## ETHEKWINI DISTRICT QI PROJECT FOR HIV-VL AND DRUG RESISTANCE MONITORING

ANNUAL WORKSHOP IN ADVANCED CLINICAL CARE (AWACC-2017

07/09/2017

Dr. Henry Sunpath -

Research /Clinical Director- (MEDICATE -AIDS:NPC)

Consultant: Ethekwini Health District Office &

CAPRISA Advanced Clinical care program

**And Mr. Selvan Pillay** 

PROGRAM MANAGER: REVAMP STUDY

## WHAT IS THE MOST EFFECTIVE WAY TO MAKE VL MONITORING ROUTINE IN AN ART CLINIC

- 1. INCREASE DEMAND BY PT EDUCATION AND HCW EDUCATION
- 2. INSTITUTE VL ANIVERSARY CONCEPT
- 3. IMPLEMENT GATE KEEPING NOT TO ISSUE REPEAT SCRIPTS WITHOUT VL RESULTS
- 4. ENHANCED ADHERENCE COUNSELLING
- 5. ALL OF THE ABOVE

# IN PILOT SITE STUDIES, HOW MANY PATIENTS WITH HIGH VL HAVE A REPEAT VL AFTER EAC 1 AND EAC 2

- 1. 60 %
- 2. 10 %
- 3. 30 %
- 4. 50 %

## The commonest cause of sample rejection from the NHLS is

- 1. Clotted /haemolysed specimen
- 2. Incorrect blood tubes used
- 3. Forms filled incorrectly
- 4. VI done at inappropriate time line

# In a viral load priority clinic, what combination of staff is the most effective in managing high VL

- 1. Doctor, NIMART nurse
- 2. Doctor ,EAC counsellor ,social worker, psychologist
- 3. NIMART nurse ,EAC counsellor ,social worker
- 4. EAC counsellor, social worker, psychologist
- 5. Doctor ,EAC counsellor

## What percentage of patients have a VL at 6 months in Ethekwini- approximately

- 1.70 %
- 2.40%
- 3. 25%
- 4. 50 %

## Which statement is correct, according to the DOH guidelines

- 1. First Vl result is due at 6 months on ART and then 12 months if the 6 month Vl is undectable and then annually if the 12 month Vl is undectectable
- 2. First VI result is due at 6 months on ART and thereafter one year later if the 6 month VI is undectectable
- 3. First VI result is due at month 6 on ART and then at month 12 if the VI is > 1000.

## Fast Track 90-90-90







ETHEKWINI HEALTH DISTRICT
Mrs P.Msimango ,Mr.S.Yose;
Dr.Sewlal ,Mr.Gabela ,HAST team
,QA/IPC Teams





## eThekwini: Third 90 key activities and support

Dr. Aarthi Ramkissoon Dr Kevi Naidu Dr. Gugu Mkhulusi Ms. Thoko Ngwenya health



School of Public Health Faculty of Health Sciences

Iniversity of the Witwatersran











### FILE AND FACILITY AUDIT -CAPRISA ACC PROJECT

Dr. Kogie Naidoo, Dr. Rochelle Adams.Santhana Gengiah
The Epicentre team led by Cherie Cawood
The 11 facilities that participated in the File and Facility Audit
The CAPRISA ACC Statistics & Data Management Team
Dr Henry Sunpath (eThekwini District Specialist Clinical Team Leader)

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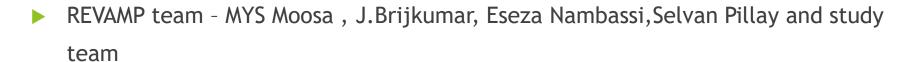




## MEDICATE -AIDS NPC & ACADEMIC PARTNERS



- Harvard Medical School Mark Seidner ,Raj Gandhi,Kevin Ard
- Emory University- VC.Marconi , D.Kuritzkes



- SA HIV clinicians Society -
- MSF



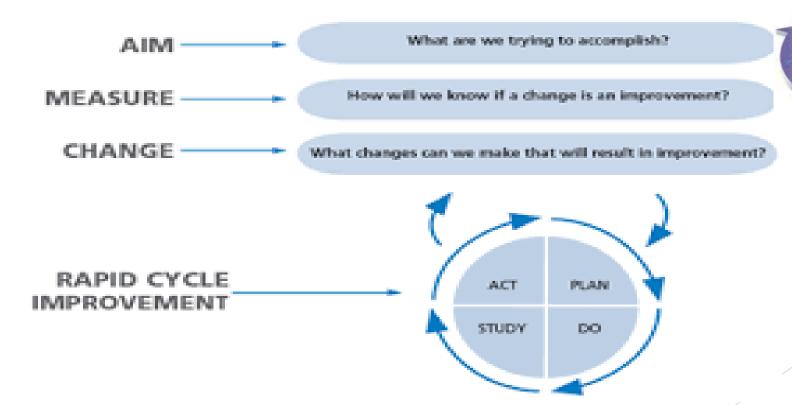


### Quality improvement model

Root cause analysis (SIMS)

Stakeholder strategy

Ongoing education and development



#### Adult with Viral load completion (VLD) rate (HIV -8)

#### Definition:

 Proportion of adults in the 12 month cohort, still on treatment who had Viral load test done in the last year

#### Numerator:

• Adult viral load done (VLD) at 12 months

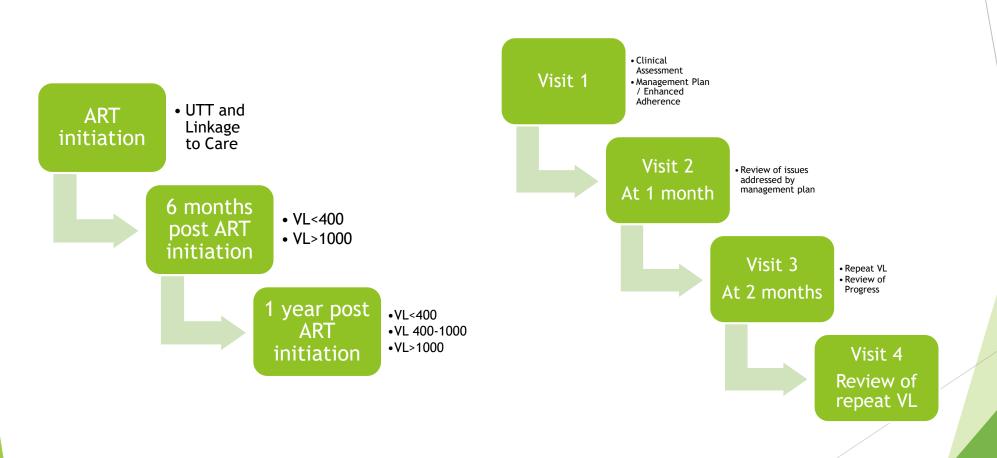
#### **Denominator:**

 Adult first line regimen + Adult second line regimen at intervals in 12 month cohort

#### 2016/17 Target (Proposed):

• 80 % VLD rate at 12 months

## Key clinical contact points -ensure activity

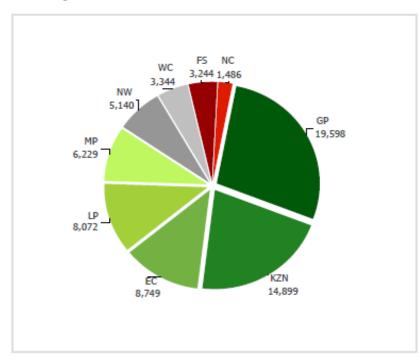


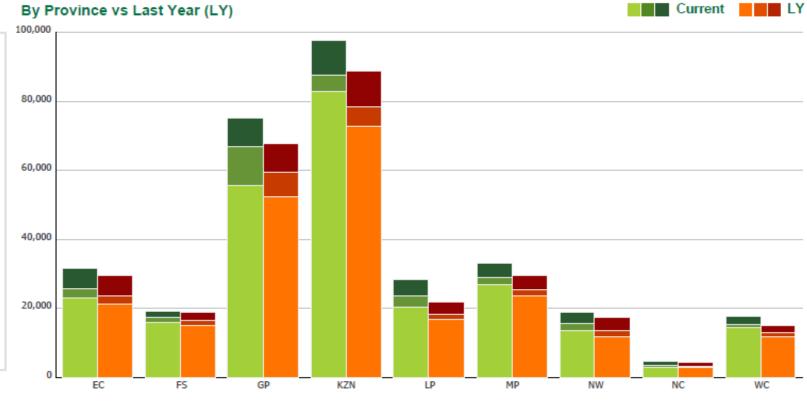
### Analysis of various sources of VL data-

- Very large numbers of Vl tests done monthly -are they appropriately done and acted upon
- Vl suppression rates good on those samples tested
- ▶ Is there consistency with NHLS reports , records in clinical charts and entry into tier.net?
- NHLS unable to report on VL completion rates
- Does tier, net accurately and completely report on VL completion rates?
- What is the best way to assess the VL completion rates?
- Are repeat VL being done and acted upon after VF and adherence intervention?
- Need to triangulate data between NHLS database Tier.net clinical charts
- ▶ Aim for completion of exercise to ensure that data on VI monitoring in accurate and complete

#### Viral Load Testing in SA for the Month of Jan 2017 vs Jan 2016







> 1,000 <= 10,000</p>

■ > 1,000 <= 10,000 LY ■ > 10,000

> 10,000 LY

#### Results by Range by Province vs Last Year (LY)

		Total		<= 1,000 (log 3)		> 1,000 (log 3) <= 10,000 (log 4)			> 10,000 (log 4)			Average (log)					
Province		Current	LY	Current	%	LY	% LY	Current	%	LY	% LY	Current	%	LY	% LY	Current	LY
Eastern Cape	EC	31,857	29,666	23,108	72.5%	21,236	71.6%	2,828	8.9%	2,519	8.5%	5,921	18.6%	5,911	19.9%	3.25	3.47
Free State	FS	19,294	18,804	16,050	83.2%	15,033	79.9%	1,326	6.9%	1,392	7.4%	1,918	9.9%	2,379	12.7%	3.64	3.73
Gauteng	GP	75,313	67,771	55,715	74.0%	52,093	76.9%	10,988	14.6%	7,449	11.0%	8,610	11.4%	8,229	12.1%	3.10	3.00
KwaZulu-Natal	KZN	97,683	88,674	82,784	84.7%	72,825	82.1%	4,932	5.0%	5,638	6.4%	9,967	10.2%	10,211	11.5%	3.14	3.23
Limpopo	LP	28,334	21,822	20,262	71.5%	16,619	76.2%	3,459	12.2%	1,528	7.0%	4,613	16.3%	3,675	16.8%	3.22	3.30
Mpumalanga	MP	33,116	29,554	26,887	81.2%	23,565	79.7%	1,903	5.7%	1,835	6.2%	4,326	13.1%	4,154	14.1%	3.26	3.13
North West	NW	18,847	17,347	13,707	72.7%	11,930	68.8%	1,872	9.9%	1,744	10.1%	3,268	17.3%	3,673	21.2%	3.62	3.61
Northern Cape	NC	4,501	4,311	3,015	67.0%	2,850	66.1%	457	10.2%	436	10.1%	1,029	22.9%	1,025	23.8%	4.01	4.07
Western Cane	WC.	17 637	15 004	1/1/293	81.0%	11 756	78.4%	1 1/12	6.5%	1 118	7 5%	2 202	12 5%	2 130	1/1/2%	3 27	3 27

1,000

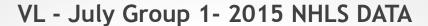
- <- 1,000 LY

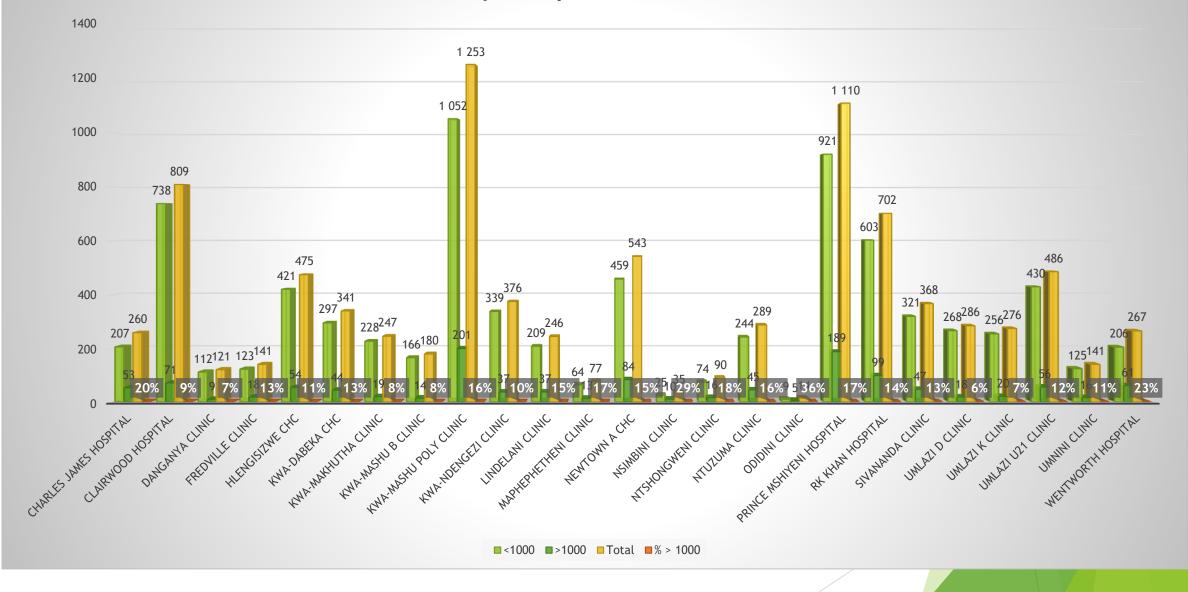
## **VL Health Information Systems**

Tier.net Clinical Chart **NHLS** 

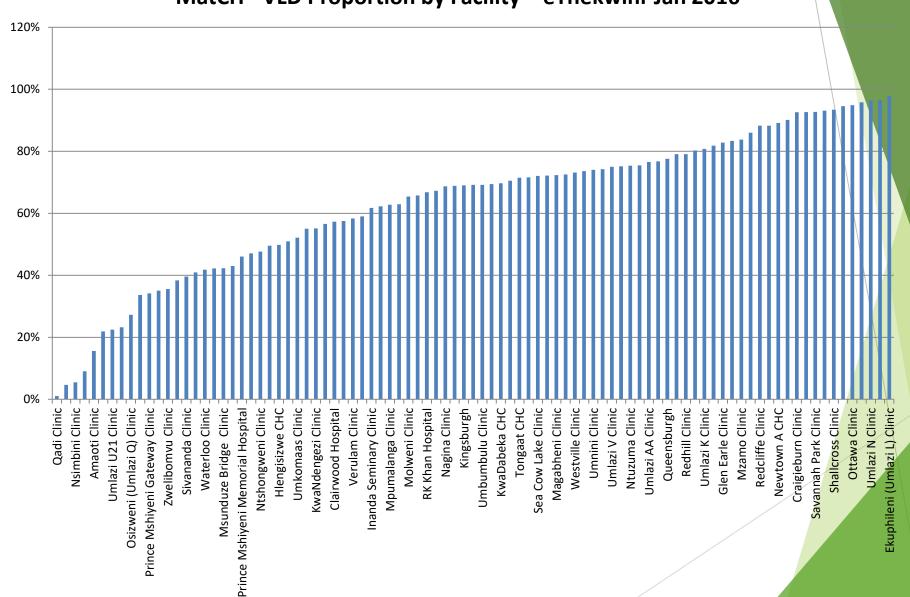
## NDOH- Adult with Viral load completion rate at 6 months

District	NDoH Target FY 2014/15	FY 2011/12	FY 2012/13	FY 2013/14	Progress Q3	VLD at 6m FY 2013/14
Amajuba District Municipality	80	54.0	47.9	48.4		11,678
eThekwini Metropolitan Municipality	80	64.6	64.4	67.4		<mark>4,</mark> 872
Harry Gwala District Municipality	80	65.1	55.3	44.1	<b>(a)</b>	1,148
iLembe District Municipality	80	50.2	44.0	42.6		23,041
Ugu District Municipality	80	38.6	36.2	32.4		1,178
uMgungundlovu District Municipality	80	26.5	30.6	29.6		4,888
Umkhanyakude District Municipality	80	41.4	39.4	35.4		1,888
Umzinyathi District Municipality	80	33.0	43.8	0.0		0
Uthukela District Municipality	80	37.7	42.9	53.4		4,318
Uthungulu District Municipality	80	38.6	35.2	28.4		1,083
Zululand District Municipality	80	43.4	37.6	32.0		2,064
KwaZulu-Natal	80	17.4	15.4	19.3		397



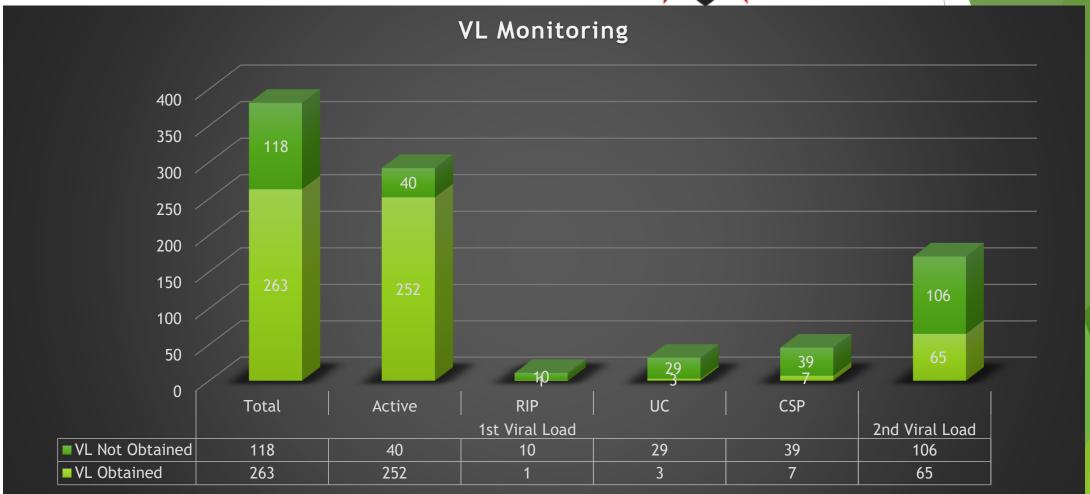


#### MatCH - VLD Proportion by Facility — eThekwini-Jan 2016



Project Status on Viral load monitoring -May 2016 KwaZulu-Natal HIV Drug Resistance Surveillance Study Sites -RKKhan and Mkhuze CHC (file audit and trak care)





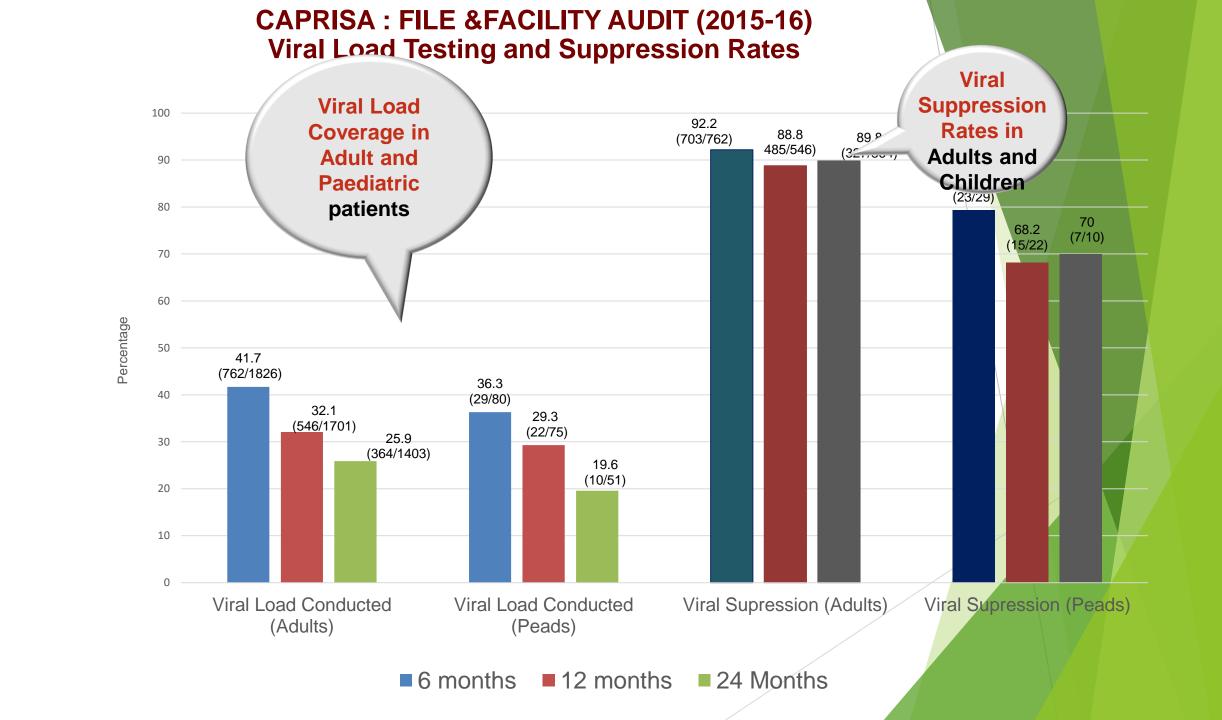
## TIER.NET Challenges

#### Challenges in facilities are as follows:

- 1. Poor clinical information recording on clinical charts.
- 2. Facility Data Captures not working as much as they are supposed to.
- 3. Backlogs-There is a big number of files in backlog resulting in the increased number of defaulters.
- 4. Blood results not being recorded on clinical charts which affects our VL completion as well as suppression rate.
- 5. Broken Computers in our facilities. (Technicians takes too long to respond to facilities whenever they report broken computers)
- 6. Although we do not cover all facilities currently because of the shortage of staff, but we are monitoring their data on monthly basis and we always send Data Captures whenever there is a need.

## **VL Health Information Systems**

Tier.net Clinical Chart **NHLS** 



## **CAPRISA - Summary of Findings**

### **Viral Load Testing Coverage and Suppression**

- Adults
  - Coverage: 32% and 26% at 12 and 24 months
  - ► Suppression: 90% at12 and 24 months
- Children
  - Coverage 29% and 20% at 12 and 24 months
  - ► Suppression 68 and 70% at 12 and 24 months
- Compared to NHLS reported suppression rates of 75%

#### **Retention in care**

- ▶ ± 50% of patients miss scheduled visits
- Late presentation for visits among 67%
- Vast majority of reasons for missed visits are not documented
- No evidence of action taken for missed visits
- Implementation of Retention Strategies urgently required

## Fast Track 90-90-90







ETHEKWINI HEALTH DISTRICT
Mrs P.Msimango ,Mr.S.Yose
,Mr.Gabela ,HAST team ,QA/IPC Teams
Dr.H.Sunpath (chair TWG)





### Root cause analysis -summary- PHC

► LOW stats reported for VLD due to

Poor VI completion in all sites (heterogenous) due to
Missed appointments, delayed reporting to clinics, lack of blood draws due to
Poor patient education and health worker investment due to
Due to high volume clinics and poor role differentiation of staff due to
Lack of ownership of responsibility for VI monitoring
Lack of awareness of SOC among junior staff/NIMART

- Poor data management due to
   Incomplete entry of data onto clinical charts
   HR issues and equipment issues
   Poor understanding and implementation of SOP
- Acting on results not according to SOC due to

  No dedicated persons and systems to engage pts with high VL due to

  Lack of staff orientation to protocols due to

  Lack of training and supervision of NIMART nurses and junior doctors

## Training and Mentorship Model



#### TRAINING DONE / ONGOING

DOH QA TRAINING UNIT: DOH QA teams = TRAIN QA teams at all hospitals/CHCs and PHCs to assess VL outcomes by Dec 2017 and sustain the program

MEDICATE -AIDS NPC
ANNUAL WORKSHOP IN ADVANCED CLINICAL CARE -AWACC: updates to doctors, nurses and pharmacists on HIV VL and DR monitoring strategy with ID unit at UKZN and research partners and NGOs (key funder CAPRISA)

#### MatCH

#### MatCH

TRAINING IN THE DIP AND DOP -MatCH of all PHC managers and district program managers.

Facilities grouped into 6 clusters according to mother Hospitals and referral pathway. 201 DoH Provincial OM's, 90/90/90 Champions, HAST and MCWH OM's trained

Training of nurses, counsellors, and teams in Enhanced adherence counselling

#### **CAPRISA**

#### CAPRISA

Advanced clinical care training conducted for key senior doctors in all facilities over 2 years ,that included HIV DR and DRTB

CAPRISA ACC -UKZN ID UNIT training by inreach of doctors who will work as clinical advisors to a network of ART clinical sites for ACC and DR testing

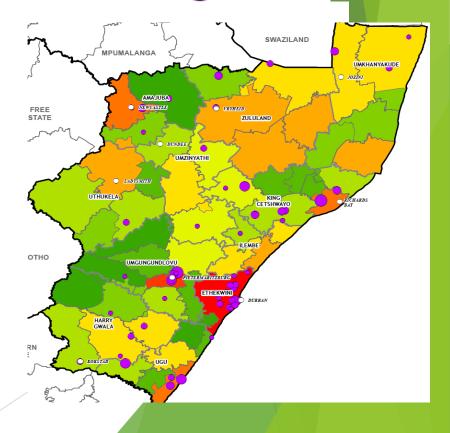
## CAPRISA ACC Didactic Training Programme

Category of Staff	Training Duration	РНС	СНС	District Hospital	Regional Hospital	Quaternary Hospital	Specialized Hospital	District Office	NGO/ Other	Total
હ	1 Day	8	28	46	47	2	15	10	17	173
Doctors	2 Day	13	40	132	98	4	41	24	71	423
ă	Total	21	68	178	145	6	56	34	88	596
ists	1 Day	1	13	22	16	0	5	3	2	62
Pharmacists	2 Day	2	21	75	30	0	7	16	10	161
Pha	Total	3	34	97	46	0	12	19	12	223
Staff	1 Day	35	16	40	13	0	14	4	4	126
Nursing Staff	2 Day	43	56	71	20	0	16	11	28	245
Nurs	Total	78	72	111	33	0	30	15	32	371
Program Managers	1 Day	1	3	2	0	0	0	10	1	17
Program Managers	2 Day	0	1	4	0	0	0	11	6	22
Pr	Total	1	4	6	0	0	0	21	7	39
TOTAL		103	178	392	224	6	98	89	139	1229

#### NUMBER OF ADULTS ON ART AND DOCTORS TRAINED PER FACILITY







### **Capacity Building: In-reach Training Outputs**

Name of Facility	Type of Facility	No of doctors mentored over 4 week period			
MaTCH	DSP	3			
Ithemba Labantu Hospital	NGO	1			
CatoManor CHC	CHC	1			
Wentworth Hospital	District Hospital	1			
King Dinuzulu Hospital	District Hospital	2			
Addington Hospital	Regional Hospital	1			
Clairwood Hospital	Specialised Hospital	1			
Total Number Trained 10					

- · ACC trained Doctors selected for inreach training by facility management
- · 4 6 days of in-reach training with Adult IDU

#### **Topics Covered**

- Anti-retroviral treatment toxicities
- Drug induced liver injury
- Complicated tuberculosis incl (MOTT)
- · HIV treatment failure
- Hepatitis B and C virus infection
- HIV assoc hematologic abnormalities
- ART Drug Resistance
- Completion of genotype request forms
- · Interpretation of Stanford scoring

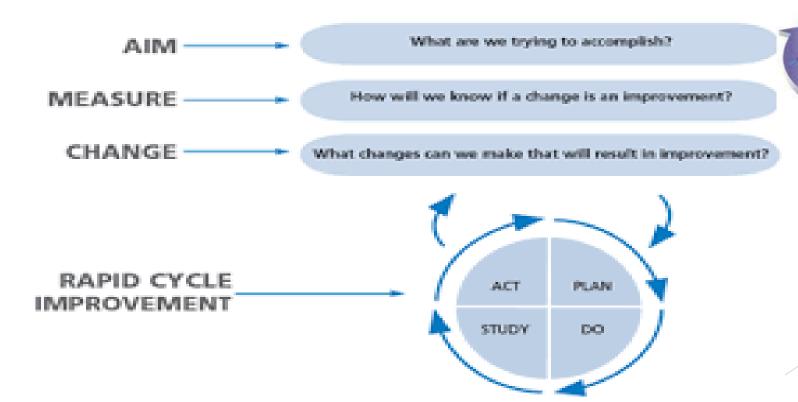
Knowledge Area Impacted	Pre Mentorship Median %	Post Mentorship Median %	Improvement Margin (%)
Liver Injury	30.8	84.6	53.8
ART Resistance	46.2	76.9	30.7
TB Molecular Tests	57.1	85.7	28.6
Hepatitis B co-infection	33.3	66.7	33.4

### Quality improvement model

Root cause analysis (SIMS)

Stakeholder strategy

Ongoing education and development



## Fast Track 90-90-90







#### **ETHEKWINI HEALTH DISTRICT**





### TWG 90/90/90 MANDATE -ETHEKWINI D/O- Sept 2016

Adult with viral load completion (VLD) rate

Proper updating and use of Tier.net Implement VL registers where needed

Monitor VL suppression data, monthly

Work with current partners QIP plans and integrate into DIP DEVELOP STRATEGY FOR SOP DEVELOPMENT

1. Know your indicator, track your response, accountability	2. Target setting and targeting	3. Data management	4. Communication (ACSM, demand creation strategy)
Quality of care	6 Infrastructure, medicines, equipment, lab services	7. Human resources (quantity, capacity and skills)	8. Service delivery platforms (incl WBOT's and mobile services)
9. Demand: Service delivery related	10. Cascades and pathways (continuum of care)	11. Demand: Client related	12. Inter-sectoral coordination (social development, private sector, schools)

## 12. Inter-sectoral and partner coordination- KEY intervention by CAPRISA -ACC and MEDICATE -AIDS -NPC

- What contribution can partners provide?
- CLEAR ROLE DEFINITION / DELIVERABLES ....documentation available
- What contribution can the resident clinic staff make to ensure sustainability?
- ► How can the district office team coordinate the project to ensure that indicators are achieved?
- ► How to conduct a pilot site intervention to develop a SOP?
- ► How to scale up the efforts form the pilot sites

#### **CHAIR –QI HAST PROJECT**

Engage with CEOs ,medical /clinical managers and district managers to ensure mentorship of staff and appropriate referral pathways develop

Coordinate training plan and mentorship of staff for VL and HIV DR with all partners through resident HAST clinical managers /medical managers

#### Strategic planning team - DOH

- ▶ 1. Dr.H.Sunpath District Specialist /Consultant QA HAST program
- Ms.S.Ntuli and Ms.L.Mthethwa -QA managers DOH
- > 3. Dr. J.Brijkumar DOH consultant
- 4. HAST managers -Mr. P.Bhengu / Mr. X.Mbangata
- ▶ 5. M& E Mr. Martin Gabela
- ▶ 6. KZN HAST UNIT Ms.L.Dlamini
- 7. District management -Ms.P.Msimango ,Mr. S. Yose and Ms. S.Mbambo

- Start with 3 HAST pilot sites . (CWH/WWH/KDH) and repeat audit 31/08/17
- Finalise SOP for VL monitoring to improve VLD over 12 months from 43% to >80 %
- Begin with 11 ACC pilot sites (CWH and 10 0thers)- implement SOP and audit by 31/12/17
- Get all pts on second line with VF that are eligible for DRT processed immediately.
- Engage with all Ethekwini ART facilities to scale up project WITH QUICK WINS ?date

CAPRISA - ACC team

Dr.K.Naidoo

Dr. R. Adams

Ms.S.Gengiah

Epicenter team

Site supervisors-REVAMP(pilot sites)

S.Pillay

S.Pertab

A.Singh

**UKZN** Infectious diseases Unit

Paediatrics - Dr. Sibusiso Khubeka/ Dr.M.Archary

Adults - Prof Moosa / Dr. Manickchund / Dr. Gosnell

**NHLS** 

Viral load testing - Ms.R.Bridgemohan

Drug resistance testing -Dr.P.Moodley /

R.Parboosingh

Business unit -Ms. Daphne Dlamini

NHLS managers

**MatCH** 

Dr. Kevi Naidu -chief clinical program manager Facility support team leaders - clinical advisors M&E manager and Tier.net support team

# Team leaders - DOH FACILITIES : HAST CLINICAL MANAGERS and VL CHAMP

### **FACILITY TEAM -PHC**

- ► ONM / VL CHAMP
- ► QA REPS
- DATA TEAM
- LOCAL GOVT
  /MUNICIPAL CLINIC
  STAFF
- ► NGOs

### FACILITY TEAM-HOSPITALS/CHC

- DR -MEDICAL MANAGER/HAST CLINICAL MANAGER
- VIRAL LOAD CHAMP
- M&E and QA MANAGER
- EAC TEAM -SW/HIV COUNSELLOR
- DATA CAPTURER

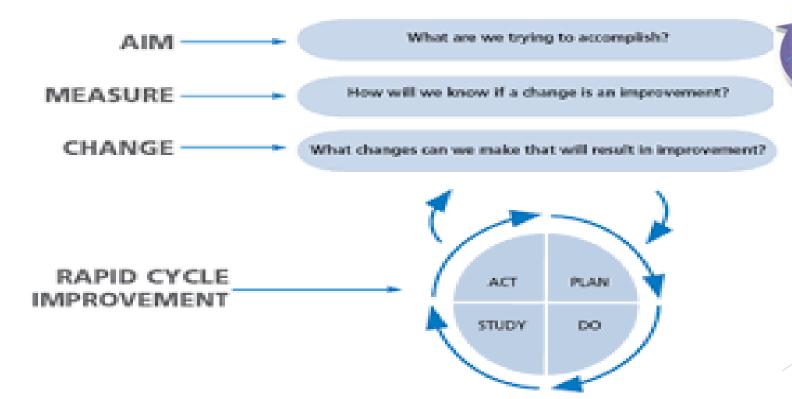
NHLS	
	DW D.Dlamini on 24/11/16
Review operational plan	
	No reduction in capacity
Look at business plan - improve on logistics	
	NDOH DASHBOARD - available at pilot sites
Daphne to speak to Kevi to coordinate with National NHLS IT	to provide access to all sites
	Meet with Ds Samuel /P.Moodley -
Enable fast track of genotype resistance tests for all second line failures	
	National dashboard - Kevi -follow up report
Get patient linked reports at pilot sites	to follow. Weekly facility VL results.
	Clarify and correct time lines for VL blood
Identify VI time lines and under /over	draws and follow up
servicing	
Sample rejection reports	Site specific reports
Explore unique identifier	Jointly

## Quality improvement model

Root cause analysis (SIMS)

Stakeholder strategy

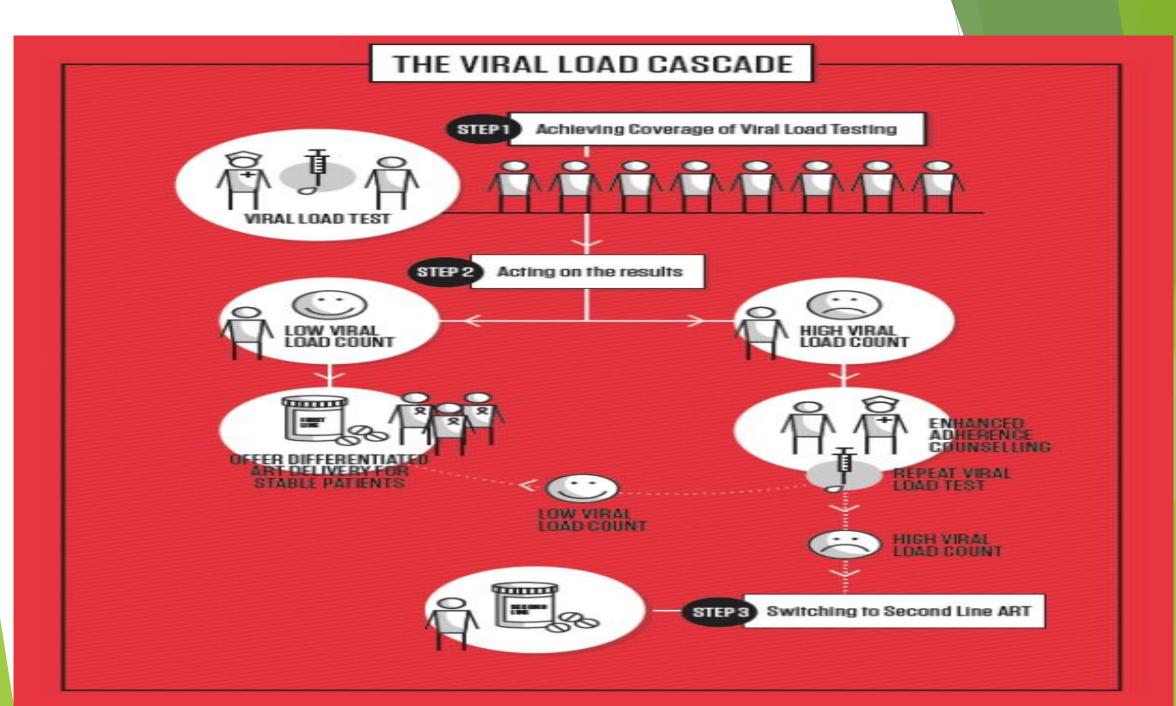
Ongoing education and development



# DISTRICT QI HAST SERVICES briefing METTING HIV -VL AND DR MONITORING

ETHEKWINI HAST DISTRICT OFFCE - PARTNERS AND LOCAL GOVT

10 APRIL 2017



### STEPS TO ACHIEVE THE IDEAL HIV-VL&DR MONITORING PROGRAM -ART CLINIC LEVEL

JILI J TO ACHILTE THE IDEAL I	IIV VEGER MONITORING FROOKAM ART CEINIC LEVEL
1. HAST CLINICAL MANAGER AND VL CHAMP in each CHC/hospital and VLC in each ART site	Terms of reference identified for overall supervision of process Responsible for facility reports to DOH Manage exit plan with partners in 2018
2. MAKE VIRAL LOAD MONITORING ROUTINE	<ol> <li>INCREASE DEMAND BY PT EDUCATION AND HCW EDUCATION</li> <li>INSTITUTE VL ANIVERSARY CONCEPT</li> <li>IMPLEMENT GATE KEEPING NOT TO ISSUE REPEAT SCRIPTS WITHOUT VL RESULTS</li> </ol>
3. SYNERGISE DATA SOURCES SO THAT TIER.NET IS OPTIMALLY FUNCTIONAL AND TOTALLY RELIABLE	<ol> <li>CREATE A HIGH VL REGISTER FOR IST AND 2 ND LINE ART FROM ALL DATA SOURCES -ROUTINE CLINIC VL RECORDS, NHLS WEEKLY DASHBOARD, TIER.NET RECORDS, PHARMACY RECORDS, COMPLETE FILE AUDIT OF ALL ACTIVE PATIENTS</li> <li>CLEAN AND UPDATE TIER.NET FOR RECORDING AND REPORTING -WILL IMPROVE AFTER CATCH UP PHASE</li> <li>CATCH UP PHASE TO ACCOUNT FOR EVERY PATIENT EVER SEEN IN CLINIC AND NOT ACCOUNTED FOR ON TIER.NET</li> </ol>
4. START VL PRIORITY CLINIC ON	1. Trained EAC team work with trained doctor to manage complex VF in

- 4. START VL PRIORITY CLINIC ON SPECEFIC DAY/ DEDICATED TEAM WORKING DAILY
- 5. SUPPORT PHCs in the area

- Trained EAC team work with trained doctor to manage complex VF in first line and all second line VF
- 2. Ensure that all patients receive care by a MDT
- 1. VLC in each PHC to be mentored and supported by local CHC/hospital .Manage all first line VF and refer all second line VF
- 2. Standardise referral forms for VF and data required for 3<sup>RD</sup> line ART

# KEY IMPLEMENTATION STRATEGIES TO MAKE VIRAL LOAD ROUTINE

- ► A VL focal person dedicated to identifying those in of need of VL and enhanced adherence counselling greatly facilitates uptake at all steps of the VL cascade.
- Systems to flag patients in need of VL using paper based and electronic medical records improved
- ▶ A patient triage system, clinic flow and tools (EAC register and high VL form) adapted to identify patients in need of VL and enhanced adherence counselling- will improve uptake.
- Investing in patient education and demand creation for viral load should be at the foundation of any VL scale up strategy.

#### 1.ACHIEVING COVERAGE OF VL TESTING

Are HCWs aware of VL cascade and importance
How are the current VL systems working
Is there Facility leadership and Ownership
What Training and Mentoring takes place per site
Does the Facility have and SOP or use a District SOP
How accurate and reliable are the VL reports on Tier.net
Are there back up systems through registers in the clinic
Have the clinics establish ways in which all High VL can be accounted for ?high VL registers

Is there a process that triangulates charts, Tier.net and NHLS data? Composite data for every patient in the clinic ?use of prospective VL registers from file audits

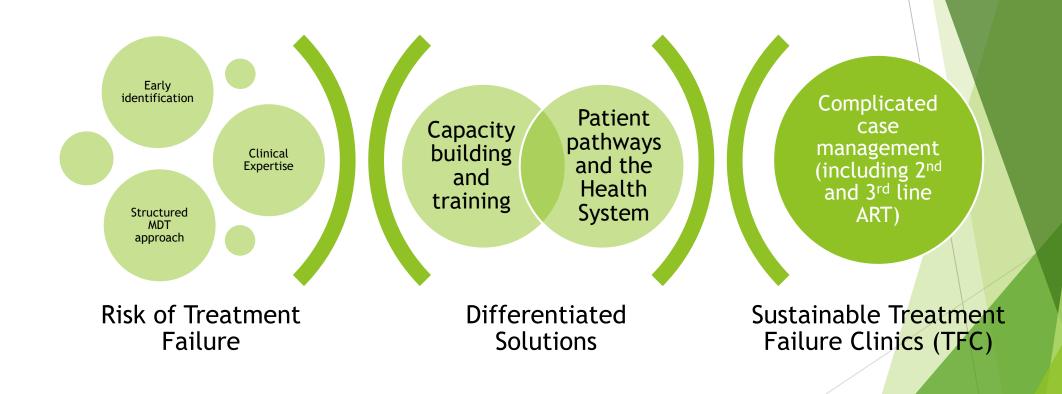
#### 2. ACTING ON RESULTS

- ► The Clinic Lab Interface (MatCH)
- Early Identification Systems
- Risk of Treatment Failure
- Acting on High VL
- Enhanced Adherence Counselling
- ▶ Clinical Assessment and Management Plan

#### Role of MDT in Enhanced Counselling

- Administrative staff Get and review results, can flag the patient's file, enter results/data on Tier.net
- Counsellor Offer standardised adherence messages and motivate patient. Facilitate support groups
- Nurse/ Doctor Standardised adherence support, clinical support, viral load monitoring and correct regimen choice.
- Social Worker- Address psychosocial Issues

# Sustained Third 90 activities - unstable client management systems



### DIFFERENT APPROACHES FOR HIGH AND LOW VOLUME SITES

### **LOW VOLUME SITES**

- ► 1.WORK WITH FILING ALL VL RESULTS DAILY IDENTIFY FILES WITH HIGH VL FOR ACTION DAILY
- ► 2.USE VL ANIVERSARY TO PROMPT BLOOD DRAWS
- ► 3. RECONCILE MISSED APPOINTMENTS WEEKLY/MONTHLY KEEP FILES SEPARATELY AND CALL PTS FOR THREE MONTHS
- ▶ 4.GET REPORTS FROM TIER OF VL DUE MONTHLY FOR AUDIT
- ► 5.USE WEEKLY NHLS DASHBOARD OF HIGH VL TO PULL OUT PT FILES
- ▶ 6. ENUSRE TIER .NET ENTRY DAILY FROM CLINICAL CHART

# ROTF patient flow algorithm- PHC model

Done before patient's clinical visit

Files of patient's with VL > 400 copies/ml are flagged with 'high viral load' tags



Done at screening area/reception

On arrival at the clinic, patients with tagged files are sent to ROTF counsellor



Done in a predetermined area in the clinic to allow sufficient space and seating

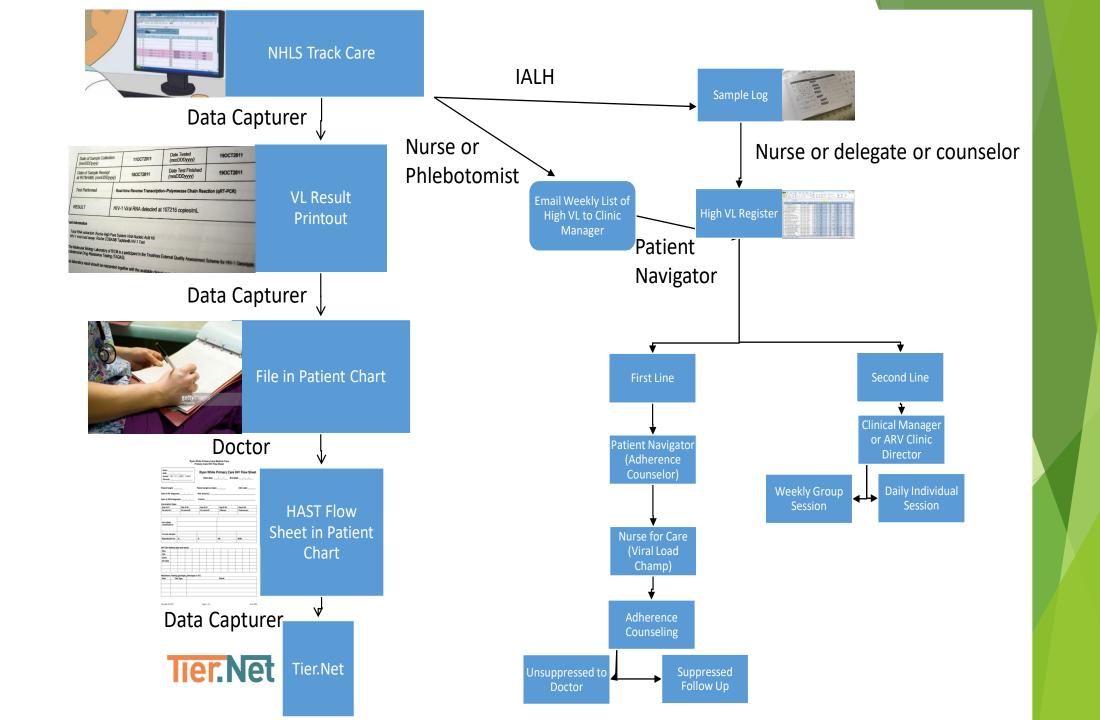
High viral load support group session



### DIFFERENT APPROACHES FOR HIGH AND LOW VOLUME SITES

### **HIGH VOLUME SITES**

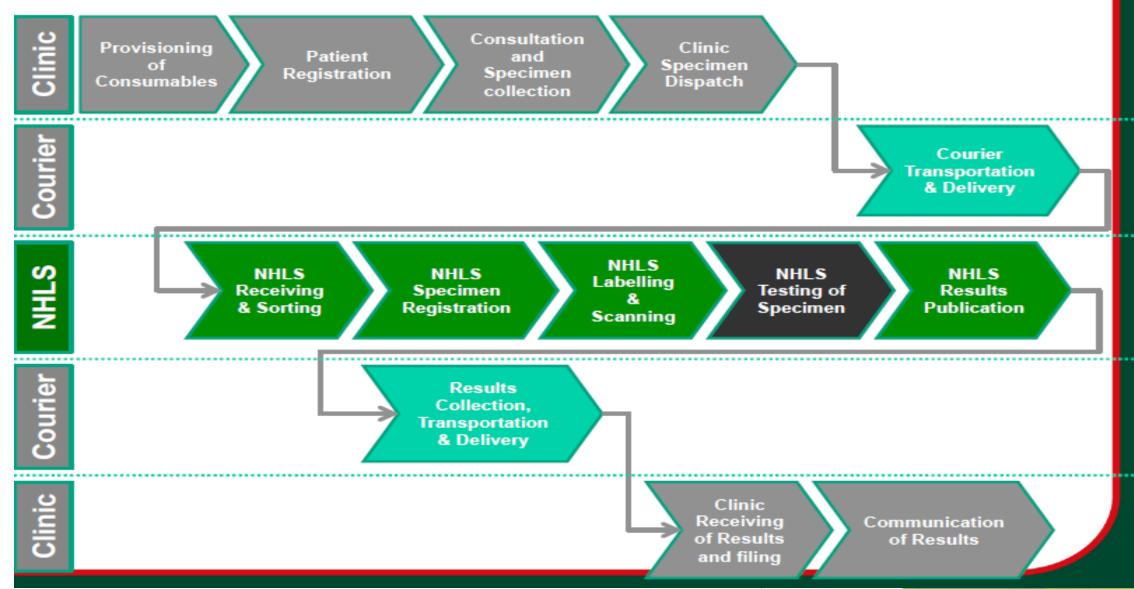
- MANAGE ALL PTS WITH HIGH VL USING A HIGH VL REGISTER
- ► USE VL ANIVERSARY TO PROMPT BLOOD DRAWS
- SOURCE OF DATA -INITIALLY COMPLETE FILE AUDIT IN REGISTRY
- FILE ALL RESULTS DAILY OR PRINT AS PT COMES IN FOR CONSULTATION AND ENTER ONTO CLINICAL FILE -DATA ENTRY DAILY ONTO TIER.NET
- ONCE FILE AUDIT COMPLETE AND TIER DATA RECONCILED USE NHLS DATA BASE FOR HIGH VL REGISTER



# High VL Register

Clinic File No	Patient Name	ID No	Age	Contact Number 1	Contact Number 2	Contact Number 3	Hi VL result	Hi VL Date	Action	Action Date	Date Follow up visit EAC 1	Date Follow up visit EAC 2	Repeat VL	Date Repeat VL	Date check VL result & Manage	Date COR (Change of regimen)
									Patient called							
									Patient booked							
									Patient Came in							
									Patient did not							
									come in							

### **Laboratory Process Value Chain**



# WORK DONE AND PRELIMINARY REPORTS AT PILOT SITES

Commenced October 2016- December 2016 Preparatory Meetings DOH -CAPRISA-MatCH-NHLS

Site preparation - Jan -February 2017

Pilot site intervention with final SOP 01/03/2017

Review date ? 31/08/2017

REVIEWED = 31/10/17 ONWARDS

FOR FILE AUDITS



TASK ON SITE LED BY VL CHAMP	Immediately by CM and VLC
➤ Create and maintain a VL register of all VL done daily -review weekly /monthly -	<ul> <li>Ensure the use of the new VL register with bar codes and assign clinic staff to enter results from TRAK CARE regularly-</li> <li>MatCH staff to check weekly and update register</li> <li>Provide list of high viral loads from Vl register to RV staff</li> <li>DO THE VL AFTER NEW RX INITIATION AT MONTH 5</li> <li>CALL PT IN AT MONTH 6</li> <li>NEVER ISSUE A PC WITHOUT A VL RESULT-PHARMACY TO DO GATEKEEPING!</li> </ul>
➤ Create a high VI register and follow up with EAC team and doctor	<ul> <li>RV staff to create database on high VL register and present weekly to VLC.</li> <li>VLC / RV study nurse to engage EAC team and ensure follow up with nurse clinician on specific dates</li> <li>Refer to doctor in clinic or RV doctor all pats who do not suppress for second line - anyday /specific days</li> <li>Plan towards a dedicated VL priority clinic /consultative team</li> </ul>
Create a prospective VI register complete audit of all clinic files over 6 months	<ul> <li>Staff with guidance of filing clerks pull out by 1 pm .Create a list of files with names and file numbers for that date</li> <li>VL champ and Clinic nurses to audit files and fill data sheet to identify next VL due date.</li> <li>UKZN RV team to create data base weekly and monthly for different cohorts and assign VL anniversary dates</li> </ul>

### **VL Register**

Date	Name & ID Number	Barcodes	Results & Date	Follow-up VL result & Date	Comments

# Prospective VL Register

# Viral Load – Prospective Database

CLINIC FILE NO	PATIENT NAME	ID NO	Date of Initiation	Regimen	Last VL	Last VL Date	Next VL Date

# 2<sup>nd</sup> Line

CONTACT NO	LAST VL	DATE OF LAST VL RESULT	VL1	VL1 DATE	ACTION	VL 2	VL 2 DATE	ACTION	VL 3	VL 3 DATE	ACTION	DATE OF NEXT APPOINTMENT

### Pilot site 1

- ► 183 SLART patient files have been reviewed and 164 deemed eligible for analysis.
- Twenty-five per cent (41/164) of patients had an unsuppressed VL.
- Sixty-six per cent (27/41) patients had 2 or more consecutive unsuppressed viral load on file and of these 59% (n=16/27) had a third consecutive unsuppressed VL.
- ► Genotypic testing conducted in 19% (5/27) of patients, detected resistance
- Systems for identification and improved management of viral failure in SLART patients requires strengthening.
- Unsuppressed viral load is not acted on, and genotypic testing under-utilized.
- Chart audits contribute valuable patient level information about quality of service and completeness in guideline implementation, and should be done routinely.

- First line ART= 1958
- Failure =242 (12.3%)
- Baseline VLD -42 %
- Awaiting tier report for VLD stats in August

## PILOT SITE analysis

### PILOT SITE 2

► FILE AUDIT -

SECOND LINE ART = 67

FAILURE =2 (2.9%)

FIRST LINE =1010

FAILURE =96 (9.5%)

- VL Done at baseline =43 %
- VLD rate at 21/08/17= 80%

NB VL due calculated from last VL done.

Have all high VI been managed appropriately?

#### PILOT SITE 3:

- STATS ETHEKWINI BASELINE AT 42%
- Progress: CWH baseline VLD at 61% now at 76% (6500 PTS ACTIVE) -4 Months
- Ongoing file audit

Second line = 765

Failure = 187 (24.4%)

First line = 3724

Failure =161(5%)

- CRITERIA FOR REFERRAL OF PATIENTS TO A VIRAL LOAD PRIORITY CLINIC (VPC)
  - ▶ To be held on a specific day or on days when key staff are available.
  - Key staff component of the clinic:
  - ▶ 1. ARV Clinic Doctor/MatCH Doctor
  - ▶ 2. Enhanced Adherence Counselling (EAC) Social Worker
  - 3. HIV Counsellor- EAC Trained
  - ▶ 4. EAC Trained NIMART Nurse/Professional Nurse
- Criteria for referral to VPC
  - ► FIRST LINE virologic failures despite two months of counseling and viral loads > 1000 copies/ml
  - Multiple co-morbidities i.e. renal ,cardiac, liver pathology
  - On TB treatment or requiring TB treatment.
  - All patients with complex psychosocial problems that will benefit from trained EAC team.
  - Hepatitis B sAg positive patients that have renal failure for dose adjusted TDF treatment.

- Patients on second line treatment
  - ► Treatment failure high viral loads (>1000)
  - All patients with multiple co-morbidities
  - Drug toxicities
  - Drug interactions
  - All patients with complex psychosocial problems that will benefit from trained EAC team.
  - Hepatitis B sAg positive patients that have renal failure for dose adjusted TDF treatment.
- Criteria for contacting Infectious Diseases Specialist Unit
- Failing third line treatment
- Complex drug toxicities
- CALL TOLL FREE HELP-LINE FOR CONSULTATION ON ANY OTHER CLINICAL PROBLEM IN KZN 0800 111 740

# ETHEKWINI DISTRICT QI PROJECT FOR HIV-VL AND DRUG RESISTANCE MONITORING

ANNUAL WORKSHOP IN ADVANCED CLINICAL CARE (AWACC-2017

07/09/2017

Dr. Henry Sunpath -

Research /Clinical Director- (MEDICATE -AIDS:NPC)

Consultant: Ethekwini Health District Office &

CAPRISA Advanced Clinical care program

**And Mr. Selvan Pillay** 

PROGRAM MANAGER: REVAMP STUDY

# Pilot site Follow up of High VL -Stats

## USE OF NHLS DASHBOARD...

# High VL Register

Clinic File No	Patient Name	ID No	Age	Contact Number 1	Contact Number 2	Contact Number 3	Hi VL result	Hi VL Date	Action	Action Date	Date Follow up visit EAC 1	Date Follow up visit EAC 2	Repeat VL	Date Repeat VL	Date check VL result & Manage	Date COR (Change of regimen)
									Patient called							
									Patient booked							
									Patient Came in							
									Patient did not							
									come in							

# PILOT SITE A= High VL Stats



# VL Monitoring Report

**AWACC 2017** 

Compiled & Presented By Selvan Pillay selvan@kznhiv.org





















### Overview

- Acknowledgements
- ► Monitoring of VL
  - ► Source of data
  - ► High VL Reg
  - ▶ Data collected & Basic Stats
  - ► NHLS Weekly High VL Report















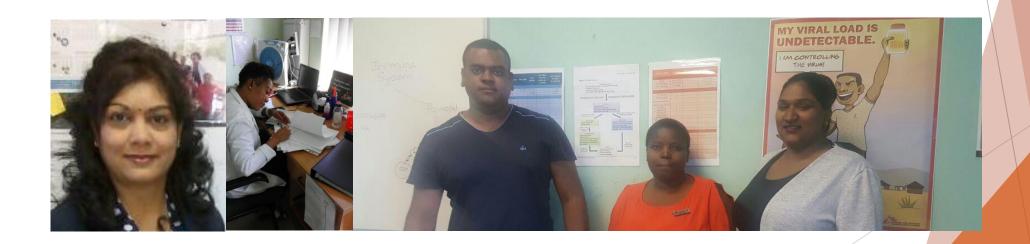






## Research Team

- ► Study nurse, research assistants, data manager & quality manager
- ► High VL register
- ▶ Primary source of data file audit























# High VL Register

													/
Clinic File No	Patient Name	ID Number	Age		Contact Number 3	Hi VL Date	Action	Action Date	Date Follow up visit EAC 3	Repeat VL	Date Repeat VL	Date check VL result & Manage	Date COR
							Patient called						
							Patient booked						
							Patient Came in						
							did not come in						











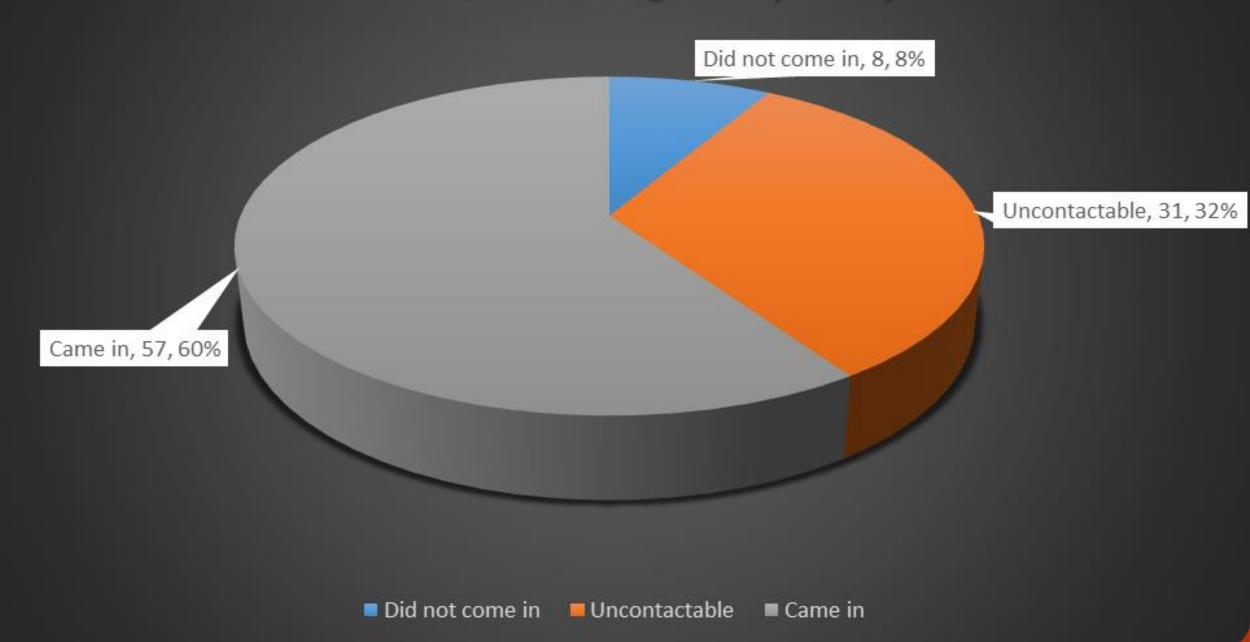




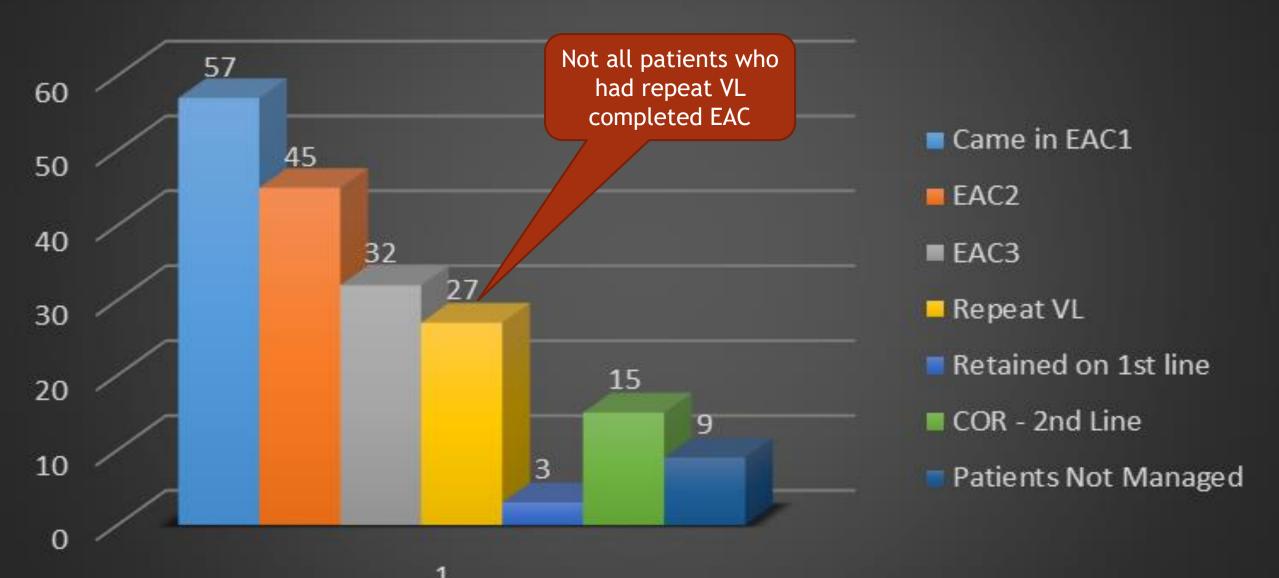




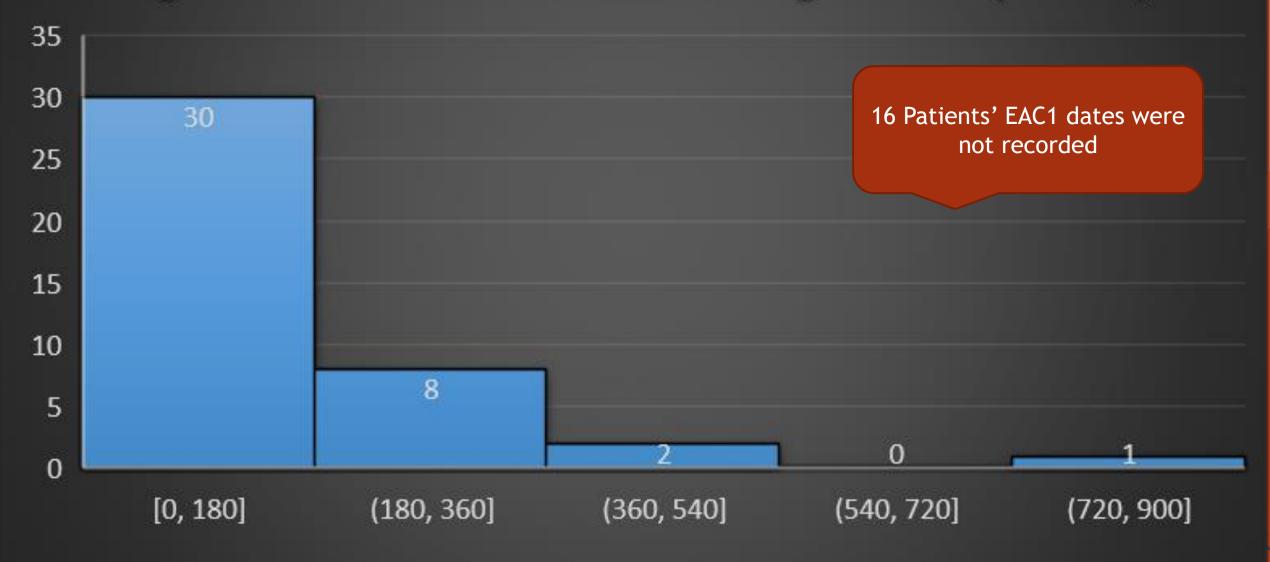
### Patients with High VL (1000)



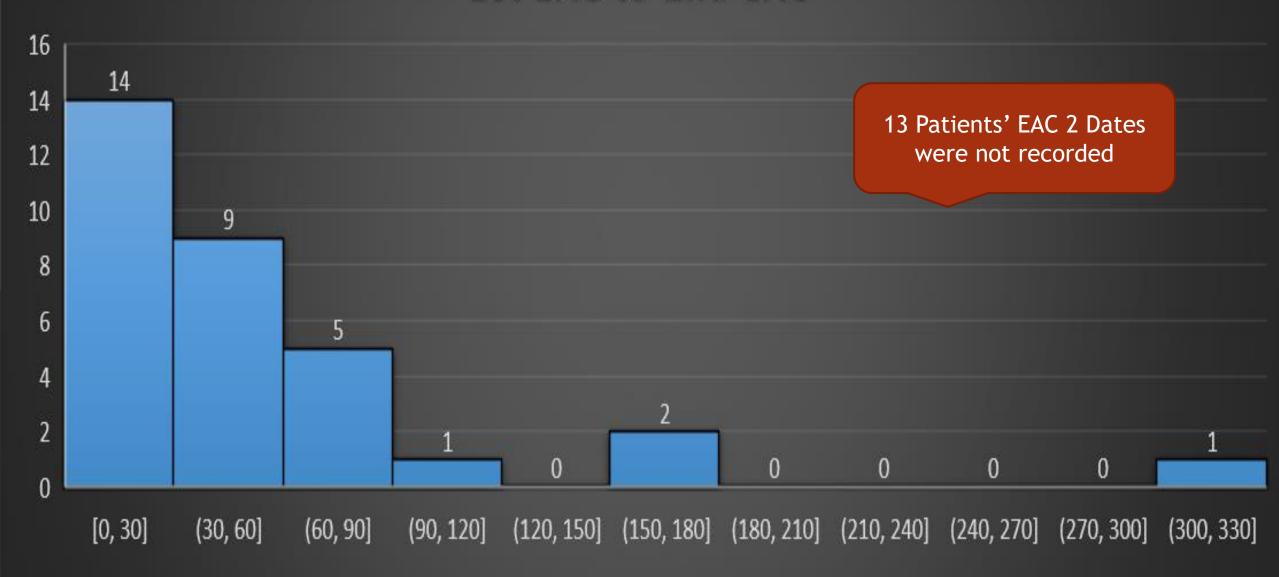
### Patient Follow-up



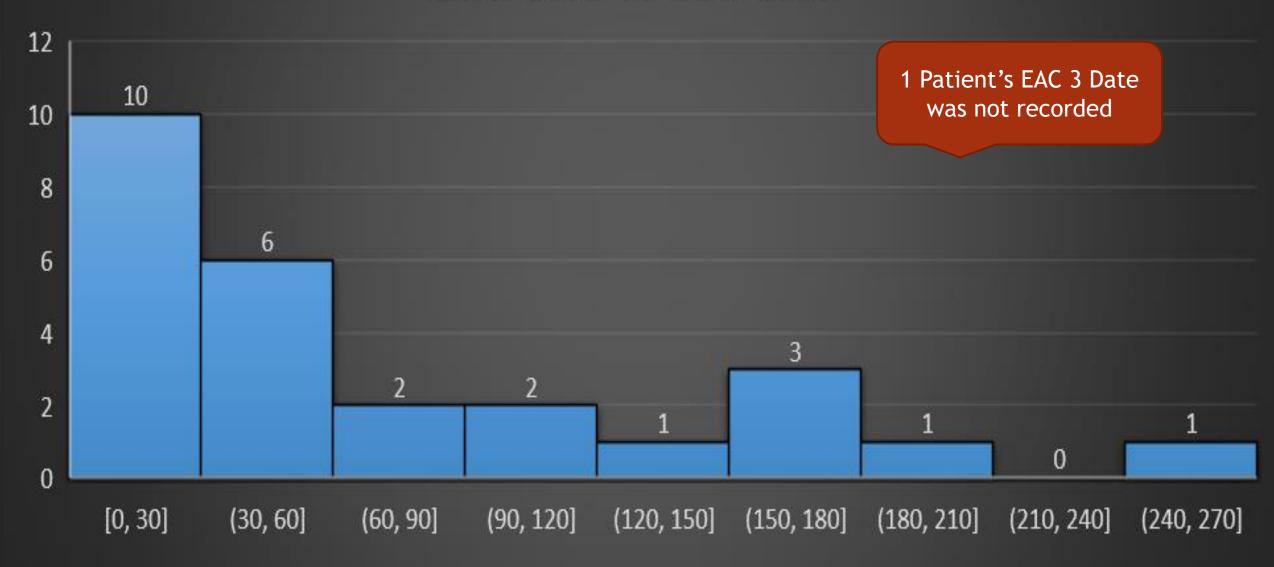
# Duration from High VL to Patient attending clinic (EAC1)



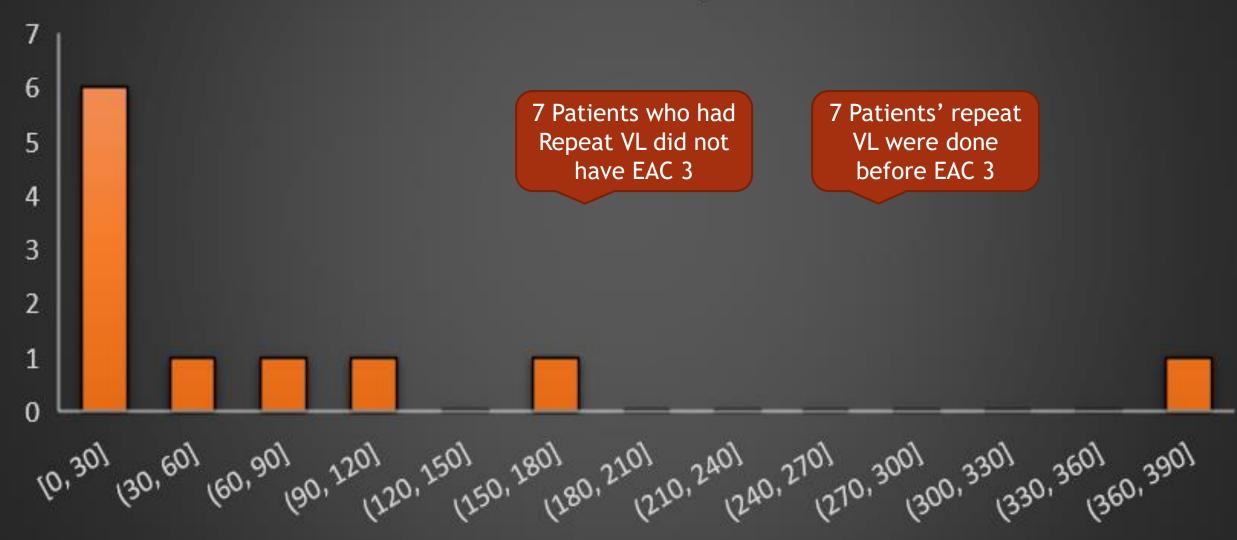
# Duration from 1st EAC to 2nd EAC



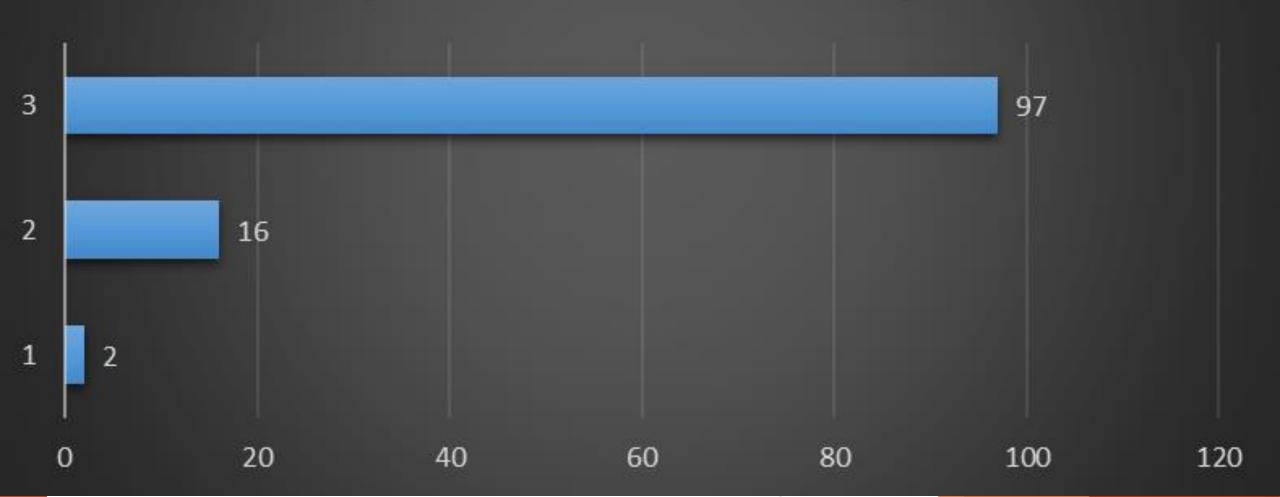
# Duration from 2nd EAC to 3rd EAC



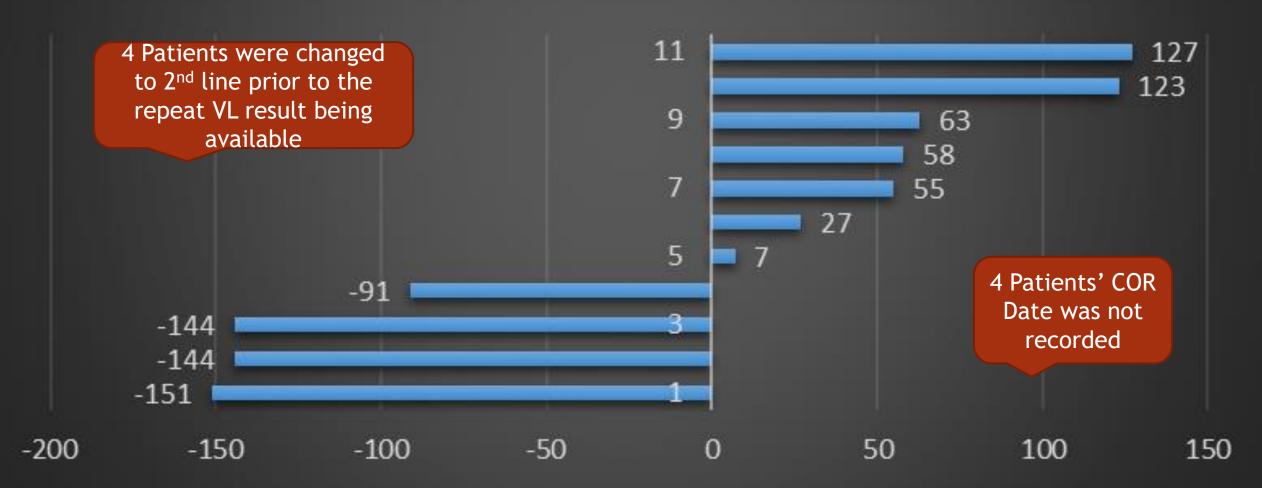
## Duration from 3rd EAC to Repeat VL



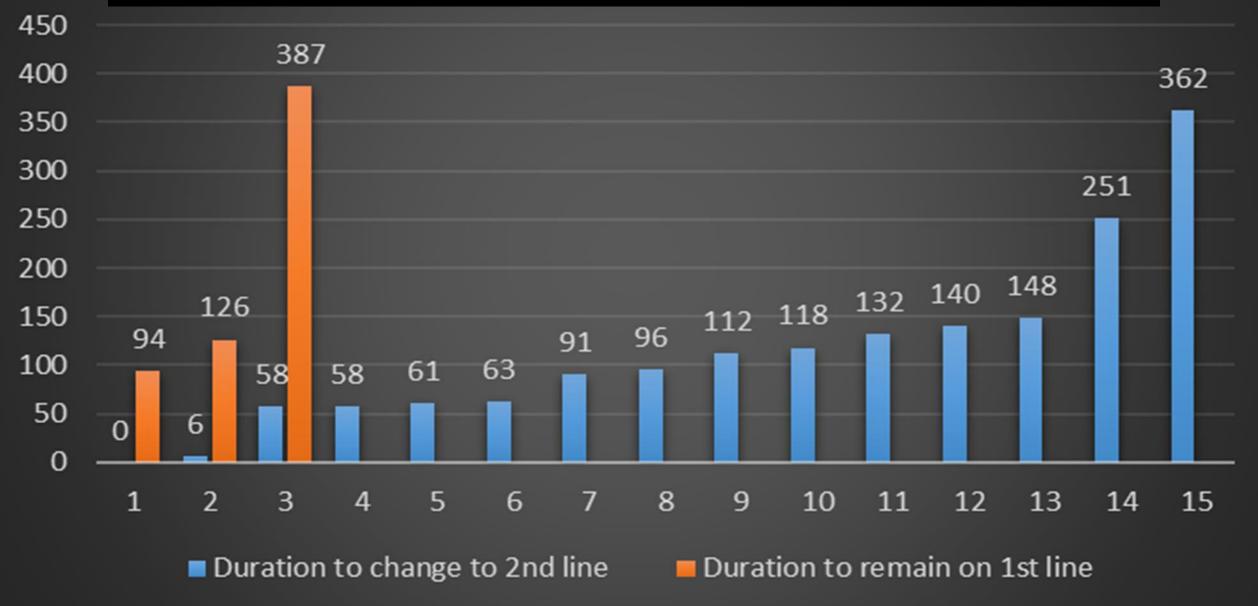
# Duration from Repeat VL to Management (Retained on 1st Line)



# Duration from Repeat VL to Management (COR - 2nd Line)



# Duration from 1st discovering High VL to Management





We may have many challenges, BUT





















### NHLS Weekly Data Report

- ▶ New data automation tool
- ► The NHLS weekly data report
- ► Access NHLS website www.nhls.ac.za









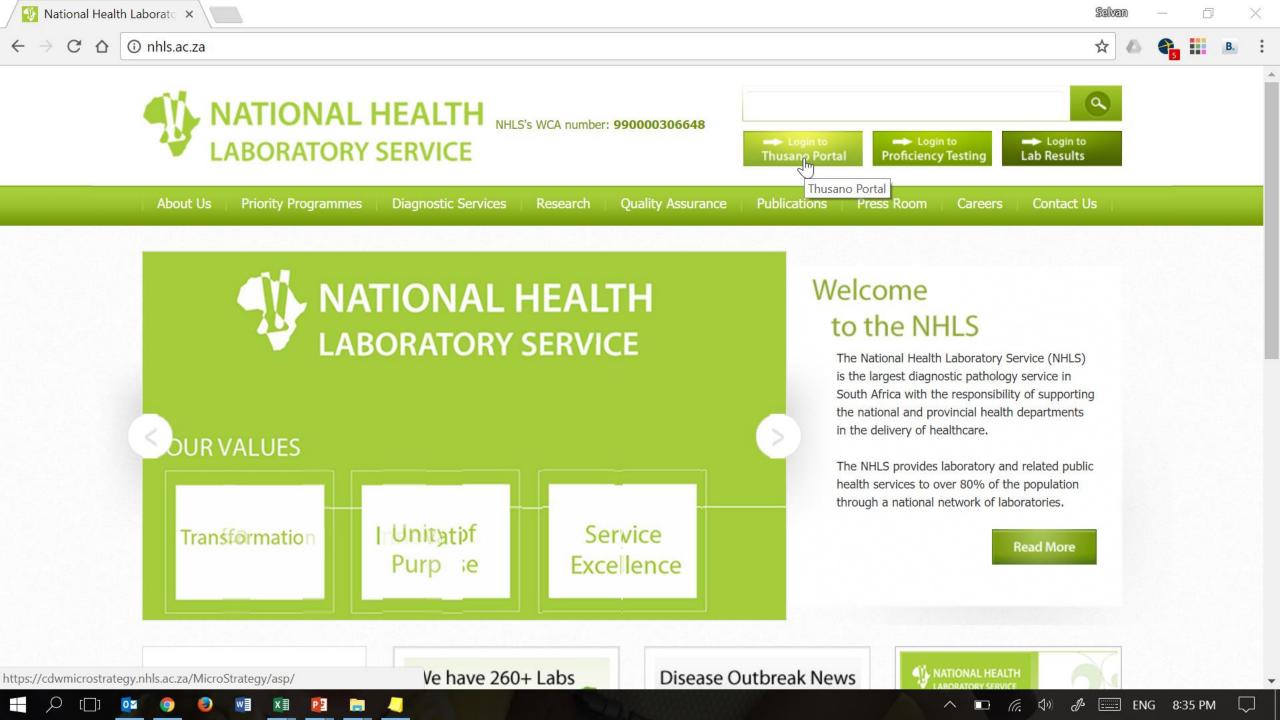


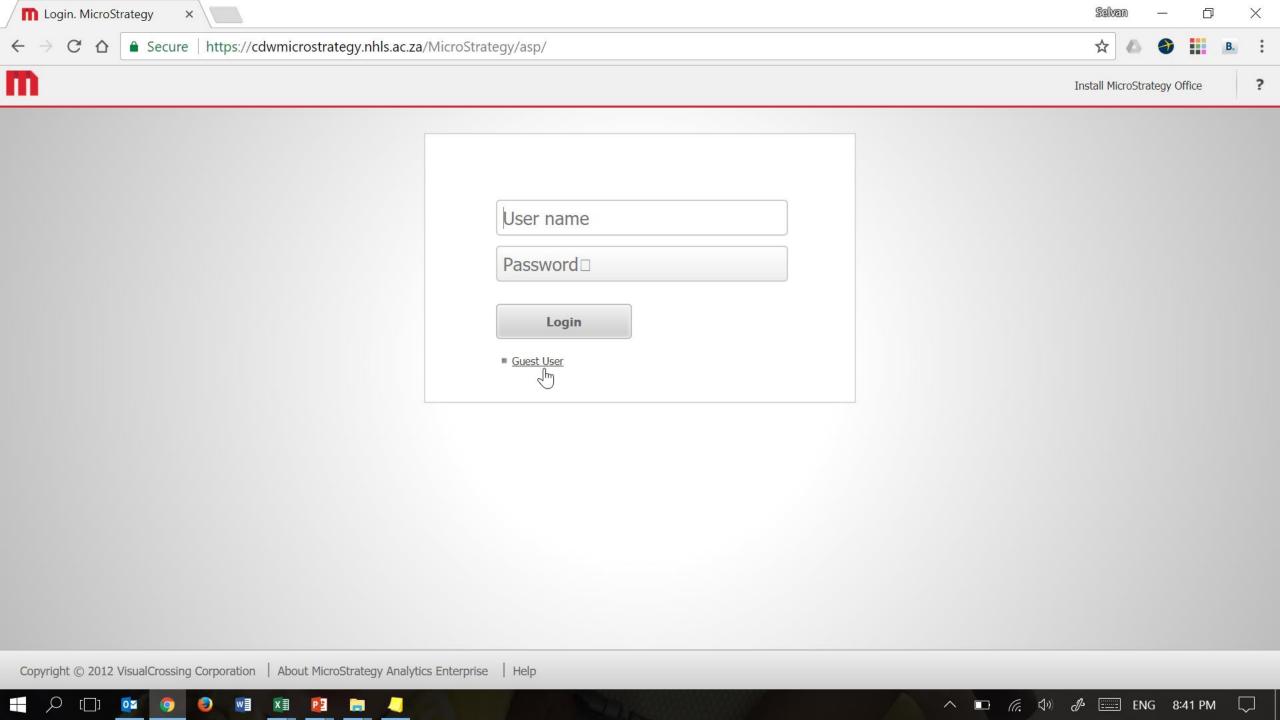














● Secure https://cdwmicrostrategy.nhls.ac.za/MicroStrategy/asp/Main.aspx?evt=3001&src=Main.aspx.3001&Port=0&





















 $\times$ 

?



Install MicroStrategy Office



Welcome Guest User. ( If you are not Guest User, click here.)



**NHLS BI** NHLS BI (Production) Server name NHLSGPAPP002



#### **Self Service Portal**

Self Service Portal Server name NHLSGPAPP002

















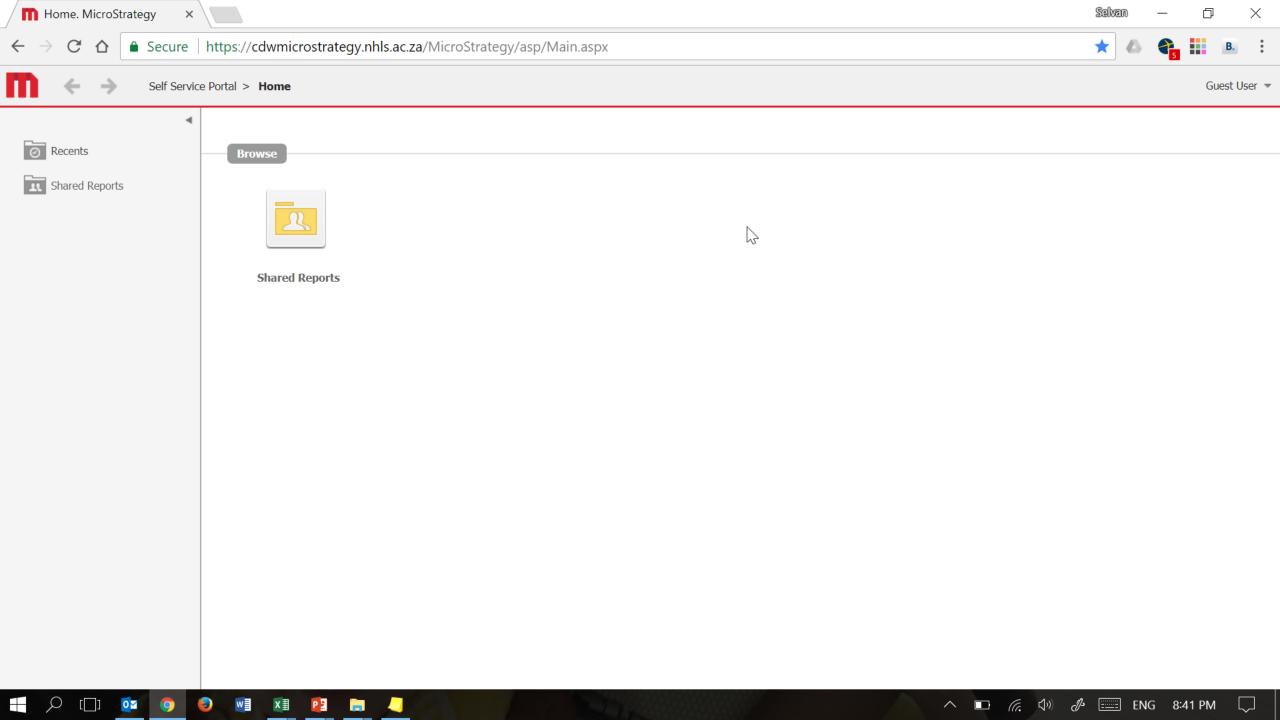


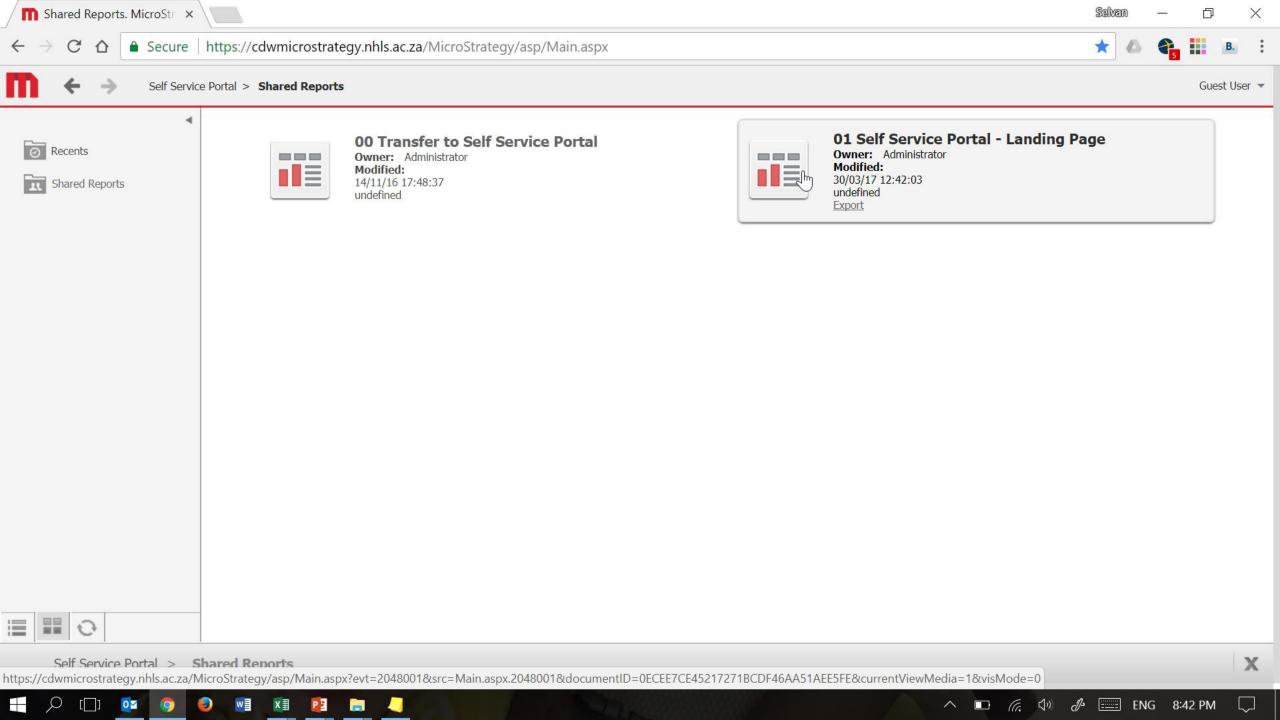
















#### Self-Service Portal



#### What is the Self-Service Portal?

The Self Service Portal allows online registration of users to access Monitoring and Evaluation Reports for the purpose of improving outcomes in South Africa's Health Programs.

For the Health Programs in which they operate, users can register to receive

- 1) M&E Reports regularly distributed via email and/or
- 2) Online M&E Dashboards

#### **New Users**

#### **NEW USER REGISTRATION**

IMPORTANT: After completing the "New User Registration", use the buttons on the right to select "ADD ONLINE REPORTS" or "ADD REPORT DISTRIBUTIONS".

## **Existing Users** ADD REPORT DISTRIBUTIONS **ADD ONLINE REPORTS** MY PROFILE

























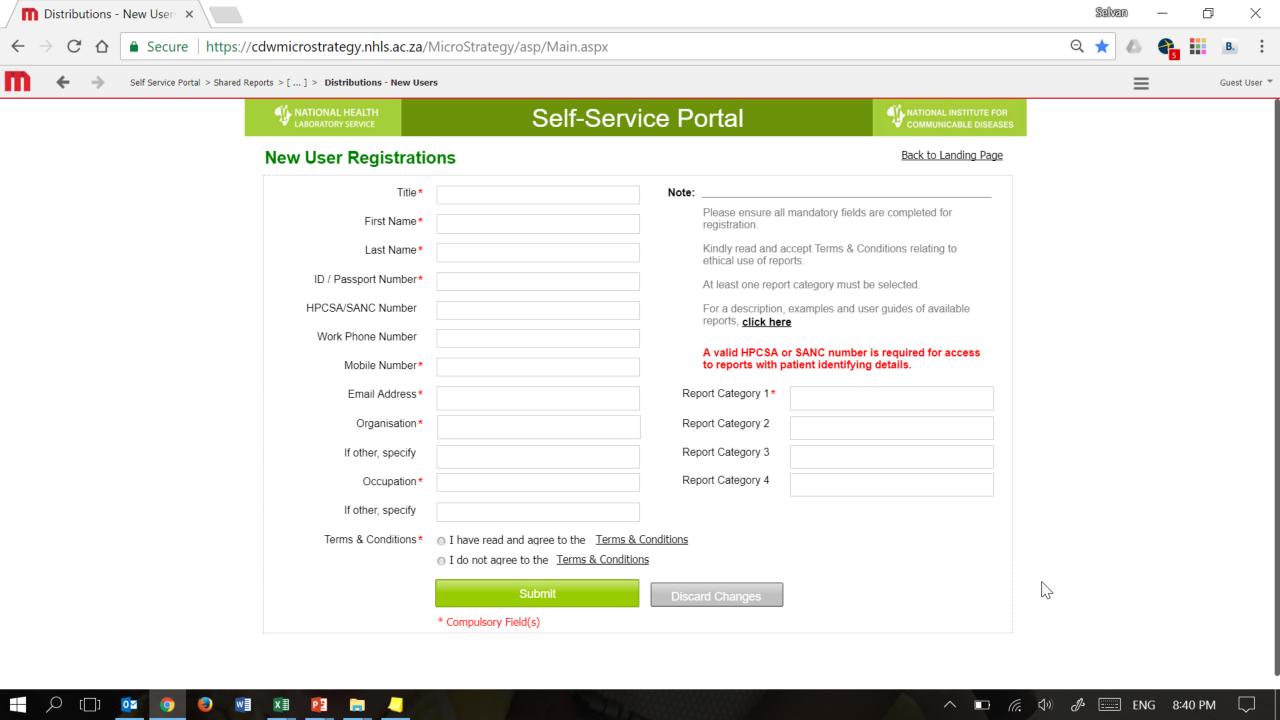
















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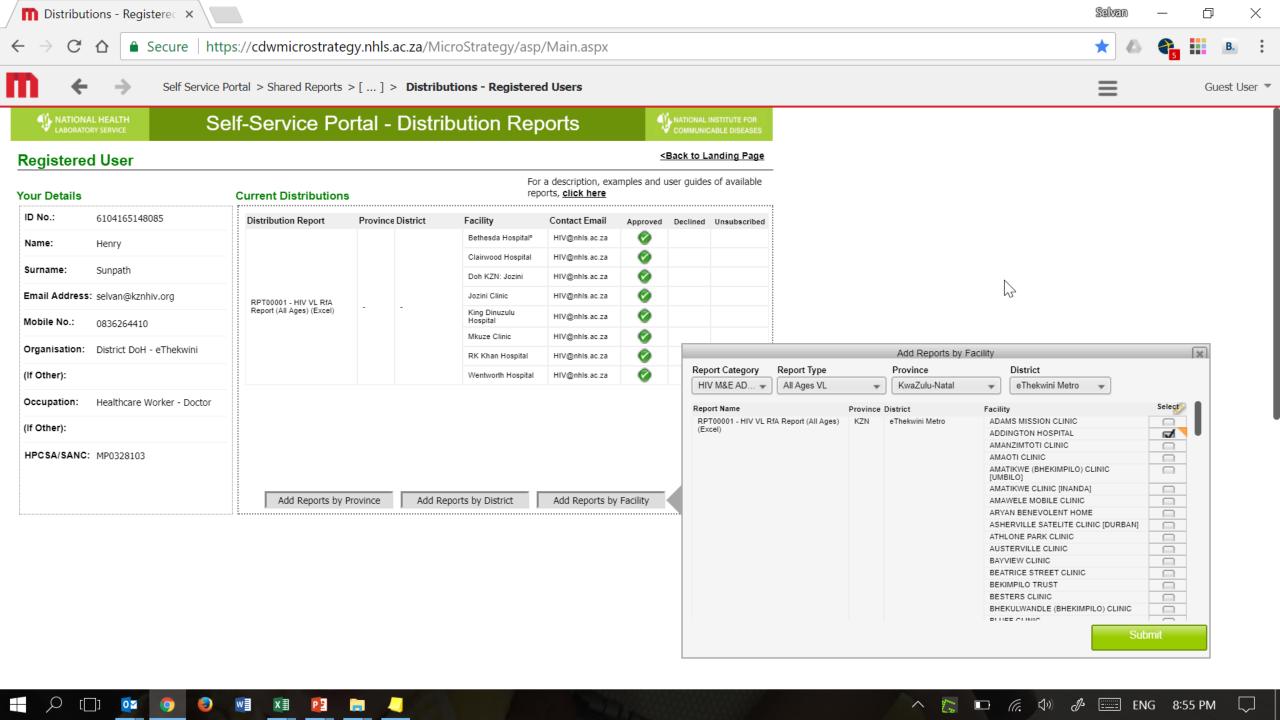


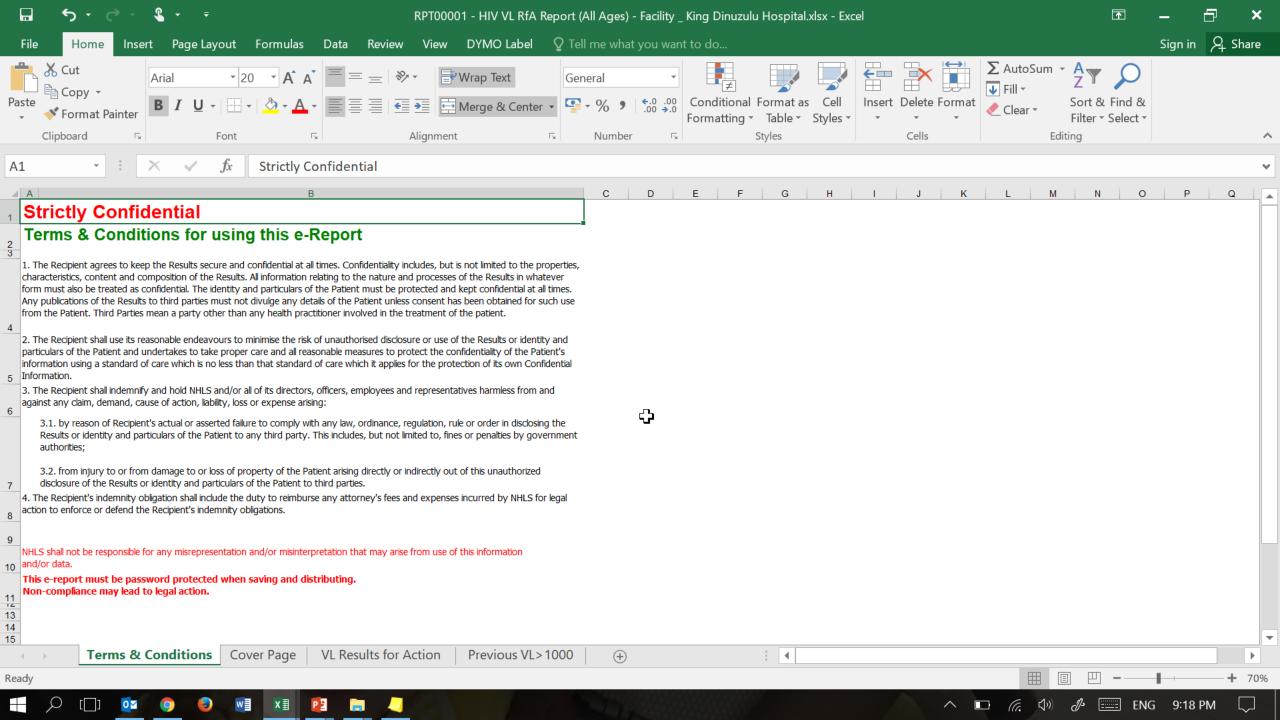


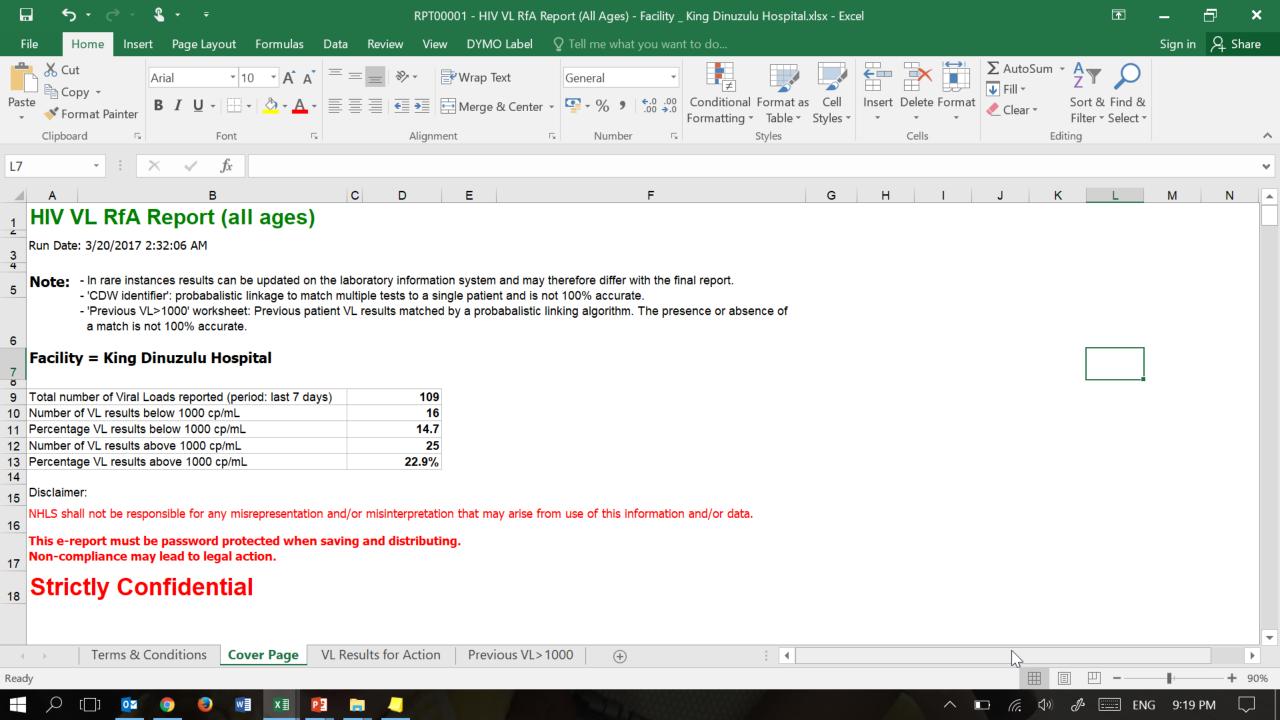


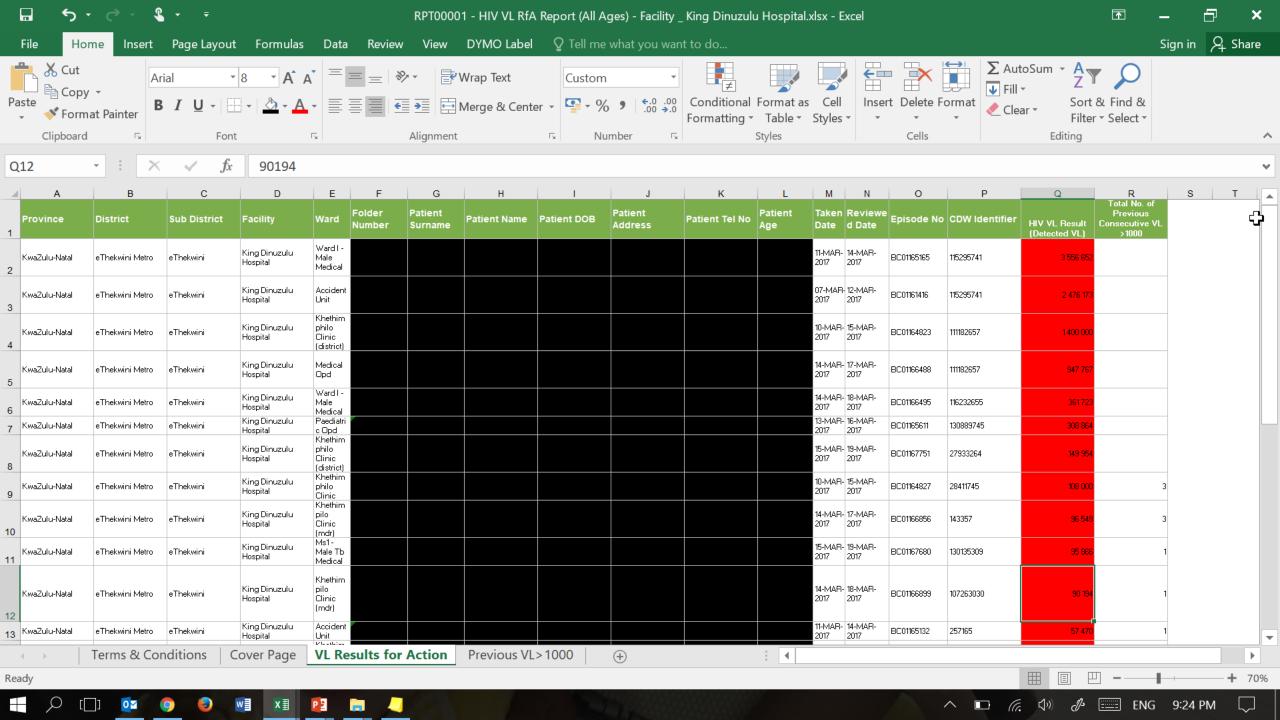


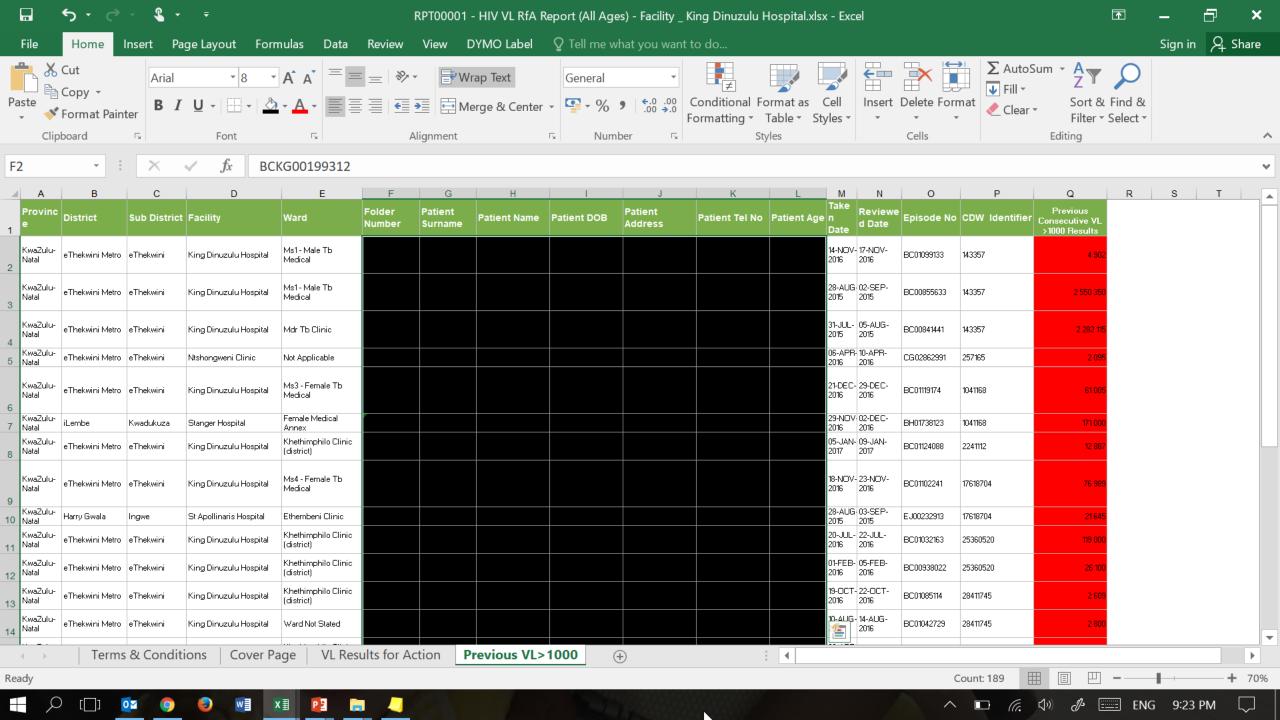














### High VL Register

													/
Clinic File No	Patient Name	ID Number	Age		Contact Number 3	Hi VL Date	Action	Action Date	Date Follow up visit EAC 3	Repeat VL	Date Repeat VL	Date check VL result & Manage	Date COR
							Patient called						
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							did not come in						











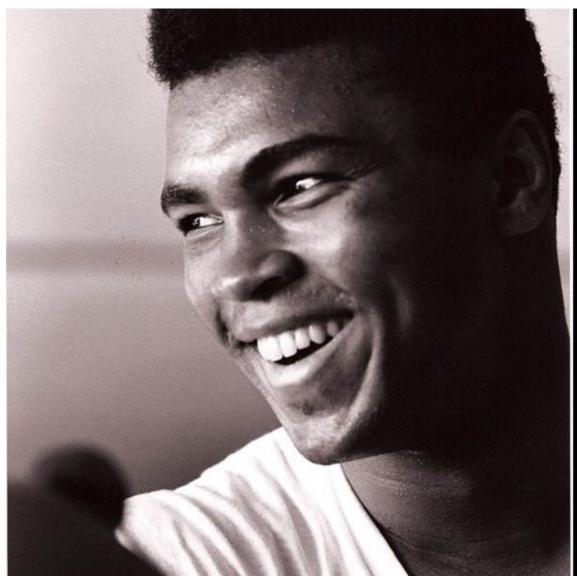












### THE WILL MUST BE STRONGER THAN THE SKILL

**MUHAMMAD ALI** 

Being challenged in life is inevitable, being defeated is optional.



















### Challenges of managing high VL

- 1. Many do not turn up for first visit after VL result available
- 2.Time between EAC sessions not consistent
- ▶ 3. repeat VI not done at EAC -3
- 4. Time to change regimen delayed
- 5. Many pts have several high Vl before action
- 6.Some patients refuse to change to regimen 2 and hence delay time lines

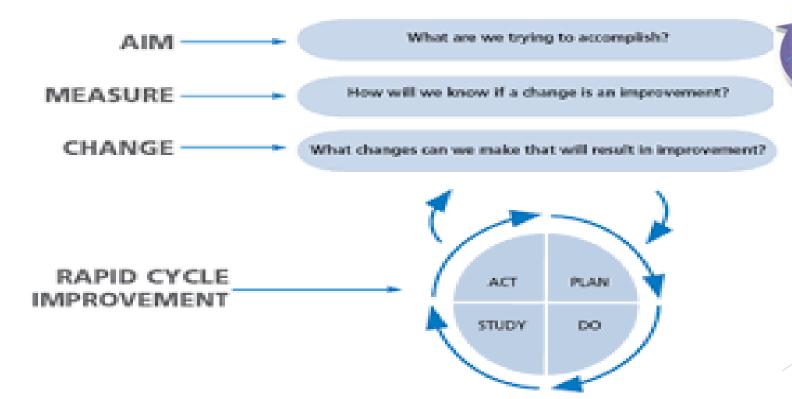
- 1.If pt does not come by next appointment -call immediately.
- If relative comes to fetch medication do not issue more than one month script till pt arrives for EAC1
- Each pt must be entered on a HIGH VL register and the lay counsellor follow up with calls regularly till three months
- Do baseline EAC assessment and emphasise the importance of month 5 VL,VL anniversary and need to change regimen as per guidelines

### Quality improvement model

Root cause analysis (SIMS)

Stakeholder strategy

Ongoing education and development



#### STEPS TO ACHIEVE THE IDEAL HIV-VL&DR MONITORING PROGRAM -ART CLINIC LEVEL

STEIS TO ACHIEVE THE IDEAL I	IIV-VEGDIC MONTTORING FROOKAM -ART CEINIC LEVEL
1. HAST CLINICAL MANAGER AND VL CHAMP in each CHC/hospital and VLC in each ART site	Terms of reference identified for overall supervision of process Responsible for facility reports to DOH Manage exit plan with partners in 2018
2. MAKE VIRAL LOAD MONITORING ROUTINE	<ol> <li>INCREASE DEMAND BY PT EDUCATION AND HCW EDUCATION</li> <li>INSTITUTE VL ANIVERSARY CONCEPT</li> <li>IMPLEMENT GATE KEEPING NOT TO ISSUE REPEAT SCRIPTS WITHOUT VL RESULTS</li> </ol>
3. SYNERGISE DATA SOURCES SO THAT TIER.NET IS OPTIMALLY FUNCTIONAL AND TOTALLY RELIABLE	<ol> <li>CREATE A HIGH VL REGISTER FOR IST AND 2 ND LINE ART FROM ALL DATA SOURCES -ROUTINE CLINIC VL RECORDS, NHLS WEEKLY DASHBOARD, TIER.NET RECORDS, PHARMACY RECORDS, COMPLETE FILE AUDIT OF ALL ACTIVE PATIENTS</li> <li>CLEAN AND UPDATE TIER.NET FOR RECORDING AND REPORTING -WILL IMPROVE AFTER CATCH UP PHASE</li> <li>CATCH UP PHASE TO ACCOUNT FOR EVERY PATIENT EVER SEEN IN CLINIC AND NOT ACCOUNTED FOR ON TIER.NET</li> </ol>
4. START VL PRIORITY CLINIC ON SPECEFIC DAY/ DEDICATED TEAM WORKING DAILY	<ol> <li>Trained EAC team work with trained doctor to manage complex VF in first line and all second line VF</li> <li>Ensure that all patients receive care by a MDT</li> </ol>
5. SUPPORT PHCs in the area	<ol> <li>VLC in each PHC to be mentored and supported by local CHC/hospital .Manage all first line VF and refer all second line VF</li> <li>Standardise referral forms for VF and data required for 3<sup>RD</sup> line ART</li> </ol>

# SOP FOR RISK OF TREATMENT FAILURE - NIMART and /or VL PRIORITY CLINIC



#### CRITERIA FOR REFERRAL OF PATIENTS TO A VIRAL LOAD PRIORITY CLINIC (VPC)

#### SPECIFIC DAY OR ALL DAYS WHEN THE KEY STAFF ARE AVAILABLE

- 1. ARV CLINIC DOCTOR / MatCH DOCTOR
- 2. EAC SOCIAL WORKER
- 3. HIV COUNSELLOR- EAC TRAINED
- 4. EAC TRAINED NIMART NURSE /PN
- 1. FIRST LINE (virologic failure after counselling for two months and repeat VL 1000 copies/ml)
- a. Multiple co-morbidities i.e. renal ,cardiac, liver pathology
- b. On TB treatment or requiring TB treatment.
- c. All patients with complex psychosocial problems that need intervention by trained EAC teams
- d. Hepatitis B SAg positive patients that have renal failure for dose adjusted TDF treatment.
- 2. On second line Treatment
- a. Treatment failure high viral loads
- b. All patients with multiple co-morbidities on second line
- c. Drug toxicities
- d. Drug interactions
- e. All patients with complex psychosocial problems that need intervention by trained EAC teams
- f. Hepatitis B SAg positive patients that have renal failure for dose adjusted TDF treatment.

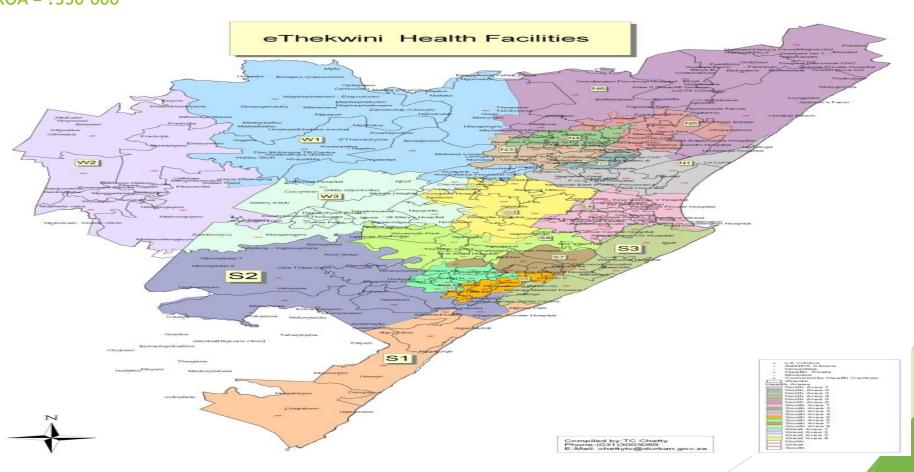
NB.REFERRAL FORMS FROM ART CLINICS TO REFERRAL CENTRES AND FORM TO BE USED TO ORDER GRT WILL NEED TO BE FINALISED BY HAST UNIT AND NHLS with input from clinical specialists

The data in this DHP is broken down into 8 proposed sub-districts. The South sub-district has been divided into three functional areas: 1) South Central, 2) South West, 3) Umlazi/Engonyameni and 4) Lower South. The North/West is divided into 4 sub-districts namely: 1) North Central, 2) Greater Inanda/Tongaat Sub-District, 3) Inner West; and 4) Outer West Sub-Districts.

Population = 3 442 361

ART sites =124

TROA = ?350 000



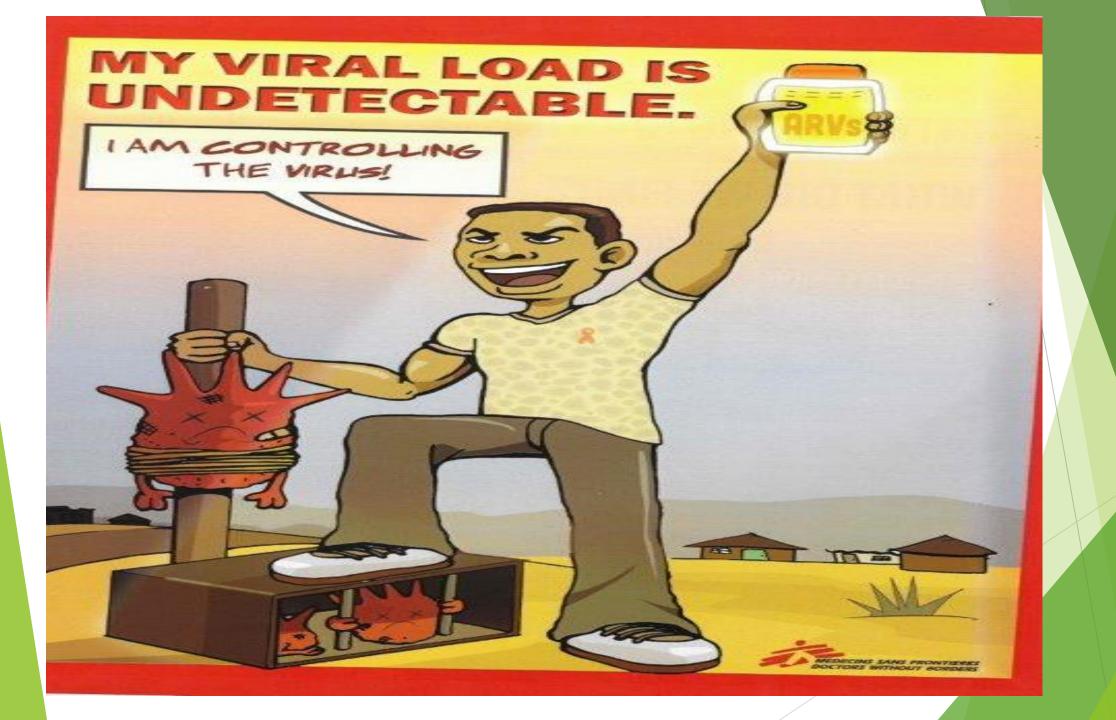
# Draft referral pattern from PHC to CHC/hospital for PLHA that I GRT and ACC:

Doctor as Clinical Advisor at each geographical unit

King Edward hospital	King dinizulu hospital	Hlengisizwe
	CLARE ESTATE( LA)	Marianridge Clinic
Prince Cryil Zulu CDC (LA)	OVERPORT (LA)	Molweni Clinic
Queensburgh Clinic (LA)		Mpola Clinic (LA)
Lancers road		Mpumalanga Clinic
	SYDENHAM (LA)	Msunduzi Clinic
	31 DENITATIVI (EA)	Mzamo Clinic (LA)
CATO MANOR	Westville -LA	Nagina Clinic (LA)
	Claire Estate Clinic (LA)  KWA MASHU	New Germany Clinic (
Wentworth hospital	RKKHAN	Clairwood hospital
Bluff Clinic (LA)	RKK Hospital	Clairwood Hospital
Austerville Clinic (LA)	Shallcross Clinic (LA)	Lamontville Clinic (LA
Merebank Clinic (L/A)	Township Clinic (LA)	Montclaire sea View
Illovo Clinic (LA)	Woodhurst Clinic (LA)	(LA)
Isipingo Clinic (LA)	Pinetown Clinic (LA)	
Isipingo Hospital (LA)	Bayview	
Kingsburgh Clinic(LA)		
Kingsburgh Cliffic(LA) Kingsway Hospital	ST MARYS	
Cragieburn Clinic (LA)	KWA DABEKA	
	HLENGISIZWE	
CATO MANOR CLAIRWOOD		
MGMH	PHOENIX CHC	Osindisweni hospit
Widiviii	STARWOOD	Oakford clinic
La Lucia Clinic (LA)		TONGAAT CHC
Umhlanga	CANESIDE (LA)	i olicazi elle
PHOENIX CHC	GROVE END (LA)	
	STONE BRIDGE (LA)	
Kwa MASHU CHC	Inanda CHC	Kwa DABEKA
		CLARMONT
GOODWINS	AMAOTI	HALLEY STOTT
LINDELANI	QADI	KWANDENGEZI
NTUZUMA	SIVANANDA	MOLWENI
KWAMASHU B	INANDA SEMINARY	ZWELIBOMVU
BESTER	AMATHIKWE MISSION	NGCOLOSI
SANDASONKE BHEK	INANDA DAY	MAPHEPHETHENI
		Waterfall Clinic (LA)
NEWLAND EAST (LA)	HLENGIMPILO	
NEWLANDS WEST		Waterloo Clinic (LA)
GLEN EARL		Whyebank Clinic (L#
St MARYS hospital	DMH	Newtown CHC
_	??ART CLINCS NEARBY	Tongaat Chc /OŚW
?DEFINE CLINICS	CJH ??ART CLINICS NEARBY	Hambanati
		Ottawa (LA)
	PMMH -23 CLINICS	Redcliff (LA)
		Terrance Park (LA)
		Tongaat CHC
		Verulam (LA)
	I.	

### DOCUMENTATION OF SOP





# WHAT IS THE MOST EFFECTIVE WAY TO MAKE VL MONITORING ROUTINE IN AN ART CLINIC

- 1. INCREASE DEMAND BY PT EDUCATION AND HCW EDUCATION
- 2. INSTITUTE VL ANIVERSARY CONCEPT
- 3. IMPLEMENT GATE KEEPING NOT TO ISSUE REPEAT SCRIPTS WITHOUT VL RESULTS
- 4. ENHANCED ADHERENCE COUNSELLING
- 5. ALL OF THE ABOVE

# IN PILOT SITE STUDIES, HOW MANY PATIENTS WITH HIGH VL HAVE A REPEAT VL AFTER EAC 1 AND EAC 2

- 1. 60 %
- 2. 10 %
- 3. 30 %
- 4. 50 %

# The commonest cause of sample rejection from the NHLS is

- 1. Clotted /haemolysed specimen
- 2. Incorrect blood tubes used
- 3. Forms filled incorrectly
- 4. VI done at inappropriate time line

# In a viral load priority clinic, what combination of staff is the most effective in managing high VL

- 1. Doctor, NIMART nurse
- 2. Doctor ,EAC counsellor ,social worker, psychologist
- 3. NIMART nurse ,EAC counsellor ,social worker
- 4. EAC counsellor, social worker, psychologist
- 5. Doctor ,EAC counsellor

# What percentage of patients have a VL at 6 months in Ethekwini- approximately

- 1.70 %
- 2.40%
- 3. 25%
- 4. 50 %

# Which statement is correct, according to the DOH guidelines

- 1. First Vl result is due at 6 months on ART and then 12 months if the 6 month Vl is undectable and then annually if the 12 month Vl is undectectable
- 2. First VI result is due at 6 months on ART and thereafter one year later if the 6 month VI is undectectable
- 3. First VI result is due at month 6 on ART and then at month 12 if the VI is > 1000.

### **ACKNOWLEDGEMENTS**

- ETHEKWNI HEALTH DISTRICT OFFICE
- CAPRISA -ACC
- MatCH
- HEALTH SYSTEMS TRUST
- LOCAL GOVT /MUNICIPAL CLINICS
- Harvard Medical School
- Emory University
- ► SA HIV clinicians Society -ART MONITORING GUIDELINES
- ► REVAMP STUDY TEAM
- Report Adapted from the Medecins Sans Frontieres (MSF) ROTF report and toolkit Supporting adherence to Antiretroviral Treatment: A facility approach to reduce the Risk of Treatment failure. Khayelitsha 2012.

### **THANK YOU**

Integrity in ourselves
Excellence in our pursuits
Honour to others
Glory to God



## THANK YOU