UPTAKE AND RESULTS UTILIZATION OF VIRAL LOAD TESTING AND EARLY INFANT DIAGNOSIS

DEMAND CREATION LANDSCAPE ANALYSIS

AUGUST 2019

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AIDSFree

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JSI Research & Training Institute, Inc.
2733 Crystal Drive, 4th Floor
Arlington, VA 22202 USA
Phone: 703-528-7474
Fax: 703-528-7480
Email: info@aids-free.org
Web: aidsfree.usaid.gov

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ACRONYMS

AIDSFree	Strengthening High Impact Interventions for an AIDS-free Generation
ANC	antenatal care
ART	antiretroviral therapy
ARV	antiretroviral
CSO	civil society organization
CHW	community health worker
CME	continuing medical education
DHSS	District Health System Strengthening and Quality Improvement for Service Delivery
EAC	enhanced adherence counseling
EID	early infant diagnosis
HEI	HIV-exposed infant
HTS	HIV testing services
LTFU	lost to follow-up
M&E	monitoring and evaluation
MBP	mother-baby pair
MOH	Ministry of Health
OTZ	Operation Triple Zero
PCR	polymerase chain reaction
PLHIV	people living with HIV
PMTCT	prevention of mother-to-child transmission
PNC	postnatal care
POC	point of care
QI	quality improvement
SBCC	social and behavior change communication
SOP	standard operating procedure
VL	viral load
WHO	World Health Organization

SUMMARY

This landscape analysis aims to identify approaches and materials in use to create demand for viral load (VL) and early infant diagnosis (EID), to identify challenges, to determine what plans are in progress, and to describe implementers' recommendations. In total, 13 programs implementing VL demand creation strategies and 13 programs implementing EID demand creation strategies are described. Key sections are described briefly below, with hyperlinks to each section for easy reference. Click on each section to explore.

Overview and Key Considerations

Summary Table for Viral Load Testing

Table 1 provides a summary of client/community, provider, and facility/system demand creation requirements for VL testing uptake and results utilization as described in this report.

Summary Table for Early Infant Diagnosis

Table 3 provides a summary of client/community, provider, and facility/system demand creation requirements for EID uptake and results utilization as described in this report.

Key Considerations for Demand Creation

This section outlines key questions and considerations for those who are planning and implementing viral load testing or early infant diagnosis testing.

Program Compendium

Demand Creation for Viral Load Testing—Program Examples

This section is a compendium of program examples and data available for demand creation approaches for VL testing—see Table 2 for a summary of programs reviewed at the community/client level, provider level, and systems/facilities level.

Demand Creation for Early Infant Diagnosis—Program Examples

This section is a compendium of program examples and data available for demand creation approaches for EID—see Table 4 for a summary of programs reviewed at the community/client level, provider level, and systems/facilities level.

Demand Creation in Viral Load National Scale-Up Plans

National scale-up of VL testing requires consideration of how demand creation will be incorporated into planning. The excerpts in this annex provide examples of demand creation strategies outlined in national VL guidance available in the AIDSFree Guidance Database.

Demand Creation for PMTCT/EID in National Guidelines

This annex provides excerpts with examples of demand creation strategies outlined in national guidance on HIV testing and prevention of mother-to-child transmission/EID guidance available in the AIDSFree VL & EID Knowledge Base.

Advocacy Campaigns and Tools

This annex highlights a number of VL advocacy campaigns: Undetectable=Untransmittable (U=U), Be Healthy—Know Your Viral Load, Activist Toolkit: Campaigning for Routine VL Monitoring, People-Centered Literacy Campaign in Mozambique, Community Dialogues in Mozambique, Brothers for Life in South Africa, and Community Mobilization in South Africa.

OVERVIEW AND KEY CONSIDERATIONS

This landscape analysis comprises two sections: the Overview and the Program Compendium. The Overview describes the viral load (VL) and early infant diagnosis (EID) concepts, approaches reviewed, and key considerations for programs integrating VL and EID demand creation activities. The section describes key concepts for VL testing and EID and includes summary tables on demand creation needs for VL testing, and for EID uptake and results utilization, to provide a framework for the Program Compendium. It also describes demand creation strategies identified in the VL and prevention of mother-to-child transmission (PMTCT) national strategic plans reviewed. Finally, the Overview summarizes the programs identified and the demand creation approaches used in the programs, as well as key considerations based on the more detailed findings presented in the Program Compendium section of the landscape analysis.

INTRODUCTION

Demand creation activities for VL testing and EID include educating and mobilizing clients/communities on the importance of VL and EID and ensuring that clients access health facilities for these services. However, client education and mobilization alone are not sufficient. To ensure that VL and EID coverage increases, providers also must be mobilized and supported to identify eligible clients and conduct VL and EID testing per the Ministry of Health (MOH) algorithm. In addition to improved coverage, demand creation for results utilization ensures that providers and clients access VL and EID results to support clinical decision-making on linkage to appropriate care and treatment to ultimately achieve viral suppression. Achieving viral suppression also requires support from facility-level systems—which must function effectively so that clients can seek testing and providers can identify clients who need testing at the correct time points; and so that both providers and clients access and promptly act upon VL and EID results.

> **Key Concepts for Demand Creation**
>
> Demand creation increases awareness and uptake of health products or services through social and behavior change communication (SBCC) and social marketing techniques. These communication and mobilization strategies increase knowledge and raise awareness of the availability and purpose of services, and address facilitators and barriers to service uptake. It is key to consider the most appropriate approach, or multiple approaches, for the audience. Using a combination of channels can increase the effect of demand creation activities.

This report presents information on programmatic strategies to create demand for VL monitoring within the treatment cascade (see Table 2), and EID within the PMTCT cascade (see Table 4), which may be helpful to programs working to scale up VL testing or EID. The report describes demand creation activities along two prongs: to increase service uptake, and to use results. Both prongs are critical to achieving the ultimate goals of each testing method: suppressed viral load for VL testing, and initiation on treatment for infants identified as testing positive through EID. For each level—provider, facility and system, and client and community—a table of relevant tools and resources is included. Where available, program results on relevant indicators are presented. See Table 1 and Table 3 for a summary of provider, facility/system, and client/community demand creation requirements for VL testing and EID uptake and results utilization as described in this report.

The Strengthening High Impact Interventions for an AIDS-free (AIDSFree) Project conducted a desk review to gain an understanding of demand creation needs and strategies and to identify programs implementing these strategies. For the review, searches were conducted using various combinations of keywords and phrases[1] focused on 2015–2018 in PubMed. As available published journal articles do not completely capture the scope and depth of demand creation activities, the review included gray literature such as reports, conference abstracts, and posters—in total, 13 programs implementing VL demand creation strategies and 13 programs implementing EID demand creation strategies were

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[1] Keywords and phrases were demand creation, demand generation, provider training, provider motivation, provider awareness, provider knowledge, provider counseling, empowering clients, client knowledge, client awareness, client motivation, client messaging, community education, community mobilization, and public awareness campaigns.

reviewed and described. The desk review focused on demand creation for service uptake as well as results utilization for linkage to care, and identified information on provider- and client-focused activities for VL and for EID. To supplement the desk review, AIDSFree conducted a rapid online survey of AIDSFree consortium partners to understand their experiences with VL and/or EID demand creation among providers as well as strategies to improve knowledge and demand among clients. Interviews were conducted with selected partners in Eswatini, Ghana, Lesotho, and Uganda.

The HIV care cascade refers to the ongoing engagement in HIV care needed for people diagnosed with HIV to achieve viral suppression. Viral load is a key component of the HIV treatment continuum, and EID is a key component of the PMTCT cascade. Data on VL- and/or EID-specific demand creation efforts, such as analyses with results, are scarce in the peer-reviewed literature. Many demand creation activities for VL and EID take place within larger program improvement activities, including those focused on HIV treatment, PMTCT, supply chain, or sample transport. With the confluence of messaging on HIV treatment and PMTCT in general, as well as concurrent program improvement actions, programs may struggle to isolate factors that influence demand for VL or EID in particular, and/or to identify which demand creation efforts contributed to the results achieved.

VIRAL LOAD TESTING

The World Health Organization (WHO) and national governments have developed guidance and recommendations on the use of VL testing, but this guidance alone has not sufficiently translated into routine implementation for people living with HIV (PLHIV) (Killingo 2017). Moreover, increased VL testing coverage alone is not sufficient to improve care; government and HIV partner programs must also emphasize results utilization (see Figure 1). The VL cascade starts with increasing VL coverage by acting on the results— switching to second-line ART if needed— to ultimately achieve viral suppression. Viral load testing, rather than CD4 count (which has long been used by programs for clinical monitoring), is recommended as the key measure to monitor clients' response to treatment. Clients, communities, and providers must understand the differences between the two measures and know how to interpret their results. Successfully scaling up VL testing requires generating demand— including engagement with the community to increase treatment literacy, a focus on health worker training, and the implementation of tools for quality improvement (Carmona et al. 2017).

Providers need to identify unsuppressed viral load results, act on the results, and support client engagement; and they must be mentored and empowered to switch clients to appropriate second- or third-line regimens when needed. Educating

Key Concepts for Viral Load Testing

Viral load testing gives clients information and a measure of control and motivation to adhere to treatment and understand their HIV infection (WHO 2017). Reducing VL to improve health is a key motivator for adherence to antiretroviral therapy (ART) that can help shift client perceptions of HIV treatment. Information on how adhering to treatment helps reduce viral loads and contributes to better health should be combined with information about treatment as prevention—which can facilitate client understanding of how ART prevents transmission (Mooney et al. 2017). In many countries, suppressed VL is an eligibility criterion for differentiated service delivery models. To be categorized as "stable" and eligible for models such as Community ART Groups, a client must have suppressed VL. Both routine VL coverage and effective utilization of VL results are needed to scale up differentiated service delivery However, more than half of PLHIV globally are not virally suppressed. Other key targets, such as knowing one's HIV status and initiating treatment, have increased more rapidly than reaching viral suppression (UNAIDS 2018).

Figure 1. Viral Load Continuum
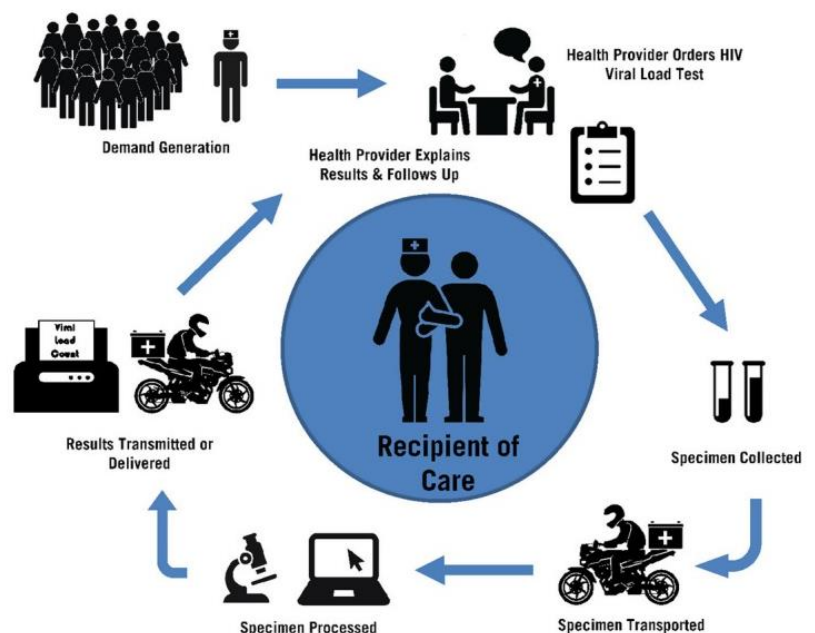
Source: "Viral Load Continuum" by El-Sadr, et al., is licensed under CC BY 4.0.

providers about VL guidelines, data systems, and strategies for data collection can facilitate scale-up of high-quality ART programs. Scale-up also requires strengthened facilities and systems to identify clients to prevent missed testing opportunities and ensure that results are delivered to providers and clients. For both providers and clients, long turnaround times from sample collection to results returned to the health facility, and ultimately the client, can result in repeat client samples taken, and/or in provider and client demotivation.

Table 1. Demand Creation for Viral Load Testing Uptake and Results Utilization

	Providers	Facilities/Systems	Clients/Communities
Educating/Mobilizing	Providers must understand: • The importance of VL. • How to explain it to clients. • Who to test. • When to test.	Facilities and systems must be set up to: • Identify clients eligible for VL testing to ensure no missed opportunities. • Deliver timely VL results to providers and clients. • Ensure that providers can use VL results effectively to make clinical decisions.	Clients/communities must understand: • What VL is and why it is important. • Where it is offered. • When it is needed. • Meaning of results.
Testing	Providers must be able to: • Follow the MOH VL algorithms. • Conduct VL testing on eligible clients at the correct time points.		Clients must be able to: • Access the appropriate health facility. • Request/receive VL testing per the MOH algorithms.
Linking/Utilizing	Providers must be able to: • Act on VL results for clinical decision-making (enhanced adherence counseling (EAC), second-line, differentiated service delivery).		Clients must be able to: • Receive VL results. • Get support to understand the results, and achieve and maintain viral suppression.

Client and Provider Viral Load Demand Creation in National Scale-Up Plans

The state of demand creation, which includes education, awareness creation, and mobilization, is considered a gap in the VL cascade. There is a need to increase health workers' knowledge and motivation to recognize the benefits of VL testing, and to increase the awareness of communities, clients, and civil society organizations (CSOs) on the benefits of VL testing and to dispel myths (MSF 2016). Governments must understand the full costs of integrating VL testing into existing ART programs to inform appropriate resource allocation toward not only testing supplies and laboratory systems, but also demand creation activities—including client and provider education (Trevor et al. 2017). Demand creation and education strategies for both providers and communities are key to national implementation plans for each step of the VL cascade. Countries have addressed demand creation in their national guidelines/scale-up plans. Demand creation activities for providers and clients/communities outlined in the five country scale-up plans reviewed include:

- Trainings, continuing medical education (CME), and clinical mentoring and supervision for all cadres.
- National training curriculum and standard operating procedures (SOPs) for providers.
- Use of community cadres.
- National VL advocacy campaigns/mass media campaigns.
- SMS messaging to raise awareness.
- Social and behavior change communication materials for providers and clients.

Measurement of Results: Sample Indicators

While programs implement demand creation activities for VL testing uptake and results utilization along with other systems/supply-side improvements—including laboratory and transport systems—the program examples outlined in this review report measuring the success of interventions with indicators including:

- Number of eligible clients receiving VL test
- Number of eligible clients tested receiving results
- Number of clients virally suppressed
- Median time to first VL from ART initiation
- Mean number of tests/month by site

SUMMARY TABLE OF VIRAL LOAD TESTING DEMAND CREATION APPROACHES

Table 2 describes approaches used at client/community, provider, and facility/system levels to create demand for VL services in five countries.

Table 2. Demand Creation Approaches for VL Testing Uptake and Results Utilization—Country Examples

	Country Examples Identified												
	Eswatini (ICAP)	Eswatini (*MaxART*)	Eswatini (VL Campaign)	Kenya (CQUIN)	Kenya (HOYMAS)	Kenya (OTZ)	Malawi (PIH-EQUIP)	Malawi (DHSS)	South Africa (Anova)	South Africa (Tutu)	Uganda (ANECCA)	Uganda (ASSIST)	Uganda (SUSTAIN)
Client/Community Level													
Client education/health talks		x		x	x	x			x			x	x
Posters and SBCC* materials		x			x		x						
Public awareness/advocacy campaigns		x	x		x								
Expert clients/community cadres		x		x	x				x			x	x
Peer/support groups		x		x		x		x					
Provider Level													
Provider training and job aids	x	x	x	x	x	x	x	x	x	x	x	x	x
Ongoing mentorship		x		x			x	x	x	x	x	x	
Facility/Systems Level													
SOP development				x			x		x		x		
Triage/color-coded files or stickers	x		x	x					x	x			x
VL focal person				x			x						
VL register				x			x						
Restructure of client flow	x			x									
VL-dedicated facility days	x												x
VL camps													x
Continuous quality improvement approach				x			x					x	x
eHealth/electronic medical record systems													

*Social and behavior change communication.

EARLY INFANT DIAGNOSIS

PMTCT programs aim to prevent HIV transmission to infants and to facilitate healthy outcomes for both HIV-exposed infants and HIV-positive mothers. PMTCT interventions are packaged in a cascade of care—steps in a critical pathway that begins with all pregnant women in antenatal care (ANC) and continues through determination of final HIV status in HIV-exposed infants. Early infant diagnosis is the key infant-specific PMTCT cascade step that also serves as an indicator for PMTCT program success. However, poor access, inadequate social support, and low awareness of benefits can prevent a mother–baby pair from completing the PMTCT cascade, including EID, through determination of final HIV outcome (Psaros et al. 2015). In some settings, there is a persistent inability to determine appropriate targets for EID due to challenges with identifying accurate denominators—starting with the population of all pregnant women (Hamilton et al. 2017). However, assessments of EID programs have shown that loss to follow-up (LTFU) occurs before the first time point for testing, and can continue through retaining HIV-positive infants on ART.

> **Key Concepts for Early Infant Diagnosis**
>
> Globally, more than 1.8 million children are living with HIV. Though WHO recommends that all HIV-exposed children be tested for HIV within the first two months of life, in 2017, only about half had access to EID screening through DNA-polymerase chain reaction (PCR) testing (UNAIDS 2017). Moreover, about 50 percent of infants who are tested never receive their EID results, leaving them unable to access timely lifesaving treatment. These results are critical as, without treatment, 50 percent of all children living with HIV die before the age of two. Early ART initiation between 6–12 weeks of age dramatically reduces infant mortality. In spite of efforts to scale up access to conventional EID testing services, long turnaround times from sample collection to return of results to clients, and a high proportion of results not returned, are key challenges to ensuring that access leads to getting more children diagnosed and started on treatment (UNICEF 2017).

A qualitative study in Malawi reviewed the barriers, facilitators, and recommendations for the EID and treatment cascade. HIV-exposed infants (HEIs) are lost throughout the EID cascade which includes (1) identification of HEIs; (2) infant testing; (3) sample processing and transport; (4) reporting results to caregivers; and (5) ART initiation for HEIs. The study authors concluded that mothers are motivated by receipt of EID results for their infants, and emphasized the importance of including community education for every step in the cascade. Connecting HIV-positive women, including through support groups, can address the disclosure barriers identified; and the authors recommended more training for community cadres and health workers (Bobrow et al. 2016).

Early infant diagnosis requires not only retention of infants in care but also timely provision of interventions—demand must be generated for both client uptake of EID as well as utilization of results. The purpose of EID is to facilitate action—continued preventive care for HIV-negative infants through the breastfeeding period, and initiation of life-saving ART for HIV-positive infants. However, even if HIV-

exposed infants are tested for HIV, not all receive the result or access ART. Increasing ART initiation may decrease LTFU by demonstrating to mothers and providers the benefits of completing the full EID cascade (Cintron 2018).

The HIVCore study suggested that strategies to improve client retention in the PMTCT cascade—including improving uptake of EID for utilization of results for timely ART initiation for infants—should be combined with training of health workers and strengthening of data collection systems with a systems focus (Rutenberg 2016). Strategies to improve retention of mother-baby pairs (MBPs) in the PMTCT cascade overall (Achebe et al. 2018) include:

- Approaches that address demand creation for increased uptake of EID services and utilization of results.
- Peer support to provide education and psychosocial support to mothers living with HIV.
- Home visits by community health workers (CHWs) to increase awareness and demand.
- Client reminder systems to improve retention and ART adherence through CHWs or eHealth.
- Tracking and tracing SOPs to instruct health workers.
- Integrated MBP clinics for MBPs to receive services at the same time in the same room.

Table 3 describes the requirements for delivering effective EID uptake and use of test results at provider, facility/system, and client/community levels.

Table 3. Demand Creation for EID Uptake and Results Utilization

	Providers	Facilities/Systems	Clients/Communities
Educating/Mobilizing	Providers must understand: • The importance of EID. • How to explain it to clients. • Who to test. • When to test.	Facilities and systems must be set up to: • Identify clients eligible for EID to ensure no missed opportunities. • Deliver timely EID results to providers and clients. • Ensure that providers are able to use EID results effectively to make clinical decisions.	Clients/communities must understand: • What EID is and why it is important. • Where it is offered. • When it is needed. • Meaning of results.
Testing	Providers must be able to: • Follow the MOH EID algorithm. • Conduct EID testing on eligible clients at the correct times.		Clients must be able to: • Access the appropriate health facility. • Request/receive EID per the MOH algorithm.
Linking/Utilizing	Providers must be able to: • Act on EID results (continued testing, link HIV-positive infants to treatment and care).		Clients must be able to: • Receive EID results. • Link to HIV treatment and care for HIV-positive infants; continue testing and getting support for HIV-negative infants to remain negative.

Client and Provider PMTCT/EID Demand Creation in National Guidelines

Demand creation and education strategies for both providers and communities are key to national implementation plans for each step of the PMTCT cascade, which includes the EID cascade. Countries have addressed demand creation in their national guidelines for PMTCT and EID activities for providers and clients/communities including health worker training **to increase awareness and knowledge of testing for children**, capacity building of civil society, use of community cadres/expert clients, defaulter tracing, national advocacy campaigns/mass media campaigns, and social and behavior change communication (SBCC) materials for providers and clients. See Annex 2 for PMTCT/EID demand creation strategies from national strategies reviewed.

SUMMARY TABLE OF EARLY INFANT DIAGNOSIS DEMAND CREATION APPROACHES

The table below describes demand creation approaches at three levels (community, provider, and facility/system) as used by the programs included in this document.

Table 4. Summary of Demand Creation Approaches for Early Infant Diagnosis Uptake and Results Utilization

Level	Country Program Examples Identified												
	ACCLAIM (multicountry)	Eswatini (CFM)	Eswatini (POC EID)	Kenya (HITSystem)	Lesotho (EGPAF)	Lesotho (Very Early EID)	Malawi (CHWs)	Malawi (DHSS)	Nigeria (Strategy)	South Africa (MomConnect)	Uganda (m2m)	Uganda (VHTs)	Uganda (Baylor QI*)
Client/Community Level													
Client education/health talks					x			x	x			x	x
SBCC materials	x											x	
Community health days			x										
Edutainment			x									x	
Public awareness/advocacy campaigns									x			x	
Community mobilization/community days	x		x		x				x			x	
Community peer groups	x												x
Community cadres/mentor mothers		x			x		x	x	x		x	x	x
Provider Level													
Provider training and job aids			x		x			x	x	x			x
Ongoing mentorship			x		x			x					x
Facility/Systems Level													
eHealth/mHealth approaches				x	x					x			
Mother-infant pair clinic approach								x					
Quality improvement								x					x
Innovative strategies (POC EID, birth testing)			x		x	x							

* QI=quality improvement.

KEY CONSIDERATIONS FOR DEMAND CREATION FOR VL AND EID

This section is a summary of key considerations based on the more detailed findings presented in the Program Compendium for VL and EID. AIDSFree reviewed information on programmatic strategies for VL monitoring within the treatment cascade, and EID within the PMTCT cascade, to inform programs working to increase uptake of services and utilization of results. Demand creation for both services requires multiple targets:

- Clients and communities must *know what VL and EID are*, where and when to be tested, why it is important, and the meaning of the results.
- Providers must *understand the importance* of VL and EID and how to explain it to clients, know who to test, and when to test.
- Clients must *access the appropriate health facility* to demand VL and EID testing per the MOH algorithms and providers at these facilities must be *supported to follow the MOH algorithms* to conduct testing on eligible clients at the correct time points.
- Providers need *systems in place* at the facility level to identify eligible clients and ensure timely testing with no missed opportunities; deliver results to providers and clients immediately and ensure that providers are able to use results effectively to make clinical decisions.
- Finally, providers and clients must *receive results—without delay—and act appropriately* for clinical decision-making so clients are supported to achieve and maintain viral suppression, or to link HIV-positive infants to treatment.

Most program reports focus on the larger treatment and PMTCT continuums, as VL and EID are part of these larger care cascades. Much of the demand creation work being done, particularly at the community level, may not be well-documented, because this work may be led by CSOs who lack the capacity to adequately track efforts and results. Additionally, establishing which results are due to demand creation activities, especially when they take place within larger systems improvements, is a challenge for any program. Improving VL and EID coverage and results utilization—and ultimately achieving viral suppression for all PLHIV—requires more emphasis on demand creation strategies. A number of key questions and considerations for those who are planning and implementing VL testing and EID are outlined below, with details from programmatic examples provided in the next section.

Prioritization of Demand Creation

How can programs prioritize demand creation activities?

Demand creation requires planning and budgeting to ensure that all activities are effectively implemented and prioritized. Demand creation activities should be specified, costed, and budgeted for within program workplans.

Package of Services

Should VL testing and EID be provided as stand-alone services, or integrated into care packages?

While demand creation efforts should be prioritized and planned for as distinct activities essential to increasing viral suppression, EID, and guiding treatment decisions, clients also need linkages to other services such as tuberculosis screening, immunizations, and other critical care. Programs should ensure that care is provided as a package, and that clients presenting for single services such as VL testing or EID also are offered other key services as needed. Demand creation requires that VL and EID are both seen as components of a critical package of services.

Utilization of Results

Why is it important to consider results utilization when designing demand creation for VL testing and EID?

Without appropriate utilization of results for clinical management, scale-up of testing coverage will not have the desired impact. Results from approximately 50 percent of CD4 and EID tests performed in sub-Saharan Africa were never used (Peter et al. 2017), and in a retrospective cohort study in Mozambique, only 35 percent of clients with unsuppressed VL had a repeat VL test (Swannet et al. 2017). Emphasizing results utilization, to reinforce the purpose of these services in guiding treatment decisions, is vital in ensuring that VL testing and EID are part of a comprehensive service package.

Measurement

How do we measure demand creation efforts and link them to impact?

A key issue is how to measure the quality of demand creation efforts and how to link demand creation to improved HIV outcomes. AIDSFree developed a tool to assess the quality of demand creation actions in voluntary medical male circumcision (VMMC) programs, which could be adapted for VL or EID demand creation. This [VMMC Demand Creation Assessment Tool](#) helps to identify strengths, gaps, challenges, and areas in need of improvement. However, measuring the effectiveness of demand creation activities in isolation from other program efforts is inherently challenging, as demand creation activities are, and should be, integrated within a comprehensive package of services aiming to improve uptake, retention, and ultimately, clinical outcomes. There is a need to link increased client understanding and increased demand with impacts on viral suppression and mother-to-child transmission of HIV. Programs must challenge themselves to link their demand creation activities to outcomes, ensuring that they use the appropriate indicators to tell the story of the impact of these actions.

Government Ownership

How do we sustain demand creation efforts?

Institutionalizing demand creation requires government ownership and integration of demand creation within national HIV responses. Once programs link certain demand creation efforts to improved outcomes, it is essential, to ensure scale-up, to secure government commitment to continuing the investment and building demand creation efforts into their national plans. Because budgets for demand creation and communication are often inadequate (AVAC 2018), including these efforts as part of national scale-up plans may also help make the case to secure sufficient funding for these commitments. Civil society also plays a key role. Demand creation materials should be developed and piloted in conjunction with PLHIV representatives, civil society, and other key stakeholders, who should also be involved in measuring and evaluating the effectiveness of advocacy and demand creation efforts. However, government and implementing partners should not expect demand creation to be the sole responsibility of CSOs.

Improving Logistics and Laboratory Services

What logistics and supply chain factors must be considered to ensure that VL and EID testing is routinely available, accessible, and affordable?

To be most effective and meet the expected increased requests for services, *demand creation must be matched with actions to improve logistics and expand services, increase access to commodities, and train and equip providers to provide products and/or services.* Without these simultaneous improvements, the intended audience may become discouraged and demand could then decrease. Conversely, reducing turnaround time (from sample collection to return to the health facility and ultimately to the client) may decrease LTFU and increase ART initiation, since clients would be more likely to receive results at their first return visit after testing. Meeting demand for VL testing and EID services requires improved logistics and laboratory supply chains to ensure that testing is routinely available, accessible, and affordable. Laboratory needs include trained staff, appropriate equipment, laboratory information systems, and quality assurance activities to ensure that all specimens are logged, tested, and documented, with timely transmission of results to the provider to communicate to the client and act on appropriately (El-Sadr et al. 2017).

Readying Human Resources for Health

What factors related to human resources for health must be considered to ensure health systems adapt to emerging approaches for improved care?

Along with strong laboratory and logistics services in order to meet the hoped-for increase in demand for VL and EID, governments and implementers should also ensure that human resources for health are stable enough to respond to the demand. In addition to ensuring sufficient numbers of staff to provide services, planning for adequate human resources entails considerations that providers will need additional time to attend trainings on new/emerging approaches, respond to client questions and concerns, and meet new documentation requirements if these are needed.

CONSIDERATIONS FOR VIRAL LOAD TESTING

Moving from Demand for CD4 to Demand for Viral Load Testing

What is the relationship between previous successes in CD4 testing and current actions for VL testing?

The differences between VL and CD4 and how to interpret their results may not be always well understood. Existing knowledge about CD4 testing among clients, communities, and providers must be adapted for VL. It is key to increase client knowledge so that clients understand the meaning and value of VL testing and be empowered to demand VL testing.

Undetectable=Untransmittable

How can providers be supported to deliver U=U messaging to all clients?

With evidence supporting undetectable=untransmittable (U=U) now clear, providers should routinely communicate the message to all PLHIV. Current evidence shows that providers do not consistently educate their clients on U=U out of disbelief in its effectiveness, or doubt that clients can understand and act responsibly on its implications. However, the potential for awareness about U=U to positively affect client behavior, including seeking VL monitoring services, adhering to treatment, and aiming to achieve viral suppression, is substantial. Information on U=U should be a part of routine HIV care for all PLHIV, and messages on U=U should be integrated into demand creation for VL monitoring (Calabrese and Mayer 2019).

Tailored Strategies

What are important factors to consider when targeting different client populations for demand creation for VL testing and EID?

Knowledge of HIV status, treatment coverage, and viral suppression rates are consistently lower among children, young people, and men. Most evidence suggests lower viral suppression among female sex workers, people who inject drugs, transgender women and men, prisoners, and men who have sex with men (UNAIDS 2018). No single demand creation strategy works for men/women, adults/children, or urban/rural populations. Demand creation requires consideration of tailored strategies for different client groups that address the key behavioral determinants of each group, and their specific barriers and facilitators. These strategies should be documented and shared.

Point-of-Care Viral Load Testing for Pregnant and Breastfeeding Women

How can rates of viral suppression be improved in this critical population?

Viral suppression in pregnant and breastfeeding women is critical to ensuring reduced mother-to-child transmission. It is important to understand the needs of the distinct groups of pregnant women in PMTCT services—women who initiated ART during pregnancy and women who enter ANC already on ART (Myer et al 2017). Facility- and community-based demand creation efforts are critical to inform providers, laboratory staff, and clients of the importance of VL testing for pregnant and breastfeeding women. Because of the urgency of responding to high VL during pregnancy and breastfeeding—and the reality of long turnaround times from sample collection through return of results—programs should prioritize point-of-care (POC) VL. PEPFAR programs are currently advised to use POC VL testing for this population only (PEPFAR 2019a).

Differentiated Service Delivery

What are the links between differentiated services delivery models and VL uptake and viral suppression?

Appropriate utilization of VL results is linked to the scale-up of VL testing coverage, and can contribute to increasing demand by reinforcing patients' awareness of what viral load is and how it affects and is affected by decisions on patient care. Differentiated service delivery offers the opportunity to simplify care for those doing well on treatment, while freeing up providers to focus on providing care for those who struggle to initiate treatment and remain in care with a suppressed VL. Since many differentiated service delivery models have suppressed VL among their inclusion criteria, interest in differentiated service delivery can be used to increase demand for VL testing.

CONSIDERATIONS FOR EARLY INFANT DIAGNOSIS

Point-of-Care EID

What resources are available to help countries increase demand for EID through point-of-care testing?

POC testing for EID can make results available for client management within hours of specimen collection. Studies have shown that POC EID can reduce turnaround time, increasing the number of infants tested and initiated on ART. The PEPFAR VL/EID Community of Practice has developed a [resource to support programs incorporating POC EID](#), especially in countries that are not on target to reach 90-95 percent testing of HIV-exposed infants by two months of age (PEPFAR 2019).

Community Cadres

What factors must be considered to effectively use community cadres to build demand for PMTCT services, including EID?

Facility-community linkages are critical to ensure that demand creation strategies—and the full continuum of care beyond demand creation—respond to the varied needs of different population groups. Many programs and studies have identified community cadres as providing a key link between communities and health facilities, vital for supporting uptake of services in the PMTCT continuum in particular. However, community **cadres are often donor-supported, with high turnover rates and inadequate recognition and remuneration, which can threaten the effectiveness of their utilization and the sustainability of their achievements.** Program designers must consider the roles, compensation, and standardized training and support for community cadres to create demand and support pregnant and breastfeeding women and MBPs.

Birth Testing and Linkage to Treatment

What factors related to birth testing as a complement to standard testing should be considered to ensure increased EID uptake?

Birth testing should complement, not replace, standard EID testing and may be conducted using conventional laboratory-based or POC EID in PMTCT programs. PEPFAR programs are advised to use birth testing where coverage by two months for infant testing is >80 percent of infants born to women receiving ART (PEPFAR 2019a). Immediate, same-day linkage to pediatric ART must be in place to ensure a positive test result leads to immediate initiation of appropriate ART for HIV-positive newborns. Raltegravir-based regimens are the recommended, preferred regimens for newborns who are four weeks of age and younger and diagnosed with HIV.

Coverage Gaps and PMTCT Estimates

How is the gap in expected and actual PMTCT rates linked to EID demand creation?

Improved measurements starts with the target population for demand creation, including the numbers used to set targets. Programs continue to struggle to meet ANC and PMTCT targets, including EID. Thus, a better understanding of the estimates being used, and their accuracy, can help ensure that programs are in fact closing this gap. Measuring program success requires accurate denominators.

PROGRAM COMPENDIUM

The sections below describe programs that have implemented demand creation approaches to increase uptake of viral load testing, and early infant diagnosis. Where available, program results on relevant indicators are presented.

The section describes demand creation approaches targeted at clients and communities, providers, and facilities/systems. Each section includes a summary of related literature, program examples, and a table of key resources for review and adaptation.

VIRAL LOAD TESTING—CLIENT- AND COMMUNITY-LEVEL DEMAND CREATION

Educating Clients and Communities to Increase Knowledge and Care-Seeking

Summary

After years of community education about CD4 testing, there is a need to increase awareness of VL testing among both clients and CSOs to create demand—and also to dispel myths and misconceptions (MSF 2016). Knowledge and understanding of VL is low, even among self-reported PLHIV, according to a 2018 study in South Africa. The study authors emphasized that health communication and treatment literacy should be strengthened (Michalow et al. 2018). Strategically designed communication materials can promote ART adherence and retention in HIV care to achieve viral suppression (Babalola et al. 2016). Client education and awareness campaigns are also essential—empowering clients to understand the value of VL testing, request VL testing, and understand the results. Client-centered awareness campaigns, including development of educational materials accessible to clients, can help PLHIV to understand the importance of initiating ART and achieving an undetectable viral load. Demand creation around ART and VL access can support PLHIV to understand and achieve undetectable status—to use that information as inspiration and reassurance (AVAC 2018). Visual tools that explain the concepts of VL and VL testing may aid in adherence management. Community mobilization has the potential to increase testing uptake of, linkage to, and retention in care by addressing the primary barriers to engagement with HIV care (Lippman et al. 2017). Mobilization can also promote community literacy and awareness—and buy-in from leaders—to increase uptake of services. A number of advocacy campaigns include information on VL testing, with a range of messages and target audiences.

See *for additional VL advocacy campaigns.*

Program Examples

Know Your Viral Load Campaign in Eswatini

Learn more [here](#).

The "Know your Viral Load" campaign launched in Eswatini in 2016 to educate clients to demand VL testing with messaging on the importance of, and time frame for, VL monitoring, along with routine provider trainings. Reminder stickers were placed in client appointment books, recording the expected month for repeat VL, actual test date, and previous VL results.

During the study follow-up in the *Max*ART Universal Test and Treat step-wedge implementation trial in 14 health facilities, median time to first VL from ART initiation was significantly lower for those exposed

to the campaign (208 days) than in control (257 days). Study authors concluded that informed and engaged clients empowered to demand VL monitoring—in addition to routine provider trainings—can lead to earlier access to VL monitoring (Khan et al. 2018).

Community Mobilization in Eswatini

Learn more [here](#).

The *Max*ART Early Access to ART for All Implementation Study (2014–2018) provided clinical mentoring with ongoing education and support to providers on ART—including VL testing—and also included a laboratory support component. Community mobilization was used to educate and sensitize communities on early ART and create demand for uptake of health services—including VL testing—through orientation meetings with traditional leaders. Community dialogues targeting community members, particularly youth and men, were conducted using "edutainment" at social gatherings, including soccer games and chiefdom meetings. Viral suppression rates at 12 months after ART initiation increased significantly—from 4 to 79 percent. Study recommendations included optimizing health worker training and systems to flag clients in need of VL testing, and promoting client education and demand creation for VL testing (*Max*ART Consortium 2018).

Increasing Viral Load Uptake and Viral Suppression through Peer Support

Summary

Client education and adherence counseling are essential both when ART is initiated and throughout treatment, especially when treatment failure, ideally detected with routine VL testing, is identified. Client understanding of VL results has been shown to promote positive wellbeing and enhanced motivation for adherence while those with a high VL may be provided with additional peer support (Horter et al. 2015). Applying a patient case management approach for clients with a high VL with a cadre such as lay counselors or expert clients has been demonstrated to increase the chances of action being taken for high results. In a multisite study, "enhanced adherence" content, exploring the behavioral, emotional, and social elements affecting adherence, has also been shown to successfully re-suppress (to less than 1,000 copies/ml) between 38 percent and 43 percent of patients who failed a first-line regimen (Ellman et al. 2013; Htung Naing et al. 2015). In particular, peer groups may support key populations and groups, such as adolescents, to navigate their challenges to adherence.

Program Examples

Operation Triple Zero in Kenya

Focus: Adolescents & Young People, Pregnant & Breastfeeding Girls and Young Women

Learn more [here.](here)

Operation Triple Zero (OTZ) engages adolescents and young people living with HIV (age 10–24) as active stakeholders and partners in their health by promoting a responsive service delivery model. This model uses OTZ clubs for adolescents—offering a comprehensive HIV treatment literacy package—to foster change by promoting positive health behaviors and positive peer interactions. Members connect with one

Figure 2. VL Testing Outcomes for Clients in OTZ

Source: PEPFAR 2019b

another through group meetings and social media groups, including WhatsApp, which facilitate messaging for mutual support. Adolescents commit to a simple treatment goal of achieving "three zeroes"—zero missed appointments, zero missed medications, and zero viral load. The OTZ package includes health worker and caregiver training. Preliminary data from the OTZ initiative has demonstrated that most adolescents who participate in OTZ attend their scheduled clinic appointments. Stable OTZ members receive multimonth prescriptions, and, while enrolled in OTZ, not all attend clinics on a monthly basis. Pregnant and breastfeeding girls and young women are enrolled in "OTZ-Plus" clubs. These groups provide additional education and support for infant and young child feeding and administration of infant prophylaxis in addition to the OTZ activities.

Self-reported adherence improved from 88 percent (October 2017) to 96 percent (February 2018), and program data show an improvement in overall viral suppression over time (Figure 2). Preliminary data for clients from six PEPFAR/CDC-supported partners demonstrate an improvement in viral suppression. Among 2,742 HIV-positive adolescents and young people, viral suppression increased from 71 percent to 82 percent after six months of enrollment in OTZ (PEPFAR 2019b).

Outreach and Peer Support for Key Populations in Kenya

Focus: Key Populations—MSM/MSW

Learn more [here.](here)

Through community-based organization Health Options for Young Men on HIV/AIDS/STIs (HOYMAS), peer educators in Nairobi, Kenya, lead outreach, support groups, and community mobilization activities for men who have sex with men (MSM) and male sex workers (MSW) on treatment literacy and adherence. HIV-positive MSM/MSW develop messages and provide outreach to their HIV-positive peers who are not yet in care using social media, including WhatsApp and Facebook, and SBCC
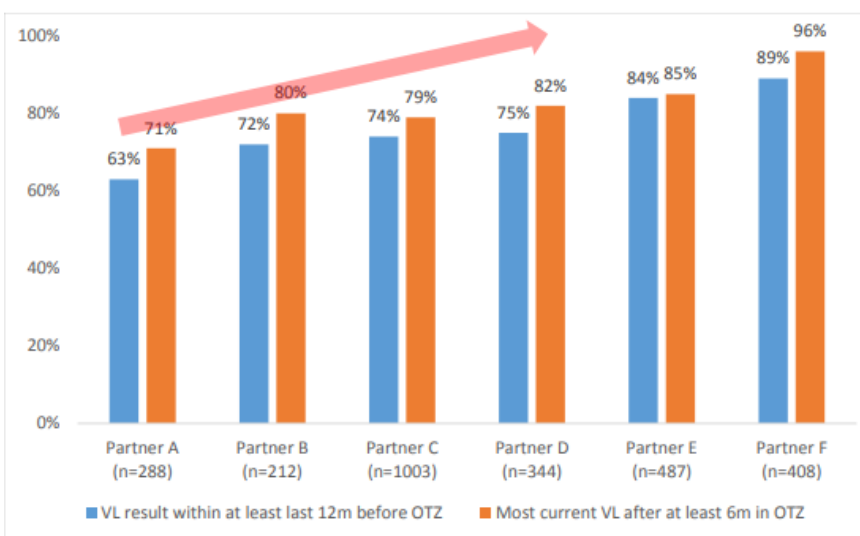
materials. HOYMAS runs a community-based clinic where peer educators conduct outreach and community mobilization activities to bring HIV services closer to clients and provide daily health education sessions. Phone reminders from clinicians with referrals for VL testing emphasize to MSM/MSW the importance of adherence. HOYMAS also runs a peer navigation program to facilitate linkage of MSM/MSW to clinical services in public health facilities. In total in 2017, 84 MSM received VL testing, and 79 of 84 achieved viral suppression. HOYMAS emphasized that engagement and ownership by HIV-positive key populations in activity design is critical (Irungu 2018).

Teen Clubs in Malawi

Focus: Adolescents & Young People

Learn more [here].

In Malawi, the District Health System Strengthening and Quality Improvement for Service Delivery (DHSS) Project created and supported teen clubs providing differentiated care and adherence support for adolescents. Teen Club participants shared experiences and received counseling and clinical, spiritual, and psychosocial support. Discussions included disclosure of HIV status and the importance of adherence. Consultations, clinical care, and ART refills were provided as well.

Between January 2015 and July 2017, 1,646 adolescents (age 10–24) were enrolled in Teen Clubs at 18 supported facilities. Viral suppression was achieved by 79 percent of males and 85 percent of females overall—higher than in the general population (63 percent of male and 71 percent of female teens). Teen Club activities also included mentorship and targeted provider orientations on how to conduct VL tests and monitor the outcomes, and on the appropriate collection, storage, and packaging of VL samples. DHSS recommended greater investment by facilities and implementers in training, mentorship, and supervision, in addition to making more VL testing equipment available (MSH 2018).

CLIENT- AND COMMUNITY-LEVEL TOOLS AND RESOURCES: DEMAND CREATION FOR VIRAL LOAD TESTING

Table 5 provides tools and resources for programs to review and adapt for educating clients and communities to increase knowledge and care-seeking, and tools for increasing VL uptake and viral suppression through peer support.

Table 5. Program Guidance on Increasing Community Care-Seeking and VL Uptake

Resource Name	Type	Author/Year	Country Audience	Description
Educating Clients and Communities to Increase Knowledge and Care-Seeking				
Adolescent Treatment Literacy Guide For Use in Support Group Setting	Facilitator Manual Flipchart	EGPAF 2018	Kenya Clients: Adolescents	Developed to help adolescents understand HIV, ART, and the importance of adherence to HIV care and treatment.
Obulamu? campaign - VL Client Education Resources	Provider and client tools including: guides, brochures, leaflets, posters, flipcharts, talking points, cue cards	Communication for Healthy Communities (CHC) Project 2017	Uganda Providers Clients	Provider and client tools including guides, brochures, leaflets, posters, flipcharts, talking points, cue cards, videos, audios, and other job aids.
Sawa Sawa: A Community Dialogue Manual to Reduce Stigma	Guide for small group discussions	Health Communication Capacity Collaborative (HC3) 2017	Mozambique Clients: Men	Guide for small group discussions with community members to engage them in dialogue to address social norms, dispel myths and fears related to PLHIV and develop plans to reduce stigma within their communities, with a focus on men.

Resource Name	Type	Author/Year	Country *Audience*	Description
[Brothers for Life](#)	Videos	Centre for Communication Impact 2017	South Africa *Clients: Men*	The campaign uses multimedia platforms and community events to mobilize men, promoting male norms, and encouraging the uptake of health services.
[Sawa Sawa Positive Prevention](#)	Tool	HC3 2017	Mozambique *Clients: Men*	Educational tool promoting a healthy life with HIV and providing support to men.
[A Manual to Support Community ART Literacy in Zimbabwe](#)	Manual	Zimbabwe National Network of PLHIV 2016	Zimbabwe *Clients*	Manual targeted primarily at PLHIV groups focused on rights-based peer education for improved adherence.
[Obulamu? Campaign Implementation Guide for Phase One](#)	Implementation guide	CHC 2015	Uganda *Program Managers*	Guide for integrated campaign platform to roll out a series of innovative health communication interventions (including contributing to a reduction in HIV infections) to introduce the campaign to other implementing partners.
[Tsima Community Mobilization Resources](#)	Handbook Workshop Manual Toolkit	Sonke Gender Justice 2015	South Africa *Communities*	Resources to mobilize communities to learn and understand that HIV treatment is also a form of HIV prevention.
[Video: Be healthy—Know your viral load](#)	Video	International Treatment Preparedness Coalition (ITPC) 2015	Uganda *Clients*	Short film from Uganda about importance of VL testing.

Resource Name	Type	Author/Year	Country *Audience*	Description
[MSF Community ART Group Toolkit: How to implement the CAG model—Bringing treatment closer to home and empowering patients](#)	Toolkit	Médecins Sans Frontières 2014	Global *Providers*	Toolkit to implement CAG model, including importance of VL testing.

VIRAL LOAD TESTING—PROVIDER-LEVEL DEMAND CREATION

Educating and Mobilizing Providers to Increase Knowledge and Motivation

Summary

Viral load cascade analyses have identified the need to improve the knowledge of providers to recognize the benefits of VL testing (MSF 2016). Compliance with WHO guidelines for routine VL testing in resource-limited settings has been identified as a challenge. A study in Uganda identified frequent delays in repeating VL measurements—18 percent of patients with undetectable VL, and nearly one-third of patients who were not virally suppressed, had late or no follow-up monitoring. Study authors recommended that programs train staff, provide supervision, and monitor compliance with ART monitoring guidelines (Castelnuovo et al. 2018). In a study examining barriers and facilitators to VL monitoring from a provider perspective in resource-limited settings, provider empowerment emerged as an unexpected facilitator of VL monitoring. Providers' understanding of client virological status increased confidence in adherence counseling and clinical decision-making (Rutstein et al. 2015). Overburdened human resources can also lead to diminished quantity and quality of counseling. Many clients understand treatment efficacy in terms of CD4 count levels. Thus, the change to VL monitoring requires ongoing patient literacy development and counseling, both within the clinic and through awareness-raising in the community. Programs can help ensure quality by training health workers in counseling and health education, and by using skills-building interventions on interpersonal communication to enhance provider counseling skills, including the ability to communicate complex information on treatment adherence and viral suppression (Babalola et al. 2016). Providers must be supported to act on VL test results, including providing positive feedback to virally suppressed clients to reinforce the importance of continued adherence (El-Sadr et al. 2017). With evidence supporting the undetectable=untransmittable (U=U) principle now clear, providers should routinely communicate the message to all PLHIV. Current evidence shows that providers do not consistently educate their clients on U=U, as described earlier. However, there is now substantial evidence of the potential for awareness about U=U to positively impact client behavior, and messages on U=U should be integrated into demand creation for VL monitoring (Calabrese and Mayer 2019).

Program Examples

All programs reviewed included provider training as a component of activities to build demand for VL uptake and results utilization. Sample training tools and resources are provided—see Provider-Level Tools & Resources.

Ensuring Testing and Results Utilization through Clinical Support and Mentorship

Summary

Clinical mentorship enables health workers to practice new skills in clinical settings with the support and guidance of an experienced clinician and is a recommended tool to aid in the rapid scale-up of HIV services in resource-constrained settings (WHO 2006). **Clinical mentoring adds to provider knowledge and confidence and can support rapid scale-up of HIV services** (Chien et al. 2016).

Program Examples

Mentorship in Uganda

Learn more [here](#).

The African Network for the Care of Children Affected by HIV/AIDS (ANECCA), with support from UNICEF, organized mentorship sessions to improve VL testing (and EID) in the Karamoja region of Uganda—a region with low VL coverage and inadequate human resources. One of the challenges facing the Karamoja region that ANECCA identified was inadequate provider knowledge and skills on the revised national HIV guidelines, which include VL testing for treatment monitoring. ANECCA developed a [training curriculum for providers](#) to respond to knowledge, attitudes, and skills gaps of health providers for HIV counseling and care for children and adolescents.

From 2017 to 2018, ANECCA worked to improve provider knowledge of guidelines and strengthen data review and utilization in the facilities applying a continuous quality improvement approach to identify gaps in clinic flow, to identify clients eligible for VL testing and EID, and to improve utilization of data. ANECCA conducted four rounds of multiday, onsite clinical and laboratory mentorship in each facility to build provider knowledge and skills, in addition to supporting improvements to the transport and laboratory systems. The organization also conducted quarterly data review meetings at regional, district, and health facility levels to identify strengths and gaps, and developed action plans that were subsequently implemented. Critical to the improvements were the data-driven approach, the development of SOPs, and provider training and mentoring on VL and EID, as well as the focus on pediatric and adolescent counseling. ANECCA also worked with the MOH and the central laboratory to establish an alternative transport system to transport samples weekly from the Karamoja region laboratory hubs to Kampala. Between July 2017 and June 2018, the proportion of VL samples collected with results provided to pediatric and adolescent clients and used in patient care tripled (25 percent to ~80 percent). The proportion of adolescents with suppressed VL also increased from 62 percent to 77 percent. In addition, according to Dr. Denis Tindyebwa, ANECCA's executive director, the proportion of VL samples rejected in the Karamoja region fell from 6.6 percent to 1 percent.

PROVIDER-LEVEL TOOLS AND RESOURCES: DEMAND CREATION FOR VIRAL LOAD TESTING

Table 6 provides tools and resources for programs to review and adapt for educating and mobilizing providers to increase knowledge and motivation, and to employ clinical support and mentorship to ensure testing and use of results.

Table 6. Materials for Educating/Mobilizing Providers and Offering Clinical Mentorship

Resource Name	Type	Author/ Year	Country *Audience*	Description
Educating and Mobilizing Providers to Increase Knowledge and Motivation				
Project ECHO	Videos	ASLM 2018	Global *Providers Program Managers*	Model for improving patient outcomes through provider education—ASLM Project ECHO videos are available on YouTube, including videos on management of patients with non-suppressed VL results.
Patient Support, Education and Counselling Guidelines for Children and Adolescents Living with HIV	Provider guidance/job aid	MSF/SAMU 2018	Global *Providers*	This guideline provides practical tools and guidance for staff providing client support, education, and counseling to children and adolescents aged 0–18 years living with HIV.
Handbook on Pediatric AIDS in Africa	Provider handbook	ANECCA 2017	Global *Providers*	Handbook for building the capacity of providers for comprehensive and quality services for prevention, care, and treatment of HIV infection in children and adolescents.
Consolidated HIV/AIDS Job Aid	Provider job aid	Ministry of Health and Child Care Zimbabwe 2017	Zimbabwe *Providers*	A comprehensive HIV testing, care, and treatment job aid to enhance the capacity of health workers to support client retention in the continuum of care to achieve viral suppression in Zimbabwe.

Resource Name	Type	Author/ Year	Country *Audience*	Description
[Provider Behavior Change Implementation Kit](#)	Toolkit	Johns Hopkins University 2017	Global *Providers*	Step-by-step guidance on using SBCC to change provider behavior and improve client outcomes. Also contains guidance for programs working to understand factors that influence provider behavior, to design an assessment to understand the specific barriers providers face, and to develop an SBCC intervention to address those barriers.
[Service Communication Implementation Kit](#)	Toolkit	Johns Hopkins University 2017	Global *Program Managers*	Guidance for program planners to help increase demand for and uptake of services, and improve consistent long-term maintenance of healthy behaviors.
[Standard Operating Procedures on VL Monitoring](#)	SOP template document	ICAP 2016	Global *Providers and Program Managers*	Template can be adapted for use in various contexts including scheduling for routine VL monitoring, interpretation of VL test results and subsequent management, management of patients with virologically confirmed treatment failure, and specimen collection and preparation.
[VL Monitoring and Enhanced Adherence Counseling Flipchart—Adolescents](#)	Provider job aid (flipchart)	ICAP 2016	Global *Providers (Counseling Adolescents)*	Provides information about VL monitoring to adolescents who know their HIV status to explain the meaning of VL results, and to help with adherence assessment and counseling especially among adolescents with elevated VL who require EAC.
[VL Monitoring and Enhanced Adherence Counseling Flipchart—Infants and Children](#)	Provider job aid (flipchart)	ICAP 2016	Global *Providers (Counseling Caregivers of Infants/children)*	Job aid to provide information about VL monitoring to parents about their child's VL monitoring, explain the meaning of results, and to coach parents with children receiving antiretrovirals to improve adherence, providing help with adherence assessment and counseling, especially for those with elevated VL who require EAC.
[Viral Load Health Talk Essential Points (Supplementary Data File 2)](#)	Provider job aid	PIH-EQUIP 2016	Malawi *Providers*	Job aid for providers on essential talking points when providing client education on VL.

Resource Name	Type	Author/ Year	Country *Audience*	Description
[Viral Load Scale-up Tools](#)	Facilitator Guide Training slides Monitoring and Evaluation Framework VL Cascade Scorecard Videos	ASLM (with WHO, CDC, USAID, CHAI, MSF, Global Fund) 2016	Global *Program Managers*	Tools to assist programs in scaling up VL testing and uptake of results including training modules for implementing the VL algorithm, ensuring specimen integrity, patient education, and EAC.
[Viral Load Toolkit: Training Tools](#)	Facilitators guide Training slides Treatment failure clinical case studies	Médecins Sans Frontières 2015	Global *Providers*	Training modules include 1) Background, 2) Laboratory Training, 3) Sample Transport and Results Delivery, 4) Implementing the VL Algorithm, 5) Educating Patients about VL, 6) EAC, 7) M&E.
[Viral Load Toolkit: Implementation Tools](#)	Guidelines Forms Activist Toolkit Videos Abstracts	Médecins Sans Frontières 2015	Global *Providers*	Guidance and implementation resources including enhanced adherence counseling tools and register, high VL form, high VL register, patient education tools, and sample preparation SOPs.
[Red Alert Counseling](#)	Provider job aid	Desmond Tutu Foundation 2012	South Africa *Providers*	This tool provides provide health workers with key messages for clients with high viral load / if poor adherence is identified.
[MOH Self-Assessment Form Mentee Checklist *(Supplementary information)*](#)	Checklist	MOH Malawi 2013	Malawi *Providers*	Tool for mentees and mentors to evaluate HIV clinical performance.

VIRAL LOAD TESTING—FACILITY- AND SYSTEMS-LEVEL DEMAND CREATION

Systems for Identification of Clients for Increased Viral Load Uptake and Results Utilization

Summary

Strategies to improve identification of clients eligible for VL testing support providers to ensure that increased coverage of VL testing can lead to appropriate utilization of results for optimal HIV treatment. Simple, low-cost strategies using stickers and color-coding of client files to flag clients who need VL testing have been identified as best practices. eHealth strategies, including the use of an electronic medical record system (EMRS), also have the potential to automatically flag clients for appropriate and timely provider action.

Program Examples

Improved Client Identification through Triage in South Africa

Learn more here.

In South Africa, the national HIV program identified models for the scale-up of HIV prevention, treatment, and care, including triaging patients according to clinical outcomes and individual adherence records to determine which level of adherence support should be provided. This triaging approach allows counselors to prioritize their time while still achieving better overall adherence outcomes. Clinics use a system of stickers on the patient's clinic folder to quickly identify how much support each patient needs. A job aid for "red alert" counseling was developed to provide health workers with key messages for clients with high VL or who show poor adherence (South African DOH 2010). Anova conducted a pilot of VL stickers in two primary health facilities from January to March 2015. Viral load completion improved from 0 percent to 59 percent in the 12-month ART cohort in one facility. The color-coded sticker approach was then scaled

eHealth Strategy—VL in Electronic Medical Record Systems

Learn more here.

eHealth tools can provide support for clinical decision-making and automatic reminders for providers. In Malawi, the Baobab EMRS has a "VL Alert" system that tells providers which clients have reached a VL testing milestone and require an appointment to discuss and refer for VL specimen collection. If a result not was not entered or appropriately acted upon, a "red alert" notification will continue to prompt the provider. This flagging approach is an effective tool to help identify patients eligible for VL testing and appropriate subsequent clinical management (MOH Malawi 2015). The software indicates which patients are eligible and generates a defaulter list—with client information and contact details. The EMRS has been identified as effective, producing high-quality, consistent data and resulting in improved clinical management due to decision support. The software is intuitive and user-friendly and facilitates provider use with hardware that functions well in a low-resource environment (PEPFAR Malawi 2017).

up. From July 2014 to June 2015 (pre-intervention), the VL completion rate within 12 months increased by 2 percent, and by 6 percent within the cohort grace period. From June 2015 to March 2016 (pilot and implementation), the 12-month VL completion rate increased by 16 percent, and by 21 percent within the cohort grace period (Kekana et al. 2016).

Facility Systems for Provider Identification of Clients Due for Viral Load Testing

Learn more [here](#).

In Eswatini, a readiness assessment conducted by ICAP in 24 facilities showed that fewer than half of facilities routinely flagged or separated results showing unsuppressed VL, and only two-thirds had a system in place to ensure that VL results are successfully delivered to clients. ICAP developed structured checklists for clinical and laboratory services, as well as implementation tools specific to VL testing. Lessons learned from efforts to scale up VL testing in one region in Eswatini include the need to focus on both VL coverage and VL utilization, and indicate that provider knowledge and skills, and the overall systems and processes, remain insufficient. ICAP identified a number of best practices that were implemented to support providers to flag high VL results. These included separating the high-VL files using stickers and color-coding in cabinets labelled according to the stepped-up adherence counseling session number. ICAP also implemented fast-tracking for those due for EAC, as well as a dedicated day for clients with unsuppressed VL.

Quality Improvement Change Packages for Improved Viral Load Uptake and Results Utilization

Summary

Quality improvement (QI) emphasizes developing, testing, and implementing practical and sustainable solutions to change service delivery processes and systems to achieve better results. Quality improvement "change packages" combine multiple strategies—including demand creation strategies— to improve VL uptake and results utilization. A country is also described as a case study—see [National Coordination for Improved Uptake and Results Utilization in Uganda](#).

Program Examples

Improving Results Utilization in Kenya

Kenya has scaled up VL testing nationally and provided guidelines on EAC for those with unsuppressed VL. However, a review at 30 health facilities in Siaya County in 2016–2017 suggested that these guidelines were rarely followed, and that utilization of VL results was suboptimal. ICAP used a QI approach, conducting root cause analyses to identify and prioritize "change ideas" to improve VL utilization. The analysis demonstrated systems challenges (including poor documentation and tracking of VL results), provider/staff challenges (including staff unfamiliar with management of clients with

unsuppressed VL), and client-level challenges (including low knowledge about the meaning and importance of viral suppression). Changes (Kenya NASCOP 2018) included these measures:

- Developing a high-VL management SOP.
- Using color-coded files for clients with unsuppressed VL.
- Appointing a VL focal person to monitor and follow up VL results daily.
- Assigning case managers to clients with unsuppressed VL.
- Updating patient locator information at every visit.
- Forming unsuppressed VL support groups for adults, adolescents, and children.
- Appointing second-line ART "champion" to improve client knowledge and dispel myths/misconceptions.
- Identifying and tracing clients who miss EAC appointments through weekly review of the unsuppressed VL register.
- Mentoring all staff on EAC and on managing clients with unsuppressed VL.
- Restructuring the client flow to improve real-time documentation in the EAC/high VL register.

As of June 2018, the QI interventions were ongoing. Early results showed that the QI approach has helped each health facility to develop an appropriate mix of strategies/approaches for improved client management.

Improving Utilization of Existing Systems in Malawi

Learn more [here](#).

Extending Quality Improvement (EQUIP)-Malawi, implemented by Partners in Hope (PIH), has provided HIV mentorship in Malawi since 2010. PIH-EQUIP reviewed lessons learned from implementing routine VL monitoring (Gibb et al. 2017) and conducted a formative assessment to identify facility-level barriers to VL testing. Based on these findings, PIH-EQUIP implemented a QI program to address these barriers while empowering providers to improve their use of VL systems. PIH-EQUIP designated a VL focal person to oversee all VL activities, including ensuring appropriate VL procedures and documentation. The program also developed tools focused on client and provider VL knowledge and clarification of site-level roles and responsibilities, including SOPs, educational materials for clients, and a job aid for the VL focal person. Within the QI package, the EQUIP mentors conducted monthly mentorship visits with facility staff to ensure sustained adherence to VL guidelines and procedures. Regular follow-up visits provided guidance and feedback to keep staff on task and ensure program quality. Mentors also played a role in maintaining awareness of the VL program, including educating new staff.

PIH-EQUIP collected data from national VL registers from the 13 sites between November 2016 and November 2017, six months before and after QI program implementation (Hubbard et al. 2018). Over the 13-month period, 34,480 clients (64 percent female) had a routine VL performed. The mean number of VL tests performed significantly increased after implementation of the program (249 per month) compared to the six months before implementation (152 per month)—a 164 percent increase ($p<0.001$), with increased VL testing sustained during the six months of follow-up.

PIH-EQUIP attributed this success to the appointment of a VL focal person contributing to improvements in VL coordination at the facility level. Clarifying specific roles and responsibilities to the focal person enabled SOPs and documentation to be followed. The QI program equipped staff to disseminate accurate information about VL, providing the opportunity for clients to understand VL monitoring and empowering them to talk with providers about whether they were due for a routine VL test. The study authors also reported that in-person training and the availability of job aids increased provider knowledge of VL monitoring, leading to an increase in the number of clients offered VL testing—and subsequently VL coverage. In addition, PIH-EQUIP concluded that the client-focused educational materials developed might have resulted in an increased demand for VL tests among clients (Hubbard et al. 2018).

FACILITY- AND SYSTEMS-LEVEL TOOLS AND RESOURCES: DEMAND CREATION FOR VL TESTING

Table 7 describes tools and resources for programs to review and adapt for facilitating client identification and utilization of results, and for using QI to improve VL uptake and results utilization.

Table 7. Tools for Improving Client Identification, VL Uptake, and Use of Results

Resource Name	Type	Author/Year	Country *Audience*	Description
Facilitating Client Identification and Utilization of Results				
[Case Study—Triage: red and green clinics](#)	Case study/ implementation guidance	Desmond Tutu Foundation 2012	South Africa *Providers/Program Managers*	Case study describing a system of triage, and management of cohorts depending on the intensity of support they need, incorporated into the Western Cape's Provincial Policy Guidelines to promote ART adherence.
Quality Improvement Change Packages for Improved VL Uptake and Results Utilization				
[Case Study: Increasing VL monitoring of people living with HIV on ART in Northern Uganda in line with the 90-90-90 global target](#)	Case study	USAID ASSIST Project 2017	Uganda *Program Managers*	Case study describing work in northern Uganda to increase access to VL monitoring.
[Improving VL monitoring at health facilities providing HIV care: Tested changes and guidance from Uganda](#)	Change package	USAID ASSIST Project 2017	Uganda *Program Managers*	Summary of activities with examples of innovative changes to improve VL testing.
[HIV Care and Treatment Change Package](#)	Change package	SUSTAIN Project 2017	Uganda *Program Managers*	Synthesis of QI interventions for effective HIV programming including improving the proportion of clients on ART receiving VL tests.

NATIONAL COORDINATION FOR VIRAL LOAD UPTAKE AND RESULTS UTILIZATION IN UGANDA
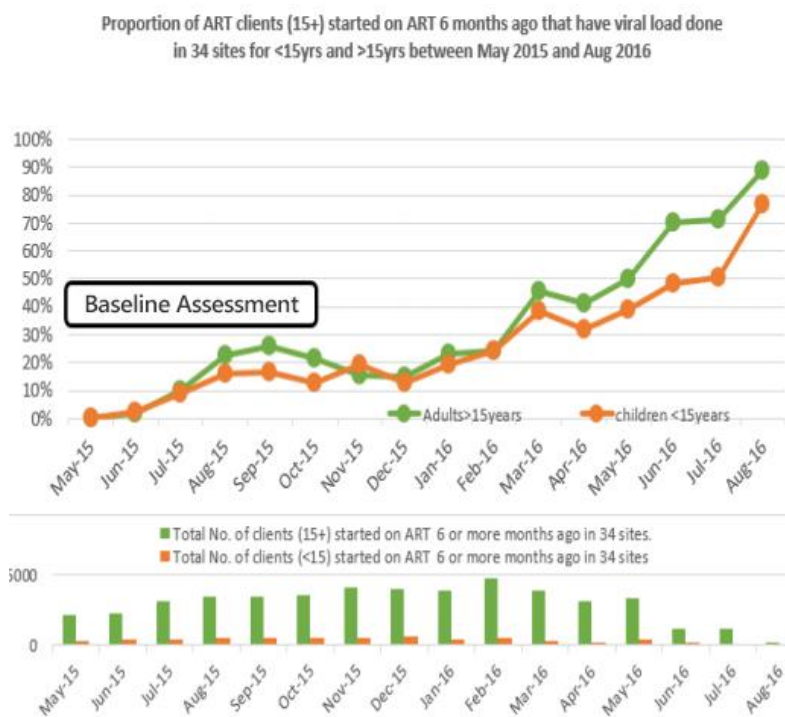
Quality Improvement Packages with Structured Sharing of Best Practices

Uganda has demonstrated strong ownership and commitment to integrating quality improvement within the public health system. To streamline messaging and use best practices identified across implementing partners, Uganda's MOH, in collaboration with national PEPFAR partners, developed a coordinated QI approach to VL testing.

Change Package

A "change package" was compiled in 2017 by the Applying Science to Strengthen and Improve Systems (ASSIST) Project—lessons learned based on actions taken by 34 health facility QI teams, with support from a variety of in-country implementing partners.[2] The project conducted a baseline assessment in 2015, observing VL access (clients on ART for over 6 months with a documented VL test) at 0 percent for all 34 sites (Figure 3). Implementing partner teams supported facilities to identify reasons for underperformance, and provided onsite mentorship to integrate QI approaches in improving their performance. Health facility ART QI teams met monthly to review progress while testing changes for improving VL monitoring in addition to quarterly peer-to-peer learning sessions.

Figure 3. Proportion of Clients on ART with VL in 34 Sites (May 2015–Aug 2016)

Technical support at ART sites was provided through monthly onsite coaching, conducted jointly with partners, who also convened learning sessions to allow peer-to-peer learning among the teams. After eight months, the project conducted a learning session known as a "harvest meeting" during which facility QI team members shared their experiences improving VL monitoring. These experiences are summarized in the change package.

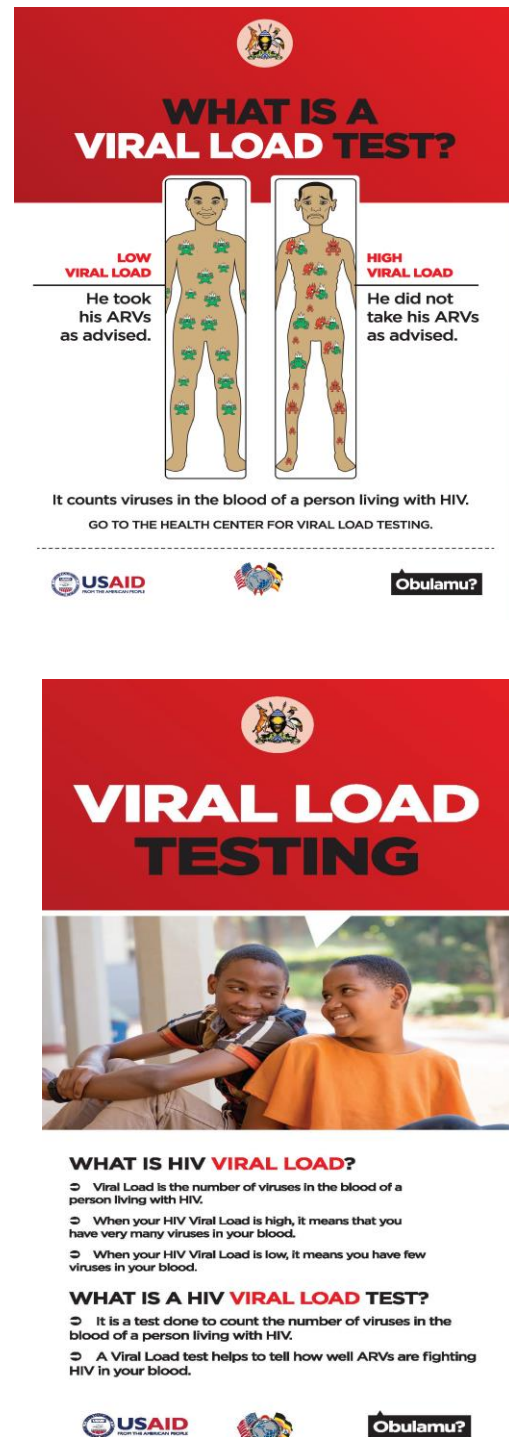**Figure 4. Uganda VL Materials**

Viral Load Camps

Viral load camps and community mobilization also led to greater coverage of eligible clients in Uganda. The camps served to reduce the backlog of clients who were eligible for VL testing but were missing VL results. To prepare for VL camps, client records were reviewed at ART and mother-baby care points to determine VL eligible clients, and stickers were attached to their files for easy identification. "Linkages facilitators"—community health workers—were then assigned to trace the patients in the community and invite them to the VL camp. On VL camp day, the linkage facilitators helped clients register and matched them to their files, which were identified as VL-eligible. Samples were then collected and registers were updated. The USAID ASSIST Project reported an increase in clients accessing VL testing during the intervention period—a total of 5,664 clients tested during the 11-week intervention. Besides the camps, the project described that no other change occurred during the period (October–December 2016) to contribute to the increase in VL testing (Tumwikirize et al. 2017).

Obamalu? Campaign

Learn more [here](#).

As part of this coordinated national approach, the Communication for Healthy Communities (CHC) Project (2014–2017)—which developed the *Obulamu?* advocacy campaign (the common greeting "How's Life?") as a [multichannel communication platform](#)—developed messaging and materials to increase demand for VL services (Figure 4). CHC engaged partners for a coordinated approach to the development of

Source: *Obamalu?* campaign

communication materials. All PEPFAR partners provided input and used lessons learned to support the development of the VL messages for education materials including posters, talking points, counseling guides, and booklets.

SUSTAIN Project

Learn more [here](#).

Also in line with the MOH Quality Improvement Framework and Strategic Plan, the Strengthening Uganda's Systems for Treating AIDS Nationally (SUSTAIN) Project documented the most robust and effective QI interventions to improve HIV care and treatment in Uganda. After six years of training, onsite mentorship and coaching, and continuous quality improvement approaches, teams from 18 hospitals participated in a harvest meeting in 2016 to discuss results, successful—and unsuccessful—change ideas, and evidence of pathways that resulted in positive results, including access to VL monitoring among patients on ART.

Results

Overall between 2016 and 2018, the number of districts in Uganda with 90 percent or greater coverage of VL testing increased from 29 to 70, and the number of districts with fewer than 80 percent coverage decreased from 53 to 22 (Figure 5).

Project-specific results based on changes implemented are detailed below.

ASSIST Project

The USAID ASSIST Project implemented QI approaches that led to significant improvement in VL testing access and improved VL monitoring for ART clients. To address the information/knowledge gaps identified among

Best Practices Identified in Uganda

- Within a health facility, general **client education** is conducted to increase awareness of the purpose of, and when are they due for, VL testing to help avoid missed opportunities. VL testing information was incorporated into individual **client counseling** sessions.

- Linkage facilitators—lay community volunteers and HIV **expert clients** who serve as the link between the client and the health facility—were trained to build their knowledge about VL testing.

- In HIV clinics, **SBCC materials** such as posters were posted.

- Facility client flow was reviewed to better manage the **triage** process. At the triage point, a clinician or nurse is dedicated to reviewing files to see if client is due for VL.

- **Clinic flow** was changed so VL testing can take place before the client sees a clinician.

- Files of clients due for VL testing are **flagged** with yellow stickers. Additionally, red **stickers** are attached on non-suppressed clients' files.

- Community mobilization takes place for **VL camps** to increase uptake and clear the backlog of missing VL results.

- **Peer mothers** create demand for VL uptake and provide community-level follow-up for PMTCT services to track VL testing of pregnant women.

- **Campaigns** targeting youth are planned around school holidays to reach school-going children and adolescents.

Source: Interview with USAID-funded Regional Health Integration to Enhance Services-N, Lango.

health workers, clients, and their caregivers on VL in the 34 health facilities, the USAID ASSIST Project implemented the change ideas in Table 9.

Figure 5. VL Testing Scale-Up in Uganda
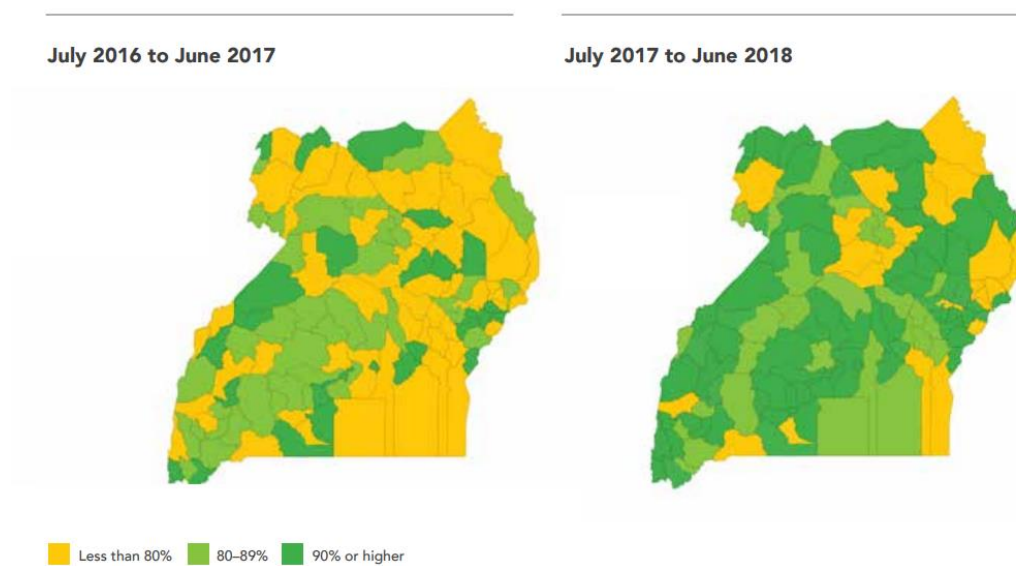
Source: Uganda Viral Load Dashboard, Central Public Health Laboratories, Ministry of Health.

Source: UNAIDS 2018

Table 8. Specific Change Ideas to Improve Access to Viral Load Testing

Change Concept	Problem Addressed	Steps in Introducing the Change Ideas	Evidence of Improvement (*Number of clients on ART >6 months with VL test*)
Identify focal person (health worker and expert client) to update the data tools (client card, registers).	Registers were not updated and/or there was incomplete documentation of MOH registers.	A specific person was identified and trained to fill relevant tools (clients' card and register). S/he was assigned **clear roles and responsibilities** related to documentation in data tools. Roles included collecting results from lab; sorting files for results documentation; and regularly reviewing/updating VL results onto clients' cards, lab/VL register, and ART register with results.	Four sites—results include: • Banda: 22% (Mar 2016) to 85% (Aug 2016) • Namwendwa: 55% (Apr 2016 to 86% (Oct 2016)

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Change Concept	Problem Addressed	Steps in Introducing the Change Ideas	Evidence of Improvement (*Number of clients on ART >6 months with VL test)*
Importance of VL monitoring a talking point in all health education sessions.	Lack of knowledge and awareness about VL monitoring among clients and caregivers.	Developed talking points on process and benefits of VL and shared them with staff for **health education**. Talking points were used at all health education sessions conducted in ART clinic, family support groups, and adherence groups.	Five sites—results include: • Wabulungu: 3% (Jan 2016) to 70% (Feb 2016). • Namwendwa: 18% (Mar 2016) to 55% (Apr 2016).
CME for health workers on VL including eligibility and frequency	Inadequate knowledge among all staff regarding VL eligibility criteria currently in use.	Identified health worker trained in VL and assigned them to conduct **CME** for staff on how to identify the eligibility criteria.	Five sites—results include: • Bulumbi: from 0% (Mar 2016) to 44% (Apr 2016). • Nankoma: 45% (Jan 2016) to 66% (Mar 2016).
Regular on-the-job mentorship for health workers on VL	Inadequate clinical assessment of clients due to knowledge gap in VL eligibility assessment.	• Prioritized all new staff allocated to the HIV clinic for **on-the-job mentorship** on VL testing. • Assigned health workers with practical experience to work with new staff to demonstrate the VL process.	Two sites—results include: • Namwendwa: 18% (Mar 2016) to 55% (Apr 2016). • Lumino: 0% (Jul 2016) to 100% (Sep 2016).
Identify files for clients and put stickers on files before clinic day	No identification of eligible clients to ensure that those due for VL are not missed on their clinic appointments.	Used ART register to identify eligible clients. Files sorted, and **stickers placed on files** for eligible clients a day before the clinic. On clinic day, files with stickers were picked and clients counseled on VL monitoring. Masking tape used for stickers to label client files.	• Bulumbi 44% (Apr 2016) to 67% (May 2016). • Lumino 62.5% (Jul 2016) to 100% (Sep 2016).

Change Concept	Problem Addressed	Steps in Introducing the Change Ideas	Evidence of Improvement (*Number of clients on ART >6 months with VL test*)
Assigning a triage nurse to screen out the eligible clients	No persons to screen for clients that are eligible.	QI teams assigned the triage nurse to **sort files** on every ART clinic day, to identify the eligible clients. These eligible clients were sent to the laboratory for VL test before seeing the clinician.	Nankoma: 90% (May 2016) to 100% (Jul 2016).
Assign expert client to sort files for VL eligible clients on ART clinic day and taken to clinician	No person to screen out clients that are eligible.	QI team assigned the expert client to sort files every ART clinic day, for those clients who had been on ART for at least six months and files had a **sticker**. Files were taken to clinician. The clinician in the clinical room, on seeing the sticker, requests for VL test and the patient's sample is taken.	(Number of clients on ART >6 months with VL test done). Wabulungu: 69% (June 2016) to 93% (July 2016).
ART numbers for clients due for VL displayed on the wall prior to the clinic day	Clients due for VL were not easily identified.	Made a **list of clients** due for VL testing and put on manila paper. This list was displayed in ART/clinician's rooms as a reminder. List was prepared on a monthly basis; as clients were sent to the lab, they were ticked off the list and those who miss at the end of month are followed by the **community visit** to their homes.	(Number of clients on ART >6 months with VL test done) Namwendwa: 55% (April 2016) to 77% (May 2016).

Source: Tumwikirize et al. 2017

SUSTAIN Project

With the SUSTAIN Project's support in Uganda, the proportion of clients in 12 project-supported facilities due for VL testing who received their VL test more than doubled between 2014 and 2016. Improvement is attributable to facilities introducing the changes listed in Table 10 (USAID SUSTAIN Project 2017).

Table 9. Change Ideas to Improve Access to VL Testing

Change Concept	Problem Addressed	Change Ideas Tested	Steps in Introducing the Change Ideas	Evidence of Improvement— # of Eligible Clients who Received VL Test
Provide training	Significant knowledge gaps among staff on VL monitoring.	CME on VL monitoring.	• Clinicians, nurses, lab staff and data staff **trained** on the need and process of VL monitoring. Capacity building sessions were repeated during **continuing professional development sessions.**	Soroti Regional Referral Hospital: 76% of ART clients received VL tests by January 2016
Encourage clients to participate in care (*Listen to customers*)	Data gaps— hospitals had limited capability of identifying which clients were due for VL testing.	Encourage clients to demand VL	• During **health education sessions**, clients were asked to always remind health workers to check their eligibility for VL. • Members of the triaging team were tasked with checking clients' files to identify those eligible for VL testing, who would be guided on the procedure for obtaining the tests.	Fort Portal Regional Referral Hospital: VL testing improved from 58% to 71% by June 2016
Rearrange the order of steps in a process		Generate lists of clients due for VL testing, and have files tracked/ identified	• Based on clinic records in OpenMRS, clinic teams determine which clients were due for VL. • Prior to their subsequent appointment dates, their files would be retrieved and **triage team** alerted that those clients needed to have VL. • On arrival for scheduled appointment, patients guided to lab for blood samples.	
Synchronize and minimize duplication	Client frustration with unharmonized appointments between VL test and ARV refill.	Synchronize VL testing with ARV refill dates for eligible clients.	• Using information provided by the data team, the clinic team could tell when a client's VL testing is due. They then scheduled a coinciding ARV refill date. • In a single visit, clients could get both their VL tests done and their ARV refills.	VL testing increased in 11 facilities that tested this change
Provide services whenever clients need them	Clients would miss VL testing if they report-ed past the allocated time.	Collection of VL samples throughout day, as opposed	• HIV clinic teams identified **focal persons** responsible for performing VL tests for clients due for a test, to be available throughout the day, and was allocated	In Lira RRH, VL testing improved from 18% to 77% by July 2016

Change Concept	Problem Addressed	Change Ideas Tested	Steps in Introducing the Change Ideas	Evidence of Improvement— # of Eligible Clients who Received VL Test
		to only mornings.	• secure space to use. • Whenever clients eligible for VL testing were identified, at whichever time of day, they were directed to the room where the VL focal person would be waiting.	
Use a coordinator	Clients missed VL due to logistical challenges and absence of competent staff.	Designated individual to follow up clients and conduct phlebotomy onsite.	• Hospitals identified **focal persons** (preferably phlebotomists) to identify and follow-up with clients who had missed VL tests. • The focal person followed up with clients through **phone calls** and scheduled appointments for when they could have their VL tests done. • The focal person ensured the test kits and VL request forms were available, often by acquiring them from lower health facilities or through requisitions.	
Prioritize services to specific population groups	Limitations in resources dictated that few clients could have their VL tested.	Prioritizing access VL testing for clients with clinical failure, and risk groups like pregnant mothers.	• The lab staff worked with the data team to identify those clients with low CD4 counts, by **going through their clinical files and tagging them with a VL test request.** These clients were referred to clinicians as priority to receive VL tests, as resources were limited. • At their subsequent clinic visits, these identified clients would be informed that they were due for VL testing and guided on how to get the tests done.	

Source: USAID SUSTAIN Project, Uganda

EID: CLIENT- AND COMMUNITY-LEVEL DEMAND CREATION

Creating an Enabling Environment for Uptake of EID

Summary

Numerous studies show that the main determinants of uptake of EID are PMTCT knowledge, adherence to ART, and fear of stigma and discrimination (Donahue et al. 2012; Hassan et al. 2012). Community approaches have been shown to positively impact the supply and demand for PMTCT services and support an enabling environment for PMTCT services—including EID (UNICEF 2012). Targeting men for EID awareness is also important, as many mothers have indicated that they need their male partner's permission before testing their child for HIV. In addition, men are better able to support their partner and child as they receive PMTCT and postnatal care (PNC)/child welfare services (Coulibaly et al. 2014).

Program Example

National Communications Strategy in Nigeria

Learn more here.

To prioritize demand creation for a coordinated national approach, the Government of Nigeria developed a PMTCT demand creation strategy using a comprehensive SBCC approach. It focuses on promoting improved service delivery quality and interpersonal communication between providers and their clients during ANC and PMTCT services to motivate more clients to use PMTCT services—including EID (NACA and C-Change 2014). Strategies outlined include demand creation components— mobilization, sensitization, media messaging, and community-level activities—to improve rates of service utilization. The national strategy describes audiences (primary, second, tertiary, and by state), channels, activities, and materials.

Utilizing Advocacy Campaigns to Raise Community Awareness and Increase Demand

Summary

Educating communities about HIV, ART, and PMTCT can help create demand for high-quality comprehensive PMTCT services, including access to EID testing and results to initiate timely ART for HIV-positive infants. Inadequate knowledge about mother-to-child transmission and fear of discrimination must be addressed.

Program Example

Free to Shine Campaign

Learn more [here](#).

The Free to Shine campaign was launched in January 2018 by the Organization of African First Ladies against HIV/AIDS, the African Union, and partners. The campaign's goals include improving maternal and pediatric HIV programs across Africa by building networks and partnerships, advocating for domestic and global resource mobilization, raising awareness around HIV prevention, and mobilizing support for pediatric AIDS programs in Africa. An [advocacy toolkit](#) was developed with EGPAF to provide statistics, messages, and key actions that first ladies can use to advocate for continued uptake of PMTCT, increased EID, and improved pediatric HIV treatment coverage. The toolkit provides key background information and advocacy strategies that can then be tailored to country context for individual use.

Improving Retention and Linkage to Care through Peer Cadres for Increased EID Uptake

Summary

Peer support interventions have been shown to improve both rural and urban HIV client outcomes in several African countries (Mwai et al. 2013). A variety of interventions, including consistent early home visits throughout pregnancy and postpartum, women's groups, community groups, community-based emergency assistance, and local safe motherhood committees composed of male and female community members and leaders have demonstrated effectiveness at improving maternal, neonatal, and child health outcomes at scale (Lassi et al. 2015). Community cadres create awareness of and generate demand for PMTCT services, including EID, raising awareness about availability of the facility services and the importance of seeking care. Community cadres are often used to refer and follow-up pregnant and lactating women living with HIV at the community level, to ensure they receive appropriate services and are retained in PMTCT care (Besada et al. 2018). The Mother Mentor study in Nigeria demonstrated the impact on retention in care by mentor mothers who significantly improved presentation for EID among HEIs. The research study concluded that resource-limited countries will have to increasingly engage community workers to reduce the service delivery burden. Peer education/counseling programs are appropriate for task-sharing and task-shifting; however, standards and structure are needed (Sam-Agudu et al. 2017).

Program Examples

Proactive Follow-Up through Community Focal Mothers in Eswatini

Learn more [here](#).

The [AIDSFree community focal mother (CFM) model](#) demonstrated success in Eswatini in improving retention in care of mothers and infants through the Child Welfare Care and EID cascade—integrated MNCH and PMTCT care—from initial EID through determination of final HIV outcome at 18–24 months. Community focal mothers were trained, actively supervised, and compensated to visit all MBPs in the home before they miss a visit to encourage mothers and their children to continue visiting the health facility for care. Home visits were guided by several job aids, including a step-by-step checklist. The checklist covers the full home visit: the introduction, the Child Health Card review, the assessment of clinic visit completion, and the key messages and communication of next steps to the mother/caregiver. At the first home visit, CFMs also created a care plan with the mother using a template asking mothers to anticipate their location at each of the scheduled child welfare visits up to 18–24 months to proactively address challenges in completing clinic visits. CFMs then used these care plans as job aids to guide follow-up discussions with mothers by reviewing and updating them as needed at each subsequent monthly home visit. Community focal mothers issued MOH referral forms and encouraged MBPs to return to care when facility visits were missed.

For key facility visits at 6, 9, 12, and 18–24 months, all of the expected children enrolled in the program (417) who reached each age milestone visit completed the visit. Thus, this cohort of MBPs enrolled since the intervention's inception in 2017 achieved 100 percent retention in care. More than 80 percent of MBPs never missed a facility visit and all defaulters were traced, referred, and successfully linked back to integrated maternal, newborn, and child health (MNCH)/PMTCT facility care, usually within one to two days. As of November 2018, there were 127 HEIs in the program, 30 percent (127/417) of total infants ever enrolled in the program. All of these infants were tested for HIV; 94 percent (119/127) of those tested had their results returned from the lab, with eight test results pending due to delays from the national laboratory. All tested infants had a mother or caregiver who received the results. Only two infants (2 percent, 2/119) tested HIV-positive, both of whom were initiated on ART. As of November 2018, 60 infants reached 18 months, and all 60 (100 percent) completed the 18-month visit. This program is being scaled-up in 2019 by the Eswatini Sexual and Reproductive Health Unit.

Community Health Workers in Malawi

Learn more [here](#).

The Baylor College of Medicine Children's Foundation Malawi partnered with the Malawi MOH and Lilongwe District Health Office to initiate the Tingathe outreach program which used dedicated CHWs to improve uptake and utilization of PMTCT, EID, and pediatric HIV care services. The Tingathe program used CHWs to link HIV-exposed infants and children through age

> **FY 2019 PEPFAR COP Guidance**
>
> **Cohort monitoring** relies on identification of a population with a shared event—and the ability to follow the cohort over time to measure retention in care. It can be implemented by adapting existing facility registers, or where feasible, by implementing cohort registers that measure maternal and infant retention and outcomes. Maternal and birth cohort monitoring relies on accurate identification of all HIV-positive pregnant and breastfeeding women and HEIs. To ensure that women and their infants are identified and captured within M&E systems, PMTCT programs should implement HIV testing of women at delivery as well as other key maternal and child health settings, including immunization clinics (PEPFAR 2019a).

15 to care and receive an HIV test. CHWs were recruited and trained in community sensitization and education and in active case finding of clients. The CHWs provided health education and carried out facility- and home-based HIV testing. They also attempted to identify children with known HIV-positive status who were not in clinical care ("positive linkage") through home visits. The CHWs enrolled these HIV-positive children into clinical care and provided adherence support with follow-up at home and in the clinic using patient "mastercards" to document and track clinic appointments, home visits, services used, new diagnoses, and test results. Ahmed et. al (2015) reviewed routinely collected program data from HIV testing registers, patient mastercards, and clinic attendance registers (March 2005 to March 2011). CHWs conducted 44,388 rapid HIV tests; 1,781 HIV-exposed infants were enrolled and tested with 102 (5.7 percent) found HIV-positive by DNA-PCR test. By February 2011, a total of 866 HIV-positive children were receiving care, a 23-fold increase from 2008. During the three phases of implementation, the median age of enrollment of HEIs decreased from 7.0 months (with clinical mentorship only) to 5.2 months (community education and sensitization and door-to-door HIV testing) to 2.5 months (CHW home visits to mother-infant pairs). Authors concluded that using a community cadre to conduct HIV testing, link infants to care, and provide support to mothers can improve the identification and enrollment into care of HIV-exposed and HIV-positive infants and children (Ahmed et al. 2015).

Community Engagement in Uganda, Eswatini, and Zimbabwe

Learn more [here](#).

The goal of the multicountry (Uganda, Eswatini, and Zimbabwe) Advancing Community Level Action for Improving Maternal and Child Health/PMTCT (ACCLAIM) project was to increase community demand for, uptake of, and retention in MNCH/PMTCT services to improve country progress toward elimination of pediatric HIV. ACCLAIM tested through rigorous quasi-experimental design a package of community-level interventions to achieve PMTCT over a 16- to 19-month period in the three countries:

- **Engagement of community leaders:** Through training and capacity building for community leaders, the project facilitated the development of community action plans that identified and addressed barriers in the community to increase demand for MNCH and PMTCT services.
- **Community days**: Semiannual community days brought entire communities together to improve awareness among key target populations of important MNCH and PMTCT services.
- **Community peer groups**: Working at the individual level, MNCH classes and men's groups provided comprehensive MNCH/PMTCT information and skills development to community subgroups focused on increasing and improving MNCH and PMTCT health behaviors.

The community leader intervention significantly improved the proportion of HIV-exposed infants returning to the health facility for early infant diagnosis. In Uganda, EID uptake was low at baseline and saw a significant increase from 13.1 percent to 44.8 percent of children tested and receiving results in the cluster-level analysis (EGPAF 2017).

Mentor Mothers in Uganda

Learn more here.

The mothers2mothers (m2m) peer-to-peer "mentor mother" model hires, remunerates, supervises, and supports women living with HIV to serve as peers in PMTCT programs. m2m has indicated that its model has been effective at increasing uptake of PMTCT services among women receiving visits from m2m mentor mothers. An internal evaluation concluded that clients who saw a mentor mother two or more times had higher uptake of EID (Okonji et al. 2014). An external evaluation in Uganda found improved outcomes across a range of indicators, including uptake of EID at six to eight weeks (72 percent versus 46 percent) and ART initiation in infants (61 percent versus 28 percent) in m2m-supported sites compared to those without support (see Table 11). The external evaluators recommended that Uganda consider scale-up of the mentor mother model as part of the standard of care for all PMTCT clients (Zikusooka 2015).

Table 10. m2m External Evaluation Findings

Outcome	m2m-Supported Health Facilities	Health Facilities With No m2m Presence
Retention in care of women living with HIV 12 months after being initiated on ART	90.9%	63.6%
Uptake of EID test for HIV six–eight weeks after birth	71.5%	45.8%
Initiation of HIV-positive infants on ART	60.9%	27.8%
Mother-to-child HIV transmission rates 18 months after birth	6.8%	8.7%

Source: Zikusooka 2015

Mother-Infant Follow-Up in Uganda

In Uganda, peer mentor mothers, community lay persons, and village health team members followed HIV-positive women through delivery and followed the MBPs for the six-week PNC visit and up to 14 weeks for EID. In addition, community activities included mobilization and sensitization meetings, dance and drama, mass media campaigns, and SBCC materials. Male community workers supported the male partners and issued them invitation letters. The community cadres provided phone reminders of appointment dates for MBPs. These interventions led to a significant increase in EID of HEIs in the study clinics. Study data showed an increase in six-week PNC attendance—from 37 percent at baseline to 78 percent among participants (compared to 39 percent among the total clinic population). The intervention also significantly increased EID from 53 percent at baseline to 86 percent among participants (compared to 66 percent for the clinic population). Study authors attributed this improvement to peer mothers, as HIV-positive mothers were more comfortable disclosing to their peers than to the community laypersons. However, community laypersons spent more time educating and sensitizing communities. The authors concluded that the intervention of the community laypersons led to the increase in PNC access, even in the general population. The study concluded that peer mothers

and community laypersons play a key role in health education, linkage, and referrals to improve early PNC attendance and EID (Namukwaya et al. 2015).

CLIENT- AND COMMUNITY-LEVEL TOOLS AND RESOURCES: DEMAND CREATION FOR EID

Table 12 provides tools and resources for programs to review and adapt for creating an enabling environment and using advocacy campaigns to raise community awareness and increase demand for EID. It describes resources for improving retention and linkage to care through peer cadres for increased EID uptake.

Table 11. Community-Based Tools for Increasing Knowledge and Service Uptake

Resource Name	Type	Author(s)	Year	Country *Audience*	Description
Creating an Enabling Environment for Increased Community Knowledge and Awareness					
PMTCT Demand Creation for Accelerated Uptake of Services—A National Prevention of Mother-to-Child Transmission (PMTCT) of HIV Communication Strategy	Communications strategy	MOH/NACA & C-Change Project	2014	Nigeria *Program Managers*	Communication strategy for PMTCT demand creation in Nigeria.
Positive health, dignity and prevention for women and their babies	Facilitator manual Flipchart Posters	IATT for Prevention and Treatment of HIV Infection in Pregnant Women, Mothers and Children	2016	Global *Clients: Pregnant Women, Mothers*	A treatment literacy guide for pregnant women and mothers living with HIV. Available in English and French.
Utilizing Advocacy Campaigns to Raise Community Awareness and Increase Demand					

Resource Name	Type	Author(s)	Year	Country *Audience*	Description
[Advocacy Toolkit: Children and adolescents living with and at risk for HIV](#)	Toolkit	EGPAF & OAFLA	2018	Global *National Stakeholders*	Toolkit with statistics, messages, and key actions that first ladies can undertake to advocate for continued uptake of PMTCT, increased EID, and improved pediatric HIV treatment coverage. Available in English, French, and Portuguese.
[Improving mother-baby pair retention in integrated maternal and child health and HIV services in Eswatini](#)	PEPFAR Solution Summary	AIDSFree	2018	Eswatini *Program Managers*	Summary of community focal mother intervention and early results.
[Clinic–Community Collaboration Toolkit: Working together to improve PMTCT and paediatric HIV treatment, care and support](#)	Toolkit	Paediatric-Adolescent Treatment Africa and Positive Action for Children Fund	2017	Global *Program Managers*	Toolkit with a series of methodologies on how clinic/community-based organization partnerships can be built through shared projects to expand access to prevention, treatment, and care for pregnant women, children, and adolescents.
[ACCLAIM Toolkit](#)	SOPs Guidelines Curricula Job aids	EGPAF	2017	Global *Program Managers*	Toolkit for scaling-up community involvement in maternal and child health and PMTCT.

EID: PROVIDER-LEVEL DEMAND CREATION

Increasing Provider Knowledge and Strengthening Counseling Skills

Summary

Despite global progress with implementing PMTCT programs, gaps remain in the delivery of care and testing services to HIV-exposed infants. Inadequate training of health providers may act as a barrier to care. A study in South Africa reviewed missed opportunities in childhood HIV diagnosis leading to delayed ART initiation and showed that routine infant testing was not conducted in 66 percent of cases, and inadequate reporting on patient-held records occurred frequently (74 percent) (Feucht et al. 2016). Some health workers at facilities where infants seek care have limited knowledge of EID; are reluctant to recommend HIV testing for children and adolescents; lack the skills and confidence to identify and manage infants, children, and adolescents living with HIV; and are inexperienced in counseling children and families and prescribing ART for children (OAFLA & EGPAF 2018). Tools and strategies are needed to support early identification of HEIs, enrollment and retention in care, and testing according to national algorithms until final HIV diagnosis (CDC 2018). Continuing medical education is a key medium for ensuring that providers have up-to-date clinical information and can offer high-quality health education and counseling to caregivers on the importance of EID (Izudi et al. 2016). Improved counseling and education by providers to clients can increase the demand for EID services and improve the acceptability of the EID services within the community.

Program Examples

All programs reviewed included provider training as a component of efforts to build demand for EID uptake and results utilization. Sample training tools and resources are provided in Table 13 for program managers to review and adapt.

PROVIDER-LEVEL TOOLS AND RESOURCES: DEMAND CREATION FOR EID

Table 13 provides tools and resources for increasing provider knowledge and strengthening PMTCT/EID counseling skills.

Table 12. Tools for Strengthening Providers' Skills

Resource Name	Type	Author(s)	Year	Country *Audience*	Description
Increasing Provider Knowledge and Strengthening Counseling Skills					
Tools for HIV-Exposed Infant Care and Infant Virologic Testing	Job Aids/Flipcharts/ Videos	CDC	2018	Global *Providers*	Tools and training materials to guide health workers and laboratory staff on dried blood spot collection.
PMTCT Implementation Starter Kit	Toolkit	FHI 360	2017	Zambia *Providers*	Implementation starter kit describes and PMTCT materials, including health worker training tools.
PMTCT Flipchart	Job Aid	JHUCCP	2013	Global *Providers*	Designed to guide the service provider through the PMTCT counseling session.

EID: FACILITY- AND SYSTEMS-LEVEL DEMAND CREATION

Systems for Identification of Clients for Increased EID Uptake and Results Utilization

Summary

Privacy improvements at immunization facilities and introduction of EID testing services into all immunization/child welfare visits are key to addressing facility-level structural barriers to service uptake. Findings from a national study in South Africa concluded that if facilities continue to use the targeted EID testing approach, more than one-third of known HEIs will not be offered EID. Authors recommended improvements in documentation of infant HIV status, in identifying HEIs at their six-week immunization visit, and in informing mothers clearly during ANC about infant testing to increase EID (Woldesenbet et al. 2015).

Program Examples

Mother-Infant Pair Approach in Malawi

Learn more here.

In its national strategic plan (2015–2020), the Government of Malawi emphasized early identification and treatment initiation for HIV-positive infants. The plan outlined finding exposed infants; provider-initiated testing of infants at first points of care; strengthening infant testing at six weeks, 12 months, and 24 months; improving sample transportation and turnaround time from sample collection through results return to clients; and scale-up of a mother-infant pair model with community campaigns to improve awareness, linkage to services, and retention in care. The DHSS Project implemented a series of interventions in seven districts (2016–2018) to reduce LTFU of HEIs by reorganizing the clinic flow and following up HEIs. This reorganization included synchronized visits for mother-infant pairs as well as

Figure 6. HEI Testing at Two Months (2014–2017)

Source: MSH 2018

63
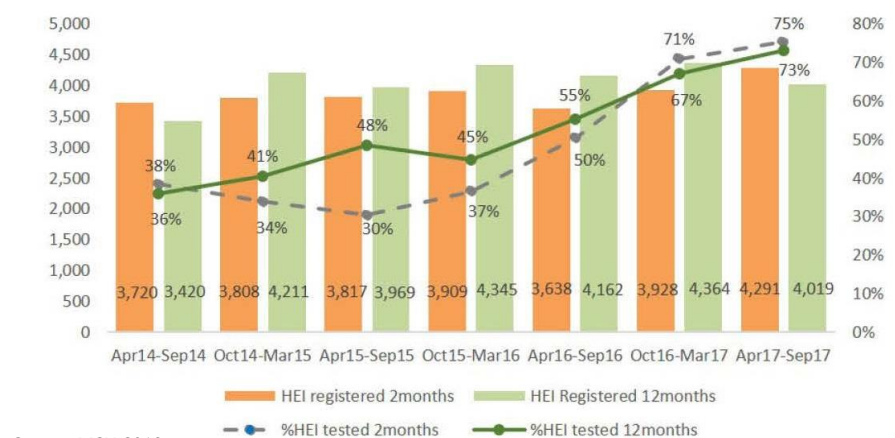
development and distribution of SOPs, tools, and guidelines for managing mother-infant pairs with identification of an EID focal person at each health facility, in addition to onsite training and mentorship. Stickers on mother-infant pair files in the ART clinic—similar to the best practice identified by VL programs—prompted providers to follow up with mothers about their child if they do not present together at the clinic. Expert clients were engaged to provide health education in the facility waiting area to provide information about EID, as well as to trace defaulters in the community. DHSS also strengthened the sample transportation system, partnering with Riders for Health.

The DHSS team assessed the effect of the package of interventions on timely HEI testing, comparing data on the number of HEIs registered and tested, as well as turnaround time analysis. The results suggested that the mother-infant pair approach, including registration of HEIs at birth, improved EID uptake from 30 to 61 percent. However, the project noted that despite this improvement, nearly 40 percent of HEIs were *not* tested within six–eight weeks after birth (see Figure 6). The DHSS team recommended that mothers and communities be empowered with more knowledge about HEI and EID services, and that EID adherence counseling is essential and should continue from ANC until the child's final HIV status is confirmed at 18–24 months (MSH 2018).

Quality Improvement in Uganda

Baylor College of Medicine Children's Foundation Uganda conducted a QI project at Kaabong General Hospital in Karamoja region in northeastern Uganda. Testing of eligible HEIs at the six–eight week time point improved from 20 percent in June 2014 to 100 percent in July 2015, and was sustained at 100 percent until February 2016 by means of CME for health workers and health education talks for caregivers on the importance of EID and dried blood spot sample collection (see Figure 7). Two declines, 67 percent in September 2014 and 75 percent in June 2015, were addressed using expert clients and peer mothers for improved EID coverage and outcomes. The QI team noted that the use of expert clients to track lost MBPs from the communities and their facility linkage resulted in increased DNA PCR

Figure 7. Trend of First (6–8 Weeks) DNA-PCR Testing among HEIs at Kaabong Hospital
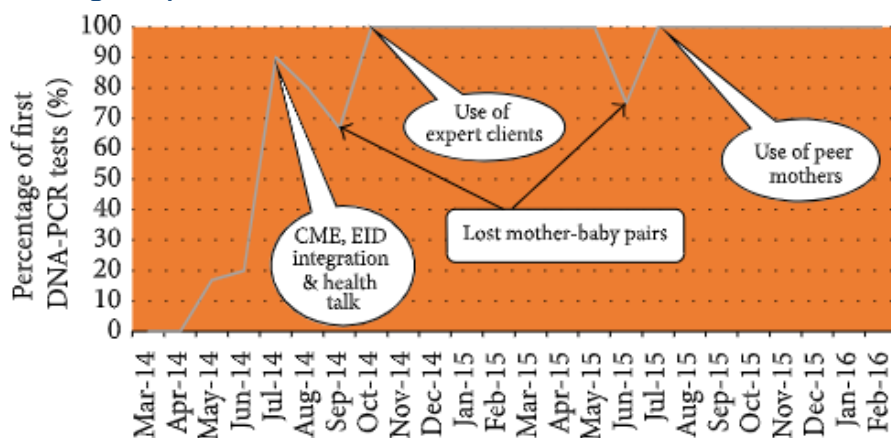
Source: "Trend of First (6–8 Weeks) DNA-PCR Testing among HEIs at Kaabong Hospital" by Izudi, et al., is licensed under CC BY 4.0.

testing, because the expert clients were accessible, appropriate, and acceptable to HIV-positive mothers. The QI team recommended dried blood spot sample collection in EID clinics, regular EID CME

for health workers, and health education talks to HIV-positive mothers as promising practices for improving EID indicators (Izudi et al. 2016).

Leveraging eHealth Solutions for Increased EID Uptake and Results Utilization

Summary

Digital health tools can help health workers provide effective counseling and support clients throughout their care and engage and inform clients and their families to increase demand for health services. As mobile phone networks expand throughout Africa, their use has the potential to decrease LTFU for many interventions and clients. SMS systems that share reminders via mobile phones are a strategy for contacting clients about PMTCT services, including EID. A systematic review of interventions to improve PMTCT service delivery and promote retention in care identified five studies that used text messages or phone calls as EID reminders and showed a statistically significant increase in uptake of infant HIV testing (Ambia and Mandala 2016). Electronic health (eHealth) strategies have been leveraged to assist with EID appointment reminders, laboratory results notification to health facilities, and client notification of results once available.

Program Examples

Health Messages and Appointment Reminders in South Africa

Learn more [here](#).

In South Africa, HIV-positive pregnant women enrolled in *MomConnect* choose to receive weekly messages and support from a professional PMTCT nurse at a virtual help desk (Figure 8). A nurse at the help desk answers questions in several languages and can connect women with support services in their community. Once they register, women receive weekly mobile phone messages, including ART reminders, tips on how to manage treatment side effects, breastfeeding guidance, and reminders to return for recommended testing and care for their infants, based on the woman's stage of pregnancy or the child's age. MomConnect messages continue until the baby completes one year of age. The mHealth initiative enables women to interact with the health system, providing feedback on the quality of care received to improve service delivery. A qualitative study demonstrated high user acceptability (Skinner et al. 2018). MomConnect provides pregnant women and mothers access to key information, allows them to submit feedback on quality of

Figure 8. MomConnect Messages

Source: K4Health

health services received, and feeds information into the National Pregnancy Register. From August 2014 through January 2016, 583,929 pregnant women registered for MomConnect. Registered users gave feedback on the services received—4,173 compliments and 690 complaints—and 74 percent of all complaints were resolved. A study concluded that quality of facility care improved related to drug shortages and stockouts; managers at all levels have been made more accountable to beneficiaries (Barron 2016).

SMS for Increased Results Utilization in Zambia

The final steps in the EID cascade require returning results to caregivers to then initiate HIV-positive infants on ART. However, mothers/caregivers often face challenges returning to the facility to receive results. In a study in Zambia, mothers were contacted by mobile phone (call or SMS) when their infant's test results were available to mobilize them to return—and all mothers returned for their child's results. This system decreased the time between delivery of results to the clinic and when results were provided to the mother by approximately 50 percent—allowing for earlier initiation on treatment for HIV-positive infants. Contact by mobile phone was highly acceptable to mothers (Sutcliffe et al. 2017).

HIV Infant Tracking System (HITSystem) in Kenya

Learn more [here](#).

Communication with mothers/caregivers is critical throughout the EID cascade, including when test results are available, when follow-up services are required, or when scheduled services are missed. The HITSystem is a web-based intervention designed to improve EID outcomes in Kenya by sending automated alerts via the data management system to trigger action by health providers, and text messaging to notify mothers/caregivers when results are ready or other action is needed, including retesting at 9 and 18 months. The HITSystem targets [eight time-sensitive steps](#) in the EID cascade of care, using the infant's date of birth to ensure that testing occurs by the appropriate date or within the correct time interval. The dashboard alerts are updated in real to notify providers when time-sensitive interventions are overdue. A study assessed whether the HITSystem improved longitudinal program retention rates comparing the proportion of mother-infant pairs still enrolled at each step of the EID cascade between control and intervention periods. The pilot data demonstrated that the HITSystem improved retention in EID services at 9 months; decreased turnaround time between sample collection, PCR sample processing, and caregiver notification of infant test result; and increased the proportion of HIV-positive infants who achieve timely ART initiation. The pilot demonstrated that the system can use technology to improve the quality and efficiency of EID services in resource-limited settings (Finocchario-Kessler et al. 2014).

A study was also conducted to understand provider experiences implementing and using the HITSystem to assess facilitators and barriers that may impact adoption and sustainability of this eHealth intervention. Providers expressed that the HITSystem was perceived as useful, led to improved efficiency in patient follow-up, and improved capacity to meet patient needs compared to standard EID. Many providers noted that improvements in turnaround time and return of EID results contributed to earlier

initiation of ART among infants, preventing delays that lead to maternal anxiety and discouragement, affect client management, and delay initiation of ART (Wexler et al. 2018).

Use of Innovative Strategies to Reduce Missed Opportunities for EID Uptake

Summary

The time between sample collection from HEIs and the return of results to caregivers often stretches for months. Innovative strategies, such as POC EID and very early infant diagnosis (birth testing), are being piloted and implemented to address challenges in the EID cascade and increase demand for EID services by caregivers and timely use of results by providers. With laboratory-based EID, the number of steps from sample collection to results return and clinical action are affected by delays and lost results. POC EID seeks to expand access to early diagnosis and treatment for HIV-positive infants and overcome facility and laboratory delays (EGPAF 2018). It has the potential to enable same-day results, thus reducing the burden on laboratories, and improving pediatric HIV diagnosis. However, challenges related to provider knowledge gaps on the timing and frequency of DNA PCR tests have also been identified (Izudi et al. 2016). Birth testing—very early infant diagnosis—has been piloted, with qualitative findings demonstrating acceptability to women, health workers, and laboratory staff. However, scale-up requires clinical and laboratory system strengthening (Gill et al. 2018).

Program Examples

Point-of-Care Early Infant Diagnosis

Learn more here.

Lessons Learned from Lesotho

- Guidelines and SOPs are not enough. Health workers need comprehensive training to understand why infants must be tested as early as possible.
- Education from mothers during ANC about the PMTCT cascade is critical for increasing knowledge of and demand for EID.
- Community cadres and peer mothers help build demand.
- Civil society partners are critical for community sensitization.
- Use of eHealth reminders and listings of mother-baby pairs defaulting is helpful; CSO partners trace in the community to link them back to care.
- ANC targets are not being met. Determining accurate denominators, starting with the population of pregnant women, is an ongoing challenge.
- Long turnaround times are frustrating and have been a key challenge in Lesotho.
- POC EID motivates health workers and clients/communities and is the critical link to ... arly ... ive

COP 2019 Guidance

Polyvalent platforms—such as GeneXpert®, also used for tuberculosis diagnosis—should be leveraged across HIV programs. The PEPFAR COP 2018 laboratory instrument mapping exercise showed underutilization of conventional and POC instrument capacity; unnecessary additional procurement for VL and EID testing should be avoided. Programs should use only instruments prequalified by WHO and in-country verifications should be conducted to ensure appropriate training and confirm that instruments are performing as recommended.

Source: PEPFAR 2019a

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Point-of-care (POC) EID technology can help address challenges in the EID cascade—to speed clinical decision-making by reducing turnaround time for earlier initiation of treatment for HIV-positive infants—by ensuring HIV-exposed infants are tested onsite, or at nearby sites. Expanding access to POC EID through PMTCT programs and primary care entry points is crucial for closing the pediatric HIV testing and treatment gap. In collaboration with implementing partners—the African Society for Laboratory Medicine (ASLM), Clinton Health Access Initiative (CHAI), EGPAF, and UNICEF—POC EID is being introduced and scaled up across 15 countries.

Data from routine use of POC EID show that the introduction of POC technologies into national EID networks is improving patient outcomes. Through POC EID, more caregivers are receiving results faster—80 percent more results reached caregivers within 30 days of sample collection when tested using POC EID; and 20 percent more infants were initiated on ART compared to infants identified as HIV-positive through conventional EID (EGPAF 2018). In Malawi, POC EID at seven health facilities reduced the time from sample collection to receipt of results by the infant's caregiver from 56 days to less than a day and among infants diagnosed with HIV, the time between sample collection and ART initiation was reduced from 38 days to less than a day (Mwenda 2018). In Zimbabwe, the turnaround time for results fell significantly—from an average of 14 days with conventional lab testing to within 24 hours with POC testing for 68 percent of EID tests (and 28 percent of VL tests)—and all results were returned within seven days (Simbi 2017). In Mozambique, a cluster-randomized trial demonstrated rapid diagnosis and ART initiation, improved retention, reduced turnaround time, and reduced LTFU—nearly 90 percent of infants diagnosed with POC EID initiated ART within 60 days of sample collection, compared to 13 percent who received standard EID (Jani et al. 2018). However, training of providers is necessary to build and maintain capacity for POC EID—along with monitoring, supervision, and mentoring to optimize the delivery of POC services and continue to build demand (EGPAF 2016).

See *Demand Creation for POC EID in Eswatini*.

Birth Testing

Learn more here.

Very early infant diagnosis of HIV testing within two weeks of birth, followed by immediate initiation of ART, can reduce the mortality associated with in-utero HIV transmission. A qualitative study evaluated the acceptability and feasibility of adding birth HIV testing to the routine testing algorithm in Lesotho for infants born to HIV-positive women. Health workers reported that treatment acceptance was appeared no different between mothers learning their child was infected at birth versus other time points. However, they identified counseling and communication needs and challenges for consideration in future scale-up. Many mothers described the

FY 2019 PEPFAR COP Guidance

Birth testing should complement, not replace, standard EID testing and may be conducted using conventional laboratory-based or POC EID. PEPFAR does not support the addition of birth testing of HIV-exposed infants unless the following conditions are met:

- Coverage by two months for infant testing is >80% of infants born to women receiving ART in PMTCT programs, and
- Same-day linkages to effective pediatric ART services must be in place to ensure a positive test result at birth leads to immediate initiation of appropriate ART (raltegravir-based regimens preferred) (this requires staff training as well).

time spent in counseling about birth testing as too short (5–35 minutes in ANC and at delivery combined). Providers reported that their questions included whether the child was too young to have blood drawn or was being hurt unnecessarily, what to do if the result was positive, and when results could be expected. Communication and counseling tools should address these concerns if birth testing is scaled up. Demand creation among women who deliver at home also needs to be considered to emphasize the importance of birth testing and the seven-day postpartum visit (Gill et al. 2018). Other demand creation considerations include clear understanding by providers—and counseling messages to caregivers—to ensure that infants with a negative HIV test at birth return for ongoing care and testing, per the EID algorithm, including determination of final HIV status at the end of breastfeeding.

FACILITY- AND SYSTEMS-LEVEL TOOLS AND RESOURCES: DEMAND CREATION FOR EID

Table 13 provides tools and resources for programs to review and adapt for using innovative facility- and systems-level strategies to reduce missed opportunities for EID uptake.

Table 13. Strategies to Encourage EID Uptake

Resource Name	Type	Author(s)	Year	Country / *Audience*	Description
Use of Innovative Strategies to Reduce Missed Opportunities for EID Uptake					
[HIV Point-of-Care Diagnostics Toolkit](#)	Toolkit	UNICEF, ASLM, CDC, CHAI, OGAC, EGPAF, LSHTM, ICAP, MSF, NHLS, USAID and WHO	2018	Global / *Program Managers*	Tools and guidance to support countries as they introduce POC HIV technologies into existing national diagnostic networks and laboratory systems.
[Key considerations for introducing new HIV point-of-care diagnostic technologies in national health systems](#)	Recommendations	UNICEF, ASLM, CDC, CHAI, OGAC, EGPAF, LSHTM, ICAP, MSF, NHLS, USAID and WHO	2018	Global / *Program Managers*	Describes the key areas that national governments should consider for the introduction and scale-up of POC diagnostics within national programs

DEMAND CREATION FOR POINT-OF-CARE EID IN ESWATINI

EGPAF, with support from Unitaid, has introduced POC EID in Eswatini to increase access to EID and ART among eligible children. The implementation of this project required development of SBCC materials through a community sensitization and mobilization strategy to create demand for this innovation. To guide the demand creation campaign and community mobilization, EGPAF developed a matrix to outline for each key target group: objective of outreach, mode of engagement, roles and responsibilities in POC EID demand creation, key messages, and expected outcome/action.

Child Health Days for Demand Creation

To build demand and mobilize communities, Child Health Days were designed to bring communities together for dialogues and to provide information and services for all children under the age of five. The campaigns also served as a platform to respond to community-level questions and concerns that may lead to late initiation of infants on ART. This demand creation campaign aimed to sensitize and mobilize communities for early testing of HIV-exposed infants and ART initiation of all HIV-positive children. The key objectives for Child Health Days are to:

- Mobilize communities to take infants for an HIV test.
- Sensitize caregivers on the importance of receiving the HIV test results.
- Sensitize communities on the importance of early initiation of HIV-positive children to ART.
- Advocate for support of the POC EID initiative by community leaders.
- Increase the proportion of infants initiated on ART within 72 hours after a positive EID result.

In addition, male partners are encouraged to support mothers, and to take responsibility as the head of household and ensure that mothers can access testing and all facility visits.

> **Key Messages**
>
> Messages centered on early testing for infants and receipt of results. These messages, which were adapted for different stakeholders, included:
> - Caregivers and providers should ensure receipt of EID results immediately.
> - If child is HIV-positive, ensure immediate initiation on ART.
> - If mother is HIV-positive, HIV-exposed infant should be tested/retested at six weeks, nine months, 12 months, 18 months, and following the cessation of breastfeeding, per the MOH algorithm.
> - If a mother is HIV-negative at delivery, ongoing HIV prevention is critical and all mothers should be tested for HIV at all child welfare visits to identify seroconversion and reduce mother-to-child transmission.

At the child-focused health days, HIV-exposed infants' Child Health Cards are reviewed for HIV testing and all children are assessed for immunization coverage. Guiding questions were developed to lead a Q&A session with attendees about their knowledge and perspectives on early infant diagnosis and

speakers were invited from the health facility and MOH to share information on the importance of early infant diagnosis and early initiation on ART for children identified as HIV-positive.

Posters and pamphlets were pretested in advance with community members and health facility staff and were distributed at each Child Health Day. Also, before each Child Health Day, facility staff were oriented on POC EID—including messages on what POC EID is, what expectations are for health staff, and how it will help them to improve infant testing and early ART initiation among their clients. A job aid was also developed.

Figure 9. Child Health Day in Eswatini, 2018

Photo: EGPAF

Results

Preliminary review demonstrated an improvement in turnaround time for caregivers receiving results and reduced time for ART initiation. More infants were observed to initiate same-day ART. Informal facility-level feedback indicated that demand for services had increased and was attributed to the campaigns. Routine facility register review indicated an increase in the number of HEIs testing per the MOH schedule (six weeks, nine months, 12 months, and 18 months).

Key Elements for Success

Early Stakeholder Engagement

Stakeholders were identified to ensure broad community representation, buy-in, resource sharing, and avoidance of duplication. Involvement of all key stakeholders, including the MOH, is key from the very beginning of the demand creation planning. The MOH was critical in guiding the development of messaging, and for supporting outreach to health facilities and communities.

Health Facility Leadership

Leadership by the health facilities ensures that the Child Health Day messages and the focus on improving early testing and initiation of all HIV-positive children are not simply one-day activities. Health facility staff have received training and job aids, and will receive ongoing support and mentorship to promote early testing long after the Child Health Day to ensure that message delivery continues. Mobilization also included incorporation of key messages on the campaign in the weeks leading up to each Child Health Day during daily facility health education talks.

Appropriate Community Entry

Successful community entry requires identification of all relevant structures and authorities whose formal and informal approval is necessary for successful implementation at all levels. In Eswatini, these structures included facility health committees, community leaders and community health workers, regional health management teams, and health facility staff. All activities were implemented through facilities and all community entry and mobilization took place hand-in-hand with the local health facility. This approach led to the support and engagement of community and traditional leaders, which has been critical to successful attendance at Child Health Days.

Pretesting of all SBCC Materials

All materials (posters and pamphlets) were pretested with community health promotion units before finalization and use. This pretest in the local community allowed EGPAF to request responses from community members, confirm that all materials were well understood, and make the appropriate edits before printing to ensure that materials would be both well received and understood by the target audience.

Outreach to all Infants/Children

All children under the age of 5 and their caregivers were invited to attend Child Health Days to avoid stigma concerns and emphasize the importance of HIV testing for all. This approach also helped identify many children, most HIV-unexposed, who were missing key immunizations. EGPAF collaborated with the government and the Expanded Programme on Immunization team for further discussion and action planning.

Use of Edutainment

EGPAF's experience in conducting community events in Eswatini showed the ability of community-based drama groups to pass on accurate, relatable, and memorable messages to their communities. EGPAF successfully engaged a local drama group for each Child Health Day to use key messages provided to develop a 15-minute drama script, for EGPAF review and finalization, with a clear call to action in its messages. This use of "edutainment" has been well received, as these groups are community members who understand community dynamics and provide important messages in an accessible format.

Challenges

The Child Health Days are ongoing and analysis is pending. While implementation during the rainy season has been a challenge in planning events, to date, the community response has been strong. Attendance has been higher than anticipated, with more than 1,000 community members in attendance at each facility Child Health Day. Although this is a positive result that indicates strong community processes, high attendance has budget implications.

Recommendations and Lessons Learned

Though data analysis is pending, early feedback and results are positive. EGPAF credits this success to early involvement of the MOH and appropriate community entry processes. Community members are more likely to listen and recognize the importance of any demand creation initiatives when these are carried out through known community structures. The mobilization process is key. Communities and their leadership should be engaged early to fully understand the activity and its goals and ensure the success of any event.

ANNEX 1. DEMAND CREATION IN VIRAL LOAD NATIONAL SCALE-UP PLANS

National scale-up of VL testing requires consideration of how demand creation will be incorporated into planning—the following excerpts provide examples of demand creation strategies outlined in national VL guidance available in the AIDSFree Guidance Database.

Ghana

In Ghana's Laboratory Viral Load Testing Expansion Plan: 2017–2020, the need for demand creation is identified as a factor in meeting the 2020 VL targets. Demand creation activities such as orientation, stakeholder meetings, trainings, and refresher courses are identified as next steps for cadres including clinicians, nurse prescribers, primary counselors, community health care workers, expert patients, and PLHIV.

The plan also outlined that there are currently 18 trained laboratory staff, on average two per testing site, conducting VL testing. This was identified as a challenge to providing VL testing at full instrument capacity and without service interruption, as three laboratory personnel are required per site. While all existing staff have received technical training in VL testing, Ghana lacked a standardized established technical training and competency assurance program for newly hired and continuing staff.

Malawi

Malawi's HIV Viral Load Scale Up Strategic and Implementation Plan, 2015–2018 recommended a national advocacy campaign to raise awareness and increase demand for VL testing with messaging to educate the community to know their HIV status; if positive, start ART for life (test and treat); and monitor treatment effectiveness through VL testing. The plan recommended a national VL advocacy campaign, to be led by the MOH with PLHIV and partners.[3]

Malawi HIV Viral Load Scale-up Plan (2015–2018)—Advocacy Plan

Phase 1 (By end of 2016)	- Finalize, print, and officially launch the *HIV Viral Load Scale Up Strategic and Implementation Plan*. - Disseminate the report to every ART site across the country. - Work with the Ministry of Health, Health Education Services and Preventive Health Programs Unit, plus the Department of HIV and AIDS Community Health Sciences Unit to review and finalize messaging and materials for VL scale-up advocacy. - Launch nationwide mass media campaign for first half of 2016. - Negotiate with network providers for SMS educational messaging to raise VL testing awareness.

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[3] However, in the plan, most of these advocacy activities are listed as "not funded."

	• Produce hard-copy materials to be used in ART sites and key community meeting points. • Support district officers to facilitate community advocacy activities, where resources permit. • Evaluate the effectiveness of VL testing advocacy used to make decisions.
Phase 2 **(by end of 2017)**	• Evaluate the effectiveness of VL testing advocacy used to make decision on whether advocacy can now stop, or effective methods should be continued in to 2018.
Phase 3 **(By end of 2018)**	• Use targeted advocacy if still needed.

Source: Malawi MOH 2015

Eswatini

Eswatini's National Operational Plan for Scaling-Up Routine HIV Viral Load Monitoring (2016) provides a framework and approach to clinical mentorship and supervision to ensure effective use of VL testing.

Tanzania

Tanzania's National Operational Plan for Scaling up HIV Viral Load Testing (2015) describes the key limitations for VL scale-up: the cost of VL testing and low demand from health providers related to lack of awareness and the challenges related to specimen transportation. Creating demand and strengthening the specimen referral system were identified as critical to ongoing efforts to scale up VL testing. A national training curriculum for clinical practitioners on the routine use of VL testing in ART monitoring was adopted in Tanzania from WHO guidelines and includes guidance on:

● Providing clear messages on the reasons for VL testing.
● Complying with the VL clinical algorithm.
● Interpreting results for clinical management.
● Documenting follow-up and promoting adherence to ART and retention in care.
● Using clear communication protocols and documentation.
● Offering enhanced adherence counseling to clients receiving ART on VL testing and results.
● Providing lifelong ART for pregnant, breastfeeding women (formerly "Option B+") and key populations.
● Practical case studies.

Tanzania's 2015 national HIV viral load testing guidelines also emphasized that training for health providers should focus on competence and be followed by assessment. Ongoing training needs included:

- Trainings on effective sample collection, transportation, and referral linkage.
- Training and recruiting qualified, competent health laboratory practitioners for VL testing.
- Training health service providers on VL specimen collection, handling, and transportation procedures.
- Conducting on-the-job-training to providers on reduction of sample rejection rate.
- Conducting on-the-job training for health laboratory practitioners on improving their skills and the quality of VL test results.
- Conducting competency assessment to VL service providers (based on the training needs identified) before authorizing them to perform VL testing.
- Offering CME and professional development along with continuous assessments, and providing easy access to reference and resource materials.

Zimbabwe

The Zimbabwe HIV Viral Load Scale-Up Plan: 2015–2018 stressed that for the scale-up of VL testing to be successful, multiple cadres of the health workforce need to be trained. The plan also addressed the need to develop a standard curriculum for each level of health worker to avoid duplication of efforts. The scale-up plan highlighted the training needs for different cadres (Figure A1).

HCW collecting blood samples at the facility level	Nurses and clinicians identifying and managing ART patients for VL testing	Laboratory assistants and technicians testing VL samples
• General VL testing theory and rationale • Milestone screening approach • Indications for VL testing – routine testing for all patients vs. routine testing for selected patients. • Operational and logistical steps for ensuring VL testing is properly implemented at facilities (assigning roles and responsibilities for sample collection, documentation, patient identification, patient follow up, etc.) • Patient flow and clinic workflow • Minimizing loss to follow up • Standard Operating Procedures for collecting DBS samples for VL • Key differences between collecting DBS samples for EID and VL • Completing relevant forms and documentation for VL sample collection and laboratory requisitions	• General VL testing theory and rationale • Milestone screening approach • Indications for VL testing – routine vs. testing for all patients vs. routine testing for selected patients. • Patient identification for VL testing • Operational and logistical steps for ensuring VL testing is implemented at facilities (assigning roles and responsibilities for sample collection, documentation, patient identification, patient follow up, etc.) • Adherence counselling • Understanding VL testing advantages compared to immunological monitoring. • Virologic and clinical failure • Results interpretation • Switching patients to second-line ART • Case studies in patient management • Second line regimens • M&E indicators.	• Protocol for receiving and prioritizing VL samples • Proper entry of VL samples into VLIS • Differences in testing protocols between DBS and plasma samples • Labelling and separating EID and VL DBS samples to ensure there is no cross-contamination or mislabelling of samples • Protocols around sample rejection and sample re-testing • Results transmission to facilities using Results160/LIMS • QC/QA on the platforms. • Requisition Forms QC • M&E indicators

Figure A1. Zimbabwe HIV Viral Load Scale-Up Plan: 2015–2018 and Health Worker Training

Source: Zimbabwe MOHCC 2015

ANNEX 2. DEMAND CREATION FOR PMTCT/EID IN NATIONAL GUIDELINES

The following excerpts provide examples of demand creation strategies outlined in national HIV testing and PMTCT/EID guidance available in the AIDSFree VL & EID Knowledge Base.

Ethiopia

Ethiopia's 2014 National Guidelines for Comprehensive HIV Prevention, Care and Treatment include behavioral interventions as a core programmatic component. Behavioral interventions include a range of behavior change communication programs that use various communication channels (e.g., mass media, community level) to disseminate behavioral messages designed to encourage people to reduce behaviors that increase risk of transmission. Recommended behavioral interventions in the guidelines related to infants and EID include:

- Outreach activities.
- Behavioral change communication materials distribution.
- Promotion of health care-seeking behaviors through existing services.
- Strengthened community-based HIV prevention interventions to address the general population through scale-up of quality.
- Community conversation and integration with existing community structures.
- HIV prevention messages, disseminated via print and electronic media.
- Scale-up of comprehensive prevention interventions addressing key populations.
- Dissemination of targeted HIV and AIDS messages.
- Peer education.
- Referral and linkages with health facilities for voluntary counseling and testing, sexually transmitted infection, and ART services.

The guidelines also emphasize providing education to households on PMTCT through Ethiopia's health development armies, and mobilization for community involvement in PMTCT, both of which can contribute to EID uptake.

Kenya

The Kenya Framework for Elimination of Mother-To-Child Transmission (eMTCT) of HIV and Syphilis (2016–2021) emphasizes community participation and ownership in achieving eMTCT. A key strategy is to reinforce communities' role in service delivery and demand creation by:

- Building communities' capacity, including networks of PLHIV, to provide education, advocacy, and social mobilization.
- Integrating resource mobilization and utilization from community actors and stakeholders to support outreach and referral mechanisms independent of facility funding.

- Optimizing innovative service delivery models such as community-based HIV and/or syphilis testing, care, and support; community sexual and gender-based violence watch; and maternal shelters.
- Developing and operationalizing guidelines and SOPs on functional facility-to-community referrals.
- Expanding and empowering a workforce of community health volunteers and other relevant players to provide services within the community.

Malawi

The Malawi National Strategic Plan for HIV and AIDS (2015–2020) includes an accelerated focus on early identification and treatment initiation of HIV-positive infants. The plan emphasizes:

- Finding exposed infants.
- Continuing provider-initiated testing and counseling (PITC) for pregnant women
- Providing PITC for infants at first points of care.
- Strengthening EID through infant testing at six weeks through 24 months, increasing access to HIV testing services (HTS), and improving sample transportation and turnaround time
- Scaling up the mother-infant pair model
- Conducting community campaigns to improve awareness, linkage to services, and retention in care

Nigeria

The National HIV and AIDS Strategic Plan for 2017–2020 emphasized demand generation for HTS to help achieve the target of 95 percent of all HEIs receiving EID within two months of birth by 2021.

Strengthen Community Systems to Support Access of HIV-Exposed Infants to Needed Services

Major Activities

- Support community participation and mobilization.
- Build the capacity of community and lay service providers: Train, retrain, mentor, and provide supportive supervision for care providers to ensure HIV-exposed infants access EID service, serological tests, ARV prophylaxis, and cotrimoxazole access strategies.

Expand Access to EID Services

Major Activities

- Increase access of HIV-exposed infants to EID services: Establish EID services in all secondary health care service centers to which eMTCT sites are linked. Facilitate point-of-care EID service delivery at all eMTCT sites.
- Build the capacity of laboratories to provide EID services: Train and use appropriate technology that can reduce the turnaround time for EID results.

- Follow up HIV-exposed infants to ensure uptake of EID: Institute appropriate mechanisms to follow up and track defaulting mother-infant pairs and ensure access to EID services.
- Institute quality assurance processes: Ensure that quality assurance mechanisms are in place to monitor adherence to guidelines, and address other quality-related issues for EID services.

Uganda

Uganda's 2016 National HIV Testing Services Policy and Implementation Guidelines emphasize SBCC interventions and demand creation as a key component of the Ministry of Health's approach to encouraging HIV testing, including EID testing. An objective of the document is to provide guidance for HTS demand creation and adoption of positive behavior.

Demand Creation

SBCC interventions shall empower the community with knowledge and skills to take appropriate action to seek and use HTS.

- SBCC implementers should involve the target populations in the planning and implementation of SBCC interventions to promote ownership and sustainability.
- SBCC implementers should use existing community structures and resources for mobilizing target populations. Such structures include:
  - o The local council system.
  - o Religious structures.
  - o Informal groups, including savings and credit cooperative societies (SACCOs).
  - o Formal structures such as schools and health facilities.

Tracking and Reporting SBCC Interventions for HTS

All HTS SBCC interventions shall have an M&E framework to track the contribution of SBCC activities in the achievement of the policy objective.

- MOH shall develop specific indicators for measuring the progress and results of SBCC interventions.
- HTS programs implementing SBCC activities should report progress and results as per the National HTS SBCC indicators.
- In order to reach 90 percent of HIV-positive individuals with HTS, SBCC partners should innovate, learn, document, and share results for replication.
- SBCC interventions should be guided by the M&E agenda of the National HTS communication implementation plan and the M&E Framework for HIV and AIDS.

Zimbabwe

Zimbabwe's Ministry of Health identified demand generation as a key area in its HIV Testing Services Strategy 2017–2020. The strategy aimed to strengthen appropriate and targeted messaging to effectively reach priority populations, including infants and children. The demand generation for this strategy included training health workers to increase awareness and knowledge of testing for children,

as well as the targeting mothers and caregivers through interpersonal communication and health education.

ANNEX 3. ADVOCACY CAMPAIGNS AND TOOLS

Undetectable=Untransmittable (U=U)

Learn more here.

Campaign focus: Treatment as prevention/viral load testing/viral suppression

Key Audience(s):

- PLHIV
- Providers
- Civil society organizations

Prevention Access Campaign's Undetectable=Untransmittable (U=U) is a global community of HIV advocates, activists, researchers, and more than 800 community partners from nearly 100 countries uniting to clarify and disseminate the message that PLHIV on effective treatment do not sexually transmit HIV. U=U was launched in early 2016 by a group of PLHIV who created a Consensus Statement with global experts to clear up confusion about the science of U=U. The U=U movement is sharing the message to reduce HIV stigma, improve the lives of PLHIV, and advance efforts to ending the HIV epidemic.

The U=U strategy includes advocacy, education, and communication including a customizable social marketing campaign to educate about U=U and encourage engagement in care.

Advocacy Campaign: Be Healthy—Know Your Viral Load

Learn more here.

Campaign focus: Viral load testing/viral suppression

Key Audience(s):

- African governments
- Civil society organizations

The campaign "Be Healthy—Know Your Viral Load" (Figure A2) is coordinated by the International Treatment Preparedness Coalition (ITPC), the AIDS and Rights Alliance for Southern Africa, and 11 national partners: Botswana, Cameroon, Côte d'Ivoire, Kenya, Malawi, Morocco, Eswatini, Tanzania, Uganda, Zambia, and Zimbabwe. The campaign conducted baseline research and shares personal stories about the effect of viral load testing to relate to other PLHIV and motivate them to take action.

ITPC developed targeted advocacy tools that CSOs and partners can adapt and use to launch national/regional campaigns.

The campaign calls on all African governments to:

- Adopt the WHO guidelines on the strategic use of routine viral load testing.
- Invest in the direct and strategic implementation of the guidelines that recommend the use of routine viral load testing.
- Invest in fast-tracking policy implementation of the routine viral load testing guidelines at the facility level.

As a direct result of the Be Healthy—Know Your Viral Load campaign launch in Zambia in 2015 and subsequent meetings with the Treatment Advocacy and Literacy Campaign, the Zambian Ministry of Health issued a directive to all ART facilities, instructing the immediate uptake of viral load testing.

Figure A2. Be Healthy—Know Your Viral Load
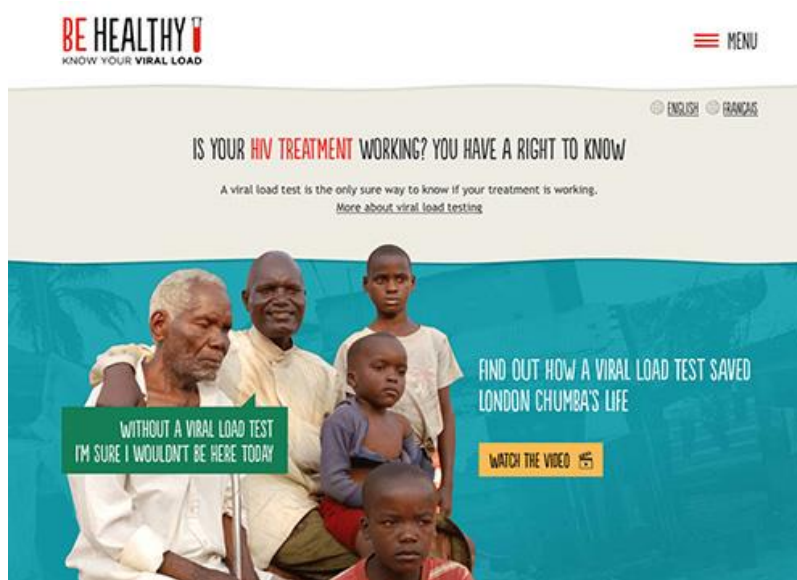
Source: ITPC

Activist Toolkit: Campaigning for Routine Viral Load Monitoring

Learn more here.

Campaign focus: Viral load testing/viral suppression

Key Audience(s):

- PLHIV
- Civil society organizations

Building on the Be Healthy—Know Your Viral Load campaign, the ITPC launched the Campaigning for Routine Viral Load Monitoring Toolkit in 2016 as a training and knowledge building resource to support communities to improve and expand their understanding of HIV treatment monitoring using routine viral load testing. ITPC held in-person treatment education and mobilization workshops to facilitate uptake and use of the tool. Upon completion of each workshop, ITPC provided grants (US$10,000) to nine national partners to translate advocacy plans into action.

As a result of the sensitization, workshops, and trainings, and other advocacy actions (including development and dissemination of print materials) conducted with these small grants, four of the

national partners succeeded in securing new commitments from countries to scale up viral load testing. Community mobilization through treatment education, supplemented by small grants to CSO partners, is being used to strengthen the capacity of PLHIV and activists to demand access to and use of routine viral load testing (Killingo 2017).

People-Centered Literacy Campaign in Mozambique

Learn more [here](#).

Campaign focus: Client ART/viral suppression literacy, stigma reduction

Key Audience(s):

- PLHIV

Developing a positive image of PLHIV leading healthy lives, such as in a people-centered literacy campaign developed in Mozambique in 2018, can empower and motivate PLHIV to achieve viral suppression as well as confront common stereotypes and perceptions among the public. The current campaign emphasizes dialogue—PLHIV talking to each other. This strategy fosters respect and builds self-esteem and confidence. Photos of real people living with HIV are helping to reduce stigma by challenging widespread and longstanding perceptions. The viral load client literacy campaign is ongoing and aims to:

- Help PLHIV to fully understand the impact of treatment and undetectable viral load. Materials developed—educational flyers, posters, and brochures—are being distributed in health facilities throughout Mozambique to improve adherence, reinforce ART use, and emphasize the importance of undetectable viral load.
- Share a positive image of PLHIV, combating stereotypes by showcasing individuals who lead healthy lives through achievement of viral suppression and reduction of HIV transmission (Jhpiego 2018).

Community Dialogues in Mozambique

Learn more [here](#).

Campaign theme: Stigma reduction in communities to improve health-seeking behaviors for HIV services, including viral load testing, particularly among men. Message: *All are "sawa sawa" (equal).*

Key Audience(s):

- Men

The Health Communication Capacity Collaborative (HC3) project implemented the *Sawa Sawa* program in the Sofala Province of Mozambique in 2017. The program was developed to reduce stigma in communities to improve health-seeking behaviors for HIV services, particularly among men.

In addition, community dialogues and "Positive Prevention" groups for PLHIV were developed to provide a supportive environment to teach the difference between CD4 and VL, including the importance of viral suppression.

Brothers for Life in South Africa

Learn more [here](#).

Campaign theme: Improving treatment literacy and encouraging early initiation and adherence to treatment for viral suppression.

Key Audience(s):

- Young men

A [baseline assessment](#) in South Africa demonstrated that knowledge and understanding of viral load is low in South Africa. Brothers for Life is a campaign aimed at mobilizing men to take responsibility for their own health by promoting positive male norms, encouraging men to test for HIV, and encouraging early initiation and adherence to treatment for viral suppression (Michalow 2018).

Community Mobilization in South Africa

Learn more [here](#).

Campaign theme: Increasing knowledge, dialogue, and uptake of services using community workshops and public service announcements

Key Audience(s):

- Men
- Serodiscordant partners

Reducing viral load to improve health is a key motivator for ART adherence that can help shift perceptions of treatment. PLHIV should be given this information in combination with information about treatment as prevention, especially since it facilitates comprehension of the mechanism through which ART prevents transmission.

To support work in communities, Sonke Gender Justice produced a package of materials including a [handbook](#), [workshop manual](#), and [toolkit](#), designed to support community mobilization activities around the issue of treatment as prevention. *Community Action Teams* were trained to generate community action. Project staff and partners work with the teams to conduct workshops and other activities in the community, including door-to-door campaigns, film screenings, and drama performances. A series of [public service announcements](#) was also developed using personal testimonies from health workers, mobilizers, and PLHIV.

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RELATED WEBSITES

- AIDSFree HIV Treatment Guidance Database: https://aidsfree.usaid.gov/resources/guidance-data/treatment
- AIDSFree VL/EID Knowledge Base: https://aidsfree.usaid.gov/resources/vl-eid
- Baobab Health: http://baobabhealth.org/
- Baylor International Pediatric AIDS Initiative: https://bipai.org/malawi
- Brothers for Life: https://www.brothersforlife.org/living-positive.html
- Communication for Healthy Communities *Obulamu?* Campaign: https://www.obulamucampaign.org/
- EGPAF Point-of-Care EID Data Dashboard: http://www.pedaids.org/impact/data-dashboard/point-care-early-infant-diagnosis-data-dashboard/
- Free to Shine: http://freetoshineafrica.org/
- Global Health Innovations: https://www.globalhealthinnovations.org/
- Health Options for Young Men on HIV/AIDS/STI (HOYMAS): https://www.galck.org/hoymas/
- International Treatment Preparedness Coalition. Be Healthy—Know Your Viral Load Campaign. http://itpcglobal.org/our-campaigns/know-your-viral-load/
- mothers2mothers: https://www.m2m.org/
- Positive Series: http://positiveseries.org/
- Prevention Access Campaign: https://www.preventionaccess.org/