate doctors' clinical practice status with respect to year of graduation



Almost all of the 2012 graduates (95%) were practising medicine (internship) at the time of the study. Nearly a half (45.2%) of the 2003 graduates were not practicing clinical medicine; while two thirds (66.4%) of 2004 and more than three quarters (78.4%) of 2008 graduates were practicing clinical medicine. About 85% of tracked medical doctors who earned their degrees in 2011 were not practising clinical

medicine at the time of the study. This may be linked to doctor's strike that took place in 2012, a time during which year 2011 graduates were doing their internship. These were all suspended in the wake of the strike.

The figure depicts a varying proportion of graduate doctors practising clinical medicine according to year of graduation.

Table 3: Tracked graduate doctors' job in relation to clinical medicine practice status

Current Job	Practice Status		Total (%)
	Yes (%)	No (%)	
Full Time in Hospital	951 (98.6)	13 (1.4)	964 (42.9)
NGO	33 (10.6)	276 (89.4)	309 (13.8)
Further Studies	287 (82)	63 (18)	350 (15.6)
Health Training/Research Institutions	76 (28.4)	191 (71.5)	267 (11.9)
Not Health Related/Business	0	16 (100)	16 (0.7)
Health Related Sector/MoHSW	9 (19.5)	37 (80.5)	46 (2.0)
Not working/Suspended	0	294 (100)	294 (13.1)
Total	1356 (60.4)	890 (39.6)	2246 (100)

Less than a half (42.9%) of the tracked medical doctors are working fulltime in hospitals and fifteen percent (15.6%) of the tracked graduate medical doctors are engaged in further studies and 13.8% of medical graduates are working in NGOs.

Most of the medical doctors working in NGOs, Health Training/Research Institutions and Health Related sector/MoHSW are not practising clinical medicine. Some doctors (13, 1.4%) who are working fulltime in hospitals are not practising clinical medicine as well.

Workstation of Tracked Medical Doctors

Table 4: Graduate medical doctors' workstation and clinical medicine practice status

Work Station	Practice Medicine		Total	(%)
	Yes	No		
Dar es Salaam	484 (66.7)	241 (33.2)	725	(32.3)
Mbeya	22 (46.8)	25 (53.2)	47	(2.1)
Kilimanjaro	47 (92.1)	4 (7.9)	51	(2.3)
Mwanza	77 (68.1)	36 (31.9)	113	(5.0)
No Work Station	441 (50.7)	430 (49.3)	871	(38.8)
Other Regions	191 (74.9)	64 (25.1)	255	(11.3)
Outside Tanzania	94 (51.1)	90 (48.9)	184	(8.2)
Total	1356	890	2246	

Almost three quarters (74.9%) of doctors residing in upcountry regions practise clinical medicine while two-thirds (66.7%) of those in Dar es Salaam practise clinical medicine. Dar es Salaam alone accounted for 32.3% of the tracked medical doctors as opposed to other regions whose number accounts for 11.3%. More than one third (38.8%) of tracked doctors did not have a workstation at the time of the study. For doctors residing outside the country, there is one percent difference between those who are practising medicine and those who are not.

Table 5: Location of tracked graduate medical doctors residing outside Tanzania

Country/Region	Female	Male	Total
Africa			
Southern Africa			
Botswana	3	6	9 (4.9)
Namibia	2	4	6 (3.3)
South Africa	6	6	12 (6.5)
Zimbabwe		3	3 (1.6)
<i>Sub-total</i>	11	19	30 (16.3%)
Eastern Africa			
Kenya	5	11	16 (8.7)
Uganda	6	32	38 (20.7)
Rwanda		2	2 (1.1)
<i>Sub-total</i>	11	45	56 (30.5%)
Rest of Africa			
Sudan		2	2 (1.1)
<i>Sub-total Africa</i>	22	66	88 (47.8%)
Middle East and India	2	2	4 (2.2%)
Far East (Japan, China, Korea, Singapore)	6	2	8 (4.3%)
Europe (Germany, Netherlands, Sweden, Norway, UK and Russia)	8	19	27 (14.7%)
North America	11	27	38 (20.7%)
Australia and New Zealand	3	3	6 (3.3%)
Unknown Location	4	9	13 (7.1%)
Total			184

Among respondents who were residing outside Tanzania at the time of the study, nearly a half (47.8%) were in Africa with eastern Africa having the largest number of these doctors (30.5%). More than one-third of doctors outside Tanzania are living in North America and Europe (20.7% + 14.7%).

CHAPTER FOUR: DISCUSSION

In this study, 2,252 medical doctors were tracked, of whom 30.5% were female. The findings conform with the analysis made by Exavery A. et al (2013) as they document that clinical officer (CO) and medical doctor (MD) cadres were dominantly male. The gender-based skewedness could be a hindrance to some groups of women to access healthcare, as some women prefer female doctors to male doctors. Moreover, graduates from Muhimbili made up more than two-thirds of the respondents (72.1%); this could be due to fact that it is Tanzania's oldest medical college and has a relatively larger intake of medical students compared to others which offer training.

Clinical Medicine Practice Status

Overall, 39.6% of the tracked medical doctors were not practising clinical medicine, a slightly large percentage of females were not practising clinical medicine when compared to men (41.6% vs. 38.9%). Having 39.6% of doctors not practising clinical medicine is a significant number given the fact that this number is also included when calculating the physician to population ratio. These findings concur with what was found by Leon (2010) in a study targeting final year medical students in 2005. The study documented that "after five years in medical school, only 8% of the students report being more motivated for a medical career than they were upon entry. Two-thirds report feeling less motivated and only 25% retained the initial level of motivation". When these findings are put together, it is evident that demotivation starts during medical training. With training cost in mind, the implications of producing demotivated doctors in a country which has inadequate supply of doctors are enormous. It is likely that both the probability of leaving the health sector and delivering lower quality services are positively correlated to demotivation. If this is the case, valuable resources go to waste (Leon 2010).

The fact that about 40% of tracked doctors are not practising clinical medicine necessitates the use of more resources to produce a larger number of doctors to ameliorate departures and poor performance of those who will remain in the practice while lacking motivation. This also means that the expected time to fill in the gap of doctors will be longer than planned (MOHSW - HRHSP 2008) since a sizable

number of graduates do not join health service delivery careers choosing instead to pursue other occupations. On the other hand, it is time to find out the reasons for career abandonment and address them in order to reduce the wastage of expensively trained manpower.

These findings can also be linked to observations made by Munga and Mbilinyi (2008) who say: "Tanzania is unable to attract and retain an adequate and qualified health workforce to effectively implement health interventions, reverse the negative health status trends and ultimately achieve Millennium Development Goals (MDGs)". Leon B et al (2010) documented reasons for the demotivation towards medical career among final year medical students: Doctor's salary too low/low income (54%), poor working conditions (15%) and heavy workload (9%). Other reasons, which were mostly attributed to training institutes were poor learning environment, intimidation by lecturers, too long course, frustration from lecturers, irresponsible government, not respected as a student and tension in medical schools.

The above reasons might not be conclusive or exhaustive in explaining why medical graduates reject practising clinical medicine after five years of medical studies and one year of internship. Which is to say, there is a need for a qualitative study to document factors that lead doctors to abandon practising clinical medicine. The findings will be very valuable, as they will help to reduce resource wastage because having 39.6% of trained doctors not practising is too much for Tanzania to afford.

Clinical practice status, when compared to year of graduation (among 2003 graduates 54.8%, 2004 graduates - 66.4% and among 2008 graduates - 78.4% practice clinical medicine) gives another dimension for pondering, as there might be different factors among different graduates, which push graduates away from clinical practice. With these facts, it is clear that an in-depth study is needed to explain and inform about the differences in medical practice status between one batch of graduate and another.

Clinical medicine practice, when compared between males and females, a slightly large percentage of females were seen not to practise as much as male (41.6% vs. 38.9%). This could be due to the fact that medicine is a profession in which

dedication to the wellbeing of others is of paramount importance and hence due to family responsibilities females are forced to alter their career path to accommodate family and professional roles. In one study, it was concluded that women are more likely to put aside their job responsibilities or make a career change for the benefit of their families, with the most common adjustment being a reduction in hours at the workplace (Verlander G, 2004). Another study reported a higher number of men than women who completed their specialist training in surgery. Factors such as heavy workload with duties and "nights on call" made it difficult for women to combine childcare and work, and this forced them to change to other specialties (Gjerberg E. 2002). Therefore, differences in the percentage of practicing male and female doctors found in our study could be explained by differences in gender roles in which case change of roles/career to accommodate family life is inevitable.

Job/Occupation of Tracked Medical Doctors

Less than a half (42.8%) of tracked medical doctors work full time in hospital. And then, not all of those working full time in hospitals practise clinical medicine (refer Table 3); for there are some who are engaged in managerial/leadership roles as this is increasingly becoming critical to organisational success (Stoller J., 2008, Chadi N., 2009). However, this can also mean skill wastage (Dovlo D., 2005).

Hospitals are critical service provision points, so, having less than a half of produced/available doctors working in hospitals is an alarming situation which affects the quality of medical care. It denies citizens the right to be attended by qualified medical personnel. This deficit has implications on the workload of the remaining doctors who continue to practise clinical medicine. Too much workload was one of the reasons some medical students said demotivates the trained from pursuing a medical career (Leon et al, 2010). The increase in workload, on the other hand, can be the reason why more doctors leave the practice to join other jobs/careers resulting into a vicious cycle.

With 15.5% of the tracked medical doctors undertaking further studies, this correlates with Leon et al 2010 findings where the majority of medical students wished to pursue medical specialisation only 2.1 years after graduation. This could also correlate with the efforts of the government to train enough specialists to serve the regional hospitals which are converted into regional referral hospitals. However, not

all of those pursuing further studies are into clinical practice after graduation, a handful of them will migrate to other jobs hence increasing the shortfall. When this happens, more resources will have been wasted since a lot had been spent to train them at undergraduate level and more resources during their post-graduate pursuits. Instead of continuing to waste resources, there is a need to find out why less and less medical doctors practise clinical medicine and address these reasons in order to bring about efficiency of human resources produced.

Major cities of Arusha, Dar es Salaam, Mbeya and Moshi Municipality account for 41.6% of all the tracked graduate doctors. This can be explained by the fact that tertiary level hospitals are found in these major urban areas, and it is a fact that these hospitals require more doctors than those in the district and other lower level facilities (MOHSW, 1999). The distribution of this kind can also be explained by the fact that in major urban areas there are more institutes (training/research and NGOs), which explains for the high number of doctors there. With more than two-thirds of medical doctors wishing to pursue further studies (Leon 2010), this has two meanings: one, that when these doctors are pursuing their studies, they will be located mostly in these urban areas and two, after graduation as specialists, they will be expected to serve in regional referral, specialized and national referral hospitals most of which are found in same areas.

Dar es Salaam city having 32.3% of all tracked medical graduates could reflect the actual picture of the given population, that more medical graduate are needed to provide services in this city. On the other side, the use of electronic media to track and collect data could have provided an infrastructural advantage for more medical doctors in Dar es Salaam to easily respond to the study.

The fact that three quarters (74.9%) of the doctors found in other regions are practising medicine is a relief since most of them deliver services to the needy citizens. However, it is important to watch out and intervene immediately to prevent demotivation or a burnout of these doctors due to excessive workload.

Doctors residing outside Tanzania account for 8.2% of all the tracked medical doctors, which reflects the rate of external migration. This population is a mixture of those pursuing further studies, working in clinical practice and working in other sectors. Those who are practising clinical medicine or working in other sectors

should be followed up for further research so as to inform policy makers and other stakeholders about the reason these doctors reside and work outside the country as it contributes to the current HRH shortage. Identifying these reasons will help to restructure the Tanzanian health system and curb the factors that make the country's doctors to move abroad and hence reduce among other things, brain drain (Munga et al, 2008 & Naicker et al, 2009).

With the HRH shortage exacerbated by internal and external migration, Tanzania's progress towards the achievement of the MDGs is greatly affected, and without changing the course, it is less likely the country will achieve MDGs by 2015, the vision 2025 and MKUKUTA.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

CONCLUSION

The study exposes unfavourable trends in utilisation of scarce human resources for health available in Tanzania. The fact that 39.6% of the tracked medical doctors are not practising clinical medicine is an indication that there is a serious human resources problem in the medical field.

This research, which entailed tracking medical doctors, has revealed that less than half of Tanzania's medical doctors are working full time in hospital and nearly half of them work for either health training/research institutes, NGOs or are pursuing further studies. Also, not all of those who work full time in hospitals practise clinical medicine.

This study, along with others, also found out that a majority of doctors are found in major towns/cities. This situation is explained by the fact that most doctors, given the Tanzanian health system, are mainly found in district hospitals, specialized or national referral hospitals.

The study has also revealed that internal migration (medical doctors working in NGOs, etc.) is greater than external migration, which is at 8.2% of the tracked medical doctors. This number comprises a loss in the investment the country puts to training these medics.

RECOMMENDATIONS

- i. The Tanzanian Government, through the MoHSW, PO-PSM and PMO – RALG in particular, needs to attract and retain an adequate and qualified health workforce particularly in the service delivery points (hospitals) and in the training institutions to effectively implement health interventions, reverse the negative health status trends and ultimately achieve set goals at the international and national level. This can be effected through improving financial and non-financial incentives, work conditions and availability of medical supplies and equipment.

- ii. A new system, rules and regulations should be established to oblige doctors in other jobs/careers to devote some of their time in healthcare delivery so as to lessen the workload of those working full time in hospitals. Along with the system change, there is a need to improve work environment and improve availability of medicines and other medical supplies.
- iii. Since most doctors reside in major towns/cities, there is a need for improved infrastructure for transportation, improved and functional referral system that will enable the needy citizens in rural areas benefit from the services of the urban-based medical personnel and quality services. On the other hand, to ensure more doctors work in rural/remote areas, there is a need for special programmes for incentives for doctors willing to stay and work in rural and remote areas. These incentives could include guaranteed scholarship for postgraduate studies after a short stay in the rural areas, free housing, hardship allowance and/or priority consideration for short training.
- iv. Further studies should be undertaken to help inform about reasons for non-clinical practice as it was beyond the scope of this study. At the same time, those residing outside the country should be contacted to share their experience so that it can inform decision makers, policy makers and stakeholders to act on the facts gathered.
- v. Much as the government of Tanzania has embarked on a multi-million dollar programme to train medical doctors in a bid to reduce the longstanding shortage, a medical doctors' database is neither available nor accessible. Therefore, the information system (HRHIS and TIIS) needs to be improved so as to facilitate the ease to inform the whereabouts of medical doctors and other healthcare workers and their clinical practice status.
- vi. Training institutions should reorganise the systems of instruction in order to build interest in medical practice and increase the interest of graduating medical students towards clinical practice.
- vii. MoHSW should recognise the role of professional associations and other stakeholders in HRH development and collaborate in mapping, tracing and advocating training, employment, deployment and retention of medical practitioners so as to impact a sense of professional ownership among its members and the need for quality healthcare provision to Tanzanians.

REFERENCES

- Chadi, Nicholas; *Medical Leadership: Doctors at the Helm of Change*; McGill Journal of Medicine 2009 available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2687916/pdf/mjm12_1p52.pdf
- Dovlo, Delanyo; *Wastage in the Health Workforce: Some Perspectives from African countries*. Human Resources for Health 2005, 3:6 doi:10.1186/1478-4491-3-6 available at <http://www.human-resources-health.com/content/3/1/6>
- Exavery A, Lutambi A. M, Wilson N, Mubyazi G.M, Pemba S and Mbaruku G: *Gender-based Distributional SKEWNESS of the United Republic of Tanzania's Health Workforce Cadres: A Cross-Sectional Health Facility Survey* Human Resources for Health 2013, 11:28 (available at <http://www.human-resources-health.com/content/11/1/28>)
- Gjerberg E.: *Gender similarities in Doctors' Preferences and Gender Differences in Final Specialisation*. Soc Sci Med. 2002 Feb; 54(4):591-605.
- Leon and Riise Kolstad: *Wrong Schools or Wrong Students? The potential role of medical education in regional imbalances of the health workforce in the United Republic of Tanzania*. Human Resources for Health 2010 8:3.
- MoHSW (1999). *Staffing Levels URT*; MOHSW 1999
- MoHSW (2007). *Human Resource for Health Strategic Plan 2008-2013*
- MoHSW (2007). *Primary Health Sector Development Plan 2007-2017*. Available at <http://www.moh.go.tz/documents/FINAL%MMAM%2026.11.2007.pdf>
- MoHSW (2008): *The Health Sector Strategic Plan III (2009-2015)*
- MoHSW (2012). *The Health Sector Performance Profile 2011*.
- Munga MA, Mbilinyi DR (2008) '*Non-financial incentives and retention of health workers in Tanzania: Combined evidence from literature review and a focused cross-sectional study*,' EQUINET Discussion Paper Series 61. NIMRI, ECSA-HC, EQUINET: Harare.
- Naicker S Plange-Rhule J, Tutt RC, Eastwood JB. (2009). *Shortage of health care workers in developing countries Africa Ethnicity & Disease*, Volume 19 s1-60-64. Available at <http://108.28.177.19/journal/19-1s1/ethn-19-01s1-60.pdf>
- Robinson R (2007). *The costs and benefits of health worker migration from East and Southern Africa (ESA): A literature review*. EQUINET DISCUSSION PAPER

49. Available at
<http://www.ecsahc.org/downloads/Costs%20and%20benefits%20of%20Health%20Worker%20Migration.pdf>
- Sikika (2011). *HRH Tracking study 2010*. Available at
<http://www.sikika.or.tz/en/cms/functions/files/publication69.pdf>
- Sikika (2012). *HRH Tracking Study 2012*. (In press)
- Sikika (2012). *Moral and Ethical Dilemma during Doctors strike in Tanzania Viewpoint*. <http://www.sikika.or.tz/en/publications/read.php?pid=&uid=284>
- Stoller J. K.; *Developing Physician-Leaders: Key Competencies and Available Programs*. The Journal of Health Administration Education 2008
- Verlander G., *Female Physicians: Balancing Career and Family*; Academic Psychiatry, 28:4, 2004 <http://ap.psychiatryonline.org> available at
<https://www.med.upenn.edu/gastro/documents/BalancingCareerandFamily.pdf>
- WHO (2006). *Health workers: A global profile*. Chapter 1. Available at
http://www.who.int/whr/2006/06_chap1_en.pdf
- WHO (2008). *World Health Statistics Available at*
http://www.who.int/gho/publications/world_health_statistics/EN_WHS08_Full.pdf

APPENDIX

SURVEY MONKEY QUESTIONNAIRE

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MD Tracking Study 2012

NAMES/ ABBREVIATIONS	Gender	Year of Graduation	University (MD)	Practicing Clinical Medicine? YES/NO	If Not Practicing Clinical medicine, Current <u>Job</u> or status	Location of Practice/ Work/ Studies/ Business	MCT Registratio n status	Any other Relevant Information

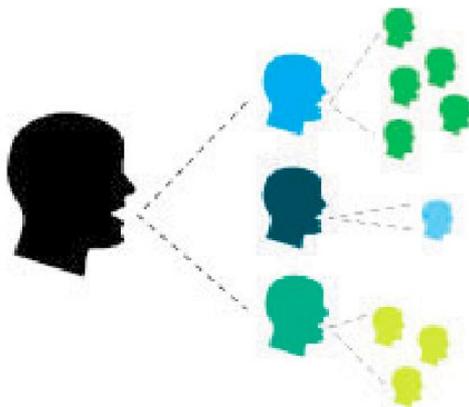
SNOW BALL SAMPLING METHOD

Snowball sample: When interviewing members of a population, you can ask the interviewees to nominate other individuals who could be asked to give information or opinion on the topic. And then the new individuals are interviewed and continue in the same way until enough samples are netted and interviewed.

Snowball sampling is a good method for such populations that are not well delimited nor well enumerated.

This method can be improved by starting the snowball chain from several different people, perhaps from different social groups.

(<http://www2.uiah.fi/projects/metodi/152.htm> accessed on 01/10/2013 at 11:35)



Source: <http://www.rockpaperink.com/content/article.php?id=1039>

Image illustrating snowball data collection method