

Optimizing CD4 Testing for Advanced HIV Disease Care and Management

Session 2

November 8, 2023



Please introduce yourself in the chat



- Name
- Organization
- Country

Feel free to type your questions in the Q&A box or the Zoom chat feature at any point during today's session. We will have dedicated time to answer your questions.

Webinar Agenda (7:00 am–8:30 am EST)

- **Welcome and introductions**
Chris Akolo, FHI 360
- **Presentation: A Call for CD4 Optimization: a multi-country programmatic analysis (Nigeria, Indonesia, Zambia)**
Hind Satti, FHI 360
- **Presentation: Optimizing CD4-Testing in the Diagnosis and Management of AHD**
Peter Nwaokenneya, National AIDS, Viral Hepatitis and STIs Control Programme, Nigeria
- **Presentation: Optimizing CD4 Implementation for the Effective Management of Advanced HIV Disease**
Gabriel Saemisch, USAID
- **Panel Discussion**
Ajay Rangaraj, WHO
- **Q & A Discussion**
- **Closing remarks**
Christian Pitter, FHI 360

Panelists



Hind Satti
FHI 360



Peter Nwaokeneya
National AIDS, Viral
Hepatitis and STIs Control
Programme, Nigeria



Gabriel Saemisch
USAID

A Call for CD4 Optimization: a multi-country programmatic analysis (Nigeria, Indonesia, Zambia)

Hind Satti, Joseph Msofe - Technical Advisors

HIV Department

Department of Global Health and Population

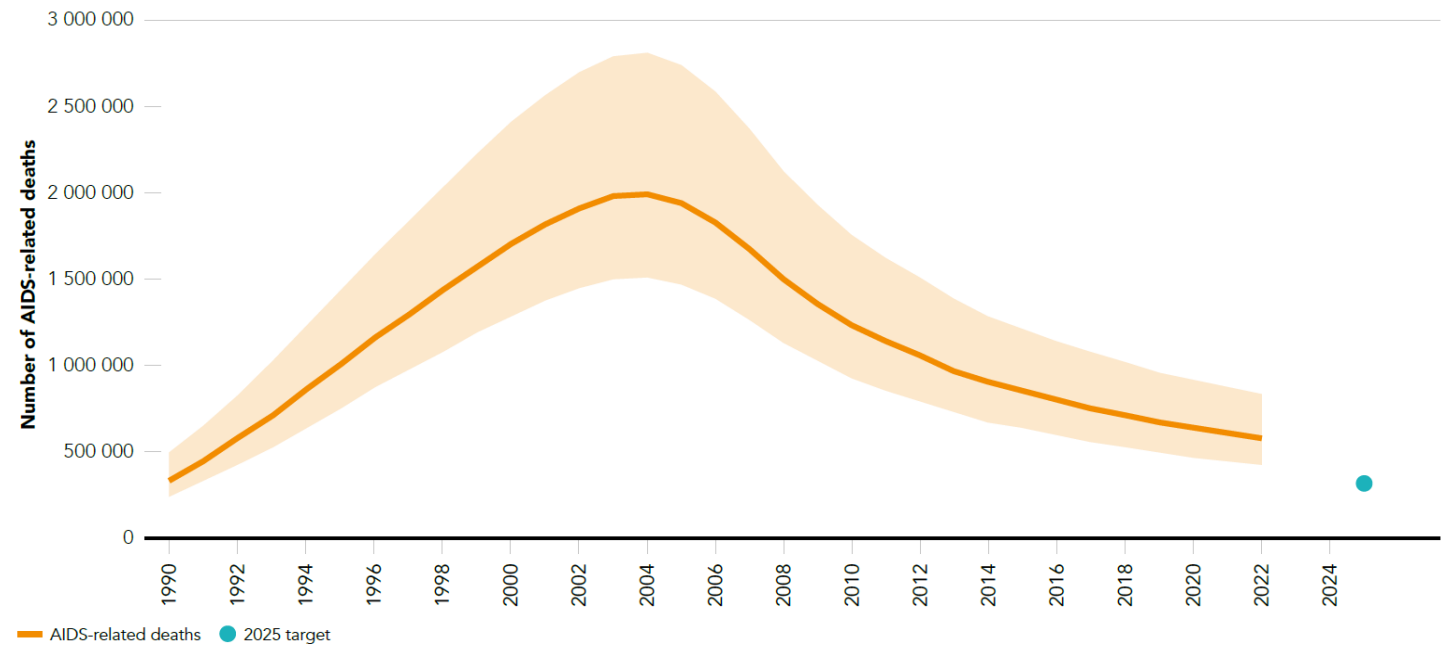
Global UNAIDS estimates for adults and children 2022

- **Children living with HIV-** 1.5 million
- Deaths due to AIDS- 84 000

- **People living with HIV-** 39.0 million
- Deaths due to AIDS -630 000

- **UNAIDS Epi 2022 data-** some improvement in all age's deaths has decreased to 630,000, a -51% change in AIDS-related deaths since 2010.

Figure 12.2 Number of AIDS-related deaths, global, 1990–2022, and 2025 target

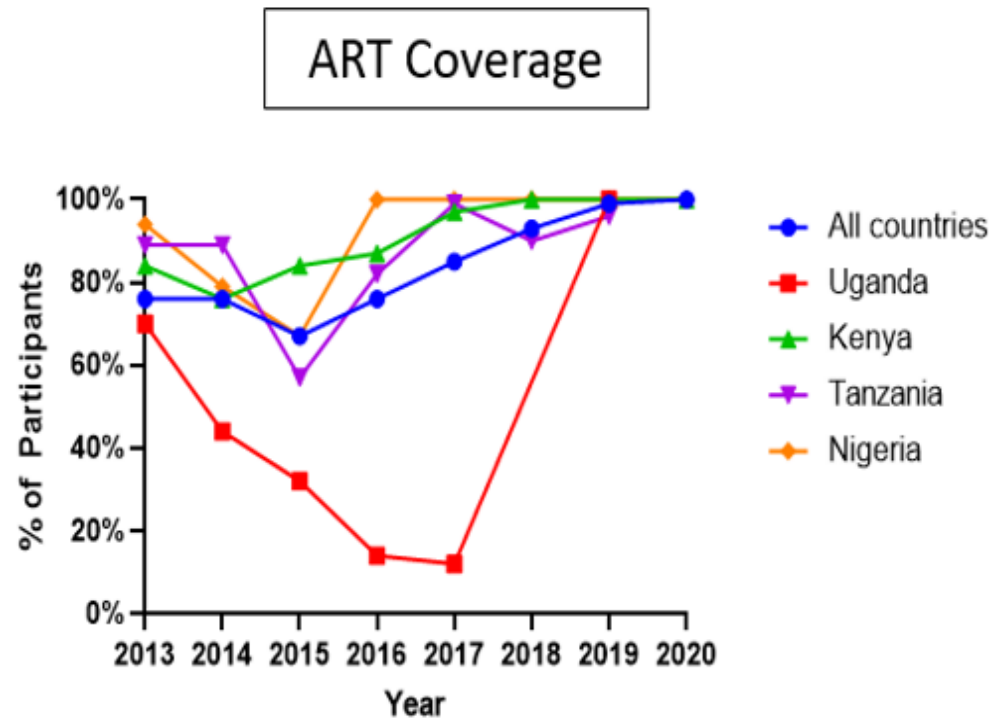


Source: UNAIDS epidemiological estimates, 2023 (<https://aidsinfo.unaids.org/>).

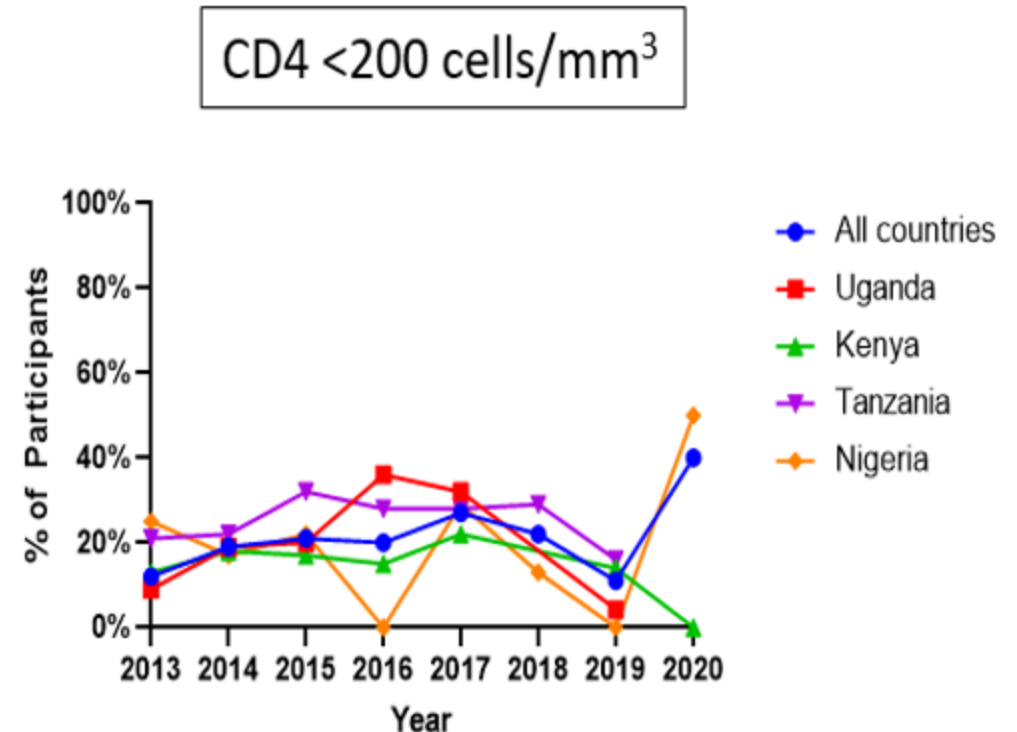
People living with HIV accessing antiretroviral therapy- UNAIDS 2022

- At the end of December 2022, **29.8 million** people were accessing antiretroviral therapy, up from **7.7 million** in 2010.
- In 2022, **76%** of all PLHIV were accessing treatment.
- TB is the leading cause of morbidity and mortality among PLHIV, accounting for one-third of all deaths.
- CM accounts for 15–20% of deaths among hospitalized adult PLHIV and is the most common cause of meningitis in adult PLHIV in sub-Saharan Africa (SSA).

Although ART coverage increased significantly from 2013 to 2019, decline in advanced HIV disease did not fall below 2013 levels until 2019-African Cohort Study(AFRICOS)




ART coverage increased from 74.7% in 2013 to 97.5% in 2019, $p < 0.01$



The prevalence of CD4 <200 declined from 11.9% in 2013 to 10.3% in 2019, $p = 0.7$

Why baseline CD4 cell count?

- Clinical WHO staging alone is missing around **50% of AHD cases**.
- In a study from Kenya, Malawi, Uganda and Zimbabwe- 47% of the people with CD4<100, were classified as **WHO stage 1 and 2 disease**(Hakim, NEJM 2017).
- In the absence of baseline CD4, **OI prophylaxis is missed** (despite their well-documented potential to reduce HIV mortality and morbidity) **and clinical decisions are biased** (enhanced prophylaxis reduced the risk of death by 25%).
- Decreased funding for CD4 testing leads to **underdiagnosed AHD and the potential increase in HIV mortality**



**REALITY TRIAL 2017
AHD CD4<100 cells/mm³**

Characteristic	Enhanced Px (N=906)	Standard Px (N=899)
Male	477 (53%)	484 (54%)
Age (years)	36 (29-42) [6-71]	36 (30-42) [5-78]
5-17 years	39 (4%)	33 (4%)
Current TB disease	122 (13%)	125 (14%)
WHO stage 1 or 2	436 (48%)	418 (46%)
CD4 (cells/mm ³)	38 (16-64)	36 (16-60)
0-24 cells/mm ³	323 (36%)	333 (37%)
VL (c/ml)	229,690	230,540
>100,000 c/ml	574/782 (73%)	563/786 (72%)
EFV-based ART	820 (91%)	799 (89%)
TDF/FTC NRTI backbone	716 (79%)	706 (79%)

CD4 MEASUREMENT AS AN ENTRYWAY FOR IDENTIFYING AND MANAGING AHD with WHO Package of Care

- CD4 testing is recommended by the WHO:
 - At treatment initiation for all PLHIV 5 years and older
 - Upon re-initiation of treatment for those who have been out of care/off treatment for more than a year
 - For individuals with documented virologic failure
- Modeling study by Oboho et al showed that: CD4 testing compared to clinical staging alone helped identify PLHIV with AHD that are at the highest risk for death to receive interventions (AHD prophylaxis, diagnostic, and treatment).
 - CD4 testing averted 31% to 38% of deaths from TB and CM in the first year of ART. The number of CD4 tests required per death averted varies widely by country from approximately 101 for South Africa to 917 for Kenya.

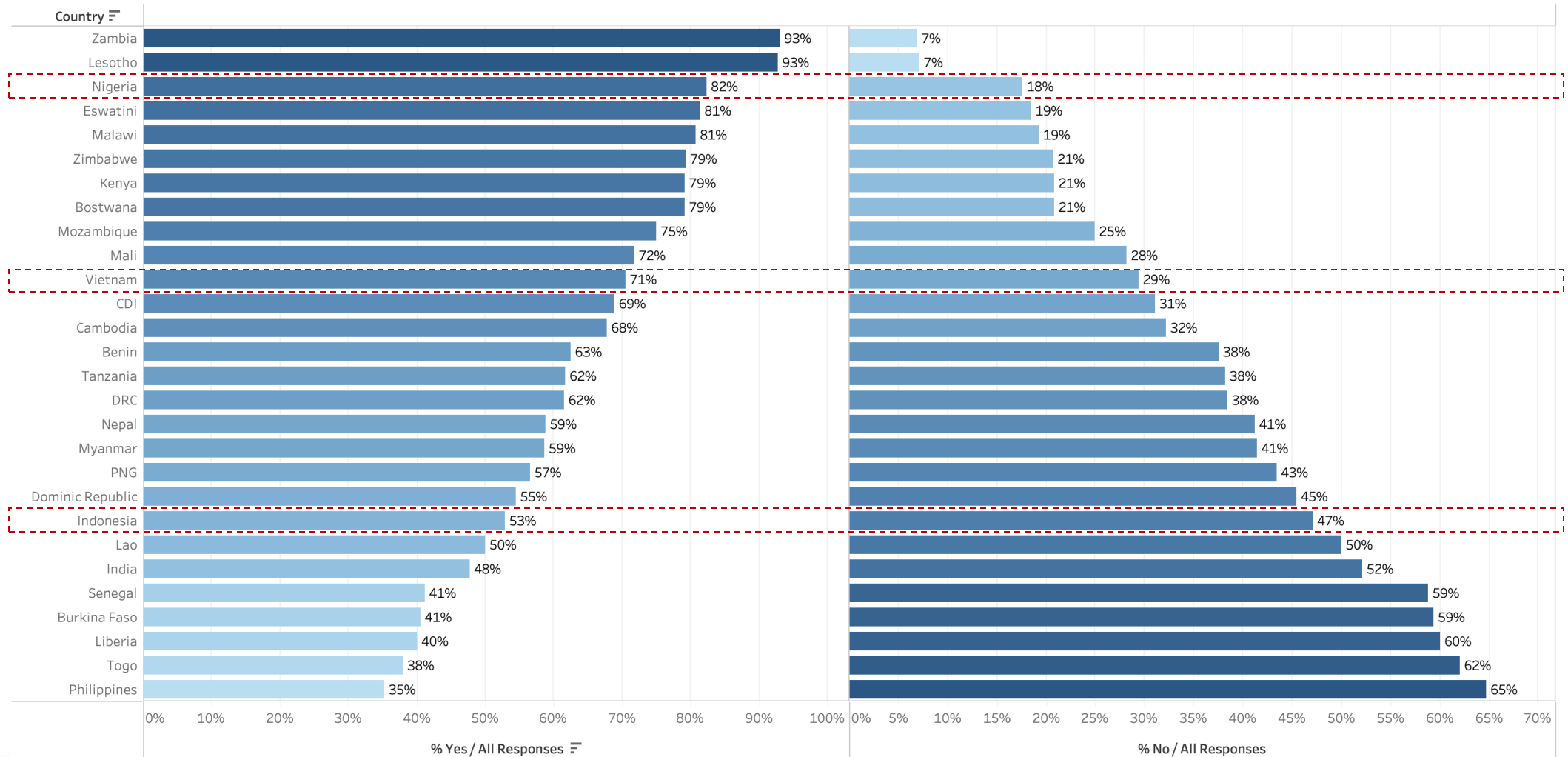


Oboho IK, Paulin H, Corcoran C, et al. Modelling the impact of CD4 testing on mortality from TB and cryptococcal meningitis among patients with advanced HIV disease in nine countries. *J Int AIDS Soc.* 2023 Mar;26(3):e26070. doi: 10.1002/jia2.26070.

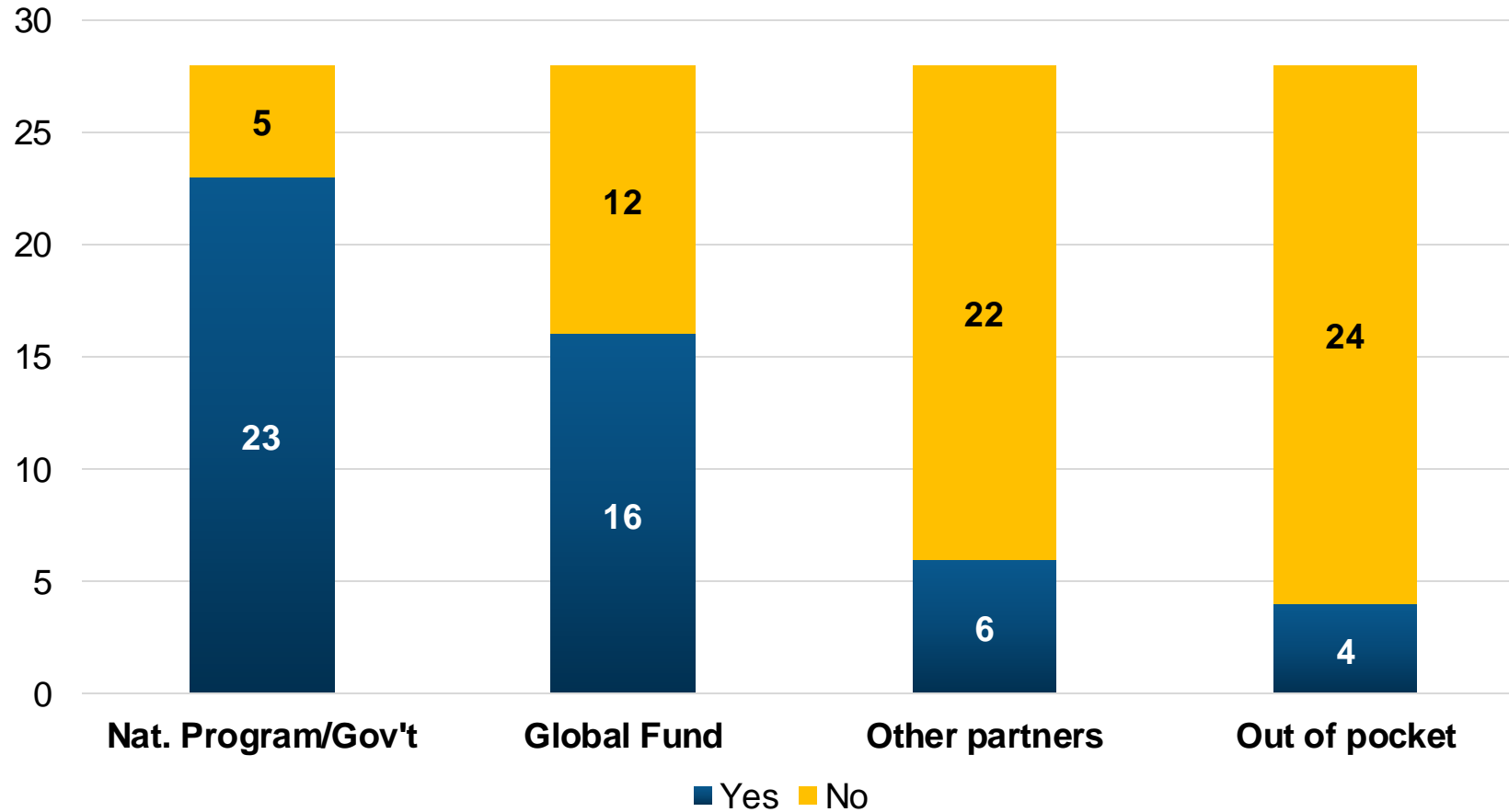
FHI 360 AHD Survey Results: *Context*

- Data collection in **28 FHI 360-supported countries**
- **Objectives:** To determine the status of AHD management and provide intensified TA as needed.
- Focused on the following domains:
 - HIV National program-policies and guidelines
 - CD4 testing
 - WHO HIV clinical stages
 - OI prophylaxis
 - AHD package OI diagnostic tools
 - Rapid ART initiation
 - Enhanced adherence support
 - DSD AHD model
- Each domain consisted of specific questions

AHD Survey Results: Response rate of questions per country for all domains



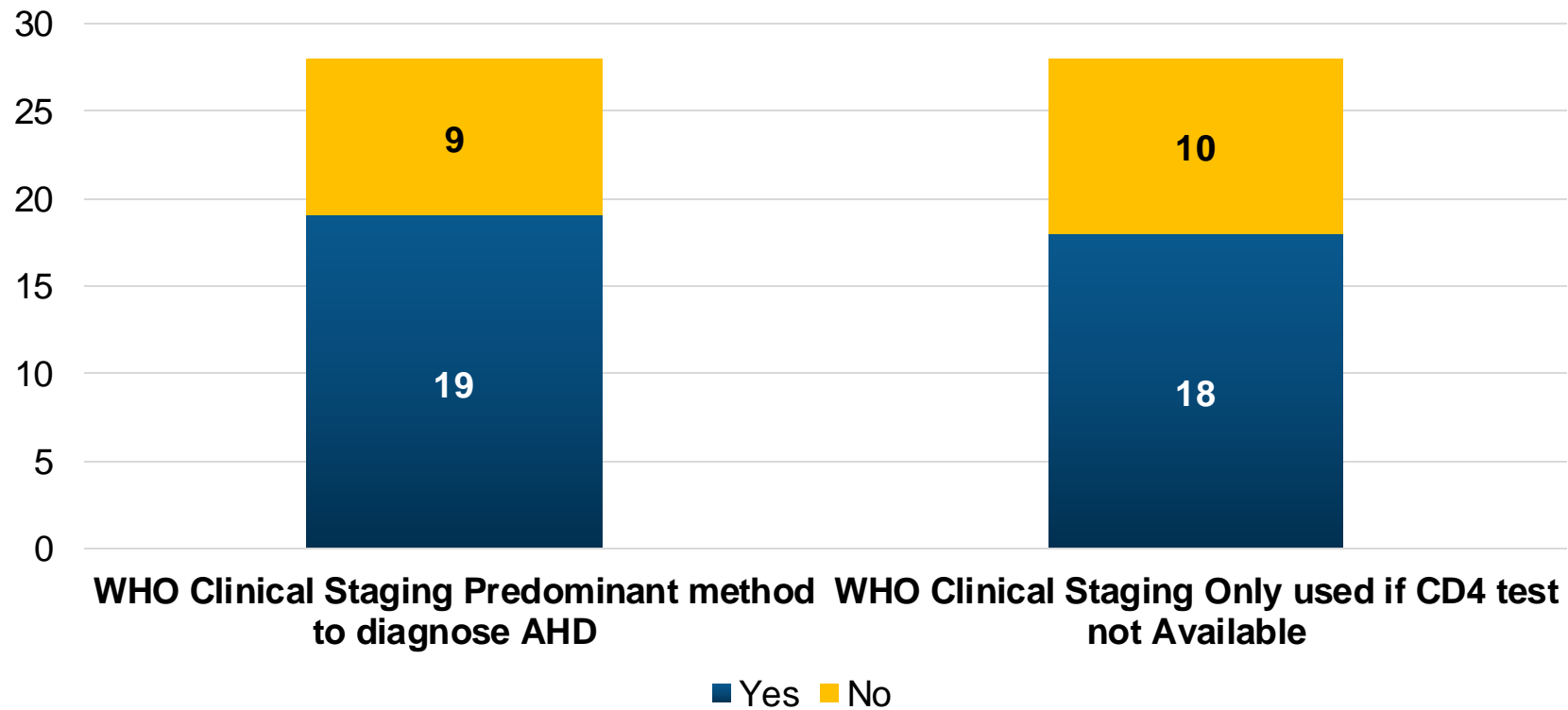
FHI 360 Survey 2023- Support for CD4 test kits



- National Programs are mainly responsible for the procurement of CD4 commodities
- However, Global Fund supports a significant number of programs, particularly, in Sub-Saharan Africa

Diagnosing AHD

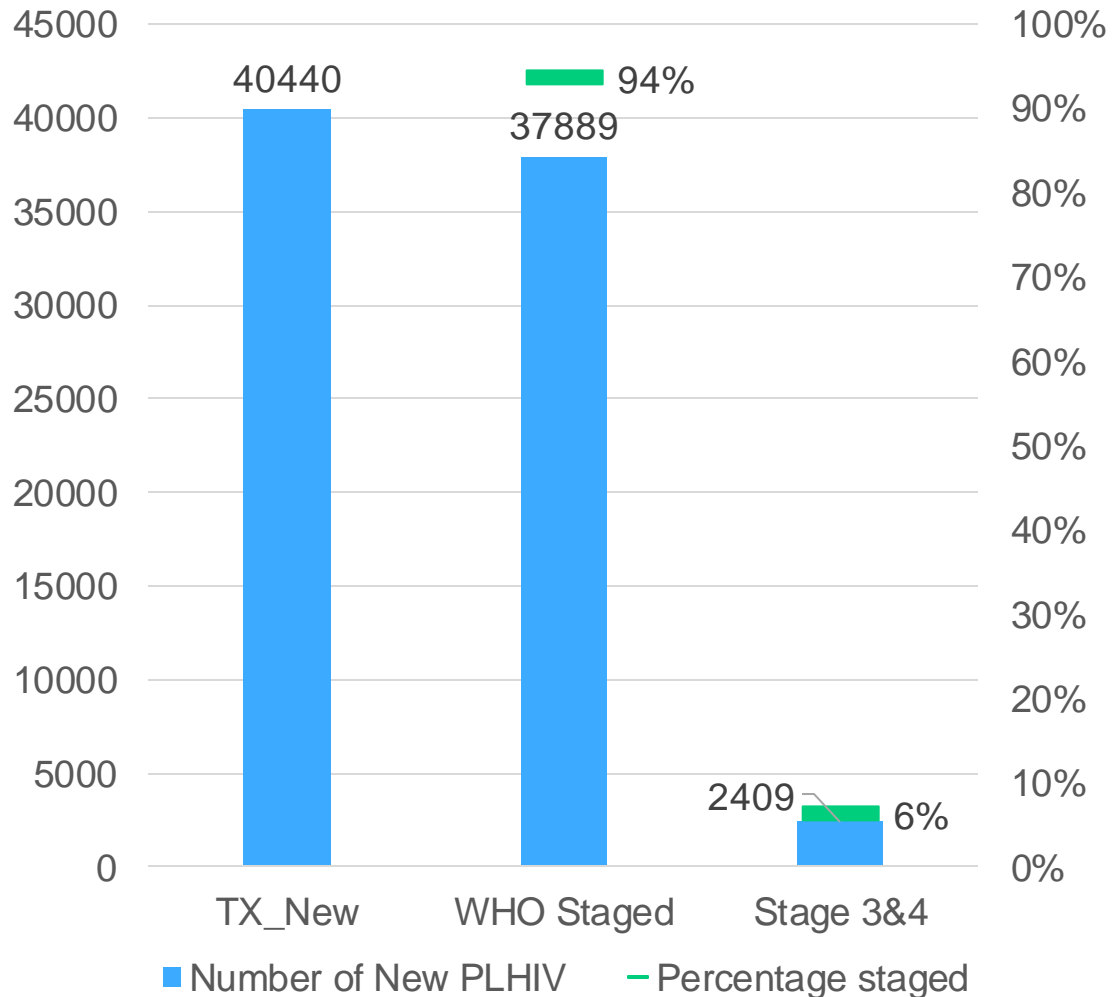
WHO Clinical staging is the predominant method of diagnosing AHD



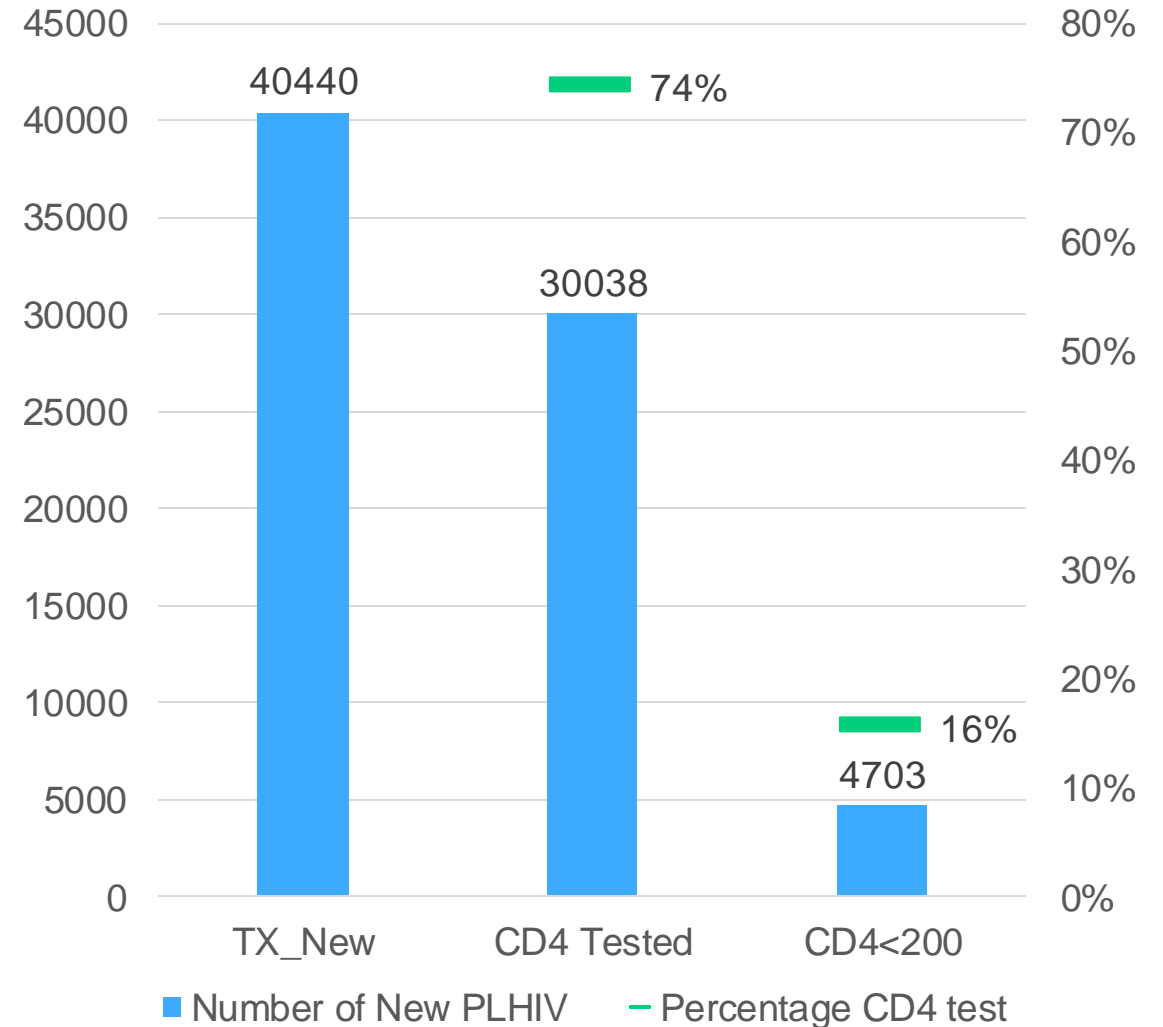
- ...leading to missing asymptomatic ADH for new HIV clients who are at the highest risk of dying in the first 3 months following ART initiation

Nigeria AHD Diagnosis Services Data FY23Q4(294 sites reported)

Nigeria: AHD diagnosis through Clinical staging

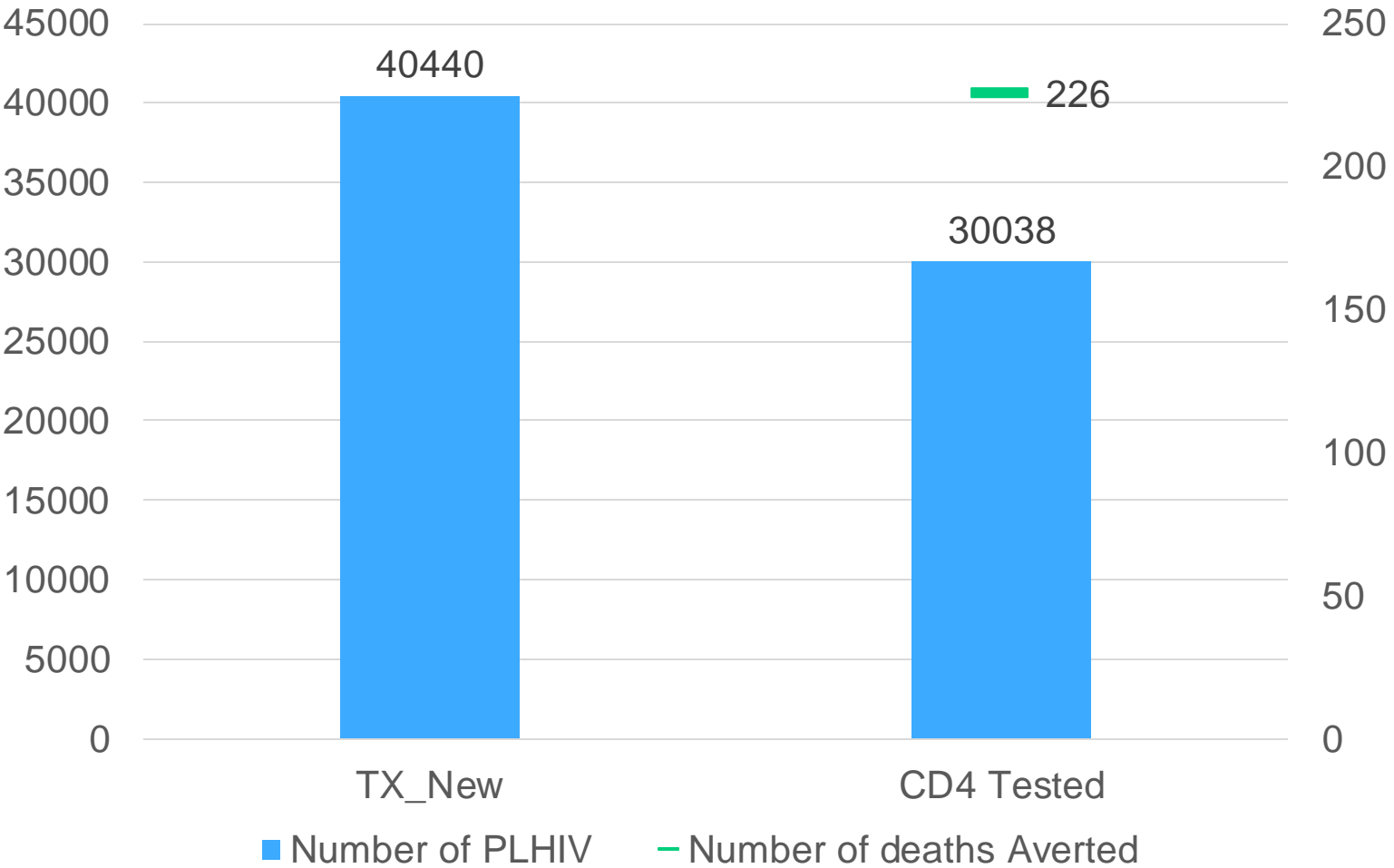


Nigeria: AHD diagnosis through CD4 testing



Nigeria: Number of Deaths averted because of testing CD4 FY23-Q3-Q4

Nigeria: Death averted from OI (TB&CM) resulting from CD4 testing (Oboho IK et al. Journal of the International AIDS Society 2023, 26:e26070)

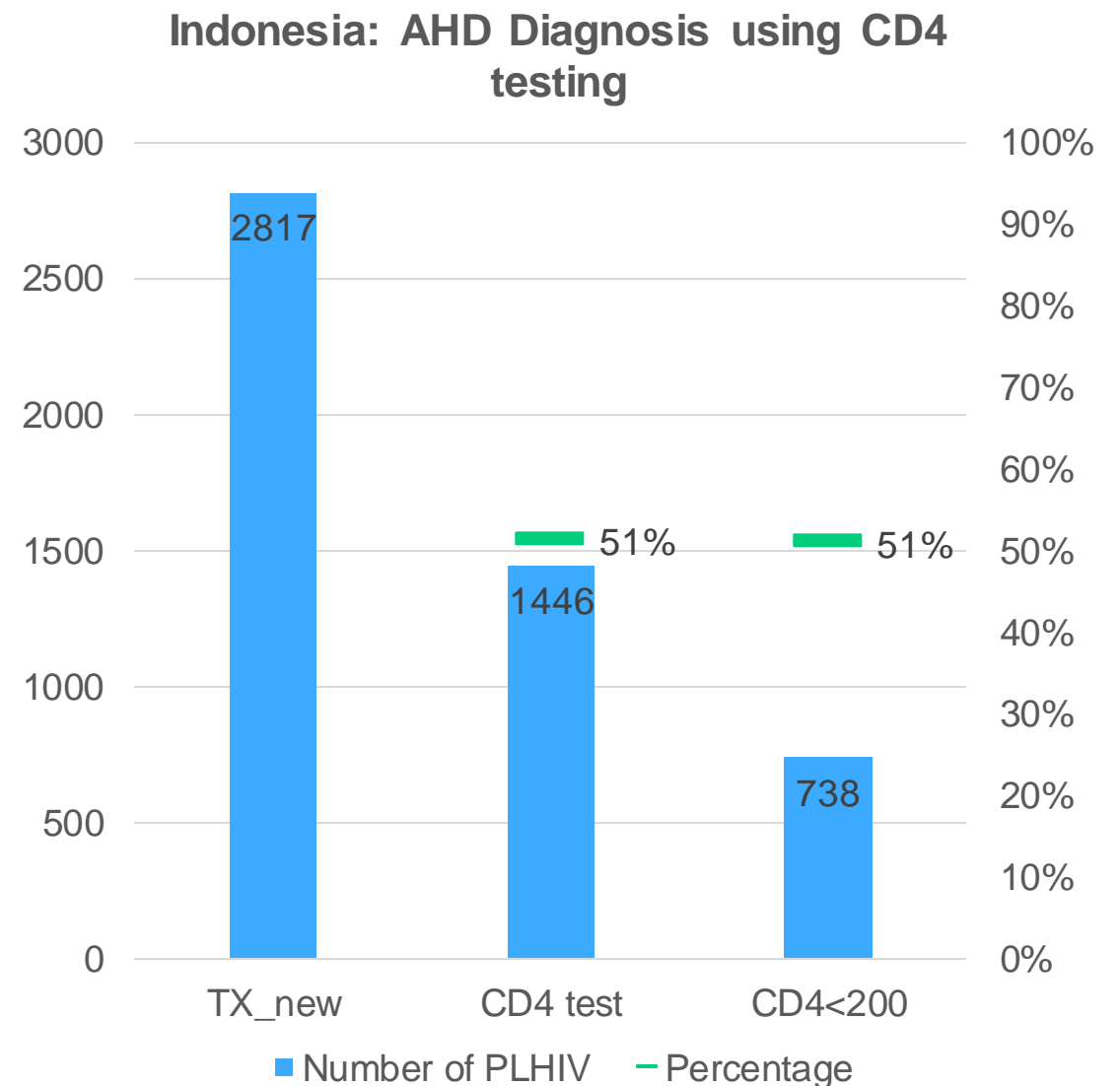
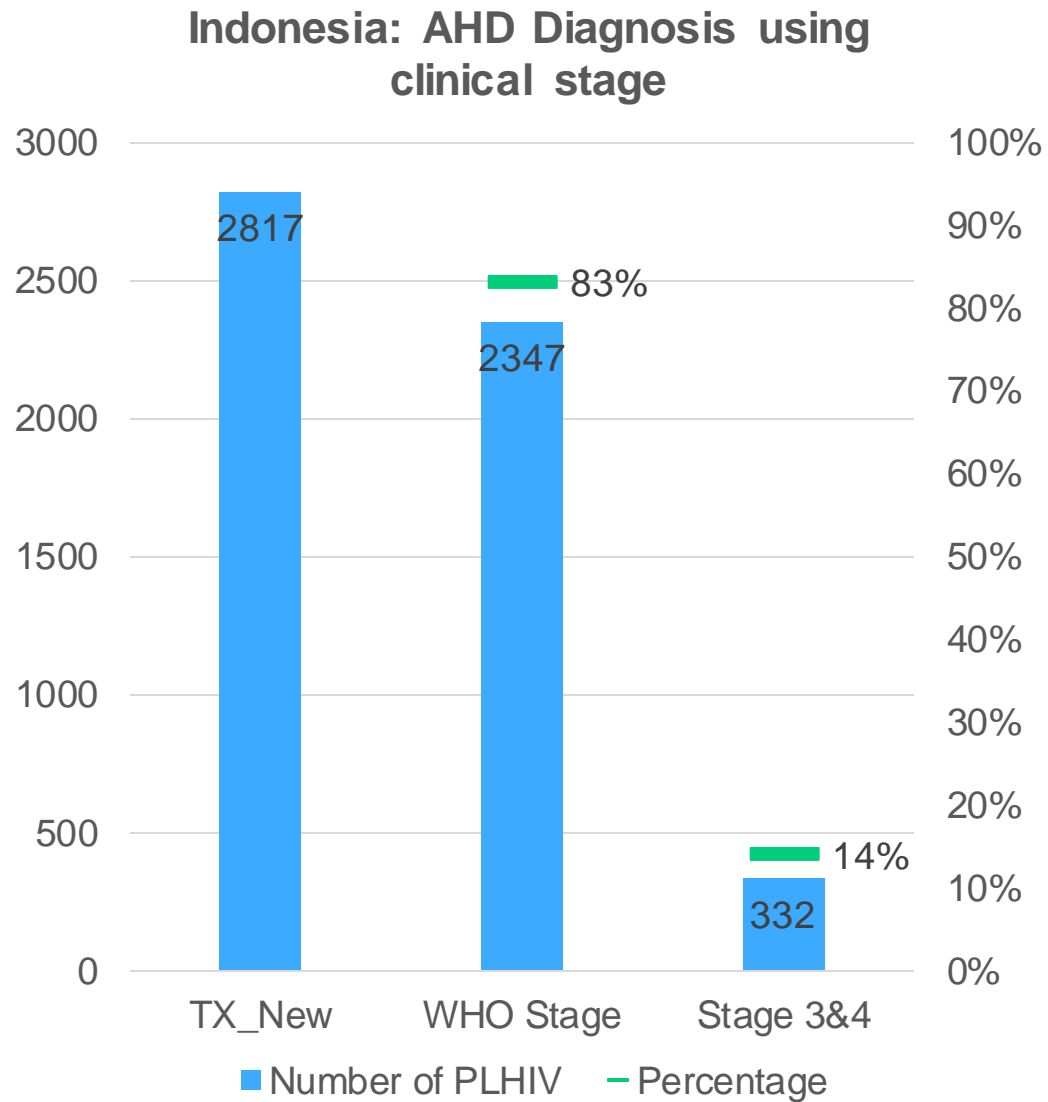


- It takes 133 CD4 tests to avert 1 Death due to TB&CM combined, thus **226** deaths is estimated to be averted in Nigeria Q3&4FY23! (Oboho IK et al. Journal of the International AIDS Society 2023, 26:e26070)

CD4 testing challenges and landscape –Nigeria

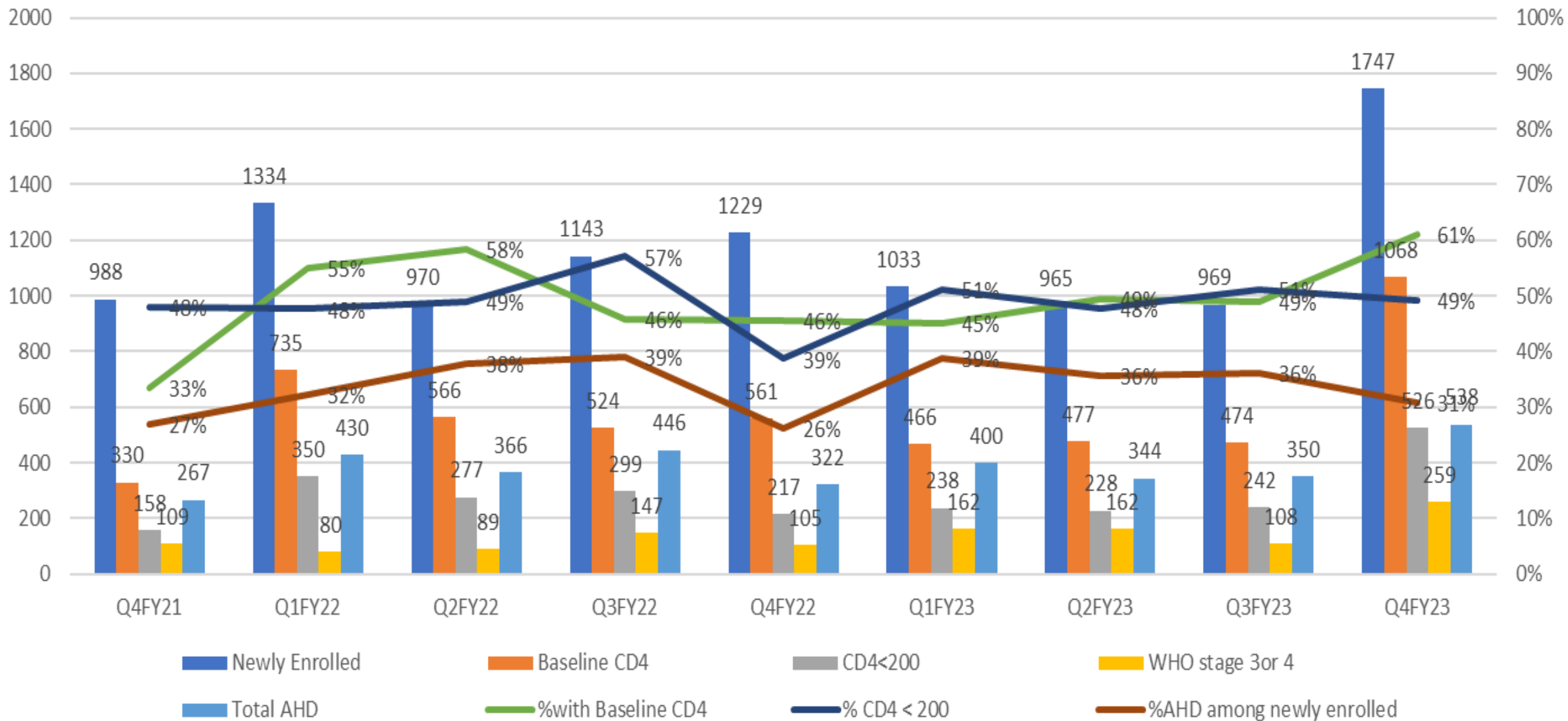
- **87%** of total CD4 tests were done with BD FACS Presto.
 - Discontinuation of many near POC testing services- BD FACS Presto (analyzer production ending July 2024) BD FACSCalibur and FACSCount will not be serviced in the future.
- Visitec contributed only **13%** of total CD4 tests with the highest **37%** in Jan-Feb 2023.
 - Visitec was first supplied in **November** for the FY23.
- BD FACS Presto **cartridge stock out** experienced in **Q2**
- Visitec only contributing its lowest at **63%**.

Indonesia: AHD Diagnosis Services Data FY23 Q4(137 sites reported)

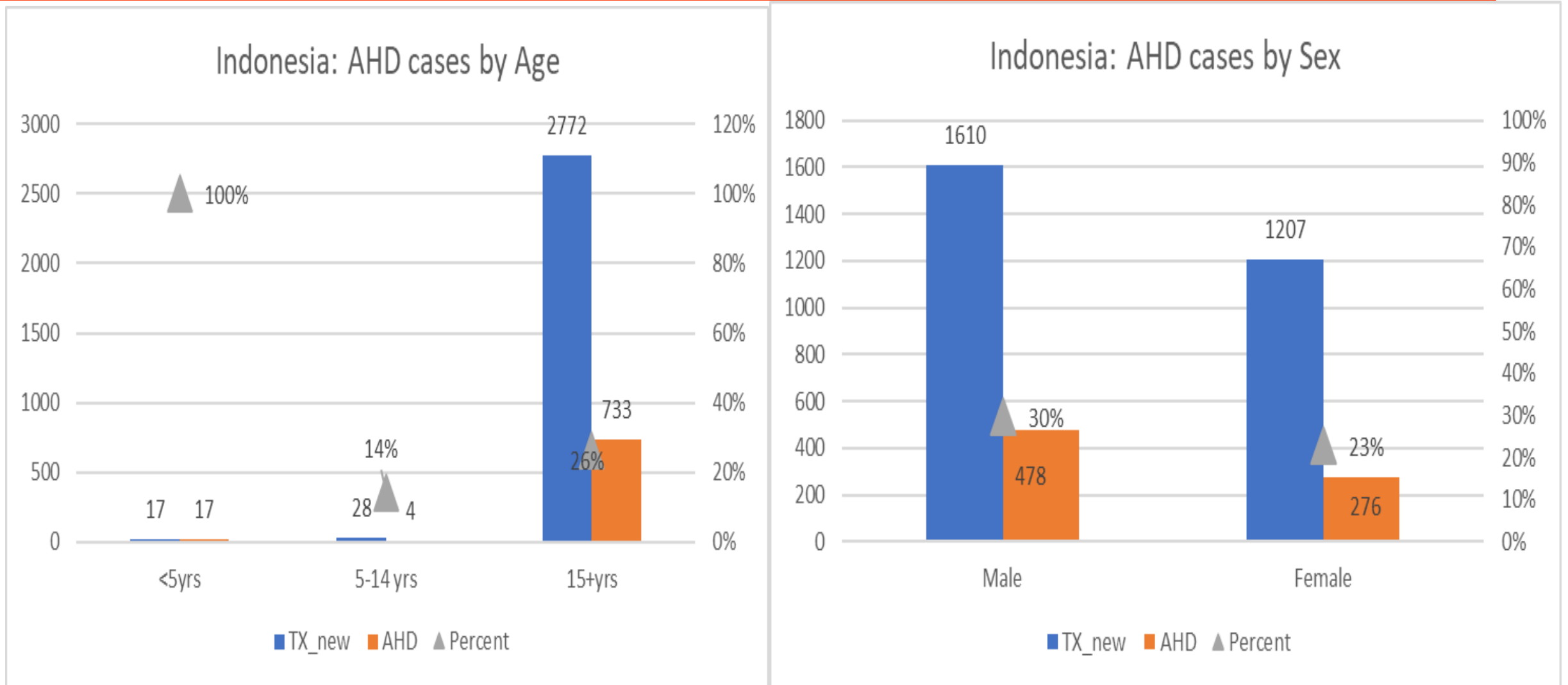


AHD among Newly Enrolled (including transferred-in without ART)

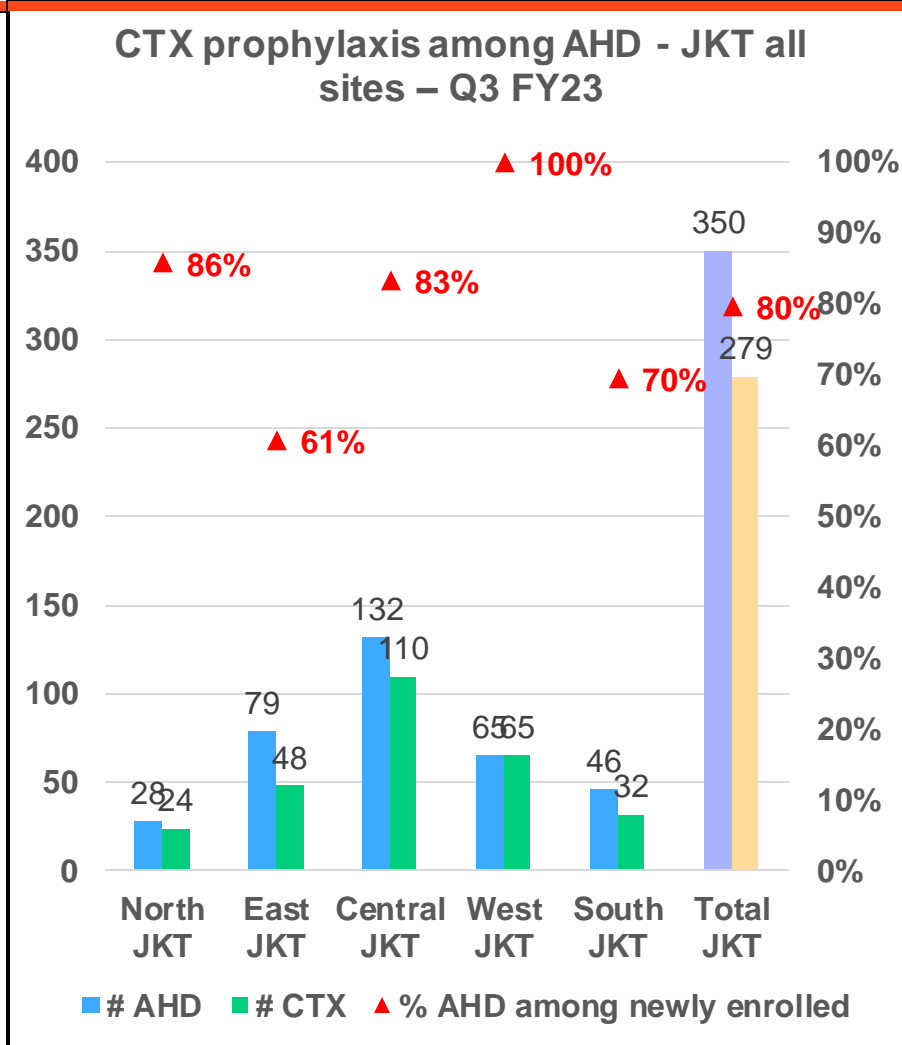
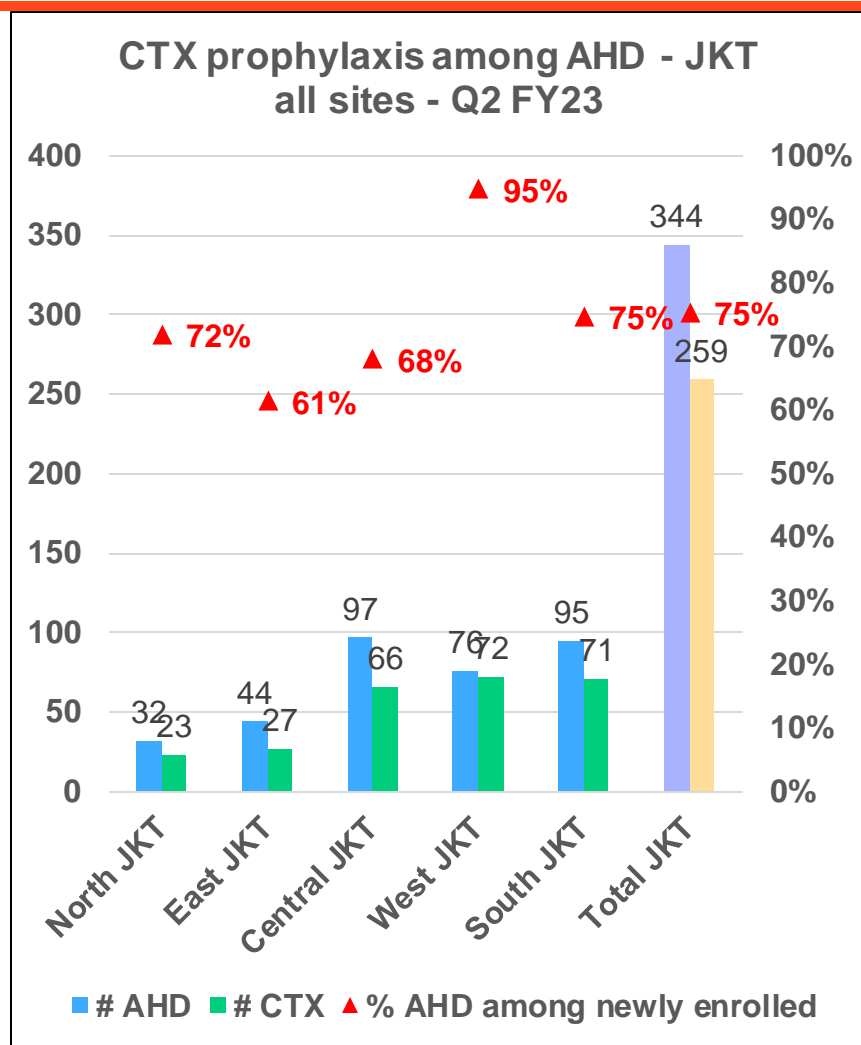
Jakarta – All districts – ASAP sites (N = 137) Q4FY21 – Q4FY23



Indonesia AHD cases by age and sex FY23Q4-137 sites

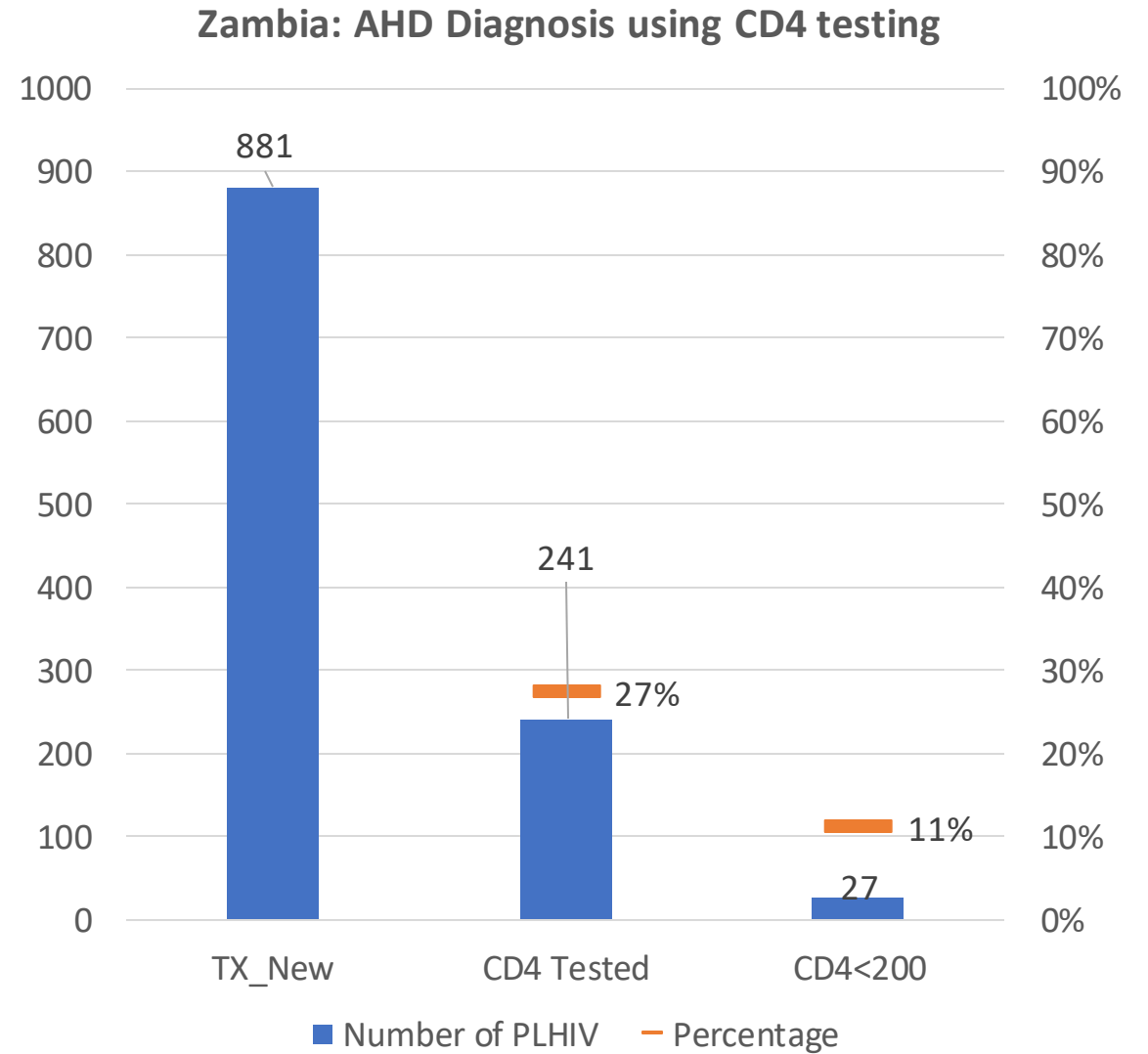
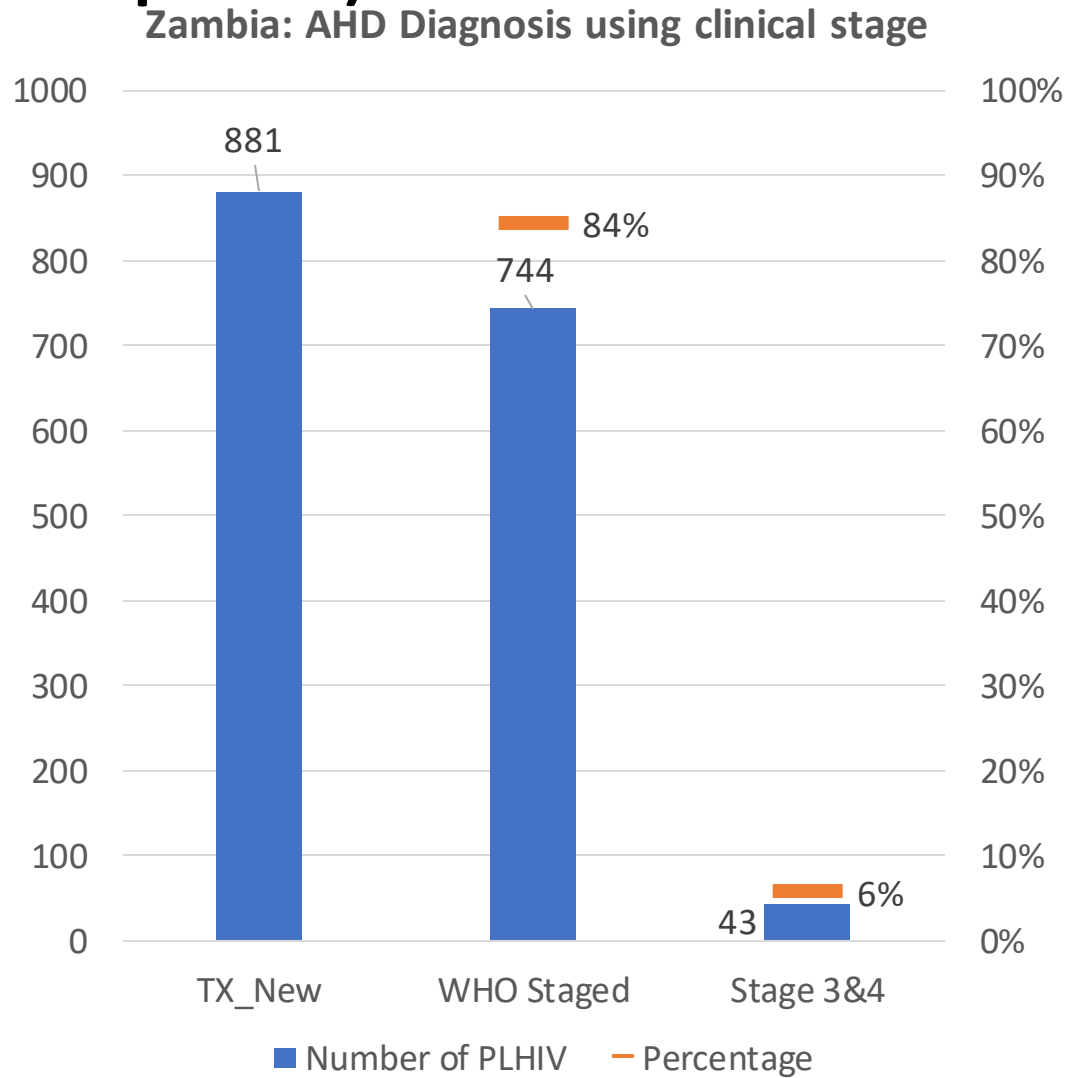


CTX Prophylaxis among AHD cases - Jakarta – per districts – ASAP sites (N = 109) Q2FY23 and Q3FY23



- Despite the availability of CTX low coverage is observed.
- HCWs' ongoing training is critical and CQI.
- Client demand creation-empowering them with SBCC and treatment literacy.

Zambia: AHD Diagnosis Services Data FY23Q4 (9 sites reported)



Call for CD4 DNO- ACT NOW

- Support CD4 network assessment and optimization in the face of the changing CD4 testing landscape **is critical**.
- Findings from CD4 Network Assessment tool analysis will help to inform countries in:
 - Prioritizing facilities to improve access to CD4 testing
 - Using the appropriate CD4 assays and placement at facilities or laboratories
 - Linkage of facilities to CD4 testing services
 - Sample transportation
 - Private laboratory engagement



FHI 360 strategies to address AHD

- Recommend clear indications for and support CD4 testing at treatment initiation, at treatment re-initiation, after a year of interruption, and in virological failure
- HCWs, CHWs, and client's sensitization
- Advocate for indicators to correctly ascertain the burden of AHD in our programs, MER 2.7 has CD4 disaggregates for TX_NEW and TX_RTT indicators.
- Monitor usage and quality of CD4, LF-LAM, and CrAg testing through CQI programs
- Implementation of person-centered surveillance
- Implement the developed Community AHD guide for better community engagement.
- Identifying opportunities for differentiated care
- Provide TA for Visitect POC placement following the DNO assessment.





Thank You!

FHI 360 Headquarters

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www.fhi360.org



Optimizing CD4-Testing in the Diagnosis and Management of AHD

8th November, 2023

Outline

1

Overview of AHD implementation in Nigeria

2

AHD case identification – CD4 testing

3

AHD case identification in Phase 1 sites - Q1 2021 – Q2

4

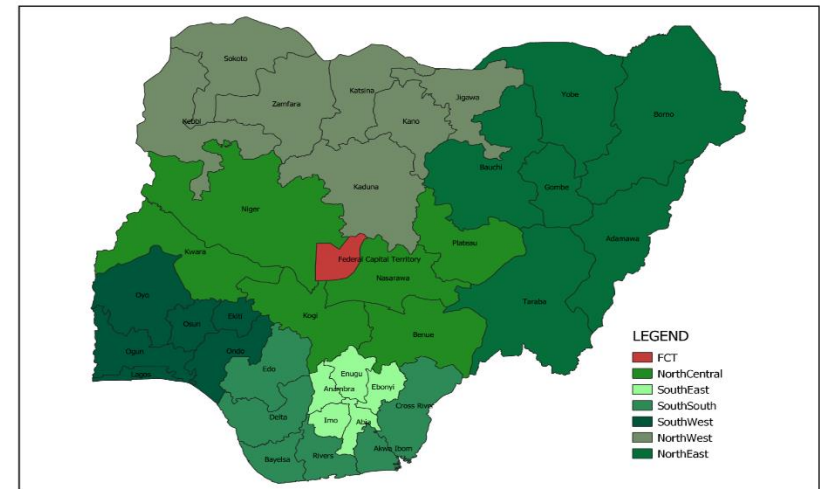
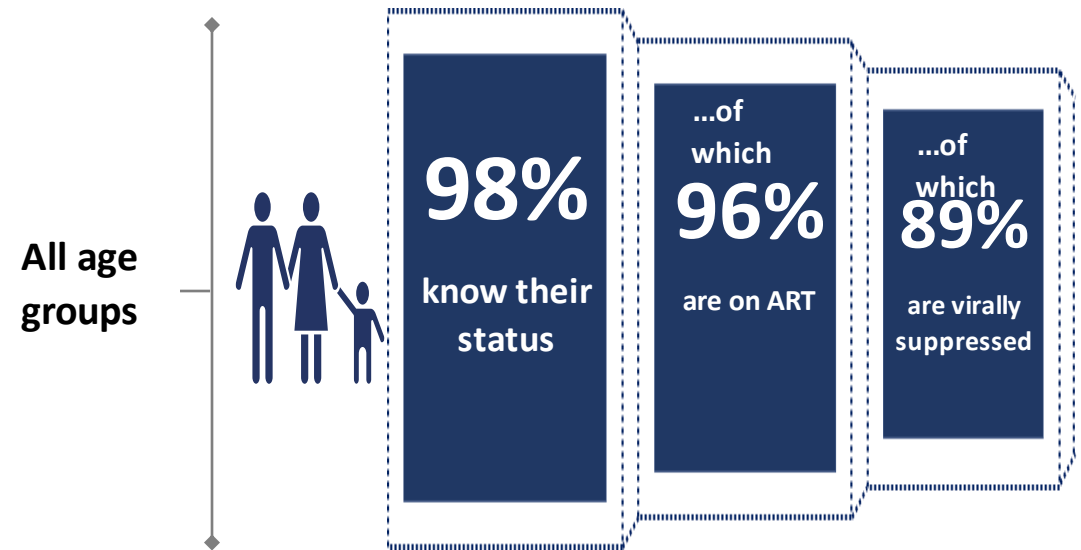
Challenges with the CD4 Supplies

5

National Priorities for CD4 Testing

Background of HIV Program Implementation in Nigeria

- Nigeria has an estimated population of 218 million people (NPC, 2022), with an HIV prevalence of 1.4% (NAIIS, 2018)
- 2 million people are living with HIV and about 1.9 million are currently on ART
- An estimated 34, 176 health facilities exist in Nigeria with 88.1% being primary health care facilities, 11.7% secondary and 0.3 % tertiary care
- Over 2,000 Health facilities offer comprehensive ART services
- AHD point of care (PoC) is currently being implemented in about 1,832 facilities across the country



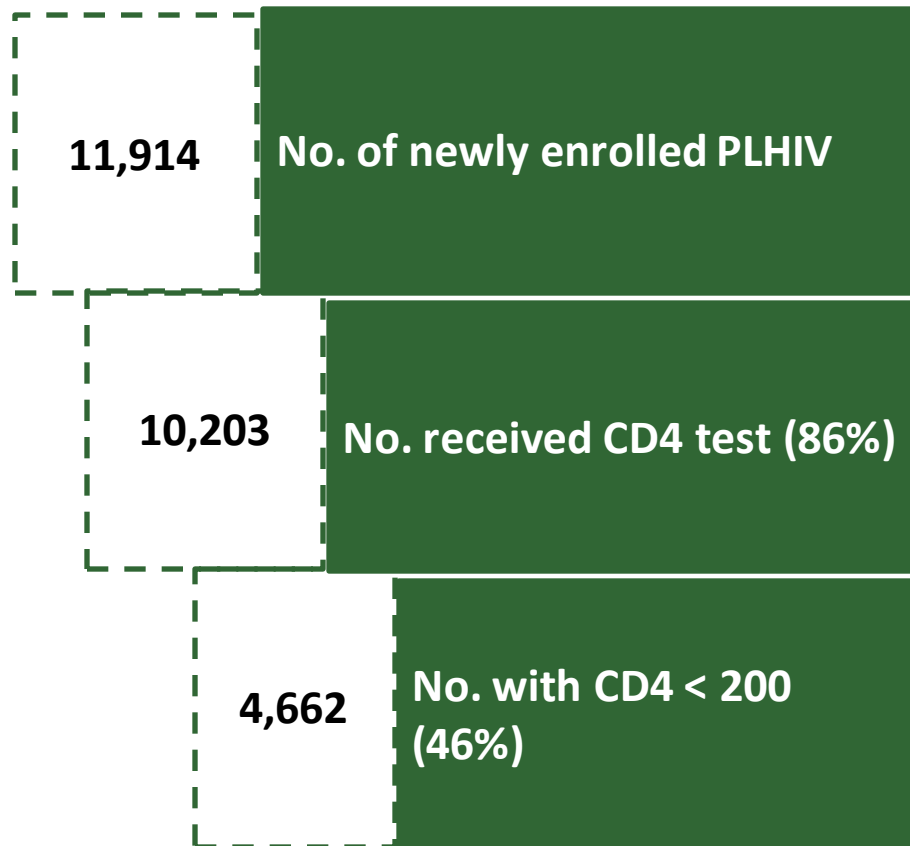
AHD case identification – CD4 testing

- A healthy immune system normally has a CD4 count ranging from 500 to 1,600 cells/mm³
- CD4 counts show the number of CD4 cells per cubic millimeter of blood (cells/mm³)
- CD4 testing is the major gateway to AHD patient identification and diagnosis
- AHD in adults , adolescents and children older than five years is defined as CD4+ lymphocyte count <200cells/mm³ or WHO stage 3 or 4 event. *(All children younger than 5 years living with HIV are also considered to have AHD)*

AHD case identification – CD4 testing 2

- Nigeria in 2021 developed and rolled out an AHD package of care utilizing a phased approach with the 1st phase implemented in 28 facilities across four states
- The AHD implementation necessitated a renewed focus by the National HIV Programme on CD4 testing for PLHIV
- Key patient groups prioritized for CD4 testing with the AHD implementation include:
 - ART naïve PLHIV presenting for care
 - ART experienced PLHIV lost to follow-up, returning to care
 - PLHIV failing on ART
- To improve access to CD4 testing, Nigeria introduced the semi-quantitative PoC CD4 Lateral Flow Assay (VISITECT) to complement the conventional CD4 flowcytometry platforms
 - An in-country evaluation of VISITECT CD4 showed a specificity 92.2% and a sensitivity of 99.1% and hence was adopted by the country

AHD case identification in Phase 1 sites - Q1 2021 – Q2 2022

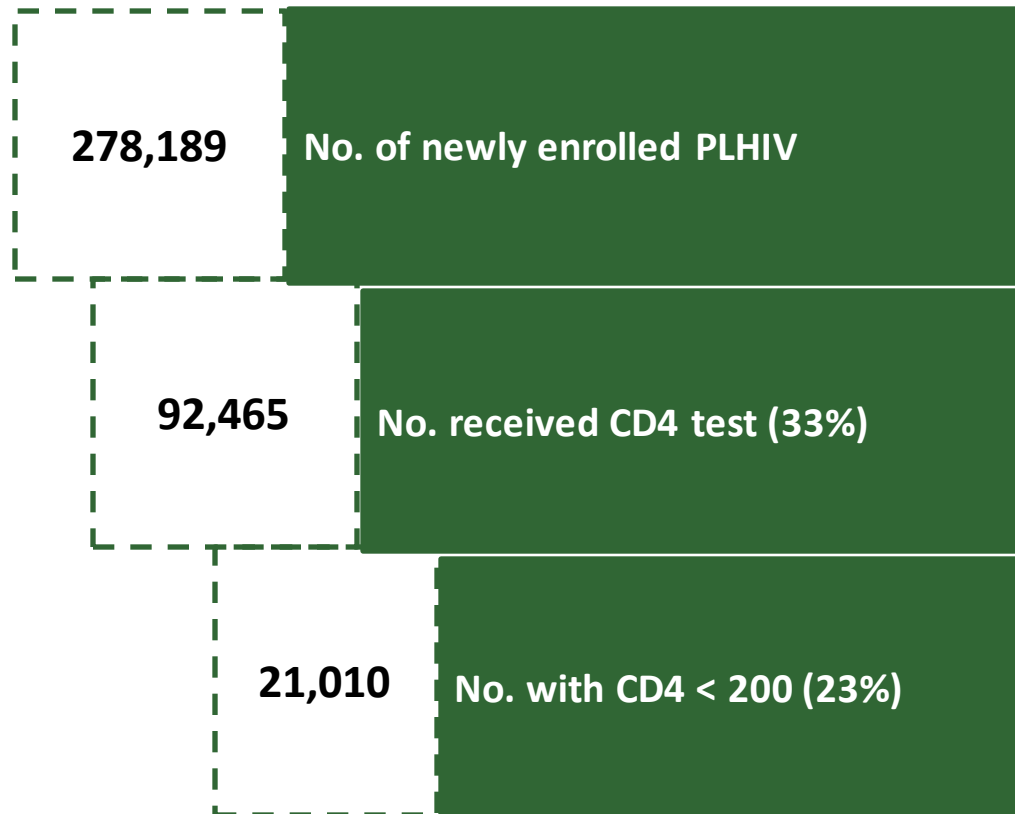


Observations

- Training on conduct of VISITECT tests was included as part of the AHD capacity building for facility healthcare workers
- Facilities utilized PoC CD4 tests and/or flow cytometry devices based on availability
- 86% of patients enrolled had CD4 test done at baseline
 - 46% of those tested had CD4 <200cells/mm³
 - **>50% of test conducted using VISITECT**

National AHD case identification Jan – Dec 2022

- The AHD package of care was scaled up to all ART sites in-country in 2022
 - A total of 278,189 new HIV positives were identified and only 92,465 (33%) had documented CD4 test results and 23% presented to care with AHD



Observations

- The gap in CD4 testing can be attributed to
 - Stockout of CD4 test reagents for conventional flowcytometry CD4 machines
 - Occasional stockout of VISITECT reported by facilities leading to missed opportunities in CD4 testing
 - Sub-optimal CD4 testing requests by facility healthcare workers

Challenges with CD4 Supplies

- The implementation of the test and treat policy led to a deprioritization of CD4 testing for PLHIV
- Before the AHD implementation in the country, only conventional flowcytometry CD4 machines (BD Fast presto, BD Fасount, and Sysmex Partec Cyflow) were available in selected facilities across the country
- In-country availability of reagents for CD4 flowcytometry machines has been sub-optimal
- There were insufficient supplies as well as short shelf lives of the Visitect CD4 Lateral Flow Assay test kits in country

National priorities for CD4 testing

- Conduct ~209,661 CD4 tests in 2023 with an 80% and 20% split between PoC and flowcytometry devices

- Prioritize facilities without flow cytometry devices or located in hard-to-reach areas for CD4 PoC devices

- Achieve same day CD4 testing and result return to ensure rapid decision making by clinicians

- Appropriate training of facility health care workers on the conduct of CD4 PoC tests, particularly VISITECT for the AHD implementation scale-up

Conclusion

CD4 Testing is vital in the diagnosis and management of AHD

There is therefore urgent need to increase access to CD4 testing for all HIV positive clients

Introduction of point of care CD4 testing is critical to improve CD4 testing access

Close monitoring and evaluation is required for successful optimization of CD4 testing

THANK
YOU





Optimizing CD4 Implementation for the Effective Management of Advanced HIV Disease

*Gabriel Saemisch, HIV Clinical Service Delivery Advisor
8-November-2023*



Agenda Overview:

1. Advanced HIV Disease and CD4 Testing
2. PEPFAR COP Guidance: CD4 Testing and Network Optimization
3. PEPFAR MER 2.7: CD4 Disaggregate Updates
4. Addressing the Shifting CD4 Testing Landscape

The Number of PLHIV Presenting with Advanced HIV Disease (AHD) is Declining, but Gaps Remain

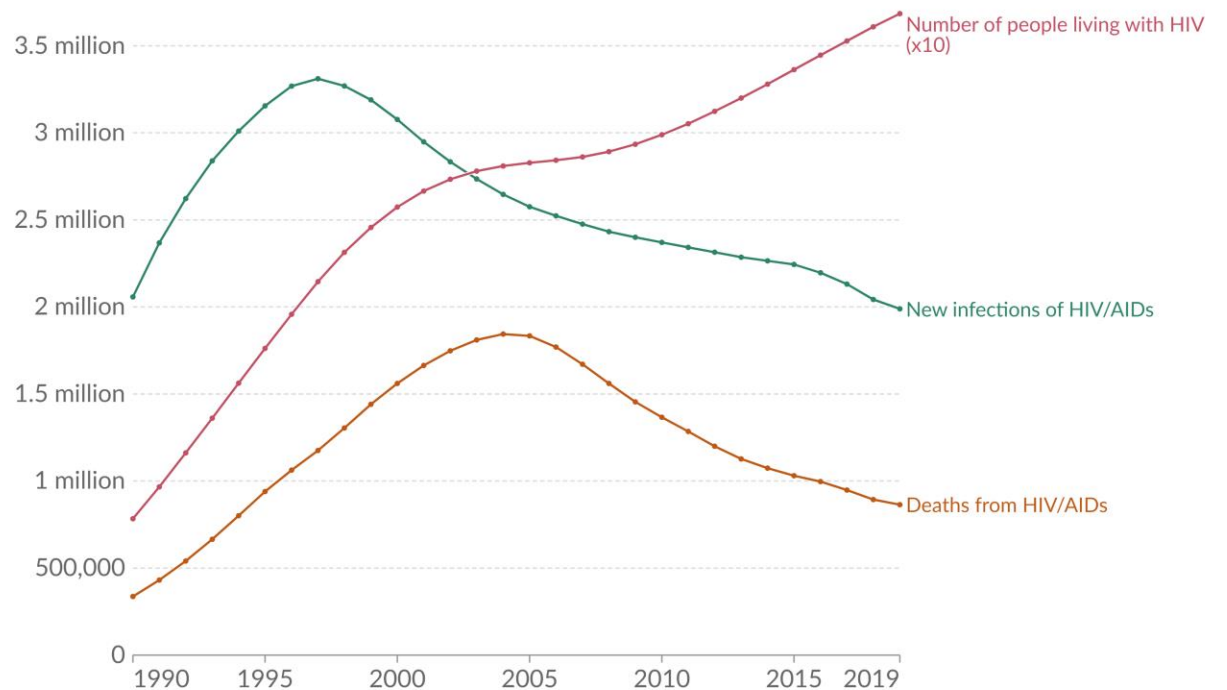
CD4 Testing and Advanced HIV Disease:

- Despite increases in access to expanded HIV testing and antiretroviral therapy (ART), declines in HIV-related deaths have plateaued in recent years.
- Individuals with AHD - CD4 count of less than 200 cells/mm - require a more intensive level of care and experience a greater morbidity and mortality than those without advanced disease.
- CD4 testing is the gateway to AHD care and expanded CD4 testing efforts have led to a decrease in the percentage of patients presenting with AHD. However, many PLHIV – more than one third in some settings – continue to present with AHD.
- There is a need to continue efforts to increase access and optimize CD4 testing for AHD care and management to end HIV/AIDS as a public health threat by 2030.

Prevalence, new cases and deaths from HIV/AIDS, World, 1990 to 2019

Our World
in Data

To fit all three measures on the same visualization the total number of people living with HIV has been divided by ten (i.e. in 2019 there were 36.8 million people living with HIV).



Data source: IHME, Global Burden of Disease (2019)

[OurWorldInData.org/eradication-of-diseases](https://ourworldindata.org/eradication-of-diseases) | CC BY

1. <https://ourworldindata.org/hiv-aids>

2. https://www.who.int/health-topics/hiv-aids#tab=tab_1

PEPFAR Supports CD4 testing for the Identification of Advanced HIV Disease

PEPFAR eligibility criteria for CD4 testing:

1. At initiation of therapy for all individuals over 5 years of age
2. Upon re-initiation into care for those out of care for more than a year
3. For individuals with documented virologic failure, defined as 2 consecutive VL measurements above 1000 copies/ml taken at least 3 months apart with adherence support following the first viral load test

CD4 criteria and definition of AHD:

Adults, adolescents, and children five years or older, advanced HIV disease is defined as having a CD4 cell count <200 cells/mm³ or with current WHO clinical stage 3 or 4 findings. All children under 5 who are not on effective ART are considered to have advanced disease.

PEPFAR 2023 Country and Regional Operational Plan (COP/ROP) Guidance for all PEPFAR-Supported Countries



PEPFAR
20 YEARS OF IMPACT

CD4 testing is supported by PEPFAR to identify individuals with Advanced HIV Disease (AHD). In FY22 alone, PEPFAR supported more than **4,060 PEPFAR facilities to conduct >1.26 million CD4 tests**. During this same period, **eight PEPFAR Operating Units (OUs) procured more than \$2.5 million** in CD4 tests, reagents, and supplies, while other partners continued support for CD4 test implementation.

PEPFAR MER 2.7 Refresh Will Include CD4 Disaggregate for New and Re-Initiating Patients

The PEPFAR **Monitoring, Evaluation, and Reporting (MER)** database is a patient centered tool for providing key data on impact and progress towards ending the HIV/AIDS epidemic by 2030. PEPFAR re-evaluates MER indicators over time to meet programmatic needs.

In FY24, the MER will be restructuring **TX_NEW** and **TX_RTT** with new disaggregates for **CD4 (<200, >=200, Unknown)** by Age, Sex, Key Pops, and IIT.

Expected benefits of new CD4 disaggregate:

- ✓ **Increases programmatic visibility** for Advanced HIV Disease patient management
- ✓ Allows for **targeted programming** directed at reducing mortality from Advanced HIV Disease.

DRAFT MER 2.7 DATIM CD4 Entry Screen

DSD: TX_NEW		- Collapse
Auto-Calculate	Number of adults and children newly enrolled on antiretroviral therapy (ART). Numerator will auto-calculate from Age/Sex Disaggregates	
Numerator	<input type="text"/>	
Subtotal	<input type="text"/>	
Required	Disaggregated by Age/Sex and CD4	
<200 CD4	<input type="text"/>	
Subtotal	<input type="text"/>	
Unknown	<input type="text"/>	
Female	<input type="text"/>	
Age	5-9	10-14
	15-19	20-24
	25-29	30-34
	35-39	40-44
	45-49	50-54
	55-59	60-64
	65+	<input type="text"/>
Subtotal	<input type="text"/>	
Unknown	<input type="text"/>	
Male	<input type="text"/>	
Age	5-9	10-14
	15-19	20-24
	25-29	30-34
	35-39	40-44
	45-49	50-54
	55-59	60-64
	65+	<input type="text"/>
Subtotal	<input type="text"/>	
≥200 CD4	<input type="text"/>	
Subtotal	<input type="text"/>	
Unknown	<input type="text"/>	
Female	<input type="text"/>	
Age	5-9	10-14
	15-19	20-24
	25-29	30-34
	35-39	40-44
	45-49	50-54
	55-59	60-64
	65+	<input type="text"/>
Subtotal	<input type="text"/>	
Unknown	<input type="text"/>	
Male	<input type="text"/>	
Age	5-9	10-14
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	55-59	60-64
	65+	<input type="text"/>
Subtotal	<input type="text"/>	
Unknown CD4	<input type="text"/>	
Subtotal	<input type="text"/>	
Unknown	<input type="text"/>	
Female	<input type="text"/>	
Age	<1	1-4
	5-9	10-14
	15-19	20-24
	25-29	30-34
	35-39	40-44
	45-49	50-54
	55-59	60-64
	65+	<input type="text"/>
Subtotal	<input type="text"/>	
Unknown	<input type="text"/>	
Male	<input type="text"/>	
Age	<1	1-4
	5-9	10-14
	15-19	20-24
	25-29	30-34
	35-39	40-44
	45-49	50-54
	55-59	60-64
	65+	<input type="text"/>
Subtotal	<input type="text"/>	
Conditional	Disaggregated by Age / Sex (Coarse Disaggregate) - USE WITH HQ PERMISSION ONLY <input type="checkbox"/>	
Conditional	Disaggregated by Breastfeeding Status at ART initiation <input type="checkbox"/>	
Required	Disaggregated by key population type: Data on key populations should be reported in both the "Disaggregated by key population type" section and the "Disaggregated by Age/Sex" section.	
PWID	<input type="text"/>	
MSM	<input type="text"/>	
Transgender People	<input type="text"/>	
FSW	<input type="text"/>	
People in prison and other closed settings	<input type="text"/>	
Optional	Disaggregated by Focused Population	
Focused Population	<input type="text"/>	

PEPFAR FY24 Technical Guidance Outlines Key Considerations to Optimize CD4 Testing Network

CD4 testing technology selection should be guided by the health facility capacity to provide reliable, timely, and quality CD4 testing to meet the need for in-country CD4 testing services.

Explore All CD4 Testing Options:

Evaluate CD4 Instrument Fit: All programs should consider using an optimized and quality-assured CD4 testing approaches, whether laboratory-based, near-care, or point-of-care testing (POCT).

Consider POC Testing: Where possible, consideration for POCT and near-care CD4 technology should be given highest priority, including the VISITECT AHD Test.

Leverage Hub-and-Spoke Model: A hub-and-spoke differentiated service delivery approach can help to place key interventions according to the capacity of the health system while maximizing access to these interventions.

Optimize CD4 Testing Network:

To achieve optimal CD4 testing, Ministries of Health and implementing partners should review access of CD4 testing services to support facilities' HIV care and treatment:



Document facilities providing diagnosis and/or care for AHD patients



Estimate number of patients and volumes of CD4 testing needed at each facility



Determine each facility's ability to implement CD4 testing services and the appropriate testing instrument based on demand



Develop specimen referral and result reporting network linking facilities to CD4 testing services without on-site testing



If possible, develop geospatial maps and/or calculations of national and subnational test demand versus existing and/or projected capacity.

The CD4 Testing Landscape is Shifting with the Discontinuation of CD4 Testing Instruments

The landscape of CD4 testing has evolved over time. Multiple instruments and assays have been used to enumerate CD4+ T-cells to identify AHD patients.

Shifting CD4 Testing Landscape:

- Several testing instruments will be discontinued and impact product availability and instrument support services through **December 2024**, including the **Abbott PIMA and BD FACSPRESTO** analyzers
- **BDFACSCOUNT** service and reagent production ending December 2024
- **Cartridge Production and machine service** is continuing for some machines in the near term
- The **VISITECT CD4** AHD test is now available

Table 2: CD4 Testing Landscape

Manufacturer	Instrument	Reagent	Parameters Measured	Unit Cost/ Test® (USD)	Availability and Manufacturer Support Status	Throughput# (Per 8hr)	Approved/ Pre-Qualified	Distribution
BD Biosciences	FACSCanto	TriTest & MultiTest with Trucount Tubes	CD4 & CD4% CD4, CD4%, CD8, & CD8%	\$3 – 7	Active	300	FDA, (WHO)	Amer, Eur, Asia
	FACSCanto II				Active			Worldwide
	FACSLyric Clinical				Active			Worldwide
	FACSCalibur				Analyzer Production Ended: < 2021 Service & Support Ended: 31 Dec 2022			-
	FACSCount	FACSCount Reagent & FACSCount CD4 Reagent	CD4 CD4 & CD8 CD4 & CD4%	\$3.50 – 10	Analyzer Production Ended: 2018 Reagent Last Order: 30 Sep 2024 Service & Reagent End: 31 Dec 2024	50	FDA, WHO	Worldwide
FACSPresto Near-Patient CD4 Counter	FACSPresto Cartridge	CD4, CD4%, & Hgb	\$7 – 10	Analyzer Production End: 24 Jul 2024 Reagent Last Order: 31 Mar 2024 Service & Support End: 30 Jun 2026	75	FDA, WHO	Amer, Africa	
Beckman Coulter Life Science	Aquios CL	Aquios Tetra-1	CD4, CD4%, CD8 & CD8%	\$4 – 12	Active	300	FDA, WHO	Worldwide
	Navios EX	Flowcare PLG	CD4 & CD4%	\$2.50 – 8	Active	300	FDA	Worldwide
	FC500				Analyzer Production Ended: 2011	-	-	-
	Epic				Analyzer Production Ended: 2011	-	-	-
Abbott Alere/Clondig	Pima Analyser	Pima CD4 Cartridge	CD4	\$6	Analyzer Production Ended: May 2022 Service & Cartridge Support: Active	15	WHO	Africa, Latin Am
Omega Accubio		Visitect CD4 Advance Disease	Semi-quantified above or below 200 cells /µL	\$4	Active	10*	WHO	Africa, Latin Am
Sysmex-Partec	CyFlow Counter	CD4 Easy Count	CD4	\$3	Active	150	WHO	Africa, Eur, Asia
	CyFlow Mini	CD4% Easy Count	CD4 & CD4%		Analyzer Production Ended	-	-	-

®Cost/ test are estimated based on manufacturer-list pricing, PEPFAR procurement data, UNITAIDS HIV/AIDS Diagnostic Technology Landscape, and Global Fund data; # Throughput estimated per CD4 test type for an 8-hr workday with data from UNITAIDS HIV/AIDS Diagnostic Technology Landscape, 5th Ed plus reported data; * Throughput based on manual single-test protocol with per-sample test results generated in 40 minutes.

Recommendations and Resources for Addressing the Shifting CD4 Landscape

Recommendations to Prepare for the Changing CD4 Testing Landscape

Step	Recommendation
1) Review CD4 testing need, coverage, capacity, and network	If not already done, conduct a CD4 Network Assessment to identify facilities eligible patients for CD4 testing, CD4-eligible patient volumes, CD4 testing sites, CD4 instruments and assay (capacity), CD4 coverage, network linkage of facilities to testing sites, turnaround times, and utilization, and calculate testing successes and gaps.
2) Identify sites with instruments or tests that are being discontinued	Review each testing site's coverage, capacity, utilization, and turnaround times (if available) against the CD4 testing demand from all referring health facilities. Use the outputs to determine whether: A. CD4 testing services at the site are still required, or whether demand can be met with acceptable turnaround times by another CD4 testing site in the network. B. If continued CD4 testing at the site is required, determine which and how many replacement CD4 instruments or tests of appropriate complexity and capacity could be procured to meet patient testing demand with acceptable turnaround times at programmatically acceptable costs.
3) Develop a plan to ensure CD4 testing need is met and network updates are monitored	Based on (1) and (2) above, develop (or revise) plans for: A. CD4 sample referral network updates (considering integrated sample referral pathways) and/ or procurement of instruments and assays (if required). B. Monitoring the CD4 testing network, including indicators for coverage, turnaround times, and quality.

CD4 Network Assessment (CD4) Tool:

The PEPFAR CD4 Network Assessment Excel Tool is available to guide country partners through facility-level review of their PEPFAR CD4 testing demand. The Tool is designed to:

- 1) Support OUs to identify clinical health facilities and laboratories that should be prioritized for CD4 testing support
- 2) Determine appropriateness of CD4 testing devices in light of discontinuation of some testing instruments
- 3) Inform a network strengthening plan that is tailored to facility-specific patient needs



MOE-2013

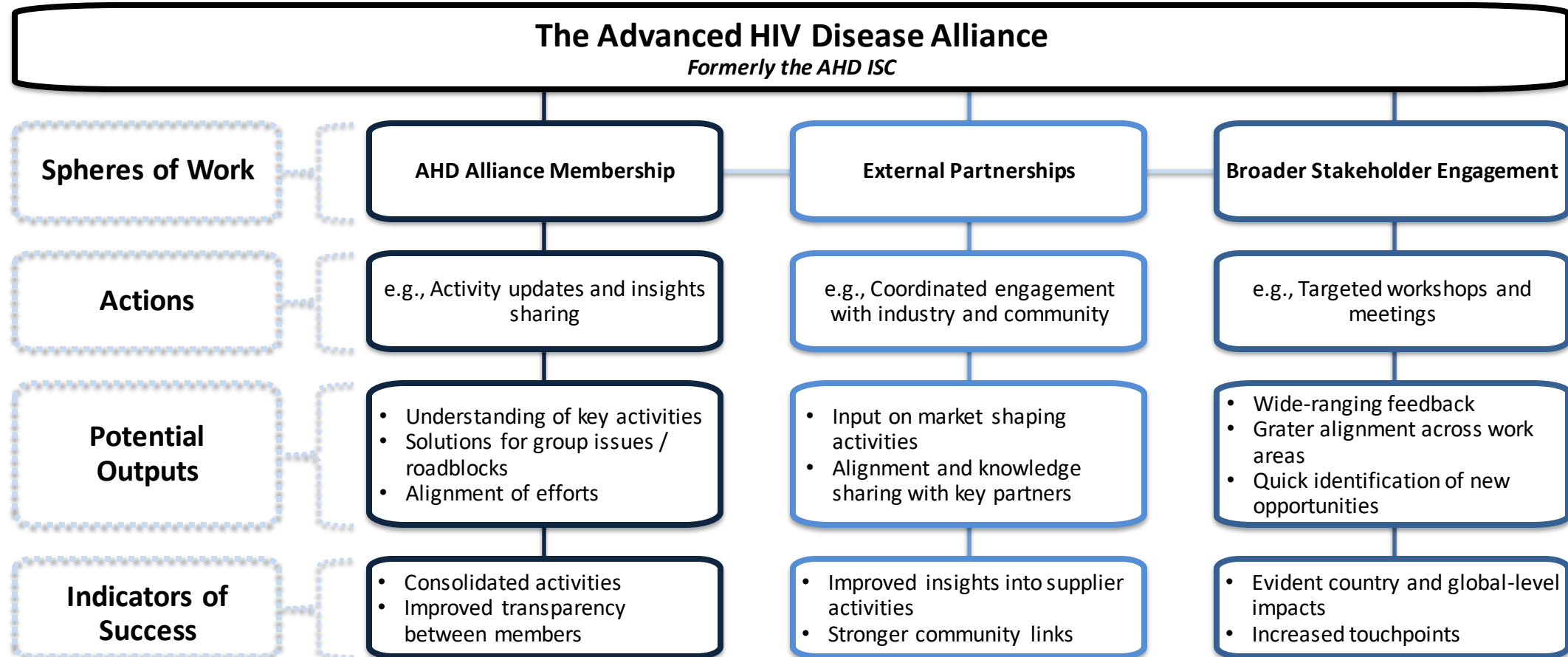
Thank you!

Special Thanks to:
Larry Westerman – USAID CDC, CD4 Network
Optimization

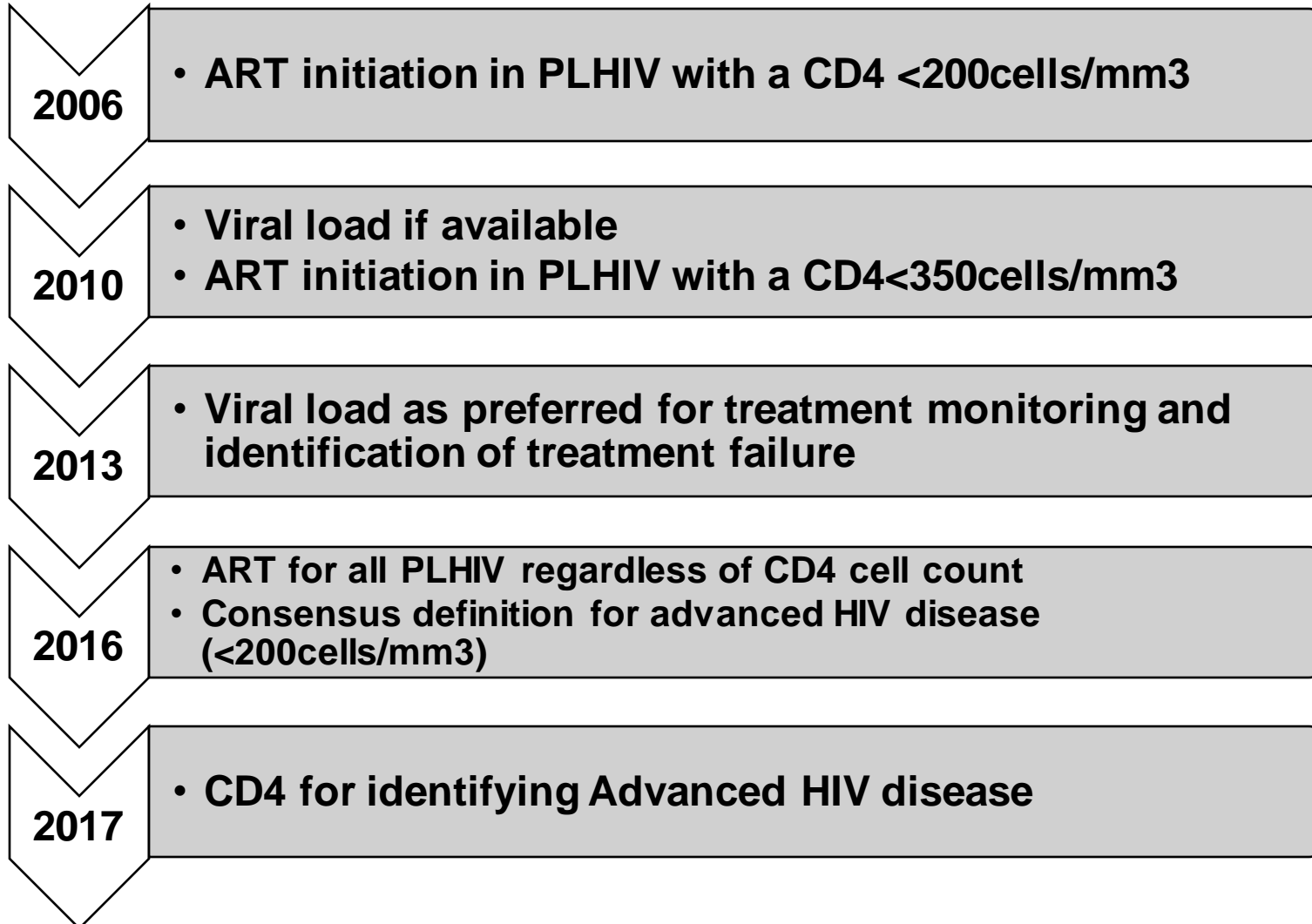


Panel discussion

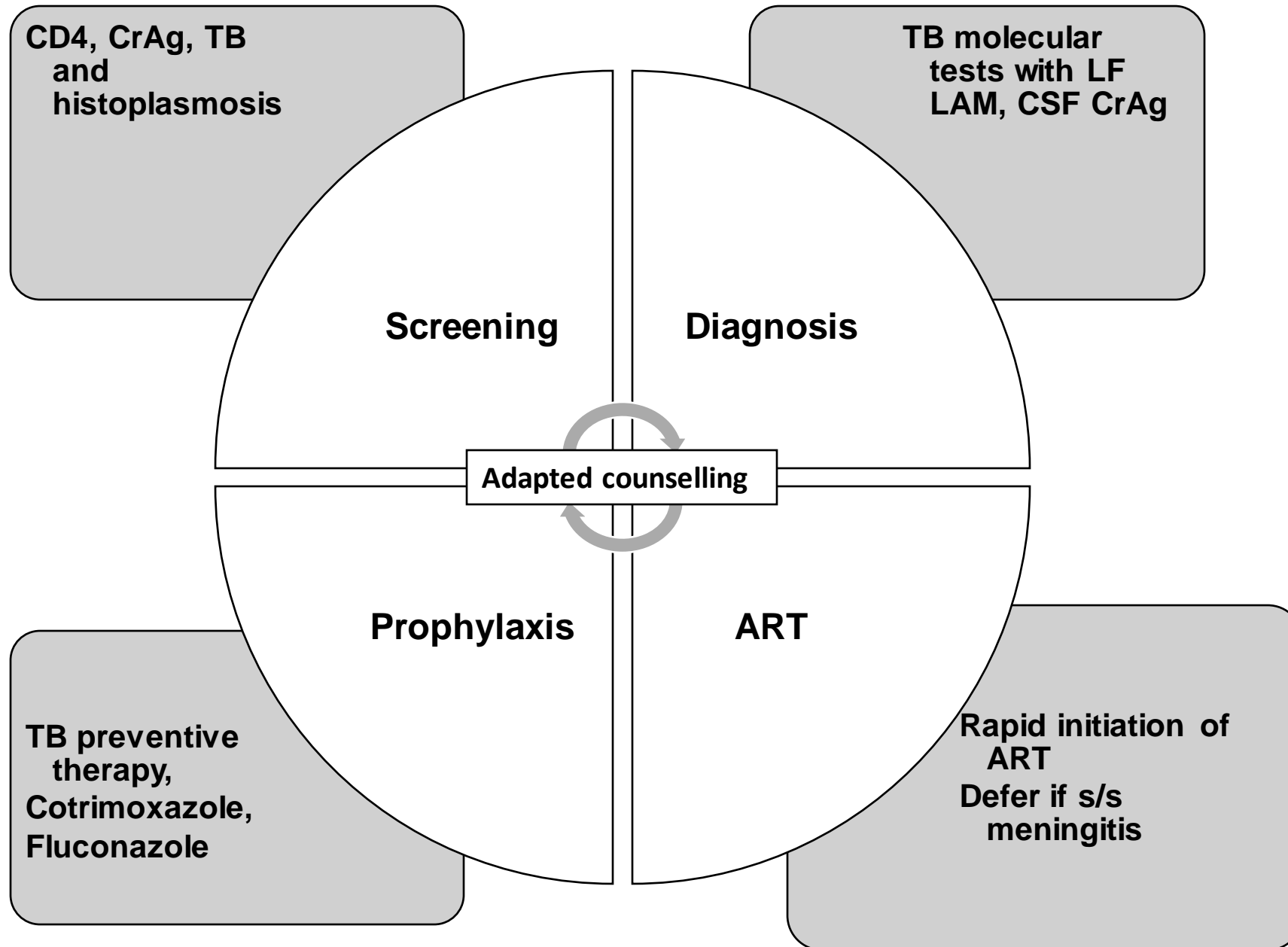
Under the new name “the AHD Alliance”, this group will continue the work of the original AHD ISC, while also focusing on activities and partnerships beyond AHD implementation. This change reflects the evolving scope of this forum as a result of progress within the AHD space.



Why is CD4 testing important? The transitioning of role of CD4 in HIV programs



- What are we doing to help support programs communicate this change of guidance? (Immune status Vs. Treatment monitoring) – i.e., literacy of HCWs.

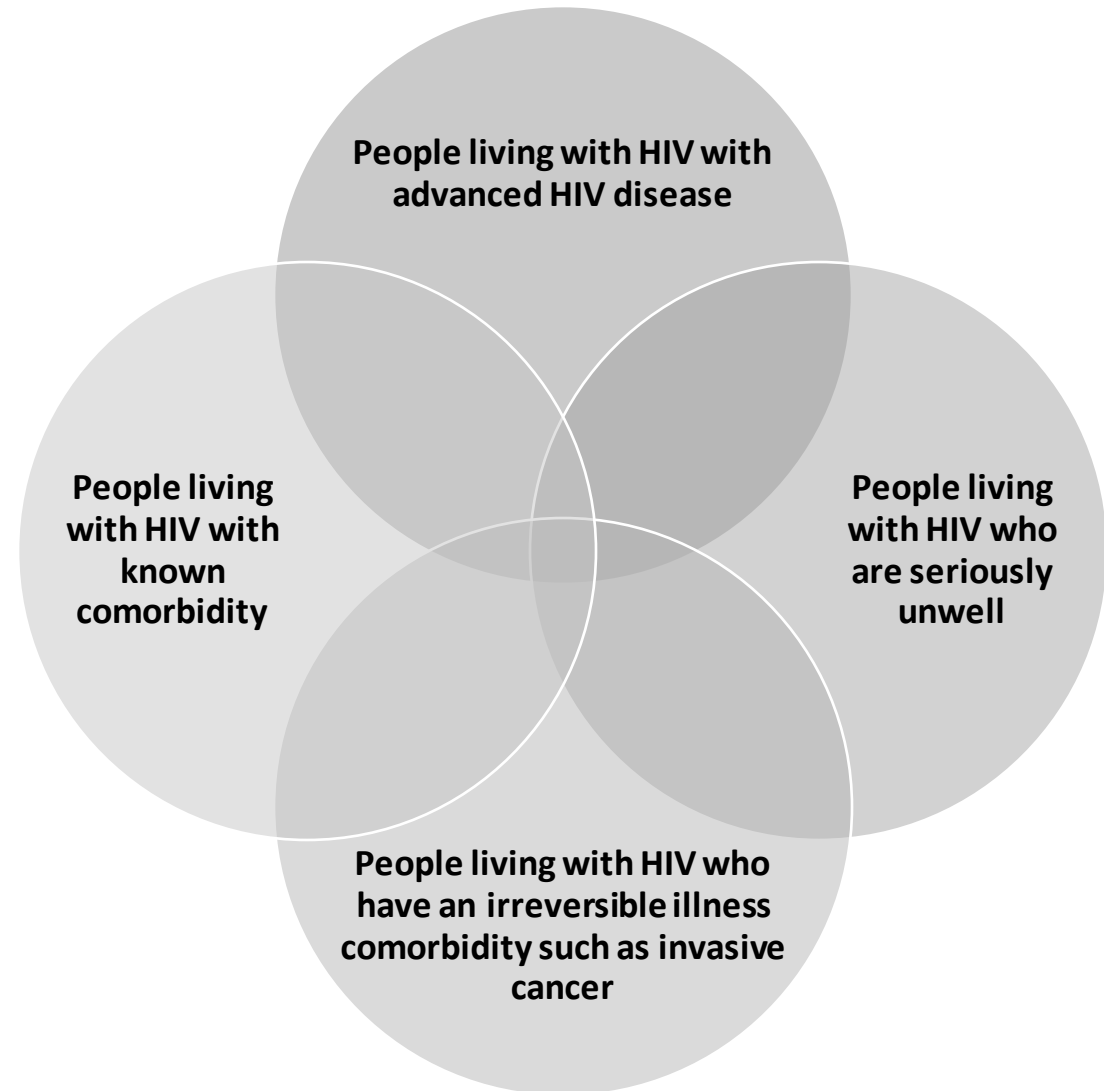


The full WHO recommended AHD package of care for adults and adolescents.

In children: routine cryptococcal antigen screening and pre-emptive therapy are not recommended for children younger than 10 years

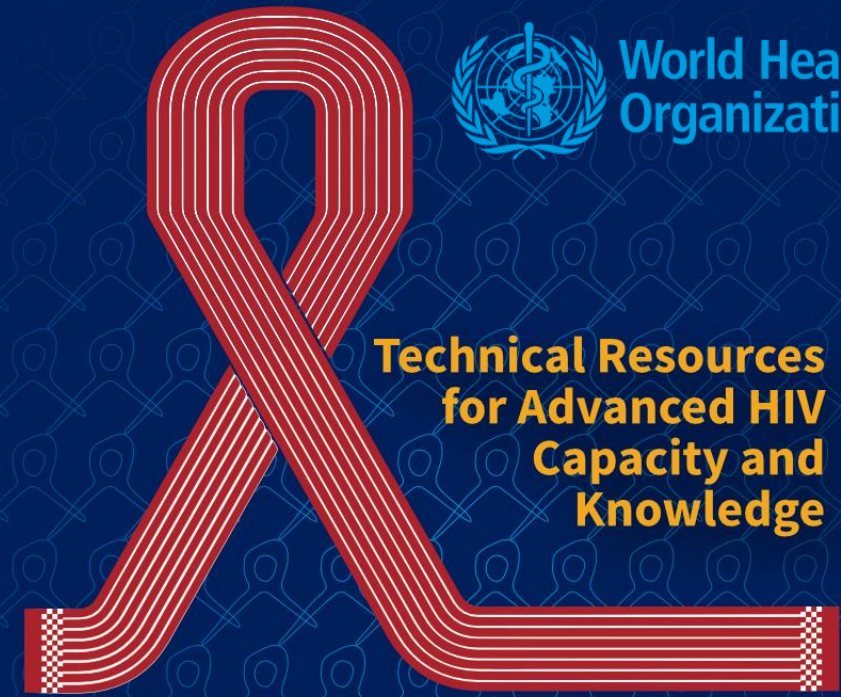
Advanced HIV disease and health-related suffering – a clear need for improved quality and compassionate care.

- A significant number of people living with HIV report at least one unresolved health related complaint
- The impact of co-infections is significant – impacts quality of life and functional status
- Among those who are either unwell or have a co-infection – the types of care interventions needed are different
- Training and sensitization of health care workers can improve outcomes





World Health
Organization



**Technical Resources
for Advanced HIV
Capacity and
Knowledge**

TRACK



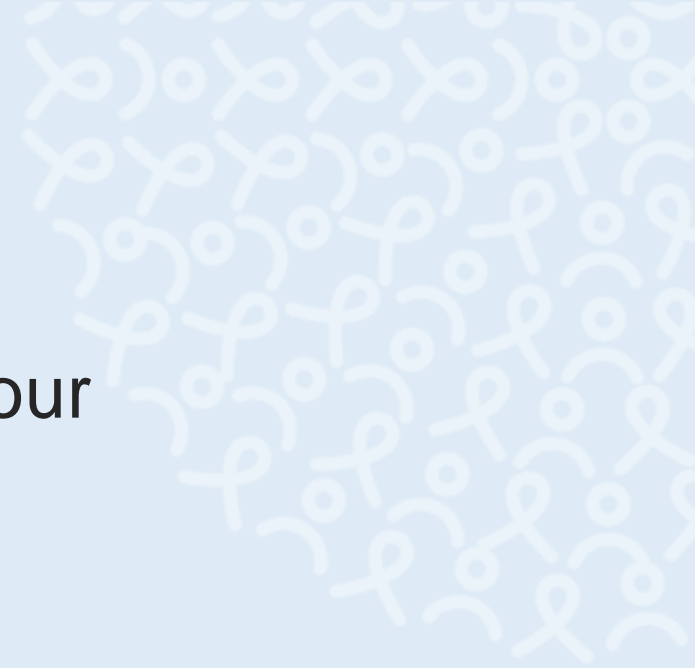
Q & A discussion



Closing remarks

Let's Stay Connected!

- Click [here](#) for more information about EpiC and our resources.
- Subscribe to follow the EpiC project [here](#).





EpiC is a global cooperative agreement dedicated to achieving and maintaining HIV epidemic control. It is led by FHI 360 with core partners Right to Care, Palladium, and Population Services International (PSI).