



LARC Mozambique

Improving the Demand for Viral Load Testing at Bagamoio Health Care Center in

Maputo City, Mozambique

Isabel Pinto,
Head of the National Laboratory Department ,
Ministry of Health, Mozambique
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Country Team

- Isabel Pinto - Head of Laboratory Department
- Olga Novela - Chief of department of Nursing
- **Partners**
- Jessina Masamha and Luciana Kohtsu – CDC
- Lúcia Manhiça- Head of Lab of CS Bagamoio
- Laura Williamo - Head of lab CS Bagamoio
- Asina Armindo de Oliveira - Head of Midwives CS Bagamoio



Bagamoio Health Center



- Primary health care facility located in Maputo
- Attends 6th highest volume of PLHIV in Maputo
- Has 6,914 patients on ART

Mozambique Project Summary

What are we trying to accomplish?	How will we know if a change is an improvement?	What change will we make that will result in an improvement?
<p>OVERARCHING GOAL</p> <p>Increase the demand for viral load testing for:</p> <ul style="list-style-type: none"> • CPN Clinic (Pregnant Women) • CCR Clinic (Lactating Women) • Consulta TARV (Adult ART Clinic) 	<p>AIM STATEMENT</p> <p>Increase the percentage of viral load tests ordered by clinicians for eligible patients from 0% (CPN Pregnant Women - Baseline July 2016) to 80% by 30 June 2017</p> <p>Metric:</p> <p>Number of eligible HIV+ patients with VL testing ordered by clinician</p> <hr/> <p>All HIV+ patients who are eligible for VL testing</p>	<p>INTERVENTION</p> <p>Create Demand from Clinician</p> <ul style="list-style-type: none"> • Education – Clinicians / Staff • Assure Viral Load Requisition / Register Available • Data Driven Monitoring – Weekly Chart Audit & Monthly Data Review • Personnel – Data Entry Clerk for DISA Link • Furniture – Filing Cabinet <p>Create Demand from Patients</p> <ul style="list-style-type: none"> • Patient Education Sessions

Elevator Speech

This project is about increasing the demand for HIV viral load testing at Bagamoyo Health Facility

As a result of these efforts, all patients with criteria will have their VL ordered

It's important because we are concerned about:

- ❖ preventing vertical HIV transmission from mother to child
- ❖ early detection of treatment failure

Success will be measured by showing improvement in:

- ❖ Percent of eligible patients being tested for viral load

What we need from you – to help us engage and educate all clinicians to order VL tests for all eligible patients.

THE STORY OF OUR PROJECT

Why Bagamoio? - Apparent Problem

- Demand for VL is low

Process Steps (1)

PROCESS STEP	WHAT HAPPENS?	WHO IS RESPONSIBLE?	OPPORTUNITIES FOR IMPROVEMENT
1. Identify patients who meet criteria for targeted VL testing	Refer to patient chart to determine eligibility (clinical presentation & CD4)	Clinicians – Physician, Technica medicina, Nurse	1) Identify all patients who need viral load; Unclear criteria for ordering VL/ Passive ordering of VL; 3) Unclear on country algorithm for when to order VL (MCH Clinic);
2. Order VL test	Complete lab request form	Clinicians	Multiple lab forms
3. Refer patient to lab	Pt carries form & goes to lab	Clinicians	In MCH - blood drawn by MCH for all but VL (potential attrition)
4. Collect sample from patient	Venipuncture – collect samples M-Th 6:30 to 9 am	Phlebotomist	1) Collect samples on Friday 2) Collect samples during clinic hours on all days 3) Syringe / blood draw tube packaged with DBS materials (Does not follow workflow)
5. Create DBS	Pipette blood to create DBS	Lab Tech	Employ best practices for DBS drying - 4 hours recommended

Process Step (2)

PROCESS STEP	WHAT HAPPENS?	WHO IS RESPONSIBLE?	OPPORTUNITIES FOR IMPROVEMENT
6. Store samples (DBS)	Store DBS	Lab Tech	Store in Lab until transport
7. Package Samples (DBS) for transport to lab (Jose Macamo)	Create patient sample list to accompany sample	Phlebotomist or Lab Tech	1) Create patient sample list for VL only 2) Use 2 identifiers - Include NID#
8. Pick up and Transport Samples		Driver / Partners	Improve Sample Tracking - Use 2 patient identifiers
9. Receive Samples at Jose Macamo	Check for complete requisition & Date stamp; Box (120 samples); Enter info into LIS & create 3 barcodes	Admin Staff	Let site know if sample inadequate or requisition incomplete 2) Consider Barcode on DBS card - ? proper identification
10. Store Samples until Testing	Store at Room temp	Lab Techs	1) Reduce time from sample receipt to testing; 2) Place in freezer (-70) if stored > 2 weeks; 3) Immediate notification of site if sample rejected

Process Steps (5)

PROCESS STEP	WHAT HAPPENS?	WHO IS RESPONSIBLE?	OPPORTUNITIES FOR IMPROVEMENT
21. Counseling		Counselor	Educate / follow National Algorithm
22. Review results & complete patient chart (Use VL results for patient management) a) If Between TND and 3000, refer to counseling b) If > 3,000, request committee evaluation for switching to second line c) If TND, congratulate & reinforce behavior		All clinicians	Educate/ follow National Algorithm
23. Reorder VL test 3 months after receipt of 1 st VL results		All clinicians	Tracking system for monitoring



Gap (Problem Statement):

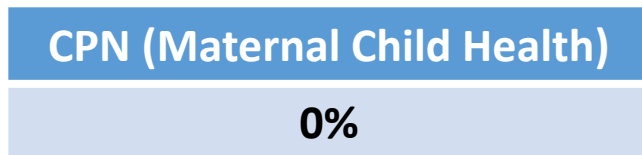
- No viral load tests ordered according to national algorithm from in the pre-natal and post natal clinics
- Average of 6 to 10 VL tests per month ordered from the ART clinic



- **Metric Selected**

Number of eligible HIV+ patients with VL testing ordered by clinician / All HIV+ patients who are eligible for VL testing

- **Baseline Data collected**



- **Aim Statement:**

Increase the percentage of viral load tests ordered according to national algorithm from 0% (baseline July 2016) to 80% by 30 June 2017

Define

Measure

Analyze


Improve

Control

Data Collection Plan / Tool

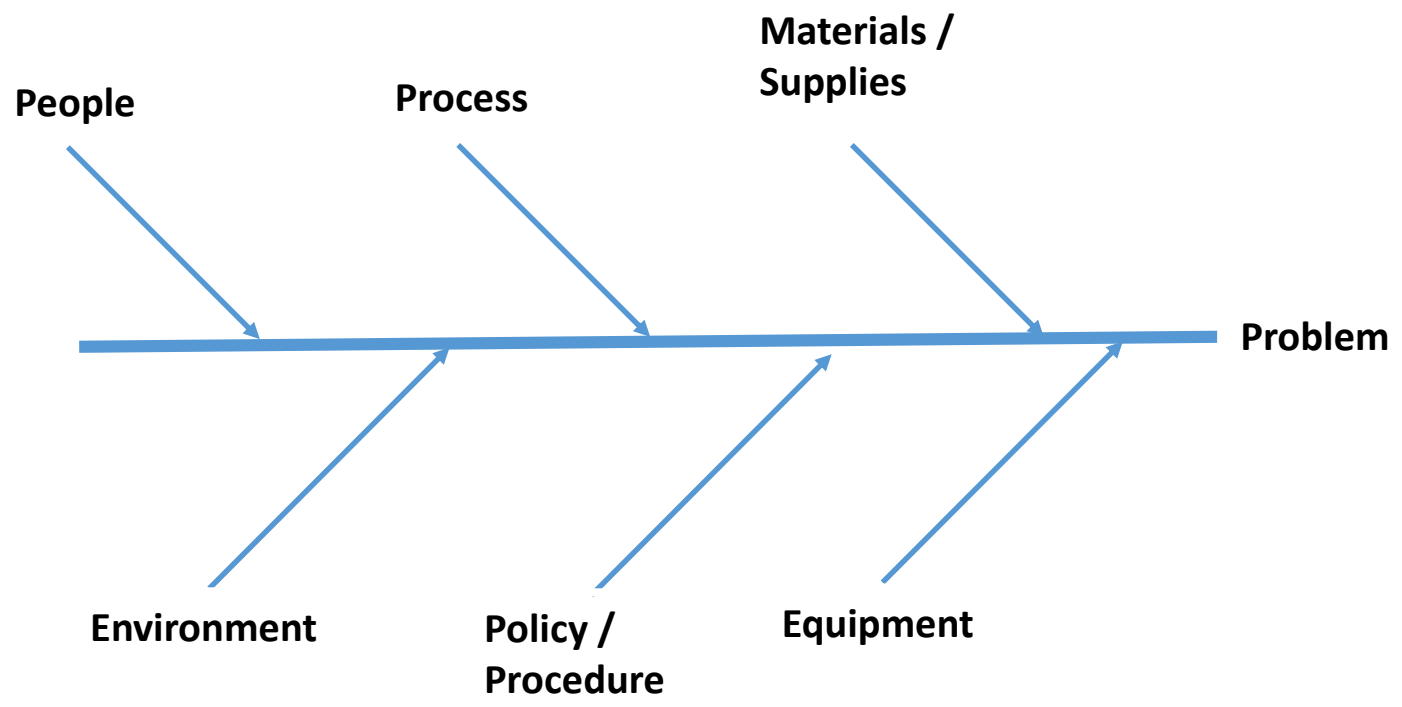
Weekly Chart Review by Team, Clinic Director → Data tabulated;

Reviewed with LARC Team → Run Chart created


 CONSELHO MUNICIPAL
 PELOURO DE SAÚDE E ACCÃO SOCIAL
 CENTRO DE SAÚDE DE BAGAMOYO

PROTOCOLO DE CONTROLE DE PEDIDOS DE CARGA VIRAL

Nome do Paciente	NID	Numero da consulta	Data de inicio de TARV	TARV ≥ 3 meses	TARV ≥ 6 meses	Data de pedido de Carga Viral	Nome do Clinico	Amostra enviado ao Lab de referencia no dia seguinte		Resultado recebido dentro de 30 dias		Carga Viral ≥ 1,000 copies/ml	Comentarios
								Sim	Nao	Sim	Nao		
Gloria Chilane	15/1122		2/10/15	Seem		5/10/16	Watt						
Arselina Forte	16/139		16/03/16	Seem		5/12/16	Watt						
Carser Augusto	15/1352		30/11/16	Seem		5/12/16	Watt						
Morais Luzinda	14/1062		21/09/14	Seem		5/12/16	Watt						
Isabel Daniel	10/1814		10/11/10	Seem		5/12/16	Watt						
Helena Acaze	18/1130		20/11/15	Seem		5/10/16	Watt						
Gloria Haas	18/1604		16/01/16	Seem		5/12/16	Watt						
Helena Bando	18/1185		7/12/16	Seem		5/12/16	Watt						
Carlos Teodoro	16/85		20/01/14	Seem		5/12/16	Watt						
Helena Bando	16/1430		7/8/14	Seem		5/12/16	Watt						
Louisa Mbe	06/1388		12/01/12	Seem		5/12/16	Watt						
Plavinda Mbe	3/1900		20/01/14	Seem		5/12/16	Watt						
Afonso Acaze	16/1135		26/01/16	Seem		5/12/16	Watt						
Pedro Jorge	11/1430		20/01/12	Seem		5/12/16	Watt						
Total													



Element	Findings
People	<ul style="list-style-type: none"> •Health facility staff not trained in VL (one clinician only trained)
Process	<ul style="list-style-type: none"> •Lab has limited phlebotomy hours – only between 6:30 - 9 am on Monday-Thursday • Protocol for DBS preparation not followed - insufficient drying time • VL results not recorded in lab register and not available to the patient files
Materials and supplies	<ul style="list-style-type: none"> • No job aids available • No VL requests in MCH clinic; sample not collected by laboratory
Policy and procedures	<ul style="list-style-type: none"> • Different VL cutoffs published at health center (3,000 vs 1,000 copies) • Inadequate guidelines for referral for second line treatment – no counseling before referral for 2nd line therapy



Create Demand from Clinician

- Education – Clinicians / Staff
- Assure Viral Load Requisition / Register Available
- Data Driven Monitoring – Weekly Chart Audit & Monthly Data Review
- Personnel – Data Entry Clerk hired
- Furniture – Filing Cabinet, training equipment, phlebotomy equipment

Create Demand from Patients

- Patient Education Sessions
- Sample collection in prenatal clinic (process change – one stop model)

Intervention - Education

2 days training

Actualização sobre Uso
de Carga Viral do HIV

MISAU, Setembro 2015

Caderno de Exercícios



Folha de Exercícios 1 - Unidades de Medição de Carga Viral

Objectivo da Actividade: Praticar a conversão de resultados de carga viral, calculando o valor logarítmico a partir do valor absoluto. Este exercício é desenhado apenas para aprender a realizar esta operação matemática com a calculadora científica.

Tempo de Duração: 10 minutos

- Instruções para o participante:** A partir da tabela apresentada com resultados de carga viral em valor absoluto, calcule o valor logarítmico dos mesmos.

Valor Absoluto	Valor Logarítmico
12.456 cópias/ml	
456 cópias/ml	
2.000.000 cópias/ml	



República de Moçambique
Ministério da Saúde
Direcção Nacional de Assistência Médica

Uso de Carga Viral para a
Avaliação de Pacientes HIV+
em Moçambique.

Manual do Facilitador

MISAU
2016



República de Moçambique
Ministério da Saúde
Direcção Nacional de Assistência Médica

Seminário sobre Uso de Carga
Viral para a Avaliação de
Pacientes HIV+ em
Moçambique.

Manual de Participante

MISAU
2015

Intervention - Education

Clinicians trained	June 2016	July 2016	Sept 2016	Jan 2017
Director de hospital	1			
MCH nurses		5		
Clinicians (3) MCH nurses(5), Child at risk clinic nurses (2), Social support (2), Lab (2)			12	
Clinicos de consulta, SMI, APSS, Lab, digitadores, peer educators				45

Peer Educators Trained to give Patient Education



Peer Educators give Patient Education



Key Messages

- What is a viral load test?
- Who is eligible to get a VL test?
- Request a VL test at next consultation.

Requisition forms and Registers implemented

- Implemented standardized forms and registers
 - VL Requisition Book (duplicate copies) in each consultation room
 - VL Register
 - Specimen Transport Log (triplicate copies)

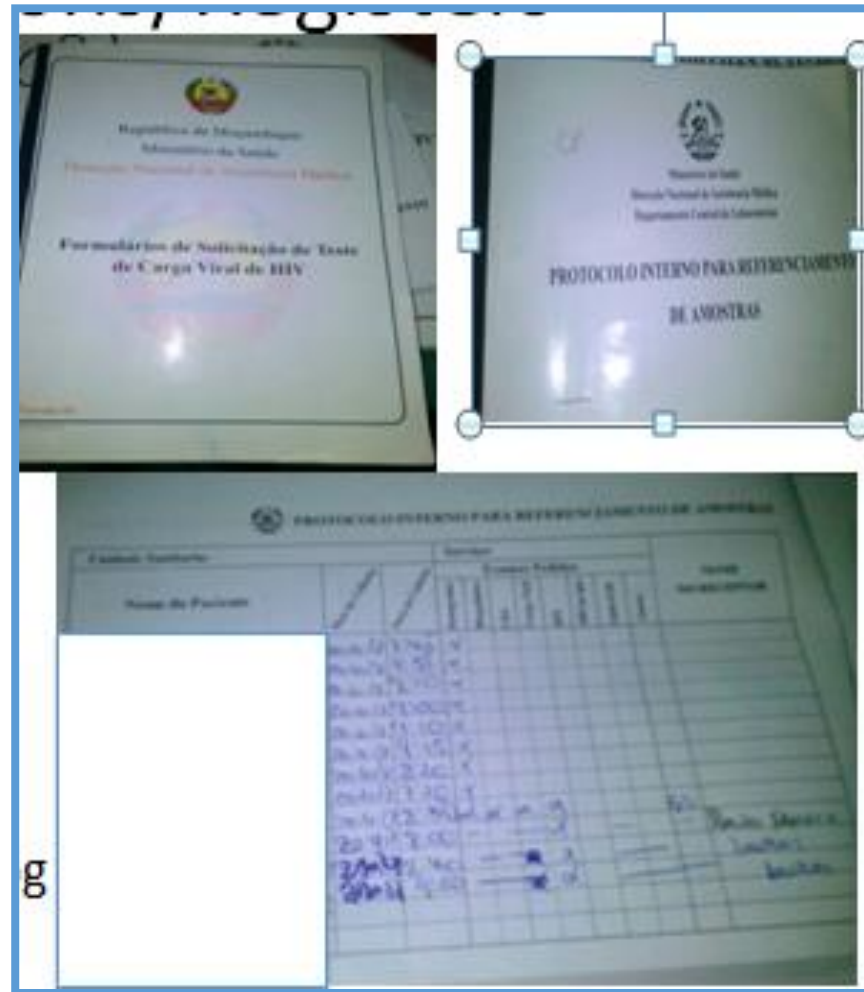

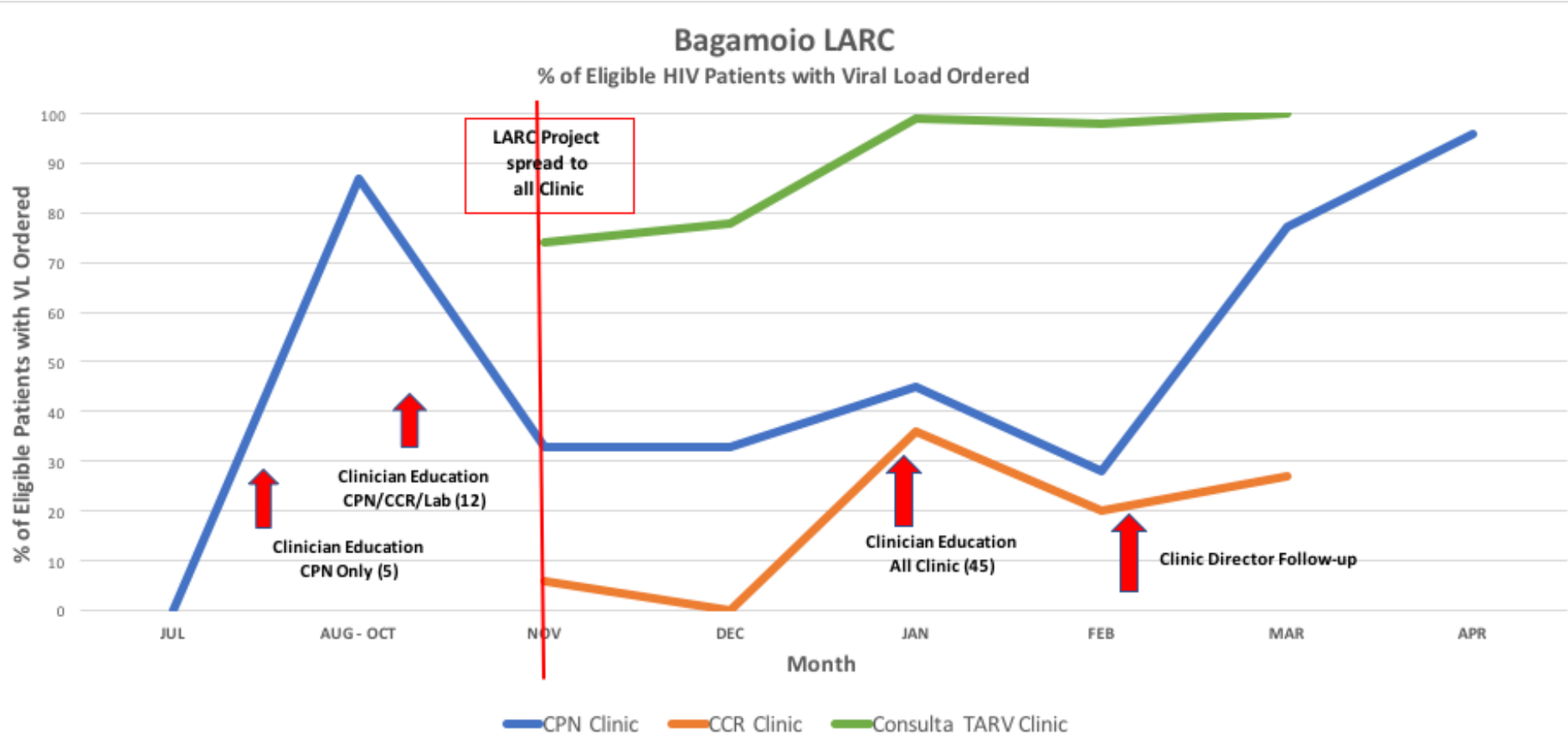


Chart Review / Monitoring

Where	When	How	Who
CPN Clinic	Weekly on Friday, starting in July	Reviewed charts of all HIV+ patients on ART who visited the clinic that week	
CCR Clinic	Weekly on Friday, starting in November		
Consulta TARV Clinic	Weekly on Friday, starting in November	Randomly select & review 25 charts from patients who visited the clinic that week	Site Team – Dr. Lucia, Laura, Asina

RESULTS



Define

Measure

Analyze

Improve

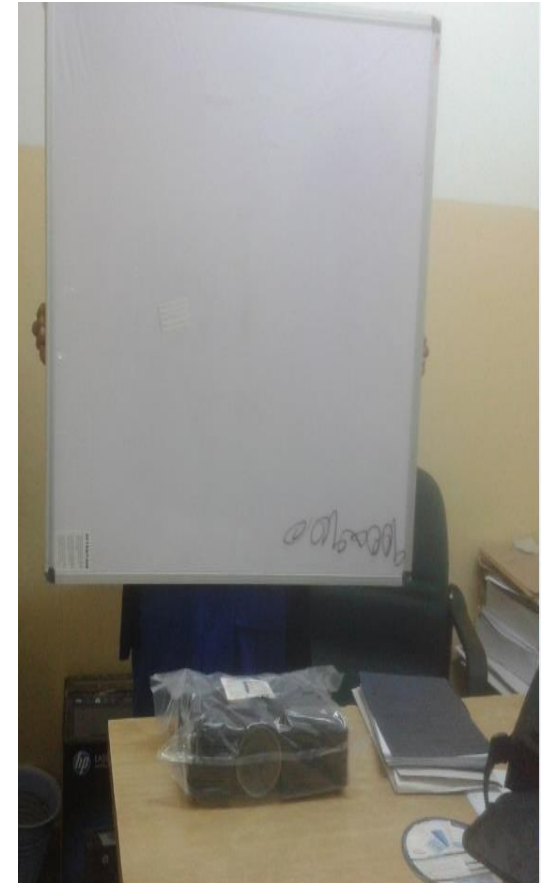
Control

Just Do Its

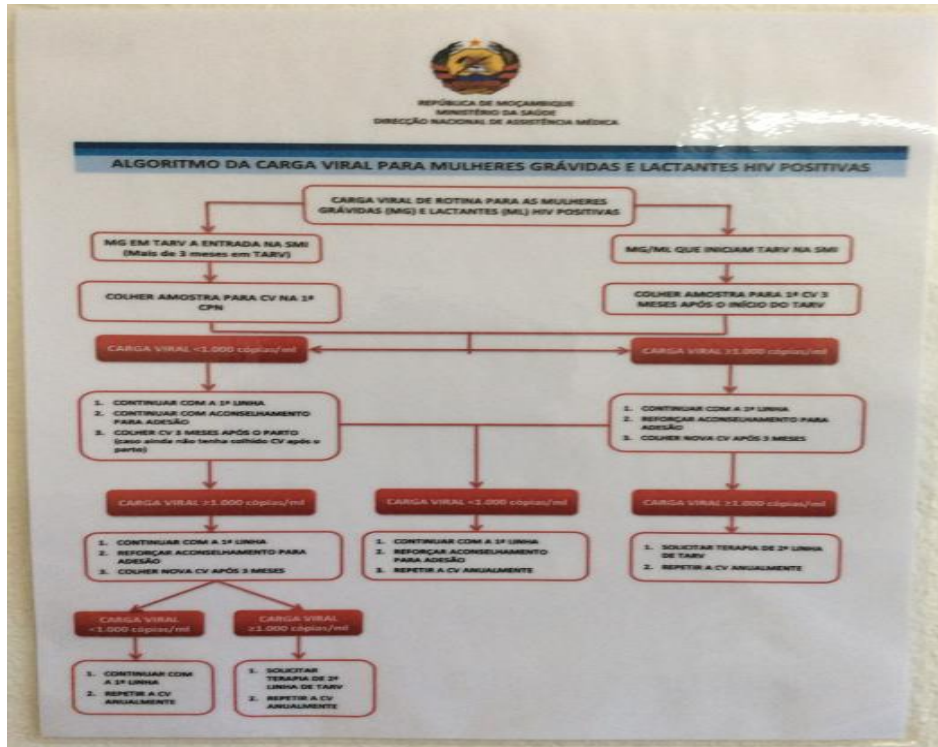
Furniture for chart storage

Phlebotomy chair(awaiting arrival)

Training equipment



Visual Management



REPÚBLICA DE MOÇAMBIQUE
MINISTÉRIO DA SAÚDE

DEFINIÇÕES DE FALÊNCIA TERAPÉUTICA PARA ADULTOS E CRIANÇAS

	ADULTOS	CRIANÇAS
FALÊNCIA VIROLÓGICA	a) Aumento de 1 log de carga viral em relação a carga viral prévia (com intervalo de 3 meses), e b) Carga viral detectável (carga viral maior ou igual a 100 cópias/ml) confirmada em 2 medidas repetidas num intervalo de pelo menos 3 meses, na presença de boa adesão, havendo sido indetectável previamente, e sem vacinação ou infecção concomitante actual (ou nos últimos 30 dias).	a) Aumento de 1 log de carga viral em relação a carga viral prévia (com intervalo de 3 meses), e b) Carga viral detectável (carga viral maior ou igual a 100 cópias/ml) confirmada em 2 medidas repetidas num intervalo de pelo menos 3 meses, na presença de boa adesão, havendo sido indetectável previamente, e sem vacinação ou infecção concomitante actual (ou nos últimos 30 dias).
FALÊNCIA IMUNOLÓGICA	a) Queda na contagem de linfócitos T CD4+ a limites inferiores a sua contagem pré-tratamento, ou b) Queda em 50% em relação ao pico da contagem de linfócitos T CD4+ após início do tratamento, ou c) Contagem de linfócitos T CD4+ persistentemente abaixo de 300 células/mm ³ , após 12 meses de terapia antiretroviral.	Mudança de categoria imunológica para categoria inferior, ou não resposta ao tratamento. Crianças maiores de 5 anos: contagem de CD4 persistente abaixo de 100 cells/mm ³ Crianças menores de 5 anos: contagem de CD4 persistente abaixo de 200 células/mm ³ (onde não estiver disponível CD4 percentual) ou CD4 <math>< 10\%</math>.
FALÊNCIA CLÍNICA	Recorrência ou aparecimento de condição que indica imunodepressão severa (condições definidoras de estágio 4 da OMS), após 6 meses de tratamento eficaz.	Recorrência ou aparecimento de condição que indica imunodepressão severa (condições definidoras de estágio 3 e 4 da OMS, com a excepção de TB), após 6 meses de tratamento eficaz.

ICAP

Define

Measure

Analyze

Improve

Control

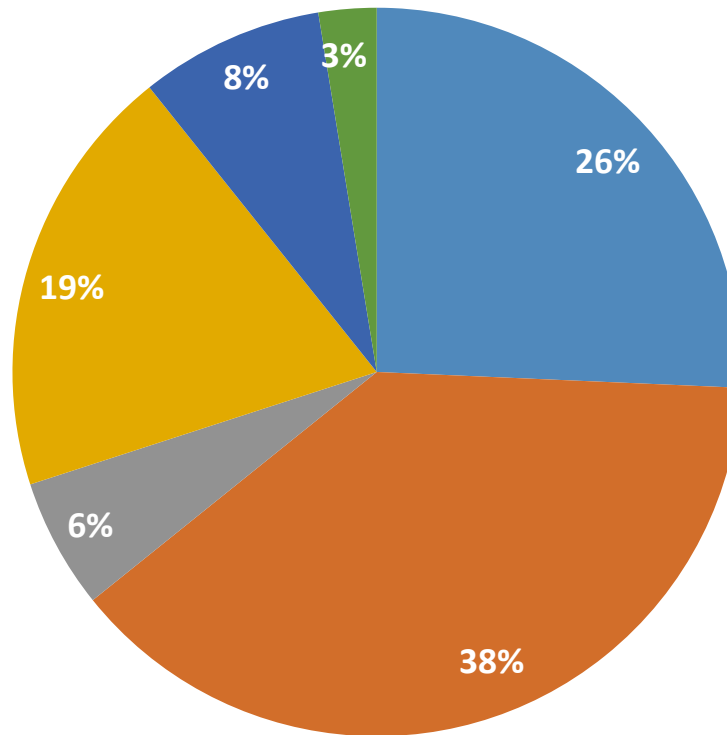
- **What are your plans to sustain the project?**
 - Meeting With clinicians (evaluation)
 - Follow Up
 - Continue to do the refresh training to the clinician, per education, DSCM and a CCS Partner
- **Who will the project owner? How will you transition the project to the owner?**
 - Bagamio HC, continue to do supervision
- **How will you share your project story with your stakeholders?**
 - Share with stakeholders the improved result for the VL cascade at Bimonthly meeting

Demand Creation for Testing

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
<p><input checked="" type="checkbox"/> Clinicians unaware of access to viral load testing and have not been educated on its role in ART monitoring</p> <p><input checked="" type="checkbox"/> Community leaders/CSOs unaware of access to viral load testing and have not been educated on its role in ART monitoring</p> <p><input checked="" type="checkbox"/> Clients unaware of access to viral load testing and have not been educated on its role in ART monitoring</p> <p><input checked="" type="checkbox"/> No standard operating procedures for viral load testing and education</p> <p>AUGUST 2016</p>	<p><input type="checkbox"/> Increased awareness of VL testing in clinicians, however minimal information is shared with clients</p> <p><input type="checkbox"/> Clinicians occasionally order viral load testing for clients</p> <p><input type="checkbox"/> Community leaders/CSOs have an increased awareness of viral load testing and its role in ART monitoring</p> <p><input type="checkbox"/> Clients have an increased awareness of viral load testing and its role in ART monitoring</p> <p><input type="checkbox"/> Standard operating procedures for viral load testing and education are in development</p> <p>NOVEMBER 2016</p>	<p><input type="checkbox"/> Clinicians routinely educate clients about viral load testing and its benefits</p> <p><input type="checkbox"/> Clinicians routinely order viral load testing in-line with national guidelines</p> <p><input type="checkbox"/> Community leaders/CSOs play an active role in educating their community about knowing their viral load status</p> <p><input type="checkbox"/> Clients are aware of and actively seek viral load testing</p> <p><input type="checkbox"/> Viral load testing and education standard operating procedures are established and implemented across the organization</p>	<p><input type="checkbox"/> Organization reviews routinely collected program data to measure performance in relation to standard operating procedures and national guidelines for clinician use of viral load testing and education of clients</p> <p><input type="checkbox"/> All stakeholders (e.g., clinicians, client groups, community leaders, etc.) play active role in community education about VL testing and promote campaigns for all individuals to know their VL</p>	<p><input type="checkbox"/> Organization uses rigorous evaluation procedures and findings to demonstrate effectiveness and improve the process of demand creation for viral load testing</p>

Budget

- Lecture (VL algorithms)
- Training
- Phone credit
- Printer, tone and paper
- Equipment
- Printing
- Conference calls



Remaining funds \$2,215

Lessons Learned

- **Are there lessons learned?**
- All staff at facility must be trained and involved;
- Head of health facility must be committed to conducted internal evaluation of the process and take the lead in implmenting change

- **What would you do differently in the future?**
- Conduct a meeting with all heads of department at the health facility to introduce the project
- Provide minimal conditions to implement project (e.g personnel)
- Empower health facility staff to manage the available respources

Way Forward

- Chart Review / Data Monitoring – Make data visible for entire clinic
- Patient flow – Draw blood on same day as clinician orders; Team has begun to think about this next step in the process and begin collecting data on number of samples actually drawn at lab
- Result reporting – Next project - Assuring that results are available for clinical management
- Improve health facility workflow at other clinics (to eliminate barriers to VL demand)
- Improve results return portion of VL Cascade
- Activities to increase patient education in the community



Obrigado