FACTORS INFLUENCING RETENTION OF HEALTH WORKERS IN PRIMARY HEALTH CARE FACILITIES, KAKAMEGA COUNTY, KENYA

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REGISTRATION NO. H57/70839/2007

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT FOR THE AWARD OF THE DEGREE OF MASTERS IN PUBLIC HEALTH (MPH) OF THE UNIVERSITY OF NAIROBI

2012

DECLARATION

I Nema CM Aluku, hereby certify that this is my original work and has not been submitted in any other University for award of a degree.

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DEDICATION

This dissertation is dedicated to all the health professionals serving in primary health care facilities in remote and hard to reach areas in Kenya and sub Saharan Africa. To their resilience as they provide community health care in resource limited settings and in their struggle to remain in service.

ACKNOWLEDGEMENT

I thank God for life and good health and my family for their continuous prayers and support.

I am indebted to the Provincial Public Health Nurse Mrs. Assumpta Matekwa and the entire team in Western Province for their support and help with data collection for my research.

I greatly extend my appreciation to my Supervisors Prof. J. Wang'ombe and Ms. Faith Thuita for their patience with me and guidance during the course of my research study.

I also acknowledge University of Nairobi and staff of the School of Public Health for their tireless support.

I thank Freda Kinoti (MD), Nairobi, Kenya and Natabhona M. Mabachi, Ph.D. Research Instructor, University of Kansas Medical Center, Family Medicine Research Division, for their support with the editing of the dissertation.

Many thanks to all the County clinical officers and the County public health nurses – Kakamega East, West, South, North and Central - who ensured that I had access to staff and provided guidance on logistics and found time to respond to my phone calls.

I also thank all the respondents who so readily provided the required data for the study. I would not forget the valuable support, which I received from my data collection team during the data collection exercise. Thank you all for your support.

All references have been clearly acknowledged at the end of this write-up

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LIST OF ABBREVIATIONS/ACRONYMS

AIDS	-	Acquired Immune Deficiency Syndrome
CO	-	Clinical officer
RCO	-	Registered Clinical officer
DCE	-	Discrete Choice Experiments
DFID	-	Department for International Development
ECN	-	Enrolled Community Nurse
EHP	-	Emergency Hire Plan
GDP	-	Gross Domestic product
GOK	-	Government of Kenya
HIV	-	Human Immunodeficiency Virus
HW	-	Health Worker
KDHS	-	Kenya Demographic and Health Survey
KEPH	-	Kenya Essential Package for Health
KEMSA	-	Kenya Medical Supplies Agency
MDG	-	Millennium Development Goals
MoMS	-	Ministry of Medical Services
NHSSP	-	National Health Sector Strategic Plan of Kenya
NGO	-	Non Governmental Organization
PHC	-	Primary Health Care
RN	-	Registered Nurses
WHO	-	World Health Organization
SPSS	-	Statistical Package for Social Sciences
TB	-	Pulmonary tuberculosis
UNAIDS	-	The Joint United Nations Programme on HIV/AIDS
USA	-	United States of America
UK	-	United Kingdom

DEFINITION OF OPERATIONAL TERMS

Benefits	That which promotes or enhances the well being and working conditions of clinical officers and nurses
Costs	Value that must be given up by health workers to remain in PHC facilities
Decision	How health workers make up their minds on whether to stay or not to stay in public service
Factors	Things that actively contribute to an accomplishment, result, or process
Government	The exercise of authority; control; direction; regulation by Health ministries or departments
Health worker	Clinical officers and nurses (both enrolled and registered) at the dispensary and health center level
Incentives	Things that induce action or motivates effort among health workers, can be financial or non financial
Leavers	Health workers in the selected study sites who have voluntarily changed employer since January 1, 2004. In the study, these were proxy's to represent HWs who left the county or changed the preferred location of work within the county.
Location	Urban or rural – underserved – areas
Push and pull	Things that pull health workers towards government/public sector working environment and things that push health workers out of the public sector work environment
Paramedics	Refers to nurses and clinical officers
Perception	Health workers views regarding factors that influence their decisions to stay or not to stay in public service
Primary Health care	Health care that is available, accessible and affordable to individuals and communities at all levels
Motivation	Set of reasons that determines health workers behavior - to remain in public service
Retention	Ability to keep health workers in PHC facilities
Stayers	Health workers currently employed in the selected study sites and who have not changed employer since January 1, 2004

ABSTRACT

Background: Kenya continues to experience a growing gap of paramedics at all levels of service provision within its health infrastructure. As a consequence, this gap is a big impediment in her quest to achieve the health objectives and the millennium development goals. Retention of health workers due to motivational causes amongst others has been cited as the major contributing factor. This study examines factors influencing retention of health workers in primary health care facilities.

Methods: A cross sectional study design using semi - structured questionnaires was used for the study. 93 healthcare workers of different cadres at government health facilities in Kakamega County participated in the study. Semi-structured questionnaires were used for data collection. Data entry and analysis was done in SPSS V17. Descriptive analysis was used to profile the characteristics of the respondents; Chi square tests were used to determine the differences between respondents who had stayed at their working station for a period of at least two years prior to the study or those who had left within the same time. Multinomial Logistic Regression was used to perform an analysis of the extent of each factor that was considered significant in determining whether healthcare personnel stayed or left.

Results: Age, duration of working, flexibility and ability to balance work and personal life, fair evaluation, administrator's competence, manageable work load and equipment were statistically associated with whether healthcare workers would leave or continue staying at their current work stations.

Conclusion: The results show that financial incentives are not the only factors in retention of health workers. Work family balance, workload and equipment is an area that needs to be addressed in retention strategies. Competent administrators are required for enhanced retention of health workers at primary health facilities. Deducing from the results, social and professional factors are key in retention of primary health care workers. The following measures are recommended; placement of competent administrators; provision of equipment to do the necessary work; work - family balance to be instituted as a means to retaining professional motivated primary health workers in Kakamega county.

Chapter One: INTRODUCTION

1.1 Background to the study

The growing shortage of health workers at the lower levels of health service provision in Kenya is a critical issue that must be addressed as an integral part of strengthening health systems. The shortage of paramedics often results in long waiting times for patients at health centres and causes overcrowding in hospitals. This is especially more evident in rural areas where primary health care is key to human health.

The impact of the shortage is reflected in health indicators such as maternal and child health as well as overall life expectancy at national and county level which to some extent are directly related to the number of health workers in a given population. According to Henderson et al (2008), the Joint Learning Initiative on Human Resources for Health recommend a threshold of 2.5 health workers (doctors, nurses and midwives) per 1,000 population in order to achieve a package of essential health interventions and the health-related Millennium Development Goals.

The value of community health has been greatly enhanced with the spread of HIV around the world. Since the past few decades, community health concerns whole populations and issues that affect prevention and treatment of diseases within them. Some issues include access to health services or to clean drinking water which are basic elements for healthy life.

WHO (2006), states that fifty-seven countries, most of them in Africa and Asia, face a severe health workforce crisis. WHO estimates that at least 2.36 million health service providers and 1.89 million management support workers are needed to fill the gap. Without prompt action, the shortage will worsen. There is a lack of adequate staff in rural areas as compared to cities and that, countries in sub Saharan Africa face the greatest challenge in maintaining adequate numbers within the health work force. Sub Saharan Africa has 11 percent of the world's population, bears 24 percent of the global burden of disease yet has only 3 percent of the world's health workers.

Dambisya, (2007) states that, the health workforce, physical facilities and consumables are three major inputs into any health system. A growing body of evidence suggests that the

quality of a health system depends greatly on highly motivated health workers who are satisfied with their jobs, and therefore stay in rural areas and work.

Inspire Kenya (2006) indicates that, since independence, the policy of the Kenyan government was to provide 'free' health care for all. The government thus started scaling up health service provision across the country as well as training health workers to man the service provision points. In subsequent years, as evidenced by the ushering in of the Rainbow Coalition in 2002, the government translated the 'free" health provision to yet another concept of 'affordable' healthcare for all.

The Kenyan founding fathers sought to ensure 'free" medical care for all, however, Inspire Kenya (2006) indicates that provision of health services in the country is sadly still inadequate to meet the growing health demands of a growing population. In addition, the health sector continues to suffer from inequitable geographical distribution of health services as well as a continued shortage of health personnel compounded by poor management of health services, inadequate funding, lack of medical supplies, low level of hospital operational efficiency and lack of proper public health information and education.

Gakunju (2003) indicates that, Kenya entered the 1970s with a strong economy following the excellent macroeconomic performance of the 1960s. This was reflected in high growth of the overall and sectoral gross domestic product (GDP) averaging more than 5% per annum. The country's health sector recorded tremendous growth especially in its public sub-sector. This sector growth was attributed to the high priority accorded to the improvement of the health status of Kenyans as well as the social and economic development of the country.

It is worth noting that Kenya's population in the early 1970s stood at 10.9 million and a life expectancy at birth of 50 years. The infant mortality rate per 1,000 births stood at 119 within a fast growing public health sector. In the mid 1990s, the number of health facilities (see Table 1.1) increased, however, this did not result in improved health indicators.

Table 1.1:Growth in Healthcare Facilities (1967-2000)

Year	# of Hospitals	# of health centers	# of beds & cots	# of personnel
1967	199	162	N/A	N/A
1980	216	241	27,691	19,307
1985	243	267	30,986	27,850
1990	268	299	33,086	33,918
1995	356	531	47,214	43,264
2000	481	601	57,416	55,732
Source: Adopted from Gakunju (2003)				

However, according to the Kenya Demographic and Health Survey, (KDHS, 2009), since independence in 1963, life expectancy has declined from 60 years in the 1980s to 58 years in 2009. Furthermore, maternal mortality has remained unchanged with some reduction being noted in under-five mortality rates with a decline from 115 to 74 deaths per 1,000 births and a notable reduction from 77 to 52 deaths per 1,000 live births for infants.

The KDHS (2009) highlights that, the health indicators are improving in comparison to the KDHS (2003) results. Kenya is however still far from achieving the Millennium Development Goals (MDGs). Some of the factors contributing to the decline include lack of access to health primarily; poverty, distance, culture, religion, fears of testing to know HIV status, under funding of facilities and lack of essentials.

Ndetei et al (2009) argues that, while Kenya's Ministry of Health actively recruits and posts health workers to poorer areas of the country (sub-County and County hospitals), inferior conditions and out-migration leads to a paradoxical situation of staffing gaps, vacancies and unemployed health workers. This pushes health workers to seek employment in the international market. Push and pull factors for migration include poor remuneration, poor working conditions with limited supplies and no supervision, heavier workloads in rural public facilities (due to greater demand), limited career prospects and educational opportunities for workers and their families, poor communication, and the impact of HIV and AIDS.

Muga et al in chapter two of "Overview of the Health System in Kenya", (2004) comments that, in a renewed effort to improve health service delivery, the Ministry of Medical services reviewed the service delivery system in 2004, in order to implement a new strategy for making health care more effective and accessible to a wider population of Kenyans.

The national health care planning is clear on what is required at every level of service provision. However, there is a gap in service provision at the three lower levels more so at the dispensary and health center level due to the exodus of health workers to what is perceived as "greener pastures".

Through the national health care structure, health service delivery will be based on the following levels:

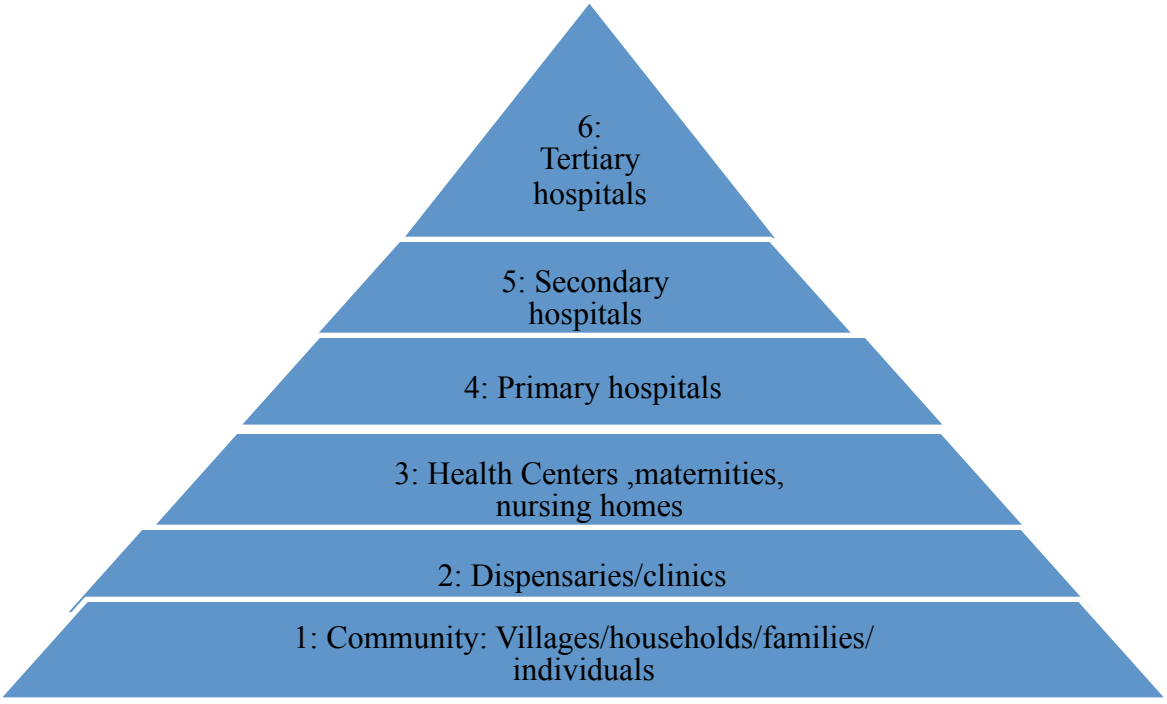
Level 1: Is the community level and the foundation of the health service delivery priorities. It is envisaged that through this structure, once the community is allowed to define its own priorities and services are provided that supports such priorities, real ownership and commitment can be expected. Important achievements can be attained to reverse the downward trend in health status at the interface between the health services and the community. Village Health Committees (VHC) organized in each community through which households and individuals can participate and contribute to their own health and that of their village.

Levels 2 and 3: Dispensaries, health centres, and maternity/nursing homes - to handle Kenya Essential Package for Health (KEPH) activities related predominantly to promotive and preventive care, but also various curative services.

Levels 4-6: (primary, secondary and tertiary hospitals) to undertake mainly curative and rehabilitative activities of their service delivery package and to a limited extent, address preventive/promotive care.

In this structure, the existing vertical programs will come together to provide services to the age groups at the various levels. The plan adopts a move from the emphasis on disease burden to the promotion of individual health based on the various stages of the human cycle: pregnancy and the newborn (up to two weeks of age); early childhood (two weeks to five years); late childhood (6-12 years); youth and adolescence (13-24 years); adulthood (25-59); and the elderly (60+ years).

Figure 1.1. Health delivery system in Kenya



Source: Adopted from Muga et al (2004)

Chapter Two: LITERATURE REVIEW

2.1 Maldistribution of health workers

According to WHO (2009), "the shortage and maldistribution of health workers, who are the cornerstones of any health system, are unanimously accepted as key constraints to the provision of essential, life-saving interventions such as childhood immunizations, safe pregnancy and childbirth services for mothers, and access to treatment for AIDS, tuberculosis and malaria". The efforts made to increase appropriate types of health workers would be wasted if countries do not attract, motivate and retain these workers in their workplaces, and make them work effectively and more productively.

Access to good and quality health services is vital for the improvement of many health outcomes such as those targeted by the MDGs. However, these goals cannot be achieved if vulnerable populations in rural underserved areas do not have access to well staffed and equipped health services (Dussault et al 2006).

Zurn (2008) argues that poorer regions tend to have a lower density of health workers and a lower coverage of births by skilled birth attendants coupled with inequality and inequity in health workforce distribution.

A key challenge in the achievement of the MDG's, PHC and Vision 2030 in Kenya is the maldistribution of health workers in the country. This according to Lehmann et al (2008) has been aggravated more recently by the disintegration of health systems in low - income countries and by the global policy environment.

A notable effect of a health system ravaged by maldistribution is the challenge in the production, recruitment and retention of professional health workers more so in rural underserved areas. In addition, some of the factors that contribute to the exit of health workers from rural areas as noted by Lehmann (ibid) include low wages, poor working conditions, lack of supervision, lack of equipment and infrastructure as well as HIV and AIDS.

Various studies by, Lehmann et al 2008; Dussault et al 2006; Dieleman et al 2003; Adano 2008, suggest that there is a need for appropriate strategies to be put in place. Rigorous studies must be undertaken to enable policy makers and planners to understand the factors that influence retention of health workers in rural settings -such

as those in Kakamega. It is essential to develop strategies that can influence paramedics – nurses and clinical officers – to remain motivated and provide good quality services at the community level.

The Kenyan government with the support from partners including the private sector and faith based organizations, has a good coverage of health facilities in rural areas. However, community members have limited access to services due to low numbers of health professionals.

According to Dussault et al (2006), a well-balanced distribution of infrastructure needs to go hand in hand with a well-balanced distribution of health personnel to be worth the investment let alone to have the desired impact on community health.

It should also be noted that the imbalanced distribution of health personnel contributes to great disparities in health outcomes between the rural and urban populations. For instance, in Mexico, life expectancy for the rural population is 55 years, compared to 71 years in urban areas of the country; infant mortality is 20 per 1,000 births, compared to 50 per 1,000 births in the poorer southern states Dussault (ibid).

2.2 Recruitment and retention challenges

Data from both developed and developing countries show that nursing recruitment and retention are serious issues with vacancies reported in many countries including developing countries such as South Africa which had 30,000 vacant pots for nurses in 2003 (Zurn et al, 2005). Furthermore, the challenges of recruiting new health staff while retaining existing ones has led to a worldwide interest in retention of health workers, especially nurses.

This is demonstrated by studies on job satisfaction, absenteeism, turnover and intention to emigrate in countries with limited resources such as Cameroon, Ghana and South Africa (Awases et al. 2003). The same pattern is also observed in richer countries, such as Canada, Germany, Norway, Sweden, Taiwan, Thailand, the UK and the USA (Aiken et al. 2001; Holmas 2002; Tzeng 2002; Goodin 2003; Hasselhorn et al. 2003) as quoted in Zurn et al (2005).

Ndetei et al (2008) note that physicians in Kenya are trained in public universities with most nurses graduating from the Kenya Medical Training Colleges in both rural and urban areas. In addition, other nurses are trained in both private and mission hospitals while Aga Khan Hospital, Kenyatta, Moi, Maseno and Egerton Universities train physicians. In order to practice in Kenya, all physicians and nurses must be certified by the Kenya Medical practitioners and Dentist Board and the Nursing Council of Kenya respectively. They further note that most health workers in Kenya are employed by the Ministry of Medical Services, by semi autonomous government institutions i.e. national hospitals, research institutions and training institutions as well as by nongovernmental organizations health facilities, mission hospitals, nursing homes, consultancy firms and by private sector.

Table 2.1: Number of graduating nurses and clinical officers 2005 – 2009

	Nurses/ Midwives	Clinical Officers	TOTAL
Registered	43,970	8,300	52,270
Licensure Renewals	28,214	6,300	34,514

Source: Adopted from Centers for Disease Control (2010)

Table 2.1 indicates the numbers of health professionals based on intake data from 2005-2009 for nurses and midwives, intake data from 2006-2009 for clinical officers. According to Intra Health, although Kenya trains enough health workers to meet the WHO standard of a minimum of 23 doctors, nurses, and midwives for every 10,000 people, Kenya has at the PHC level, 12 nurses and midwives per 10,000 people, little over half of what is needed.

Intra Health further suggests that Kenya's shortage of health workers at the PHC level is further driven, in part, by health worker emigration for higher pay and better working environments. The shortage is particularly severe in rural areas, where, according to Kenya's National HIV Strategic Plan, nearly 80% of Kenyans live and an estimated one million people are living with HIV. There is therefore a notable gap in the recruitment of paramedics as noted in table 2.2.

Table 2.2: number of nurses and clinical officers recruited by MOH 2002 – 2006 and projected numbers for 2007 – 2008

Cadre	2002	2003	2004	2005	2006	Total	2007 – 2008 projected numbers from Ministry of Health			
							No. needed	No. to be recruited	Gaps	% gaps in total needed
Nurses	756	503	957	338	2,605	17,150	47,384	6,000	30,320	64%
Clinical officers	N/A	N/A	N/A	N/A	N/A	2,333	4,900	1,000	2,567	52%

Source: Adopted from Ndetei et al 2008

As shown in Table 2.2, the numbers of nurses and clinical officers recruited by the Ministry on Medical Services by the year 2006 indicate the number of vacant posts rather than the actual numbers of health workers that the country's health system requires. In addition, the gap of 30,320 nurses comprises 78.4% of the total number of health workers required to close the gap at the Ministry of Medical Services. As a result, the nurses in the PHC facilities are overworked and some experience burn out. Overall, the number of health workers graduating from colleges is far much higher than that being deployed.

Adano (2008) argues that despite the availability of a pool of unemployed health staff in Kenya, staffing levels at most facilities are around 50%. Recruitment and retention challenges are experienced in developing and developed countries with varied consequences; for instance, several costs are associated with the inability to recruit and retain nursing staff like closure of, or reduced access to, clinics and wards, as well as lower quality of care and productivity, are common examples of nursing shortages. In addition, high turnover is likely to lead to higher provider costs, such as in recruitment and training of new staff and increased overtime and use of temporary agency staff to fill gaps. Turnover costs also include the initial reduction in the

efficiency of new staff and decreased staff morale and group productivity, Zurn et al. (2005)

The Kenya Health workforce project (2010) indicates that, according to the number of registered health personnel, Kenya has 1.54 health workers i.e. doctors, nurses, midwives, and clinical officers per 1,000 population. This translates to 1.03 health workers based on the number of retained health workers -doctors, nurses, midwives, and clinical officers - per 1,000 population. This therefore means that the density of health workers in Kenya is below the WHO recommended 2.30 per 1,000 population.

Countries are further challenged with the imbalance of the health workforce. At times it appears that countries have sufficient production of health workers, while at the same time they have severe difficulties to retain those workers, in particular in remote and rural areas. Consequently, attracting and retaining health workers in remote and rural areas are critical to addressing the health workforce crisis, and thus delivering on two of the four main reforms required for the renewal of primary health care: universal coverage and people centred service delivery, WHO (2009)

The consequences of challenges of recruitment and retention have undesirable effects on the delivery of health services, particularly on quality of care and costs (Stilwell 2001 as quoted in Zurn et al (2005)). These effects vary from developing to developed countries. In Zimbabwe, for instance, high vacancy rates resulted in the closure of, or reduced access to, clinics and wards. Furthermore, in the USA, the impact of the perceived shortage in hospitals is felt at different levels. Approximately 38% of hospitals report emergency department overcrowding, 25% mention that they have to divert emergency department patients, 23% have had to reduce the number of beds, and 19% report an increased waiting time for surgery (First Consulting Group 2001 as quoted in Zurn et al (2005)

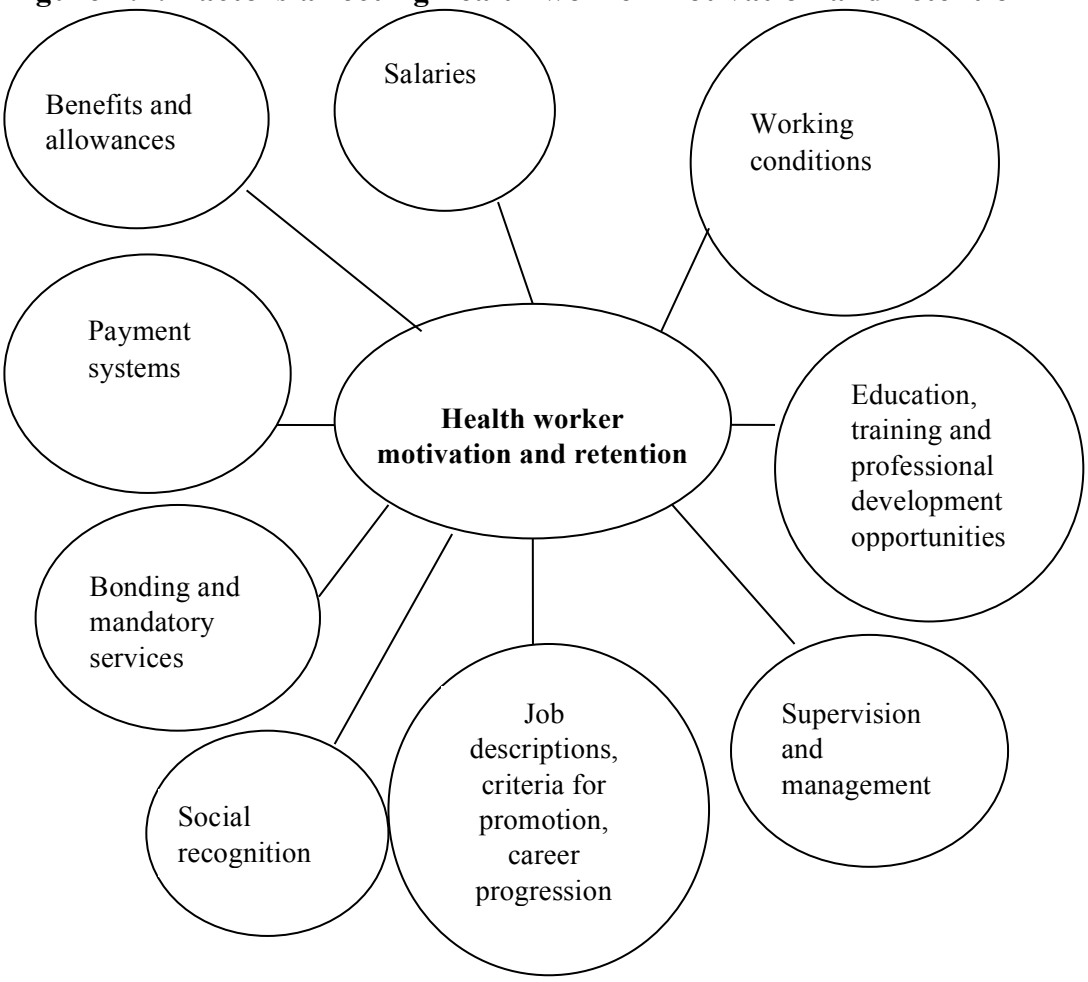
Mullei et al (2010), investigated reasons for poor recruitment and retention in rural areas and potential policy interventions through quantitative and qualitative data collection with nursing trainees. The study revealed that, attitudes to working in rural areas were significantly positively affected by being older, but negatively affected by being an upgrading student. Furthermore, attitudes to living in rural areas were significantly positively affected by being a student at the Medical training center furthest from Nairobi. The study found that poor infrastructure, inadequate education facilities and opportunities, higher workloads, and

inadequate supplies and supervision as variables negatively associated with retention. The study also revealed that working in communities dominated by other tribes was an impediment to retention due to the experience from the 2007 – 2008 general elections chaos.

2.3 Factors affecting health worker motivation and retention

Literature reviewed revealed several factors that affect health worker motivation and retention. Zurn (2005) cites several studies indicating that financial incentives form a major component of the incentives that policy makers in the health system put in place to improve recruitment, retention, motivation and performance of service providers. Henderson et al (2008) highlights key factors that may influence motivation and retention of health workers. These are summarised in figure 2.1

Figure 2.1: Factors affecting health worker motivation and retention



Source: Adopted from Henderson et al 2008

Wheeler (2009), suggests that one of the key priorities for the retention of health workers is "Active development and testing of innovative retention approaches". It is therefore evident that; creative strategies must be employed by health policy makers and planners in order to motivate and retain professional health workers in rural areas. These can be financial and non-financial incentives -higher salaries; salary supplements, benefits and allowances - as indicated in Figure 2.1.

Willis-Shattuck et al (2008) note almost all (90%) of studies reviewed discuss the importance of financial incentives on health worker motivation. Studies however indicate that financial incentives should be integrated with other incentives, more so where migration is concerned since financial incentives alone may not keep health workers from migrating. The search also indicates that motivational factors are context specific whereas financial incentives, career development and management issues are core factors.

There is inadequate data to provide concrete reasons as to why health workers migrate in Kenya as evidenced by Ndetei et al (2008) findings, who state that HR records were not standardised hence data regarding the departure of health workers could not be established. Ndetei (2008) further argues that the existing data in the Ministry of health gave the following reasons for leaving; optional retirement before official age; mandatory official retirement age; golden handshake/retrenchment; resigning for further studies; job opportunities outside the country; joining private sector, dismissal on disciplinary grounds; desertion of duty; retirement on medical grounds; transfer of services and death of the staff member. However, in their study, Ndetei et al (2008) through key informant interviews and FGD's (when comparing public and private services) include poor remuneration; poor working conditions; limited conditions; limited career opportunities and poor communication facilities; limited educational opportunities and; impact of HIV and AIDS.

Push factors out of rural areas include; poor working conditions; inadequate communication facilities; lack of ambulances to transfer critical patients to tertiary medical facilities and inadequate medical supplies. In addition, poor housing, poor access to schools and health care are notable push factors to urban areas in Kenya.

Increasing population coupled with old (malaria) and new (HIV and AIDS) diseases are also leading factors in maldistribution and motivation of healthcare workers resulting in recruitment challenges.

Aluku (2008) cites several reports indicating that HIV and AIDS have been described as "… a unique threat to human society, whose impact will be felt for generations to come." (WHO 2004) The magnitude of the epidemic was shown in the 2008 Report on the Global AIDS Epidemic which estimated that 33 million people were living with HIV and AIDS worldwide (UNAIDS 2008). Additionally, over 20 million people have died from AIDS, (DFID 2004) 2 million in 2007 alone UNAIDS (2008). In Kenya, HIV and AIDS remains a challenge to the achievement of the MDG's and PHC. This is further compounded by the low retention of health workers in the rural areas which are also struggling with growing populations and other diseases like malaria and TB.

Table 2.3:Kenya's population and health trends 1989 -2009

Indicator	1989	1999	2009
Crude birth rate	48.0	41.3	34.8
Crude date rate	11.0	11.7	Unknown
Infant mortality rate per 1000 births	66	77.3	52.0
Total fertility rate	6.7	5.0	4.6
Life expectancy at birth	60	56.6	58.9
Population	23.2	28.7	39.4
Percent urban	18.1	19.4	20.0

Source: Adopted from Kenya National Bureau of Statistics (KNBS) and ICF Macro (2010)

The growing population in rural areas against an inverse number of healthcare infrastructure is leading to maldistribution of healthcare workers. According to Ministry of Economic Planning, GOK (2007), Kenya has a total of 4,421 health facilities of which 500 are hospitals, 611 health centers; 3,310 sub – centre or dispensaries. The government is the major provider of health services in Kenya – other providers include Mission and private sector. Zurn (2008) indicates that rural areas comprise a large share of

the population but a small share of the heath workforce. The report indicates that 48% of the populations worldwide live in urban areas and with 76% health service provided by physicians in comparison to rural areas with higher populations of 52% having a representation of 24% of physicians.

Chapter Three: STATEMENT OF RESEARCH PROBLEM

3.1 Problem Statement

Sub-Saharan Africa is faced with a great challenge of low health worker to population ratios and poor health indicators. It is therefore critical to understand factors that influence decisions of health workers to remain or leave public health service.

In Kenya, faith based organizations together with other civil society organizations have been collaborating with the government in health service provision at the lowest levels of service delivery. It has been noted that the retention of nurses and clinical officers at the health center and dispensary level is a challenge.

While efforts have been put in place by both government and NGO sector to train and retrain health workers, the trained paramedics frequently move to other locations or professions hence creating a gap in service delivery at community level. The gap created affects the implementation of integrated community development programs particularly those geared towards primary health care and the attainment of the millennium development goals.

Ndetei et al (2008), found that, despite high health worker unemployment rates and the existence of financial and non-financial incentives, many positions remained unfilled in the Kenyan public and private health sectors. Primary health care facilities were severely understaffed, with relative overstaffing of hospitals (County, provincial and national hospitals). This imbalance causes health workers in public institutions to migrate from primary health care (PHC) facilities to County, provincial and national hospitals respectively.

This indicates a gap in the service delivery at the lowest level of health services as noted by the Ministry of Medical Services (MoMS). Why then are services at the County level more preferred by patients in rural areas when they can easily access PHC services within a reasonable radius in their community? What are the perceptions of community members regarding the services offered at these lower levels? What are the perceptions of the paramedics regarding the services they offer at these levels? Is it a case of lethargy or lack of understanding of the essential package that should be offered at these levels?

As the health workers seek alternative employment opportunities, the vacuum left behind is not filled as quickly as it should. This has implications on the quality of health service

delivery at community level. The human resource management structures do not seem to have succession planning for staff turnover, though recruitment and retention strategies have been recommended in several studies. The result is compromised quality of service provision at the lower levels.

The Kenyan Government endorsed the Millennium Declaration at the Millennium Summit in September 2000. The goals, targets and indicators highlighted in the Summit have given the on-going national frameworks, initiatives and process a new sense of direction and time frame—the year 2015. The implications of the poor service delivery are that Kenya may not be on track in achieving the MDG's.

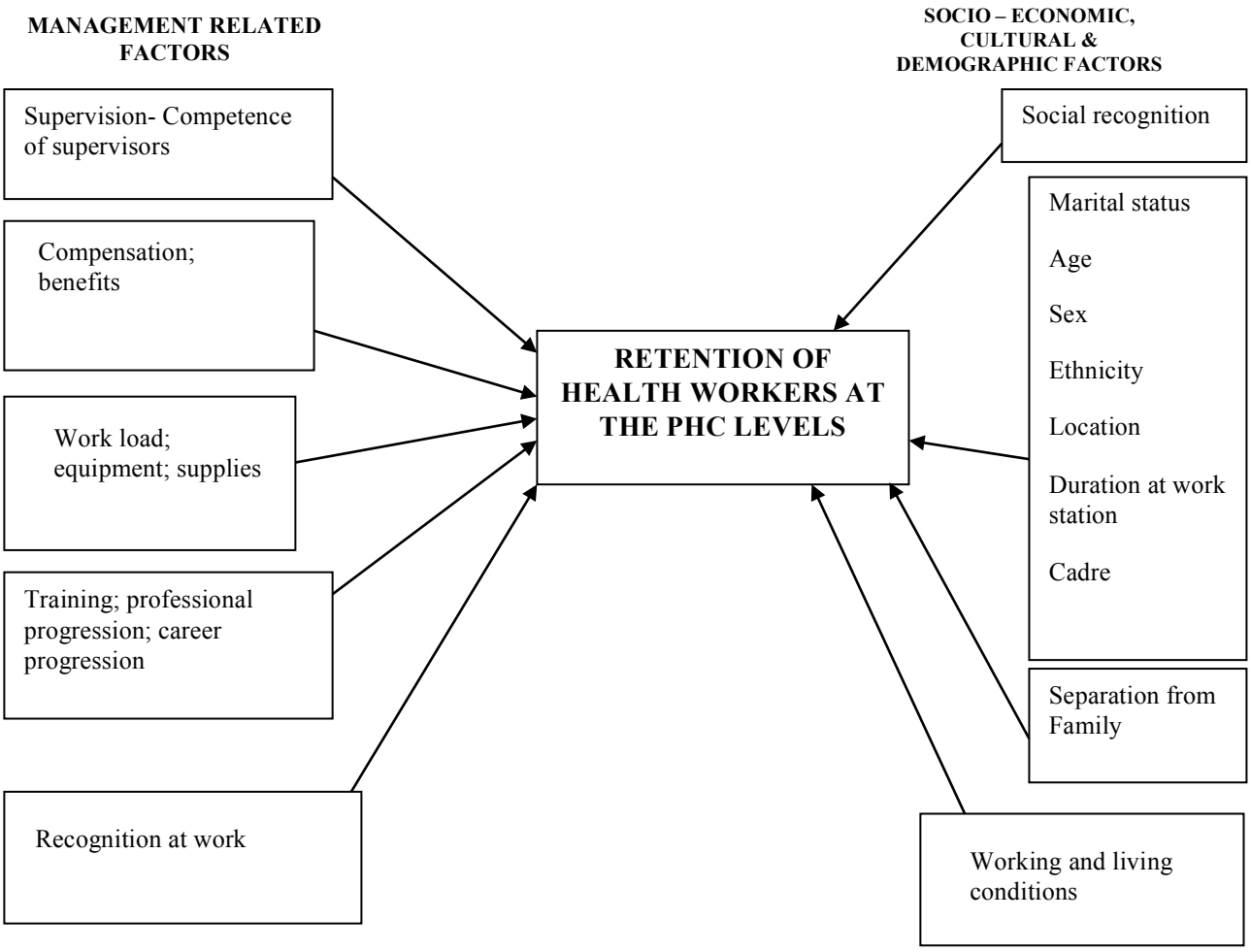
The literature review revealed a gap in the systematic documentation of both internal and external migration which then leads to challenges in the design of incentive packages. In addition, there is more emphasis on international migration with little research focusing on migration of rural to urban areas.

3.2 Conceptual Framework

The literature review revealed that primary health care workers are an essential component of any health system. There however exists a gap in retention strategies for paramedics serving in primary health care facilities. Interventions geared towards addressing the management, socio-economic, cultural and demographic factors can influence the retention of primary health care workers.

It can therefore be postulated that if the proximate and intermediate factors are not addressed, the outcome will be low retention levels of paramedics at PHC facilities. The conceptual framework highlighted on figure 3.1 illustrates how factors such as recognition at work, workload, equipment, supplies, compensation, benefits, competence of supervisors, training and career progression, working and living conditions, and demographic factors influence retention of health workers at the PHC levels.

Figure 3.1: Conceptual framework



3.3 Justification

Previous studies have not analyzed factors that motivate paramedics in Kenya. On the contrary, they have mostly centered on establishing the context for, and trends in, the recruitment and retention of health workers; identification of existing policies, strategies and interventions to retain health workers; identifying how these strategies are being introduced and resourced and assessment of their sustainability; analyzing management, monitoring and evaluation systems to measure the impact of the health worker retention incentive regimes; and identifying lessons learned and appropriate guidelines for non-financial incentive packages to promote the retention of health workers.

Kenya, like many sub Saharan African countries, is facing a human resource crisis more so in the public health sector (Mwaniki et al 2008). It has been documented that many health professionals like doctors and nurses are leaving the country for "greener pastures" in developed countries like Canada, United Kingdom; United States and other such developed countries. Furthermore, there is a disparity within the country with a notable number of professionals leaving the rural areas for better employment prospects in urban areas leaving a gap at the lower levels of health provision

It has also been observed that without professional health workers in place, there cannot be any significant gains in a country's health indicators. Palmer (2008) indicates that health workers are one of the key building blocks of an efficient and equitable health system. He states that without their expertise many health care interventions would not be delivered efficiently. He further claims that they are the element of the system that makes health care both acceptable to clients and therefore more likely to be effective, or can act as a deterrent to people seeking care.

3.4 Objectives

The goal of this study was to assess the factors influencing retention of health workers in primary health care facilities in Kakamega County Kenya. The specific objectives are:

i. To describe the demographic characteristics of paramedics that influence their move or stay in PHC facilities

ii. To establish perceptions on what motivates and discourages paramedics remaining in PHC facilities

iii. To establish factors associated with retention and migration of paramedics from PHC facilities in Kakamega County.

3.5 Research Question

What are the specific factors related with healthcare workers staying or leaving Kakamega county?

3.6 Hypotheses

i. Demographic characteristics of paramedics do not influence whether they move or stay at PHC facilities in Kakamega county.

ii. Opinions and perceptions on what motivates and discourages paramedics remaining in PHC facilities do not contribute to “staying” or “leaving”.

iii. “Staying” or “leaving” is not associated with working conditions, compensation, training, supervision, recognition, of paramedics from PHC facilities in Kakamega county.

3.7 Variables

Dependent variables:

Staying or leaving

Independent variables:

Age, sex, marital status, location, cadre, duration, ethnicity, education; separation from family; workload, career progression, compensation; training; supervision; recognition

Chapter Four: METHODOLOGY

4.1 Study Design

A descriptive cross sectional study was conducted from February to March 2010 to determine the factors that influence retention of paramedics at PHC levels in Kakamega County. The study design involved observation of a representation of the general population of paramedics and describes the relationship between the sectors of interest that influence retention. A cross sectional study design was selected due to budgetary implications associated with more rigorous study designs.

4.2 Study Site

The study was undertaken in Western province with a particular focus on government run health centers and dispensaries in Kakamega County. The area is inadequately served by health facilities making it difficult for people to access the needed primary health care. Over 56% of the population lives below the poverty line, according to the Kenya poverty and inequality assessment report (2008).

4.3 Study Population

The study population was the paramedics serving in dispensaries and health centers from Kakamega. These were mainly nurses and clinical officers as well as the center administrators as key informants. The study interviewed health workers currently employed (stayers) i.e. those who have not moved from another health facility since January 1, 2004 as well as leavers i.e. those who moved to the selected site from January 1, 2004 (the study was not able to trace health workers who left the county and therefore used proxy leavers to represent the perceptions and views of leavers in general). The Ministry of Medical Services inventory (2003) indicated that there were:

- 72 health service points in Kakamega, as follows:-
- 2 are hospitals - (1) mission and one (1) government;
- 14 health centers; (11) GOK; (2) mission and (1) Private

- 34 dispensaries of which 13 are government -16 mission and 5 private;
- 10 health clinics – two (2) mission – 7 private and one (1) under the Family planning Association of Kenya and
- 10 Nursing homes all under private management

Due to the creation of the new county structure, the numbers of health centers and dispensaries changed slightly with some significant change being noted with two health centers which were upgraded to sub county hospitals. These were included in the study to ensure good representation and adequate sample size. A total of 48 facilities with a staff of approximately 144 were included in the study.

A key challenge during the data collection process was the number of health workers per facility. According to the MoMS data obtained from the western region Provincial health office, there should have been 3 health workers on duty per facility i.e. 2 nurses and a clinical officer at the HC level and 3 health workers at the dispensary level. In some cases, there was only one clinical officer at the dispensary level. At the HC level, it was a challenge to find all three staff on duty. The health workers had to be traced to their homes for interviews.

4.4 Sampling

The sample size was determined by applying a non probability sampling procedure due to the low number of facilities and paramedics in PHC facilities as listed by the 2003 Ministry of health inventory. The purposive selection of respondents included all the respondents of interest based on the inclusion and exclusion criteria. Using this non probability sampling procedure ensured that people who did not meet the inclusion criteria were not interviewed for the study.

The sampling was less time consuming and this resulted in the study being less expensive as it involved lesser search costs for respondents. Furthermore, the purposively selected sample was an accurate representation of the paramedics in Kakamega county resulting in a representative sample that uses similar analysis as a randomized study sample. This therefore ascertains that the results are accurate.

Sampling procedure

Following the review and analysis of the 2003 Ministry of health inventory, the following were purposively selected;

- 11 GOK health centers –enrolled community nurses; Clinical officers and Registered nurses (administrators) n=33
- 13 GOK dispensaries- Dispensaries purposively selected (based on literature data - has maximum of 3 nurses) n=39

Therefore, a total sample of 72 health workers was purposively selected. The total respondents for the study were 93. Administrators/managers (28 respondents), those health workers who have left employment at one/or more health facilities since 2004 (23 respondents) and the health workers who are still in their health facilities (42 respondents) participated in this study.

Inclusion criteria

a) Male and female nurses and clinical officers in the selected government health centers and dispensaries (health facility level 2 and 3 only)

b) County hospital nurses, clinical officers, HR managers, Health center and dispensary administrators as key informants

Exclusion criteria

a) Any male or female nurse, clinical officer outside the selected county

b) Administrators from other county's

c) Nurses and clinical officers still undergoing training

d) Medical officers, nurses and clinical officers from health facility level 4-6

e) Nurses and clinical officers from Mission and private health centers and dispensaries

f) Nurses and clinical officers who have left Kakamega

4.5 Data collection Methods

4.5.1 Quantitative methods

A training session for 12 data collection assistants identified through the Provincial Public Health Nurse and Kakamega County public health nurse was conducted on February 10th 2010 at Sheywe Guest house in Kakamega. The team was taken through the necessary steps for data collection i.e. went through the three (3) questionnaires - Stayers, Leavers and Administrators. Daily meetings were scheduled with the data collection assistants to review events of the day during data collection.

Data collection was done on February 11th and 12th in all the HC and dispensaries as highlighted in the Ministry of Medical services (MoMS) inventory of 2003. Due to the sub division of Kakamega into 4, some of the HCs on the 2003 inventory were no longer existent and others were upgraded to level 4 facilities.

A questionnaire was administered to nurses and clinical officers covering the following components; information about nurses' and clinical officers' social, economic and demographic characteristics, such as gender, age, marital status, level of education, level of training received, employment status, responsibility, compensation at work and job satisfaction.

The tools were first pre tested in a pilot study conducted at Bumula and Kimaeti Health centers in Bungoma South County. The questionnaires were administered to a total of 6 respondents comprising of five (5) enrolled nurses in Job group J and one (1) registered nurse – nursing officer III. There was no notable challenge with the study questionnaire. The respondents found it easier and clear and made a recommendation that the study results be shared widely.

During data collection, the questionnaires were verified by the researcher before the data was entered into SPSS V17 for analysis.

The sample population was drawn from the health centres and dispensaries of the Ministry of Health and in particular those in Kakamega – Central, South, North, East and West. The site was selected based on the researcher's work experience as well as due to its complexity and

multiplicity of situations i.e. presence of NGOs; government and private health services; ethnic background; unemployment; reliance on agriculture (sugar cane farming); gender inequalities and poverty.

4.5.2 Qualitative Data

Two qualitative data collecting techniques were applied to complement the quantitative data in this study.

- Key informant interviews were done with HR managers and health centre administrators as well as health professionals and resource persons. They provided expert opinion based on their experiences. A semi structured interview guide was used to conduct the interviews.

4.5.2.1 Focus group discussions

In this study two FGDs were held on the same day with nurses and clinical officers. The researcher with the help of two research assistants arranged the meetings. Invitations to the FGDs were sent through the county public health nurse and clinical officer. They in turn invited their cadre for the slated FGDs on March 5th. Due to communication challenges, a lower number of nurses participated in the FGD in comparison to the good turn out of clinical officers. This was mainly due to the high participation of the County clinical officer who was keen to learn more about the perceptions of the COs in order to improve support supervision.

When the groups assembled they went through a registration process, which included the program for the 1-hour discussions. The researcher then took the group through an introductory session and then the group discussions followed after the participants had agreed on group norms for the FGD.

- The two FGDs were held at Sheywe Guest house in Kakamega on March 5th 2010. A total of 16 health workers participated in the discussions. A discussion guide (appendix 5) was used to obtain information on factors influencing retention of their cadre in Kakamega. The groups had to set ground rules on how they would operate during the discussions. The researcher facilitated the discussions while encouraging the participants to talk freely.

4.6 Data Management and analysis

To analyse the data, descriptive statistical methods were employed. These were used to analyse and present the data. The study used descriptive statistics to analyse and present data, which contained respondents' views, opinions, expectations and other open-ended responses. This was done by running frequency and averages. These also include the measures of central tendency, percentages, frequencies, tables and pie charts. The data is also presented in tables. The views from the respondents were summarized according to the set objectives of the study. Summary statistics were generated using frequency and contingency tables

The researcher was responsible for the overall data collection, analysis and co-ordination of the study. The researcher personally trained the research assistants/data collection assistants and supervised them during the data collection to minimize information bias. The data collection tools for the semi structured interviews and questionnaires were pre tested in two health centres and one dispensary in Bungoma county.

4.7 Ethical considerations

To observe ethical guidelines, prior to the commencement of the study, the research proposal was submitted to the Kenyatta National Hospital/University of Nairobi Ethics & Research committee and approval to conduct the study was granted.

A consent letter was drawn for respondents to fill and sign prior to the data collection process. Authorization to conduct the study under the MoMs sites was sought through the Provincial medical officer (Western Province). The study commenced once approval from the ethics and research committee was granted.

4.7.1 Informed consent

Informed consent was sought from participants prior to data collection. Information about the study i.e. purpose and methods, what participation entailed, the potential risks and benefits, and the participant's ability to withdraw from the study at any time without negative repercussions as addressed in the consent documents. The consent forms were read to the potential participant by the interviewer. The potential participant had the opportunity to ask questions and obtain clarification on aspects not clearly comprehended. A witnessed signature from the participant was required for study enrolment.

4.7.2 Confidentiality of results

To ensure confidentiality, the following procedures were put in place;

- All records that contained names or other personal identifiers, such as locator forms and informed consent forms, were stored separately from study records.
- FGD participant lists were stored separately in a sealed envelope
- FGD audio tapes were stored separately and transcribed by the researcher

Chapter Five: RESULTS

5.0 Introduction

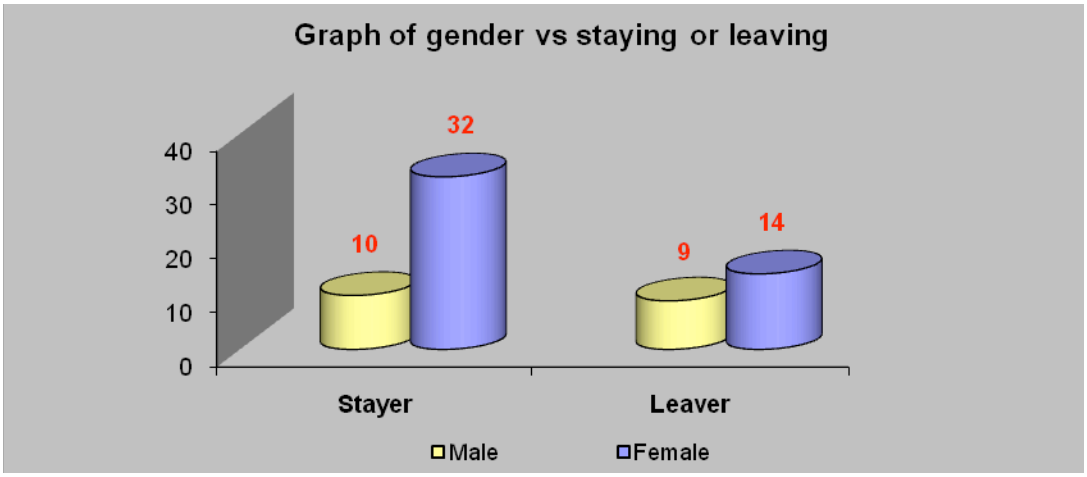
This chapter presents the research findings and interpretation of the data collected from the respondents. The data was analyzed from the three sample questionnaires using Statistical Package for Social Sciences (SPSS) V17. Findings are presented in Figures/graphs and tables. The qualitative result findings are presented accurately as portrayed by the respondents.

5.1 Quantitative Findings

5.1.1 Demographic characteristics of stayers and leavers

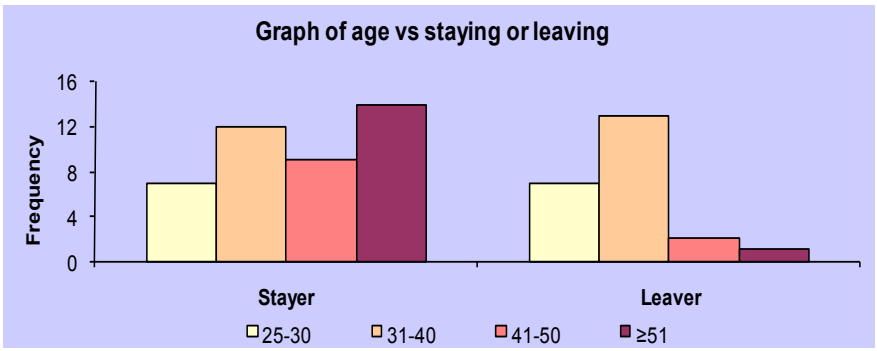
Sixty five individuals (stayers and leavers) participated in the study. 46 (70%) were females while 19 (30%) were males. 42 (65%) were stayers while 23 (35%) were leavers.

Figure 5.1: Gender vs. staying or leaving



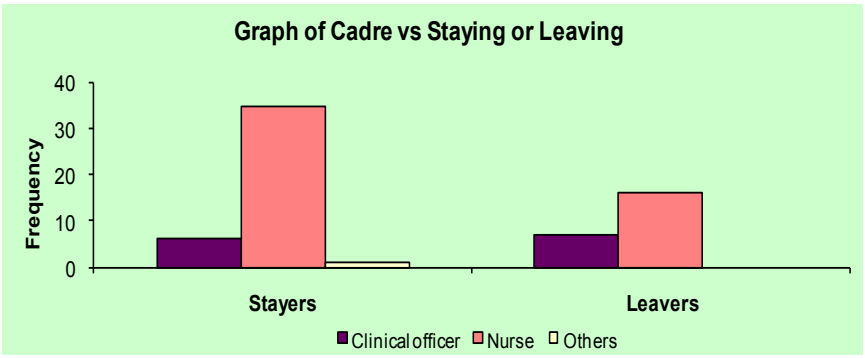
The median age for all was 39 years (IQR 31-50) while the median age for the leavers was 34 (IQR 30-39). Fifteen (23%) individuals were above 51 years, a cumulative 55% respondents were between 31 to 50 years while the remaining 14 (22%) were aged between 25 and 30 years.

Figure 5.2: Age vs staying or leaving



The ratio of clinical officers to nurses was 1:4 (13:51). Nine of the 39 stayers interviewed had worked in their current stations for between 2 and 5 years while the rest had been at the same station for at least 5 years. Fifteen (65%) of the leavers had also been at the same station within the last two years. All the 23 leavers had voluntarily changed their jobs with only 8 (35%) changing their cadre. Almost half (44%) of those who had changed jobs had come from public/government run institutions, 26% from faith based health facilities, 22% from non-governmental organizations with the remaining 8% from privately run facilities.

Figure 5.3: Cadre vs. Staying or leaving



Eight out of every ten individuals interviewed (80%) were married, 10 (15%) were single while only 3(5%) were widowed. A vast majority (97%) had dependents who needed financial support with only 2 (3%) individuals without dependents who needed financial support.

The median number of dependents of the interviewees was 4 (IQR 2-7.5). Indeed, 25 (40%) of the respondents had 6 or more dependents, while the remaining 60% were shared in a ratio of 1:1 (30%:30%) between those who had 1-2 and 3-5 dependents respectively.

Nearly half (48%) of the study participants had children aged between 5<14, 8% had infants (<1 year) while the remainder were shared 34% and 10% between individuals with children aged 1<5 and 14-18 respectively.

Parents and/or family were the biggest benefactors in the respondents' education with 71%, while government scholarships contributed 12% with the remainder shared almost equally among salary, loans and other scholarships.

5.1.2 Factors associated with retention and migration of paramedics from PHC facilities

The Chi Square statistic was used to measure differences between observed and expected responses from stayers and leavers.

$$\chi^2 = \sum \frac{(o-e)^2}{e}$$

Where: o is the observed frequency and e is the expected frequency

The results indicate the chi square values, degrees of freedom and the significance (p) value. Degrees of freedom were based on number of categorical responses minus one, A p value less than 0.05 was considered to be statistically significant at 95% confidence interval, or else it was considered not significantly associated with the variable.

1. Demographic Factors

Age was significantly associated with whether individuals interviewed within the study left or stayed in Kakamega county (χ^2= 11.16, d.f=3, p=0.01). The 31 to 40 years age group exhibited the biggest percentage of leavers (57%) in comparison to age group 51 and above that had a higher percentage of stayers (33%)

The staff cadre did not significantly determine whether individuals left or stayed (χ^2= 2.85, d.f=1, p=0.24). There was however a higher percentage (70%) of nurses who left in comparison to clinical officers (30%). The nursing cadre also exhibited a higher percentage of stayers (80%) in comparison to COs (14%).

Gender, marital status and classification of place of birth did not significantly determine whether individuals left or stayed (χ^2= 1.69, d.f= 1, p=0.26, χ^2= 3.14, d.f=1, p=0.21 and χ^2= 2.58, d.f=2, p=0.46). In terms of percentages, females exhibited a higher percentage of stayers and leavers in comparison to males. This reflects the gender dynamics of the different cadre. Duration an individual had spent at the same station was significantly associated with leaving or staying (χ^2= 12.72, d.f=3, p=0.01). There was a higher percentage of stayers than leavers among health workers who had worked in the county for five or more years.

Table 5.1: Demographic factors associated with retention and migration of paramedics

VARIABLE	Overall outcome		D.F	Chi-Square.	P-values (95% CI).
	Leavers	Stayers			
Age (years)	Freq. (%)	Freq. (%)	3	11.16	0.01
25-30	7 (30)	7 (17)			
31-40	13 (57)	12 (29)			
41-50	2 (9)	9 (21)			
51 and above	1 (4)	14 (33)			
Cadre					
Clinical Officer	7 (30)	6 (14)	1	2.85	0.24
Nurse	16 (70)	35 (83)			
Gender					
Male	9 (39)	10 (24)	1	1.69	0.26
Female	14 (61)	32 (76)			
Duration of time worked in the same organization					
Less than 6 months	5 (23)	-	3	12.72	0.01
6 < 12 months	-	5 (10)			
1 < 5 years	5 (23)	9 (20)			
5 years or more	11 (50)	29 (70)			

2. Job-related Factors

Job related factors were classified into 5 groups:

- Training,
- Supervision,
- Recognition,
- Working conditions and
- Compensation.

To obtain differences between the stayers and leavers, those who strongly agreed or agreed were categorized as **yes** whilst those who were not sure, disagreed or strongly disagreed were categorized as **no** to all the questions based on the 5 point Likert scale.

Having relevant training to perform optimally at their respective work places was significantly associated with leaving or staying at the respondent's current work station (χ^2= 12.72, d.f=1, p=0.01). However, respondents did not consider it a factor to determine if they stayed or left based on whether their training matched their jobs or not (χ^2= 0.63, d.f=1, p=0.57).

During FGDs, it was highlighted that "As RCOs, it is like we are enclosed in a box…you can't further your education…young people can't further their education and many RCOs have stagnated"

As regards supervision; encouragement at work within the last 6 months, fair evaluation and the commitment and competence of the facility administrator were strongly correlated with staying or leaving at (χ^2= 11.08, d.f=1, p=0.00, χ^2= 6.52, d.f=1, p=0.02 and χ^2= 6.30, d.f=1, p=0.02) respectively.

On the contrary, expectations at work, the supervisor caring about the staff's well being and being available when they needed support did not influence their decision to stay or seek alternative work places respectively.

Table 5.2: Job related factors: Training and Supervision

VARIABLE	Overall outcome		D.F	Chi-Square.	P-values (95% CI).
	Leavers	Stayers			
A. TRAINING My job matches my training					
No	5 (22)	13 (31)	1	0.63	0.57
Yes	18 (78)	29 (69)			
I have the training needed to succeed in my position					
No	10 (43)	13 (57)	1	22.43	<0.00
Yes	35 (83)	7 (17)			
B. SUPERVISION When I come to work, I know what is expected of me					
No	5 (21)	5 (12)	1	1.01	0.41
Yes	17 (79)	37 (88)			
My immediate supervisor cares about me as a person					
No	8 (35)	12 (19)	1	0.27	0.78
Yes	15 (65)	30 (71)			
In the past 6 months, someone has encouraged me					
No	13 (57)	7 (17)	1	11.08	0.00
Yes	10 (43)	35 (83)			
Yes	15 (65)	36 (86)			
I am fairly evaluated at work					
No	9 (39)	5 (12)	1	6.52	0.02
Yes	14 (61)	37 (88)			
The facility administrator is competent and committed					
No	8 (35)	5 (12)	1	6.30	0.02
Yes	15 (65)	37 (88)			

Table 5.3: Association of job related factors: Recognition

VARIABLE	Overall outcome		D.F	Chi-Square.	P-values (95% CI).
	Leavers	Stayers			
C. RECOGNITION I receive recognition for doing good work					
No	9 (39)	2 (5)	1	12.49	0.00
Yes	14 (61)	40 (95)			
I am actively involved in making this health facility better					
No	6 (26)	16 (38)	1	0.96	0.42
Yes	17 (74)	26 (62)			
My opinion seems to count and I am respected					
No	7 (30)	11 (26)	1	0.134	0.78
Yes	16 (70)	31 (74)			
I consider myself part of this community					
No	5 (22)	12 (29)	1	0.36	0.77
Yes	18 (78)	30 (71)			

Recognition for a job well done was more likely to influence whether the healthcare workers interviewed would stay or leave their workstations (χ^2= 12.49, d.f=1, p=0.00). Whether individuals were actively involved in making the health facility better, or felt they were respected, or their opinions counted and considered themselves as part of the community, did not constitute significantly to their decisions to stay or leave their current stations.

This was further supported by FGD results that indicated that "There is a lot of burn out because of shortage of staff many times other people are given opportunity to move on as RCOs remain at one level… when there are seminars, other cadre go while you are left behind…nobody feels that RCOs are very important."

Table 5.4: Job related factors: Working conditions and compensation

VARIABLE	Overall outcome		D.F	Chi-Square.	P-values (95% CI).
	Leavers	Stayers			
D. WORKING CONDITIONS - This is a fun place to work in					
No	10 (44)	10 (24)	1	2.70	0.16
Yes	13 (56)	32 (76)			
I have flexibility to balance personal and work demands					
No	8 (35)	5 (13)	1	8.08	0.01
Yes	15 (65)	37 (87)			
The workload is manageable					
No	14 (61)	5 (13)	1	22.21	<0.00
Yes	9 (39)	37 (87)			
I have the supplies I need to do my job well and safely					
No	12 (52)	28 (67)	1	1.39	0.29
Yes	25 (48)	14 (33)			
I have the equipment I need to do my job well and efficiently					
No	8 (35)	35 (83)	1	15.65	<0.00
Yes	15 (65)	7 (17)			
Yes	15 (65)	25 (59)			
E. COMPENSATION - My salary package is fair					
No	18 (78)	24 (57)	1	2.90	0.11
Yes	5 (22)	18 (43)			
There are sufficient opportunities for promotion with this employer					
No	18 (78)	33 (79)	1	0.001	1.00
Yes	5 (22)	9 (21)			

Having a manageable workload and equipment needed to do their job well and efficiently were very significantly correlated with seeking other work places or not (χ^2= 22.21, d.f=1,

p<0.00 and χ^2= 15.65, d.f=1, p<0.00) respectively. Flexibility and ability to balance work and personal life was also statistically related to desire to stay or leave the current workstation (χ^2= 8.08, d.f=1, p=0.01).

Availability of supplies to carry out duties effectively and safely, job security, safe and sufficient transport to and from work and fun at the place of work were not statistically related to if participants stayed or left. This was further highlighted during FGDs, "The workload is a lot… this impacts on family and social life for example you do not see your children or husband…it cuts you off from family and social life."

Current salary package and whether there existed sufficient opportunities for promotion did not significantly affect individual's decisions to stay or leave. However, this is contrary to the opinions of one RCO who commented that, "Salaries need to be improved because the economy has become unfavourable" a CO in the FGD also noted that, "appreciation of COs in as far as salaries are concerned should be differentiated from nurses".

5.1.3 Factors within stayers and leavers associated with retention and migration of paramedics

A multinomial logistic regression (MLR) was conducted on factors that exhibited significance between variables (chi square test) to establish the difference within variables i.e. the exact sub-classes of a variable that were significantly associated with staying or leaving

The multinomial logistic regression model allows the effects of the explanatory variables to be assessed across all the logic models and provides estimates of the overall significance (i.e. for all comparisons rather than each individual comparison). The general multinomial logistic regression model is:

$$\log \frac{\Pr(Y = j)}{\Pr(Y = j')} = \alpha + \beta_1 X_1 + \beta_2 X_2 + ... + \beta_k X_k$$

Where: j is the specific age group and j' is the reference age group

Pr(Y=j) is the probability of belonging to group j

X_i is a vector of explanatory variables

β_i are the coefficients estimated using maximum likelihood estimation.

The above model follows a chi-square distribution including the confidence interval and odds ratio. The significance test for the final model chi-square is statistical evidence of the presence of a relationship between staying/leaving and the combination of the independent variables. A p value of less than 0.05 was considered to be statistically significant at 95% confidence interval.

Table 5.5: Multivariate analysis of factors within stayers and leavers

Variable	Levels	Exp(β)	95% CI for Exp(β)		P-value
			Lower	Upper	
Age (years)	25-30	Ref	-	-	-
	31-40	0.071	0.007	0.701	0.023
	41-50	0.066	0.007	0.580	0.014
	51 and above	0.321	0.025	4.085	0.382
Duration worked in the organization	Less than 1 year	Ref	-	-	-
	1 < 5 years	0.183	0.039	0.863	0.032
	5 years or more	0.660	0.181	2.405	0.529
Having training needed to succeed in the position	No	Ref	-	-	-
	Yes	0.038	0.007	0.199	<0.001
Someone at work talking to encourage me	No	Ref	-	-	-
	Yes	6.5	2.04	20.67	0.002
Fair evaluation	No	Ref	-	-	-
	Yes	4.76	1.36	16.68	0.015
Facility administrator competent and committed	No	Ref	-	-	-
	Yes	5.07	1.33	19.37	0.018
Receives recognition for good work done	No	Ref	-	-	-
	Yes	12.86	2.47	66.86	0.002
Flexibility to balance personal and work demands	No	Ref	-	-	-
	Yes	6.93	1.62	29.69	0.009
Workload is manageable	No	Ref	-	-	-
	Yes	20.22	4.78	85.55	<0.001
Availability of equipment needed for efficient work	No	Ref	-	-	-
	Yes	0.107	0.03	0.35	<0.001

A multivariate analysis exploring factors associated with staying or leaving is presented in Table 5.5

Adjusting for age 25-30 years, there was significant differences associated with individuals aged between 31-40, 41-50 and 50 years and (OR 0.071, 0.066, 0.321 95% CI 0.007-0.701; 0.007-0.580, 0.025-4.085, P=0.023, 0.014, 0.382) respectively. Furthermore, after adjusting for work experience of less than one year, results showed that staying at a station for five or more years was not significantly associated with leaving compared to those who had worked for between 1 to less than five years (OR 0.660, 0.0.183, 95% CI 0.181-2.406; 0.039-0.863, P=0.529, 0.032).

After adjusting for years worked at a station during interview and age-group, the observed respective odds of those who had appropriate training and felt they could succeed in their positions was highly associated with staying; 0.038 (P<0.001, 95%CI 0.007-0.199).

Fair evaluation had a higher chance of eliciting stayers than leavers (OR 4.76, 95% CI 1.36-16.68, P=0.015). Respondents who felt that they had someone at the workplace to encourage them were as much as 6.5 times more likely to stay than their counterparts who had none (OR 6.5, 95% CI 2.04 -20.67, P=0.002).

Among respondents of the same age group and similar years of working at the same station, the commitment and competence of the hospital administrator and receiving recognition for work done were 5 and 12 times more likely to be associated with staying at the current work station (95% CI 1.33-19.37; 2.47-66.86, P=0.018, 0.002) respectively. This was consistent with those who felt that they had a flexible schedule that allowed them to balance between their work demands and personal needs with a significant OR of 6.93 and 95% CI 1.62-29.69 and P=0.009.

Respondents who felt they had all equipment needed to efficiently carry out their duties were 0.11 at odds to stay compared to those who were not (95% CI 0.03-0.35, P<0.001) whilst those who felt the workload was manageable were twice as likely to stay compared to those who thought the workload wasn't manageable (OR 2.02, 95% CI 4.78-8.55, P<0.001).

5.1.4. Demographic characteristics of administrators

Nearly a third (29%) of the administrators interviewed were clinical officers. Two thirds (64%) were nurses and only 4% individuals without clinical qualification respectively. The

ratio of males to females was 3:5 (44%:56%). The distribution of marital status was 21%, 75% and 4% for single, married and widowed respectively.

The oldest Administrators/managers were in the ages of 55 – 60 years while the youngest were in the ages of 26 – 30 years. Individual manager having the highest age was 58 years whereas the youngest Administrator was 27 years old. Majority, 67.86% (n = 19) of the Managers had experience of more than 10 years. 25.0% (n = 7) had 5 years and below, while 7.14% (n = 2) had between 6 – 10 years of experience.

Generally, financial incentives ranging from salary compensation, terminal benefits and any other allowances were considered important by the administrators who were interviewed (93%, 89%, 68% and 61% respectively). The managers did not feel workload was a vital factor i.e. 36% of respondents felt it was not important while 32% each felt that it was either somewhat or very important respectively.

The managers also did not see communication as important with almost half (46%) saying it wasn't important and only 14% saying it was very important to have communication issues sorted out. However, 46% of the administrators felt that opportunities for growth were very important with a quarter (25%) feeling it wasn't important and 29 saying it was somewhat important.

Majority of the administrators 71.4% (n=20), think that overall job satisfaction is important to employees. However, 67.9% (n = 19) of the Administrators feel that their organization adequately performs on this. Table 5.6 shows that a clear discrepancy exists between what the administrators felt was important and how their respective health facilities performed against the listed variables. Overall, the results show that health facilities are performing below either set standards or expectations of both the workers and administrators.

5.1.5 Administrators'/managers' opinion on issues and rating of health facilities performance

A paired t-test was used to compare the means of (a) how the administrators/managers rated specific variables regarding healthcare delivery for instance administration, employee welfare etc and (b) how their health facilities actually performed against the rating. The 2-tailed test was used because a non-equality of means alternative hypothesis was assumed. A p value of less than 0.05 was considered to be statistically significant at 95% confidence interval.

Table 5.6: Opinion of Administrators/Managers of health facilities

Variable	Mean	Lower	Upper	T	d.f	Sig.(2-tailed)
Placing people in jobs for which they are suited - How well?	0.40741	0.18098	0.63384	3.698	26	0.001
Having clear job expectations - How well?	0.30769	0.0582	0.55718	2.54	26	0.018
Recognizing and rewarding good work - How well?	0.59259	0.25874	0.92645	3.649	26	0.001
Supervisors who care about their staff and offer support - How well?	0.44444	0.19107	0.69782	3.606	26	0.001
Talking to staff regularly to encourage their development - How well?	0.37037	0.12143	0.61931	3.058	26	0.005
Overall morale - How well?	0.46154	0.17637	0.74671	3.333	26	0.003
Valuing and respecting each worker - How well?	0.37037	0.12143	0.61931	3.058	26	0.005
Offering the training needed for staff to succeed at their jobs - How well?	0.34615	0.15019	0.54212	3.638	26	0.001
Using appropriate methods and standards to measure job performance - How well?	0.51852	0.26426	0.77278	4.192	26	<0.001

The administrators' mean rating of the importance of placing workers in positions where they were most suited is much higher than the actual performance at their respective health facilities (two-sided t-test, (t26)=3.70, p=0.001). The p-value for recognizing and rewarding good work; supervisors caring about and supporting their staff and offering training needed for staff to succeed in their duties was 0.001 (two-sided t-test, t(26)= 3.65, 3.61 and 3.64 respectively).

The mean rating of having clear expectations, constant talking and encouragement of staff, valuing and respecting staff and overall morale were also higher than the actual health facility performances (two-sided t-test, t(26)=2.54, 3.06, 3.06 and 3.33, p= 0.018, 0.005, 0.005 and 0.003 respectively). The administrators also agreed that their areas of jurisdiction were underperforming when it came to using appropriate methods and standards in measuring job performance (two-sided t-test, t(26)=4.19, p<0.001).

5.2 Qualitative Findings

This section highlights factors associated with retention and migration of paramedics and perceptions on what motivates and discourages paramedics in PHC facilities. During the FGD, the health workers were asked several open ended questions and responses recorded under each. The study reveals several factors regarding migration and retention of health workers in Kakamega as highlighted by the two cadres.

5.2.1 Factors associated with retention and migration of paramedics

When asked whether they have considered leaving their jobs, ALL (n=12) clinical officers participating in the FGD answered "YES". The FGD discussions revealed that there is a perceived stagnation on one job group for years and burn out due to a lot of work being loaded on one clinical officer when other staff at the facility are out for seminars. ALL nurses in FGD also indicated that given the opportunity they would leave.

"*As RCOs, it is like we are enclosed in a box…you can't further your education…young people can't further their education and many RCOs have stagnated.*"

It was also revealed during the study that some clinical officers are not able to access equipment/facilities e.g. water, thermometers, privacy and general furnishing of rooms. The

study also revealed that there was a challenge with administration i.e..unclear administration hierarchy hence work is not clearly defined. The RCO also indicated that the curriculum developed by WHO indicates that RCOs should be in charge of health centres however, "*now, nurses and RCOs are trained at the same level, hence no clear structure to guide work*" A clinical officer lamented that, "*it is demoralising not to know clear specifications.*"

When asked what some of the factors contributing to RCOs wanting to stay in the county, one RCOs commented, "*there are no opportunities or greener pastures to go to…I can't leave when there is no definite place to go.*" The study also revealed that there was an imminent "*fear of hustling/hooking for another job elsewhere*" as one RCOs commented.

The study also revealed that RCOs remain in Kakamega because they have the passion to serve the community, this they saw as a "calling". The study also revealed that most of the RCOs in the FGD rated salary differentials as one of the key push factors, as one RCO commented, "*Salaries need to be improved because the economy has become unfavourable,*" a CO in the FGD also noted that, "*appreciation of COs in as far as salaries are concerned should be differentiated from nurses*".

The study also revealed that RCOs in Kakamega would remain in the county if opportunities for further studies were opened.

"*Open ways for RCOs to grow and remain as clinical officers…with broader knowledge…I wish to go for 1st and 2nd degrees and still be recognised as a CO…I want to be able to compete with the rest of the economy.*"

According to Nurses,

"*The workload is a lot… this impacts on family and social life for example one does not see their children or husband…it cuts you off from family and social life*" another added, "*there is role conflict*" hence this being a key reason for wanting to migrate. Another element was the cost for training, "*nursing is expensive…no longer issued with scholarships…the conditions for getting entry are also tough*." This is further compounded by "*poor working conditions for example soggy ceiling, building not painted for years…pathetic conditions…*"

The study also revealed that, "*cases for referral force the patient to fuel the vehicles… most do not afford…health centres are not given money…a vote for fuel.*" The study revealed that poor facilities also contribute to migration, in addition, the working conditions are worsened

by mosquito attacks, "*sometimes we ourselves fall sick…many times we are attacked by mosquitoes.*"

Another factor that was revealed by nurses is that, "*there is no electricity in most dispensaries…many times vaccines are transported to the next facility with power… we spend a lot of money dropping and picking vaccines,*" in addition, "*many times there is shortage of supplies for example basic drugs, gloves…*"

The nurses also highlighted that the reason for staying on in Kakamega is that there is, "*no alternative… uncertainty about the future keeps us going…if there was an alternative we would go to better paying ventures*", a similar factor was raised by RCOs. A key reason highlighted was, "*the calling to serve our own people*", all the nurses were from Kakamega area and belonged to the Luhya ethnic group. It can therefore be postulated that, ethnicity is associated with retention of primary health care workers in Kakameag since health workers feel it is their duty to serve in the communities where they are stationed.

5.2.2 Perceptions on what motivates and discourages paramedics in PHC facilities

A motivator shared by both cadres was that, the region is of favourable climatic conditions and that community members in Kakamega are friendly. Both cadres are able to access groceries and other requirements easily since, "*there is a lot of natural food in the area*". It was also noted that, "*there is a good team in this county…team work is a mode of operation here,*" commented a Clinical officer. Since the county hosts the provincial office, the respondents indicated that there is a good link to the provincial office.

Another motivator was security. According to the respondents, "*the area is safe…people can work at any time… the community respects health workers.*"

Both cadres highlighted what discourages them in PHC facilities. The study revealed that quite a number of facilities are understaffed and both cadres work over time. According to the respondents, "*this leads to low quality service to clients…sometimes you can find only one RCO in a facility, meaning they can't go for further training, leave etc...*" The respondents also indicated that, "*there is a lot of illiteracy…health centres experience low turn up of clients.*"

5.3 Limitations of study

The purposive selection (census) of all primary health facilities in Kakamega County based on the 2003 Ministry of Health facility inventory could have led to sampling bias since only facilities in Kakamega were selected leaving out other facilities in western province. At the time of data collection, Kakamega County covered Kakamega South, East, North and Central. This resulted in the inclusion of health facilities which were upgraded to sub County hospitals. This implies that the findings of the study cannot be generalized and applied to other Countys and provinces in Kenya.

Initially the researcher had envisioned comparing the views of those remaining in GOK PHC facilities and those leaving the public sector in the rural setting to other sectors or other facilities within the public sector. This would have entailed tracing paramedics who have left Kakamega County.

Chapter Six: DISCUSSION, RECOMMENDATIONS AND CONCLUSION

6.1 Introduction

This chapter provides an overview of the study interpretation and discussion regarding findings relating to identified factors influencing retention of paramedics in Kakamega namely; age and cadre; birth place; duration at the duty station; training; supervisory related factors and job related factors.

6.2 Interpretation and discussion

6.2.1 Demographic Factors

Age of respondents

In the study, it was established that age had a statistical significance in influencing whether paramedics left or stayed at their work stations. Health workers ages 31 - 40 years were more likely to leave their work stations in comparison to other age groups. This could be attributed to their stage in the life span. It is likely that participants in this age group have young dependents and thus desire the opportunity to further their career ambitions in order to provide better schools and other social amenities for the family. In addition, furthering education or career prospects for oneself is likely in this age group in comparison to the age group 51 years and above who exhibited stability in staying at the facility.

Ndetei et al (2008) state that Human Resource records were not standardized hence reasons for departure of health workers were not known. The Kenya Ministry of Medical Services gave optional retirement before official age; mandatory official retirement age; golden handshake/retrenchment as some of the factors related to leaving. On age, Mullei et al (2010) revealed that, attitudes to working in rural areas were significantly positively affected by being older, but negatively affected by being an upgrading student.

Birth place

The study revealed that classification of birth place did not significantly determine whether a paramedic stayed or left a rural work station. However, the study by Mullei et al (ibid) indicates that working in communities dominated by other tribes was an impediment to retention due to the experience from the 2007 – 2008 general elections chaos.

Duration at the duty station

The results of this study show that the duration an individual had spent at the same station was significantly associated with leaving or staying. Humphreys et al (Nov 2009) indicate in a study conducted in Australia that longer duration of stay has been associated with being older, having attended school locally, owning or purchasing a home, living with family, enjoying the rural lifestyle and establishing professional and community networks, while a sense of social and personal isolation may contribute to the decision to leave a rural area.

Training

Having relevant training to perform optimally at their respective work places was significantly associated with leaving or staying at the respondent's current work station. A study by Henderson et al (2008) found that Education, training and professional development opportunities influenced retention of health workers. Ndetei et al (2008) established through a focus group discussion that limited educational opportunities was a factor that influenced health workers to leave. This is further affirmed by the study by Mullei et al (2010) that poor infrastructure, inadequate education facilities and opportunities affect retention of paramedics in rural areas.

6.2.2 Supervisory related factors

Supervision and encouragement at work; fair evaluation and the commitment and competence of the facility administrator were strongly associated with staying or leaving. The Directors/administrators on the other hand, did not see communication as important with almost half (46%) saying it wasn't important and only 14% saying it was very important to have communication issues sorted out. Yet the staff indicated that encouragement (mostly through communication) was a vital component of retention. This therefore implies that supervisory related factors affects retention of paramedics. A study by Henderson et al (2008) listed supervision and management as factors influencing retention. On the contrary, this study has revealed that expectations at work, the supervisor caring about the staff's well being and being available when they needed support did not influence their decision to stay or seek alternative work places.

6.2.3 Job related factors

Recognition

Recognition for a job well done was more likely to influence whether the healthcare workers interviewed would stay or leave their workstations. Whether individuals were actively involved in making the health facility better, or felt they were respected, or their opinions counted and considered themselves as part of the community, did not constitute significantly to their decisions to stay or leave their current stations. This implies that when health workers are recognized for doing a good job, they stay longer at a duty station. Though this study focused on job related recognition, Henderson et al (2008) list social recognition as a key factor to retention.

Workload and equipment

Having manageable workload and the equipment needed to perform well and efficiently was significantly correlated with staying or leaving. The administrators however did not feel that heavy workload was a vital factor. This indicates a discrepancy between what the administrators view as vital and what the employees – paramedics view as important. If workload issues are not addressed, there is a greater likelihood for paramedics to leave.

Dussault and Franceschini (2006) found that several aspects of the organizational environment contribute to workforce shortages in some areas. They argue that workers are less likely to remain in organizations with poor management, which lack equipment, supplies and other important infrastructure. Survey data support these assertions with negative workplace factors such as stress, workload, inflexible working hours, poor quality work environment, lack of managerial support, and lack of locum relief and/or qualified assistants associated with poor retention in rural and remote areas. Furthermore, a study by Mullei et al (2010) revealed that higher workloads, and inadequate supplies and supervision are variables negatively associated with retention.

The results show that flexibility and ability to balance work and personal life was also statistically related to desire to stay or leave the current workstation. This implies that work and family life balance is essential to retaining paramedics in the 31- 40 years age bracket most likely because of young dependents.

Administrators

The overall conclusion is that the performance of healthcare facilities in all aspects was lower than the rating as per the managers/administrators opinion. This raises issues as to whether administrators know that they are not performing as they should and yet seem disempowered to make modifications to operations at the facilities.

6.3 Summary of discussion of results

This study established that indeed as hypothesized, age and duration of working at a station as demographic characteristics contributed significantly to "staying" or "leaving" by paramedics from PHC facilities in Kakamega County.

Through FGDs, the study also established differences of opinion and perceptions on what motivates and discourages paramedics with regard to "staying" or "leaving".

Further, using multivariate analysis, the study established the following as key factors that influence retention of health workers in primary health facilities:

i. Training

ii. Supervision

iii. Competence of facility administrators

iv. Recognition for good work

v. Flexibility at work

vi. Manageable workload and

vii. Availability of equipment.

6.4 Recommendations

Based on the findings from the qualitative and quantitative data gathered in this study, the following are some of the recommendations put forward by the researcher.

The major gap that needs to be filled is ensuring that the health workers who already indicate job satisfaction and interest to remain in service in the rural and underserved primary health care facilities remain motivated through financial and non-financial incentives highlighted

through the study. The study findings indicate that the workers would stay longer in public health service if the Ministry of Medical Services takes the following into consideration:

1. Placement of competent administrators who ensure open communication, fair evaluation and recognition of a job well done by the paramedics. This calls for regular performance appraisals of the administrators in the county
2. Institute measures for enhanced coaching and mentoring of administrators by their supervisors in supportive supervision for improved supervision of paramedics at the facility level
3. Timely replacement and provision of equipment to do the necessary work
4. Work family balance for the paramedics be instituted as a means to retaining professional motivated PHC workers
5. Enhance the existing Emergency Hire Plan (EHP) and the computer-based distance education to address the workload and training needs of the paramedics

6.5 Areas for further research

1. An in depth analysis of communication barriers between paramedics and supervisors in PHC facilities in Kenya.
2. A comparative study of health worker retention through effective procurement strategies in the private and public sector.
3. An in depth study of factors that influence retention of health workers in all levels of health service provision in Kenya.

6.6 Conclusions

The study sought to establish factors associated with retention of health workers in primary health care facilities in Kakamega. Several studies have been conducted focusing on health worker migration from developing to developed countries. However, most studies have not focused on paramedics (nurses and clinical officers) in remote and underserved areas. This study is the first of its kind documenting factors influencing retention of health workers in primary health facilities in Kakamega, Kenya.

The study attempted to answer the following research question:

Are there any specific factors related with primary health care workers staying or leaving Kakamega county?

The following are the conclusions of the study based on the findings.

The study revealed that health workers in the age group 31 - 40 years were more likely to leave the county. This therefore implies that health systems policy makers and planners should look into and address the attitudes and needs of paramedics in this age group in order to have them retained in this rural underserved area. Lessons and experiences can be drawn from the older health workers who are most likely to stay on in the county.

The study further shows that, place of birth did not significantly determine whether a paramedic stayed or left the county. It can be concluded that health workers are ready to work in a location away from their birthplace. It should however be noted that the post election violence of 2007 may have some implications on the acceptability of paramedics in areas dominated by one ethnic group.

The duration an individual had spent at the same station was significantly associated with leaving or staying. The study therefore concludes that longer duration at a work station can be due to family ties, ability to engage in other income generating ventures, affordability of services as well as favorable climatic conditions for food production and work family balance.

Having relevant training to perform optimally at their respective work places was significantly associated with leaving or staying in the county. The study therefore concludes that training and professional development is vital in retaining professional and skilled paramedics in rural areas of Kakamega. The study further concludes that paramedics in Kakamega are likely to work in departments where they do not have the required training since they did not consider it a factor to determine whether they stayed or left based on whether their training matched their job or not.

Supervision and encouragement at work; fair evaluation and the commitment and competence of the facility administrator were strongly associated with staying or leaving. The study concludes that supportive supervision, competence of the administrators and clear lines of communication are likely to increase retention of paramedics in Kakamega. The study also revealed that expectations at work, the supervisor caring about the staff's well

being and being available when they needed support did not influence their decision to stay or seek alternative work places. The study therefore concludes that paramedics in Kakamega are self motivated and driven to provide nursing and clinical care to community members.

Recognition for a job well done was more likely to influence whether the healthcare workers interviewed would stay or leave their workstations. Whether individuals were actively involved in making the health facility better, felt they were respected, their opinions counted and considered themselves as part of the community did not constitute significantly to their decisions to stay or leave their current stations. The study concludes that where facility administrators recognize paramedics for a job well done, there is likelihood for increased retention of health workers.

Having manageable workload and equipment needed to do their job well and efficiently were very significantly correlated with staying or leaving. The administrators however did not feel that heavy workload was a vital factor. The study concludes that there is a discrepancy between what the administrators view as vital and what the paramedics view as important. The study further concludes that when workload issues are addressed, there is a high likelihood for increased retention of paramedics.

The study revealed that flexibility and ability to balance work and personal life was statistically related to desire to stay or leave the current workstation. The study concludes that work and family life balance is essential to retaining paramedics more so those in the 31-40 years age bracket.

The study concludes that, for retention of primary health workers to be realized, the listed factors should be taken into consideration since there is a high likelihood of health workers in Kakamega to leave the County in search of greener pastures. Therefore, the efficiency and sustainability of current and future retention interventions depends on the levels of ownership, willingness and pro activeness of the different stakeholders and leaders in health provision.

On the basis of the findings and conclusions, the study has recommended several steps that policy makers and planners in health systems strengthening can take into consideration in line with retention of health workers in primary health care facilities.

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APPENDICES

Appendix 1: Questionnaire Cover Letter

Dear Respondent,

My name is Nema C.M. Aluku and I am an MPH student at the University of Nairobi, School of Medicine, Department of Community Health under the supervision of Prof. J. Wang'ombe and Ms F. Thuita. I am writing to invite you to participate in a research entitled "Factors influencing the retention of Health Workers in primary health care facilities in Kakamega County".

An integral part of the research is to identify views of health workers regarding the rate of retention of health workers in Kakamega County. The results of the study will help to inform policy related to health systems strengthening.

I do not know of any risks to you if you decide to participate in this survey and I guarantee that your responses will not be identified with you personally. I promise not to share any information that identifies you with anyone outside my research group which consists of me and my research assistants.

The questionnaire should take you about 30 minutes to complete. I hope you will take the time to complete this questionnaire and return it. Your participation is voluntary and there is no penalty if you do not participate. Regardless of whether you choose to participate, please let me know if you would like a summary of my findings.

If you have any questions or concerns about completing the questionnaire or about being in this study, please feel free to contact me on 0721 7122 665 or at naluku@gmail.com. You can also call the department of Community Health on 020 – 2724639 and ask for the chairman or my supervisors Prof. J. Wang'ombe and/or Ms. F. Thuita or contact The Kenyatta National Hospital/University of Nairobi Ethics and Research Committee (KNH/UON - ERC) who have approved this study (refer to the approval letter attached), on 020-726300-9

Sincerely

Nema C.M. Aluku

Appendix 2: Consent and questionnaire for nurses and clinical officers – currently employed

CONSENT INFORMATION STATEMENT for

Nurses and clinical officers at Health Facilities in Kakamega County

(Currently Employed - stayers)

QUESTIONNAIRE CONSENT

I anticipate each questionnaire interview will take about 30 minutes to complete. You may complete the form on your own or I can sit with you and complete the questionnaire as we go through it. When complete, your anonymous questionnaire will be inserted in an envelope and stored in a locked box to protect your identity. I will be interviewing at least 72 people in government health centers and dispensaries in Kakamega County. My data collection should be complete at the end of February, and it will take me until May 2010 to compile my final report.

The purpose of the study is to learn how health workers view their jobs, how satisfied they are with working conditions, and their intentions to continue in the work. This will enable me to describe factors influencing retention of health workers at primary health care facilities. I hope to learn what things the Ministry of Health could do to improve working conditions and other factors that would improve retention of nurses and clinical officers in Kakamega County and Kenya as a whole.

I do not anticipate that the questions will be difficult to answer, but some may cause you to think about working conditions that are distressing and may cause emotional discomfort. You may refuse to answer any question and may withdraw from the study at any time without penalty. When you complete the questionnaire and return it to me, you are conveying your consent to participate without giving me your name.

Some people are concerned that giving a negative report about their supervisor or employer may put them at risk. I have attempted to minimize that risk in the following ways: 1) The questionnaire is anonymous; your name is not attached to your responses; 2) If the research assistant reads the questions to you and records your spoken answers, this will be done in a private setting where no one can overhear your responses.

If you have any questions, please do not hesitate to ask me: Nema C.M. Aluku at 0721 712 665. You can also call the department of Community Health on 020 – 2724639 and ask for the chairman or my supervisors Prof. J. Wang'ombe and/or Ms. F. Thuita or contact The Kenyatta National Hospital/University of Nairobi Ethics and Research Committee (KNH/UON - ERC) who have approved this study (refer to the approval letter attached), on 020-726300-9

This consent form should be signed in duplicate. Please retain a copy for your records.

Nema C.M. Aluku

Printed name of lead researcher obtaining consent Signature Date

FOR OFFICIAL USE ONLY

Questionnaire Number: ☐ ☐☐ ☐☐ ☐☐

Date of Interview: ☐☐/☐☐/☐☐☐☐
(dd/mm/yyyy)

Interviewer Name:_____

Date Checked: ☐☐/☐☐/☐☐☐☐ (dd/mm/yyyy)

Kakamega County Health Worker Retention Study Questionnaire

Section I: General information

Interviewer will complete this section before giving the survey to the respondent.

A) County Name:_____

B) Facility Name:_____

C) What is your cadre?

1= Clinical Officer Specify type:_____
2 = Nursing Specify type:_____

D) Current Job Title:_____

E) Did you voluntarily change your employer since January 1, 2004 *(For example, move from one employer to another)*?

1=Yes

2=No

If YES, stop interview and give respondent LEAVERS instrument.

Section II: Background Information

Enter or circle your answers to the questions below.

#	Questions	Enter or circle your answers.
1	What is your gender?	1=Male 2=Female
2	What is your birth year?	19 ☐☐ (yyyy)
3	What is your birthplace?	1=Kenya 2=Other specify_____
3.1	If Kenya, which Province?	Name:
3.2	Which County? (Please use original County name)	Name:
3.3	Which ethnic groups best describes you? (this question is for statistical purposes only)	1.Luhya 2.Luo 3.Kalenjin 4.Akamba 5.Kikuyu 6.other:_____ 7.Do not want to answer
3.4	Which town or city or division or constituency?	Name;
3.5	How would you describe the area where you were born? (tick one)	1.Very rural 2.Moderately rural 3.Urban (town) 4.Urban (city)
3.6	Where did you spend most of your childhood? (fill all blanks 1 -3)	1.Name of town or city or division or constituency (circle appropriate) _____ 2.Name of County_____

		3.Name of province_____
3.7	Where do your parents live? (fill all blanks 1 – 3)	1.Name of town or city or division or constituency (circle appropriate) _____ 2.Name of County _____ 3.Name of province_____ Or check box if BOTH parents are deceased ☐
3.8	Where is your spouse from? (fill all blanks 1-3)	1.Name of town or city or division or constituency (circle appropriate)_____ 2.Name of County_____ 3.Name of province_____
3.9	If not Kenyan, what is your citizenship?	Name:
4	What is your marital status? (Circle one category)	1=Single 2=Married 3=Divorced 4=Widowed 5=Separated
5	Do you have children or dependents that you financially support who are living in and outside your household?	1=Yes 2=No
5.1	If Yes, How many total dependents?	☐☐
5.2	If Yes, How old is the youngest dependent? (age of the last birthday)	☐☐ years ☐☐ months
5.3	If Yes, How old is the oldest dependent? (age of the last	☐☐ years ☐☐ months

	birthday)	
6	From what institution did you receive your first professional qualification in health care?	_____
7	When did you qualify from training for your health position?	☐☐☐☐ (yyyy)
8	When were you last licensed in your current cadre?	☐☐☐☐ (yyyy)
9	How did you pay for your training? (circle all relevant answers)	1.My parents or other members of my family supported me 2.I received a salary 3.I took a loan 4.I was on study leave from the public sector (distance learning) 5.I obtained a scholarship from the government 6.I received a scholarship from the private sector/faith based organization 7. other specify_____
10	If you got a loan – What is the current outstanding amount on your loan?	Outstanding amount on loan: Kshs._____
11	How long have you worked with this organization (i.e. Ministry of Health)?	☐☐ years ☐☐months
12	How long have you been at this facility?	☐☐ years ☐☐months
13	Is this your first job since receiving your most recent qualification?	1=Yes 2=No

Section III: Job Satisfaction and Morale

The following questions refer to your job satisfaction and morale where you are currently working. Please circle the number that best fits your level of agreement with each statement, using a 5 point scale where 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree.

#	To what extent do you agree with the following statements?	5 = Strongly Agree	4 = Agree	3 = Neutral	2 = Disagree	1 = Strongly disagree
14	Considering everything, I am satisfied with my job.	5	4	3	2	1
15	The job is a good match for my skills and experience.	5	4	3	2	1
16	When I come to work, I know what is expected of me.	5	4	3	2	1
17	I receive recognition for doing good work.	5	4	3	2	1
18	My immediate supervisor cares about me as a person.	5	4	3	2	1
19	In the past six months, someone has talked to me to encourage my development.	5	4	3	2	1
20	Overall, the morale level at my department or section is good.	5	4	3	2	1
21	My opinion seems to matter at work; I am respected.	5	4	3	2	1
22	I have a good friend at work.	5	4	3	2	1
23	I would encourage my friends and family to seek care here.	5	4	3	2	1
24	I have flexibility to balance the demands of my workplace and my personal life.	5	4	3	2	1
25	This is a fun place to work; the work I am doing is stimulating.	5	4	3	2	1
26	I have been abused (physically, emotionally, verbally) by a supervisor.	5	4	3	2	1
27	I have been abused (physically,	5	4	3	2	1

	emotionally, verbally) by my peers.					
28	I have been abused (physically, emotionally, verbally) by patients/their friends/family members.	5	4	3	2	1
29	I have been abused (physically, emotionally, verbally) while traveling to/from work.	5	4	3	2	1
30	I have been given the training needed to succeed in my position.	5	4	3	2	1
31	The organization takes specific measures to protect me against HIV and AIDS.	5	4	3	2	1
32	I consider myself a part of this community.	5	4	3	2	1
33	I am fairly evaluated on my work.	5	4	3	2	1
34	My supervisor is available when I need support.	5	4	3	2	1
35	The health center/dispensary administrator here is competent and committed.	5	4	3	2	1
36	I am actively involved in helping to make this a great health care facility.	5	4	3	2	1

Section IV: Working Conditions

The following questions refer to your working conditions at your current facility. Circle the appropriate response.

#	To what extent do you agree with the following statement?	5 = Strongly Agree	4 = Agree	3 = Neutral	2 = Disagree	1 = Strongly disagree
37	The workload is manageable.	5	4	3	2	1
38	I have the supplies I need to do my job well and safely (gloves, needles, bandages, etc).	5	4	3	2	1
39	I have the equipment I need to do my job well and efficiently (blood pressure cuffs, weighing scales, HIV test kits).	5	4	3	2	1
40	This facility has good access to drugs and medications.	5	4	3	2	1
41	I can take time to eat lunch almost every day.	5	4	3	2	1
42	At home, I have access to safe, clean water.	5	4	3	2	1
43	At work, I have access to safe, clean water.	5	4	3	2	1
44	At home, I have good access to electricity.	5	4	3	2	1
45	At work, I have good access to electricity.	5	4	3	2	1
46	I have access to good schooling for my children.	5	4	3	2	1
47	I have safe and efficient transportation to work.	5	4	3	2	1
48	I feel I have job security.	5	4	3	2	1
49	The community where I live has good shopping and entertainment.	5	4	3	2	1

Section V: Compensation

Please indicate your level of agreement with the following questions by marking the appropriate response with a circle.

#	To what extent do you agree with the following statements?	5 = Strongly Agree	4 = Agree	3 = Neutral	2 = Disagree	1 = Strongly disagree
50	My salary package is fair.	5	4	3	2	1
51	I feel there are sufficient opportunities for promotion with this employer.	5	4	3	2	1

Section VI: Importance of Compensation Factors

Circle the number that best fits your personal opinion of the level of importance of compensation factor offered by an organization.

#	How important are the following compensation factors offered by an organization to you?	3 = Very important	2= Somewhat important	1= Not important
52	Salary.	3	2	1
53	Terminal benefits (retirement, pension, etc)	3	2	1
54	Receiving a housing allowance.	3	2	1
55	Assistance with transportation.	3	2	1
56	Health care for my family.	3	2	1
57	Food allowance.	3	2	1

Section VII: Degree of Importance of Factors that may make you decide to leave your current job

Please circle the appropriate response.

#	If you were to consider leaving your current job position, how important would the following factors be in that decision?	3 = Very important	2= Somewhat important	1= Not important
58	Low pay/salary/allowances	3	2	1
59	High workload	3	2	1
60	Poor access to supplies & equipment at work	3	2	1
61	Limited opportunities for promotion	3	2	1
62	Social conflicts in the workplace	3	2	1
63	Poor supervision and management	3	2	1
64	Transport problems	3	2	1
65	Poor/lack of utilities (water, electricity) at home	3	2	1
66	Poor/lack of utilities (water, electricity) at work	3	2	1
67	Lack of housing facilities	3	2	1
68	Communication problems, telephones	3	2	1
69	High cost of living	3	2	1
70	Poor educational facilities for children	3	2	1
71	Poor access to higher education for myself	3	2	1
72	Work is far from home.	3	2	1
73	Other_____	3	2	1

Section VIII: These are open-ended questions about your current work place.

74. Please identify three things that you like about working for this organization:

a. _____

b. _____

c. _____

75. Please identify three things you don't like about working here:

a. _____

b. _____

c. _____

Please circle the most appropriate response to the two questions below.

#	Questions	Circle your answers
76	Which of the following statements is true for you?	1= I would leave this job as soon as possible. 2= I would leave this job within a year from now. 3= I would leave this job one to two years from now. 4= I would leave this job three to five years from now. 5= I plan to stay in this job indefinitely. 6= Other (Specify): ☐☐ years
77	If you want to leave your job soon, which of the following statements best apply to you?	1= I would stay with this same organization/employer but would switch to a different location. 2= I would switch to another organization/employer in Kenya. 3= I would switch to a job out of the health sector. 4= I would switch to a job out of the country. 5= I do not want to leave my job soon.

78. What would you change in this organization to help you stay longer?

a. _____

b. _____

c. _____

79. Other comments:

_____
_____
_____
_____
_____
_____
_____

Appendix 3: Consent and questionnaire for health workers who left employment at health facilities

CONSENT INFORMATION STATEMENT for

Nurses and clinical officers at Health Facilities in Kakamega County

for

LEAVERS at Health Facilities

(Health workers who Left Jobs after January 1, 2004)

QUESTIONNAIRE CONSENT

I anticipate each questionnaire interview will take about 30 minutes to complete. You may complete the form on your own or I can sit with you and complete the questionnaire as we go through it. When complete, your anonymous questionnaire will be inserted in an envelope and stored in a locked box to protect your identity. I will be interviewing at least 72 people in government health centers and dispensaries in Kakamega County. My data collection should be complete at the end of February, and it will take me until May 2010 to compile my final report.

The purpose of the study is to learn how health workers view their jobs, how satisfied they are with working conditions, and their intentions to continue in the work. This will enable me to describe factors influencing retention of health workers at primary health care facilities. I hope to learn what things the Ministry of Health could do to improve working conditions and other factors that would improve retention of nurses and clinical officers in Kakamega County and Kenya as a whole.

I do not anticipate that the questions will be difficult to answer, but some may cause you to think about working conditions that are distressing and may cause emotional discomfort. You may refuse to answer any question and may withdraw from the study at any time without penalty. When you complete the questionnaire and return it to me, you are conveying your consent to participate without giving me your name.

Some people are concerned that giving a negative report about their supervisor or employer may put them at risk. I have attempted to minimize that risk in the following ways: 1) The questionnaire is anonymous; your name is not attached to your responses; 2) If the study team member reads the questions to you and records your spoken answers, this will be done in a private setting where no one can overhear your responses.

If you have any questions, please do not hesitate to ask me: Nema C.M. Aluku at 0721 712 665. You can also call the department of Community Health on 020 – 2724639 and ask for the chairman or my supervisors Prof. J. Wang'ombe and/or Ms. F. Thuita or contact The Kenyatta National Hospital/University of Nairobi Ethics and Research Committee (KNH/UON - ERC) who have approved this study (refer to the approval letter attached), on 020-726300-9

This consent form should be signed in duplicate. Please retain a copy for your records.

Nema C.M. Aluku

Printed name of lead researcher obtaining consent Signature Date

FOR OFFICIAL USE ONLY

Questionnaire Number: ☐☐☐☐☐

Date of Interview: ☐☐/☐☐/☐☐☐☐ (dd/mm/yyyy)

Interviewer Name:_____

Date Checked:☐☐/☐☐/☐☐☐☐ (dd/mm/yyyy)

Kakamega County Health Worker Retention Study Questionnaire

Section I: General Information

Interviewer will complete this section before giving the survey to the respondent.

A) County Name:_____

B) Facility Name:_____

C) What is your cadre:

1 = Clinical Officer Specify type:_____
2 = Nursing Specify type:_____
3 = Other Specify type: _____

D) Current Job Title:_____

E) Did you voluntarily change your employer since January 1, 2004? *(For example, move from one employer to another)*

1 = Yes

2= No

IF NO – Please stop and give respondent copy of "Stayers" survey.

E.1) Did you change cadre or job position between that job in 2004 and your current job?

1 = Yes

2= No

Section II: Background information

Please enter or circle your answers.

#	Questions	Enter or circle your answers.
1	What is your gender?	1=Male 2=Female
2	What is your birth year?	19 ☐☐ (yyyy)
3	What is your birthplace?	1=Kenya 2=Other specify_____
3.1	If Kenya, which Province?	Name:
3.2	Which County? (Please use original County name)	Name:
3.3	Which ethnic groups best describes you? (this question is for statistical purposes only)	1.Luhya 2.Luo 3.Kalenjin 4.Akamba 5.Kikuyu 6.other:_____ 7.Do not want to answer
3.4	Which town or city or division or constituency?	Name;
3.5	How would you describe the area where you were born? (tick one)	1.Very rural 2.Moderately rural 3.Urban (town) 4.Urban (city)
3.6	Where did you spend most of your childhood? (fill all blanks 1 -3)	1.Name of town or city or division or constituency (circle appropriate) _____ 2.Name of County_____ 3.Name of province_____
3.7	Where do your parents live? (fill all blanks 1 –	1.Name of town or city or division or constituency (circle appropriate) _____

	3)	2.Name of County _____ 3.Name of province_____ Or check box if BOTH parents are deceased ☐
3.8	Where is your spouse from? (fill all blanks 1-3)	1.Name of town or city or division or constituency (circle appropriate)_____ 2.Name of County_____ 3.Name of province_____
3.9	If not Kenyan, what is your citizenship?	Name:
4	What is your marital status? (Circle one category)	1=Single 2=Married 3=Divorced 4=Widowed 5=Separated
5	Do you have children or dependents that you financially support who are living in and outside your household?	1=Yes 2=No
5.1	If Yes, How many total dependents?	☐☐
5.2	If Yes, How old is the youngest dependent? (age of the last birthday)	☐☐ years ☐☐months
5.3	If Yes, How old is the oldest dependent? (age of the last birthday)	☐☐ years ☐☐months
6	From what institution did you receive your first professional qualification in health care?	_____
7	When did you qualify from training for your health position?	☐☐☐☐ (yyyy)

8	When were you last licensed in your current cadre?	☐☐☐☐ (yyyy)
9	How did you pay for your training? (circle all relevant answers)	1.My parents or other members of my family supported me 2.I received a salary 3.I took a loan 4.I was on study leave from the public sector (distance learning) 5.I obtained a scholarship from the government 6.I received a scholarship from the private sector/faith based organization 7. other specify_____
10	If you got a loan – What is the current outstanding amount on your loan?	Outstanding amount on loan: Kshs._____
11	How long have you worked with this organization (i.e. Ministry of Health)?	☐☐ years ☐☐months
12	How long have you been at this facility?	☐☐ years ☐☐months

Section III: Job Satisfaction and Morale

Read each of the statements below and mark your level of agreement for both the job you left in 2004 and your current job.

Mark the appropriate response with a circle. Use a 5 point scale where 5=strongly agree,

#	Rate your past position and your current position.	PAST JOB					CURRENT JOB				
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
13	Considering everything, I am satisfied with my job.	5	4	3	2	1	5	4	3	2	1
14	The job is a good match for my skills and experience.	5	4	3	2	1	5	4	3	2	1

15	When I come to work, I know what is expected of me.	5	4	3	2	1	5	4	3	2	1
16	I receive recognition for doing good work.	5	4	3	2	1	5	4	3	2	1
17	My immediate supervisor cares about me as a person.	5	4	3	2	1	5	4	3	2	1
18	Someone talks to me regularly to encourage my development.	5	4	3	2	1	5	4	3	2	1
19	Overall, the morale level at my department or section is good.	5	4	3	2	1	5	4	3	2	1
20	My opinion seems to matter at work; I am respected.	5	4	3	2	1	5	4	3	2	1
21	I have a good friend at work.	5	4	3	2	1	5	4	3	2	1
22	I would encourage my friends and family to seek care here.	5	4	3	2	1	5	4	3	2	1
23	I have flexibility to balance the demands of my workplace and my personal life.	5	4	3	2	1	5	4	3	2	1
24	This is a fun place to work; the work I am doing is stimulating.	5	4	3	2	1	5	4	3	2	1

4=agree, 3=neutral, 2=disagree, 1=strongly disagree.

#	Rate your past position and your current position.	PAST JOB					CURRENT JOB				
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
25	I have been abused (physically, emotionally, verbally) by a supervisor.	5	4	3	2	1	5	4	3	2	1
26	I have been abused (physically, emotionally, verbally) by my peers.	5	4	3	2	1	5	4	3	2	1
27	I have been abused (physically, emotionally, verbally) by patients/their friends/family members.	5	4	3	2	1	5	4	3	2	1
28	I have been abused (physically, emotionally, verbally) while traveling to/from work.	5	4	3	2	1	5	4	3	2	1

29	I have been given the training needed to succeed in my position.	5	4	3	2	1	5	4	3	2	1
30	The organization takes specific measures to protect me against HIV/AIDS.	5	4	3	2	1	5	4	3	2	1
31	I consider myself a part of this community.	5	4	3	2	1	5	4	3	2	1
32	I am fairly evaluated on my work.	5	4	3	2	1	5	4	3	2	1
33	My supervisor is available when I need support.	5	4	3	2	1	5	4	3	2	1
34	The center administrator here is competent and committed.	5	4	3	2	1	5	4	3	2	1
35	I am actively involved in helping to make this a great health care facility.	5	4	3	2	1	5	4	3	2	1

Section IV: Working Conditions

Please mark the extent to which you agree with the following statements for both the job you left in 2004 and your current job. Mark the appropriate response with a circle.

#	How does your current job compare with your past job on the following issues?	PAST JOB					CURRENT JOB				
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
36	The workload is manageable.	5	4	3	2	1	5	4	3	2	1
37	I have the supplies I need to do my job well and safely (gloves, needles, bandages, etc).	5	4	3	2	1	5	4	3	2	1
38	I have the equipment I need to do my job well and efficiently (blood pressure cuffs, weighing scales, HIV test kits).	5	4	3	2	1	5	4	3	2	1
39	This facility has good access to drugs and medications.	5	4	3	2	1	5	4	3	2	1
40	I can take time to eat lunch almost every day.	5	4	3	2	1	5	4	3	2	1
41	At home, I have access to safe, clean water.	5	4	3	2	1	5	4	3	2	1
42	At work, I have access to safe, clean water.	5	4	3	2	1	5	4	3	2	1
43	At home, I have good access to electricity.	5	4	3	2	1	5	4	3	2	1
44	At work, I have good access to electricity.	5	4	3	2	1	5	4	3	2	1
45	I have access to good schooling for my children.	5	4	3	2	1	5	4	3	2	1
46	I have safe and efficient transportation to work.	5	4	3	2	1	5	4	3	2	1
47	I feel I have job security.	5	4	3	2	1	5	4	3	2	1

48	The community where I live has good shopping and entertainment.	5	4	3	2	1	5	4	3	2	1

Section V: Compensation

Please mark the extent to which you agree with the following statements for both the job you left in 2004 and your current job. Mark the appropriate response with a circle.

#	To what extent do you agree with the following statements?	PAST JOB					CURRENT JOB				
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
49	My salary package is fair.	5	4	3	2	1	5	4	3	2	1
50	I feel there are sufficient opportunities for promotion with this employer.	5	4	3	2	1	5	4	3	2	1

Section VI: Importance of Compensation Factors

Please indicate how important the following compensation factors are for you when choosing a job.

#	How important are the following compensation factors offered by an organization to you?	3 = Very important	2= Somewhat important	1= Not important
51	Salary.	3	2	1
52	Terminal benefits (retirement, pension, etc)	3	2	1
53	Receiving a housing allowance.	3	2	1
54	Assistance with transportation.	3	2	1
55	Health care for my family.	3	2	1
56	Food allowance.	3	2	1

Section VII: Degree of importance of factors in your decision to leave your health care job in 2004

Please indicate how important the following factors were in your decision to leave your previous job.

#	How important were the following factors in your decision to leave your previous job?	3 = Very important	2= Somewhat important	1= Not important
57	Low pay/salary/allowances	3	2	1
58	High workload	3	2	1
59	Poor access to supplies & equipment at work	3	2	1
60	Limited opportunities for promotion	3	2	1
61	Social conflicts in the workplace	3	2	1
62	Poor supervision and management	3	2	1
63	Transport problems	3	2	1
64	Poor/lack of utilities (water, electricity) at home	3	2	1
65	Poor/lack of utilities (water, electricity) at work	3	2	1
66	Lack of housing facilities	3	2	1
67	Communication problems, telephones	3	2	1
68	High cost of living	3	2	1
69	Poor educational facilities for children	3	2	1
70	Poor access to higher education for myself	3	2	1
71	Work is far from home.	3	2	1
72	Other_____	3	2	1

Section VIII: These are open-ended questions about your current work place.

73. Please identify three things that you like about working for this organization:

a) _____

b) _____

c) _____

74. Please identify three things you don't like about working here:

a) _____

b)_____

c)_____

75. Other comments

_____
_____
_____
_____
_____
_____
_____

Appendix 4: Consent and questionnaire for Directors; Managers; Administrators at County and Facility level

CONSENT INFORMATION STATEMENT

for

Director/Managers/Administrators at County and Facility levels

QUESTIONNAIRE CONSENT

I anticipate each questionnaire interview will take about 15 minutes to complete. You may complete the form on your own or I can sit with you and complete the questionnaire as we go through it. When complete, your anonymous questionnaire will be inserted in an envelope and stored in a locked box to protect your identity. I will be interviewing at least 3 people at each health center and dispensary. My data collection should be complete at the end of February, and it will take me until May to compile my report.

The purpose of the study is to establish the factors that influence the retention of health workers in primary health care facilities in the County. I hope to learn what things the Ministry of Health could do to improve working conditions and other factors that would improve retention of nurses and clinical officers in Kakamega County and Kenya as a whole.

I do not anticipate that the questions will be difficult to answer, but some may cause you to think about working conditions that are distressing and may cause emotional discomfort. You may refuse to answer any question and may withdraw from the study at any time without penalty. When you complete the questionnaire and return it to me, you are conveying your consent to participate without giving me your name.

Some people are concerned that giving a negative report about their supervisor or employer may put them at risk. I have attempted to minimize that risk in the following ways: 1) The questionnaire is anonymous; your name is not attached to your responses; 2) If the research assistants read the questions to you and record your spoken answers, this will be done in a private setting where no one can overhear your responses.

If you have any questions, please do not hesitate to ask me: Nema C.M. Aluku at 0721 712 665

You can also call the department of Community Health on 020 – 2724639 and ask for the chairman or my supervisors Prof. J. Wang'ombe and/or Ms. F. Thuita or contact The Kenyatta National Hospital/University of Nairobi Ethics and Research Committee (KNH/UON - ERC) who have approved this study (refer to the approval letter attached), on 020-726300-9

This consent form should be signed in duplicate. Please retain a copy for your records.

Nema C.M. Aluku

Printed name of researcher obtaining consent Signature Date

FOR OFFICIAL USE ONLY

Questionnaire Number: ☐ ☐☐ ☐☐ ☐☐

Date of Interview: ☐☐/☐☐/☐☐☐☐ (dd/mm/yyyy)

Interviewer Name:_____

Date Checked:☐☐/☐☐/☐☐☐☐ (dd/mm/yyyy)

Kakamega County Health Worker Retention Study Questionnaire

Section I: General information

County Name:_____

Facility Name:_____

What is your cadre?

1 = Clinical Officer Specify type:_____

2 = Medical Officer Specify type:_____

3 = Allied Health Specify type:_____

4 = Nursing Specify type:_____

5 = Pharmacy Specify type:_____

6 = No Clinical Qualification

Current Job Title:_____

Section II: Background information

Instructions to Interviewer: This section provides the background details of the respondents.

#	Questions	Enter or circle your answers.
1	What is your gender?	1=Male 2=Female
2	What is your birth year?	19 ☐☐ (yyyy)
3	What is your birthplace?	1=Kenya 2=Other specify_____
3.1	If Kenya, which Province?	Name:
3.2	Which County? (Please use original County name)	Name:
3.3	Which ethnic groups best describes you? (this question is for statistical purposes only)	1.Luhya 2.Luo 3.Kalenjin 4.Akamba 5.Kikuyu 6.other:_____ 7.Do not want to answer
3.4	Which town or city or division or constituency?	Name;
3.5	How would you describe the area where you were born? (tick one)	1.Very rural 2.Moderately rural 3.Urban (town) 4.Urban (city)
3.6	Where did you spend most of your childhood? (fill all blanks 1 -3)	1.Name of town or city or division or constituency (circle appropriate) _____ 2.Name of County_____ 3.Name of province_____

3.7	Where do your parents live? (fill all blanks 1 – 3)	1.Name of town or city or division or constituency (circle appropriate) _____ 2.Name of County _____ 3.Name of province_____ Or check box if BOTH parents are deceased ☐
3.8	Where is your spouse from? (fill all blanks 1-3)	1.Name of town or city or division or constituency (circle appropriate)_____ 2.Name of County_____ 3.Name of province_____
3.9	If not Kenyan, what is your citizenship?	Name:
4	What is your marital status? (Circle one category)	1=Single 2=Married 3=Divorced 4=Widowed 5=Separated
5	Do you have children or dependents that you financially support who are living in and outside your household?	1=Yes 2=No
5.1	If Yes, How many total dependents?	☐☐
5.2	If Yes, How old is the youngest dependent? (age of the last birthday)	☐☐ years ☐☐months
5.3	If Yes, How old is the oldest dependent? (age of the last birthday)	☐☐ years ☐☐months
6	From what institution did you receive your first professional qualification in health care?	_____

7	When did you qualify from training for your health position?	☐☐☐☐ (yyyy)
8	When were you last licensed in your current cadre?	☐☐☐☐ (yyyy)
9	How did you pay for your training? (circle all relevant answers)	1.My parents or other members of my family supported me 2.I received a salary 3.I took a loan 4.I was on study leave from the public sector (distance learning) 5.I obtained a scholarship from the government 6.I received a scholarship from the private sector/faith based organization 7. other specify_____
10	If you got a loan – What is the current outstanding amount on your loan?	Outstanding amount on loan: Kshs._____
11	How long have you worked with this organization (i.e. Ministry of Health)?	☐☐ years ☐☐months
12	How long have you been at this facility?	☐☐ years ☐☐months
13	Type of manager?	1= County Director of Health Services 2 = Hospital Administrator 3= Health Center Administrator 4= Head of Health Unit 5= other, please specify
14	For how many years have you had a management role?	☐☐ years

Section III: Job Satisfaction at the County or Health Facility

Evaluate each factor related to job satisfaction by rating both how important you think each factor is to your employees and how well the organization performs on each factor. Circle the appropriate response.

#		How important do you think this is important to your employees?			How well does your organization perform on this factor?		
		3=Very important	2= Somewhat important	1=Not important	3=We perform very well	2=We have adequate performance	1=We don't perform well
14	Overall job satisfaction.	3	2	1	3	2	1
15	Placing people in jobs for which they are suited.	3	2	1	3	2	1
16	Having clear job expectations.	3	2	1	3	2	1
17	Recognizing & rewarding good work.	3	2	1	3	2	1
18	Supervisors who care about their staff and offer support.	3	2	1	3	2	1
19	Talking to staff regularly to encourage their development.	3	2	1	3	2	1
20	Overall morale.	3	2	1	3	2	1
21	Valuing and respecting each worker.	3	2	1	3	2	1
22	Creating a climate in which people get along and have friendship at work.	3	2	1	3	2	1

23	Creating flexibility to balance the demands of the workplace and personal lives.	3	2	1	3	2	1
24	Making the workplace an enjoyable and stimulating place.	3	2	1	3	2	1
25	Preventing harassment by supervisors.	3	2	1	3	2	1
26	Preventing harassment by peers.	3	2	1	3	2	1
27	Preventing harassment by patients or their friends and family.	3	2	1	3	2	1
28	Preventing harassment by traveling to and from work.	3	2	1	3	2	1
29	Offering the training needed for staff to succeed at their jobs.	3	2	1	3	2	1
30	Taking specific measures to protect workers against HIV/AIDS and other infections.	3	2	1	3	2	1
31	Connecting staff with the community.	3	2	1	3	2	1

32	Using appropriate methods & standards to measure job performance.	3	2	1	3	2	1

Section IV: Degree of importance of compensation factors to employees in the facility

#	How important is the following compensation factor to employees in your workplace?	3= Very important	2= Somewhat important	1= Not important
33	Salary.	3	2	1
34	Terminal benefits (retirement, pension, etc)	3	2	1
35	Receiving a housing allowance.	3	2	1
36	Assistance with transportation.	3	2	1
37	Health care for family.	3	2	1
38	Food allowance.	3	2	1

Section V: Work Compensation

To what extent do you agree with each of the following statements on work compensation in the facility/County? Please circle the appropriate response both for yourself and for employees in your facility, using a scale of 1-5 where 1=Strongly disagree; 2=Disagree; 3=Neutral; 4=Agree; and 5=Strongly agree.

#	To what extent do you agree with the following statement?	For myself					For my employees				
		5 = Strongly agree	4 = Agree	3 = Neutral	2 = Disagree	1 = Strongly disagree	5 = Strongly agree	4 = Agree	3 = Neutral	2 = Disagree	1 = Strongly disagree
39	The salary package is fair.	5	4	3	2	1	5	4	3	2	1
40	There are sufficient opportunities for promotion with this employer.	5	4	3	2	1	5	4	3	2	1

Section VI: Working Condition in the Facility/County

To what extent do you agree with each of the following statements on the working conditions in the facility/County? Please circle the appropriate response both "for yourself" and "for employees in your facility."

#	To what extent do you agree with the following statement?	For myself					For employees in my facility				
		5 = Strongly agree	4 = Agree	3 = Neutral	2 = Disagree	1 = Strongly disagree	5 = Strongly agree	4 = Agree	3 = Neutral	2 = Disagree	1 = Strongly disagree
41	The workload is manageable.	5	4	3	2	1	5	4	3	2	1
42	Supplies (gloves, needles, bandages, etc) are available to do our work well.	5	4	3	2	1	5	4	3	2	1
43	The equipment (x-ray, ultrasound, blood pressure cuffs) is available to do our jobs well and efficiently.	5	4	3	2	1	5	4	3	2	1
44	Access to safe, clean water is available at home	5	4	3	2	1	5	4	3	2	1
45	Safe, clean water available at work	5	4	3	2	1	5	4	3	2	1
46	Access to electricity is good at home	5	4	3	2	1	5	4	3	2	1
47	Access to electricity is good at work	5	4	3	2	1	5	4	3	2	1
48	Good primary schooling is available for the children of the people who work here.	5	4	3	2	1	5	4	3	2	1
49	There is safe and efficient transportation to work.	5	4	3	2	1	5	4	3	2	1

Section VII: Degree of importance of factors that made people decide to leave their employment with the managers facility or County in 2004

The following questions are about employees who left this facility for another employer (Leavers) between January 1, 2004 and the present. Please indicate, to your best knowledge, the degree of importance of each of the factors below in employees' decision to leave this facility or County this fiscal year.

#	How important is the following factor in making the people leave employment with your facility/County in the last year?	3= Very important	2= Somewhat important	1= Not important
50	Low pay/salary/allowances	3	2	1
51	High workload	3	2	1
52	Limited access to supplies & equipment (gloves, needles, bandages, blood pressure cuffs, weighing scales, HIV test kits etc.) at work	3	2	1
53	Limited opportunities for promotion	3	2	1
54	Social conflicts in the workplace	3	2	1
55	Poor supervision and management	3	2	1
56	Transport problems	3	2	1
57	Poor/lack of utilities (water, electricity)	3	2	1
58	Lack of housing facilities	3	2	1
59	Communication problems, telephones	3	2	1
60	High cost of living	3	2	1
61	Lack of educational facilities for children	3	2	1
62	Lack of access to higher education for themselves	3	2	1
63	Work was far from home.	3	2	1
64	Other_____	3	2	1

Section VIII: These are open-ended questions about your position.

65. Please identify three things that you like about working for this organization:

a) _____

b) _____

c) _____

66. Please identify three things you don't like about working for this organization.

a) _____

b) _____

c) _____

67. Other comments:

_____
_____
_____
_____
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Appendix 5: Consent form and Focus group discussion guide

CONSENT FORM

Focus Groups of health workers – Nurses and clinical officers (NOT supervisors)

I am asking you to participate in a study about health worker – nurses and clinical officers- retention in Kakamega County, Kenya. This consent form should give you the information you need to decide whether to be in the study. I welcome your questions about the purpose of the research, what I would ask you to do, the possible risks and benefits, your rights as a volunteer, and anything else about the research or this form that is not clear. When I have answered all your questions, you can decide if you want to be in the study. This process is called "informed consent." I will give you a copy of this form for your records.

PURPOSE OF THE STUDY

The purpose of the study is to learn how health workers – nurses and clinical officers- view their jobs, how satisfied they are with working conditions, and their intentions to continue in the work. This will enable me to describe factors influencing retention of health workers at the lower levels of health provision. I hope to learn what things the Ministry of Health and other health care employers could do to improve working conditions and other factors that would improve health worker retention in Kakamega County and Kenya as a whole.

STUDY PROCEDURES

FOCUS GROUPS: There will be a focus group for nurses and a separate one for clinical officers. The focus groups will take 60 to 90 minutes, depending on the number of people. I would like to tape the focus groups so they can be transcribed. No names will be attached to the focus groups, and the tapes will be destroyed as soon as they are transcribed, or within three months, whichever comes first. I request that any supervisory employees be excused from these groups.

RISKS, STRESS, OR DISCOMFORT

I do not anticipate that the questions will be difficult to answer, but some may cause you to think about working conditions that are distressing and may cause emotional discomfort. You may refuse to answer any question at any time, leave the focus group at any time, and may withdraw from the study at any time without penalty.

CONFIDENTIALITY

No findings in this study will be linked to individual respondents. I will ask participants to respect each other's confidentiality, but I cannot ensure this. Ministry of Health employees will not have access to interview notes or individual questionnaires. Data will be handled by data entry clerks and research assistants. You may call the department of Community Health, University of Nairobi, School of medicine to verify the approval of the study at 020 – 2724639 ask for the chairman or my supervisors Prof. J. Wang'ombe and/or Ms. F. Thuita or contact the Kenya national Hospital/University of Nairobi Ethics and Research Committee (KNH/UON – ERC) who have approved this study (refer to the approval letter attached), on 020-726300-9

Nema C.M. Aluku

Printed name of researcher obtaining consent Signature Date

Participant's statement

This study has been explained to me. I volunteer to take part in this research. I have had a chance to ask questions. If I have questions later about the research, I can ask the researcher listed above or the research supervisors at the department of community Health, School of medicine, University of Nairobi

I agree to

- ✓ Participate in a focus group.
- ✓ Have the focus group taped.

Printed name of participant Signature Date

Copies to: Researcher

Subject

Appendix 6: Focus group guide

1. Welcome

Review the following:

- Who I am and what I am trying to do
- What will be done with this information
- Why I asked you to participate

2. Explanation of the process

Focus groups are being used more and more often in health and human services research

About focus groups:

- I will learn from you (positive and negative)
- Not trying to achieve consensus, I am gathering information
- No virtue in long lists: I am looking for priorities
- In this study, I am doing both questionnaires and focus group discussions. The reason for using both of these tools is that I can get more in-depth information from a smaller group of people in focus groups. This allows me to understand the context behind the answers given in written survey and helps me explore topics in more detail than I can do in a written survey.

Logistics

- The focus group will last about an hour
- Feel free to move around
- Where is the bathroom? Exit?

3. Ground rules

The group to suggest some ground rules. (after they brainstorm some, make sure the following are on the list)

- Everyone should participate
- Information provided in the focus group must be kept confidential
- Stay with the group and please don't have side conversations
- Turn off cell phones if possible
- Have fun

4. Turn on tape recorder
5. Ask the group if there are any questions before we get started, and address the questions that they will raise
6. Introductions

Questions:

1. Let's start the discussion by talking about what makes this region a good place to work. What are some of the positive aspects of working in this region (Kakamega)
2. What are some things that aren't so good about this County as a place to work?
3. Have you considered leaving your job here? If so, why? What factors contributed to your decision to want to leave and to your decision to stay?

4. What would keep you in this job longer? What suggestions do you have to improve the working environment here so that you would want to stay in your job?

Probes for discussion:

- Salary
- Benefits
- Culture
    - Relationships,
- Safety and health protection
    - Protective measures (e.g. gloves)
    - Abuse issues on the job
- Working conditions
    - Access to supplies, equipment, drugs
- Respect/recognition from management or others
- Opportunity, achievements, growth
    - Advancement, further education, responsibility
- Management and supervision
- Is there a sense of ownership of the outcomes here?
    - Work content, responsibility
- Standards of living
    - Cost of living
    - Housing
    - Electricity
    - Water
    - Transportation
- Education for children
- Work/home balance

That concludes our focus group. Thank you so much for coming and sharing your thoughts and opinions with me. If you have additional information that you did not get to say on the focus group, please feel free to write it on the piece of pare and hand it over to me.

Materials and supplies for focus group

- Sign in sheet
- Consent forms (one copy for participants, one copy for the researcher)
- Focus group discussion guide for facilitator
- 1 recording device
- Batteries for recording device
- Extra tapes for recording device
- Permanent marker for marking tapes with FGD name and date
- Notebook for note-taking
- Refreshments