FACTORS INFLUENCING THE PROVISION OF COMMUNITY- BASED HEALTH SERVICES FOR PEOPLE LIVING WITH HIV AND AIDS IN NAKURU MUNICIPALITY, KENYA

BY

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OCTOBER 2010
DECLARATION

This thesis is my original work and has not been presented for a degree award in any other university.

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DEDICATION

To my mother Marylyn Soy and daughter Joy Monalisa for the loneliness they endured during the course of this work.
ACKNOWLEDGEMENTS

I wish to humbly and sincerely appreciate the support, guidance, encouragement and dedication of my supervisors, Dr. Micheal Otieno and Prof. Alloys.S.S. Orago. Special thanks go to Makarius for being very supportive especially in computer work. My appreciation is extended to Jessica and Joyce Oweke for assistance in the field especially in moderating focus group discussions.

I also register my appreciation to the staff of Nakuru PGH, CCC staff, Sister Devina Mismiri of St Mary’s CDN and all residents of Nakuru Municipality for their co-operation during this study. Special thanks go to my husband for being a persistent and patient reminder. I am indebted to my parents and siblings for the confidence they have had in me over the years.
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<thead>
<tr>
<th>ACRONYM</th>
<th>FULL FORM</th>
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<tbody>
<tr>
<td>AIDS:</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>ART:</td>
<td>Anti-Retroviral Therapy</td>
</tr>
<tr>
<td>ARV:</td>
<td>Anti Retroviral drugs</td>
</tr>
<tr>
<td>CCC:</td>
<td>Comprehensive Care Centres</td>
</tr>
<tr>
<td>CDN:</td>
<td>Catholic Diocese of Nakuru</td>
</tr>
<tr>
<td>CHBC:</td>
<td>Community Home Based Care</td>
</tr>
<tr>
<td>CHW:</td>
<td>Community Health Worker</td>
</tr>
<tr>
<td>FHI:</td>
<td>Family Health International</td>
</tr>
<tr>
<td>GoK:</td>
<td>Government of Kenya</td>
</tr>
<tr>
<td>HBC:</td>
<td>Home Based Care</td>
</tr>
<tr>
<td>HIV:</td>
<td>Human Immuno-deficiency Virus</td>
</tr>
<tr>
<td>IEC:</td>
<td>Information, Education and Communication</td>
</tr>
<tr>
<td>MDGs:</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>NACP:</td>
<td>National AIDS Control Programmes</td>
</tr>
<tr>
<td>MOH:</td>
<td>Medical Officer of Health</td>
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<tr>
<td>NGOs:</td>
<td>Non-Governmental Organizations</td>
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<tr>
<td>PAHO:</td>
<td>Pan American Health Organization</td>
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<tr>
<td>PGH:</td>
<td>Provincial General Hospital</td>
</tr>
<tr>
<td>PLHIV:</td>
<td>People Living with HIV and AIDS</td>
</tr>
<tr>
<td>PMTCT:</td>
<td>Prevention of Mother to Child Transmission</td>
</tr>
<tr>
<td>STIs:</td>
<td>Sexually Transmitted Infections</td>
</tr>
<tr>
<td>TBA:</td>
<td>Traditional Birth Attendant</td>
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</table>
TOT: Trainer of Trainer
UNAIDS: Joint United Nations Programme on HIV and AIDS
UNGASS: United Nations General Assembly Special Session on HIV and AIDS
VCT: Voluntary Counselling and Testing
WHO: World Health Organization
PEPFAR: Presidential Emergency Plan for AIDS Relief
TASO: The AIDS Support Organization of Uganda
HBM: Health Belief Model
ABSTRACT

HIV and AIDS has become the world’s most devastating epidemic in developing countries. More than 25 million people have died as a result of AIDS related illness since the disease was first diagnosed in 1981.

A total of 33.2 million people were living with HIV worldwide in 2007. Everyday, over 6800 persons become infected with HIV and over 5700 persons die from AIDS related illnesses, mostly because of inadequate access to HIV prevention, care and support services. The HIV epidemic remains the most serious of infectious disease challenges to public health. The estimated number of deaths due to AIDS in 2007 was 2.1 million worldwide, of which 76% occurred in sub-Saharan Africa. Bed occupancy in the public health institutions by AIDS related cases averages 60% and AIDS has taken a toll on health professionals as well. Community health workers (CHW) provide basic primary healthcare (PHC) services to the people living with HIV and AIDS (PLHIV) in the community a continuum of care extended from the facilities to the community. This study sought to establish the factors influencing provision of community based health services for the 30,000 PLHIV in Nakuru municipality with the aim of determining the socio-demographic profiles and variety of community based services for PLHIV. This was a descriptive cross-sectional study that mainly targeted PLHIV and CHW in the municipality. Data was collected through questionnaires, focus group discussion, key informant interviews and observation checklists. SPSS was used for analysis and Chi-square tests were used to test the relationship between certain variables. At 95% confidence interval, the study found no significant relationship between age of the CHW and the trend of efficiency in the past one year ($\chi^2=12.738$: df: p<0.175), though there had been an increase in the proportion of PLHIV. There is a significant relationship between the presence of HBC and the rating of efficiency of CHW. ($X^2=7.520$: df=2: p<0.023).

The results further showed that training of CHW directly affects the quality of services they offer to PLHIV ($\chi^2=12.355$ df=6; p<0.05). Other key variables influencing the efficiency of CHW are the presence of HBC programme (43%) referrals (16%) and support (44%). Challenges in provision emerge such as transportation (26.7%), financial support (30%) and stigmatization of PLHIV (13%). The null hypothesis was therefore rejected. This study therefore recommends that interventions be put in place by the government and other stakeholders to address the challenges in order for the PLHIV to attain access to prevention, treatment, care and support services in the community.
CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

HIV and AIDS cases were first brought to notice in USA in 1981 and in Uganda in 1982 (Willis, 2005). Over the last two decades HIV and AIDS has become the world’s most devastating epidemic particularly in the developing countries. More than 25 million people have a result of AIDS-related illness since the disease was first diagnosed, and about 33 million in the world are currently infected with HIV (UNAIDS/WHO, 2008). Most new infection occurs among sexually active adults in the 15-49 age group. Sub-Saharan Africa is the region with biggest burden, constituting of 70% of PLHIV world wide (UNAIDS/WHO, 2008).

Promising developments have been recorded in recent years in global efforts to address the HIV and AIDS epidemic, including increased access to effective treatment and prevention programmes (UNAIDS, 2008). However, the number of people living with HIV particularly in Africa continues to grow, as does the number of deaths due to HIV and AIDS-related illnesses (UNAIDS, 2008). Current statistics indicate that one in every 10 adults in the sexually active age bracket (15-49) is living with HIV. HIV and AIDS have become a global crisis since the epidemic kills millions, destroys families and communities and renders millions of Children orphans. HIV and AIDS have threatened the socio-cultural and economic fabric of many communities (UNAIDS, 2006). Home-based care (HBC) for HIV and AIDS is increasingly looked at as a more accessible and affordable alternative to more costly inpatient care for both patients who are unable to travel to or pay for in-patient care, as well as for governments that must fund in-patient facilities. According to the Government of Kenya, health expenditures for
HIV-related issues are on the rise as the health system, communities, households and PLHIV try to cope (ROK, 2003). Health care is classified into two categories namely, facility-based and community-based. Facility-based health care focuses on higher levels of medical care, utilizes a combination of health professionals and volunteers to deliver care. It offers direct referrals to facilities with which they are associated. Community-based health care is provided by trained community volunteers attached to a non-medical, non-governmental organization (NGO). It offers a more “holistic approach” that includes an emphasis on a continuum of psycho-social assistance to both PLHIV and households with PLHIV. Both types of health care implement the medical care recommended in the Ministry of Health guidelines for PLHIV (Pathfinder International, 2006).

A growing trend in the delivery of HIV care in developing countries is formalizing home-based care (HBC) services to provide care, usually palliative care, for PLHIV. Home Based Care is a promising solution for some of the challenges of providing care to those individuals, especially those too sick or too far to access hospital care. Since HBC, by definition, is based in patients’ homes, it is looked upon as a more affordable and attainable alternative than is facility-based care. Therefore, many African countries are working towards developing policies that expand such care. However, the current definitions and components of HBC are diverse and basic information is needed to clarify the HBC package, including logistics and costs, before expansion takes place (William Clinton Foundation, 2003). The capacity of health delivery system to cope with demands of HIV and AIDS epidemic, in the face of limited financial and human resources has been severely undermined. In order for the country to attain the MDG and PEPFAR goals, the country needs to scale up basic health care services, which in turn means
realigning and utilizing the current human resources for health (HRH) more efficiently and effectively (ROK, 2005).

According to (UNAIDS report 2006), Africans who died at the beginning of this decade were mostly due to AIDS worldwide-related illnesses than to a combination of Global conflicts of the continent. In this regard Botswana, Malawi, Mozambique, Kenya, Zimbabwe, Lesotho, Swaziland and South Africa’s populations are becoming smaller; infection rate in sub-Saharan Africa is above 82% average in the sexually active ages of 15 and 50 years. The same report says that over 11,000 people are infected daily, translating to one infection in every eight seconds, while over 8,000 people die daily in the region which is home to 11% of the world’s population (UNAIDS, 2006)
1.2 PROBLEM STATEMENT

Statistics indicate that over 6800 persons become infected with HIV and over 5700 persons die daily from AIDS mostly due to inadequate access to HIV prevention and treatment services (UNAIDS/WHO 2007). According to (UNAIDS/WHO report 2005), AIDS has become the leading cause of death in Africa and the 4th most common cause of death in the world. The majority of HIV and AIDS treatment and care was usually delivered in in-patient hospital settings. A study conducted in 2003 in Kenya indicated that 60 percent of all hospital beds were occupied by AIDS patients (William Clinton Foundation, 2003). Sub-Saharan Africa is the region with the highest burden, constituting 70% of PLHIV worldwide (WHO, 2004). A large portion of the Ministry of Health budget in Kenya is used to pay for costly hospital care (ROK, 2003). HIV care is delivered primarily through the public health system and health providers in non-governmental organizations (NGOs). Antiretroviral (ARV) drugs are dispensed in a limited number of public health facilities. Given the challenge of delivering accessible and affordable HIV care, home-based care (HBC) becomes an important continuum of care extended from the hospital facilities to the home, family, friends and the community in general. The burden of caring for PLHIV therefore has been left to the CHW, who are limited in numbers to care for increasing numbers of infected persons. Accessibility of health care for PLHIV is an important issue to consider as many patients are unable to reach the hospitals due to lack of transportation. This makes home-based care very crucial to HIV and AIDS patients, as it helps in reducing frequent occurrence of opportunistic infections, increases ownership of the problem, longevity of life and helping better the quality of life.
1.3 PURPOSE OF THE STUDY

By making people responsible for their health, the financial burden especially for inpatient on the family is reduced (Pathfinder international, 2006).

Home Based Care strategic international plan 2005 – 2009 emphasizes on quality care for PLHIV, a continuum of care extended from the facility to the community.

Besides, as Kenya continues to scale up HIV and AIDS services, increased attention must be focused on identifying constraints to programme expansion. One of the most important constraints is that of shortage of health care workers, though this issue has received little attention nationally. As several studies on health care workers in sub-Saharan Africa indicate, there are insufficient numbers of counsellors, social workers, doctors, nurses, laboratory technicians, and pharmacists to serve the overwhelming and increasing population in need of ART, PMTCT, and VCT services, and it has become apparent that this chronic health care workers shortage is extremely serious in Kenya. With nearly half of all hospital beds occupied by AIDS patients it is estimated that significant numbers of health care personnel will be needed to provide AIDS-related medical services including ART and other basic health care services (GOK, 2001). Already due to this shortage of health workers, quality service delivery is being compromised. This has a direct negative impact on the HIV patients who are expected to benefit from health care services. NHSSP II puts the communities at the core of the new strategy for improving the health status of Kenyans.

In a mid-term review report on the Republic of Uganda, (Kamya 2003)) found that there was a severe shortage of human resources, particularly laboratory technicians and counsellors, for implementing a comprehensive ART programme. Many preliminary plans for adding ARV
capacity to existing centers assumed that existing staffs simply add these duties to their regular jobs, if drugs are provided. This was extremely unrealistic; many institutions are already very understaffed, and many completely lack the trained staff needed for implementing an ART programme. Capacity building needs to be expanded. HIV prevalence rate in Nakuru District is estimated at 8% (ROK-NASCOP, 2007) although this prevalence rate has dropped over time, the number of people living with the disease burden on the municipality is high. It is estimated that close to 30,000 people are living with the disease within Nakuru Municipality. This is an extremely high population all being managed with the limited number of health facilities that are available within the municipality. For example, the Provincial General Hospital, which is a referral hospital, only managed to attend to slightly over 4,000 patients in its comprehensive care centre in 2005, which translates to just 13 % of total population of PLHIV in Nakuru Municipality. This is only a snapshot of how desperate the health facilities are to cope with the ever increasing population in need of health services, and in particular, PLHIV.
1.4 OBJECTIVES OF THE STUDY

1.4.1 General Objective

The main objective of this study was to establish the factors that influence the provision of community based health care services for people living with HIV and AIDS in Nakuru Municipality.

1.4.2 Specific Objectives

a) To determine the socio-demographic profiles of the respondents

b) To establish the variety of community based services for PLHIV.

c) To determine who provides these services within the study area.

d) To establish factors influencing the efficient provision of service.

e) To determine the challenges, facing community-based health-care provision for PLHIV in the study area.

f) To recommend on how these challenges can be addressed to ensure efficient delivery of quality healthcare services for PLHIV.

1.5 NULL HYPOTHESIS

There are no factors that influence the provision of community based health care services for PLHIV within Nakuru Municipality.
1.6 RESEARCH QUESTIONS
The study sought to answer the following questions:

a) What are the socio-demographic profiles of the respondents
b) What varieties of community-based health-care services are available for PLHIV within Nakuru municipality?
c) Who are offering these services?
d) What factors influence the efficient provision of service?
e) Are there peculiar challenges facing community-based health-care services for PLHIV in the study area?
f) How can these challenges be addressed?

1.7 SIGNIFICANCE OF THE STUDY
The findings from the study were intended to identify the factors that facilitate or constrain the provision of community based health-care services for PLHIV, with a view to informing policy in the management of efficient provision of such services in the study area, to better up the quality of life of PLHIV and with a possibility of extending the same to similar geographical areas in Kenya.

1.8 SCOPE AND DELIMITATION OF THE STUDY
The scope of the study was limited to identifying the factors that facilitate or constrain the provision of community-based health-care services for PLHIV in Nakuru Municipality. The scope of this study in terms of geographical spread was not national in coverage. Attention of the researcher was rather directed to all the registered community based health workers in Nakuru municipality excluding community health workers in centers in other parts of Nakuru division. In
addition, the target population for the study was delimited to include only trained CHW in the municipality and PLHIV, attending CCC at Nakuru PGH.

1.9 CONCEPTUAL FRAMEWORK SHOWING HIV AND AIDS CARE CONTINUUM OF CARE

1.9.1 Continuum of HIV and AIDS Care and Support

To enable people seeking care to determine their serostatus and to access relevant HIV and AIDS care, treatment and support services, all opportunities should be used to promote HIV testing and counselling within general outpatient and inpatient services, tuberculosis and sexually transmitted infection programmes, community health services, workplace clinics and any other site where resources allow. Upon diagnosis, counselling and HIV and AIDS care needs should be established and follow-up referral to comprehensive care must be ensured.

Multiple providers or various programmes often offer the range of HIV and AIDS care, treatment and support services, although some programmes offer a wide range of comprehensive services within one site. Partnerships and collaboration between all the various providers are therefore essential to enable timely access to appropriate services. The HIV and AIDS care continuum (Fig. 1.9) below illustrates how these links should function and which care providers at any service point know who provides other services, where these services are located and when and how to make a referral.
Figure 1.9: Diagrammatic Representation of the Conceptual Framework Showing HIV and AIDS Continuum Care

For clinical care needs, referrals may be made to specialized levels and discharge planning and follow-up referrals to peripheral levels, including home care. Home care providers should be able to assess risk situations for referrals to both clinical care and support services. In all parts and at all levels of the health care system, referrals need to be explicit to allow for social, legal, human rights and peer support needs to be met. Peers from support groups for people living with
HIV and AIDS play a major role in this support and should be involved in shaping how care is delivered within communities.

Different services are available as part of an essential comprehensive care package at each level of the health care system, such as the referral hospital; district or peripheral hospital; health centre and dispensary; or home care programme. Both developing practice standards and quality assurance to monitor the implementation of these standards are important in delivering appropriate HIV and AIDS care.

1.10 Theoretical frame work

The theoretical frame work was based on the Health Belief Model (HBM) which is a psychological model that attempts to explain and predict health behaviors. This is done by focusing on the attitudes and beliefs of individuals. The HBM was first developed in the 1950s by social psychologists Hochbaum, Rosenstock and Kegels working in the U.S. Public Health Services. The model was developed in response to the failure of a free tuberculosis (TB) health screening program. Since then, the HBM has been adapted to explore a variety of long- and short-term health behaviors, including sexual risk behaviors and the transmission of HIV/AIDS.

Applied to this study model was used to predict the behavioral responses to ill health

The HBM is based on the understanding that a person will take a health-related action (i.e., use condoms) if that person:

1. feels that a negative health condition (i.e., HIV) can be avoided,
2. has a positive expectation that by taking a recommended action, he/she will avoid a negative health condition (i.e., using condoms will be effective at preventing HIV), and
3. Believes that he/she can successfully take a recommended health action (i.e., he/she can use condoms comfortably and with confidence).

The HBM was spelled out in terms of four constructs representing the perceived threat and net benefits: perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. These concepts were proposed as accounting for people's "readiness to act." An added concept, cues to action, would activate that readiness and stimulate overt behavior. A recent addition to the HBM is the concept of self-efficacy, or one's confidence in the ability to successfully perform an action. This concept was added by Rosenstock and others in 1988 to help the HBM better fit the challenges of changing habitual unhealthy behaviors, such as being sedentary, smoking, or overeating.
1.11 Operational Definitions of Terms

**Home-Based Care:** This is care given in the community/home by non-health personnel to people who are sick or recuperating from sickness.

**HIV:** The Human Immuno-deficiency virus that causes AIDS.

**Facility-Based Health Care:** Facility-based care focuses on health care, utilizing a combination of health professionals and volunteers, delivering higher levels of care and offering referrals to facilities with which they are associated.

**Community-Based Health Care:** Community-based care offers a more holistic approach including psycho-social support, to both infected and affected households by CHWs, volunteers, family and friends.

**Community:** A group of people living together in the same location sharing the same resources.

**Efficiency index:** A method of determining efficiency by ranking activities performed and giving a score to get the rating if either low or high

**People living with HIV:** These are people infected by the virus

**Community Health Worker:** Volunteer member of the community helping in the care of PLHIV

**CCC:** Comprehensive Care Centre for HIV and AIDS that offers psychological, social, legal, clinical and nursing care

**FGD:** A group of between 8-12 people brought together for a study/discussion in the field to generate qualitative data to support the quantitative

**SPSS:** Statistical Package for Social Scientists

**Chi square:** Test for association between variables

**Pilot study:** Administration of research instruments to an equivalent sample drawn from a different location to test for the workability of the instruments
**Reliability:** Measure of degree to which a research instrument yields consistent data after accepted trials (pilot study)

**Validity:** Ability of the research instrument to measure what it is supposed to measure

**Data management:** Examination and organisation of data to be coded and entered into a spreadsheet for analysis

**NGO:** Non governmental activities providing HIV and AIDS activities for PLHIV

**CBO:** Community Based Organisations in support activities for PLHIV

**FBO:** Faith Based organisation that provide spiritual nourishment to the infected and affected by HIV and AIDS

**HBM:** It’s a psychological model that attempt to explain and predicted health behaviours.

**Factors influencing CBHCS**

These are factors that positively or negatively influence the provision of services that is they either facilitate or constrain.
CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION
This chapter presents a review of the related literature on the subject under study. The review materials have been drawn from several sources, which are closely related to the theme and the objectives of the study. Key aspects and arguments in the literature were identified from a wide range of literature. Any differences in approach as well as areas of consensus are presented. The gap in the literature justifying the need for this study is highlighted at the end of the review.

2.2 GLOBAL AND REGIONAL HIV AND AIDS TRENDS
Statistics show that HIV and AIDS continues to grow, as does the number of deaths due to AIDS. A total of 33 million people worldwide were living with HIV in 2007. In many regions of the world, new HIV infections are heavily concentrated among young people (15–24 years of age). Young people accounted for 40% of new HIV infections worldwide in 2006 (UNAIDS, 2006). Sub-Saharan Africa continues to bear the brunt of the global epidemic. Two thirds (63%) of all adults and Children with HIV globally live in sub-Saharan Africa, with its epicenter in southern Africa. One third (32%) of all people with HIV globally live in southern Africa and 34% of all deaths due to AIDS in 2006 occurred there (WHO, 2006).

Declines in national HIV prevalence are being observed in some sub-Saharan African countries, but such trends are currently neither strong nor widespread enough to diminish the epidemics’ overall impact in this region.
Globally, more adult women (15 years or older) than ever before are now living with HIV. The 17.7 million women living with HIV in 2006 represented an increase of over one million compared with 2004. In sub-Saharan Africa, for every ten adult men living with HIV, there are about 14 adult women who are infected with the virus. Across all age groups, 59% of people living with HIV in sub-Saharan Africa in 2006 were women (UNAIDS, 2007)

2.3 THE IMPACT OF HIV AND AIDS IN AFRICA
Many countries in sub-Saharan Africa have failed to bring the epidemic under control. According to (UNAIDS, 2007) there were an estimated 1.7 million new infections. Nearly two-thirds of the world's HIV-positive people live in sub-Saharan Africa, although this region contains little more than 10% of the world population. There is a significant risk that some countries will be locked in a vicious cycle, as the number of people falling ill and subsequently dying from AIDS has a tremendous impact on many parts of African society, including demographic, household, health sector, educational, workplaces and economic aspects. At the same time as the demand for health services is expanding, so more-health care professionals are being affected by HIV and AIDS. For example, Malawi and Zambia are experiencing a 5-6 fold increase in health worker illness and death rates. Increased workloads and stress has also spurred emigration by health professionals.

The antiretroviral programme in Botswana has faced an acute shortage of trained staff, which has had a significant effect on the programme. There are not enough trained staff to carry out the health checks required for enrolment on the programme, and this has contributed to the enrolment and treatment rates being lower than was first hoped. The problem is compounded by the fact that over 90% of the doctors are foreign and do not speak Setswana, the local language.
Another problem faced when recruiting health care staff from abroad is that it takes time for them to become familiar with the local culture (Food and Agriculture Organization FAO, 2001.)

2.4 THE IMPACT OF HIV AND AIDS IN KENYA
The country has recently witnessed a general deterioration in health indicators due to rapid population growth, Child nutrition problems, poverty, HIV and AIDS, acute respiratory infections, malaria, diarrhoea, and low quality of health facilities and services (WHO, 2003). The HIV and AIDS pandemic has made the health situation even worse. In 1990, the adult (15-49 years) HIV prevalence was estimated at 5.8 percent. This prevalence rate grew to 6.7 percent by the end of 2003 (ROK, 2003).

HIV and AIDS remains a major challenge in Kenya. Substantial regional variations in HIV infection, low levels of HIV testing, couple HIV discordance and ongoing epidemics of sexually transmitted infections (STI) are important challenges in the control and management of HIV epidemic in Kenya. (ROK-NASCOP, 2008).

Through the President’s Emergency Plan for AIDS Relief (PEPFAR), the country plans to support 250,000 antiretroviral therapy (ART) patients, reach 3 million voluntary counselling and testing (VCT) clients, and avert 37,500 infections through prevention of mother-to-Child transmission (PMTCT) for 529,286 clients by 2008 (PEPFAR, 2006). The current data shows HIV National prevalence of 7.4% among adults aged between 15-64 years and more than 1.4 million Kenyans are living with HIV and AIDS (ROK-NACC/NASCOP, 2008). The government of Kenya reported that by March 2005, about 20 percent of all HIV-positive adults (15-49 yrs) were eligible for ART. Assuming this proportion remains the same among those who are not
already on ART, the estimated number of adults who would need ART in 2010 is 186,063, with the number increasing to 329,646 by 2015. The Health Sector HIV and AIDS Strategic Plan 2005-2010 envisions that by the end of this plan at least 75 percent of those eligible for treatment would receive ART. This translates into 186,063 adults on ART by 2010. If five years later all adults estimated to need ART receive the regimen, the number increases to 329,646. This shows that HIV and AIDS epidemic is bringing additional pressure to bear on the health sector. As the epidemic matures the demand for care for those living with HIV and AIDS rises, as does the toll among health workers. ART treatment has reduced the annual deaths to about 85000 in the 2006. A total of 57000 deaths were averted due to the treatment (ROK, 2005).

2.5 PROVISION OF HEALTH CARE SERVICES TO PLHIV IN KENYA
As the number of People Living with HIV (PLHIV) has increased to 1.4 million (NACC/NASCOP 2009) health care services have become overburdened and are not able to meet the needs of those who are sick. Relying on the strengths of family and community networks, Community Home-Based Care (CHBC) has emerged as a way to provide effective and compassionate care to those infected and affected by HIV and AIDS. CHBC is not a replacement for hospital care. It is part of a comprehensive continuum of prevention, care, treatment, and support services. It includes the family, the community, and health care providers. CHBC also contributes to prevention efforts in the community. It brings issues surrounding HIV and AIDS into the open, helps to clarify myths, reduces stigma, empowers those infected and affected, and influences people’s willingness to know their HIV status.

The emergence of community-based care programmes, often organized by people living with HIV and AIDS, has become one of the outstanding features of the epidemic. They play a key role in easing the impact. Although many of these programmes are operated by religious groups
or non-governmental organizations, the effectiveness of the care does depend on support from formal health, welfare and other social sectors. A study in South Africa has suggested that while home-based care is not cheap it is still an affordable option for the care of people with HIV and AIDS (Haacker, 2001). Palliative care is considered as clinic-based and home/community-based activities aimed at optimizing the quality of life of HIV-infected clients and their families throughout the continuum of illness by means of symptom diagnosis and relief; psychological and spiritual support; clinical monitoring and management of opportunistic infections and other HIV and AIDS related complications; end-of-life care; social and material support, such as nutritional, legal and housing support; and training and support for caregivers (President’s Emergency Plan for AIDS Relief, 2004).

**Components of HIV and AIDS care and support**

Providing care to people living with HIV and AIDS and to their families requires a broad range of services that include not only clinical care focusing on diagnosis and treatment but also supportive and complementary services to ensure that adequate nutrition, psychological, social and daily living support are available.

**Clinical care for everyone.** Everyone should receive clinical care regardless of gender and age. Services include counselling and testing for diagnostic purposes (including dedicated programmes of voluntary counselling and testing); prophylaxis of opportunistic infections; management of HIV and AIDS-related illnesses; control of tuberculosis and management of sexually transmitted infections; management of HIV disease with antiretroviral combination therapy; palliative care; access to drugs related to HIV and AIDS, including drugs for opportunistic infections, cancer related to HIV and AIDS and antiretroviral drugs; interventions
to reduce the mother-to-child transmission of HIV; support systems such as functioning laboratories and drug management systems; nutritional support; health education measures; adequate universal precautions in clinical settings; and post exposure prophylaxis.

**Psychological support.** Psychological support includes initial and follow-up counselling services to meet the emotional and spiritual needs of people living with HIV and AIDS and their families and to assist in disclosure, including psychosocial support through support groups (post-test clubs) and other peer, volunteer or outreach approaches within communities.

**Socioeconomic support.** Material and social support is needed within communities to ensure that nutritional and daily living needs are met. Various options include microcredit schemes; housing; food support; helping hands in the household; health insurance schemes that include HIV and AIDS care and treatment; and planning and support for orphans and vulnerable children in households and communities.

**Involvement of people living with HIV and AIDS and their families.** People need to be involved in the planning and delivery of comprehensive care to ensure that HIV and AIDS care, treatment and support programmes intended for them address their needs, reinforce adherence, prevention and care, promote health-seeking behaviour and respect for their human rights and legal needs. Services are needed that address stigma and discrimination in health facilities, in communities and in the workplace and promote equal access to care. This should also include succession planning and protection of property.
2.6 FOUNDATIONAL PRINCIPLES OF HOME-BASED CARE

The overall goal of home-based care is to ensure a high standard of humane, holistic care that meets the physical and social needs of persons living with HIV and AIDS. The Kenya National HIV and AIDS Strategic Plan 2005–2010 defines home-based care as the care given to the sick and affected in their own homes and care extended from the hospital or health facility to their homes through family participation and community involvement. This is a collaborative effort between hospital, family and community. It includes components such as physical, psychological and spiritual support (ROK, 2005). To ensure that the foregoing benefits are realized, home-based care should be regarded as a holistic system of care with provisions for ensuring appropriate, cost-effective access to quality health care and support to enable persons living with HIV and AIDS to retain their self-sufficiency and maintain quality of life, encouraging the active participation and involvement of those most affected (PLHIV); fostering the active participation and involvement of those most able to provide support that is the community at all levels; targeting social assistance to all affected families, especially Children, caring for caregivers, in order to minimize the physical and spiritual exhaustion that can come with the prolonged care of the terminally ill; ensuring respect for the basic human rights of PLHIV; developing the vital role of home-based care as the link between prevention and care; taking a multi-sector approach to care and support; addressing the reproductive health and family planning needs of persons living with HIV and AIDS, Instituting measures to ensure the economic sustainability of home care support; building and supporting referral networks/linkages and collaboration among participating entities; building capacity at all levels – household, community and institution, addressing the differential gender impact of the HIV and AIDS epidemic and care for persons living with HIV and AIDS and monitoring and documenting activities to form the basis for sharing lessons learned (KNASP, 2005 – 2010)
The rationale for emphasizing home-based care rests in its benefits to PLHIV, their families, the community and the healthcare system. Home-based care allows PLHIV to take responsibility for their own welfare and well-being; receive care in a familiar environment; continue participating in family affairs; retain a sense of belonging to social groups; and accept their condition more easily.

Home-based care contributes to family solidarity; helps the family accept the infected person's condition; makes it easier to provide care/support; can reduce health care costs; and makes it easier for family members who provide care to attend to other responsibilities. At the community level, home-based care helps reduce health care costs; affords opportunities for community members to confront stigma and provide support to persons living with HIV and AIDS; contributes to community cohesiveness; and raises awareness about the causes and impact of HIV and AIDS. The health care system benefits because home-based care helps ease the demand on health care facilities; does not require the creation of extra services where none exist; and extends responsibility to individuals, families, and communities (ROK, 2005)

2.7 HEALTH WORKERS
Patients experience better health outcomes when their health care providers have extensive HIV and AIDS expertise (Nyarango 2001). Unfortunately, expert HIV care is not generally available to most ART clients and PLHIV. According to (Song 1999), PLHIV may have access only to clinicians and other service providers who are not trained in HIV and AIDS care. Few non-clinical service providers have accurate knowledge about HIV and AIDS or the special needs of clients who are undergoing treatment for the disease. The effectiveness of care for individuals with HIV is also influenced by their health care providers’ level of proficiency in both HIV and
AIDS care and comprehensive care. Cross-training of providers in both HIV and AIDS care and the care of people in need of comprehensive care is necessary to meet the needs of the expanding HIV-positive population (Song, 1999). The appropriate training and specialization of providers who practice primary HIV and AIDS care has been a national concern. Even when PLHIV have access to specialty HIV clinics, they continue to seek care at primary care clinics because of their familiarity and convenience.

Therefore, care providers will always need to be proficient in the primary care of HIV-infected individuals (Nyarango, 2001). People Living with HIV and AIDS often work with comprehensive care providers other than clinicians. With the exception of HIV and AIDS case managers, very few of these personnel have sufficient knowledge of HIV and AIDS care. Individuals who manage shelters and control access to medications, food and water often lack basic understanding of antiretroviral therapy, including the timing of medications, food and water requirements, and the need for strict adherence to treatment regimen (Song, 1999). A baseline study conducted in Somalia in the year 2000 established that Somali respondents cited health workers to be the second most important source of information about HIV and AIDS, after the radio (University of Nairobi, 2000). Health workers from Primary Health Care Centres (PHCCs), Primary Health Care Units (PHCUs) hospitals and outreach programs responded that they have been given HIV and AIDS training.

However, there was no consolidated record of what training was provided and what the content was. Some of the training had been carried out by agencies that had a good knowledge of HIV but perhaps not a good knowledge of local Somali HIV and AIDS awareness or the level of prevention and control programs available to Somali populations at the time of training. Providing health workers training and Information, Education and Communication (IEC)
material supports them to effectively educate and disseminate information to other health workers, health outreach workers, Traditional Birth Attendants (TBAs), women, youth and men (Tisha, 2003).

Health workers should be among the priority groups to receive the coordinated HIV and AIDS Training-of-Trainers training and IEC material developed as the basis for HIV and AIDS advocacy and education activities. Tisha (2003) further emphasizes that health workers should be trained to offer information and answer questions that can highlight issues of prevention and control of HIV and AIDS as well as present HIV and AIDS as a crosscutting issue with social, economic, education, cultural, and human rights, dimensions. While using the TOT series to address all the priority messages/issues emphasis should be placed on the information needs of health workers including the promotion of HIV testing and counseling services, the use of condoms to prevent transmission of HIV, care of PLHIV and approaches to reduce stigmatization of PLHIV. According to Pan American Health Organization (PAHO) and World Health Organization (WHO, 2003), if an HIV & AIDS comprehensive care package is developed without the tacit support and training of health providers and community health workers, it will ultimately fail or provide ineffective services.

2.8 SUMMARY
This chapter has the exact literature on the subject of the present investigation. A total of 33 million people were living with HIV in 2007, 2/3 of them live in Africa. Due to improved access to ARVs many people are living with the disease, the largest number being women. Community Home Based Care has emerged as continuum of care providing effective and compassionate care to PLHIV extended from the facility to the homes through family participation and community
involvement. The apparent shortage and limited training of CHW may render CHBC inefficient, unless an action plan is put in place.

The trend demonstrate that although previous investigation particularly in Somali, Rwanda, Uganda and Cameroon have recognized the need for the use of the avenue of scientific research approved to monitor developments in the field of HIV and AIDS in Africa in general and Kenya particularly, little or nothing has been done as regards investigating the beneficial effects of the provision of the community based health-care workers for PLHIV and the constraining factors limiting the efforts of these workers in rendering their services to the target patients. The present study is proposed to close this gap. It is hoped that this study will generate useful data that will help the health sector improve their services which will in turn benefit PLHIV.
CHAPTER THREE: METHODOLOGY

3.1 INTRODUCTION
This chapter describes the procedures that were used in the study. The sections in this chapter include, research design, study area, target population, sampling techniques and sample size, data collection instruments, validity and reliability of research instruments, data analysis and presentation, pilot study and ethical considerations.

3.2 RESEARCH DESIGN
A research design guides the research in collecting, analyzing and interpreting observed facts. A descriptive cross sectional study design was used as it sought to establish the association between variables. This design helped the researcher to obtain information concerning the current status of the provision of community based Health services at that point in time. Variables for the study were as follows: Independent factors that influenced the provision of CBHC services were age, sex, marital status, education levels. Dependent variables were services to PLHIV that were referrals, support groups, training of the CHW among others.

3.3 STUDY AREA
Nakuru District is one of most populated districts in the country with a population estimate of 1.6 million people. Nakuru Municipality is the most densely populated division out of the five divisions in the district. It has a population estimated at over 400,000; a majority of whom lives in the slum areas of the municipality due to low economic status. While the population growth rate is on a steep climb due to an ever-increasing in-migration from the countryside occasioned by marginalization of the rural folk, infrastructural development has not been growing at the
same pace. This has resulted in tremendous pressure on the existing infrastructure to the level that they are barely coping. The health sector infrastructure has not been left out of this pressure.

The few health facilities within the municipality have been stretched beyond their limits owing to the increased unplanned population. People who were displaced by the land clashes are living in the Nakuru town below poverty line. Doctor to patient ratio was 1: 31,251 and the average distance to the nearest health centre is 8 Km (Nakuru District Development Plan (2002-2008). Nakuru town has more than 15 Children’s homes and a majority of the Children are HIV and AIDS orphans.

3.4 THE TARGET POPULATION
(Mugenda and Mugenda, 2003) define the target population as that population to which a researcher wants to generalize the results of a study. The target population for this study was Community Health Workers (CHWs) in the municipality and the PLHIV attending C.C.C at the provincial general hospital Nakuru, being the only referral hospital.

3.4.1 Inclusion criteria
The study included only:
   i) Trained CHWs in the municipality
   ii) PLHIV attending Nakuru CCC
   iii) Professional health workers at the CCC and MOH

3.4.2 Exclusion criteria
   i) Untrained CHWs
   ii) CHWs residing outside the municipality
   iii) PLHIV and CHW who did not consent.
3.5 SAMPLING TECHNIQUES AND SAMPLE SIZE DETERMINATION

3.5.1 Sampling Techniques

According to Mugenda and Mugenda (2003) purposive sampling is a sampling technique that allows a researcher to get cases that have the required information with respect to the objectives of his/her study. Purposive sampling was used to select provincial general hospital comprehensive care centre because it is the only referral centre offering CCC to PLHIV. After identifying the health care centre, purposive sampling was used to select all the remaining 30 CHWs remaining from the 100 selected and trained community health workers, after the others dropped out. PLHIV were sampled using simple random sampling technique in order to allow each individual an equal chance of being included in the sample.

3.5.2 Sample Size determination

The following formula according to Kothari (2003), \( n = \frac{z^2pq}{e^2} \) was used.

\[ n = \text{Desired sample size} \]
\[ z = \text{Normal standard deviation at required confidence interval} = 1.96 \]
\[ P = \text{Percentage with HIV in the district} = 8\% \text{ i.e 0.08} \]
\[ q = 1 - p = 0.92 \]
\[ e = \text{Error margin} = 0.03 \]
\[ n = \frac{1.96^2 \times 0.08 \times 0.92}{0.03^2} = 314 \]
3.6 RESEARCH INSTRUMENTS
Data was collected using

a. Pre tested questionnaires: These were in two sets and were mainly administered to the people living with HIV and AIDS and Community health workers. They were designed to answer questions on the variety of health services in the community, the providers, challenges incurred in provision, services received and recommendations on how to address the challenges if any.

b. Focus Group Discussion (FGD) guide: These mainly yielded qualitative data to support the quantitative data obtained from the questionnaires. FGDs were held, one with PLHIV, CHW and with a cross section of the target population.

Questions were asked and the responses recorded.

c. Interview Schedules that were administered to key informant: These were conducted with local leaders, NGO workers, Health Personnel, Youth and Women Leaders.

d. Observation checklist guide: This was used with a purpose of identifying presence of kits and their usage.

3.6.1 Measurements of efficiency Index
To determine qualitative efficiency, the methods used by (Valader et al; 1995) were employed.

In these methods, efficiency was ranked against each activity within a time frame of one month.

In this research CHW’s were tested against fifteen activities that they were routinely expected to perform. The following are the activities performed by CHWs.
Table 3.1 Activities Performed by CHWs

<table>
<thead>
<tr>
<th>Activities of CHWs</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Health educational talks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Patients referral to the nearest health centre</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Updating records</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Administration of ARV drugs to patient</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Record keeping</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Adherence talks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Home visiting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Reporting birth/death</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Counseling/psycho-spiritual care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Social support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Community mobilization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Helping the patient to engage in Income-generating activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 Offering Palliative/terminal care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Monitoring and evaluation of activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 Patient Networking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key:
4 = very high efficiency
3 = high efficiency
2 = low efficiency
1 = very low efficiency

From the 15 tasks above, a efficiency scale was created using the actual counts and results tabled to create the following scale:

Table 3.2 Measurements of efficiency Index

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Rating</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3</td>
<td>Very low</td>
<td>1</td>
</tr>
<tr>
<td>4-8</td>
<td>Low</td>
<td>2</td>
</tr>
<tr>
<td>9-12</td>
<td>High</td>
<td>3</td>
</tr>
<tr>
<td>Over 12</td>
<td>Very high</td>
<td>4</td>
</tr>
</tbody>
</table>

In this scale CHWs who performed up to 3 tasks were rated very low performers and recorded as score 1. Those who performed up to 8 were rated low performers and scaled as score 2, while
high performers performing up to 12 tasks were scaled as score 3. Those who had over 12 tasks were rated very high performers with 4 scores. This scale was used to measure the variables which included gender, level of education, motivation and support groups.

3.7 DATA QUALITY CONTROL
Two research assistants were engaged and trained on interviewing techniques to help administer the questionnaires to the CHWs and PLHIV.

3.8 PRETESTING OF THE INSTRUMENTS
This was done to check the questionnaire contents in terms of structure and the sequence, meaning and ambiguity of questions posed. The instrument was presented on equivalent sample group drawn from Naivasha Municipality.

3.8.1 Validity
The issues that were not clear were rectified. All the questions were thoroughly scrutinized and those that were not necessary were deleted. Those that needed rephrasing were done.

3.8.2 Reliability
This was ensured through selection and training of research assistant engaging them in the pilot study and supervising them during the data collection process. Completed questionnaires were checked daily to identify and correct errors and were shared with the research assistants to ensure quality of data.
3.9 DATA MANAGEMENT AND ANALYSIS
Data was examined and organized. The questionnaires were checked adequately for data quality, then the information was coded and entered into a spreadsheet and analyzed using the Statistical Package for Social Sciences (SPSS). Exploratory analysis was performed to clean the output from outliers and to ensure that the effect of missing responses was minimized. The data was analyzed using qualitative and quantitative techniques. This involved generating descriptive statistics such as mean, percentages and ranking of the factors to be identified in terms of frequency loading for each factor mentioned. Qualitative data was analyzed through segregation of field notes according to codes, categorization of codes according to similarities and organization of data according to study themes from which conclusions were drawn. Square tests were used to test for relationship between variables.

3.10 ETHICAL CONSIDERATIONS
Authority to carry out research was sought from Kenyatta University graduate school, Ministry of Higher Education Science and Technology, District Commissioner, and MOH. Consent was sought from respondents and confidentiality was maintained on all data collected.
CHAPTER FOUR: RESULTS

4.1 INTRODUCTION

This chapter gives the results of the data collected from the respondents in the study area. The analysis was done using SPSS version 12 for windows. Descriptive statistics such as means and frequencies were calculated for respective characteristics whereas statistical significance of association was determined by Chi-square tests. Appropriate, graphs and tables have been used to present the findings. Three hundred and fourteen respondents were recruited with a response rate of 81.2%. Twenty (20) key informants were also interviewed.

4.2 SOCIO-DEMOGRAPHIC PROFILES OF THE TARGET POPULATION

This section represents the socio demographic characteristics of both CHWS and PLHIV in the study area. Thus attributes such as age, gender, occupation level of education and marital status are represented.

4.2.1 Gender

About 66.7% PLHIV were female and 33.3% (75/225) were male as shown in Table 4.1. The majority 80% of CHW were females.

Table 4.1 Gender of the Respondents

<table>
<thead>
<tr>
<th>Aspect</th>
<th>PLHIV</th>
<th>CHW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>150</td>
<td>24</td>
</tr>
<tr>
<td>Male</td>
<td>75</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>225</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Frequency</th>
<th>Proportion (%)</th>
<th>Frequency</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>150</td>
<td>66.7%</td>
<td>24</td>
<td>80%</td>
</tr>
<tr>
<td>Male</td>
<td>75</td>
<td>33.3%</td>
<td>6</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td>225</td>
<td>100%</td>
<td>30</td>
<td>100%</td>
</tr>
</tbody>
</table>
4.2.2 Age of the respondents

The majority (35.6%) of PLHIV respondents were aged over 35 years. The youngest below 25 formed 7.6%. Majority of the CHW (39.9%) were aged over 35 years. The youngest below 25 years comprised of 6.7% as shown in table 4.2.

<table>
<thead>
<tr>
<th>Table 4.2 Ages of the Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PLHIV</strong></td>
</tr>
<tr>
<td>Aspect</td>
</tr>
<tr>
<td>Freq</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Below 25 years</td>
</tr>
<tr>
<td>26-30 years</td>
</tr>
<tr>
<td>31-35 years</td>
</tr>
<tr>
<td>Over 35 years</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

4.2.3 Level of Education

Out of 225 PLHIV 36.5% had attained primary level of education while approximately 12.6% had attained tertiary level of education. Table 4.3 shows distribution of PLHIV respondents by their highest level of education.

<table>
<thead>
<tr>
<th>Table 4.3 Respondents’ Level of Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Education</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Primary level</td>
</tr>
<tr>
<td>Secondary level</td>
</tr>
<tr>
<td>Tertiary college</td>
</tr>
<tr>
<td>University (graduate)</td>
</tr>
<tr>
<td>University (post graduate)</td>
</tr>
<tr>
<td>Others</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
</tr>
</tbody>
</table>
Slightly less than half (46.7%) of the CHWs had attained primary level of education, while 13.3% had tertiary level of education.

4.2.4 Marital Status for PLHIV

Majority of the PLHIV were married while the least percentage was divorced as shown in Figure 4.1

Figure 4.1 Marital Status for PLHIV

4.3 COMMUNITY BASED HEALTH SERVICES.

4.3.1 Presence of community based health services

Out of 225 PLWA 42% admitted that they had an organized HBC as shown in Figure 4.2 below.
4.2 Presence of Home Based Care Programme

![Pie chart showing the presence of Home Based Care Programme](image)

4.3.2 Sponsors of HBC

Out of 255, 31% of PLHIV indicated NGO, 36% indicated church and 33% indicated government as the main sponsor as shown in Figure 4.3

*Figure 4.3 Sponsors of HBC*

![Pie chart showing sponsors of HBC](image)

4.3.3 Services offered in Home based programmes

Only 38% of PLHIV indicated medical & nursing care as services offered in Home Based Programs, while 25% indicated that they received psychosocial support as indicated in Figure 4.4 below

![Pie chart showing services offered in HBC](image)
4.3.4 Support Groups

The Presence of support groups in the area did not mean PLHIV were members. Only 34% belonged to Support groups as shown in Figure 4.5.

Figure 4.5 Presence of support groups
4.3.4.1 Activities of Support Groups

4.3.3.1.1 Peer counselling by support groups

Out of 225 PLWA only 47 (20.9%) said they counselled one another. This is shown in Figure 4.6

Figure 4.6 Peer Counselling by Support Groups

4.3.3.1.2 Income generating activities by support groups

Majority of the PLHIV (85.8%) did not engage in income generating activities as indicated in figure 4.7.

4.3.4.1.3 HIV and AIDS Prevention Activity by Support Groups

68.4% of PLHIV did not engage in HIV and AIDS prevention activities as indicated in Figure 4.8 below.
4.3.4.1.4 Sharing of experiences
Close to half of the PLHIV (40.9%) said they met and exchanged ideas on positive living as indicated in Figure 4.9 below.

**Figure 4.9 Sharing of experiences**

4.4 SERVICE PROVIDERS
A very small fraction of the PLHIVs (2.2%) were taken care of by CHWs. The majority of PLHIV (70.7%) took care of themselves. Spouses took care of only 12%. The others are as shown in figure 4.10 below.
Figure 4.10 Service providers

Who takes care of PLHIV

- Self: 69.7%
- Spouse: 12.4%
- CHW: 2.3%
- Children: 10.1%
- Other: 5.5%
4.5 FACTORS INFLUENCING THE EFFECTIVE PROVISION OF COMMUNITY BASED HEALTH SERVICES.

4.5.1 Number of Clients CHW Serve

The community health workers indicated that majority (60%) served between 15-20 clients. Only 20% served over 20 clients as shown in Table 4.4.

**Table 4.4 Number of Clients CHW Serve**

<table>
<thead>
<tr>
<th>PLHIV</th>
<th>Frequency</th>
<th>Proportions (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5</td>
<td>6</td>
<td>20%</td>
</tr>
<tr>
<td>Btw 10-20</td>
<td>18</td>
<td>60%</td>
</tr>
<tr>
<td>Over 20</td>
<td>6</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.5.2 Occupation of CHWs

More than half of the CHWs were housewives (76.7%) and 26.7% were jobless as indicated in Table 4.5.

**Table 4.5 Occupation of CHWs**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Frequency</th>
<th>Proportions (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housewives</td>
<td>20</td>
<td>66.7%</td>
</tr>
<tr>
<td>Business</td>
<td>10</td>
<td>33.3%</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.5.3 Number of days CHWs worked

Majority (60%) of the CHWs indicated that they worked for more than 3 days in a week. only 13.3% worked for 2 days a week as represented in Table 4.6.

**Table 4.6 Number of days Worked as a CHW in a Week**

<table>
<thead>
<tr>
<th>Days</th>
<th>Frequency</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4</td>
<td>13.3%</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>26.7%</td>
</tr>
<tr>
<td>Over 3</td>
<td>18</td>
<td>60%</td>
</tr>
</tbody>
</table>
### 4.5.4 Number of hours worked as a CHW in a day.

40% of the CHWs indicated they worked 3-4 hours and only 26.6% worked for between 5-6 hours daily as shown in Table 4.7

<table>
<thead>
<tr>
<th>Hours</th>
<th>Frequency</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-4</td>
<td>12</td>
<td>40%</td>
</tr>
<tr>
<td>5-6</td>
<td>8</td>
<td>20.6%</td>
</tr>
<tr>
<td>7-8</td>
<td>10</td>
<td>33.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

### Table 4.7 Number of hours worked as a CHW in a day.

4.5.5 Supervisors of CHWs

The greater percentage of the CHWs (46.7%) indicated that they were supervised by TOT. Others were supervised by the public health co-coordinator and the nurse in charge as indicated in Table 4.8

<table>
<thead>
<tr>
<th>Supervisor</th>
<th>Frequency</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOT</td>
<td>14</td>
<td>46.7%</td>
</tr>
<tr>
<td>EHC Coordinator</td>
<td>6</td>
<td>20%</td>
</tr>
<tr>
<td>Nurse in charge</td>
<td>10</td>
<td>33.3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

### Table 4.8 Supervisors of the CHWs
4.5.6 Expectations of the CHW

Majority of the CHWs 73.3% believed that their service was mainly to assist their community members while the remaining 26.7% hoped for some benefits in kind or cash or a job later.

Table 4.9 Expectations of CHW

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Frequency</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistance to community members</td>
<td>22</td>
<td>73.3%</td>
</tr>
<tr>
<td>Reward job</td>
<td>18</td>
<td>26.7%</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.5.7 Efficiency in service delivery due to training

All the CHW had been trained and when asked if this had influenced their efficiency in service delivery, majority of them (66.3%) said it had, while the rest felt that it had not influenced efficiency in service delivery. This is indicated in Figure 4.11

Figure 4.11 Efficiency on Service Delivery

![Bar chart showing 67.3% had influenced and 33.3% had not influenced]
4.5.8 Efficiency of CHWs

Thirty four percent of the PLHIV felt that the efficiency of CHWs had fairly increased, while 13.8% felt that it had remained the same as shown in Table 4.10.

**Table 4.10 Efficiency of a CHW last 6 months**

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Frequency</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency decreased significantly</td>
<td>58</td>
<td>25.8%</td>
</tr>
<tr>
<td>Remained the same</td>
<td>31</td>
<td>13.8%</td>
</tr>
<tr>
<td>Fairly increased</td>
<td>77</td>
<td>34.2%</td>
</tr>
<tr>
<td>Increased significantly</td>
<td>59</td>
<td>26.2%</td>
</tr>
<tr>
<td>Total</td>
<td>225</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

4.5.9 Efficiency of the services offered by CHW

Majority of the PLHIV (32.4%) felt that the services offered by CHWs were efficient, and only 13.8% rated the services as very efficient as indicated in Table 4.11.

**Table 4.11 Efficiency of the Services Offered by CHW**

<table>
<thead>
<tr>
<th>Services</th>
<th>Frequency</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very inefficient</td>
<td>43</td>
<td>19.1</td>
</tr>
<tr>
<td>Efficient</td>
<td>31</td>
<td>13.8%</td>
</tr>
<tr>
<td>Fairly efficient</td>
<td>78</td>
<td>34.7%</td>
</tr>
<tr>
<td>Very efficient</td>
<td>73</td>
<td>32.4%</td>
</tr>
<tr>
<td>Total</td>
<td>225</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

4.5.10 Measurement of Efficiency index

**Table 4.12 Measurement of Efficiency index**

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Rating</th>
<th>Score</th>
<th>No. of CHW performing multiple tasks as %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3</td>
<td>Very low</td>
<td>1</td>
<td>13.3%</td>
</tr>
<tr>
<td>4-8</td>
<td>Low</td>
<td>2</td>
<td>16.5%</td>
</tr>
<tr>
<td>9-12</td>
<td>High</td>
<td>3</td>
<td>49.5%</td>
</tr>
<tr>
<td>Over 12</td>
<td>Very high</td>
<td>4</td>
<td>20.7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>
4.6 CHALLENGES IN CBHC PROVISION

The greatest challenge highlighted was inadequate financial support. The other challenges are as shown in Table 4.13.

Table 4.13 Challenges in CBHC Provision

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Response (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Inadequate financial support for CHWs and PLHIVs</td>
<td>30.0%</td>
</tr>
<tr>
<td>2  Problem of transportation</td>
<td>26.7%</td>
</tr>
<tr>
<td>3  Stigmatization of PLHIV is still high making some patients shy off from receiving health care services</td>
<td>13.3%</td>
</tr>
<tr>
<td>4  Poor development of support groups in must areas</td>
<td>6.0%</td>
</tr>
<tr>
<td>5  Ignorance among PLHIV</td>
<td>5.7%</td>
</tr>
<tr>
<td>6  Inadequate resources (e.g. kits)</td>
<td>8.3%</td>
</tr>
<tr>
<td>7  High number of patients as compared to small number of CHWs</td>
<td>10.0%</td>
</tr>
</tbody>
</table>

4.7 WAYS OF ADDRESSING THE CHALLENGES

Majority of the respondents (17.7%) indicated that staff should be increased in numbers to reduces the patient: worker ratio as shown in Table 4.14.

Table 4.14 Ways of Addressing the Challenges

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Response (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Increase number of staff</td>
<td>17.7%</td>
</tr>
<tr>
<td>2  Staff and CHWs at centers be more polite</td>
<td>18.8%</td>
</tr>
<tr>
<td>3  Staff should be more time conscious</td>
<td>10.4%</td>
</tr>
<tr>
<td>4  Visit patients at home since some are too sick to attend clinics</td>
<td>8.3%</td>
</tr>
<tr>
<td>5  Staff and CHWs should be more committed to their work and improve efficiency</td>
<td>6.3%</td>
</tr>
<tr>
<td>6  More training for both CHWs and PLHIV</td>
<td>5.3%</td>
</tr>
<tr>
<td>7  Distribute provision of service to various centers in the municipality to reduce congestion</td>
<td>2.2%</td>
</tr>
<tr>
<td>8  Better equipment and laboratory services</td>
<td>2.2%</td>
</tr>
<tr>
<td>9  Use PLWHAS to provide health care service</td>
<td>5.6%</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>10</td>
<td>Extend working hours to weekends</td>
</tr>
<tr>
<td>11</td>
<td>Staff motivation</td>
</tr>
<tr>
<td>12</td>
<td>Offer support services</td>
</tr>
</tbody>
</table>

100%
CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION
This chapter will discuss the findings from the field based on the objectives guiding the study. Also included in the chapter are the conclusions drawn from the findings as well as the recommendations.

5.2 SOCIO–DEMOGRAPHIC CHARACTERISTICS OF THE STUDY SUBJECTS
Sixty six percent of the PLHIV comprised of female respondents while 33.3% were male. Overall 20% of CHWs were males while 80% were females. This distribution agrees with other studies that show that more females were bearing the HIV and AIDS burden and that the youth and the most productive section of society were more affected (ROK, 2007). The results on females forming majority of most affected have been replicated in studies done elsewhere notably project hope in Saomiguel, Brazil and Tateni home care services in South Africa. (UNAIDS, 2000)

5.3 COMMUNITY-BASED SERVICES
Provision of health care services to PLHIV at community level was in the form of HBC. Chi square results showed that the rating of the efficiency of CHWs was significant with the presence of HBC (\( \chi^2 =7.52, \text{df}=2, p<0.023 \)), meaning that where there was HBC, the PLHIV felt that the CHW worked and their Efficiency increased. There were no significant relationships between Efficiency and age, gender, reward education, among others.

Home-Based Care:- HBC is a milestone in Kenya’s fight against HIV and AIDS especially in psychological and social support for PLHIV due to its accessibility.
This provides a continuum of care services from the facility to the community with the community health worker as the link. This was available to about 43.1% of PLHIV in the study area. Government, NGOs and religious organizations mainly sponsor the programmes. Limited financial and other support was available through HBC programme. From the FGD, it was pointed out that the programme enhances care, acceptance, support from family members and positive change of attitude towards accepting their status, yielding in improved health status. Majority expressed their preference to be cared for at home rather than the hospital. This has been found to be the desire of most PLHIV in other studies in Kenya and the world over (ROK 2000; UNAIDS, 2001.;Panos, 1996).

Results revealed that 83% of PLHIV do not get referrals from the community to hospitals. From the FGD, CHW disclosed that there was a shortage of referral forms and kits and their limited numbers, showing that CHW reached only about 7% of the total population of PLHIV.

HBC complements health services by relieving congestion in hospitals. This was cited as a very significant role. Nakuru PGH bed occupancy by PLHIV accounted for 60%. Studies in Zimbabwe, Zambia, Botswana and South Africa have revealed similar scenarios (WHO/UNAIDS, 2002). The HBC delivers vital services to PLHIV. All of those interviewed obtained at least one of the services from HBC programme. The most common services obtained were medical and nursing care to 39.2% of PLHIV, Referral to specialized health professionals (16.7%). Financial and other assistance to PLHIV were available to less than 8% of the respondents.
HBC was also viewed by most participants as a powerful tool in fighting HIV & AIDS when PLHIV volunteers were used. These findings have been supported by other studies like in work done by UNAIDS and WHO in Zambia’s copper belt region, where HBC programme especially among the miners and their families have played an important role in fighting the spread of HIV and AIDS by breaking stigmatization through free discussion on HIV and AIDS. The government is the main reason of HBC programmes. It is however evident that religious organizations and NGOs account for about 54.7% of sponsorship of HBC. It is the collaboration and co-ordination of the activities of the various sponsors that holds the key to efficient health care service provision in the study area and the country at large.

This approach has been used by TASO, The AIDS Support Organization of Uganda and has born fruit as evidenced by the fact that the incidence of HIV and AIDS in Uganda has significantly reduced since the onset of this programme. The programme uses a combined approach in the sense that care, support and prevention are all integrated, as opposed to most HIV and AIDS control programmes that only focused on knowledge, attitude and expected behavior change.

Those who support the integrated approach have a valid point since this brings into the fore the fact that the already infected are somewhat left out and pose a significant danger especially if they lost hope in life and choose to spread the infection. Thus the integrated approach empowered the PLHIV with knowledge and enabling them to participate in income generating activities, in addition recruiting PLHIV to be CHWs and messengers of hope has been shown to create more community involvement and has provided PLHIV with better quality of life. This has shown remarkable success in Brazil and South Africa.
Support groups can play an important role in the management of HIV and AIDS. Sharing of experiences and engagement of PLHIV in incoming-generating activities serves to provide psycho-spiritual support while empowering the clients economically.

Like the HBC, support groups were available to 44.6% of PLHIV but only 35.0% of PLHIV belonged to at least one support group. The reasons why some patients did not join support groups despite the fact that they knew of their existence was because of stigma. The groups engaged in various activities such as peer counseling, HIV and AIDS prevention and income generating activities. The members visited each other, shared experiences and offered each other support.

Community Health Workers- These are volunteers working in their respective communities and who provide crucial support to PLHIV. The CHW are trained on diverse topics related to provision of health care to PLHIV. 66.7% of the CHWs who participated in the study were of the opinion that the training they had received influenced the efficiency of service delivery. The CHWs provide psychological counseling and administered ARVs besides other services. There is however a small percentage of 22.2% of patients who do not belong to any support group despite the presence of such groups in their areas. There may be need to establish factors that contribute to this scenario with the aim of improving service delivery through the support groups.

5.3.1 Referral System
HBC does not and cannot exist in a vacuum. A good referral system between various levels constitutes an important part of a sound HBC programme. Health services for instance VCT
centres and hospitals should be able to refer patients to the community and home for HBC while the CHW should refer those PLHIV that require admission to hospitals as well as people who require VCT services to such centres with ease/efficiency. Communication amongst these levels allows flow of information on new problems being faced at the community level to reach the health professionals and the policy makers while new information on better care can reach the care givers from the health professionals.

This was alluded to by a number of discussants in the FGDs who thought HBC was an extra burden to an already impoverished society whereas it was the government’s responsibility to take care of AIDS patients, they saw it merely as a way of decongesting hospitals; especially because of frustrations faced in re-admitting AIDS patients into hospitals since they were easily and quickly discharged to the community without any follow-up. The need to strengthen the referral system has been highlighted by UNAIDS (2000).

5.3.2 PROVIDERS OF HEALTH CARE SERVICES
The high rate of spread of HIV and AIDS in the country in the past two decades has called for concerted effort by both governmental and non-governmental institutions. The health care providers in the study area range from family members, NGOs, CBOs, religious organizations and the government. Medical institutions played an important role in detection and management of HIV and AIDS. In particular the Voluntary Counseling and Testing centers (VCT) accounted for 58.6% of detection among the respondents who came to know their HIV status while seeking treatment for other illnesses. It has been observed that early detection of HIV and AIDS can significantly increase chances of survival.
The overwhelming cases of HIV and AIDS in Kenya and the study area calls for the need to improve community participation in the provision of health care services to PLHIV. This was due to the fact that the health services do not have adequate capacity to accommodate and serve the growing number of patients. It was observed that the comprehensive care center at the PGH of Nakuru received up to 100 patients per day since all cases were referred to the center. Empowering and improving community based health care provision could go a long in de-congesting medical centers.

Family members are to a large extent responsible for taking care of PLHIV, specifically spouses, Children, mothers and CHWs. Therefore they should be adequately equipped/trained to take care of their kin since they spend more time with patient than the CHWs. Given the large number of patients in the study area and the small number of CHWs, it was evident that PLHIV perceive their families to be the ones taking care of them. CHW served more than 20 patients /clients and since the CHWs face numerous challenges, they are highly unlikely to dedicate adequate time for each client/patient.

5.3.3 Efficiency Index

The CHWs are expected to perform fifteen outlined tasks in a month, however, it was noted that varying percentages of CHWs performed these tasks. A big percentage (49.5%) was rated as high performers.

According to the results from this research, the most frequent functions which were undertaken by a majority of the CHWs included home visiting, offering of counseling/ psycho- spiritual care, referrals, community mobilization, giving of adherence talks, Health education talks and
social support. Only 13.3% of the CHWs were rated as very low performers, whereas the majority forming 49.5% were rated high performers.

5.4 FACTORS INFLUENCING THE EFFECTIVE PROVISION OF COMMUNITY BASED HEALTH CARE

5.4.1 Effectiveness of Community Health Workers

The study sought to establish factors that influence the effective provision of service to PLHIV. According to the PLHIV the effectiveness of CHWs had improved in the last six (6) months. About 68.0% of PLHIV felt that the efficiency had improved with the rest being of the view that the efficiency of CHW had either remained the same (15.5%) or worsened (16.5%). The same trend was depicted for CHWs serving in health centers. The services rendered to PLHIV by CHWs were rated by 90.1% of the respondents as efficient (17.3%), fairly efficient (34.6%) and very efficient (38.2%). These results were consistent with those from CHWs most of whom (86.7%) were of the opinion that the efficiency had improved in the last one year with a small proportion 13.3% being of the contrary opinion.

This effectiveness was impressive given that about 86.7% of CHWs did not have post-secondary school education. The Chi square results also indicated that the trend of efficiency of CHWs in the last one year was significant with the level of education ($x^2=12.355, df=6, p<0.05$) meaning that those who were more educated were better performers than those who had lower level of education. In addition, due to the growing number of patients, most CHWs (80%) serve more than 10 clients/patients. Time devoted to community health services averages to more than 3 days in a week with 40% of CHWs working for 3-4 hours in a day. A small proportion of CHWs (26.7%) were in formal or informal employment; some were in businesses while others were
housewives. The low number of highly educated persons being involved in community based health services provision could partly be explained by the fact that these group of the population are likely to be in formal employment leaving no time to engage in other community activities. Those who dedicated more hours in the provision of services to the PLHIV had their efficiency being rated as increasing significantly ($\chi^2=17.768, df=9, p<0.038$) The Chi square analysis showed that the CHWs who worked for more hours in the provision of health care services to PLHIV had their efficiency rated as positive ($\chi^2=17.768, df=9, p<0.038$). From the FGDs with the CHWs, they reported that they offered services such as nursing care services, follow up to those taking drugs, HBC, training care givers and the community on nursing care, creating awareness, guidance and counseling, referring clients from the community to the health facilities, and mobilizing the community for talks on HIV & AIDS. Assisting the community was the main reason why respondents engaged in provision of community based health services. Only 26.7% of CHWs engaged in provision of health services in hope for a job or some benefit in kind. Training of CHWs had positive contribution towards improving the efficiency of CHWs who indicated that training received had influenced efficiency of service delivery.

5.4.2 Population Served By CHWs

There was a variation in the population served by CHWs. Most (60%) of the CHWs indicated that they served a population of 20-25 people, while 20% served less than 5 PLHIV. This number of clients was in agreement with the MoH guidelines that a CHW should serve at least 20 people. Records indicate that there are 30,000 PLHIV and 100 registered CHW. This shows
that if a CHW serves 20, then only 2,000 clients are served. What of the remaining 28,000 PLHIV? Who serves them in the community?

5.4.3 Influence of Support Supervision

Support supervision is a major factor of efficiency and CHWs pointed out that their supervisors were TOT, PHC coordinator, nurse in charge and the managers of their NGO. The role of formal health workers as trainers and technical reference to CHWs accounted for only 20% reflecting the views that majority were not involved. Supervision of CHWs is mainly through TOTs at 46.7%.

5.4.4 Recruitment and Trainings

The information from FGD and key informants revealed that the community selected their own resource persons from the community i.e. a respected person, socially amicable and cooperative to be trained so that they could assist them. The training ranged between 7-14 days and they were offered by MOH, CDN, FHI and other NGOs.

The numbers recruited and terms differed as per the organization and terms of remuneration with as little as 800 shillings being bus fare and lunch when delivering monthly reports. The formal health workers indicated that the work done by CHW complimented theirs. 93% of the CHWs had been fully trained on facts on HIV & AIDS, Home based care, Psychological counseling and education.
Community health workers were the first contact of the health system and PLHIV, they were responsible for the care of the PLHIV assessing their needs as well as training family care givers on care of PLHIV. In cases where PLHIV took care of themselves, they were offered training on self-care as well as provided with a helping hand whenever needed to ensure the quality of such care meets the best practice recommended by (UNAIDS 2000).

5.4.5 Motivating Factors
According to the FGDs, CHWs mainly benefited from the community by way of recognition and some rewards in kind (20%). The main expectations of CHWs were expressed as a need to receive financial remuneration for the services they offer to the community (20%). Economic and social constraints were pointed out as causes of CHWs drop out and low enrolment. Irregular supply of kits and distance traveled were also cited. Similar situations have been cited in Botswana and Zimbabwe and in Kenya according to studies done by (Oteba, and Tobias, 2004).

In this study the issue of remuneration became rather negatively intertwined with lack of kits in the sense that PLHIV and the community believed that CHWs were paid and went further to demand for other basic needs as food and money. When CHW declined to meet these needs they often attracted negative comments that demoralized them.

They felt sandwiched between ungrateful PLHIV they were striving to serve purely voluntarily and a health sector that did nothing to enable them perform their duties.

Serious need therefore arises to harmonize services at all levels to create a continuum of care. It was important to realize that if HBC organizations were going to deliver health services but at a
cheaper rate, some state money need to be diverted towards this effort. Since many Kenyans are already HIV positive, a shift of the government campaign to care and support strategies for those infected ought to be a welcome idea.

5.4.6 PLHIV

The results indicated that the majority of PLHIV (59%) were tested in VCT centres while others were tested in hospitals due to illness and others from other methods as blood donation and by insurance doctors. From the FGD, what emerged strongly was that the PLHIV should be recruited as CHW because they would understand the needs of PLHIV better.

This agrees with other studies by WHO in Zambia and that of the Chirumaizu HBC programme in Zimbabwe (WHO/ UNAIDS, 2000), However, it also under scored an important impediment in the fight against, HIV and AIDS as has been noted in other works (Panos, 1999; Nyarango, 2001) and in the Tateni home care programme in Gauteng South Africa.

5.5 CHALLENGES FACING PROVISION OF COMMUNITY BASED HEALTH CARE

Provision of community–based health care services in the study area was faced with a number of challenges, affecting both CHWs and PLHIV.

The most important challenges in the provision of community-based health care to PLHIV were inadequate financing (30%) and transportation (26.7%). The CHWs allowances were often low and thus these workers could not fully devote their time to provision of health care services to PLHIV. In addition, the patients often had other physical and financial needs, which were not provided. Some patients could hardly afford the required nutritional supplies leading to poor
response to medication. Transportation for patients who were critically ill was still a problem. There lacks transportation arrangement such as ambulances for use by PLHIV. In addition, CHWs had to walk on foot, while doing home visits. Ignorance by patients leads to poor adherence to medication making treatment difficult. Other challenges raised in the FGD were lack of home based care kits, failure of some PLHIV to take drugs due to alcohol abuse, long time taken to recruit PLHIV into groups, lack of client registers and many clients, to be served. From the FGD, PLHIV had very high expectations from CHW to provide them food and money, due to the misconstrued idea that they were paid by donors to aid them.

Another major challenge was the people who had not been tested, whose partners had succumbed to the disease yet continued to spread through prostitution and wife inheritance among other cultural practices. Some clients refuse to be referred due to fear of stigma hence denying themselves essential health care services, others chased away CHW from their homes due to failure to accept their status. It was noted that children formed 10% of the caregivers and CHW expressed their concern about their protection from infection and their unknown status, as parents were not willing to take them for tests. Many children have been orphaned forcing them to drop out of school to fend for their needs.

5.6 ADDRESSING THE CHALLENGES
The respondents were asked to suggest measures which could help improve delivery of health care services in the study area and in particular the referral points at Comprehensive Care Center at PGH, Nakuru. About 12.5% of those responses indicated that the PLHIV visiting the centre were satisfied with the quality and efficiency of services offered at the centre. Despite the fact that the respondents indicated that the service delivery was efficient, they were still not fully
satisfactory. Long queues, favouritism, delays and unavailability of the prescribed drugs were but a few of the complaints raised. The most important concerns were staff to patient ratio and mistreatment of PLHIV at the centre.

A significant proportion of responses (18.8%) suggested that the staff at the centre should use polite language and show love to the patients. The respondents said that the CHWs had bad attitude towards them and were rude. Good public relations/customer service skills ought to be a priority in the normal training of CHWs and medical staff. Patients visiting the health care centres should not only get physical treatment of their bodies but this should also be done in an environment of tender, love and care. Psychological well-being boosts self-confidence and the ability of the patient to respond to physical treatment. So important is the need for respect and kindness towards PLHIV that some patients felt that the staff at the centre should be persons living with HIV and AIDS since they would understand what patients go through. While this may to some extent not be practical, it is an expression of the deeper need by the patients to be understood and be treated with dignity just like any other patient.

Other recommendations were on time management. About a tenth of the respondents complained that the staff at the centre reported late and left earlier than the regular time, resulting to patients enduring long queues and waiting for long hours despite the fact that the patients started streaming to the centre as early as 7.00am. A small percentage of respondents (2.1%) proposed that working hours be extended to weekends to cater for the growing number of patients while a significant proportion (17.7%) called for additional staff at the centre.
Addressing the provision of HBC in the community PLHIV need to accept their status and get trained on how to live positively in order to live longer and be functional members of the society. Continuous education has to be the core of the situation.

PLHIV should be empowered financially to start businesses in order to meet their needs and those of their family. Churches and NGO had facilitated formation of support groups that should be a channel for financial assistance in order to avoid the dependency syndrome.

Behavior change and communication should be intensified through vigorous campaigns targeting the vulnerable members of the society. The Community should be sensitized to seek to know their status so that they can learn to live either positively or negatively. Condoms should be availed to aid protection to avoid re infections.

The church should come up strongly in fighting stigma and offering spiritual counseling. Channel of change should be through men seminars in order to change their attitudes. Reproductive Health should be incorporated with community health in order to sensitize PLHIV on issues of remarrying and possibility of getting an HIV Child and the cost implications of raising such a Child in order to make informed choices.

In order to reduce the congestion line up, other CD4 Count machines should be availed at no charge so that referrals can be fast and effective. Women were the ones carrying the HIV & AIDS burden at 67%. They should be empowered to make decisions on their sex lives in issues pertaining to wife inheritance, FGM and other predisposing factors. CHW, for example, should be provided with bicycles for use in home visits due to wide distances they have to cover.
The possibility of using TBA, traditional healers and enrolled nurses as CHW should be explored with the possibility of putting them on the payroll in order to complement the services of health providers in the community.

Frequent training of CHWs on changes and new scientific developments is mandatory to help them be efficient and effective.

Relief food should be availed for bedridden PLHIV through their support groups to enable them regain strength and be functional in the community. Interacting with either persons living with HIV helps boost one’s assertiveness and confidence. The respondents indicated that they had benefited from support groups.

From the above findings, it can be deduced that PLHIV can play a vital role not only in helping each other to live positively but also in disseminating information to their communities. The impact of these can be significant where support groups are present. Engagement of support groups in income-generating activities on the other hand could be crucial in empowering PLHIV. It is worth noting that PLHIV are faced with multiple challenges one of which is meeting their nutritional and medical needs. This must be viewed in the context of poor health of PLHIV and societal stigmatization. It is therefore critical to enhance the capacity of infected and affected person’s ability to meet the aforementioned needs. The stakeholders ought to seek ways of economic empowerment of persons infected or affected by HIV and AIDS.
Support groups can be a good entry point into the economic empowerment of PLHIV. Health care centres are also vital in providing health care services to PLHIV. Most of the respondents (55.8%) had attended PGH comprehensive care centre for between 1 and 5 years.

There have been drastic rise in the number of PLHIV visiting health centres. It is evident from the findings above that very small proportions of the respondents have been attending the centre for more than 5 years. The availability of Anti- Retroviral (ARV) drugs in the public health centres has attracted many infected persons into these centres. Besides ARVs, other services are provided to monitor the status of infected persons and advice accordingly. Given the growing number of persons visiting these centres, there is need to provide adequate personnel and resources to these centres in future. More importantly is the need to provide these services in all public health centres countrywide to take these services closer to those who need them. This will reduce congestion in major public medical centres such as PGH Nakuru.
5.7 CONCLUSIONS
The following can be drawn as the main conclusions from the study.

a) The main community based health service for PLHIV is HBC.

b) These services were mainly provided by the CHWs, although others who were service providers to the PLHIV were spouses and family members.

c) Majority of the PLHIV felt that the services offered by the CHWs were efficient; and this was because of factors such as training.

d) The CHWs faced such challenges as inadequate financial support, transportation problems and high stigmatization of PLHIV.

The numerous challenges facing provision of community-based healthcare for PLHIV have direct bearing on efficiency and quality of service delivery. The need to address the said challenges cannot be over-emphasized. Both CHWs and PLHIV gave recommendations on how this could be achieved. From the perspective of the CHWs, provision of efficient and quality community based health care services for PLHIV can be enhanced by:

a) Providing better allowances for CHWs.

b) Training and engaging more CHWs to reduce the workload.

c) Providing adequate health care resources (including home based care kits) and transportation.

d) Strengthening social support systems.

e) Assisting or empowering PLHIV to meet basic needs such as food, medical care, income base and other amenities.

f) Developing and sustaining stigma reduction strategies.
The first four recommendations have direct impact on actual provision of health care services by CHWs. The last point aims at meeting the needs of PLHIV, and this to a large extend influences the outcome of various interventions. For instance, poor diet can lead to reduced immunity and hence susceptibility to opportunistic infections. In addition, poor economic status of PLHIV and their families may increase psychological pressure/stress which in turn have direct effect on the immunity and ability to be self-assertive. Low esteem as a result of complex factors of social stigma and inability to meet basic needs among other factors may result in desperation and hence poor response to healthcare interventions.

5.8 OPERATIONAL RECOMMENDATIONS
(a) The ministry of health should recruit more CHW, train and deploy into public service with a clear career path and terms and conditions of service.
(b) Partners in providing HBC should avail resources such as kits and monitoring and evaluation tools.
(c) Given the limited in-patient facilities at the Nakuru PGH and the overwhelming cases of AIDS related illnesses, the municipality councils and ward development committees should be more involved in HBC capacity building.
(d) More organizations should support PLHIV to establish and maintain income generating activities.
(e) Organizations working with HBC should include Provision of food to PLHIV as one of the services.
(f) PLHIV should be trained to care for their peers because of empathy and familiarity with issues and concerns.
(g) All government health facility fees for PLHIV should be removed.
(h) The government should play its role in the care of PLHIV particularly through policy guidelines and provision of qualified health personnel to offer professional support to HBC programme, it should also remunerate and motivate CHW by providing them with sufficient training and kits to facilitate their work.

5.9 SUGGESTIONS FOR FUTURE RESEARCH WORK

(a) The use of informal healthcare providers, traditional healers, traditional birth attendants as CHWs instead of selected community members should be explored.

(b) There is need to carry out similar studies in other municipality/ districts with high HIV and AIDS prevalence and poor health facilities to determine the specific requirements to necessitate development of an all inclusive policy guideline that enables clear participation of the government on where and how to channel resources as well as how to cooperate with partner organizations.
REFERENCES


Pan American Health Organization (PAHO) and WHO (2003). *Building Blocks*: Proceedings of the Consultations on Standards of Care for Persons Living with HIV and AIDS in the Americas; Regional Program on AIDS/STI, Division of Disease Prevention and Control; Pan American Health Organization


APPENDICES

APPENDIX 1: QUESTIONNAIRE FOR CHWs

This questionnaire is meant to collect information on “the factors influencing the provision of community based health care for people living with HIV and AIDS: A case study of Nakuru Municipality”. The information you give will be treated strictly confidential and at no time will your name be mentioned in this study.

SECTION I: DEMOGRAPHIC DETAILS

1. Gender
   1) Male □
   2) Female □

2. Age category
   1) Below 25 years □
   2) 26-30 years □
   3) 31-35 years □
   4) Over 35 years □

3. Highest education level attained
   1) Primary level □
   2) Secondary level □
   3) Tertiary College □
   4) University (Graduate) □
   5) University (Post-graduate) □
   6) Other (please specify) ________________________________

SECTION II: FACTORS IN PROVISION OF SERVICE

4. How many clients are you currently serving?
   1) Less than 5 □
   2) 5-10 □
   3) 10-15 □
5. What is your occupation other than being a CHW?
   1) Housewife  
   2) Formally employed  
   3) Business  
   4) Other  

6. How many days a week do you work as a CHW?
   1) 1 day  
   2) 2 days  
   3) 3 days  
   4) Over 3 days  

7. How many hours a day do you work as a CHW?
   1) 3-4  
   2) 5-6  
   3) 7-8  
   4) Up to 12 hours  

8. Who supervises your work?
   1) TOT  
   2) PHC –Coordinator  
   3) Clinical Officer  
   4) Nurse in charge  
   5) Others (specify)  

9. What were your expectations as a CHW?
   1) Hope for a job later  
   2) Hope for some remuneration
3) To assist my community members

4) Hope for some benefits in kind

5) Other (specify)

10. How would you rate the trend of the efficiency of the health workers in the municipality the last one year? The efficiency has;

1) Increased significantly

2) Fairly increased

3) Remained the same

4) Decreased significantly

11. What factors do you think influence the provision of community based health care for people living with HIV and AIDS in the municipality

a) Social cultural constrains

b) Economic constrains

c) Transport constrains

d) Personnel constrains

12. Have you received any training related to handling of people living with HIV and AIDS (PLHIV)?

1) Yes

2) No

13. If yes in the question above, what type of training have you received? Tick them

a) Facts on HIV and AIDS and PLHIV

b) Home based care for PLHIV

c) ARV administration
d) Psychosocial counseling and education

14. If yes in question 12 above, does the training received influence your efficiency of service delivery to PLHIV?
15. Please explain your answer above.

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

16. What challenges do you face as a community health care worker in your efforts to deliver quality and efficient services to people living with HIV and AIDS?

a) Financial ________________________________

b) Transport ________________________________

c) Inadequate resources ________________________________
17. The following are the Activities performed by CHWs in health care centres. Kindly tick the activities that you have performed in the last one month.

{Yes = Activity done in the last one month, No=Activities Not done in the Last one month.}

<table>
<thead>
<tr>
<th>Activities of CHWs</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giving of health educational talks</td>
<td></td>
<td></td>
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<tr>
<td>Making patients referral to the nearest health centre</td>
<td></td>
<td></td>
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<tr>
<td>Updating records</td>
<td></td>
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<tr>
<td>Administration of ARV drugs to patient</td>
<td></td>
<td></td>
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<tr>
<td>Record keeping</td>
<td></td>
<td></td>
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<tr>
<td>Giving of adherence talks</td>
<td></td>
<td></td>
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<tr>
<td>Home visiting</td>
<td></td>
<td></td>
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<tr>
<td>Reporting birth/death</td>
<td></td>
<td></td>
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<tr>
<td>Offering Counselling/psycho-spiritual care</td>
<td></td>
<td></td>
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<tr>
<td>Giving of social support</td>
<td></td>
<td></td>
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<tr>
<td>Facilitating community mobilization</td>
<td></td>
<td></td>
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<tr>
<td>Helping the patient to engage in Income-generating activities</td>
<td></td>
<td></td>
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<tr>
<td>Offering Palliative/terminal care</td>
<td></td>
<td></td>
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<tr>
<td>Monitoring and evaluation of activities</td>
<td></td>
<td></td>
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<tr>
<td>Patient Networking</td>
<td></td>
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</tr>
</tbody>
</table>

18. What recommendations would you make to improve the efficiency of health care workers for people living with HIV and AIDS in health Care Centres?

a)___________________________________________________________________
b)_________________________________________________________________
c)_________________________________________________________________

THANK YOU FOR YOUR HONEST RESPONSES
lxxxix
APPENDIX 2: QUESTIONNAIRE FOR PLHIV

Questionnaire Serial number……………………………

This questionnaire is meant to collect information on “the factors that influencing the provision of community based health care services for people living with HIV and AIDS in Nakuru CCC. A case study of Nakuru Municipality. The information you give will be treated as strictly confidential and at no time will your name be mentioned in this study.

SECTION I : SOCIAL DEMOGRAPHIC DETAILS

1. Gender
   1) Male
   2) Female

2. Age category
   1) Below 25 years
   2) 26-30 years
   3) 31-35 years
   4) Over 35 years

3. Highest education level attained
   1) Primary level
   2) Secondary level
   3) Tertiary College
   4) University (Graduate)
   5) University (Post-graduate)
   6) Other (please specify) ________________________________

4. Marital status
   1) Married
2) Single  
3) Widowed  
4) Divorced/ Separated  

5. How did you come to know your status or where were you tested?  
   1) VCT Centre  
   2) Hospital due to illness  
   3) ANC Clinic  
   4) Others  

SECTION II: FACTORS IN PROVISION OF SERVICE  

6. Who takes care of you?  
   1) Self  
   2) CHW  
   3) Spouse  
   4) Children  
   5) Others (specify)  

7. Do you have an organized HBC programme in your area?  
   1) YES  
   2) No  

8. If yes who are the sponsors?  
   a) GoK  
   b) Church (specify)  
   c) NGO (specify)  
   d) CBO (specify)
9. What services do you get from HBC programme counseling?
   a) Medical and Nursing care
   b) Referral to specialized health professionals
   c) Financial support
   d) Others (specify)

10. Are there support groups within your area?
    a) YES
    b) No

11. If yes do you belong to one?
    a) Yes
    b) No

12. What are the main activities of the support groups?
    a) Peer counseling
    b) Income generating activities
    c) HIV and AIDS Prevention in the community
    d) Other (specify)

13. What are the benefits of being in such a group?
    a) Share experiences
    b) Visit and assist each other
    c) Others (specify)

14. How long have you been attending this health care centre for PLHIV? State in years.
    a) Less than one year
    b) Between 1 – 5 years
c) Over five years

15. How long have you been living with HIV virus? (In years)……………………

16. How would you rate the trend of the efficiency of the health workers in this health care centre for the last 6 months? The efficiency has;

1) Increased significantly
2) Fairly increased
3) Remained the same
4) Decreased significantly

17. What challenges do you think health care workers face in their efforts to deliver quality and efficient services to people living with HIV and AIDS?

a) Financial ______________

b) Transport____________________

c) Inadequate resources________________________________________

18. How would you rate the efficiency of the services offered to you by the community health workers (CHWs).

1) Very efficient
2) Fairly efficient
3) Efficient
4) Inefficient
5) Very inefficient

19. In your opinion, what factors do you think influence the provision of community based health care for people living with HIV and AIDS in the municipality
20. The following are the Activities performed by community health workers (CHWs) in the municipality. How would you rate the quality of services in the following listed activities of the CHWs? (Tick Appropriately).

   {4=very high, 3= high, 2=low, 1=very low.}

<table>
<thead>
<tr>
<th>Activities of CHWs</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>Health educational talks</td>
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<td>Patients referral to the nearest health centre</td>
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<td>Record keeping</td>
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<tr>
<td>Adherence talks</td>
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<tr>
<td>Home visiting</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

a) Social cultural constrains_____________________________

b) Economic constrains______________________________

c) Transport constrains_______________________________

d) Personnel constrains______________________________
21. Do you think the services offered at this health care centres are beneficial to you as person living with HIV and AIDS?

1) Yes □
2) No □

22. If yes, in what ways do you benefit?

a) Gained more knowledge on HIV and AIDS □

b) Material support □

c) Nursing care □

d) Links and referrals to specialized care and support services □

e) Others □

23. What recommendations would you make to improve the provision of health care services for people living with HIV and AIDS in CCC?

a) __________________________________________________________

b) __________________________________________________________

c) __________________________________________________________
xcvi

THANK YOU FOR YOUR HONEST RESPONSES
APPENDIX 3: INTERVIEW GUIDE FOR HEALTHCARE WORKERS

1) How are CHWs recruited

2) Who supervises them and how is it done?

3) Do you think their services conflict/compliment yours?

4) What do you think makes CHWs in your zone inactive or drop out?

5) How are CHWs motivated to carry out their duties?

6) Do the CHWs do prompt referrals?

7) What support do you give to CHW?
APPENDIX 4: F.G.D GUIDE WITH CHW

1) Describe the services offered to PLHIV?

2) Are the services effective and acceptable to the PLHIV?

3) What challenges are faced in provision of care to PLHIV?

4) How are the challenges being addressed?
APPENDIX 5: OBSERVATION CHECKLIST

1. Is there a home based care kit?
   1. Yes   ☐
   2. No   ☐

2. Are nutritional supplements e.g. Uji flour available?
   1. Yes   ☐
   2. No   ☐

3. If the answer in 2 above is yes, are there signs of usage?
   1. Yes   ☐
   2. No   ☐

4. Are the referral forms filled?
   1. Yes   ☐
   2. No   ☐

5. Are there any monthly activity forms?
   1. Yes   ☐
   2. No   ☐
APPENDIX 6: CLEARANCE LETTERS (1)
MINISTRY OF HEALTH

RII/VOL.1/08

Date: 7/7/2008

To: Betty Say
P.O. Box 43844
Nakuru

Dear Betty Say

RE: APPROVAL TO UNDERTAKE RESEARCH AT THE RIFT VALLEY PROVINCIAL GENERAL HOSPITAL

Reference is made to your letter dated 7/7/2008 seeking permission to do research at Provincial General Hospital, Nakuru on Factors influencing the provision of community-based health services for people living with HIV and AIDS in Nakuru Municipality, Kenya.

Permission has been granted/Not granted for the research. It is hoped that you will adhere to the ethics and standards that relate to research at our institution.

Thank you.

Yours sincerely

[Signatures]

MEDICAL SUPERINTENDENT

CHAIRPERSON
RESEARCH AND ETHICS COMMITTEE
THE MUNICIPAL COUNCIL OF NAKURU
INTERNAL MEMORANDUM

To: All Heads of Clinics
From: Medical Officer of Health

Date: 10th July, 2007
Ref: MDP/12(u)/2007/20/411

Re: CHEPCHO HENRY SYI

The above named has been carrying out a research in our clinics. Kindly let her complete her research.

[Signature]

MR. JOHN GABEKE
Medical Officer of Health
APPENDIX 8: RESEARCH AUTHORIZATION LETTER

MINISTRY OF HIGHER EDUCATION SCIENCE & TECHNOLOGY

Telegrams: "SCIENCE TEC", Nairobi
Telephone: 02-318581
E-Mail: ps@scienceandtechnology.go.ke

JOOGO HOUSE "B"
HARAMBEE AVENUE,
P.O. Box 9583-00200
NAIROBI

When Replying please quote
Ref. MOHEST 13/001/ 38C 376/2 26th June 2008

Betty Cherono
Kenyatta University
P.O. Box 43844
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on, ‘Factors Influencing the Provision of Community Based Health Services for people living with HIV/AIDS in Nakuru Municipality Nakuru District’

I am pleased to inform you that you have been authorized to carry out research in Nakuru Municipality for a period ending 30th August 2008.

You are advised to report to the District Commissioner, District Education Officer and the Medical Officer of Health Nakuru District before embarking on your research.

On completion of your research, you are expected to submit two copies of your research report to this office.

M.O. ONDIIEKI
FOR: PERMANENT SECRETARY

Copy to:
The District Commissioner
NAKURU DISTRICT
The District Education Officer
NAKURU DISTRICT
The Medical Officer of Health
NAKURU DISTRICT
APPENDIX 9: ABSTRACT OF SEMINARS AND CONFERENCES

AUTHOR: BETTY SOY

FORUM: DEPARTMENT OF PUBLIC HEALTH; POSTGRADUATE CONFERENCE

VENUE: KENYATTA UNIVERSITY VIP LOUNGE

DATE: 11 NOV. 2008

TITLE: FACTORS INFLUENCING THE PROVISION OF COMMUNITY BASED HEALTH SERVICES FOR PEOPLE LIVING WITH HIV AND AIDS

A total of 33 million people were living with HIV and AIDS worldwide in 2007. Daily over 6800 persons become infected with HIV and over 5700 people die from AIDS related illnesses, because of inadequate access to HIV prevention and treatment services. Majority of HIV and AIDS treatment and care has been delivered in the in-patient settings indicating 60% bed occupancy. A large portion of the Ministry of Health budget has been used to pay for this costly hospital care. Given the challenge of delivering accessible and affordable HIV care, a continuum of care extended from hospital facilities to the patient’s home in the community was began. This
study aimed at establishing factors that influence the provision of community based health services for people living with HIV and AIDS. A cross section study design was employed, and data was collected through questionnaires, key informant interviews, focus group discussions and observation checklist.

SPSS was used for analysis and Chi-square tests were used to test for association between the variables. 314 respondents randomly selected comprised of more females 66.7%, mostly aged between 25-50 years. Majority had attained secondary education and were married. The results of the study indicated that only 42% were members of home based care programmes provided by the church, NGOs and the government. The major service providers were the patient 69.7%, children 10.1%, spouse 12.4%, herbalist 5.5% and only 2.3% were provided by CHW, who were the main link between the facility and the patient at home. This leaves a glaring gap as to the efficiency of the programme. Challenges emerged such as inadequate financial support 50%, transportation 26.7%, stigma 13.3%, overwhelming number of PLHIV in municipality at 30,000, inadequate resources and orphans increase.

There were no significant relationships between efficiency and age, sex, marital status, reward and occupation. A significant relationship was noted in the efficiency and presence of HBC programme and in the number of hours utilized in provision of services by CHW. Measures of addressing these challenges put forth were: increasing number of CHW, more training and better remuneration, increasing number of home visits, decogestation of CCC services at the provincial hospital and distribution to municipality clinics, using PLHIV as CHW, provision of transport, more CD4 count machines availed and removal of laboratory charges. The study thus acknowledges that measures should be put in place to address the challenges in order for PLHIV to attain access to prevention, treatment care and support services in the community.
APPENDIX 10: Map of Nakuru Municipality (Study Area)
APPENDIX 11: Map of Kenya Showing the Study Area

Key:
Study Area