SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCES

ADDIS ABABA UNIVERSITY

Assessment of the major factors for health workers' motivation for staying at peripheral level of the health system in government health service delivery institutions in Oromia Region.

By

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A THESIS SUBMITTED TO THE SCHOOL OF PUBLIC HEALTH, ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH

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Addis Ababa, Ethiopia

June 2011

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Statement of Approval

This study conducted by Girma Debela Geresu, on the topic "***assessment of the major factors for health workers' motivation for staying at peripheral level of the health system in government health service delivery institutions in Oromia Region"*** is original work of the principal investigator Girma Debela Geresu. We recommend that this original work is suitable for the award of degree of masters of public health.

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Acronyms

AA	Addis Ababa
AOR	Adjusted Odds Ratio
COR	Crude Odds Ratio
DHOs	District Health Offices
EtB	Ethiopian Birr
FGD	Focus Group Discussions
FMoH	Federal Ministry of Health
HB	Health Bureau
HEWs	Health Extension Workers
HFs	Health Facilities
HRH	Human Resources for Health
ORHB	Oromia Regional Health Bureau
THOs	Town Health Offices
UK	United Kingdom
USA	United States of America
WHO	World Health Organization
ZHD	Zonal Health Department

Acknowledgements

Above all, I would like to raise my hands with my heart to thank God not only for giving me a life and health but also for safeguarding always.

I would like to express my gratitude to my advisor Prof. Damen Hailemariam for the efforts he made in the initiation of this project and the productive comments he gave me in developing the manuscript and in realization of the material. Thank you deep deep deep down from my heart.

I am greatly indebted to the School of Public Health, Addis Ababa University, for the many things that I attained to reach this point including financial support.

I would also like to thank Tulane University, particularly Dr Oluma Yosef for the invaluable and continuous support throughout the study period.

I am also thankful to my wife Sr Asegedech Belachew and my lovely children who shared their lives to support me throughout the study on every aspect including prayer and offering practical inputs to my study.

I would also like to extend my sincere appreciation to Nyala insurance for the fast response at the time of accident.

Oromia Regional Health Bureau, Staff of the RHB particularly Ato Lemma Gutema and Ato Tujuma Guta deserve special thanks.

All study participants, data collectors, and supervisors deserve great thanks.

Last but not least, I would like to thank those who encouraged and helped my family and me throughout the process.

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Abstract

Background: It's important to note that human factors, socioeconomic strata, labor market demand and supply, policies and procedures play role in human resource management. The challenges of human resource management have many dimensions stretching from recruitment to separation. One of this is the prediction of human motivation factors.

Human resources for health are always the center point of health care. The quality of care depends on the number, knowledge, skills and commitment without forgetting the importance of other resources by which to serve. Low health workers density is very detrimental to health outcomes. That is why supply and retention strategies are being issues of critical importance.

Objective: To assess the major factors for health workers' motivation for staying at peripheral level of the health system in government health service delivery institutions in Oromia region.

Methods: cross-sectional descriptive study using quantitative approach supplemented with qualitative research. Structured questionnaire, focus group discussion/key informants' interview and record review were used.

Results: Age, marital status, location of the health facility and compulsory service year, were factors having strong association with the length of stay in peripheral health facilities. Other pull and push factors were also identified.

Discussion, conclusion and recommendation: As assessed by this study, those aged above 30 years, married couples, and those with longer service years motivated to stay longer than the younger, singleton and junior counterparts respectively. Proprietorship, achieved education, expected sponsorship and /or family responsibility could be the cause of settlement. Those who dispelled early might left intentionally to arrange for further studies, to search for better pays and to head marital plans. Frustrations from extended service years ahead and discomforts from lack of facilitated conditions for standard could be a cause of exit from posting for senior professionals as do in other African countries.

Human resource policies, guidelines and procedures should pay special consideration to these center pieces of the health system in development and application of sensible interventions to remove bottlenecks of HRH management thereby monitoring and evaluation of the outcomes.

I. INTRODUCTION

1.1.**BACKGROUND**

The human resource is a vital asset of the health care system (1). Since the health care delivered largely is dependent on the knowledge, skills and motivation of this important resource, increased attention is being focused globally on human resource management in health (1- 4).

The health system of any country consists of professionals from different disciplines. Doctors, nurses, midwives, pharmacists, accountants, health economists, public health specialists and others (1, 4-8) as is a team function. A knowledgeable and committed leadership that can inspire and support others in practicing their expertise to the full potential is required to retain staff and achieve results (1, 6, 9, 10).

1.2. STATEMENT OF THE PROBLEM

Health workforce shortage is a global problem (1). Ethiopia is one of African countries with acute shortage of health workers (11-23).

As is a reality in poor countries in general and Ethiopia in particular, there was a similar experience in Oromia region with regard to doctors, nurses, midwives and other health professionals.

The resultant reactive response was incentive package proclamation which possesses financial and non-financial benefits with the intention to survive the crisis (13-21, 24-29). Now, it seems human resource retention is more or less achieved connected with business process reengineering and health care financing reforms (30, 31). But the trends of stay at operation and the factors of motivation have not been studied. Because, in order to design interventions that can satisfy average people and last longer, it is important to determine what attracts employees to settle and serve in hospitals and health centers in remote areas and for how long (12, 30, 32, 33).

1.3 JUSTIFICATION

This study aimed at identifying the trends of stay and factors that affect the length of services of doctors and nurses in peripheral hospitals and health centers of the region during 1997 to 2001 EC, thereby generating such information for future use in resolving the constraints of human

resources attraction and retention through encouragement of existing or introduction of new pull factors. The results can also be used as inputs for policy makers in one or the other way. Also It can be considered as an additional information and part of a source document for other studies in the future.

II. Literature review

2.1 The situation of human resources for health

The quality of care in health depends on how well the staffs are knowledgeable, skilful, committed to ethical principles and patterned for the specific level of facility. These even contribute well to the reverse effects of structural and the process constraints that may press on service delivery quality and outcome of the health care (1, 22, 23).

According to the literatures on the subject, Africa bears 24% of the global burden of disease but hosts only 1% of the world's physicians and 3% of the world's nurses and midwives from the estimated 59.2 million health workers in the world and this meagre number was poorly retained and mal-distributed (3, 5, 26).

On the other hand, the lesser the density of health workers, the more the primary care services fall. It is also identified that nations with aggregate densities of health workers are known to have better health outcomes (3, 6). Doctors, nurses and midwives are prominently at the forefront of individual clinical care with the effect distributing widely to the community at large as positive externality of their actions and consumer compliance (5). The aggregated and disaggregated density of doctors, nurses and midwives has a strong and statistically significant relation with maternal and child health services outcomes when weighted by indicators like immunization coverage, and skilled birth attendants and maternal mortality (5) and these are benchmarks for measuring the achievement of health related Millennium Development Goals (MDGs) (12).

Published works strongly highlight that the geographic mal-distribution of health workers is a great gap for the poor countries. This is further complicated by unplanned internal and/or external migration and undersupply from inland production (13, 26). Migration is induced by dissatisfaction, the search for better training, improved wages, better quality of living offered by the host country but this is a serious damage to the health system of source countries (14, 26, 28).

Africa loses its precious health workforce to the UK, Canada and the USA. There is evidence that 11065 health workers of all kinds were permitted for work in UK during the year 2003 from different countries (26, 28).

According to the World Health Organization (WHO) estimates, the migration is bilateral but

unbalanced. Fifty six percent of medical doctors move from developing to the developed world while only about 11 % of the same category move from the developed to the developing world and that of the nurses could even be greater (26, 28).

Besides the actual deprivation of the doctors and nurses-the linchpins of any health system, economic loss pertaining to each professional from Africa was also estimated at USD 184000 (26, 28). Large amounts required to train and retrain other junior doctors who have lost their senior and role models by migration. Importing of foreign experts who need translators also expose to another cost. The other poorly replaced loss is the experience of the migrated physicians who would be teachers and guides for students and junior doctors (28).

Ethiopia's health workers density (0.2 per 1000 population) is by far, below the standard (2.5 per 1000 population)-for achieving the millennium development goals (12, 19). Yet the drainage of required human resource is glaring as depicted in table 1 below (28) for which repellents need to be addressed and potent reversal factors must be identified and instituted.

Table 1. Physicians' migration to USA and Canada by country of origin

SN	***Source country***	***Destination country***		***Remark***
		USA (total)	Canada (total)	
1	Nigeria	2158	123	
2	South Africa	1943	1845	
3	Ghana	478	37	
4	**Ethiopia**	**257***	**9**	*** 200 from AAU**
5	Uganda	133	42	
6	Kenya	93	19	
7	Zimbabwe	75	26	
8	Zambia	67	7	
9	Liberia	47	8	

Source: Hagopian, A. et al 2004

The loss could even exceed these figures by far, but due to the meagre, poor data quality and lack of technological data management systems in developing countries, the exact number of lost

health workforce and its effect on the population is not well documented (3, 26).

Internal migration or more appropriately, staff turnover is induced by dissatisfaction, in search of better schools for their children, family concerns, personal development issues, and civil unrest (9, 13, 19, 20, 24).

The Ethiopian health system had been predominantly run by the public sector until a decade back when private for profit started to proliferate. This centralized system was one of the causes for chronic neglect of the health workers, leading to out migration from the system, pilfering, and demotivation (9, 25). The same applies also to Oromia Regional National State Health Bureau and down its organs (27). The combinations of all these factors were the cause for global and national movements for identification of motivators.

Leaders and managers in health complain that they are caught in centralized human resource management systems, poor incentives, misuse of the existing staffs, and the external pressure that depletes the values that uphold collectively (30).

To this end, encouraging results are being registered. The WHO's Kampala Declaration 'health workers decade' is one major step coinciding with MDGs demand for health workers as a spearhead of achievement (14).

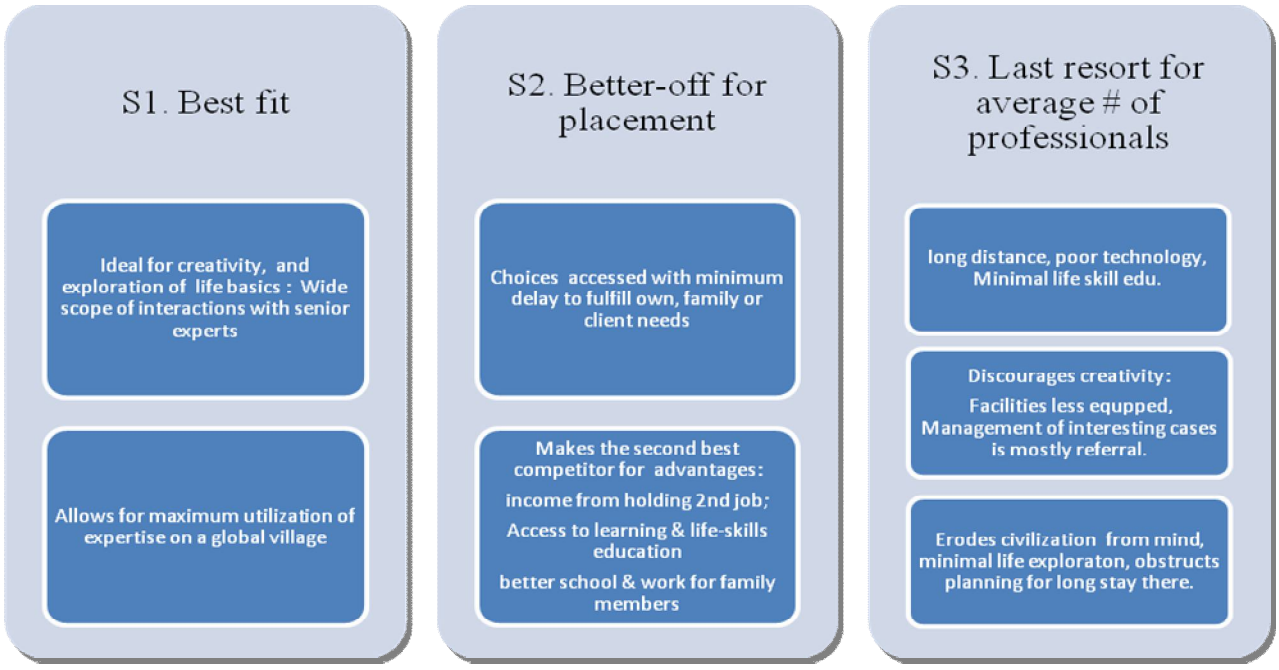
The attraction, retention and satisfaction of an effective, responsive and equitably distributed health workforce in health service organization are the outcome of good human resource management. Employees join and continue to work for the health care organization provided that their expectations are reasonably satisfied (14, 30). In so doing, the identification and implementation of pull factors is vital and must be researched for guiding the development and implementation of effective policies (7, 26).

2.2 The Pull and Push factors

Pull factors are considered to be opportunities for further training and career advancement, the attraction of centres of medical and educational excellence, greater financial rewards and improved working conditions, availability of posts, often combined with active recruitment by prospective employing countries. The push factors are listed as lack of opportunities for postgraduate training, under funding of health-service facilities, absence of established posts and

career opportunities, poor remuneration and conditions of service, including retirement provision, governance and health-service management shortcomings and civil unrest and personal security (26). For the purpose of this study and as put in the RHB's incentive package document, the region can be divided into three spectra. The central zones are spectrum I while the middle and remote zones would be considered as spectrum II and spectrum III respectively. Satisfiers and dissatisfiers could then be defined from these perspectives. The pull factors are satisfiers while push factors are dissatisfiers as in figure 1 and annex 1 table 10.

Figure 1. Explanations for the spectra is as drawn below.



2.3 Satisfiers and Motivators

Satisfiers are things that we need to acquire in order to gratify certain impulses. These are mostly expected from extrinsic sources. Satisfiers might be detailed as policies and procedures, supervision, compensation, teamwork, working and leaving conditions all of which are enablers for motivation to work and the cause of earning and retaining health workers if in place otherwise the reason for departure from organization. That means, availability of these factors attract and bond the personnel with their respective organization while lack of these repels.

Motivation is intrinsic. Poverty and wealth complicate responses to satisfiers and motivators which are reflected by commitment due to intrinsic and extrinsic factors. The poor appears to be

very committed by extrinsic factors than do for the intrinsic factors. It is very challenging to create a motivating environment (7).

A study in Africa describes that all doctors in South Africa, Tanzania, Uganda and Mali mentioned salary improvement is very important for them to remain in rural practice. For the South Africa doctors a better accommodation was another crucial issue while for doctors and midwives in Uganda the next issue as a root cause of attrition was inadequate compensation, poor supervision and drawbacks in teamwork (7). This implies that there is 'no one fits for all' solution and interventions must be context based even when implemented within the same environment.

In summary, the thinner density of health workers contributes directly to increased morbidity and mortality of the population. The fall in life expectancy is also another negative outcome. The world is interdependent. Restriction of health professionals' movement may interfere with human right and limits technological and knowledge transfer. But, immigrants' host and source countries should work together to compensate for the loss in the health system of source countries development of human resources for health so that they can overcome the rising morbidity and mortality, disabilities, and the dropping in life expectancy of their population attributable to weak and reactive health system resulted in partially by migration. Since there is no one and standalone motivation factor that addresses all, explicit investigation and implementation of retention mechanisms must be in place.

This study is designed, therefore, to investigate the trends of stay and factors that affect doctors' and nurses' length of stay at service in peripheral hospitals and health centers of the region during the period of 1997 to 2001, thereby generating such information for future use in resolving the constraints of human resources retention through encouragement of existing or introduction of new pull factors. The results can be regarded as an input for policy makers, human resource managers and planners in health. It can also be considered as an additional information and part of a source document for other studies in the future.

III. OBJECTIVES

3.1. General

To assess the major factors for health workers' motivation for staying (operating) at peripheral level of the health system in government health service delivery institutions in Oromia Region.

3.2. Specific

3.2.1. To review and describe the trend in the length of service for physicians and nurses within public hospitals and health centers of Oromia Region during the period of five years (1997-2001E.C.)

3.2.2. To determine the major factors affecting the length of services by physicians and nurses within public hospitals/health centers in Oromia Region during the study period.

IV. METHODS

4.1. Study Area

The study area was Oromia Region. The region is divided in to 18 adminisrative zones and six zonal status towns. The regional capital is Addis Ababa. Each zone is divided into districts. (20).

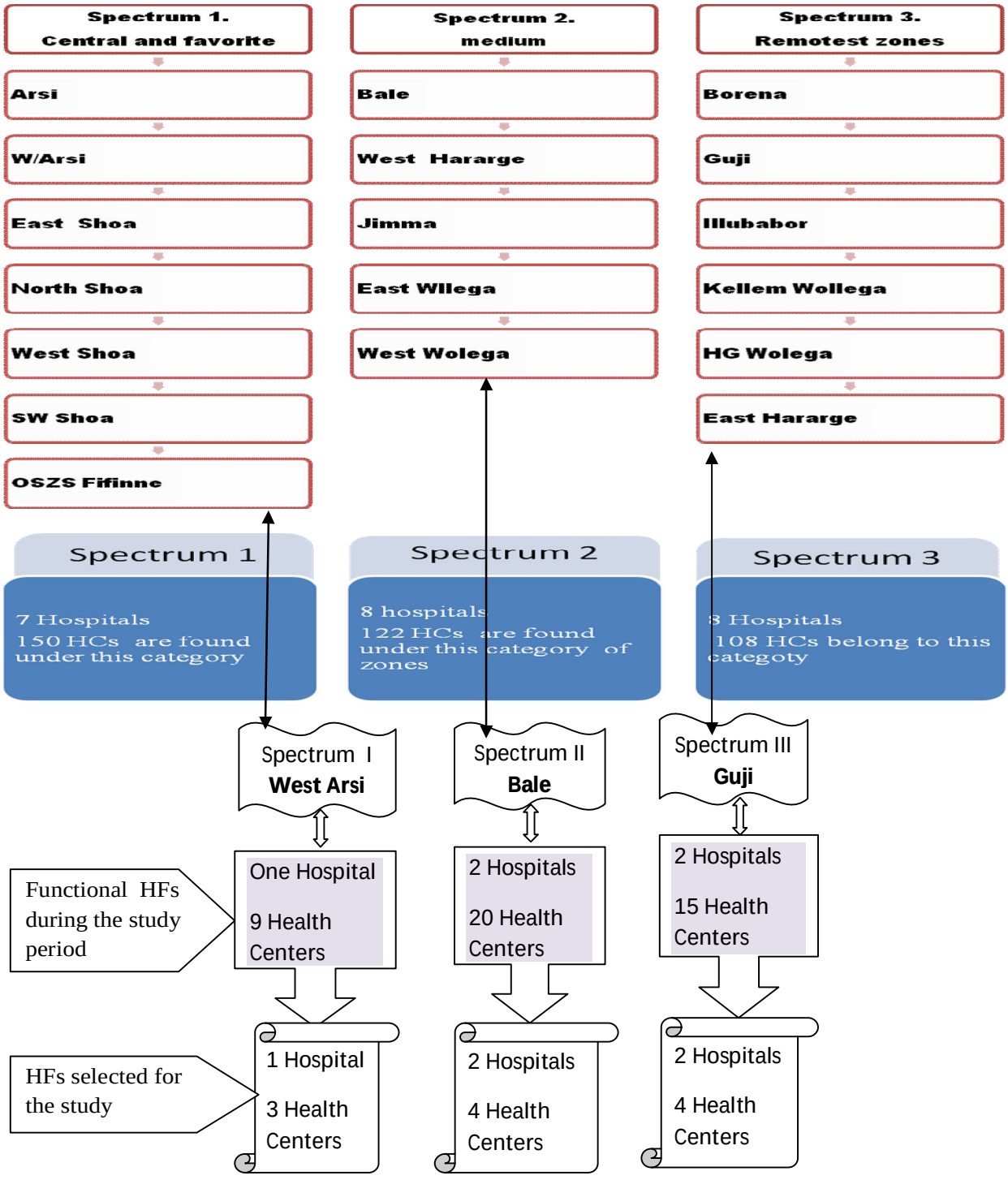
As per the 2007 national population and housing census, the region has a total population of 27,158, 471 (13,676,159) males and (13,482,312) females) nearly in a one-to-one male to female ratio. 23,788,431 (87.59%) of the population in the region reside in rural while the rest 3,370,040 (12.41%) is urban dweller. There were 23 different level hospitals, 380 functional type 'A' or fully fledged and type 'B' (nucleus or developing) government owned health centres in the zones and administrative towns (27, 32).

The human resources for health amounts to 23,000; putting supportive and technical staffs together (15-18, 20, 33).

For the purpose of this study, the region was classified into three areas by the spectrum of remoteness: central, medium and peripheral. But, there is no definite boundary between the different spectra. A single zone may share all the three characteristics. To avoid the lengthy list of pieces; the dominant characteristic was assumed as to where the area belongs as depicted in figure 2 below. Three zones, W/Arsi, Bale and Guji, one from each division were randomly selected for this study.

Guji zone has a population of 1,412,972 (714,055 males and 698,917 females). Urban residents are 9.4% while the rest 90.6% are rural inhabitants. The zone has 2 hospitals and 15 health centers under government ownership. Bale zone population is 1418864 of which 721679 are males and 697185 are females. The majority (86.1%) reside in rural. There were 2 hospitals and 20 health centers owned and run by government. West Arsi has a population of 1975295 (979414 males and 995881 females) served by one hospitals and 9 government health centers (HCs). Rural inhabitants are 86.0% of the total (21). In all cases many more hospitals and health centers were under construction during the study period. The zones might be classified as central, medium and remote for the purpose of this study.

Figure 2. Division of zones by spectrum of remoteness, Oromia, 2011.



4.2. Study Design

A Cross-sectional quantitative research supplemented by qualitative research and descriptive study on trends on the duration of physicians and nurses in peripheral health facilities in Oromia.

4.3. Source and Study Population

Health workers, supervisors, managers/administrators, in health sector in Oromia Region were the source population. All health care workers in the selected health facilities were taken as the study population.

4.4.Study Subjects

All physicians and nurses working in the selected health facilities were the study subjects.

4.5. Sample Size

As noted in figure 2 above; there were 8 hospitals and 108 health centers in the peripheral zones of the region. The medium zones consist of 8 hospitals and 122 health centers. The central zones contain 7 hospitals and 150 health centers. Altogether, the region had 23 hospitals and 380 health centers operating under government ownership. This number does not include a great deal of hospitals and health centers that were under construction during the study period.

The sampling unit was health facilities. First one zone from each spectrum was assumed. Accordingly West Arsi from Spectrum I, Bale from Spectrum II, and Guji zone from spectrum III were randomly selected. From the selcted zones, all health facilities were identified by type. Then, available hospitals and four health centers from each spectrum, (three from spectrum I) were purposively selected as in figure 2 above. Table 2 shows the lists of respective facilities.

Then, all physicians and nurses (all type) working at these health facilities were selected to be study subjects. Additionally, the heads, the personnel officers and the technical coordinators, one nurse and one physician/health officer/clients participated in the focus group discussion/key informants' interview in each spectrum. Therefore, all available physicians and nurses (310 professionals) from the selected health facilities participated in the quantitative study. Sixteen FGD sessions with each group having 5-8 members/key informants interview involving 86 individuals were conducted. Altogether, a total of 396 participants involved in the study.

Table 2. Study units by spectrum of remoteness and respective zone, Oromia, 2011.

No	Spectrum	Zone	Facilities	Remark
1	One	West Arsi	Shashemenne Hospital	
			Shashemenne HC	
			Adaba HC	
			Kofele HC	
2	Two	Bale	Goba Hospital	
			Ginir Hospital	
			Robe HC	
			Bidire HC	
			Delomena HC	
			Angetu HC	
3	Three	Guji	Negele Hospital	
			Adola Hospital	
			Wadera HC	
			Borie HC	
			Herbora HC	
			Adola HC	

4.6.Sampling method

The study was proposed to be conducted using both quantitative and qualitative techniques.

Simple random sampling was used to identify the facilities to be studied after the region was divided into sub spectra by degree of remoteness. From each spectrum one zone was selected purposively. Then the facilities in each selected zone were identified and the sample units selected purposively. From the facilities selected for the study, the health workers were sub grouped. And from the group, the physicians and the nurses were selected. Due to their limited number, all the physicians and the nurses in the selected facilities were included in the study.

4.7. Data collection procedures

The quantitative data were collected using structured instruments prepared for this study. The questions were pre-tested for consistency and readjusted for minor comments from the field practice. Translation was not required since at least first degree level health professionals were hired for data collection and the respondents were also doctors and nurses.

Record review at the Regional Health Bureau, Zonal Health Departments, District Health Offices and Health Facilities level was conducted using structured checklist.

FGD/Key informant interview was conducted using structured questions. The audiences were selected from ZHDs, Hospitals and HCs comprising managers, professionals, personnel officers and clients where necessary. This part was conducted by the principal investigator after discussion with facility heads for facilitation.

Three supervisors, one from each zone, and sixteen data collectors, one from each health facility were hired for the duration of the field work.

Data quality and data cleaning:

- ✓ Health officers/ professional nurses were hired for the project data collection period.
- ✓ The supervisors and data collectors were given appropriate training for one day.
- ✓ Instruments were pilot-tested before implementation, with direct observation of the PI at similar level environment and amended where required.
- ✓ Ten percent of the quantitative data were collected by the PI for quality control purpose.
- ✓ Close supervision and daily cross checking was conducted.
- ✓ Double entry system was employed for safety of record quality during data entry and analysed accordingly.
- ✓ Qualitative data was collected by the PI.

4.8. Measurement:

The average length of stay of physicians and nurses from selected health facilities was correlated against the personal characteristics and other factors of motivation and attraction already offered by the Regional State Health Bureau and by the Federal Ministry of Health were also assessed. The factors of concern the respondents produced during data collection were also analyzed.

4.9. Inclusion and exclusion criteria.

- **Inclusion:**

- Physicians and nurses currently working in selected hospitals and health centers and have at least been working at the respective health facility for the past six months prior to the study. Other key personnel/clients were included for the FGD/key informants' interview.

- **Exclusion:**

- Staffs not selected for in-depth interview or FGD were excluded.

4.10. Variables

4.10.1. Independent

Age, sex, income level, developmental setting, religion, marital status, position, in-service training, top up, professional allowance, provision of residence, strict supervision, workloads, under funding of the health facility, human resource management, post basic training, post graduate studies, job security.

4.10.2. Dependent

Length of stay at service area

4.11. Analysis

The data were entered and analysed using SPSS version 16.0 Frequencies, proportions /percentages, and Chi-square were used where necessary to analyze the quantitative data. Qualitative data items were analysed thematically and transcribed accordingly. Binary logistic regression was used where necessary to check the strength of association of variables.

4.12. Ethical considerations

After approval and permission to conduct the study was secured from Institutional Research Board of AAU, MF, official letter from the SPH to the Regional Health Bureau was obtained. RHB's letter was submitted to the zones and health facilities. Written and Verbal consent at spot between each data collector and the informant was also mandated.

4.13. Operational definitions

1. Pull factor: any factor that attracts the health workers toward or helps to remain in the area.
2. Push factor: any factor / reason for which the health workers leave the environment.
3. Nurses: for the purpose of this study includes degree holders/ clinical nurses and midwives in the health care system
4. Spectrum 1: Category most suitable for employees to serve without difficulty for self /family or for service provision.
5. Spectrum 2. That part of the region where employees feel contented with, to go and serve, even when the pull factors are minimal or with maximum tolerance to the push factors.
6. Spectrum 3. Can be explained as a non preferred environment by employees to go and serve unless there is a reason to go. The reason can be a kick or carrot.
7. Left: represents individuals who departed from the organization without endorsement.
8. Health workers (Health workforce): in this document refers to trained and accredited professionals.
9. Colleagues: staff not in a leadership (management) position currently
10. Attrition: Resignation from job or position particularly outside expected time/procedures.
11. Retention: retain or preserve for a certain period of time at least for a legally provided length.

V. Results

5.1. Response rate

A quantitative study supplemented by qualitative study and record review was conducted from 20th Oct 2010 to 15th March 2011 in sixteen health facilities from southern part of the region. A total of 396 health professionals and human resource personnel/clients from the selected public health facilities and administrative health institutes were participated in the study. Of the total study participants, 86 participated in focus group discussion/ key informants' interview.

A structured questionnaire was used to interview 310 physicians and nurses of whom 302 were complete making the response rate 97.4%. The rest 8(2.6%) were discarded due to incomplete responses to core questions.

5.2. Socio-demographic characteristics of respondents

As depicted in table 3 below, age group <=30 years covers a relatively larger portion 166(55%) of the respondents. Females out number males 179(59.3%) and with regard to religion, 138(45.7%) were orthodox Christians while 3(1%) was not affiliated to any religion.

The majority 165(54.6%) were married while 127(42.1%) were single. In relation to the ethnic composition of the study participants 65.2% were Oromo. As to educational level, 218(72.2%) were diploma holders. The majority 158(52.3%) of the respondents had urban background and the greatest majority 219(72.5%) were currently hospital staff. Many of them 171(56.6%) had work experience of 5 years or less. About two-third 188(62.3%) reported their monthly income was between 1001 and 2500 and very few 4(1.3%) earn more than 4501.

Table 3. Socio-demographic characteristics of respondents, Oromia, Ethiopia, 2011

Variables	Category	N	%
Age	<=30 years	166	55.0
	31 years and above	136	45.0
Sex	Male	123	40.7
	Female	179	59.3
Religion	Orthodox	138	45.7
	Muslim	63	20.9
	Protestant	88	29.1
	Catholic	5	1.7
	Wakefeta	5	1.7
	No Religion	3	1.0
Marital status	Single	127	42.1
	Married	165	54.6
	Divorced	7	2.3
	Separated	2	0.7
	Widowed	1	0.3
Ethnicity	Oromo	197	65.2
	Amhara	78	25.8
	Tigre	8	2.6
	Guraghe	11	3.6
	Gedeo	4	1.3
	Other	4	1.3
Level of education	Diploma	218	72.2
	First degree and above	84	27.8
Place of upbringing	Urban	158	52.3
	Rural	144	47.7
Qualification	Medical doctor	22	7.3
	Nurse/Midwife	280	92.7
Organization	Hospital	219	72.5
	Health center	83	27.5
Service years	5 years or less	171	56.6
	More than 5 years	131	43.4
Monthly income	<1000br	83	27.5
	1001-2500br	188	62.3
	2501-3500br	24	7.9
	3501-4500br	3	1.0
	4501+br	4	1.3

5.3. Association of factors related to stay at remote health facilities

Age was found to be strongly associated with length of stay of physicians and nurses in their posts at peripheral health facilities (p=0.000). The association remained of the same quality even when other factors cleared out as in table 4a (AOR = 0.079: 95% CI = 0.042 to 0.151).

No difference was observed between males and females on their average length of stay (p=0.879) as shown in table 4a.

Marital status was found to be strongly associated with length of stay when all spectra tested together (p=0.000). It remains strongly associated when other factors cleared out too (adjusted OR 3.819: 95%CI = 1.432 to 5.550).

In spectrum II, there was statistically significant association between marital status and length of stay (AOR= 5.867: 95%CI = 2.432 to 14.154).

The analysis of the same variable for spectrum III was also statistically significant for duration at service of physicians and nurses (P=0.018). The significant remains when other factors cleared out too (AOR = 6.560: 95%CI = (1.257 to 34.243).

Educational level has statistically significant association with length of stay (p=0.000). The association remains strong in crude (COR =0.384: 95%CI=0.222 to 0.664), but no association was observed when other factors cleared out (AOR = 1.778: 95%CI = 0.792 to 3.989).

This study also disclosed that developmental setting has no effect on the length of stay of physicians and nurses in settling to stay longer. That means being brought up in rural or urban was not seen to be statistically significant as a factor for staying longer than others at the operational site for all spectra together (p=0.129). The same finding was true for all the three spectra when treated separately.

Qualification shows association in X^2 test (=0.013), but lost its significance with length of stay of physicians and nurses when other factors cleared out as in table 4a (AOR= 2.403: 95%CI =0.517 to 11.161).

As discovered by this survey, the level of health facility (being in hospital or health centers) does not have effect on the length of stay of physicians and nurses. In both settings, there was a similar observation i.e. there was no statistically significant relationship (p=0.342) table 4b).

Six (37.5%) of the facilities under consideration were from rural setting while 10 (62.5%) were from urban.

Accordingly, for the majority of the study population, 156 (51.7%), their current posting has a reverse effect on their future, while for the rest 146 (48.3%), there was no any influence.

The relationship between facility location and length of service was statistically significant when analyzed for the three spectra together (p=0.000). This factor remains strongly associated even when other factors cleared out as displayed in table 4b. (AOR= 0.347: 95%CI =0.184 to 0.654).

When the same variable was treated separately for the three spectra, statistically significant relationship was observed for spectrum II only (p=0.001). The association remains significant when other factors cleared out for the case in point (AOR = 0.212: 95%CI: =0.058 to 0.769)

Position held in the organization had statistically significant relationship with the length of stay at remote health facilities (P=0.007).

For the majority 222(74.2%) of the study participants, service year expected from public servants was one of the factors that held them in remote facilities to complete their obligation but outside their interest. Compulsory service year had statistically significant association with retention of health workers in remote posting (p=0.000)

Table 4a. Association of individual characteristics of respondents with length of stay of physicians and nurses at service in remote posts, Oromia, Ethiopia, 2011

Variables	Length of stay		COR (95% CI)	AOR (95% CI)
	<=5 years	>5years		
Age in completed years				
<=30 years	135	31	**12.097**	**8.081**
31 and above	36	100	**(7.011-20.871)**	**(4.033-16.193)**
Sex				
Male	69	54	0.799	0.867
Female	102	77	(0.385-1.659)	(0.438-1.718)
Educational status				
Diploma	110	108	0.384	1.778
Degree and above	61	23	(0.222-0.664))	(0.792-3.989)
Marital status				
Single	106	21	**8.172**	**3.789**
Married	63	102	(4.651-14.361)	**(1.773-8.096)**
Developmental setting				
Urban	96	62	1.615	0.561
Rural	75	69	(0.792-3.293)	(0.341-1.246)
Qualification				
Doctor	18	4	2.183	2.403
Nurse	153	127	(0.358-13.314)	(0.517-11.161)

Adjusted for age, sex, religion, marital status, ethnicity, developmental setting, educational level, qualification, organizational setting, effect of org setting, position, monthly income, service years

Table 4b. Association of individual characteristics of respondents with length of stay of physicians and nurses at service in remote posts, Oromia, Ethiopia, 2011…

Variable	Length of stay		COR (95%CI)	AOR (95%CI)
	<=5 years	>5 years		
Level of health facility				
Hospital	130	69	1.139	0.787
Health center	41	42	(0.522-2.489)	(0.377-1.642)
influenced by location of HFs				
Yes	104	52	**2.358**	**2.858**
No	67	79	(1.480-3.757)	**(1.446-5.649)**
Position in the organization				
Not in leadership	104	62	1.515	1.499
In leadership	58	66	(0.785-2.922)	(0.791-2.843)
Monthly income				
<=2500 Birr	154	117	0.934	0.948
>2501 Birr	17	14	(0.225-3.876)	(0.244-3.693)
Compulsory Service year degree of influence				
No influence	27	50	3.419	**0.312**
Low to high	144	78	(1.986-5.885)	**(0.145-0.675)**

Adjusted for age, sex, religion, marital status, ethnicity, developmental setting, educational level, qualification, organizational setting, effect of org setting, position, monthly income, service years

The needs of respondents by the three categories were not identical. Each has own dominant need and in some cases the needs overlap. For respondents in Spectrum III, lack of important infrastructures like means of communication (22.4%) was the dominant negative effect of remoteness among others. Strong social attachment was a factor favored by 5.3% of the respondents there.

For those respondents in Spectrum II, long distance from place of origin (35.4%) was the main concern for those who responded to the same question.

The finding for Spectrum I, respondents to the same question was more of positive rather, the highest response was living close to family (29.4%). For this group issue of concern as a negative impact fear of midtown robbers (11.8%). “Lack of senior staffs for sharing experience” was raised as a concern and it overlaps in spectra III and II while it was totally not an issue for those in spectrum I.

Bringing altogether, top among the concerns of the respondents was long distance from place of origin (26.8%) followed by lack of infrastructure (19.5%) as depicted in display 5 below.

Table 5. Factors of concern as raised by respondents in Oromia region, Ethiopia, 2011 (n=123)

Variable	Concerns	N	%
How were you affected by the environment you are currently in**?**	Long distance from family’s location	33	26.8
	It's good because I am close to my family	1	.8
	It's good because we get things easily	1	.8
	There are no good facilities to raise children(e.g. good school)	11	8.9
	There is no educational opportunity for self upgrading	11	8.9
	It's not suitable to do an additional job	1	.8
	The security is not good	1	.8
	Cost of living is high	12	9.8
	There is no recreational facility	7	5.7
	There is a strong social life in the community	3	2.4
	It affects personal plans and decisions (e.g. marriage…)	3	2.4
	There is no infrastructure, means of communication	24	19.5
	The environment is not comfortable in any aspect (e.g. bad weather, economically, politically and socially)	6	4.9
	There is no senior staff to share experience	3	2.4

One hundred seventy one (56.8%) of the respondents reported that they have engaged in additional duties from the organization while the rest 130(43.2%) were not.

And the engagement was taken on by discussion and agreement 112(47.1%), by own initiative 65(27.3%) and by coercion 61(25.6%) as they reported it.

Involvement in decision making

Considerable numbers of respondents 186(61.8%) have involvement in decisions affecting them or their organization and 1(0.3%) reported that this is improbable.

A large majority 125(42.5%) of those who reacted to the above question reported that this involvement in decision making has a contribution to stay longer and serve the public there. Thirty eight (12.9%) of respondents did not know if it helps or not.

Performance appraisal

Significant number 165(55.0%) of study participants responded that they did not have any performance evaluation during the last 6 months preceding the study.

Of those who reported that they have received performance evaluation, 56(41.5%) did not get any feedback from the administered performance evaluation. Among those who received feedback of the performance evaluation, the majority 15(19.0%) reported they did not receive what they deserve. The vast majority of the respondents 55(69.6%) believe that administration of performance evaluation is a factor that promotes relatively longer stay and improves performance.

Income concerns

The study subjects were asked to rate their current salary. The respondents rated their salary level as poor 192(63.6%), fair 56(18.5%), good 37(12.3%), average 9(3.0%) and very good 8(2.6%). When categorized level majority (63.6%) rated their current monthly income poor.

5.4 Other factors

Collectively, the major pull factors among others were staff harmony 65.5%, possibility of holding a 2nd job 68%, recognition of best practices 63.3%, financial and non-financial incentives 75.4%.

Bondage with staff was found to exert little to high degree of influence for respondents in spectra one and two while high number (47.4%) were found unaffected in spectrum three (table 6).

Availability of extra time job for raising income was an attraction for the majority of the study population in spectra one to three (69.6%, 66.7% and 68.3% respectively) as displayed in table 6.

As reported by the respondents, recognition of their best performance had been one of the factors that bonded them in current placement (table 6).

The role of financial and non-financial incentives were also appreciated by many (80.9%, 71.8%, and 78.0% respectively) from one to third spectra in that order as shown in table 6.

Table 6. Factors favoring stay in placement by spectra, Oromia, Ethiopia, 1997-2001 EC

Variable	Degree of influence	Spectra		
Bondage with staffs categorized level		One (n=51)	Two (n=131)	Three (n=114)
	None	9.8%	28.2%	47.4%
	Low to high	90.2%	71.8%	52.6%
Categorized level of alternative job from environment		n=46	n=132	n=41
	None	30.4%	33.3%	31.7%
	Low to high	69.6%	66.7%	68.3%
Recognition of best performances		n=47	n=131	n=41
	None	23.4%	33.6%	39.0%
	Low to high	76.6%	66.4%	61.0%
Financial and non financial incentives		n=47	n=131	n=41
	None	19.1%	28.2%	22.0%
	Low to high	80.9%	71.8%	78.0

For a large proportion (70.0%) of study participants, a facilitated working environment has been a reason for settling and serving for a relatively longer period of time.

5.5. Causes of departure in the past

Regarding the causes of dropouts from the facilities and/or the profession itself, the study subjects reported that lack of opportunities for personal development, dissatisfaction with salary, unavailability of alternative jobs to create additional income, ineffective management responses to personnel complaints, lack of transfer, personal or family reasons, inequity in personnel management, autocratic supervision, under funding of facilities, unfair performance appraisal, lack of recognition for best performances, insufficient educational opportunities abroad or in land, investment, diversity visa lottery, change of profession and so on were also collectively or independently assumed to be the many factors that repelled nurses, physicians and other professionals be it voluntary or involuntary separation.

Combined analysis of the data from all spectra shows that unavailability of a 2nd job 280(92.7%), ineffective management responses 238(78.8%), Lack of opportunity for personal development 281(93.0%), Lack of transfer 271(89.7%), dissatisfaction with salary scale 271(89.7%) were some of the inconveniences working against length of stay.

Lack of opportunity for personal development as a push factor was found to be the highest score of influence in all the three spectra as displayed in table 7.

Ineffective management response to employees' complaints was one of the push factors which affected ex-colleagues (83.0%) in spectrum one, (89.6%) in spectrum two and (63.4%) in spectrum three (table 7).

Dissatisfaction with salary was highest rate (84.9%) in spectrum one than the other spectra. Spectrum one and two respondents also rated it poor (70.4% and 78.0%) respectively as shown in table 7.

Table 7. Push factors in the past as reported by spectra, Oromia, Ethiopia, 1997-2001 EC

Variable	Degree of influence	Spectra		
		One (n=48)	Two (n=135)	Three (n=41)
Lack of opportunity for personal development	None	6.2%	3.7%	9.8%
	Low to high	93.8%	96.3%	90.2%
Categorized level of ineffective management response to complaints		n=53	n=135	n=41
	None	17.0%	10.4%	36.6%
	Low to high	83.0%	89.6%	63.4%
Lack of transfer		n=47	n=135	n=41
	None	13.2%	5.2%	7.3%
	Low to high	86.8%	94.8%	92.7%
Dissatisfaction with salary		n=53	n=135	n=41
	Acceptable	15.1%	29.6%%	22.0%
	Poor	84.9%	70.4%	78.0

The level of influence of health service facilities funding was also treated separately if it has been a push factor or not. Accordingly, 258(85.4%) of respondents who reacted to this question replied that it has been exerting little to high degree of influence for separation of physicians and nurses from their service area.

Qualitative study

This part was required to backup information deficits in quantitative research. Tremendous data were obtained but only prominent ones included here to complement/enrich the quantitative study and records review. Discussion, conclusion and recommendations were computed together with the quantitative and records sections.

“We consult professionals to continue to work with us”

HR Manager

“We do not have standard format for this purpose. But I believe it’s important both for the employee as well as to the organization.”

Hospital CEO

They do not evaluate and they are not being evaluated.

A nurse

“We are ashamed of our salary. It’s seven times less than what our juniors earn in NGOs”.

A nurse

“As a government employee we earn less compared to private sectors or NGOs but other benefits like our working time and the chance of being sponsored to higher education, short courses and so on collectively make the same. Literally nowhere salary satisfies except one county, America in the world”.

A HR Expert

“It is not wrong if I say I am here because of our boss’s and senior staff’s approach rather than what I earn. That by itself costs more than money”.

A physician

“Professionals’ turnover is still a problem but not as before, we are trying to maximize their advantages of training, local transfer, promoting good governance at all levels, in addition to the regionally installed incentives’’.

Head, ZHD

We work and live in water scarce area. We obtain 20 liters for all purpose per week. To take bath, we rent hotel beds for Birr 80.00 and see how that affects”.

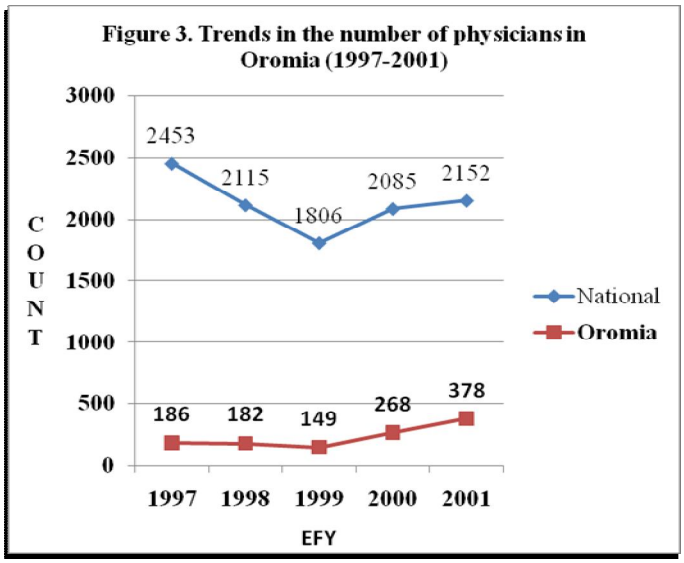
A Health officer

“We are here to be treated or to help the sick. Look what we drink. It is almost soil not water. I do not know what they are doing”.

A surrogate, at the same hospital

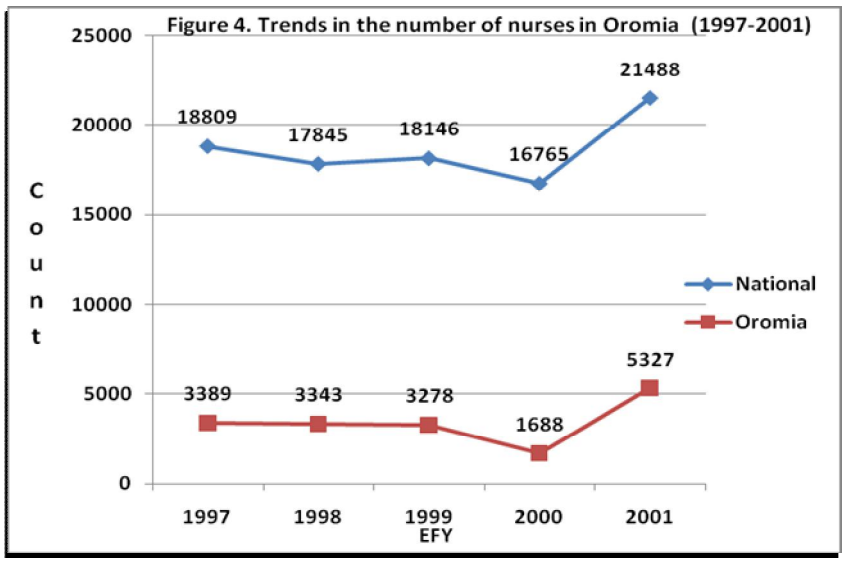
Records review

The records reviewed at national and regional level, openly display trends of fall in the number of physicians and nurses during the study period. As can be noted from the figure below there was severe fall in the number of physicians both nationally and regionally during the EFY 1998 and 1999 than it was ever before, remarkably during 1999 EC as displayed in figure 3.



Source: Health and health related indicators, FMoH, AA, 1997-2001EC

The nursing staff was also similarly on the decrease for three consecutive years (1998-2000 EC) as demonstrated in the ministry's report of the years under consideration than the years before and after. Year 2000 was a period of serious threat as could be read from figure 4.



Source: Health and health related indicators, FMoH, AA, 1997-2001EC

From the records reviewed, it was identified that the average length of stay for nurses was a bit longer than that of the physicians almost in all assessed health facilities, except Robe HC and the Regional Health Bureau where no complete data could be found to trace back in to the past years. The situation was depicted in detail on tables in annexes 8-10 but the identifiers were purposely deleted from the columns for addressing confidentiality.

The records of 113 ex-colleagues (21 physicians and 92 nurses) were reviewed for the study period. These health professionals were departed from their organization by transfer, training, release, involuntary separation and others (promotion, death, and diversity visa lottery or job opportunities abroad).

The minimum and maximum age of the subjects was 20 and 45 years respectively. The range was 25years with median of 26 and (SD$\pm$4.6).

Sex wise, 57.5% were males while 42.5% were females. Their professional mix was 18.6% physicians and 81.4% nurses.

The average length of stay as a whole was found to be 1.88 years with a range of 4 years and the minimum and the maximum 1year and 5years respectively.

The length of stay of physicians varies with facilities with the maximum average of 2.4years at Negele hospital and the least 1.9 years at Shashemene, Ginir and Goba hospitals lie between the two with 1.2 years and 2.3years average length of service respectively. That of the nurses was variable than the case in physicians (as low as 1 year at Goba Hospital to 3.7 years at Robe HC. The total average length of stay for the Region was found to be 2.4 years. Outliers were dropped from the description (Annex 8-10).

Inter facilities remoteness within the same zone also matters. The desperate the working environment, the shorter the duration of stay at service (1.2 years in rural health center versus 4.3 years) in the urban district of spectrum three was observed.

The separation time of the study subjects vary from months to years. A large proportion 70(61.9%) of the staff was departed between 1 and 5 years of service. A significant number 30(26.5%) served only for a period of less than one year prior to departure while insignificant 1(0.9%) stayed for more than 16 years in the area.

From categorized level of duration of stay it was observed that most of the ex-coleagues (88.5%) served for five years or less as depicted in table 8.

Table 8. Duration at service of physicians and nurses in Oromia, Ethiopia, 199-2001 (n=113)

Variable	Years at service	N	%
Duration of stay at service of physicians and nurses	<=5 years	100	88.5
	5 years and above	13	11.5

The reasons for moving out of the placement were also identified. The highest 37(32.7%) were due to release followed by training 32(28.3%). Involuntary separation 18(15.9%) was also an important route as indicated in table 9.

Table 9. Reasons for departure of physicians from placement, Oromia, Ethiopia, 1997-2001

Variable	Condition	N	%
Reasons for departure from original placement sites	Transferred	32	28.3
	Training or specialization	21	18.6
	Released	37	32.7
	Left	18	15.9
	Others	5	4.4
	Totals	113	100

VI. Discussion, conclusion and recommendation

Health service delivery is always a team function. Physicians and nurses including midwives are the forerunners in the area. Missing these linchpins in the team especially in the clinical setting means a limping and a collapse for the system.

The needs of the health workers were found to be mixed and overlapping. As revealed by this study, among the factors that played a leading role for lengthy stay of physicians and nurses that operate at peripheral health institutes in the region were marital status, educational level, service year, bondage with staff, alternative jobs from work area and financial and non-financial incentives. Similar studies in other parts of the world also prove the same.

As identified by this study age had strong association with the length of stay of physicians and nurses in peripheral health facilities in the region. The younger age group tends to depart 8 times earlier than their older counterpart. Early years of occupation are also productive period of education and family establishment plan. Possible explanation for this may be due to proposed educational and/or marital plan.

As do with other studies in the field of HRH (8, 30, 36, 37), marital status was found to be statistically significant variable for spectrum II and III that affects the duration of stay at rural posting. Family establishment and maintenance is the basis for social structure and stable performances.

Level of education, was found to be significant factor that play determinant role for decisions of physicians and nurses/midwives to settle and serve longer in remote public health facilities in the region. The personnel at lower level of education take significantly longer time to serve than higher level. This may happen attached with waiting for the long queue to get sponsored for next step of training and even to maintain job security. There have been similar findings in other studies too (1, 3, 6, 8).

The setting where the health facility was located shows association with the length of service of physicians and nurses. The desperate the workplace, the earlier they exited. This might occur

attached with lack of facilitated condition for life. Poor housing and sub standard living and working situation has been the cause of release from job for doctors in South Africa (7).

Position in the organization was found to be one of the factors that affect the length of employees stay. Employees not in leadership position were found to depart earlier from spectrum II. And those in the leadership seat tend to stay longer. This is probably empowering employees creates a sense of responsibility and it could be a motivating factor if a person is offered freedom of making decisions at some level in the organization.
According to the findings in this study, monthly income rated as poor by (63.6%) of the respondents. And this has been the cause of poor performance, increased conflicts and separation for African doctors and nurses (7, 26). Low income and poor or non remuneration sufficiently dissatisfies.

Lack of important social services like communication means has been the main concern (22.4%) of respondents in spectrum III, while long distance from place of origin was the leading concern (35.4%) of study subjects in spectrum II. The environmental negatives of 1st spectrum respondents were fear of midtown robbers (11.8%) followed by stress from excessive business competitions (5.9%). Lack of senior staffs to share experiences was an overlapping interest seen in the 2^{nd} and 3^{rd} spectra.

When the whole data from the three spectra were analyzed together, the needs of employees in spectrum II and III dominate. Long distance from place of origin 33(26.8%) and lack of infrastructures 24(19.5%) followed by high cost of living 12(9.8%) were the major concerns among the many (table 5). Neither all complaints need complete answers nor should all answers come from the health sector alone. Other sectors must also be communicated to share the concerns and act for the solution. As a responsible citizen, properly instructed, employees could also be part of the solution to lots of complaints at spot.

More than half 171(56.8%) of the respondents have additional assignments outside their regular jobs and 37.1% of them took it through consultation and agreement. On the other hand, involvement in decision making on issues attached with their personal or organizational interest has been one of attractive factors for 61.6% of respondents. Being democrat enables leaders to

use subordinates full potential and improves harmony among staff and managers which contributes significantly to retention strategy (36).

This study also disclosed that, recognition of best practice was the desire of 76.6% of respondents in spectrum one as a pull factor. The majority (66.4%, and 61.0%) of spectrum two and three respondents respectively, had shown similar interest. This is also a human element that must be considered and expected of all taking the lead position in human resources management. Most reprimands are the cause of dissatisfaction than they construct and by far are usually hardly tolerated by the victims (8, 36). Rather encouragement of small commitments and best practices would contribute to build the greatest good.

Service year has statistically significant relationship with the length of stay, the longer the expectation the more the personnel will be frustrated and pushed out of their placement. When the risk is weighted, those who have been in service for 5years or less appear to be frustrated 0.3 times more than those who have been in service for more than 5 years. This could urge those with lesser service years to exit their post unplanned.

Available records showed that, the average length of stay of physicians and nurses/midwives in all the spectra was found to be less than 5 years.

Contrary to available experience (24), rural background has no effect on length of stay of physicians and nurses. Hence, no added advantages to retention strategy by recruiting or training selectively from remote areas to buy a longer stay at the service afterwards.

From retrospective analysis, the following dissatisfiers were found to be the push factors for ex-colleagues

- lack of facilitated situations for personal development
- ineffective management responses
- underfunding of the health facility leading to under utilization
- unavailability of alternative job in the environment for raising income level
- Dissatisfaction with salary and remunerations
- lack of transfer opportunities

And others like strict supervision, unfair performance appraisal, and inequitable personnel management were important discomforts.

Lack of opportunity for personal development as a push factor was found to exert the highest proportion (93.8%, 96.3%, and 90.2%) of influence in spectrum one to three respectively. Personal development is the desire of everyone in life and may demotivate when not correctly answered. But this should not be obstructive to organizational goals.

Ineffective management response to employee's complaint was one of the push factors that affected ex-colleagues as rated by 83.0% of spectrum I, 89.6% of spectrum II and 63.4% of spectrum III respondents. Similar situation has been the cause of departure from position and placement for physicians and midwives in Uganda (4, 7). Timely and evidence based management decisions deter employees from exiting earlier and save organizations from declining.

Dissatisfaction with salary was highest rate (84.9%) in spectrum I than the other spectra. Spectrum I and II respondents also rated it poor (70.4% and 78.0%) respectively. Modern societies living costs rise each minute of the day and health professionals are no more immune. Salary and other remunerations must be studied and adjusted to ranks, posting setting and markets. This corresponds with studies on doctors and midwives in South Africa, Uganda and Mali (4, 7, 28).

The level of influence of health service facilities funding was also treated separately if it has been a push factor or not. Accordingly, 85.4% of respondents who reacted to this question replied that it has been exerting little to high degree of influence for separation of physicians and nurses from their service area. This finding is also consistent with other studies. When health service facilities are poorly financed, the public will not be fully served and the health workers will not be able to function at their full potential.

The majority 280(92.7%) of the study subjects responded that lack of extra job for additional source of income in the working environment was the reason for separation of ex-colleagues from mother organizations. Not only for winning the daily bread, health workers also as part of the dynamic social system face economic questions to respond to their own or their family's needs.

This demands improved level of income from service environments at their free time. Where the environments were deficient to opt for, the means has been moving out.

Health workers in other poor countries (14, 36) had the same experience putting the nation to low health workforce density and the resulting poor service coverage, and increased maternal and child mortality. Facilitated work climate would be supportive.

Records reviewed show a relatively longer stay at Urban Health Centers than rural even in the remotest areas. It is difficult to satisfy basic needs like housing in rural.

Significant number 30(26.5%) of departed personnel served only for a period of less than one year. Without any dispute, public service weighs more than individual earnings since most professionals were graduates from public health science colleges/universities.

Lack of appropriate level of human resource management database affects every aspect of the system including the offices, the employees and the work itself.

Strengths and Limitation of the Study

Strengths

- ✓ Use of quantitative and qualitative approach
- ✓ Practicability of the topic (HRH is as important as the system per se)
- ✓ Study subjects core for service delivery
- ✓ Data collectors and supervisors' selection, training and supervision directly by the PI

Limitations

- ✓ As retention and attrition are compounded by the interplay of many factors 'Chicken or egg dilemma' would exist due to the nature of study design.

- ✓ The research was of practical importance could more health facilities be involved in the study. However, it would be practically unachievable to assess more than the proposed health facilities owing to lack of resources. For obvious reasons of time and financial constraints, only targeted health professionals in sixteen health facilities were assessed.

Recommendations

1. Available guidelines and procedures on assignment, marital relations, post basic training and compulsory service years must be revised, and implemented.

2. Environmental scanning must be given due attention during hospitals/health centers construction plan.

3. Health experts should be empowered and involved in decision making with minimal control and maximal coaching. Promotion of good governance and being consultative rather than coercive must be a standard practice to derive more commitment.

4. Other sectors must also be communicated to share the concerns and respond (health sector alone cannot address the water shortage, security and the like concerns).

5. The actions of those who receive additional duties by consultation and by their own initiatives should also be encouraged and rewarded. The causes of coercion should be investigated and intervened immediately.

6. Health managers should be assigned by merits not by prestige.

7. There must be facilitation at remote health facilities to satisfy basic needs like housing than is for the urban ones.

8. Health workers should learn to respect public service and more than benefit after trained by public money (refunding by service).

9. Human resource information system must be standardized and be availed at all levels.

10. A large scale research must be conducted in this area to investigate and intervene accordingly.

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Annexes

Annex-1

Table 10. Rank and criteria used for ranking districts for financial incentives, Oromia Regional Health Bureau, 1998E.C.

No	Rank	Criteria for designating the districts as A, B or C.	Remark
1	A	not hot; better socio-economic infrastructures, near to regional capital, primarily preferred by health workers	
2	B	not hot; good socio-economic infrastructures, medium distance from regional capital; Availability of socioeconomic infrastructures though may not be as in 'A' rank, many of them centers for zonal/district capital, preferred by health professional next to 'A' ranked districts	
3	C	Difficult weather; poor in socio-economic infrastructures, @ distant from regional capitals, bordering other regions in some cases, not preferred by health workers at all, and resign soon after arrival when assigned.	

Source: Oromia Health Bureau, 1998

School of Public Health **Annex-2**

College of Health Sciences

Addis Ababa University

INFORMATION FOR RESPONDENTS

First greeting ……...

My name is _____

I am here today to conduct a survey regarding *Factors affecting stay of health workers in peripheral government hospitals and health centers in Oromia region, Oromia region during a period of five years (1997-2001).* This study helps to analyze the following thematic areas.

- ✓ To review and describe the trend in the length of service for physicians and nurses within public hospitals and health centers of Oromia region during the period of five years.
- ✓ To determine the major factors that affect the length of services by physicians and nurses within public hospitals/health centers in Oromia region during the study period.

You and your organization are selected randomly for participation in this study. Therefore, I will be asking you questions, interview other staff members or review documents in your health facility to obtain relevant data that can help achieve the research objectives.

Benefits of the study

The findings of the study will be used to tailor retention mechanisms as demanded and for decision makers to formulate new or restructure previous policies and procedures regarding employee motivations in public health facilities.

Risk /privacy/confidentiality

The information gathered from document review or interviews will not be used for any other purpose outside this study objective. This research is for general purpose information; nobody's name will be mentioned on responses. The responses of each individual will not be disclosed to others including the study subjects or no one will be affected, in anyway, physically or psychologically for producing the information.

Institution: **AAU-MF School of Public Health**

PI Address: Girma Debela

Mobile **0911 06 83 34** **0912 38 55 01** **Email: girmad7@yahoo.com**

School of Public Health **Annex-3**

College of Health Sciences

Addis Ababa University

Respondent's consent form

01. Codes: Zone_____District_____ Health Facility_____

02. Date of data collection_____E.C. 03. Code of data collector ___

04. Name of data collector_____Sign_____

Introduction:

This questionnaire is intended to collect information from HCs in Oromia region. The information you /your organization provides is very important to understand factors affecting stay of health workers in peripheral government hospitals and health centers in Oromia region. Thus, you are kindly requested to provide us with genuine information. The information you provide will be confidential. You have every right not to be involved in this study or to discontinue completing this questionnaire at any point in the course if you decide to do so.

I hereby verify that I have read and fully understood the above notice and am willing to fill the questionnaire.

Agreed | Yes | | No |

I confirm that this questionnaire has been filled by a voluntary respondent/organization.

Supervisor's name and signature Date_____

School of Public Health **Annex-4**

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Questionnaires on:

Factors affecting stay of health workers in peripheral government hospitals and health centers in Oromia region,2010.

Part I. Background information: Please, we kindly request you to provide the following information.

1. Age in completed years:
   1. 20-30 2. 31-40 3. 41-50 4. 51 and above
2. Sex 1. Male 2. Female
3. Religion 1. Orthodox 2. Muslim 3. Protestant 4. Catholic
   5. Other (specify) _____
4. Marital status 1. Single 2. Married 3. Divorced
   4. Separated 5. Widowed
5. Ethnicity 1.Oromo 2. Amhara 3. Tigre 4. Other(specify)___
6. Level of education completed
   1. Diploma 2. First degree 3. Masters/specialist 4. PhD level
7. What was the setting in which you were brought up?
   1. Urban 2. Rural
8. What is your qualification? 1. Medical doctor 2. Nurse/Midwife
9. What is your organization? 1. Hospital 2. Health center
10. What is the setting in which it is located? 1. Urban 2. Rural
11. Does this location of the health facility affect you /your family? 1. Yes 2. No
12. If yes to question # 11, how?_____ _____
13. How many years of experience do you have in this organization? (please fill in years completed here)
    1. Less than 1 yr 2. 1-5 yrs 3. 6-10 yrs 4. 11-15 yrs 5. ≥16 yrs
14. What is your position in this organization?
    1. Colleague 2. Technical coordinator 3. Head of the facility 4.Other specify)___
15. Is there any other commitment you engaged in this organization? 1. Yes 2. No

16. If yes to question # 15, were you asked and consented for that?
    a. Yes , I was asked and agreed
    b. No, I wasn't asked but persuaded by the bosses to accept
    c. It was my own initiation and encouraged to continue
    d. Other (specify) _____
17. Does your immediate boss involve you in decision making?
    1. Yes 2. No
    a. Does this affect length of employees stay here? 1. Yes 2. No 3. May or mayn't be 4. I don't know
18. Have had a performance evaluation in the last six months?
    1. Yes 2. No if No skip to question # 22
19. If your answer is 'yes' to question 18, did you receive any feedback?
    1. Yes 2. No
20. Do you think you got what you deserve? 1. Yes 2. No
21. Does that affect performance or stay at the facility? 1. Yes 2. No
22. What is your monthly income?
    1. <1000 Br 2. 1001-2500 3. 2501-3500 4. 3501-4500 5. 4501+
23. How do you rate your salary?
    1. Very good 2. Average 3. Good 4. Fair 5. Poor

24. What factors, among the list in the table below, won your willingness to stay and operate here in this facility? Please, use the ranks 1 to 5 as it applies to you.

5. High influence 4. Moderate influence 3. Some influence 2. Little influence 1. No influence

No	Description /pull factors	Degree of influence
1	Bondage with the staffs	
	Service year	
	Recognition for the work I did	
	Favorable working condition	
	Responsibility posed on me	
	Equitable employee treatment /handling	
	Attractive salary to my level	
	Financial and non-financial incentives	
	Alternative job from the environment	

Any other you want to add_____

25. Which reason do you think was the cause for other physicians and nurses to leave this organization illicitly, by transfer or changing their job? Please use the following grading to quantify the push factors as applies to this health institute:

5. High influence 4. Moderate influence 3. Some influence 2. Little influence 1. No influence

No	Description /push factors	Degree of influence
1	Lack of opportunity for personal development	
2	Ineffective management response to employees' complaint	
3	Lack of transfer	
4	Unavailability of alternative jobs for additional income	
5	Personal or family reasons	
6	Inequity in personnel management	
7	Lack of recognition for their best performances	
8	Unfair performance appraisal	
9	Dissatisfaction with salary scale	
10	Lack of positive relationship with colleagues/bosses	
11	Under funding of the facility	
12	Autocratic supervision	
13	Other (specify)_____	

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Focus group discussion guide

(5-8 members from different positions and professions)

Part I. Introduction:

- ✓ Welcome
- ✓ Introduction of moderator and participants
- ✓ Explanation of objective of the discussion

Today we are going to talk about the factors that motivate the health workers to stay and serve in peripheral health institutions.

You are invited to share your perceptions and experiences in this regard.

- ✓ **Participation**

There is no right or wrong answer to the questions I am going to ask you. Please, feel free to share your ideas.

- ✓ Confidentiality and respect for each other.

Everything raised here will be confidential. If you prefer not to answer any particular question, you are welcome. If you decline to continue at any point in the mean time, that's fine,

- ✓ Consent to note taking/Audio recording

Part II. Points for discussion

1. Staffs' turnover has been a problem for the health system in the past years. How do you perceive that in your case?
    a. What are its negative effects?
    b. Does that have any positive outcome?
2. What were the major factors that favored some of your staffs to stay and serve in the remote environments for relatively longer period of time than others?
3. What factors do you think are the cause for leaving the public health sector?
4. What pressure does it exert when employees terminate to work for the organization, especially suddenly?
5. What management and leadership measures were in place to reverse or prevent?
6. How do you rate the response of the staff to the incentives so far implemented as a retention strategy?
7. What other competitive macro environment factors are working against the pull factors that were regionally installed?

Part III. Wrap up: explore feelings during the discussion

How did you find our discussion today? Have anyone of you had discussion on the issues we talked about today? Is that okay to all of you?

Thank you for accepting the invitation and actively participating. Enjoy your coffee and tea

School of Public Health **Annex-6**

College of Health Sciences

Addis Ababa University

Questionnaire on

Factors affecting stay of health workers in peripheral government hospitals and health centers in Oromia region, Oromia, Ethiopia, 2010.

Key informants' interview

The purpose of the interview is to assess the major factors for health workers' motivation for staying (operating) at peripheral level of the health system in government health service delivery institutions in Oromia region.

The interview's main focus is on motivational systems that initiate employees for further achievements, employees' job satisfactions levels of performances, reductions of employees' turnover, and the future prospects related to employees retentions.

Therefore, the confidentiality of any suggestion made will be maintained and used for this intended study only. You are kindly requested to answer these questions that at least demand a spare of a moment.

Thank you

School of Public health **Annex 7**

College of Health Sciences

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Questionnaire

1. What were the major factors that favored some of your staffs to stay and serve in the remote environments for relatively longer period of time than others?
2. What factors do you think are the cause for leaving the public health sector?
3. What pressure does it exert when employees terminate to work for the organization, especially suddenly?
4. What management and leadership measures were in place to reverse or prevent?
5. How do you rate the response of the staff to the incentives so far implemented as a retention strategy?
6. What other competitive macro environment factors are working against the pull factors that were regionally installed?
7. Anything you want to add_____

   _____

   _____

   _____

Annex 8. Length of stay of physicians and nurses, Spectrum III, Oromia, 1997-2001 EC

District	HF	Name	Age	Sex	Profession	Service year in months	Service years	Reasons for departure	Average length of stay in years/facili...	Professional category
Borie	Borie Health Center	X	35	F	Nrs	6	0.5	4	1.8	Nrs
		X	22	M		15	1.3	3		
		X	27	F		12	1.0	3		
		X	23	F		4	0.3	3		
		X	22	M		13	1.1	4		
		X	22	F		24	2.0	1		
		X	24	M		36	3.0	1		
		X	26	M		31	2.6	1		
		X	25	F		3	0.3	3		
		X	23	F		34	2.8	1		
		X	24	F		29	2.4	1		
		X	23	F		21	1.8	1		
		X	23	F		17	1.4	1		
		X	21	F		28	2.3	1		
		X	25	F		27	2.3	2		
		X	25	M		36	3.0	4		
Adola Redde	Herbora HC	X	24	M		20	1.7	4	1.3	Nrs
		X	21	F		10	0.8	3		
Adola Wayu	Adola HC	X	30	M		108	9.0	1	4.3	Nrs
		X	28	M		132	11.0	1		
		X	23	F		10	0.8	4		
		X	27	M		50	4.2	3		
		X	35	M		20	1.7	1		
		X	21	F		36	3.0	3		
		X	25	F		9	0.8	3		
Wadera	Wadera Health Center	X	23	M		48	4.0	1	2.1	Nrs
		X	29	F		20	1.7	1		
		X	27	F		9	0.8	3		
		X	31	F		22	1.8	4		
Negele Town	Negele Hospital	X	28	F		27	2.3	5	2.1	Nrs
		X	25	M		24	2.0	5		
		X	23	M		13	1.1	1		
		X	27	M		45	3.8	3		
		X	32	F		17	1.4	1		
		X	30	M		30	2.5	3		
		X	22	F		46	3.8	3		
		X	25	F		30	2.5	1		
		X	27	F		30	2.5	3		
		X	35	M		29	2.4	3		
		X	29	M		7	0.6	3		
		X	24	M		11	0.9	1		
		X	26	M	Dr	53	4.4	3	2.4	Drs
		X	31	F	Dr	16	1.3	3		
		X	25	M	Dr	21	1.8	2		
		X	28	M	Dr	24	2.0	2		

Annex 9. Length of stay of physicians and nurses, Spectrum II, Oromia, 1997-2001 EC,

District	HF	Name	Age	Sex	profession	Service year in months	Service years	Reasons for departure	Average length of stay in yrs/HF	Professional category
Bidire	Bidire HC	X	33	F	Nrs	46	3.8	1	3.8	Nrs
D/Menna	D/Menna Health Center	X	45	F	Nrs	29	2.4	1	2.3	Nrs
		X	30	M	Nrs	72	6.0	3		
		X	22	M	Nrs	13	1.1	4		
		X	27	F	Nrs	15	1.3	3		
		X	34	M	Nrs	9	0.8	2		
Arena Buluk	Angetu Health Center	X	22	F	Nrs	9	0.8	2	2	Nrs
		X	27	F	Nrs	17	1.4	2		
		X	28	M	Nrs	63	5.3	3		
		X	20	M	Nrs	20	1.7	3		
		X	21	M	Nrs	9	0.8	4		
Goba town	Goba Hospital	X	27	F	Nrs	12	1.0	4	1	Nrs
		X	23	M	Nrs	12	1.0	3		
		X	29	M	Dr	24	2.0	5	2.3	Nrs
		X	26	M	Dr	43	3.6	4		
		X	31	M	Dr	24	2.0	1		
		X	28	M	Dr	18	1.5	3		
Robe town	Robe Health Center	X	36	F	Nrs	36	3.0	1	3.7	Nrs
		X	32	F	Nrs	60	5.0	1		
		X	25	M	Nrs	47	3.9	2		
		X	24	M	Nrs	34	2.8	3		
Ginir	Ginir Hospital	X	26	M	Dr	16	1.3	4	2.3	Nrs
		X	23	F	Nrs	24	2.0	4		
		X	28	M	Nrs	15	1.3	4		
		X	23	F	Nrs	24	2.0	3		
		X	28	M	Nrs	36	3.0	4		
		X	28	M	Nrs	36	3.0	1		
		X	22	F	Nrs	36	3.0	4	1.2	Drs
		X	25	M	Nrs	10	0.8	1		
		X	28	M	Nrs	36	3.0	1		
		X	27	M	Nrs	36	3.0	4		
		X	24	M	Dr	12	1.0	4		

Annex 10. Length of stay of physicians and nurses, Spectrum I, Oromia, 1997-2001 EC

District	HF	Name	Age	Sex	profession	Service year in	Service years	Reasons for departure	Average length of stay in yrs/HF	Professional category
Adaba	Adaba HC	X	26	M	Nurse	24	2.0	3	2.4	Nrs
		X	26	M	Nurse	24	2.0	3		
		X	20	F	Nurse	43	3.6	3		
		X	39	M	Dr	132	11.0	3		
		X	26	M	Nurse	67	5.6	3		
		X	22	M	Nurse	14	1.2	3		
Kofele	Kofele HC	X	34	F	Nurse	38	3.2	2	2.3	Nrs
		X	25	F	Nurse	50	4.2	2		
		X	27	M	Nurse	17	1.4	2		
		X	30	M	Nurse	13	1.1	2		
		X	31	M	Nurse	10	0.8	3		
		X	22	F	Nurse	11	0.9	1		
		X	26	F	Nurse	66	5.5	2		
		X	28	M	Nurse	15	1.3	2		
Sh/town	Shashemene Health center	X	45	M	Nurse	48	4.0	1	2.9	Nrs
		X	33	F	Nurse	74	6.2	3		
		X	23	F	Nurse	48	4.0	2		
		X	32	M	Nurse	31	2.6	3		
		X	26	M	Nurse	2.2	0.2	2		
		X	21	F	Nurse	2.7	0.2	4		
Shashemene town	Shashemene Hospital	X	30	F	Nurse	45	3.8	1	2.2	Nrs
		X	23	M	Nurse	37	3.1	2		
		X	23	F	Nurse	27	2.3	2		
		X	27	M	Nurse	32	2.7	1		
		X	22	F	Nurse	11	0.9	2		
		X	24	F	Nurse	6	0.5	2		
		X	26	M	Dr	34	2.8	1	1.9	Drs
		X	27	M	Dr	30	2.5	3		
		X	29	M	Dr	26	2.2	1		
		X	29	M	Dr	9	0.8	2		
		X	28	M	Dr	36	3.0	3		
		X	27	M	Dr	11	0.9	2		
		X	30	M	Dr	32	2.7	1		
		X	31	M	Dr	15	1.3	1		
		X	25	M	Dr	10	0.8	2		

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Declaration:

This is Girma Debela Geresu announcing that this research entitled "**assessment of the major factors for health workers' motivation for staying at peripheral level of the health system in government health service delivery institutions in Oromia Region"** has been conducted by me and is my own original work except the comments and guidance from my research advisor. All sources of the material have been properly acknowledged. I presented this research for partial fulfillment of the requirements for the degree of Master of Public Health.

Girma Debela

Sig_____

Candidate

Approval

This study conducted by Girma Debela Geresu, on the topic "**assessment of the major factors for health workers' motivation for staying at peripheral level of the health system in government health service delivery institutions in Oromia Region"** is the original work of the principal investigator Girma Debela Geresu who I have been advising throughout the course of the research. I recommend that this original work is suitable for the award of degree of masters of public health.

Pro. Damen Hailemariam

Signature_____

Advisor