

**FACTORS ASSOCIATED WITH PERFORMANCE MOTIVATION OF COMMUNITY
HEALTH VOLUNTEERS IMPLEMENTING INTEGRATED COMMUNITY CASE
MANAGEMENT PROGRAMME IN HOMA-BAY COUNTY, KENYA**

BY

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DECLARATION

I declare that this thesis is my original work and has not been previously presented for a Masters’ degree in Maseno University or in any other university. No part of this work should be published without the prior knowledge or consent of the author or that of Maseno University.

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DEDICATION

This work is dedicated to my dearly loved parents Mr. Paul Chaba and Mrs. Grace Chaba, my darling husband, Dr. Leon Awiti and my little girl, Nicla Mayah.

ABSTRACT

Globally, the integration of community health workers (CHWs) in healthcare delivery is widening. CHWs are very important if the universal provision of healthcare and the third Sustainable Development Goals are to be met. However, these CHWs are volunteers hence they need to be highly motivated to ensure effective performance of their responsibilities. Despite the importance of performance motivation and its association with health service delivery, the CHWs performance motivation in Homa Bay County remains unknown. As such, the current study assessed the factors associated with CHWs performance motivation in Homa Bay County in Kenya using a mixed method approach. The specific objectives were to assess the current level of performance motivation among the CHWs in Homa Bay County, to determine the factors affecting CHWs level of performance motivation, to assess CHWs perceptions of the current status of the motivational determinants and to assess CHWs experiences on the current status of the motivational determinants. This cross-sectional study design employed both qualitative and quantitative techniques. The study targeted the CHWs implementing Integrated Community Case Management (iCCM) program. The sample size was 359 CHWs drawn from a total population of 2159. Data was collected using questionnaires and focused group discussions. In order to assess level of performance motivation, questionnaires with Likert scale responses was used. Quantitative data was summarized using descriptive statistics. To assess the association between two numerical variables, correlation analysis was used. T-test and analysis of variance (ANOVA) were used to compare means for groups. Qualitative data was coded and thematically analyzed. A response rate of 99.1% (n=323) was achieved. Majority of the respondents were female (75.8%), 41 years old and above (35%), and married (75.2%). Majority of the respondents (57.3%) had secondary education as the highest level of education attained and most of them (66.3%) get their source of livelihood from agriculture. The overall level of performance motivation for CHWs implementing iCCM program in Homa Bay County is 3.93 (SD=0.26, n=323). The level of motivation was highest on individual factors (mean=4.22, SD=0.304) followed by community factors (mean=3.78, SD=0.290) and the least on health facility factors (mean=3.60, SD=0.431). Training (p=0.001), availability of stock (p=0.006) and recognition (p=0.006) had a significant effect on the level of performance motivation. Social responsibility and altruism, community and peer support, training, incentives and recognition emerged as motivators while excessive workload, poor roads and lack of means of transport, frequent stock-outs, lack of airtime and mobile phones for communication and poor referral systems emerged as demotivators. Provision of means of transport, consistent supplies of stocks, frequent refresher trainings and additional incentives are recommended to improve the level of performance motivation. The study results are useful in developing ways of motivating CHWs to achieve maximum performance and enhance effectiveness of the iCCM program.

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ACRONYMS & ABBREVIATIONS

CHWs/CHVs	-	Community Health Workers/ Community Health Volunteers
CU	-	Community Health Unit
ICCM	-	Integrated Community Case Management
NGOs	-	Non- Governmental Organizations
UN	-	United Nations
UNDP	-	United Nations Development Programme
UNICEF	-	United Nations Children’s Fund
WHO	-	World Health Organization

OPERATIONAL DEFINITION

Community Health Volunteers (CHVs): Members of the communities where they work, should be selected by the communities, should be answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organization, and have shorter training than professional workers (Conille, 2007).

Performance motivation: The CHVs degree of interest and willingness to undertake and improve upon an allotted responsibility towards community health (Dieleman, 2004). CHVs are generally engaged in voluntary basis as they provide healthcare services to the community members and their willingness to carry out these duties are determined by factors which could be individual, community or health facility related. Hence their performance motivations in this study are measured using these factors.

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CHAPTER ONE

INTRODUCTION

1.1 Background Information

Over thirty years after the Declaration of Alma Alta, 500 million people still do not have access to adequate primary health care worldwide (Conille, 2007). The severe healthcare worker shortage, inadequate health facilities, poor infrastructure in terms of roads and high transportation cost in many parts of the world are among the barriers that need to be addressed to improve primary health services (Kober & Van Damme, 2004; Samb, 2007).

According to WHO, there is a global shortage of 4.3 million health workers. Out of 57 countries with critical shortages of health workers, 36 are in sub-Saharan Africa. Although the region has 25% of the global burden of disease, it has only 3% of the world's health workers (WHO, 2010a).

Increased attention has been paid to the importance of health systems in achieving the health-related Millennium Development Goals although progress towards achievement of these goals has been substantially slow especially in Sub-Saharan Africa (Conille, 2007). Poverty is predominantly a rural phenomenon in this region and it drives many people away from hospitals to seek care from quacks and traditional healers. However, there is a viable option of CHWs who are close to them in the community and can give them affordable and life-saving health care (WHO, 2010b).

Kenya has one of the highest numbers of infant mortality in Africa estimated at 44 per 1,000 live births and under-five mortality rate of 64 deaths per 1,000 live births by the UN Inter-agency Group for Child Mortality Estimation (IGME) in 2015. This has partially been attributed to access barriers due to long distance and high transport costs to the health facilities and shortage

of health professionals. Only 52% of Kenyans live within 5 kilometers of functioning health facilities (UNDP, 2010).

Like most countries in Africa, the shortage of healthcare workers is not unique to Kenya. Indeed, Kenya is one of the countries identified by the WHO as having a “critical shortage” of healthcare workers. The WHO has set a minimum threshold of 25 doctors, nurses and midwives per population of 10 000 as necessary for the delivery of essential child and maternal health services. Kenya’s most recent ratio stands at 13 per 10 000 (Systems, 2008). This shortage is markedly worse in the rural areas where, as noted in a recent study by Transparency International, understaffing levels of between 50 and 80 percent were documented at provincial and rural health facilities (Kenya Transparency International, 2011).

Nyanza Province continues to suffer from the poorest child survival indicators with the highest under-five mortality rate in the country at 82 per 1000 live births compared to the country’s rate of 52 per 1000 live births (KDHS, 2014). Homa Bay County in Nyanza recorded the highest under-five mortality rate at 91 per 1000 live births (KDHS, 2014) and 130 per 1000 live births (KNBS & UNICEF, 2013).

Despite the progress made in reducing under-five mortality, three quarters of under-five deaths are still due to a handful of causes – specifically, pneumonia, diarrhoea, malaria and newborn conditions. The correct treatment of childhood pneumonia, diarrhoea and malaria which involves use of oral antibiotics, oral rehydration salt (ORS), zinc and artemisinin-based combination therapy is one of the most powerful interventions to reduce mortality (Bryce, 2010). However, in most high-mortality countries, facility-based services alone do not provide adequate access to treatment (Asha, 2009) and most importantly, not within the crucial window of 24 hours after

onset of symptoms. If child mortality is to be adequately addressed, the challenge of access must be taken on. This can be addressed through implementation of community strategy which advocates for availability of CHWs well equipped with supplies and trained on handling basic uncomplicated health issues especially those related to under-fives at the community level. CHWs are based in the community and can be easily reached by community members when confronted with health issues such as malaria, pneumonia and diarrhea among children under five years of age. Moreover, they are able to identify complicated cases and refer to appropriate health facility for further management.

CHWs are known by many different names in different countries. The umbrella term “community health worker” (CHW) embraces a variety of community health aides selected, trained and working in the communities from which they come. A widely accepted definition was proposed by WHO (2007), “Community health workers should be members of the communities where they work, should be selected by the communities, should be answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organization, and have shorter training than professional workers”.

Community health workers, appropriately trained, supervised and supported with an uninterrupted supply of medicines and equipment, can identify and correctly treat most children who have the conditions mentioned above (Yeboah-Antwi, 2010). A recent review by the Child Health Epidemiology Reference Group (CHERG) estimated that community management of all cases of childhood pneumonia could result in a 70 per cent reduction in mortality from pneumonia in children less than 5 years old (Theodoratou, 2010). Community case management (CCM) of malaria can reduce overall and malaria-specific under-five mortality by 40 and 60 per

cent, respectively, and severe malaria morbidity by 53 per cent (Sirima, 2003). Oral rehydration salts (ORS) and zinc are effective against diarrhea mortality in home and community settings, with ORS estimated to prevent 70 to 90 per cent of deaths due to acute watery diarrhoea,¹¹ and zinc estimated to decrease diarrhoea mortality by 11.5 per cent (Fischer, 2010). For these reasons UNICEF, WHO and partners working in an increasing number of countries are supporting the iCCM strategy to train, supply and supervise CHWs to treat children for diarrhea, pneumonia, as well as for malaria using ORS and zinc, oral antibiotics, and artemisinin-based combination therapy (ACT) (UNICEF, 2012).

Despite the evidence and international support for iCCM, many countries including Kenya have not been able to scale up iCCM in areas that need it most. This has been attributed to some challenges: Initially, CHWs have high turnover and have limited opportunities to reinforce their knowledge once they begin working in the field. Unfortunately most of the time there is lack of ownership from public officials for the program and thus they are not really engaged in the supervision. Secondly, CHWs typically lack effective tools required to maintain records on patients and consumption of commodities. Even with existing tools, very often, the CHWs struggle to come to restock because they must sometimes need to travel long distances on foot to reach the health center for restocking. They thus prefer to wait for an opportunity or monthly dialogue meetings to avoid travelling several times. Last but not least, highly motivated community health workers (CHWs) are critical for delivery of many community-based interventions. High rates of CHW attrition undermine programme effectiveness and potential for implementation at scale. CHWs are expected to use only a small amount of time on health related duties and then go back to their breadwinning activities but in reality they spend a lot more time. There is little evidence to show that “voluntarism” can be sustained for long periods

of time. CHWs like any other health care require locally relevant incentive systems that combine monetary and non-monetary incentives, recognition, training opportunities, and community and policy support(WHO, 2010b). If these challenges are addressed adequately, the performance motivation of CHWs will increase translating to improved health indicators for under-fives hence addressing the fourth MDG which aims at reducing under-five mortality rates by two-thirds.

Several studies have been done on factors that motivate health care workers in general but only a few are specific to CHWs yet CHWs are very different from other health workers in that they are volunteers and they lack the intensive medical training and knowledge. For instance, a study by Winch mainly focused on effect of incentives on performance and retention of CHWs (Winch *et al.*, 2005). Moreover, in Kenya, two studies done in Busia and Lower Nyakach, focused mainly on exploring the motivational factors that influence CHWs retention. The studies revealed that the current motivational determinants were recognition by the community members, skill development, provision of incentives and supervision. The perceptions of the CHWs on retention included community support and health care system support(Owek *et al.*, 2013). However, none of the studies measured the level of performance of the CHWs which will serves as a baseline to measure improvement or lack of it thereof especially after an intervention aimed at improving CHWs level of performance motivation. Hence, the current level of performance motivation among CHWs in Kenya remains unknown. Furthermore, there is minimal information on the CHWs experiences and perceptions on the voluntary work. As such, the current study will assess the current level of performance motivation, experiences and perceptions among CHWs implementing iCCM in Homa Bay County.

1.2 Statement of the Problem

Lack of motivation has led to high attrition rates, absenteeism and submission of inaccurate and “guessed” reports on communities’ health status. With the extended role of CHWs in curative care, appropriate use of drugs by CHWs is an area of attention, related to the impact of drug use on resistance patterns. With implementation of iCCM, demotivated CHWs could increase cases of resistance to drugs such as antibiotics and antimalarial due to inaccurate administration of drugs especially in terms of dosages and timing.

It is important that they are highly motivated to perform the huge responsibilities entrusted to them to ensure effective program implementation leading to improved health status of the community.

Despite the knowledge of how important it is for CHWs to be motivated, still there are no adequate evidence on the current levels of performance motivation of CHWs and its determinants in Homa Bay County. Hence this study was aimed at determining the levels and highlighting the determinants of performance motivation to aid in developing strategies to boost performance motivation of CHWs.

1.3 Objectives of the Study

1.3.1 Broad Objective

To assess factors associated with performance motivation among CHWs implementing iCCM in Homa Bay County in Kenya.

1.3.2 Specific Objectives

- a) To assess the level of performance motivation among CHWs implementing iCCM in Homa Bay County.
- b) To determine the factors affecting performance motivation levels among CHWs implementing iCCM in Homa Bay County.
- c) To assess perceptions on the motivational determinants among CHWs implementing iCCM in Homa Bay County.
- d) To assess experiences on the motivational determinants among CHWs implementing iCCM in Homa Bay County.

1.3.3 Research Questions

- a) What is the current level of performance motivation of the CHWs implementing iCCM in Homa Bay County in Homa Bay County?
- b) What factors affect the level of performance motivation among CHWs implementing iCCM in Homa Bay County?
- c) What are the perceptions of CHWs implementing iCCM in Homa Bay County on the current status of the motivational determinants?
- d) What are the experiences of CHWs implementing iCCM in Homa Bay County with the current status of the motivational determinants?

1.4 Significance of the Study

The performance of CHWs depends on their satisfaction derived from certain intrinsic or extrinsic factors. Being volunteers, CHWs require high levels of motivation to ensure optimal performance and reduction of attrition rates hence reducing the cost of recruiting and retraining new CHWs into the programme (Germann, 2004). Knowledge on what motivates CHWs is

necessary in developing strategies that promote maximum expression of their potentials leading to increased and better performance. The study results offer useful information to implementers of integrated community-based interventions in developing ways of motivating CHWs to achieve maximum performance with subsequent effectiveness of the program implementation.

CHAPTER TWO

LITERATURE REVIEW

2.1 Community Health Workers

United States Rural Health Policy (2011) defines Community health workers (CHWs) as lay members of communities who work either for pay or as volunteers in association with the local health care system in both urban and rural environments and usually share ethnicity, language, socioeconomic status, and life experiences with the community members they serve. Other organizations such as the Centers for Disease Control have defined a CHW as a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the CHW to serve as an intermediary between health or social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. A CHW also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy. A widely accepted definition was proposed by World Health Organization (WHO): Community health workers should be members of the communities where they work, should be selected by the communities, should be answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organization, and have shorter training than professional workers (WHO, 2007).

CHWs have been identified by many titles to include but not limited to community health advisors, lay health advocates, Promotoras, outreach educators, community health representatives, peer health promoters, and peer health educators (Bhattacharyya, Winch, Leban, & Tien, 2001; Winch *et al.*, 2005). CHWs offer interpretation and translation services, provide

culturally appropriate health education and information, assist people in receiving the care they need, give informal counseling and guidance on health behaviors, advocate for individual and community health needs, and provide some direct services such as first aid and blood pressure screening (HRSA, 2007).

2.2 Level of CHWs Performance Motivation

In this study “performance motivation” has been used contextually to mean “the CHW’s degree of interest and willingness to undertake and improve upon an allotted responsibility towards community health” (Dieleman, 2004).

The level of performance attained is determined by three interdependent factors: ability, motivation, and resources. This relationship can be stated as a performance formula: $\text{Performance} = \text{Ability} \times \text{Motivation} \times \text{Resources}$. Ability and motivation are driving forces of behavior to create the level of performance. For performance levels to be high; all three factors must be high. If anyone is low or missing, the performance level will be adversely affected (Germann, 2004). This emphasizes the importance of level of motivation in relation to performance.

For any program or intervention to achieve its goals, there has to be optimum performance by the stakeholders meaning; they have to be competent to do the work, the resources should be adequate and they should be well motivated both intrinsically and extrinsically to perform. Therefore information on level of performance motivation is vital in planning and/or implementing programs or interventions. A study on India’s ASHA program revealed that the level of performance motivation was the highest for the individual and the community level factors (mean score 5.94–4.06), while the health system factors scored the least (2.70–3.279) (Gopalan, Mohanty, & Das, 2012).

A similar program known as iCCM aimed at improving the health status of under-fives through early recognition and treatment of main childhood illness i.e. pneumonia, malaria and diarrhea majorly contributing to child mortality is currently being implemented in Homa Bay County. The program largely relies on CHWs. However, the current level of performance motivation among the CHWs remains unknown. As such, the current study assessed the current level of performance motivation among CHWs implementing iCCM in Homa Bay County.

2.3 Factors Affecting CHWs Performance Motivation

There are several schools of thought about what affects CHWs performance motivation such as monistic and pluralistic approaches just to mention a few. A monistic approach explains that employees are solely motivated by money while a pluralistic approach states that men work to fulfill variety of needs and three types of forces generally influence human behavior; forces operating within the individual, the organization and in the environment. The climate in the organization plays an important part in determining worker's motivation and it is determined by a number of variables such as its leadership styles, autonomy enjoyed by members, growth prospects, emotional support from members, reward structure etc. Culture, norms, customs, images and attributes accorded by society to particular jobs, professionals and occupation and the worker's home life – all play a strong motivation role. An individual may prefer to do the job of an officer (because it has social status and gives a lot of power) rather than serve as a college teacher (powerless position). In other words, factors such as social status and social acceptance play an important role in shaping the motivations of people (Sree, 2011).

Motivation reflects the degree of willingness to apply and maintain efforts toward program goals. As with other health cadres, individual motivation for CHWs drives performance and job continuation, all three of which, in turn, are affected by individual, program/health system, and

contextual factors (Ellemers, 2005; Franco, 2010). However, CHWs are qualitatively different from professional health workers in that they typically lack formal nursing or medical training, are embedded in the community, and often are volunteers hence determinants of their level of motivation are unique to them.

Collectively, the factors underlying CHW level of performance motivation include: social responsibility, self-efficacy, desire for achievement, recognition, workload and responsibilities, training, supportive supervision, equipment and supplies, peer support, personal growth and career development opportunities, financial and nonfinancial incentives (Amare, 2011; Bhattacharyya *et al.*, 2001).

This study will focus on the pluralistic approach and group the determinants of CHWs performance motivation into individual, community and health facility factors as a modification from Alam *et al.*'s conceptual framework explaining factors affecting CHWs retention (Alam, Khan, & Walker, 2012).

2.3.1 Individual Factors

These include factors under the control of the individual. From the reviewed literature, these factors include social responsibility, intrinsic satisfaction, self-efficacy, autonomy, recognition, personal growth and career development.

Several studies by different researchers have identified quite a number of determinants of CHWs performance motivation separately. A study on India's Accredited Social Health Activists (ASHA) programme revealed that the desire to gain social recognition, a sense of social responsibility and self-efficacy motivated CHWs to perform (Gopalan *et al.*, 2012). Most

common facilitators of CHW performance are perceived impact and enhancement of social status as emphasized by the results of a study by FHI360 and USAID in Uganda (FHI 360, 2013).

2.3.2 Community Factors

These include community participation in CHWs activities, recognition by community members, support from peers and CHWs' family members and incentives from the community members either monetary or material.

Many studies have highlighted the role of incentives in determining the overall performance of community workers (Ballester, 2005). While some report that monetary incentives can increase retention of CHWs across countries (Bhattacharyya *et al.*, 2001) other documents show quite varied experience with several countries employing CHWs as volunteers or contract staff. The experience of NGOs is also quite varied in this respect (Prasad & Muraleedharan, 2008). On the other hand, monetary incentives often bring a host of problems because the money may not be enough, may not be paid regularly, or may stop altogether. Lack of uniform monetary incentives may cause problems among CHWs. However, there are some success stories of programs paying CHWs (Bhattacharyya *et al.*, 2001). Many programs have used in-kind incentives effectively. Non-monetary incentives are critical to the success of any CHW program. Relatively small things, such as an identification badge, can provide a sense of pride in their work and increased status in their communities. The critical question is that would incentives in material or in kind per se influence CHWs' performance? (Prasad & Muraleedharan, 2008).

Interaction with other CHWs can be a critical motivator for people who often work with little supervision or tangible evidence of their performance (Bhattacharyya *et al.*, 2001). In the end, the performance of a CHW comes down to his or her relationship with the community and social complexity of the communities they serve.

Studies, for example in Colombia, have shown that “feedback and rewards from the community” are more significant in the overall motivation and performance of CHWs (Robinson & Larsen, 1990). The critical issues that still remain in this respect are: How does a feedback mechanism from the community work? What kinds of rewards do the CHWs expect from the community? And how do they reflect the degree of trust and confidence that CHWs have gained from the community? (Arole, 2007). A study carried out in Busia, Kenya revealed that among the 300 CHWs interviewed, only 2% of the CHWs who had been retained considered recognition as being able to motivate them to be retained, while 40% perceived recognition by the community as a determinant that would retain them (Alam *et al.*, 2012).

However, what is eventually important in sustaining the motivation of CHWs to function with commitment and effectiveness, as revealed in the experimentation in Parinche and Society for Education, Action and Research in Community Health (SEARCH) is the degree of trust and confidence that CHWs have gained from community members over a period of time (Bang *et al.*, 2004).

2.3.3 Health Facility Factors

These factors are mainly under the control of health facilities or the NGO implementing the program and they include amount of responsibilities and workload, incentives, supportive supervision, recognition, training opportunities, infrastructure and supplies.

Many studies highlight the role of nature of employment, career prospects and other incentives in determining the overall performance of community workers (Ballester, 2005). Experience in the employment of CHWs is quite varied across countries. In several countries, particularly in government health systems, CHWs have been employed on a voluntary basis and on a full-time

basis. Countries have also employed CHWs on a contract basis or as regular employment with a fixed monthly salary paid by the government, such as in India. India also has had experience of CHWs employed on a voluntary basis in the public sector, during the 1980s in particular, (Gopalan *et al.*, 2012). While the experience of NGOs is also quite varied in this respect, we can safely state that there is perhaps more voluntarism in this sector in under-served areas. The critical point that comes through the review is that not only would payment or voluntarism *per se* influence CHWs' performance, but their influence also depends on other factors including those highlighted in this chapter. Career prospects for CHWs and their aspirations do influence their performance. For example, some studies from the United States have shown a significant drop out of CHWs due to lack of career prospects. Thus career prospects along with salaries are strong incentives in both retaining CHWs, and enhancing their performance (Ballester, 2005; Scott & Wilson, 2006).

On CHWs responsibilities and workload, the two inter-related critical questions being faced at grass-roots level are: what is the optimal population size that a CHW could cover, and what is the optimal range of services that a CHW could deliver? Experience across countries varies. There are countries such as Sri Lanka where a CHW covers as few as 10 households offering a set of MCH related services. On the other hand, there are countries such as India where a CHW covers about 1000 households (approximately 5000 population, usually spread over 5 to 10 villages (UNICEF, 2004). In most countries, CHWs offer more preventive services than curative services. Studies have also shown that such an approach may have reduced the confidence of the community in the effectiveness of CHWs. CHWs in India offer a wider range of services. The rationale for this is that it is necessary to integrate a range of services at community level in order to have better health outcomes. But such an approach has also led to criticisms from various

quarters that it has increased the overall workload of CHWs, thereby reducing their performance (SARDI, 2014). Several studies have shown that topographical challenges and the need to cover large distances hamper CHW performance. A study on CHWs working in child health in Uganda, found that households residing 1 to 3 km from a health facility were 72% more likely to utilize CHW services compared to households residing within more than 3km of a health facility(Mukanga *et al.*, 2012).Thus, proximity of CHWs and health facilities to their clients could affect utilization of CHW services. Four studies referred to difficulties of CHWs in reaching communities because of flooding, which hampered their performance (Azad *et al.*, 2010). The amount of work that a CHW's catchment area entails depends on the number of households each CHW is responsible for, the target group within the family (e.g. all family members, children only, women only), as well as the geographic distribution of those households. The population coverage and the range of services offered at the community level are vital in the design of effective CHW schemes, and it should be noted that the —smaller the population coverage, the more integrated and intensive the service offered by the CHWs|. How far apart the households are, how much geographic area they cover, the type of terrain, and whether reliable transport is available all affect how well CHWs are able to meet their performance expectations. When catchment areas are too large, CHWs may have difficulty finding the time or transportation needed to visit all the assigned households (Bennett, Chitlangia, & Pangnekar, 2013). As compared with facility-based providers who spend unproductive time waiting for clients (WHO, 2010a). CHWs log unproductive time getting to the client or arriving at the household to find the client absent. Catchment areas where families live spread out over wide distances with difficult terrain to cross or where CHWs are not provided with appropriate 24 transport increase the time spent on the road and decrease productivity.

CHWs participating in the delivery of a community-based newborn care intervention package in the People's Republic of Bangladesh's Sylhet District —attended less than 5% of all births because of their high travel distances, and difficulty receiving timely notification of deliveries (Chandrasekar, 2011). Programmes must take care to monitor the catchment area assigned to CHWs to ensure that they can satisfactorily reach all the targeted members within the specified geographic area with a standard level of quality of care.

The induction of and continuing training programmes for CHWs have received considerable attention, as CHWs are often selected without any prior experience or professional training in community health (Abbatt, 2005). In Nicaragua in the 1980s, CHWs were as young as 15 years old and had a short training period of no longer than 2 weeks, focused on curative services. These were exceptions necessitated by the political turmoil of that period in such countries. Despite these exceptions, CHWs in countries such as India receive about 3 months of training, while in other countries such as Brazil they receive 6 to 8 months of training at the beginning of their career (Campos, Ferreira, Souza, & Aguiar, 2004). There has been little empirical analysis of the content and approach of various training programmes and their influence on CHW performance. For example, the algorithm developed by WHO on managing multiple childhood illness was found to be ineffective as CHWs reported serious difficulties in understanding training manuals (Kelly, Osamba, & Grag, 2001); similar findings were reported in India by an Oxfam study about the difficulties for CHWs in understanding training manuals (Ramprasad, 2007). The findings from a national survey of CHWs in the US recommend on-the-job training to overcome these difficulties (Kash, May, & Tai-Seale, 2007).

Access to resources at the workplace is not only a requirement for providing good quality health services; it is also a factor stimulating the workforce (Adzei & Atinga, 2012). Modern working

equipment creates a much more stimulating work environment than working with dilapidated equipment. Mathauer and Imhoff argue that shortage of supplies and resources is considerable challenge at many health facilities, in particular in rural areas in Africa (Mathauer & Imhoff, 2006). Thus, health workers experiencing inadequate resources may easily become demotivated by a difficult work environment. In a study from Mali, found that lack of material⁴ was by far the most important factor for de-motivation(Dieleman, 2004).

Referrals and record-keeping are often highlighted for establishing a good monitoring system (Jerden, Hillervik, Hansson, Flacking, & Weinehall, 2006). However, only a few studies have demonstrated the importance of building healthy “inter-relationships” and “trust” among health professionals for developing an effective feedback and referral system (Bhattacharyya *et al.*, 2001). For example, a study in South Africa describes the relationships between professional nurses and CHWs, and how one viewed the other as a “threat” in their career (Doherty & Coetzee, 2005). We argue that in such unhealthy competitive situations, it is not possible to have an effective “referral system” in place(May & Contreras, 2006). However, the Namibian experience shows that through mutual understanding on agreed roles and responsibilities, it would be possible to have positive inter-personal relationships which further promotes positive supervision(Low & Ithindi, 2003).

A study by FHI360 and USAID (2013) dubbed “Motivating Volunteer Community Health Workers in Family Planning Programme in Uganda” revealed that most common facilitator was acquisition of new skills and knowledge through training \while the most common challenges CHWs faced were transportation difficulties, insufficient transport refunds, and stock-outs. Following reviews, it also came out strongly that health workers are motivated by appreciation by managers, colleagues and the community, a stable job and income and training. However, the

main discouraging factors are related to low salaries and difficult working conditions (Dieleman, 2004). Though known, these factors are complex, and rigorous analyses of the specific ways in which they operate and of their relative importance are lacking. In this study, the determinants of motivation were discussed under three main levels namely individual, community and health system levels as proposed by Franco (Franco, 2010). However, some factors such as autonomy and recognition cut across all the three levels. The determinants were further ranked to determine their relative importance based on CHWs perception.

2.4 Perceptions of CHWs on Determinants of Performance Motivation

CHWs seems to be motivated by a genuine concern for their neighbors, as expressed by the desire to provide education where it is lacking and to prevent common tragedies, like the loss of a child. In addition, CHWs who describe their work as a 'calling' are attracted to public service and find personal satisfaction and pride in helping their communities. Similarly, a quantitative study on volunteer CHWs in northwestern Tanzania found that 85% of CHWs continue to volunteer because they enjoy the job (Ahluwalia, Schmid, Kouletio, & Kanenda, 2003). This drive to serve others may be influenced by political, religious, or historical patterns or events (Walt, Perera, & Heggehousen, 1989).

Another study of Community Integrated Service System (CISS) programme in Michigan/USA focused on describing the perceptions of the benefits and stressors of helping as experienced by CHWs in a nurse-coordinated maternal & child health intervention. The highest-ranking benefits included positive feelings associated with being involved in good work (95%), a sense of belonging (94%) and greater self-esteem (91%). They felt energized by helping others (81%) (Roman, 1999).

As Ramirez-Valles explain, motives are 'socially constructed guides for action. They are rooted in the local context and individuals' life stories' (Ramirez-Valles, 2001). The Tanzania context has been influenced by the socialist leanings of Julius Nyerere, in power for over two decades, as voiced in the Arusha Declaration of 1967. Nyerere called for the formation of a socialist state, including the promotion of self-reliance, an emphasis on hard work, and cooperation among citizens (Nyerere, 1968). To put these values into practice, the government prescribed the formation of *ujamaa* villages to facilitate cooperative production and self-sufficiency (Raikes, 1975). Thus, a willingness to contribute to a collective good must be considered within the resulting post-colonial Tanzanian context.

This strong exhibition of altruism and empathy for community members does not, however, contradict a desire to be financially rewarded for one's efforts. Out of 16 studies that found altruism or helping one's community to be a motivator, 13 also found financial motivators, or the lack thereof, to be an incentive, or deterrent, for CHVs (Walt *et al.*, 1989).

CHWs also perceive interactions with higher-level district or NGO staff as particularly important. In fact, when asked about supervision, some CHWs in NGO-related programs exclusively referred to NGO personnel, although they acknowledged also having contacts with health center staff. In one program, the supporting NGO had recently pulled out; in another, it was preparing to leave. In both cases, several CHWs identified pull-out as a discouraging factor for continuing on the job. In addition to feeling demoralized, their main issues or concerns had to do with the effect on their ability to continue receiving a transport refund and with losing the practical support received from NGO staff. In one program, for example, CHWs explained that

NGO extension workers facilitated the reporting and resupply process by acting as a bridge between them and health centers(Walt *et al.*, 1989).

To the best of my knowledge, the studies done in Kenya concerning CHWs do not focus on the CHWs' perceptions of the factors determining their performance motivation and as such, this study aims to dwell on the same in depth.

2.5: Experiences of CHWs with the Determinants of Performance Motivation

CHWs have different and unique experiences with what determines their level of motivation to perform their allotted duties. Some determinants are enabling while others are demotivating.

The better use of time (91%), lack of alternative job opportunities (76%) and a sense of social responsibility (68%) were the reasons to become and remain a CHW (Gopalan *et al.*, 2012).

Many CHWs reported enhancement in their family and social status, and personal autonomy attributing to the role of CHW. They felt empowered through the acquisition of knowledge and skills on community health through training, designated stature in the community and the personal autonomy to work. Peer support and healthy competition among them seemed to have enhanced their enthusiasm to perform well and achieve progressive community health (Greenspan *et al.*, 2013).

However, some CHWs are dissatisfied by some aspects of the health system which they said tend to limit their performance motivation. Excessive workload, frequent refresher trainings and meetings at health centres and travel to remote habitations take most of their personal time. They sometimes feel having limited autonomy at work to perform their social responsibilities beyond the specified guidelines (Owek *et al.*, 2013). Others solicit their active involvement in the planning of service delivery to incorporate community's felt needs, as they feel they are often given only the options to deliver services than planning (Gopalan *et al.*, 2012).

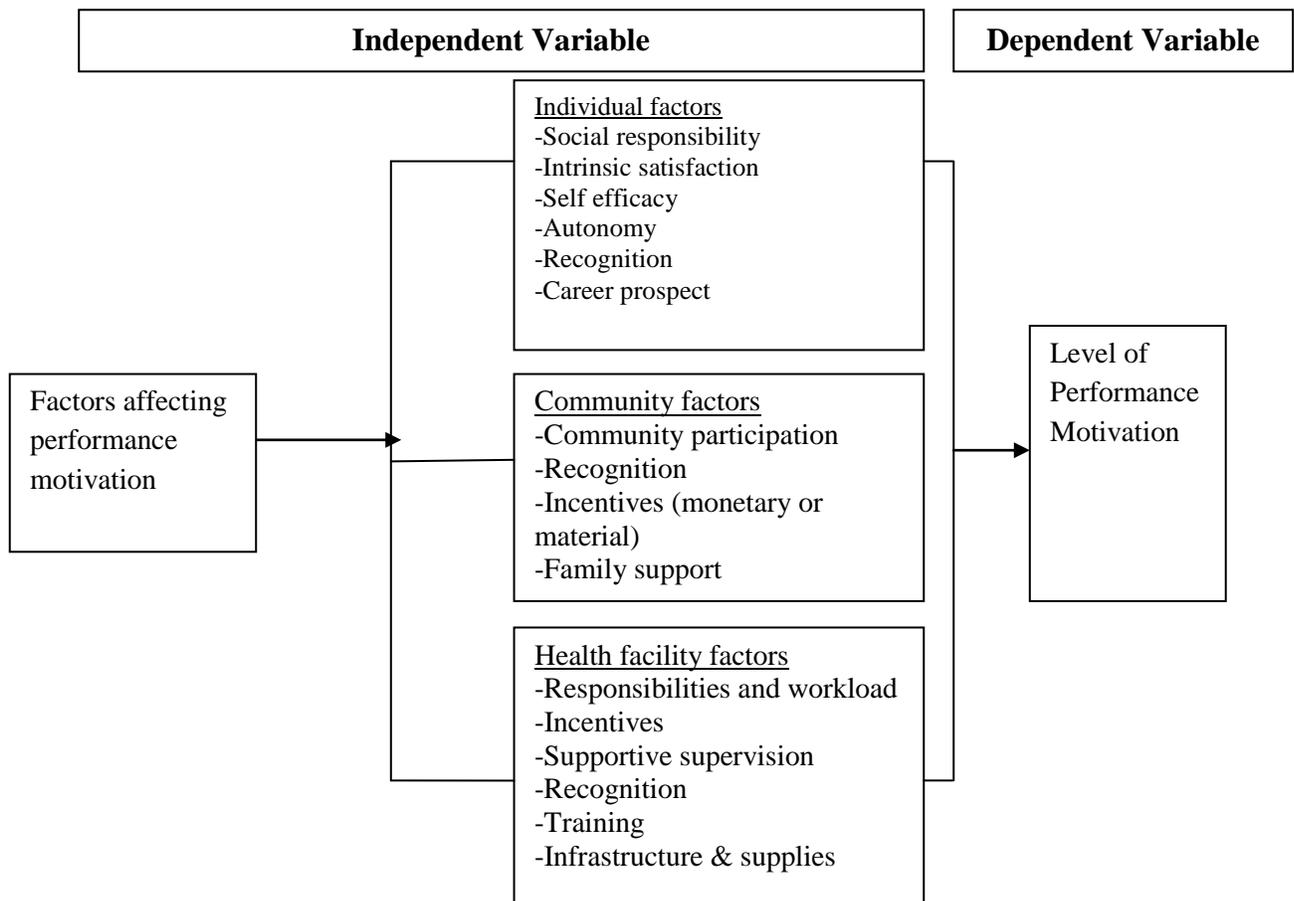
Some CHWs are concerned about the community's lack of trust on the public healthcare system. There are instances of care seeking from the private informal providers, despite the availability of drugs with the CHWs. This community behaviour was built on the instances of them not getting drugs from the CHWs due to unavailability. CHWs' activities are limited by the frequent stock-out of drugs and commodities and the communication gap at different levels of their supervision (Gopalan *et al.*, 2012).

CHWs relate their less than optimal performance to inadequate level of knowledge, skills and supportive supervision. Supervision is viewed by some as motivating and by others as demotivating. Most of them expect to have routine supportive supervision of their activities and the grass-roots level organizations' cooperation to enable improved performances. Supervision is, however, not always reported as a motivator. One CHW preferred to seek help from the doctor at the health center only when needed, and other CHWs perceived supervision to be associated with poor performance (Greenspan *et al.*, 2013).

CHWs' experiences as volunteers differ from place to place and programme to programme. There is little literature on CHWs engaged in NGO programmes and as such, this study will focus on experiences of CHWs engaged in iCCM which is an NGO programme.

2.6 Conceptual Framework

This conceptual framework is a modified version of the four levels identified in Alam *et al.*'s conceptual framework explaining factors affecting CHW retention (Alam, 2012). The four levels have been condensed into three themes namely individual, community and health facility levels. Each level is further divided into parameters as shown in figure 2.1 below:



Source: Alam *et al.*, 2012

Figure 2.1: Conceptual framework for Assessing CHVs Performance Motivation

CHAPTER THREE

MATERIALS AND METHODS

3.1 Study Area

The study was conducted in Homa Bay County (See Appendix I). Homa Bay County is located in South Western Kenya along Lake Victoria between latitude 0°15' South and 0°52' South, and between longitudes 34° East and 35° East. Homa Bay County borders Kisumu and Siaya counties to the North, Kisii and Nyamira counties to the East, Migori County to the South and Lake Victoria and the Republic of Uganda to the West. The county covers an area of 4,267.1 Km² inclusive of the water surface (1,227 km²) with a population of 963,794 persons (DHIS, 2014). Homa Bay County is divided into 6 sub-counties namely Homa Bay, Ndhiwa, Suba, Mbita, Rachuonyo North and Rachuonyo South. The main economic activity in the area is fishing.

Homa Bay County had the poorest health indicators in the country as earlier described in the background information which prompted the initiation of iCCM programme as a pilot study there (UNICEF, 2011). It is the only county in Kenya where iCCM programme is being implemented and this study focuses only on CHWs implementing iCCM hence the choice of Homa Bay County as the study area.

3.2 Study Design

A cross-sectional study design was employed using a mixed method approach i.e. both qualitative and quantitative techniques. The quantitative approach was considered most appropriate for the study because of its ability to elicit a diverse range of baseline information while the qualitative approach was proposed because of its ability to elicit in-depth opinion that qualified quantitative data source from the CHWs (Mugenda, 2008). The cross-sectional design was selected

because it is relatively quick and easy to conduct without long periods of follow-up. Moreover, it is not costly to perform and data on all variables is only collected once.

3.3 Study population

Target population was CHWs implementing iCCM in Homa Bay County. At the time of the study there were 240 Community Units (CUs) and 2159 CHWs in the county (2014, DHIS).

3.3.1 Inclusion criteria

- CHWs who had practiced for at least 3 months, had been trained in iCCM and were willing to give informed consent to participate in the study.

3.3.2 Exclusion criteria

- CHWs who had practiced for less than 3 months, had not been trained in iCCM and were not willing to give informed consent to participate in the study.

3.4 Sample size Determination and Sampling Procedure

3.4.1 Sample size Determination

Sample size was determined using a sample size standard formula by Fischer;

$$n = \frac{z^2 pq}{d^2} \text{ Where:}$$

n = desired sample size (If the population is >10,000)

p = the proportion of the target population assumed to have the desired characteristics estimated as 50% because this proportion gives the maximum sample size.

z = Standard normal deviation which is 1.96 at 95 % level of confidence.

q = 1 - p = 1 - 0.5 = 0.5

d = Degree of accuracy desired is 0.05 (Fischer *et al.*, 1998)

$$n = \frac{1.96^2 \times p \times q}{0.05^2}$$
$$= \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} = 384$$

$$nf = \frac{n}{1 + \left(\frac{n}{N}\right)} \quad (\text{Mugenda \& Mugenda, 2003})$$

Where: nf = desired sample size (If the target population is <10,000)

N = Target population which is 2159 CHWs

$$nf = \frac{384}{1 + (384/2159)}$$
$$= \mathbf{326 \text{ CHWs}}$$

Sample size for qualitative phase will consist of 42 CHWs derived from selecting 7 CHWs to be engaged in FGDs from each of the 6 sub-counties.

3.4.2 Sampling Procedure

Homa Bay County was organized into six strata based on administrative boundaries i.e. 6 Sub-counties. The number of CHWs selected per Sub-County was weighted on the total number of CHWs in each Sub-County as shown in table 3.1 below. Additional 10% (33 CHWs) were selected to cater for non-response rates. Simple random sampling was then used to select individual CHWs from the sample frames obtained from each sub-county using Statistical Package of Social Sciences. That is, the sample frame data for each Sub-county consisting of

CHWs names and contacts was subjected to random sampling command in SPSS to give the exact number of CHWs as calculated in the table above. The randomly sampled CHWs were then contacted to participate in the study.

Table 3.1: Sampling of CHWs

Serial No.	Sub county	Sample proportion	Sample size
1.	Homa Bay	$326 \times (347/2159)$	52
2.	Suba	$326 \times (240/2159)$	36
3.	Mbita	$326 \times (303/2159)$	46
4.	Ndhiwa	$326 \times (435/2159)$	66
5.	North Rachuonyo	$326 \times (394/2159)$	60
6.	South Rachuoyo	$326 \times (440/2159)$	66
	Total		326

For qualitative phase, one community unit (CU) was randomly selected from a list of all CUs within a Sub-county. Seven CHWs to participate in FGDs were further selected randomly from the selected CU and the same was repeated for all the 6 Sub-counties to achieve a total of 42 CHWs for FGDs. The respondents were homogenous in terms of their level of experience as CHVs in iCCM program however they included both men and women at different age brackets which promoted diversity and the researcher dimmed that fit in obtaining optimal responses from the discussion.

3.5 Data Collection

Data collection tools used included questionnaires which were administered to 326 CHWs and focused group discussions which were held with 42 CHWs. The questionnaires had parameters

which explored the CHWs level of performance motivation on a Likert scale of 1 (strongly disagree) to 5 (strongly agree). The parameters were based on three themes namely individual, community and health facility levels adopted from Alam (Alam, 2012) as described on the conceptual framework. The questionnaire (Appendix III) was adopted from Minnesota Satisfaction Questionnaire and Volunteer Motivation Inventory which are reliable and valid tools for assessment of level of motivation of volunteers.

Six Focused Group Discussions (FGDs) were carried out with 7 to 10 of CHWs and moderated by the researcher using an FGD guide (Appendix IV). These techniques explored the determinants of CHWs level of motivation and CHWs' current experiences and perceptions on the factors affecting their performance motivation and their suggestions to improve upon the existing situations.

Notes were taken by a note taker during the FGDs to obtain all the information in the local languages. The information was later translated into English. The data was then entered in SPSS and cleaned in preparation for analysis. To ensure quality control as well as protect the data, the soft copies were stored in computers with passwords, with authorized access by the researcher; the hard copies were locked in a safe with opening key accessible to the researcher.

3.6 Validity and Reliability

Data collection instruments were pre-tested before the actual collection of data. The interview protocol was tested in a pilot study carried out with members of Komolo Community Unit from Homa Bay Sub-county. This guided the few changes made to the questions on the interview guides to ensure the validity and reliability of the data that was collected. As per the Cronbach's

α test, the internal consistency of the scale was adequate. The consistency coefficient was 0.78, 0.79 and 0.84 for the community, health system and the individual scales, respectively.

3.7 Data Analysis

Quantitative data was summarized using descriptive statistics. To assess the association between two numerical variables, correlation analysis was used. T-test and analysis of variance (ANOVA) were used to compare means for groups. Likert scale variables were created by calculating a composite score (mean) from four or more Likert-type (Boone & Boone, 2012) . Therefore, the Likert scale variables were analysed as interval measurements. A CHW was considered motivated on a particular parameter if his/her mean score was above 3 since a mean score of 3 or less was considered low or no motivation level. A mean score of 3 to 4 was considered moderate level of motivation while a mean score of 4 to 5 was considered high level of motivation. A similar approach was successfully used by Gopalan in a study on CHWs' motivation on India's Accredited Social Health Activists (ASHA) programme (Gopalan *et al.*, 2012). All the analysis was done using the Statistical Package for Social Sciences (SPSS) software.

Qualitative data was analyzed thematically using NVivo. Thematic analysis is not a methodology but a tool which can be used across different methods to find common themes in content (Boyatzis 1998). Visualizations in Nvivo software such as mind maps, project maps, comparison diagrams and word clouds aided thematic analysis.

The analysis was both inductive and deductive and relevant themes were indexed under the individual, health system and community-level aspects. They were further classified as the enabling and the demotivating factors for the CHW's performance. The qualitative findings were triangulated with the quantitative findings.

3.8 Ethical Considerations

Scientific approval was obtained from School of Graduate Studies at Maseno University (Appendix V). Permission to carry out the study was sought from Maseno University Ethics and Review Committee (MUERC) (See Appendix VI).

An informed consent form (Appendix II) containing information to participants, risks and benefits, main contact persons, confidentiality and basic information on what the study is about was available in English. No one was allowed to participate before giving an informed consent.

The participation was completely voluntary and the respondents had the choice of not answering any question or withdrawal from the study at any time. Respondents were assured that withdrawal from the study will not in any way lead to any penalties or any negative effects on their duties as CHWs whatsoever.

The confidentiality of the participants was assured and maintained throughout the study by ensuring their identity remained anonymous. To ensure security of data, the soft copies were stored in computers with passwords, with authorized access by the researcher; the hard copies were locked in a safe with opening key accessible to the researcher.

CHAPTER FOUR

RESULTS

4.1 Baseline Characteristics

A response rate of 99.1% (n=323) was achieved. Majority of the respondents were female (75.8%), 41 years old and above (35%), and married (75.2%). Majority of the respondents (57.3%) had secondary education as the highest level of education attained. In addition, most of the respondents (66.3%) get their source of livelihood from agriculture as shown in table 4.1.

Table 4.1: Baseline Characteristics of CHWs

Characteristics	Frequency (n=323)	Percentage (%)
Sex		
Male	78	24.1
Female	245	75.9
Age		
18-25 years	21	6.5
26-33 years	79	24.5
34-41 years	110	34.0
Above 41 years	113	35.0
Marital Status		
Single	8	2.5
Married	243	75.2
Separated	1	.3
Widowed	71	22.0
Education Level		
Primary	123	38.1
Secondary	185	57.3
Tertiary	15	4.6
Source of Livelihood		
Agriculture	214	66.3
Employed	4	1.2
Self employed	105	32.5

4.2 Level of Performance Motivation of CHWs

The overall level of performance motivation for CHWs implementing ICCM program in Homa Bay County is 3.93 (IQR=1.34, n=323). Table 4.2 below shows the level of performance motivation per specific parameters.

Table 4.2: Level of Performance motivation as per specific parameter

No.	Variable	Mean	SD	Motivated n (%)
1	Community participation	4.72	0.437	320 (99.1%)
2	Individual satisfaction	4.60	0.547	305 (94.4%)
3	Social responsibility	4.47	0.527	318 (98.5%)
4	Self-efficacy	4.36	0.494	317 (98.1%)
5	Autonomy	3.87	0.461	308 (95.4%)
6	Career development	3.79	0.424	305 (94.4%)
7	Workload	3.61	0.468	271 (83.9%)
8	Incentives	3.60	0.801	242 (74.9%)
9	Training	3.59	0.530	245 (75.9%)
10	Recognition	3.43	0.340	292 (90.4%)
11	Family support	3.19	0.603	180 (55.7%)

The level of motivation was highest on community participation (mean 4.72; 99.1% of CHWs) followed by individual satisfaction with job-related achievements, a feeling of social responsibility to serve the community and self-efficacy which scored a mean of 4.60 (94.4%), 4.47 (98.5%) and 4.36 (98.1%), respectively.

The degree of motivation was the least on family support in promoting the voluntary work with a mean score of 3.19 (55.7%) followed by recognition of CHWs by the community, family members and staff at the health facility with a mean score of 3.43 (90.4%).

The CHWs had a moderate level of performance motivation (mean 3-4) on; enjoying the autonomy to move, express opinions and execute the responsibilities (mean=3.87, 95.4%), the hope of career development (mean=3.79, 94.4%), degree of workload (mean=3.61, 83.9%), incentives (mean=3.60, 74.9%) and training opportunities (mean=3.59, 75.9%).

Based on the major three categories of parameters, the level of motivation was highest on individual factors (mean=4.22, SD=0.304) which included career prospects, autonomy, social responsibility, individual satisfaction and self-efficacy. This was followed by community factors (mean=3.78, SD=0.290) which included recognition, community participation and family support. The CHWs were least motivated by health facility factors (mean=3.60, SD=0.431) which included incentives, training and workload as shown on table 4.3 below.

Table 4.3: Performance Motivation Levels as per Categories of Parameters

No.	Factors	Mean	SD
1.	Individual factors	4.22	0.304
2.	Community factors	3.78	0.290
3.	Health facility factors	3.60	0.431

4.3 Determinants of the Level of Performance Motivation

Some of the themes which came up as determinants of performance motivation during FGDs include training, resources in terms of stock and equipment, recognition, incentives, community

support and means of transportation. However, none of the demographic factors were mentioned as determinants.

4.3.1 Demographic Factors

An independent-samples t-test was conducted to compare the level of performance motivation between males and females. There was no significant difference in the scores for males ($M=3.97$, $SD=0.27$) and females ($M=3.92$, $SD=0.26$); $t(320) = 1.54$, $p=0.13$ as shown in the table 4.4 below.

Table 4.4: Independent t-test to Compare Level of Performance Motivation between Male and Female CHWs

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	Df	Sig. (2-tailed)	95% Confidence Interval of the Difference	
							Lower	Upper
Overall level of motivation	Equal variance assumed	.005	.945	1.537	320	.125	-.01448	.11780
	Equal variance not assumed			1.503	125.43	.135	-.01635	.11967

A one-way between subjects ANOVA was conducted to compare the effect of marital status on the level of performance motivation in single, married, divorced, separated and widowed groups. There was no significant effect of marital status on level of performance motivation at the $p < 0.05$ level for the three conditions [$F(3, 319) = 0.84$, $p = 0.48$] as shown in table 4.5 below.

Table 4.5: One-way ANOVA to Determine the Effect of Marital Status on Level of Performance Motivation

	Sum of squares	df	Mean Square	F	Sig.
Between groups	0.168	3	0.056	0.836	0.475
Within groups	21.407	319	0.067		
Total	21.575	322			

A one-way between subjects ANOVA conducted to compare the effect of level of education on the level of performance motivation in primary, secondary and tertiary groups showed no significant effect at the $p < 0.05$ level for the three groups [$F(2, 320) = 0.12, p = 0.89$] as shown in table 4.6 below.

Table 4.6: One-way ANOVA to Determine the Effect of Level of Education on Level of Performance Motivation

	Sum of squares	df	Mean Square	F	Sig.
Between groups	0.016	2	0.008	0.117	0.890
Within groups	21.559	320	0.067		
Total	21.575	322			

Analysis of variance also showed that there was no significant effect (at $p < 0.05$) of source of livelihood on the level of performance motivation in those who did agriculture, those employed and those self-employed [$F(2, 320) = 1.22, p = 0.30$] as shown in table 4.7 below.

Table 4.7: One-way ANOVA to Determine the Effect of Source of Livelihood on the Level of Performance Motivation

	Sum of squares	df	Mean Square	F	Sig.
Between groups	0.163	2	0.081	1.216	0.298
Within groups	21.412	320	0.067		
Total	21.575	322			

A Pearson correlation coefficient was computed to assess the relationship between the years of experience as a CHW and the level of performance motivation. There was a weak negative relationship between the two variables though not statistically significant ($r = -0.044$, $n = 323$, $p = 0.43$) as shown in table 4.8 below.

Table 4.8: Correlating the relationship between CHWs years of experience and their level of performance motivation

		CHWs years of experience
Level of motivation	Pearson Correlation	-0.044
	Sig. (2-tailed)	0.426
	N	323

In conclusion, there was no significant effect of demographic factors on the level of performance motivation. This finding was also supported by comments during FGDs which stated,

“All CHVs are recognized despite being a man or woman so long as he or she was selected by the villagers.” (Konyango CU- Male, 28 years old).

4.3.2 Individual Factors

4.3.2.1 Job Satisfaction and Social Responsibility

Most of the CHVs looked at their work as a form of social service that they were rendering to their community. They valued highly the feeling of saving lives and improving the health of their community members, and this was referred to repeatedly in focus-group discussions as one of the key motivating factors that inspired them to continue their work as a community health worker. They felt this was different from and more valuable than doing any other job that would have given them a salary.

“If we are working in a company they make us work for their own interest and we work for our own interest. That means we get money for the work that they make us do. But in this job of being a CHV, we help the community. Therefore, we are able to help people. This motivates me a lot to work because when we help someone in the community to get well, it makes a lot of difference.” (Kamasengre CU- male, 38 years old).

The value that they attached to their work made them feel responsible for the improved health of the community that they served. This, in turn, motivated CHVs to go the extra mile to ensure that

their services were made available to all and that the quality of the services they provided was good.

“Yes. We are more concerned about the people than other things. So, if we don’t get enough benefit it’s fine. But if we get to hear from the field that we have given them some wrong information then we won’t feel good for sure. So, we want to work for their health. We don’t bother much about monetary benefits as such.” (Kokal CU-Female, 42 years old).

4.3.2.2 Family Support

The work of a community health worker involved being available right through the day and sometimes even round the clock, depending on any health-related emergency that arose in the community. Many of the CHVs felt that they were able to work in this manner and respond to calls for help only because of the support they received from their family members, especially their husbands and in-laws. CHVs narrated instances of how husbands accompanied them when they had to attend a call late in the evening or at night and how other family members (mother-in-law) supported them by stepping in to take care of household chores that were the responsibility of the CHV during days when she had to go to make field visits or accompany someone to the hospital.

“My husband is also very supportive. His work is also related to health. He is a chemist. He has his own shop. I have a problem. My children are very small now but then my mother-in-law takes care of them when I go for work. I have complete support of my family.” (Oridi CU-Female, 32 years old).

“If my sister doesn’t look after my son then it would be impossible for me to work as a CHV. My mother also completely supports me. Now my husband also has no objection because I have to work in the area where we live.” (Kamasengre CU- Female, 30 years old).

4.3.2.3 Autonomy and Recognition

While describing their functions as CHVs, participants referred to the feeling of being independent and how their work had enabled them to value themselves more. Being recognized for their work in the field enabled them to feel a sense of independent identity that they did not

experience when they were confined to their homes. Being able to make productive use of their time was also reported as a positive factor about their work and motivated them to continue working even if conditions were difficult and the incentives they received were meager.

“Actually, I wanted to have any part-time job because I was just sitting idle at home at that time. So, I thought that I could serve the society and I will have my own identity too.”
“(Arujo B CU- Male, 26 years old).

“But now the biggest achievement is that we are serving people, we are self-dependent whether we earn more or less. But we are doing something very fruitful and that makes me feel good about myself. (Kokal CU-Male, 45 years old).

4.3.2.4 Personal Experience of Ill Health

While discussing their experiences as community health workers, many of the CHVs made repeated references to their own experience of pregnancy or as a young mother. Those who had negative experiences or lacked the appropriate knowledge about caring for themselves or their newborn children felt that they should ensure that such situations do not occur in the lives of other women, and this acted as a motivating factor in delivering services to the community. CHVs with such experiences reported feeling more compassionate about the situation of the community they served than those who did not have such experiences.

“My child had pneumonia. He was very weak and I gave him a bath. I still remember that scene when my child was serious. I fainted after looking at him. So I especially convince mothers of small children to keep your child in such a way that he should not get any disease.” (Female CHV, 37 years old, Arujo B CU).

4.3.3 Community Factors

4.3.3.1 Community Support and Participation

Support from the community members that CHVs serve in terms of acceptance of the services they provide, hospitality during home visits and recognition of their effort were mentioned as a major motivating factor. One CHV said;

“Community members support us with our work by doing what we advise them to do such as using treated water. Youths are also free with us hence they consult us freely regarding issues of early pregnancy.” (Arujo B CU-Male, 35 years old).

4.3.3.2 Recognition

On recognition, an independent-samples t-test was conducted to compare the level of performance motivation between CHWs who received formal recognition from the community and those who did not. There was significant difference in the scores for CHWs who received formal recognition (M=3.90, SD=0.26) and those who did not (M=3.78, SD=0.27); $t(321) = -2.74, p=0.006$ as shown in the table 4.9 below.

Table 4.9: Independent t-test to Compare Level of Performance Motivation of CHWs who did and those who did not Receive Formal Recognition

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	Df	Sig. (2-tailed)	95% Confidence Interval of the Difference	
							Lower	Upper
Overall level of motivation	Equal variance assumed	.181	.671	-2.740	321	.006	-.27224	-.04468
	Equal variance not assumed			-2.602	22.54	.016	-.28457	-.03235

This finding agrees with those from FGDs whereby CHVs value recognition as a motivator as stated below:

“Community members recognize me as “sister” hence they call me in case there is a sick child or a mother in labour”. (Kokal CU- Female, 42 years old).

“I am called Daktari in my community. We are provided with tools for work such as budes for identification, T-shirts, gumboots and bags.” (Arujo B CU- Male, 39 years old).

4.3.3.3 Incentives

On incentives, an independent-samples t-test conducted to compare the level of performance motivation between CHWs who reported to have received support from community (financial / kind) and those who reported not to have received support showed that there was no significant difference in the scores for CHWs who received support (M=3.89, SD=0.28) and those who did not receive support (M=3.94, SD=0.25) from the community; $t(321) = 1.12, p=0.26$. Despite knowing that CHV is a voluntary job, majority of CHVs still have expectation of some kind of compensation such as stipend and gifts. Some CHVs acknowledged getting a monthly stipend however they expressed concerns about spending a lot from their pockets to get the work done yet they do not receive much in return. Some of their views were as follows:

“We do not get motivation or appreciation from the community because they assume that we are being paid some money for sustainability which is not true. We are requesting to be put on payroll as CHWs because there is too much workload placed on us.” (Konyango CU-Female, 40 years old).

“The stipend we get is not equal to that given to other CHVs working with other NGOs.” (Konyango CU-Male, 44 years old).

“Some of us do farming to supplement our income because the stipend which is KShs. 500 per month cannot sustain our family needs.” (Oridi CU-Male, 48 years old).

“During seminars and trainings, we are given stipend hence motivated to attend and participate.” (Kokal CU-Female, 32 years old).

“We mainly use our own airtime to communicate to the clients and it becomes costly for us because we are spending more and not earning from the work. We also need to pay to charge our phones because we do not have electricity at our homes.” (Kokal CU- female, 40 years old).

4.3.3.4 Peer Support

Support from peers in terms of sharing supplies and discussing difficult or challenging cases also came up as a motivating factor. During FGDs, a CHV said;

“I like the support I get from my fellow CHVs. When I run out of supplies and I have a client, I get them from my colleagues and I replace as soon as I receive my order. Sometimes we consult one another on issues we find challenging hence learn from one another.” (Oridi CU-Female, 39 years).

4.3.4 Health Facility Factors

4.3.4.1 Training

An independent-samples t-test conducted to compare the level of performance motivation between CHWs who took more than five days for initial training and those who took five days and less for initial training showed that there was a significant difference in the scores for CHWs who took more than five days ($M=3.91$, $SD=0.26$) and those who took five days and less ($M=4.04$, $SD=0.22$); $t(52.9) = -3.42$, $p=0.001$ as shown in table 4.10 below.

Table 4.10: An Independent t-test to compare the level of performance motivation between CHWs who took five days and below and those who took more than five days for initial training

		Levene's Test for Equality of Variances		t-test for Equality of Means				
							95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Lower	Upper
Overall level of motivation	Equal variance assumed	4.527	.034	-3.066	321	.002	-.21963	-.04793
	Equal variance not assumed			-3.421	52.979	.001	-.21221	-.05535

An independent-samples t-test conducted to compare the level of performance motivation between CHWs who underwent refresher training and those who had never had refresher training showed that there was no significant difference in the scores for CHWs who received refresher training ($M=3.93$, $SD= 0.26$) and those who did not receive refresher training ($M= 3.96$, $SD= 0.33$); $t(321) = -0.47$, $p = 0.63$ as shown in the table 4.11 below.

Table 4.11: Independent t-test to compare level of performance of CHWs who underwent and those who did not undergo refresher training

		Levene's Test for Equality of Variances		t-test for Equality of Means				
							95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Lower	Upper
Overall level of motivation	Equal variance assumed	1.328	.250	-.474	321	.636	-.18612	.11388
	Equal variance not assumed			-.380	11.532	.711	-.24436	.17212

During FGDs, training was mentioned as a motivating factor however they had concerns about the short period of trainings where they covered so much within a short time with minimal or no refresher courses. Some CHVs said;

“Having being trained, I feel confident to handle most cases without fear.” (Oridi CU-Male, 40 years old).

“After being trained, I am now able to handle cases of sick children without always having to refer because I got the knowledge and skills required for the same.” (Konyango CU-Female, 35 years old).

4.3.4.2 Availability of Stock or Supplies

On availability of stock or supplies, equal number of participants 54.5% (176) reported stock-outs for RDTs and ALs, 43.7% (141) for paracetamol syrup, 35% (113) for amoxyl and 20.1% (65) for ORS as shown on figure 4.1 below

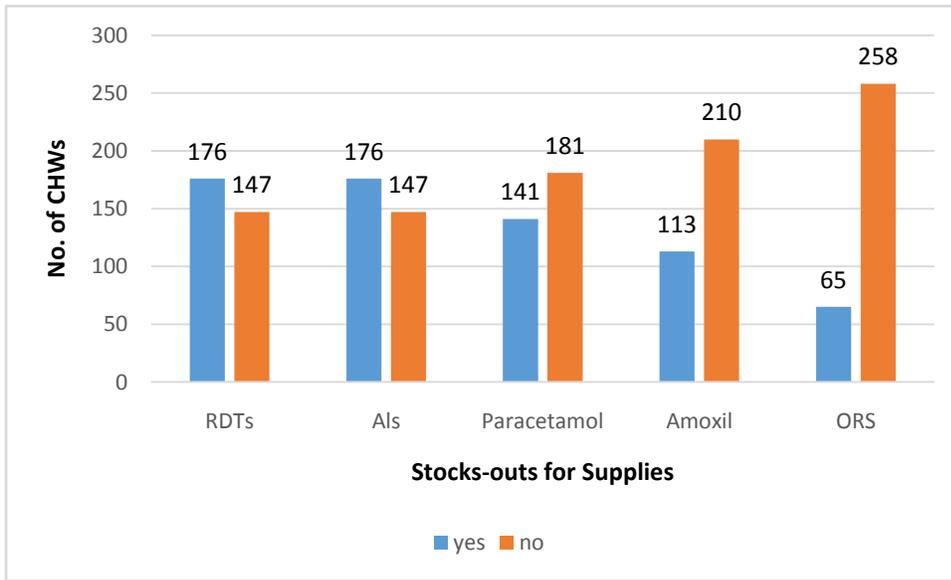


Figure 4.1: A graph showing stock-outs experienced by CHVs for different drugs

An independent-samples t-test conducted to compare the level of performance motivation between CHWs who reported to have and those who reported to lack adequate supplies and equipment for use during service delivery showed that there was significant difference in the scores for CHWs who had ($M=3.91$, $SD=0.25$) and those who lacked ($M=4.01$, $SD=0.28$) adequate supplies and equipment for use during service delivery; $t(321) = 2.97$, $p=0.006$ as shown in table 4.12 below.

Table 4.12: Independent t-test to compare level of performance motivation of CHWs who had and those who lacked adequate supplies

		Levene's Test for Equality of Variances		t-test for Equality of Means				
							95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Lower	Upper
Overall level of motivation	Equal variance assumed	3.490	.063	2.790	321	.006	.02996	.17325
	Equal variance not assumed			2.570	82.775	.012	.02297	.18023

During FGDs, stock-outs came out as a demotivating factor. Some said;

“We always have adequate stock of amoxil and ORS however we do not have supplies of RDT and AL hence we cannot confirm nor treat malaria.” (Konyango CU-Female, 26 years old).

“When we get children with fever, we refer to the health facility for further management because we do not have RDT kits to check if they have malaria or not. In such a case the community members get angry and some even say, “So what are you treating if you cannot treat everything?” (Kamsengre CU-Female, 33 years old).

4.3.4.3 Means of Transportation

On means of transportation, the study showed that the most commonly used modes of transport are motorcycle (59.7%) followed by walking (34.1%), bicycle (3.1%), public service vehicle (2.5%) and boat (0.6%) as shown in figure 4.2 below. This is due to poor roads which worsen with frequent rains.

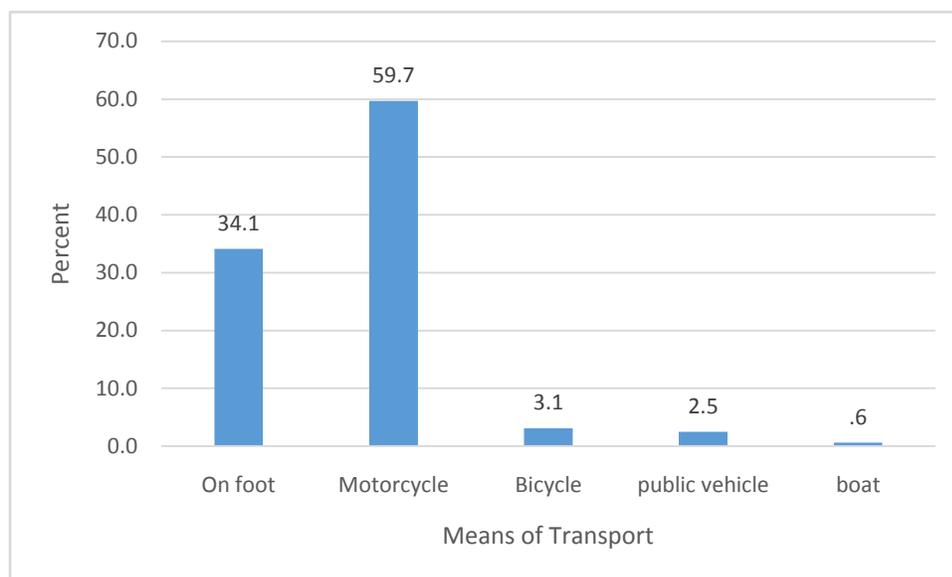


Figure 4.2: A Graph Showing Means of Transport Used by CHVs

This finding was reinforced by findings from FGDs where a CHV stated;

“We are not able to access our clients easily owing to the bad roads especially during rainy seasons. We would appreciate if our movements within the community are facilitated through provision of stipend for transport or provision of bicycles.” (Oridi CU-Female, 44 years old).

4.3.4.4 Workload

During FGDs, the CHVs mentioned that some CUs cover larger areas compared to others such that a CHV in one area could be based in one village while another could be assigned two or three villages hence increased workload which demotivates. They also mentioned giving a monthly report which is so involving despite other responsibilities to the community. Samples of their concerns were as follows;

“There is so much work to be done especially those of us who have like five or more villages under our watch.” (Oridi CU- Male, 42 years).

“One of us left the job because she could not support the family financially since this job takes most of our time hence no time to fend for the family” (Kokal CU-Female, 40 years).

4.3.4.5 Supervision

Majority of the CHVs are supervised by the CHEWs (88.2%), 8.4% by Quality Assurance Officer and 3.4% by the study coordinator as shown in the figure 4.3 below.

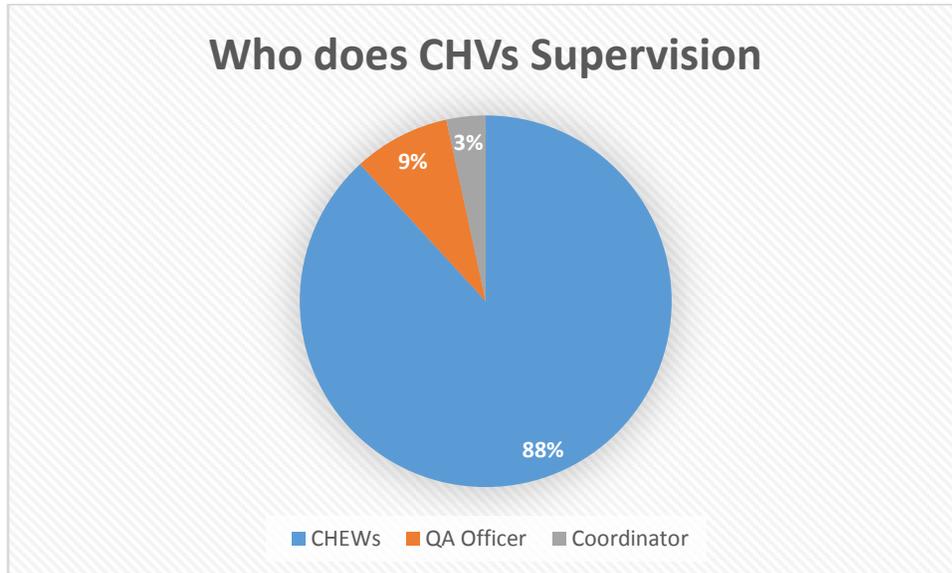


Figure 4.3: A Pie chart showing who supervises the CHWs

When asked how often the supervisor visits, majority reported being visited more than once in a month (76.5%) while the rest reported being visited once in a month (23.5%). Majority of the respondents reported that when the supervisors visit, they did observation of service delivery, trouble shooting and problem solving, record review and supply checks as shown table 4.13 below.

Table 4.13: Activities carried out during supervision

No.	Supervisory activities	Yes	No
1.	Observation of service delivery	312 (96.6%)	11 (3.4%)
2.	Trouble shooting and problem solving	288 (89.2%)	35 (10.8%)
3.	Record review	319 (98.8%)	4 (1.2%)
4.	Supply checks	312 (96.6%)	11 (3.4%)

Good relationship between the CHVs and their supervisors also came up as a motivating factor as shown in the statement sampled below.

“We are in good relations with the CHEWs who supervise us. The good thing is that the CHEWs always give us immediate feedback on the reports we have given. They also show us how to correct what we did wrong and how to handle some cases which we find challenging. That motivates me because I learn a lot in the process.” (Kokal CU-Female, 38 years).

On correlating the level of performance motivation and the determinants of performance motivation, the study showed a strong, positive and statistically significant correlation between the level of performance motivation and individual factors ($r = 0.851$, $n = 323$, $p = 0.000$), facility factors ($r = 0.744$, $n = 323$, $p < 0.0001$) and community factors ($r = 0.667$, $n = 323$, $p < 0.0001$) as shown in table 4.14 below.

Table 4.14: Correlating the level and the determinants of performance motivation

		Community factors	Health facility factors	Individual factors
Overall level of motivation	Pearson Correlation	.677**	.744**	.851**
	Sig. (2-tailed)	<0.0001	.000	<0.0001
	N	323	323	323

** . Correlation is significant at the 0.01 level (2-tailed).

4.4 Experiences of CHVs with Determinants of Performance Motivation

Majority of the CHVs were selected by the community members but a few were selected by area chiefs and public health officers (PHOs) based on laid down criteria to include individual's behaviors, interests and prior experience working with community members. Individuals with prior experience such as social workers, women groups and church groups had higher chances of being selected. During FGDs, one of the respondents said;

“Widowed women were being stigmatized in the community and even in church hence we came together as widows and formed a group to help get rid of stigma. This exposed me to the community members who noted I have leadership skills hence they chose me as a CHV to serve them.” (Arujo B CU- Female, 35 years).

“I started as a home-based care provider having been trained by an NGO working on early marriages. After the contract ended, I felt the need to continue working with community members in promoting good health and preventing diseases.” (Oridi CU- Female, 40 years).

Majority of the CHVs mainly mentioned sense of social responsibility and altruism as the reason they became CHVs and continue to serve as such. They were mainly concerned about the high rates of morbidity and mortality in the community from causes which are preventable, and some felt they did not have adequate knowledge, skills and resources required to curb that hence becoming a CHV would give them the opportunity to learn and empower them to reduce the preventable causes of morbidity and death. Some said;

“I became a CHV to give back to the society after benefiting from a community member who barely knew me.” (Kamasengre CU-Male, 42 years).

“I like the fact that since I started working as a CHV, cases such as children with diarrhea, stigma and mothers defaulting taking the children for immunizations have reduced markedly in my community.” Kokal CU-Female, 40 years).

“I wanted to become a CHV so as to learn different ways of preventing diseases which cause death in the community.” (Konyango CU-Female, 32 years).

“I am interested in contributing to reduction of the high rates of death in the community caused by diseases such as increased incidence of HIV.” (Kokal CU-Male, 32 years).

Other factors such as community and peer support, training, incentives and recognition were mentioned as sources of motivation behind working as a CHV though not the main reasons for becoming one. Some said;

“I enjoy the respect and obedience which comes with the responsibility of being a CHV owing to the fact that I was selected by the community members” (Konyango CU- Male, 38 years).

“I have been trained twice by ICCM and through the skill I gained, I am able to identify a malnourished child.” (Konyango CU-Male, 40 years).

“Most community members participate a lot in our activities however there is no appreciation offered for the services rendered.” (Kamasengre CU-Female, 35 years).

However, CHVs also mentioned various challenges they face while discharging their duties. Similar challenges came up both from the FGDs and the survey as shown in the figure 4.4 below.

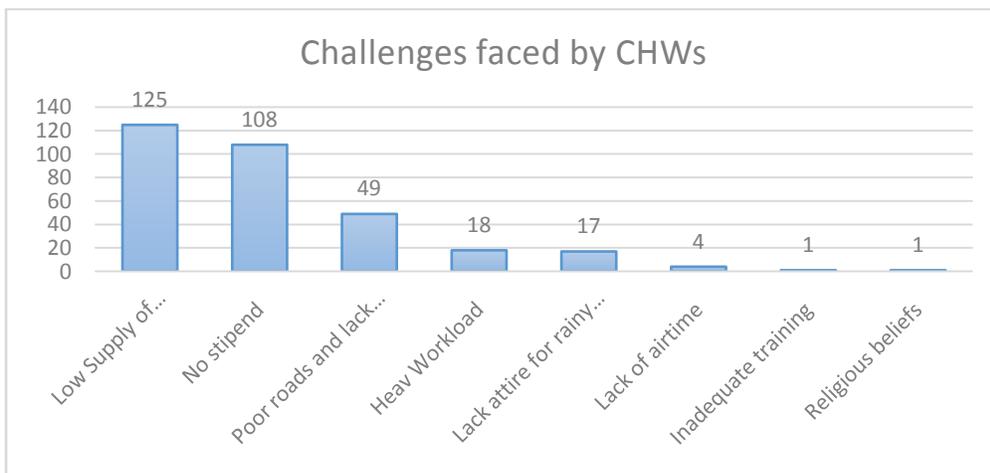


Figure 4.4: Challenges faced by CHVs

The CHVs had certain dissatisfactions on certain aspects limiting their level of performance motivation. Excessive workload and frequent travelling to remote habitations through poor roads took away their personal time and the little money that they have yet they are not compensated. They said the refresher trainings were inadequate hence they could easily forget some of the most important and basic knowledge and skills required for effective performance of their duties.

“We suffer a lot due to full voluntarism because most of the time we are at the field and we are also expected to give report yet our families suffer due to inadequate attention and lack of adequate income to support the family.” (Kokal CU-Male, 32 years).

“We do not get motivation or appreciation from the community because they assume that we are being paid some money for sustainability which is not true hence we are requesting to be put on payroll as CHWs because there is too much workload placed on us.” (Konyango CU-Male, 37 years).

“We mainly use our own airtime to communicate to the clients and it becomes costly for us because we are spending more and not earning from the work. We also need to pay to charge our phones because we do not have electricity at our homes” (Kokal CU-Female, 38 years).

The CHVs sometimes felt that they have limited autonomy at work to perform their social responsibilities beyond the specified guidelines. For instance, One CHW said;

“This program only offers services and care to the under-fives. Sometimes even other siblings above 5 years of age and their parents are ill yet there is not much we can do to help despite them considering us as their doctor hence it becomes a challenge.” (Kokal CU-Female, 40 years).

Many posed concern on the community’s lack of trust on the public healthcare system. There were instances of care seeking from the private informal providers, despite the availability of drugs with the CHVs. This community behavior was built on the instances where they did not get drugs from the CHVs due to stock-outs. Their activities were limited by the frequent stock-out of drugs and commodities and the communication gap at different levels of their supervision.

“We always have adequate stock of amoxil and ORS however we do not have supplies of RDT and AL hence we cannot confirm nor treat malaria. Hence, when we get children with fever, we refer to the health facility for further management because we do not have RDT kits to check if they have malaria or not. In such a case the community members get

angry and some even say- “So what are you treating if you cannot treat everything?” (Kamsengre CU- Female, 32 years).

“When we refer patients to the health facility, we do not get feedback from the health facility and sometimes from the clients hence we cannot know whether they got help or not.” (Kokal CU- Male, 43 years).

4.5 Perceptions of CHVs on Determinants of Performance Motivation

CHVs have different ideas about community health work and they join with different expectations such as gaining knowledge and skills through training, aspiring for growth in career, getting certificates as well as earning despite being told it’s a voluntary job. Some of their contributions during the FGDs were as follows;

“With the knowledge we have as CHVs, some of us are worthy of facilitating certain topics during training forums yet we are never considered for such opportunities.” (Kokal CU-Male, 32 years).

“I joined in order to be trained and get certificates.”(Arujo B CU-Male, 44 years).

“Initially I thought I will be paid a salary from KEMRI because it is a big organization but I got surprised when I realized it was totally voluntary.” (Oridi CU- Male, 30 years).

When asked about what they think should be done to improve their performance motivation levels, majority mentioned increase of supplies followed by provision of stipend, means for transport and attire for rainy seasons, reduction of workload, provision of airtime for communication, scheduling more frequent training and issuing certificates after training in that order as shown in figure 4.5 below.

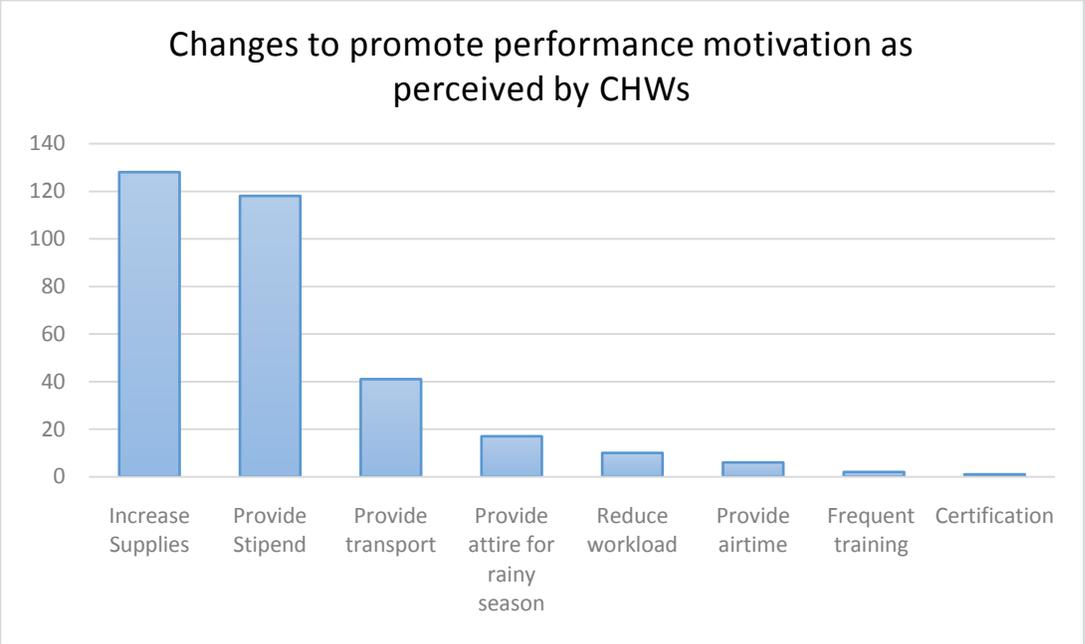


Figure 4.5: Ways of Promoting Performance Motivation of CHVs as Perceived by CHVs

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This study focused on four objectives: to assess the current level of performance motivation, to determine the factors affecting performance motivation levels and to assess the experiences and perceptions on the current status of the motivational determinants among CHWs implementing iCCM in Homa Bay County.

5.2 Level of Performance Motivation among CHWs

Generally, the study showed that CHWs implementing iCCM program in Homa Bay County have moderate level of performance motivation. This finding is similar to that of a study carried in Nairobi County, Kenya which showed that performance of CHWs was low (34.7%) especially in four key monthly targets thus referral of patients, number of houses visited, CHWs meetings and number of *Baraza* attended (Mulingwa, Cheboi, Oyore, & Otieno, 2016). However, the finding is contrary to a study carried out in Uganda among CHWs implementing family planning programme similar in structure to iCCM, which showed CHWs generally had high motivation levels (FHI 360, 2013). Similarly, a study done in India among ASHAs also showed higher levels of performance motivation (Gopalan *et al.*, 2012). However, the ASHAs underwent longer periods of training and they are on permanent employment where they get monthly salary as compared to the CHWs in Homa Bay County who work voluntarily and are not on payroll but get monthly stipend. This could explain the difference in level of performance motivation. Hence a lot still needs to be done to promote higher levels of performance motivation to ensure successful implementation of community strategy programs where CHWs are the main implementers.

5.3 Determinants of Levels of Performance Motivation among CHWs

5.3.1 Demographic Factors

The study showed that there was no significant effect of demographic factors on the level of performance motivation. Despite majority of the respondents being females, there was no significant difference in the level of performance motivation between males and females. Most countries have largely relied on females as CHWs. Although both men and women are employed at grass-roots level, there is a collective impression particularly amongst policy makers, that female workers are able to deliver care more effectively than male workers at community level. While this may be true of maternal and child health (MCH) related services, the role of male workers in the control of epidemics (in the past), such as cholera, small-pox and plague, at the community level has been substantial across countries. Nonetheless, there has been an explicit policy-shift in India to replace male health workers with female workers at community level(Gopalan *et al.*, 2012).As such, Homa Bay community does not consider community health volunteer work as a woman's job as opposed to the findings from a study in India whereby ASHAs are only women.

In this study, majority (n=185, 57.3%) had attained secondary education as the highest level of education. From the literature reviewed, in most countries CHWs have had education up to primary level, with 8 to 10 years of schooling. Studies have also shown that CHWs with higher educational qualifications have opportunities for alternative employment and therefore migrate from one job to another (Brown *et al.*, 2006). On the other hand, it has also been highlighted that those with higher education could learn and enhance their skill in the diagnosis of common illnesses(Bentley, 1989)and thereby deliver better care to the community. Experience from other regions, namely in Uganda, shows that factors like age, sex, education and number of offspring

were inconsequential in ability of CHWs to classify pneumonia and provide treatment accordingly (Kallander *et al.*, 2006).

Several factors both intrinsic and extrinsic, determine individual's level of performance. In this study, the factors were generally classified as individual, community and health facility factors.

5.3.2 Community Factors

The study revealed that the level of motivation was highest on community participation a component of community factor, meaning majority of CHWs are encouraged to volunteer when the community they serve actively engage and accept their activities. This is however contrary to findings in the study by Gopalan among ASHAs in India where community participation in activities scored 4.07 compared to 4.72 in Homa Bay County. Hence community participation can be enhanced through establishment of committees and discussion forums as well as promoting the use and understanding of CHW collected data to improving local understanding and credibility of CHW programs. Such strategies have shown to improve CHW support, status, and standing leading to greater levels of retention and motivation (Bhattacharyya *et al.*, 2001).

The study also showed that there was significant difference in the level of performance motivation between CHWs who received formal recognition from the community (M=3.90, SD=0.26) and those who did not (M=3.78, SD=0.27); $t(321) = -2.74, p = 0.006$. Hence recognition is considered a promoter of level of performance motivation. On triangulation, this finding agrees with those from FGDs where CHVs stated that they like it when community members refer to them as “Daktari” or “Sister” as well as when community members consult them when one is unwell. This finding concurs with those of the studies carried out in Busia and Nyakach whereby about 27% of the CHWs felt they were recognized by the community they serve. The community also recognizes them especially when they go to chlorinate water sources

in the community during cholera outbreaks. Service and information demand on health issues from community members was also cited as a motivational factor. (Owek, 2013; Kasaje, 2010).

The study showed that there was no significant difference in the level of performance motivation between CHVs who received support (financial/kind) and those who did not receive support from the community. This implies financial or in kind support from the community has no influence on the level of performance motivation of CHVs. This finding is contrary to that of other studies, for example in, a study in Colombia showed that “feedback and rewards from the community” are more significant in the overall motivation and performance of CHWs (Robinson & Larsen, 1990)

5.3.3 Individual Factors

The study showed that majority of CHWs were highly motivated by individual factors hence their main source of motivation is intrinsic. This finding concurs with those of a similar study by Gopalan in India whereby the level of motivation was the highest on the intrinsic job satisfaction on various job-related achievements (mean 4.30; 68.4% of CHVs). The self-efficacy or the perceived abilities on job scored a mean score of 4.27 (69.7%) followed by the social responsibility and altruism (4.12; 66.1%) (Gopalan *et al.*, 2012).

5.3.4 Health Facility Factors

The CHWs were least motivated by health facility factors (mean=3.60, SD=0.431) which included incentives, inadequate stock supply, infrastructure, training and degree of workload.

From the study, there was significant difference in the level of performance motivation between CHWs who reported to have and those who reported to lack adequate supplies and equipment for use during service delivery; $t(321) = 2.97, p=0.006$. This implies lack of consistent supply of

stock and equipment is a demotivating factor to the CHVs performance. From the FGDs, majority of CHVs mentioned inconsistent supply of stocks and equipment as a demotivating factor. Stock-outs cut across all drugs though majorly on ALs and RDTs hence they have to refer all suspected malaria cases despite poor referral system without feedback. They were also concerned that the working equipment such as bags and rain coats among others has worn out without replacement. This finding is consistent with those of a study from Mali which found that lack of material was by far the most important factor for de-motivation(Dieleman, 2004). Therefore there is need for consistent provision of the resources which CHWs need to perform their roles especially drugs but also equipment such as rain jackets, gumboots and torches, travel expenses and direct cost support and mobile phone airtime as supported by other studies (Bhattacharyya *et al.*, 2001; FHI 360, 2013; Strachan *et al.*, 2012; WHO, 2010b).

On training, the study showed that there was a significant difference in the level of performance motivation between CHWs who took more than five days ($M=3.91$, $SD=0.26$) and those who took five days and less for initial training ($M=4.04$, $SD=0.22$); $t(52.9) = -3.42$, $p=0.001$. However, there was no significant difference in level of performance motivation between those who underwent refresher training and those who did not which implies duration of initial training for CHWs matters more compared to refresher training. During FGDs, refresher training was mentioned as a least motivating factor because they were limited in time, less frequent and without certification. Considering majority of the respondents had secondary education as the highest level of education attained, they may need more time and frequent refresher courses to ensure retention of the knowledge and mastery of skills acquired for adequate performance of their roles as CHVs. The observation that training is a least motivator is similar to that reported by ASHAs in India except that the ASHAs claimed that the trainings were so many and too

frequent hence took so much of the time they needed to work(Gopalan *et al.*, 2012). However, this finding is contrary to those of the study by Owek et al where CHWs said the training that they had received from the Ministry of Health gave them the confidence in what they were doing (Owek *et al.*, 2013).Generally, adequate duration of initial training with adequate refresher courses have been shown to promote level of performance motivation in several studies (FHI 360, 2013). Hence there is need to determine an equilibrium to ensure adequate duration for initial training and frequency of refresher training.

The study showed that there was no significant difference in the level of performance motivation between CHVs who received support (financial/kind) and those who did not receive support from the community. However, from the FGDs some CHVs acknowledged receiving monthly stipend of five hundred shillings while others said they had not received any. Some CHVs even mentioned that the stipend they get is way less than that offered in other programs. This implies financial or in-kind support from the community members has no influence on the level of performance motivation of CHVs because it's not an expectation though they feel the stipend is too little. Hence it can be concluded that financial incentive is a motivator to CHW performance. Although CHWs are expected to perform on a voluntary basis, Ministry of Health guidelines on their operations provide for allowances. In fact a minimum monthly stipend of (Kes 1500), about 15 USD paid quarterly has been suggested (MOH, 2010). These guidelines further stipulate that CHW activities should be planned and budgeted for at all levels and local councils should put in place innovative funding mechanisms to support them. Continued demand of monetary incentives by CHWs means that the spirit of voluntarism might not be sustainable in the long run. This finding is in agreement with other studies that found a positive relation between financial incentives and good performance. A case control study among female volunteers in Bangladesh

revealed a strong correlation between financial incentives and performance (Alam *et al.*, 2012) while a qualitative study among CHWs on the tuberculosis control programme in the Northern Cape Province in 49 South Africa showed lack of monetary incentives as a major cause of attrition (Kironde & Klaasen, 2002). A study of urban CHWs in a BRAC program found that while social incentives are important for motivation, financial incentives are the most commonly discussed factor and supersede other incentives. Financial incentives were considered critical in sustaining the CHW program in Tanzania (Greenspan *et al.*, 2013). This finding is also supported by a study done in South Africa, which concluded that non-monetary incentives served as —enablers while monetary incentives were the —real incentives (Kironde & Klaasen, 2002). Hence there is need to ensure equal distribution of standardized rate of stipend across all programs to promote motivation and retention of CHVs within programs.

Provision of feedback and supervision is an important component of CHWS strategy. From this study, supervision was generally viewed as a motivator as CHVs also reported undergoing frequent supervision, having good relations with their supervisors, getting timely feedback and learning more during supervision. This finding is consistent with other related studies. A similar study carried out in Morogoro, Tanzania found that CHVs related their less than optimal performance to inadequate level of knowledge, skills and supportive supervision as most of the CHVs expected to have routine supportive supervision of their activities and the grass-roots level organizations' cooperation to enable improved performances (Greenspan *et al.*, 2013). Similarly, a study in Mali also found out that regular supervision was a key predictor of good performance of CHWs (Perez, Ba, Dastagire, & Altmann, 2009). However, contradicting findings in a Zambian study showed that support supervisions did not influence the performance of CHWs (Stekelenburg, Kyanamina, & Wolffersi., 2003) although in Zambia, support supervisions were

irregular and there was no standard method or checklist used during supervisory visits. Peer support also came up as a motivator as it promoted teamwork and success. Through peer support, CHVs reported ability to discuss challenging cases and handling them together as well as sharing supplies when ones stock run out. This finding concurs with those of the study done in Tanzania where peer support and healthy competition among CHVs seemed to have enhanced their enthusiasm to perform well and achieve progressive community health (Greenspan *et al.*, 2013). Another study with similar findings was done in Busia, Kenya whereby the CHWs who had worked for at least 3 years acknowledged that some of the factors that have motivated them to continue working include support from their spouses, opportunity to give health education in the chief's public gathering, involvement in outreach services by the health workers and positive attitude by the community members(Owek *et al.*, 2013).

During FGDs, the CHVs mentioned that some CUs cover larger areas compared to others such that a CHV in one area could be based in one village while another could be assigned two or three villages hence increased workload which demotivates. In addition, CHWs mentioned difficulty accessing some regions due to poor weather and bad roads in combination with lack of means of transport. They mentioned that motorcycle was the most popular means of transport and the cost is not affordable. The workload was reported to be overwhelming including submitting monthly reports which are so involving despite other responsibilities to the community. This finding agrees with other four studies which referred to difficulties of CHWs in reaching communities because of flooding as a deterrent to their performance (Azad *et al.*, 2010). Similarly, in the study by Owek et al, when asked how they perceived their workload, 31% of CHWs felt they were seeing too many clients while 62% felt they were seeing the right number of clients. In addition, one health worker said that one of the challenges the CHWs are

facing is that they are covering a large area and hence there is need to train more CHWs to minimize workload per CHW(Owek *et al.*, 2013). Catchment areas where families live spread out over wide distances with difficult terrain to cross or where CHWs are not provided with appropriate 24 transport increase the time spent on the road and decrease productivity. CHWs participating in the delivery of a community-based newborn care intervention package in the People's Republic of Bangladesh's Sylhet District —attended less than 5% of all births because of their high travel distances, and difficulty receiving timely notification of deliveries(Chandrasekar, 2011). Programs must take care to monitor the catchment area assigned to CHWs to ensure that they can satisfactorily reach all the targeted members within the specified geographic area with a standard level of quality of care.

5.4 Experiences of CHVs with Determinants of Performance Motivation

Majority of the CHVs are selected by the community members but a few were selected by area chiefs and public health officers (PHOs) based on laid down criteria to include individual's behaviors, interests and prior experience working with community members. Individuals with prior experience such as social workers, women groups and church groups had higher chances of being selected. This partly echoes the results of the study by Gopalan; ASHAs prior involvement in women's groups improved their sense of altruism (Gopalan *et al.*, 2012).

Factors such as community and peer support, training, incentives, supportive supervision and recognition were mentioned as sources of motivation behind working as CHVs. However, some CHVs are dissatisfied by some aspects of the health system which they said tend to limit their performance motivation such as excessive workload, inadequate refresher trainings, frequent stock-outs of various supplies, poor roads and a sub-optimally functioning referral system. Some CHVs mentioned that they are not able to tell if referred clients reached the health facility and

what was the outcome due to lack of feedback from the clients or health facilities. This findings echoes those of similar studies done in Busia and Nyakach (Owek, 2013; Kasaje, 2010). In addition, a study by FHI360 and USAID dubbed “Motivating Volunteer Community Health Workers in Family Planning Programmes in Uganda” revealed that most common facilitators were acquisition of new skills and knowledge, perceived impact, and enhancement of social status while the most common challenges CHWs faced were transportation difficulties, insufficient transport refunds, and stock-outs(FHI 360, 2013).

5.5 Perceptions of CHVs on Determinants of Performance Motivation

CHVs generally have different expectations such as helping people and bringing positive change to the community, gaining knowledge and skills through training, aspiring for growth in career, getting certificates as well as earning despite being told it’s a voluntary job. Some perceive CHV work as a “calling” and they are driven by the feeling of social responsibility and altruism. Therefore they feel satisfied when they help others. Similarly, a quantitative study on volunteer CHWs in northwestern Tanzania found that 85% of CHWs continue to volunteer because they enjoy the job (Ahluwalia *et al.*, 2003).

This finding agree with those of a study of Community Integrated Service System (CISS) programme in Michigan/USA focused on describing the perceptions of the benefits and stressors of helping as experienced by CHWs in a nurse-coordinated maternal & child health intervention. The highest-ranking benefits included positive feelings associated with being involved in good work (95%), a sense of belonging (94%) and greater self-esteem (91%). They felt energized by helping others (81%) (Roman, 1999). CHVs generally reported having good relations with their supervisors i.e. the CHEWS. Despite CHEWS being their immediate supervisors, few CHVs still mentioned QA Officers and program coordinators as their supervisors hence they perceive

interaction with NGO staff as important. This finding concurs with those of a similar study whereby CHVs in NGO-related programs exclusively referred to NGO personnel as their supervisors, although they acknowledged also having contacts with health centre staff. Moreover, those CHVs felt demoralized when the supporting NGO pulled out and their main issues or concerns had to do with the effect on their ability to continue receiving a transport refund and with losing the practical support received from NGO staff such as facilitating the reporting and resupply process by acting as a bridge between them and health centres (Walt *et al.*, 1989).

Majority of CHVs perceive incentives, especially stipend as a major motivator as shown in this study as well as others done in Uganda and India. Additional incentives such as preferential treatment on social security's and public privileges to the CHWs and their households could be experimented as demonstrated in Guatemala and Nepal(Gopalan *et al.*, 2012).

When asked about what they think should be done to improve their performance motivation levels, majority mentioned increase of supplies followed by provision of stipend, provision for means of transport and attire for rainy seasons, reduction of workload, provision of airtime for communication, scheduling more frequent training and issuing certificates after training.

5.6 Study Limitations

Some responses from CHWs could be biased as there is a possibility that some responded in a way that they perceived is acceptable and not exactly how they feel. This was curbed by assuring them that confidentiality was maintained, and their responses will not be used against them. Another limitation is that the study did not assess the performance motivation of CHWs from the perspective of the community and their supervisors.

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.1 Summary of Findings

Majority of the respondents were female (75.8%), married (75.2%), over 34 years of age (69%), had secondary education as the highest level of education attained (57.3%) and did agriculture as a source of livelihood (66.3%).

The overall level of performance motivation for CHWs implementing iCCM program in Homa Bay County is moderate (mean=3.39, SD=0.26). Individual factors scored the highest level of performance motivation (mean=4.22, SD=0.304) compared to community and health facility factors despite community participation which is a parameter within community factors scoring the highest (mean 4.72; 99.1% of CHVs) among all parameters.

Some of the factors that came up as determinants of level of performance motivation include training, availability of stocks and equipment, recognition, community participation, peer support, means of transport, incentives, and degree of workload.

From CHVs' experience, social responsibility and altruism came out as the major reason for becoming a CHV. While on the job, they mentioned factors such as community and peer support, training, incentives and recognition as their main sources of motivation. However, they also experience a handful of challenges such as excessive workload, frequent travelling to remote habitations through poor roads, frequently running out of stock, lack of airtime and mobile phones for communication and poor referral systems.

CHVs perceive community work as a "calling" and they have high expectations from it especially financial gains despite knowing that it is a voluntary job. They believe that some of

the ways of improving their level of performance motivation include increasing of supplies followed by provision of stipend, means for transport and attire for rainy seasons, reduction of workload, and provision of airtime for communication, scheduling more frequent training and issuing certificates after training.

6.2 Conclusion

6.2.1 Level of performance motivation

The level of performance motivation of CHVs implementing iCCM program in Homa Bay County is moderate.

6.2.2 Factors Affecting the Level of Performance Motivation

Quite a number of factors came up as determinants of level of performance motivation: training, availability of stocks and equipment, recognition, community participation, peer support, means of transport, incentives, and degree of workload. However, availability of stock, recognition and incentives were shown to be statistically significant.

6.2.3 CHVs Perceptions of the Factors Determining their Performance Motivation Levels

Out of the determinants of performance motivation revealed by the study, social responsibility and altruism, community and peer support, training, incentives and recognition were perceived as the main sources of performance motivation while excessive workload, poor roads and lack of means of transport, frequent stock-outs, lack of airtime and mobile phones for communication and poor referral systems emerged as demotivators.

6.2.4 CHVs Experiences with the Determinants of Performance Motivation

Despite CHVs job being voluntary, CHVs usually have high expectations when selected such as automatically developing network for career development, certifications and mainly financial

gains which they do not get once they start working. They also face a lot of challenges both extrinsic and intrinsic which are perceived as threats to volunteering as a CHV.

6.3 Recommendations from the Current Study

Based on the study findings and discussions, the following recommendations are suggested.

6.3.1 Level of Performance Motivation

Community strategists should aim at improving the level of performance motivation from the current moderate to high level of performance motivation to ensure optimal performance and maximum success of the program.

6.3.2 Factors Affecting the Level of Performance Motivation

Factors that emerged as motivators should be reinforced while the demotivators should be improved to be a source of performance motivation

- Agriculture being the main source of livelihood for majority, CHVs should be sensitized on farming-related incoming generating activities as an incentive
- Recognition of CHVs should be emphasized
- Consistent supply of stocks should be maintained.

6.3.3 CHVs Perceptions of the Factors Determining their Performance Motivation Levels

The factors perceived as challenges by CHVs should be streamlined and possible turned into motivators as follows;

- Supply forecasts should integrate supplies needed by CHVs to prevent stock-outs
- There should be standard provision of a bicycle or motorcycle to help ease the major challenge of transportation
- Refresher courses should be scheduled more frequent and supervision should be reinforced to ensure current knowledge and skills are retained and practiced

- Referral system should be streamlined to ensure smooth referral of patients to the health facilities when need arises and prompt feedback be given to the CHVs.

6.3.4 CHVs Experiences with the Determinants of Performance Motivation

After recruitment of CHVs, adequate orientation should be done during which their expectations should be sought, and responsibilities clarified.

6.4 Recommendation for Future Research

Other studies are recommended to assess the performance motivation of CHWs from the perspective of the community and their supervisors.

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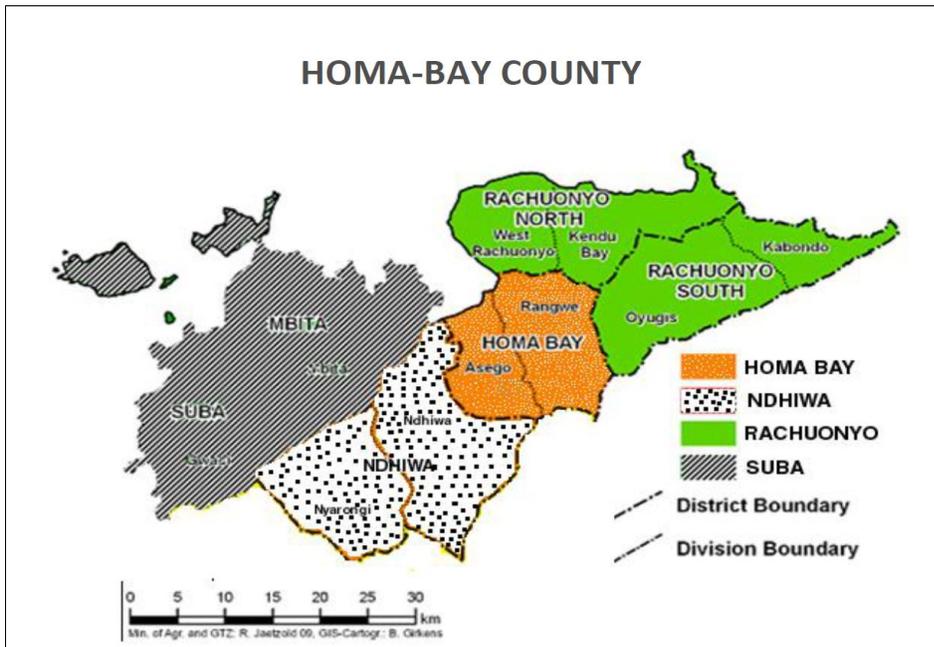
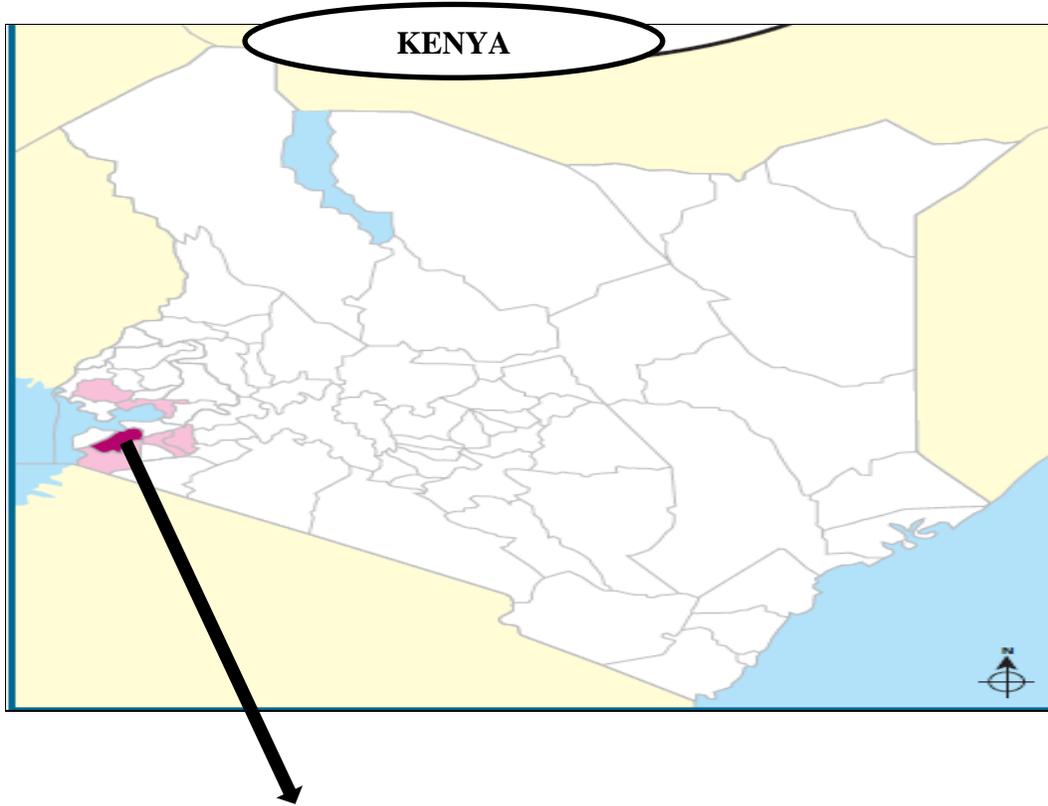
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APPENDICES

Appendix I: Map of Homa Bay County, Western Kenya



Appendix II: CHWs Consent Form

Hello! My name is _____. I am a student at Maseno University taking a Masters degree in Public Health. I am carrying out a research on performance motivation of Community Health Workers implementing iCCM program in Homa Bay County in collaboration with Kenya Medical Research Institute. Your participation in this study will help to develop and improve strategies aimed at increasing the level of performance motivation of CHWs.

You will be given a questionnaire to fill and it will take you approximately 20 minutes to complete. You will also be engaged in group discussions consisting of 7 to 10 CHWs where you will be discussing factors that affect your level of performance motivation, your perceptions and current experience with the same factors.

Your participation in the interview and/or filling the questionnaire will be voluntary. You may choose not to answer any question or participate in the interview. Your refusal to participate or answer the questions will have no effect on your job.

Your answers or responses will remain confidential and will not be shared with anyone outside this study. Your name will not appear on the survey.

All CHWs implementing iCCM program are eligible to participate in the study as long as they meet the inclusion criteria.

YOUR DECISION TO PARTICIPATE IN RESEARCH IS VOLUNTARY. You are free to decline participation in the study and you can withdraw from the study at any time. If you decide not to take part in this study, there will be no penalty to you.

CONSENT

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this study.

CHWs name:

Sign.....

12. Please describe any additional training (refresher/ongoing training) you have received to help you fulfill your role as a CHW.

Date	Duration	Topics Covered

13. If you haven't received any ongoing training, please explain...

14. Do you have the supplies and equipment you need to provide the services you are expected to deliver? Yes No

15. a) Which of the following commodities have you experienced stockouts.

- (Check all that applies)
- 1. Rapid Diagnostic Testkits (RDTs) _____
 - 2. ALs _____
 - 3. ORS _____
 - 4. Amoxil _____
 - 5. Paracetamol _____
 - 6. Other (specify) _____

b) If any, were the stockouts experienced in the last three months? Yes No

c) What was the duration of the stockout in weeks? _____ weeks

16. How do you get more supplies?

- a) How often do you get them? Every _____
- b) From whom or where? _____

17. Who is your supervisor?

- (Check all that applies)
- 1. CHEW _____
 - 2. QA _____
 - 3. Study Coordinator _____

18. How often does your supervisor visit you? 1. More than once a month _____
 2. Once a month _____
 3. Once in three months _____
 4. Once in six months _____

19. What does your supervisor do when he/she visits you?

Activity	Done (Y/N)	Example
Observation of service delivery		
Coaching and skills development		
Trouble shooting, problem solving		
Record Review		
Supply check		

20. Have you received a formal evaluation of your work in the last 12 months? Yes No

21. Does the community you work in provide you with any of the following?

Activity	Done(Y/N)	Example
Feedback		
Support (financial/gifts in kind)		
Formal recognition/appreciation		
Guidance on your work		

22. Do you refer clients for health services you do not or cannot provide? Yes No

23. Do you complete a referral form for the client to take to the facility? Yes No

24. Please describe any feedback or counter referral you receive from the facility for clients you have referred. _____

25. Please describe the transportation systems available to get clients to referral facilities.

26. Do you have opportunities for promotion or professional advancement through the CHW program? Yes No

27. If yes, please describe them.

28. Do you compile reports on your clients? Yes No

29. If yes:

1. What do you include in the reports? _____

2. To whom do you submit the reports? _____

3. How do you use the information you collect? _____

4. Are reports shared with the community? _____

30. Do you compile information from your record books into monthly or quarterly reports? Yes No

31. Are compiled results shared with you and other CHWs? Yes No

32. Are reports or information about the program and its results shared with the community? Yes No

33. What are your biggest challenges as a CHW?

34. What changes are needed to help you do your job better?

II. Level of Motivation

Instructions: This section contains a list of statements that ask about your experiences as a CHW. Please circle “O” the appropriate number you believe is closest to your response to each statement using the scale below;

1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree

There **are no right or wrong answers**, please fill in only one response for each statement and please respond to all of the statements. If you need to change an answer, make an “X” through the error and then circle your true response.

Parameter	Statements	RATINGS				
		5	4	3	2	1
Recognition	Being appreciated by my employer is important to me.	5	4	3	2	1
	Being respected and recognized by community members is not important to me.	5	4	3	2	1
	I do not need feedback on my volunteer work.	5	4	3	2	1
	I like to work with a volunteer agency, which treats their volunteers and staff alike.	5	4	3	2	1
	I feel that it is important to receive recognition for my volunteering work.	5	4	3	2	1
Career Development	I volunteer as a CHW because I feel that I make important work connections through volunteering.	5	4	3	2	1
	I have no plans to find employment through volunteering.	5	4	3	2	1
	I volunteer because I feel that volunteering will help me to find out about employment opportunities.	5	4	3	2	1
	I volunteer because volunteering gives me an opportunity to build my work skills.	5	4	3	2	1
Autonomy	Working as a CHW gives me the chance to make decisions on my own	5	4	3	2	1

	As a CHW, I am responsible of planning my own work	5	4	3	2	1
	As a CHW, I do not have the freedom to use my own judgment	5	4	3	2	1
	I have the freedom to move within the community and execute my responsibilities	5	4	3	2	1
Social Responsibility	As a CHW, I get the chance to be of service to others	5	4	3	2	1
	The most important thing to me is to promote well being of the community members than to get benefits	5	4	3	2	1
	I volunteer because I am concerned about those less fortunate than me	5	4	3	2	1
Individual Satisfaction	I am motivated if I accomplish something worthwhile in this job	5	4	3	2	1
	I feel good when children get well after I intervene	5	4	3	2	1
Self Efficacy	I can always manage to solve difficult problems if I try hard	5	4	3	2	1
	I feel motivated to work by knowing I have the ability to perform specific tasks successfully	5	4	3	2	1
	I feel motivated when given challenging tasks based on my unique abilities and skills	5	4	3	2	1
Family support	My family assists with house chores while I am away in the community attending to clients	5	4	3	2	1
	My family discourages from serving as a CHW	5	4	3	2	1
	My family facilitates my activities either financially and/or in kind	5	4	3	2	1
Community participation	I feel encouraged to continue serving as a CHW when community members show interest and participate in my activities	5	4	3	2	1
	I feel good when consulted on how to handle health issues in the community	5	4	3	2	1

	It is important to me when people adopt the healthy practices that I teach them	5	4	3	2	1
Incentives	The gifts I receive from the community as appreciation are important to me	5	4	3	2	1
	I am encouraged by the compensation and stipend I earn as a CHW	5	4	3	2	1
	I do not volunteer because of the benefits I get	5	4	3	2	1
	I feel good when given priority during distribution of health supplies to the community	5	4	3	2	1
Training	The trainings I have underwent are important to me	5	4	3	2	1
	Frequent trainings deters me from doing my work effectively	5	4	3	2	1
	On-job trainings are useful to me	5	4	3	2	1
	I have acquired enough skills through trainings	5	4	3	2	1
Workload	Too much work discourages me from going to work	5	4	3	2	1
	Sharing work with my colleague gives me a reason to go to work daily	5	4	3	2	1
	The amount of work does not affect my morale to work	5	4	3	2	1
	Given adequate incentives, I would not mind the amount of work assigned to me	5	4	3	2	1

Appendix IV: Focused Group Discussion Guide

1. Who selected you to serve as a CHW?
2. Why did you agree to become a CHW?
3. What expectations did/ do you have while serving as a CHW?
4. What motivates/drives/encourages you to continue working as a CHW?
5. What demotivates/discourages you as a CHW?
6. What is your current experience with the factors mentioned above in Q4 & 5?
7. What is your perception of the factors mentioned in Q4 & Q5 above?

Appendix V: School of Graduate Studies Approval



MASENO UNIVERSITY **SCHOOL OF GRADUATE STUDIES**

Office of the Dean

Our Ref: PG/MPH/00006/2013

Private Bag, MASENO, KENYA
Tel:(057)351 22/351008/351011
FAX: 254-057-351153/351221
Email: sgs@maseno.ac.ke

Date: 19th November, 2015

TO WHOM IT MAY CONCERN

**RE: PROPOSAL APPROVAL FOR CHRISTINE A. CHABA —
PG/MPH/00006/2013**

The above named is registered in the Master of Public Health Programme of the School of Public Health and Community Development, Maseno University. This is to confirm that her research proposal titled "Assessment of Performance Motivation of Community Health Workers Implementing ICCM Program in Homabay County, Kenya" has been approved for conduct of research subject to obtaining all other permissions/clearances that may be required beforehand.

Prof. P.O. Owuor
DEAN, SCHOOL OF GRADUATE STUDIES



Appendix VI: Maseno University Ethics and Review Committee Approval



MASENO UNIVERSITY ETHICS REVIEW COMMITTEE

Tel: +254 057 351 622 Ext: 3050
Fax: +254 057 351 221

Private Bag – 40105, Maseno, Kenya
Email: muerc-secretariate@maseno.ac.ke

FROM: Secretary - MUERC

DATE: 25th February, 2016

TO: Christine Awuor Chaba
PG/ MPH/00006/2013
Department of Public Health
School of Public Health and Community Development, Maseno University
P. O. Box, Private Bag, Maseno, Kenya

REF: MSU/DRPI/MUERC/00266/15

RE: Assessment of Performance Motivation of Community Health Workers Implementing ICCM Programme in Homa Bay County, Kenya. Proposal Reference Number MSU/DRPI/MUERC/00266/15

This is to inform you that the Maseno University Ethics Review Committee (MUERC) determined that the ethics issues raised at the initial review were adequately addressed in the revised proposal. Consequently, the study is granted approval for implementation effective this 25th day of February, 2016 for a period of one (1) year.

Please note that authorization to conduct this study will automatically expire on 24th February, 2017. If you plan to continue with the study beyond this date, please submit an application for continuation approval to the MUERC Secretariat by 25th January, 2017.

Approval for continuation of the study will be subject to successful submission of an annual progress report that is to reach the MUERC Secretariat by 25th January, 2017.

Please note that any unanticipated problems resulting from the conduct of this study must be reported to MUERC. You are required to submit any proposed changes to this study to MUERC for review and approval prior to initiation. Please advise MUERC when the study is completed or discontinued.

Thank you.

Yours faithfully,

Dr. Bonuke Anyona,
Secretary,
Maseno University Ethics Review Committee.



Cc: Chairman,
Maseno University Ethics Review Committee.

MASENO UNIVERSITY IS ISO 9001:2008 CERTIFIED

