Enhancing Clients experiences of care and treatment clinics with Community Led Monitoring:

A Follow-up case of Mara Region

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LIST OF ACRONYMS

ANC	Antenatal Care
ART	Anti-Retroviral Treatment
ARV	Anti-Retroviral Drug
BMC	Bugando Medical Centre
CLM	Community Led Monitoring
CTC	Care and Treatment Centre
DACC	District AIDS Control Coordinator
DC	District Council
DHIMS	District Health Information Management System
HTS	HIV Testing Service
LVIs	Lake Victoria Islands
M&E	Monitoring and Evaluation
PLHIV	People Living with HIV/AIDS
PEPFAR	President's Emergency Plan for AIDS Relief
PMTCT	Prevention of Mother to Child Transmission
PrEP	Pre-Exposure Prophylaxis
RACC	Regional AIDS Control Coordinator
R/CHMTs	Regional/Council Health Management Teams
RMNCAH	Reproductive, Maternal, New-born, Child, and Adolescent Health
SNUs	Sub-National Units
SOPs	Standard Operating Procedures
UNAIDS	Joint United Nations Programme on HIV/AIDS
VLD	Viral Load
WHO	World Health Organizations

EXECUTIVE SUMMARY

BACKGROUND: A decade after its large-scale introduction, countries with poor resources in Sub-Saharan Africa (SSA), including Tanzania has made considerable progress towards achieving the UNAIDS 95–95-95 targets, however, challenges remain on expanding utilization of HIV testing services (HTS), poor adherence and retention of clients initiated on treatment, unsatisfactory early infant diagnosis, viral load testing services, overall stigma around HIV services and the emergency of COVID-19 pandemic. Afya *Plus* with funding from PEPFAR is supporting implementation of "IMARISHA Project" - an innovative community led monitoring (CLM) activity in Musoma and Tarime DCs in Mara Region.

METHODOLOGY: This second round of Community led monitoring was conducted from 8th to 19th July 2022 at Muriba, Masanga, Nyamwaga and Kiongera in Tarime district council as well as Bukima, Nyegina, Tegeruka and Murangi in Musoma district council. Afya *Plus* team conducted preparatory meetings with regional and council leadership and community stakeholders prior to fielding the community led monitoring activities. Community monitors also were invited to a one-day refresher training session to review the concept of CLM, walk through the updated data collection methods (observation and interviews) and conduct intrateam practical sessions to ensure they have a good understanding of the questions and expected responses as well as how to administer the questionnaire, data quality elements and daily reporting. Community monitors were also refreshed trained on ethics and confidentiality of data collected for CLM, including ensuring informed consent for all clients. Convenient or snowball sampling technique was used to identify and enroll 325 participants for the ART clients' interviews. Data collection was conducted using paper-based questionnaires and were entered into EpiInfo statistical software (Version 7.2.4.0, College station, Texas) where data cleaning and analysis was conducted.

FINDINGS: A total of 324 PLHIV participated in this assessment, being 10% of all clients currently on ART for the eight facilities. Mean age of these participants was 31.4 years (standard deviation [SD] = 16.3), the youngest was one year old and the oldest aged 88 years. 91.36% reported that CTC clinics are opened between 7am and 8am, 1.85% operates for 24 hours, 3.4% opens at 9am and 3.4% do not know the opening time. Most of the facilities (i.e., 82%) closes between 2p.m and 4p.m, of these more than 50% closes at 3p.m. 26% operate on Saturdays.13.2% operate on Sundays. Ninety-one percent of clients reported that service providers at CTC are always friendly (91.7%). Queues at the ART clinics were not too long as reported by almost 96% of the clients. Unavailability of some services during COVID 19 such ARV refill 22(6.8%), PrEP drugs 4 (1.2%), Viral load testing 3(0.9%), and Adherence club activities 3(0.9%). 178 (70.9%) were fully vaccinated and 73 (29.1%) are not vaccinated. Condoms was mostly available as reported by 53.4% of the CLM participants; followed 46% PMTCT, 38.9% GBV, 35.8% VMMC, 34% PEP, 27.8% PrEP and 26.2% cervical cancer screening. Only 89 (47%) of 189 clients reported to have ever heard about PrEP. Only 28 (14.8%) clients reported to have ever used PrEP. 83 (36.1%) were not informed of their partners HIV status. 89 (60.4%) were concordant. 58 (39.5%) were discordant couples. 83 (40.5%) are not using any family planning method. 38 women reported to have received cervical cancer screening services, 126 never screened for cervical cancer. 58 (87.8%) accessed PMTCT. 169 (52%) of the CLM participants reported that they had been requested by service provider to provide information for their sexual partners and biological children. Twelve (3.7%) of all clients experienced intimate partner violence for index testing. 72% of all clients were initiated immediately. 131 (40%) reported that they have never missed a schedules visit.

CONCLUSION: Although, still there are some gapes that needs to be filled in. All the supported facilities have demonstrated improvement in all areas except PrEP and supply of pediatric ARV drugs that require above site support from implementing partners and regional or MSD consultation.

1. BACKGROUND

HIV is a generalized epidemic in Tanzania with uniquely concentrated sub-epidemics among vulnerable populations. Women and girls continue to be disproportionately affected compared to men, with adolescent girls and young women accounting for 80% of all new HIV infections. Tanzania's goal is to reach HIV epidemic control by 2030, with 95% (PLWHIV) aware of their HIV status, 95% of those testing positive placed on continuous HIV treatment, and 95% of those on treatment reaching viral suppression (USAID, 2020). According to UNAIDS and WHO reports (UNAIDS, 2021), 21.7 million HIV-infected patients are currently accessing ART worldwide, with about 1.2 million of them residing in Tanzania. The Tanzania HIV/AIDS Impact (THIS) Survey 2016-2017 estimated that only 62% of PLHIV know their status; 90.9% of those who are know their status are on treatment, and 87.7% of those on treatment are virally suppressed (UNAIDS, 2020; NBS, 2019).

While the Government of Tanzania remains committed to responding to and mitigating the effects of HIV and AIDS, including scaling up of HIV/AIDS care and treatment clinics, gaps in human resources, domestic financing, health infrastructure, the supply chain for commodities and stigma and discrimination continue to challenge progress. Additionally, targeted HIV testing services (HTS) for key and vulnerable population segments, poor adherence and retention of clients initiated on treatment, unsatisfactory early infant diagnosis, viral load testing services and the emergency of COVID-19 pandemic also add onto the limited progress. Feedbacks on these challenges have been enumerated in several studies in Tanzania and elsewhere since the early days of the HIV epidemic, however gathering, collating, and using this information for addressing the enumerated gapes has not necessarily been systematic and has been attempted only by few middle and low-income countries.

In October 2021, Afya *Plus's* IMARISHA Project with funding from Ambassadors Fund for HIV/AIDS Relief (AFHR) supported implementation of community led monitoring (CLM) efforts to improve HIV services to PLHIV in Musoma and Tarime district council (DC) - Mara Region. The first round of CLM effort was implemented between February – to June 2022 and the second round from July to September 2022.

This report presents findings from the second round of IMARISHA Project's CLM effort from eight health facilities in Musoma and Tarime DC.

2. METHODOLOGY

For the second time, the IMARISHA project conducted systematic data collection and analysis using both quantitative and qualitative methods. Results from this activity will be compared with findings from the first round of CLM to identify areas that had been improved and highlight areas that still needs actions for improvement. These results will be disseminated through a participatory feedback approach to the respective regional, council and facility management team members, representatives from community of PLHIV and care and treatment partners. Root cause analysis will be conducted on each of the pressing gaps, and action points will be developed for further improvement. Findings that yield positive outcomes from the selected health facilities will be replicated to other facilities in similar settings in Mara region.

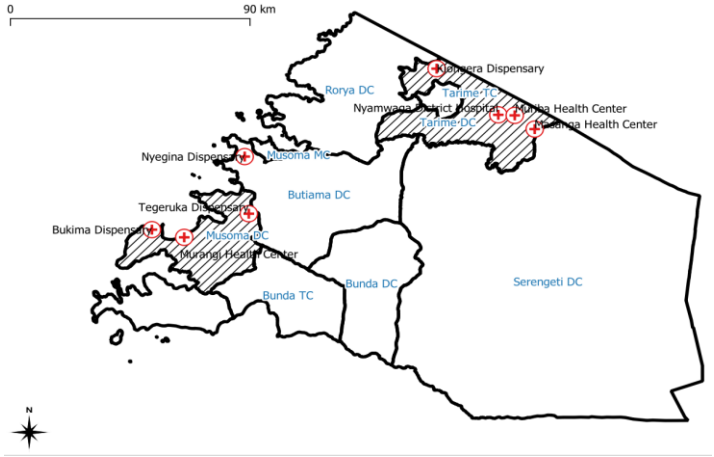
i) Geographical location of CLM sites

This assessment was conducted in eight health facilities spread in the following wards: (See Figure 1).

- Bukima (Bukima Dispensary)
- Gorong'a (Masanga Health Center)
- Mugango (Nyegina Dispensary))

- Murangi (Murangi Health Center)
- Muriba (Muriba Dispensary)
- Nyamwaga (Nyamwaga District Hospital)
- Susuni (Kiongera Dispensary)
- Tegeruka (Tegeruka Dispensary)

Figure 1: Map of Mara Region in Tanzania, East Africa showing locations of the CLM sites – Musoma DC and Tarime



These facilities were purposefully selected to participate in this CLM activity because they are in Lake zone regions where PEPFAR is currently supporting HIV services, and they have many ART clients to offer enough sample size as per PEPFAR recommendations. This design was appropriate to first, gain knowledge on the context and events encountered by PLHIV and service providers in their respective ART clinic and second, to describe the experiences influencing/affecting further enrollment, adherence, and retention in treatment within their context and third, to inform the overall regional/council/facility continuous quality improvement of the ongoing HIV services.

ii) CLM preparatory activities

Training of Community Monitors

A total of eleven (11) community monitors (4 from Tarime DC & 7 from Musoma DC) who had background with HTS, PMTCT and ART services were selected from the communities surrounding the selected health facility. The selection of these community monitors was spearheaded by regional and council AIDS control coordinators, facility incharges and lay counsellors from the respective health facilities. Among the selection criterion was prior engagement in the first round of CLM activity, ability to understand and communicate using the local language, familiar with the surrounding neighbourhood and availability/readiness to be engaged. Of the engaged data monitors, six had participated in the first round of CLM and five monitors were newly recruited to fill in f placements for those who transferred out of the respective during the second round of CLM.

Upon selection, these community monitors attended a one-day orientation session covering the concept of CLM, data collection methods (observation and interviews), data collection tools and how to administer the questionnaire, data quality elements; daily reporting, as well as ethics and confidentiality of data collected for CLM, including respect for client, informed consent, and a snowball client recruitment method on reaching CLM participants until when the sample is attained.

iii) Sampling and Recruitment of participants for the CLM assessment

The CLM team used a convenient snowball sampling technique to identify and enrol 324 clients to complete the client questionnaire. On attendance to CTC for routine clinical visits, PLHIV were informed about CLM and those who were ready to participate in the interview, were invited to meet the data monitor on the same day or another agreed dates and places. After completion of the interview session, the consenting clients were requested to provide referral or contact information to other PLHIV such as their friends, neighbours, relatives or acquittances who would also be interested to participate in the CLM exercise. To increase representativeness of children and adolescents living with HIV (C/ALHIV), during this round, a large number of adolescents and children living with HIV (A/CLHIV) were purposefully traced and recruited to ensure representation.

iv) Data management

Data collection

Afya *Plus* worked in close consultation with the PERFAR CLM team to adapt the tools that were used during the first round to fit Mara regional context. The tools were field tested after training of data monitors (pilot testing was done amongst PLHIV expert patients) to ensure they are clearly understood and provide intended responses prior to actual data collection exercise. All the data collected from the pilot exercise are not included in this analysis. Data collection was conducted for eleven days i.e., from 8th to 19th July 2022 reaching PLHIV who are served withing the selected eight ART clinics. A total of 332 questionnaires were administered including 324 for ART clients and 8 for health facility/CTC in-charges. Additonaly, a total of 27 clients were engage in focus group discussions to offer a detailed narrative of some information gathered from questionnaires and also share their experiences on the subject matter.

Limitation

- Most of the ART clinics provide adult CTC services once or twice per week and one day CTC services for Paediatrics per month. As a result, most of the clients required to follow them in the community to attain the recommended sample size. This lengthened data collection time frame from the initially planned five days to eleven. Cost for this exercise was also affecting as data monitors had increase frequency of moved to reach the spaced clients in the community.
- Turnover of four experienced data monitors that were engaged in the first round, newly recruited monitors required close supervision and mentorship.

Lesson learnt

- ART clinic in-charges were paramount on ensuring access to contact information for clients, this helped the team to identify a mix of clients' demographics for initiating snowball sampling.
- Lay counsellors are well informed about their fellow ART clients and are trusted, CLM activities should budget to support lay counsellors with funds to compensate them with transport costs while assisting with tracing of clients in their communities.
- Children are usually few at CTC, therefor CLM initiatives should consider targeted sampling for children for representation. For example, in our case we interviewed all children enrolled in the selected CTC, and yet they accounted for only 30% of the sample size.

v) Data entry, data cleaning and rigor of quality

Immediately following the interviews, all questionnaires were reviewed to ensure they are completed in full. In cases gaps or inconsistencies were observed, the respective community monitors were contacted to provide the missing information. The experienced data clerks were identified, oriented on the CLM tools, and spent ten (10) days doing data entry into EpiInfo database. On completion of data entry, the CLM data set was reviewed to ensure completeness and coherence before analysis. Corrections were made where gaps were identified, the original questionnaires were retrieved, and necessary revisions, and cleaning was done into the extracted excel spread sheets. The final cleaned excel spread sheets was afterwards imported into STATA ready for analysis.

vi) Data analysis

Descriptive data analysis was conducted to understand participants' demographic characteristics, including age, gender, service utilization and client's satisfaction. All analysis were performed using STATA (Version 15.1, College station, Texas) and Microsoft Excel.

vii) Ethical Consideration.

This assessment was not a research study, rather a project performance review to inform quality initiatives for HIV services. Informed written consent forms for both clients aged 18 years and above and health facility in-charges were administered by trained community monitors prior to engagement into the exercise. For clients aged below 18 years, informed consent was obtained from parents or care takers upon client's assent. Both clients and community monitors were met at their ART clinics, however some of the clients opted to be interviewed at their homes or workplaces. Privacy of this exercise and confidentiality of the data collected was maintained at the highest level possible. No client identifiers such as names are placed on the survey questionnaires and are completely muted on data analysis. Raw data sets are maintained in password protected office computers to ensure they are not easily accessed by non CLM team members.

3. FINDINGS

A. FINDINGS FROM INTERVIEWS WITH CTC/FACILITY INCHARGES

CLM Coverage

Currently the eight health facilities that participated in CLM activity are serving a total population of 81,184 people in 35 wards. Of the clients served, 3,029 are PLHIV, representing 3.7% of the total served population *(See table 1)*.

A slight data differences i.e., 177 (5.5%) was observed when we compared PLHIV service delivery data collected during the CLM activity (3,029) to what is reported in the national DHIS2 database (3,206). such that 177 (5.5%) more clients were reported in DHIS2. With some facilities underreporting (Muriba, Murangi, Masanga, Kiongera) and the remaining had an over report (Bukima, Nyegina, Tegeruka, Nyamwaga). The team, however, was not able to ascertain the source of this data difference and suggests for facility to conduct data verification.

Table 1: Catchment areas and population of clients served in the CLM facilities

Facility Name	*# Wards in Catchment area*	*Number of PLHIV*
Bukima	6	741
Murangi	3	589
Nyegina	4	514
Tegeruka	1	63
Muriba	9	258
Nyamwaga	4	191
Masanga	8	441
Kiongera	3	232
Total	**38**	3,029

Adherence to COVID-19 protocols

All eight health facilities have been providing HTS and CTC services throughout the COVID-19 waves. COVID-19 prevention protocols were mostly adhered to, except that health workers at Murangi, Muriba and Masanga were not correctly wearing face masks and running water was not readily placed at Muriba. Like the previous data collection round, it was reported that PLHIV with known chronic illnesses were given priority to avoid queuing for minimized exposure to COVID – 19.

Capacity to provide HIV Services

Facilities that are engaged in CLM are well equipped with supplies and equipment and has the capacity to serve a minimum of 25 clients per day.

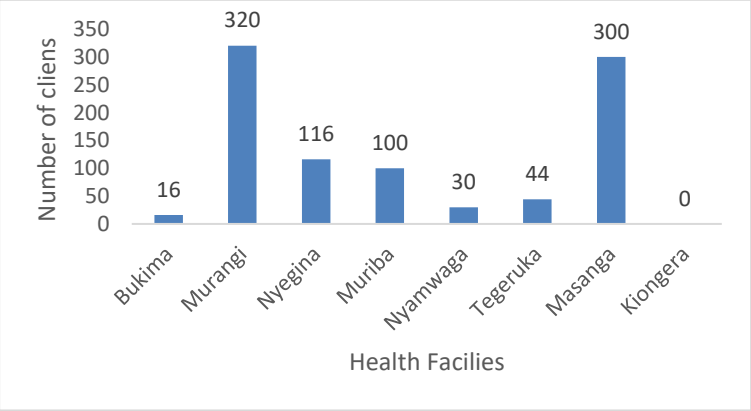
Across all these health facilities, provision of CTC services, PMTCT, PrEP, HTS as well as data collection, reporting and health workers training is supported by Amref Health Africa. Continuous quality improvement (CQI) activities are directly supported using council's own funding sources. None of these facilities are receiving funding for supportive groups for adherence to treatment.

Table 2: Proportion of Health workers by cadre and facility

Facility	MO	AMO	CO	RN	EN	MAT	Lab tech	Pharmacist	Pharmacist Assistants	CHWs	Data Clerks	Total
Bukima	0	0	1	0	1	1	1	0	0	4	1	**9**
Murangi	0	0	1	1	2	2	1	0	0	5	1	**13**
Nyegina	0	0	1	0	1	1	2	0	1	2	1	**9**
Tegeruka	0	0	1	2	0	1	0	0	0	0	1	**5**
Nyamwaga	0	1	0	0	2	1	1	0	0	0	1	**6**
Masanga	1	0	0	1	0	1	1	1	0	2	1	**8**
Kiongera	1	0	1	2	1	1	2	1	0	4	1	**14**
Muriba	0	0	0	0	1	0	0	0	0	2	1	**4**
Total	**2**	**1**	**5**	**6**	**8**	**8**	**8**	**2**	**1**	**19**	**8**	**68**

A total of 68 service providers are dedicated to the CTC clinics *(See table 2)*. Data clerks were available in all facilities; medical attendants at seven facilities; enrolled nurses, laboratory technicians and community health workers (CHWs) at six facilities; clinical officers (CO) at five facilities and Registered nurses at four facilities. Only two facilities i.e., Murangi and Masanga reported to have enough staff for all cadres at their CTC. Although Pharmacists and medical officers were available in only four facilities, this was not depicted by the incharges as a challenge.

Chart 1: Monthly HIV testing targets by Site



HIV Prevention service

During the monitoring exercise, VMMC, PEP and GBV services were available in all facilities except Bukima; Male condoms were available in all facilities except Murangi; Female condoms were available at Murangi, Nyegina, Muriba, Nyamwaga and Kiongera; PrEP was available in only three facilities i.e., Bukima, Murangi and Nyamwaga; and cervical cancer screening at Murangi and Nyegina.

Challenges affecting availability of PrEP services included unavailability of trained, missing of clients on the agreed appointment dates and transport costs incurred by clients from their homes to the facility.

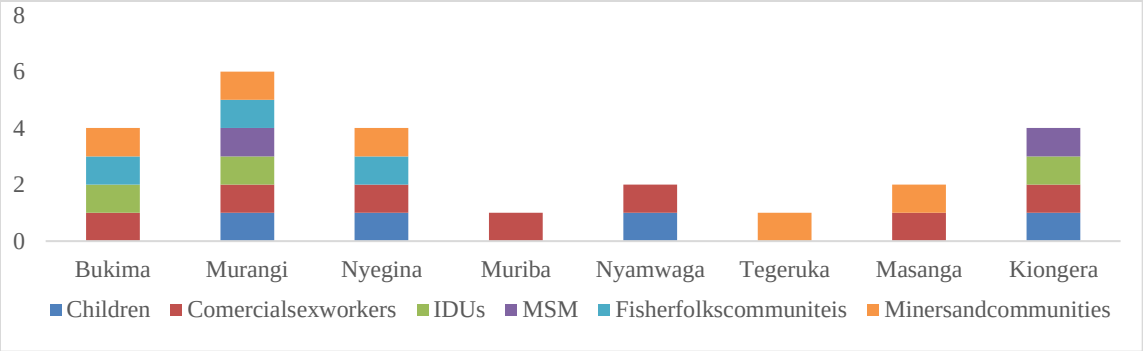
HIV counselling and testing services (HTS)

Overall, monthly testing targets ranged between 16 to 320 clients (See Chart 1), Kiongera HF did not have a set monthly target for HTS. A month prior to the CLM assessment, a total of 991 clients were tested for HIV and received their test results, of these 956 (96.5%) were adults and 35 (3.5%) children.

Optimized Targeted HTS

All CLM facilities were offering optimized HTS targeting commercial sex workers, small scale miners, fisherfolks and fishing communities with variations across facilities (See chart 2). Index case testing for sexual partners and biological children of newly diagnosed HIV positive clients was conducted in all facilities.

Chart 2: Proportion of clients served through targeted testing by site and groups of clients



All clients are screened for experiences of violence from their partners prior to providing contact details for index testing. In cases, the index clients report to have ever experienced violence from their partners, the health worker usually do not track violent partners. These clients instead are provided with support services at the facility including counseling and PrEP services. At Bukima and Kiongera facilities, clients who experienced violence from index partners are usually referred to other facilities for counselling and support including PrEP services.

Pediatric HIV testing services

Conventional PCR method was used for Early infant diagnosis (EID) of pediatric HIV in all facilities. Samples for EID were sent to central laboratories at Bugando medical center. Results for EID from the central lab are returned to the respective facilities within a day at Masanga, two weeks at Nyegina, one month at Nyamwaga and Muriba; and more than three months at Bukima, Murangi, Tegeruka and Kiongera health facilities.

After the EID results are returned to the facility, women return to collect them within seven days to three months. Usually, the health facilities align dates for returning to pick EID results with mothers CTC follow up dates to reduce costs and time for multiple returns to the testing site. Delayed return of EID results from the central lab was reported to have a great contribution on loss to follow-up resulting into delayed initiation of treatment for infants. Efforts are therefore required to ensure these facilities are granted with access to the result online. The MoH should consider revising the guidelines to allow whole blood DNA polymerase chain reaction (DNAPCR)for EID using Gene X-pert machines and support training of lab technicians to increase number of sites offering point of care (POC) testing. During discussion with CHMTs it was cited that some facilities in Mara region for example Mara region public facilities has at least 12 Gene-Xpert machines, therefor they need training support, supply of reagents, cartilages, and maintenance support to ensure uninterrupted POC testing for EID and other conditions.

HIV care and treatment service

A total of 57 clients were newly identified HIV positive, representing 5.54% of all tested clients in July. Of these, 55 (5.8%) adults and 3 (8.5%) children. Murangi recorded the highest positivity at 20 (18.8%), followed by Muriba 13 (18.8%) and Bukima 7 (7.6%). Out of the 57 HIV positive clients, 53 (93%) were enrolled and initiated in ART clinic, while 8 were not enrolled (7 from Murangi and one from Kiongera (See Table 3).

Table 3: Facility level HIV Positivity and Enrollment in ART services by Sex

Facility	Tested HIV Positive				Enrolled in ART services			
	Adult Male	Adult Female	Children Male	Children Female	Adult Male	Adult Female	Children Male	Children Female
Bukima	3	4	0	0	3	4	0	0
Murangi	3	16	0	1	3	9	0	1
Nyegina	2	5	0	0	2	5	0	0
Muriba	3	9	0	1	3	9	0	1
Nyamwaga	2	0	0	0	2	0	0	0
Tegeruka	2	0	0	0	2	4	0	0
Masanga	1	4	0	0	1	4	0	0
Kiongera	0	1	0	0	0	0	0	0
Total	**16**	**39**	**0**	**2**	**16**	**35**	**0**	**2**

It was reported that all newly diagnosed clients are enrolled into care and treatment services on the same day and for those who miss same day enrolment are tracked daily for two consecutive weeks.

With exception of Nyegina, all facilities provide Isoniazid Preventive Therapy (IPT) for prevention of latent TB infection for PLHIV who have not yet tested positive with TB infections. Only Murangi and Masanga health facilities provides IPT to children who live with adults diagnosed with TB.

ARV drugs re-fill

Table 4: Number of clients returned for ARV refill by facility (July 2022)

Facility Name	#Adult ART expected Re-fil		#Children expected Re-fil		#Adult ART Re-filled		#Identified ART Re-filled	
	Men	Women	Men	Women	Men	Women	Men	Women
Bukima	86	181	4	5	86	181	4	5
Murangi	97	131	1	1	89	120	1	1
Nyegina	190	296	10	18	100	270	9	18
Muriba	21	43	1	0	21	43	1	0
Nyamwaga	33	101	3	4	33	101	3	4
Tegeruka	25	40	2	2	20	33	2	2
Masanga	40	162	3	154	51	154	2	6
Kiongera	50	50	0	0	45	30	4	6
Total	**542**	**1004**	**24**	**184**	**445**	**932**	**26**	**42**

During the second week of July 2022 when the team was conducting this CLM activity, a total of 1,445 (82.3%) of the expected 1,754 clients for that month had already returned for ART re-fill (Table 4). At that time, Bukima, Muriba and Nyamwaga had recorded 100% re-fill rate, being the highest followed by Murangi - 91.7%, Kiongera - 85%, Tegeruka – 82% and Nyegina – 77.2%. The lowest refill rate was recorded at Masanga 59%; however, the data collection period was much earlier in the month, follow ups will be made in the next CLM round to review proportion of clients returned in the currently low performing facilities. During this time frame, refill rate was slightly higher among men (83%) compared to women (82.5%) and higher among adults (89%) compared to children (33%) (See Table 5).

Initiatives to enhance retention and adherence to ART services

To ensure uninterrupted treatment for PLHIV, all health facilities reported that clients are followed up using mobile phone contact and home visits. Additionally, clients enrolled at Nyegina, Muriba, Nyamwaga and Kiogera are also reached through SMS reminders a day before the dure follow up date. Presentation of wrong/unavailable mobile phone number was reported as the major challenge encountered when following up and reporting of PLHIV to ensure they are retained in treatment as required. Other challenges included Shortage of service providers

Table 5: Number of clients returned for ARV refill by facility (May 2022)

Facility Name	#Adult ART expected Re-fil		#Children expected Re-fil		#Adult ART Re-filled		#Identified ART Re-filled	
	Men	Women	Men	Women	Men	Women	Men	Women
Bukima	211	398	9	9	211	398	9	9
Tegeruka	376	124	4	2	373	124	4	2
Masanga	192	301	10	18	192	298	10	17
Murangi	40	108	1	3	40	108	1	3
Kiongera	22	79	2	2	52	183	1	2
Nyegina	120	90	6	6	110	70	6	6
Nyamwaga	22	107	2	2	21	98	1	1
Muriba	25	20	0	0	25	20	0	0
Total	**1008**	**1227**	**34**	**42**	**1024**	**1299**	**32**	**40**

as reported at Kiongera and Nyamwaga; lack of equipment and instruments at Murangi, Nyegina and Nyamwaga and agility of mobile populations especially fisherfolks and small-scale miners as reports at Murangi and Muriba. Clients with good adherence are given priority, except at Muriba. This included giving them priority to collect their drugs and conducting other additional tests as may be required.

All facilities have put in place arrangements to deliver ARV drugs to client homes especially during challenging rain seasons, when clients are sick and when they fail to incur transport costs to the facility. Home delivery of ART is conducted on a monthly routine at Murangi, Nyegina, Nyamwaga, Tegeruka, Masanga and Kiongera. The remaining two facilities i.e., Bukima and Muriba are delivering ARVs to client homes more frequently i.e., daily, and weekly respectively. Bukima, Muriba, Masanga and Kiongera facilities are implementing a group refill model where clients who are stable and are moembers of a strog in well-established groups are allowed to collect ARVs for their colleagues while ensuring all of them could visit the facility for VLD and CD4 counting tests.

A month prior to the CLM exercise, supported facilities recorded the same ARV refill rate, where 1,554(82.3%) returned out of the expected 1,754. Similar variations were also noted across all facilities with Bukima, Muriba, Masanga and Kiongera facilities recording the highest refill rates while Nyegina recorded the lowest.

Three months before the CLM activity, these facilities recorded higher ART refill rates at 104% compared to 82% in the previous two months. This performance followed the implementation of remediation plans derived from the first CLM activity. Tegeruka particularly made additional efforts to ensure the clients who were not accurately documented in previous months are currently well documented, including active follow up to those who had interrupted treatment (Table 5).

Availability of drugs

Three months prior to the CLM activity adult ARV drugs were available in all health facilities. However, a significant shortage was reported on pediatric ARVs and PrEP drugs. Nevirapine syrup was reported to be out of stock in all facilities as it was further reported to be a regional wide shortage for Mara region. Other pediatric ARV drugs i.e., (ABC/3TC/DTG) was to be out of stock in all facilities in Tarime DC. In Musoma DC facilities only Nyegina reported shortage of all pediatric ARVs. The remaining three facilities i.e., Murangi, Bukima and Tegeruka reported shortage of DTG (10ml). Due to this shortage, a significant number of children had been out of drugs for more than two months. This shortage was attributed to under-supply of pediatric ARVs from MSD compared to the quantities requested from the respective facilities.

Shortage of PrEP was reported in all health facilities in Musoma DC and Kiongera in Tarime DC. In Musoma DC, it was reported that a large consignment of PrEP drugs was distributed to all health facilities since the

February 2022. However, only Bukima and Murangi facilities have enough numbers of trained service providers. As a result, these PrEP drugs expires unused in July 2022. Facility incharges are urged to communicate with the respective CHMT members to plan for internal council or regional level redistribution to avoid expiration of drugs. Other shortages were reported on some Family planning options at Nyamwaga and Masanga, HIV self-test kits at Tegeruka, and drugs for opportunistic infections at Murangi and Tegeruka. Muriba health facility recorded almost 50% of all the listed shortages. Root cause analysis could benefit the CHMT and facility management to understand the big shortage recorded at Muriba and develop action plan to address it.

HIV Viral load testing (HVL)

All HVL samples are submitted to Bugando Medical Centre (BMC) in Mwanza through Tarime DC hospital and Murangi Health center sample collection hubs Tarime for Musoma DC, and it usually takes a week to three months to get HVL test results back to the respective clinics. Variations were however noted across facilities where Masanga receives their results slightly earlier than other facilities i.e., within one week, Nyegina -14 days, Nyamwaga and Tegeruka - three weeks and Bukima, Murangi, Kiongera and Muriba - one to three months. The reasons for delays on returning HVL results are distance from their respective facilities to the central laboratory and large number of samples from other regions results. Clients are provided with post HVL counselling upon receipt of their test results.

Laboratory services

Alongside HIV testing services, other laboratory tests required for PLHIV include TB LAM, CD4 count and Malaria. With exception of Bukima and Nyegina who usually received the reagents immediately, upon request, most of reagents for conducting these tests requires one to three months before they are delivered at the facility. Service providers and incharges should be well oriented with quantification, projects and timely ordering and documentation to avoid delays on receiving necessary tests.

B: FINDINGS FROM ART CLIENTS

PARTICIPANT CHARACTERISTICS

A total of 324 PLHIV participated in this assessment, being 10% of all clients currently on ART for the eight facilities. More than 45% of these clients were recruited from Bukima and Muragi health facility. Of these 205 (63.3%) were females and the remaining 119 (36.7%) were males (See table 6).

Table 6: Number of CLM clients by site and sex

Facility	Bukima	Murangi	Nyegina	Masanga	Tegeruka	Kiongera	Nyamwaga	Muriba	Total
Male	29	21	20	13	10	9	10	7	**119**
Female	53	45	27	28	15	14	13	10	**205**
Total	82	66	47	41	25	23	23	17	**324**
%	25.3	20.4	14.5	12.7	7.7	7.1	7.1	5.2	**100**

Mean age of these participants was 31.4 years (standard deviation [SD] = 16.3), the youngest was one year old and the oldest aged 88 years. The largest proportion (71.9%) of the CLM participants were aged 20 years and above, followed by 10-14 years who made 14.2% and 5-9 years (8.95%). Very few were aged 0-4 years i.e., 0.93%, and 15-19 (4.01%) whose responses the questionnaire was assisted by their parents or care takers (See table 7). More than three quarter of the CLM respondents either had primary education (70%) or never been to school (16.1%). The remaining 12% had secondary education and only 2% had college or university education. Forty percent of the clients were either married, (34.5%), Cohabiting (4.6%) or just in a relationship. The remaining, 33.3% are not married, 6.5 divorced%, 12.4% widows/ers and 2.8% did not disclose their marital status. More than fifty percent (54.3%) of the respondents were peasants, 15.74% students, 9.88%, businessmen/women, 4.94% Fisherfolks, 2.78% Livestock keepers, 0.6%, small scale miners, 0.6% does not have any specific occupation and 9.88% did not disclose their occupation.

Table 7: Proportion of CLM clients by age

Age	Freq.	Percent
0-4yrs	3	0.93
5-9yrs	29	8.95
10 -14yrs	46	14.20
15 -19yrs	13	4.01
20-24yrs	21	6.48
25+	212	65.43
Total	**324**	**100**

PLHIV AND THEIR EXPERIENCE WITH THE FACILITY

Health facility operation

The largest proportion of clients i.e., 91.36% reported that CTC clinics are opened between 7am and 8am, 1.85% operates for 24 hours, 3.4% opens at 9am and 3.4% do not know the opening time. Most of the facilities (i.e., 82%) closes between 2p.m and 4p.m, of these more than 50% closes at 3p.m. The remaining 5.6% closes between 5pm and 12.34% do not know when the facility close. Twenty six percent of the clients reported that their facilities operate on Saturdays, except Kiongera, Masanga and Muriba, and 13.2% operate on Sundays at Muriba and Nyamwaga.

Operating time for ART clinics is satisfactory for 88.9% of the clients, 9% are not satisfied and the remaining 0.93% were not ready to respond. Tegeruka was commended by 100% of the clients for operating enough time for all clients, followed by Muriba and Nyegina with 98%. The largest proportion of clients i.e., 265 (82%) reported that CTC clinics always have sufficient health workers; with Nyegina being commended by

100% of the clients, Nyamwaga (96%), Muriba (88%), Tegeruka (88%), Kiongera (57%), and Masanga (54%).

Clients' satisfaction with CTC services

Ninety-one percent of clients reported that service providers at CTC are always friendly (91.7%). Muriba and Nyegina health facilities were applauded by their clients for always providing friendly services, followed by Masanga (95%), Bukima (93%), Tegeruka (91%), Nyamwaga (91%), Murangi (90%) and Kiongera reported the lowest at 57%.

Queues at the ART clinics were not too long as reported by almost 96% of the clients. However, 13 clients, reported longer queues at Masanga (6), Bukima (2), Murangi (2) and Nyegina (2). The main reason for long queues was presence of too many clients at the ART clinic because services are provided only twice a week for adults and only once a month for paediatrics for most of the facilities.

ACCESS TO AND UTILIZATION OF ART SERVICES DURING COVID-19

Throughout the COVID 19 era, all facilities continued to provide HIV services. However, nine respondents (Masanga-5, Nyamwaga-1, Muriba-1, Kiongera-1, Bukima-1, Nyegina-1 and Tegeruka-1) skipped attendance to CTC during that period to avoid of congestion and shortage of service providers as some were engaged with community COVID-19 vaccination. Of these, five were females and four males, all of them were aged 21 years old and above.

Clients also reported unavailability of some services such ARV refill 22(6.8%), PrEP drugs 4 (1.2%), Viral load testing 3(0.9%), and Adherence club activities 3(0.9%).

COVID 19 vaccination among PLHIV

Of the 251 eligible clients who responded to the question on COVID 19 vaccination status, 178 (70.9%) were fully vaccinated and 73 (29.1%) are not vaccinated. The unvaccinated included 13 (17.8%) at Bukima, 5 (6.8%) Kiongera, 12 (16.4%) Masanga, 18 (24.7%) Murangi, 8 (11%) Muriba, 3 (4.1%) Nyamwaga, 10 (13.7%) Nyegina and 4 (5.5%) at Tegeruka.

Table 8: PLHIV vaccination status by

Facility Name	Vaccinated	Not vaccinated
Bukima	44	**13**
Kiongera	11	5
Masanga	26	**12**
Murangi	34	**18**
Muriba	6	8
Nyamwaga	15	3
Nyegina	25	**10**
Tegeruka	17	4
Total	**178**	**73**

The largest proportion of unvaccinated clients were female 50 (68%) than men 23(32%). Eight clients skipped their scheduled ART clinic visits to avoid COVID-19 vaccination, including five men and three men: three from Bukima, three at Murangi, one at Nyegina and one at Tegeruka. Reasons for avoiding vaccination included uncertainty about the virus, efficacy, and safety of the vaccine; normalization of COVID-19 being similar to normal common cold and fear of side effects.

HIV PREVENTION SERVICES

Availability of HIV prevention services

An assessment on availability of other HIV preventive services found that condoms was mostly available as reported by 53.4% of the CLM participants; followed 46% PMTCT, 38.9% GBV, 35.8% VMMC, 34% PEP, 27.8% PrEP and 26.2% cervical cancer screening. Variations were recorded across health facilities such that, highest availability of condom (82.6%), PrEP (78.3%) and PEP (73.9%) was recorded at Nyamwaga; PMTCT (78.3%), GBV (92.7%) and Cervical cancer screening (85.4%) at Masanga, VMMC at Nyegina (85.1%) and STI screening was highly reported at Masanga, Nyamwaga, Tegeruka and Nyegina (See table 9).

Table 9: Availability of HIV prevention services by type and facility

HIV Preventive services	*Bukima*	*Kiongera*	*Masanga*	*Murangi*	*Muriba*	*Nyamwaga*	*Nyegina*	*Tegeruka*
Total clients	**82**	**23**	**41**	**66**	**17**	**23**	**47**	**25**
Condoms	55	13	2	28	2	19	36	18
%	**67.1**	**56.5**	**4.9**	**42.4**	**11.8**	**82.6**	**76.6**	**72**
PMTCT	21	4	34	14	13	18	32	14
%	**25.6**	**17.4**	**82.9**	**21.2**	**76.5**	**78.3**	**68.1**	**56**
GBV services	6	3	38	9	12	18	23	17
%	**7.3**	**13.0**	**92.7**	**13.6**	**70.6**	**78.3**	**48.9**	**68**
VMMC	11	15	8	10	11	15	40	6
%	**13.4**	**65.2**	**19.5**	**15.2**	**64.7**	**65.2**	**85.1**	**24**
PEP	22	2	17	8	11	17	24	9
%	**26.8**	**8.7**	**41.5**	**12.1**	**64.7**	**73.9**	**51.1**	**36**
PrEP	21	3	6	5	1	18	34	2
%	**25.6**	**13.0**	**14.6**	**7.6**	**5.9**	**78.3**	**72.3**	**8**
CECAP	1	1	35	9	11	16	12	0
%	**1.2**	**4.3**	**85.4**	**13.6**	**64.7**	**69.6**	**25.5**	**0**
STIs	33	3	35	39	11	19	35	20
%	**40.2**	**13**	**85.4**	**59.1**	**64.7**	**82.6**	**74.5**	**80**

Knowledge, Attitude and Perceptions about PrEP services

Only 89 (47%) of 189 clients reported to have ever heard about PrEP with variation across facilities. For example, Bukima and Nyegina had slightly high proportion of clients who were knowledgeable about PrEP compared to the remaining health facilities. Of those who have heard about PrEP, only 21.6% were informed that PrEP is for those at high heterosexual HIV transmission, 19.4% were informed that PrEP is for preventing new HIV infection for discordant couples, 4% knew that PrEP is only for those who are HIV negative, 19.1% knew that PrEP is for HIV prevention but not for other STIs, 7.5% knew that PrEP is not for post exposure prophylaxes (See table 10). It was noted that knowledge about PrEP was slightly higher among those with college education compared to other education levels (SD=12.8).

Table 10: Knowledge about PrEP by Facility

Topic	Bukima	Kiongera	Masanga	Murangi	Nyamwaga	Nyegina	Tegeruka	Total
For those at risk of sexual HIV transmission	17 (24%)	1(1%)	8 (11%)	10 (14%)	3 (4%)	29 (41%)	2(3%)	70
For people in discordant relationship	13 (21%)	1(2%)	0 (0%)	10 (16%)	6 (10%)	31 (49%)	2 (3%)	63
For HIV Negative	3 (23%)	0 (0%)	1 (8%)	2 (15%)	0 (0%)	7 (54%)	0 (0%)	13
For HIV prevention but not other STIs	6 (10%)	0 (0%)	7 (11%)	10 (16%)	8 (13%)	31 (50%)	0 (0%)	62
Not for PEP	11 (46%)	1 (4%)	1 (4%)	10 (42%)	1 (4%)	0 (0%)	0 (0%)	24
Available for free	9 (14%)	1(2%)	9 (14%)	8(12%)	8 (12%)	30 (46%)	0 (0%)	65

Availability and utilization of PrEP services

Of all 189 clients who responded to the questions related to PrEP, only 28 (14.8%) clients reported to have ever used PrEP, being 13 males and 15 females. The largest proportion i.e., 23/28 (82%) of those ever-used PrEP are aged 25 years and above. For example, of the clients who reported use of PrEP services, two were aged 13-14 years, one 15-19, two are 20-24 and the remaining 23 are aged 25 years and above. ; of these 16 (57.1%) from Bukima, 9 (32.1%), Nyegina, 2 (7.1%) Nyamwaga and one (3.6%) from Masanga health facility

UTILIZATION OF HIV SERVICES FOR DISCORDANT COUPLES

Awareness of Partner HIV status for discordant couples

A total of 230 CLM participants responded to questions related to couple's HIV status including 148 (64.6%) females and 82 (35.4%) males. Of these, 147(63.9%) were informed about their partners HIV status, while 83 (36.1%) were not informed of their partners HIV status. A large proportion of male clients 61(74.4%) were informed compared to their female counterparts 86(58%) across all age groups.

Further analysis on relationship between level of education and disclosure of HIV status among partners revealed that the higher level of education, the more likely for partners to disclose their HIV status. In this case for example, 83% of those with college education, 70% with secondary education, 66.2% with primary education and only 44.4% of those with no education were informed about their partner HIV status.

Awareness and use of ARV drugs among couples

Out of 147 respondents who revealed their partners HIV status 89 (60.4%) were concordant and 58 (39.5%) were discordant couples. An exploration of other factors related to HIV positivity shows slightly more concordant couples amongst those with primary level (61.5%) or no education (56.3%) compared their counterparts with secondary or college education at 53.6%.

Of the 89 concordant couples, 49 (55%) were females and 40 (45%) males. Of these, 81 (91%) were already on ART and eight (9%) were not on ARV. The reasons for not using ARV among concordant couples include the following (i) Their newborn child tested HIV negative (ii) The partner divorced after disclosure (iii) Belief that ARVs will negatively affect their health (iv) Does not like ARVs and one did not disclose reason for not using ARV even after confirming that they are HIV positive.

As for the 58 discordant couples, 38(65.5%) were females and 20 (34.5%) males. Of these only 2 (3.4%) are using PrEP drugs, all females. Of the remaining 56 partners, 26 (45%) are using condoms and 30 (51.7%) are not using any prevention measures. Reasons for not using PrEP included (i) lack of awareness on availability and how PrEP works. (ii) just not ready to take any medication due to uncertainty of side effects (iii) the requirement for daily intake of PrEP is tiresome and (iv) just does not like taking any medication.

FAMILY PLANNING, CERVICAL CANCER SCREENING AND PMTCT SERVICES

Use of Family planning services: A total of 185 women responded to questions regarding family planning. The largest proportion of these i.e., 83 (40.5%) are not using any family planning method. The remaining 36 (17.6%) are using IUCD, Condoms 25 (12.2%) and 21 (10.2%) are using Injectables (See chart 5).

Cervical Cancer Screening: A total of 38 women reported to have received cervical cancer screening services, 23 from their current health facilities and the remaining 15 from other sites. About 126 women reported that they have never been screened for cervical cancer.

Prevention of Mother to Child HIV Transmission: A total of 66 women reported to have ever used PMTCT services. Of these 58 (87.8%) accessed these services at their health facilities, two were referred to other facilities and six were just counseled on PMTCT but not enrolled. The clients reported that they initiated on ART immediately following diagnosis and were provided with health education sessions on every ANC clinic visit. They were encouraged to attend to the nearby RCH clinic as soon as they started experiencing labor pain to increase safety of their newborns during labor and delivery as well as early initiation of early infant ART. Nutritional counseling for mothers and babies and use of condom for prevention of new infections was integrated into the routine RMNCAH education sessions for pregnant HIV positive mothers.

Overall, all CLM participants were satisfied with different elements of PMTCT services:

- ✓ HTS (86.4%)
- ✓ Provision of ARV drugs (80%)
- ✓ Post-delivery counseling (75.8%)
- ✓ Early infant diagnosis (72.7%)
- ✓ Labor and delivery (60.6%)
- ✓ Mother-to-mother peer support (45.5)

Of the 66 PMTCT clients, 50 (83%) have experienced challenges on accessing and utilization of PMTCT services such as distance from the facility (51.5%), the need to provide information for sexual partners (12.1%) and staff attitude (4.5%). Other challenges included drugs stock outs for both pregnant mothers and pediatric ARVs and charges on some services and test obtained at the facility before, during and after delivery.

PMTCT knowledge should be disseminated to all women categories especially before pregnancy to encourage those who are HIV positive on possibilities of delivering uninfected babies. Adolescent and young women should also be targeted with information on PMTCT services to ensure they make right decisions to start ANC visits within the first 12 weeks. Customer care should be improved at PMTCT clinics as pregnant positive women have special needs. In cases of missed ART clinic visit, pregnant mothers should be traced to ensure they have enough drugs, and they comply to treatment. The health facilities should make sure they have enough number of trained ART providers so that they can be switched to other units after a certain period to maintain respect for PLHIV.

AVAILABILITY AND UTILIZATION OF HIV TESTING SERVICES

Out of the 324 CLM participants, 225 (69%) were tested before October 2021 and 96 (29.63%) tested later between October 2021 to June 2022. In order to capture the most recent encounters and relevant experience, we reviewed only the 96 participants. More than half of these clients (52%) were tested at Murangi and Nyegina, also a significant number were tested at Bukima (20%) and Nyamwaga (18%) (See table 12).

Table 11: Utilization of HIV testing services by Facility

Last HTS	Bukima	Kiongera	Masanga	Murangi	Muriba	Nyamwaga	Nyegina	Tegeruka
Oct-Dec 2021	11	0	3	7	0	0	7	0
Jan-Mar 2022	4	0	0	4	0	15	12	1
Apr-Jun2022	4	2	3	14	1	2	6	1
Total	**19**	**2**	**6**	**25**	**1**	**17**	**25**	**2**

Of these, 62 (65%) were tested at their current facilities, 25(26%) at another facility within the council and t6 (6%) at another facility within the region. The remaining three were tested through outreach, home visits and outside the region. Home testing and outreaches are still reaching few clients and might be missing the index clients and other high-risk populations in community hotspots. About 5 clients (5.2%), were tested without pre-test counselling and only two did not receive post-test counselling mainly at Bukima, Nyegina and Masanga facilities.

Reasons for not receiving pre and post rest counselling included two clients who did self-test, three were seriously sick in the state that they could not consent, two clients were infected from their parents and two were tested during mass campaigns, so the queues were very long, and providers did not have enough time to offer pre nor post-test counselling.

Of all the 95 clients that were tested within this year, 87 (91%) received their test results withing 15 to 30 minutes and the remaining received their result withing an hour. This is a very big improvement compared to the previous CLM findings where only 40% of the HTS clients received their test results in hour or beyond. All of these clients reported that their test results were treated with confidentiality, 63 (66%) felt that their test results are not being shared by others without their consent, 12 (12.2%) reported they were alone in the room during the counselling and testing session. The remaining clients did not provide any reason as to why they felt confidentiality was well maintained.

Only one client reported to have experienced stigma and discrimination following HTS at Murangi health facility and it was not reported anywhere.

Index Testing

More than half i.e., 169 (52%) of the CLM participants reported that they had been requested by service provider to provide information for their sexual partners and biological children. Proportion of clients who provided index case contact varied between 22.7% and 61%; where Nyengina (61.7%), Murangi (60.6%), Tegeruka (60%) and Muriba (52.9%) reported larger proportion compared to Bukima (49.4%), Masanga (48.7%), Nyamwaga (47.8%) and Kiongera 22.7%%. Demonstrating a more than 40% missed opportunities for index case testing to increase identification of more at risk population segments.

A total of twelve (3.7%) of all clients reported to have ever experienced violence following disclosure of intimate partner's information for index testing, women were mostly affected 9(2.8%) compared to men 3 (0.9%). This included five clients at Murangi, two clients each at Masanga and Nyegina, and one each for Bukima, Muriba and Nyamwaga. Of these violence's nine (2.8%) were economical, two (0.6%) emotional and one (0.3%) physical. All three men experienced economic violence from their index contacts, whereas women also experienced physical and emotional violence. In this regard, economic violence was prevalent among PLHIV following disclosure of index contacts. Unless the clients are supported with economic wellbeing, index case finding is likely to trigger violence for some of the clients.

Of all the 9 clients who experienced violence following index testing, three clients i.e., one from Bukima, Buriba and Nyegina. For the case of Bukima, the client reported back to the service provider where she was directed to report to the police, but she did not go. From Nyegina, the client reported the matter to the village chairperson whom in turn did not take any action and the last one at Muriba, the client reported to her parents who provided economic and moral support enabling the client to continue taking care of her children. Service providers are therefore requested to work closely with the responsible authorities in order to support their clients in case of backlashes from index case testing activities to ensure testing with fidelity is actualized.

ART providers to cover ART outreach transport costs (Bukima); optimized targeted testing should further be institutionalized to ensure only the right people are tested (Tegeruka); the trained ART providers should be motivated to conduct home visits for their clients especially those missing ART visits (Masanga); numbers of service providers for HIV services is still low, therefore providers should be supported with transport re-imbursement to enable home visits (Murangi); numbers of HTS clients is going down in Kiongera due to minimized sensitization activities while Nyegina is observing and increase both HTS at the facility and in the community and Nyamwaga is experiencing a serious shortage of HIV test kits.

AVAILABILITY AND USE OF ARV DRUGS

Initiation for ARV drugs

Following diagnosis of HIV clients, 69 clients were immediately initiated on treatment, representing 72% of all clients. Seventeen 17 clients (18%) were initiated within two weeks, three clients were initiate in two to three weeks, three were initiated in one to two months and the remaining one client was initiated beyond three months.

General challenges contributing to delays of ART initiation were client's hesitancy 16 (48.8%), ARV Contraindication 7 (21.2%), distance from the CTC and bus fare costs 6 (18.1%) and Stigma 4(12.1%). However, variations across health facilities were reported, where client hesitancy was listed in all facilities except Muriba and Tegeruka, distance to the clinic was listed at Bukima, Murangi, Muriba and Nyegina, Stigma at Masanga and Nyegina, and ARV contra indication at Bukima Masanga Murangi and Tereruka

Regarding baseline tests prior to ART initiation, out of 321 CLM participants who responded to this question, a total of 97 (30%) said that they were required to undergo additional tests prior to initiation of ART. Of these, 41 males representing 34.7% of all male clients and 58 females representing 27.7% of all female clients. The additional tests included liver function (10), Kidney Function (7), Chest x-ray (9), CDC-4 cell count (46), TB (34). Malaria (12), UTI (2) and Typhoid 1.

Facility level disaggregation of clients who required baseline test included Bukima 26 (26.8%), Masanga and Nyegina 21 (21.6%), Murangi 16 (16.5%), Nyamwaga (8.2%) and Kiongera 3 (3.1%), None of these additional tests requested for clients from Muriba.

A total of ten (10) people reported to have encountered challenges to get the test results, 5 at Nyegina, 2 at Masanga and Bukima and one at Nyamwaga.

Routine counselling sessions/visits at ART clinics

During ART scheduled clinic visits and refill session clients reported that they are given information and mentored on different topics, with most popular topics being adherence to ART/ARV and medication management skills. On the other hand, drug interaction and solving adherence barriers are given less efforts. Drug interaction sessions needs additional effort to ensure clients are enlightened on how ARV drugs interact with the body and vice-verse as a very important aspect to revitalize self-awareness against interruption to treatment (See table 12).

Facility deep dive review showed that Murangi and Nyegina were highly rated for overall coverage of counselling sessions across different topics, whereas Kiongera and Muriba performed slightly low.

Table 12: List of topics discussed during routine follow up visits at ART clinics

	Bukima	Kiogera	Masanga	Murangi	Muriba	Nyamwaga	Nyegina	Tegeruka	
Drug interaction	30	13	9	14	15	22	37	8	148
ARV side effects	10	4	31	50	14	23	42	23	197
ART and ARV Adherence	32	9	41	62	16	22	34	18	234
Medication management skills	58	11	41	52	16	22	37	23	260
Solving of adherence barriers	5	3	19	30	16	23	38	20	154
Social support and counselling	17	5	32	37	16	22	44	22	195

Challenges encountered on accessing ARV drugs

Distance, and lack of fare to the ARV drugs pick up point were the main challenge (See table 14). These were mostly reported by clients from Bukima, Tegeruka, Nyegina and Kiongera. This on the other hand highlights the logistical challenges due to physical distance to the facility, but also highlights level of poverty prevailing in those locations that PLHIV are facing challenges to obtain bus fare. Unfriendliness of health workers was predominantly reported at Kiongera health facility.

Table 13: Challenges affecting access to ARV drugs

	Bukima	Kiogera	Masanga	Murangi	Muriba	Nyamwaga	Nyegina	Tegeruka	
ART stock outs	1	1	0	0	0	0	0	0	2
Distance to facility	6	12	2	7	5	2	12	16	62
Unfriendly HWs	1	5	0	1	1	0	1	0	9
Lack of fare	20	3	0	4	3	2	10	1	43
Total	28	21	2	12	9	4	23	17	116

Stock out of ARV drugs was reported in only two facilities (Bukima and Kiongera) in the last six months. Eight clients reported to have run out of ARV drugs, including three from Bukima, Murangi and one each at Nyamwaga and Nyegina facility. This shows that, even when health facilities are well stocked with ARV drugs, some clients may run out of stock and interrupt their treatment.

Reasons for clients running out of drugs included travelling away from the routine site as was reported by two clients from Murangi and Nyegina, in one instance the CTC was clised in Kiongera, the client transferred in from another facility at Bukima and avoiding the facility due to health workers disclosing client's status at Kiongera. Other reasons included lack of fair to the pick-up point (Murangi) and in one instance the mother forgot to collect drugs for their children (Nyegina).

Management of ART services for PLHIV

As per the table 15 below, the largest proportion of CLM participants i.e., 131 (40%) reported that they have never missed a schedules visit, 68 (21%) said that they are usually visited by a health worker in case they miss a scheduled visit, 56 (17.3%) are followed up with a phone can, 51 (15.7) receive a reminder SMS, 15 (4.6%) said nothing is done until they decide to return back to the facility and the remaining three did not respond. Variations at the facility level showed that SMS are mostly used at Nyegina and Muriba; HW visits at Masanga, Murangi and Bukima; Phone calls at Murangi and Bukima. With the largest number of clients who have been followed up using mobile phones and household visit by a HW at Bukima and Murangi, it may be tempting to suggest these two are likely to be effective for bringing back the missing clients on the scheduled follow up visit. However more details may be required to ascertain this plausibility.

Table 14: Approaches used to trace missed follow ups to CTC by Facility

	Bukima	Kiongera	Masanga	Murangi	Muriba	Nyamwaga	Nyegina	Tegeruka	Total
Get an SMS	1	0	4	9	4	12	19	2	**51**
Visit by HW	12	1	20	18	0	6	5	6	**68**
Never Missed	41	19	13	8	13	4	21	12	**131**
Phone call	18	2	0	31	0	0	2	3	**56**
Nothing is done	9	1	3	0	0	0	0	2	**15**

On return to the facility after missing the scheduled visit, 55% of the clients reported that service providers are usually calm and welcoming, 75 (41%) said staff will counsel you on adherence, the remaining three said that staff will reprimand you and one said the staff will send you to the back of the queue (See table 16). Site level comparison shows that, most of the staff at Masanga, Murangi, Nyamwaga and Tegeruka will remain friendly and welcoming even when the client had missed a scheduled CTC visit. Staff at Bukima, Murangi and Nyegina will counsel the client on adherence.

Few clients also reported that staff at Bukima, Kiongera, Murangi and Nyamwaga would reprimand the client and a handful reported that staff would send you the back of the queue at Bukima and Masanga while giving priority to those will good adherence to treatment and follow up schedules (Table 13).

Table 15: Provider response to clients following missed ARV follow up

	Bukima	*Kiongera*	*Masanga*	*Murangi*	*Muriba*	*Nyamwaga*	*Nyegina*	*Tegeruka*	*Total*
Welcoming	9	4	21	19	2	19	8	17	**99**
Reprimand	1	1	0	2	0	1	0	0	**5**
Counsel	23	0	4	28	0	3	17	0	**75**
Back of the queue	1	0	1	0	0	0	0	0	**2**
Total	**34**	**5**	**26**	**49**	**2**	**23**	**25**	**17**	**181**

Experience of PLHIV during refill of ART services

Time spent at the facility when clients visit for ARV refill ranged between 30 minutes to five hours. More than half i.ee 219 (67.8%) of the 323 clients, completed their refill visit withing 30 minutes, followed by 64 (19.8%) who spent one hour and 21 (6.5%) spent two hours (Table 17). Slight delays were reported at Masanga where 87.8% of its clients spent two hours and above waiting for ARV refill. Overall waiting time for men was slightly shorter among men compared to women, as higher as 89% of males spent 30 minutes to one hour compared to 86% for women. There was no difference on time spent on refill across all age groups.

Table 16: Time spent at the facility during ARV drugs refill

	Bukima	Kiongera	Masanga	Murangi	Muriba	Nyamwaga	Nyegina	Tegeruka	Total
30 minutes	68	2	4	36	17	21	46	25	**219**
1 hour	13	19	1	30	0	1	0	0	**64**
2 hours	1	0	18	0	0	1	1	0	**21**
3 hours	0	1	13	0	0	0	0	0	**14**
4 hours	0	0	4	0	0	0	0	0	**4**
5 hours	0	0	1	0	0	0	0	0	**1**
Total	**82**	**22**	**41**	**66**	**17**	**23**	**47**	**25**	**323**

Reasons for delayed delivery of refill services varied across health facilities (See table 15). Long queues and shortage of HW were reported at Bukima and Masanga and delayed opening of CTC was reported at Masanga, Murangi and Tegeruka.

Table 17: Reasons of delayed delivery of services during ARV drug refill visits by facility

	Bukima	Kiongera	Masanga	Murangi	Nyamwaga	Tegeruka	Total
Long queues	29	0	18	1	3	0	51
Shortage of HWs	3	2	0	0	0	0	5
Delayed opening	0	0	2	5	0	1	8

Overall client's consultation time at CTC ranged between 30 minutes and three hours. Most of the client's-255 (79.7%) spent 30 minutes and 56 (15.5%). There were more delays i.e., more than 3 hours at Masanga (8) and Kiongera facilities

Existence and roles of support groups for PLHIV

A total of 322 clients responded to the questions related to groups and group membership, of these 101 (32.2%) reported to be members of PLHIV support group in their community. The proportion of men who are members of support groups was slightly larger (34.2%) compared to their female counterparts (31%). More than half of clients who reported to be member of support groups were adults aged 25year and above i.e., 57 (56.4%), followed by the younger adolescents aged 10 -14years i.e., 16 (15.8%), children aged 5-9 years i.e., 15 (14.9%) and the smallest number of adolescents aged 15 -19 years i.e., 7 (6.9%). although, the overall proportion of PLHIV who are participating in support group is low, adolescents (15-19years) are even fewer. Studies on adherence to ART for this group have demonstrated a challenge while most of new HIV infections are highly affecting this age group. Additional information and innovative youth focused interventions might be required to ensure this group have access and engage in PLHIV support group activities.

Reasons for not engaging into PLHIV support groups

Responding to questions on reasons for not engaging in support group activities for PLHIV, 62(30.1%) said these groups does not exist in their community, 58 (27.2%) are not aware about these groups, 30 (14.6%) are not interested with group engagements, 15 (7.3%) do not have time, another 15 (7.3%) fear that engagement in group will result into mass exposure of their HIV status, and 5 (2.4%) do not see the benefit (See table 19).

Table 18: Reasons for PLHIV not engaging themselves in ART adherence support groups

	Bukima	Kiongera	Masanga	Murangi	Muriba	Nyamwaga	Nyegina	Tegeruka	Total
Not interested	12	2	0	10	4	1	1	0	30
Don't have time	6	0	0	4	0	4	1	0	15
Don't see the benefit	4	0	0	0	0	0	1	0	5
There isn't one	4	4	10	20	3	1	1	20	63
Fear of disclosure.	2	1	0	3	0	0	9	0	15

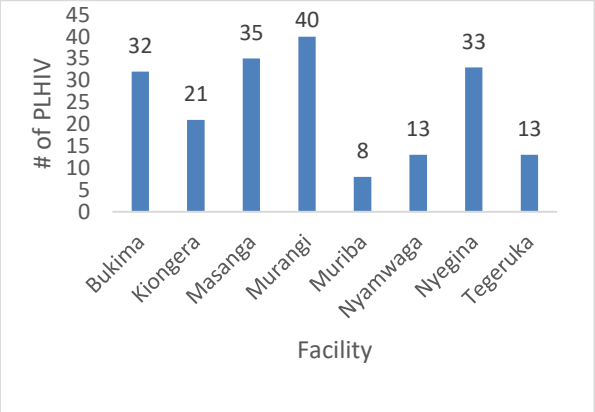
Other four participants reported that they had previous engaged in these kinds of groups but unfortunately these groups failed or collapsed due to lack of skills and competency to manage them, therefore they do not believe in them. Seven children believe that groups are suitable for adults, as for them they are still too young and some of them must attend school sessions from morning to evening, they cannot not have enough time. Some of the children believed their parents or care takers should be informed about these groups so that they can be represented to harness the group benefits. Fear of disclosure of status and stigma was commonly mentioned by males and adolescents and fear of violence from controlling partners was also mentioned by women.

"…Mume wangu ni mkali hawezi kukubali nijiunge katika hivi vikundi…"

HIV Viral load testing (HVL)

A total of 195 clients representing 60.6% of 322 CLM participants who responded to this question reported that they are informed about their Viral load status. Of these, 115 females and 79 males, representing 56.3% of 204 female and 66.3% of 119 male participants. A slight larger proportion of children and adolescents aged 0-19 years were informed of their HVL status 64.4% compared to adults 20years and above at 59%.

Chart 3: Number of PLHIV who are informed of their HVL status



The largest proportion at Kiongera (91%), Masanga (85%) and Nyegina (70%) were informed about their viral load status, where Bukima reported the lowest i.e., 39% (See chart).

Most recent HVL, almost 280 (87%) had tested within the last six months, including 46 in less than a month ago, 110 one to three months ago, and four clients tested four to six months ago. The remaining 11 tested more than a year ago and others could not remember when they last tested.

Of the 280 clients, 271 (97%) reported that they were informed by service providers on the importance of undertaking HVL test. However, a significant difference was noted between those who reported that they were informed about their HVL test results i.e., 195 and those who reported that they were tested i.e., 280. This demonstrates that, there is a significant number of clients who get their samples collected for HVL, but they are not informed of the outcomes. Facilities needs to take note of this to increase adherence of clients to HVL follow up visits.

When asked about their viral load suppression status, a total of 192 (59.3%) clients reported that they were virally suppressed, 31 (9.6%) were not suppressed and 101 (31.2%) clients are not informed. The proportion of those who are virally suppressed was much higher in Kiogera (87%), Masanga (80.5%), Tegeruka (80%) and Nyamwaga (78.3%) compared to Murangi (60.6%), Bukima (46.7%), Nyegina (36.2%) and Muriba (29.4%) (see table 17) and was higher among men 74 (62%) compared to women 117 (57.4%) of all men and women tested.

Table 19: Knowledge of PLHIV an Viral load suppression status

	Bukima	Kiongera	Masanga	Murangi	Muriba	Nyamwaga	Nyegina	Tegeruka	Total
Yes	39	20	33	40	5	18	17	20	192
No	7	1	4	3	1	1	14	0	31
I don't know	36	2	4	23	11	4	16	5	101
Total	**82**	**23**	**41**	**66**	**17**	**23**	**47**	**25**	**324**

CHALLENGES

Challenges encountered on management of VLD samples included Transport costs, reliability and timeliness, Sample rejection attributed to poor sample taking and management, distance to the testing site and lack of electronic VLD tracking mechanisms as well as poor attendance of PLHIV on the VLD testing due dates. To address this challenge the health facility and CTC incharges requested for refresher training support especially on management of blood sample slides from the point of extraction, transport etc. VL testing hubs should be establishes at each regional hospital to shorten logistics and costs to Bugando. Kiongera health facility requested for placement of laboratory technician who is knowledgeable with use of Gene-expert machine to assist with onsite VL testing activities for its clients and those from neighboring facilities.

As part of the CLM activity with CTC personnel's, the main challenge reported was delayed return of feedback on VLD test results. Sometimes blood samples are contaminated or get lost along the way. As a result, sometimes blood samples are taken from clients more than twice for resubmission and demoralize client's uptake of ART drugs. To sustainably address this challenge, service providers from hospitals and health centers should be trained and provided with VLD test machines to ensure these tests are done and results are provided to the clients in a timely manner.

DISCUSSION AND CONCLUSIONS

There had been a variation in number of wards reported in the facility catchment areas from 23 to 35 and number of people in the facilities catchment population from 58,335 to 81,184 people during the first round compared to second CLM round. This calls for further verification on quality of data to ascertain if health facilities are using correct data for planning as in a normal situation the catchment areas and population cannot be easily altered within two months. There had been a significant increase in number of PLHIV from 2,939 to 3,029 - a three percent point increase from February to July 2022. This increase can be credited to efforts on implementing optimized and targeted HTS for high-risk populations through outreaches and home to home testing in hotspot areas.

Although COVID-19 prevention protocols are adhered to in most of the facilities, face masking and hand washing equipment should be well maintained especially on the dedicated CTC day. Prioritizing PLHIV with known chronic illnesses on refill day assures them of safety as the exposure to COVID – 19 is minimized. Although all facilities well equipped with supplies and equipment to serve a reasonable number of clients per day, shortages were reported on pediatric ART across the facilities, challenges on reagents for CD4 count, timeliness of HVL results. Although continuous quality improvement (CQI) initiative is directly supported using council's own funding sources, most of HIV services e.g., Provision of CTC services, PMTCT, PrEP, HTS, data collection, reporting and training of health workers is driven by supported by Amref Health Africa. None of these facilities are receiving funding support for groups for adherence to treatment. Challenges affecting availability of PrEP services included unavailability of trained, missing of clients on the agreed appointment dates and transport costs incurred by clients from their homes to the facility.

Targeted HTS for commercial sex workers, small scale miners, fisherfolks and fishing communities' sexual partners and biological children. Index cases are screened for experiences of violence from their partners prior to providing contact details for index testing, violent partners are not tracked. In case violence is experienced clients does not get support from the facility rather referred to police and community leadership. These legal and community channels could bring meaningful outcomes to the respective clients is they are engaged.

Efforts are therefore required to ensure these facilities are granted with access to the result online. The MoH should consider revising the guidelines to allow whole blood DNA polymerase chain reaction (DNAPCR)for EID using Gene X-pert machines and support training of lab technicians to increase number of sites offering point of care (POC) testing. During discussion with CHMTs it was cited that some facilities in Mara region for example Mara region public facilities has at least 12 Gene-Xpert machines, therefor they need training support, supply of reagents, cartilages, and maintenance support. Provision of Isoniazid Preventive Therapy (IPT) for to children who live with adults diagnosed with TB is not widely offered in the supported facilities. Adherence to ART refill is very high at 82%, this is however still low towards achieving the 95 targets. Innovations such as community, home to home or group refill can change the narrative. To further avoid uninterrupted treatment for PLHIV, facilities should consider use of technology like SMS and phone. These efforts should be complemented by availability of equipment and instruments such as mobile phones and airtime. This included giving them priority to collect their drugs and conducting other additional tests as may be required.

Other laboratory tests are required for PLHIV include TB LAM, CD4 count and Malaria, however, most of reagents for conducting these tests requires one to three months before they are delivered at the facility. Service providers and incharges should be well oriented with quantification, projects and timely ordering and documentation to avoid delays on receiving necessary tests.

Sometimes blood samples are contaminated or get lost before reaching the central hub, sometimes blood samples are taken from clients more than twice for resubmission and demoralize client's uptake of ART drugs. Challenges encountered on management of HVL samples included Transport costs, reliability and timeliness, Sample rejection attributed to poor sample taking and management, distance to the testing site and lack of electronic HVL tracking mechanisms as well as poor attendance of PLHIV on the HVL testing due dates. To address this challenge the health facility and CTC incharges requested for refresher training support especially on management of blood sample slides from the point of extraction, transport etc. HVL testing hubs should be establishes at each regional hospital to shorten logistics and costs to Bugando. Kiongera health facility requested for placement of laboratory technician who is knowledgeable with use of Gene-expert machine to assist with onsite HVL testing activities for its clients and those from neighboring facilities.

Client satisfaction was reported to be very high with CTC providers reported to be friendlier (91.7%). Queues at the ART clinics were not too long as reported by almost 96% of the clients. The main reason for long queues was presence of too many clients at the ART clinic because services are provided only twice a week for adults and only once a month for paediatrics for most of the facilities.

Use of ARV drugs among concordant couples were high at 91% and only 3.4% of discordant couples are using PrEP. Reasons for not using ARV among concordant couples include (i) lack of awareness on availability and how PrEP works. (ii) just not ready to take any medication due to uncertainty of side effects (iii) the requirement for daily intake of PrEP is tiresome and (iv) just does not like taking any medication.Use of Family planning services is very low among PLHIV at 40.5%. Cervical Cancer Screening is done among 38/126 eligible women.

Of the 66 PMTCT clients, 50 (83%) have experienced challenges on accessing and utilization of PMTCT services such as distance from the facility (51.5%), the need to provide information for sexual partners (12.1%) and staff attitude (4.5%). Other challenges included drugs stock outs for both pregnant mothers and paediatrics ARVs and charges on some services and test obtained at the facility before, during and after

delivery. PMTCT knowledge should be disseminated to all women categories especially before pregnancy to encourage those who are HIV positive on possibilities of delivering uninfected babies. Adolescent and young women should also be targeted with information on PMTCT services to ensure they make right decisions to start ANC visits within the first 12 weeks. Customer care should be improved at PMTCT clinics as pregnant positive women have special needs. In cases of missed ART clinic visit, pregnant mothers should be traced to ensure they have enough drugs, and they comply to treatment. The health facilities should make sure they have enough number of trained ART providers so that they can be switched to other units after a certain period to maintain respect for PLHIV.

Of all the 95 clients that were tested within this year, 87 (91%) received their test results withing 15 to 30 minutes and the remaining received their result withing an hour. This is a very big improvement compared to the previous CLM findings where only 40% of the HTS clients received their test results in hour or beyond. All of these clients reported that their test results were treated with confidentiality, 63 (66%) felt that their test results are not being shared by others without their consent, 12 (12.2%) reported they were alone in the room during the counselling and testing session. The remaining clients did not provide any reason as to why they felt confidentiality was well maintained.

Only one client reported to have experienced stigma and discrimination following HTS at Murangi health facility and it was not reported anywhere.

Enumeration for index testing was reported by only 169 (52%) participants, demonstrating a more than 40% missed opportunities for index case testing to increase identification of more at risk population segments. Following diagnosis of HIV clients, 69 clients were immediately initiated on treatment, representing 72% of all clients. General challenges contributing to delays of ART initiation were client's hesitancy 16 (48.8%), ARV Contraindication 7 (21.2%), distance from the CTC and bus fare costs 6 (18.1%) and Stigma 4(12.1%). Regarding baseline tests prior to ART initiation, a total of 97 (30%) said that they were required to undergo test for liver function (10), Kidney Function (7), Chest x-ray (9), CDC-4 cell count (46), TB (34), Malaria (12), UTI (2) and Typhoid 1. A total of ten (10) people reported to have encountered challenges to get the test results, 5 at Nyegina, 2 at Masanga and Bukima and one at Nyamwaga.

Distance, and lack of fare to the ARV drugs pick up point were the main challenge (See table 14). These were mostly reported by clients from Bukima, Tegeruka, Nyegina and Kiongera. This on the other hand highlights the logistical challenges due to physical distance to the facility, but also highlights level of poverty prevailing in those locations that PLHIV are facing challenges to obtain bus fare. Unfriendliness of health workers was predominantly reported at Kiongera health facility.

Existence and membership of PLHIV in adherence support groups is still very low only 101 (32.2%) reported to be members of PLHIV support group in their community. Reasons for not engaging in support group activities for PLHIV included lack of knowledge about the groups, groups does not exist in their community, not interested with group engagements, do not have time, fear exposure of their HIV status, and do not see the benefit, others had previously engaged in these kinds of groups but unfortunately the groups failed or collapsed due to lack of skills and competency to manage them, therefore they do not believe in groups. Efforts should be made to motivate them to join groups for enhancing adherence.

Although most of the PLHIV have tested for HVL, still more than 45% of PLHIV who are on treatment are not aware of their viral load status and was higher among men 74 (62%) compared to women 117 (57.4%) of all men and women tested.

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