



Legacy Evaluation of the Partnership for HIV-Free Survival Kenya, Lesotho, Mozambique, South Africa, Tanzania, and Uganda

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Cover, a PMTCT (prevention of mother-to-child transmission) clinic in Tanzania.

Photo: Emily Bobrow

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ABBREVIATIONS

ART	antiretroviral therapy
ARV	antiretroviral
ASSIST	Applying Science to Strengthen and Improve Systems
CHAL	Christian Health Association of Lesotho
CHASS/SMT	Clinical HIV/AIDS Services Strengthening Project Sofala, Manica and Tete Provinces
EGPAF	Elizabeth Glaser Pediatric AIDS Foundation
FANTA	Food and Nutrition Technical Assistance
IHI	Institute for Healthcare Improvement
LENASO	Lesotho Network of AIDS Service Organizations
MCH	maternal and child health
MISAU	Mozambique Ministry of Health
MAM	moderate acute malnutrition
NACS	nutrition assessment, counseling, and support
PEPFAR	United States President's Emergency Plan for AIDS Relief
PHFS	Partnership for HIV-Free Survival
PMTCT	prevention of mother-to-child transmission
QA	quality assurance
RHITES	Regional Health Integration to Enhance Services
S2S	South to South
SAM	severe acute malnutrition
TASO	The AIDS Support Organization
UNICEF	United Nations Children's Fund
WHO	World Health Organization
QI	quality improvement
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

The Partnership for HIV-Free Survival (PHFS) was designed to use basic quality improvement practices to reduce mother-to-child transmission of HIV and increase child survival through improvements in (1) antiretroviral therapy uptake and retention among HIV-positive pregnant women and mothers, (2) breastfeeding practices, and (3) overall mother-baby care. PHFS was implemented between 2012–2016 in six countries in Eastern and Southern Africa: Kenya, Lesotho, Mozambique, South Africa, Tanzania, and Uganda. PHFS was a joint effort among the United States President’s Emergency Plan for AIDS Relief (PEPFAR), the United States Agency for International Development (USAID), the United Nations Children’s Fund (UNICEF), the World Health Organization (WHO), and ministries and departments of health in the participating countries. MEASURE Evaluation—funded by USAID and PEPFAR—conducted a legacy evaluation¹ of PHFS in 2017–2018 in all six countries to review the project’s effects on prevention of mother-to-child transmission (PMTCT) programs and to better understand the critical factors that contributed to improved PMTCT performance in participating health facilities.

The evaluation identified three main categories of PHFS activities that helped improve the performance of PMTCT programs: (1) service delivery, (2) quality improvement practices, and (3) stakeholder engagement. Stakeholder engagement was separated into two subcategories: oversight and implementation. Within each of those categories, there were specific activities that were fundamental to the success of the PHFS approach. Key activities under service delivery included seeing patients as mother-baby pairs, seeing them at mother-baby clinics, and providing integrated services. Under quality improvement practices, key activities were the systematic use of different data-driven, quality improvement tools and techniques by service delivery teams at facility level, coaching and mentoring, and knowledge exchange. Under stakeholder engagement, partnership was critical for effective oversight, and community engagement was critical for successful implementation.

Essentially, all six countries used the same overarching approach, but they made appropriate adaptations for their local context. For example, in different countries—and even in different settings within the same country, the extent and nature of the quality improvement (QI) components varied, but their role was always essential. Similarly, there were variations in how PHFS facilities implemented mother-baby pairs, mother-baby clinics, and the integration of services, but the principles behind these activities remained the same.

The clear and compelling legacy of PHFS is that a combination of straightforward activities can be introduced, implemented, and embraced by frontline staff as a way to improve PMTCT service delivery and outcomes. The PHFS approach succeeded in the facilities where it was implemented, because it actively engaged the frontline staff in the process of quality improvement, including QI-specific activities (e.g., QI teams, QI journals, and change ideas) and improvements to technical approaches and skills (e.g., integration of services, mother-baby pairs, and mother-baby clinics).

The other critical legacy of PHFS is that sustaining improvements in PMTCT outcomes at the facility level requires an ongoing commitment and capacity to provide the necessary technical and financial support. The lack of or limitations with technical support was identified as being the greater threat to sustainability, particularly, the lack of or limitations with ongoing mentoring and coaching. The need for additional financial support at the facility level for PHFS activities is minimal because these activities essentially build on existing infrastructure and human resources. In facilities that had mobilized technical support—often through the

¹ When PHFS was originally designed, USAID hoped the results of the project would be sustained and, potentially, expanded after the project funding ended. A “legacy” evaluation proven approaches (e.g., document/record reviews, interviews, and site visits) can be an effective way to identify and assess the lasting effects of a project, which is why this approach was chosen by MEASURE Evaluation for this assessment.

allocation of modest internal or district-level resources (e.g., using staff with PHFS experience to train and support new staff without that experience)—PHFS activities were more likely to be sustained.

Given the contributions of the combination of the PHFS activities to the elimination of mother-to-child transmission of HIV, and, in turn, HIV epidemic control, these activities can and should be scaled up in PHFS countries and in other countries in the region.

BACKGROUND

The Partnership for HIV-Free Survival was a USAID initiative implemented between 2012–2016 in six countries in Eastern and Southern Africa: Kenya, Lesotho, Mozambique, South Africa, Tanzania, and Uganda. The genesis of PHFS was a shared interest by PEPFAR, USAID, UNICEF, and WHO to accelerate the uptake of the 2010 international guidelines on feeding practices for babies born to HIV-positive mothers as a way to increase the HIV-free survival rates among these infants. In general, the initiative was designed to use basic QI practices to reduce mother-to-child transmission of HIV and increase child survival through improvements in (1) antiretroviral therapy (ART) uptake and retention among HIV-positive pregnant women and mothers, (2) breastfeeding practices, and (3) overall mother-baby care. Although results varied by country, health facilities that participated in PHFS activities—specifically, the data-driven QI approaches that supported widespread and consistent implementation of Option B/B+ protocols and best practices on infant feeding—saw declines in mother-to-child transmission and increases in HIV-free survival among babies born to HIV-positive mothers.

In 2017–2018, MEASURE Evaluation conducted a legacy evaluation of PHFS in all six countries to review the project's effects on PMTCT programs and to better understand the critical factors that contributed to improved PMTCT performance in participating health facilities. The evaluation included mixed-method rapid assessments in each PHFS country. These assessments used a qualitative lens to examine key PHFS activities and accomplishments. In addition, the evaluation conducted an extensive review of project documentation, including national and subnational reports and site-level materials (e.g., QI journals, facility registers, and unlinked patient records).

The evaluation identified three main categories of PHFS activities that helped improve program performance: (1) service delivery, (2) quality improvement practices, and (3) stakeholder engagement. Within each of those categories, specific activities were fundamental to the success of the PHFS approach. Given their contributions to the elimination of mother-to-child transmission of HIV, and, in turn, HIV epidemic control, these activities can and should be scaled up in PHFS countries as well as in other countries in the region.

The basic approach to launching and implementing PHFS in each country was built around a package of activities implemented by an alliance of international and local partners. The basic package included: assessments of existing PMTCT services and outcomes at the facility and/or department level; QI training for staff; on-site technical assistance; coaching and mentoring; routine data collection, analysis and reporting; information sharing; follow-up support; and community engagement.

PHFS and the Option B+ approach to antiretroviral (ARV) use among HIV-positive pregnant women and mothers were rolled out in the same general timeframe; Option B was already in place in all six countries when PHFS was launched.² Although the timing was coincidental, PHFS was able to leverage heightened awareness of and expanding infrastructure for the lifelong provision of ART (Option B+) to these women. In general, PHFS was positioned as a complementary program that could help facilities increase the uptake of Option B+. See the appendix for a list of key details about each PHFS country.

² Option B+ offers ART to all HIV-positive pregnant or breastfeeding women for their entire lives. Option B offers ART to all HIV-positive pregnant or breastfeeding women beginning in the antenatal period and continuing throughout the duration of breastfeeding. They would restart ART when their CD4 count below 350 cells/mm³.

METHODS

The critical consideration when planning the evaluation was the fact that PHFS had ended more than a year before the evaluation formally began. Consequently, the assessment was done as a legacy evaluation to provide a holistic picture of what had been done across the six participating countries and to explore the effects that outlived the implementation period. The challenges of organizing a legacy evaluation (e.g., key staff, who had moved on to other assignments, had to be tracked down; institutional memory had declined; and records and data were less accessible) increased the amount of time between the end of the project and the completion of the evaluation. However, the passage of time helped spotlight or clarify key components of the PHFS legacy.

The evaluation used a mixed-methods approach, relying heavily on an extensive document review, site visits, and qualitative interviews with a wide range of project stakeholders in all six PHFS countries as well as with headquarters staff. The evaluation team also visited dozens of implementing sites across the PHFS countries. In general, the legacy used a more qualitative lens to assess PHFS, because of the limited availability of long-term longitudinal quantitative data on the performance of individual and aggregate PHFS sites in a given country, including challenges with historical data needed to determine changes in patient outcomes.

The limited availability of longitudinal site-level data in all six countries is the reason behind a supplemental MEASURE Evaluation outcome evaluation in Uganda designed to gather specific patient-level data points from charts of HIV-positive women and their babies. Because no control sites existed, a method was used to create a weighted combination of comparison clinics that synthetically constitute a control group as a basis for analysis and outcome comparison.

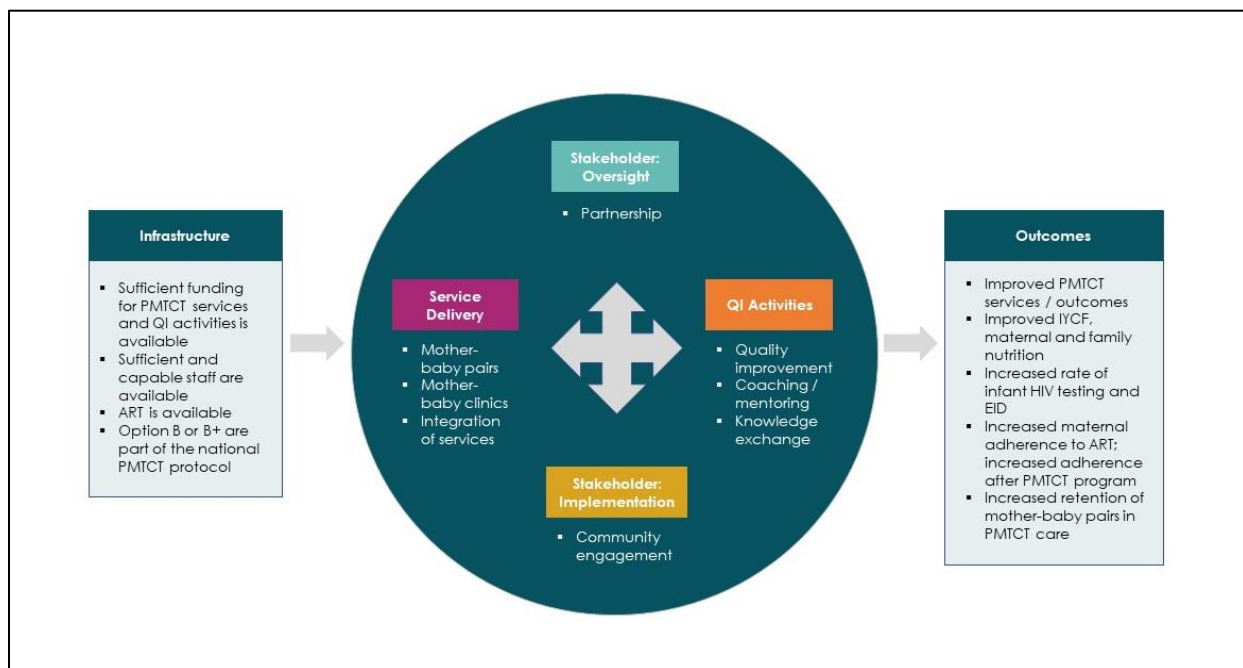
The team developed an inclusive interview guide covering multiple issues related to the implementation and success of PHFS, including perceptions of QI, partnership structure, activity design, implementation, outcomes, successes, and challenges. The guides were designed to be adapted for different audiences relevant to the evaluation, including Ministry of Health representatives, subnational-level health representatives, the local USAID mission, PEPFAR implementing partners, on-site health facility staff, community health workers, and patients.

During visits to implementation sites, the evaluation team would—whenever possible—scan QI journals and other day-to-day documentation (e.g., registers) to better understand the dynamics of the PHFS approach as well as its continuing use and effectiveness. At the end of each country visit, the evaluation team would synthesize the findings and, as the number of visited countries grew, compare the findings with those in other countries to identify and understand similarities and differences.

KEY FINDINGS

As mentioned above, key findings fall into three main categories: (1) service delivery, (2) quality improvement practices, and (3) stakeholder engagement, which is then divided into two subcategories of oversight and implementation. Within each category, there is a core set of findings that were broadly relevant across PHFS and more specific findings that were country and/or context-specific. Figure 1 highlights the different categories and illustrates their interaction; it also shows the requisite infrastructure and the associated outcomes linked to PHFS implementation.

Figure 1. Categories and interactions of key findings



Findings: Service Delivery

- **Mother-baby pairs.** An individual mother and her baby (i.e., a dyad) coupled for the purposes of service delivery and tracking (e.g., health conditions and retention in care). This approach is particularly relevant from the birth of the child through his or her second birthday (i.e., the baby's first 24 months).
- **Mother-baby clinics.** Places (e.g., a facility or mobile clinic) where services appropriate for mother-baby pairs are provided.
- **Integration of services.** The availability and provision of the range of appropriate services relevant to both mothers and babies.

Mother-Baby Pairs

The value of linking HIV-positive mothers and their HIV-exposed infants as pairs was an early and important lesson from PHFS. Implementers in multiple countries quickly learned how to assess each patient's status; and the implementers' ability to provide needed services for mothers and infants was enhanced if were seen as a pair. For both providers and patients, the pairing also reinforced the critical link between the health of the mother and the health of the infant.

In addition to actually seeing the mother and child together at appointments, the approach works best when their respective patient records are tracked jointly. Combined record keeping makes it much easier for clinic staff to monitor and address the health of both mother and baby. Under PHFS, the process of combining patient records was generally straightforward; in most cases, facilities either attached the mother and baby patient cards together or they made notes about the baby's health on the mother's card. However, not all PHFS countries were able to combine mother-baby record keeping in ways that consistently improved the quality or efficiency of patient tracking. And while combined records did improve patient tracking and patient care, the overall burden of data collection remained high in most facilities, due largely to the multiple registers used to record data for mothers and babies and consistent and sustained understaffing at most facilities.

The concept of mother-baby pairs is not new to PHFS. For example, it was part of the existing PMTCT policy in Lesotho and Mozambique at the outset of PHFS. However, in PHFS countries, mother-baby pairing typically became a more consistent and widespread practice in participating facilities. For example, in Uganda, the practice was seen as so successful that national policy was changed when PHFS was still in its demonstration phase, making treatment and tracking of HIV-positive mothers and their HIV-exposed babies as pairs the standard of care in the country. Across PHFS, facilities demonstrated greater commitment, and governments and implementing partners in participating sites developed and carried out structured approaches to promote and ensure pairing. It is interesting to note that South Africa was the only country that routinely saw all mothers and babies as pairs, regardless of their HIV status.

Mother-Baby Clinics

Recognizing the value of seeing mother-baby pairs in a single visit prompted different PHFS countries to designate specific clinic days and/or times to see HIV-positive mothers and their HIV-exposed infants. These specific days/times proved to be a highly effective way to provide integrated care to mothers and babies participating in PMTCT programs. In Uganda, facilities established mother-baby care points to serve these patients; in Kenya, they designated specific HEI Days [HIV-Exposed Infant Days] for mother-baby pairs. Across the PHFS countries, special clinics and/or days helped create a strong partnership—between healthcare workers, outreach/community teams, and PMTCT mothers—that improves health outcomes for the mother-baby pairs.

The joint appointments benefited patients in multiple ways. For example, patients spent less time traveling to and waiting at the clinic (i.e., one visit for the pair as opposed to separate visits for the mother and the baby); mothers and babies faced significantly less stigma during their clinic visits; mothers coalesced into formal and informal support groups; they developed relationships with peers during the regular visits, which helped reinforce critical behaviors such as ART retention, breastfeeding, and nutrition; and they used the appointments to increase partner involvement in care, including partner testing and disclosure of HIV status. Clinics also benefited from the approach, including the ability to provide integrated and differentiated care, improvements in the quality of care and support, the need to manage fewer appointments, and the ability to track patients more efficiently.

Integration of Services

A logical extension of the implementation of mother-baby clinics under PHFS was the provision of integrated services for pairs seen at these clinics. Integrated services include HIV testing, antenatal care, postnatal care, ART services, maternal and child health (MCH) services, and nutrition assessment, counseling, and support (NACS). An objective of PHFS was to ensure the full range of services for HIV-positive pregnant women, HIV-positive mothers, and HIV-exposed infants are available and provided at the PMTCT clinics.

In PHFS facilities, integration of services eased time pressures on service providers and improved the quality of care and support they could deliver, which, in turn, contributed to better patient experiences (e.g., more inclusive, more efficient, and more supportive), better retention rates of mother-baby pairs in care (e.g., extending the length of time that mothers and babies are engaged with PMTCT services, albeit not always to the baby's second birthday), and better patient outcomes (e.g., fewer HIV-positive infants).

A downside of integration of services was the inefficiencies of patient record keeping. In many facilities, delivering integrated services required providers to enter patient data on multiple forms and/or in multiple registers. This inefficiency, which was driven by a combination of factors, including a continuing reliance on paper-based record keeping systems for frontline data collection and national and/or donor requirements for collection of specific data points, was a burden for providers and complicated their ability to provide services efficiently and cost-effectively. Data that are used to track and improve patient outcomes and facility performance were seen as useful, even if the systems to capture this data were problematic. However, in many cases, data being collected were not used at the facility level and were mainly captured for reporting purposes.

Other Findings: Service Delivery

- Although PHFS was rooted in a desire to improve **breastfeeding practices** among HIV-positive mothers, it generally underperformed in this area. For example, South Africa was the only country where facility staff were confident that mothers exclusively breastfed for the first six months. And in all participating countries, breastfeeding stopped well before the two-year mark, regardless of HIV status. The underperformance reflects the broader challenges that MCH programs have faced for decades, including entrenched cultural beliefs about breastfeeding, long-standing breastfeeding practices, work demands on lactating mothers, evolving breastfeeding recommendations and policies with resulting inconsistencies in guidance by clinic staff, and difficulties with data collection.
- The role of **nutrition** in PHFS—excluding breastfeeding—was not a robust component of the program in any country. The NACS approach, which frontline staff and their managers perceived to be focused on severe acute malnutrition (SAM) and moderate acute malnutrition (MAM) cases, was largely irrelevant in PHFS sites in participating countries, given the extremely small number of SAM and MAM cases encountered in these PMTCT clinics. Facilities did not actively address other serious nutrition-related issues faced by mothers and babies in their PMTCT clinics, including overweight/obesity and stunting. The limited nutrition initiatives implemented in PHFS included basic nutrition education (e.g., making the most nutritious use of available foods), cooking demonstrations, and community gardens. Implementers generally spoke favorably of these initiatives, but they were not seen as a priority, given staff availability and budget constraints.
 - The approach to nutrition in the KwaZulu-Natal province in South Africa could be a harbinger of efforts to more fully and effectively integrate nutrition into HIV programs. The Ideal Clinics in KwaZulu-Natal have at least one nutritionist on staff who is available to

work with PLHIV, including HIV-positive mothers and their babies. These nutritionists report that mothers respond positively to discussions about nutrition because of concerns about the health of their children; nutrition is also seen as a nonthreatening way to engage with mothers about broader individual and family issues of health and well-being, including the importance and challenges of ART adherence and retention. Other countries that had nutrition components to their PHFS (see above) also reported a high level of interest among mothers in nutrition activities and positive feedback from mothers who participated in these activities.

- Improving **data collection and use** was a central component of the PHFS approach. It was clear during site visits that facility staff were working hard to improve the quality of their record keeping. In addition, the simple data points that were in place to track service delivery performance and outcomes were being used. However, most facilities continued to struggle with data collection and/or record keeping, because of the unwieldy and outmoded systems required by their respective governments. These largely paper-based systems require facility staff to enter and reenter data in multiple places, including patient records kept at the facility, patient records kept by the patient, and numerous registers based on the patient's status or the services provided. In many cases, the data are reentered again for reporting to higher authorities.
 - Despite their best efforts, facility staff generally struggle to keep up with the burden of data collection, even when—in limited cases—electronic medical records (EMR) systems are in use. One of the most efficient and effective data collection and reporting systems is in Lesotho, where there is a dedicated cadre of data specialists, who are full-time staff of the Elizabeth Glaser Pediatric AIDS Foundation, working across the network of health facilities in the country. Even in this case, the primary data collection—filling in patient cards, completing multiple registers, etc.—remains a significant burden on the frontline staff. However, the situation in Lesotho is an exception. Dedicated staff—or sufficient staff time—for data collection, analysis, and reporting are extremely limited in most settings, which is major reason that these activities are so burdensome of facility staff.

While the burden of data collection—including the inefficiencies of recording patient data—was high, QI activities did result in consistent improvements in the collection and quality of data used to track and improve project performance. In facilities across the six countries, staff understood, accepted, and addressed the need for accurate, high-quality data to provide better services and improve patient outcomes. One practical example is the recognition by facilities that they needed to have good data in order to construct run charts to track performance by key metrics and to iteratively test changes to improve performance.

- Facility-level data use also improved because of QI activities. In general, QI teams were good about using the data being collected to improve their performance. For example, if a run chart showed the percentage of eligible mother-baby pairs attending the clinic from month to month declined, the teams would take steps to follow up with the mothers to make sure they came to their next visit. However, it is less clear if the QI teams understood or documented the stories behind the data; for example, if the percentage of mothers on ART declined in a given month, there was typically no record of the reason(s) for that decline or the steps that were taken to address the situation. Essentially, the vital qualitative data that underlies the quantitative data lived only in the memories of facility staff, which makes it difficult to institutionalize the findings and the responses.

- A critical challenge that PHFS was not able to address was **consistent, long-term, follow-up care**, specifically for the HIV-positive mothers after their babies “graduate” from PHFS/PMTCT, typically at 24 months. At this point, mothers are shifted back to the regular ART clinic for their ongoing HIV care and support. In the ART clinics, mothers generally don’t receive the level of attention or the integrated services available in the mother-baby clinics. In many/most facilities, this is due to the number of patients and the limited ability of staff to spend time with individual patients. Mothers in multiple countries reported the shift to regular ART clinics and the corresponding decline in the quality and availability of services as a disincentive to seek services at these clinics. In addition, mothers—strongly seconded by clinic staff in multiple countries and facilities—also reported less interest in continuing their ARV regimens after PMTCT graduation because their babies were now HIV-free and that was their primary concern. This rationale is complicated by the fact that after two-plus years on ART in the PHFS/PMTCT program,³ mothers don’t feel sick and, as happens with ART patients in most settings, when they don’t feel sick, they question the need to stay on their drug regimen, particularly if they have not disclosed their HIV status to their partners, families, or communities.

The issue of consistent, long-term follow-up care can affect babies as well. For example, when they are no longer seen at a PMTCT-focused mother-baby clinic, it is possible there will be less awareness and emphasis on the ongoing health needs of children born to HIV-positive mothers.

Findings: Quality Improvement Practices

- **Quality improvement.** A straightforward, systematic use of tools and techniques to understand and improve facility performance, community interactions, and patient outcomes
- **Coaching/mentoring.** Ongoing instruction and support from qualified professionals to sustain lessons and practices leading to quality improvements among facility staff and community workers
- **Knowledge exchange.** Structured opportunities for peer-to-peer learning at multiple levels, including within and across individual facilities and at district, provincial and national forums

Quality Improvement

The use of quality improvement tools and techniques was central and essential to the success of the PHFS approach to improving the performance of PMTCT programs. At the facility level, the basic approach to identify, implement, track, and sustain improvements in service delivery and data collection relied on QI teams, change ideas, and QI journals, all of which are components in proven approaches to quality improvement work.

- QI teams were set up in participating facilities and charged with identifying, implementing, and assessing relevant QI activities, including the use of data collected on patient outcomes and facility performance. The members of a facility’s QI team were typically staff assigned to the PMTCT unit—or the broader MCH unit—with direct experience working with PMTCT patients and the services available to them at the clinic or hospital.

³ Ideally, an HIV-positive mother enrolled in the PHFS/PMTCT program during pregnancy; started on ART, if she were not already on it; and continued in the program through her baby’s graduation at 24 months of age.

- Change ideas are proposed actions identified by the QI teams that, when implemented, are anticipated to improve performance measured by an indicator and the corresponding health or service delivery outcome over a defined period.
- QI journals are a simple way to document the work of a QI team, including a brief description of the activity (e.g., change idea) and longitudinal tracking of performance and outcomes as implementation progresses (e.g., in tables and run charts).
- In the standard PHFS approach to quality improvement, QI teams would meet on a regular basis to review the relevant data, assess their facility's performance on a core set of indicators, plot the performance on run charts, discuss challenges and/or barriers, and identify change ideas and how to implement them.

Different countries adapted the core PHFS approach to QI to ensure it worked with their systems and in their facilities. For example, in Kenya, Work Improvement Teams already existed in the facilities in Kwale County, and PHFS worked with them to determine how best to build on their experiences and expertise. In all countries, the overall approach hewed to international norms and practices of quality improvement (e.g., the fundamental PDSA cycle [Plan-Do-Study-Act] that underpins most QI approaches, including the core one used by PHFS). The key in every country was to implement a QI approach that was practical, sensible, and responsive to the needs and realities of the facility-level staff.

One of the main challenges with QI is sustaining the commitment and the activities to ensure its success. PHFS was largely successful on this front during its active life. Staff in participating facilities were generally empowered and encouraged to identify opportunities for improvement and implement solutions. They also received valuable ongoing support (see below) and they felt accountable for their performance and for improved patient outcomes. However, the long-term challenge was to ensure the proven QI practices—and the focus on continuous improvement—remained in place and in practice when program funding for PHFS ended. In addition, there was a parallel challenge to ensure that improvements in quality are sustained (i.e., quality assurance [QA]).

In the majority of facilities visited during the course of the evaluation, the commitment to QI—and good patient outcomes—remained high after the formal end of the program. But declining management and financial support for QI activities, particularly the coaching/mentoring, make it difficult in some settings to sustain and build on what was learned and used in PHFS. In places where external support for QI activities has declined, the commitment to quality improvement and QA is clearly wavering and the effectiveness of the approaches introduced and refined under PHFS is deteriorating.

However, in places where follow-up and/or related projects/initiatives were active, the learnings and practices were continuing. For example, in Uganda, another USAID-funded project (Regional Health Integration to Enhance Services [RHITES]) was designed to build on the lessons of PHFS by leveraging the QI knowledge and skills of PMTCT staff in facilities as a way to introduce QI practices more broadly in participating facilities. In South Africa, PHFS practices are being folded into the QI component of the Ideal Clinic program in facilities that participated in the partnership. In Mozambique, the link between PHFS and the national HIV QI strategy has meant facilities that participated in the partnership are continuing with the QI approaches developed and deployed during that time. In Lesotho, the responsibility for continuing QI support was transferred from one implementing partner to another in 2017. In some facilities across the different PHFS countries, strong individual champions have kept the QI work alive and thriving. And general awareness of the goal to eliminate mother-to-child transmission of HIV also contributed to the commitment of stakeholders, from the national to the facility level, to continue with the QI approach.

Coaching/Mentoring

Under PHFS, regional-, district-, or county-level coaches, who made regular visits to participating hospitals and clinics, actively supported facility-level activities. Coaches were trained professionals, who were affiliated with a PHFS implementing partner, government ministry, and/or department of health. The coaches worked closely with the members of each facility's QI team to reinforce the knowledge and skills required to identify areas for improvement and to develop and implement solutions.

Launching and sustaining the QI activities at the core of PHFS would not have been possible without the participation of the coaches. Their knowledge and skills were instrumental in raising awareness of the potential of QI to improve performance and in developing the necessary QI systems and processes for QI at participating facilities. As the capacity of QI teams grew and matured, the ability of the coaches to serve as mentors and external monitors became increasingly important. In some countries, dedicated and skilled facility staff became internal coaches/mentors who helped sustain the necessary focus and follow-up required for effective QI initiatives.

Experiences within and across countries demonstrated the initial and the lasting value of coaches and mentors. For example, in locations where strong coaches/mentors remained in place, QI standards and practices learned under PHFS continued to be an effective way to sustain higher performance; conversely, in locations where there was either no coaching/mentoring or poor coaching/mentoring, performance declined. In all countries, there was a general acknowledgement by facility staff that coaching/mentoring was a critical aspect of improving and sustaining more effective services for mothers and babies.

Knowledge Exchange

Within PHFS, there were multiple platforms for knowledge exchange, and all of them made significant contributions to the effectiveness and reach of the partnership's activities. In many respects, the most important knowledge exchange occurred within individual facilities, leveraging the support provided by the coach/mentor to promote sharing of information and ideas.

Participants in PHFS were also enthusiastic about the benefits of knowledge exchange with colleagues in other facilities. For example, countries had district, county, regional, and/or national learning sessions, where QI team members from different facilities could share ideas and practical experience. Unfortunately, the funding to support this type of sharing was limited; however, in countries where it was done, implementing partners reported a spike in enthusiasm, commitment, and innovation. There were multiple reports of staff from different facilities using these exchanges as motivation to develop and implement new approaches that would enable them to outperform their peers at other facilities.

Exchange visits, country-to-country technical assistance, and quarterly webinars also contributed to the exchange of knowledge. In every country, stakeholders at multiple levels (e.g., facility, district health offices, and national ministries) saw value in the different ways that knowledge was shared and the importance of knowledge exchange in motivating staff and improving performance.

Other Findings: Quality Improvement Practices

- PHFS did not invest significant resources in **QA activities**, which is one of the reasons the QI efforts have not been sustained in all of the participating sites. There was a *de facto* commitment to QA in many facilities that was related to the continued use of a core set of indicators over an extended period. However, even in those facilities, there was little or no awareness of quality assurance as a related component to quality improvement. In addition, the ongoing tracking of the exact same indicators—

even when the performance was consistently high for many months—meant the QI teams were not looking for other ways to improve their PMTCT programs—see below. The lack of an integrated QI/QA approach by PHFS appears to have been a missed opportunity to better embed quality activities into the operational mindset in participating countries and facilities.

- In Lesotho, there was an awareness of QA as an issue and activity because the Ministry of Health had an office dedicated to quality assurance in place before the launch of PHFS. Although the office was focused primarily on data quality, the launch of PHFS was an opportunity for the ministry to add a quality improvement role to its portfolio, and it used the success of PHFS to make the case for QI and QA more broadly in the health sector.
- When QI activities started in individual PHFS facilities, the QI teams typically used an initial set of **indicators**, which were the key benchmarks for understanding and improving performance. In general, the initial set of indicators proved to be an effective way to engage facility staff in the QI process while also improving patient outcomes.
- As mentioned above, facilities would continue to use the same indicators even when it was clear that indicator performance had stabilized at a high level (e.g., percentage of HIV-exposed infants tested for HIV at six weeks). As a result, facilities were spending significant time and energy, including holding regular QI meetings and completing QI journals, to track what was essentially stable performance. Although routine tracking of select indicators is warranted, facilities often overinvested in tracking stable indicators without considering other areas where they could improve their performance.

Better-performing facilities recognized the value of identifying and tracking different indicators as a way to extend the reach and impact of the QI activities. The challenge was to ensure that performance on the core indicators stayed at a high level—essentially, quality assurance—will also addressing other issues that had an effect on facility performance and patient outcomes.

- Enterprising staff in facilities in multiple countries played key roles in the development and implementation of a range of different facility-led innovations. For example, in Kenya, one facility developed a PHFS-specific “tickler file” that improved access to timely patient information that was normally resident in multiple record-keeping systems. A facility in South Africa used a similar system to coordinate the schedules of community health workers with the needs of different patients participating in the PHFS program. In a rural clinic in Tanzania, staff implemented a rigorous data-collection system that improved access to patient records and streamlined clinic visits. In many cases, it was small and simple innovations (e.g., the use of color-coding and stickers to highlight critical patient information) that positively affected the delivery of services for both staff and patients.
- PHFS generally supported **facility-led innovations**. However, staff in some settings appeared to be reluctant to deviate from the standard or accepted approaches. This is understandable, however, because some so-called innovations (e.g., reducing the frequency or the membership of QI teams) were actually detrimental, so some caution was warranted. But many facilities had embraced QI to a level where they should have been identifying new ways to improve their tasks and services.

Finding: Stakeholder Engagement

As mentioned above, the category of stakeholder engagement is broken down into two subcategories: (1) Oversight and (2) Implementation. Within each subcategory, there is one primary finding as well as additional ancillary findings.

Oversight: Partnership. Multiple parties from government and civil society working together to ensure effective and accountable oversight of the project

Implementation: Community Engagement. Multiple parties from government, civil society, and the community working together to ensure effective implementation of project activities

Oversight: Partnership

A dynamic partnership among the stakeholders involved in PMTCT had a strong positive effect on the implementation of PHFS activities in a country. For example, the national PHFS steering committee in Tanzania, which was led by government and included USAID, civil society, and implementing partners as members, laid the groundwork for coordination and shared responsibility among stakeholders at the national, regional, district, and community levels. In Kenya, where PHFS was only implemented at the county level, a less-structured, but equally effective, partnership among county health administrators, local health facilities, and implementing partners helped create a strong sense of purpose within individual facilities and across participating facilities at the county level.

In other countries, the partnerships were even more limited, but the collaboration of stakeholders with different perspectives and expertise were a critical component of the planning and implementation. For example, in South Africa, there was no overarching steering committee, but provincial-level government and NGO stakeholders worked closely together to ensure that facility staff had the necessary knowledge to effectively implement a QI approach.

In every country, the relationship between the organizations providing technical assistance for QI practices in the context of PMTCT and the facility staff who are tasked with implementing the QI approach was largely overlooked, perhaps because it was so intrinsic to the whole process. If the field staff for the TA providers (e.g., URC-ASSIST, Centre for Rural Health [University of KwaZulu-Natal], South to South [Stellenbosch University], and HealthQual) and the facility-level implementers (e.g., government and NGO staff) had not forged practical working relationships, none of the achievements of PHFS would have been possible.

Oversight: Other Findings

- The nature of government engagement with PHFS varied by country. In most countries, national government—typically, the PMTCT teams in ministries and departments of health—had a primary role in the oversight of PHFS; however, in South Africa, the national government had almost no role in oversight or any other aspect of the program. In every country (except South Africa), subnational levels of government (e.g., provinces, districts/counties, subdistricts) were tasked by national government to support the implementation of PHFS in demonstration and scale-up sites. In South Africa, PHFS coordinated directly with provincial-level government.
 - In Kenya and South Africa, the role of subnational government stakeholders was particularly strong, including both oversight and implementation. In Kenya, the government in Kwale County enthusiastically supported the PHFS approach as part of its commitment to provide better health services to its constituents. Similarly, the Departments of Health at the

provincial, district, and subdistrict levels in South Africa were actively engaged with PHFS, despite the non-involvement of the national government.

- In Mozambique, PHFS activities rolled out concurrently with the country's own HIV-related QI program. Although PHFS activities (e.g., QI training, implementation and coaching) have continued in the demonstration sites after the end of the PHFS project, the government's QI program will sustain and scale-up critical QI activities. A lasting PHFS contribution in Mozambique is the inclusion of PMTCT indicators in the government's QI strategy for HIV.
- Although PHFS had broad and overlapping objectives, including breastfeeding practices, HIV-free survival, NACS, and QI, the operating structures in most countries were unnecessarily complex. There were multiple examples of stakeholders/partners who contributed very little to program activities and/or outcomes. This shortcoming appears to have largely stemmed from the approach to planning and organization at the outset of PHFS. For example, because PHFS was supported by nutrition funds, different nutrition-focused stakeholders were included in planning/organization at national levels; however, the QI focus of the implementation meant these stakeholders were ill-prepared or ill-suited to participate in program activities. This dilemma was further complicated in countries where nutrition and PMTCT programs are heavily siloed, which generally limited coordination and interoperability. There were parallel problems with having too many stakeholders in some countries, which complicated the division of roles and responsibilities and, in some cases, created other bottlenecks and inefficiencies.
- In Uganda, engagement with government led to accelerated changes in national policy, which had an important impact on stakeholder engagement and oversight. The Ministry of Health recognized early in PHFS that key components of the approach, including mother-baby care points, combined patient records for the pair, and integrated care for the pair, would lead to improved outcomes. This realization led to a series of rapid steps to institutionalize these approaches in national policy. Once the policy was in place, there was greater urgency and incentive for facilities across the country to begin using these approaches.

Implementation: Community Engagement

Community engagement was integral to the success of PHFS. Although different countries had different approaches to community engagement, they all used cadres of community workers to maintain connections with and provide encouragement and support to participating mothers. These community workers—whether they worked in the field or in facilities and whether they focused on HIV specifically or on health generally—played a vital role in linking mothers with services, and their follow-up activities were a key factor in retaining mothers in care. These workers were not formal partners in the oversight of PHFS but the PHFS approach would not have worked without their partnerships with patients and providers. In general, community workers did not participate in identifying or planning QI activities (e.g., they were not part of a facility's QI team); however, they were key implementers of actions intended to improve patient outcomes and facility performance, particularly in the area of retention in care by mother-baby pairs.

One critical difference in approaches among countries was whether the community workers were paid or volunteered. For example, most of the community workers supporting PHFS activities in Tanzania were volunteers, who frequently struggled to afford the transportation and mobile airtime costs associated with their work. Conversely, in Lesotho, there was a large cadre of community workers who were paid by Lesotho Network of AIDS Services Organizations (LENASO); however, there was a separate government cadre of community health workers who are volunteers. Both paid and volunteer staff encountered during the evaluation in the different countries had a high level of commitment and dedication to their work. But the

challenges faced by volunteers—ranging from the incurred expenses cited by the Tanzania workers to the time away from paid employment and/or family responsibilities—made it more difficult for them to remain involved over the long term.

Implementation: Other Findings

- Formally or informally, peer mothers made a significant contribution to improving patient services and patient outcomes in every country. Their standing as informed and experienced community members made them invaluable role models for healthy behaviors, including ART retention and breastfeeding practices. Peer mothers provided much-needed emotional and psychosocial support to other HIV-positive mothers and they were advocates for relevant, good-quality patient services in the facilities.
 - Informal peer-mother programs frequently revolved around one or two active women who catalyzed support activities for other mothers. In other places—Lesotho and Mozambique, for example—organized mother-to-mother groups were responsible for these activities. In Kenya’s Kwale County, financial support from Base Titanium, a Canadian mining company, enabled the local government to formalize the peer-mother program to ensure its ongoing contribution to PMTCT in the county; in addition, the local government committed to continuing support for the program when the private-sector support ends.

RETROSPECTIVE THEORY OF CHANGE/CONCEPTUAL MODEL OF PHFS

One of the opportunities created by the time gap between the end of the project and the beginning of the evaluation was the ability to look more broadly at the nature and effectiveness of PHFS activities implemented across the six participating countries by a diverse group of partner organizations. Despite differences in the capacity and competency of key stakeholders in the six countries, the legacy evaluation found a common commitment to pragmatic and flexible approaches to implementation and problem-solving.

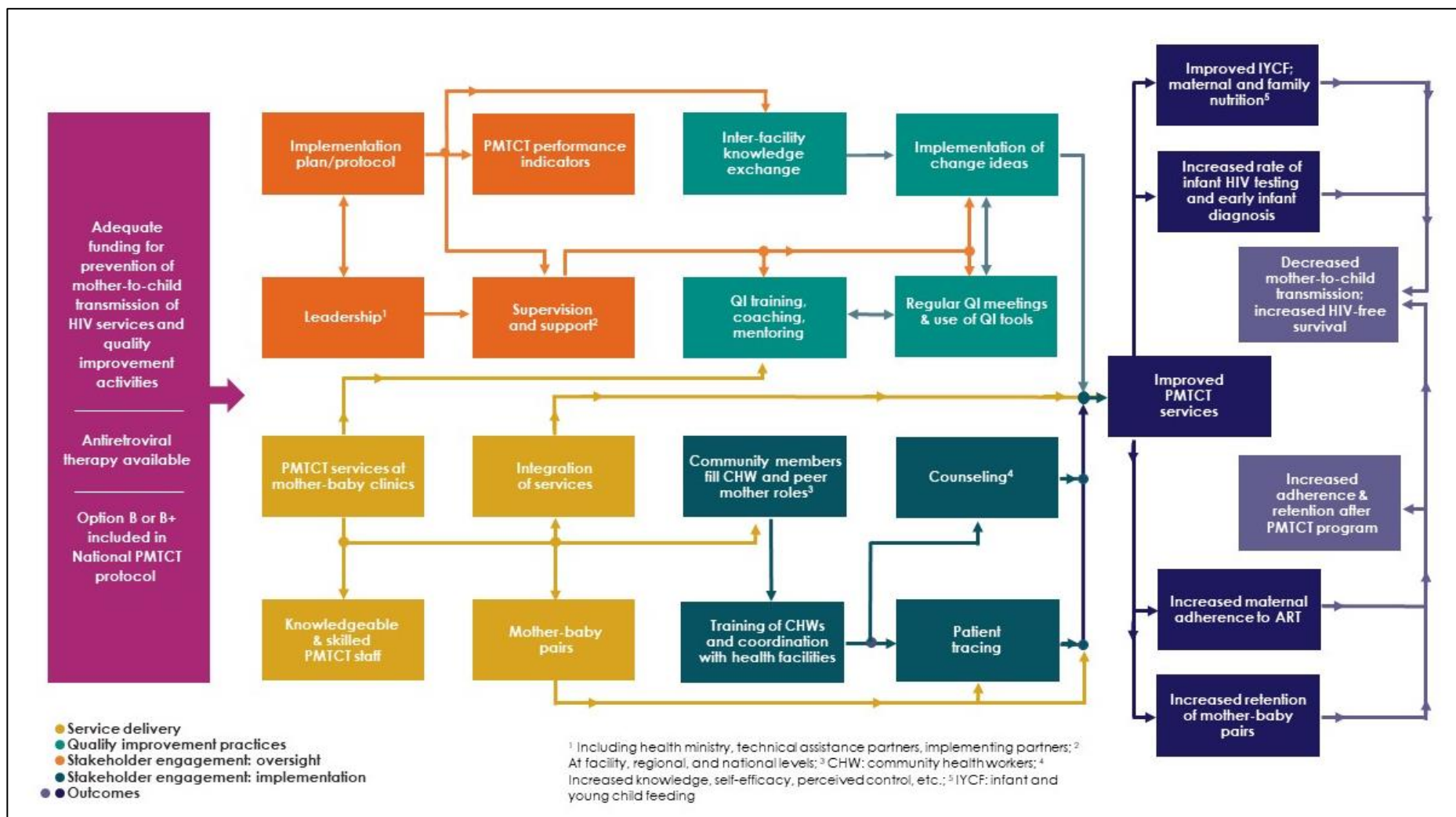
The approaches can be separated into three categories: (1) service delivery, (2) quality improvement practices, and (3) stakeholder engagement, which, in turn, has subcategories for oversight and implementation. In each category/subcategory, there is a set of core activities that are linked within and/or across the different categories, which ultimately lead to important outcomes. Taken together, the categories/subcategories and the linked activities are the basis for a retrospective theory of change. A retrospective theory of change shows *what was done* to achieve results as opposed to the more common use of a theory of change to show *what is planned*. The retrospective theory of change also incorporates findings from all six countries, demonstrating the commonalities across them.

Figure 2 shows how different core activities played out in the PHFS countries. It also identifies specific links between individual activities. In addition, it includes the core infrastructure (e.g., funding and ART and Option B/B+) that must be in place to ensure the activities can be implemented effectively. Together Figures 1 and 2 illustrate how countries were able to implement an integrated set of activities that led to improvements in outcomes. The figures also show how the PHFS approach and its activities could be used in other countries/settings to strengthen PMTCT activities.

Although the retrospective theory of change encapsulates the experience from the six PHFS countries, it is important to note the inherent flexibility in how the activities are grouped, linked, and implemented, particularly the degree and/or emphasis of the activity. Essentially, all six countries used the same overarching approach, but they made appropriate adaptations for their local context. For example, in different countries—and even in different settings within the same country, the extent and nature of the QI components varied, but their role was always essential. Similarly, there were variations in how PHFS facilities implemented mother-baby pairs, mother-baby clinics, and the integration of services, but the principles behind these activities remained the same.

The aggregate approach to PHFS across the six countries is a basic blueprint for integrating straightforward, sensible activities in ways that improve PMTCT outcomes, including the long-term health and well-being of mothers and children. However, as shown in the retrospective theory of change, it is a blueprint that can be adjusted for different settings and/or circumstances as long as the implementers respect the fundamental integrity of the approach. There is an inherent flexibility in how the activities can be grouped, linked, and implemented, including the degree and/or emphasis of the activity.

Figure 2. Retrospective Theory of Change



CONCLUSIONS

Based on the available information, the integrated approach used by PHFS has contributed to improvements in the quality of PMTCT services as well as key PMTCT outcomes. For example, in Uganda, retention of mother-baby pairs in care in the 22 pilot sites increased from 2.2 percent to 60 percent in less than two years. In Lesotho, retention went from 4 percent to 73 percent (up to 90% in Christian Health Association of Lesotho [CHAL] facilities). The improvement in retention, which also occurred in other countries, is credited to multiple factors directly linked to PHFS activities, including more efficient and more productive clinic visits and better support systems for mothers. In all countries, facility staff and patients reported to the evaluation team that simple changes in their approach to PMTCT had a cascade effect on the quality of service delivery, the quality of the patient experience, the retention of mother-baby pairs in care, and HIV-free survival for the babies. In addition, staff in multiple facilities cited greater satisfaction with their work, which they acknowledge is a factor in the quality of service delivery.

Staff in PHFS facilities also take great pride in the virtual elimination of HIV-positive infants in their clinics and hospitals. For example, one of the implementing partners in South Africa reported a decline in the proportion of HIV-positive infants at 18 months from 6 percent to 1 percent between October 2012 and July 2013. According to facility staff in sites visited in all six countries—and corroborated by senior staff in ministries and departments of health, HIV-positive infants were a rare exception in facilities using the PHFS approach. The small number of HIV-positive infants generally arrived at the facility after they had been born, limiting the efficacy of the interventions.

One of the clear strengths of the PHFS approach is how straightforward it is to implement. While it does require technical knowledge and capacity (e.g., quality improvement, PMTCT services, and community outreach), the approach is completely feasible, even in low-resource settings. It uses common-sense and basic tools to develop simple approaches to track and improve practices and outcomes. It is not heavily dependent on external expertise or assistance; it is a sustainable approach that encourages self-reliance.

Another clear strength of PHFS is its ability to contribute to—and potentially drive—policy change, including formal policies at the national level and less formal guidance on best practices at the facility level. The changes in national policy in Uganda linked directly to PHFS activities (i.e., mother-baby care points, combined patient records for the pair, and integrated care for the pair) are the highest profile example. But basic policy and practice changes in facilities—and supported by subnational health offices—was a major influence on the acceptance and effectiveness of PHFS activities in those facilities.

Despite the many positives, the evaluation identified **adjustments to the PHFS approach** that can and should be made to further improve how core activities are implemented. For example, facilities that recognized the dynamic quality of QI used the techniques to improve more aspects of their programs compared to facilities that never moved beyond the initial metrics. Similarly, facilities that considered nutrition more broadly (i.e., not solely as undernutrition or SAM/MAM) provided sought-after services for a larger cross-section of their patient population who are interested in their families' general health and well-being, particularly in the context of HIV. Every facility visited by the evaluation team faced challenges with their data systems; many of those facilities had developed innovative ways of improving their systems, but those improvements were not widely shared or implemented. In case after case, the adjustments to core activities that would improve the approach can and should be drawn from facilities and champions within those facilities who have used their real-world experience to refine the approach.

There is also an opportunity to use the PHFS approach to improve related services. As mentioned above, one of the main concerns of staff working in PHFS facilities was the drop in ART retention among mothers once

they have completed the PMTCT program. Although these concerns were anecdotal, there are high rates of churn (i.e., stopping and restarting drug regimens) among ART patients in each of the PHFS countries. Extending PHFS approaches to the primary ART clinics—potentially starting with HIV-positive mothers transferring back to these clinics at the end of the PMTCT cycle—could have an effect on broader ART retention among PLHIV.

The core activities in the PHFS approach (see Figures 1 and 2) have the potential to improve PMTCT outcomes in any facility that implements them, which is why it is unfortunate that the approach was—and is—being implemented in so few sites. The case for PHFS as an integrated set of feasible, common-sense activities that contribute to improved PMTCT outcomes is strong; however, the case was not effectively made during or after the implementation of the project. Though there are examples of lessons from PHFS being picked up (e.g., the abovementioned RHITES project in Uganda; QI practices in Ideal Clinics in select areas of South Africa), the **lessons of PHFS should be more widely known and more widely emulated.**

LEGACY

The clear and compelling legacy of PHFS is that a combination of straightforward activities can be introduced, implemented, and embraced by frontline staff as a way to improve PMTCT service delivery and outcomes. The PHFS approach succeeded in the facilities where it was implemented, because it actively engaged the frontline staff in the process of quality improvement, including QI-specific activities (e.g., QI teams, QI journals, and change ideas) as well as improved technical approaches and skills (e.g., integration of services, mother-baby pairs, and mother-baby clinics). In addition, the ability of PHFS to work closely with community members, including community health workers and peer mothers, enhanced the viability, credibility, and the reach of the program at the grassroots level. And the work on oversight issues (e.g., leadership and implementation plans) created a supportive environment for facilities, frontline staff, and community representatives to do the essential patient-by-patient work that leads to better outcomes.

The other critical legacy of PHFS is that sustaining improvements in PMTCT outcomes at the facility level requires an ongoing commitment and capacity to provide the necessary technical and financial support. The limitations or lack of ongoing technical support was an issue identified by the evaluation, in particular the limitations or lack of ongoing mentoring and coaching. Without oversight and support from qualified mentors and coaches, it is possible—even likely—that facilities will not sustain the integrity of the PHFS approach. Although the approach is straightforward, feasible, and flexible enough to adapt to local circumstances, its success hinges on a rigorous dedication to the integrated activities that make it work. When the integrity or the rigor wanes, the effectiveness of PHFS does as well.

The need for additional financial support at the facility level for PHFS activities is minimal because core PHFS activities essentially build on existing infrastructure and human resources. However, ensuring the sustainability of the nutrition component of PHFS—including the broader demand for nutrition services linked to other health issues such as stunting and overweight/obesity—would require expanded funding. Where funds are unquestionably needed is for mentors and coaches who work directly with frontline staff to help them maintain their focus and to encourage the continued improvement of PMTCT programs. These mentors and coaches can and should be employed by national and subnational ministries and/or departments of health. An ancillary benefit of supporting and deploying these mentors and coaches, which was evident in high-performing facilities in multiple countries, is their ability to also encourage staff to use the basic tenets underlying the PHFS approach to improve other services in their facility.

Although the footprint of PHFS was small, the lessons and the potential are large. If more countries enabled facilities with the requisite knowledge and skills to pursue the approach, the goal of eliminating mother-to-child transmission of HIV would be more reachable than ever. And if an investment was made in further refining the PHFS approach (e.g., nutrition services, mentoring/coaching, knowledge sharing and transferability to other health services, including ART clinics), there would be commensurate gains in the delivery of health services and the health and well-being of patients.

APPENDIX: COUNTRY DETAILS

Kenya

- PHFS was implemented in 28 sites in Kwale County on Kenya's south coast. There were 16 original sites and 12 scale-up sites.
- Demonstration and scale-up sites were chosen based on the prevalence of HIV-positive mothers in the service area; for example, the 16 original PHFS sites accounted for 60 percent of the PMTCT caseload in Kwale County. Facilities were also selected to ensure that dispensaries, health centers, and hospitals were included.
- Key partners were the Kenya Ministry of Health, the Kwale County Department of Health and Medical Services, Pathfinder, URC-ASSIST [Applying Science to Strengthen and Improve Systems], and USAID.
- URC-ASSIST provided general project oversight as well as overarching technical assistance on quality improvement. Pathfinder worked directly with participating health facilities on implementation. Both organizations worked with the county government to provide supervision and support to PHFS facilities in implementing relevant activities.
- Activities under PHFS began soon after the introduction of the Option B+ approach to PMTCT, and the partnership was able to build off this new approach. Given the links between the Option B+ approach and the PHFS activities, the combination was operated under the umbrella of PMTCT services; the name PHFS was not widely used or known.

Lesotho

- PHFS was implemented in 20 sites in Lesotho. There were four demonstration sites in each of three districts: Maseru, Molele's Hoek, and Thaba Tseka. Later in the project, eight scale-up sites were added in the Butha Buthe District.
- Demonstration sites were selected by the PHFS steering committee in Lesotho based on where there were higher rates of HIV-positive infants.
- Key partners were Lesotho Ministry of Health, District Health Management Teams, Christian Health Association of Lesotho, LENASO, URC-ASSIST, the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), and USAID.
- URC-ASSIST provided general oversight of the project as well as direct implementation support to District Health Management Teams and staff at health facilities.
- Health facilities in Lesotho are managed either by the government or by CHAL, but all facilities are considered part of the national health care system. There are inconsistencies in the underlying quality of service delivery operated by the government and CHAL, which affected facilities' ability to implement PHFS activities. There are also inconsistencies in the quality of service delivery in different districts, including the capacity and performance of regional laboratories, which also affected PHFS activities.
- The adoption of a national policy for Option B+ and the subsequent rollout of the approach in Lesotho generally coincided with the implementation of PHFS activities in the country, giving PHFS the opportunity to leverage the approach. The combination of Option B/B+ and PHFS activities was highly effective.

Mozambique

- PHFS was implemented in a total of eight demonstration sites in three provinces of Mozambique: Gaza, Sofala, and Zembezia.
- The rollout of PHFS in these three provinces roughly coincided with the piloting of the government's new HIV QI strategy in 56 sites, which had been chosen because of their importance in the national response to HIV.
- Key partners were the Mozambique Ministry of Health (MISAU), HealthQual, and FHI 360, including the Food and Nutrition Technical Assistance Project (FANTA) and the Clinical HIV/AIDS Services Strengthening Project Sofala, Manica and Tete Provinces [CHASS/SMT] projects, URC-ASSIST, and USAID.
- HealthQual provided general project oversight as well as overarching technical assistance on quality improvement at the facility level. Its initial orientation and training on QI practices was heavily supplemented by coaching and mentoring as implementation moved forward.
- HealthQual's involvement with PHFS also provided the organization with opportunities to provide technical assistance to the Ministry of Health on the implementation and refinement of its HIV QI strategy. For example, PHFS contributed to the integration of nutrition and PMTCT indicators in the national HIV QI strategy.
- The launch and scale-up of Option B+ as a component of the Mozambique response to HIV coincided with the implementation of PHFS activities.

South Africa

- PHFS was implemented at multiple sites, including primary health centers and hospitals, in four provinces of South Africa: Eastern Cape, KwaZulu-Natal, Northern Cape, and Western Cape.
- Key partners were the Centre for Rural Health at the University of KwaZulu-Natal, FHI 360, the Institute for Healthcare Improvement (IHI), Provincial Departments of Health, South to South (S2S) at Stellenbosch University, and USAID.
- The Centre for Rural Health trained and supported sites in KwaZulu-Natal; IHI worked with the sites in Northern Cape; and S2S supported the sites in Western Cape. The respective partners also provided support to the Departments of Health at the provincial, district, and subdistrict levels.
- The launch of PHFS was closely followed by the launch of the national Department of Health's Ideal Clinic program, which include QI practices as part of a broader commitment to making wide-ranging improvements to clinic operations, including administration, clinical policies and practices, infrastructure, staffing, and supply chain. The approaches implemented by PHFS have continued to be useful when a primary healthcare facility is implementing the standards of patient care included in the Ideal Clinic program.
- The availability of Options B and B+ in South Africa generally coincided with the implementation of PHFS activities in the country.

Tanzania

- PHFS was initially implemented in 10 demonstration sites in each of three provinces: Mbeya, Mufindi, and Nzega. In the second year of implementation, an additional 20 sites in each province began implementing the PHFS approach. The network of 90 demonstration and scale-up sites (which included dispensaries, health centers, and hospitals) was the largest in PHFS.
- Partners at the national level were the Reproductive and Child Health Section/PMTCT Unit of Tanzania's Ministry of Health, Community Development, Gender, Elderly and Children; URC-ASSIST; EGPAF, FHI360-FANTA, Tanzania Food and Nutrition Centre, Jhpiego–Johns Hopkins University, and USAID.
- URC-ASSIST provided technical assistance for QI activities and FANTA provided technical assistance for NACS activities.
- Baylor University, Deloitte/Tunajali, and the EGPAF were each assigned a district as implementation support partner; they worked with the regional and district government to supervise and support PHFS facilities in implementing relevant activities.
- PHFS activities in Tanzania began at the same time as the Option B+ approach to PMTCT. Option B+ was implemented in all regions of the country. In PHFS districts, PHFS activities complemented Option B+, and Option B+ provided the PMTCT services and strategies that made PHFS possible.

Uganda

- PHFS was implemented in 22 demonstration sites and 56 scale-up sites in the Eastern and South Western Regions of the country. In the Eastern Region, the sites were in four districts: Jinja, Manafwa, Namutumba, and Tororo. Sites in the South Western Region were in two districts: Kisoro and Ntungamo.
- Key partners included URC-ASSIST, FHI360-FANTA, JSI-SPRING, EGPAF, The AIDS Support Organization (TASO), the Uganda Ministry of Health, and USAID.
- URC-ASSIST, working closely with the national Ministry of Health and district health teams to provide training and ongoing technical assistance for quality-improvement activities in health centers and district hospitals.
- The launch of PHFS activities coincided with the rollout of the Option B+ approach to PMTCT in Uganda. In the six PHFS districts, the overlap of PHFS and Option B+ activities and approaches was a powerful and effective combination.
- When the PHFS activities began to show results, the Ministry of Health took rapid steps to institutionalize key components of the approach (e.g., mother-baby care points, paired records, and integrated care) so that facilities across the country could strengthen their PMTCT programs.

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