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# **Review of health workers attrition and microbial disease endemicity in Bushenyi, Ntungamo and Rukungiri Districts of South-Western Uganda**

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## **Abstract**

**Background:** Shortage of health workers is a problem in Uganda like in other developing countries. The problem of retention of health care workers affects mainly the remote areas in the developing world. All cadres are affected but it's more often among the doctors. This has affected the health service delivery in the districts and as such control of the endemic microbial infections remains a problem in those areas left hollow by attrition effects. It is therefore, important to identify the likely factors leading to the attrition of the health workers in order to implement strategies to attract and retain health workers in these districts.

**Objectives:** To establish reasons for attrition of health workers in Bushenyi, Ntungamo and Rukungiri districts as well as test the impact of attrition to control of Microbial infections in the study area, in order to design appropriate strategies to attract and retain staff in the districts.

**Methods:** A descriptive cross sectional study was carried out using both qualitative and quantitative methods to collect and analyze data. A total of 160 health workers were interviewed and 9 Key Informant Interviews were conducted with the health workers who had left the districts. The Microbial infections prevalence was determined

**Results:** Of the 160 health workers 43.8% reported having considered leaving their job in the past 6 months. The intention to leave was found to be higher among the doctors (58.9%,  $p = 0.005$ ) compared to other cadres of staff. The main factors leading to migration of health workers were poor pay (48.8%) and poor working conditions (20.1%) among all categories of health workers.

**Conclusions and recommendations:** A significant proportion of health workers (43.8%) have intentions to leave the districts because of poor pay, unfavorable working conditions, and social factors such as lack of time for their families. Increased remuneration and improvement of the working conditions should be provided as incentives for retaining health workers.

## Introduction

Shortage of health workers at health facilities hinders the provision of quality health care including early detection and management of microbial infections. Skilled staff retention and motivation is therefore crucial for quality diagnostic and management service delivery (1). Retention of health workers in remote areas continue to be a health challenge in both developed and developing countries (2-4). In the developing countries the effect of remoteness of some places is compounded by inadequate remuneration and other 'push' factors (5). The shortage of health workers with the right expertise and experience has reached a crisis level in developing countries(6-7). The ability of health services to deliver care depends on the knowledge, skills and motivation of the health workers (7, 4, 8). Without enough skilled staff in the right place at the right time, health systems cannot function effectively and populations are left without the care and support they need and invariably left to be exploited by microbial agents of disease. An equivalent of one million health workers (triple the current number) is 'needed urgently in sub-Saharan Africa to boost the attrition of health workers collapsing health systems. The increasing rates of Human Immunodeficiency Virus (HIV), Tuberculosis (TB), Malaria, Cryptococcus and other infections are highest in this region, while the density of health workers is lowest here in the remote hard to reach villages (9).

Exacerbating the crises of lean numbers of these healthcare staff termed "fatal flows," are the so-called brain drain of medical professionals from poor countries to wealthy ones, and from rural villages to urban city regions. In wealthy nations (USA, Canada, UK), foreign-trained doctors who are non-indigenes often constitute a third of the

work force. Meanwhile, even in developing countries with reasonable health workers populations, rural and urban slum communities are often left without the health care they need due to poor human resources for health. It has been reported that health workers with low or no qualification have been more easily retained in jobs in remote rural areas and that many are already providing health services above the level detailed in their job descriptions or work guidelines (10-11).

In rural Uganda, the cost of employees' turnover is substantial and intentions by staff to leave an employment especially if the workstation is located in the rural areas may manifest as lowered performance (10-11). The situation is worse, now that virtually most if not all the long serving and experienced doctors may have left the local districts for greener pastures in the cities. The emerging skills gap in the remote workforce leaves a demanding work load in the rural areas, and yet the interest of new health workers, especially the doctors to work in these rural districts is very low. Some studies have pointed to a number of factors that contribute to satisfaction and intent to stay including differences by cadre, gender, age, sector (public or non for profit) and location (12-13). Both financial and non-financial factors influenced by tenure and job satisfaction in public health services affect the willingness to stay in the job (1). In Uganda, poor remuneration of health workers is a strong and known factor which has added to the willingness to stay or leave. The average pay for a general doctor in the United States is more than 15 times higher than of a senior consultant in Uganda and hence people wants to leave to enjoy such green pasture.

There is high shortage of trained staff in Uganda with 2,102 medical doctors currently registered to serve a population of 34million people (1:12,000

doctor to population ratio) (14-18). About 25% of the doctors registered by the Medical Council are Foreigners and the Ministry of Health has no guarantee on how long they will stay in the country(18).

Expenditure on health workers forms a significant proportion of the district total healthcare budget expenditure. In order to efficiently implement cost effective interventions, health workers must have the appropriate skills, competence, training and motivation to do so. Currently, the health systems in the rural districts are under-staffed and exhibit poor distribution of health workers. The health workers are generally de-motivated and less production due to inappropriate incentive and environment.

There are more than ten categories of health workers at different levels in the districts with the Enrolled Nurses being relatively more than any other cadres, particularly in the rural areas followed by Enrolled Midwives and the Clinical Officers (20-22). The current proportion of approved posts filled with health workers in Bushenyi district is 52%(24). Bushenyi district has only 6 doctors out of 24 doctors needed in the district. The district has one Anesthetic Officer out of the 6 posts available. Rukungiri district has only 49% of the posts filled appropriately with only 4 doctors out of the 14 doctors needed in the district. On the other hand Ntungamo district has only 46% of the posts filled across all cadres and has only 3 out of the 18 doctors needed in the district(24-25).

Relationship with managers and poor enumeration was the main reason for staff attrition in general hospitals located in the West Nile region (26) while a drift of health workers from private not for profit to public facilities has also been reported (27-28), reported that 30% of the Uganda trained doctors was working outside Uganda, a situation found better than in other countries like Ghana where 60% of Ghana trained doctors had left the country within 10 years of their graduation.

Deaths due to HIV/AIDS were a leading cause of loss of the young doctors in Uganda more than migration for greener pastures to cities (26). Unanswered questions about internal migration of

doctors from rural to urban areas and the reasons behind this movement, and also the information on the social life of the graduates and their satisfaction at the jobs they were doing warrants urgent attention.

It was recently reported (29) that remuneration of health workers was of paramount importance in their retention and another report (30), suggested money needs to be invested to retain health doctors. Again, another Uganda report (31), showed that the area of human resources had reached a crisis in Uganda and that the action to counter it needed to reciprocate the crisis at hand. Delanyo (28) reported that Sub Saharan Africa faces a human resource crisis in the health sector and that the way human resources for health are trained and deployed doesn't enhance productivity. Hanyaro (32) reported the expansion of the number of doctors and nurses through training as panacea for the problems of the work force retention in the country. Semwanga and Ddambe (33) underscored retention problem, by emphasizing on the role of adequate man power, especially the doctors in health care delivery.

Report from Malawi, says that, the vacancy rate were much higher in the rural facilities than in the urban facilities (34). The study demonstrated a high attrition rate of health workers in rural facilities as most of the professional staff had not been in their jobs for more than 2 years by the time of the study. The situation may not be different in Uganda where most rural health facilities lack health workers especially the doctors. They did not demonstrate any clear difference in retention between cadres. Again this is different from the situation in Uganda where doctors are reported to be the cadre that is highly affected by the problems of retention. Their study did not deeply dwell into the reason for attrition and why the rural facilities had a higher staffing gap. Omar (35) reported that, placement near town, stability of employment, salaries and working conditions and professional development opportunities were emerging factors in health staff retention. The Zambia national health plan 1999-2004 reports that most doctors valued job security highly (28).

However, it has lost popularity and is no longer attractive to health workers especially working in rural facilities. Delayed payment of wages or their nonpayment was found to be a serious issue in retention. An in depth analysis of the effect of the factor is lacking in this report. There was no mention of the other factors that affect retention of health workers in this report.

Martineau and Martinez (36) in Zimbabwe emphasized the importance of skill development opportunities and career mobility to health workers. They found that managers especially in smaller health systems had conflicting attitudes. They wanted to be able to fill their posts with appropriately trained people but were reluctant to release their staff to gain the extra training. Martineau and Martinez (37) noted that health needs were not static and so the need for continuous training. Epidemiological and technological transition, new and emergent diseases the growth of private practice and changing patient expectations all increase the demand placed on the health workers. They identified informal substitution of professionals by lower level health workers in the absence of right professionals. However, they did not do an in depth analysis of the reason why the professionals were absent and where they had gone.

Kolehmaine (38) demonstrated that decentralization has generated a number of legal concerns for doctors and that decentralization was one of the reasons for doctors' unwillingness to work in rural decentralized governments. However, she did not investigate the other factors that contribute to health workers not liking to work in the rural decentralized localities which would probably give us a deeper insight in the reasons as to why there is a very high attrition rate of doctors from rural places. Attrition of health workers is a major problem in Bushenyi, Rukungiri and Ntungamo districts leading to a shortage of skilled work force in these rural districts (23). The attrition of health workers contributes greatly to the low quality of health care given to the people in these districts. Both Public and Private Not for Profit facilities are

affected although the rate of attrition is higher in the public sector.

Efforts have been made in these districts to attract health workers but most are not willing to work in these districts. Bushenyi district lost 38 health workers between July 2007 to June 2009, Ntungamo and Rukungiri lost 23 and 19 health workers in the same period respectively (24). In Bushenyi district, 5 out of the 7 health sub districts do not have a doctor. Ntungamo district has no doctor in the health sub districts and the district hospital is currently manned by only two doctors instead of the recommended 6 doctors (25). Rukungiri district has only 2 doctors left in public service. Whereas health workers are recruited, they often stay for a few months and leave for better jobs in Kampala and other towns. Other cadres of staff are equally affected thus leaving huge staffing gaps in the health service delivery system. The reasons for the high attrition rate are not clear. What makes the health workers leave the three districts to move to other destinations is not clear. It's therefore important to carry out a study to establish the reasons for the high rate of attrition of health workers from the districts.

### **Justification of the study**

In order to deliver quality health services in the Bushenyi, Ntungamo and Rukungiri districts, adequate skilled manpower is required. This entails adequate recruitment and retention of the staff. Appropriate strategies for attracting and retaining staff can be put in place if the reasons for attrition are well established. It is therefore important to examine the factors leading to the attrition of health workers from these districts, and establish the factors that could attract and retain them for longer period of time in the districts. This study will enable us to generate information that will be used for better planning and improvement of human resource management in these districts. The results of the study will be shared with the district leadership and policy makers from the Ministry of Health.

### **Objective**

To evaluate health workers attrition and microbial disease in Bushenyi, Ntungamo and Rukungiri districts of Uganda. In order to design appropriate strategies to attract and retain health workers in these districts. To be specific this project aims to review the proportion of the existing health workers who have intentions to leave the districts, identify the factors that make health workers abscond from duty and leave the districts, and to identify the strategies the districts should employ to attract and retain health workers.

## Materials and Methods

### Study population and study area

The study was conducted in three neighboring districts of Bushenyi, Ntungamo and Rukungiri in South Western Uganda. The population of Bushenyi district is 799200, while that of Ntungamo district is 567900 and Rukungiri district has a population of 657,360 (projection of national census 2002). The three districts are typically rural with Bushenyi district located 360km by road from Kampala the capital city of Uganda while Ntungamo is located 365 km away and Rukungiri is about 440 from Kampala city. Bushenyi district has 7 health sub districts (HSD), 4 hospitals and 112 level II and III health centers. Rukungiri district has 3 HSDs, 2 hospitals and 67 level II, and III health centers. Ntungamo district has 4 HSDs, 1 hospital and 46 level II and III health centers.

The study was a cross sectional study employing both quantitative and qualitative methods of data collection. The study population consisted of all the health workers in the three districts. Bushenyi district had a total of 625 health workers, Rukungiri had 416 health workers and Ntungamo had 309 health workers. The rarest cadres among the study population include the medical doctors and anaesthetic officers. Bushenyi district has only 14 medical doctors of which only 4 are employed by the government the rest are in PNFP hospitals. Rukungiri district has only 7 doctors of which 2 are in public service. Ntungamo district has 3 medical doctors only, with 1 based at the district

headquarters and 2 in the district hospital. Most of the health workers are formally appointed on permanent and pensionable basis in government but those in the PNFP sector are mainly on contract. A few of the health workers in both sectors are not formally appointed.

### Inclusion and exclusion criteria

All health workers in the public and private-not-for-profit (PNFP) health facilities who had worked in the districts and all health workers who did not consent for the interview were excluded from the study. The staff that were not at the station at the time of the interview were also excluded and replaced randomly by the existing ones from the staff list.

### Sample size and sampling procedures

The sample size was calculated using Wayne's formula for infinite population proportions given as  $n = Z^2PQ/D^2$  (40), Where  $n$  = the desired sample size;  $Z$  = correlations coefficient for the desired confidence interval (95 percent confidence),  $P$  = proportion of health workers with intention to leave the district estimated to be 30% according to studies done in West Nile (27),  $q$  = one minus  $P$  ( $1-P$ ) = 0.7 (70%),  $d$  = Degree of error allowed (0.05), giving a total sample size ( $n$ ) to be 160. This sample was distributed among the three districts and the cadres of health workers according to the population of the health workers. Using appropriate ratios of the number of health workers in the three districts, Bushenyi district had a total of 72 health workers selected for the study, Rukungiri district had 48 and Ntungamo district had 36 health workers interviewed. About 24 of the workers selected were Medical Doctors, 42 clinical officers, 42 nursing officers, and 52 were to come from the rest of the cadres. A total of 9Key Informant Interviews were conducted with Medical Doctors who had left, irrespective of the district they had worked in before, but making sure that each district was to be represented by at least one who left his/her place of work in the study districts.

### Sampling method

All the hospitals and health center IVs in each district were included in the study in order to have representation of all cadres as possible in the study. About 1/3 of level II and III health facilities were selected by simple random sampling from a list of the health facilities in each district using the ballot method. Respondents at each facility selected were sampled by simple random sampling from the list of staff at each health facility using the ballot method. The staffs that were not at the station at the time of the interview were replaced randomly by the existing ones from the staff list. The dependent variable in this study is health workers intention to leave the districts. The independent variables in this study include the social factors like availability of recreation centers, remoteness of the districts family separation and loss of contacts with friends in urban areas. Demographic factors include age and sex which may affect the choice of doctors to stay in urban or rural areas. Political factors include political interference, and nepotism. Service factors include availability of appropriate equipment. Economic factors include adequacy of the remuneration.

### **Data analysis**

The questionnaires were checked for completeness in the field. The data was entered and analyzed using SPSS software version 17. Descriptive statistics is presented in tables and graphs. The association between the dependent and independent variables was analyzed using in bivariate and multivariate analysis using multiple logistic regression. A p value of 0.05 was considered statistically significant. The qualitative data was transcribed from the tapes and coded. Themes and sub themes where created and the data was organized and categorized according to the themes. The Qualitative data was then triangulated.

### **Data quality control**

Research assistants were trained on how to collect the data using the questionnaire. There was pre-testing of questionnaires comprising of 5% of the samples size carried in the neighboring district

(Kasese district) to ensure clarity and relevancy of the questions. The Principal Investigator cleaned the data throughout the data collection and supervised the research assistants to enable the collection of quality information.

### **Ethical considerations**

Approval of the study was sought from the Higher Degrees Research and Ethics Committee of Makerere University School of Public Health. Informed consent was obtained from each participant before enrolment into the study. The purpose of the study and how the information gathered will be used was explained to each participant before obtaining their consent. The interviewer also signed the consent to show that they provided this information and obtained consent. Each of the study participants were assigned a code as was each facility where data was collected from to avoid the use of names in order to maintain confidentiality. The interviews were carried out in privacy to ensure confidentiality. The tapes and notes of the in-depth interviews were kept in a secure place and were only accessible to the Principle Investigator. Permission was obtained from the district authorities (DHO and CAO), and health facilities administrations before the study was carried out.

### **Results**

Distribution of the health workers by cadre and by districts

Data was collected from 160 respondents from the three districts and the sample distribution was as shown in table 1. The 9 Key Informants Interviews were doctors who had worked in the three districts and left unofficially. Of these, 5 had worked in Bushenyi, 3 in Ntungamo and 1 in Rukungiri districts.

### **Social demographic characteristics of respondents**

Most of the health workers interviewed were males (45%) and a large proportion of them were not married (62.5%). Majority of the health workers were relatively young with age ranging

from 21 to 58 years and an average age of 28 years. On average most health workers reported to have been in their first employment (58%) although most of them reported to have been in their current jobs for a relatively short time ranging from 6 – 252 months (average 36 months). Details of the socio demographic characteristics are shown in table 2.

About 8.1% of the respondents were heads of health facilities (District Health officers (DHO) 3.1%, assistant DHO 3.1% and medical superintendents 2.5%). Majority of the health workers were Catholics (46.3%) followed by Protestants (42.5%), Moslems (11.3%) and other religions (2.1%).

The health workers were asked if they had strongly considered leaving their jobs in the past 6 months. A large proportion of health workers (43.3%) reported to have considered leaving their jobs in the past 6 months. The proportion of staff with intentions to leave differed among different cadres of health workers with the highest proportion being among doctors (56.1%) followed by clinical officers (47.4%) and Nursing officers (44.0%) as shown in (Table 3). The respondents were asked what makes them feel like leaving their current job. Majority (69.4%) reported that it was the low pay, others said it was lack of allowances (57.3%), while 24.4% reported that it could be a result of poor infrastructure. Details of the responses are shown in (Table 4).

The opportunity for career development was also considered to be very important but this encouraged health workers to stay in the districts. Its importance was also expressed during the key informant discussion with one of the participants who stated that *“I waited for study leave for two years after I had been confirmed. It was not given to me and I had to leave and find other means of sponsorship”*.

The social factors that were mentioned included the possibility of health workers to be with their families and the level of entertainment in the community, Access to good Schools for the children and ability to get what the health workers wanted to buy from around their communities was equally important. The issue of housing and

accommodation for the workers was also considered to be important.

By using logistic regression analysis we were able to show the significant factors that lead to intentions to leave among the health workers. The level of appreciation of housing was significantly associated with intentions to leave among the health worker ( $p=0.011$ ;  $p<0.05$ ) as well as absence of electricity ( $p = 0.19$ ;  $p<0.05$ ) and the poor pay ( $p=0.031$ ;  $p<0.05$ ).

Multivariate analysis of the significant factors obtained above was done to further demonstrate the strength of their association with the workers intentions to leave. The results as shown in (Table 5) indicated that the odds of absconding from duty by the health workers were high due to inadequate housing conditions (Odds ratio 1.182), lack of electricity (Odds ratio 15.07) and poor pay (Odds Ratio 0.803)

The findings above were supported by the Key Informant as one of them reported that *“being rural district’s most doctors want to work in cities and towns. Housing, transport and communication are very poor. You rarely find someone who wants to be posted to a rural area. Once posted to such areas they stay for a short time and go. Most times doctors don’t stay for a year”*.

The health workers were asked where they would like to go if they left the districts and which factors attracts them to those destinations. Majority (46.4%) reported that they wanted to go to work with NGO health facilities while 27.5% wanted to go for private practice, and 18.8% preferred going to work at the Ministry of Health Headquarters. The factors attracting them to their destinations are shown in (Table 5).

The factors that attract the health workers were to their desired destinations were analyzed by linear regression analysis and the results are summarized in table 6.

Among the factors that attract the health workers to ministry of health, was better remuneration (pay level), good housing in the city and better education for the children in Kampala. Work load seems to favor their stay away from the ministry. The issue of poor remuneration again came up during the key informant discussion as one informant reported that *“...such a pay cannot*

sustain people in the jobs especially in rural areas. In Kampala doctors can do some other Jobs in the evening but in the village there is no much you can do unless you set up your own clinic. But it also requires capital”. The key informant respondents also reported that the work load was too high and unmanageable at the districts as echoed by one who said “Once you are alone in a hospital that needs four or five doctors. What do you expect?”. The factors attracting the health workers to the NGOs include remuneration in terms of sufficient allowances and a better transfer policy of the health workers. However housing and accommodation although significant tends to favor stay in the district other than attracting them to NGOs. The factors attracting the health workers into self-employment include self-administration without transfer and working near home, (by choice). One Key Informants reported “*that time we had a Chief Administrative Officer who never respected us. Also the politicians were not friendly*”. The factors attracting the health workers outside the country among other include: opportunity for

further studies, higher pay level, better relationship with administrators, and housing for health workers and good education for the children in a more developed world.

We asked the health workers what could be done to keep them in their current job for a longer time. Majority (57.3%) reported that increment of salary would keep them longer while 28.1% said improving the condition of service in would do. A summary of the responses is shown in table 9. Improving the general condition of work was of paramount importance to the health workers. This was evident during the Key Informant discussion as the respondents said ‘*how do you work in conditions where you have no equipment, no medicines, no nothing.... Even if you were given the money*’

Improving the general condition of work was of paramount importance to the health workers. This was evident during the Key Informant discussion as the respondents said ‘*how do anyone work in conditions where there are no equipment, medicines, and nothing to allow for high through-put.*

**Table 1: Distribution of the sampled health workers by cadre and by districts**

		Cadre					Total
		Doctors	Clinical Officers	Nursing officers	Enrolled Nurses	Others	
District	Bushenyi	15	16	12	13	11	67
	Ntungamo	3	6	6	25	4	44
	Rukungiri	9	9	13	12	6	49
Total		27	31	31	50	21	160

**Table 2: Social demographic characteristics**

Variable	Participants	Frequency	Percentage
Cadre	Medical Doctor	27	16.9
	Clinical Officer	31	19.4
	Nursing officer	31	19.4

	Enrolled Nurse	50	31.3
	Other	21	13.1
Education Level	Master degree	2	1.3
	Degree holder	28	17.5
	Diploma holder	57	29.4
	Certificate	122	57.1
	Others	1	0.6
Age	21-30	100	62.5
	31-40	51	31.9
	41-50	7	4.4
	51-60	2	1.2
Sex	Male	72	45.0
	Female	88	55.0
Current position	District health officers	5	3.1
	Superintendents	4	2.5
	Heads of Units	13	8.1
	Medical officers	13	8.1
	Other Health Workers	125	78.1
Marital Status	Married	60	37.5
	Single	100	62.5
Religious Affiliation	Protestant	68	42.5
	Catholic	74	46.3
	Moslem	18	11.3
	Others	4	2.1
Time spent in service			
	6 month to 12 months	42	26.3
	13 months to 24 months	49	31.7
	25 months to 60 months	36	22.5
	more than 60 months	30	18.8
Where one worked before coming to the District	Other public service	19	11.9
	PNFP facility	17	10.6
	PFP facility	30	18.8
	self employed	1	0.6

**Table 3: Intentions to leave among the health workers**

Considered leaving the job?		No.	Percentage
	Yes	94	56.7
	No	66	43.3
Intention to leave by Cadre	Doctor	15	56.1

	Clinical Officer	19	47.4
	Nursing Officer	13	44.0
	Enrolled Nurse	18	35.3
	Other	5	23.8
Where would you like to go	Private facility	43	26.9
	Community based NGO	82	51.3
	NGO hospital	18	12.1
	Ministry of Health headquarters	35	21.9

**Table 4: Factors leading to intentions to leave by percentage**

Factor	Frequency	Percentage
Poor/no equipment	24	15.0
poor infrastructures	39	24.4
Low pay	57	69.4
Slow decision making	29	18.1
Lack of opportunity for career dep't	21	13.1
Little or No allowances	43	57.3
Poor conditions of service	35	28.1
Heavy work load	12	6.1
Lack of transport means	21	10.7
No promotions	15	7.7

**Table 5: Preferred destination and factors that attract the health workers**

		Frequency	Percentage
Where they would like to go	Self-employment	19	27.5
	NGO	32	46.4
	Ministry of Health H/Quarters	13	18.8
	Out of the country	5	7.3
What Attracts the health workers	Better equipment	24	15.0
	Improved Infrastructures	39	24.4
	High pay	47	29.4
	Fast decision making	29	18.1
	Further career development	21	13.1
	Fast promotions	15	7.7

**Table 6: Retention factors**

		Frequency	Percentage
What could keep them in job	Increment of salary/living wage	93	57.3
	Improved conditions of service	55	28.1
	Increase number of staff	12	6.1
	Good transport means	21	10.7
	Faster promotions	15	7.7

## Discussion

A major finding of this study was that 43.3% of the health workers from various cadres (Table 1) had intentions to abscond from their jobs (Table 3). These intentions to leave were found to be more pronounced among the higher cadres including the doctors, clinical officers and the nursing officers. A considerable proportion of the existing health workers reported to have considered leaving their jobs in the past 6 months. Apparently, intentions to leave were found to be higher among the doctors, which actually transforms into actual leaving, than any other cadres of health workers. It is likely that such intentions may exist among other cadres due to job dissatisfaction but may not result into actual leaving because of fewer opportunities compared to the doctors. Nevertheless this tip of iceberg phenomenon has negative consequences to the productivity of the health workers (21, 40-41). In a similar study done among physicians in hospitals in Uganda, intentions were found to be lower than expected (42). This is not surprising since most hospitals in Uganda are located in semi urban areas where living conditions are different from the rural setting where this study was conducted. The age profile of the health workers could reflect a high turnover with young health workers replacing old ones who leave. The mean age of the health workers was found to be 28 years (Table 2). The effect of this is loss of experienced health workers and replacing them with fresh inexperienced school leavers (43-44).

In this study, six factors (Table 4) which may lead to intentions to leave the workstation by the health workers included: poor pay and lack of

allowances, poor working conditions, lack of equipment, and lack of transport means. Other factors mentioned were the heavy work load, lack of promotions, and lack of opportunity for career development. One major way of competing for

labour is by increasing staff remuneration (42). The internal labour market and the International labour market for health work force have a very stiff competition. This calls for payment of higher wedges in order to attract and retain health workers. This fact was reemphasized by Masganaw et al, (41) who reported that increasing remuneration alone by a half could double the length of stay of the health workers in Malawi. However, due to the financial constraints of the public service in Uganda, this is generally difficult for the public sector. It's apparent that the government has not given the health sector the priority it deserves to be able to keep the health workers in position.

Lack of appropriate transport system is not only a problem in Bushenyi, Ntungamo and Rukungiri districts but also affects most rural parts of Uganda and Africa as a whole. It may not be easy to eliminate this constraint in a short term but its effects could be reduced by paying the health workers a "hard to reach allowance" as a top up. The Global Project for Health (46) described the importance of initiating hardship allowance in the retention of rural health workers in Africa. A study in Malawi had similar findings and suggested the provision of cheaper forms of transport like motorcycles can also assist. Such an incentive was also found to be very instrumental in retention of rural health workers (47).

One aim of this study was to examine the level of support supervision given to the health workers which we thought could be playing a greater role in retention of the health workers. It was striking to know how little support supervision these health workers were getting especially those in the remotest areas. Nevertheless many of the health workers acknowledged that they were getting some on job training provided by the district health office and ministry of health as continuing professional education. But overall the level of support supervision received by the health workers was considered to be inadequate. A similar finding was described by Malcom and Shyam (48) reported in Ghana that very few supervisors carried out their duties as required which affected health service delivery.

The living and working conditions of the health workers were describe to be rather below the required standard. Housing and access to electricity are still inadequate especially in the remote areas. Kotzee and Couper (49) had a similar finding in Kwazul Natal province of South Africa. They thought such poor leaving conditions were responsible for poor retention of health workers in this region. Unavailability of equipment and medical supplies also came out as one of the important push factors for health workers. Lack of access to equipment, supplies, and drugs seriously comprises the performance of the health workers and frustrates them. This clearly came up in the qualitative interviews with the key informants as one of the reasons why health workers leave public service. Other studies have found out that lack of equipment is one of the main reasons why health workers leave their countries to go to the developed world (20, 50-51).

Migration of health workers leaves heavy work load to those that are left in place. Also highlighted were high patient loads, lack of specialists and positions that are not filled for years. Work over load was also blamed on absenteeism and “moon lighting”. As reported by one of the Key Informants, some health workers don’t appear on duty for weeks or months. Some come for a few hours and go to their clinics leaving the work burden to one or two health workers left behind. Other studies have equally described that health workers’ workload in other parts of Africa are unbearable (37, 52-53). The health workers are rarely given chance to study to develop their career, yet the work load gives them no time to engage themselves in distance study programs. Ruttenberg and Carolyn (54) in Namibia found that doctors that were engaged in distance study program of any sort stayed longer on job compare to their counter parts that were not engage in any study program.

Analysis of the factors that attract the health workers to their desired destinations (Table 5) showed that the most important factors included good pay, better housing, career opportunity and better education for their children. Addressing

some factors may be beyond the scope of the health service managers but may be handled at multi-sector collaboration level for example water supply and electricity (20). For electricity the health managers can provide solar panels as a short term solution and construction of reservoirs for rain water harvest. The problem of schooling could be addressed by paying an education allowance to enable the health workers put their children in boarding schools although this may not be practical for Nursery and lower primary children. The selection of strategies for attraction and retention will inevitably be dependent on resource availability and prioritization of health by the government. The important point is to be able to use available resources in a targeted and effective way based on understanding of the retention factors (42). There were differences relating to age and sex of the health workers which could act as retention or push factors according to (56). However in this study these factors did not come up to be significant.

Secondly it was acknowledged by the Key Informants that it is very difficult to fill posts that became vacant in the districts especially in the remote facilities as young health workers who are trained in urban areas are reluctant to render services in these areas. This is aggravated by cumbersome and hostile political environment in some districts. Similar findings were reported by Janet Kathyala and Kevin Storey in their study conducted in Malawi (57). This means the apparent shortage of professionals may not be temporary as it may take long to overcome some of these hindrances. The biggest challenge seems to be attracting new health workers especially the doctors who can stay for a reasonable longer period in the rural districts. As observed by the key Informants, even after recruiting doctors in the rural districts, most of them move out at the first opportunity. Most of the doctors were still in place because their opportunity had not yet come as opposed to the lower cadres who have less urge to leave. In addition, health workers who are only in the post because they have not yet found a way out are less likely to be providing the best quality of their services or putting the patients’ needs first

(56). No wonder many completed and well equipped theatres at Health Centre IVs in the districts are not operational even where doctors are present (24-26).

A positive retention factor (Table 6) for some of the health workers is that the decentralization system has placed them near their home area where they want to be. Here they are kept in touch with their relatives and friends. Also life is relatively cheap in the rural district especially in terms of food. A similar finding was described by Timyan, Brechin et al. (58) who conducted their study among rural health workers in South Africa. They found out that it was easier to keep worker deployed in their places of origin. (59) Also found that most health workers in rural places like it because it was less expensive to stay and work in the rural areas. The strong attraction to other areas of labour market “pull factor” also need to be addressed if managing retention and push factors is to have any meaningful results. What ‘pulls, the health workers to their destination, such as a higher pay, career opportunities, good education for the children and entertainment should be provided here to reduce the forces of attraction (the ‘pull’). This goes hand in hand with the provision of better accommodation, equipment and technical support to the health workers.

The limitation recorded in this study included? The turnover rate of health workers was difficult to establish because of lack of good data on staffing in posts at the beginning of each year and the numbers of leavers and those who join. This would better be studied by a longitudinal study for longer period. Some KI selected were not found, although they were replaced it is likely that we could have missed some unique information we would have got from them.

## Conclusions

From the ongoing discussion we can conclude the following: The factors found to be important in leading to intentions to abscond among the health workers include poor pay and lack of allowances, poor housing conditions, lack of electricity, lack of equipment, and lack of transport means. These are

the main factors that were found to be significantly associated with intentions to abscond duty and leave the districts although other factors included heavy work load, lack of promotions, and lack of opportunity for career development were also mentioned. Again, a large proportion of the health workers had intentions to abscond from their jobs and leave the districts. These intentions to leave were more pronounced among the higher cadres including the doctors, clinical officers and the nursing officers. Finally the important strategies to be put in place to attract and retain health worker in the districts include improving on their pay, improving on the housing, career opportunity, better education for their children and extending electricity supply the health facilities.

## Recommendations

The following recommendations are drawn from the findings of this study as a way of reducing the attrition of health workers from the districts: The Ministry of health together with the ministry of public service should advocate for improvement of remuneration of health workers in order to increase retention of skilled manpower; the Ministry of health together with the district local governments should introduce hardship allowances as a motivator for people working in rural remote areas. The Ministry of health together with the district local governments should work towards improving the accommodation of health workers in the health facilities and provision of adequate medicines and medical equipment. A healthy political environment and technical supervision need to be combined with adequate on job training and opportunities for further study should be ensured by the district local governments. All said, the government and policy makers can no longer ignore the categorical evidence from this and other studies that staffing of health units and, the Health Service delivery in turn, in the rural districts is in a sorry state and needs urgent attention. One area recommended for further research is the effect of “moon lighting” on service delivery and value for the money paid to those who practice it.

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### Reference:

1. EQUEMENT. "Human resource planning needs in the context of the HIV/AIDS epidemic, findings from three country assessment covering Kenya, South Africa and Zimbabwe." Arlington Advance Africa. 2006
2. World Bank. The Millennium development goals for Health. W. Bank Wash' DC. 1992; **34**: 71-72.
3. USAID. "Towards universal access: scaling up priority HIV/AIDS interventions in the health sector : progress report 2009. Geneva: ." Rutledge publications 2009; **6**: 43-44.
4. WHO. "The call to action on human resource motivation to save women and children." A & M publications 2006; **45C**: 146-148.
5. MHS- UK. "Last straw. Explaining the MHS Nursing Shortage." 2003; **10(3)**: 231-235.
6. MSF teams. "Confronting the health Care worker crisis to expand Access to HIV/AIDS treatment's Experience in South Africa." MJA 2002; **27**: 63.
7. USAID. "Responding to the Health worker Force Crisis." Int Health Hum Right, 2003; **6**: 2.
8. Kenya MoH. " Fundamentals of social research methods. 2005; 38(40)101-102." Lansdowne, Juta and company limited.
9. Delanyo T. Job satisfaction, stress, physical health and Retention. Health. Nairobi, international conference. 2003; **2A**: 46.
10. World health report. Bold solution to Africa's health worker shortage Human resource. 1999.
11. Capacity project. "Satisfied workers, retained workers: Effects of Work and work environment in Home Care workers' Job satisfaction, stress, physical health and Retention. 2002.
12. Global Project for Health. "Satisfied workers, retained workers: Effects of Work and work environ in Home Care workers' Job satisfaction, stress, physical health and Retention." 2004.
13. Malawi MOH. "Attracting and retaining Nurse Tutors in Malawi." MJA 2005, **37(4)**: 75.
14. Nakayiwa S, Luzanye D et al. "Desire for children and pregnancy risk behaviors among men and women in Uganda. Kampala, Uganda." AIDS Behav 2006; **10(41)**: 95.
15. Ntozi P and Kabera B. "MHS health work Shortage " NEJM 2009; **22(2)**: 116.
16. Abdel RQ. "Patterns implication and mitigating strategies." Carolina Publications 2006; **23A**: 44
17. Agyei W, Simpson H, et al. "Fertility and family planning in Third World. A case study of Papua New Guinea." Croom Helm, 1994; **84**: 35-36.
18. MOH. Explaining the MHS Nursing Shortage. M.OH. Kampala: **2008**; 12.
19. Health Action AIDS (2007). "Bold solution to Africa's health worker shortage." Human resource devel'nt journal 3(1) 68 – 97 2007; **3(1)**: 68-70.
20. Keijuka E. "Uganda Health Workers retention scheme." EAMJ 1992; **83**: 124-126.
21. International Medical Advisory Panel. "Satisfied /retained workers. ." Fed. Med 2000; **56**: 32.
22. Catwalk VK. Contraceptive use among in and out of school adolescents in rural South Western Uganda. C. Health. MUST, East Afr Med J. 2006; **83(1)**: 18-20.
23. Bushenyi LG. Health inform management system. Health. Bushenyi district. 2008; **208(3)**: 12.
24. HMIS Ntungamo district. Human resource data. Health. Ntungamo district. 2008
25. HMIS Rukungiri district. Health management information system. Haealth.. 2008.
26. Ongubo K. "Staff transfer and management in West Nile. ." DISH publications, 2007

27. Orachi O. "Where there is no doctor." *Public Admission and development* **2005**; **20**: 77.
28. Dambisya R. "A Catholic Perspective on Population issue." *Uganda health bulletin 1984'* **7(4)**: 123-125.
29. Okudi E and Deinenger G. "Health worker Crisis in Kenya: the Dilemma of FBOs. 2000
30. Ogada S and Ochoro D. "Uganda monitoring and evaluation management serv " Michel group. 2000
31. Dominick J and Kurowski B. "Investigating Role and functions of clinics supervisors." *health international Publications*. 2000
32. Hanyaro C. "Performance related pay policies for Government." *Sex Transm Dis* **33**: 350–356 2003; **33**: 142-144
33. Semwanga J and Ddambe M. "Integration of family planning and VCT, PMTCT and ART programmes in Kampala Uganda. ." *Makerere institute of social research* 2004; **34C**: 45
34. Lehmann U. "Investigating Role and functions of clinics supervisors in three districts in the Eastern Cape Province HST Technical report." *Health system trust* 2002; **23**: 53.
35. Omar N. "Work force contextual influences on reproductive health service use in Uttar Pradesh, India. ." *Stud in Family Plann* 2006; **33(4)**: 65-68.
36. Martineau T and Martinez J. " "Rethinking human resource and agent for the millennium" ." *Health policy plan* 1998; **13 (4)** 345 – 358.
37. Martineau T and Martinez J. " "Rethinking human resource and agent for the millennium" ." *Health policy plan* 2001; **13 (4)** 345 – 358.
38. Kolehmaine A. "Health work retention and migration in west and South Africa." *Ousu Publications*. 2005
39. Wayn State University sample fomulae for calculation of population proportion. Sen September 2015; [http://www.math.wayne.edu/~menaldi/teach/others/Sta1020/ElemStat\\_Triola.pdf](http://www.math.wayne.edu/~menaldi/teach/others/Sta1020/ElemStat_Triola.pdf)
40. Batwala U "Explaining the MHS Nursing Shortage Kampala." 2006; **3**: 23.
41. Hagopian A. "Health worker flight from sub Saharan Africa: Patterns implication and mitigating strategies. ." *Health resources and Service administration* 2006; **186**: 46-47.
42. Luboga S. "Retention of physicians in Ugandan hospitals." *BJM* 2006; **45A**: 34-36.
43. Olaitan A, Madge S, et al. "Inequitable distribution of doctors: Can it be solved?" *Brit. J. Family* 1996; **22C**: 85.
44. UDHS. "York calls to commitment, linking HIV/AIDS care and staffing." *Rutledge publications* 2004; **10**: 4.
45. Masganaw Y, Fantahum R, et al. "Attracting and retaining Nurse Tutors in Malawi." *Longman Publications* 2008; **6(3)**: 43-46.
46. Global Project for Health. "Satisfied workers, retained workers: Effects of Work and work environment in Home Care workers' Job satisfaction, stress, physical health and Retention." 2004.
47. Lutao L. "Confronting the health Care worker crisis to expand Access ".2006.
48. Malcom P. and Shyam T. "Investigating Role and functions of clinics supervisors." *health international Publications* 2008; **46**: 67-68.
49. Kotzee C and Couper B. "Explaining the MHS health work Shortage Explaining the MHS Nursing Shortage." 2002; **22(2)**: 116-123.
50. Kibuka M, Bagenda F, et al. "Uganda monitoring and evaluation management services." *MJA* 2002; 2002; **80**: 182-184.
51. Moore AR and Amey F. "Rethinking human resource for health resource." *Health policy plan* 2008; **13 (4)** 67-69.
52. Ross A. "Effective motivation. Getting others to do something because they want to do it; the Art Science and practice." *Longman Publications* 2004; **97(12)**: 171.
53. Pierre N. "Human resource planning needs in the context of the HIV/AIDS epidemic, findings from three country assessment covering Kenya, South Africa and Zimbabwe, " *Arlington Advance Africa* 2005;**49**: 53.
54. Reynolds HBJ. et al. "Performance related pay policies for Government" *Sex Transm Dis* 2006; **33**: 62.

55. Ruttenberg N. and Carolyn B. "Performance related pay policies for Government-Washington DC Population council." *AEJM* 2004; **34**: 66.
56. Jones EF. "Effects of Work and work environment in health Care workers." *MJA* **68**: 2004; 223-224.
57. Kathyla and Kevin. "Attracting and retaining Nurse Tutors in Malawi." 2005.
58. Timyan J, Brechin G, et al. "More than a problem of distance." West view Press 2006;**44**: 26.
59. Ezati E. Health work retention and migration in East and South Africa. A Case study of Vurra sub county in Arua District. Unpublished thesis. Kampala, MUK. 2001;**MPH**.

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