HIV Learning Network
The CQUIN Project for Differentiated Service Delivery

Implementation of Advanced HIV Disease Care Package in Zambia

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Zambia

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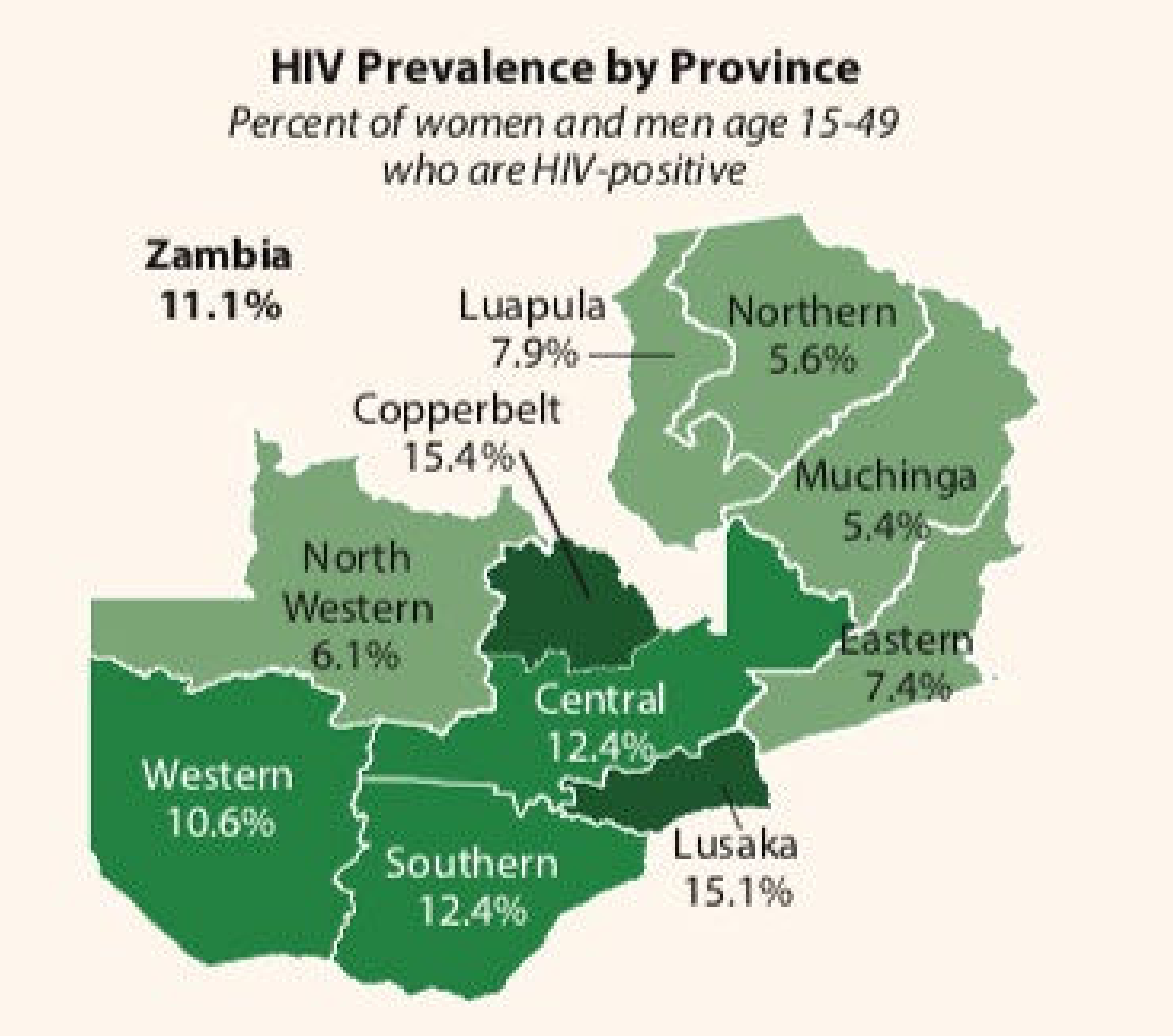
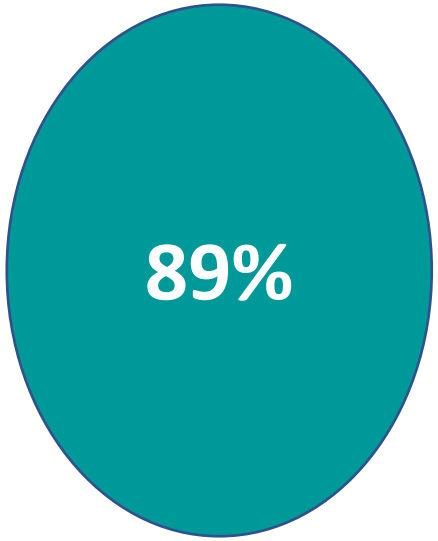
Country Background

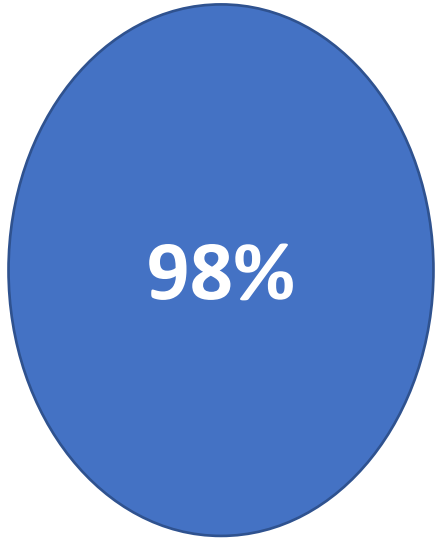


- The adult **weighted** HIV prevalence among people aged 15 years and older is 11.0%
  - 8.0% among men
  - 14.0% among women
- The adult **weighted** HIV prevalence among people aged 15-24 years is 2.8%
- The adult **weighted** HIV prevalence among people aged 25+ years is 15.8%

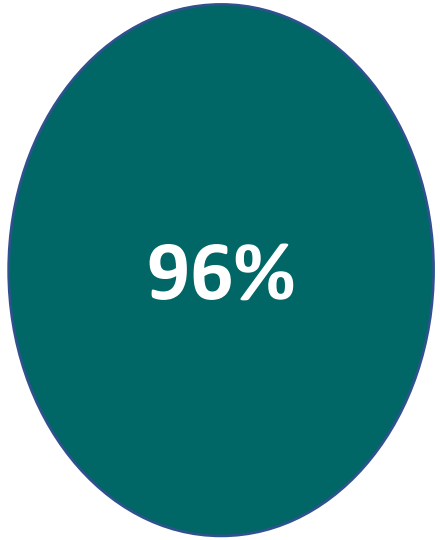
95/95/95 Targets - ZAMPHIA 2021



of those with HIV know their status



of those diagnosed are on ART

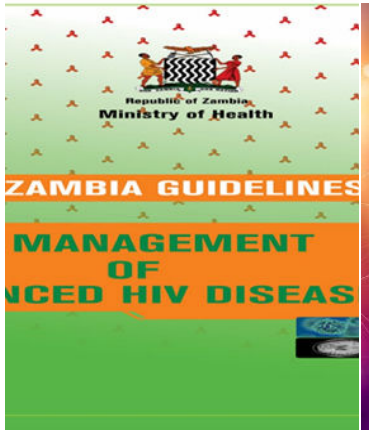


of those on ART are virally suppressed

Selected National HIV Programme Gaps

Programme Objectives	Targets	Performance	Identified Reasons
Reduce HIV Incidence	Less than 18,000	38,000	• Low up take of PrEP • Suboptimal Population specific preventive intervention targeting AGYW, Men and KPs • Low case identification among Men and AGYW • eMTCT yet to be achieved
Reduce HIV related mortality	Less than 5,000	18,000	• Poor retention rates • Suboptimal Advanced HIV Disease services • TB poor case identification and optimization of TPT • Optimization of ART by transition to TLD still below targets • Mortality not accurately measure
Reduce Stigma and Provision of patient centered services	Zero Stigma	Stigma still prevalent	• Low coverage of DSDs besides MMDS • DSDs for unstable clients undeveloped • Few KP friendly services

Update on AHD Implementation



Trainings done in All the provinces

Implementation plan done

Sub_TWG Formed and Operational

- UTH Cryptococcal Study
- LMUTH AHD Study

CQUIN AHD CMM Done

Challenges Observed

1. Laboratory reagents for CD4 Cell count
2. M&E systems (SmartCare plus new forms updated)
3. Logistical challenges for pharmaceuticals
4. CrAg and Urine LAM tests

Algorithm for Screening of AHD

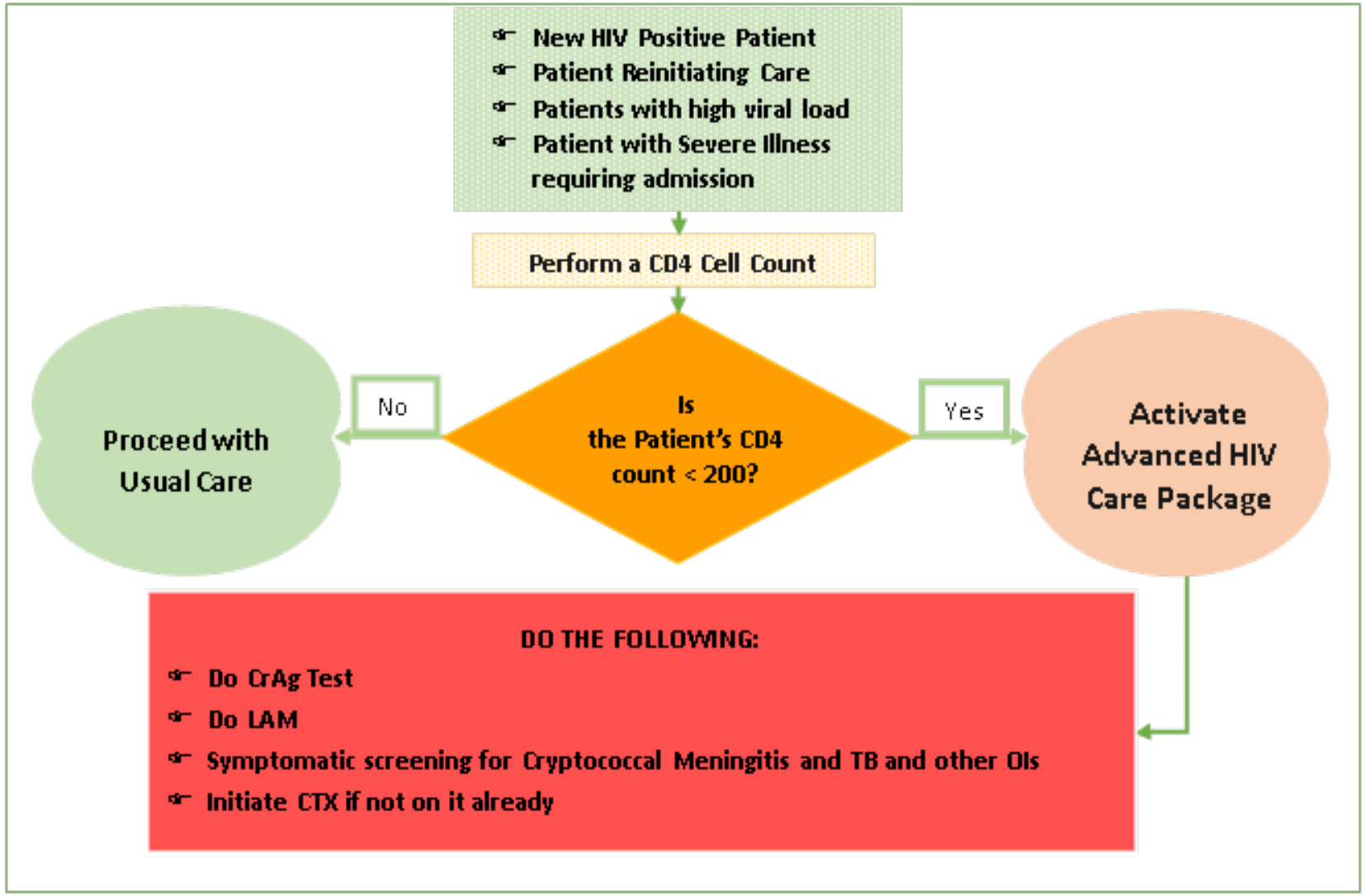


Figure 1.1: CD4 Cell Count Screening: A Gateway for Advanced HIV Disease Care

Package of Advanced HIV Disease Care

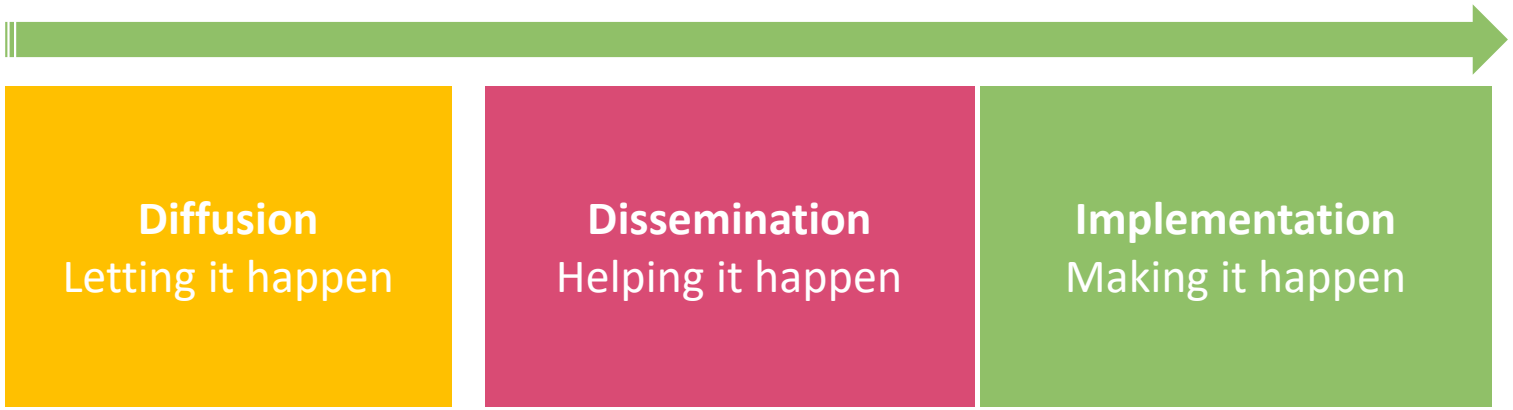
	Intervention	CD4 Cell count
Screening and Diagnosis	• **LF-LAM** for TB screening in advanced HIV disease • **Chest-X-ray for all TB asymptomatic AHD where available**	**≤200 cells/mm3** Or at any CD4 count if seriously ill people living with HIV who are seriously ill (respiratory rate >30 breaths per minute, temperature >39°C, heart rate >120 beatsper minute and/or unable to walk unaided) regardless of CD4 cell count or with unknown CD4 cell count.
	Sputum **Xpert® MTB/RIF** as the first test for TB diagnosis among symptomatic people **Chest-X-ray for all TB ALL AHD (refer for CXR if not available**)	Any
	Cryptococcal antigen screening	The routine use of serum or plasma cryptococcal antigen screening among ART-naive adults before ART initiation (or re-initiation) among people with a CD4 cell count of less than 100 cells/mm3
Prophylaxis	Co-trimoxazole prophylaxis	**≤350 cells/mm3** or **clinical stage2, 3 or 4 and all pregnant women**
	TB preventive treatment	Any as its for all HIV positive patients
	Fluconazole pre-emptive therapy for **cryptococcal antigen–positive** people without evidence of meningitis	<200cells/mm3
ART Initiation	Rapid ART initiation	Any
	Defer ART initiation if clinical symptoms suggest TB or cryptococcal meningitis	start ART **within two weeks** of ATT for TB (or as soon as tolerated) and at **least 6 weeks after** starting treatment for Cryptococcal Meningitis
Adherence	Tailored counselling to ensure optimal adherence to the advanced disease package, including home visits if feasible	<200cells/mm or WHO Clinical stage 3 or 4

Zambia AHD Dashboard 2022

31-Mar-22

Domain	Results
Policies	
Guidelines	
Implementation plan	
SOPs	
Coordination	
Engagement of RoC	
Training	
Diagnostic Capability 1 (Identifying AHD)	
Diagnostic Capability 2 (Identifying OI)	
Facility Coverage	
Client Coverage 1 (Testing for AHD)	
Client Coverage 2 (OI Screening)	
Client Coverage 3 (OI Prophylaxis)	
Client Coverage 4 (OI Management)	
Supply Chain Management	
M&E System	
Quality	
Impact	

Implementation Approach



- Provision of facts
- Adoption of the package

- Guidelines
- SOPs
- IECs
- Memos

- Purposeful Systematic
- Use of Centers of excellences in a Hub and Spoke model
- Use of mentors' programme
- Use of ECHO platform
- DSDs for AHD

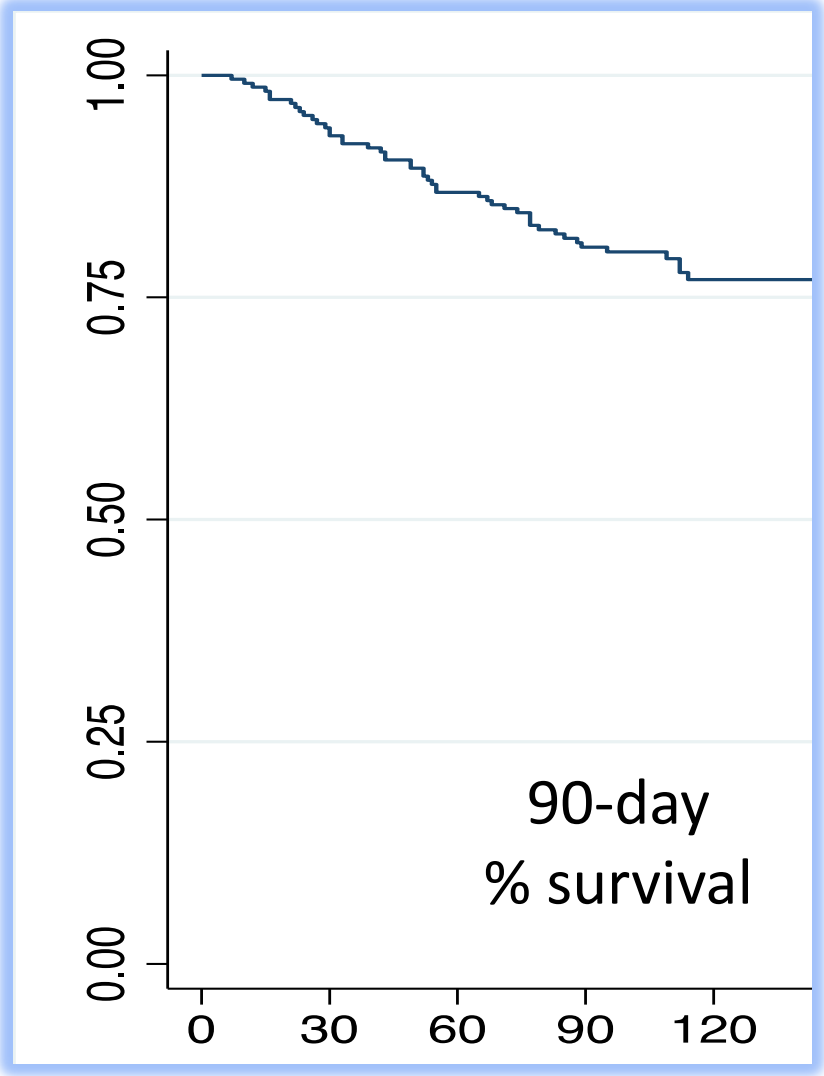
Hub and spoke model

- Use 16 centers of excellences throughout the country
- Easy management of supply chain for AHD supply chains
- Strengthen patient referral systems
- Focused mentorship and training through placement of Infectious diseases specialists
- Synchronize with the decentralization of third line treatment services
- Research and pilot projects centers

Table 1.2: Service Delivery Packages for Different Levels of Health Care in Zambia

level	Minimum Laboratory Services	Treatment Services
Regional/Specialist Hospital	• Molecular tests for AHD associated organisms. • Histology for AHD associated organisms. • Full microbiology testing • Parasitology services for selected AHD organism • CSF Testing • Xpert® MTB/RIF • Urine LF-LAM • Serum CrAg • CD4 cell count testing	• TPT • Co-trimoxazole prophylaxis • Pre-emptive Fluconazole treatment • Secondary Fluconazole prophylaxis • Active Pulmonary tuberculosis • Cryptococcal Meningitis treatment • Extra pulmonary TB Treatment • PCP treatment • Severe bacterial infections • Organ and Disseminated Viral infections • Other invasive fungal infections • GIT parasitic infections
First level and District Hospital	• Full microbiology • Parasitology services for selected AHD organism • CSF Testing • Xpert® MTB/RIF • Urine LF-LAM • Serum CrAg • CD4 cell count testing	• TPT • Co-trimoxazole prophylaxis • Pre-emptive Fluconazole treatment • Secondary Fluconazole prophylaxis • Active Pulmonary tuberculosis • Cryptococcal Meningitis treatment • Extra pulmonary TB Treatment • PCP treatment • Severe bacterial infections
Zonal Clinic	• Serum CrAg • Urine LF-LAM • CD4 cell count testing	• TPT • Co-trimoxazole prophylaxis • Pre-emptive Fluconazole treatment • Secondary Fluconazole prophylaxis • Active Pulmonary tuberculosis
Health Centre	• CD4 cell count testing	• Co-trimoxazole prophylaxis

Follow-up of Discharged AHD ROCs



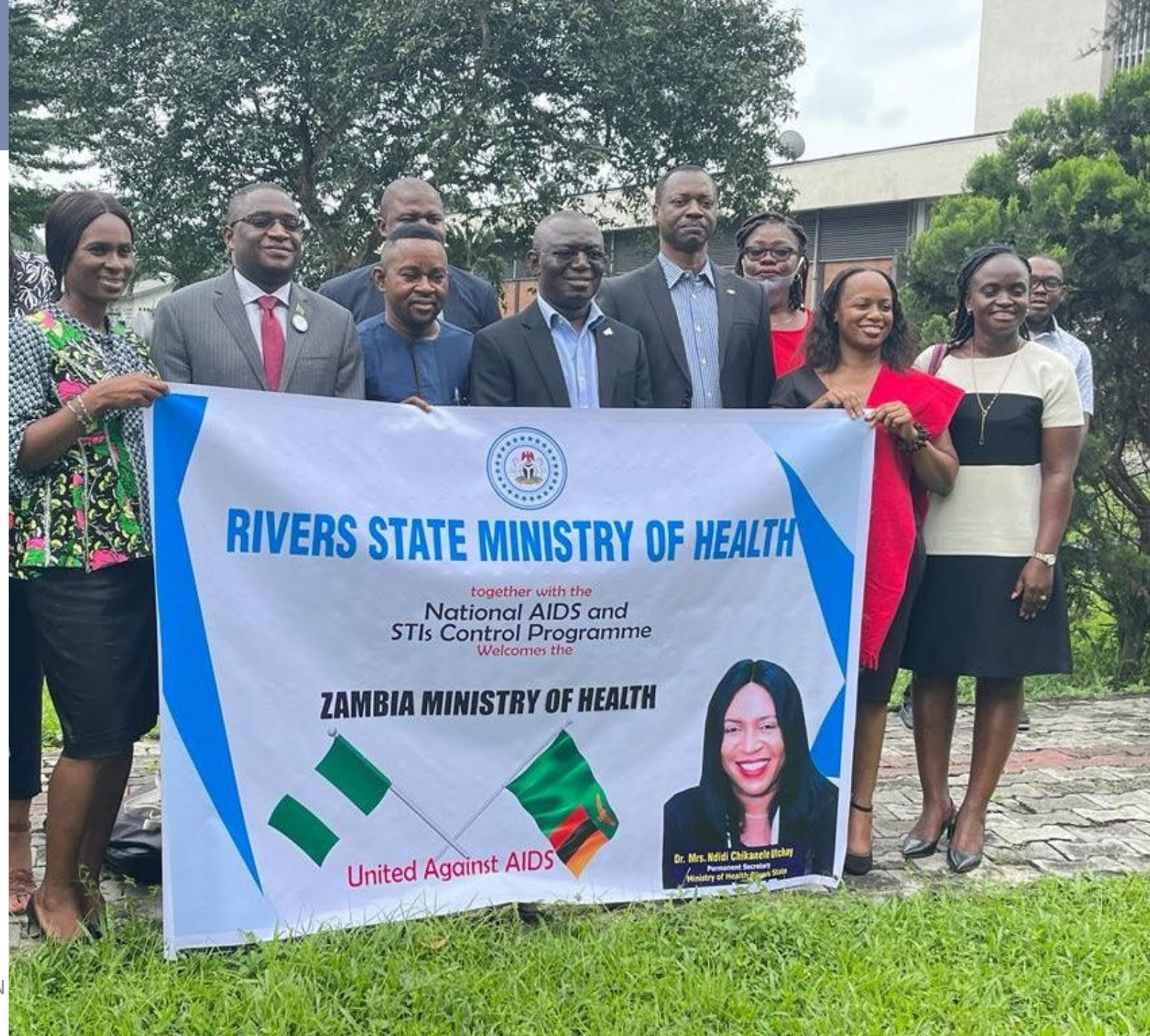
High rates of post-discharge mortality and re-admission

- 48 of 221 (21.7%) passed away within 90 days of discharge.
- Among survivors, at 90 days, 26% reported being re-admitted since discharge.

Hachaambwa L, Kandiwo N, Zulu P, et al. *OFID* 2019

Lessons Learnt from Nigeria C2C visit

- Use of the Visitect® as a POC is a game changer
- Phase the M&E of AHD implementation with new patients
- Revise primary data collection tools to include AHD data elements
- Streamline the leadership and governance for AHD
- Optimize the use of the Mentorship programme to champion AHD implementation
- Use of both the DHIS and EMR (NDR) to monitor AHD implementation

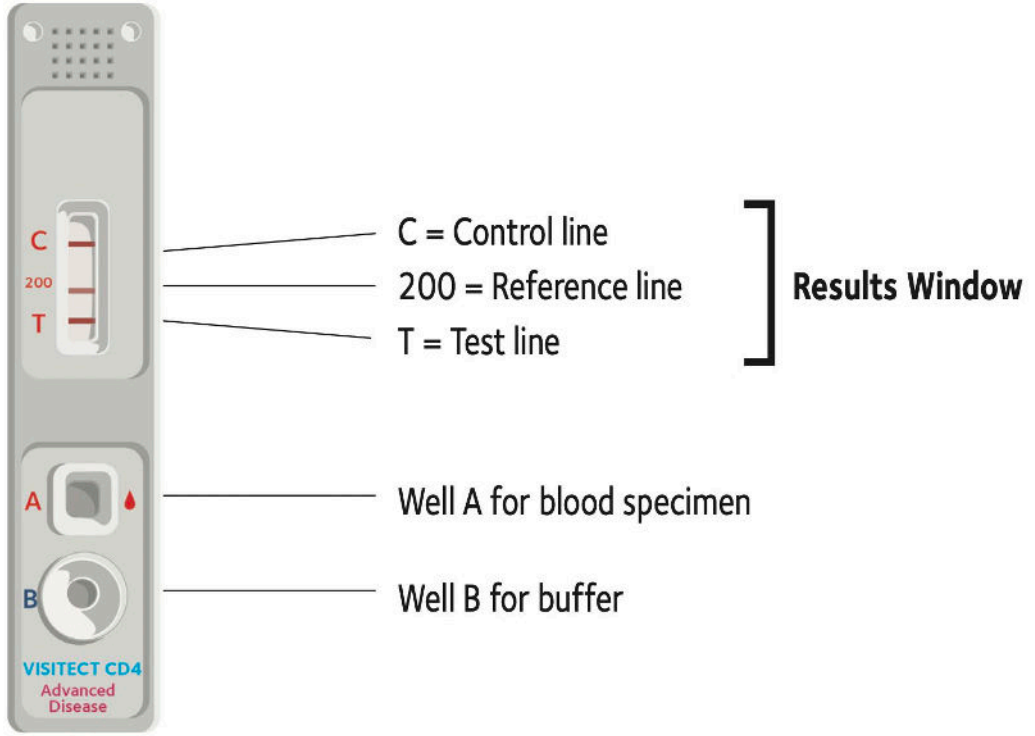


UTH AHD pilot monthly updates

		Month																				
		Nov-21		Dec-21		Jan-22		Feb-22		Mar-22		Apr-22		May-22		Jun-22		Jul-22		Aug-22		Sep-22 **Total**
		IPD	OPD	IPD	OPD	IPD	OPD	IPD	OPD	IPD	OPD	IPD	OPD	IPD	OPD	IPD	OPD	IPD	OPD	IPD	OPD	
Of the total, how many in each of these sub categories of eligibility?	**Total HIV clients seen**	50	4	121	13	135	32	127	16	152	14	124	13	108	20	97	17	114	12			**1169**
	ART naïve/new (intiated in the last 14 days)	15	1	29	6	28	8	16	0	20	0	18	3	25	2	22	2	21	0			**216**
	Defaulted from ART clinic, not on ART	6	0	4	0	10	0	11	0	18	1	14	1	8	2	14	1	16	0			**106**
	Recently returned to care after defaulting	9	0	3	1	9	2	15	3	10	2	12	1	6	0	6	0	9	3			**91**
	High VL	8	2	13	5	13	12	14	4	13	1	16	4	8	2	8	3	9	0			**135**
		41	4	110	13	110	32	102	16	129	13	110	12	92	17							**801**
	Current on ART	41	4	110	13	111	32	105	16	129	13	109	12	97	18	82	16	98	12			**1018**
CD4 testing	**# CD4 tests sent**	35	4	58	13	60	31	39	13	23	9	22	5	7	11	27	11	35	11			**414**
	% received CD4 testing	70%	100%	48%	100%	44%	97%	31%	81%	15%	64%	18%	38%	6%	55%	28%	65%	31%	92%			**35%**
Diagnosis of AHD	**Total diagnosed with AHD** (sum of rows 15 and 16)	47	4	106	12	124	29	92	12	114	10	88	5	65	14	61	6	72	8			**869**
	Diagnosed by CD4 criteria <200	25	3	25	11	29	27	22	11	12	7	7	2	3	9	13	5	19	6			**236**
	Diagnosed by WHO stage 3/4 criteria alone	16	1	55	0	69	1	60	1	97	3	70	2	60	4	40	1	44	1			**525**
	CD4 >= 200 but WHO stage 3/4	6	0	26	1	26	1	10	0	5	0	11	1	2	1	8	0	9	1			
	Total presenting with WHO stage 3/4	46	3	104	6	123	5	91	2	114	3	88	3	64	5	61	1	70	7			**796**
		2	0	4	0	5	2	4	0	7	0	2	0	6	0	6	0					
Diagnosis of cryotococcal disease	**# received serum CrAg testing**	23	4	40	10	56	21	32	5	47	7	51	4	38	7	32	6	46	3			**432**
	% received serum CrAg testing	49%	100%	38%	83%	45%	72%	35%	42%	41%	70%	58%	80%	58%	50%	52%	100%	64%	38%			**50%**
	# serum CrAg positive	2	0	4	0	5	2	4	0	7	0	2	0	6	0	4	0	5	0			**41**
	% CrAg positivity	9%	0%	10%	0%	9%	10%	13%	0%	15%	0%	4%	0%	16%	0%	13%	0%	11%	0%			9%
	# Received LP	2	0	4	0	5	0	3	0	6	0	2	0	5	0	4	0	3	0			**34**
	# CSF CrAg positive	2	0	4	0	5	0	2	0	4	0	1	0	5	0	3	0	1	0			**27**
	# Diagnosed with CM	2	0	4	0	5	0	2	0	4	0	1	0	5	0	3	0	1	0			**27**
	Of # diagnosed with CM, # diagnosed on clinical grounds alone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**0**
CM Treatment	**Treated for CM (indicate regimen used below)**	2	0	4	0	6	0	2	0	5	0	2	0	5	0	4	0	2	0			**32**
	1) Amphotericin + 5FC	0	0	4	0	5	0	2	0	4	0	2	0	5	0	4	0	2	0			**28**
	2) Amphotericin + Fluconazole	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**2**
	3) Fluconazole + 5FC	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0			**1**
																	0					
CM Outcomes	Dischaged from hospital after CM	1	0	2	0	3	0	2	0	3	0	1	0	3	0	3	0	0	0			**18**
	Died from CM	0	0	1	0	1	0	0	0	0	0	0	0	2	0	0	0	1	0			**5**
	# Pts discharged from previous months	0	0	0	0	1	0	0	0	0	0	0	0	2	0	1	0					
				0	0												0					
Pre-emptive tx	Treated with pre-emptive fluconazole (serun CrAg positive but no evidence of CM)	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	3	0			**6**
TB Diagnosis	**# received TB-LAM testing**	27	1	45	9	51	30	44	14	68	11	53	10	55	16	43	11	44	7			**539**
	% received TB-LAM testing	57%	25%	42%	75%	41%	103%	48%	117%	60%	110%	60%	200%	85%	114%	70%	183%	61%	88%			**62%**
	# TB-LAM positive	9	0	17	0	27	4	19	0	31	1	11	0	13	2	14	1	20	2			**171**
Mode of TB Diagnosis	Chest X-ray	6	1	12	0	21	0	17	1	12	1	16	0	13	0	19	1	17	1			**138**
	GeneXpert	2	0	7	1	1	0	4	0	7	0	7	0	5	0	7	1	7	0			**49**
	Smear AFBs	2	0	2	0	0	0	0	0	0	0	1	0	1	0	3	0	6	0			**15**
	Urine LAM	9	0	19	0	28	4	21	0	28	1	11	0	12	0	15	1	21	2			**172**
	AFBCulture	2	0	4	1	8	0	9	0	13	0	8	0	14	0	7	0	7	0			**73**
	# diagnosed with TB (regardless of modality)	28	1	48	2	64	4	53	1	63	3	37	0	37	3	39	1	45	3			**432**

Point of Care Test for CD4 Cell Count

- VISITECT® CD4 Advanced Disease (VISITECT) is a manually operated semi-quantitative assay
- Validated in Zambia
- The National TWG has approved its use
- Forecasting and quantification completed
- Procurement process in progress



Opportunities and Successes

- Improvement in availability of drugs including flucytosine, liposomal amphotericin B and fluconazole
- NCDs and mental health training leveraging on AHD implementation
- Developed implementation study to guide programming

- Use of the AHD Capability Maturity Model
- Entry trainings for medical doctors
- POC for CD4 cell count test
- Reflex CrAg in the lab for all CD4 cell counts less than 200
- In-patient mortality review/audits
- Streamlining the M&E system
- Use of mortality data from PHIA

Thank you!