



Centre for Health Solutions - Kenya

Preferred Partner for Health Solutions

# TEGEMEZA PLUS END OF PROJECT REPORT

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## LIST OF ACRONYMS

Acronym	Meaning	Acronym	Meaning
ACF	Active Case Finding	CMLC	County Medical Laboratory Coordinator
ADR	Adverse Drug Reactions	CQI	Continuous Quality Improvement
APOC	Adolescence Package of Care	CRAG	Cryptococcal Antigen
aPNS	Assisted partner notification services	CSM	Clinical Systems Mentorship
ARV	Antiretroviral	DBS	Dried Blood Spot
AYA	Adolescents and young adults	DHIS	District Health Information System
BMI	Body Mass Index	DICES	Drop-in Centers
CASCO	County Aids and STI Control Officer	DQA	Data Quality Assurance
CBO	Community-Based Organization	DR TB	Drug-Resistant Tuberculosis
CCC	Comprehensive Care Centers	DTG	Dolutegravir
CDC	Centers for Disease Control and Prevention	DSD	Differentiated service delivery
CHEW	Community Health Extension Worker	eHTS	Electronic HIV testing services
CHMT	County Health Management Team	EID	Early Infant Diagnosis
CHS	Centre for Health Solutions	EMR	Electronic Medical Records
CHV	Community Health Volunteer	eMTCT	Elimination of Mother to Child Transmission
CHW	Community Health Worker	EQA	External Quality Assurance
CSO	Civil society organization	FSW	Female sex worker

FDC	Fixed-dose combination	IPD	In-Patient Department
FP	Family Planning	IPT	Isoniazid Preventive Therapy
GBV	Gender-based Violence	IQC	Internal Quality Control
HC	Health Centers	KEMSA	Kenya Medical Supply Agency
HCW	Health Care Worker	KHQIF	Kenya HIV Quality Improvement Framework
HEI	HIV-Exposed Infant	KP	Key populations



HIS	Health Information system	LAM	Lipoarabinomannan TB Kit
HIV	Human Immunodeficiency Virus	LMIS	Logistics Management Information Systems
HIVDR	HIV Drug Resistance	M&E	Monitoring and Evaluation
HMIS	Health Management Information System	MCH	Maternal and Child Health
HMT	Health Management Team	MOH	Ministries of Health
HRIO	Health Records and Information Officers	MSM	Men who have sex with men
HTS	HIV Testing Services	NASCOP	National AIDS and STI Control Program
ICF	Intensified Case Finding	NNT	Number needed to test
iHRIS	Integrated Human Resources Information System	NGO	Non-Governmental Organization

NHIF	National Hospital Insurance Fund	PrEP	Pre-Exposure Prophylaxis
NHRL	National HIV Reference Laboratory	POC	Point of care
OI	Opportunistic Infection	PT	Proficiency Testing
OJT	On-The-Job Training	PY	Program Year
OTZ	Operation triple zero	QA	Quality Assurance
OVC	Orphans and Vulnerable Children	QA/QI	Quality Assurance/Quality Improvement
PAMA	Papa and Mama clinic	QI	Quality Improvement
PCR	Polymerase Chain Reaction	QIT	Quality Improvement Team
PEP	Post Exposure Prophylaxis	RRI	Rapid results initiative
PHDP	Positive Health, Dignity & Prevention	SCH	Sub-County Hospital
PLHIV	People Living With HIV	SCHRIO	Sub-County Health Records Information Officer
PMTCT	Prevention of Mother-To-Child Transmission	SCMLC	Sub-County Medical Laboratory Coordinator
aPNS	Assisted Partner Notification Services	SDP	Service Delivery Point
PPB	Pharmacy and Poisons Board	SIMS	Site Improvement Through Monitoring System
RTK	Rapid Test Kits	SNS	Social Network Strategy
RTCQI	Rapid Test Continuous Quality Improvement		



## EXECUTIVE SUMMARY

CHS is a Kenyan, not-for-profit organization that utilizes 100% local expertise and strategic partnerships to implement evidence-informed solutions and interventions to existing and emerging public health concerns. CHS has implemented HIV service delivery projects in Central Kenya for the last 12 years, initially as a sub-awardee of ICAP, Columbia University and then later as a prime awardee of the Tegemeza Project (2012 – 2017) and its follow on Tegemeza Plus (2017 – 2022). These projects were implemented with funding from the U. S President’s Emergency Plan for AIDS Relief through the Centers for Disease Control and Prevention (PEPFAR/CDC).

The project was named Tegemeza, Swahili for ‘sustain’ as it sought to provide, strengthen and innovate sustainable systems for HIV service delivery. The project commenced its support to 87 health facilities across four counties in Central Kenya; Murang’a (42), Nyeri (34), Laikipia (2) and Nyandarua (9) Counties. Fifty-four offered comprehensive HIV prevention, care, and treatment and TB/HIV services and 34 offered Prevention of Mother to Child Transmission (PMTCT) services.

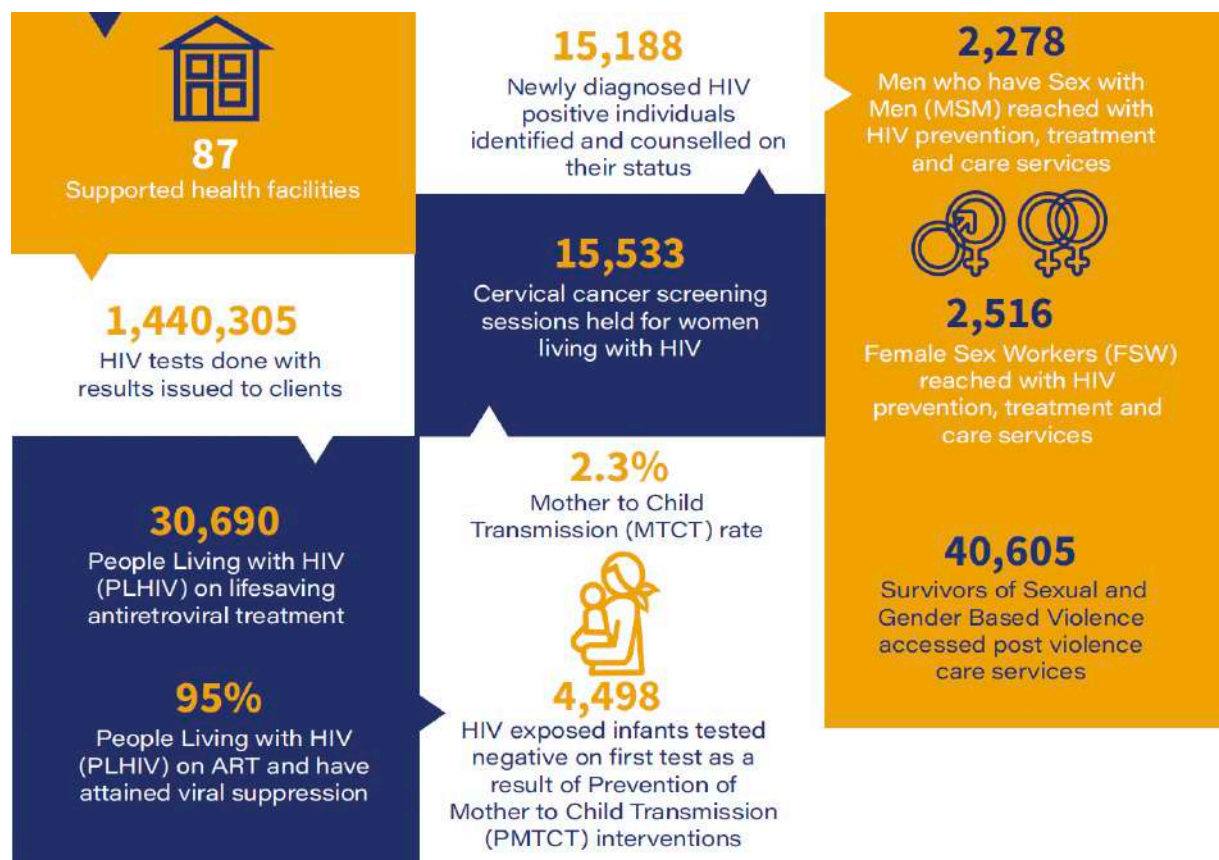
The implementation of the Tegemeza plus project was aligned to the global United Nations Programme on HIV/AIDS (UNAIDS) 95 – 95 – 95 fast track targets on case identification, initiation on ART, retention in care and viral suppression.

The scope of support included: HIV Testing Services (HTS), linkage to ART, initiation of newly diagnosed People Living with HIV (PLHIV) on ART, TB/HIV, PMTCT, continuity in care, laboratory support, and health management information systems. In the ensuing years, the project scope expanded to include technical support for the provision of pre-exposure prophylaxis (PrEP), cervical cancer screening, Sexual and Gender-Based Violence (SGBV) and Key Populations (KP) services.

Capacity-building support was further extended to county and sub-county health management teams in the management and implementation of high quality HIV prevention, care and treatment programs in line with the PEPFAR shift towards direct government-to-government funding for HIV service delivery.



## ACHIEVEMENT HIGHLIGHTS



## HIV TESTING SERVICES

Tegemeza Plus commenced soon after the release of the UNAIDS Fast-Track approach that aimed at averting nearly 28 million new infections and 21 million AIDS-related deaths globally by 2030. There was global consensus to aim for 90 – 90 – 90 targets; that by 2020, 90% of people living with HIV would know their HIV status, 90% of people who know their status would be receiving treatment, and 90% of people on HIV treatment would have a suppressed viral load.

HIV Testing Services (HTS) is a critical component in HIV programming as it provides an entry into HIV care or prevention services, depending on the testing outcome. Tegemeza Plus implemented a variety of targeted and innovative HTS approaches, resulting in 1,440,305 HIV rapid tests done, through which 15,188 people were newly diagnosed with HIV.

Provider Initiated Testing and Counselling (PITC) in health facilities was the cornerstone of HTS and was the primary driver of identification contributing to the majority of new HIV-positive persons identified. PITC was complemented significantly by newer identification modalities such as index case testing (also known as Partner Notification Services, PNS), HIV Self-Testing (HIVST) and, towards the end of the project, Social Network Strategy (SNS).



The project’s PITC approach entailed deploying trained HTS providers to screen all persons seeking health services at health facilities for HTS eligibility using a standardized HTS eligibility screening criteria. Persons deemed as eligible for HTS were tested for HIV after giving their consent.

During the implementation of PITC, it was observed that less than 100% of persons seeking health services were routinely screened for HTS eligibility. This gave rise to HTS coverage as an important indicator of optimal deployment of HTS provider personnel and screening efficiency and the HTS program. The project regularly monitored HTS coverage and addressed determinants of successful HTS coverage by, among others:

- Ensuring optimal deployment of HTS providers based on patient workload
- Ensuring facility departmental coverage
- Rolling out after-hours and weekend testing

These measures led to a gradual improvement in HTS coverage over the years.

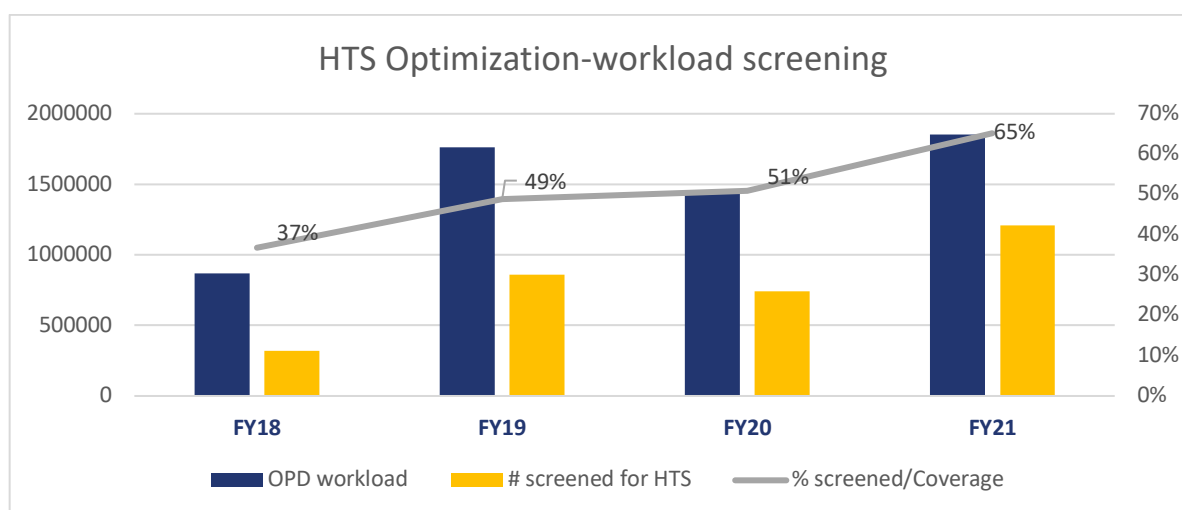


Figure 1: HIV Testing Services (HTS) optimization (facility workload vs screened)

Over time a need to achieve greater HTS efficiency (reduction in the overall number of tests done with sustained or even improved HIV-positive case identification) arose; this was made acute by a decrease in supply of HIV Rapid Test Kits (RTKs) and a cap on the total number of HTS providers who could be deployed using project resources.

The introduction of more robust HTS eligibility screening criteria in 2017 and subsequent training and deployment of some HTS providers designated as ‘screeners’ contributed to improved HTS efficiency through monitoring and review of program data revealed that a relatively high number of people needed to test (NNT) was still prevalent at 144 HIV tests to identify one positive client.



This led to a further revision of the HTS eligibility screening criteria in 2019 and enlisting of all HTS providers as screeners but on a rotational basis. The project sustained mentorship on eligibility screening through on-the-job training (OJT), role-plays, use of eligibility sit-in sessions, setting and monitoring of NNT targets at program, facility and county levels. This gradually led to an improvement in HTS efficiency with an achievement by the project of a NNT of 58 in FY22.

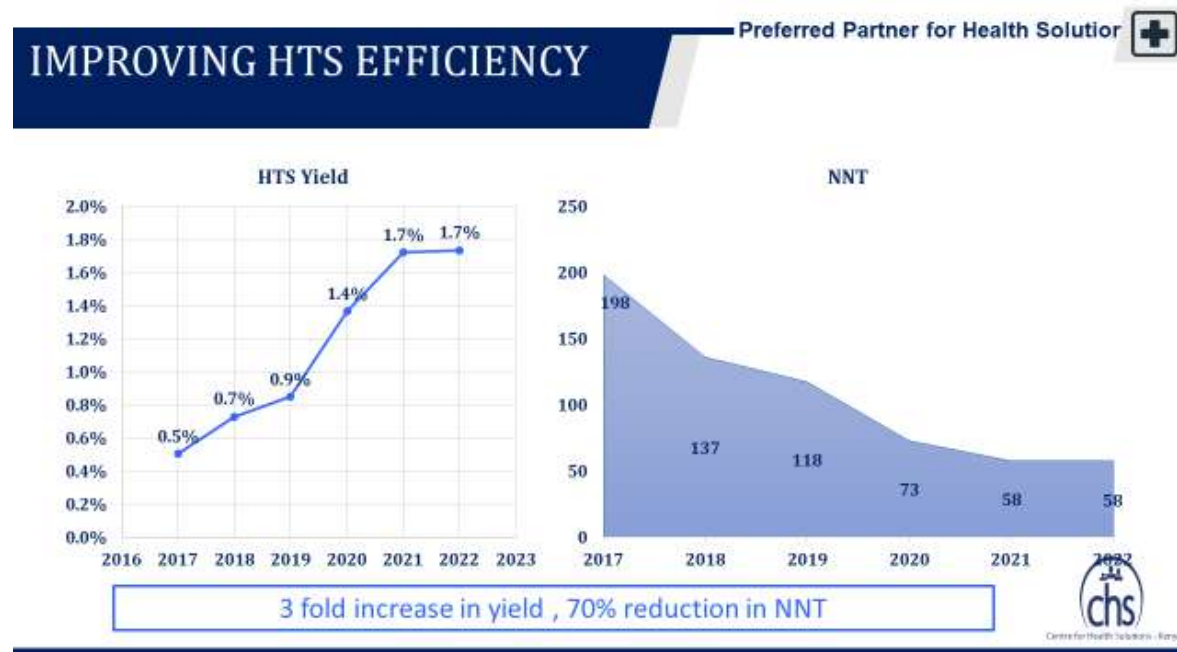


Figure 2: Numbers Needed to Test (NNT) and % Yield

A subsequent review of program data revealed that though the testing efficiency had improved, the overall number of individuals identified as HIV positive was not growing. This warranted a programming shift to focus on the implementation, with fidelity, of high-yielding testing strategies and their saturation in strategic facility departments. These strategies included index testing, screening and testing in inpatient departments (IPD), TB/chest clinics and STI clinic among others.

In 2018, 20 HTS providers drawn from high and mid-volume facilities underwent a three-day training as PNS focal persons and were afterwards tasked with spearheading index testing activities in those facilities. Tegemeza Plus further trained all the 202 HTS providers across the four project counties. The training was customized to build provider skills in sexual contact elicitation as well as use of phone call scripts to enhance uptake of workplace/home visit testing by elicited sexual contacts reached through phone calls.

Mentorship through OJT, CMEs, role-plays and PNS sit-in sessions by the program team on elicitation, follow up and testing of the eligible continued. HTS providers were mentored to lean towards assisted provider notification approach as opposed to contract notification approach. Other best practices that emerged in the implementation of PNS included fidelity to a direct



phone call script to invite contacts for testing. These training and mentorship measures led to improved uptake of PNS.

Other contributors to the uptake in case identification through index testing were use of structured rescreening at the HIV Comprehensive Care Clinics (CCC) coupled with introduction of rescreening diaries to help providers book clients already in care for re-elicitation during their next appointment. An elicitation job aid was adopted in 2021, as a best practice to standardize and improve elicitation. These interventions made a positive impact with elicitation trends moving from 1:0.6 in FY18 to approximately 1:1 in FY22.

The importance of the investment in index testing has been borne out by the results. In 2017 PNS contributed just 6% of all HIV positive persons identified whereas in FY22 39% of all case identification was through PNS.

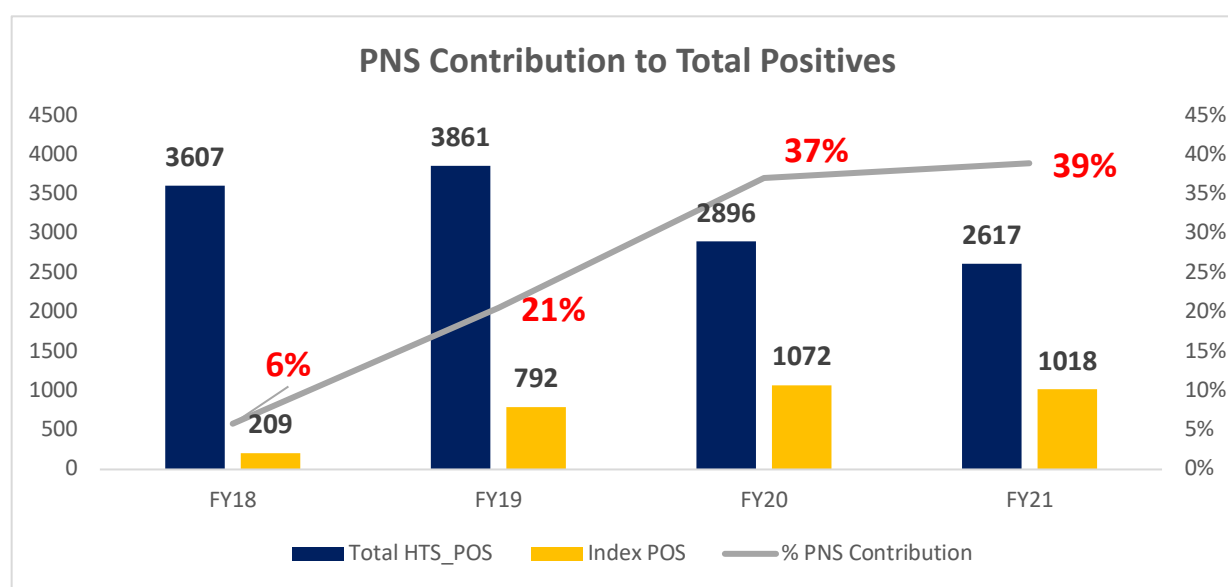


Figure 3: PNS Contribution to Total Positives

Index testing quality improvement measures included ensuring that it was offered in a safe and ethical manner. In August 2020, 177 HTS providers were supported by Tegemeza Plus to complete training on safe and ethical index testing as guided by PEPFAR. As a result all project supported HTS providers are knowledgeable on proper index case testing procedures, adherence to 5Cs of HIV testing, intimate partner violence (IPV) risk assessment and provision of first-line response, secure storage of patient information among others.

Tegemeza Plus continued to implement the linkage model (see fig. 4 below) designed and rolled out during the previous Tegemeza project. This model placed emphasis on; physical escort of newly-identified clients to the comprehensive care clinic (CCC) both within the facility (intra-facility linkage) and also from the community (extra-facility linkage), correct documentation of linkage through use of national referral forms and registers and capacity building of HTS providers in linkage through post-test sit-in sessions to improve the quality of post-test counselling.

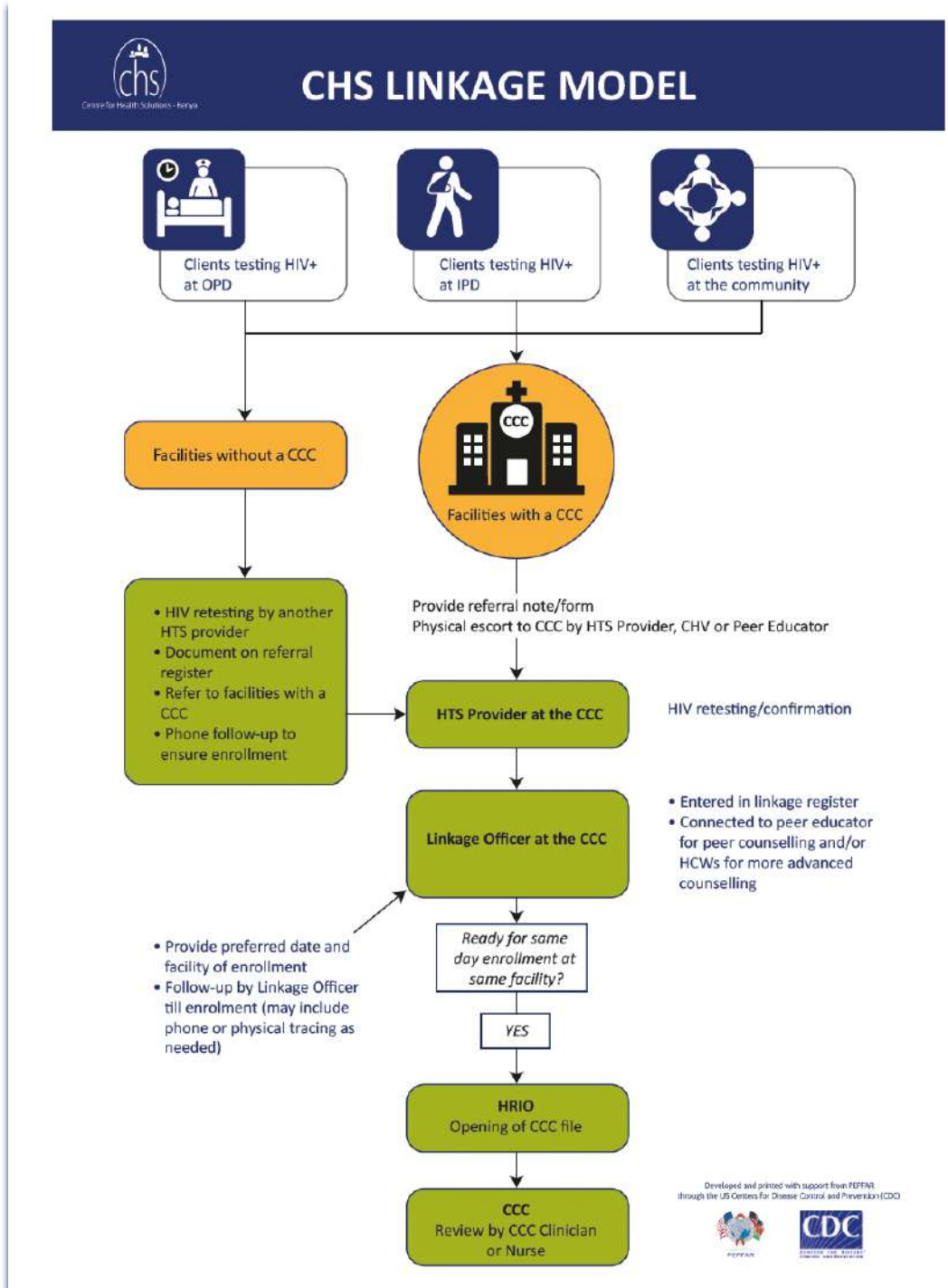


Figure 4: CHS Linkage Model

Robust monitoring of linkage trends (weekly) at program level but also cascading to facility level allowed Tegemeza Plus to achieve >93% linkage in FY22 as shown in the graph below. However, there exists opportunities to achieve >95% linkage.

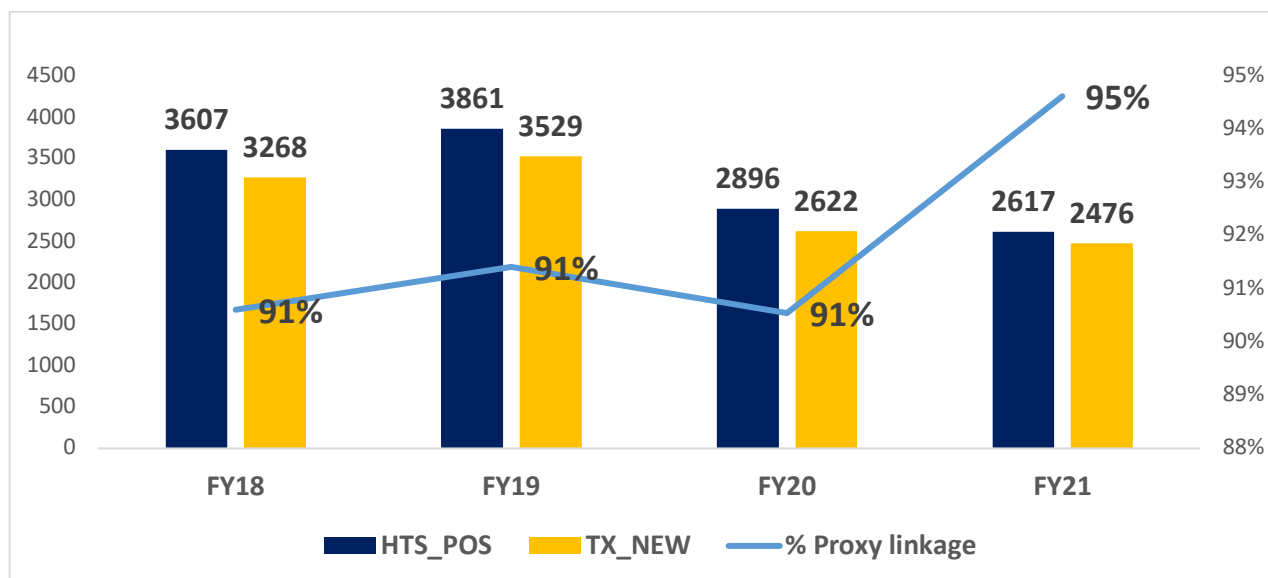


Figure 5: PNS Contribution to Total Positives

The project implemented HTS Quality Assurance (QA) measures to ensure that clients received correct results, a crucial element of the WHO's 5Cs of HTS. The project supported participation of HTS providers in all rounds of the national proficiency testing (PT) program and aimed at 100% PT enrollment and participation by all providers in Murang'a and Nyeri. Corrective actions for HTS providers who failed to achieve a satisfactory score followed all PT rounds.

Other HTS QA measures supported by the project included; biannual observed practice for HTS providers, quarterly counselor support supervision, quality control for RTKs, mentorship for providers to conduct counselor self-assessment, and adherence to MOH approved testing algorithm. The project engaged four Rapid Testing Continuous Quality Improvement (RTCQI) champions in 2020 to provide support for HTS QA activities at facility level.

The project instituted mitigation measures to cope with the COVID-19 interruptions that included procurement of 14 HTS screening booths as a substitute for those HTS screening points converted to COVID-19 screening points in high-volume facilities. HTS providers turned to targeted HIVST kits distribution in the community to improve access to testing. Further, HTS providers under-utilized due to low facility utilization rates concentrated their efforts on index testing at the CCC and community to continue identifying HIV positive persons. The project lobbied county health management teams (CHMTs) and facility management teams to allow HTS eligibility screening and testing at OPDs to continue, as long as the COVID-19 prevention of transmission protocols were observed. These mitigation measures led to a gradual recovery in testing and case identification in Q3 FY20 and beyond.

## CARE AND TREATMENT

The implementation approach of HIV care and treatment by the Tegemeza Plus project was anchored in the tenets of the UNAIDS Fast-Track Strategy as well as the national ART treatment guidelines issued by the Ministry of Health's National AIDS and STI Control Program (NAS COP). Both of these documents promoted a shift from a 'business as usual' approach to care and



treatment to a more patient-centered, flexible service delivery approach hinged on offering immediate treatment after a positive HIV test (known as test & treat in Kenya), committed to seeking out populations (such as men) who were under-represented in care and treatment, Multi Month Dispensing (MMD) as well as being rights based.

Tegemeza Plus deliberately sustained investments in human resources for health (HRH) to address key staffing gaps and ensure that facility multidisciplinary teams (MDTs) were equipped to carry out HIV service delivery. The project also provided technical (capacity building) and material support to ensure provision of quality health care services to PLHIV. Capacity building approaches employed to ensure quality service provision by the MDTs included:

- On-the-job training
- Chart reviews
- Case discussions
- Micro teaching
- Data driven mentorship
- Continuous quality improvement activities for poorly performing indicators.

### **Adult Care & Treatment**

Tegemeza Plus maintained an overall positive ART cohort growth trajectory. The variability in the treatment cohort was primarily attributable to an implementing partner county rationalization exercise conducted by PEPFAR that led to the transition of two (2) health facilities in Laikipia County at the end of FY19 and nine (9) facilities in Nyandarua county at the end of FY20 to a United States Agency for International Development (USAID) funded implementing partner and a further transition of 12 and eight (8) sites in Nyeri & Murang'a counties previously supported by a USAID implementing partner to Tegemeza Plus.

Tegemeza Plus transitioned seven (7) facilities in Nyeri County (Kieni West sub-county), to a CDC implementing mechanism implemented by the Nyeri CHMT. Overall, the population of patients on ART in grew from 25,007 in four (4) counties at the end of FY18 to 30,690 in two (2) counties at project close out in FY22.

The biggest contributor to ART cohort growth was the adoption of the 2018 test and treat guidelines. Tegemeza Plus supported HCW were sensitized to ensure that all the newly identified HIV positive clients were escorted to the comprehensive care clinics, retested and, if confirmed HIV positive, started on ART. The roll out of the 2018 ART guidelines entailed didactic training of 213 health care providers supplemented by a series of facility level continuous medical education sessions (CMEs) held across 20 high and mid volume health care facilities. Physical escort to ART sites was emphasized for clients testing positive in the community as well as in non-ART facilities. Robust appointment management & defaulter tracing mechanisms also played a part in cohort growth.

High rates of viral suppression is one of the benchmarks of a successful care and treatment program and as such emphasis on timely viral load (VL) testing remained a priority over the course of the project. Tegemeza Plus endeavored to sustain > 95% viral load uptake for the eligible PLHIV. VL testing disruptions arose in FY21 occasioned by a countrywide stock out of VL



testing commodities. The resultant drop in VL uptake was severe with VL uptake dipping to 35% by close of Q2 FY22. However, there was a reprieve after limited resumption of VL testing in Q3 FY22 and the project, focused on VL uptake for specific populations such as high viral load (HVL) clients, PMTCT mothers, clients newly initiated on ART and clients switched to an optimal ART regimen without a viral load.

Despite this setback, viral suppression for the entire patient population is 96%, a performance attributable to project efforts to ensure individualized client case management, use of technology to support medication adherence (Ushauri, NimeCONFIRM), timely switch to optimal ART for eligible clients and weekly review of program data with attention to completion of the high viral load (HVL) management cascade for high viral load clients in high and mid volume facilities. Refresher trainings, microteaching and mentorship on HVL management systems equipped health care providers and social workers to support viral suppression. Early identification and redress of mental health issues among the PLHIV through psychosocial support and extending up to referral for specialist review and management also contributed to treatment success.

Tegemeza Plus supported optimization to dolutegravir-based (DTG) ART (DTG) for eligible adult PLHIV on efavirenz-based 1<sup>st</sup> line regimen. For adults PLHIV, DTG optimization was rapidly scaled up from 50% in Q4 FY19 to 93% at the end of Q1 FY22. Continuous quality improvement measures were conducted targeting facilities with low optimization rates. Other strategies that resulted in successful optimization process included; work plan development at facility & program level, line listing at facility level of clients eligible for optimization followed by active recall of those clients for drug switch, capacity building of health care providers on optimization, close monitoring for adverse drug reactions and weekly & monthly review of progress. At the end of the project, >98% of the eligible clients had been switched to optimized ART regimen.

Tegemeza Plus further rolled out Differentiated Service Delivery (DSD) to clients by scaling up multi-month drug dispensing. This has been sustained at over 80% for eligible clients despite the drugs stockouts.



Figure 6: Viral Load Suppression



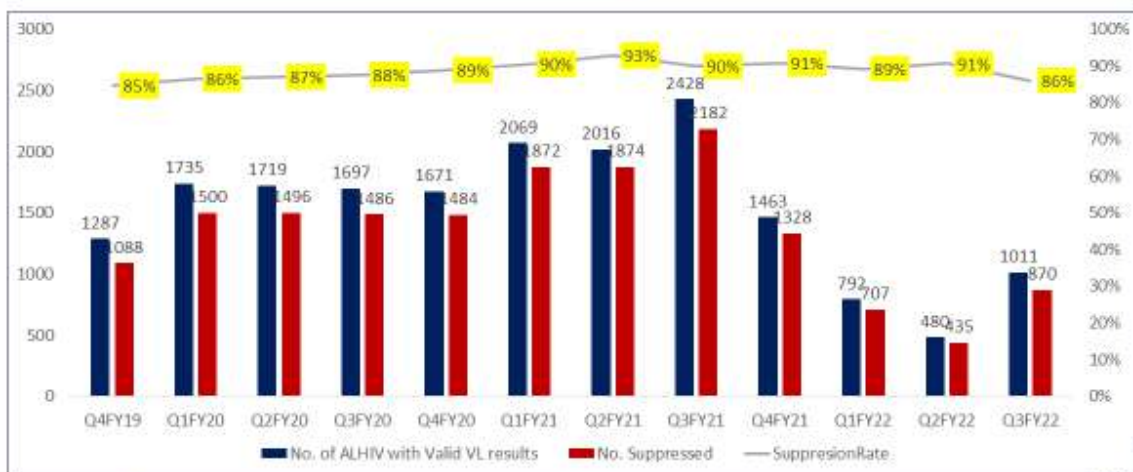
## Pediatric & Adolescent Care

Tegemeza Plus established children and adolescent clinic days where tailored, child & adolescent-friendly care and treatment services were provided. These clinics were aligned, with the school calendar including mid-term and holiday breaks. Clinicians, social workers and peer educators were among the service providers trained in child and adolescent friendly service provision. Parents and guardians of the children and adolescent clients were taken through caregiver trainings at facility level so as to support the children and adolescents living with HIV (CALHIV). These trainings were provided by the facility staff.

Tegemeza Plus utilized patient level data to guide and target mentorship & other interventions for specific clients and facilities and developed programming approaches and strategies to ensure viral suppression. This contributed to improved outcomes e.g. among adolescents 10 – 19 years, a sub-optimal viral suppression of 48% in FY17 was improved to 91% through:

- Implementation of Operation Triple Zero (OTZ), an asset based model that focused on empowering adolescents and young people living with HIV to take charge of their health as well as involvement of adolescent peer mentors during the OTZ clinics.
- Optimization of high viral load management systems
- Adoption of virtual enhanced adherence counselling and virtual directly observed treatment (NimeCONFIRM app) with the aim of improving re-suppression rates
- Implementation of flexi-hours like early morning clinics for adolescents and weekend HVL clinics had positive impact on viral suppression.

### VL Suppression Trends for Adolescents 10 – 19 yrs Preferred Partner for Health Solution



Data Source: EMR  
No of sites: 72 sites



Figure 7: Viral Load Suppression for Adolescents (10 - 19)



Viral suppression among children 0 – 9 years improved from 45% in FY17 to 90% in FY22 through measures that included:

- Strengthening papa – mama care model (PAMA care)
- Focusing on case management and Video Directly Observed Therapy (V-DOT) using the CHS NimeCONFIRM app. The project deployed an Android-based app called NimeCONFIRM as a VDOT medication adherence support tool in FY21. The promising nature of this intervention led to its strong recommendation by CDC and Tegemeza Plus was requested to train other implementing mechanisms in its use and support its deployment in other counties
- Emphasizing timely initiation of enhanced adherence counselling sessions, monthly clinic appointments and individualized case management
- Mentoring clinical teams to promptly switch children and adolescents with confirmed treatment failure to 2<sup>nd</sup> line antiretroviral treatment whereas those failing on 2<sup>nd</sup> line ART regimens had their case summaries done and discussed at county/regional & national TWG levels. Drug resistance testing was done for those eligible & 3<sup>rd</sup> line switch adopted

During the second half of the Tegemeza Plus project, ART optimization for children became an area of focus including by the National AIDS and STI Control Programme, NASCOP. By the end of Q1 FY20, nevirapine (NVP) based regimens had been phased out among all children 0 – 14 years. In a rapid results initiative process that entailed sensitization of health care providers through continuous medical education (CME) sessions and weekly monitoring of transition progress. Optimization to a DTG based regimen was adopted for children & adolescents with weight greater than 20kgs and on 1<sup>st</sup> line efavirenz/lopinavir/ritonavir regimens. The end result was that 99% of eligible children were put on an optimal ART regimen.

In FY22, emphasis shifted to optimization of children < 20kgs to pediatric DTG. Accelerated efforts ensured that 90 % of all eligible children were transitioned to pediatric DTG.

Tegemeza Plus collaboration with USAID 4BetterHealth, the orphans and vulnerable children (OVC) implementing mechanism in Murang'a county, resulted in 84% of eligible OVC being referred, linked & enrolled for OVC services.

### **National & County Level Engagement**

Tegemeza Plus supported and participated in national, regional & county technical working groups. These TWGs primarily served as mechanisms for complex case review, discussions & feedback to facilities to support the management of clients.

Tegemeza Plus staff further participated in NASCOP-convened updates meetings that also build the capacity of project staff. Project technical leads actively participated in development of the Kenya HIV Prevention and Treatment Guidelines, 2022 as well as the development of the guidelines orientation package and review of several MOH registers and reporting tools over the life of the project.



## CONTINUITY IN CARE

Strict adherence to ART is essential for sustained HIV viral suppression, reduced risk of drug resistance, decreased risk of HIV transmission, improved overall health and quality of life and survival for the clients living with HIV. Achieving adherence to ART is a critical determinant of long term positive health outcomes of HIV infected clients. Strong adherence and retention support systems are needed to mitigate viral load non-suppression that arises primarily due to non-adherence to ART.

Tegemeza Plus supported the implementation of client-centered adherence and continuation approaches across the different age groups with the aim of achieving the suppression target of 95%. The project attained viral suppression rates across the different age groups as shown below.

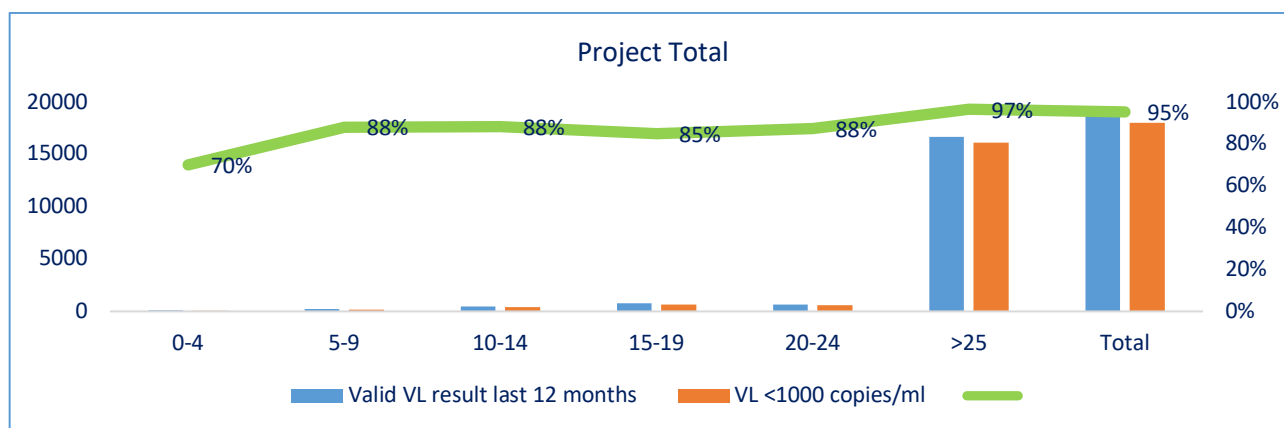


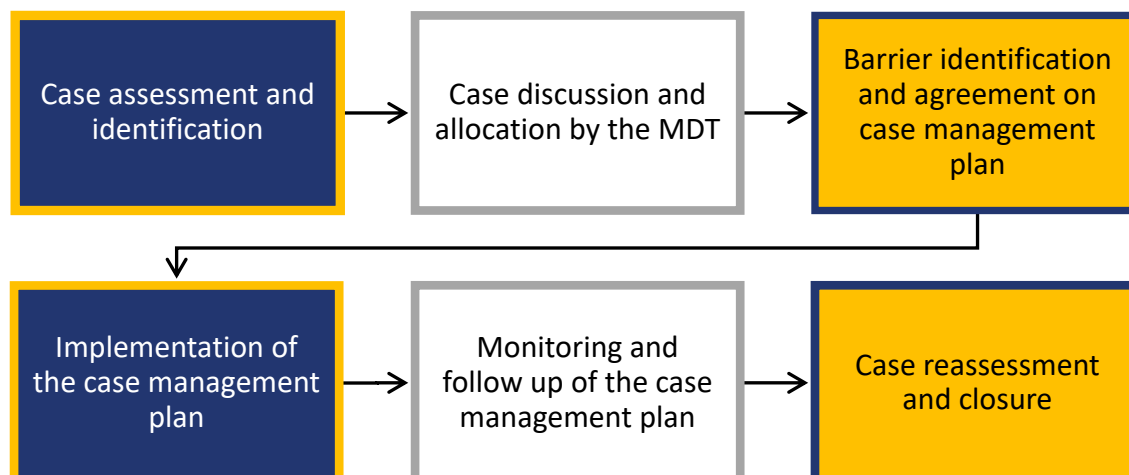
Figure 8: Viral Load Suppression among Various Age Groups

## Adherence Support Approaches Implemented by Tegemeza Plus

### 1. Client Centered Case Management

This approach focused on service delivery centered around the client's needs. The diagram below outlines the stepwise process from case identification to case closure

Table 1: Client Case Management Process





The comprehensive care clinic clinician or nurse were tasked with oversight of case management allocation and had a caseload allocation ratio of between 15-20 clients per case manager. The project encouraged joint identification of adherence barriers, development and implementation of the case management plan under the guiding ethos of unconditional positive reward, empathy and non-judgmental attitude. The clients eligible for case management included;

- Children, adolescents and young people with non-adherence or suspected treatment failure
- High risk PMTCT mothers
- Clients who frequently interrupted treatment
- Low level viremia clients

A case manager was tasked with;

- Adherence barrier identification and development of a case management plan
- Conducting home visits & assessments of their clients
- Leading case discussions in the MDT
- Ensuring supportive disclosure, partner testing and family support
- Ensuring physical DOT by a family member or significant other
- Virtual and video DOT especially implementation of NimeCONFIRM for children and adolescents
- Ensuring receipt of appointment reminders
- Defaulter identification and follow up
- In person counselling and weekly phone calls

Case closure was achieved through a defined criterion that included;

- Achievement of case management goals
- Client is no longer eligible for case management
- Client interrupts treatment and does not engage back to treatment within three (3) months
- Client chooses to terminate the services
- Client relocates outside the service coverage
- Mutual agreement
- Client is referred to a program that provides comparable case management services

The case management team was responsible for ensuring that all interactions between the case managers and their clients were properly documented in the case management booklet.

### **Human Resource Investment**

Tegemeza Plus's investment in human resources for health for 20 social workers, 66 peer educators and 20 mentor mothers who all had roles in adherence support, contributed to the



high suppression rates. Adherence support refresher trainings were held targeting the above cadres plus an additional 160 HCWs supporting the CCC and PMTCT clinics.

### **Adherence Assessment and Monitoring**

The project build the capacity of health care workers and lay workers to conduct adherence assessment and monitoring in line with the Kenya ART Guidelines (2018) recommendations. These assessments were done at every clinic or ART refill visits and at community level (home visits) using pill counts, review of pharmacy refill records, review of appointment keeping and review of viral loads. Clients assessed as having inadequate or poor adherence, including those with suspected treatment failure, were assigned a case manager or given shorter appointment period for close monitoring.

### **Treatment Preparation Counseling**

All newly enrolled clients underwent treatment preparation counselling with a requirement that the recommended three individual sessions be completed within six (6) weeks of enrolment. This was done by either the social workers, clinicians, nurses, trained peer educators or mentor mothers. Treatment buddy involvement (with consent from the client) was done from the 2<sup>nd</sup> session. Assessments and interventions for depression and other mental health disorders, alcohol and drug abuse were instituted and formed part of the treatment plans. Documentation of the sessions was done on a treatment preparation counseling form in the Kenya Electronic Medical Records (EMR) and the support group monitoring register.

### **Treatment Literacy**

The treatment literacy program developed under the Tegemeza project was enhanced during the implementation of the Tegemeza Plus project as one of the adherence support and continuity in care strategies. Treatment literacy entailed provision of health education to clients to equip them with knowledge necessary to reinforce adherence to treatment and ensure successful treatment outcomes. Treatment literacy was structured as monthly sessions offered over eight (8) months, with clients graduating on the ninth month.

The budding system within the treatment literacy classes helped with retention in the first six (6) months of treatment and led to good treatment outcomes. Documentation was done in the support group and positive health, dignity & prevention (PHDP) monitoring register. The latter was a register developed by Tegemeza Plus and designed as a tool to monitor treatment preparation sessions, treatment literacy, psychosocial support attendance and PHDP service delivery.

### **Ongoing Counseling**

These counseling sessions targeted all clients from six (6) weeks of enrolment and all stable clients. Delivery was through monthly or quarter counseling sessions on an individual or group basis. Ongoing counselling sessions were also held on a needs basis. An array of standardized



assessment tools such as MMAS-4, CAGE, CRAFFT & PHQ9 helped the HCWs to determine the intervention needed.

### Intervention Counseling

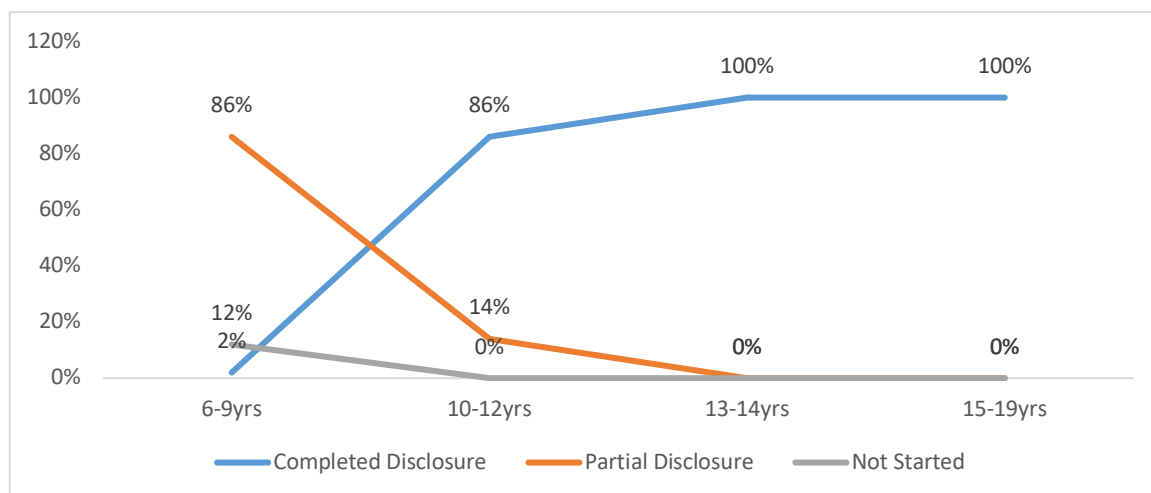
Intervention counselling sessions were enhanced as below:

**Disclosure and stigma** – the following standard operating procedures (SOPs) were developed in conjunction with NASCOP and rolled out within the project;

- Disclosure process for vertically infected children and adolescents living with HIV
- Disclosure process for horizontally infected adolescents living with HIV
- Disclosure to social networks, schools or colleagues at work
- Supporting adolescent disclosure of their HIV status to their sexual partners
- Supporting PMTCT mothers disclosure of their HIV status to sexual partners

The above SOPs helped in improving the disclosure rates among children, adolescents and PMTCT mothers as shown below

Table 2: Children and Adolescents Living with HIV (CALHIV) Disclosure Progress



A tool to conduct **stigma assessment** and support the clients through stigma was developed and rolled out in FY22. Counseling was done with respect to client privacy and confidentiality

**Alcohol Support** – alcohol screening was done for all the clients at the appropriate time using CRAFFT and CAGE tools for adolescents and adults respectively. Clients identified with alcohol and substance abuse issues benefitted from appropriate linkage and referrals to other service provision points and rehabilitation centers



**Mental Health** – the project empowered service providers in the CCC and PMTCT clinic settings to screen for mental health using standardized mental health screening tools and identify, manage, treat and refer the mental health cases. The project developed and rolled out a mental health challenges support structure model as outlined below:

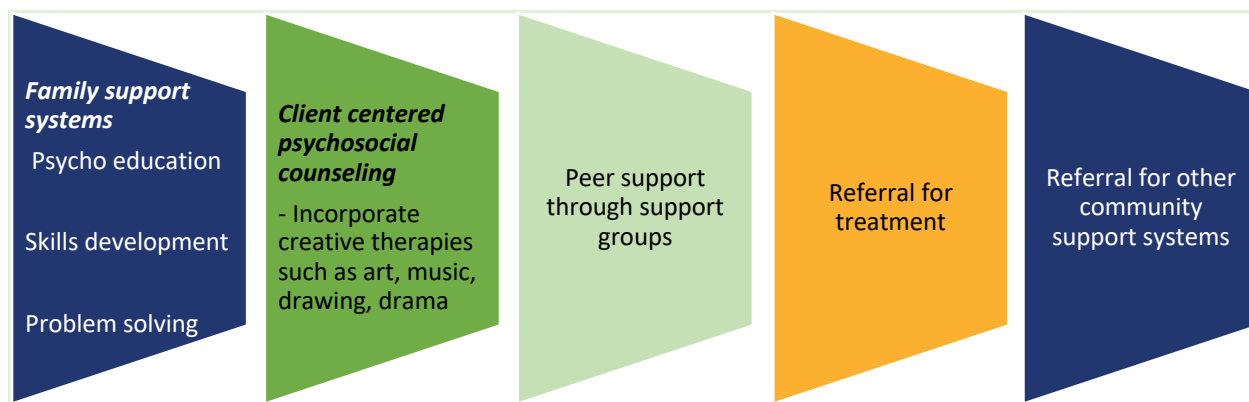


Figure 9: CHS Mental Health Screening Tool

Clinical and counselling psychologists were strategically deployed to select health facilities and received cases for counseling. They were also facilitated to visit sites that had mental health cases under the roving HCW model. This was best done during integrated mental health clinic days in 1 health facility in each of the project-supported counties. This model, if scaled up, will help address the mental health challenges and alleviate the socio economic problems that arise due to poor mental health.

**Enhanced Adherence Counseling and Support Services** were provided to clients with a high viral load, chronic defaulters and non-adherent clients. In the case of children and adolescents, the counseling targeted their caregivers with active involvement of the CALHIV only if able to comprehend the discussions.

A minimum of three (3) counseling sessions were done in addition to other enhanced adherence support package services that included:

- Viremia clinics and support groups
- Treatment literacy sessions
- Case management
- Multi-Disciplinary Team (MDT) discussions
- Home visits for prioritized clients.

Directly observed therapy was implemented for all children and adolescents and some adults through the use of caregivers and other identified responsible family members. The project rolled out the CHS NimeCONFIRM application, an android-based video directly observed therapy (VDOT) app to help improve medication adherence and ultimately, viral suppression in children and adolescents.



**Psychosocial Support** was provided by the project to address the underlying psychological and social problems of PLHIV, their partners, families and caregivers. Each enrolled client went through baseline psychosocial assessment using age specific baseline psychosocial assessment forms (pediatric, adolescent and adult forms). A plan of action was developed to address the identified potential barriers to adherence and reviewed every six months.

The project further supported the transition of adolescents into adult support groups that ran for a maximum of one (1) year with the main purpose of empowering the clients to become self-reliant and start their own PSS groups at community level. Other groups included alcohol, men only, PMTCT, mental health, discordant, viremia, second line, community and facility ART groups. Clients were encouraged to have a treatment buddy within one (1) month of joining the support group. Documentation was done in the support group/PHDP monitoring register.

Age specific pediatric support groups were set up in care and treatment sites. The project supported the groups with materials for art and play therapy. Five social workers were trained by NASCOP in ART and play therapy and they have been supporting their respective facilities while also offering technical support to their colleagues in other health facilities.

An evidence-based adolescent psychosocial support model dubbed Operation Triple Zero (OTZ) was implemented in health facilities with adolescent clients. Tegemeza Plus trained and supported the adolescent mentors to run the OTZ clubs activities and empowered adolescent champions to assist in the running of the OTZ activities. The clubs were age group specific and convened during the school holidays using a schedule shared by the project to the adolescent mentors/champions (Tyro Heroes) WhatsApp group. The project also adopted a roving model for adolescent mentors who were facilitated to support a maximum of three (3) health facilities. The key activities conducted in OTZ groups are depicted in the pictures below



*Art therapy sessions led by a social worker, peer mentor and pharmacists*



Experience sharing (written and verbal)- **left**, talent nurturing – **middle** and OTZ corner creative walls in Health facilities **right**

### Virtual Support by Adolescent Mentors

The adolescent mentors' model of engagement has enabled the project to transition 18 of them to formal or non-formal employment.



Screenshots from the Adolescents WhatsApp Group

### Adolescent Mentors Transition

- Identify and engage OTZ champions aged between 19-24 years
- Take them through a 5 days adolescent support training
- At the age of 25 years, they become adolescent mentors
- They rove to support upcoming champions as we transition
- Daily mentorship on Tyro Heroes WhatsApp forum

**Transition Cadres:** Teacher, Nurse, Nutritionist, Social workers, Psychologists, Public health officers, IT specialist, Business studies, Data Officer, Plumber, Fashion designer, Business women/men, Electrician



### **POSITIVE OUTLOOK – HEROES FOR LIFE**

Mode of engagement

Encourage them to continue with their education

Linkage to other stakeholders for bursaries, micro-financing, table banking, savings, entrepreneurship etc.

Link to employment opportunities within and without the organization

***Training others as they transition***

### **PAMA Care Psychosocial Activities**



*PAMA Care Psychosocial Support Groups*

PAMA care involved caregivers and pediatric support groups categorized as stable and unstable pairs, per the age groups of 0-5 and 6-9 years.

The PSS activities were harmonized with their clinic days and the key activities were age appropriate health education, play and art therapy. Activities within caregiver support groups included structured treatment literacy using the caregiver training manual, engagement of caregiver champions to advocate for key services such as disclosure and adherence, experience sharing, pre-disclosure preparation discussions and adolescent mentors reaching out to the caregivers with specific messages.

- ***993 children enrolled representing 94% of eligible children***
- ***100% caregiver enrolment in PSS***
- ***1,567 caregivers completed the nine (9) modules of the caregiver training***

**Appointment Management System** – Tegemeza Plus supported the implementation of both proactive and reactive appointment management systems. The project rolled out Ushauri app,



an automated short messaging service (SMS) based reminder system to send appointment reminders and motivational messages to clients in project-supported care and treatment facilities. Depending on the clients' profile, some facilities adopted use of pre-appointment calls.

Timely defaulter identification and follow up led to improved treatment cohort retention at 89% and 83% at 6 and 12 months respectively. Cohort growth and attrition were impacted negatively by COVID-19 containment measures principally attributed to missed appointments by clients, to a deterioration in economic circumstances for the clients.

One of the mitigating measures was the roll out of the NASCOP patient movement SOP that helped to reverse the negative cohort growth prevalent from the onset of the pandemic. Continues Quality Improvement activities in health facilities, recording appointment keeping rates < 90% and daily sharing of updates on appointment keeping and return to care rates through the social workers WhatsApp group also helped to alleviate negative cohort growth.

**Peer Education System:** To uphold the principle of Meaningful Involvement of People Living with HIV (MIPA), the project engaged the support of 83 peer educators, 20 mentor mothers and 30 adolescent peer educators. The lay health workers benefitted through technical assistance provided by the Tegemeza Plus project staff and a monthly stipend (except for the adolescent peers). Tegemeza Plus build the capacity of the lay health workers through trainings and refresher trainings on an annual basis. This, coupled with regular mentorship, equipped them with necessary skills to provide peer support.

**Stakeholder Engagement and Partnership:** Tegemeza Plus engaged various stakeholders outside the health space including children's' homes, child welfare officers, administration officers and community based organizations. Clients benefitted from a collaboration between Tegemeza Plus and the USAID 4BetterHealth OVC implementing mechanism in Murang'a county.

COVID-19 containment measures resulted in a drastic scaling down of school engagement activities and the resulting shortened school holiday calendar left little room to re-engage with children and adolescents as before. However, 21 health facilities engaged schools where their adolescents were enrolled to support adherence to medication and mitigation of stigma and discrimination. The project collaborated with 25 adolescent mentors to support adolescent champions and adolescents in all the care and treatment health facilities across the three counties.

A robust referral and linkage system was developed that included a referral register, referral tools and referral directory.

### **National Level Support**

At national level, Tegemeza Plus provided TA in the review and development of following documents:

- NASCOP Adolescent and Pediatric Adherence and Disclosure Standard Operating Procedures
- National PrEP implementation Framework



- Adolescent Package of Care (APOC)
- NASCOP PrEP training package to include the new PrEP molecules
- NASCOP Adolescent and Pediatric Adherence and Disclosure Standard Operating Procedures
- NASCOP PrEP adherence and retention package
- Supporting learners living with HIV in Kenya, a guide for educational institutions
- NASCOP Caregiver treatment literacy training curriculum

### **Positive Health, Dignity and Prevention (PHDP)**

The Tegemeza Plus project sort to reach all PLHIV aged 15 years and above with PHDP interventions in order to reduce the risk of new HIV infections and reinfections. This was done through capacity building of health care workers, peer educators and mentor mothers through mentorship and micro-teaching on PHDP messaging, service delivery and referral. The peer educators, mentor mothers at health facility level and CHVs were involved in the delivery of the 13 community PHDP messages at individual and group level.

Monitoring and evaluation systems strengthening focused on proper documentation of clinical PHDP in Kenya EMR by the clinical and psychosocial team while a register was introduced to document community PHDP messages.

### **PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV (PMTCT)**

Tegemeza Plus aimed to provide quality care to HIV infected pregnant and breastfeeding women (PBFW) so as to reduce the risk of morbidity and mortality associated with HIV in pregnancy and elimination of mother to child transmission of HIV (MTCT) as well as early diagnosis of infant infection and linkage to ART.

The project provided a comprehensive package of care in supported facilities that comprised of:

- Testing for HIV of all eligible pregnant and breastfeeding women
- Initiation of lifelong antiretroviral therapy for HIV infected pregnant and breastfeeding HIV-infected women to safeguard their own health and to prevent transmission to the infant
- Timely infant prophylaxis for HIV exposed infants
- Early infant diagnosis services.

HEI's were retained in care for up to two years, this was achieved through integration of HIV prevention and treatment services in maternal, neonatal and child health clinics (MNCH), antenatal clinics (ANC) and family planning (FP) clinics as well as in labor and delivery units.

Tegemeza Plus supported prevention of unintended pregnancies among women living with HIV and the provision of care to the woman's family. To ensure a successful PMTCT program, there was support for human resources for health right from staffing through to health care worker trainings and sensitizations. The project also paid heed to strengthening community linkages and psychosocial support for PBFW.



Over the course of the project, Tegemeza Plus supported the provision of HIV testing services for 140,877 pregnant women attending their first ANC visit. Out of these, 4,029 women were identified as HIV infected of whom 4,010 pregnant women were initiated on ART. The project maintained 100% issuance of infant prophylaxis in both MNCH and labor and delivery units.

Interruptions in supply of rapid HIV testing kits contributed to missed opportunities for testing at first ANC. Line listing of women who missed 1<sup>st</sup> ANC testing and follow up in subsequent visits was done to ensure access to HIV testing.

## PMTCT Coverage

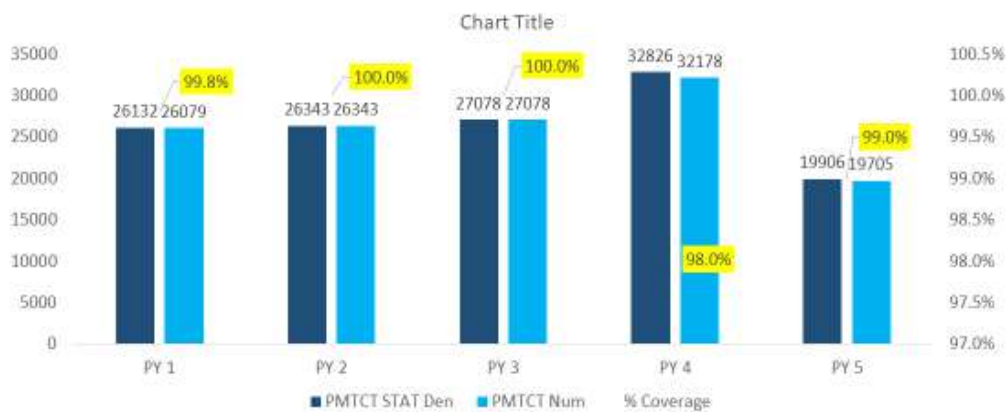


Figure 10: Prevention of Mother to Child Transmission of HIV (PMTCT) Coverage

## PMTCT ART Uptake

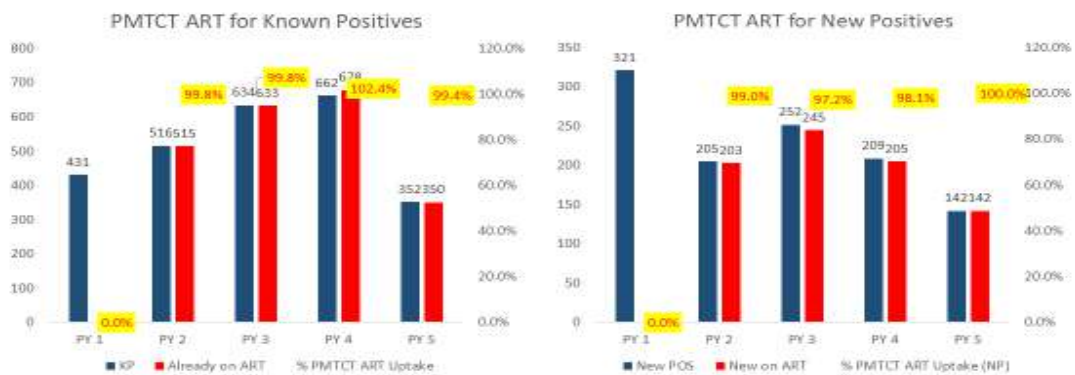


Figure 11: Prevention of Mother to Child Transmission of HIV (PMTCT) ART Uptake



## **PMTCT Ambition Funding**

In FY21, Tegemeza Plus, in recognition of good MTCT outcomes, received supplementary PEPFAR/CDC funding to further enhance PMTCT and aim at achieving 98% continuity of treatment for newly identified and known HIV positive PBFW as well as 98% viral suppression.

Using these additional resources the project designed an enhanced PMTCT package of care that entailed:

- Risk categorization of all HIV positive PBFW
- Home visits for all high-risk clients
- Client and family centered approach and case management
- Designation of high-risk clinic days
- Appointment management
- Male involvement and psychosocial support.

48 mentor mothers were enlisted to support the enhanced PMTCT package in mid and high volume facilities, 16 among them engaged by NASCOP. A roving model of support to low volume PMTCT facilities was adopted and supported by six mentor mothers.

## **OTZ Plus**

The project identified and enlisted 22 OTZ Plus champions to support adolescent and young girls in PMTCT clinics in 26 OTZ Plus health facilities. They received training on the OTZ Plus package i.e. treatment literacy and psychosocial support, assisted disclosure, keeping the mother alive, adherence, PrEP screening, GBV and cervical cancer screening. OTZ Plus aimed at enhancing the PMTCT package of care across supported facilities primarily through support for human resources for service delivery including capacity building via HCW training and sensitizations, strengthening community linkages and psychosocial support aimed at eliminating MTCT. The package placed emphasis on transport of viral load samples from peripheral facilities to central sample processing labs, ensuring that all facilities provide ART for the women and ARV prophylaxis for their infants, establishing systems for early infant diagnosis and for retention of mother-baby pairs in care. As part of its retention system and in line with greater/meaningful involvement of PLHIV the project supported mentor mothers to provide peer education and contribute to psychosocial support for HIV infected pregnant and breastfeeding women, their infants and family members

## **Treatment Monitoring**

Treatment monitoring is vital to ascertain viral suppression among PLHIV including pregnant women. The project conducted HCW mentorship on timely viral load collection and management of pregnant and breastfeeding women with high viral loads. The lack of viral load testing commodities in FY21 & FY22 was an impediment to treatment monitoring. Tegemeza Plus instituted measures to ensure that all high risk PBFW were placed under case management and undergoing enhanced adherence counseling for the period of commodity shortages. In instances of non-suppression, the patients received the relevant support to enhance re-suppression and



reduce the risk of transmission to the infant. Documentation was done in the high viral load registers.

The project worked to ensure optimization of PMTCT clients, with 99% optimization to DTG by the end of the project period.

The graph below shows viral load coverage and suppression among PBFW. VL coverage was at 69% due to shortage of viral load testing commodities

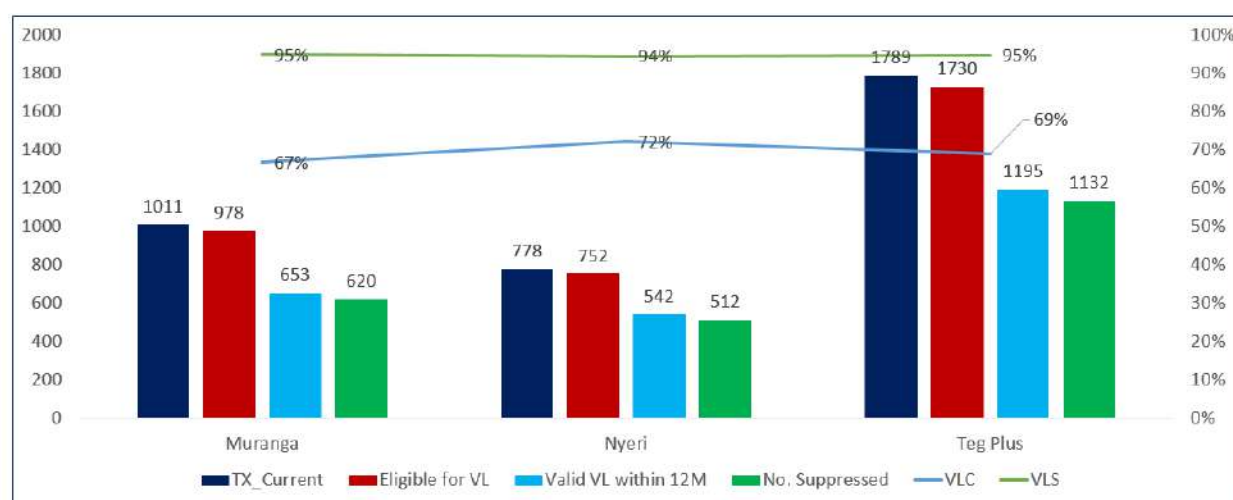


Figure 12: Viral Load Coverage and Suppression among Pregnant and Breastfeeding Women

### Retention of HIV Infected Pregnant and Breastfeeding Women

Tegemeza Plus implemented measures to ensure retention of both newly diagnosed HIV infected pregnant and breastfeeding women and the known positives. Data showed a higher retention rate among women who were known positives compared to those newly diagnosed and efforts were doubled to ensure optimal retention for the new positives as well.

Longitudinal follow up of the PBFW was emphasized using a multi-disciplinary approach that involved the HTS provider, mentor mother, PMTCT clinician/nurse and social worker. Mentor mothers were offered refresher training to improve the quality of peer education and psychosocial support for better PMTCT outcomes particularly in adherence and retention. The graphs below compares retention trends for new and known positives

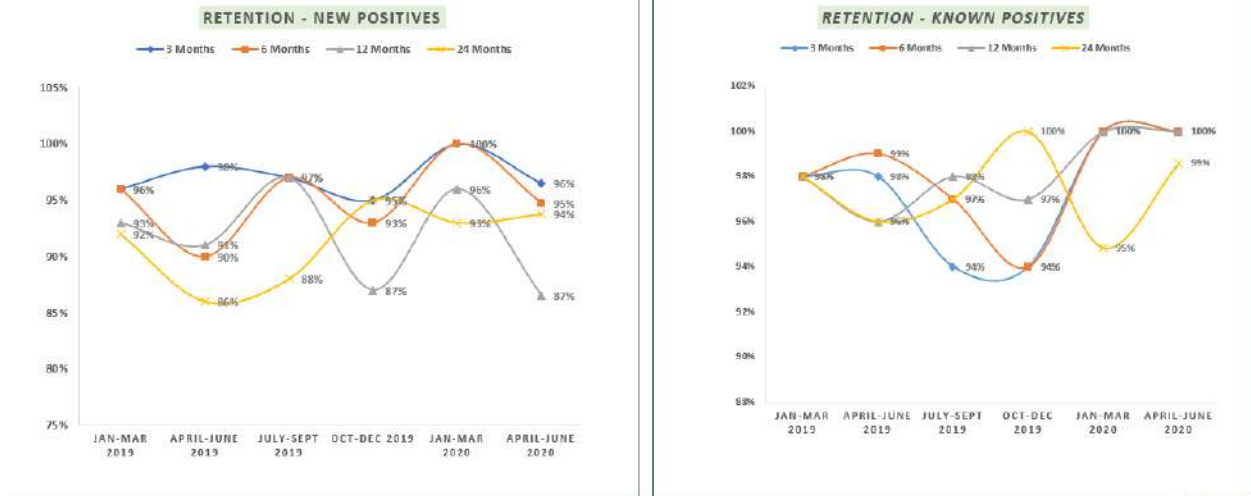


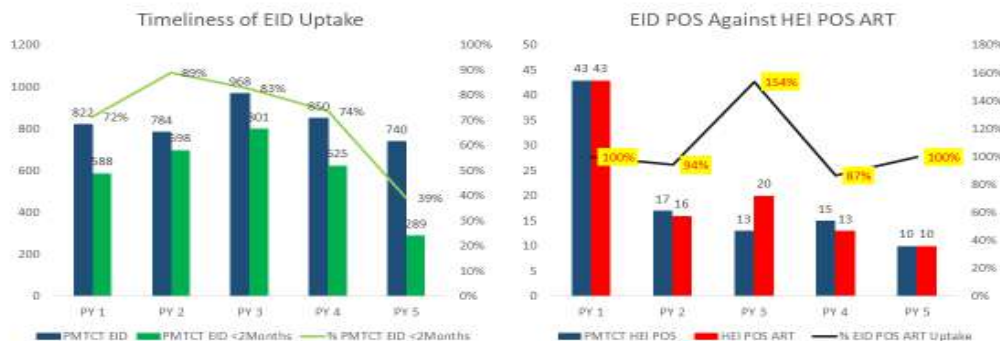
Figure 13: Retention Trends among New and Known Positives

### Early Infant Diagnosis (EID)

The project set up elaborate systems to identify, diagnose and follow up HIV exposed infants. Health facilities offered EID testing services for HIV exposed infants by providing initial PCR testing within 2 months of birth or at first contact. There was a decline in uptake of EID services in FY21 and FY22 occasioned by interruptions in the availability of testing commodities. Line-list of HEIs with a missed PCR were maintained at each health facility and updated on a monthly basis. This allowed the project to monitor the backlog in EID testing.

Priority was given to infants without an initial PCR whenever DBS commodities were made available to be able to establish the HIV exposure status. Over the life of the project, a total of 4,606 PCR tests were carried out. EID positivity rate was 2.3% (108 infants). The project advocated for enhanced community collaborations to optimize early infant diagnosis as well as

### EID Uptake





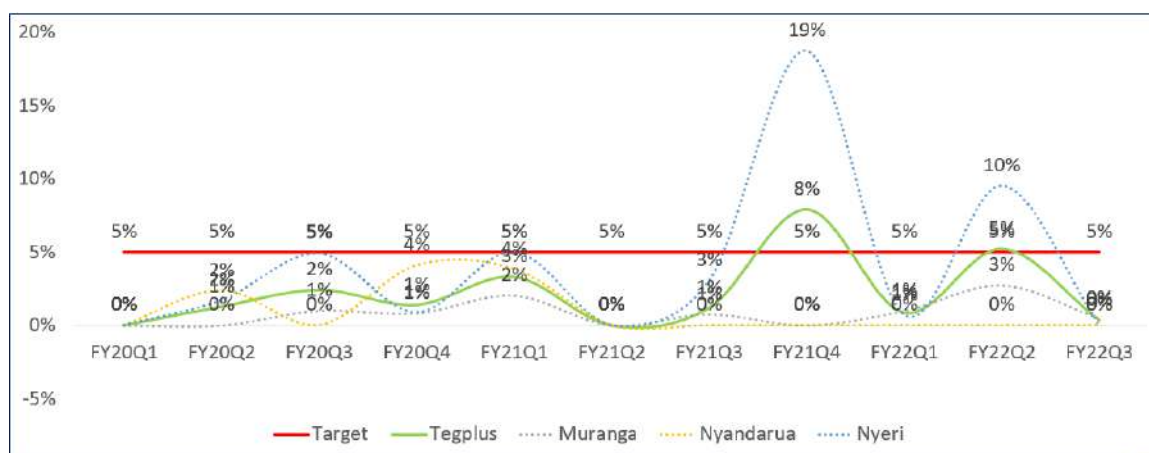
enhancing patient empowerment through health education and psychosocial support. These efforts have contributed to a gradual decline in EID positivity.

Figure 14: Early Infant Diagnosis (EID) Uptake

Figure 15: Early Infant Diagnosis (EID) Positivity Trends

### EID Point of Care Testing

In FY22, Tegemeza Plus procured supplies for EID point of care testing (EID POCT) in select facilities using the already existing GeneXpert platform. This measure was aimed at reducing the EID testing backlog as well as turnaround time (TAT) and to enhance rapid clinical decision making for HIV exposed infants. This was a shift from the conventional method of shipping samples to the



National Testing Lab and came at a time when the country experienced shortage of EID supplies, which had resulted in delay in establishing the HIV exposure status of infants. The implementation started in May 11, 2022 in two health facilities in Murang'a County. One of the facilities, Murang'a County Referral Hospital, was assigned PCR samples from 13 peripheral health facilities, while the other Maragua Sub County hospital was assigned samples from 26 peripheral health facilities. Daily shipping of samples to the two testing labs was done through use of existing county motorbike networks. Establishment of EID POCT led to TAT of within 24 hours of receipt of the sample for the testing labs, while the peripheral facilities received results within 48 hours of day of sample collection thus improving efficiency in clinical decision making for HEI management. Out of 251 EID POCT tests conducted, one positive infant was identified (0.3%).

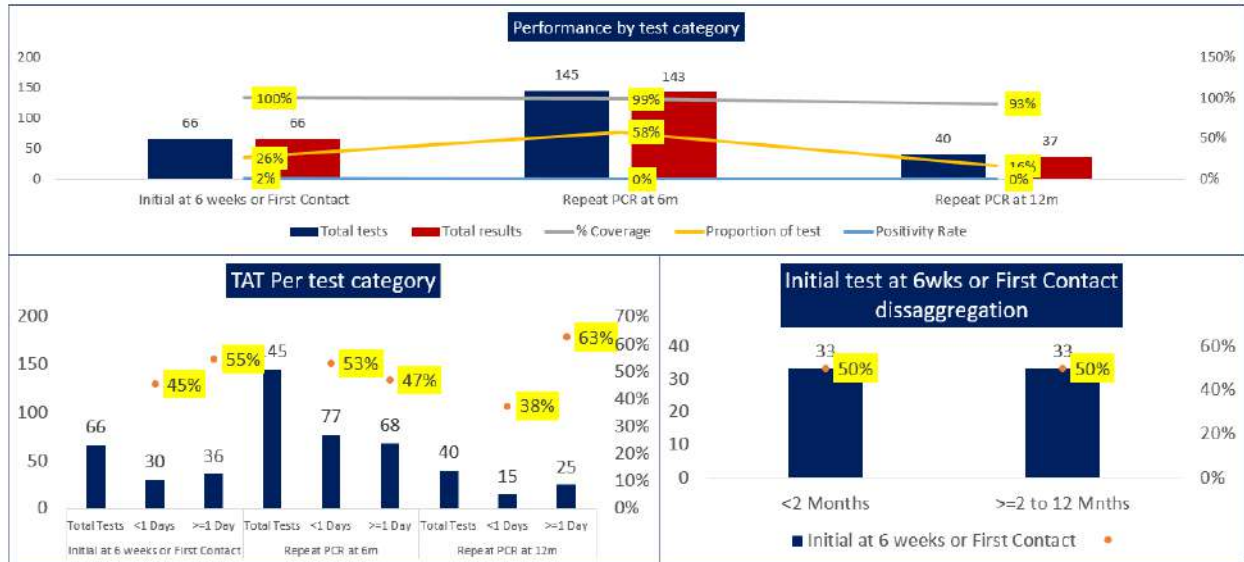


Figure 16: Point of Care Testing (POC) Performance

### HIV Exposed Infants Cohort Analysis

HIV exposed infant cohort analysis enabled facilities to analyze, improve services and report outcomes at 12 months and 24 months related to HIV exposed infants under their care. The pie charts below show an analysis of HEI cohorts on follow up in FY21 and FY22. The project put measures in place for follow up of HEI who did not have a documented HIV status at 24 months. This was through collaboration of mentor mothers, peer educators and community health volunteers who followed up the HEI and directed them to a health facility for final antibody testing.

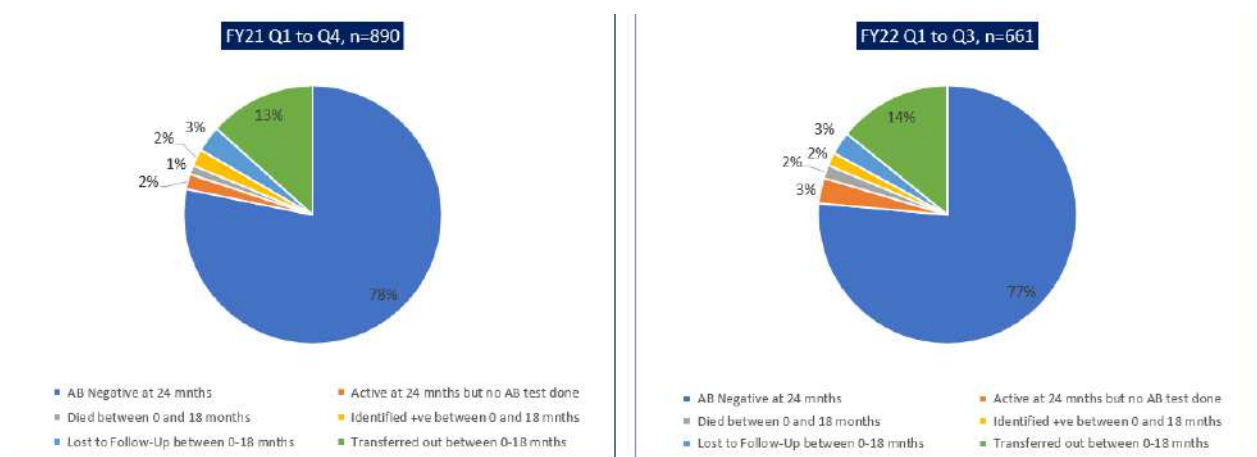


Figure 17: HIV Expose Infants (HEIs) on Follow-up in FY 21 and FY 22



## TB/HIV

In Central Kenya, approximately 18% of TB patients are HIV co-infected and TB remains the leading cause of mortality among PLHIV. Tegemeza Plus aimed at addressing TB case finding among the general population as well as among PLHIV while ensuring high quality and reliable TB diagnostics and favorable TB treatment outcomes.

The project aimed at ensuring that 100% of PLHIV received TB screening at each visit, 100% of TB patients received HIV testing, 100% of those co-infected were placed on ART, and that PLHIV who had TB ruled out were started on TB preventive therapy (TPT).

The project supported the implementation of the 5Is; Intensified case finding, Isoniazid Preventive Therapy, Immediate ART for those co-infected with TB/HIV, Infection Prevention and Control and TB/HIV Integration across supported facilities. It also strengthened management of childhood TB and drug resistance TB surveillance and management.

Project support was provided through targeted mentorship of HCWs, training, and provision of job aids, copies of guidelines and M&E tools, exchange visits for purposes of cross-learning, QI projects, and technical support for county and sub-county TB coordinators.

During the project period HCWs received training in TB-related courses including active case finding (ACF), management of latent TB infection (LTBI), programmatic management of drug resistant TB, pediatric TB, and acid alcohol fast bacilli (AAFB) testing, stool for GeneXpert testing for paediatric TB diagnosis.

TB case identification and TB treatment outcomes in period between FY20 – FY22 were impacted negatively at the onset of the COVID-19 pandemic. The project responded through mitigation activities that aimed at bolstering integrated TB/HIV diagnosis, treatment, and prevention to reduce TB morbidity and mortality.

The project also collaborated with the national TB program after receiving CARES Act funding from PEPFAR/CDC to develop guidelines integrating management of TB and COVID-19 diseases. These were developed in a consultative manner with the national TB program and the launch and roll out initiated in FY22.

### Case Identification

Tegemeza Plus leveraged on the availability of HTS providers to conduct screening for TB among people seeking health services in supported facilities. This was achieved through sensitization of facility staff on active adult and pediatric TB case finding in outpatient and inpatient settings as well as special clinics. Strategies employed included mentorship, CQI activities that led to standardization of client flows to increase coverage of proportion of patients screened for TB, use of screening questionnaire ink-stamps, enhancing linkages to evaluation and treatment and efficient contact tracing for contacts of pulmonary TB. The project also strengthened utilization of the GeneXpert platform including piloting use of stool for GeneXpert for paediatric TB diagnosis in Nyeri. There was collaboration with the counties in laboratory sample networking that improved overall bacteriologically confirmed cases and the turn-around time.



The implementation of the active TB case finding (ACF) champion model was a key contributor to significant improvement in case identification in high volume sites. In this model, a HTS provider was designated as the TB screening focal person in busy outpatient facility settings and assumed responsibility for referral of presumed TB patients for evaluation as well as documentation of the same. Overall this approach led to a 30% increase in case notification in the implementing sites.

The concerted TB case identification efforts resulted in a steady increase in TB case identification from 817 registered TB cases in FY18 to 14,390 in FY22. This was achieved despite the effect of the COVID-19 pandemic on screening and case finding between FY20 – FY22.

In FY22, there was marked recovery from the effects of COVID-19 in case identification and the ACF strategies implemented by the project enabled it to surpass the set annual target.

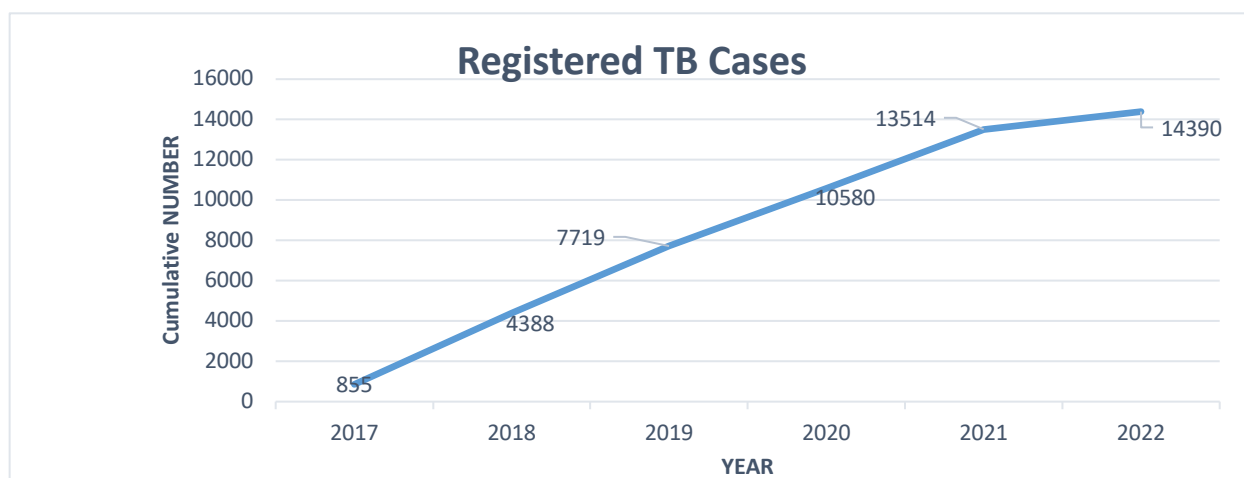


Figure 18: Registered TB Cases

## TB/ART

To strengthen TB/HIV integration, Tegemeza Plus implemented universal HIV testing for all presumptive and confirmed TB patients for early identification of co-infected patients who were then initiated on ART within 2 weeks. Data from the HIV clinics showed that there was sub-optimal TB case finding among clients on ART and hence the need for focus on improving the quality of TB screening among PLHIV.

A total of 2,429 TB/HIV co-infected clients were initiated on ART. To achieve this, the project conducted facility-based CMEs on TB/HIV integration in line with the national guidelines and conducted targeted mentorship to increase immediate uptake of ART for TB/HIV co-infected targeting 100% of TB/HIV co-infected started on ART.

## TB Preventive Therapy (TPT)

Tegemeza Plus project had three objectives on TPT; i.e. to scale up TPT for all eligible PLHIV, improve on the TPT completion rates and ensure 100% upload of TPT data on to KHIS



To achieve this, the program team facilitated sensitizations for health facility providers targeting clinicians, nurses, pharmaceutical technologists on TB preventive therapy followed up by sustained mentorship on eligibility, initiation, documentation, reporting and optimizing commodity systems for TPT. TPT data reporting in KHIS was optimized and was at 100% at the end of the project period.

Clinical teams were taken through a sensitization in FY22 on the revised latent TB infection (LTBI) guidelines management.

Uptake of TPT dipped in FY21 and FY22 due to shortage of commodities to hit 35%. However from Q2 FY22 commodities for short course TPT were made available in both Nyeri and Murang'a and efforts to initiate newly enrolled patients including those who had missed out earlier were made with a target of 100% TPT uptake for all eligible clients by end of FY22.

### **National Support**

Tegemeza Plus participated in national TB/HIV technical working groups convened to, among others, revise TB/HIV jobs aides, TB Lipoarabinomannan (TB LAM) policy development. Following the WHO Rapid Advice on managing DR TB, Tegemeza Plus as a member of national programmatic management of DR TB (PMDT) TWG participated in discussions to enhance evidence adoption and TB isolation policy writing launched in June 2018. Tegemeza Plus participated in revising the 3 days Childhood TB curriculum to align to childhood TB treatment revision and national ART guidelines. The project also collaborated with the national TB program through the CARES Act funding to develop guidelines for the integrated management of TB and COVID-19 diseases. These guidelines were launched in FY22 in the lead up to World TB Day.

The project consistently participated in the county cluster TB quarterly performance review meetings, TB/HIV implementing partners meeting, annual TB program review meetings and also supported linkage of Model Centers to NLTP ECHO sessions.

Tegemeza Plus provided logistical and material support to each of the counties on an annual basis to commemorate the World TB Day.

### **MDR Support**

To ensure quality management of patients with drug resistant TB, Tegemeza Plus supported monthly clinical review meetings for DR TB patients where multidisciplinary teams of HCWs met and reviewed patients every month. The support for these meeting comprised both technical and logistical support. The project provided technical support through sensitization, micro-teachings and one on one mentorship on use of short-term regimen for drug resistant TB patients. The HCW were sensitized on smooth transition from the 24-month regimen to the 9-month DRTB regimen for eligible patients. These included microteaching on new drug molecules for DR TB as well as commodity management.

### **TB Treatment Outcomes**

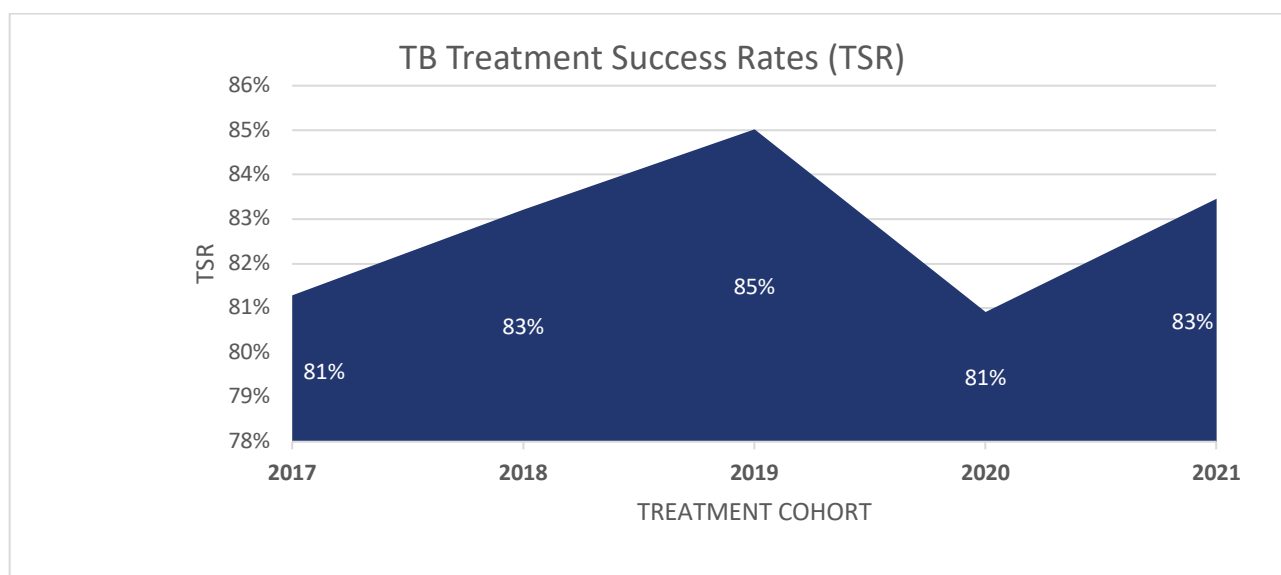
TB treatment success rate (TSR) across the project supported health facilities stood at 84%. However in FY20 and FY21 there was a decline to an average of 80.5% and 69% respectively



attributable to increases in case fatality rates (highest at 12% in Nyeri in 2020) as well as altered health seeking behavior of clients as well as redirection of critical resources including human resources for health (HRH) occasioned by the COVID-19 pandemic.

The project conducted focused TB mortality audits in Q4 FY20 with an aim of improving the TSR. Data collected from the TB mortality audits was used in developing SMART work plans to reduce TB related deaths.

To address high instances of TB patients lost to follow up, the project leveraged on HIV defaulter management strategies to return TB patients to care.



## PRE – EXPOSURE PROPHYLAXIS (PrEP)

Tegemeza Plus implemented a robust PrEP program that saw 7,763 eligible clients started on PrEP. The uptake improved from 398 clients in FY19 to 2,944 at the end of FY22.

The project focused on integration of PrEP services in service delivery points such as MCH, CCC and OPD to sustainably to offer a one-stop-shop solution to PrEP service delivery and generate awareness and demand for PrEP to improve uptake and continuation rates.

By the end of the project, 22 health facilities were offering PrEP services including:

- PrEP eligibility screening,
- Initiation and follow up in either the MCH or OPD or both. The aim of integration was for these service delivery points All 55 (100%) of the care and treatment sites had integrated PrEP services within the comprehensive care clinics. The project also build the capacity of HCWs and lay workers to successfully offer PrEP to at-risk populations such as key populations (KP), pregnant and breastfeeding women (PBFW) and adolescent girls and



young women (AGYW). Each health facility had a designated PrEP focal person, an initiative that played a vital role in ensuring the success of PrEP integration in selected service delivery points. Community level initiation and refill of PrEP among KP and use of peer educators as PrEP champions saw increase in PrEP uptake among the KP.

Identification of PrEP service delivery performance challenges and institution of immediate remedial measures was done. 230 service providers were reached during CMEs and micro teaching sessions focused on PrEP eligibility screening, referral, management, continuation and integration. Increased number of mentorship sessions and peer-to-peer learning at all service delivery points was done. Partnership with KEMRI Partners Scale up Project continued through support supervision sessions in high volume health facilities in Murang'a and Nyeri counties and PrEP trainings in Nyandarua county. Working with the KEMRI Partners Scale up project, efficient models of PrEP service delivery such as direct to pharmacy and one-stop shop models were introduced with resultant tangible results in Murang'a CRH and Karatina SCH.

The project developed and enhanced continuity in care strategies aimed at improving PrEP cohort retention and follow up testing. These included continuous risk assessment and reduction counseling, offering person-centered consistent and accurate information, adherence counseling, psychosocial support as well as proactive and reactive appointment management systems.

The project outlined a PrEP appointment system that comprised of an appointment diary, defaulter tracing register, appointment reminders and active follow up of clients who did not keep their PrEP appointments. Tegemeza Plus leveraged on PrEP champions, peer educators and mentor mothers within the health facilities to support PrEP service delivery.

Other activities to improve PrEP continuity included capacity building of HCWs/lay workers, continuous characterization of PrEP defaulters to address the reasons for default, including adoption of CQI activities to identify and address gaps, offer PrEP in a client centered manner that considers differentiated service delivery, decentralization of PrEP in all county supported facilities and psychosocial support.

Structured demand creation activities at health facility and community level were spearheaded by CHVs and youth champions whose aim was to create demand for oral PrEP. There was integration of PrEP messaging on virtual platforms targeting AGYWs, PBFWs and KPs. Use of safe space model in Othaya, Nyeri PGH, Murang'a CRH, Maragua SCH and Murang'a Drop in Centre (DiCE) was embraced in order to increase PrEP uptake among AGYW and KP. The project engaged the CHMT and other stakeholders to advocate for PrEP using standardized messaging.

Inter and intra facility linkage and referral pathways were defined and included use of a PrEP referral register, directory and referral booklets. The PrEP referral register helped service providers to follow up on the PrEP eligible clients referred to the clinicians to rule out any missed opportunities for PrEP initiation.



Daily monitoring of PrEP uptake at facility and program level to identify challenges and put immediate remedial measures in place was introduced in Nyeri and Murang'a counties. This was done through cascading of PrEP initiation targets to service providers. To mitigate data quality issues, regular DQAs were conducted in high volume facilities. Active involvement of the CASCO and SCASCOS in different capacity building and data review sessions was embraced including review of PrEP performance at CHMT, SCHMT and HMT levels.

### **National Level Support**

Tegemeza Plus was an active member of the National PrEP Committee of Experts (COE). The project staff participated in the revision of training slides to incorporate messaging on the new PrEP drug molecules. The project was also part of the team that revised the PrEP implementation framework

## **SEXUAL AND GENDER BASED VIOLENCE CARE (SGBV)**

An estimated 40% of women in Kenya are likely to encounter gender-based violence (GBV) in form of either sexual, physical and/or emotional violence, including intimate partner violence in their lifetime. In order to minimize the different forms of GBV and the associated health risks, Tegemeza Plus supported the CHMTs to increase access to GBV services and improve standards of care offered to GBV survivors. The aim was to attain the highest standards of care with at least an 85% score as outlined in the National Service Quality Assessment (SQA) guideline (2020). The project progressively increased the number of GBV survivors seeking and receiving services within the health facilities from 840 cases in FY18 to 16,065 cases at the end of FY22.

The project implemented a three-tiered GBV service delivery model that categorized facilities into three tiers based on their capacity to screen, manage, follow-up and refer all forms of GBV. Tier 1 facilities offered comprehensive GBV services while tier 2 facilities offered management of other forms of violence except sexual violence where referral was done. Tier 3 facilities provided screening for all forms of GBV and referred the cases for management to tier 1 and 2. Twenty health facilities from both Nyeri and Murang'a counties were classified as tier 1.

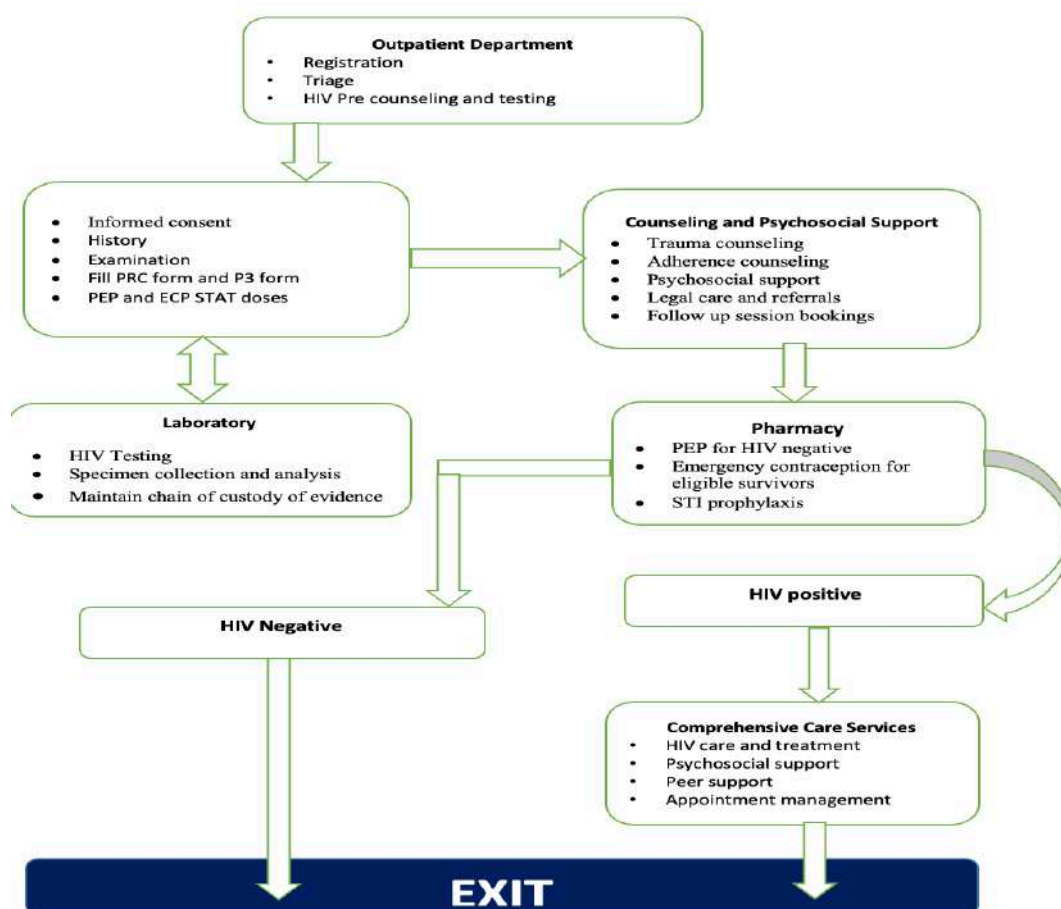
Integration of GBV services in key service delivery points within the health facilities i.e. MCH, CCC and IPD helped to increase the uptake of GBV services among the priority populations (PBFW, AGYW), key populations and also among clients seeking aPNS and PrEP services. All tier 1 health facilities achieved fully integration of GBV case identification, management and follow up in other service delivery points. Integration varied among the 52 tier 2 & 3 health facilities and this was largely dependent on the capacity of the service providers. Case identification and completion of referrals was monitored using the GBV referral register, a tool developed by Tegemeza Plus to document all identified cases, where they were referred to and if they reached the referral site. Regular updating of the referral directory including with input from relevant community stakeholders was done.



Capacity building activities were carried out to improve HCWs skills in GBV case management. 182 HCWs participated in CMEs on GBV clinical, psychosocial and forensic management. One on one mentorship and support was done to existing trauma counselors with an aim of improving their trauma counseling skills. Peer to peer learning was introduced and enhanced in tier 1 and 2 health facilities. The project trained 75 HCWs in LIVES whose aim was to improve their first response services to the survivors.

The project standardized post GBV services by implementing a GBV minimum package that comprised trauma counseling, psychological first aid, clinical management, forensic management, psychosocial support and appointment management. A network of government and project-supported psychologists and counselors supported the mental health of GBV survivors. Follow up mechanisms such as survivor booking, appointment reminders and missed appointment identification and follow up were reinforced to ensure that the survivors received the whole cascade of services especially the recommended number of trauma counseling sessions. The project defined a GBV survivor's pathway to address one of the key recommendations from the baseline SQA that was conducted in FY22.

#### CLIENT FLOW PATHWAY FOR SGBV SURVIVORS





NASCOP supported the training of 2 program staff in GBV Service Quality Assurance (SQA). These staff in turn led the rest of the project team and CHMT to roll out baseline SQA assessment in the 17 health facilities offering sexual violence management. Ten health facilities achieved the recommended highest standard of care score of 85%. Facility level work plans based on areas that did not meet the expected standards were developed and implemented in the tier 1 health facilities. Best practices were scaled up across the 17 health facilities.

Structured demand creation within and outside the health facilities through health talks, one on one discussions, IEC materials and use of existing community structures such as community health volunteers (CHVs) contributed to improved access to GBV services. The project developed simple messaging on GBV to aid the service providers, lay workers and community health volunteers in their demand creation activities. Sixty community health assistants (CHA) were sensitized on GBV messaging and in turn cascaded the same information to 1200 CHV. Demand creation focused on sexual violence case identification, reporting and linkage to the law enforcement systems.

There was concerted effort towards strengthening the GBV referral system for both clinical and nonclinical services. Emphasis was placed on updating of the GBV referral directory. 94 police officers and judicial staff from Murang'a, Nyeri and Nyandarua counties were sensitized on the GBV minimum package and their role in GBV management. Linkage with other stakeholders such as education, administration and children's office was underscored. The project liaised with the CHMT and the GBV multi-sectoral technical working groups (TWGs) to designate safe spaces and rescue clinics in Murang'a and Nyeri counties.

Tegemeza Plus, in collaboration with the county departments of health, supported the establishment of multi-sectoral GBV TWGs in Nyeri, Murang'a and Nyandarua. The GBV TWG membership included representation from the Judiciary, Kenya Police, Department of Gender and Social Services, Child Social Services, PLHIV, youth and KP representation and local implementing partners. The TWGs in Murang'a and Nyeri counties convened on a quarterly basis with the main agenda of ensuring access to quality GBV service provision, linkage to other services, ownership and sustainability. The Nyeri and Murang'a county TWGs advocated for formation of 6 facility level GBV committees to drive the GBV agenda within the health facilities. GBV focal persons from the 17 sexual violence management sites actively participated in the court user sessions.

In FY22, the project provided logistical support to clinicians from 3 health facilities to attend court proceedings as expert witnesses. Murang'a county supported the creation of a violence prevention and response key population team. This was a subset of the main GBV TWG and its membership comprised of trained peer educators, outreach workers, field assistants, SCASCO and clinical officers. The violence prevention and response team was instrumental in supporting the KP community access to health care and legal services.

To enhance data quality with the scale up of GBV case identification, the project introduced daily and weekly monitoring of performance at facility and program level respectively. This assisted



the project to identify challenges and put in place remedial measures on a daily basis. Regular DQAs with focus on high and middle volume health facilities were done.

### **National Level Support**

Tegemeza Plus was a member of the National GBV Technical Working Group and was included among the first lot of implementing mechanisms to benefit from the SQA training and implementation.

## **CERVICAL CANCER SCREENING**

Cervical cancer is the second common cancer among women in Kenya after breast cancer. Kenya recorded 5,236 new cases of cervical cancer across women of all ages. Women living with HIV are at significantly increased risk of cervical cancer and ensuing mortality hence the need for intensive screening, treatment and prevention.

Tegemeza Plus was mandated by PEPFAR/CDC to inaugurate cervical cancer screening activities within all the supported health facilities in FY21. By the end of the project period, the project had conducted 15,533 screening sessions for women aged between 25-49 years for cervical cancer.

The project equipped HCWs with skills in screening and treatment through formal, refresher, on-job trainings and on-going mentorship. A total of 75 clinical officers and nurses went through the formal 5 days cervical cancer training conducted in line with the reproductive health department guidance. The trained HCWs were tasked with the integration of cervical cancer screening and treatment into routine HIV care and treatment services within the CCC and MCH/PMTCT clinics. Screening mobilization days were implemented across all the care and treatment sites. This was coupled with daily monitoring of screening and treatment numbers against the eligible women booked for HIV service provision to identify any missed opportunities, challenges and agree on remedial measures. The project continuously supplemented provision of screening commodities and job aids in all the supported counties. Quality assurance was done through clinical mentorship and observations from project staff in collaboration with the County and Sub County reproductive health nurses.

The project advocated for a same day screen and treat approach using cryotherapy, thermal coagulation and loop electrosurgical excision procedure (LEEP) for eligible women without need for diagnostic pathology confirmation in Nyeri county.

In Murang'a county, diagnostic pathology confirmation prior to treatment was stipulated as a requirement by the county gynecologist. The project leveraged on existing viral load/GeneXpert sample transport system to transport Pap smear samples from peripheral health facilities to the processing lab at the County Referral Hospital. The project successfully negotiated a waiver so that clients did not incur the cost of the Pap smear.

Screening coverage was enhanced through demand creation activities at health facility and community level, integration of HPV vaccination in the CCC/PMTCT clinics, organizing of a series



of mobilization days to cover missed opportunities and collaboration with other partners (Marie Stopes, Ground for Health) conducting cervical cancer screening and treatment within the counties. Demand creation entailed messaging within support groups, at waiting bays, one on one counseling, active involvement of peer educators and appointment of cervical cancer screening champions at the CCC and PMTCT clinics. The project also engaged the public health and community health departments where there was awareness creation at community level through the CHVs. Reasons for decline were documented and formed part of the health messaging.

A robust monitoring and evaluation system was put in place. Mentorship on proper documentation in the cervical cancer screening register and reporting on both the CHS reporting and information system (CRIS) and KHIS was done. Daily and weekly monitoring of performance at facility and project level was introduced. Facility and individual service providers' targets were allocated. Non-performance and missed opportunities were picked on a daily basis and remedial measures put in place immediately. DQAs were conducted to improve data quality

## KEY POPULATIONS

WHO defines key populations (KP) as populations who are at higher risk for HIV irrespective of the epidemic type or local context and who face social and legal challenges that increase their vulnerability. They include female sex workers (FSW), men who have sex with men (MSM), transgender people (TG), people who inject drugs (PWID), and people in prison and other closed settings.

Apart from elevated HIV risk and burden, KP encounter legal and social issues. Historically KP have lacked prioritization in the response to the HIV epidemic, especially in countries with generalized HIV epidemics such as Kenya. Kenya began KP-targeted HIV prevention and treatment program in Nairobi and other major towns in 2009. The KP program in Murang'a commenced in 2017.

Beginning October 2019 Tegemeza Plus was tasked by PEPFAR/CDC with the provision of comprehensive HIV prevention, care and treatment services to KP in Murang'a county, specifically targeted at female sex workers (FSW) and men having sex with men (MSM). The project thus took up the role previously carried out by Hope World Wide Kenya (HWWK), a PEPFAR/CDC implementing partner and Bar Hostess Empowerment & Support Programme (BHESP), a Kenya Red Cross implementing partner.

Aware of the high stigma that KP face in Murang'a county, the project elected to first ensure buy-in from relevant stakeholders members. Entry meetings with the County Health Dept. leadership (CHMT/SCHMTs) were held prior to start of service delivery. The project also held dialogues with staff from selected facilities earmarked as KP-integrated facilities.

The project provided the essential package of care as recommended by the national guidelines for KP programming (2014) that focus on offering combination prevention interventions. These interventions include:



- *Behavioural* - peer education; targeted information, education and communication (IEC) for KPs; promotion, demonstration and distribution of condoms & lubricants, risk assessment and reduction counselling;
- *Biomedical* - HIV testing services; ARV related prevention (PEP and PrEP); STI prevention, screening and treatment; HIV care and treatment; TB screening and referral; viral hepatitis screening and referral; mental health screening and referral and sexual health reproductive services (family planning, cervical cancer screening and post-abortion care);
- *Structural* - reducing stigma and discrimination; violence prevention and response and empowering the KP community for alternative livelihood and self-sustainability.

Table 3: Number of Structure KP Hotspots

	FY20	FY21	FY22
FSW Hotspots	109	169	279
MSM Hotspots	2	32	35
FSW PE/ORW	21/2	30/2	35/3
MSM PE/ORW	7/1	21/3	25/3
Outreaches conducted	211	400	337

### Mobilization and Service Provision

The project continued to build on the existing KP service delivery model by running one stand-alone Drop in Centre (DiCE) situated at the Kenneth Matiba Eye and Dental hospital in Kenol town but also expanded the number of structured outreaches to KP hotspots mapped within the county. In addition, Tegemeza Plus extended the geographic footprint within Murang'a county of KP service delivery through co-opting five county health facilities as KP integration/referral sites. One of the five sites was dropped in FY21 due to stalled roll out of KP service delivery.

To ensure maximum mobilization and reach of KPs for comprehensive HIV prevention services, Tegemeza Plus adopted the nationally recommended peer education model that involves use of trained KP members to reach out to their peers. The project conducted bi-annual hotspot mapping & validation to determine the location and number of KPs within the coverage area. Micro-planning meetings to ensure client centered and responsive services followed this exercise. These meetings determined engagement and distribution of peer educators, put in place plans for commodity distribution and outreach activities. In FY21, the project working closely with the county & NASCOP conducted a PWID mapping exercise to address identified gaps. This exercise discovered 13 hotspots with an total of 128 PWIDs.

In the first year of KP program implementation (FY20), the project engaged 21 FSW and 7 MSM peer educators (PE) as well as 2 FSW and 1 MSM outreach workers (ORW) that organized 211 outreaches to cover 111 hotspots identified. The number of hotspots, outreaches, PE and ORW engaged grew significantly, as the project continued into FY21 and FY22. All PEs and ORWs underwent a 5-day NASCOP peer educator curriculum training and an annual refresher training to build on their mobilization, interpersonal and reporting skills throughout the project. In addition to the PE training, the PEs were taken through a one-day mental health sensitization and a virtual mobilization sensitization in FY22.



Table 4: Number of KPs Reached

KP PREV	Typology	FY20	FY21	FY22
Target	FSW	2533	2533	2533
	MSM	2857	2656	2656
Achievement	FSW	2616	2654	2516
	MSM	258	1303	2278

The project has made significant progress in reaching KPs with HIV prevention services despite a slow start in the initial stages of implementation especially in MSM reach. In FY20, the project reached 2874 KPs, a cohort that subsequently grew to 3957 and 4794 in the FY21 and FY22 respectively.

and FY22 respectively.

To increase the number of MSMs reached, the project engaged a KP-led civil society organization (CSO) called Mamboleo Peer Empowerment Group (MPEG) with established networks within the MSM community based on years of KP program implementation. Tegemeza Plus and MPEG signed a memorandum of understanding (MoU) in FY21 to collaborate in mobilization of and service delivery to MSM. This strategy led to an increase in the number of MSMs reached.

### Case Identification

Key populations contribute significantly to new HIV infections in the country. According to the Kenya Modes of Transmission study (KMOT, 2008) 33% of all HIV infections are attributable to the KPs. In the first quarter of KP program implementation, the project identified just two KPs as HIV positive. This prompted a more targeted approach to HIV testing, index testing (PNS), social network strategy (SNS), HIVST, testing among KP with risky sexual behaviours, testing among KPs in areas with high HIV & STI positivity rates. To ensure proper implementation of targeted testing, all HTS providers supporting the DiCE were trained and PEs sensitized on SNS and PNS in FY20 and a subsequent refresher in FY22. PEPFAR suspended implementation of PNS among KPs between March to August 2020. Implementing partners were only allowed to resume implementation if they met the minimum standards set. This was a set back to the project but measures were put in place to ensure safe and ethical index testing and implementation re-started in January 2021.

The project identified a total 21 KPs as HIV positive in FY20, 44 in FY21 and 37 in FY22 demonstrating a steady growth. 75% of these cases were identified through targeted testing as shown.

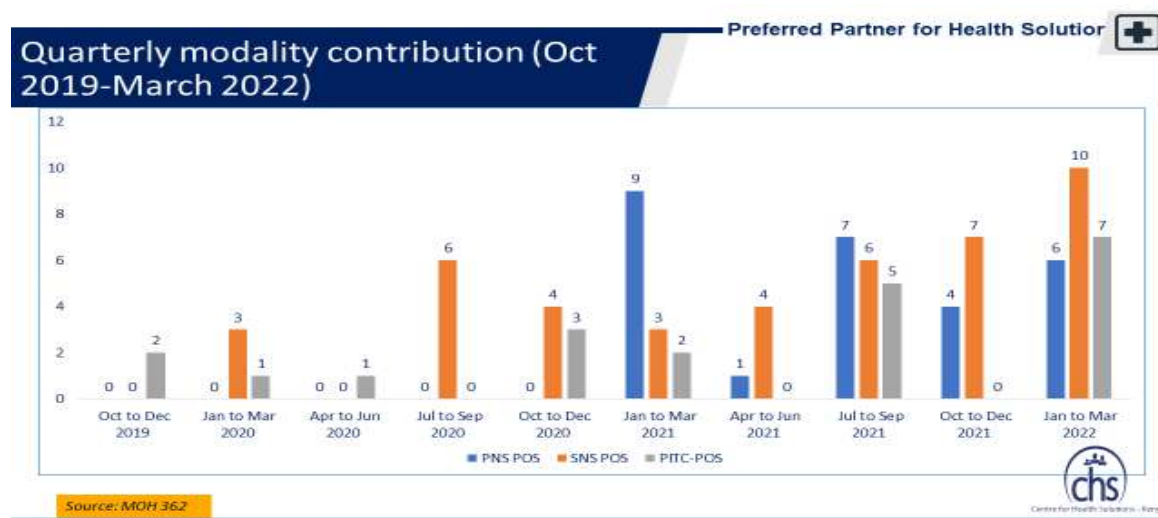


Figure 19: Quality Modality Contribution



## **Creating an Enabling Environment for KP Service Provision**

In the three years, the project implemented a human rights approach by ensuring that all peers were sensitized about their rights and that they understood processes available for reporting violation of their rights through various feedback mechanisms including suggestion boxes, exit questionnaires and monthly community dialogues.

The project supported several community dialogues and sensitizations in an attempt to reduce stigma towards KPs that reached health care workers, police, community opinion leaders and other community members. In FY21 an advocacy subcommittee that convened quarterly was formed to address violence and stigma issues among the KP.

Initially, many violence cases went unreported due to the normalization of violence towards KP by community members and the assumption within the KP community that justice would not be served. The project conducted a 5-day violence prevention and response training targeting PEs to change the narrative. This saw an increase in cases of violence reported to the project rising from 81 in FY20 to 228 in FY21. Activities geared towards reducing stigma contributed to an increase in service uptake from FY20 to FY22 as evidenced by number of KPs (especially MSM) reached with HIV prevention services.

## **LABORATORY SUPPORT**

Laboratory services are essential for the delivery of high quality care for PLHIV and span the entire breadth from diagnosis to treatment and outcome monitoring. Tegemeza Plus implemented targeted lab support to address the accessibility of lab services in the most cost-efficient and effective manner possible to assure of sustainable HIV lab service delivery. The lab support comprised HIV testing services (HTS) for the general population as well as specific sub-populations such as PMTCT, EID, testing for specific opportunistic infections such as cryptococcal infections, TB, CD4 and viral load as well as strengthening sample referral networks, equipment maintenance and continuous quality assurance for all lab tests.

A key objective of the lab support was to increase demand for diagnostic services and ensure that patients received accurate and timely results. Project efforts led to improvement in viral load uptake and minimized missed testing opportunities. Hub laboratories i.e. sample holding laboratories/phlebotomy departments were set up in five sub county hospitals within Murang'a and Nyeri counties

### **Capacity Building**

The project provided capacity building of laboratory staff in various technical areas including AFB microscopy, HIV proficiency testing, biosafety and biosecurity training helping ensure compliance to national standards as well as improve service delivery.

Tegemeza Plus build the capacity of twenty five Sub-County Medical Laboratory Coordinators (SCMLCs) and four County Medical Laboratory Coordinators (CMLCs) on rapid test kit (RTK) commodity management including proper reporting through mentorship and site support visits. This improved reporting rates (sustained at >98%), and overall commodity management



practices. Murang'a and Nyeri counties have adopted the practice of quarterly county RTK commodity data review meetings, as instituted by Tegemeza Plus.

### **Commodity Management**

To guard against interrupted HIV related diagnostic and monitoring services, the project provided health facilities with buffer stocks for laboratory consumables including EDTA tubes, sCrAg kits, cryovials, yellow tips and cryovial markers to supplement the supplies from national level i.e. KEMSA and MEDS. Other lab support comprised storage freezers for viral load samples, centrifuges and barcode machines to help in updating laboratory information system.

Tegemeza Plus has been providing monthly internet bundles to CMLCs and SCMLCs for purposes of online uploading of laboratory reports for RTK, CD4, GeneXpert commodities and workload reports.

The project has also facilitated county-level RTK quantification meetings to improve the county capacity and quality of commodity reporting and quantification, with the aim of improving RTK commodity security.

### **Sample Referral Networks**

Tegemeza Plus in consultation with CHMTs provided logistical support for sample referrals networks spanning Murang'a, Nyeri, Nyandarua and Laikipia counties. The referral networks facilitated referral of samples for CD4 testing, HIV viral load testing, TB GeneXpert testing, Kaposi's sarcoma testing, and cryptococcal antigen testing so that all HIV care and treatment as well as PMTCT facilities were able to provide these tests to clients. The networks relied primarily on motorbike sample transport system, an improvement from the human courier sample transport in use previously, to deliver samples to hub/testing sites ensured prompt access of labs services, and improved turnaround time. The project provided standard operating procedures (SOPs) to guide sample referral as well as cooler boxes, freezers and centrifuges.

In Murang'a County, Tegemeza Plus adopted a county-led sample transport model where samples were transported using county owned and fueled motorbikes and staff.

### **National Level Engagement**

Representation of CHS at the national level on commodity security, viral load testing and point-of-care national TWGs ensured that staff were well updated on emerging lab operational strategies. These forums also provided a platform for Tegemeza Plus to showcase its work in the counties as well as contribute to the development of documents such as The National HIV Viral Load Testing Scale-Up Strategic Implementation Plan and A Guide to Implementing Point of Care for HIV Programs and Laboratory Quality Management Manuals.

### **Equipment Maintenance**

Tegemeza Plus provided logistical support for engineers from the National Public Health Lab to conduct annual bio-safety cabinet and other laboratory auxiliary equipment servicing to ensure optimal operation and minimal equipment downtime.



The project also supported the improvement of laboratories in health facilities towards ISO 15189 accreditation. Labs in Murang'a CRH, Kiriaini Mission Hospital, Muriranjas SCH, Maragua SCH, Karatina SCH, Nyeri CRH, Nyahururu CRH and OI Kalou Hospital all started the accreditation journey with Murang'a CRH, Kiriaini Mission Hospital, Muriranjas SCH, Maragua SCH and Nyeri CRH attaining accreditation

### **Laboratory Documentation**

In collaboration with the counties, CHS supported the development and implementation of different laboratory tools that improved documentation. The tools include VL sample tracking logs, VL sample manifests, kits/reagents quality control templates and personnel training matrix templates. The tools were adopted by the counties for continued use.

### **Equipment Supply**

Throughout its life the project endeavored to provide critical lab equipment to plug gaps that were hindering service delivery. Equipment such as chest freezers, refrigerators, and centrifuges were procured and strategically sited to improve laboratory services and particularly viral load sample management and ensured sample rejection rates of less than 2%. In addition cooler boxes for use in sample referral were supplied as well as computers to strengthen lab management information systems in the hubs.

### **Quality of Services**

To ensure quality of laboratory services, the project trained 15 laboratory staff as TOTs in the National HIV Integrated Training Curriculum. Another 30 HCWs were trained in AAFB testing. Further, the project supported health facilities to develop various laboratory SOPs to guide various operations.

Despite substantial progress in strengthening laboratory systems, there remains the need for efficient coordination of HIV-related testing referral networks, equipment maintenance and continuous quality assurance for rapid HIV testing, GeneXpert, EID and viral load sample processing.

### **Laboratory Support for HIV Testing Services**

Quality control (QC) is an integral measure for verifying if a given test result is valid. Tegemeza Plus supported both internal and external quality assessment (EQA) programs. The project in collaboration with the county health departments of Nyeri and Murang'a supported proficiency testing (PT) EQA schemes for round 20, 21, 22 and 23 by ensuring that all HCWs carrying out HTS were registered with National Public Health Labs (NPHL) for HTS-EQA. This support was mostly logistical and entailed distribution of PT sample panels to HCWs, return of the panels to the NPHL and provision of PT testing feedback to the HCWs. HTS providers who received unsatisfactory results were taken through corrective action and preventive action.

Tegemeza Plus engaged rapid testing continuous quality improvement (RTCQI) champions to perform continuous on-site audits and mentorship to check adherence to quality control



measures, record keeping and observation of staff performance as per MOH/NASCOP HIV testing algorithm.

The project in collaboration with county health management teams engaged sub county laboratory teams and laboratory QA officers in joint work planning, checklist reviews and SOP development on quarterly basis on RTCQI agenda as part of sustainable implementation with a long term view of transition to county-led HIV implementation. The county teams were tasked with RTCQI implementation in level 2 facilities and assessment targeting 5 facilities per county.

Recency testing was implemented in collaboration with Nyeri and Murang'a county health departments with the project supporting HIV recency testing training targeting 90 health care workers from Nyeri and Murang'a counties. CHS facilitated recency testing scale up activities including step-down trainings to increase adoption at facility level and in collaboration with county teams, was involved in activations and county-led CQI assessments for the sites implementing recency testing.

### **Care and Treatment**

Tegemeza Plus ensured that counties continue supporting sample collection and storage at hub laboratories in every county. Each of the counties has a well-defined sample collection, transport and result management system for the following tests; GeneXpert, viral load, CD4, biochemical, hematological and EID tests

Tegemeza Plus designated three additional sample holding hub labs within Nyeri and Murang'a counties to improve on TAT by shortening the distance between spoke and hub labs. The newest hub labs were Kandara SCH and Maragua SCH in Murang'a County and Mukurweini SCH and Othaya SCH in Nyeri County. These laboratories were equipped with a sample-holding freezer and a centrifuge.

The project trained 100 HCWs on good phlebotomy practices to ensure phlebotomists conform to standard procedures in dealing with blood and needles, making sure they minimize infections, injuries, and dissemination of blood-borne illnesses.

The project collaborated with county lab technical staff in the development of joint work plans including budgets to ensure county ownership from the outset in the procurement of barcode labels for sample barcoding for viral load and EID samples. The system enabled facilities to label samples using barcodes generated and printed from updated facility EMR. One advantage of the system is that it allows remote tracking whereby facility focal persons could login and monitor testing progress, view results and retrieve historical results

Tegemeza Plus has been supporting laboratory - clinical interphase meetings for VL /EID/CD4/TB samples and sCrAg testing samples at facilities with a focus of reducing sample TAT for viral load and EID samples to 7 and 5 days respectively, while CD4, TB and sCrAg samples within 24 hours, reducing sample rejections and increasing efficient results transmission.

Tegemeza Plus in liaison with the county Government of Murang'a provided end user training for point of care EID testing targeting 20 laboratory staff and an additional 30 clinical officers and nurses.



The EID POCT program was successfully rolled out in Murang'a County targeting Murang'a CRH and Maragua SCH.

The project ensured 100% uptime of the GeneXpert machine by facilitating machine servicing as well as commodity availability through national commodity existing platforms. The POCT dashboards have supported tracking supply chain data, ensuring proper forecasting, planning and avoiding stock-outs.

Tegemeza Plus collaborated with county laboratory staff in quality management system implementation (LCQI) and accreditation maintenance for laboratories that attained accreditation status. The support included provision of mentorship for QMS implementation (LCQI) for accreditation maintenance, support in servicing of machines, SOP reviews, supporting laboratory TWGs to review progress and cross-pollination from already accredited laboratories to other laboratories that have not been accredited through laboratory quality champions attached to accredited laboratories. The project's support for the laboratory included comprehensive lab CQI measures, lab personnel training and development with distribution of job aids, SOPs, guidelines and IQC materials.

The project in collaboration with counties was involved in enlisting county participation in external quality assessment programs to monitor quality of various tests for example TB, HIV and CD4, routinely evaluate program performance, and implement corrective actions

### **Biosafety and Waste Management**

Diagnostic laboratories generate waste in different categories that include chemical, infectious, radioactive, controlled substances, pharmaceutical, multi-hazardous, sharps, and non-hazardous. The waste generated has its own characteristics and requirements for disposal therefore Tegemeza Plus worked closely with counties to ensure safe disposal of laboratory waste through provision of training on waste management, procurement of waste disposal biohazard containers, SOPs development and waste disposal guides distribution.

Tegemeza Plus supported annual biosafety and refresher training in collaboration with Murang'a, Nyeri and Nyandarua counties each year targeting 25 participants from each county.

### **TB/HIV**

Tegemeza Plus supported team of engineers from the National Public Health Laboratory (NPHL) to visit Nyeri, Nyandarua and Murang'a counties and perform annual servicing and certification of biosafety hoods and biosafety cabinets (BSC11)

In FY22, the project undertook training and mentorship to HCWs on the use of urine lipoarabinomannan (LF-LAM) assay as a rapid point-of-care TB test for PLHIV targeting 20 HCWs from each county.



## STRATEGIC INFORMATION

### Capacity Building

Tegemeza Plus used a novel approach to build the capacity of HCW and especially health records and information officers (HRIOs) in M&E related skills. The approach, selected due to its cost effective and sustainable nature, entailed enlisting the support of sub-county health records and information officers (SCHRIO) as champions of change to conduct mentorship and on-the-job-training (OJT) to facility staff. This was complemented by a peer training approach where newly hired staff were paired with long serving and high performing HRIOs within the county. Other techniques used include facility based sensitization, virtual webinars and enrolment to the NASCOP M&E e-Learning platform. Facilities were supported with job aides such as the PEPFAR MER indicator guide, DQA SOP, EMR SOP, data use SOP

### Health Information Systems (HIS)

#### KenyaEMR

The Tegemeza Plus project oversaw the transition of electronic medical records (EMR) system in use from the predominant CPAD (at the onset of the project) to IQCare and finally to the MOH approved system KenyaEMR. As at September 2022 the project had implemented KenyaEMR in all the 55 care and treatment sites giving an EMR coverage of 100%. At the close of the project, a total of 30,601 out of 30,690 (99.7%) patients on ART had their records in an EMR system. The other patients were mothers on PMTCT in 36 low volume facilities that are not EMR supported. A paperless point-of-care (POC) EMR was implemented all 55 ART sites. High uptake of POC EMR was attributed to cost effective strategies such as, routine mentorship, timely troubleshooting and system upgrade, deployment of computers in key HIV service delivery points (SDPs) and regular monitoring of implementation. The POC EMR system has tremendously enhanced patient management and has enabled clinicians to benefit from clinical decision support features presented by a fully POC EMR. The project was able to sustain fully functional EMR and reporting of ART data through EMR systems. As at September 2022 all the 55 EMR sites were uploading their individual level data to the national data warehouse (NDW) with a sustained reporting rate of 100%

#### eHTS

In an effort to digitize documentation of HIV testing services, the project with support from the national HIS partner (Palladium Kenya) implemented electronic HIV testing services (eHTS) in 54 ART sites through the eHTS mobile application mUzima (21 sites) and KenyaEMR HTS module (33 sites). Upon achieving optimal implementation, eHTS has improved HTS data quality, reduced labor-intensive manual data extraction and has cut down the cost of bulk printing of HTS paper registers.

#### Ushauri

In effort to improve patient retention and cohort growth the project implemented Ushauri SMS reminder system for sending appointment reminders to patients prior to their scheduled clinic day. The service which targets all patients on ART and above 15 years of age was implemented



in all 55 care and treatment sites, 53 (98%) of which were actively using the application as at September 2022.

### **mLab**

With support from mHealth Kenya, the project was able to enroll patients on and utilize mLab in all 55 ART sites. Through access to message notifications from the mHealth application turnaround time (TAT) for viral load results has improved leading to timely interventions for PLHIV

### **Tegemeza Plus HIS Innovations**

Tegemeza Plus contributed to public health informatics by innovating and implementing two digital applications developed by CHS as highlighted below:

#### **CHS Sample Barcoding System (CHS-SBS)**

The program takes pride in being the first one in the country to develop and implement a barcode system for labeling VL specimens. The system was implemented in all 55 ART sites and is fully integrated with the testing machines at the national VL processing laboratory.

The implementation of the barcode system had enormous benefits which were highlighted from analyzing pre and post implementation data. The results revealed salient benefits of using the barcode compared to the manual pen and paper system which include improved speed of specimen labelling, elimination of transcription errors that would occur during manual labelling of lab request forms, sample tubes and EID samples, improve accuracy in tracking viral load patient information with EMR thus sustained regular program monitoring and evaluation, Improved results uptake on EMR using an integration layer (IL). Ultimately barcoded samples not need not be accompanied by a laboratory technologist from the collecting lab to the processing lab as was the practice previously.

#### **TB/COVID Screening Application (Tiba Tekelezi)**

The TB/COVID application was developed through the CARES Act funding in FY21 with the objective of introducing bidirectional screening for TB and COVID-19 in the hospital setting. The system which is available on the web and also on the Android platform was piloted at Nyeri CRH, Karatina SCH and Maragua SCH. User feedback was collected and incorporated to enhance the system functionality to include modules such as reporting, data visualization dashboard, integration with GeneXpert machine and patient linkage to other services. The application is fully developed and ready for roll out

#### **ART Patient Verification**

Efforts were made to sensitize the 55 ART sites on the rationale for patient verification exercise and processes therein. Resources were availed in form of internet data bundles and regular monitoring done to track progress. As at 31st September 2022 the program was at 35% national unique patient identifier (NUPI) uptake



Uptake of other HIS products such as the interoperability layer (IL), ART dispensing tool (ADT) is summarized in the table below:

<b>HIS IMPLEMENTATION STATUS SEPTEMBER 2022</b>			
<b>Activity to report on</b>	<b>Description of activity scoring</b>	<b>% Uptake</b>	<b>Comments</b>
Proportion of TX_CURR from EMR Sites	TX_CURR in EMR (Sep '22)/ Overall TX_CURR for all Sites supported by IP	99.90%	36 of 30690 patients were from PMTCT sites.
Platform Upgrade to version 18.3 KenyaEMR	Number of sites upgraded to KenyaEMR Version 18.3/ Number of supported EMR sites	100%	All the 55 EMR sites are running on latest KenyaEMR version (v18.3.)
eHTS implementation	Number of sites deployed eHTS (AfyaStat)/ Number of sites supported	98%	54 out of 55 EMR sites are on eHTSs. 33 sites using KenyaEMR HTS module, 21 sites using mUzima
DWAPI -NDWH uploads status.	Number of sites upgraded to latest DWAPI version / Number of EMR sites supported with upload to Data warehouse as of 5 <sup>th</sup> of latest month	100%	All 55 sites have 100% reporting rates as of 5 <sup>th</sup> of every month
Interoperability Layer	Number of sites with active Interoperability Layer/ Number of EMR sites supported	29%	16 out of 55 EMR sites implementing the IL
Ushauri implementation	Number of sites using Ushauri/ Number of sites supported	94%	53 EMR sites out of 55 sites actively using Ushauri application
Barcode/mLab / KenyaEMR Lab Manifest implementation	Number of sites using mLab or KenyaEMR Lab Manifest/ Number of sites supported	100%	All 55 sites supported by the CHS sample barcoding system
WebADT implementation and upgrade	Number of sites using Upgraded WebADT	10 sites	10 sites using WebADT upgraded to latest version (v4.0.1).
Tiba-Tekelezi (TB/COVID Screening app)	Number of sites using Tiba-Tekelezi	3 sites	3 sites implementing Tiba-Tekelezi



### **Case Based Surveillance (CBS)**

The implementation of POC EMR & other HIS products implementation efforts (eHTS, mLab & Ushauri) by the project created an enabling environment for execution of case-based surveillance (CBS). As at September 2022, all 72 supported sites were activated and were capturing HIV sentinel events that are key for active CBS implementation.

### **Data Quality Audit and Data Alignment**

Tegemeza Plus implemented a facility level data quality SOP that was derived from the MEASURE Evaluation DQA framework. The 2 pronged approach equips CHMTs in collaboration with the project team to assess the status of M&E systems for data quality assurance while being able to verify concordance of data reported on KHIS, 3PM, DATIM and NDW against source documents on a biannual basis. On the other hand, facilities were supported with a standardized tool to enable internal monthly DQA before submission of routine reports. Data quality gaps were documented and data quality improvement plan (DQIP) developed.

### **Data Demand and Use (DDIU)**

The following strategies were employed to strengthen DDIU: Facility HRIOs were trained on data extraction from DHIS and EMR and also basic data analysis skills using Microsoft Excel and PowerPoint presentation skills. A data use SOP was developed to standardize data feedback focusing on MER indicators during monthly MDT meetings. County wide data review forums were held targeting SCHMT and facility staff (clinicians, MCH nurses and HRIOs) while high level CHMT data feedback was conducted to review county progress towards attainment of program objectives. Annual program targets were granulated to service delivery point and service provider levels. Tegemeza Plus incorporated the use of technology (PowerBI) in program monitoring. Live data visualization dashboards for key performance indicators were updated on a weekly basis and were made accessible to all stakeholders including CDC activity manager, CHMT/SCHMT, HCW and program staff. Weekly data review was a game changer in achieving program targets

### **Continuous Quality Improvement (CQI)**

CQI activities were implemented in collaboration with CHMT, SCHMT and HCW. Facility staff were sensitized on the CQI approach according to the approved national quality framework; Kenya HIV Quality Improvement Framework (KHQIF) through facility level routine mentorship and CME. Quality improvement teams/ work improvement teams (QIT/WIT) were supported to implement various CQI activities in all the 55 ART sites. The WIT/QITs were tasked with identification of weaknesses in HIV service delivery within the facilities, design and implementation of corrective CQI measures for improvement. The project put in place routine data collection systems to track performance on key program indicators, data was analyzed and the results used to gain insights into change packages that were implemented in other sites with similar challenges for standardization.



## **Program Evaluation**

At inception Tegemeza Plus obtained a non-research clearance from CDC to conduct project evaluation activities during the 5-year period of implementation. Routine program data was continuously analyzed and results used to inform evidence based intervention strategies. The project documented and disseminated best practices and lessons learned through abstract presentation at local and international conferences. As at September 2022 the project had completed 5 manuscripts that were submitted to free access peer reviewed journals for publication with 10 more at various stages of development. A successful end of project evaluation was conducted and an evaluation report published on the organization website

## **HEALTH SYSTEMS STRENGTHENING**

Over the project period, Tegemeza Plus project partnered with the County Health Departments across the four counties of Murang'a, Nyeri, Nyandarua and Laikipia as part of its PEPFAR/CDC mandate to build systems for sustainable high quality HIV service delivery. From the outset, CHS signed Memoranda of Understanding (MOUs) with each of the four county governments. These MOU were designed as high level guiding documents that would define the relationship between the counties and the Centre for Health Solutions – Kenya over the life of the project. They were signed by the top leadership on both sides i.e. the Governor (or his designate) in the case of the counties and the Chief Executive Officer (CEO) of CHS

The county health department structures core to HIV service delivery were the County Health Management Teams (CHMT), Sub-County Health Management Teams (SCHMT) and Facility Health Management Teams (HMT). CHS entered into contractual relationships with the CHMTs via a sub-award to empower the CHMT as a hands-on stakeholder in HIV service delivery. These contractual relationships were renewed annually over the course of the Tegemeza Plus project and comprised of a sub-agreement defining the roles and responsibilities of the CHMT, the project-supported facilities and CHS as well as a budget outlining the resources available to the CHMT and the activity-based allocation. Due to PEPFAR rationalization of implementing mechanisms across the country, CHS only provided support for Laikipia CHMT up to end of FY19 and for Nyandarua up to end of FY20.

CHS also entered into a contractual arrangement with the Nyeri-based Vision Gardens Community Based Organization. Vision Gardens carried out community-based prevention, adherence and retention activities in Nyeri and was particularly effective in reducing stigma and also providing economic empowerment to PLHIV in the Mukurweini area through initiation of income generating activities. The support for Vision Gardens lasted until the end of FY20.

## **Human Resources for Health**

Cognizant that adequate, well-trained and motivated human resources for health were a key ingredient for a successful HIV service delivery program, Tegemeza Plus earmarked resources for hire of both skilled and lay health workers. The HRH budgetary provisions were made in each CHMT sub-award based on a needs assessment. A joint recruitment process was envisaged with input and involvement of the CHMT, the County Public Service Boards (CPSBs) and CHS. This process worked well in Murang'a and Laikipia though in Nyeri and Nyandarua the CPSBs



requested CHS to completely handle the HRH engagement process primarily because of the differential in pay scales between county staff and project-supported staff.

In Murang'a and Laikipia, CHS jointly with the CPSBs and county departments of health, in a competitive recruitment process, engaged 211 skilled health care workers (various cadres) and 72 lay health workers through the sub-agreement mechanism. In Nyeri and Nyandarua, beginning from July 2018, CHS, again in a competitive recruitment process, directly engaged 139 HCWs who were posted to the various facilities in a consultative manner and under the guidance of the CHMTs.

Over the life of the project a total of 106 project-supported staff transitioned to the county payrolls of the 4 counties. These staff comprised of the following cadres; 44 clinical officers, 9 nurses, 7 laboratory technologists, 3 pharmaceutical technologists, 6 social workers, 24 HTS providers, 12 health records and information officers and 1 accountant.

To evaluate performance of project staff, CHS conducted joint annual appraisals with the facility in-charges and CHMT/SCHMT. These appraisals formed the basis of renewal of staff contracts in the subsequent project year.

#### Supported staff transitioned to counties

County	Year	Staff transitioned to County
Nyeri	2018-2019	23
	2019-2020	9
	2020-2021	15
	2021-2022	7
Murang'a	2017-2018	7
	2018-2019	12
	2019-2020	13
Nyandarua	2017-2018	1
	2018-2019	3
	2019-2020	7
Laikipia	2017-2018	9

## LEADERSHIP & GOVERNANCE

Tegemeza Plus held joint quarterly program review meetings with CHMTs in the supported counties to ensure continued support from the CHMT and get buy in for crucial activities such as scale up of assisted partner notification services and differentiated service delivery. Jointly with the CHMTs, the project conducted biannual support supervision to assess HIV program progress and quality of service delivery. The project also supported the counties to implement and review their respective County AIDS Strategic Frameworks (and later County AIDS Strategic Plans) as well as County Health Department annual work plans (AWPs) that included domestic financing for HIV program activities.



Tegemeza Plus supported a one-day Universal Health Coverage conference, with stakeholders in Laikipia County as part of the project's drive to remain aligned to key national and county health initiatives. Through this engagement, the project aimed at leveraging resources such as NHIF health cover for patients enrolled in Nyahururu County Referral hospital for the mutual benefit of both patients and health service provider institutions. Support for HIV awareness and advocacy efforts continued through support for health action days including Malezi Bora weeks with logistical support for CHMT-led community mobilization across the 4 counties and facilitation for HTC counsellors to provide HTS at event venues.

The project strengthened the Central Region LAKATI TWG through provision of transport reimbursement and technical assistance towards strengthening the capacity of counties to deliver high quality HIV care and treatment services.

For purposes of HIV awareness creation and advocacy at county level, the project supported and participated in the various Worlds AIDS Days commemorative events planned and held across the years as well as a Laikipia Health Stakeholders Forum held in Nanyuki.

A key Tegemeza Plus initiative, designed in consultation with the County Directors of Health, was the establishment of sub-county led mentorship programs in Murang'a, Nyeri and Nyandarua counties targeting the lower volume health facilities. Each sub-county mentorship team was inducted on mentorship approaches and paired with the project program team to conduct joint monthly mentorship visits. Tegemeza Plus, again in consultation with the CHMT, developed mentorship checklists and reporting tools to ensure timely and accurate reporting. Quarterly mentorship review meetings were held to monitor progress of the sub county mentorship as well as share best practices.

At site level, to enhance the quality of care, the project facilitated multi-disciplinary team (MDT) meetings and quarterly TWG meetings focused on case discussions and best practice sharing.

To improve on commodity management including consumption reporting and pharmacovigilance activities, Tegemeza Plus conducted sensitization meetings for county and sub county pharmacists on commodity management.

### **Implementing Mechanism Rationalization**

At the end of FY19, the project seamless transitioned 2 facilities in Laikipia County i.e. Nyahururu County Referral Hospital and Maina Village Dispensary to a USAID implementing mechanism. The project participated in joint handover planning and execution with Laikipia CHMT and USAID funded APHIA Nyota ya Bonde. Joint asset verification and handover to the county of project assets was undertaken by Laikipia CHMT, CHS and Nyota ya Bonde representative. CHS supported 1 a day close-out meeting with Laikipia CHMT to highlight and share the gains made in the HIV response in the county under Tegemeza Plus support and also met with facility staff in both facilities jointly with the CHMT and Nyota ya Bonde to from Nyahururu CRH and Maina Village with the CHMT, HMT, Nyota ya Bonde and Tegemeza Plus to introduce the new partner. A joint support supervision and site hand-over was then conducted involving the CHMT, CHS and APHIA Nyota ya Bonde.



Further, the USAID funded APHIA Kamilisha project handed over 12 facilities in Nyeri county to Tegemeza Plus. A tripartite meeting was held with Nyeri CHMT, APHIA Kamilisha and CHS representatives to plan for seamless transition of the supported sites. This was followed by a joint meeting with the APHIA supported staff to introduce CHS to the staff and communicate the exit of Kamilisha staff in the county. 19 staff underwent suitability and all were issued with contracts by end of September. Asset verification, joint supervision and sites handover was conducted as the final activity for handover of Nyeri sites to Tegemeza Plus.

Tegemeza Plus also engaged with Hope World Wide Kenya (HWWK) for handover of the KP program in Murang'a county to Tegemeza Plus. This entailed a tripartite meeting with Murang'a CHMT, HWWK and CHS to discuss KP program implementation, challenges and planned activities and agree on key handover activities. Asset verification and handover was completed September 2019. Murang'a KP staff suitability was conducted in September and all staff were provided with contracts.

At the end of FY20, as part of PEPFAR IM rationalization, Tegemeza Plus transitioned 11 and 8 PMTCT-only sites in Murang'a and Nyeri county respectively to the counties. The sites continued to receive technical support and oversight from the SCHMT through the sub county mentorship program.

At the end of FY21, Tegemeza Plus seamlessly transitioned 9 supported facilities and all project supported staff to USAID Jamii Tekelezi implementing mechanism in Nyandarua county in a process that mirrored the previous transition in Laikipia.

### **Capacity Building**

The project built the capacity of service providers through on-site level technical assistance (TA) visits that entailed one-on-one mentorship, group mentorship, structured OJT, chart reviews, preceptorship, case discussions and data driven mentorship. Sixteen clinicians drawn from the supported sites were facilitated to attend the National HIV Integrated Training Curriculum (NHITC), an 18- week training curriculum provided by the Hospital Support Organization (HSO) at the AIC Kijabe Hospital. The NHITC curriculum used a blended skill building strategy that combined self-learning for 9 weeks with 2 weeks placement at a designated training site for in-person interaction with mentors.

Tegemeza Plus provided monthly internet bundles to select sites equipped with video conferencing facilities to allow staff to attend NASCOP and NTLP ECHO sessions. Ten clinical officers drawn from ten facilities in Murang'a underwent the 4-day 'TB in the Era of HIV' course at the AIC Hospital Kijabe to improve their skills and knowledge to diagnose HIV and TB.

### **Government to Government Funding**

A key deliverable of the Tegemeza Plus project was to provide TA to the county and build its capacity to oversee and manage the implementation of HIV/TB services. The formulation and establishment of County Transition Teams (CTTs) in Nyeri and Murang'a counties in FY21 was a



major milestone in this. With project support, the CTTs formulated terms of reference and developed county transition work plans and budgets.

In Nyeri, Tegemeza Plus provided guidance during the application process for a CDC notice of funding opportunity application process (an award designed specifically for CHMTs) and the county was subsequently awarded a grant by CDC. As a consequence, the project seamlessly transitioned HIV services in 7 health facilities in Kieni West sub county to the CHMT in a process characterized by transition meetings, joint asset verification exercise, joint site handover visits, sensitizing the county technical team on HIV prevention, care and treatment program areas supported by PEPFAR and having joint site TA visits for peer to peer mentorship skills transfer. 15 Tegemeza Plus supported staff were also transitioned to the county government.

In Murang'a, Tegemeza Plus provided secretariat support to the CTT for development of transition terms of reference, review of baseline transition assessment tools and provided logistical support during development of Murang'a County HIV Management and Financing Bill which will be the bedrock of ownership of HIV service delivery by the county.

At the close of the project, Tegemeza Plus again seamlessly transitioned 3 health facilities in Tetu Sub County to the Nyeri CHMT which had received direct Government to Government funding to support the sub-county. Seven project-supported staff were transitioned to the county government.

Through its affiliate, the CHS Institute which provided a HRH program officer, Tegemeza Plus supported county HRH strengthening activities including quick recruitment turnaround times for the replacement of staff who exited the project and in order to avoid disruption of service delivery.



## ANNEXES

### Annex 1: Tegemeza Plus Manuscripts and Abstracts

SN	Author	Co-Authors	Manuscript Title	Status
	Paul Wekesa	Angela McLigeyo, Kevin Owuor, Jonathan Mwangi, Evelyne Nganga & Kenneth Masamaro	Factors associated with loss to follow-up and mortality outcomes among 36-month patient cohorts on antiretroviral therapy in Central Kenya	Published
	Paul Wekesa	Angela McLigeyo, Kevin Owuor, Jonathan Mwangi, Linda Isavwa, Abraham Katana	Temporal trends in pre-ART patient characteristics and outcomes before the test and treat era in Central Kenya	Published
	Angela McLigeyo	Paul Wekesa, Kevin Owuor, Jonathan Mwangi, Linda Isavwa, and Immaculate Mutisya	Factors Associated with Treatment Outcomes Among Children and Adolescents Living with HIV Receiving Antiretroviral Therapy in Central Kenya	Published
	Paul Wekesa	Angela McLigeyo, Kevin Owuor, Jonathan Mwangi and Evelyne Ngugi	Survival probability and factors associated with time to loss to follow-up and mortality among patients on antiretroviral treatment in central Kenya	Published
	McLigeyo A	Owuor Kevin, Ng'ang'a Evelyne, Mwangi Jonathan, Wekesa Paul	Characteristics and Treatment Response of Patients with HIV Associated Kaposi's Sarcoma in Central Kenya	Published
	Rachael Muinde	Jones Mutiso, Kevin Owuor, Paul Wekesa, Jonathan Mwangi	Towards efficiency of HIV Case Identification: Investigating client characteristics predictive of HIV positive results from Provider initiated Testing (PITC) in Central Kenya	Approved for journal submission
	Jacob Musili,	Jacob Musili, Rachael Muinde, Cornelia Ochola, John Kioko	Extensive adherence counseling and predictors of treatment failure among adults above 20 years living with HIV	In progress
	TBD	Symon Wambugu, Paul Wekesa, Rachael	Impact of COVID-19 on HIV Prevention, Care and	Analysis completed and results available



		Muinde, Dinah Mamai, Jones Mutiso, Ann Githige, Jay Mairura, Caroline Nzivo, and Alex Makokha,	Treatment Service delivery, and Outcomes in Nyandarua, Nyeri, and Murang'a Counties of Kenya	
SN	Author	Co-Authors	Abstract Title	Status
	Kamenwa Kevin	Makokha Alex, Owuor Kevin, Wekesa Paul	exploring automation of viral load result transmission from reference lab to electronic medical record systems in central Kenya	Completed
	Makokha Alex	Kevin Kamenwa, Kevin Owuor, Muange Prisca	Barcoding sample labelling to reducing patient specimen and laboratory testing identification errors	Completed
	Makokha Alex	Kevin Kamenwa, Kevin Owuor, Muange Prisca	Reduction in Specimen Labeling Errors After Implementation of the Barcode system at Murang'a CRH	Completed
	Wekesa Paul	Angela McLigeyo, Kevin Owuor, Jonathan Mwangi, Evelyne Nganga & Kenneth Masamaro	Factors associated with 36- month loss to follow-up and mortality outcomes among HIV-infected adults on antiretroviral therapy in Central Kenya	Completed
	Dan Ronoh	R. Githinji, Kevin Owuor , Benard Kimtai, Alex Makokha, Muange Prisca, Paul Wekesa	Results of Utilization of Google Sheet Document In Requesting Viral Load Test	Completed
	J. Kisio	D.G. Kinyanjui , C. Ochola , E. Karanja	Turning the tide towards eliminating mother to child transmission: Lessons from Murang'a County Government HIV program	Completed
	Evelyn Nganga	Angela McLigeyo, Prisca Muange, Cornelia Ochola, Kevin Owour, Linda Isavwa , Kennedy	Improving TB Case Detection and Optimizing HIV testing for Presumptive TB cases	Completed



		Muthoka, Paul Wekesa,		
	Cornelia Ochola	Evelyn Nganga, Angela McLigeyo, Prisca Muange, Paul Wekesa	“ANZA SASA” Time to start, suppression and retention: A Central Kenya experience	Published

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