



**Elizabeth Glaser
Pediatric AIDS
Foundation**

Until no child has AIDS.



Democratic Republic of the Congo: Malamu End-of-Project Report

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Acronyms

AIDS	acquired immune deficiency syndrome
ANC	antenatal care
ART	antiretroviral therapy
CDC	United States Centers for Disease Control and Prevention
DBS	dried blood spot testing
DOD	Department of Defense
DQA	data quality assessment
DRC	Democratic Republic of Congo
EGPAF	Elizabeth Glaser Pediatric AIDS Foundation
EID	early infant HIV diagnosis
IP	implementing partner
M&E	monitoring and evaluation
MCH	maternal and child health
MM	mentor mothers
MOH	Ministry of Health
MTCT	mother-to-child HIV transmission
L&D	labor and delivery

LTFU	lost to follow-up
PCR	polymerase chain reaction
PNSR	Programme National de Santé Reproductive
PMTCT	prevention of mother-to-child HIV transmission
PEPFAR	United States President's Emergency Fund for AIDS Relief
PROVIC	Projet Intégré de VIH/SIDA au Congo
PSI	Population Services International
QI	quality improvement
SGBV	sexual- and gender-based violence
SI&E	strategic information and evaluation
STI	sexually transmitted infections
SOP	standard operating procedures
TB	tuberculosis
UNAIDS	Joint United Nations Programme on HIV and AIDS
UNICEF	United Nations Children's Fund
VL	viral load
WHO	World Health Organization

Executive Summary



This publication documents key activities, results, achievements, lessons learned, challenges, and future directions of the Malamu project, implemented by the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) in the Democratic Republic of the Congo (DRC) over five years (from September 30, 2011 to September 29, 2016). This project was funded by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) through the U.S. Centers for Disease Control and Prevention (CDC).

Throughout the five years of the Malamu project, its implementation strategies changed in accordance with the country's HIV epidemic, national and international policies, and donor and program needs. In the first full year of implementation, the project shifted its focus from prevention of mother-to-child transmission of HIV (PMTCT) to include overall, comprehensive HIV prevention, care, and treatment, based on the donor's recommendation. EGPAF accordingly expanded and strengthened HIV prevention, care, and treatment in outpatient and tuberculosis (TB) clinics, and scaled up provider-initiated testing and counseling (PITC). In September 2013, the Programme National de la Lutte contre le SIDA (PNLS) adopted the World Health Organization's (WHO) Option B+ protocol, recommending wider eligibility and longer-term treatment of HIV and AIDS. EGPAF, as a national implementing partner (IP), piloted the Option B+ protocol through the Malamu project in the former Katanga Province (now Haut-Katanga) in September 2013 before its roll-out in Kinshasa in June 2014. In October 2015, PEPFAR 3.0 worked with EGPAF-DRC and other IPs to achieve epidemic control in selected areas by the end of 2017. The PEPFAR pivot, or rationalization process, affected the last year of the Malamu project achievements as sites were redistributed among IPs to provide a full package of comprehensive health services (and limit duplication of efforts). Overall, EGPAF has supported PMTCT services through Malamu in a varying number of health facilities since 2011: 70 in 2011-2012; 101 in 2012-2013 and 2013-2014; 127 in 2014-2015 and 125 in 2015-2016 across Kinshasa and Haut-Katanga. A number of approaches were used to strengthen PMTCT services in all supported sites.

IPs established their own targets for the first three years, and the last two years' targets were set by PEPFAR/CDC. Target-setting proved challenging, as some targets were set too high or too low, and performance to target varied accordingly from year to year. The first year's targets were ambitious as the program launched later in the fiscal year and had only six weeks of the remaining year to implement activities. Whereas the third year's targets were perhaps too low. The PEPFAR pivot also affected performance to target for the last project year as the targets were set assuming no reduction in the number of sites supported.

Malamu met PEPFAR/CDC's standards for achievement (85%–125% of target) for HIV testing of individuals and HIV-exposed infants, but performed below target for HIV testing in PMTCT and provision of antiretroviral therapy (ART). To date, 280,549 people were tested for HIV and received their results through Malamu-supported facilities. More HIV-positive individuals were identified than expected, owing to the opening of several entry points in addition to the PMTCT centers, including outpatient and TB clinics. Haut-Katanga Province's HIV prevalence (4%) is higher than Kinshasa's (1.2%), and correspondingly it had higher positivity rates in testing. The Mentor Mother (MM) approach (wherein "expert patients", HIV-positive mothers adhering to treatment, are recruited by site managers and trained to encourage other women and families to get tested and adhere to treatment), implemented and adopted by the PNLS, contributed to the strong performance of testing of HIV-exposed infants: 88% (1,228) of the targeted HIV-exposed infants (1,401) were tested with polymerase chain reaction testing (PCR).

During the five years of implementation, four key challenges were encountered: pediatric case finding (including adolescents), male involvement in PMTCT, retention in care, and data collection tool completeness, accuracy and analysis. We learned that the use of the peer-to-peer site model, the MM approach, and peer support groups in PMTCT bolstered access to HIV testing and retention in care and treatment. Additionally, we learned that success can be made through engaging with religious and political leaders and policy makers in meaningful conversation. Lastly, that through the use of routine data monitoring, we can create better data accuracy and better target-setting.

HIV and AIDS in DRC

DRC is one of the most populous and geographically vast countries in sub-Saharan Africa, with more than 85 million people. The country has a generalized HIV epidemic with 1.2% prevalence.² DRC's epidemic is fueled by such population characteristics as early initiation of sex among adolescents, unprotected sex with non-regular partners, multiple sex partners, low incidence of condom use among high-risk groups, high mother-to-child HIV transmission (MTCT), unscreened blood transfusions, other invasive medical procedures, and transactional sex.

HIV/AIDS DRC CONTEXT¹

- Number of people living with HIV: 370,000 (290,000–460,000)
- Adults aged 15 and up living with HIV: 330,000 (260,000–410,000)
- Women aged 15 and up living with HIV: 200,000 (160,000–250,000)
- Children aged 0 to 14 living with HIV: 42,000 (34,000–51,000)
- Deaths due to AIDS: 22,000 (16,000–28,000)
- Orphans due to AIDS, aged 0 to 17: 330,000 (260,000–400,000)

The most severely affected demographic group are women 30–39 years old and men 45–49 years old. Prevalence is generally higher among women than men. The HIV prevalence in the eastern part of the country is higher (Maniema 4%; Ituri 2.3%) than in the western part (Bandundu 0.3%; Kongo Central 0.2%).

HIV prevalence is higher among key populations—sex workers (6.9%), men who have sex with men (31%), prisoners (11%), and injecting drug users (12%)—compared with the general population.³ The epidemic has been worsened by large-scale population movements that resulted from armed conflict and political instability, the related economic crisis, high levels of untreated sexually transmitted infections (STIs), and the weak health system and transportation infrastructure.

The DRC PNLS, chaired by the Minister of Health, was established in the early 1990s. This program acts as the central unit for planning, coordination, and monitoring and evaluation (M&E) of all HIV, AIDS, and STI activities in the country. In 2016, DRC adopted the Joint United Nations Programme on HIV and AIDS (UNAIDS) 90-90-90 goals* to control HIV/AIDS by 2020. In August 2016, the PNLS program updated the HIV national guidelines in accordance with 2015 WHO guidelines, recommending “Treatment for All” people living with HIV, regardless of clinical stage.

EGPAF-DRC

EGPAF began supporting critical HIV and AIDS services in DRC in 2001, providing funding and technical assistance to PMTCT programs implemented by the Kinshasa School of Public Health and the University of North Carolina. Since 2001, EGPAF has implemented and scaled up access to HIV testing and counseling, early infant HIV diagnosis (EID), adult and pediatric HIV care and treatment, TB and HIV coinfection management, STI treatment and management, and sexual and gender-based violence (SGBV) care services. EGPAF works in close collaboration with DRC's Ministry of Health (MOH) and PEPFAR through its agencies: CDC, United States Agency for International Development (USAID) and the Department of Defense (DOD). With our local partners, EGPAF aims to increase coverage of PMTCT and HIV care and treatment services, strengthen community health facility linkages, and build local ownership and sustainability of comprehensive HIV and AIDS programs. After the close-out of the Malamu project, EGPAF is still supporting 268 sites in DRC through the CDC-funded Kimia, the DOD-funded Elikya, and USAID-funded ProVIC_{plus} projects.

* To cover 90% of the population with HIV testing; to initiate 90% of those infected on ART; and to ensure viral suppression among 90% of those on ART by 2020



Malamu Project



The Malamu project aimed to create a solid foundation for the provision of high-quality HIV services and to support the MOH, health zones, and sites. The project was launched in accordance with PEPFAR's focus on elimination of MTCT in DRC (the PMTCT acceleration plan). At CDC-DRC's request, EGPAF focused the first year of Malamu on initiating PMTCT services and integrating SGBV screening and referral in supported sites in Kinshasa and Haut-Katanga.

The goals and objectives of the project shifted over the years, in accordance with priorities set by CDC. The initial target area for this project was to support the national PMTCT acceleration plan. In 2013, the target shifted again to include not only scale-up of PMTCT services but also scale-up of comprehensive HIV care and treatment services. During the last year of the project, the target was implementation of the rationalization process with provider-initiated testing and counseling scale-up to different entry points, including TB clinics.

The Malamu project's 2011 package of comprehensive PMTCT services supported implementation of DRC's 2010 national PMTCT guidelines. The 2010 DRC PMTCT guidelines were modeled after the WHO's "Option A" PMTCT recommendations, which called for use of early and extended antiretroviral (ARV) prophylaxis for HIV-positive pregnant women with CD4 counts above 350, and initiation of ART for life for women with CD4 counts below that threshold. In August 2013, under CDC and UNICEF's partnership, the PNLS adopted the 2013 WHO recommendations and revised the national HIV guidelines to include initiation of lifelong ART among all pregnant and breastfeeding women living with HIV (Option B+) and ART initiation for all individuals with CD4 count less than or equal to 500. Under this partnership, the Option B+ protocol was piloted in the Haut-Katanga Province in September 2013 and scaled-up in Kinshasa and Tshopo provinces. With CDC's guidance, EGPAF played an instrumental role in leading the Option B+ pilot phase in Lubumbashi. During this pilot phase, EGPAF conducted PMTCT baseline assessments, trainings, supportive supervision, mentoring on Option B+, and M&E of this approach in collaboration with the PNLS and supported health zone staff.

After the launch of Option B+ in DRC, comprehensive PMTCT, including ART for all pregnant women attending MNCH services, became the national standard. In addition to offering PMTCT in antenatal care (ANC) and labor and delivery (L&D) wards, in 2013-2014 of Malamu, EGPAF introduced the HIV prevention, care and treatment for the general adult population who meet eligibility criteria at different entry points, including TB, inpatient, and outpatient clinics.

Program Goals and Objectives

OVERALL MALAMU PROJECT GOAL	Increase access to quality comprehensive HIV/AIDS prevention, care, and treatment services in Kinshasa and Haut-Katanga provinces
OBJECTIVE ONE	Increase access to quality and comprehensive PMTCT services
OBJECTIVE TWO	Increase access to quality health care services
OBJECTIVE THREE	Expand coverage of HIV services in TB screening and treatment centers
OBJECTIVE FOUR	Increase access to quality HIV treatment services

Malamu Approaches and Strategies



Malamu Strategy

Malamu initially focused on supporting the WHO's comprehensive four-prong strategy for PMTCT activities: (1) the primary prevention of HIV among women of childbearing age; (2) the prevention of unintended pregnancies among women living with HIV; (3) the prevention of transmission of HIV infection from HIV-positive pregnant women to their children; and (4) the provision of appropriate care, treatment, and support for women living with HIV, as well as their children and families. In the second year of Malamu, EGPAF increased its number of sites to best support PMTCT coverage scale-up in Haut-Katanga and Kinshasa provinces. With the peer-to-peer site model, the Malamu project secured and distributed HIV tests kits, CD4 cartridges, data collection tools distribution to these sites and linked all to a blood samples collection network to process CD4 counts. In project year three, the number of EGPAF-supported sites increased to implement Option B+ activities and additional testing entry points, including in TB clinics. Over the five years, EGPAF provided logistical support for DNA-polymerase chain reaction (PCR) tests and viral load diagnostics transportation from site to a national referral lab. With the program pivot or rationalization and the project close-out, during the last year of the Malamu project, EGPAF transitioned support away to ICAP, SANRU and ProVidplus in accordance with the PEPFAR pivot recommendations. Figure 1 demonstrates the evolution of site-level support over time.

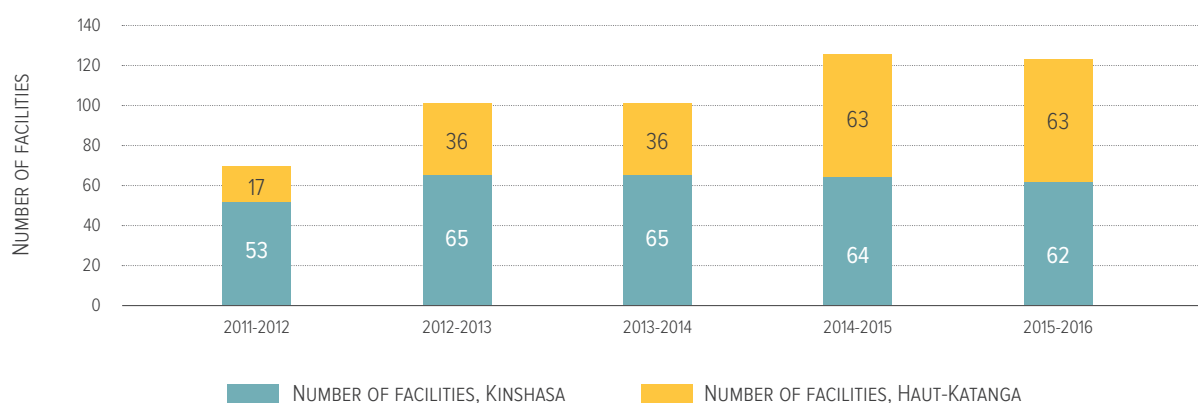


Figure 1. Distribution of supported health facilities under Malamu, 2011-2016

Malamu Project: Zonal and Peer-to-Peer

Under Malamu, two main approaches were utilized: (1) zonal approach and (2) peer-to-peer site model (hub and spoke). The zonal approach focused on supporting health zone teams in the planning, implementation, and M&E of HIV prevention, care and treatment activities. EGPAF-supported health zones by promoting innovation, using data to ensure programmatic sustainability and rapidly expanding high-quality, integrated services consistent with national policies and guidelines. Through continued support and technical assistance from the EGPAF team, zonal teams gradually assumed increased responsibility and worked to provide high-quality HIV service delivery at site-level. Through this model, diagnostic support was strengthened and a more efficient method through which to scale-up implementation of revised WHO guidelines throughout supported sites was created.

The peer-to-peer site strategy consists of organizing health facilities into service delivery networks in order to implement PMTCT and care and treatment services in the most cost-effective manner within a targeted health zone. Under this model, high-volume, high-capacity sites (hubs) became linked with partner sites (spokes) in a network of mentorship, supportive supervision, supply and commodities provision, blood sample referral for ART clinical laboratory monitoring (CD4 count, biochemistry analysis, viral load), data collection tool distribution, and program quality improvement (QI).

Malamu Results Through Objectives



Malamu met PEPFAR/CDC's standards for achievement (85%–125% of target) for HIV testing of individuals and HIV-exposed infants, but performed below target for HIV testing in PMTCT and provision of ART, as show in the table below.

Table 1. Targets and achievements of Malamu, 2011-2016

KEY INDICATORS	TOTAL TARGETS	TOTAL ACHIEVED	%
Individuals who received HIV testing and counseling services for HIV and received their test results	286,840	280,549	98%
Individuals who tested HIV-positive	8,073	8,786	109%
Pregnant women with known HIV status (including women who were tested for HIV and received their results)	195,584	151,358	77%
HIV-positive pregnant women who received ART to reduce risk of mother-to-child transmission during pregnancy and delivery	3,974	2,597	65%
Infants born to HIV-positive women who received an HIV test within 12 months of birth	1,401	1,228	88%
Adults and children with advanced HIV infection newly enrolled on ART	8,314	5,642	68%

OBJECTIVE ONE

Increase Access to Quality and Comprehensive PMTCT Services

PROGRAM SUCCESSES

- Malamu project piloted, implemented and scaled up the Option B+ protocol in Haut-Katanga and Kinshasa, ensuring HIV-positive pregnant women had access to lifelong treatment.
- EGPAF provided family planning (FP) counseling and commodities to 94,573 individuals (12% of whom were men and 88% were women) in supported health facilities.
- EGPAF supported 125 sites to offer PMTCT integrated services, including SGBV screening and care for orphans and vulnerable children (OVC).

INTEGRATION OF FAMILY PLANNING INTO PMTCT SERVICES

During the five-year implementation of Malamu, EGPAF received FP commodities and supplies from USAID through Population Services International (PSI). Training and technical assistance were provided to EGPAF sites by PNSR and PSI and EGPAF and PNSR conducted ongoing joint supervision visits to enhance technical support to health providers of FP services. Table 2 shows the integration of FP in EGPAF-supported sites.

Table 2. Implementation of FP in EGPAF-supported sites in Haut-Katanga and Kinshasa

	TRAINED IN FP INTEGRATION	PERCENT OF FP-INTEGRATED SITES
Kinshasa sites (n=65)	50	77%
Haut-Katanga sites (n=36)	28	78%
Total (n=101)	78	77%



During the project, EGPAF distributed FP commodities (pills, intrauterine devices, implants, injectables, condoms, and cycle beads) to 78 health facilities. EGPAF also provided mentorship to health care providers at all project-supported sites to ensure providers counsel patients on use of the commodities dispensed during PMTCT counseling sessions. EGPAF supported health workers to provide FP sensitization to 94,573 individuals (12% of whom were men and 88% were women) in supported health facilities. Of FP-counselled women, 51,438 (62%) chose a modern contraceptive method (pill, IUD, injectable, implant, and/or condom), among them 157 HIV-positive women. More efforts are necessary to reinforce messages for FP acceptance in women in general and, but particularly among HIV-positive women who choose not to become pregnant.

Some challenges in the implementation of the FP package persist. Health care worker beliefs were one obstacle to the scale-up of FP and HIV service integration. Some health workers felt that because of their religious beliefs, they could not encourage the use of birth control. EGPAF worked with sites to attempt to address this issue, through staff sensitization and allowing a forum through which providers could share their experiences and support one another.

INCREASE DEMAND FOR HIV TESTING, CARE AND TREATMENT SERVICES IN PMTCT

The MM approach was implemented under Malamu in 2012, after learning about EGPAF-Kenya's experiences. It was adopted as part of the national strategy in 2013 to support care for HIV-positive pregnant and breastfeeding women. The MM approach is a simple and effective approach that trains, employs, and empowers local mothers living with HIV as frontline health care workers in PMTCT facilities and within communities. In one-on-one and group sessions, MMs provide essential health education and support to all women to protect their babies from HIV infection and keep themselves and their families healthy.

PMTCT nurses and EGPAF site supervisors selected MM leaders among HIV-positive pregnant and breastfeeding women adhering to treatment and asked if they would encourage women in care and treatment. The leaders that agreed recruited other women to form support groups and networks throughout supported sites. In total, 84 support groups were implemented (32 in Haut-Katanga and 52 in Kinshasa). The community support activities during Malamu were focused on HIV-positive women, mother-infant pairs, HIV-positive male partners, and breastfeeding women. MMs also helped health providers track mother-infant pairs through PMTCT and treatment cascades using standard operating procedures (SOPs) developed by EGPAF.

From August 2012 to September 2016, Malamu ensured that pregnant and breastfeeding women visiting all 125 supported sites knew their HIV status (see Figure 2). Out of 157,996 new pregnant women in ANC and L&D, 150,913 (96%) were newly tested and received their HIV results. Of the new pregnant women in ANC and L&D, 445 (0.3%) were HIV-positive at first visit. HIV testing uptake among pregnant women improved from 73% during 2011–2012 to 95% in 2016. The slight decline in performance during the last year of Malamu was due to the decrease in number of facilities and project staff - a result of the PEPFAR pivot.

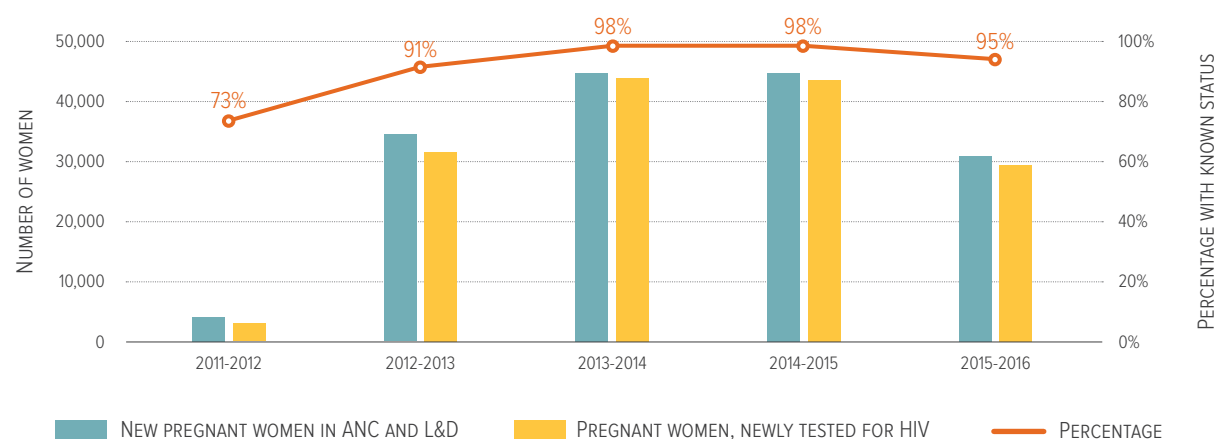


Figure 2. HIV counseling and testing in PMTCT from 2011-2012 to 2015-2016

Despite increases in testing of pregnant women in PMTCT, testing of male partners continued to be a challenge. Testing of male partners increased from 177 (4%) in 2011-2012 to 2,148 (7%) in 2015-2016, but remained low overall, despite targeted approaches to invite men into the clinics through the use of “invitation letters”, distributed to partners of women in attending ANC services.

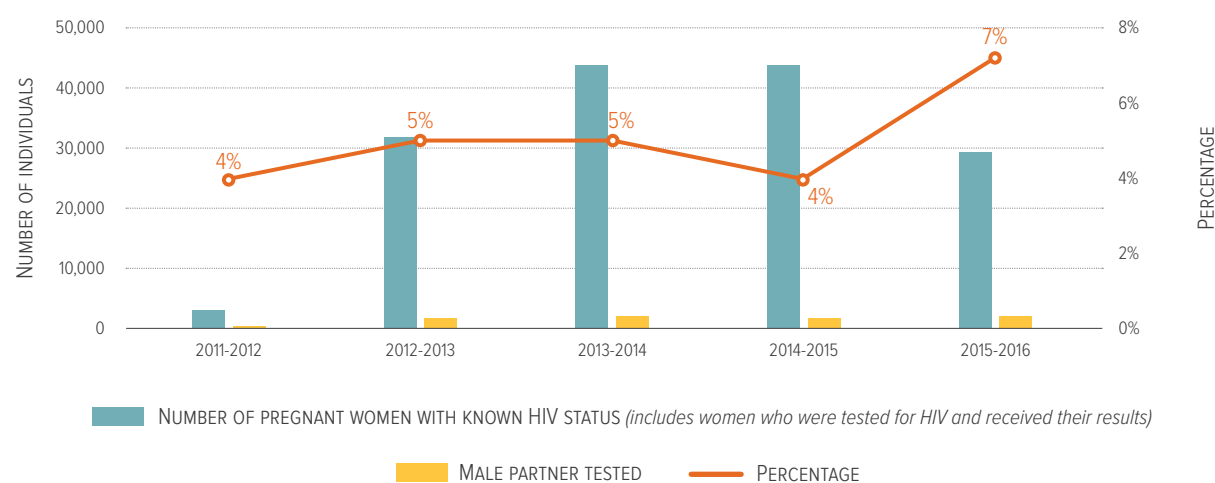


Figure 3. HIV testing and counseling of pregnant women and their male partners from 2011-2012 to 2015-2016

IDENTIFICATION OF HIV AMONG HIV-EXPOSED INFANTS AND PEDIATRIC CARE AND TREATMENT

Among the total 2,774 new and known HIV-positive pregnant women, 1,401 HIV-exposed infants were targeted to be tested with DNA-PCR. During the five years of Malamu implementation, 2,061 HIV-exposed infants were born to HIV-positive pregnant women; of them, 1,228 (60%) were tested with DNA-PCR within 12 months after birth, reaching 88% of the target. The average turnaround time for DNA-PCR results was 45 days. In the fourth project year, PCR machines located in the national HIV referral laboratory didn't function for three months, negatively affecting the turnaround time.

Among the total number (1,228) of infants tested, 40 (3.2%) were HIV-infected (see Figure 4). ART was initiated among 77% of infected infants. The gap was due to loss to follow-up (LTFU) or death, further affected by slow turnaround time of results.

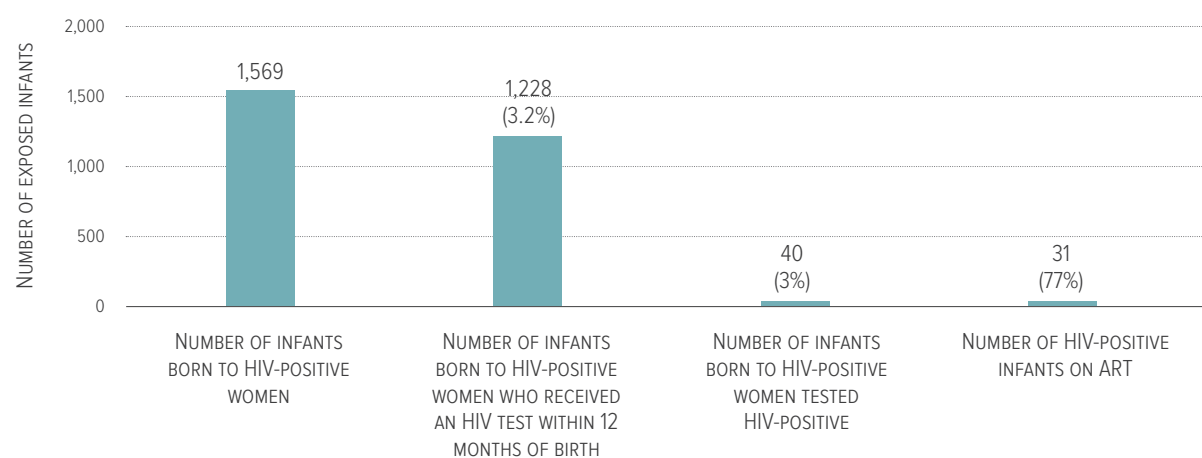


Figure 4. HIV-exposed infants testing and treatment from 2012-2013 to 2015-2016

EXPANDING HIV TREATMENT ELIGIBILITY AMONG WOMEN AND CHILDREN

During its five years, the Malamu project implemented care and treatment support through 125 supported sites. Over the five years, a total of 8,992 HIV-positive clients were identified and enrolled in care. Of them, 5,642 (63%) were on ART and 206 were known HIV-positive at arrival. Of HIV-positive clients identified, 2,774 were pregnant and breastfeeding women; among them 94% (2,597) received ART for PMTCT. However, there remained a 27% gap to reach 90% of women.

The Malamu project increased ART uptake in Kinshasa and Haut-Katanga from 79% to 83% of HIV-positive pregnant and breastfeeding women in care (see Figure 5). The low ART uptake during the first two years (2012–2014), may be related to the project start-up and the eligibility criteria linked, at that time, to CD4 results and the 350/ml threshold for ART initiation. The switch from Option A (in 2011–2012) to Option B+ (2013–2015) substantially increased the number of pregnant and breastfeeding women enrolled in care and initiated on ART. Under the Option B+ protocol, pregnant and breastfeeding women are initiated on HIV treatment immediately if diagnosed as HIV-positive, regardless of CD4 count. The Option B+ protocol implementation process was implemented throughout supported sites from September 2013 to December 2014. EGPAF support entailed training health workers on these revised guidelines, quarterly supervision, mentorship, and monthly monitoring from September 2013 in Haut-Katanga Province and June 2014 in Kinshasa Province. Over the past two years, the trends in provision of ART in PMTCT sites was consistently stable, at around 95% (see Figure 5). The decrease in the final year is due again to the pivot process.

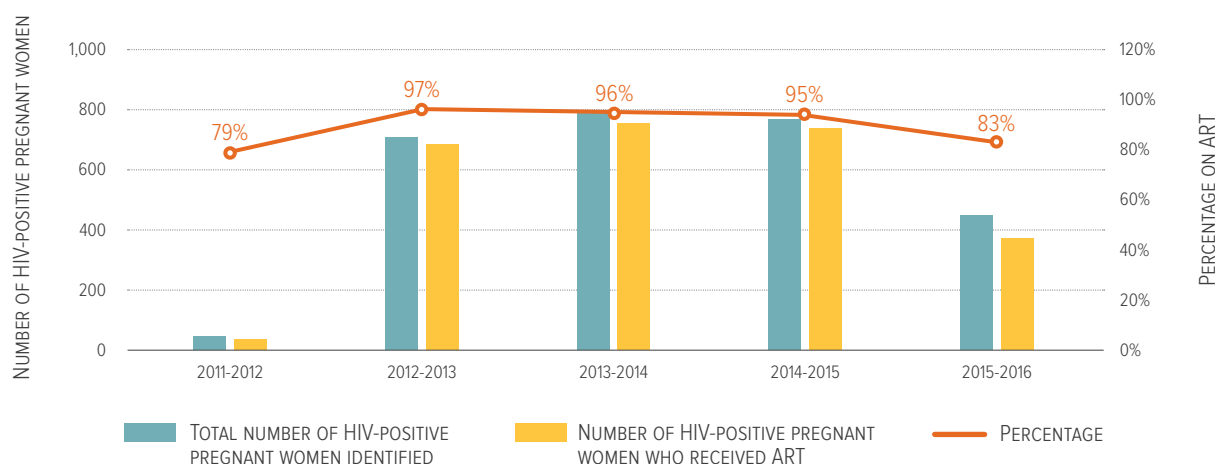


Figure 5. Malamu ART uptake through PMTCT (Options A & B+), from 2011-2012 to 2015-2016

IMPROVED RETENTION AND ADHERENCE IN PMTCT

As mentioned, tracking of mother-infant pairs was conducted by MMs and health care providers at Malamu-supported sites, through use of a SOP and tools developed by EGPAF. MMs and health providers used appointment books to record patients' medical appointment dates. All providers were required to ensure continuity of care for enrolled patients by ensuring regularity of their visits through close follow-up. A step-by-step patient-tracking approach was outlined in the SOP track patients. When a patient missed an appointment, providers informed the MMs to initiate follow-up through phone calls, SMS messages, and home visits.

From 2013 to 2016, 559 (4%) patients (154 in Haut-Katanga and 405 in Kinshasa) were categorized by health providers as LTFU, out of 13,404 patients in care. Of these patients, 70% were found and returned to care by MMs. The remaining either could not be located or refused to return to health facilities for care for a variety of reasons (a principle reason reported was that their religious leader did not endorse treatment).

Peer support groups, including the MM model, were well-utilized in Malamu project sites. In total, 72 support groups were organized: 56 in Kinshasa Province and 16 in Haut-Katanga Province, with each group composed of at least 12

SIDEBAR 1. MMS TO PROVE EFFECTIVE AT RETAINING WOMEN ON ART

An EGPAF-DRC research branch was formally launched in December 2015 to make better use of data for evidence-based decision making and program enhancements. An intervention-comparison study was conducted to assess if the standardization of the MMs' work through use of the developed SOP called "Elombe" (meaning "champion") improved early retention of pregnant women in antenatal care.

The evaluation of the Elombe SOP was conducted in Miria and Saint Gabriel health zones in Kinshasa. In the intervention health facilities (8), newly HIV-positive pregnant women had an immediate contact with a MM for psychological support. The MM obtained the phone number and home address of each patient enrolled. The day before the woman's next clinic visit, the MM sent an SMS reminder. If the woman missed the visit, the MM would call and/or visit the woman's home. In comparison facilities (8), MMs were implementing these same activities but without use of the SOP.

Findings showed that women who interacted with MMs who were using the SOP were significantly more likely to stay in care than those who did not. The results have been submitted for publication and an oral presentation and a poster were presented at the 2016 International AIDS Society conference. Given its success, the SOP has been presented to the PNLS to promote scale up of this approach.

adults. Five pediatric support groups called "Ariel Clubs" were implemented in Likasi health zone (1) and Kinshasa (4), and these groups included an average of 10 adolescents (ages 15–19). In adult peer support group meetings, which are comprised of HIV-positive men and women, persons living with HIV (PLHIV) were able to share their experiences for mutual encouragement and learn about risk reduction, alcohol and drug use reduction, HIV serostatus disclosure, condom use, adherence counseling, partner HIV testing and counseling, STI diagnosis and treatment, and contraception and safe pregnancy practices.

INTEGRATION OF SPECIAL POPULATIONS IN SUPPORTED ANC AND PMTCT

OVC

EGPAF was charged with identification of OVC and linkage to support services in its sites through PEPFAR. Over the past five years, EGPAF staff identified 478 OVC of deceased HIV-positive women (of 2,278 OVC targeted, which represented an average of two to three OVC per HIV-positive pregnant woman) enrolled in the PMTCT program. The identified OVC were referred to the USAID/ProVIC^{plus} project for care and medical and educational support.

Victims of SGBV

Overall, 303 providers were trained in SGBV and in the management of survivors of sexual violence cases and SGBV screening. SGBV screening tools were developed by EGPAF and implemented for screening women in ANC and PMTCT sites. All women and their male partners who received health education sessions were counseled on SGBV, which included awareness on domestic and other types of violence. Throughout implementation of Malamu, 11,564 women were screened for SGBV using an EGPAF tool, which involved asking each woman the following three questions:

1. Have you ever been insulted, humiliated, or intimidated by an intimate partner or by someone else?
2. Have you ever been punched, kicked, hit, slapped, choked, or physically hurt in another way by an intimate partner or by someone else?
3. Have you ever been forced to have sexual intercourse or perform a sexual act against your will?

A client with at least one positive answer to these questions is labeled as SGBV-positive. During the Malamu project, 420 cases of survivors of sexual violence (4% of those screened) were identified in the supported PMTCT sites. Services were provided to clients who reported being a victim of sexual violence, including rapid HIV testing, post-exposure prophylaxis for HIV (for individuals reached within the first 72 hours), STI screening, testing, treatment, emergency contraception, and psychological counseling.

OBJECTIVE TWO

Increase Access to Quality Health Care Services

PROGRAM SUCCESSES

- Integration of HIV care and support services for adults and children in all supported facilities (one-stop-shop services)
- Training of 1,783 health providers in various health services, in line with globally-recommended guidelines
- Improved TB infection control, EID, tracking defaulters, and adherence to HIV care and treatment in 125 supported sites

CAPACITY-BUILDING

Over the course of the project, EGPAF helped to implement a wide array of services including PMTCT, HIV care and treatment, STI and opportunistic infection management (see next section, on approaches under Objective 3), integrating these services in a large number of supported sites. To implement these services and ensure that all were provided with the highest level of service quality, EGPAF conducted on-site training to health providers on integrated HIV services, quality management and improvement, biomedical waste management, and supply chain management. During the five years of Malamu, 1,608 providers were trained, in total, including 333 doctors, 1,044 nurses, and 231 lab technicians (see Figure 6).

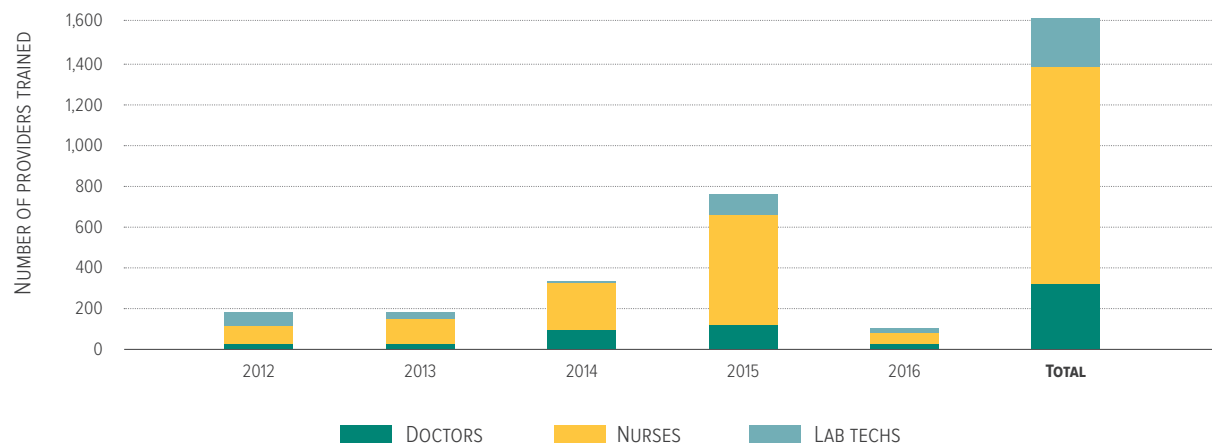


Figure 6. Staff trained throughout the project by provider type, 2011-2016

SITE MONITORING FOR QUALITY IMPROVEMENT

Starting in October 2013, EGPAF conducted baseline assessments in all Malamu-supported sites in Kinshasa and Haut-Katanga. Three rounds were conducted: round one was a baseline assessment, and rounds two and three measured intervention impact. During these assessments, PMTCT, pediatric and adult care and treatment, laboratory, and HIV/ TB coinfection program areas were assessed per national standards. Each service delivery area was scored on a scale from 0 (service not provided) to 4 (surpassed standard) using indicators specific to the service delivery area. EGPAF, in collaboration with sites and MOH staff, prioritized implementation of targeted improvement interventions for all services scoring between 0 and 2. Post-intervention assessments evaluated progress and measured change in the quality of services. Colors were used to identify areas in need of urgent remediation and those exceeding basic expectations as illustrated in Figure 7. Round one of the baseline assessment was conducted in October 2013, round two was conducted in July 2014, and round three was conducted in February 2016.

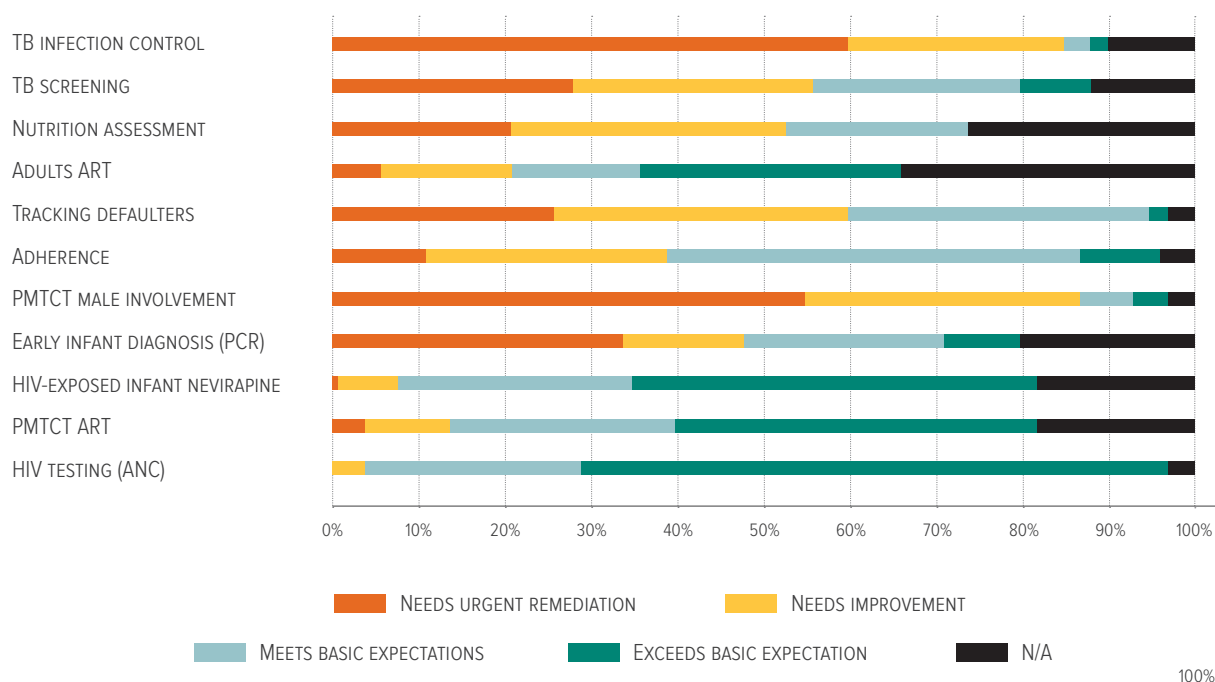


Figure 7. Round one baseline assessment of 80 facilities in October 2013

The baseline assessment identified several areas for needed improvements. For example, TB infection control was implemented in less than 40% of health facilities, and nutrition assessment and counseling needed improvement in 78% of sites. The tracking of defaulters was also a major challenge, with only 42% of sites actively monitoring clients. More than 80% of males were not involved in PMTCT activities, illustrating another area requiring improvement. Actions implemented from 2014 to 2015 to amend these challenges included:

- Training of 493 providers on TB infection control and implementation of TB infection control committees (TICs), or site-level teams that monitor infection rates and implement TB infection control
- Briefing on TB screening and quarterly monitoring of this activity to sites
- Supply of dried blood spot (DBS) kits and contact with the national AIDS laboratory to improve turnaround time of EID results
- Implementation of tracking system with tools (agenda, tracking registers, and SOPs)
- Reinforcement of patient support and adherence groups
- Reinforcement and use of systematic invitation letters to male partners during ANC visits
- On-site training among health workers on how to give a nutrition assessment
- Clinical mentoring on care and support activities to providers

After implementation of improvements, a second round assessment was conducted in 14 of the 80 facilities (this lower number of sites assessed was again due to the rationalization process which affected the number of sites in which EGPAF operated). Several areas were improved at the follow-up assessment, including TB infection control, EID, tracking defaulters, and adherence (see Figure 8). Both nutrition assessment and PMTCT male involvement were persistent challenges. This was mainly a result of a lack of tools for nutrition assessments at health facilities and poor response (7.5%) to the aforementioned invitation letters sent to male partners during ANC visits.

SUPPORTIVE SUPERVISION

To ensure continued quality of services, Malamu implemented quarterly site supervision visits in collaboration with the PNLs and CDC staff. All sites received a follow-up visit to address issues identified in previous quarters. In total, 653 visits were conducted at Malamu-supported sites. Site supervisors monitored progress on QI plans created through the

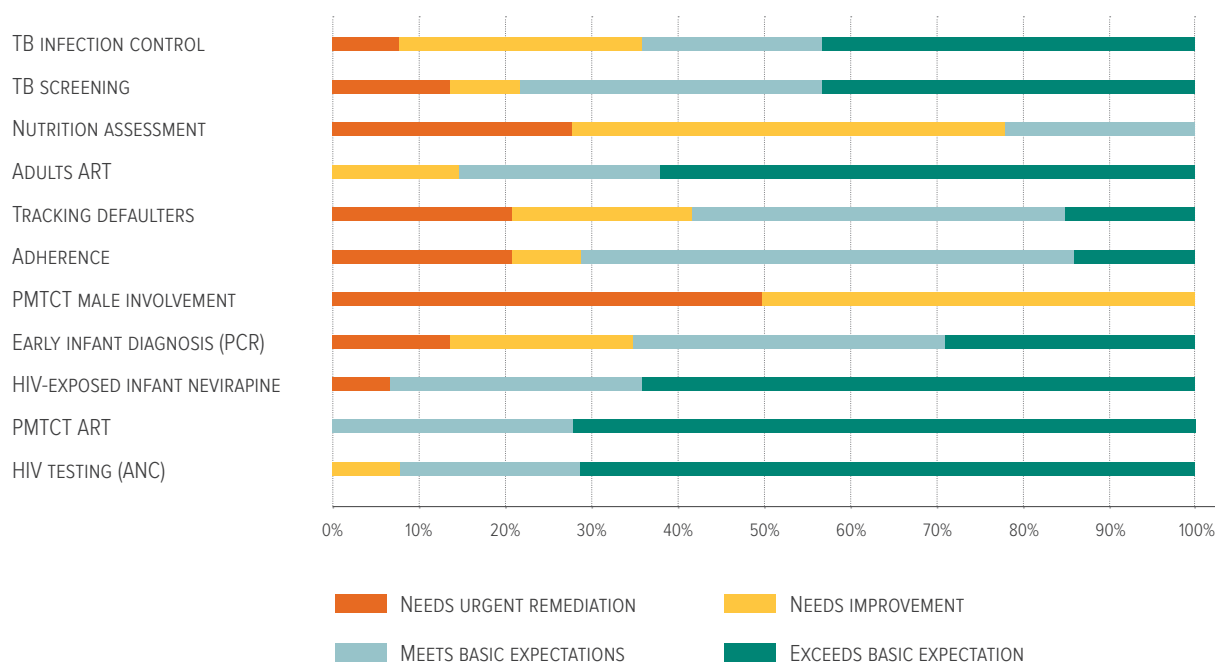


Figure 8. Second-round assessment of 14 facilities in February 2016

use of a site supervision tool, developed in 2013 by EGPAF to assess key PMTCT and ART services and implement improvement strategies with facility and health zone staff. The tool considers several service delivery points and assesses each according to national and/or international standards. Site supervisors followed up with on-site coaching, technical expertise, routine monitoring, and continuous assessment and updating of the improvement plan.

In August 2015, Malamu piloted an electronic register through Epi Info called Site Visit Leverage Electronic Register to reinforce site visit monitoring. This tool helped capture: (1) frequency of field visits by the supervisors and partners, (2) type of visits (e.g., training, supervision, technical meeting, site improvement monitoring system, etc.), (3) duration of time spent by supervisors at sites, (4) quality of services (i.e., strengths and challenges encountered at sites), and (5) QI plans. The EGPAF team met with providers at the sites to discuss their supervision data and to develop QI plans to improve poor performing areas. At the program level, site supervision data was used during site review meetings to discuss the quality of services and data to facilitate discussions between sites around shared experiences and lessons learned and to develop a program QI plan. Site service providers received continuous mentoring from site supervisors.

EGPAF-DRC implemented more comprehensive monitoring visits for QI in 31 sites. After a thorough review of baseline data on key QI indicators and discussions with facility staff, the sites prioritized projects to improve areas such as the number of infants tested at six weeks, the number of male partners tested, and the number of pregnant women receiving ART for PMTCT. Improvements involved trainings, implementation of enhanced tools, and supportive supervision.

OTHER SITE-LEVEL MANAGEMENT

Medical Waste Management

In Haut-Katanga and Kinshasa, EGPAF worked in close collaboration with the health zone teams to ensure that medical waste was well managed at all EGPAF-supported PMTCT sites. EGPAF provided trash cans, hand-washing kits, boots, gloves, and garbage bags to supported sites and trained them in the management of waste. Some sites lacked incinerators to dispose of medical waste. EGPAF worked to address this issue, prioritizing sites with the greatest hygiene problems. EGPAF also made minor repairs for some of the most critically defective incinerators. The EGPAF team, in collaboration with health zone teams, assessed the condition of incinerators at all supported sites under Malamu and selected 20 for minor repair, including 12 in Kinshasa and eight in Haut-Katanga.

OBJECTIVE THREE

Expand Coverage of HIV Services in TB Screening and Treatment Centers

PROGRAM SUCCESSES

- More than 500 health providers trained on TB identification and management
- TB infection control measures implemented in all supported health facilities to prevent TB among health providers and clients
- More than 1,200 TB clients informed of their HIV status
- Overall, 89% of co-infected HIV/TB (301 out of 337 patients) initiated on ART

During the first year of implementation, EGPAF-supported sites were not reporting TB activities, as the focus of the program was PMTCT. Activities related to TB infection control in Haut-Katanga and Kinshasa provinces started in 2013 and began with implementation of TIC committees across Malamu-supported health facilities to prevent TB transmission among HIV-positive patients. The TIC committees worked in facilities to identify individuals with persistent cough and promote measures for prevention of TB transmission in health facilities, such as:

- **Administrative control measures:** Prompt identification of people with TB symptoms (through triage); control the spread of pathogens (cough etiquette and respiratory hygiene counseling); and minimized time spent in health care facilities.
- **Environmental controls measures:** Use of ventilation systems, when adequate ventilation cannot be achieved in clinic setting.
- **Personal protective equipment:** Use of particulate respirators for clients and health care workers.

Forty TIC committees were established in Kinshasa and 25 in Haut-Katanga Province. In total, 493 providers (348 in Kinshasa and 145 in Haut-Katanga) were trained in TB/HIV co-infection. EGPAF also provided TB infection control kits in Kinshasa and Haut-Katanga to 65 sites, which included electric fans and masks for protection.

INTEGRATED TB AND HIV SERVICES

To support integration of TB/HIV services, TB screening was offered to all HIV-positive clients, at all visits, as part of routine HIV care. Malamu introduced a TB screening tool, developed by the MOH to collect TB screening data among HIV-positive children and adults, in 2014. The tool, which facilitated the improvement of TB screening among HIV-positive clients, was used at all Malamu-supported sites. Providers were trained on the use of the tool and how to document the results in the patient file during each site visit.

TB screening of HIV-positive patients improved from 31% of target in 2013 to 70% of target in 2016, and those diagnosed with TB correspondingly improved from 11% of target in 2013 to 99% of target in 2016. All HIV-positive clients screened and diagnosed with TB were referred to the TB clinics for treatment. Pre-ART clients were initiated on ART in TB clinics (see Figure 9). Referred HIV clients with TB infection who were already on ART were reported in the HIV care and treatment cohort. HIV clients diagnosed with TB were often referred out to other implementing partners or EGPAF's CDC-Kimia project-supported sites (also an integrated HIV project exclusively in Kinshasa province) for TB treatment initiation as not all Malamu sites provided TB diagnosis and treatment. In addition, the TB screening indicator was inconsistently defined by CDC during the five years and was not addressed at all during the first year. From 2012 to 2013, it was defined simply as "number of HIV-positive patients screened for TB" and later as "number of HIV-positive patients screened for TB *at the last visit*" after 2014. The target was not set consistently for the

three previous years. TB infection control was implemented in all 125 Malamu supported site through environmental measures; Isoniazid prophylaxis therapy was not yet implemented under Malamu. These factors contributed to the underachievement of target (see Table 3).

Table 3. TB/HIV Coinfection at TB Treatment Sites in Malamu, from 2011–2012 to 2015–2016

Indicators	2012–2013		2013–2014		2014–2015		2015–2016	
	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
HIV-positive patients screened for TB	1,105	340 (31%)	2,757	1,205 (44%)	5,129	7,090 (138%)	10,011	6,985 (70%)
HIV-positive patients with diagnosed TB	164	18 (11%)	0	167	624	75 (12%)	414	409

Per the DRC National TB Strategy, health facilities were classified as TB clinics if they offered diagnostics and treatment for TB. The strategy requires that patients referred for TB diagnostic or treatment (if the site they are accessing is unable to provide) are referred within the same health zone for TB treatment. As part of its mentorship to site health care providers, Malamu recommended and supported the implementation of “one-stop”. As of June 2016, all HIV-positive patients identified in TB treatment centers received ART at the same site. The number of TB clinics with HIV testing integrated increased gradually from nine (two in Kinshasa and seven in Haut-Katanga) to a total of 22 TB clinics (five in Kinshasa and 17 in Haut-Katanga), currently. For sites where TB treatment was not available, Malamu promoted the use of EGPAF-DRC’s TB screening tool and subsequent referrals to the nearest TB diagnosis and treatment facilities. In Haut-Katanga Province, patients from the 46 sites that provided only TB screening were referred to one of the 17 sites that offer TB treatment. In Kinshasa, Malamu project’s 57 sites without TB treatment collaborated with the EGPAF’s Kimia project sites) to treat patients (this allowed patients to stay in-network and minimized LTFU). In situations where no EGPAF-supported site was found, patients identified in Malamu facilities were referred to the closest TB diagnosis/treatment facility supported by other IPs.

ART provision for co-infected clients improved over the years from 44% in 2012 to 89% in 2016, owing to technical assistance during quarterly site supervision. These indicators were inconsistently reported during the three previous years. Figure 9 shows the project performance on ART provision to co-infected clients over the course of Malamu’s last two years.

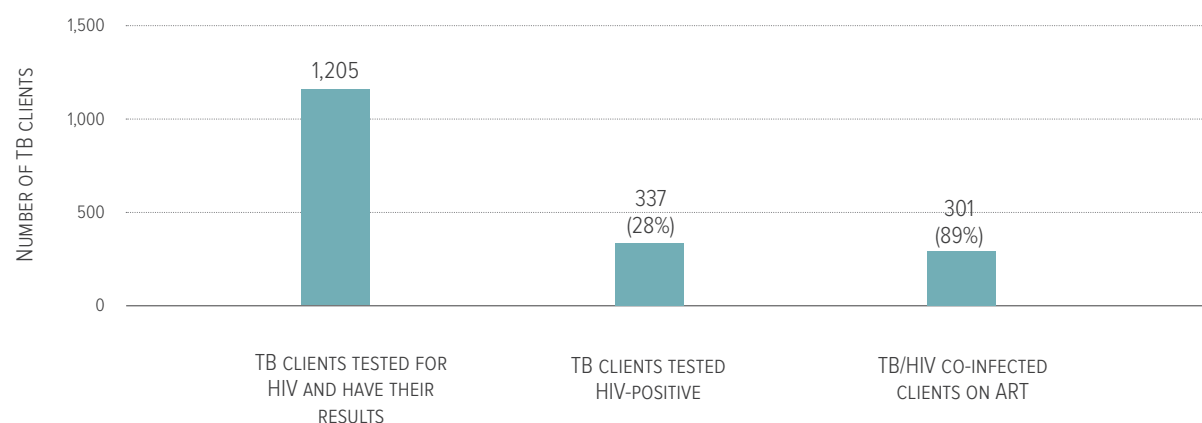


Figure 9. HIV/TB co-infected client care and treatment from October 2014 - September 2016

OBJECTIVE FOUR

Increase Access to Quality HIV Treatment Services

PROGRAM SUCCESSES

- A total of 280,549 clients were tested for HIV and received results
- A total of 5,642 HIV-positive clients were newly initiated on ART
- 7,604 clients received ART with Malamu project support, as of March, 2016

ENHANCED HIV TESTING

From August 2012 to September 2016, Malamu provided HIV testing and results to a total number of 280,549 clients throughout the 125 supported sites. The PITC strategy was successfully implemented in all sites and helped to attain 98% of the total five year target. The annual trends of HIV testing and counseling for adults and children are depicted in Figure 10. The number of tests increased overall (with a decline in the last project year due to the pivot), and the number of children tested increased over the project period. HIV positivity across the project years was 3.1%, though it varied from 1.7 to 3.6%.

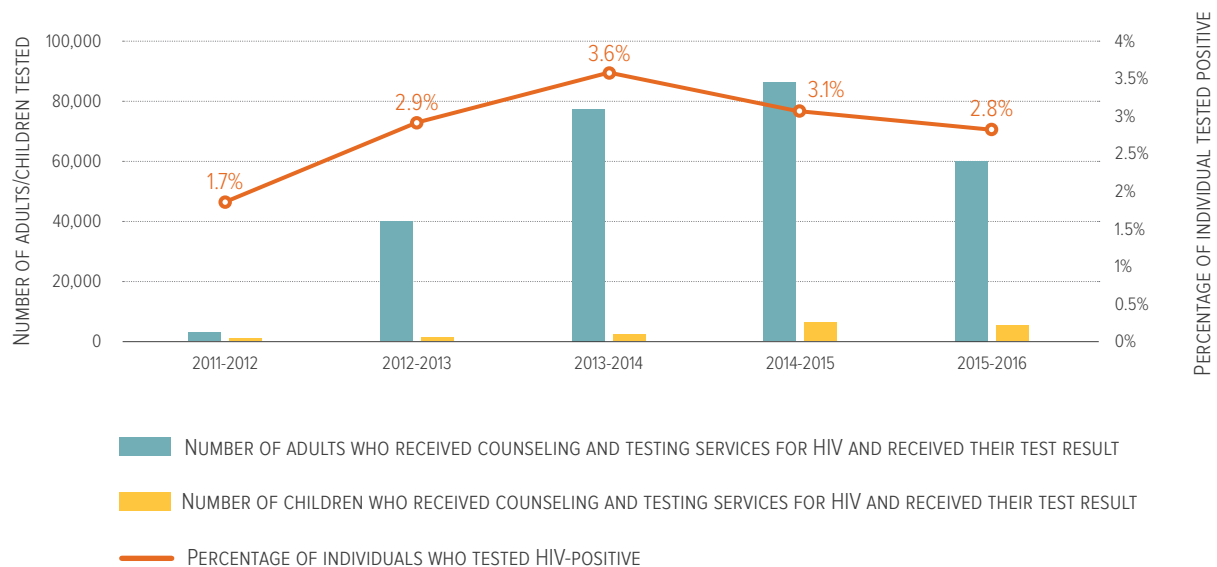


Figure 10. HIV testing trends for adults and children and HIV positivity from 2011-2012 to 2015-2016

The overachievement of the HIV testing target was due to the opening of multiple testing entry points, in conjunction with mentorship and regular supervision. Expanded access to HIV care and treatment was achieved through HIV prevention, care, and treatment service provision integration in other service delivery points (extending past care and treatment centers) such as outpatient clinics, TB clinics, and under-five clinics (child health clinics).

Figure 11 depicts testing activity contributions within each entry point in 2016. This time period was reflective of the program's efforts to diversify its testing outreach beyond PMTCT.

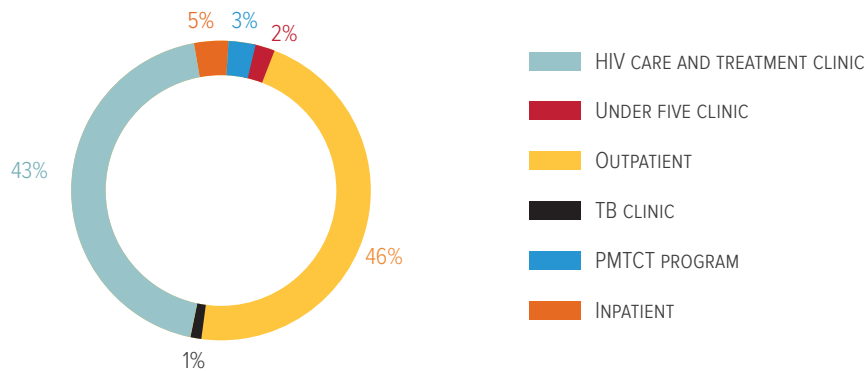


Figure 11. HIV testing service delivery point contribution, 2015-2016

Figure 12 below shows the seropositivity for key entry points in the same period. Seropositivity was highest in TB clinics, though the actual numbers were low as few TB clinics were covered under Malamu.

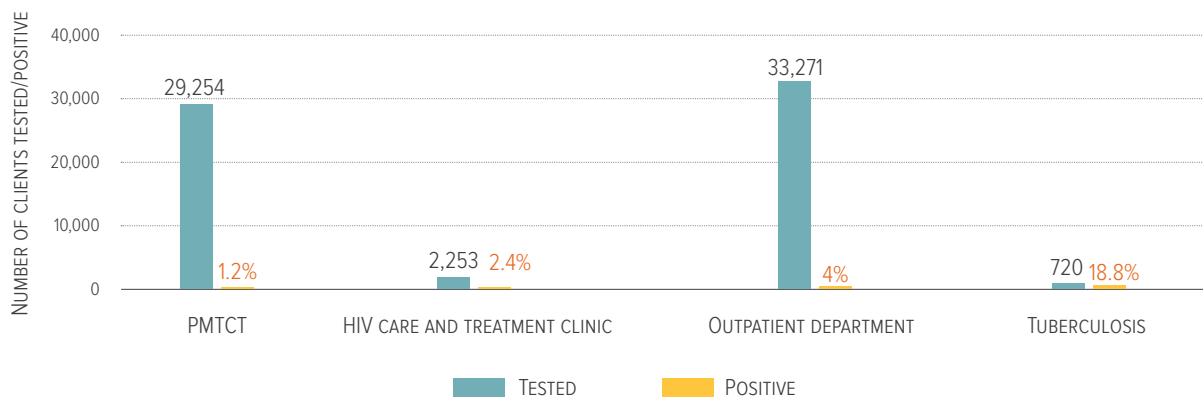


Figure 12. HIV positivity by service delivery point, 2015-2016

Of 8,992 clients tested HIV-positive and enrolled in care, 5,642 (63%) were initiated on ART. To improve enrollment on ART, health workers were mentored in HIV counseling. Based on the site providers' reports, identified barriers to client HIV testing and ART uptake included religious beliefs and personal desire for marital consent before starting lifelong ART.

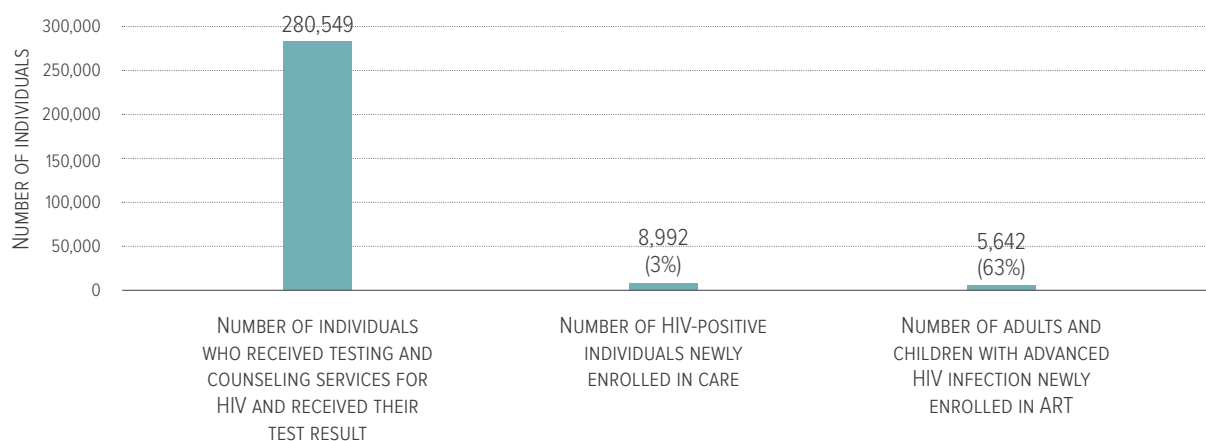


Figure 13. HIV testing and treatment, 2011-2016

Pediatric HIV Care and Treatment

HIV testing in children increased and surpassed the target with the expansion of other testing entry points in addition to PMTCT, including inpatient and outpatient clinics. A total of 13,843 children (excluding HIV-exposed infants) received HIV testing across Malamu-supported sites. Since 2014-2015, with the Accelerating Children HIV/AIDS Treatment (ACT) initiative, the HIV testing targets in children were overachieved, with 9,375 children tested in the last two years of the project of 7,187 targeted.

Of children tested for HIV, 404 (3%) were HIV-positive and 321 (79%) of them were initiated on ART, using WHO 2013 clinical criteria (ART initiation for children older than five years, CD4 counts less than 500, and children in clinical stage 3 or 4). Children were treated in the same facility where they were tested for HIV.

As per DRC policies, parental consent is still required for children under 18 years old for HIV testing. This presented a barrier for Malamu to increase its reach to children and adolescents. Lack of HIV disclosure to partners/families may also have impacted child and adolescent case finding and requires further analysis. Despite the increase in number of children tested for HIV (Figure 10), persistent challenges, in addition to consent and disclosure, remained and included shortages of test kits and the absence of essential documentation tools for effective reporting.



Cross-cutting Areas



STRATEGIC INFORMATION AND EVALUATION

During Malamu implementation, the strategic information and evaluation (SI&E) team focused heavily on implementing EGPAF's SI&E minimum standards (which include implementation of a M&E plan, annual SI&E work plan, data quality assurance (DQA), budget, data use plan and strategy, and the quality management and improvement plan) in the 125 supported sites, with special emphasis on DQAs, service delivery quality management and improvement, and data use for evidence-based decision making. EGPAF-DRC aligned its M&E system with that of the PNLS' to reinforce the country's M&E system and worked at the health zone and site-level to carry out improvements and translate targets to the MOH.

National-level Support

The Data for Accountability Transparency Impact, PEPFAR's reporting system, was formally launched in April 2015. PEPFAR's Site Improvement through Monitoring System was adopted and implemented for the first time in late 2015. EGPAF-DRC SI&E and technical teams aligned the M&E process and activities for the final 18 months of the Malamu project.

Beginning in 2013, together, with other IPs, EGPAF worked to update the MOH's National Monthly HIV Reporting Form. The new version of this form was recently validated during the second quarter of the 2015. Two members of the SI&E team were trained and chosen as trainers for health zones and site-level users.

To support the MOH and health zones, the EGPAF SI&E team worked with other IPs to revise data collection tools and monthly reporting forms to accommodate implementation of Option B+. Before the MOH adopted TIER.Net, an electronic medical records database used to record all patients receiving HIV care, EGPAF-DRC piloted the software to track patient visits. The software was subsequently adopted by the PNLS in 2015 and now serves as the peripheral patient management tool in all health zones.

Health Zone-level SI&E Support

A monthly validation meeting was organized to coordinate and discuss results of DQAs. Malamu financially and technically supported these meetings in 24 health zones (15 in Kinshasa and nine in Haut-Katanga). During these meetings, the health zone team presented data collected through the MOH HIV reporting forms and used the opportunity to clarify discrepancies in data among site and MOH registers. Identified data discrepancies were corrected, and EGPAF provided general feedback on the quality of data for the entire health zone. Semi-annual and annual reviews were also organized in Kinshasa and Haut-Katanga provinces in partnership with the provincial PNLS. The SI&E team supported site supervisors to present aggregated site-level data.

Site-level SI&E Support

Through the SI&E team, the Malamu project has provided common office supplies, registers, patient files, MOH reporting form copies, and other EGPAF-endorsed tools to sites. During site supervision and DQA/QI visits, the SI&E team and site supervisors ensured that sites were using required tools to improve data collection, reporting, and quality.

The DQA process was the core of EGPAF's M&E activities. The M&E/QI tool developed in 2013 was the first tool dedicated to help the DRC SI&E team assess the quality of data at site-level. A M&E/QI tool continuously evolved over the duration of the project to meet the DQA needs of the program and avoid overlap with service QI. At the site-level, databases, dashboard, and site profiles were developed for patient and enhanced cohort monitoring in the context of Option B+. The current DQA Excel tool includes seven areas of assessment: site information, M&E system, documentation, PMTCT, care and treatment results, patient file review, DQA results, and action plan. The aim of implementing the tool was to help site providers improve data collection, management, and reporting. The tool has been able to identify gaps across various source documents and facilitate understanding by producing a graphical representation of findings as well as an action plan, both of which are left with the facility after the visit.

Sites selected for an in-depth DQA were purposefully selected based on poor performance during site supervision assessments. During DQA visits, the SI&E team provided mentoring on indicator definitions, tool completion, and quality checks as it applies to data. Sites became more aware of data and, more specifically, the need for proper documentation within registers for accurate and timely reporting. Over the five years of project implementation, DQA visits were completed across 19 Malamu-supported sites. Findings of common challenges and corrective measures are displayed in Table 4.

Table 4. DQA site visits, common challenges and corrective measures

MAIN CHALLENGES	CORRECTIVE MEASURES
Incorrect calculations in the monthly MOH reports	Reviewed source data, indicator definitions, and calculation instructions with site staff during DQA session. Created and distributed an SOP for the MOH reporting form.
Data collection tools (i.e., registers and logbooks) are not updated in a timely manner	Encouraged task sharing among staff to facilitate workload and promote timely completion of tools.
Not all facility staff members have a proper understanding of register indicators and how to complete registers	Provided on-site mentorship on indicator definitions and tool completion understanding.
Registers and other data collection tools are not always stored to ensure patient confidentiality	Advised the site team to be aware of patients' confidentiality and keep registers in a private location.
As data collection tools are not updated in a timely manner, there are discrepancies in patient tracking across tools	Patient ID number is given by one team member at testing to centralize information.
Inconsistent data for the same patient across tools	The logbook at the patient testing point is used as a gold standard or reference tool for other registers to avoid inconsistencies.
Double counting of patients in sites implementing TB and HIV activities and increased HIV tests are administered	All suspected TB patients tested should be reported in the PITC section when both TB and HIV entry points are offering HIV tests.

Through site supervision and DQA/QI visits, sites were increasingly encouraged to review their data for evidence-based decision making. In 2014 and 2015, two workshops supported by an EGPAF-Global SI&E officer were organized to introduce data review, use, and strategy. The EGPAF SI&E team held internal trainings for technical staff on site data use follow-up.

The DQA tool positively affected the quality of the M&E system. General findings of common challenges and solutions have been disseminated throughout the site supervisor network to initiate quick corrective actions. Health zone representatives have expressed appreciation and willingness for the strategy scale-up in their entire health zone.

The QI activities first six-month learning exchange meeting was held in September 2015 for the collaborative of eight sites. In site QI teams were asked to share their QI project results using standardized presentations. Representatives from health zones and the provincial PNLS representative attended and helped facilitate the meeting. Sites were assessed according to predetermined criteria and the most improved site received special recognition.

Table 5. QI visit findings and corrective measures

MAIN CHALLENGES	CORRECTIVE MEASURES
Misunderstanding of indicators	Indicator definitions were provided to fix the issue
Poor involvement of the in-site providers and heads of clinics in the QI process due to lack of per diem	Staff provided a brief report to other staff and advocate for their collaboration
Poor documentation of QI meetings, ideas for improvement, and meetings	Sites were supported and encouraged to document all the processes

The EGPAF-DRC team and an EGPAF-Global SI&E officer finalized an EGPAF QI package and rolled out the strategy in 2015. During the implementation, six more health facilities were selected (four in Kinshasa and two in Haut-Katanga). Three health zones were transitioned and given to other IPs in Kinshasa, only three sites remained (one in Kinshasa and two in Haut-Katanga) and were assessed after three months.

SIDEBAR 2. QI IN ACTION: IMPROVING DOCUMENTATION IN THREE SITES UNDER MALAMU

At the end of 2013, EGPAF-DRC worked with the USAID/ProVICplus project to train the EGPAF/DRC SI&E team to develop a comprehensive QI strategy. To pilot the project, EGPAF tested the QI strategy in two health zones in Kinshasa: Binza Ozone and N'sélé. In total, there were six providers from three Malamu sites with lower performance (scored 1 and 2) determined through site supervision. Both health zone and EGPAF supervisory nurses were trained on the QI strategy and on how to play an external coaching role. Sites received monthly activities supervision and quarterly QI coaching from their external coaches and held weekly internal QI meetings with the sites' QI team. Designated QI tools were implemented to support documentation of the process. The EGPAF-DRC senior QI team visited each site for quarterly assessments to monitor progress on QI projects and the overall implementation of the QI strategy.

All participants were awarded a certificate of participation and offered small tokens of appreciation for the facility. Feedback from participants was positive. Participants found the meeting to be helpful and motivating, and emphasized the importance of a culture of quality.

HEALTH SYSTEM STRENGTHENING

DRC is among one of the countries with the lowest ART coverage (less than 30% of health facilities). Difficulties in expanding access are related to many factors, including physician-centered care delivery approaches (limited number of doctors, overwhelmed and overflowing clinics, distances clients would travel to reach a clinic). In 2012 the Malamu project implemented the nurse-initiated ART approach in 70% of supported facilities with clear guidance on roles, responsibilities, and limits. EGPAF conducted an ART delivery training and implementation strategy for nurses to scale-up treatment in Kinshasa and Haut-Katanga provinces. This task-shifting experience created more time for doctors to consult with patients and allowed more clients to reach HIV testing services.

LABORATORY IMPROVEMENTS

During the project period, EGPAF supported sample and results transportation networks using the peer-to-peer site model to increase access to laboratory services (HIV confirmatory testing, CD4 count and viral load). The Malamu project improved patient access to laboratory monitoring tests by strengthening all supported laboratories through improved infrastructure, equipment (such as PIMA machines for CD4 count) and linking them to the expanded sample transportation network. The Malamu project also conducted the renovation of Hospital SNCC laboratory in Haut-Katanga Province.

Laboratory results for the monitoring of patients (i.e., hematology and biochemistry monitoring) and CD4 counts were organized using the peer-to-peer site network. Samples were taken from 12 spoke sites (those with lower capacity) and sent to the hub site (high-volume, with onsite diagnostic processing facilities) for analysis. The results were then sent back to the spoke site either on the same day or a day later.

Routine viral load monitoring was performed at Malamu-supported sites in Kinshasa Province. In Haut-Katanga, sampling started at the beginning of 2016, with samples sent to the provincial laboratory, while in Kinshasa samples were analyzed at National AIDS Reference Laboratory. Among the 6,161 viral load samples sent for analysis in 2013-2016, 4,107 (67%) viral loads were performed and the results were returned. Viral load assessments were affected by a stock-out at the national lab. The turnaround time for the National AIDS Reference Laboratory to provide results was an average of three months. This turnaround time remained a challenge throughout implementation of the entire project.

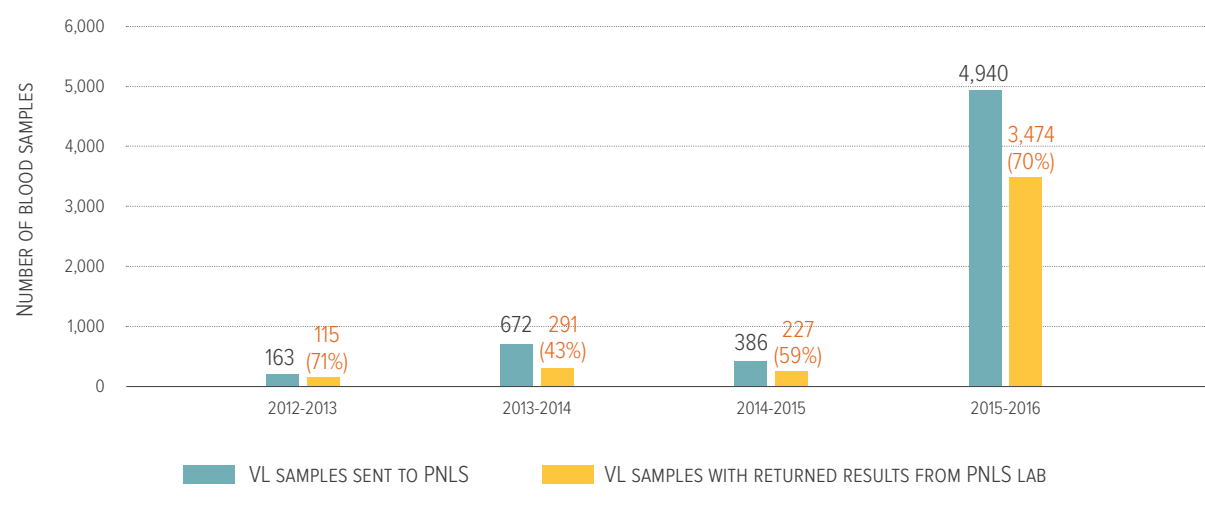


Figure 14. Laboratory performance in viral load testing from 2012-2013 to 2015-2016



Challenges



Four key challenges were encountered during the project period of performance: pediatric HIV identification (including adolescents), male involvement in PMTCT and MCH, retention in care, and data collection tools completeness, accuracy and analysis.

- **Pediatric case finding (including adolescents):** as noted, identification of HIV in children in supported sites improved across Malamu-supported facilities since 2014, thanks to the ACT initiative. However, persistent challenges were noted throughout implementation, including shortages of test kits, lack of parental consent for HIV testing, and the absence of essential documentation tools for effective reporting on pediatric testing. Some solutions to address these issues include further training and mentorship on pediatric and adolescent HIV testing, care, and treatment among health staff, implementation of family tree testing (which entails adding to a patient's file, requested names and contact information for the patient's family members for index case testing follow-up), sensitization of HIV-positive parents, and collaboration with religious leaders. Policies to loosen parental consent for adolescent testing could also result in a greater number of adolescents tested and able to access treatment, if HIV-positive.
- **Male involvement in PMTCT:** Despite disseminating invitations to bring men to PMTCT/ANC services with their partners, male involvement in PMTCT remained low. Community outreach (mobile testing and sensitization) and work with political and religious leaders could strengthen male involvement in PMTCT.
- **Retention in care:** Although Malamu saw an increase in the retention of individuals on ART at 12 months (especially those who had been served by the SOP-supported MM program), 12-month retention at 76% does not allow DRC to reach 90-90-90 targets. Sensitization of religious leaders; use of community-based ARV distribution points, which promote task shifting, reinforce service integration, and prepare clients for differentiated models of care; implementation of the Suivi-Actif du Cohort approach (a simple strategy to support retention in care by reviewing patient follow-up data on a monthly basis to ensure planned visits are taking place and connect with clients LTFU); and continued use of MM strategy could further improve retention.
- **Data collection tools completeness, accuracy, management, and storage:** Data collection in routine registers can be a burdensome activity for busy health workers with limited time. Early in implementation and throughout Malamu, data completeness, accuracy and use were subpar. In addition to trainings at the site level, Malamu did start to shift the culture of these sites to pay more attention to data, to meet routinely about data and clarify inaccuracies in reporting, mentorship and training on data became commonplace. EGPAF-DRC encourages continued practice of these strategies to support this culture.

Lessons Learned and Future Directions



- While setting targets for PMTCT, fecundity rates and program achievements should be taken into account. Malamu underperformed its PMTCT targets despite the program achieving 96% of women in PMTCT with known status and 94% of HIV-positive pregnant women started on ART, suggesting these targets were overestimated.
- The use of peer support in PMTCT bolstered access to HIV testing, and retention in care and treatment. The MM approach proved to be a valuable program component.
- Religious and political beliefs can weigh heavily on client decisions to access testing, care and treatment. Work with communities, religious and political leaders, as well as careful attention to health workers belief structures and what they are and are not willing to support clients in, can be an essential area of work for HIV program implementation.
- Policy changes such as Option B+ have helped shift DRC toward achieving 90-90-90 targets, but further political changes will be needed to achieve these targets among children. For example, leniency in parental consent for HIV testing could allow for more children to know their status and receive the treatment they may need.
- Broader approaches are needed to ensure more men are accessing HIV testing, care and treatment. Engaging men through invitations did not prove successful, perhaps delivery of these services within communities or community-level education on the importance of male testing and treatment are needed to expand this area of work. Creating male-friendly services within ANC and PMTCT sites, could also improve male involvement.
- Routine data monitoring can usher in a culture of data accuracy and use. DQA practices, involving a variety of cadres and levels in a health system, can underscore the importance of routine reporting, clarify inaccuracies in reporting and enable course corrections of HIV and AIDS programs.

Way Forward

Through the current CDC-funded Kimia project and upcoming initiatives, EGPAF will continue to sustain the gains made by the Malamu project. Kimia will use lessons learned of Malamu and will continue to strengthen pediatric case finding and improving the care and treatment of children and adolescents living with HIV/AIDS, identification and care and treatment of vulnerable populations, creating greater opportunities for health care worker capacity-building, and further instilling a culture of detailed and effective data use practices. Kimia, as Malamu did, will continue to work side-by-side with the MOH and other implementing partners to realize 90-90-90 targets in DRC.

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