Strengthening Health Systems to Deliver Advanced HIV Disease Services

A CQUIN Webinar

November 1, 2022

icap Global Health

HIV Learning Network

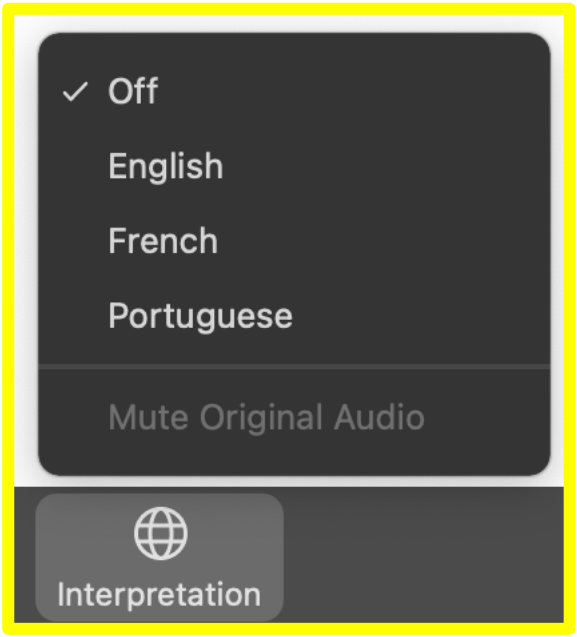
The CQUIN Project for Differentiated Service Delivery

World Health Organization

Dr. Peter Preko,
ICAP/CQUIN

Welcome/Bienvenue/Bem-vindos

- Be sure you have selected the language of your choice using the “Interpretation” menu on the bottom of your screen.
- Assurez-vous d’avoir sélectionné la langue de votre choix à l’aide du menu <<Interprétation>> en bas de votre écran Zoom.
- Certifique-se de ter selecionado o idioma à sua escolha usando o menu de interpretação na parte inferior do seu ecrã



Housekeeping

- 60-minute webinar with framing presentations followed by a panel discussion with Q&A
- Slides and recording will be available on the CQUIN website (www.cquin.icap.columbia.edu)
- Please type questions in the Q&A box located on the toolbar at the bottom of your screen
- If you are a French, English, or Portuguese speaker, please ask your question in your language of choice and the interpreters will translate as needed

Agenda

- Welcome and introductions
  - Peter Preko, ICAP Eswatini
- Presentations
  - Aristide Doroux Billy and Ajay Rangaraj, WHO: Framing Remarks
  - Maureen Syowai, ICAP Kenya: The CQUIN AHD Capability Maturity Model
  - Suilanje Sivile, MOH Zambia: Scaling up high quality AHD services in Zambia
- Panel Discussion
  - Moderators: Peter Preko and Marco Antonio Vitoria, WHO
  - Golé Fulgence Eboumou, MOH Cote d'Ivoire
  - Peter Odenyo, NEPHAK Kenya
  - Stephen Watiti, NAFOPHANU Uganda
  - Maureen Syowai
  - Suilanje Sivile

Framing Remarks

Dr. Ajay Rangaraj
Technical Officer,
Department of Global HIV,
Hepatitis and STI Programmes
WHO

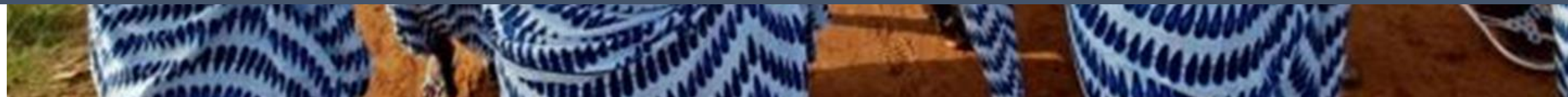
Dr. Aristide Doroux Billy
Consultant, DSD Strategic Initiative
WHO

Framing remarks – updates of ongoing activities at WHO

Dr Billy Aristide: ***Consultant, WHO DSD SI) for HIV ART and AHD and Viral hepatitis Elimination***

Dr Ajay Rangaraj: ***Lead- Advanced HIV disease, Global HIV, Hepatitis and STI programmes, WHO***

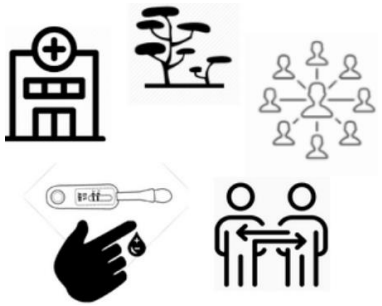
- 4 Oct, 2022



WHO support to the Differentiated Service Delivery Strategic Initiative (DSD SI)

- In 2021, the Global Fund launched the Differentiated Services Delivery (DSD) Strategic Initiatives (SI).
- The DSD SI focuses on achieving public health impact through scaling-up DSD models or service delivery adaptations for testing, treatment, advanced HIV disease and virtual interventions in 10 priority countries (Cote d'Ivoire, Cameroon, Ghana, Guinea, Indonesia, Mozambique, Nigeria, Philippines, Tanzania and Zambia)

Testing and Linkage



DSD for HIV treatment

AHD management package

Virtual interventions

DSD SI objectives

Increase program quality and efficiency along the HIV cascade, through the promotion of best-practices, acceleration of country implementation approaches by leveraging technical assistance that aligns with World Health Organization (WHO) normative guidance.

WHO support to the Differentiated Service Delivery Strategic Initiative (DSD SI)

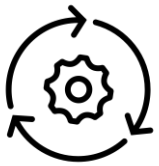
WHO's Role within the DSD SI

- Provides global-level technical guidance, quality assurance, and oversight of the technical assistance delivered by local and international providers to ensure alignment with WHO guidance in the 4 areas covered by the DSD SI.

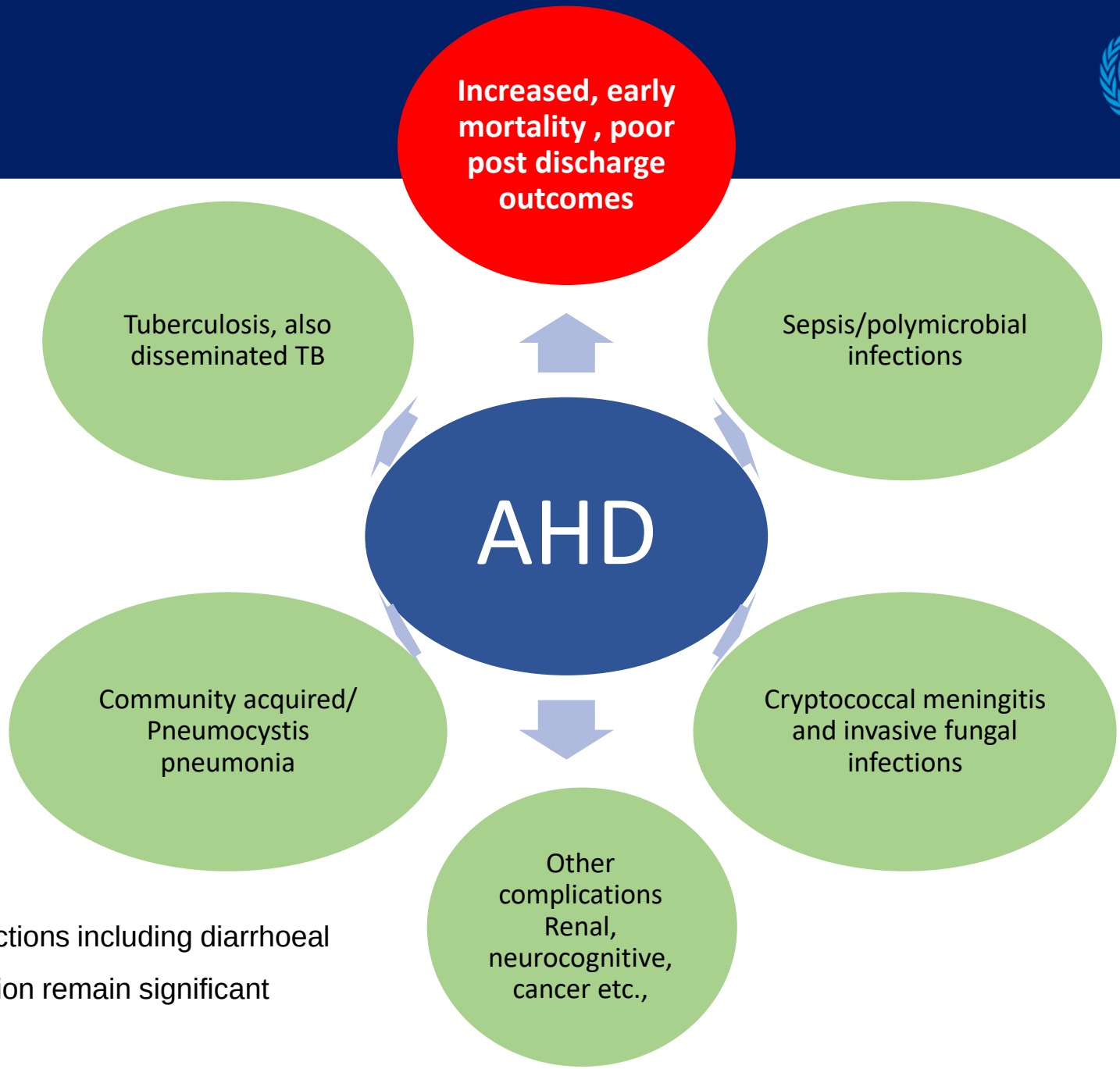
- Countries DSD SI Progress Report Dashboards https://whosi.vercel.app/

Session objectives organized in collaboration with the CQUIN Network:

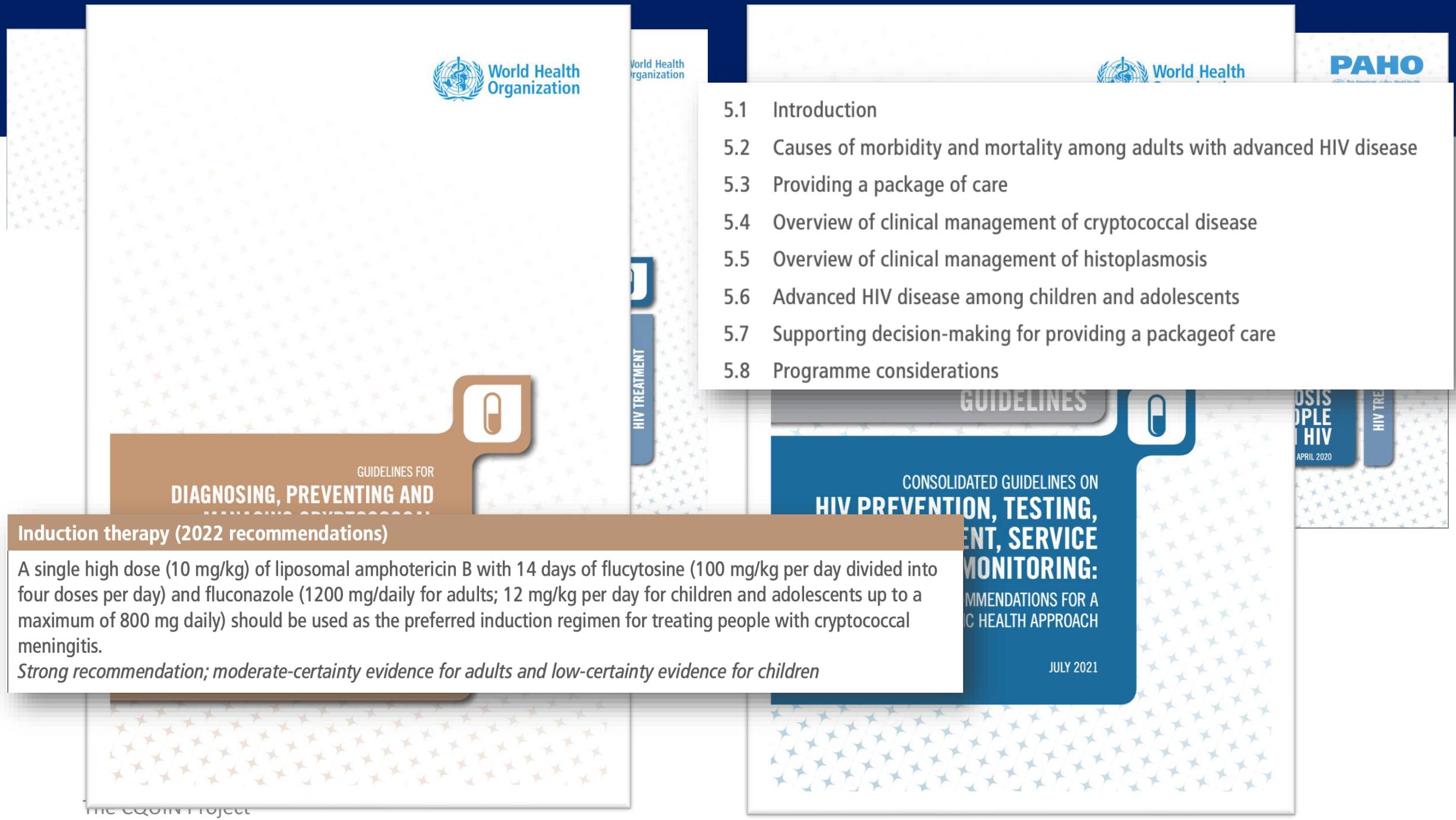
Share experience in the implementation of DSD for AHD by:



- Providing an update on the WHO AHD guidance.
- Presenting the different levels of implementation of DSD AHD in the different countries
- Describing examples of programs that developed AHD dashboards and the impact in improving national AHD systems.



In children – TB, PJP, bacterial infections including diarrhoeal disease and severe acute malnutrition remain significant challenges



Induction therapy (2022 recommendations)

A single high dose (10 mg/kg) of liposomal amphotericin B with 14 days of flucytosine (100 mg/kg per day divided into four doses per day) and fluconazole (1200 mg/daily for adults; 12 mg/kg per day for children and adolescents up to a maximum of 800 mg daily) should be used as the preferred induction regimen for treating people with cryptococcal meningitis.

Strong recommendation; moderate-certainty evidence for adults and low-certainty evidence for children

	Intervention	CD4 cell count	Adults	Adolescents	Children <10 years
Screening and diagnosis	Screening tools for TB disease for adults and adolescents: WHO-recommended four-symptom screen, chest X-ray, C-reactive protein, WHO-recommended molecular rapid diagnostic test for TB, alone or in combination Screening tools for TB disease among children: symptom screening for children living with HIV	Any	Yes	Yes	Yes (symptom screen only)
	WHO-recommended molecular rapid diagnostics as the first test for pulmonary TB diagnosis among those who screen positive for TB and investigations for extrapulmonary TB as applicable; chest X-ray may also be used to support investigations	Any	Yes	Yes	Yes
	LF-LAM to assist TB diagnosis among people with symptoms and signs of TB	≤200 cells/mm³ (inpatient) ≤100 cells/mm³ (outpatient) Or any CD4 count with symptoms or if seriously ill	Yes	Yes	Yes
	Cryptococcal antigen screening	Recommended for <100 cells/mm³ and considered for 200 cells/mm³	Yes	Yes	No
Prophylaxis and pre-emptive treatment	Co-trimoxazole prophylaxis	<350 cells/mm³ or clinical stage 3 or 4 Any CD4 count in settings with high prevalence of malaria or severe bacterial infections	Yes	Yes	Yes For criteria, see Chapter 6
	TB preventive treatment[a]	Any	Yes	Yes	Yes
	Fluconazole pre-emptive therapy for cryptococcal antigen–positive people without evidence of meningitis	<100 cells/mm³	Yes	Yes	Not applicable (screening not advised)
ART initiation	Rapid ART initiation[b]	Any	Yes	Yes	Yes
	Defer initiation if clinical symptoms suggest meningitis (TB or cryptococcal)	Any	Yes	Yes	Yes
Adapted adherence support	Tailored counselling to ensure optimal adherence to the advanced HIV disease package, including home visits if feasible	<200 cells/mm³	Yes	Yes	Yes

[a] TB preventive treatment should be provided in accordance with current WHO guidance *(27)*.

[b] People receiving a positive WHO four-symptom screen should initiate ART while being evaluated for TB if clinical signs and symptoms of meningitis are absent.

This is 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 because of the low prevalence of cryptococcal meningitis in this age group.

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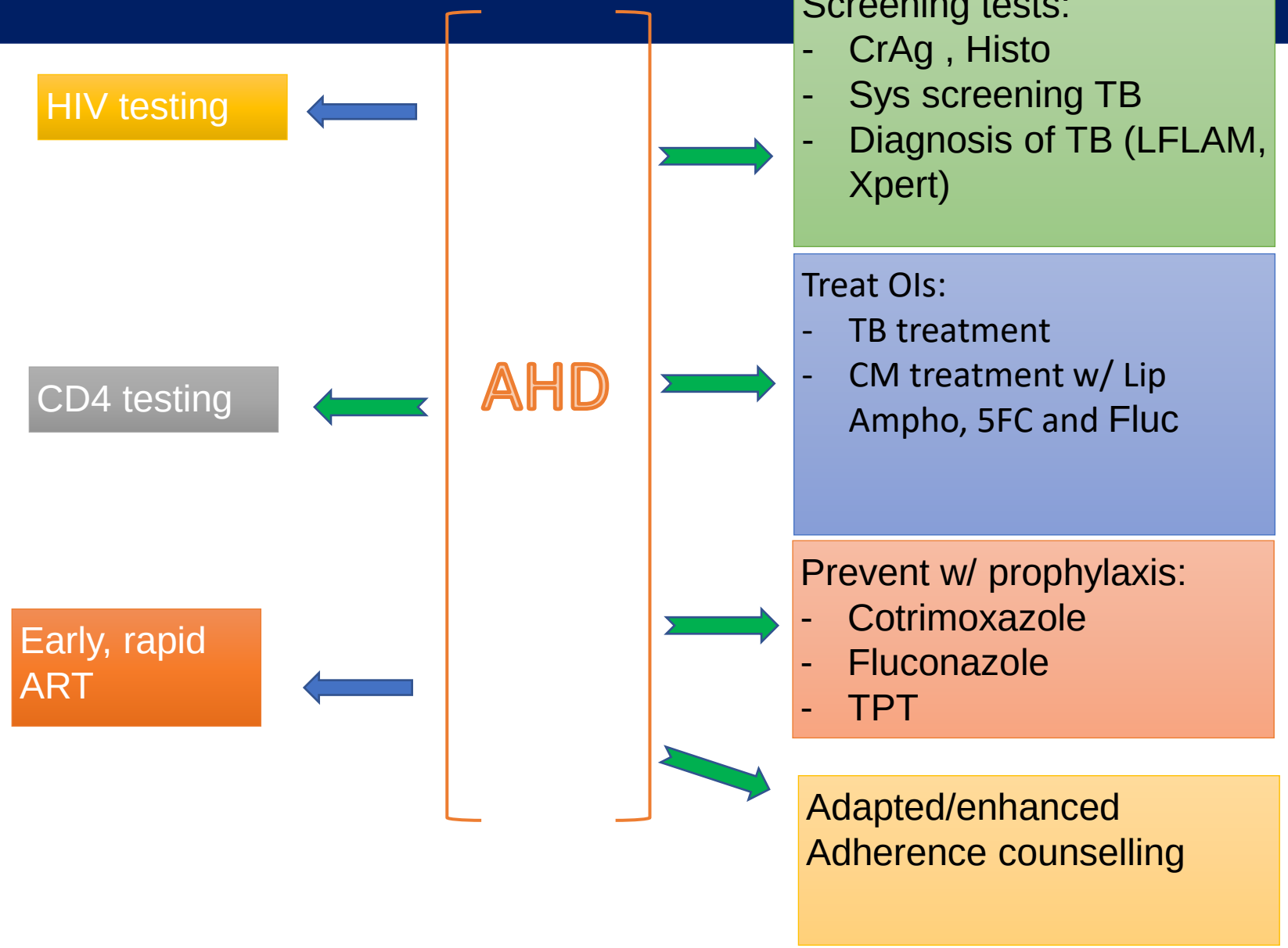
How do current WHO recommendations supported in the new information note map onto the needs for AHD?



Addressing advanced HIV disease in children: “Its not just about ART”

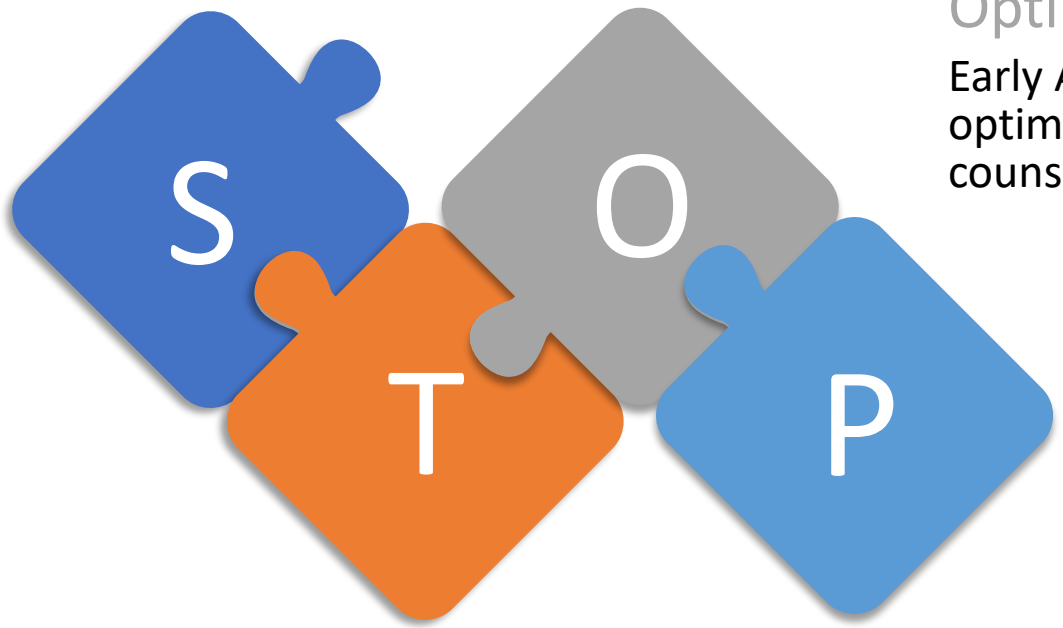
30% of children and adolescents still present with severe immunosuppression

Screen

For TB, cryptococcal disease, developmental delay

Treat

For TB, cryptococcal disease, severe pneumonia



Optimize

Early ART initiation within 7 days, optimal regimen (LPV/R or DTG), counselling

Prevent

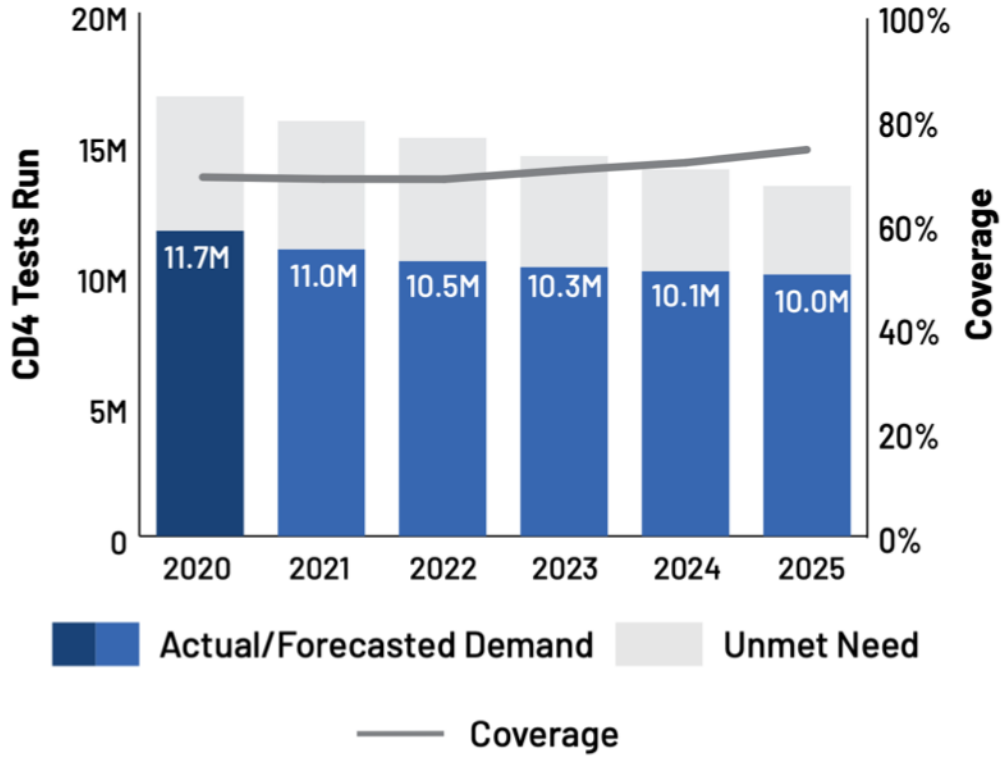
TB, PJP, cryptococcal meningitis, pneumonia and catch-up immunizations

We need to Stop AIDS!

Sources: WHO (2020), Package of CARE for Children and Adolescents with Advanced HIV Disease (AHD): “STOP-AIDS”

The evolution of CD4 testing in people living with HIV

2006	ART initiation of PLHIV with a CD4 ≤200 cells/ul
2010	ART initiation of PLHIV with a CD4 ≤350 cells/ul; viral load suggested
2013	Viral load as the preferred method to identify treatment failure
2016	ART should be initiated in ALL PLHIV, regardless as to CD4 cell count
2017	CD4 is critical to identifying people living with advanced HIV disease



Source: 2021 HIV Market Report, CHAI

CD4 testing options available

TARGET PRODUCT PROFILE

HIV TREATMENT AND CARE TEAM

POINT-OF-CARE CD4 TESTS TO SUPPORT THE IDENTIFICATION OF INDIVIDUALS WITH ADVANCED HIV DISEASE

03 APRIL 2020

World Health Organization

Department of Global HIV, Hepatitis and Sexually Transmitted Infection Programmes

WHO prequalified in vitro diagnostic products – public reports

*Service to be fully discontinued end of 2024

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Don’t forget: other tests are necessary for advanced HIV disease

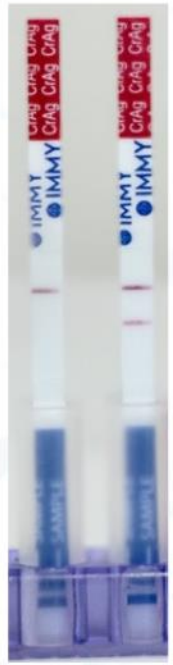
Management of advanced HIV disease

A package of interventions including screening, treatment and/or prophylaxis for major opportunistic infections, rapid ART initiation and intensified adherence support interventions should be offered to everyone presenting with advanced HIV disease.

(Strong recommendation, moderate-quality evidence)

Person living with advanced HIV disease identified by CD4 count < 200 cells/mm^3 or WHO clinical stage 3 or 4

- TB testing: LF-LAM, Xpert, if available
- Other regional co-morbities (ie. histo)
- Crypto screening: CrAg LFA



Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Single high-dose liposomal amphotericin B														
Pre-emptive hydration and electrolyte supplementation (adults and adolescents)														
1 litre of normal saline solution with 20 mEq KCl over two hours before infusion	X													
8-mEq KCl tablets orally (twice daily)	X	X	X											
Magnesium supplementation if available[a]	X	X	X											
Monitoring (adults, adolescents and children)														
Serum potassium	X		X											
Serum creatinine	X		X											
Haemoglobin	X						X[b]							

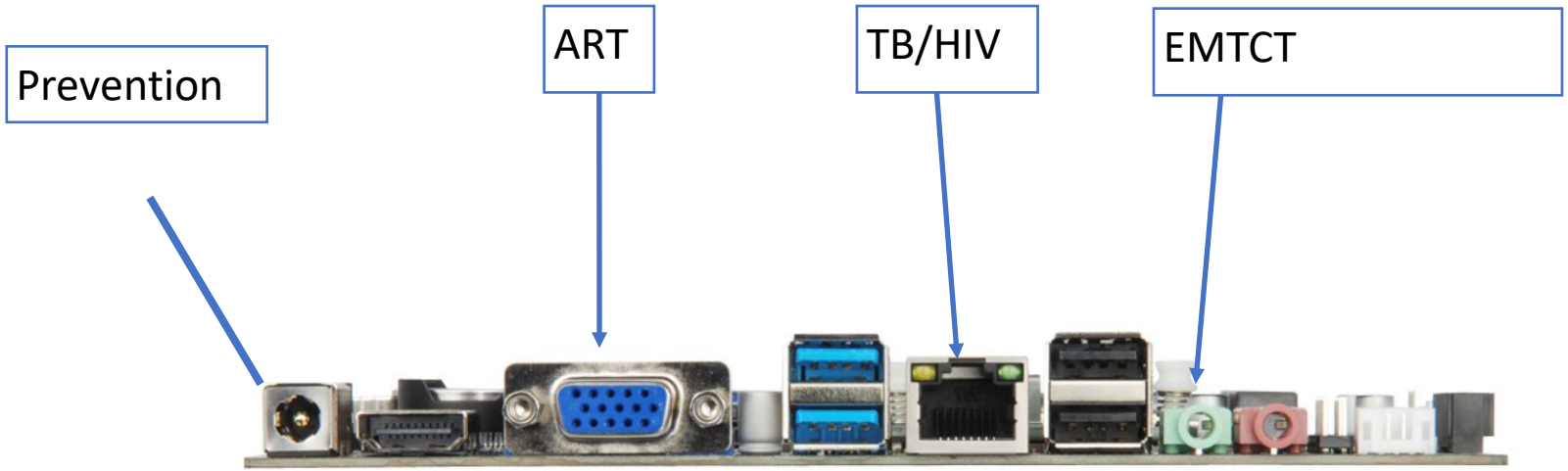
[a] 250-mg tablets of magnesium trisilicate or glycerophosphate twice daily or magnesium chloride 4 mEq twice daily.

[b] If still in hospital.

comparison

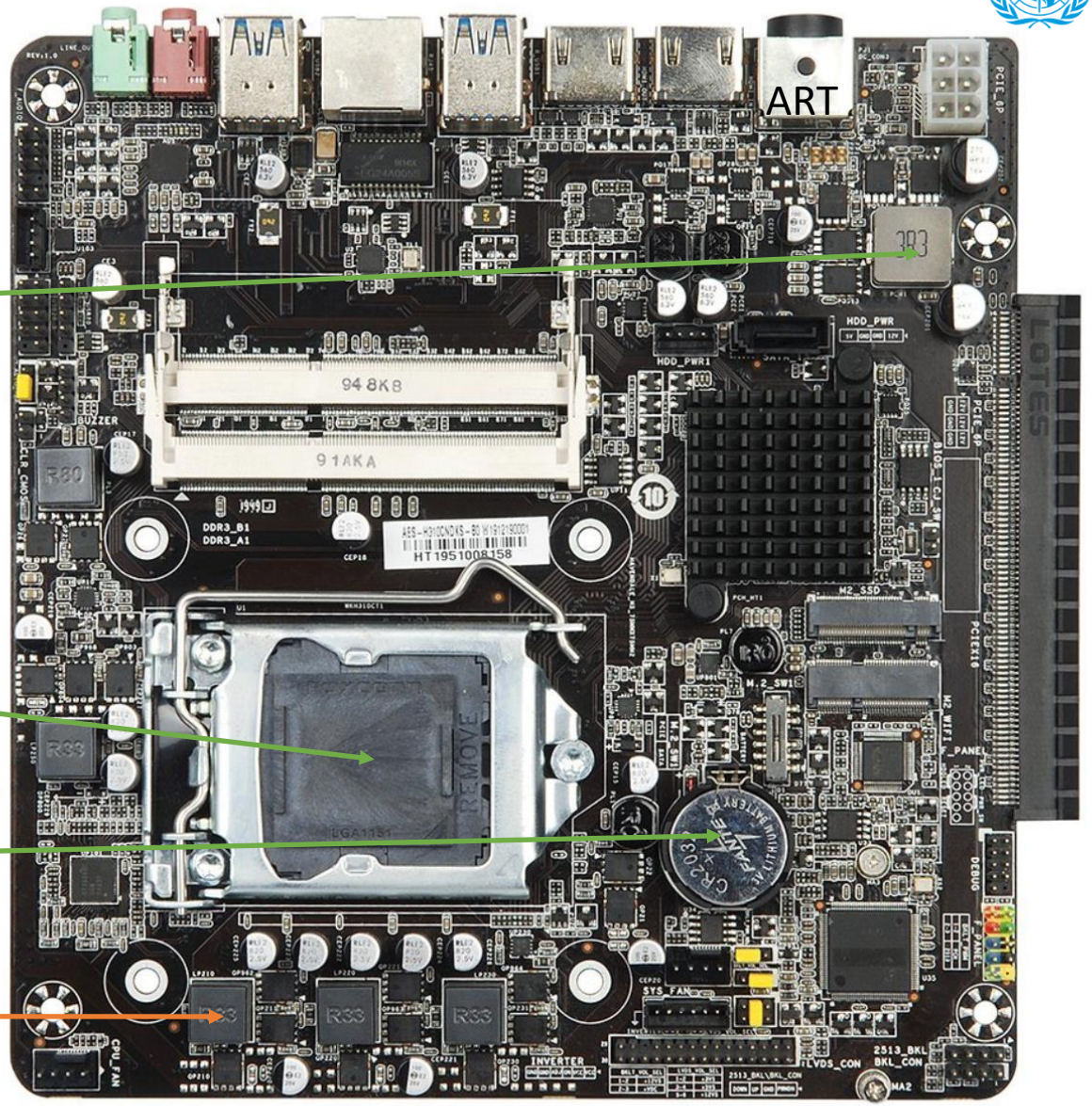
Other significant updates

- Recent report on WHO consultation on Severe Bacterial infections - considerations for future research
- Ongoing UNAIDS country meeting for maximizing applications for 2022-2023 Global fund cycle in Nairobi, Kenya
  - An AHD clinic was conducted to highlight key issues, considerations and areas of focus for AHD package
  - AHD package is now considered a “Program essential” in new information note
- Upcoming regional consultations and workshops on AHD in 2023 to support scale-up and south-south knowledge sharing
- New policy briefs anticipated by Q1 2023 on AHD diagnostics as well as AHD and hospitalisations



When we examine problems in a vertical way, it often fails to capture how the inputs and outputs are related to each other, as well as what problems remain unsolved.

All that's needed is a change of perspective.



Thank you for your time

CQUIN's AHD Capability Maturity Model

Dr. Maureen Syowai,
CQUIN Deputy Director/Technical
ICAP in Kenya

CQUIN AHD capability maturity model: self-staging results and AHD system strengthening

Dr Maureen Syowai Kathuku
CQUIN Project Deputy Director

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Outline

- Background
- Methods
- Lessons Learned
    - Summary of AHD Domain Findings from the Treatment CMM
    - Summary of CQUIN AHD CMM findings
    - AHD diagnostic capacity
    - AHD facility coverage
    - AHD patient coverage
- Key take-away messages

Background

- The **CQUIN network** is a 21-country African learning network funded by the Bill & Melinda Gates Foundation and convened by ICAP at Columbia University
- CQUIN's focus is on accelerating the scale-up of high-quality **HIV differentiated service delivery (DSD)**
- There is high interest in improving the coverage and quality of services for **advanced HIV disease** amongst ministry of health (MOH) partners, recipients of care, and other stakeholders, given:
  - AHD is seen in ~ one-third of people presenting for HIV care[1] with a wide range from 14.5% in Uganda to 29.8% in Cameroon[2]
  - Although HIV mortality is falling, it is not falling fast enough - the world is not on track to meet 2025 targets

[1]Carmona S, Bor J, Nattey C, Maughan-Brown B, Maskew M, Fox MP, et al. Persistent high burden of advanced HIV disease among patients seeking care in South Africa's National HIV Program: data from a Nationwide Laboratory Cohort. Clin Infect Dis. 2018;66(2):S111–7.
[2]Lamp K, McGovern S, Fong Y, Atem CD, Nfetam JBE, Nzuobontane D, et al. (2020) Proportions of CD4 test results indicating advanced HIV disease remain consistently high at primary health care facilities across four high HIV burden countries. PLoS ONE 15(1): e0226987. https://doi. org/10.1371/journal.pone.0226987

Background – 2

- Recognizing the complexity involved in strengthening health systems to improve AHD service delivery, the CQUIN network community of practice on AHD developed the **CQUIN AHD Capability Maturity Model** linked to the AHD domain in the **CQUIN Treatment Capability Maturity Model**
- Capability maturity models represent a systems strengthening approach that:
  - ✓ Identifies core functions/domains in which capability is required to achieve system goals
  - ✓ Describes sequential stages of maturity within each domain using qualitative and/or quantitative measures that describe a stepwise progression
  - ✓ Sets a clear path toward achieving maturational goals
- The CQUIN network provides support to multidisciplinary country teams, led by MOH, to conduct **self-assessments** using the AHD CMM

Methods

- The AHD CMM was **developed by the CQUIN AHD community of practice**, led by ICAP at Columbia and including participants from 6 countries, including MOH, people living with HIV, implementing partners and other key stakeholders
- The CMM has 18 domains, each with five stages of maturity

RED	ORANGE	YELLOW	LIGHT GREEN	DARK GREEN
Early or preliminary stages of planning and development; Useful in identifying next steps to take in the scale-up process	Work has begun and the initial efforts are ongoing; Highlights areas that can prioritized for improvement	Efforts have resulted in measurable progress, such as a draft for review or achievement of more than 25% progress to a target	Considerable progress has been made, resulting in over 50% progress to a target or working systems only in need of finalization	Achievement of a highly-evolved implementation of the domain; Further improvements and refinements can be made as needed

- It was piloted by five countries in 2021 and scaled-up in 2022
- By June 2022, **13 countries** had conducted self-staging with the CQUIN AHD CMM:
  DRC, Cote d'Ivoire, Eswatini, Ethiopia, Kenya, Malawi, Mozambique, Nigeria, Sierra Leone, South Africa, Tanzania, Uganda, and Zambia

AHD Domain in the Treatment CMM

AHD	The national HIV treatment policy does not include a national strategy or framework for AHD identification (e.g., services to identify PLHIV with low CD4) and management **AND** the national HIV treatment guidelines do not define a minimum[1] package of AHD services	The national HIV treatment policy includes a national strategy or framework for AHD identification and management **AND/OR** the national HIV treatment guidelines define a minimum package of AHD services	The national HIV treatment policy includes a national strategy or framework for AHD identification and management **AND** the national HIV treatment guidelines define a minimum package of AHD services **AND** a national AHD implementation plan has been developed and is actively being implemented nationwide	The country has completed the CQUIN AHD dashboard in the past 24 months and scored dark green in at least the 7 specific domains listed in the footnote[2]	The country has completed the CQUIN AHD dashboard in the past 24 months and in addition to achieving the light green stage, the country also has scored dark green in the 7 additional domains listed in the footnote[3]

[1]By "minimum package" we mean the nationally agreed upon combination of screening, diagnostic and management services to support PLHIV with advanced HIV disease, adapted from existing global guidance on the AHD package of care.

[2]The seven domains required for light green status include: policy, guidelines, national AHD implementation plan, standard operating protocols, coordination, engagement of recipients of care, and training

[3]The seven additional domains required for dark green status are diagnostic capability 1 & 2; patient coverage 1,2,3 and 4; and supply chain management for AHD commodities

AHD Domain Findings from the Treatment CMM

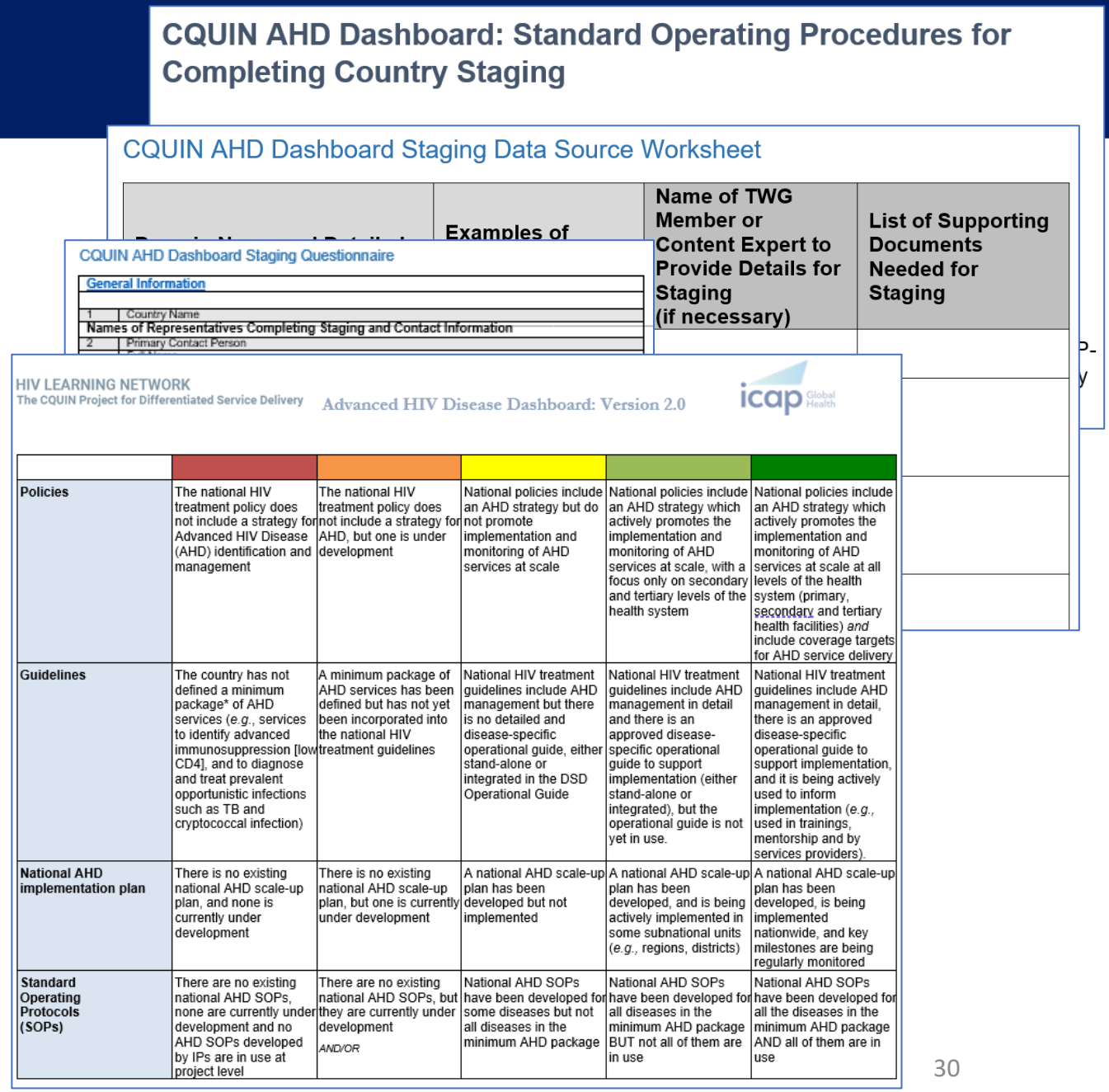
Country	Advanced HIV Disease
Burundi	
Cameroon	
Cote d'Ivoire	
DR Congo	
Eswatini	
Ethiopia	
Ghana	
Kenya	
Liberia	
Malawi	
Mozambique	
Nigeria	
Rwanda	
Senegal	
Sierra Leone	
South Africa	
Tanzania	
Uganda	
Zambia	
Zimbabwe	

No.	Advanced HIV Disease	Stacked by Maturity
1		The country has completed the CQUIN AHD dashboard in the past 24 months and scored dark green in at least the 7 specific domains listed in the footnote[2]
2		
3		The national HIV treatment policy includes a national strategy or framework for AHD identification and management **AND** the national HIV treatment guidelines define a minimum package of AHD services **AND** a national AHD implementation plan has been developed and is actively being implemented nationwide
4		
5		
6		
7		
8		
9		The national HIV treatment policy includes a national strategy or framework for AHD identification and management **AND/OR** the national HIV treatment guidelines define a minimum package of AHD services
10		
11		
12		
13		
14		
15		
16		
17		
18		The national HIV treatment policy does not include a national strategy or framework for AHD identification (e.g., services to identify PLHIV with low CD4) and management **AND** the national HIV treatment guidelines do not define a minimum[1] package of AHD services
19		
20		

AHD CMM Toolkit

Complete AHD CMM Package:

- CQUIN AHD CMM Staging SOP
- CQUIN AHD CMM Staging Data Source Worksheet
- CQUIN AHD CMM Staging Questionnaire
- CQUIN AHD CMM Version 2.0
- CQUIN AHD CMM Staging Meeting Roster



CQUIN AHD Dashboard: Standard Operating Procedures for Completing Country Staging

CQUIN AHD Dashboard Staging Data Source Worksheet

	Examples of	Name of TWG Member or Content Expert to Provide Details for Staging (if necessary)	List of Supporting Documents Needed for Staging

CQUIN AHD Dashboard Staging Questionnaire

General Information

1	Country Name

Names of Representatives Completing Staging and Contact Information

2	Primary Contact Person

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Advanced HIV Disease Dashboard: Version 2.0

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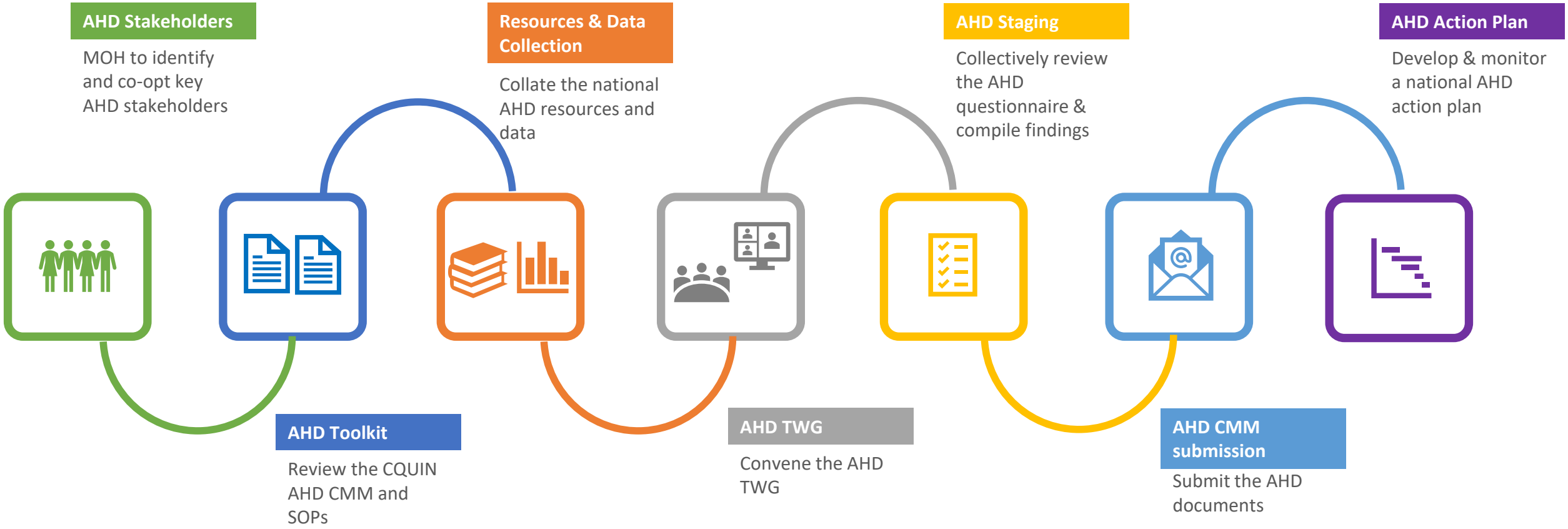
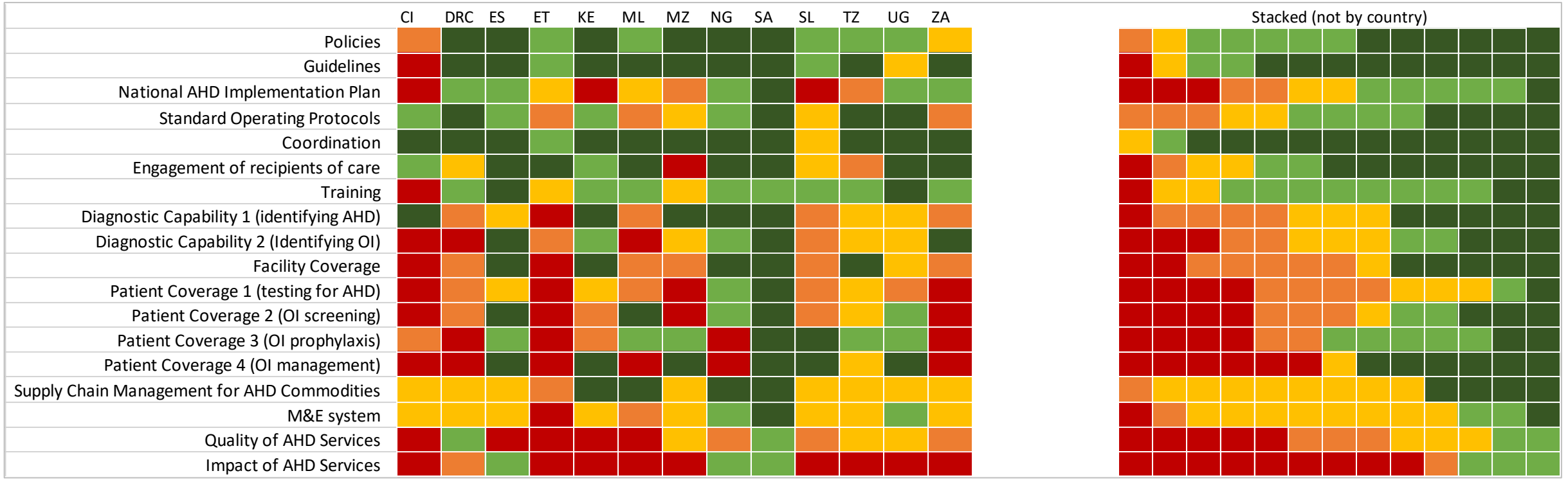
Policies	The national HIV treatment policy does not include a strategy for Advanced HIV Disease (AHD) identification and management	The national HIV treatment policy does not include a strategy for AHD, but one is under development	National policies include an AHD strategy but do not promote implementation and monitoring of AHD services at scale	National policies include an AHD strategy which actively promotes the implementation and monitoring of AHD services at scale, with a focus only on secondary and tertiary levels of the health system	National policies include an AHD strategy which actively promotes the implementation and monitoring of AHD services at scale at all levels of the health system (primary, secondary and tertiary health facilities) *and* include coverage targets for AHD service delivery
Guidelines	The country has not defined a minimum package* of AHD services (*e.g.*, services to identify advanced immunosuppression [low CD4], and to diagnose and treat prevalent opportunistic infections such as TB and cryptococcal infection)	A minimum package of AHD services has been defined but has not yet been incorporated into the national HIV treatment guidelines	National HIV treatment guidelines include AHD management but there is no detailed and disease-specific operational guide, either stand-alone or integrated in the DSD Operational Guide	National HIV treatment guidelines include AHD management in detail and there is an approved disease-specific operational guide to support implementation (either stand-alone or integrated), but the operational guide is not yet in use.	National HIV treatment guidelines include AHD management in detail, there is an approved disease-specific operational guide to support implementation, and it is being actively used to inform implementation (*e.g.*, used in trainings, mentorship and by services providers).
National AHD implementation plan	There is no existing national AHD scale-up plan, and none is currently under development	There is no existing national AHD scale-up plan, but one is currently under development	A national AHD scale-up plan has been developed but not implemented	A national AHD scale-up plan has been developed, and is being actively implemented in some subnational units (*e.g.*, regions, districts)	A national AHD scale-up plan has been developed, is being implemented nationwide, and key milestones are being regularly monitored
Standard Operating Protocols (SOPs)	There are no existing national AHD SOPs, none are currently under development and no AHD SOPs developed by IPs are in use at project level	There are no existing national AHD SOPs, but they are currently under development *AND/OR*	National AHD SOPs have been developed for some diseases but not all diseases in the minimum AHD package	National AHD SOPs have been developed for all diseases in the minimum AHD package BUT not all of them are in use	National AHD SOPs have been developed for all the diseases in the minimum AHD package AND all of them are in use

Process of self-staging with the AHD CMM



Regular staging using the AHD capability maturity model is recommended with frequent monitoring of the AHD action plan

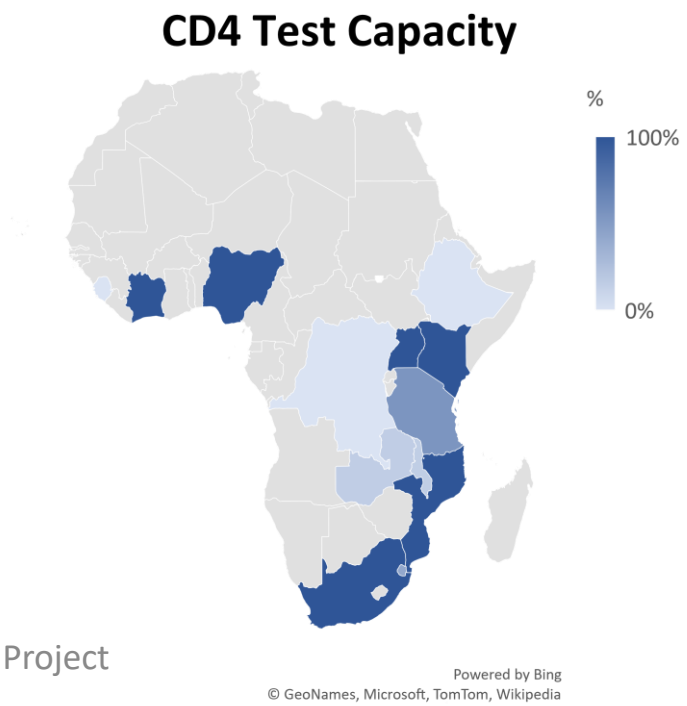
CQUIN AHD CMM findings

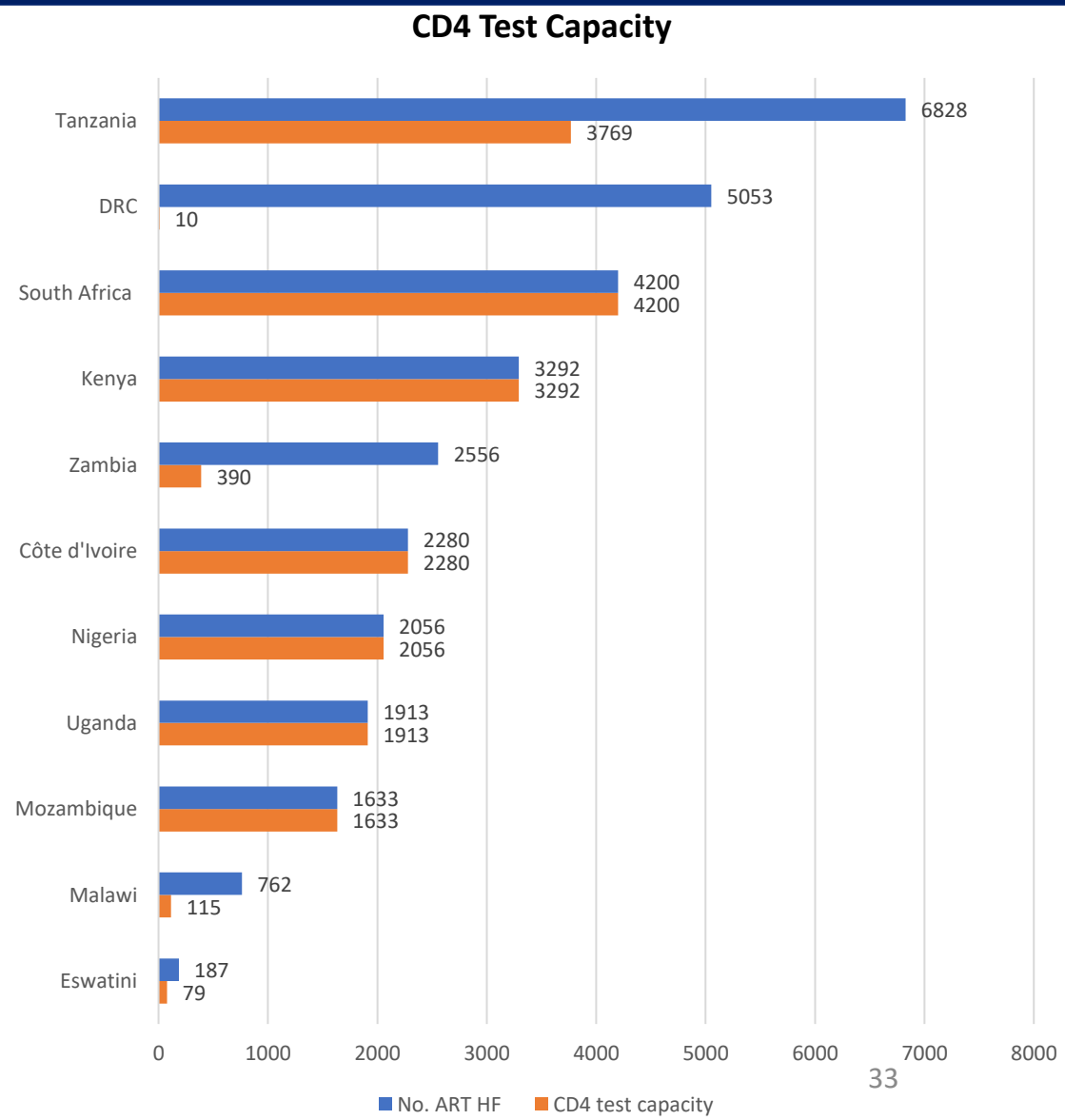


- CQUIN AHD CMM findings by country shows variability in maturity of country health systems in supporting the implementation of the AHD package of care with many countries being in the early stages of AHD program implementation

AHD diagnostic capacity (N=11)

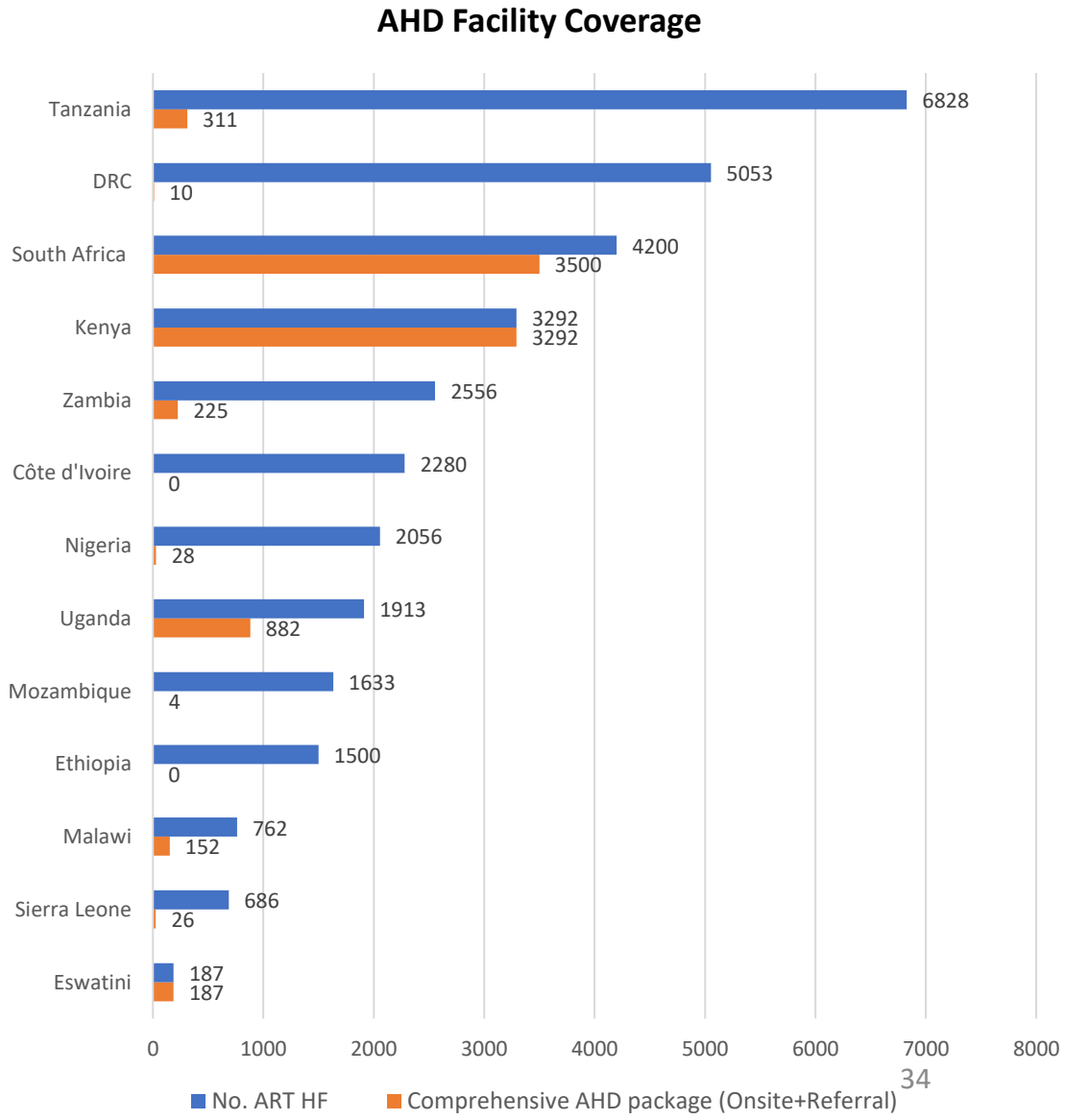
- Data submitted by eleven out of thirteen countries showed **64%** (19,737/30,760) of HF have CD4 access either on site or through established referral systems
- Data from nine countries with on-site CD4 diagnostic capability data, showed the ratio of on-site vs referral for CD4 testing was 1:2.1 [Range: 1:1 to 1:505]





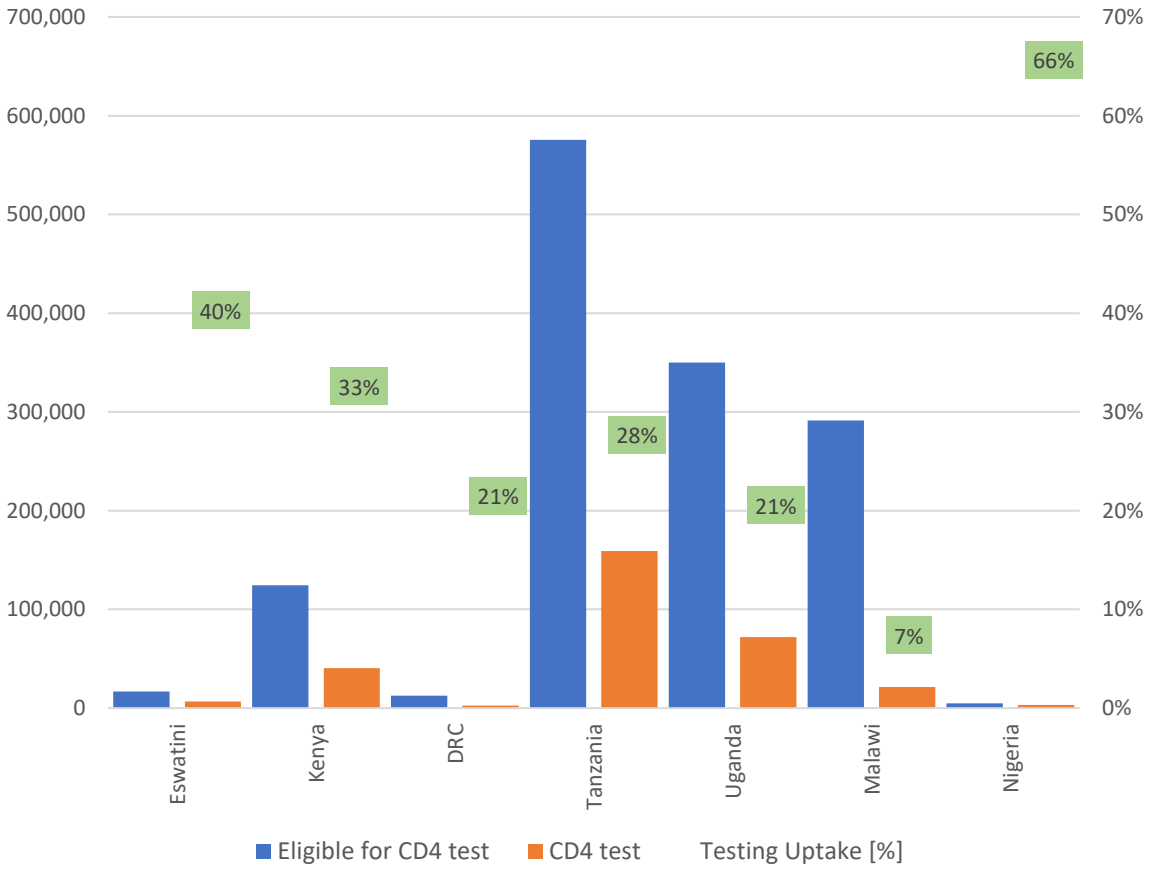
AHD facility coverage (N = 13)

- AHD facility coverage was determined by countries as the % of health facilities with ART providing the minimum package of AHD services (on site or by referral)
- Overall, **26%** (8,617/32,946) of HF provided the comprehensive AHD Minimum Package of care either onsite or through referral mechanisms
- AHD Minimum Package – This refers to a nationally agreed upon combination of screening, diagnostic and management services to support PLHIV with advanced HIV disease adapted from existing global guidance on the AHD package of care

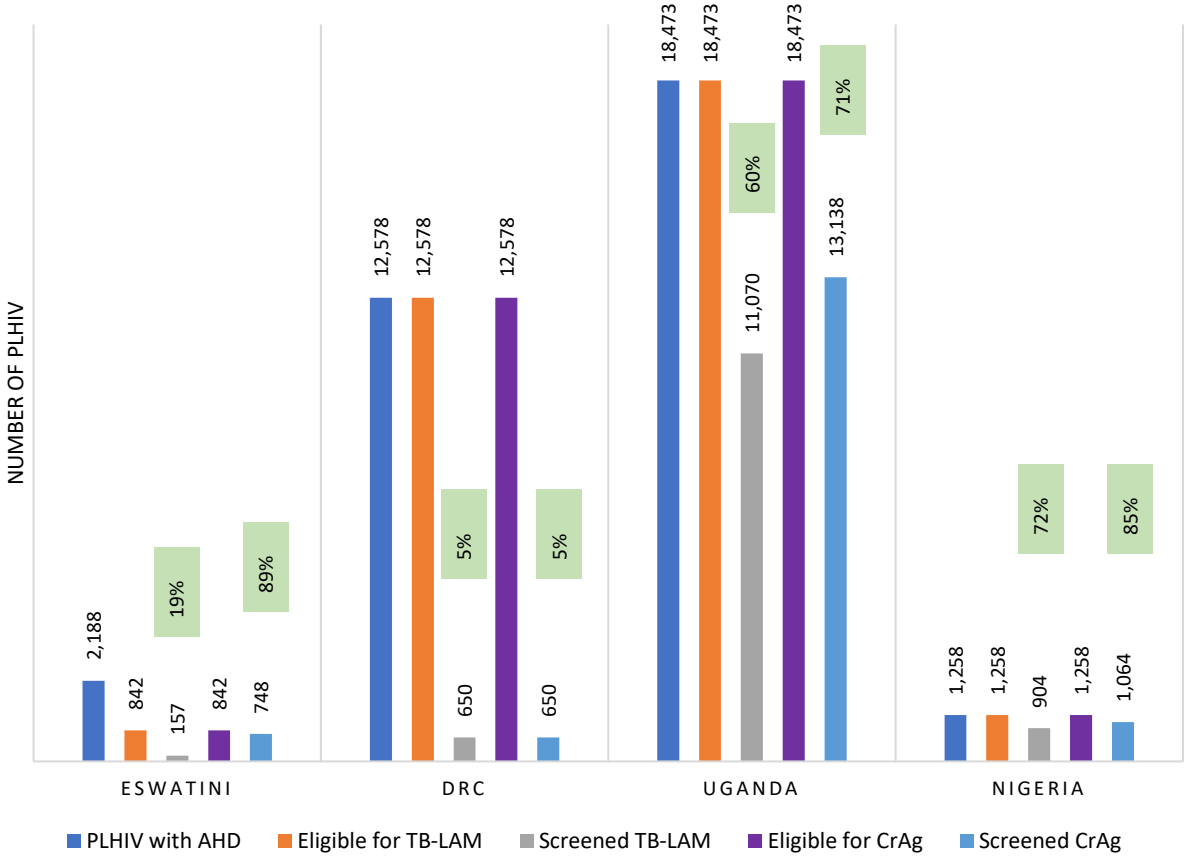


AHD patient coverage

1. CD4 Testing Uptake (N = 7 countries)

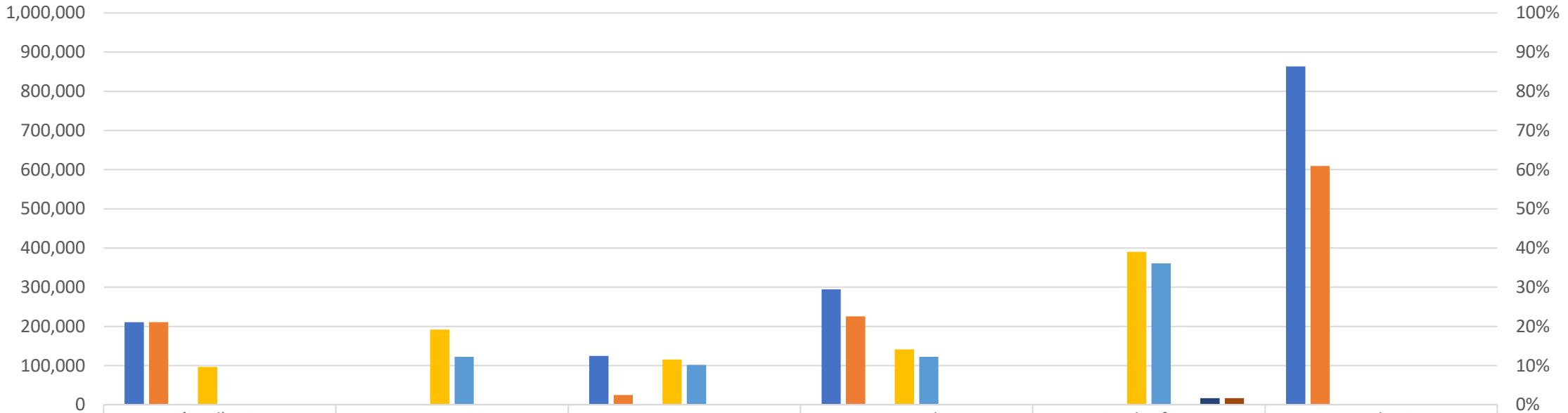


2. OI Screening: TB-LAM and CrAg screening (N = 4 countries)



AHD patient coverage

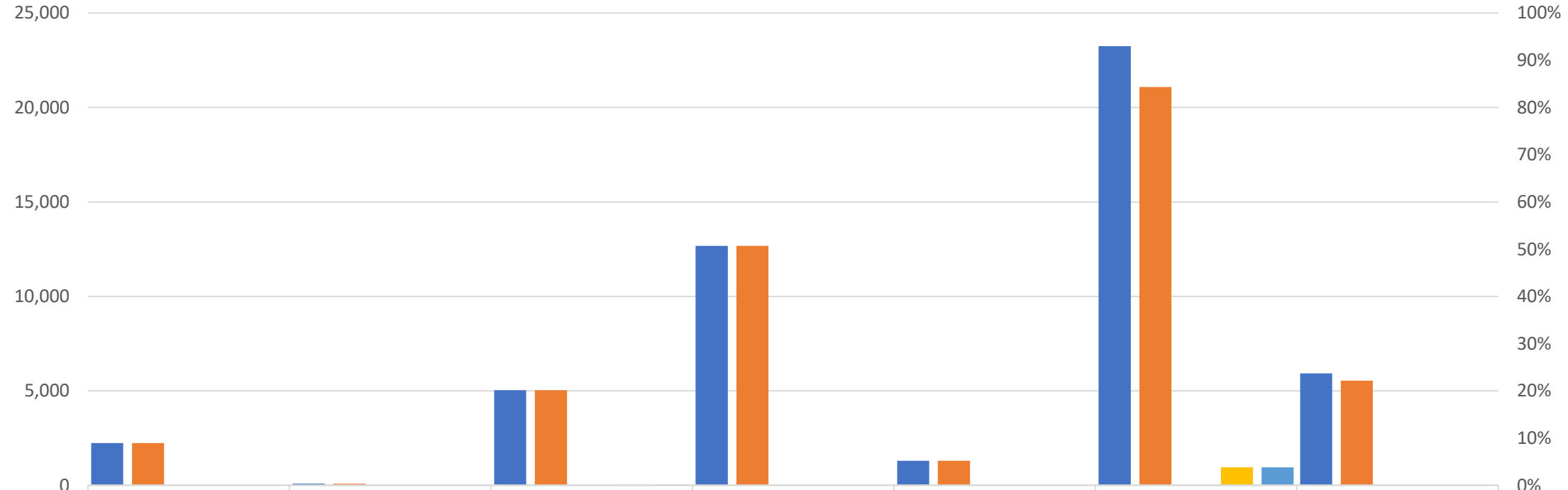
3. OI Prophylaxis: CTX, TPT and CM (N = 6 countries)



	Côte d'Ivoire	Eswatini	Kenya	Uganda	South Africa	Malawi
Eligible CTX	210,636	0	124,500	294,277	0	863,451
Initiated on CTX	210,636	0	24,640	225,537	0	609,168
CTX Uptake	100%	0%	20%	77%	0%	71%
Eligible TPT	96,500	191,782	115,542	141,301	390,327	0
Initiated on TPT	1,204	122,414	101,493	122,526	361,247	0
IPT Uptake	1%	64%	88%	87%	93%	0%
Eligible CM	0	40	0	1,345	16,823	0
Initiated on CM Prophylaxis	0	37	0	1,269	16,823	0
CM Prophylaxis Uptake	0%	93%	0%	94%	100%	0%

AHD patient coverage

4. OI Management: TB and CM (N = 7 countries)



	Côte d'Ivoire	Eswatini	Kenya	Mozambique	Sierra Leone	Uganda	Malawi
Dx with TB	2,231	89	5,034	12,672	1,298	23,247	5,921
Mgt for TB	2,231	88	5,034	12,672	1,298	21,084	5,540
TB Treatment Uptake [%]	100%	99%	100%	100%	100%	91%	94%
Dx with CM	0	18	39	0	0	953	0
Mgt for CM	0	18	39	0	0	953	0
CM Treatment Uptake [%]		100%	100%			100%	

Key take-away messages

- A **health systems & public health approach** towards AHD implementation is necessary to deliver optimal AHD services at scale. Besides policy and guidelines, key structural / health system pre-requisites to AHD scale-up include:
    - Development of a National AHD Implementation plan
    - Development of AHD SOPs and Training materials
    - Recipient of care engagement
    - Supply chain management for AHD commodities
    - AHD M&E system

Key take-away messages

- **Access to CD4 testing** remains a key bottleneck for the AHD cascade even where there exists referral systems to existing CD4 diagnostic centers
- **Robust national AHD M&E systems** are needed to address gaps in national level data particularly on identification of AHD as well as data on OI screening, OI prophylaxis and management of OI among PLHIV with AHD
- **Scale-up of and regular use of the AHD CMM** provides ministries of health with a unique opportunity to understand their AHD programs and develop appropriate AHD scale-up plans that address identified health system barriers to AHD implementation
- Routine **use of the AHD cascade** can provide quick feedback on progress over time on the implementation of the AHD package of care

Thank you

https://cquin.icap.columbia.edu/

Zambia Case Study

Suilange Sivile
National HIV Technical Advisor
MOH Zambia

Strengthening Health Systems to Deliver Advanced HIV Disease Services

A CQUIN Webinar

November 1, 2022

Dr Suilanji Sivile
AHD focal Point Person
Ministry of Health

icap Global Health

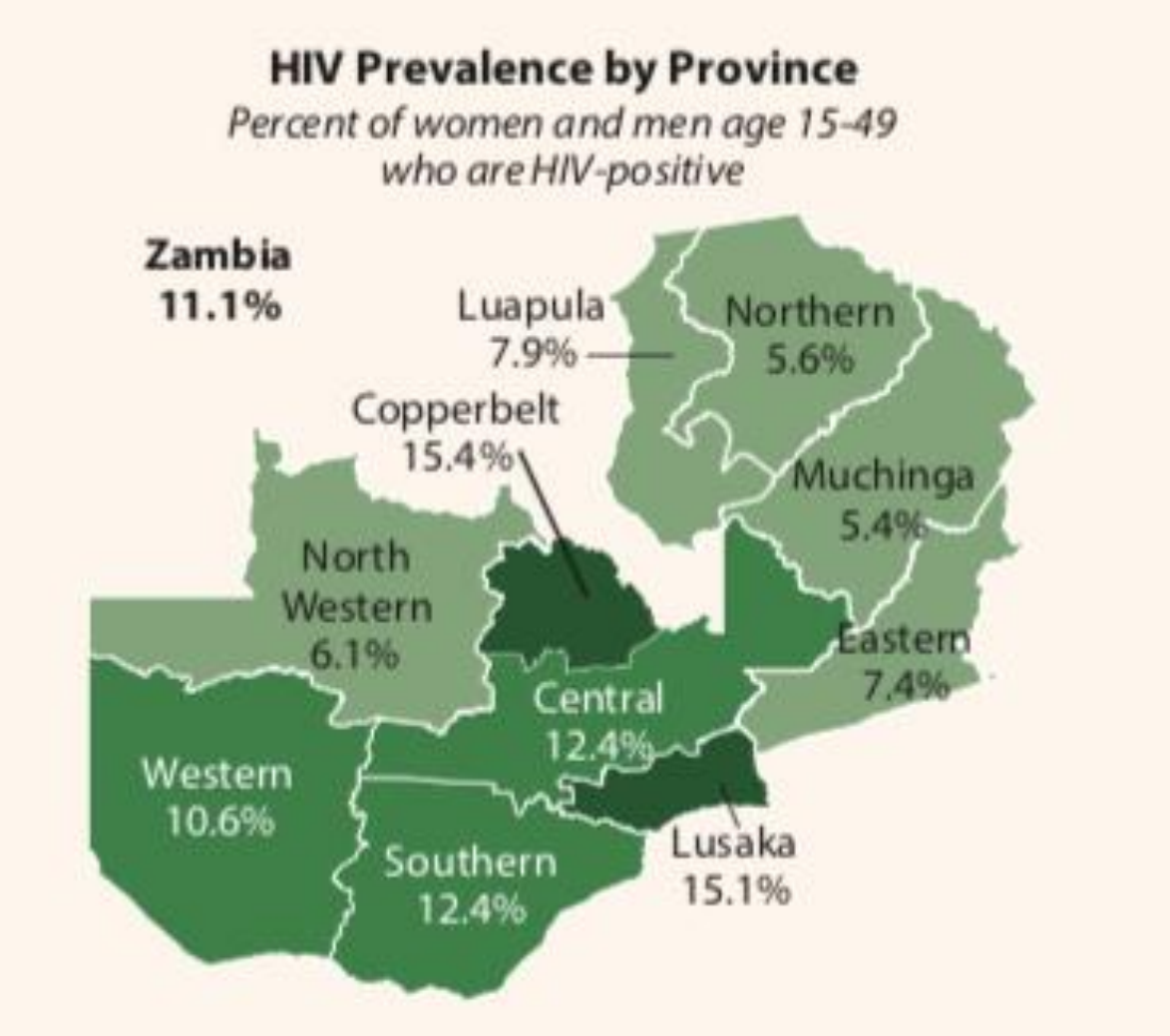
HIV Learning Network
The CQUIN Project for Differentiated Service Delivery

World Health Organization

Outline

- Background of HIV epidemic
- Prevalence of HIV disease
- Progress in AHD implementation:
- Innovations in AHD in Zambia
- Lessons learnt from country to country visit to Nigeria
- Challenges in the implementation of AHD
- Way forward for the AHD in Zambia

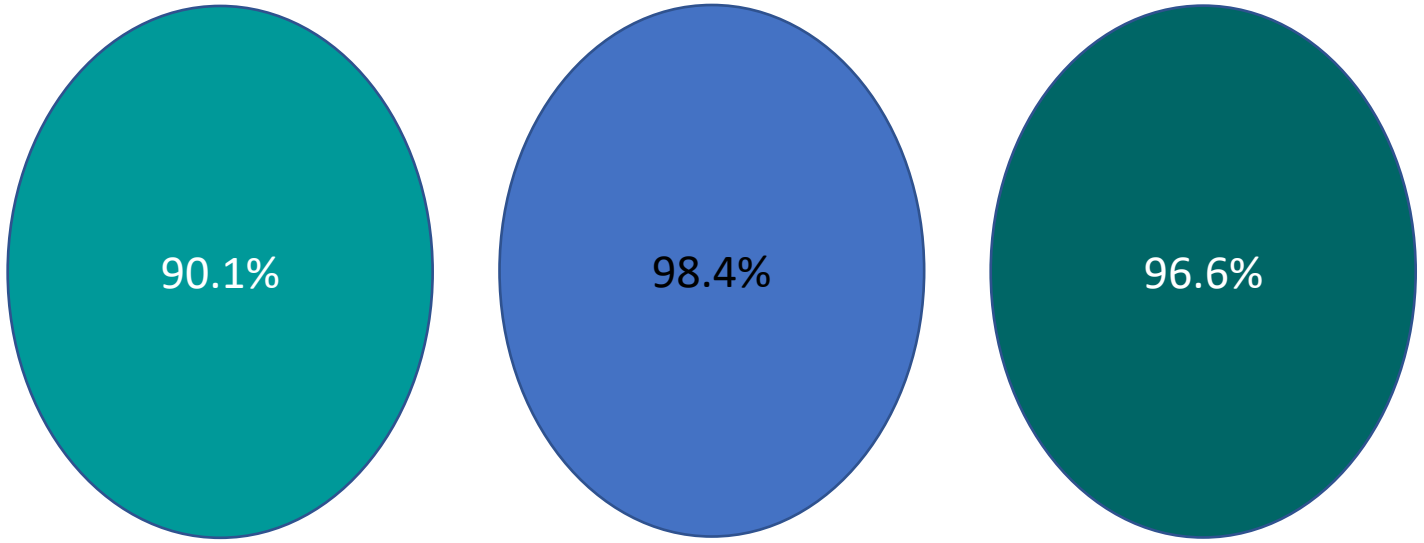
Prevalence of HIV in Zambia



- 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%

ZamPHIA 2021 Preliminary results

95/95/95 Targets (ZAMPHIA 2021)



of those with HIV know their status

of those diagnosed are on ART

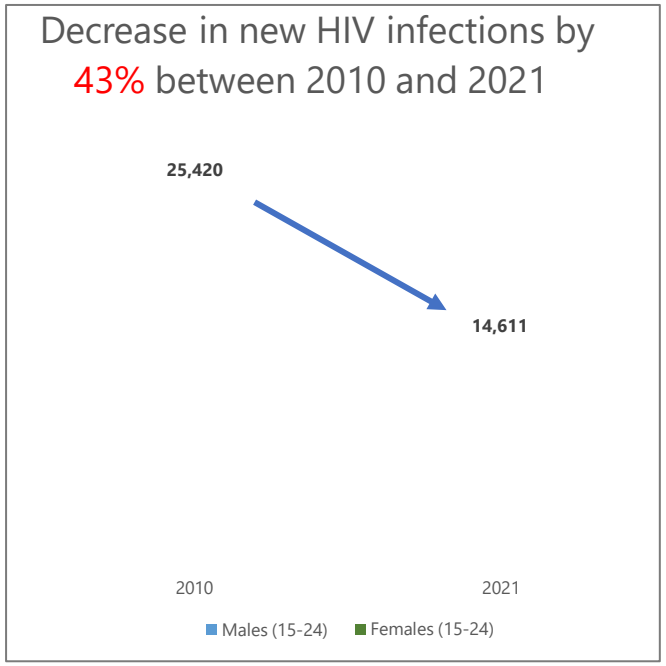
of those on ART are virally suppressed

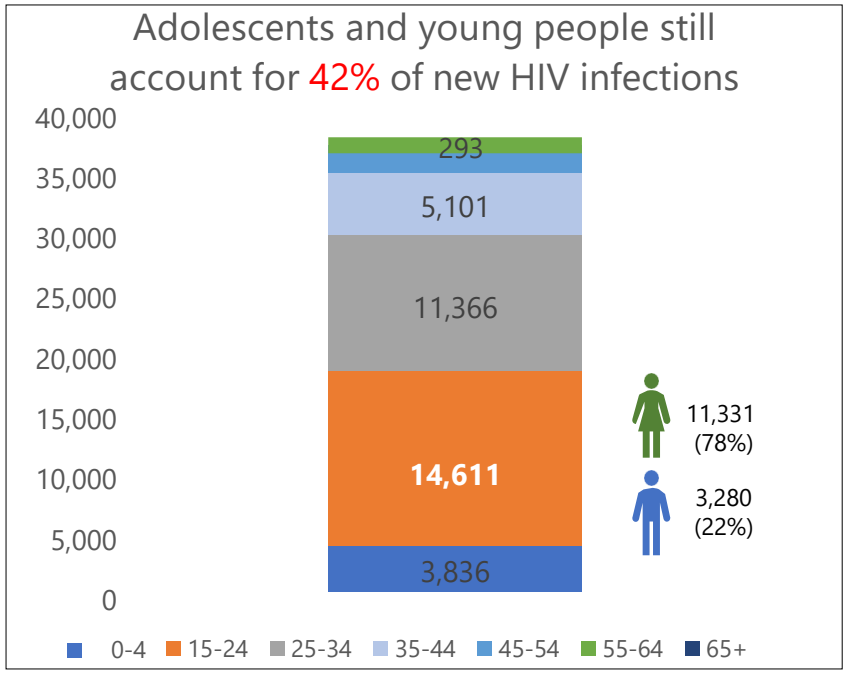
*preliminary PHIA2021 data

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

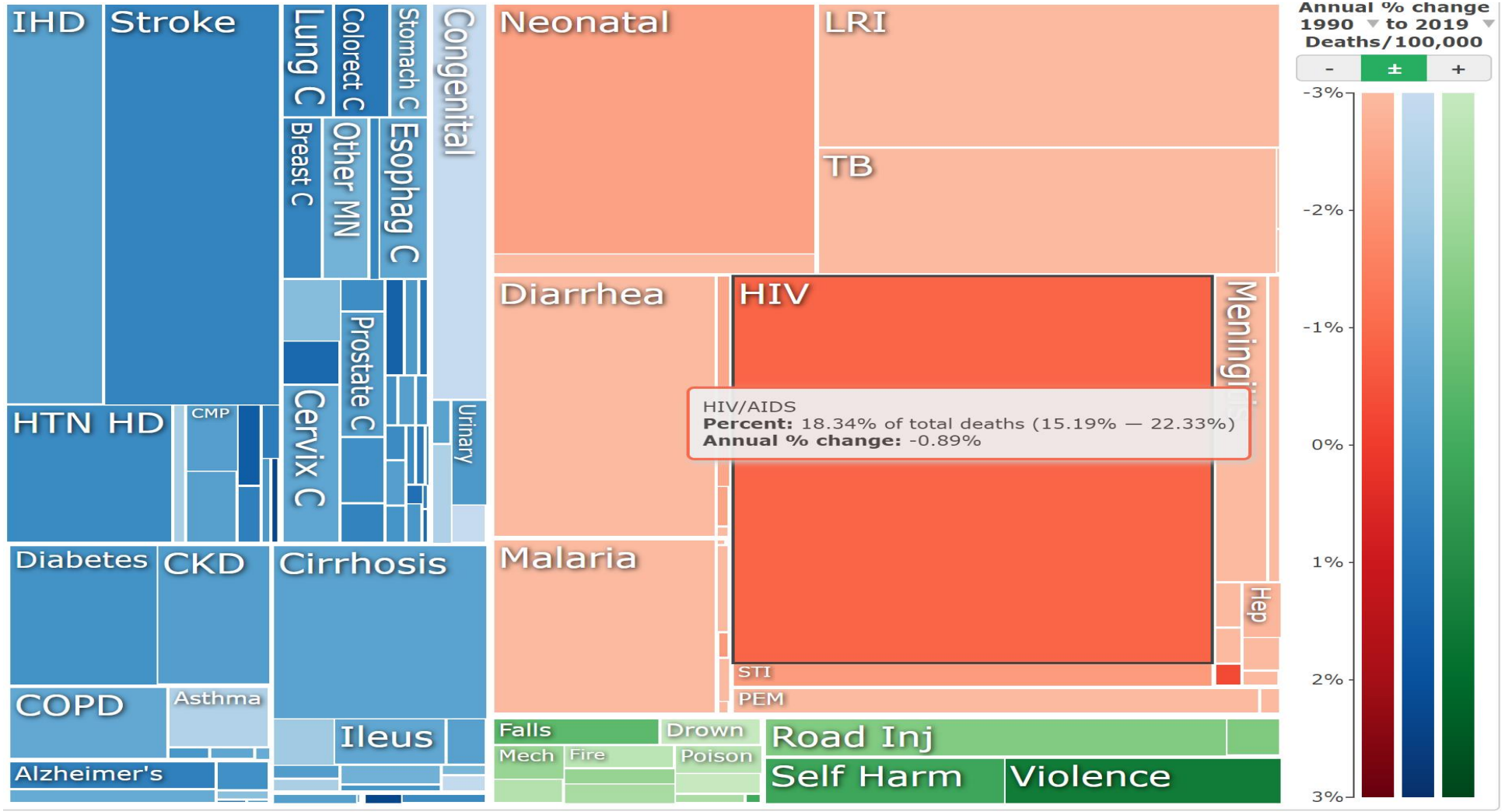
High Rates of HIV Incidence among AGYW





Source: Spectrum 2022

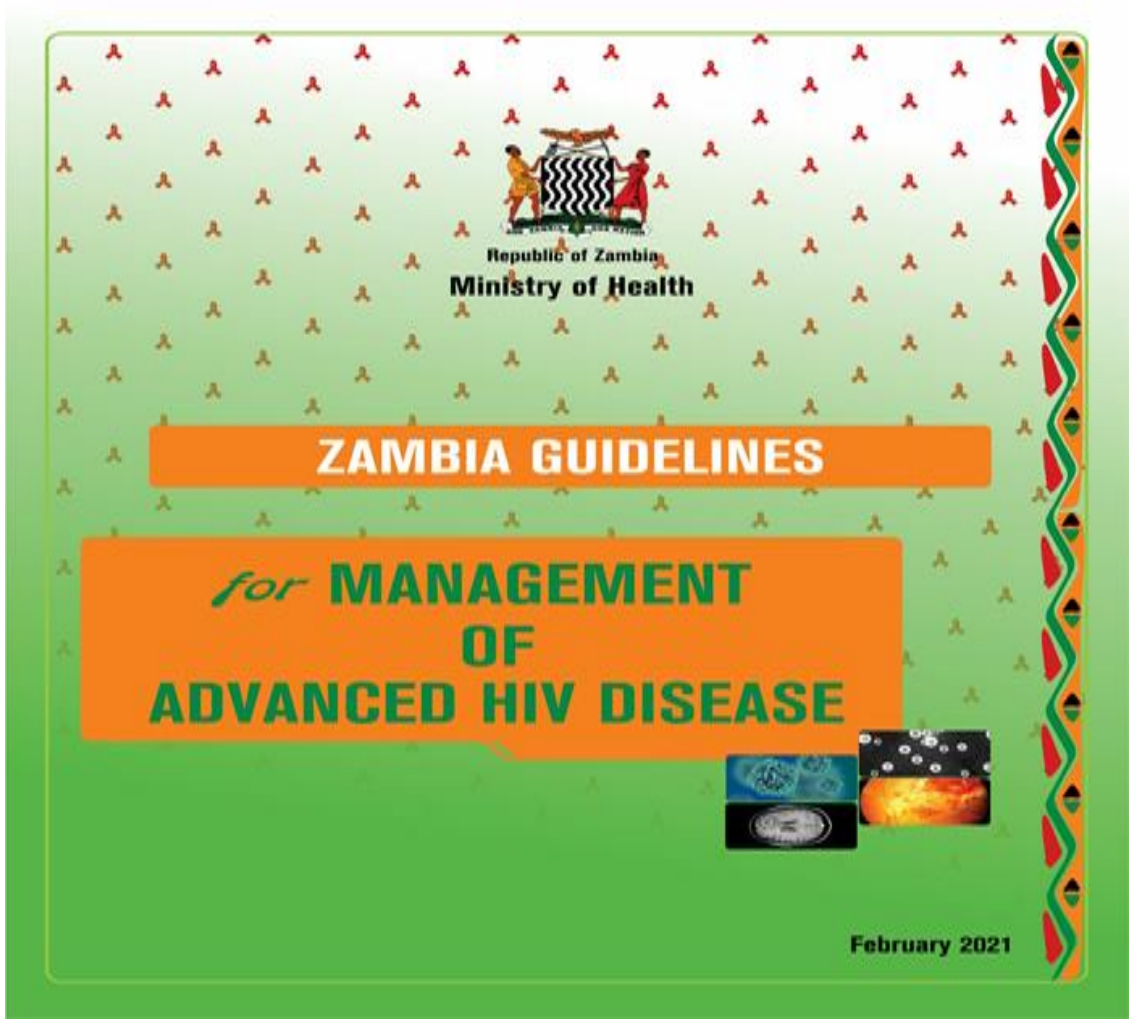
HIV/AIDS is still the largest cause of death in Zambia responsible for 18% of all deaths (IHME 2019)



Burden of Advanced HIV Disease

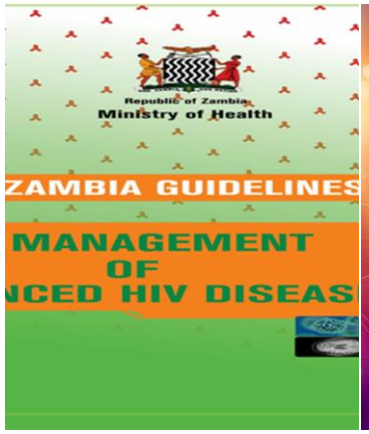
- Estimated 17,800 HIV related mortalities in Zambia
- About 30–40% of people living with HIV starting ART in low- and middle-income settings have a CD4 cell count < 200 cells/mm^3, and 20% have a CD4 cell count < 100 cells/mm^3.
- In Zambia in 2016 approximately 17.7% of people newly diagnosed HIV aged between 15 to 59 years old had a CD4 count of <200 cells/mm^3.
- Estimated annual 5,000 Cryptococcal Meningitis cases in Zambia
- Approximately 13,000 TB/HIV mortalities

Adoption of the WHO Advanced HIV Disease Care Package



Incorporation of NCDs, mental health and third-line services in advanced HIV disease package has helped leveraging of resources for training and mentorship support

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 Dashboard 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

Screening for Advanced HIV disease

- CD4 cell count and WHO Clinical Staging are used to screen for advanced HIV disease
- The following category of HIV+ individuals MUST be screened for advanced HIV disease:
    1. **All Seriously HIV+ ill in-patient patient**
    2. **All HIV+ with high VL**
    3. **All HIV+ starting ART**
    4. **All HIV+ re-initiating ART**
- Screen for **Cryptococcus infection** and **Tuberculosis** in **all** AHD individuals

Algorithm for Screening of AHD ROCs

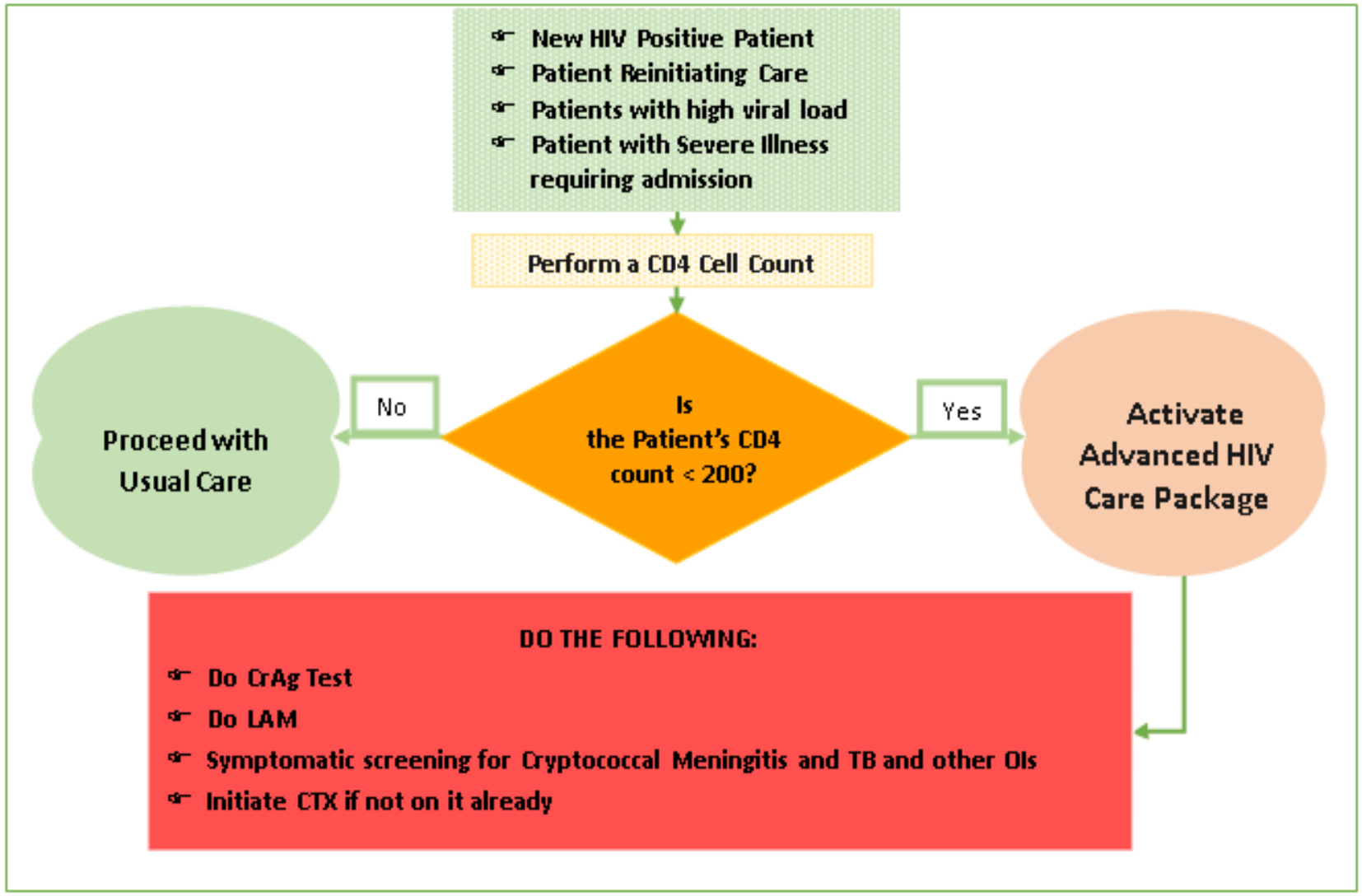


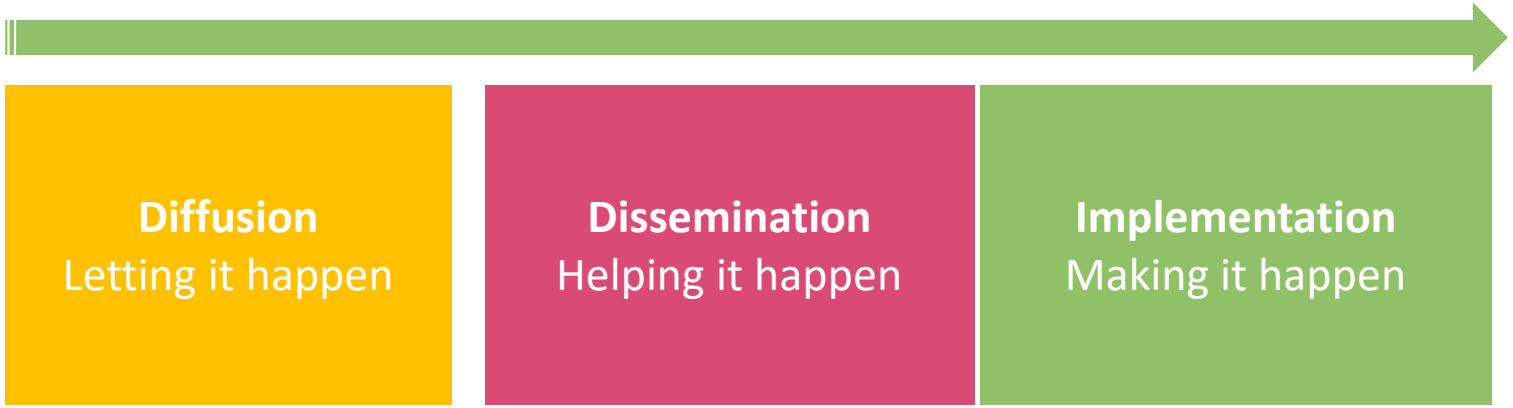
Figure 1.1: CD4 Cell Count Screening: A Gateway for Advanced HIV Disease Care

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	
Patient Coverage 1 (Testing for AHD)	
Patient Coverage 2 (OI Screening)	
Patient Coverage 3 (OI Prophylaxis)	
Patient 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

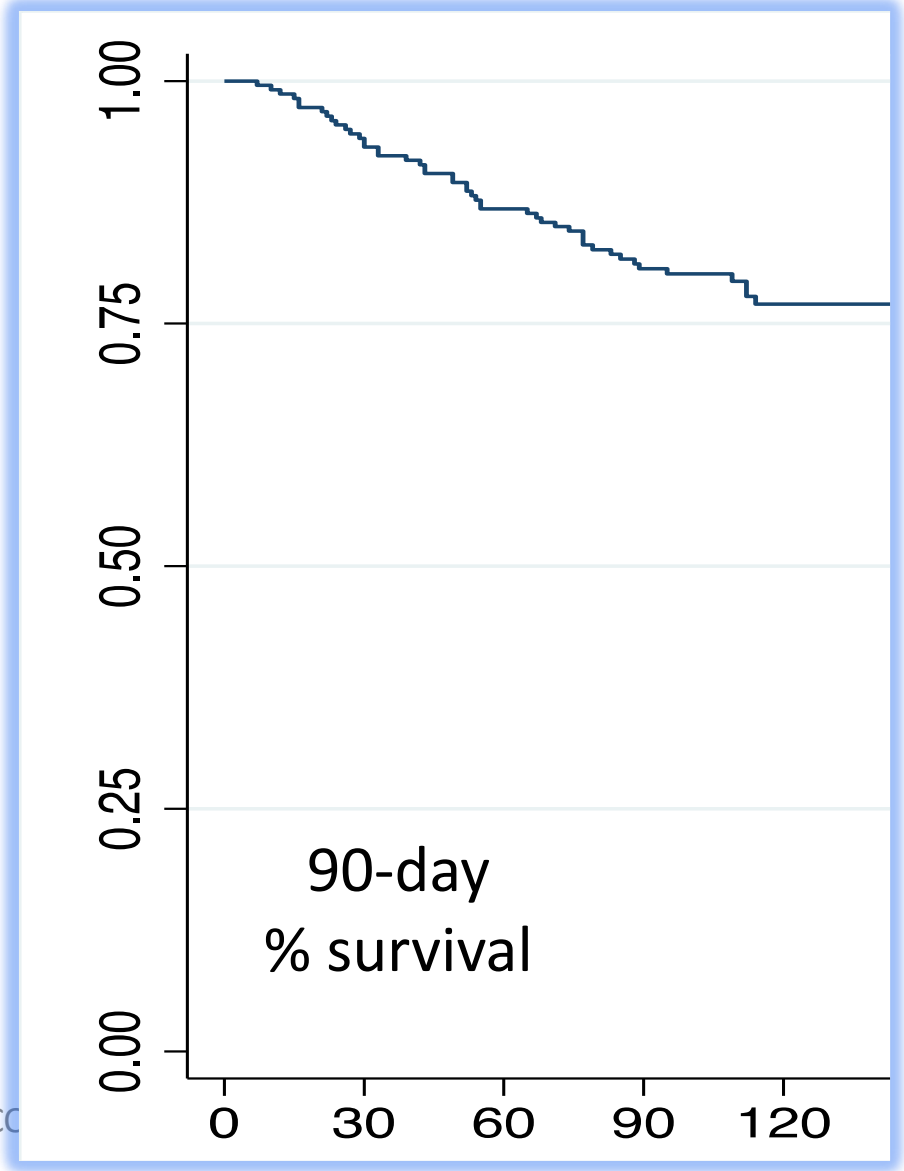
Hub and Spoke Models

- 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



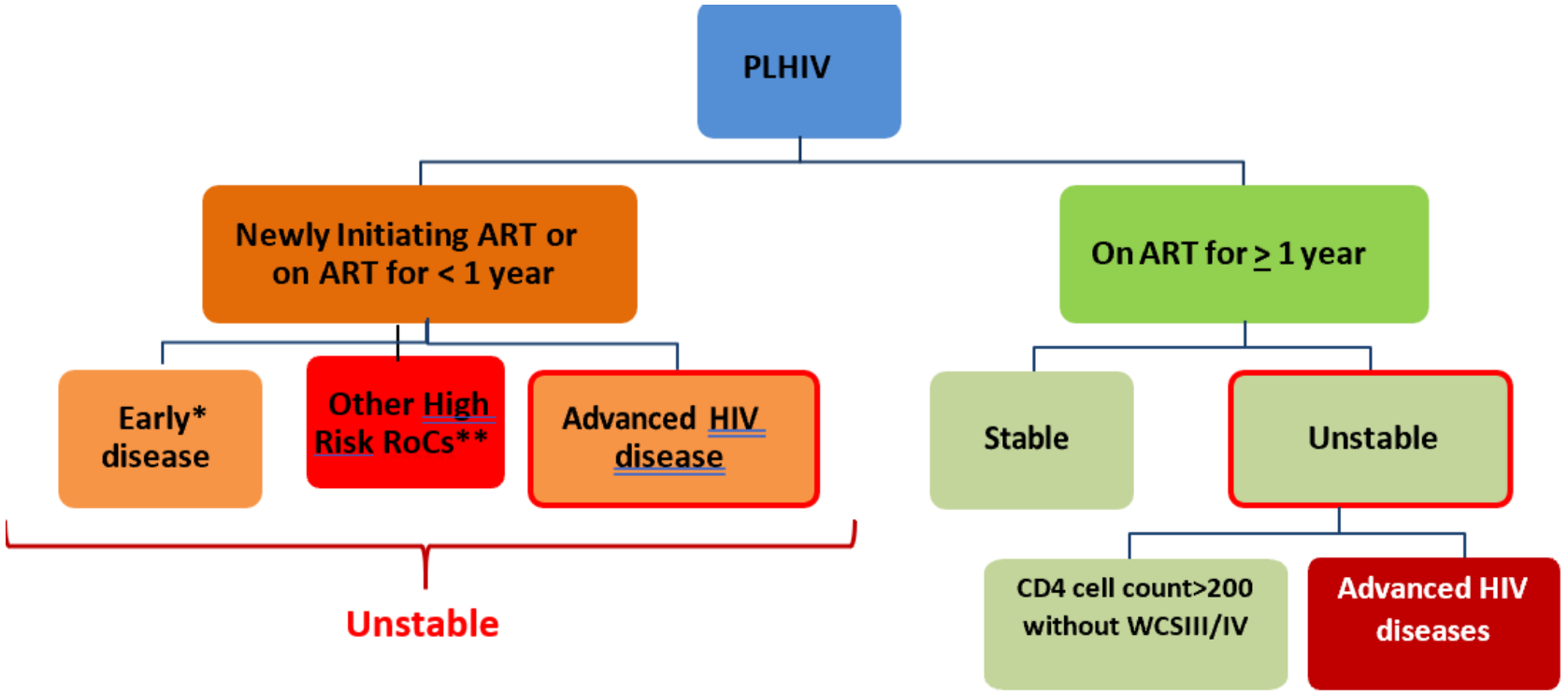
High rates of post-discharge mortality and re-admission

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

DSD for AHD



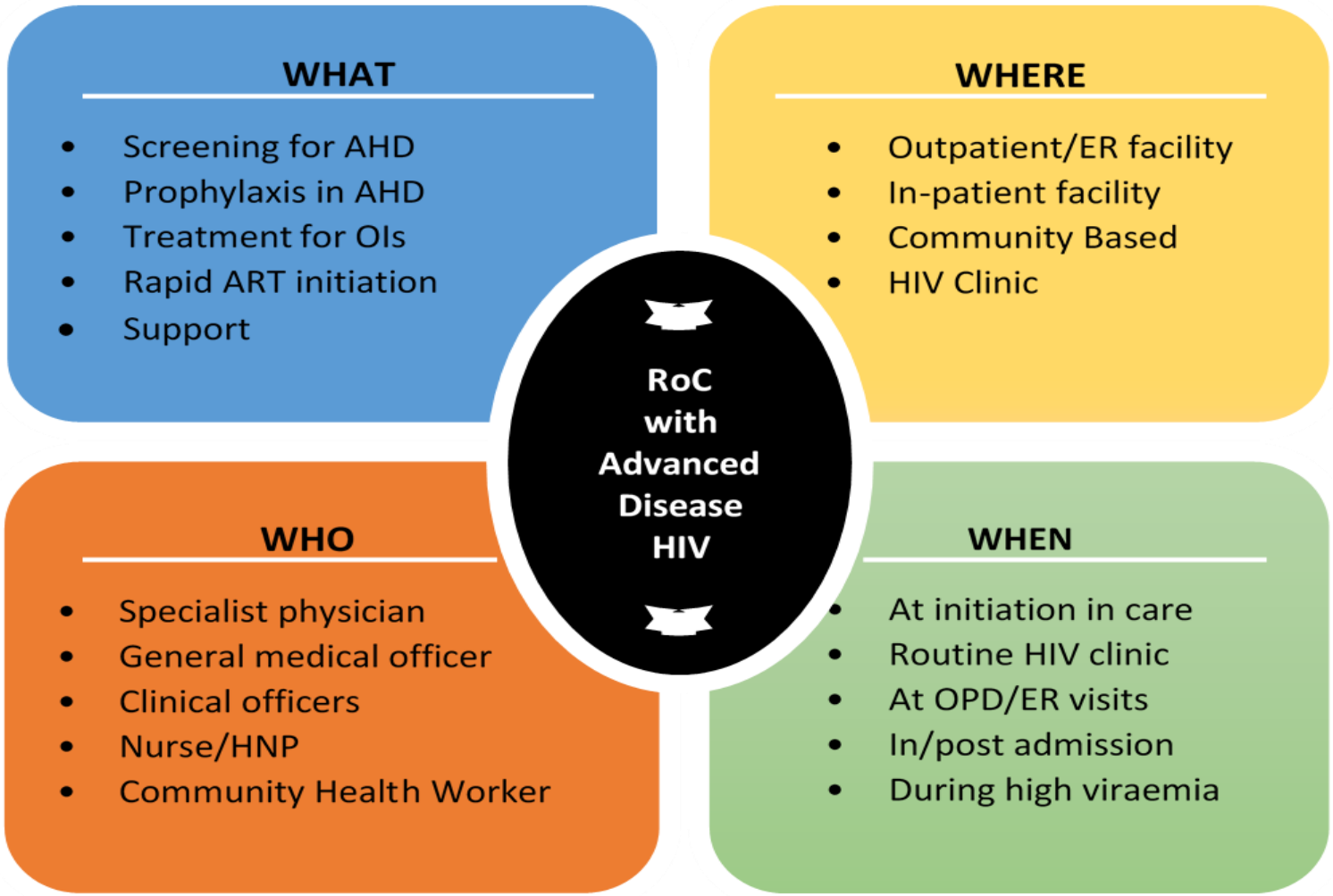
*Early disease refer to adults with CD 4 Cell count > 200 cell/uL and without WHO Stage III/IV conditions

** Other High risk individuals include those that have a high likelihood of poor outcomes such us Adolescents, PBFW, KPs mental illness and Alcoholics

Figure xx: Overview of Patient Classification for Differentiated Care

Adopted from the ICAP Approach to Differentiated Care 2017

DSD Model for AHD



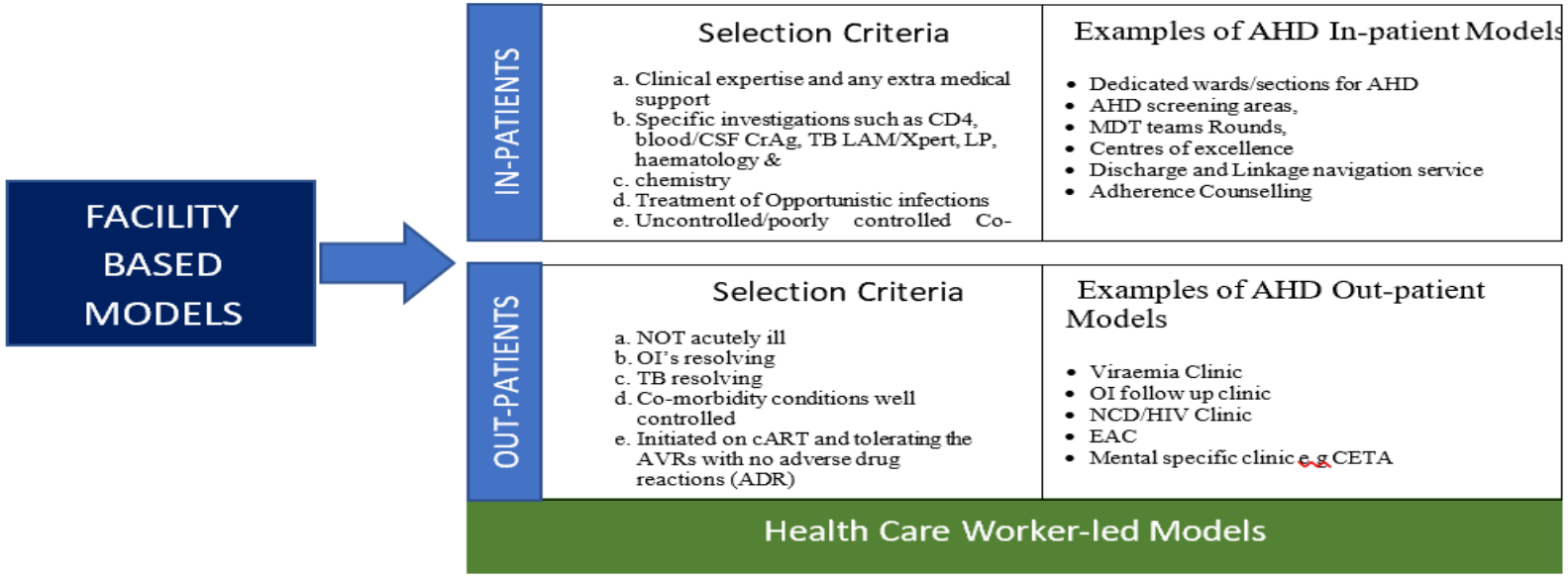


Figure XX: Selecting facility DSD models for AHD

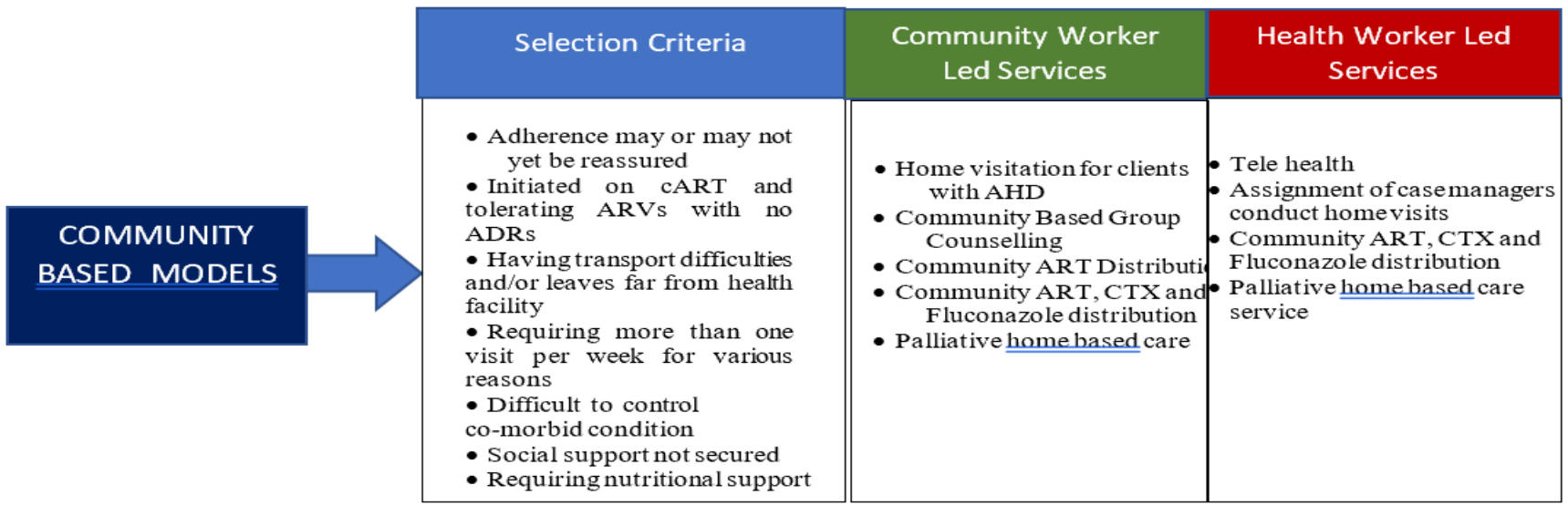
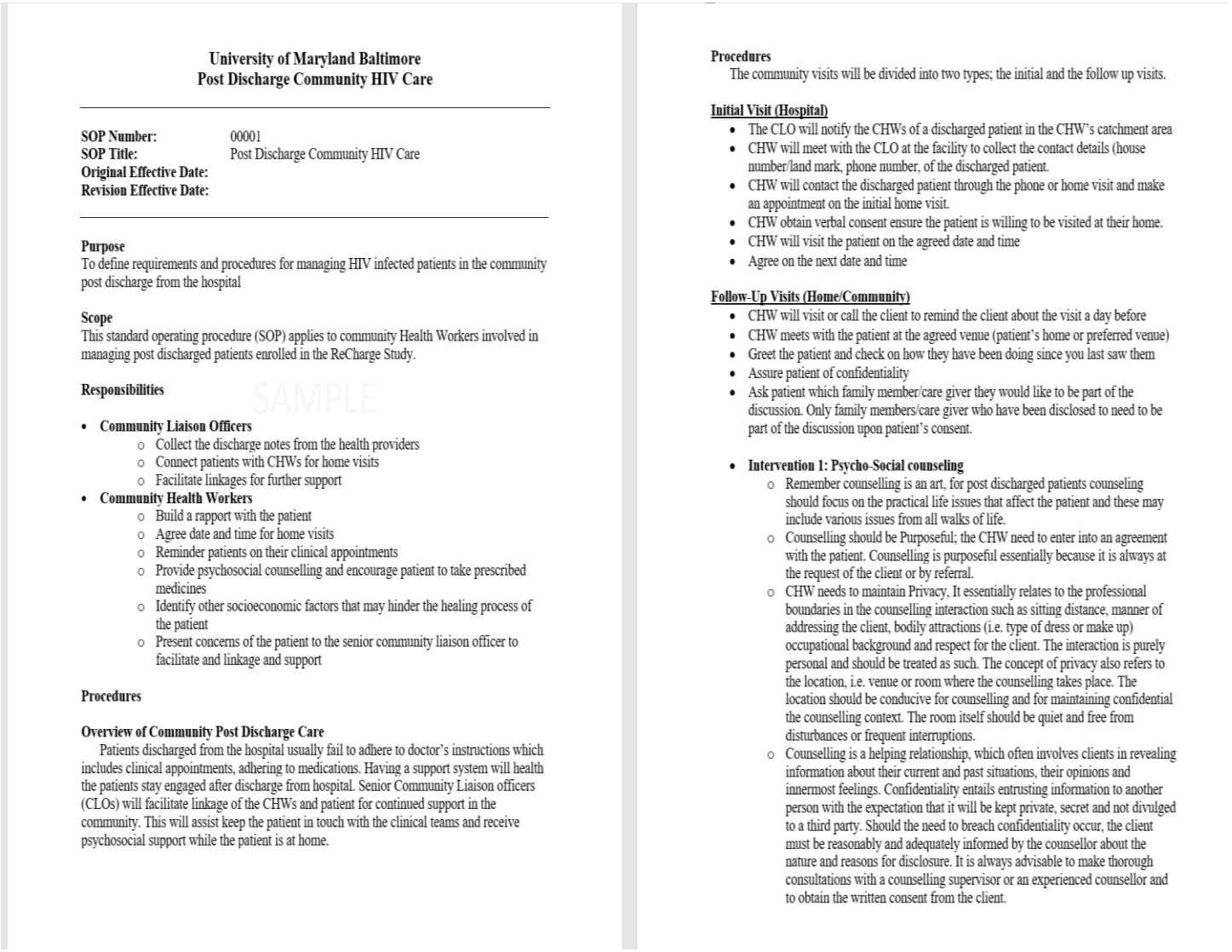


Figure XX: Selecting Community DSD models for AHD

Examples of Operationalized DSDs for AHD

- Use of CHW for home-based follow-up
- Tele follow-up for compliance to prophylaxis



University of Maryland Baltimore
Post Discharge Community HIV Care

SOP Number: 00001
SOP Title: Post Discharge Community HIV Care
Original Effective Date:
Revision Effective Date:

Purpose
To define requirements and procedures for managing HIV infected patients in the community post discharge from the hospital

Scope
This standard operating procedure (SOP) applies to community Health Workers involved in managing post discharged patients enrolled in the ReCharge Study.

Responsibilities

- **Community Liaison Officers**
  - Collect the discharge notes from the health providers
  - Connect patients with CHWs for home visits
  - Facilitate linkages for further support
- **Community Health Workers**
  - Build a rapport with the patient
  - Agree date and time for home visits
  - Reminder patients on their clinical appointments
  - Provide psychosocial counselling and encourage patient to take prescribed medicines
  - Identify other socioeconomic factors that may hinder the healing process of the patient
  - Present concerns of the patient to the senior community liaison officer to facilitate and linkage and support

Procedures

Overview of Community Post Discharge Care
Patients discharged from the hospital usually fail to adhere to doctor's instructions which includes clinical appointments, adhering to medications. Having a support system will health the patients stay engaged after discharge from hospital. Senior Community Liaison officers (CLOs) will facilitate linkage of the CHWs and patient for continued support in the community. This will assist keep the patient in touch with the clinical teams and receive psychosocial support while the patient is at home.

Procedures
The community visits will be divided into two types; the initial and the follow up visits.

Initial Visit (Hospital)

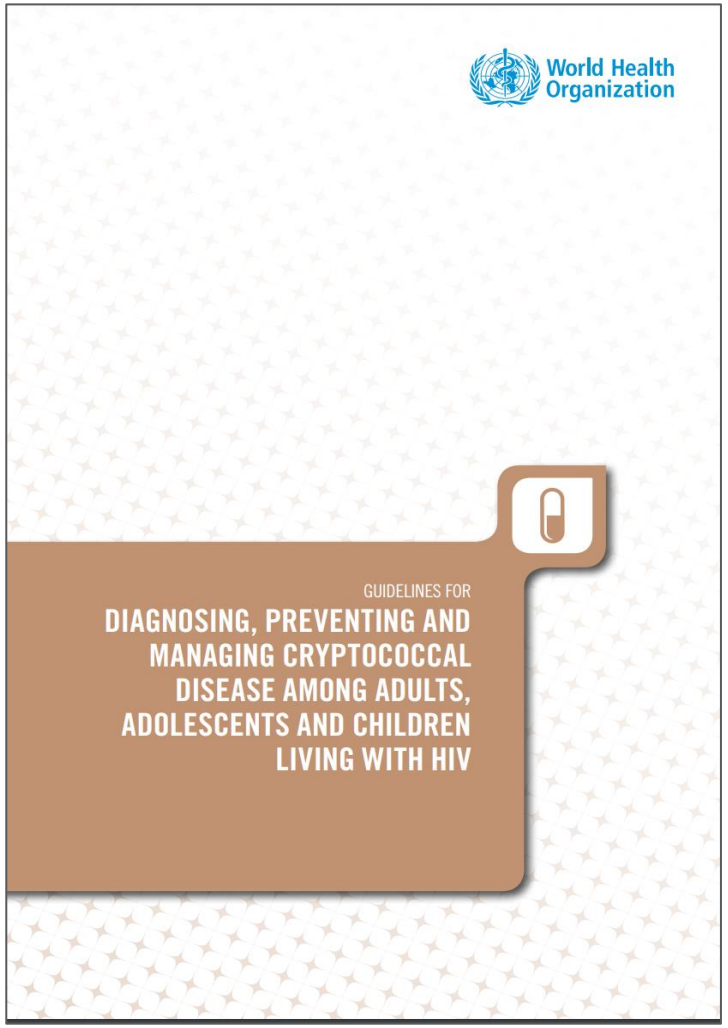
- The CLO will notify the CHWs of a discharged patient in the CHW's catchment area
- CHW will meet with the CLO at the facility to collect the contact details (house number/land mark, phone number, of the discharged patient.
- CHW will contact the discharged patient through the phone or home visit and make an appointment on the initial home visit.
- CHW obtain verbal consent ensure the patient is willing to be visited at their home.
- CHW will visit the patient on the agreed date and time
- Agree on the next date and time

Follow-Up Visits (Home/Community)

- CHW will visit or call the client to remind the client about the visit a day before
- CHW meets with the patient at the agreed venue (patient's home or preferred venue)
- Greet the patient and check on how they have been doing since you last saw them
- Assure patient of confidentiality
- Ask patient which family member/care giver they would like to be part of the discussion. Only family members/care giver who have been disclosed to need to be part of the discussion upon patient's consent.

- **Intervention 1: Psycho-Social counseling**
  - Remember counselling is an art, for post discharged patients counseling should focus on the practical life issues that affect the patient and these may include various issues from all walks of life.
  - Counselling should be Purposeful; the CHW need to enter into an agreement with the patient. Counselling is purposeful essentially because it is always at the request of the client or by referral.
  - CHW needs to maintain Privacy, It essentially relates to the professional boundaries in the counselling interaction such as sitting distance, manner of addressing the client, bodily attractions (i.e. type of dress or make up) occupational background and respect for the client. The interaction is purely personal and should be treated as such. The concept of privacy also refers to the location, i.e. venue or room where the counselling takes place. The location should be conducive for counselling and for maintaining confidential the counselling context. The room itself should be quiet and free from disturbances or frequent interruptions.
  - Counselling is a helping relationship, which often involves clients in revealing information about their current and past situations, their opinions and innermost feelings. Confidentiality entails entrusting information to another person with the expectation that it will be kept private, secret and not divulged to a third party. Should the need to breach confidentiality occur, the client must be reasonably and adequately informed by the counsellor about the nature and reasons for disclosure. It is always advisable to make thorough consultations with a counselling supervisor or an experienced counsellor and to obtain the written consent from the client.

Innovations in Management of Cryptococcal Meningitis

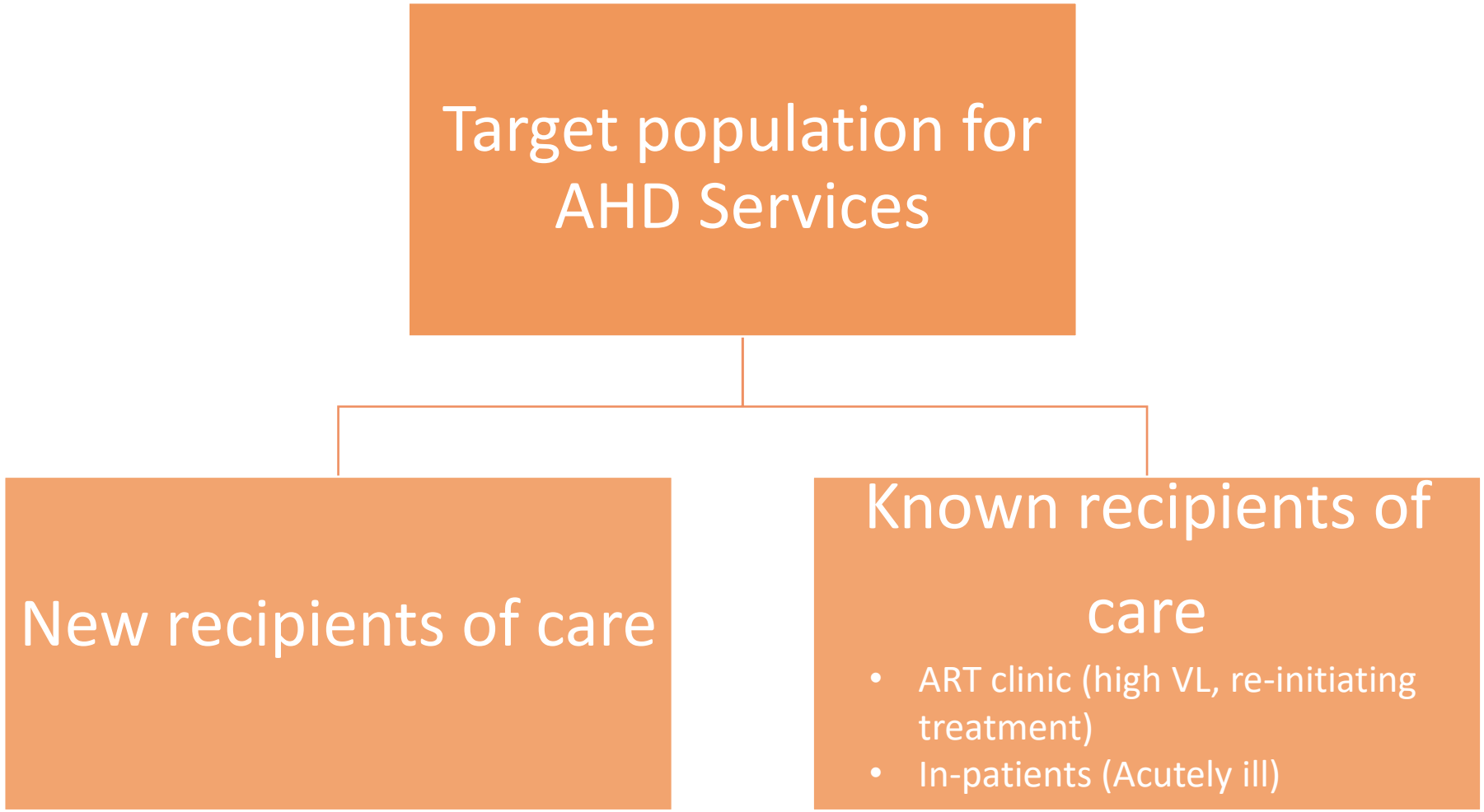


Recommends the use of single dose liposomal of Amphotericin B

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

Understanding ROC at High Risk of AHD



In-patient AHD service

- Implementation study at UTH and LMUTH
- Center of Excellent model

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**

New Patient AHD monitoring

- The mentorship programme has introduced the AHD dashboard that is reviewed during the weekly meeting
- ECHO based trainings done (AHD ECHO every Thursday with support from Zambia College of Physicians)

HPV DNA ◯ Yes ◯ No

PHYSICAL EXAM **VITALS**

Height (cm) ☐☐☐ Weight (Kg) ☐☐☐-☐ BMI (Kg/m²) ☐☐-☐ Waist (cm) Circumference ☐☐

BP ☐☐☐/☐☐☐ Temperature °C ☐☐-☐ Heart rate/ min ☐☐☐

Respiratory rate/min ☐☐

GENERAL EXAM

Pallor	◯ Yes	◯ No
Jaundice	◯ Yes	◯ No
Edema	◯ Yes	◯ No
Cyanosis	◯ Yes	◯ No

BEDSIDE LAB RESULTS

HBsAg ☐ Urinalysis (Protein) ☐ RST ☐ Pregnancy ☐ Other

	Normal	Abnormal	Not done	Describe any abnormal findings below
Skin	◯	◯	◯	
Eyes	◯	◯	◯	
Ears, nose	◯	◯	◯	
Oral	◯	◯	◯	
Lymph nodes	◯	◯	◯	
Heart	◯	◯	◯	
Lungs	◯	◯	◯	
Abdomen	◯	◯	◯	
Urogenital	◯	◯	◯	
Musculoskeletal	◯	◯	◯	
Neurological	◯	◯	◯	

Other physical findings

Assessments/ Provisional Diagnosis

☐ Presumptive TB

☐ Presumptive STI

WHO T - Stage today ◯ 1 ◯ 2 ◯ 3 ◯ 4

LAB RESULTS

Hb/ HCT ☐ ALT ☐ AST ☐

HBsAg ◯ +ve ◯ -ve

FBC ☐

RPR/ RST ◯ +ve ◯ -ve

Creatinine ☐ CrCl ☐

Xpert: MTB ◯ +ve ◯ -ve RIF ◯ +ve ◯ -ve

Other_____ ☐

RBS ☐ Cholesterol ☐ LDL ☐ HDL ☐

LF- LAM ◯ +ve ◯ -ve

Serum CrAg ◯ +ve ◯ -ve

Resistance testing report available? ◯ Yes ◯ No

CD4/ VL collection Date

CD4 Count ☐ ____/____

CD4% ☐ ____/____

Viral Load ☐ ____/____

Other_____ ☐

Remember to populate the Summary Sheet

ELIGIBILITY FOR TPT INITIATION

Has the client taken TPT in the last 3 years? ◯ Yes ◯ No

Is the patient eligible for TPT today? ◯ Yes ◯ No

If eligible, have you provided TPT today? ◯ Yes ◯ No ◯ N/A

PLAN

☐ Provide TPT
☐ Continue TPT
☐ Discontinue TPT

☐ Provide CTX
☐ Continue CTX
☐ Discontinue CTX

☐ Provide EAC
☐ Continue EAC
☐ Discontinue EAC

☐ Provide Fluconazole Pre-emptive Therapy
☐ Continue Fluconazole Pre-emptive Therapy
☐ Discontinue Fluconazole Pre-emptive Therapy

☐ Complete PV form
☐ Take sample for VL
☐ Screen for CaCx
☐ Evaluate for TB
☐ Provide family planning
☐ Manage IRIS

☐ Start ART
☐ Continue ART
☐ Modify ART
☐ Discontinue ART
☐ Refer to next level of Care
☐ Switch to the next level ART

☐ Start in DSD
◯ Community based
◯ Family based
☐ Continue in DSD
☐ Transfer to mainstream care

ADVANCED HIV CARE

Does the patient have advanced HIV Disease? ◯ Yes ◯ No

☐ CrAg test done ◯ Yes ◯ No
☐ LF - LAM test done ◯ Yes ◯ No
☐ Chest X-ray ◯ Yes ◯ No

Manage according to other findings:

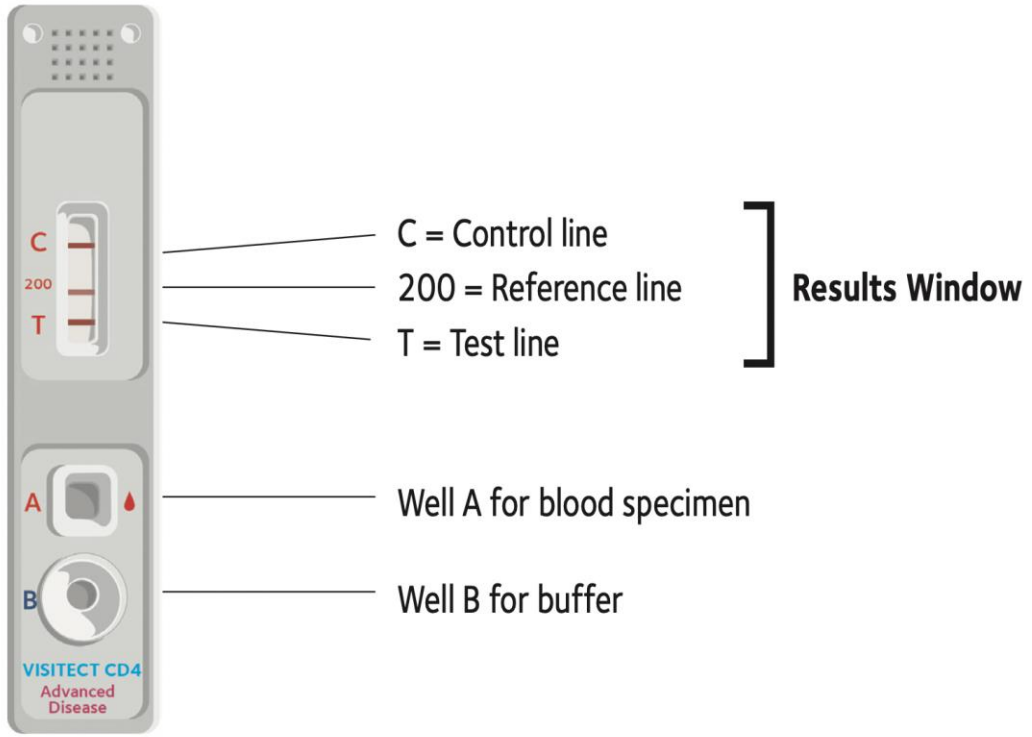
Staff Name _____ Staff Signature _____

M&E Framework

- Dedicated monitoring and evaluations systems connected to an cQI projects
- Indicators include:
  - Number of HIV patients eligible for AHD screening
  - Proportional Screened for AHD with CD4 cell count
  - Proportions Screened with positive for AHD
  - Proportional with AHD screened with serum CrAg
  - Proportion with AHD screened with urine LAM and CXR
  - Proportion screened + for Crypto-antigenaemia
  - Proportion with antigenaemia started on preemptive fluconazole
  - Proportion screened negative with urine LAM and CXR started on TPT

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



Major AHD Implementation Gaps in Zambia

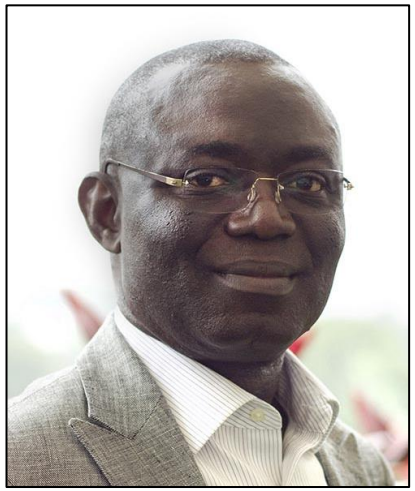
- CD4 cell count testing
- Commodity support
- Data collection systems
- Logistic management of LAM test strips

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

Thank you

Panel Discussion: Moderators



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Slides and recordings from today's session will be posted on the CQUIN website:
https://cquin.icap.columbia.edu/

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HIV Learning Network
The CQUIN Project for Differentiated Service Delivery