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# CAPACITY OF LOWER LEVEL HEALTH CENTRES TO PROVIDE COMPREHENSIVE HIV/AIDS CARE: CASE STUDY OF HEALTH CENTRE IVs IN MASAKA DISTRICT, UGANDA

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## **Abstract**

*Comprehensive HIV/AIDS care in Uganda is delivered through hospitals and health Centre IVs and other designated centres of excellence. The government aims to scale-up comprehensive HIV/AIDS care in the country. However, lack of resources to provide services has delayed the scale-up of the programme. This study examined the availability of resources for delivering comprehensive HIV/AIDS care in lower health facilities in Masaka District, Uganda.*

*The study was cross-sectional and descriptive. Information was collected from the entire 8-health centre IVs providing comprehensive HIV/AIDS care in the district. Information on HIV/AIDS related care provided, human resource availability, management of ARVs and medicine for opportunistic infections, infrastructure and management support functions was obtained from service providers.*

*It was found that all the HC eight IVs already provided most of the components of comprehensive HIV/AIDS care and had the potential to provide the remaining components. Most of the facilities had the protocols for client protection and case management guidelines. Only one facility lacked all the protocols. Six of the eight facilities had optimal numbers of health workers required to provide HIV/AIDS care and support. One facility was grossly understaffed, with only 3 health workers covering all the components of care. Most health workers were not trained in home-based management of PLWHA and felt that they were overworked and had no additional incentives for the extra workload. They felt that the HIV/AIDS programme was under-resourced. Stock-outs were observed for medicines for the management of opportunistic infections but not for ARVs. Medicines for management of opportunistic infections were received through the routine drug management system while ARVs were provided by an NGO. The study recommended that the health workers should be given specific training in fields relevant for HIV/AIDS care and continuous updates on the latest information, the quality of care should be monitored and that HIV/AIDS care should be fully integrated to strengthen and increase sustainability of the health system.*

## **Introduction**

The United Nations Agency for AIDS (UNAIDS) estimated that 40.3 million people globally were living with HIV/AIDS at the end of 2005, with 25.8 million from Sub-Saharan Africa (SSA) (UNAIDS 2006). The report on the “3 by 5” initiative revealed that around 1.3 million (40%) people in low- and middle-income countries of the intended target of 3 million were receiving ARVs at end of 2005 (WHO 2006a).

In Uganda, since the early 1980s when the HIV epidemic started, it is estimated that about 2 million people have been infected by HIV, of whom about 1 million have died and another 1 million are

living with the infection (MOH UGANDA 2006b). The national sero-prevalence based on the Sero-behavioural survey 2004/2005 stands at 6.4% among adults (MOH UGANDA, 2006a). In 2004, AIDS was responsible for 12% of total annual deaths in Uganda and the leading cause of death among people aged 15-49 years (MOH UGANDA 2005).

The provision of comprehensive HIV care in Uganda was built on existing public-private partnership in health. Comprehensive HIV/AIDS care in both public and Private-Not-For-Profit (PNFP) facilities was made available in progressive phases as follows: phase 1 – National and Regional Hospitals; phase 2 – District

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and other hospitals and phase 3 – Health Centre IVs. Comprehensive HIV/AIDS service delivery was integrated into the existing health care services at each level to ensure a comprehensive continuum of care (MOH UGANDA 2005). By the end of 2006, the programme was already in its third phase with 212 health facilities accredited as comprehensive care centres, of which 66 were government Health Centre IVs and 7 Private Not For Profit Health Centres / medical centres (MOH UGANDA 2006a).

#### ***Capacity to provide comprehensive HIV/AIDS care***

Comprehensive HIV/AIDS care includes services used for control and treatment of HIV/AIDS ranging from prevention and care services, to other social support services. The services include: Highly Active Antiretroviral Therapy (HAART), HIV counseling and testing (HCT), information, education and communication (IEC) for the prevention of further HIV transmission. Other services are management of sexually transmitted infections (STIs) and opportunistic infections (OIs), Prevention of mother-to-child transmission of HIV (PMTCT), home-based care (HBC) (including palliative care), and chemotherapy for tuberculosis (WHO 2004a; Chandler, Rudolph and Musau S 2005; UAC 2004).

The capacity to provide comprehensive HIV/AIDS care requires health facilities to have access to specific services and facilities: HIV counseling and testing including follow-up counseling, capacity to manage HIV-related illnesses, laboratory services, continuous supply of ARV medicine and reliable regulatory mechanisms. In addition, there is a need for adequately trained doctors, clinical officers, nurses, laboratory technicians, pharmacists, counsellors and clerks to provide the services required (WHO 2004b; MoH Uganda 2005).

To expand access to comprehensive HIV/AIDS care, many governments in SSA together with global initiatives like Global Fund to Fight AIDS, Tuberculosis and malaria; the World Bank; Bilateral overseas development aid; and private foundations have injected millions of dollars into ARV therapy to reduce prices of medicine and increase access to care (McCoy D. et al. 2005).

In SSA, provision of comprehensive HIV/AIDS care has generated a lot of debate on whether it is achievable (Kebba A 2003). Factors cited included the appropriate time to initiate ART; existing infrastructure and its capacity to ensure sustainable distribution and proper use of ARV medicine; monitoring ART amidst limited resources; and patient adherence to treatment.

Despite the many challenges, both expected and non-expected, undertakings in other resource-limited settings in South Africa, Haiti and Brazil have proved that they can match or even surpass performance of developed countries in ART programme (WHO 2003a; WHO 2003b; Teixeira et al 2003).

In Uganda, the Ministry of Health accredits health facilities providing comprehensive HIV/AIDS care to ensure that a health facility has the minimum facilities and personnel that offer and sustain quality AIDS care using ART (MOH UGANDA 2003b).

#### ***Laboratory monitoring***

In developed countries, as part of the standard management for patients with HIV, CD4 cell count, viral load and resistance testing guide decisions of when to start or switch treatment. In developing countries, access to these tests and laboratory capacity is severely limited (Smart T. 2006).

In the case of Uganda, before starting HIV/AIDS care at HC IVs, laboratory services are strengthened to ensure adequate support to the ART team. Laboratories carry out minimally required tests: HIV testing, haemoglobin or haematocrit level and the total & differential white blood cell count. The facilities should have a referral system and linkage with other laboratories where specimens are sent for more advanced tests (MOH UGANDA 2005).

During 2002, Oxfam conducted research in Uganda and found that many centres providing ART care at that time did not have adequate laboratory capacity or infrastructure to adequately monitor ARV therapies (Oxfam 2002). In Kenya, primary health centres were provided with basic haematology and chemistry analyzers. While in Zambia, primary health centers were linked to referral laboratories with CD4 cell monitoring equipment, these arrangements proved to be effective (Smart T. 2006).

#### ***Human resource requirements***

Any health facility providing comprehensive HIV/AIDS care programmes should constantly review the staff available. Staff can be recruited if it is possible or existing staff redeployed to ensure a viable comprehensive HIV/AIDS care programme without adversely affecting other existing services. The minimum staff required for Health Centre IVs include one medical officer, one clinical officer, one nurse or counselor and one laboratory staff (MoH Uganda, 2005). Human resource capacity requires to be regularly updated with technically sound information to enable them support people infected and affected by

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HIV/AIDS. Ministry of Health ensures that appropriate training materials are developed and training courses provided for all cadres of health professionals (WHO 2003d; MoH Uganda 2005). Many initial HIV/AIDS projects providing comprehensive HIV/AIDS care proved that for HIV/AIDS care programmes to be successful, they required a complex human resource mix of medical staff, mid-level health workers (nurses/clinical assistants), laboratory personnel, lay counselors, community health workers or treatment supporters and program managers (Schneider et al 2004). However a study done by Hirschhorn et al (2006) in Africa and Asia revealed that one of the greatest challenges to scaling up comprehensive HIV/AIDS care would be limited supply of adequately trained human resource for health, including doctors, nurses, pharmacists and other skilled providers. They further observed that regions in greatest need of comprehensive treatment programmes overlapped with those that already faced significant human resource for health deficits. Causes of deficits described related to remuneration, working conditions, inadequate in-country capacity to train health workers, regulations restricting activities to specific cadres and stigma associated with HIV.

In 2003, WHO did a study in 6 African countries, Uganda inclusive, and 2 Asian countries. Results were similar, showing that the severe shortage of health workers was due to lack of financial resources, lack of health workers to recruit, geographic and professional distribution, low productivity especially in the public sector (WHO 2004a). In Malawi, professional maldistribution of health workers was overcome by using nurses and clinical officers to manage antiretroviral programmes instead of medical officers who were in severe shortage (Kober et al 2004).

### **Medicines**

To ensure rational supply and consumption of medicines, it is important to put in place a logistic management system (Teixeira et al 2003). In Uganda, health facilities in liaison with the DHO identify and establish their source of ART medicine and ensure constant supply (MOH UGANDA, 2005). The health facility puts in place a system for quantifying ART medicine and other related medicines. The medicines are stored properly including those requiring refrigeration for proper effectiveness. The facilities use stock and ledger cards to ensure good medicines accountability (MOH UGANDA, 2005). In Uganda, failure to secure a stable supply of ARV medicine was found to adversely affect adherence to ARV treatment (WHO 2003d).

### **Infrastructure**

Apart from other health facility activities, facilities are expected to provide physical infrastructure for HIV/AIDS care. The facilities are expected to identify or create space for patient evaluation or follow up, counseling activities that provide privacy and ensure confidentiality, and space for children equipped with basic toys (MOH UGANDA 2005).

### **Management support activities**

#### *Support supervision and management committees*

Support supervision is an essential activity for the delivery of quality health services. In addition, health facilities providing comprehensive HIV/AIDS care have management committees charged with the roles of the site coordination committee. Members of the committee should include a medical officer with experience or trained in HIV/AIDS care, a nursing officer, a counselor, a social worker, a laboratory and pharmacy personnel (MOH UGANDA 2005). The availability of Management committees that include community representatives has been promoted by many as a system that supports good management (WHO 2000a). Community representation has been advocated as a means to increase the accountability and responsiveness of the facility to the population it serves. It is also a means to increase community support for public health and preventive health activities.

#### *Health management information system (HMIS)*

A management information system provides data that helps programme coordinators to quantify medicine requirements and also provides information of clinical care using the comprehensive HIV/AIDS care programme. Collection of data related to HIV/AIDS care is integrated into HMIS to avoid replication. However, some additional data related to ART, not the routinely collected HMIS, is collected in a parallel data collection system. This includes information such as; socio-economic indicators for individual client, history of ARV use, adherence data, ARV combinations prescribed, WHO HIV staging upon accessing ARV, opportunistic infections in clients on ARV, CD4 cell count and viral load, data on ARV drug toxicity, virology failure or immunological failure (MOH UGANDA, 2005).

In a case study documented by WHO in 2006, Botswana's experience proved that it is possible to triangulate data from multiple sources to create stronger health information system (WHO 2006b).

### **Community participation**

According to the Revised National Strategic Framework for HIV/AIDS in Uganda for the period of 2003/04 – 2005/06 (UAC 2004), communities, including PLWHAs that provide community-based HIV/AIDS

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care have to be trained in HIV/AIDS care. Facilities should form partnership with the community to expand home-based care, improve referral between Home-based care providers and facility based providers, mobilize and support community involvement in provision of community-based HIV care services.

Teixeira et al (2003) emphasized the role of a solid and constructive partnership with civil society. NGOs and the community play a major role in advocating for the rights of people living with HIV/AIDS, speeding up government processes, providing additional efforts to government strengthening implementation capacity and outreaches.

Poor education and information about comprehensive HIV/AIDS care leads to low demand for services by the clients and low participation by the community (Cesar et al 2004).

### **Study objectives**

The objectives of the study were to explore the availability of HIV/AIDS-related care services; assess the human resource capacity for providing comprehensive HIV/AIDS care; assess the management of medicines for HIV/AIDS and opportunistic infections; assess the appropriateness of infrastructure under which care is provided and establish the availability of HIV/AIDS supportive management functions. The study was conducted in July 2006.

### **Methodology**

The study was conducted in Masaka District in southern Uganda, 120 kilometers southwest of Kampala. The district had a population of 787,665 of which 11% lived in urban areas and 89% lived in rural areas. Comprehensive HIV/AIDS care delivery is through a network of private and public health facilities. The district has high prevalence of HIV and 2006 data indicated a prevalence of 10% (above the national average of 6.5%, MoH Uganda 2004), while some specific communities had higher levels, like 20% among fishing communities and 15% in trading centres (Masaka District Health Office, 2006). By the end of 2005/2006, over 20,000 people were estimated to be in need of antiretroviral therapy in the district, though only 2,000 had accessed ART. TB prevalence was high and 2,232 new cases were reported, 150 pregnant women HIV positive were given ARV prophylaxis, 5,341 clients tested for HIV, 1,267 clients started on ART (Masaka District Health Office, 2006).

The district has 11 health facilities providing comprehensive HIV/AIDS care: 3 hospitals and 8 health centre IVs. One HC IV is accredited by Ministry

of Health while the 7 are satellite centres for UGANDA CARES Initiative. The UGANDA CARES Initiative is a partnership of the Ministry of Health Uganda, Uganda Business Coalition on HIV/AIDS (UBC) and AIDS Healthcare Foundation (AHF)/Global Immunity (Uganda Cares 2003).

The main HIV/AIDS services offered by the district in collaboration with other partners include: HIV Counselling and Testing (HCT), IEC/public education, safe blood transfusion, management of sexually transmitted illnesses, Prevention of Mother-To-Child Transmission (PMTCT), management of opportunistic infections and provision of antiretroviral medicine. In addition, there were over 400 community based organizations (CBOs) implementing HIV/AIDS programmes aimed at empowering communities to mitigate the impact of HIV/AIDS.

HIV/AIDS care and support programmes are mainly funded by Primary Health Care funds, which are part of the Poverty Alleviation Funds from the central government. Other funding agencies include, Uganda AIDS Control Project, Multisectoral AIDS Program (MAP), Global Fund to fight HIV/AIDS, TB and Malaria, Elizabeth Glazer Peadiatric Aids Foundation, and World Vision (MDLGC 2006).

### **Study design**

The study was cross-sectional and descriptive. Information was collected from the eight HC IVs providing comprehensive HIV/AIDS care, 35 health workers selected purposively from the cadres involved in comprehensive HIV/AIDS care: medical Officers, Clinical Officers, Nurses/midwives/counselors, laboratory staff and record assistants. More information was gathered from health facility records and through observation of the infrastructure, and medicine. All respondents who agreed were fully informed about the study and they consented. Uganda Martyrs University research committee reviewed and approved the study protocol.

Trained research assistants used pre-tested, semi-structured self-administered questionnaires to obtain information on health workers availability, training and opinions about HIV/AIDS care. A checklist and interviewer-administered questionnaire were used to obtain information on available HIV/AIDS-related services, management of medicine, management support functions, and infrastructure.

The components of HIV/AIDS care assessed in this study included HCT, PMTCT, HAART, Psycho-social services, management of OIs, palliative care, STI

management, TB chemotherapy, home based care, and referral of clients for HIV/AIDS related services. The components assessed were based on those stipulated in the National ART implementation guidelines (MoH Uganda 2003). The facilities were evaluated for having a confidentiality protocol, informed consent protocol and case management guidelines for HIV, STI, and OIs. Because of their relevance in case management, each facility was expected to have all of them. Facilities were evaluated for availability of diagnostic services including haemoglobin / haematocrit, total lymphocyte count and differential count, HIV antibody test. Each facility was required to provide all the 3 tests.

The existing human resource capacity was measured through the number of health workers deployed in HIV/AIDS care and training of health workers deployed in HIV/AIDS care programme. The number deployed and was compared with the National ART implementation guideline. The service providers' views about HIV/AIDS care were explored. Service providers were asked about some factors considered important for providing HIV/AIDS. These include service providers' basic and in-service training and experience in HIV/AIDS care, support supervision, availability of supplies, general working conditions and challenges they face when providing HIV/AIDS care.

Management of medicines for HIV care, and OIs focusing on ARVs and cotrimoxazole in the previous 12 months was assessed. Cotrimoxazole was used as an indicator medicine for medicines used in management of opportunistic infections. Both ARVs and cotrimoxazole should have zero stock outs.

Infrastructure had two components measured: current infrastructure and infection control. Current infrastructure was based on client amenities, client-provider safety precautions, space for laboratory services, space for medicines storage and privacy of counseling/ consultation space.

Infection control procedure was assessed by checking for presence of written guidelines for avoiding accidental transmission of HIV, functional sterilization equipment and stock check for surgical gloves.

Facilities were assessed whether they carry out vital HIV/AIDS supportive management functions. The functions were managerial meetings in the past six months, community participation in managerial meetings, maintenance of proper client records, evidence of submission of completed HMIS forms, solicit client opinions, monitoring quality of care,

availability of referral forms, coordination with other providers, and support supervision.

All the above parameters were examined to judge whether a facility fulfils the requirements for comprehensive HIV/AIDS care provision. The indicators used are applicable to the health care facilities because of their relatively low cost and simplicity.

#### *Calculation of final facility score*

At the end of the assessment, the final facility score was calculated using the information generated during the assessment. A "yes" generated during the assessment was equivalent to one mark (1) and a "no" to zero (0).

Below is a table showing the basic standards (variables) that were assessed and the total marks each carried.

**Table 1: Health facility scoring standards**

No	Standards against which facilities was assessed	Score
1.	HIV services available*	10
2.	Staffing**	1
3.	Staff training**	1
4.	Service delivery protocols***	1
5.	Diagnostic services***	1
6.	Formal relationship with PLWHA**	1
7.	Stock cards for HIV & OI medicine are up to date and no stock outs***	1
8.	HIV supportive management functions*	9
9.	Client amenities***	1
10.	Client-provider safety precautions*	3
11.	Space for laboratory and medicines***	1
12.	Infection control***	1
<b>Total facility score</b>		<b>31</b>

Adapted from Delivery of Improved Services for Health (DISH), 2003 and Ministry of Health [Kenya], National Council for Population and Development [Kenya], and ORC Macro 2000

Note:

\* A compound standard comprising of several basic standards each with a score of "1". They all contribute to the total mark.

\*\* Single basic standard with a score of "1"

\*\*\* A composite standard comprising of several basic standards aggregated to give a score of "1". In this case if any of the contributing basic standards score "0", then the composite standard scores "0" too.

Data was entered and analyzed using Microsoft Excel 2003. Each health centre was assigned a code which was used through data entry, data analysis and presentation of findings.

### Results

Altogether 36 health workers were approached and 35 of them willingly participated in the research although one questionnaire was returned blank. Females were 29/35 (84%) while males were 6/35 (16%).

### Laboratory services

All facilities provided HIV antibody test, however only one facility provided total lymphocyte count & differential count as shown in figure 2.

### Human resource capacity

#### *Health workers providing comprehensive HIV/AIDS care*

The Ministry of Health recommends each Health Centre IV to have one/two medical officers, one/two clinical officers, one/three nurses or counselors and one laboratory staff.

**Table 2: Facilities providing HIV/AIDS-related care n=8**

Components of comprehensive HIV/AIDS care	Number of facilities providing service	Facilities which refer	Facilities which do nothing about the service
Palliative care	3	4	1
Home based care	6	1	1
Psycho-social services	7	0	1
HIV Counselling and Testing (HCT)	8	0	0
PMTCT	8	0	0
HAART	8	0	0
Management of OIs	8	0	0
STI management	8	0	0
TB chemotherapy	8	0	0
Referral of clients	8	0	0

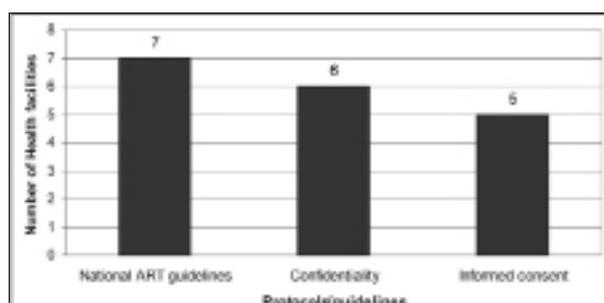
### HIV/AIDS-related care

Table 1 shows the different components of comprehensive HIV/AIDS care provided by the facilities. All facilities provided most of the HIV/AIDS services. The least provided service was palliative care.

### Protocols for client protection and case management guidelines

Most of the facilities had the confidentiality protocol, consent protocol and national ART care and treatment guidelines for adults and children. One facility lacked all the 3 (protocols and ART guidelines).

**Figure 1: Number of facilities with protocol and guidelines n=8**



**Figure 2: Percentage of facilities with diagnostic services n=8**

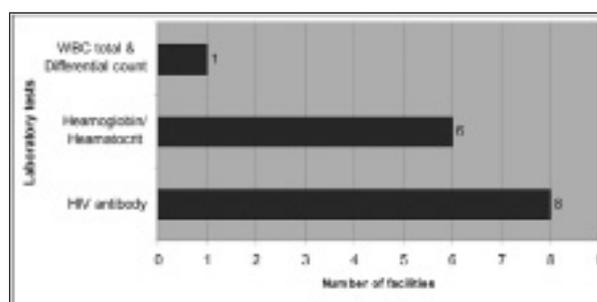


Table 2, presents health workers providing comprehensive HIV/AIDS care in health Centre IVs compared to staffing required for ART delivery sites.

The table shows that most of the HC IVs had the optimal number of staff required; however considering cadre mix, some cadres were more available than others. Half of the facilities had one medical officer instead of the optimal two, while four facilities had none. Most of the facilities (5/8) had more than optimal counselors/nurses; these included all midwives and nurses.

**Table 2: Health workers providing comprehensive HIV/AIDS care**

Cadre	Recommended optimal Health workers	Facility						
		1	2	3	4	5	6	7
Medical Officers	2	1	1	0	1	0	1	0
Clinical Officers	2	1	2	1	2	0	1	1
Counsellors/nurses	3	7	4	3	5	2	3	7
Laboratory staff	2	1	1	1	1	1	1	0
Record Assistant	0	1	0	1	1	0	0	1
Nursing Assistant	0	1	0	1	2	0	1	0
Others	0	2	1	2	1	0	0	0
<b>Total</b>	<b>9</b>	<b>14</b>	<b>9</b>	<b>9</b>	<b>13</b>	<b>3</b>	<b>7</b>	<b>9</b>

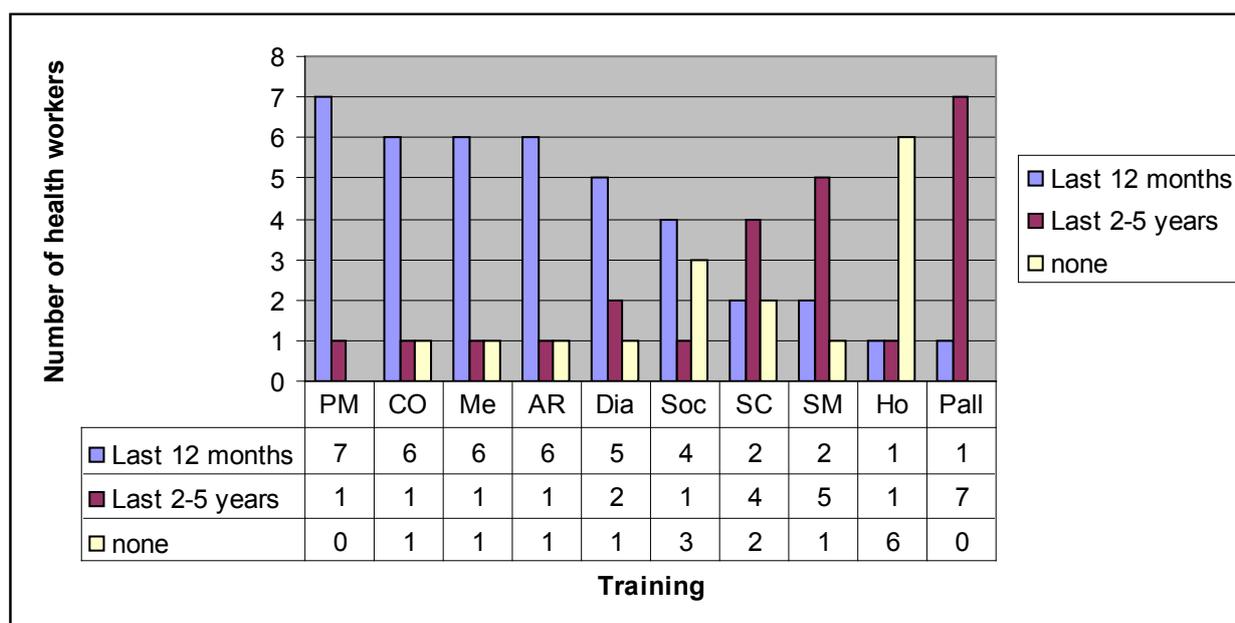
Key: Others included; nursing aides, ART aide, Theatre nursing aide, health assistant, anaesthetic assistant.

**Health workers trained in HIV/AIDS care**

Most of the facilities had someone trained in the different components of HIV/AIDS care except home-Based Care which had one trained health worker in the previous one year.

facilities. The facilities were understaffed causing over working, while in other instances the supplies and medicines were inadequate. Some facilities had inadequate space for laboratory services, consultation room/ counseling space.

**Figure 3: Number of facilities with Health workers trained in HIV/AIDS care in the last 1-5 years n=8**



Key: PM= PMTCT; CO= Counselling for prevention of HIV/AIDS; Me= Medical management of HIV/AIDS; AR= Antiretroviral Therapy; Dia= Diagnosis and management of opportunistic infections including TB; Soc= Counselling/ social support for HIV/AIDS clients; SC= Counselling for prevention of STIs; SM= Management of STIs; Ho= Home-Based Care; Pall= Palliative Care.

**Health workers' opinions and attitude towards comprehensive HIV/AIDS care**

**General working conditions**

Some 17/35 (49%) of service providers felt that the facility working conditions were good/fair. Others felt that working conditions were inadequate, several comments came up about what was lacking in the

**Challenges service providers face when providing HIV/AIDS care.**

Challenges faced by Service providers while providing HIV/AIDS care: comprehensive HIV/AIDS care created additional work particularly maintaining several records, created work overload for the already understaffed facilities. Further more there were no

additional payment (allowances) hence demotivating service providers. Some service providers felt that they lacked technical capacity to manage some clients. Poor facilitation was also a challenge as most facilities lacked fuel to conduct outreach activities and collect medicines. Two facilities had faulty microscopes and shortage of medicines. Challenges related to clients were that clients do not follow instructions and many sexual partners of the clients do not want to test for HIV.

**Suggestions of health workers on how to improve the services**

Service providers suggested providing allowances (11/35); more training in comprehensive HIV/AIDS care (11/35); increase number of health workers (9/35); availing enough and timely logistics (8/35); providing equipment/ furniture (5/35); increasing funds for transport, support PLWHA groups, support clients with non-medical needs like food; and staff promotion (4/35).

Other means of motivation suggested included increasing salaries, improving working relationship between staff and the health unit management, improving infrastructure by increasing space for service delivery, providing water source, providing alternative source of power, providing updated information on HIV/AIDS care, increasing medicines, and regular supervision.

**Management of medicines**

All stock cards of cotrimoxazole and Antiretroviral medicine were available, and of these 4/8 (50%) for cotrimoxazole and 7/8 (87.5%) for ARVs were up to date. Stock cards for gloves were not available in 2 facilities.

**Table 4: Stock card availability and up to date status (n=8)**

Stock cards	Cotrimoxazole	ARVs	Gloves
Accessible up to date	4	7	4
Accessible not up to date	4	1	2
Not accessible	0	0	2
<b>Total</b>	<b>8</b>	<b>8</b>	<b>8</b>

**Days out of stock**

**Table 5: Facilities' days of stock out for the last 12 months**

Medicine	Facility								Total	Average	Median
	1	2	3	4	5	6	7	8			
ARVs	0	0	0	0	23	0	0	0	23	2.875	0
Cotrimoxazole	90	35	0	50	0	207	0	71	453	56.625	42.5

Some of the facilities visited experienced stock out of medicines, though for varying reasons. Only one facility experienced stock out of ARVs which was because the person in charge of HIV clinic lacked transport to collect ARVs from Uganda Cares. ARVs were ordered and collected from Uganda Cares which also refunded the transport fare when the health workers collected the medicines. Reasons cited for stock outs of cotrimoxazole were delays in receiving the ordered medicines and improper quantification of medicine required. Delayed release of funds to the facilities also contributed to stock out of cotrimoxazole. Cotrimoxazole was purchased using credit line and PHC grant. It was found that all facilities had a logistic system through which they determined what quantity of medicines to order but some health workers were failing to order adequate quantity of medicines.

Overall only two facilities had all stock cards up to date and no stock outs of both cotrimoxazole and ARV medicine in the previous twelve months.

**Infrastructure**

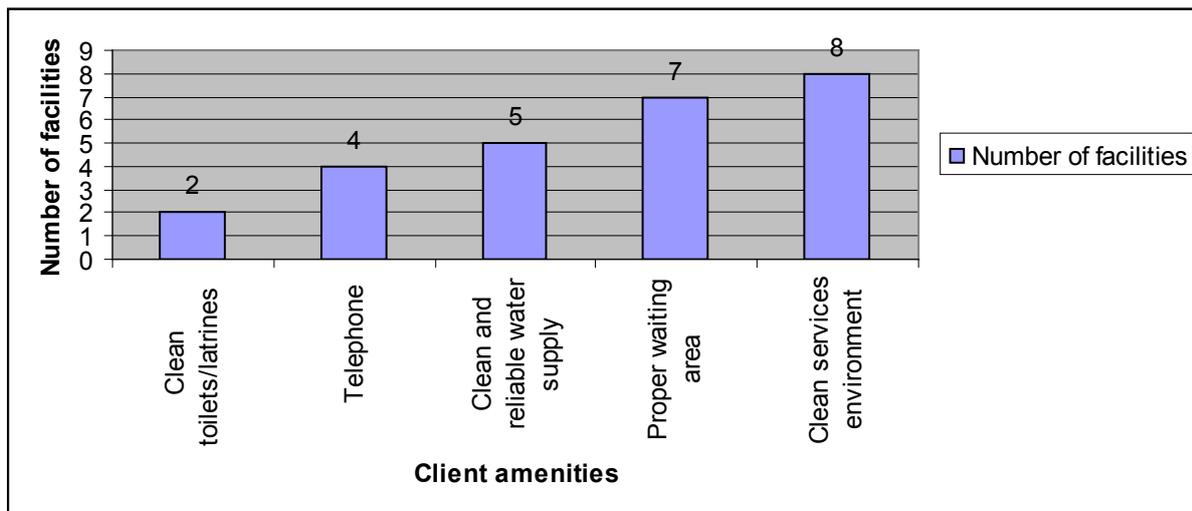
**Client amenities**

In figure 4, the number of all facilities surveyed that had the basic client amenities is shown. All facilities had a clean service area; most of them had proper waiting areas. Only 2/8 of the facilities had clean latrines/toilets. Further analysis revealed that the biggest gap as far as clean latrines/toilets was lack of soap and water nearby, while 4/8 facilities had telephones provided by Uganda Cares.

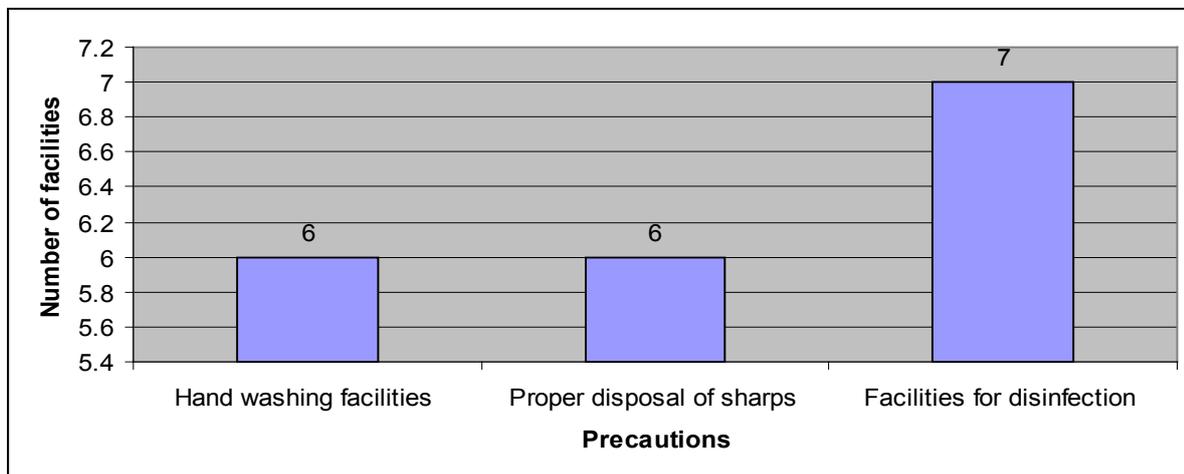
**Provider-client safety measures**

It was found that the majority of the HC IVs had adequate provider- client safety precautions.

**Figure 4: Facilities with client amenities (n=8)**



**Figure 5: Facilities with provider - client safety measures**

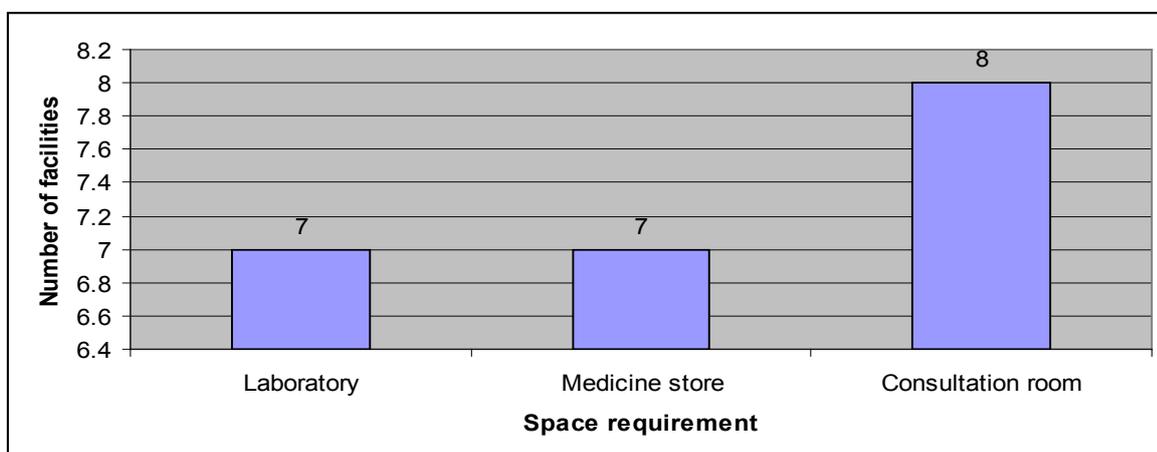


**Space for HIV/AIDS-related care**

The researcher also evaluated space for HIV/AIDS-related care such as availability of laboratory, availability of proper medicine store and that of

counseling room with visual and audio privacy and the findings are summarized in figure 6 below. Most of the facilities surveyed had adequate space for providing comprehensive HIV/AIDS care.

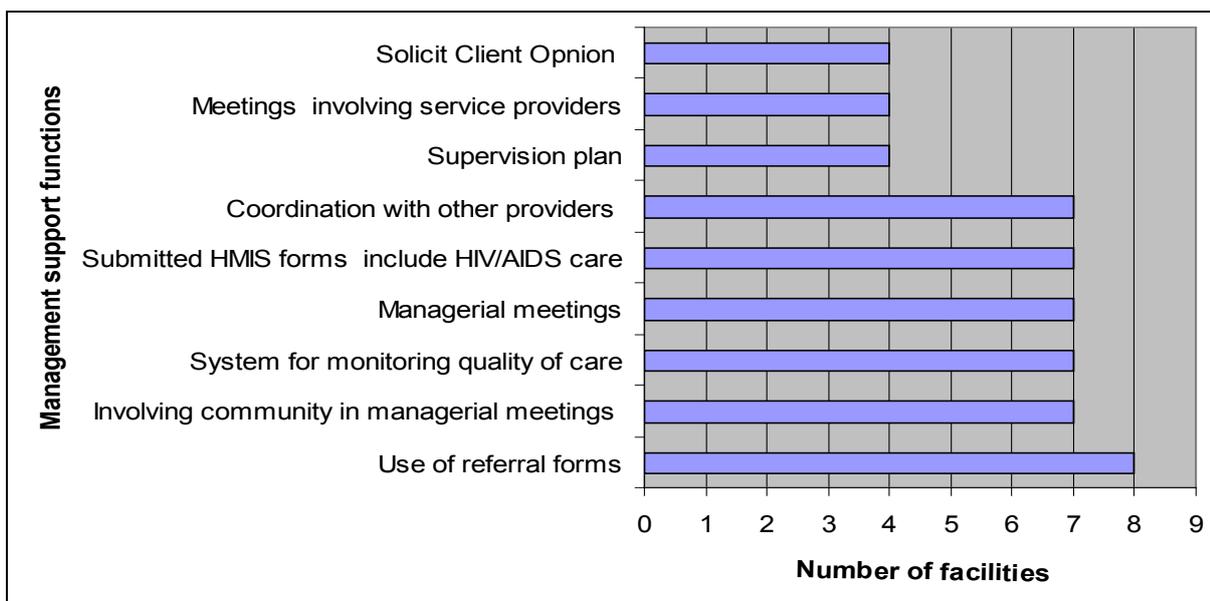
**Figure 6: Facilities with appropriate space for HIV/AIDS care**



**HIV/AIDS supportive management functions**

All facilities had a general referral form. Most facilities involved the community in managerial meetings, had a system of monitoring quality of care and held regular management meetings. Only 4/8 of the facilities had a supervision plan, solicited client concerns about quality of services and involved HIV/AIDS service providers in management meetings.

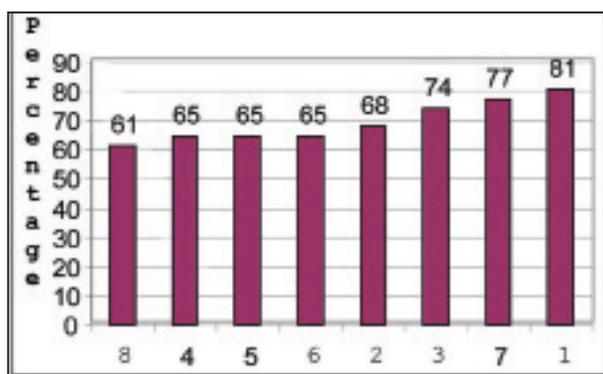
**Figure 7: Facilities with HIV/AIDS supportive management functions**



**THE HEALTH FACILITY FINAL SCORE**

The final health facility scores for the health centers visited are shown in table 6 and figure 8. The majority of the facilities were found to have comprehensive HIV/AIDS care requirements. The health facilities were found lacking mainly medical officers to initiate antiretroviral medicine, failing to maintain a constant supply of medicine for managing opportunistic infections, and unable to provide total lymphocyte count & differential count.

The majority of the facilities were not providing home-based care and palliative care.



**Figure 8: Final Health Facility Score DISCUSSION**

**HIV/AIDS-related care**

HIV/AIDS-related care was found in all facilities visited; 5 out of 8 facilities were providing all the 10 components of comprehensive HIV/AIDS care assessed. Psycho-social services, home-based care

and palliative care were the least provided services. The finding that most facilities were providing all components of comprehensive care proves that HC IV can manage HIV/AIDS-related ailments. Most of the facilities visited, demonstrated ability to follow service delivery protocols, as they were using the national ART care and treatment guidelines. This is important for HIV/AIDS care because provision of services requires health workers to adhere to the standards. The written protocols are used as a point of reference.

**Laboratory services**

There was a gap on white blood count test; only one facility conducted the test. The facilities surveyed conducted the other tests. At HC IVs where CD4 testing is not yet available, total lymphocyte count in symptomatic HIV-infected patients in combination with clinical staging is useful marker of prognosis and survival (WHO 2005; MoH Uganda 2003a). In the absence of CD4 count and white blood count it is extremely difficult to monitor clients using ARVs. The HC IVs are capable of laboratory monitoring of HIV/AIDS clients including those on ARV.

**Human resource capacity**

*Service providers' training in HIV/AIDS-related care*

**TABLE 6: HEALTH FACILITY AGGREGATED SCORES**

Variables	Maximum score	Facility codes							
		1	2	3	4	5	6	7	8
HIV services available	10	9	9	8	8	10	10	10	8
Staffing	1	1	1	0	1	0	1	0	0
Staff training	1	1	0	0	0	0	1	1	1
Service delivery protocols***	1	1	1	1	0	0	0	1	1
Diagnostic services	1	0	0	0	0	1	0	0	0
Formal relationship with PLWHA	1	1	1	1	1	1	1	1	0
Stock cards up to date (HIV & OI medicines) and no stock outs***	1	0	0	1	0	0	0	0	0
HIV supportive management functions	9	8	6	9	7	4	5	7	6
Client amenities	1	0	0	1	0	0	0	0	0
Client-provider safety precautions	3	3	2	2	2	3	1	3	3
Space	1	1	1	0	1	1	1	1	0
Infection control***	1	0	0	0	0	0	0	0	0
<b>Total score</b>	<b>31</b>	<b>25</b>	<b>21</b>	<b>23</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>24</b>	<b>19</b>
<b>Percentage score</b>		<b>81</b>	<b>68</b>	<b>74</b>	<b>65</b>	<b>65</b>	<b>65</b>	<b>77</b>	<b>61</b>

Four of the HC IV met the minimum standards of staffing required for comprehensive HIV/AIDS care programme. Some of these staff had been trained in several aspects of HIV/AIDS-related care and support, except for home-based care where only one facility had one staff trained while the rest did not have.

The staff numbers were assessed in view of comprehensive HIV/AIDS care programme alone without taking into account the existing workload of the health facilities. Since comprehensive HIV/AIDS care was integrated into existing health services, all HIV/AIDS related services have to be functioning well, and take substantial amount of staff time. The finding that staffing levels were only optimally sufficient for comprehensive HIV/AIDS care may mean that the staffing is actually insufficient for the full range of HIV/AIDS-related care.

#### *Service providers' opinions and attitude towards HIV/AIDS-related care*

Service providers were very critical in the management of HIV/AIDS related ailments and their views and beliefs influence their ability to care for HIV/AIDS clients. If health workers' interests are not addressed, small issues may become large and may affect their attitude/ care of clients. A good number of health workers thought the working conditions were good or fair.

However, other health workers felt that there were some challenges like understaffing, delayed and low remunerations, shortage of resources, increased

workload, lack of technical competence to manage some conditions, and non-compliance of clients. Seeking and addressing service providers' opinions is important for maintaining of good quality of care.

#### *Management of medicines*

The study found that most facilities utilized stock cards for the medicines chosen for the study. Further still, though all facilities except for one had no stock outs of ARVs, the reverse was true for cotrimoxazole, where all facilities had experienced stock-outs except one. ARVs were found to be free to the health facility and were ordered from Uganda Cares. Medicines for managing opportunistic infections were ordered and bought by the health facilities using the credit line funds for medicine and PHC grants. Stock out of ARVs was explained by lack of transport to collect medicines, while non-availability of cotrimoxazole was strongly influenced by three factors namely: failure of health workers to make the right quantification of medicines ordered, delayed release of funds and delayed disbursement of medicines from the credit lines.

In general one would expect the most sensitive system to be one where a facility determines its own need based on past and expected activity level. It was found that all facilities determined the quantities of medicines required but were also dependent upon the release of funds from the centre. Although the study did not explore whether the health workers were trained in management of medicines, it was observed that some health workers had inadequate competence in managing medicines based on the challenges faced.

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## ***Appropriateness of infrastructure***

### ***Client amenities***

The health facilities scored well in the area of client amenities except for toilets. Most of the toilets lacked hand-washing facilities.

### ***Provider-client safety measures***

Provider-client safety precautions are necessary to minimize the risk of facility-acquired HIV/AIDS (as well as hepatitis and other fluid borne diseases) and should be used when dealing with all clients regardless of their HIV status. The provider-client safety measures that were considered in the study included facilities for hand-washing; careful handling, cleaning and disposal of sharps; and disinfection. Majority of facilities visited had adequate provider-client safety measures.

### ***Space for HIV/AIDS-related care***

Counselling and consultation for HIV/AIDS requires sharing information that is often considered private and confidential. Whether the service delivery environment provides visual and auditory privacy may influence the type of information shared between the client and provider and might influence utilization of services. Health facilities visited had appropriate counseling/consultation space. Most of the facilities had adequate space for laboratory and storage of medicines. The greatest challenge among those lacking adequate space was stock out of comprehensive HIV/AIDS supportive commodities like HIV kits, clean gloves and equipment like microscopes as these were assessed as part of appropriate space. Lack of HIV/AIDS supportive commodities renders care and support to PLWHA inadequate.

### ***HIV/AIDS supportive management functions***

A large number of health facilities had most of the supportive management functions. All facilities that held meetings had members of the community represented. Community participation acts as a means of increasing accountability and responsiveness of the facility, increases support for health activities (Teixeira et al 2003; WHO 2003a). Another means of increasing responsiveness to community concerns and for increasing utilization of services is to provide means for receiving and then responding to the opinions of persons using the facility. Only half of the health facilities collected client opinion and in some instances this was done informally by some of the facilities.

Half of the facilities had supervision plans for external supervision. External supervision to a facility may be used to verify reports from the facility as well

as provide a less biased view of the service quality and service delivery environment. It also frequently provides a broader based source of information on new information or changes in standards that affect quality of health services. All facilities demonstrated the capacity to refer clients to the next levels, however they all lacked mechanisms of follow-up for referred clients. Some facilities relied on clients' initiative to bring them a feedback from referral site. There seemed to be limited linkage between facilities in ensuring the continuity of care. Although some facilities coordinated with providers outside the establishment, some areas of care were not covered by any provider.

## **Conclusion**

The study established that all HC IVs in Masaka District had the potential to provide comprehensive HIV/AIDS care at the time. Basic infrastructure and staff were nearly sufficient. Areas of weakness lay mainly in training in the management of medicines plus supplies and laboratory services. The working conditions for health workers were good in most facilities, service providers engaged in HIV/AIDS care were represented on management committees, and supplies were available. Though medical care, was provided, psychosocial support, palliative care and home-based care were least provided. There was generally a lack of coordination with other providers in a functional two-way continuum of care. PLWHA were not involved in HIV prevention, care and support activities, as all services within and out of the facility are done by service providers. Comprehensive HIV/AIDS care was not fully integrated into general services and this gave health workers the impression that they should be paid extra money for the extra work done. Most of these activities require no significant increase in external resources but rather reorientation, equitable and efficient reallocation of available resources. The District Health System strategy has a lot to offer and is of priceless relevance to addressing the current gaps of comprehensive HIV/AIDS care.

## **Recommendations**

We recommend that, since HC IVs are based in the periphery, serving the majority of the population, development partners of the district should channel their support for HIV/AIDS at a higher-level say at the Ministry not at the lower health facilities as this will strengthen the health system more, through integration. The district should ensure that the service providers are constantly updated with knowledge and skills in the different components of HIV/AIDS care to be able to continue providing care and support to the PLWHA. HIV/AIDS care should be fully integrated into the health system as this provides an excellent

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opportunity to strengthen the service delivery system as a whole. The medicine management system should be reviewed and strengthened further to reduce on stock outs of medicine for opportunistic infections. Health workers at the facilities need to make deliberate effort to ensure community involvement (especially PLWHA) in administrative and managerial matters of service delivery. The health facilities need to improve the laboratory services in order to keep monitoring the quality of care.

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