Supporting HIV-Related Laboratory Networks and Partnerships to Facilitate Laboratory

Strengthening and Management Activities for Countries Supported under PEPFAR

Annual performance report in response to NOFO # CDC RFA GH18-1805-02 CONT20

Plot 42 Lugogo By-pass,

P. O. Box 12874,

Kampala

www.afenet.net

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ACRONYMS

AFENET	African Field Epidemiology Network
AIC	African Inland Church
CD4	Cluster of Differentiation 4
CDC	Centers for Disease Control and Prevention
DBS	Dry Blood Spot
DH	District Hospital
DNA	Deoxyribose Nucleic Acid
DTS	Dried Tube Specimen
ECHO	Extension of Community Health Outcomes
EID	Early Infant Diagnosis
EQA	External Quality Assessment
EQAS	External Quality Assessment Scheme
FELTP	Field Epidemiology and Laboratory Training Programme
HEID	HIV Early Infant Diagnosis
HC IV	Health Center IV
HIV	Human Immunodeficiency Virus
HLI	Health Links Initiative
MACRO	Malawi AIDS Counselling and Research Organization
MoH	Ministry of Health
NHL-QATC	National Health Laboratory Quality Assurance and Training Centre
NHRL	National HIV Reference Laboratory
PCR	Polymerase Chain Reaction
PEPFAR	President's Emergency Plan For AIDS Relief
PMTCT	Prevention of Mother To Child Transmission
PT	Proficiency Testing
QMS	Quality Management System
RRH	Regional Referral Hospital
RTCQI	HIV Rapid Test Continuous Quality Improvement

SLMTA	Strengthening Laboratory Management Toward Accreditation
SLIPTA	Stepwise Laboratory (Quality) Improvement Process Towards Accreditation
UVRI	Uganda Virus Research Institute

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EXECUTIVE SUMMARY

The African Field Epidemiology Network (AFENET) through its AFENET-Lab initiative received funding form the Centers for Disease Control and Prevention (CDC) in March 2018 to support HIV-Related Laboratory Networks and Partnerships to Facilitate Laboratory Strengthening and Management Activities for Countries Supported under PEPFAR. Over the past one year March 2018- April 2019, AFENET has implemented a number of laboratory-strengthening activities in three (3) African in partnership with CDC and National Ministries of Health. Laboratory strengthening activities that have been supported include:

1. Facilitating Project ECHO sessions to ensuring the Quality of Rapid Test and other Point of Care Diagnostics in Uganda, Malawi and Tanzania

2. Laboratory Partnerships to Support the Diagnosis, Treatment and Management of PLHIV and TB through development of an electronic tracking tool for ancillary equipment to include location, status, calibration activities, reminders and a tablet of devices for remote data collection. Also work with partners to collate and update data from Nigeria and Cameroon for incorporation into the electronic tool.

3. Facilitating implementation of continuous quality improvement initiatives TB diagnostics.

This report describes activities carried out under this program for the period March 2018 to April 2019. AFENET registered several achievements under the various funded scopes of work. We recorded the following successes:

1. Facilitated skills and capacity building for various laboratory and other health personnel in HIV rapid testing through the use of Project ECHO platform in Uganda and Tanzania.

2. Procured and installed Information Technology equipment in 20 health facilities (spoke sites) in Uganda, Malawi, Tanzania, we additionally supported four HUBS in Tanzania and Malawi.

The main challenge experienced in implementation was delayed implementation of activities primarily due to various reasons such as: Delays in approval of scope of work for TB CQI and changes in country Ministries of Health priorities.

Reports are presented by region, scope of work, highlighting activities, achievements, challenges encountered, solutions, best practices, lessons learned and recommendations.

Mechanism ID -398: Rapid Test Continuous Quality Improvement Initiative (RTCQI)- Project ECHO

Project ECHO® is a platform for practice-based education and training, service delivery, and outcomes research. The Project ECHO® is a hub-and-spoke educational model that allows subject matter experts in any field of concern to share their knowledge with frontline providers in underserved communities. This model uses cloud-based video teleconferencing capability to deliver a need-based curriculum and to discuss providers concerns or challenges. Project ECHO is being implemented in Tanzania, Malawi, and Uganda.

Malawi

AFENET subcontracted the Malawi AIDS Counselling and Research Organization (MACRO) to implement Project ECHO activities in Malawi.

With support from AFENET, MACRO implemented Project ECHO in collaboration with Ministry of Health. The goal of the project is to improve the quality of HIV testing services through continued capacity building of HTS providers. The specific objectives are to provide training and mentorship in delivery of HIV testing services by HTS providers in the targeted facilities and also to conduct evaluation of the impact of Project ECHO model on competence of HTS providers in delivery of HTS services. The project is being implemented in 6 districts spread across the country and these districts are: - Zomba, Blantyre, Lilongwe, Mzimba North (Mzuzu), Machinga and Mangochi.

Major Accomplishment and any deviations from the work plan.

    a) **Recruitment of full time ECHO Coordinator and IT officer.**

The Project Coordinator (Patrick Nayupe) and Information Technology Officer (Mr. Chimwemwe Msiska) were recruited in September 2018. They are currently taking the lead in the project implementation.

    b) **Development of Project ECHO protocol**

During the reporting period, Project ECHO Protocol was developed in consultation with partners (CDC, MOH, and AFENET) to guide evaluation of the project.

The protocol was submitted to the National Health Science Research Committee under Ministry of Health for ethical approval and the approval was granted in April 2019. See annex for protocol and IRB approval letter.

c) Setting up Spoke sites in Malawi.

Six districts were initially ear marked as spokes in Malawi and these are Chikhwawa, Blantyre, Zomba, Machinga, Mangochi and Mzuzu in Mzimba North. However, Chikhwawa district was replaced later with Ntcheu district because Partners in Hope had plans to introduce similar ECHO strategy in Chikhwawa district with funding from USAID.

Table 1: Summary of spoke sites and number HTS providers targeted in each spoke:

District	Spoke sites	Number of HTS providers
Blantyre	Gateway	8
	Limbe Health Centre	12
	Limbe MACRO Clinic	2
Zomba	Matawale	30
Mangochi	Mangochi District Hospital	40
Ntcheu	Ntcheu District Hospital	34
Mzimba	Mzuzu Health Centre	25
	Mzuzu MACRO Clinic	6
Machinga	Machinga District Hospital	33

d) Training of Project ECHO project team from MACRO and MOH

As part of capacity building, five key project staff (3 from MACRO and 2 from Ministry of Health) were supported to attend Project ECHO Immersion Training in New Delhi, India. The training took place from 5th to 7th December 2018 and it focused on design, implementation, monitoring, evaluation and management of Project ECHO. The training was facilitated by ECHO India Trust. The immersion training was an eye opener to the project team and counterparts from Ministry of Health learnt basics of implementing Project ECHO ranging from step by step replication process for project ECHO implementation, appropriate equipment for spokes and hub as well facilitation of ECHO sessions. Further to this the team had an opportunity to practically observe ECHO session as well as participate in a session.

e) Review of Project ECHO Scope of Work

Project ECHO was reviewed with Ministry of Health and was adopted after streamlining some few areas such as key project outputs and was later adopted. The Scope of work for Project was also shared to various partners within Ministry of Health and other key stakeholders that attended the launch of Malawi HIV Rapid Testing Provider and Site Certification Framework.

f) Project ECHO sensitization and orientation activities

Key partners such as Ministry of Health (MoH), Malawi HIV and Testing Services (HTS) Core group, Malawi Nurses and Midwives Council and Medical Council of Malawi were sensitized about the project to get their support and buy in throughout implementation. Furthermore, District health management teams in the targeted districts of Zomba, Machinga, Blantyre, Chikhwawa, Ntcheu, Mzimba North (Mzuzu), Mangochi and Blantyre were also oriented about the project. It should be noted that for Blantyre and Mangochi district the team was advised to do another orientation targeting members of the research and ethics committee. It was noted that all visited project ECHO sites are almost ready for the project except Mangochi as District Health Management Team (DHMT) recommended that District Research Committee should be oriented as well before final approval to proceed. It was further noted that ECHO session rooms are ready although some rooms are small as is in the case with Zomba, Ntcheu and Mzimba North Mzuzu Health Centre. The readiness assessment revealed the existing need for the implementation of Project ECHO with adequate human resource capacity needed in the implementation of project ECHO. However, internet connectivity was not adequate in almost all health facilities.
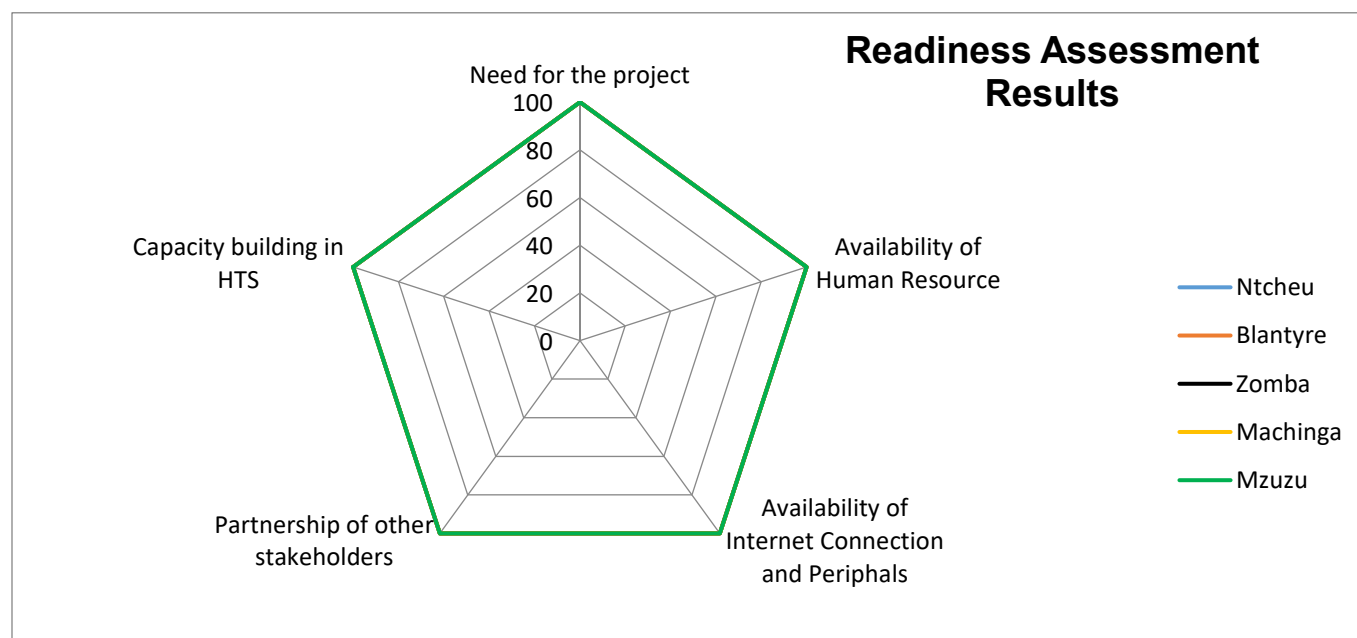
g) Project ECHO Site Readiness Assessment.

A readiness assessment was done in five out of the six project spoke sites (Ntcheu, Blantyre, Zomba, Machinga and Mzuzu to determine need for the project, availability of human resources and their capacity, availability of rooms and space to conduct ECHO sessions, internet connectivity and partnership readiness of partners. All the assessed facilities welcomed the project and had basic acceptable requirements to undertake the project. Table below is the table and graph showing the results of Project ECHO Readiness assessments.

Table 2: Summary of the results of Project ECHO Readiness Assessment.

Project ECHO Site	Summary Prerequisite					
	Need	HR Capacity	Internet/Computer capacity	Partnership	Capacity Building	Space
Ntcheu	Yes	Yes	Yes	Yes	Yes	Yes
Machinga	Yes	Yes	Yes	Yes	Yes	Yes
Blantyre	Yes	Yes	Yes	Yes	Yes	Yes
Zomba	Yes	Yes	Yes	Yes	Yes	Yes
Mzimba North Mzuzu	Yes	Yes	Yes	Yes	Yes	Yes

Graph 1: Summary of Project ECHO Readiness Assessment Results

Basic challenges that were identified included erratic supply of electricity.

Findings of the Readiness assessment at the spokes

Below are the findings of Readiness assessment at the spokes:

1.1.1 Ntcheu

During the assessment, it was noted that the District Health Office / spoke sees the need for ECHO implementation. Stakeholders in the district are willing to work on the project as they see that it has potential of providing training and mentorship in order to improve quality of HTS services. The district intends to target 34 HTS providers and the room was identified for ECHO sessions. The HTS providers were comfortable to conduct the sessions from 3 pm in the afternoon as they indicated as this is the time they are not very busy. With the setup of Ntcheu, readiness assessment team recommended use of laptops / tablets with 5 HTS providers using one. The district have adequate human resource to implement the project. HTS coordinators will take to coordinate at district level and the district have expertise at district level that will be key during implementation. Other personnel are also available like IT personnel but will just need to be oriented during implementation especially on trouble shooting.

1.1.2 Machinga

During the assessment, it was noted that the District Health Management Team at the spoke expressed the need for ECHO implementation as it will be key to train and mentor HTS provider in order to improve quality of services. The district made commitment to support the initiative by ensuring that human resource is available to coordinate the project. HTS coordinator was assigned to take the lead in coordination and implementation. With the setup of Machinga, the readiness assessment team recommended use of laptops / tablets with 5 HTS providers using one gadget. Other personnel are also available like IT personnel but will just need to be oriented during implementation especially on trouble shooting. The teaching block at Machinga district hospital was identified as ideal place to conduct ECHO session and district committed to work with other stakeholder to address security challenges. The HTS providers are willing to participate in the project and there are also availability of experts at the district hospital who will be key to provide technical guidance.

1.1.3 Blantyre

During the assessment, it was noted that the District Health Office / spoke sees the need for ECHO implementation. Stakeholders in the district are willing to work on the project in order to improve quality of HTS services. With the setup of Blantyre, MACRO team recommended

use of laptops / tablets with 5 HTS providers using one. The district have adequate human resource to implement the project. HTS coordinators was identified by the district team authorities to coordinate at district level and the district have expertise at district level that will be key during implementation. Other personnel are also available to assist in setting up equipment for the session but will just need to be oriented during implementation especially on trouble shooting. Apart from MACRO Blantyre, Limbe Health Centre and DHO has been earmarked as venues for the ECHO sessions. It was noted that internet is available in the sites but might require boasting. The district have expertise in HTS capable of providing technical support during the implementation and took this as an opportunity of training and mentorship to improve quality of HTS in the district.

1.1.4 Zomba

During the assessment, it was noted that the District Health Office / spoke sees the need for ECHO implementation. Stakeholders in the district are willing to work on the project to enhance training and mentorship in order to improve quality of HTS services. The district authorities identified Matawale Health Centre as a spoke. HTS providers expressed willingness to participate in the project. With the setup of Zomba, MACRO team recommended use of laptops / tablets with 5 HTS providers using one. The district have adequate human resource to implement the project. HTS coordinators was identified to coordinate at district level and the district have expertise at district level that will be key during implementation. Other personnel are also available to provide IT services but will just need to be oriented during implementation especially on trouble shooting and setting up the ECHO equipment. MACRO Zomba office will also take the role of following up Project ECHO activities in Zomba apart from Secretariat.

1.1.5 Mzimba North

During the assessment, it was noted that the District Health Office / spoke sees the need for ECHO implementation. Stakeholders in the district are willing to partner with MACRO in the project in order to improve quality of HTS services. The targeted HTS providers have undergone formal HTS training in line with national HTS guidelines. With the setup of Mzimba, MACRO team recommended use of laptops / tablets with 5 HTS providers using one.

The district have adequate human resource to implement the project. HTS coordinators will take the lead to coordinate at district level and the district have expertise in HTS at district level that will be key during implementation. Other personnel are also available like IT personnel but will just need to be oriented during implementation especially on trouble shooting. All HTS provider targeted have under formal training in line with national HTS guidelines. MACRO Mzuzu and Mzuzu Health Centre were identified as spokes. The facilities have personnel that could assist in setting up the equipment for ECHO sessions but will require to be oriented.

Note that readiness assessment was made for Chikwawa but the district has been replaced by Ntcheu after it was established that they are implementing similar project with funding from USAID. In terms of all other parameters assessed, Chikwawa met all the requirements. The decision was made in consultation with CDC Malawi and AFENET and was endorsed during the conference call.

h) **Procurement of Project equipment**

The procured IT equipment (camera and microphone set) has beefed up the existing Hub at Ministry of Health in the Department of HIV and AIDS (DHA) such that it is set for the Project ECHO sessions. The other part of the equipment was already supported by other partners. IT equipment for the hub at Ministry of Health (DHA) comprised of complete set of camera and microphone set has been procured and delivered.

i) **Completed Compilation of Project ECHO Spoke Sites HTS gaps and Challenges.**

Project ECHO sessions will use a need-based curriculum to address the existing spoke sites HTS gaps and challenges. During the reporting period, HTS challenges and gaps were compiled from the latest RTCQI audit report of second round done in Dec 2018, latest district supportive supervision report and from the District HTS Coordinators HTS reports.

The main challenges and gaps that were noted in the 9 spoke sites were in the areas of HTS documentation, Safety, Quality Assurance in Counselling, HIV testing and Quality Control performance, Stock management, Adherence to testing procedures, Waste management and Risk assessment and appointments.

These challenges and gaps noted will be used to develop a curriculum for project ECHO sessions. The curriculum will therefore be developed to address the gaps noted and modules will be developed in the areas noted using subject matter experts identified.

j) **Identification of Subject Matter Experts to Develop Project ECHO Curriculum based on the Challenges of the Six Project ECHO Sites.**

Ministry of Health, Department of HIV and AIDS (DHA) and MACRO identified a team of ten subject matter experts (SME) from a pool of experienced HTS trainers. These SMEs were drawn from Ministry of Health, MACRO and other partners (For details of SMEs Refer to Annex 2).

The SMEs will be required to develop modules that will form the need-based curriculum for the subsequent project ECHO sessions. The drafting of the modules is in progress and expected to be completed the first week of April 2019 and thereafter curriculum development workshop will be conducted to come up with the Project ECHO curriculum.

Major challenges, constraints and resolutions.

- The initial plan to orient project ECHO to Ministry of Health took long as several sections within the ministry such as the Department of HIV and AIDS (DHA), Laboratory Diagnostics, and HTS Core Group had to be briefed first. This affected the other plans to orient and sensitize District Health Offices. Rearrangements were made to ensure plans were on course.

- During orientation and sensitization meeting at Chikhwawa District Health Office (DHO), it was established that the district is implementing a similar project with Partners in Hope in partnership with USAID. After consultation with key partners such as CDC Malawi, AFENET and Ministry of Health, an agreement was made to swap with Ntcheu District. This had implications on the budget as the initial plan was one visit per district for the exercise.

- Some of the visited districts did not have adequate space and electricity back-up. The procurement of the less complicated IT materials will ensure that space challenges are addressed

- District requirements to orient other committees other than District Health Management Team (DHMT) was a challenge that required repeat visit to the districts such as Blantyre and Mangochi District and had implications on the budget and implementation period.
- Stakeholders meeting to validate curriculum could not be done due to conflicting calendars for MOH and other stakeholders.

Project in Pictures

ECHO team from Malawi attending Immersion Training in India 5 to 7 December 2018	**Project ECHO Manager conducting orientation for the District Health Management Team for Mzimba North**

Project Orientation, for HIV testing providers at Mzimba North	Project orientation for Blantyre District Health management team
	Camera and Microphone set

Table 3: Spoke Readiness Checklist

PREREQUISITES	READINESS		
	YES	NO	Potential
NEED			
District Health office/Spoke sees need for ECHO implementation			
Key leadership at spoke, ministry, university, training centers has enthusiasm for project, sees a need for this type of training/mentoring			
HR CAPACITY			
District Health office/Spoke has HR capacity to engage in ECHO implementation ▪ Can allow personnel to attend scheduled ECHO sessions			
Spoke can dedicate point of contact to the project to: • trouble shoot challenges • have time for participating in meetings, • and be in communication with facilitators and implementing partner locally (MACRO)			
Potential Spoke has HTS coordinator			
Minimum level of training in HIV testing			

Enough infrastructural space to accommodate participants for the training			
INTERNET/COMPUTER CAPACITY			
Potential Spoke site has sufficient internet bandwidth (establish with site-level speed tests) or potential/budget to upgrade/boost existing infrastructure to acceptable level within a set timeframe (two months?) through investment or collaborations.			
Computer equipment and/or webcams available or budget available to procure them			
PARTNERSHIPS			
Key personnel at ministry, university, training centers is identified and engages with consortium in moving project forward			
CAPACITY BUILDING			
Potential spoke site is able to send key personnel to ECHO training			
Facilitator can be identified who has time to be engaged in developing and running ECHO sessions (at least 20% FTE)			
Potential spoke has mentorship program already or is interested in creating one for which ECHO can be a means to strengthen mentor relationships			
Hub team able to engage potential spokes			
Spokes show enthusiasm for participating in ECHO sessions/mentorship			
Spokes have a need to participate in ECHO sessions to obtain their Continuing Professional Development credits			
Potential spoke is willing to dedicate a room for ECHO sessions which has adequate security			

UGANDA

In Uganda, AFENET subcontracted the National HIV Reference Laboratory (NHRL) at the Uganda Virus Research Institute (UVRI) to continue implementing Project ECHO activities. NHRL is mandated by the Uganda Ministry of Health to oversee and take lead in all HIV Quality assurance activities within the country. During the reporting period the following activities were planned to be implemented:

- Recruitment of ECHO coordinator
- Expansion of Project ECHO spoke sites from six (6) to eight sites (8).
- Conduct weekly ECHO sessions
- Procurement of ECHO equipment kits for the spoke sites
- Reactivation of spoke sites in preparation for ECHO learning sessions

Achievements

The following achievements were registered during this reporting period:

1) **Recruitment of an ECHO Coordinator was done and completed.**

Samson Bakengana is supporting the coordination of all Project ECHO related activities at UVRI ranging from conducting weekly ECHO sessions, procurement of IT equipment's, reactivation of spoke sites that had been closed down due to lack of funding and also identification of ne spoke sites to be enrolled into the project.

2) **Reactivation of spoke sites**

Five spoke sites were reactivated and support was provided to prepare them for the weekly ECHO learning sessions. The 5 spokes sites are: Kayunga Hospital, Kawolo Hospital, Wakiso HCIV, Ndejje HCIV, Walukuba HCIV and Jinja Regional Referral Hospital. Support provided to these spoke sites ranged from replacement of batteries, extension cables and camera in one of the health facilities.

3) **Expansion of ECHO spoke sites to eight (8)**

Three new spokes sites were assessed and enrolled into project ECHO, these new spoke sites are: Kiryandongo General Hospital, Masaka RR Hospital and Kasangati HCIV.

4) **Procurement of new ECHO IT equipment for the 3 new spoke sites.**

Selected ECHO IT equipment were procured and installed in all the three new spoke sites and these include speaker microphones, TV screen, internet modems, and wireless router, camera and extension cables among other items.

5) Conduct weekly ECHO sessions

We have successfully conducted a total of 10 weekly ECHO sessions since February 2019, a total of 108 participants have attended these sessions and these numbers will increase after the three new spoke sites have been fully connected to the main HUB at UVRI. Three support supervision visits were also conducted by a team from UVRI and Uganda Ministry of Health to address challenges relating to selection of participants to attend the sessions, IT and internet connectivity issues and also to sensitize the health facility management team about Project ECHO. Learning sessions will be based on the New HIV RT training curriculum. Big topics were subdivided into two or more subtopics to cater for the 15 minute didactics.

Lessons learned

1. Early involvement of hospital management and other laboratory staff in planning and implementation of laboratory improvement projects is very critical to ensure that there is buy-in from all personnel and for the efficient realization of laboratory quality improvement

2. Inclusion of hospital management staff is very important for their appreciation. This motivates hospital management staff to provide the needed support in a timely manner

Tanzania

In Tanzania, AFENET is working with Health Links Initiative (HLI) to implement Project ECHO. Project ECHO in Tanzania was launched on 30ᵗʰNovember 2016. Started with HIV lab ECHO, and currently Care and Treatment ECHO also exists. The Goal of Lab ECHO is to improve competency of HIV rapid testing personnel towards certification using an affordable training and mentoring approach.

Project ECHO has recently been expanded from one HUB (LAB) to two CTRL (MDR TB ECHO) in collaboration with AFENET, CDC Atlanta, Tanzania Ministry of Health, Eight new spoke sites have also been set up and these include; Bombo RRH (Tanga), Mount Meru RRH (Arusha), Kibong'oto

RRH (Kilimanjaro), Bugando Medical Centre (Mwanza), Kagera Hospital (Kagera), Songea RRH (Ruvuma), Dodoma Hospital (Dodoma) & Tumbi Hospital (Coastal).

Utilize of 7 existing HIV Care and Treatment ECHO spokes; Kimara, Vijibweni, Mnazi mmoja, Mbagala, Segerea (Dar es Salaam) and Ushetu, Kahama (Shinyanga).

a) **Planned Activities (September- December 2018)**

- Recruitment of ECHO coordinator

- Conduction of ECHO sessions

- Selection of ECHO spoke champions

- Procurement of ECHO control unit's equipment

- Installation of ECHO control units at HLI office

b) **Achievements as per Planned Activities**

- ECHO coordinator has been recruited already and coordination of echo sessions is ongoing; the main task that the coordinator has been performing since she joined HLI has been:
    - Coordinate weekly training sessions for Health Care Workers
    - Inviting participants and sharing of training materials before sessions
    - Track and communicate with spoke champions/representatives
    - Communicate with facilitators and subject matter experts before and after sessions
    - Oversee that trainer's guide and training curriculum is followed
    - Ensure that attendance is collected and compiled by hubs and spokes
    - Synchronize data available with data manager
    - Draft reports and share with Medical Officers in charge of respective hospitals where ECHO sessions are conducted.

- **Coordination and conduction of ECHO sessions for all regions**

ECHO sessions have been conducted and participants attendance has improved, due to the sensitization meetings which were conducted by HLI in collaboration with partners.

- **ECHO spoke champions have been identified and selected**

The champions have been key in emphasizing the attendance of health care workers to the ECHO sessions

Challenges

- There has been a slight delay in obtaining ECHO equipment for HLI office due to unavailability of some of the key equipment such as speaker, camera and microphone within the country, however progress are still going on to obtain the equipment through other modalities.

- On the availability of health care workers to attend ECHO sessions, the organization has faced a challenge of not being able to have a consistent number of health workers attending the ECHO sessions due to rotations of staff in the health facilities where spokes are located.

- Inadequate number of trained facilitators/ subject matter experts. For some HIV lab ECHO sessions, there are no adequate number of trained personnel to facilitate the sessions, as such there are several occasions for which the same facilitators are required to facilitate all sessions

Success stories

- There are ongoing efforts to certify non laboratory HIV testers who were trained through ECHO platform and have passed well the exams which was provided by Health Laboratory Practitioners Council (HLPC) indicating the modality of training through ECHO has made a difference in knowledge and skills. The number of health workers to be certified this January is 63 out of 159 who were evaluated.

- Sensitization meetings conducted which involved hospital management teams and Medical officers in charge, manager, matrons/ patrons increased awareness and ownership of project ECHO among the Hospitals where ECHO equipment have been installed.

- The MOH and President Office Regional Administration and Local Government(PORALG) are in full support of the initiative as such; they also have the ECHO equipment installed in their premises.
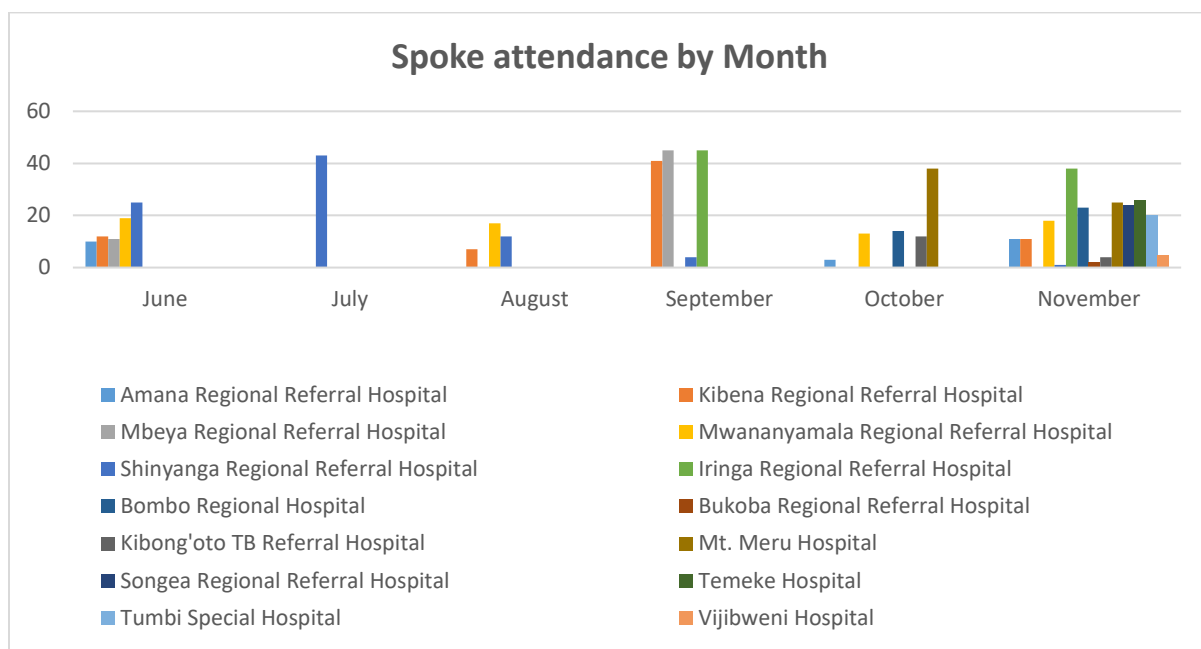
Conclusion

- Working in close collaboration with the key stakeholders to ensure all HIV ECHO sessions are smoothly running including soliciting facilitators, planning for sessions has played a key role in facilitating the running of ECHO sessions.

- Involvement of HIV Implementing partners to support ECHO training is of utmost importance.
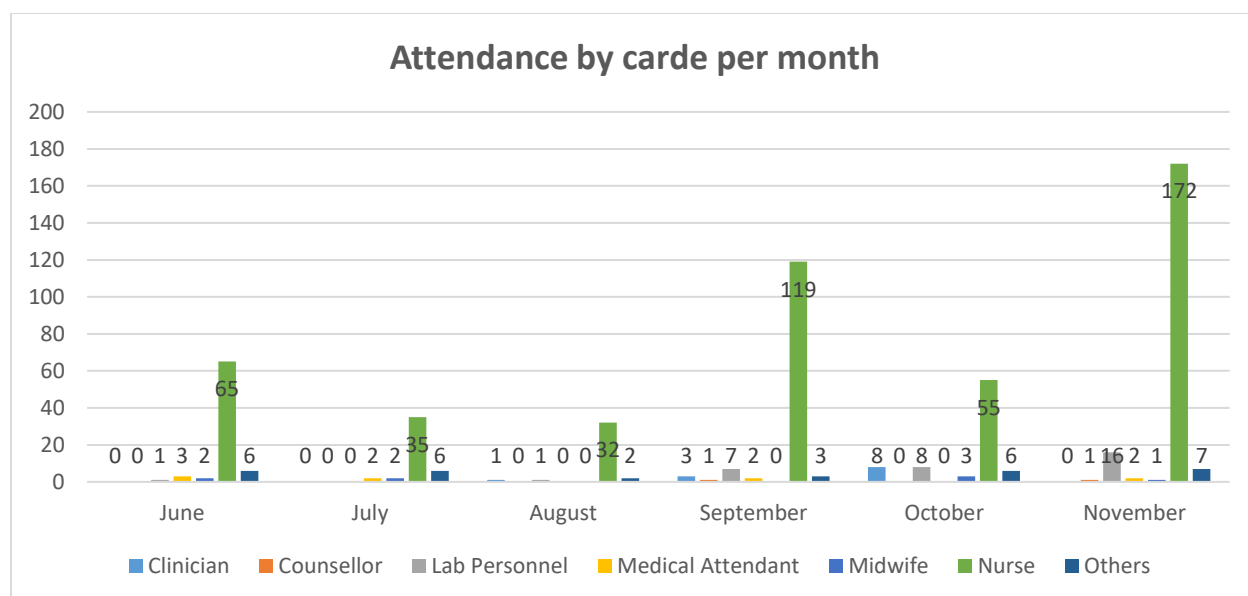
- Plans are on the way to identify and train more facilitators
- HLI will continue supporting the National Certification Program

Lessons learned

3. Early involvement of hospital management and other laboratory staff in planning and implementation of laboratory improvement projects is very critical to ensure that there is buy-in from all personnel and for the efficient realization of laboratory quality improvement

4. Inclusion of hospital management staff is very important for their appreciation. This motivates hospital management staff to provide the needed support in a timely manner

Graph 2: ECHO attendance by month and Cadres for the period of June to November 2018.

Spoke attendance by Month

Legend:
- Amana Regional Referral Hospital
- Kibena Regional Referral Hospital
- Mbeya Regional Referral Hospital
- Mwananyamala Regional Referral Hospital
- Shinyanga Regional Referral Hospital
- Iringa Regional Referral Hospital
- Bombo Regional Hospital
- Bukoba Regional Referral Hospital
- Kibong'oto TB Referral Hospital
- Mt. Meru Hospital
- Songea Regional Referral Hospital
- Temeke Hospital
- Tumbi Special Hospital
- Vijibweni Hospital

Attendance by carde per month

Mechanism ID - 454: Laboratory Partnerships to support the Diagnosis, Treatment and management of PLHIV (Equipment Maintenance)

Under this scope of work, the following activities were planned to be implemented in collaboration with respective Ministries of Health, Pan African Consortium (PAC) and local implementing partners:

1. Engage a consultant in partnership with PAC to develop an electronic tool for monitoring and tracking of equipment maintenance and calibration of ancillary equipment in viral load laboratories in Nigeria, Cameroon, and other PEPFAR-supported countries

2. Evaluate existing and/or work with partners to develop IT tools for equipment maintenance tracking

3. Coordinate with partners to update and collate data from Nigeria and Cameroon equipment assessments for incorporation into the electronic tool

Achievements:

1. Teams from AFENET and the Pan African Consortium worked together to develop a scope of work for the consultant. The consultant was recruited and hired under PAC where he will develop an electronic tool for monitoring and tracking of equipment maintenance and calibration of ancillary equipment in viral load laboratories. AFENET will support the operationalization of this electronic tool once the consultant has finalized its development.

2. Weekly conference calls and team of Information technology experts was set up to work with the consultant in the development of the electronic equipment maintenance tool. A team of Information Technology officers were part of these conference calls and made contributions to guide its development.

Challenges

1. Bureaucracies in accessing previous data that had been collected in Nigeria and Cameroon have greatly impacted the timelines of developing the electronic equipment maintenance data collection tool. This has also affected the timelines for AFENET to begin its operationalization.

Mechanism ID -13: TB DIAGNOSTIC TEST CONTINOUS QUAITY IMPROVEMENT (CQI)

Under this scope, the following activities were planned to be implemented:

1. Extend the Electronic Proficiency Testing (ePT) system for evaluating the quality of testing for tuberculosis using GeneXpert diagnostic instruments.

2. Enrollment of selected high volume TB testing health facilities into External Quality Assurance (EQA) programs. EQA schemes will include Near point-of-care GeneXpert MTB/RIF assay proficiency testing panels, TB Bacilloscopy.

3. Facility specific mentorships to improve quality of TB testing and management of patients of patients. The TB CQI mentors are in charge of providing mentorships to members of health facility level CQI teams. These mentors will focus on key areas: 1) clarification of key TB indicators; 2) training local staff regarding TB CQI; 3) collecting information regarding selected TB key indicators; 4) providing on-going coaching and mentoring.

4. Selected Country teams to travel to CDC Atlanta to be trained in TB Proficiency Testing panel development.

5. Conducting a Data quality management and Continuous Quality Improvement training for selected health staff involved in TB testing.

Achievements:

1. AFENET was able to engage a consult (System One) to continue supporting the Electronic Proficiency Testing (ePT) system for evaluating the quality of testing for tuberculosis using GeneXpert diagnostic instruments. The consultant will also be required to incorporate the following new features:

   - The ability to import excel documents to perform bulk updates of PE participant and PECC information. Should include optional fields for GPS coordinates of each participant.

   - Stricter validation of date fields on submission of results.

   - Better access to end user information resources.

   - The ability to conduct PE testing on Ultra cartridges

   - Strict participant access control on submission results summaries.

- More detailed reporting on panel stability and performance.

- Adherence to reporting standards such as ISO 17043

Challenges:

1) There have been delays in approving the scope of work for this mechanism and this has also greatly implementation of activities as earlier planned.

New Budget Period Proposed Strategies and Activities

A. Strengthening Laboratory Management Towards Accreditation

1. Conduct SLMTA trainings (SLMTA ToT training, Quality control and method validation, SLMTA 3 training)

2. Facilitate translation of SLMTA 3 training curriculum into Spanish so that it can be utilized in Spanish speaking countries.

3. Support SLMTA symposium scheduled to take place during the ASLM conference.

B. Caribbean region

1. Support implementation of Quality management systems and accreditation of elected laboratories in Jamaica, Barbados, Trinidad and Guyana

2. Support HIV Viral Load scale up efforts conducting assessments using the CDC VL scorecard, procurement of consumables to be used during HIV VL testing, development of an HIV Viral load dashboard.

3. Support HIV rapid testing continuous quality improvement initiatives and External Quality assurance.

4. Support HIV Drug resistance activities and surveillance in Jamaica and Barbados.

5. Facilitate implementation of HIV Recency testing in Jamaica, Guyana, Barbados, and Trinidad.

6. Facilitate expansion of the DISA LAB laboratory information management system to more laboratories in Jamaica.

C. Mechanism ID -13: TB DIAGNOSTIC TEST CQI

Under this scope, the project will support:

1. Maintenance and revision of the electronic proficiency testing platform, ePT with SystemOne

2. Enrollment of selected high volume TB testing health facilities into EQA programs. EQA schemes will include Near point-of-care GeneXpert MTB/RIF assay proficiency testing panels, TB Bacilloscopy.

3. Facility specific mentorships to improve quality of TB testing and management of patients of patients. The TB CQI mentors are in charge of providing mentorships to members of health facility level CQI teams. These mentors will focus on key areas: 1) clarification of key TB

indicators; 2) training local staff regarding TB CQI; 3) collecting information regarding selected TB key indicators; 4) providing on-going coaching and mentoring.

4. Selected Country teams to travel to CDC Atlanta to be trained in TB Proficiency Testing panel development.

5. Conducting a Data quality management and Continuous Quality Improvement training for selected health staff involved in TB testing.

D. Mechanism ID - 454: Laboratory Partnerships to support the Diagnosis, Treatment and management of PLHIV (Equipment Maintenance)

In collaboration with respective Ministries of Health and local implementing partners, the project will:

1. Engage a consultant to develop an electronic tool for monitoring and tracking of equipment maintenance and calibration of ancillary equipment in viral load laboratories in Nigeria, Cameroon, and other PEPFAR-supported countries

2. Evaluate existing and/or work with partners to develop IT tools for equipment maintenance tracking

3. Coordinate with partners to update and collate data from Nigeria and Cameroon equipment assessments for incorporation into the electronic tool

E. Mechanism ID -398: Rapid Test Continuous Quality Improvement Initiative (RTCQI)- Project ECHO

Project ECHO® is a platform for practice-based education and training, service delivery, and outcomes research. The Project ECHO® is a hub-and-spoke educational model that allows subject matter experts in any field of concern to share their knowledge with frontline providers in underserved communities. This model uses cloud-based video teleconferencing capability to deliver a need-based curriculum and to discuss providers concerns or challenges. Project ECHO is being implemented in Tanzania, Malawi, Uganda and specific activities proposed to be implemented in each of the countries are as below:

a) Tanzania:

1. Continue providing Human resource support for ECHO Coordinator and Information Technology officer.

2. Conduct weekly ECHO sessions.

3. Provide internet connectivity for the HUB and spoke sites to support country teams hold weekly ECHO sessions.

4. Continue collection of data for project ECHO evaluation exercise.

b) Malawi

1. Continue providing Human resource support for ECHO Coordinator and Information Technology officer.

2. Conduct weekly ECHO sessions.

3. Provide internet connectivity for the HUB and spoke sites to support country teams hold weekly ECHO sessions.

4. Conduct stakeholders meeting to review project ECHO implementation

5. Continue collection of data for project ECHO evaluation exercise

c) Uganda

1. Continue providing Human resource support for ECHO Coordinator and Information Technology officer.

2. Conduct weekly ECHO sessions.

3. Provide internet connectivity for the HUB and spoke sites to support country teams hold weekly ECHO sessions.

F. HQ CORE

Include summary activities

G. Biosafety

Under this initiative, AFENET is proposing to conduct the following activities:

1. Facilitate annual servicing and maintenance of Biosafety cabinets in selected countries through establishment of service contracts with reputable Biosafety cabinet maintenance companies.

2. Training of 15 biosafety engineers in BSC servicing and maintenance.

3. Facilitate a Biosafety Leadership training targeting selected biosafety professionals in Africa.

G. Improved diagnostic approaches

In order to facilitate improvement of diagnostics in selected countries, the project is proposing to implement the following activities:

1. Enrollment of laboratories into External Quality assurance schemes

2. Facilitate trainings in Post market surveillance for the national reference laboratory staff.

3. Facilitate formation/strengthening of national Technical working group (TWG) for laboratory networks

4. Facilitate Linkage between different laboratories to learn from each other

H. Clinical Laboratory interface strengthening

AFENET will seek to strengthen the clinical laboratory interface through:

1. Partner with The Laboratory African Regional Collaborative (LARC) to train selected health care workers in implementing CLI to improve the HIV Viral load cascade.

2. Support establishment of ECHO platform for addressing CLI related issues.

3. Conduct a symposium looking at How to Improve the Clinic-Laboratory Interface (CLI).

I. Angola

In Angola, the project will provide technical assistance to 9 PEPFAR supported health facilities to improve the quality of testing and diagnostics; Oversee SLIPTA implementation at central level laboratories, Support of EID implementation at POC sites and Viral Load, Support laboratory Quality Assurance for Rapid testing, GeneXpert and Viral load, Support electronic management and information system. Specific activities that will be implemented to achieve these objectives are below:

1. Continue supporting human resource (Laboratory Mentors) to provide technical assistance to 9 PEPFAR supported health facilities.

2. Facilitate implementation of QMS and laboratory quality assurance initiatives in eight (8) provinces of Angola.

3. Facilitate HIV viral load sample transport system to improve viral load testing and patient management.

J. Laboratory mapping to improve quality and coverage of laboratory services

Knowing where laboratory capacity and services exist is a foundational piece of data to support equity, quality, and efficiency in healthcare. AFENET will seek to engage consultants to conduct mapping of all laboratories in 10 selected countries that will be agreed upon with CDC.

K. Laboratory Information management systems

Laboratory Information systems play a critical role in the laboratory and patient care, a good LIS system reduces results turnaround time between the laboratory and clinicians thus improving patient care and management. AFENET is proposing to facilitate installation and implementation of LIS in 5 selected countries targeting the national level laboratories conducting HIV viral load testing.

L. HIV rapid Testing Continuous Quality Improvement

In order to improve HIV rapid testing, AFENET is proposing to implement the following activities:

1. Development of HIV tester and site certification frameworks in selected countries.
2. Facilitate training of auditors to conduct the HIVRTCQI assessments.