CAPRISA
CENTRE FOR THE AIDS PROGRAMME OF RESEARCH IN SOUTH AFRICA

UNAIDS
CAPRISA is the UNAIDS Collaborating Centre for HIV Research and Policy

The Advanced Clinical Care (ACC) Program in KwaZulu-Natal

Third 90 Best Practices and Innovations in Linkage, Treatment and Viral Suppression

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PROVINCE OF KWAZULU-NATAL
ISIFUNDAZWE SAKWAZULU-NATALI

DEPARTMENT OF HEALTH & HUMAN SERVICES · USA
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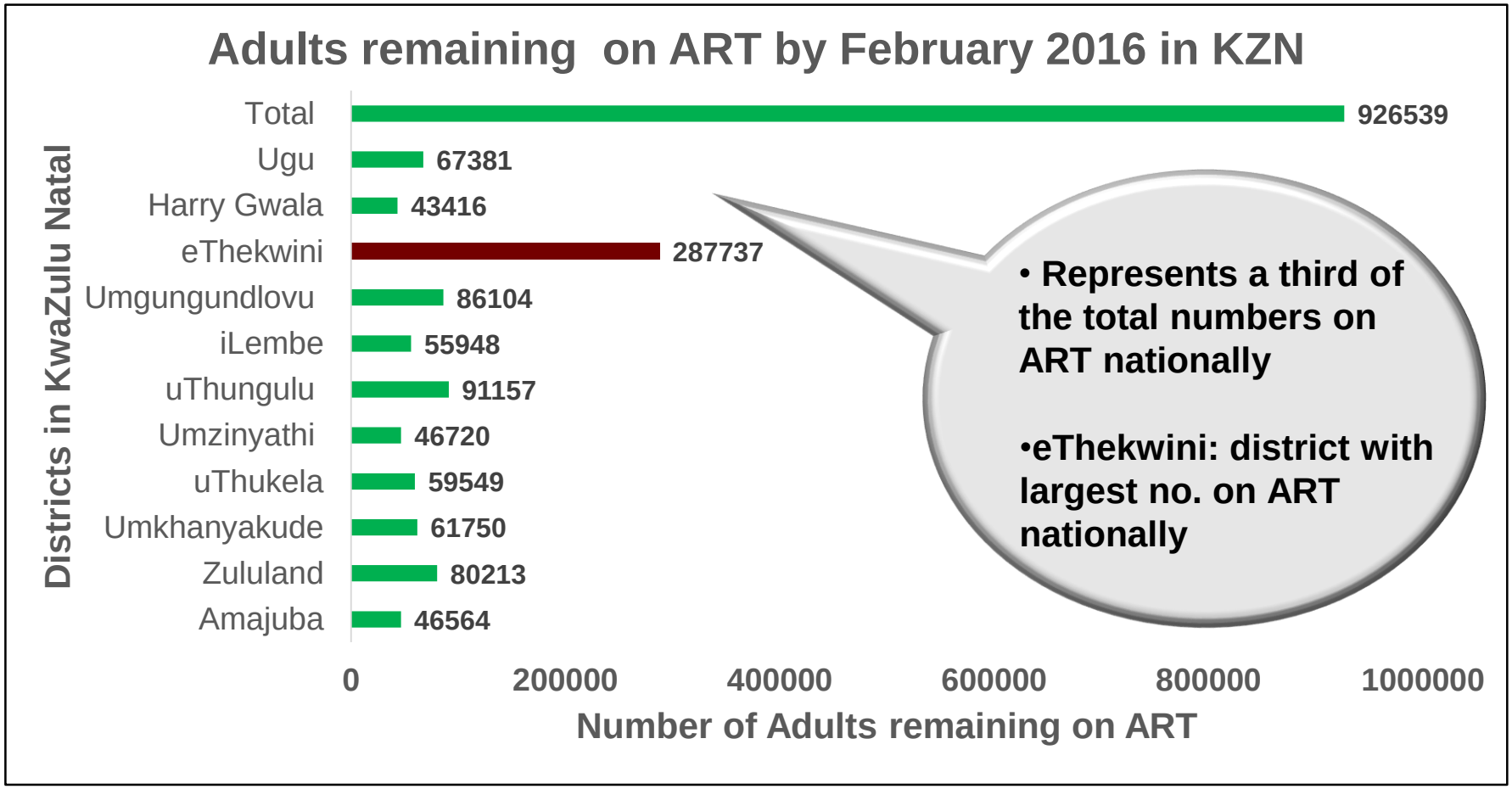
Presentation Outline

- Background
- ACC Programme Aims and Objectives
- QI for Viral Suppression Services – Summary of Methods and Key Findings
- Conclusion and Next Steps

Background

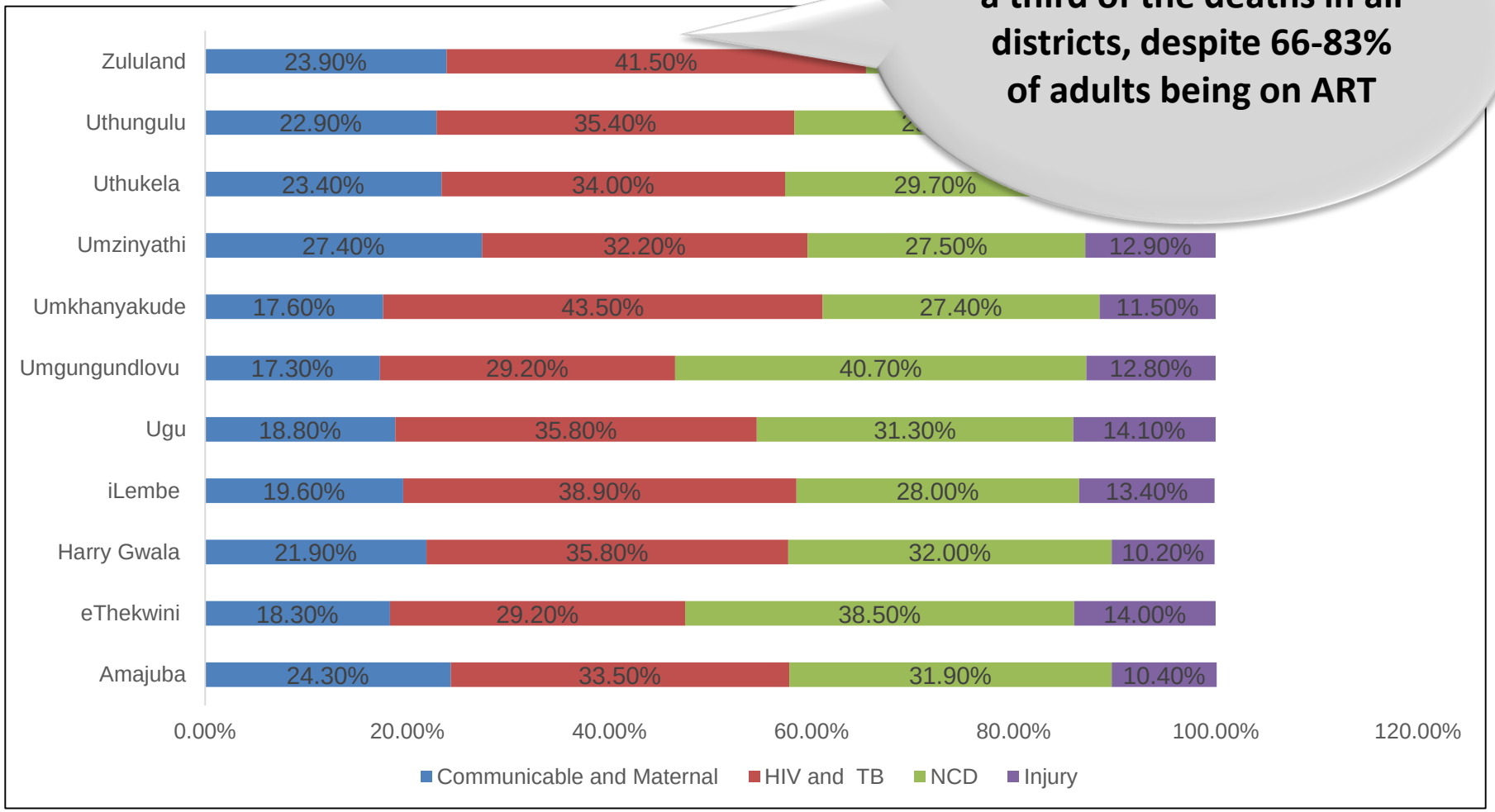
- There are 926,539 ART patients in KwaZulu Natal
- eThekwini contributes a third of the ART patients with 287,737 ART patients (31%)



Source : District Health Information System October 2015 – February 2016 data

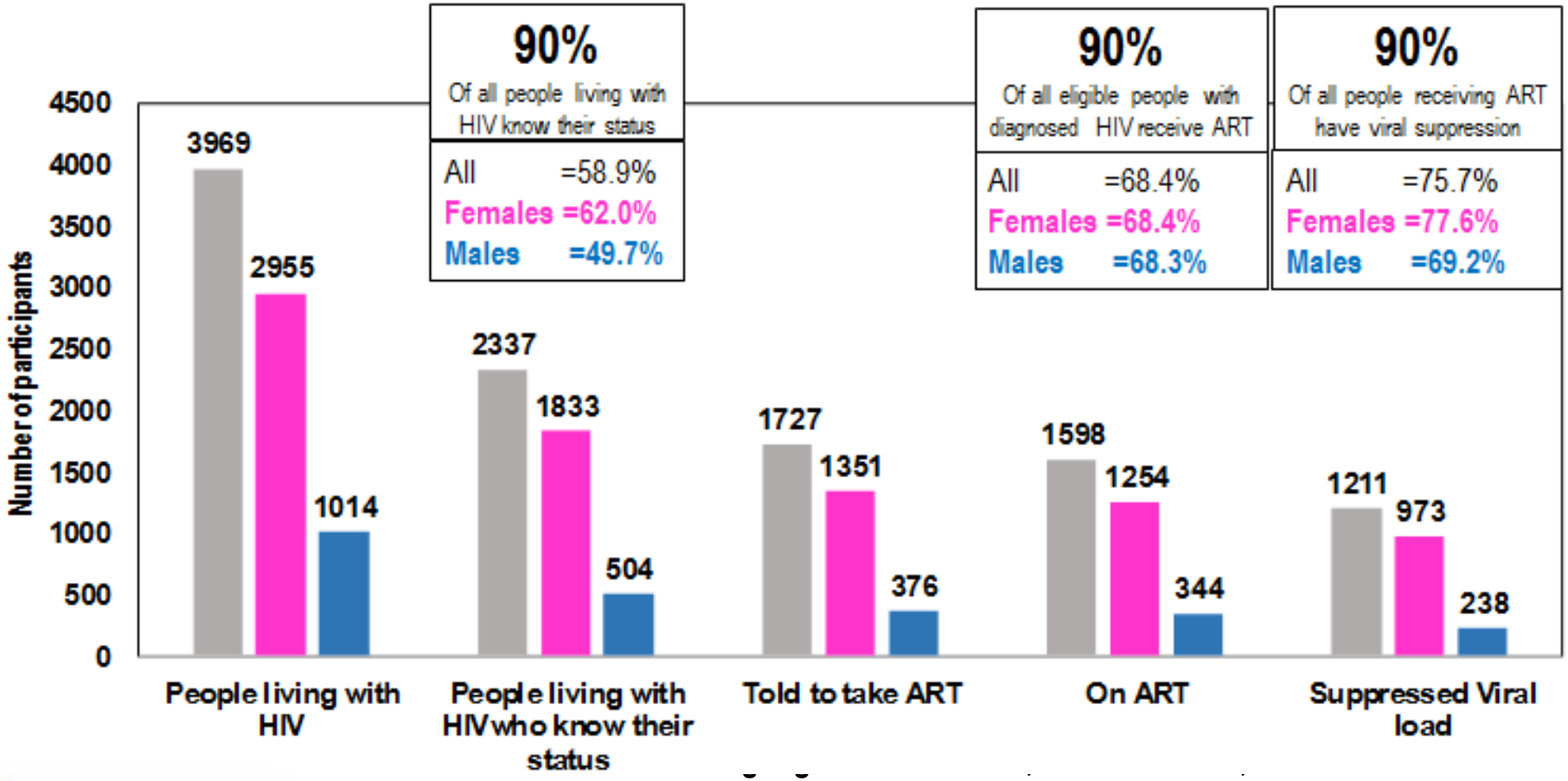
Leading Causes of Death by District in KwaZulu-Natal

HIV and TB contribute to a third of the deaths in all districts, despite 66-83% of adults being on ART



Ref: Massyn N, Peer N, Padarath A, Barron P, Day C, editors. District Health Barometer 2014/15. Health Systems Trust; October 2015.

UNAIDS 90-90-90 targets
HIV → Testing → Treatment→ VL Suppression



HIPSS
HIV Incidence Provincial Surveillance System Project

A longitudinal study to monitor HIV incidence in the uMgungundlovu District, KwaZulu-Natal, South Africa 2015-16

Patients on Third Line Therapy in KZN

Name of facility	No. of Patients	Name of facility	No. of Patients
Addington Hospital	1	Mbongolwane Hospital	1
Bethesda Hospital	1	Mahatma Gandhi Memorial Hospital	2
Church of Scotland Hospital	1	Mosvold Hospital	1
Clairwood Hospital	1	Mseleni Hospital	3
Edendale Hospital	19	Ngwelezana Hospital	1
EG Usher Memorial Hospital	1	Osindisweni Hospital	1
Eshowe Hospital	5	Port Shepstone Hospital	1
GJ Crookes Hospital	1	Rietvlei Hospital	1
Greys Hospital	4	RK Khan Hospital	2
Hlabisa Hospital	3	St Andrews Hospital	1
King Edward Hospital	56	Stanger Hospital	3
Ladysmith Hospital	5	Sundumbili CHC	1
Madadeni Hospital	3	Vryheid Hospital	1
Manguzi Hospital	1	TOTAL on Third Line in KZN	121

KZN TLART, April 2015

The ACC Programme Overview

Aim: Strengthen capacity for quality and sustainable clinical care for PLWA with complicated HIV and HIV/TB treatment, including 2nd, 3rd line and alternate ART

PROGRAM OBJECTIVES	PROGRAM ACTIVITIES
Establish/strengthen systems and capacity to identify and manage TB & ART treatment failure	• Develop Referral Criteria • Referral Pathways Mapping for complicated HIV • Toll Free Helplines
Establish/strengthen capacity for specialised clinical, laboratory and pharmaceutical support services	• Outreach Support • On site Training and Mentorship
Build capacity of primary care providers to better manage complex medical problems	• ACC case based training • Morbidity and Mortality meetings • Outreach support Mentorship and training
Collect strategic information to track patient and program outcomes	• File and facility Audit • Quality Improvement: • Viral Suppression & Triage of complicated patients

Build Capacity of Primary Care Providers to Better Manage Complex Medical Problems

- CPD accredited ACC trainings conducted in all 11 KZN districts and districts in NW province:
- Complex TB and HIV Disease Management Workshops (2 day)
  - Advanced TB HIV Management (1 & 2 day)
  - Quality improvement for Viral Suppression (Ad-Hoc)
  - Management of DR-TB with HIV Co-infection

Advance Clinical Care Training in TB and HIV Disease Management			
Medical Officers	277	Managers	34
Family Physicians	09	Program Managers	04
Physicians	20	Pharmacy Personnel	187
Paediatricians	03	District Staff	09
Clinical Managers	16	Nurses	124
Medical Managers	04	System Assistance Manager	01
Other Specialists	04	Other Categories	26
		Total Trained	**719**

HIV related complications warranting regional centre referral

- *Challenge: Inadequacy of staff by both skillset and seniority*

  at district level for level of complexity of cases and magnitude of disease burden

- *Common complications requiring specialised clinical, laboratory or pharmaceutical services*
  - Virological failure with ART related complications – 70%; incl,
    - EPTB-17-20%
    - Malignancy –10-15%,
    - Drug induced renal impairment/Chronic renal failure – 25%
    - Drug induced hypersensitivity reaction – 17%,
  - HIV related complications in pregnancy – 8%,
  - Cryptococcal Meningitis – 6%,
  - Toxoplasmosis/severe bacterial infections – 7%
  - Hepatitis – 7%
  - Seizures – 2%

Establish or strengthen the capacity for specialized clinical, laboratory and pharmaceutical support services

- Outreach Activities by Specialist Physicians target district level facilities
- Aimed at improving access to specialist services, case based training and mentorship that extends didactic training – enhanced access to regional laboratory and pharmacy services
- Establish regular morbidity and mortality meetings to optimize clinical care

Physician Supported Outreach Activity

	Hospital visited	No. of patients seen	No. of training and mentorship visits	No. Clinical Service Visits	No. of HSS visits
October 2015 – April 2016	Ngwelezane	72	20	20	20
	Nkandla	9	1	1	1
	Manguzi	1	1	1	1
	Umbongolwane Hospital	10	0	1	0
	Charles James	2	3	3	0
	Don Mackenzie	10	2	2	0
Total	**6 Facilities**	**104**	**27**	**28**	**22**

Establish/strengthen systems & capacity to identify & manage treatment failure

1. Development of adult clinical referral criteria

HIV and Co-morbidities	PHC Level Management	District Level Management	Regional / Tertiary Level Management
2nd Line PI failure	Refer to District Level	Complete genotype and review results	-
Renal Disease	Can initiate on ART, refer with 2 consecutive raised creatinine clearance. Persistent proteinuria. Tests: Creatinine clearance, Urine dipstix	Renal patient with abnormal creatinine and proteinuria. For investigation for cause Tests: U+E, Calcium, magnesium , phosphate, Urine dipstix, protein: creatinine ratio, renal ultrasound if possible	ESRD Deteriorating renal function Low creatinine clearance clinic Renal biopsy
Liver disease	Can initiate on ART if ALT <100 and repeat in 2 weeks If increased refer to district level	Investigation and management. For referral if deteriorating ALT or BR Tests: liver function test, INR, hepatitis B, C serology, lipids profile, ultrasound of the liver if possible	Deteriorating liver function. Past liver failure. Liver biopsy.

Development of Paediatric Referral Guidelines

District Hospital or CHC Doctor
Service Delivery: Doctor
(Medical Officer

→

Regional Hospital
Service Delivery: Pediatrician

HIV	**At ART Initiation**	All Infants less than 1 month of age AND < 2.5 kg (start ART and refer for continuation of HIV care)
		Abnormal AST (>10 X Upper limit of normal)
		WHO Stage 4 Opportunistic Infection (eg. Cryptococcal meningitis
	On ART	High Viral load following 6 months on a PI based ART/despite intensive adherence counseling - discuss with Paeds ID Hotline
		Clinical deterioration (Drop in weight or new WHO stage condition) despite evaluation at district level
		Immunological deterioration (Drop in CD4 count or Failure of CD4 Count to increase following 6 months on ART despite evaluation at district level
		Persistently Abnormal safety bloods despite evaluation at district level
TB	All suspected MDR or XDR TB	
	XDR TB Contacts	

2. Establish Toll-free HCW helplines

Summary of the Toll free Helpline Calls for the last 6 months

	1 Oct to 31 Dec 2015		1 Jan to 31 March 2016		Total	
	No.# of calls received	No. of referrals made	No.# of calls received	No. of referrals made	**No.# of calls received**	**No. of referrals made**
MDR TB Helpline	14	10	15	5	**29**	**15**
MDR Booking Helpline	248	248	165	165	**413**	**413**
NHLS Department of Virology	16	9	21	13	**37**	**22**
Paediatrics Helpline	27	10	23	7	**50**	**17**
Adult Infectious Disease Helpline	NOT ACTIVE		65	6	**65**	**6**
Total	**305**	**277**	**289**	**196**	**594**	**473**

The NHLS Virology Helpline

District	Facility Type			Nature of Query			Total
	Clinic	Hospital	NGO	**Genotype Request**	Clinical Query	Other test request	
eThekwini	8	12	2	**10**	9	3	**22**
Harry Gwala	0	2	0	**2**	0	0	**2**
Umgungundlovu	0	1	0	**1**	0	0	**1**
Umkhanyakude	0	7	0	**6**	0	1	**7**
Uthukela	0	2	0	**2**	0	0	**2**
uThungulu	1	0	0	**1**	0	0	**1**
Zululand	0	2	0	**0**	2	0	**2**
Total	**9**	**26**	**2**	**22**	**11**	**4**	**37**

Paediatric Infectious Diseases Helpline

Calls by Type of Facility	
Clinic	1
District Hospital	12
Regional Hospital	30
Quaternary Hospital	4
Reasons for Call	
ART Failure	7
Complicated TB	6
Deranged Liver function	8
Malnutrition	3
Management of PCR Results	2
Other	24
Outcome of Call	
Clinical Advice	31
Referral to King Edward Hospital	8
Clinical advice and ID Referral	3
Admission to King Edward	4
Review by ID doctor	2
Up referral in Local Area	2
Total	50

Paediatric Infectious Diseases Helpline

- ACC Helpline Support:
  - extended to 5 of the 11 districts
  - 92% (46) of queries from hospitals
  - Common clinical issues requiring assistance:
    - Management of Deranged Liver Function- 16% (8)
    - Management of ART Failure - 14% (7)
    - Management of complicated TB - 12 % (6)
  - Outcome of Queries
    - 34 % resulted in referral of which 12% required in- patient management
    - 66% received telephonic advice only
- ACC Facility Based Care:
  - All patients seen during 3 month period previously exposed to ARV's: New - 153 (68%) and follow-up 72 (32%)
  - 201 (89%) of the referrals have HIV/ARV related complications like malnutrition (76) TB (36) Pneumonia (4) Anaemia (1), Epilepsy (2), Kidney failure (1)

Patient and provider related missed opportunities for early detection and management of ART failure through patient File Review:

Specific Objectives

- To identify gaps and weaknesses in the timely identification and management of ART and TB treatment failure

- To identify bottlenecks in TB and HIV service integration and management of co-treatment

Methods

Sample Selection : Random selection of District Hospitals, Community Health Clinics and Primary Health Clinics in eThekwini

Selection Criteria: (i) > 2500 patients on ART

(ii) Facility willing to participate

File Selection: (i) Randomly selected from TIER. Net

(ii) In Facilities < 2000 patients: 10% of patients selected

(iii) In Facilities > 2000: Capped at 200 patients selected

(iv) Missing files were recorded and replaced

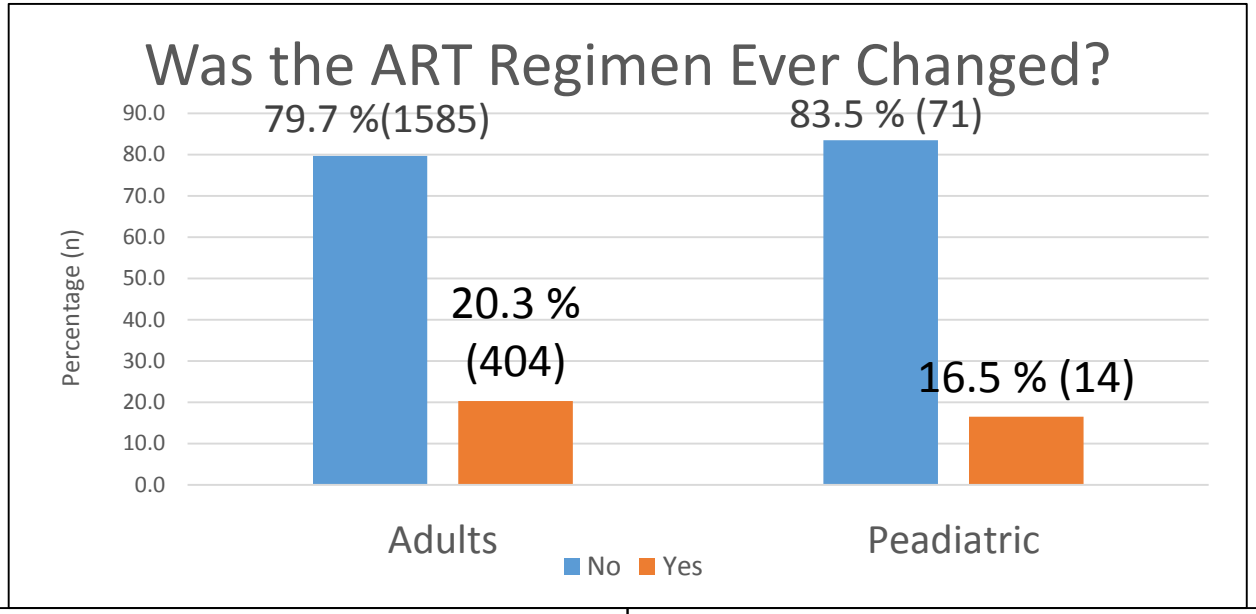
Time Frame : Patients initiated on ART from January 2013

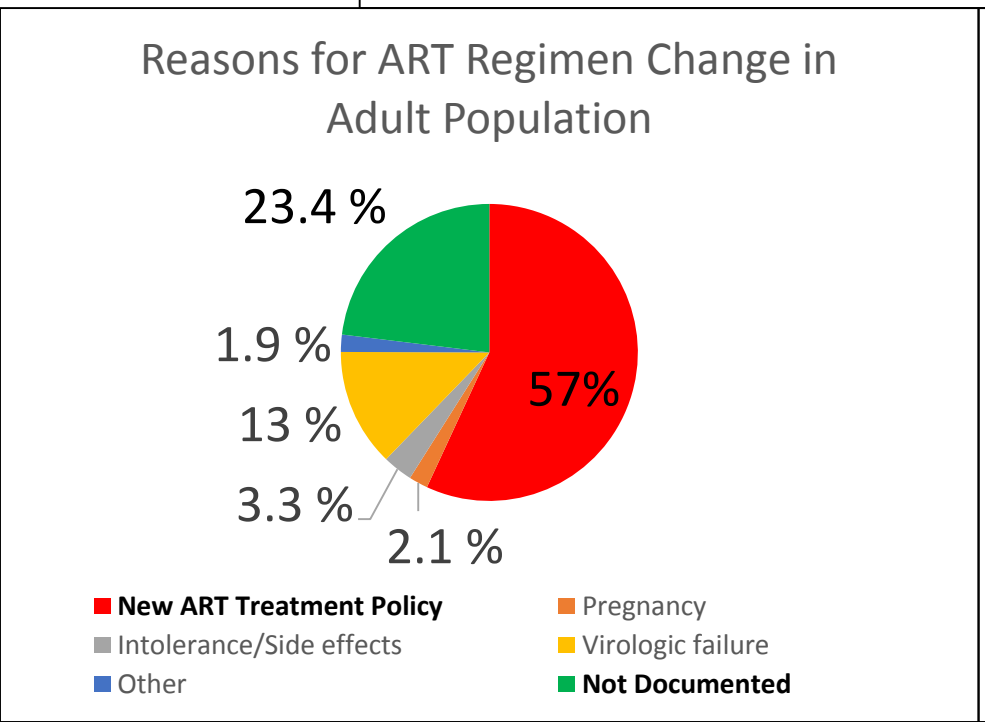
Selected Facilities

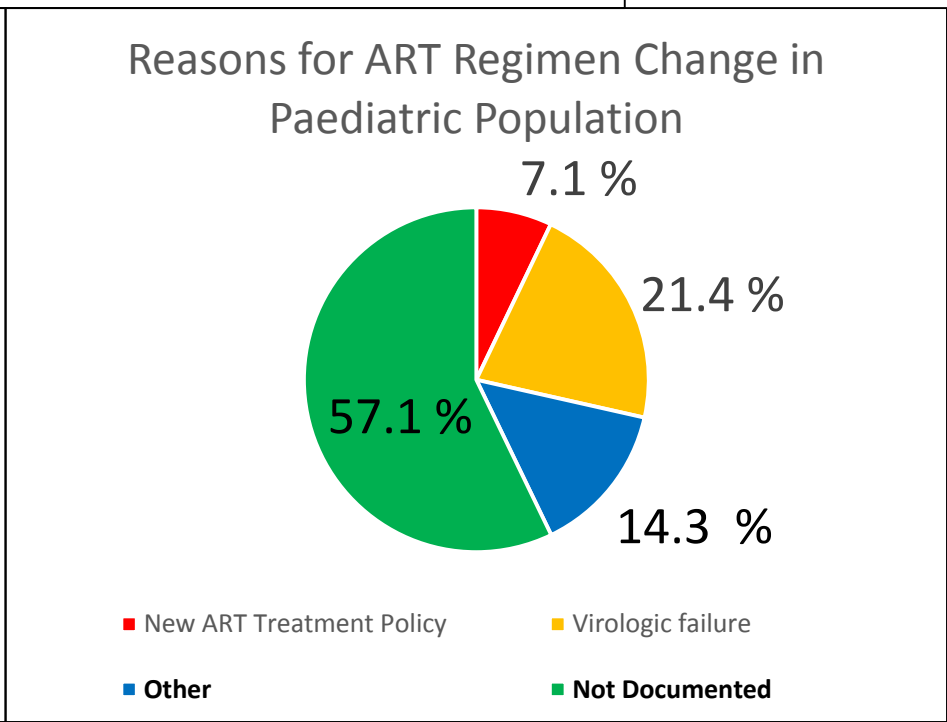
Adult and Paediatric Files reviewed at PHC's, CHC's and Hospitals

Anonymized Facilities	Adults	Paediatrics
Hospital 1	145(7.3)	31(36.5)
Hospital 2	157(7.9)	20(23.5)
CHC 1	112(5.6)	1(1.2)
CHC 2	223(11.2)	6(7.1)
CHC 3	192(9.7)	8(9.4)
PHC 1	194(9.8)	8(9.4)
PHC 2	199(10)	3(3.5)
PHC 3	177(8.9)	3(3.5)
PHC 4	200(10.1)	2(2.4)
PHC 5	198(10)	2(2.4)
PHC 6	192(9.7)	1(1.2)
Total Selected:	**1989**	**85**
% Replacement Files	**46%**	

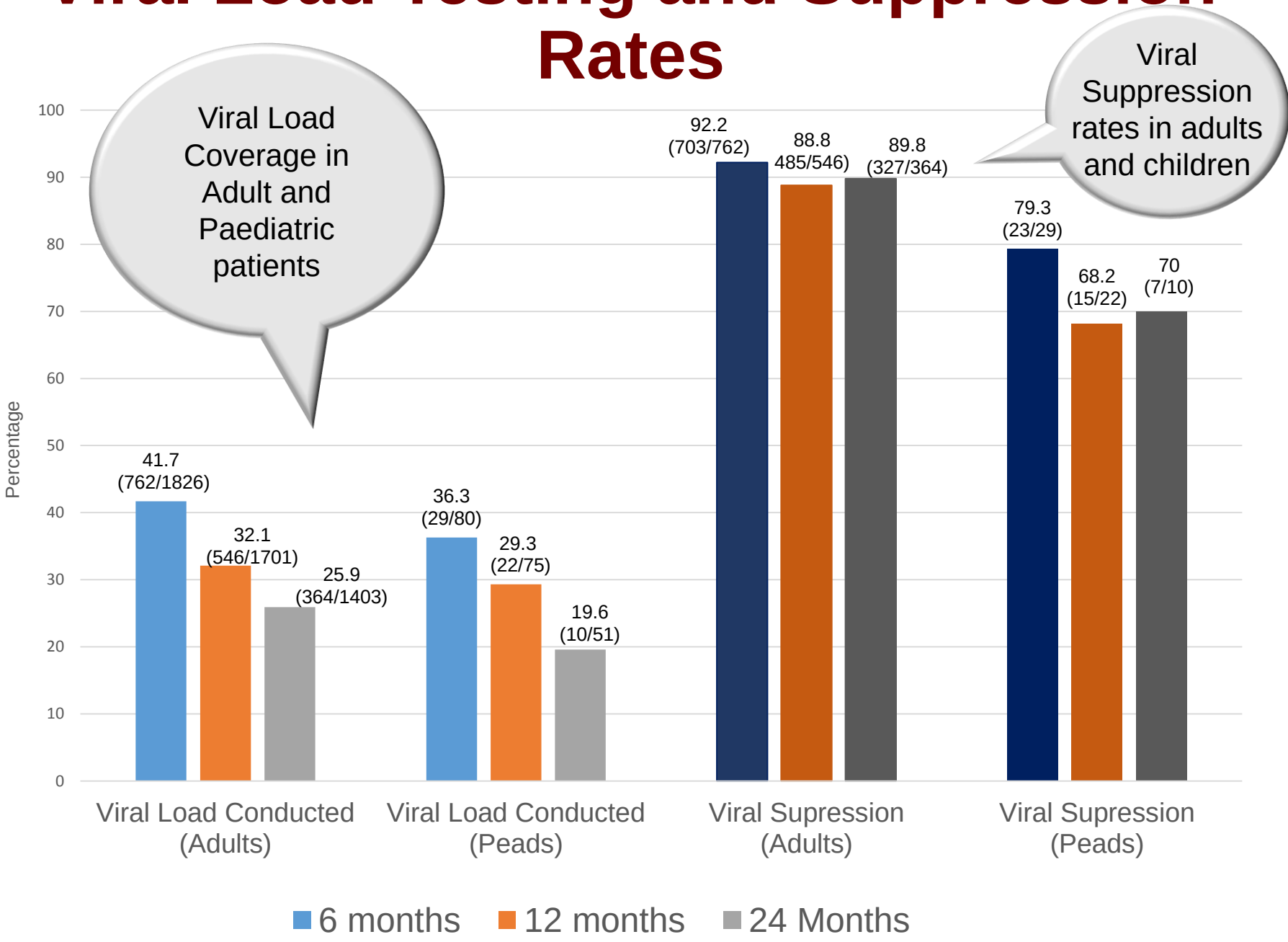
ART Regimen Change



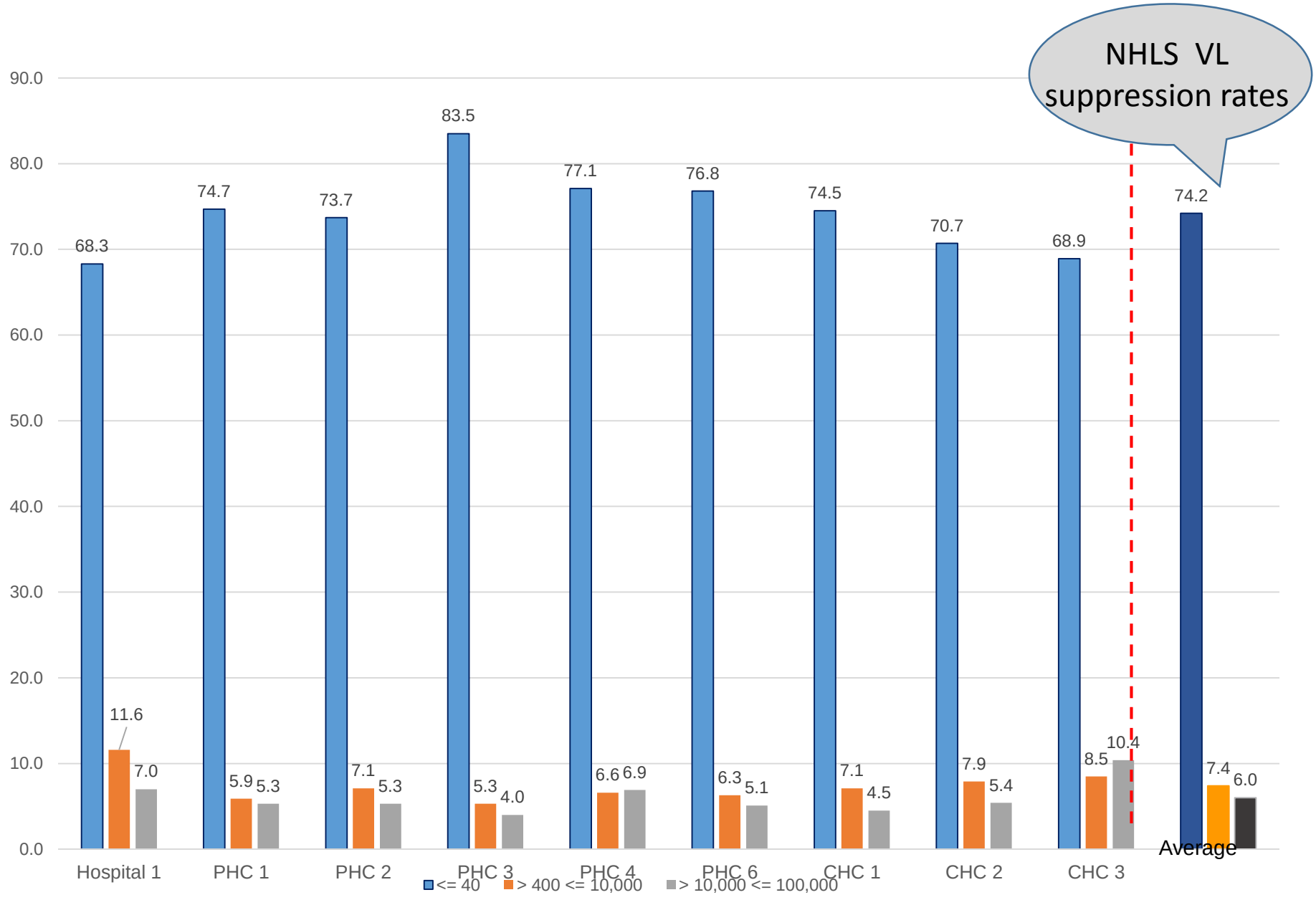




Viral Load Testing and Suppression Rates



NHLS Viral Load data in same facilities



First and Second Line ART Therapy in File Review

ART Regimen	Total number of Adults on treatment		Total number of Paediatrics on treatment	
	File Review (n=1989)(%)	Key ARV Medicine Report (Feb 2016)(n)(%)	File Review (n=85)	Key ARV Medicine Report (Feb 2016)
First Line therapy	1931(97.1)	324 760	76(89.4)	14500 (4.8)
Second Line Therapy	15(0.8)	Not available	2(2.4)	Not Available
Total Second, Third, Alternate	45 741 (15.2)			

Patient Retention

Characteristic	Category	Adults n = 1989 (%)	Paediatrics n = 85 (%)
Missed Scheduled Visits	No	962 (48.4)	50 (58.8)
	Yes	966 (48.6)	29 (34.1)
	Schedule date/s not documented	61 (3.1)	6 (7.1)
Patient Treated in the clinic in the last 12 Months	No	266 (27.5)	9 (31)
	Yes	700 (72.5)	20 (69)
Patient Ever Presented Themselves Late for the Any Visit	No	121 (17.3)	2 (10)
	Yes	496 (67)	14 (70)
	Appointment not recorded in file	110 (15.7)	4 (20)
Late Schedule Visit Attended	No	336 (48)	6 (30)
	Yes	309 (44.1)	13 (65)
Reason for Missed Visit	Temporarily out of Area	12 (3.2)	1 (7.1)
	Relocated	5 (1.4)	0 (0)
	Work/School	4 (1.1)	0 (0)
	Hospitalisation	3 (0.8)	0 (0)
	Other	3 (0.8)	0 (0)
Action taken for Missed Visit	Community Care Giver	2 (0.5)	0 (0)
	Telephone Tracking	2 (0.5)	0 (0)

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

Summary of Findings 2

Bottlenecks Identified

- Delay in ART initiation from first diagnosis
- Viral load testing coverage extremely low in adults and children
- ART failure in adults and children still high
- TB screening well implemented at ART baseline, poor screening in follow-up
- Poor documentation of TB outcomes

Future Activities

- **Analyses Currently Underway**
  - TB-HIV Integration
  - Proportion with 2 unsuppressed viral loads > 1000
  - Time to Regimen Change
  - Proportion on Second Line therapy
  - Outcomes by type of facility (i.e. PHC vs CHC vs District vs Regional)

- **Next Steps**
  - Complete Analysis
  - Discuss final analysis with DMT and DSP's
  - Work with DMT and DSP to develop priority activities and action plan for improving quality of services and addressing bottlenecks in service delivery
  - Repeat assessment in one year
  - Expand to other districts

Summary

- ACC programme activities targets: Reduce mortality ; reduce morbidity; Improve virologic suppression
- High level of complexity in patients with Advanced HIV
- Inadequate clinical skills to meet needs of patients with complex diseases
  - *Focused case based training*
  - *Shadowing and mentorship including cascaded outreach support to decentralised sites*
- Critical need for HSS targeting complicated patients
  - *strengthen referral pathways*
  - *Referral criteria*
  - *Improve capacity at district level*
  - *Improve quality of care*
- Systems to address bottlenecks in identifying and triaging complicated patients
    - *File review audits critical to understand weaknesses and bottlenecks in care*
    - *Recommendations customised based on baseline review*
    - *Strategies to enhance and sustain virologic suppression*
    - *Train district level staff to own programme performance at facility level through ongoing QI activities with – focus on viral load coverage rates, suppression rates, retention etc*

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