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Assessment of the Capacity of Health Facilities to Provide Standard Comprehensive HIV/AIDS Care Services in Bomet sub-County in Kenya

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Abstract

Introduction: Health care systems in sub-Saharan countries bear the greatest burden of disease and face challenges in providing HIV (Human Immunodeficiency Virus) and AIDS (Acquired Immunodeficiency Syndrome) care alongside other health care services. Health systems in these countries experience constraints in ensuring diagnosis facilities, consistent drug supplies and adequate staff and equipment. Comprehensive care and support for People Living with HIV and AIDS (PLWHA) depends on improved health systems consisting of support services and life-saving drugs. This study assessed the capacity of the health facilities to provide standard comprehensive HIV and AIDS care services to PLWHA in Bomet sub-County in Kenya. *Method:* A cross-sectional descriptive study was conducted where all twenty nine facilities in Bomet sub-County were assessed using a structured questionnaire. The respondents were nurses and clinical officers managing Comprehensive Care Centres. Data was analyzed using SPSS version 20 for Windows while qualitative data was analyzed according to themes that addressed the study objectives. *Results:* Human resource to offer comprehensive services was a major constraint with only half of the health workforce (48%) trained on HIV and AIDS care. HIV testing and counselling services and antiretroviral drugs were available in the majority (97%) of health facilities. Lower level health facilities lacked capacity to provide basic laboratory investigations due to shortage of trained technicians, inadequate space and infrastructure, lack of essential equipment and occasional stock-outs of supplies. A third of the facilities had the capacity to provide psychosocial services to clients. The sub-County experienced shortage of funds for HIV care and relied on external funding. *Conclusions:* Despite challenges facing HIV and AIDS care in Bomet sub-County, most of the health facilities across the four level service points consisting of dispensaries, health centres, sub-County and County hospitals had the capacity to provide some care that included HIV testing and counselling services. Constraints to services included inadequate staff trained on HIV and AIDS care, lack of capacity to provide basic laboratory investigations and diminishing funding for HIV and AIDS services. *Recommendations:* In order to ensure comprehensive care and support for PLWHA, the decentralized sub-County health system needs to increase staffing levels trained on HIV and AIDS care, improve laboratory services and strengthen psychosocial support services. There is need to budget for HIV and AIDs care services at the sub-County level.

Keywords

Health System, Health Facilities, HIV and AIDS, Antiretroviral Drugs

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1. Introduction

Globally, the greatest burden of disease from the Human Immunodeficiency Virus (HIV) and from the Acquired Immunodeficiency Syndrome (AIDS) is in developing countries, where health systems are generally ill-equipped to

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cope with the disease (UNAIDS, 2009). The health systems in Sub-Saharan Africa face increasing challenges in providing care and support for People Living with HIV and AIDS (PLWHA). The provision of HIV and AIDS services lays an additional burden on already over-stretched health services and reduces the capacity of health systems to adequately respond to other health challenges (Shisana, 2003; Kimalu, Nafula, Manda, Bedi, Mwabu, & Kimenyi, 2004). Obstacles include lack of access to therapy, insufficient laboratory facilities and funding constraints.

Care services in sub-Saharan Africa

Comprehensive care and support for PLWHA depend on improved health systems and support services, including life-saving drugs (UNAIDS, 2001). Although life-saving antiretroviral drugs have resulted in a 70% decline in deaths related to HIV and AIDS (UNAIDS, 2012), health care systems in sub-Saharan Africa still face challenges in ensuring diagnosis facilities and consistent drug supplies. Primary healthcare facilities are under-resourced, lack adequate staff and equipment and are often unable to offer comprehensive HIV and AIDS care services.

The capacity to provide standard comprehensive HIV and AIDS care services requires health facilities to have access to specific services, space, supplies and equipment. Required services include HIV counselling and testing, management of opportunistic infections, laboratory services, continuous supply of antiretroviral drugs, home-based care and adequately trained health care workers (WHO, 2004).

Care services in Kenya

The national guidelines for HIV and AIDS care include an essential package of prevention and care for PLWHA. The guidelines recommend access to core interventions known to promote health, improve quality of life, prevent further spread of HIV transmission, delay HIV disease progression and prevent mortality (Kenya Ministry of Health, 2011).

Access to antiretroviral drugs is critical; however the needs of PLWHA extend far beyond drugs and health care and require standard comprehensive care services. These services must include HIV counselling and testing and psychosocial support for HIV positive people, and accompanying support to their families and communities to cope with the economic and social consequences of sickness and death due to AIDS (UNAIDS, 2001). In Bomet sub-County, the site for this study, adult Antiretroviral Therapy (ART) coverage was 49% which was far below the national coverage of 81%. The sub-County ART coverage for children was 21% as compared to the national coverage of 38% (National AIDS Control Council, 2012).

Cash transfer programmes to poor households have been shown to reduce HIV risk by delaying sexual debut, pregnancy and marriage among beneficiaries aged between 15 and 25 years. However, only 13% of poor households were beneficiaries of the cash transfer programme in Bomet sub-County.

HIV counselling and testing and linkage to care and treatment are important steps in reducing sexual transmission of HIV and is a proven intervention for prevention and treatment. However, by 2009, almost half of the population (46%) in Bomet County (formerly Bomet District) had never been tested for HIV (National AIDS Control Council, 2012).

Recent reports suggest that health facilities in Bomet sub-County may be facing challenges in providing comprehensive HIV care due to limited capacity. Some of the challenges include irregular and inadequate funding, low staffing levels in the health institutions and lack of resources to provide regular services (Bomet County, 2013).

While progress in treating HIV infection is rapidly increasing in Kenya, significant challenges remain. With 17 doctors and 85 nurses for every 100,000 people living in Kenya, human resources for health care is severely constrained, in addition to staff requirements to provide standard comprehensive HIV and AIDS care services (National AIDS Control Council, 2012). During the same period, stock-outs of antiretroviral drugs have occurred in one quarter of the facilities providing ART, which may compromise the effectiveness of the drugs. Gaps in capacities exist where only 18% of private health facilities offering ART have a staff member recently trained to provide antiretroviral therapy (Kenya Population News, 2006). Numerous challenges face the development of Kenya's health workforce, including severe shortages of essential cadres, unequal distribution of health workers, uneven remuneration across the cadres and poor working conditions (Muriuki et al., 2015). Cadres that face severe shortages include doctors, nurses, clinical officers, nutritionists and laboratory technologists.

There are health system related barriers that exacerbate the gaps in the cascade of care, from identification of clients, linkage and retention to a continuum of care (National AIDS Control Council, 2014). These barriers include limited access to and unequal geographical distribution of services, including disproportionately lower coverage of ART in children and adolescents, human resource inadequacies, poor referral and tracking mechanisms, and commodity and supply related challenges. The devolution of the health system initiated in 2013 in Kenya is likely to pose challenges to the county health systems in terms of adequate infrastructure, equipment and governance. There is need to investigate the underlying causes of ill preparedness of the counties in terms of health system inputs and direct financial resources (Barker, Mulaki, Mwai, & Dutta, 2014).

The review above highlights the capacity challenges experienced by health care systems in sub-Saharan Africa to provide standard comprehensive HIV and AIDS services. A need exists to identify system challenges for responsive and

supportive health services to PLWHA. This study aimed to identify factors that constrain HIV and AIDS services in a decentralized health system in Kenya.

2. Methods

The study was carried out in 2014 and used a descriptive cross-sectional design to assess the capacities of health facilities at the sub-County level to provide standard comprehensive HIV and AIDS care services. A complete coverage of all health facilities in the sub-County was undertaken where a total of 29 health facilities were recruited into the study. Five key informants were involved in the qualitative aspect of the study.

2.1. Study Population

Bomet sub-County with a total population of 274,389 (Kenya Ministry of Devolution and Planning, 2013) has 22 level two health facilities, 5 level three health facilities, one level four and one level five health facility. The study focused on levels two, three, four and five health facilities in the sub-County. The respondents were nurses and clinical officers offering and overseeing HIV and AIDS services.

Four nurses were recruited and trained on the purpose of the study and on the survey tools for qualitative and quantitative data collection. The pre-testing of the research instruments for reliability and validity was undertaken outside the study area in the adjacent sub-County of Chepalungu.

The study was guided by a conceptual framework that outlined potential factors that may influence the capacities of health facilities to provide comprehensive HIV and AIDS care services in Bomet sub-County in Kenya (Figure 1).

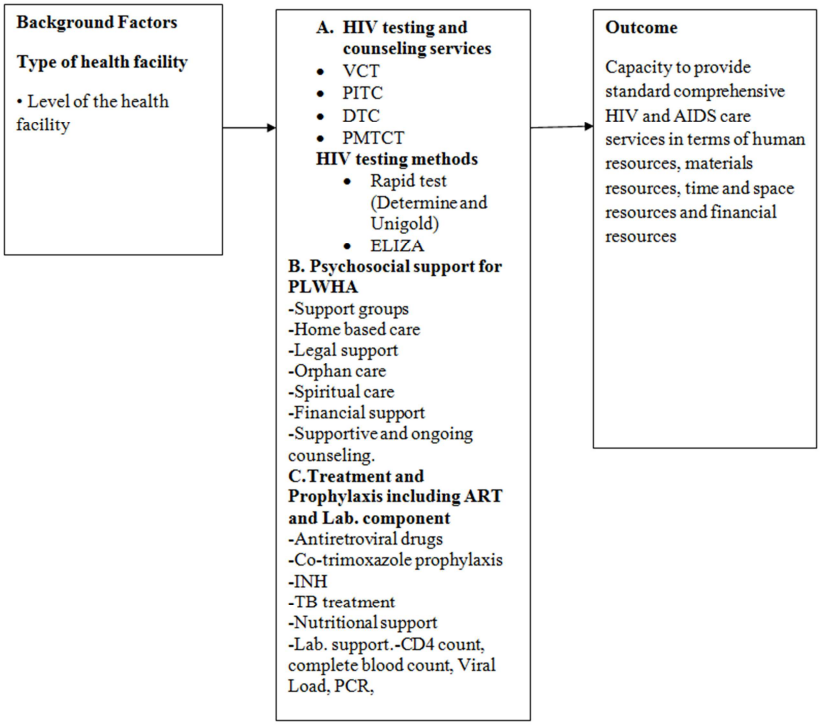

Figure 1. Conceptual Framework for Assessment of Capacities of Health Facilities to Provide Standard Comprehensive HIV/AIDS Care Services in Bomet sub-County in Kenya.

2.2. Data Collection and Analysis

The objective of the study was to investigate the capacity of health facilities to provide standard comprehensive HIV and AIDS care services in Bomet sub-County. Thus the study examined the following areas: i) the provision of standard comprehensive HIV and AIDS testing and counselling services provided as Voluntary Counselling and Testing (VCT), Provider Initiated Counselling and Testing (PICT) and Diagnostic Counselling and Testing (DCT); ii) the provision of standard comprehensive prophylaxis and treatment, including ART and the laboratory component for PLWHA; iii) the provision of linkages and psychosocial support to PLWA and; iv) the impediments to the provision of standard comprehensive HIV and AIDS care services in Bomet sub-County.

Quantitative data was collected using a self-administered structured questionnaire. The nurses and clinical officers managing comprehensive care clinics were requested to complete the questionnaires. Data analysis was performed using SPSS Version 20 while descriptive statistics were generated to describe the availability of specific HIV and AIDS services and the status of health personnel in those facilities recruited into the study.

Qualitative data was collected through five Key Informant Interviews (KII) with the sub-County Public Health Nurse and Clinical Officers from levels two (dispensary), three

(health centre), four (sub-County hospital) and five (County hospital) facilities. Summary notes were made at the end of each KII and these narratives were analyzed manually according to themes, sub-themes and categories relevant to the study objectives.

Ethical clearance was obtained from Great Lakes University of Kisumu and permission to undertake the study in Bomet sub-County was obtained from the Deputy County Commissioner, the sub-County Medical Officer of Health and from the Institutional Review Boards of Tenwek Mission Hospital and Longisa County Hospital. Informed consent was obtained from the participants and confidentiality of information gathered was maintained throughout the study process.

3. Results

3.1. Health Facilities

Most of the 29 health facilities surveyed were level 2 (77%), followed by level 3 health facilities (17%) with one health facility from level 4 and a level 5 hospital which was managed by a faith based organization (Table 1).

Table 1. Levels of Health Facilities.

Levels of Health Facilities	n (N=29)	Percentage (%)
Level 2 (Dispensary)	22	77
Level 3 (Health Centre)	5	17
Level 4 (sub-County Hospital)	1	3
Level 5 (County Hospital)	1	3

3.2. Human Resource for HIV and AIDS Services

In eight (28%) of the 29 health facilities surveyed, there was only one nurse serving the general population and PLWHA; these were level 2 health facilities. In 14 (48%) where 13 facilities were of level two and one of level three, there were two nurses while in contrast, there were three nurses in 3 (10.3%) health facilities, namely one level two health facility and two level three health facilities. In the County hospital there were sixty nurses while in the level 5 faith-based hospital, there were 154 nurses working in various departments of the hospital. In the whole sub-County, there were 269 nurses out of which 116 (43%) were trained on HIV care.

The sub-County Public Health Nurse as a key informant indicated that there was a shortage of health workers in Bomet sub-County, stating that, "In most of the level 2 health facilities, there is only nurse, who is expected to provide all the services".

In 22 (76.0%) health facilities, namely 21 level two health facilities and one level three health facility, there were no clinical officers. In the County hospital, there were twelve clinical officers while the level 5 faith based hospital had twenty four clinical officers. In the sub-County, there were 49 clinical officers of which 29 (59.0%) were trained on HIV care.

In the sub-County, there were 20 (69.0%) level two health facilities that had no medical laboratory staff, while 7 (24.1%) of the health facilities, namely 2 level two and 5 level three health facilities, had one laboratory staff each (Table 2).

In the County Hospital (level 4), there were five Medical Laboratory Technologists; while the faith-based level 5 hospital had sixteen Medical Laboratory Technologists. In the sub-County, there were 28 medical laboratory staff of which 19 (67.9%) were trained on HIV care.

Table 2. Number of Staff per Cadre.

Staff Cadre	Total Number of Staff by cadre in Levels 1 to 5 health facilities	Number and % of Staff trained on HIV and AIDS care
I. Nurses	269	116 (43%)
II. Clinical Officers	50	29 (58%)
III. Doctors	20	11 (55%)
IV. Laboratory Technicians/technologist	28	19 (68%)
TOTAL	367	175 (48%)

3.3. Capacity of the Health Facilities to Provide Standard HIV Testing and Counselling Services

The majority of health facilities (96.6%) offered HIV counselling and testing services. Counselling on Prevention of Mother-to-Child Transmission (PMTCT) was offered by all facilities, while PITC was offered by 22 (78.6%), VCT was offered by 19 (67.9%) and DTC offered by 18 (64%) health facilities (Table 3).

Determine and Unigold were the most common rapid test methods utilized in all the 28 health facilities. Only 2 (7%) facilities had ELIZA HIV tests.

The key informants interviewed stated that the health facilities in the sub-County had the capacity to provide HIV testing and counselling services. A Clinical Officer in-Charge from a Dispensary stated the following:

> "We are offering HIV testing and counselling services using Determine and Unigold. The MOH has introduced new rapid methods, but we will order them once we exhaust the old stock. The approaches we are using include PITC, DTC and VCT".

Table 3. Capacity of the health facilities to provide standard HIV testing and counselling services.

Services Offered	Level of Health Facility				
	Overall (%) N=29	Level 2 (%) n=22	Level 3 (%) n=5	Level 4(%) n=1	Level 5 (%) n=1
Does the health facility provide HTC services	28 (96.6)	21 (72.4)	5 (17.2)	1 (3.4)	1 (3.4)
Types of HTC Services					
1. Voluntary Counselling and Testing (VCT)	19 (65.5)	12 (63.2)	5 (26.3)	1 (5.3)	1 (5.3)
2. Provider Initiated Testing and Counselling (PITC)	22 (75.9)	15 (68.2)	5 (22.7)	1 (4.5)	1 (4.5)
3. Prevention of Mother-to-Child Transmission (PMTCT) of HIV	28 (96.6)	21 (75.0)	5 (17.9)	1 (3.6)	1 (3.6)
4. Diagnostic Testing and Counselling (DTC)	18 (62.1)	11 (61.1)	5 (27.80	1 (5.6)	1 (5.6)
Type of HIV testing Methods					
Determine & Unigold	28 (96.6)	21 (75.0)	5 (17.9)	1 (3.6)	1 (3.6)
Eliza	2 (100)	0 (0.0)	0 (0.0)	1 (50)	1 (50)

3.4. Capacity of the Health Facilities to Provide Standard Prophylaxis and Treatment

The majority of health facilities (97%) offered antiretroviral drugs. Cotrimoxazole was available in over half of the facilities (69%). Tuberculosis (TB) treatment was available in almost three quarters (72.4%) of the facilities. Isoniazid (INH) prophylaxis for TB was present in only 2 of the 29 facilities. The majority of facilities offered adherence counselling (90%) and referral services (97%).

3.5. Capacity of the Health Facilities to Provide Laboratory Services

The majority of health facilities (93.1%) were not providing CD4 count test services (Table 4), with only 2 facilities offering CD4 count test services. Eight facilities (28%) offered complete blood count tests. Only 2 facilities provided liver and renal function tests. None of the health facilities in Bomet sub-County offered viral load or Polymerase Chain Reaction (PCR) tests and instead, specimens were sent to the Walter Reed Laboratory located in the adjacent County of Kericho.

Table 4. Provision of treatment and prophylaxis including ART, Nutritional support and laboratory component.

	Overall provision of services N=29 (%)	Level 2n (%)	Level 3n (%)	Level 4n (%)	Level 5n (%)
Antiretroviral drugs	28 (96.6)	21 (72.4)	5 (17.2)	1 (3.4)	1 (3.4)
Cotrimoxazole prophylaxis	20 (69.0)	13 (45.0)	5 (17.2)	1 (4.4)	1 (3.4)
Isoniazid (INH)	2 (6.9)	2 (6.9)	0 (0.0)	0 (0.0)	0 (0.0)
TB treatment	21 (72.4)	14 (48.3)	5 (17.2)	1 (3.4)	1 (3.4)
Nutritional support	18 (62)	11 (38.0)	5 (17.2)	1 (3.4)	1 (3.4)
Lab component CD4 count	2 (6.9)	0 (0.0)	0 (0.0)	1(3.4)	1(3.4)
Complete blood count	8 (27.6)	0 (0.0)	0 (0.0)	3 (10.4)	5 (17.2)
Viral Load	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
PCR	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Liver Function test	2 (6.9)	0 (0.0)	0 (0.0)	1 (3.4)	1 (3.4)
Renal Function test	2 (6.9)	0 (0.0)	0 (0.0)	1 (3.4)	1 (3.4)

3.6. Psychosocial Support and Other Services for PLWHA

None of the health facilities in Bomet sub-county offered para-legal support to PLWHA. Only 2 health facilities offered home-based care and 2 facilities provided orphan care and support. About a third (31%) of the facilities offered spiritual care while less than a third (21%) had support groups for PLWHA. Over half of the facilities (62%) offered nutritional support. Two support groups existed in the sub-County through external donor funds as stated by a Clinical Officer in charge at one of the Dispensaries:

> "There is one support group for adults while the second one is for adolescents. The members of the adult support group meet every month at the facility. The adolescents meet every holiday when schools are closed. A social worker from the County Hospital conducts group counselling during meetings."

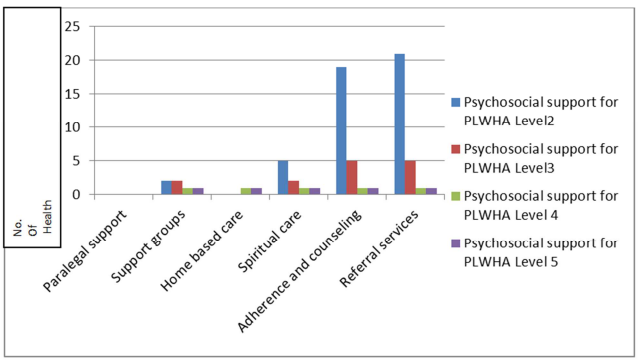

Figure 2. Psychosocial Support.

Table 5. Other preventive and treatment services offered to PLWHA.

Service	Level of Health Facility (N=29)				
	Level 2	Level 3	Level 4	Level 5	%
Family planning	20 (69.0)	5 (17.2)	1 (3.4)	1 (3.4)	93.0
Cervical cancer screening	0 (0.0)	0 (0.0)	1 (3.4)	1 (3.4)	6.8
STI- diagnosis and treatment	20 (69.0)	5 (17.2)	1 (3.4)	1 (3.4)	93
Youth friendly services	1 (3.4)	0 (0.0)	1 (3.4)	1 (3.4)	10.2

Family planning services were available for women of reproductive age living with HIV and AIDS in 93% of the health facilities (Table 5). Sexually transmitted infection diagnosis and treatment services were also provided by these facilities. These services however were not available in two facilities which were below level 2. Youth friendly services were offered by only 10.2% of the health facilities in the whole sub-County.

Cervical cancer screening services were only available in one level 4 and one level 5 health facility. These services were not available in levels two and three health facilities.

3.7. Impediments to HIV Care

Most respondents mentioned staffing (96.6%), supplies (96.6%) and infrastructure (79.3%) as major impediments to HIV care in Bomet sub-County. Shortage of funds meant for HIV care in the sub-County was mentioned by the five key informants as a major impediment to HIV care as illustrated in the quotes below:

> "The donor is reducing financial support gradually. No adequate funds for logistics, for example, there are not funds for supervisory visits to various health facilities in the sub-County." (Sub-County Public Health Nurse).

> "The donor has cut funding by over 50% but the enrolled clients in the program believe that the donor supporting their HIV care provides everything and it is very hard to convince them that funding for HIV care has reduced substantially". (Clinical officer from Kapkoros Health).

> "Funding has reduced for HIV care by more than 50% that is from 30 million Kenya shillings annually to 12 million. The program will no longer pay for treatment of opportunistic infections and investigations. The only investigations that the program will cover are CD4 count and viral load tests. There is no provision in the hospital budget for HIV care. With diminishing financial support from the donor, many lives of PLWHA are at stake". (Nurse in-Charge of Comprehensive Care Centre at a level 5 faith-based hospital).

Shortage of supplies and drugs was reported by all the five key informants interviewed as a major hindrance to HIV and AIDS care services provision as illustrated by the following quotes:

> "Male condoms have been out of stock for the last six months and some of the clients have already conceived" (Nurse in-charge of Comprehensive Care Centre at a level 5 faith-based hospital).

> "Shortage of medical supplies, for example, test kits is experienced in the sub-County. Some facilities can go even up to two months without supplies. (Sub-County Public Health Nurse).

Shortage of staff was reported by all the five key informants as a major problem as illustrated below:

> "Staff cope with the workload by multi-tasking, for example, counselling the clients, prescribing treatment and dispensing".

> "Our main challenge is shortage of staff which translates into work overload for the available staff. In most cases we treat the queue and not the patients". (Clinical Officer from a dispensary).

Stigma and discrimination was mentioned by all the key informants as a hindrance to HIV care in Bomet sub-County:

> "Some people living with HIV prefer to go to health facilities far away from their home areas because of stigma. Therefore those who are HIV positive are not willing to disclose their status" (sub-County Public Health Nurse).

All the five key informants reported defaulting by PLWHA on ART as a big challenge facing the HIV program:

> "On average, we have 2 to 3 defaulters per month and it is very difficult to trace them because they give wrong cell phone numbers". (Nurse in-charge of Comprehensive Care Centre at a level 5 faith-based hospital)).

> "Adherence is a big issue, some clients affiliated to some churches quit taking their drugs after they are prayed for and are assured of healing by their pastors. One girl passed on recently when her grandmother stopped giving her antiretroviral drugs after she was prayed for". (Nurse in-Charge from a dispensary).

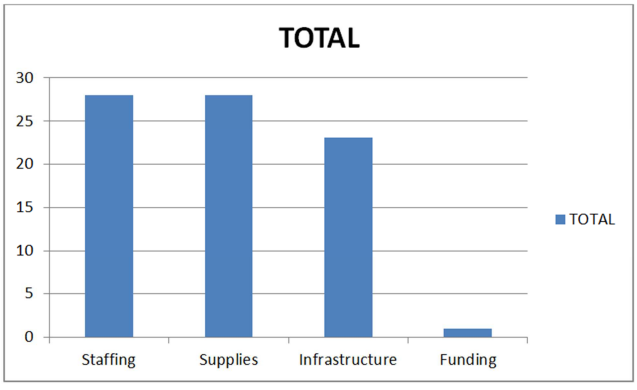

Figure 3. Impediments to HIV Care.

4. Discussion

This study assessed the capacities of levels two, three, four and five health facilities to provide standard comprehensive HIV and AIDS care services in Bomet sub-County. The study covered all the health facilities in the sub-County. As HIV care and treatment services are decentralized from County and sub-County hospitals to health centres and dispensaries, there is need to assess the capacity of these health facilities to provide comprehensive HIV and AIDS care services.

4.1. HIV and AIDS Services in Health Facilities

In Kenya, HIV and AIDS care services that should be offered at levels two and three health facilities include HIV testing and counselling, screening for TB, WHO clinical staging, treatment of opportunistic infections, cotrimoxazole prophylaxis, assessment of eligibility for antiretroviral therapy, adherence preparation and support, initiation of antiretroviral therapy, dispensing medication, clinical monitoring, preventive interventions and arrangement for follow up (Kenya Ministry of Health, 2007). In addition to the services offered at levels 2 and 3, levels 4 and 5 health facilities should offer treatment of severe illness, in-patient care, recommend and initiate second line treatment, evaluate for treatment failure, manage severe side effects and drug toxicity, and supervise and mentor clinical teams at levels two and three health facilities.

Most of the twenty nine health facilities in Bomet sub-County were level 2 facilities which may have limited the type of HIV and AIDS services provided to PLWHA.

4.2. Human Resource for HIV and AIDS Services

Effective service delivery in a health care system is dependent on the skills, knowledge and motivation of its human resource (WHO, 2000). Sub-Sahara Africa has 24% of the global burden of disease yet it has only 3% of the world's health workers. This study found that the staffing situation in levels two, three, four and five health facilities was minimal which may compromise services and is below the Kenya Ministry of Health guidelines (Kenya Ministry of Health, 2011). The guidelines require two nurses in a level two facility, fourteen in level three facility, sixty eight in level four and one hundred and seventy eight in level five health facility. Two clinical officers are required at a level three health facility, seven officers at level four and ten officers at a level five health facility, with six of them having some specialty. The majority of the health facilities assessed were operating with staffing levels far below the national recommended standard.

These findings are consistent with other studies in sub Saharan Africa that cite severe workforce capacity challenges to effectively treat PLWHA and strengthen referral networks (IntraHealth International, 2010). The findings are also similar to a study of thirteen health facilities in Kenya that revealed below average staffing levels in rural health facilities (Njagi, et al., 2003).

4.3. Capacity of the Health Facilities to Provide Standard HIV Testing and Counselling Services

HIV counselling and testing enables access to HIV care and treatment services and contributes to reduced HIV transmission (Wasti, Simkhada, & Teijlingen, 2009). This study revealed that the majority of health facilities in Bomet sub-County were offering HIV testing and counselling services. This situation was similar to other parts of Kenya (Thika sub-County and Nyeri County) where the majority of health facilities had minimum basic equipment, supplies, infrastructure and even staffing, however these facilities provided HIV testing and counselling services (Liambila, Askew, Mwangi, Ayis, Kibaru, & Mullick, 2009). Indications are that HIV testing and counselling services comprise a minimum package that is feasible even in a resource challenged health system.

4.4. Capacity of the Health Facilities to Provide Standard Prophylaxis and Treatment

Based on the recommended standard prophylaxis and treatment by WHO, cotrimoxazole prophylaxis is recommended for all symptomatic individuals in WHO clinical stages of 2, 3 or 4, including pregnant women. Research conducted in Malawi revealed that patients receiving ART at clinics offering cotrimoxazole prophylaxis had 41% lower mortality during the first six months of ART as compared with patients on ART at comparable clinics not offering cotrimoxazole. The study also showed that cotrimoxazole was readily available and inexpensive in Malawi (Lowrance & et.al, 2007). The researchers however noted that provision of cotrimoxazole in sub-Sahara Africa continues to be a challenge owing to delay in dissemination of national guidelines and problems with drug procurement and supply.

This study found that with the exception of only one facility, antiretroviral drugs were available in the health facilities, which was an improvement from previous reports where only one in every 6 health facilities were administering antiretroviral therapy (National AIDS Control Council, 2012). Most patients were on first-line antiretroviral regimens, although it was expected that demand for second-line regimens would increase over time. The study finding is in contrast to other countries where coverage is lower, for example, in Goromonzi District in Zimbabwe, where antiretroviral drugs were available in the district hospital only (Machingura, Rusike, Mutasa, Sharara, & Kaim, 2011).

Previous research conducted in facilities offering paediatric HIV and AIDS services in Kenya showed that although the government provided free ART, clients bore additional costs

including transport, consultation fees and medication to treat opportunistic infections. The mean cost of a single clinic visit exceeded US$4.00 (Kiragu, Schenk, Murugi, & Sarna, 2008). Therefore, cost may become a major access barrier to HIV treatment in the long-term. The HIV and AIDS programme in Kenya has been largely financed by development partners who contribute 75% of resources (Kenya Health System assessment, 2010). Additional domestic resources need to be mobilized in order to sustain health service delivery for HIV and AIDS care and to effectively address long term HIV treatment in a resource constrained setting.

4.5. Capacity of the Health Facilities to Provide Laboratory Services

Laboratory testing for HIV and related opportunistic infections is essential for effective care and treatment of patients (Jesicca, Stephania, Amilcah, Allison, Felipe, & Charon, 2009; Nkengason, Birx, & Sankale, 2009). Laboratory services enable people to know their HIV status, to start and continue ART treatment and to live positive lives. However, most laboratories in sub-Sahara Africa and in other regions face challenges in having the required equipment and staffing. In Kenya, most public health facilities can support basic tests in ART programmes but they lack capacity to perform CD4 count test and viral load determination. Quality is compromised due to lack of maintenance, service agreements and standard operating procedures for standardization of tests (Njagi, et al., 2003). Barriers to identification of HIV infected children have been due to unavailable antibody testing, and inadequate quality control systems in laboratories (Cherutich, Imwani, Nduati, & Mbori-Ngacha, 2008). Space constraints and staff shortage has hampered quality HIV service delivery in the past (Kiragu, Schenk, Murugi, & Sarna, 2008).

Cases occur where clinical diagnoses are undertaken due to limited diagnostic testing. However, misclassifications of virologic failure by clinical and/or immunological monitoring can be as high as 50% and can lead to premature changes to second-line which may have more adverse effects and limit future antiretroviral options for clients (Castellin, Pietra, Diallo, Schumacher, & Simpore, 2010).

This study found that only two health facilities in the sub-County of Bomet offered liver, renal function and CD4 count tests, reflecting other findings in the country that revealed a lack of capacity to provide biochemistry and haematology analysis in most public health facilities (Njagi, et al., 2003). The study findings are similar to those from Nepal where few health facilities had the essential equipment and trained technicians to carry out tests (Wasti, Simkhada, & Teijlingen, 2009).

4.6. Psychosocial Support and Other Services for PLWHA

Challenges, faced by PLWHA were stigma and discrimination, rejection, inadequate food, financial constraints, lack of proper housing and loneliness (Odindo & Mwanthi, 2008). This study found that services offered by most health facilities in Bomet sub-County were adherence counselling and referral services. Other services such as home-based care, orphan care and group support were offered but at a level far below fifty percent. None of the health facilities offered paralegal services to PLWHA in Bomet sub-County. These findings are similar to those from Ethiopia which revealed that care and support services provided to PLWHA were low in terms of coverage and quantity (Zerfu, Yaya, Dagne, Deribe, & Biadgirlign, 2012).

The ultimate objective of psychosocial care is to help patients to attain quality of life (National AIDS Control Council, 2012). People diagnosed with HIV experience emotional and psychological reactions at different stages that include shock, disbelief, denial, fear, anger, hopelessness, shame, anxiety, depression and guilt. Psychosocial support interventions include counselling, information on HIV infection and opportunistic infections, nutrition and caregiver's skills and referrals and linkages to appropriate providers, human right and legal support (National AIDS Control Council, 2012). Various countries in sub-Sahara Africa have formulated packages of psychosocial support that engage community based activities, including community health workers linked to health facilities. However, support services provided to PLWHA tends to have low coverage (Zerfu, Yaya, Dagne, Deribe, & Biadgirlign, 2012) due to constraints in staffing (Lubega, et al., 2009) and resources (UNAIDS, 2009).

This study found that other services such as family planning services, diagnosis and treatment of sexually transmitted infections, cervical cancer screening and youth friendly services were not available at lower level facilities, thus limiting the numbers of those who can easily access such services.

5. Conclusions

This study established that despite challenges facing HIV and AIDS care in Bomet sub-County, particularly inadequate health personnel trained on HIV and AIDS care, most of the health facilities across the four service levels of dispensaries, health centres, sub-County and County hospitals had the capacity to provide some HIV and AIDS care that included HIV testing and counselling services. Due to challenges of few trained laboratory technicians, occasional stock-out of supplies and lack of essential equipment, laboratory tests were only available in levels four and five health facilities. Psychosocial support was far below average for home based and orphan care, and through support groups. Provision of HIV and AIDS services largely depended on external donor funding.

6. Recommendations

This study identified limiting factors for effective HIV and AIDS services in a decentralized and resource constrained health system. The decentralized Bomet County needs to channel targeted support to lower level health facilities to ensure access of HIV and AIDS services. Increasing levels of staff trained on HIV care, strengthening laboratory services and providing psychosocial support are essential requirements for the County. There is need to reduce reliance on external funding through developing County level sustainable funding sources.

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