Improving HIV viral load results reporting and management in the HIV Viral Load Cascade in Kenya

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1. Problem statement

Scaling up routine viral load monitoring is a key pillar to Kenya's strategy to scale up ART to meet the Joint United Nations Programme on HIV/AIDS 90-90-90 treatment goals and achieve viral suppression by 2020. Towards this end, Kenya has developed has a functional referral system through which viral load samples and results are delivered to clinics and patients. However, challenges with provision of rapid results are still significant limiting factors in expansion of anti-retroviral therapy (ART) coverage to all people living with HIV/AIDS (PLHIV) in Kenya. There are on-going initiatives to support investments in the laboratory systems and sample and /results transport network and people. These measures if implemented, will decrease the costs per result through reduced transport costs and reduction in missing data and delayed results.

Against the above background, we conducted a Business Process Mapping (BPM) exercise on VL result management at the Homa Bay Referral Hospital in a bid to understand facility-specific issues, knowledge, systems and other barriers that could impede scale up efforts for viral load monitoring and hence ART scale in Kenya. Our BPM revealed several gaps intra-hospital management of VL tests results between the laboratory and the patient support centre (PSC) including:

a) Delayed release of VL tests results by the VL test results received from the reference laboratory : that sorting of VL test results received at the facility lab from the reference laboratory would take 2 weeks to be sorted and more than 1 month to be received at the PSC to initiate clinical decision
a) Laboratory staff at the hospital laboratory and the nursing staff at the PSC are involved in this process: that it wasn't clear whose responsibility was to sort results and submit to the PSC

These gaps need further explored through an in-depth situational assessments of VL results reporting at Homa Bay Level 4 as a key component of the post-test laboratory process. Homa Bay County Referral hospital is a high volume facility located in one of 5 high burden counties targeted for ART saturation towards epidemic control in Kenya. Specific measurable activities to be implemented will include:

- Document review to determine the existence of job aids/standard operating procedures (SOPS)/tools relevant to receiving, sorting and filing of VL test results
- Patient chart review and medical record abstraction
- Competency assessment for HCWs involved in VL results management at the hospital

Essentially, this project will entail strengthening of technical and operational elements of HIV viral load results transmission to facilitate timely clinical action for patients. Timely clinical action on viral load results will lead to timely counselling and adherence, a key step in the viral load cascade that leads achievement and maintenance of HIV VL suppression. The project will focus on transmission of HIV viral load results to Homa Bay laboratory and how these results are captured separately in the patient registers at the patient Support Centre (PSC) to allow timely clinical decisions. The initial focus will be facility's results reporting and laboratory management information systems. Under this focus, the main activity will be review and determination of job aids/SOPS relevant to results management. The purpose of these reviews is to identify barriers to prompt results management between the laboratory and the PSC in Homa Bay Hopital. Once identified, these barriers and/ or gaps will be addressed through a series of hands-on interventions including facility-based trainings and mentorships. To understand the programmatic issues around results reporting within the facility, careful abstraction of data from patient files will be conducted. The key purpose for this abstraction is to understand the extent of delay in communication between the laboratory and the PSC where clinical decision is determined on VL results. Data from this abstraction will be analysed and results shared through facility-based and stakeholder forums.

This will improve the HIV viral load results reporting and management at Homa Bay County Referral Hospital and contribute to improved linkage to care and hence viral suppression among patients. By improving result management for VL testing, this test will be used better to monitor: disease progression, ART adherence and potential ARV resistance. An improved nationwide VL monitoring system in Kenya will further ensure that the patients benefit from ART for HIV prevention, proper management of HIV related morbidity, mortality and further HIV transmission as well as maintaining viral suppression.

2. Objectives and Methods

The Kenya LARC team aims at utilizing the $10,000 seed funds to increase by 90% HIV viral load results reporting and management at Homa Bay County Referral Hospital by April, 2017. Specific activities will focus on the post-test phase of the laboratory process involving VL results management as a key at Homa Bay County Referral hospital. Specific measurable activities to be implemented will include:

i. To determine the existence of job aids/SOPS relevant to results management
ii. To identify barriers within the facility for prompt results management using a checklist and bussiness process mapping(BPM)
iii. To determine the proportion of patients on ART whose results are delayed for more than 1month
iv. To provide facility-based mentorship on patient result reporting and management

Document Review:- At the facility, the team will review VL-relevant documents (national guidance, national sample referral guidelines, Flyers on VL testing algorithms, brochures, specimen requisition form, sample daily logs, sample deliver checklist, and results management at facility level. The objective here will be to review the above documents for their availability, accessibility and completeness. The laboratory team members of the Kenya LARC team; PK, NB and EM are experienced laboratorians and will lead the process of document review. Progress will be measured and reported in terms of proportion of documents available and correctly used, accessible and complete.

Facility systems:- Using a prescribed checklist, WS, RK and LARC data abstractor will assess the facility/clinic's systems with focus on VL test result management process: facility characteristics, staffing competencies in carrying our ART care, sample and documentation systems, levels of networking between the different levels of care, documentation of the results received and by whom and when, presence of SOPS, guidelines and clinical algorithms in relation to results

management, presence of data collection tools like patient registers and event logs across the VL testing cascade.

VL results management:- the team will conduct medical record abstraction on a number of patient files at the facility's patient support centre (PSC), to assess the completeness and accuracy of VL information documented. Data to be abstracted include bio-data of the patient, level of care provided, number of VL tests conducted, dates the samples were requested and results received, clinical decisions taken based on results. Through this process, the number of patient charts with current, missing or delayed viral load results will be identified. This process will be conducted by data abstractors who will work under guidance of EM, WS and the facility-based LARC team.

Facility-level intervention:-Based on findings and observations on the above activities, the LARC team will conduct interventions at facility level through mentorships and advocacy for better result management systems. This activity will be led by RK, RO and PK.

3. Timeline

The Kenya LARC team will implement the above project activities within 3 action periods of the LARC timeline, as below:

- **Action Period 1/June-July 16, 2016**
    - Initial engagements with the County's Ministry of Health staff and the Homa Bay County Hospital for introduction and presentation of the Kenya LARC project objectives
    - Identify barriers within the facility for prompt results management using a checklist and BPM processing.
    - Determination of the existence of job aids/SOPS relevant to results management
    - Provide preliminary facility-level interventions(trainings, mentorships, demonstrations, development and/or dissemination of relevant SOPs and job aids
    - Initial provision of facility-based mentorship on patient result reporting and management.
- **Action Period 2/July-November, 2016**
    - The team will seek approval from both the national and county MOH to visit Homa Bay Hospital and collect facility-based patient data on VL testing
    - Develop a protocol a protocol to collect baseline data at the facility
    - Develop a format for HBH staff to provide monthly reports
    - Conduct BPM in HBH for to determine issues related to results reporting
    - Circulate draft reporting format to teams for approval
    - Original proposal and budgets will be revised and discussed at team level for approval
    - Scope of work and terms of engagement for data abstractors and data abstraction checklist will be developed
    - Data abstractors will be engaged on short-term basis
    - Data collection and initial analysis to commence
    - Develop quarterly report for Emory and share report with National Team

- Present findings (baseline data) and intervention strategies to HBH leadership & key stakeholders
- Preparation of progress report and sharing during Learning Session 2

- **Action Period 3/November 2016-February, 2017**
  - Continue with data collection
  - Continue with facility needs-based trainings/mentorships
  - Final monitoring and evaluation of progress at facility, with focus on results management. This will be done by reviewing monthly summary on the number of patient charts with current, missing or delayed viral load results over the project period.
  - Stakeholder engagements to discuss project results and sustainability of such initiatives
  - Present Kenya LARC project outcomes and recommendations to a national/county/facility stakeholders' forum
  - Prepare final outcomes of the Kenya LARC project for future LARC Learning Sessions & Summative Congress in 2017

4. Program Management

The awarded funding will be sent to: The Nursing Council of Kenya (NCK), the licensor and regulator for nursing professionals in Kenya. Mrs. Ruth Kuria, the Director of Nursing Services in Kenya, will serve as the coordinator for the Kenya LARC team. In this position, Rose will act as liaison between the LARC team and Emory University in facilitating communications, including reporting, planning and technical assistance.

The project proposes the following schedule of conference calls and/or technical assistance from the LARC secretariat:

Action Period 1: July-July 16, 2016: one TA visit by LARC faculty to Kenya to help with project planning and engagement meetings with study facility staff

Action Periods 2-3: July 2016-February 2017: monthly conference calls with LARC to review progress and address challenges

5. Budget and Justification

Budget item	Unit cost	# Units	Unit type	Total
Data abstraction				
Abstractor	$ 120	8	Days	$960
Phone/internet	$20	4	Days	$80
Data QA	$120	1	Days	$120
Sub total for data abstraction				**$1160**
Equipment and Supplies				
Lap top	$ 500	1	Piece	$500
Tablets	$120	2	Piece	$240
Office supplies-training materials	$100	5	Each	$500
Job aids/SOPS-printing	$20	10	Document	$200
Flash drives	$10	10	Each	$100
Subtotal Equipment and supplies				**$1540**
Meetings and Travel (project staff)				
Air fare	$150	15	RT TKT	$2,250

Airport transfers/taxis	$20	20	Days	$400
Meeting allowances	$40	40	Days	$1600
Misc travel expenses	$10	10	Days	$100
Per diem(stakeholders, mentorship, data collection and final M&E)	$80	20	Days	$1600
Subtotal Travel				**$5,950**
Others				
Stakeholders forum	$200	1	Meetings	$500
Training –preparation for training materials	$50	3	Trainings	$150
Participant transportation	$20	10	People	$200
Overhead expenses (5%)	$500		Overhead	$500
Subtotal others				**$ 1,350**
Grant Total				**$10,000**

Budget Justification

Data abstraction: a budget of $1160 under this category includes costs associated with data abstraction from hospital –based files. This will be conducted twice: at the onset of the project for gap analysis and at the end to gauge improvements resulting from this project. Four HCWs will be hired on-short term basis (4 days for each phase) to abstract data from files. Line items include: daily stipends for the abstractors, phone use and QA procedures. Stipend rates are calculated based on local requirements for short-term engagements.

Equipment and supplies: the $1540 costs in this category are associated with purchase of equipment and materials needed for collecting data and training at facility level. These materials include project lap top, tablets and flash disks. Other items include printing and disseminating checklists and job aids.

Meetings and travel: This category has a budget of $5,950 to support expenses exclusively for Kenya LARC project staff. The team will make several travels to western Kenya to implement engagement meetings, review of clinic operations, data collection, and training of hospital staff on result management. LARC staff will also travel to Homa Bay to attend stakeholders meetings. *Airfare:* All airfare costs have been calculated based on Economy class roundtrip fare of $150 from Nairobi to Kisumu. *Ground Transportation:* Includes transport expenses for taxis to/from the airport and training/hospital venue. Other line items include sitting allowances for meetings held in Nairobi or field and per diems while visiting Homa Bay.

Others: All expenses in this category are non-contractual costs that are not associated with staff supplies, or equipment. *Stakeholders'* costs: Include costs for travelling County MOH officials to Homa Bay for meetings and trainings. *Overhead costs:* Include costs of regular conference calls with Emory University faculty, costs for photocopying replicating documents with standard rate for single pages. Other costs included under this category include overhead costs as well as banking transactions and day-to-day incidental and /or administration actions. Estimates are based on historical values for service.