Sustaining AHD M&E within Integrated National Health Information Systems: Uganda's Case Study

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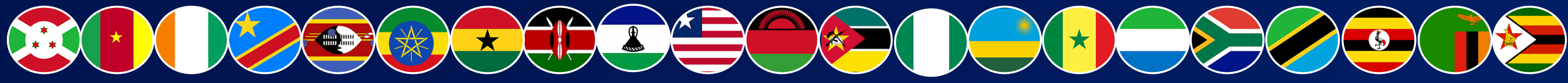

Uganda HIV Snapshot: Why AHD M&E Still Matters

1.53M	4.9%	20,000
Estimated PLHIV	HIV Prevalence	HIV-Related Deaths (2024)

- New infections: 36,648 (2024) still exceed HIV-related deaths , so epidemic control is not yet achieved
- 94% of PLHIV know their status; of these, 98% are on ART; of which 91% are virally suppressed (all ages). Children under 15 lag behind at 80%-91%-89% and men 93%-87%-97% (linkage challenges)
- Advanced HIV Disease (CD4 <200 or WHO Stage 3/4) remains a leading driver of-HIV-related mortality — Early identification and treatment are critical to closing the gap

Source: Uganda HIV Snapshot 2025, Spectrum Estimates

Funding Shifts and the Impact on AHD Services

Funding Landscape Changes

- **PEPFAR**: Transitioning support; overall budget expected post-MOU signing but operational gaps emerging
- **Global Fund**:
    - HIV budget reduced by 12.5%
    - TB-LAM deprioritised from GF-supported commodity list
- **Net funding gap** estimated at **~7%** of total HIV programme budget
- **Combined effect:**
    - PIMA CD4 machine decommissioning, TB-LAM & CrAg commodity insecurity
    - HRH gaps → AHD service quality challenges
    - Emerging AHD M&E data quality risks

Uganda's Coping Strategies

- **GoU**: Proposed increase budget allocation under inter-ministerial discussion, currently GoU contributes 20% of total HIV spending
- Scaled-up device-free CD4 testing (Visitect) — now 59% Visitect:41% machine-based CD4 ratio
- TB-LAM to be funded through GoU budget; strengthening annual CXR TB screening using existing mobile X-rays
- Task-sharing to GoU health workers to cover HRH gaps left by partner transitions
- MoH rolling out Uganda EMR / eAFYA to reduce reliance on paper HMIS tools
- CQI projects and technical mentorship instituted to sustain data quality under reduced IP support

AHD Policy and Integration Framework

How AHD is Embedded in Routine Care

- AHD protocols embedded in Uganda's National Consolidated HIV Guidelines — *not a fragments program*
- National AHD Technical Working Group (MoH, CSOs, DPs, IPs) meets quarterly to coordinate and review
- AHD service delivery has shifted from partner-led to government staff — sustainability by design
- Multidisciplinary team approach: ACP + Lab + community health workers + psychosocial support
- Hub-and-spoke model operationalized to decentralize access to AHD diagnostics and medication

The AHD Package of Care

- Baseline CD4 for all newly diagnosed PLHIV initiating ART
- CD4 testing for all PLHIV with unsuppressed viral load
- TB-LAM and CrAg screening for all with CD4<200
- Rapid ART initiation (deferred where cryptococcal/TB concerns require management first)
- Pre-emptive fluconazole for CrAg-positive; TB treatment for TB-LAM-positive
- Nutritional assessment, adherence counselling, and differentiated follow-up

AHD M&E Embedded into Uganda's Routine HMIS

Routine Data Collection Tools

- **HIV ART Care Card (revised):** Dedicated AHD screening section at ART initiation and for non-suppressed clients
- **ART Register & VL Non-Suppressed Register**: Primary data sources for tracking CD4 eligibility
- **Laboratory Daily Activity Register**: Records CD4, TB-LAM and CrAg test results at facility level
- **HMIS 106a (revised):** AHD indicators incorporated as standard quarterly reportable data elements
- **Uganda EMR / eAFYA roll-out underway:** Replacing paper tools to improve data quality and completeness

Data Flow: Facility to the DHIS2

- Facility teams record AHD data in care cards and registers at the point of care
- Data aggregated monthly into HMIS summary reports submitted by facility in-charges
- DHIS2 captures the national AHD indicator set at district, regional and national level
- Tracked Indicators (age-sex disaggregated): For new, non suppressed and clients returning to care. CD4 coverage, % with CD4 <200, TB-LAM and CrAg coverage and treatment linkage rates
- Core Principle: AHD is monitored through the same platform as ART, TB and TPT — no parallel system

Uganda's M&E Sustainability Model: Embed AHD indicators into existing HMIS tools and DHIS2 — not a separate vertical reporting system

HIV CARE/ART Card – Clinical Assessment Page

HIV CARE/ART CARD – CLINICAL ASSESSMENT PAGE

Other Unique ID: ....Client Clinic #: .... Name: ....

Current Address: District: .... Division/Sub-County: ....Village/zone/Cell: .... **CARD No:**................

CA1	CA2	CA3	CA4	CA5	CA6	CA7	CA8	CA9	CA10	CA11	CA12	CA13	CA14	CA15	CA16	CA17	CA18
Tick box in top Right corner if scheduled or X if not, insert a date Write R in the Bottom Right Corner if client is represented	Date of next Appointment/Reason	Current Age and Vital signs; HTN Status	Nutrition Assessment; Diabetes Mellitus Status	Pregnancy/ eMTCT Status; If Preg, EDD gestation in wks & ANC No.; FP/No FP If FP Write method; Digital Health Messaging	Mental Health (MH) Status; MH-A/D; MH-A/S	CaCx Management; Syphillis Status	TB Status	TPT Status; Vit B6	Presenting Signs & Symptoms; Diagnosis (including OIs); Advanced disease Status; WHO Stage	Vaccination Status; HPV; COVID-19	Medication: CTX /Dapsone; NCD Rx/ Other Meds; Fluconazole; ARV drugs	ADR/ Side Effects; Offending Agent/ Intervention; Grading; Severity; Action taken; Outcome; Date of occurrence	Tests and Investigations: CD4/ CD4% CrAg, RPR; TB LAM; TB LAMP; GeneXpert/ Truenat; Miscroscopy Xray; Others; LFTs; RFTs; Viral Load	HIV Drug Resistance; Date of Sample Collection; Drug; DR Status	Date/ Comobidity Test	Missed Appointment Tracking	Pill Balance; Name & Signature of Clinician

Clinical Notes

Works in Progress: Transforming the HIV Response in a Time of Change
April 20-22, 2026 | Nairobi, Kenya

HMIS 106a: HMIS Quarterly Repo

Regis-ter	#	Data Element	0-4yrs		5- 9yrs		10 - 14 yrs		15 – 19 yrs		20 - 24 yrs		25–29 yrs		30 - 39 yrs		40 - 49 yrs		50+ yrs	
			M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1A – HIV CARE/ART SERVICES																				

NEW CLIENTS STARTED ON ART

HC09	No. of new clients started on ART with baseline CD4 <200		
HC10	No. of new clients with a baseline CD4 <200 that	Tested for TB LAM	
		Positive for TB LAM	
		TB LAM Positive treated for TB	
		Tested for CRAG	
		CRAG Positive	Total
			Diagnosed with CCM
		CRAG Positive treated with pre-emptive fluconazole	
		Treated for Cryptococcal meningitis	
		Tested for Histoplasmosis	
		Positive for Histoplasmosis	
		Treated for Histoplasmosis	
		Tested for Aspergillosis	
		Positive for Aspergillosis	
		Treated for Aspergillosis	

NON-SUPPRESSED/RETURNING TO CARE CLIENTS

HC35	No. of non-suppressed clients that received CD4 test	Total	
		CD4 <200	
HC36	No. of Non-Suppressed Clients with CD4 < 200 that;	Tested for TB LAM	
		Positive for TB LAM	
		Positive for TB LAM treated for TB	
HC37	No. of non-suppressed Clients with CD4 <200	Tested for CRAG	
		CRAG Positive	Total
			Diagnosed CCM
		CRAG Positive treated with pre-emptive fluconazole	
		Treated for Cryptococcal meningitis	
		Tested for Histoplasmosis	
		Positive for Histoplasmosis	
		Treated for Histoplasmosis	
		Tested for Aspergillosis	
		Positive for Aspergillosis	
		Treated for Aspergillosis	

AHD Cascade: Newly Initiating ART Clients (TX_NEW)

[Data Source: DHIS2; Oct–Dec 2025]

Indicator	Number	%
TX_NEW	24,205	
Baseline CD4 Testing	20,602	85%
With AHD [CD4 <200]	4,629	22%
TB-LAM Tested	3,905	84%
TB-LAM Positive	798	20%
Started on TB Treatment	763	96%
CrAG Tested	3,584	77%
CrAG Positive	173	5%
Received Flucanozole	117	68%

Left axis: - ; 5,000 ; 10,000 ; 15,000 ; 20,000 ; 25,000 ; 30,000

Right axis: 0% ; 20% ; 40% ; 60% ; 80% ; 100% ; 120%

⚠️ KEY GAP: 32% of CrAg+ clients did NOT receive Fluconazole

- TX_NEW cascade performing well: **85%** CD4 coverage, **96%** TB treatment linkage
- **Priority Action:** Need to strengthen referral pathways and close the fluconazole completion gap

AHD Cascade: Non-Suppressed Clients (VL ≥1000)

[Data Source: DHIS2; Oct–Dec 2025]

Cascade step	Number	%
Unsuppressed Clients (VL ≥1000)	73,828	
CD4 Testing	6,993	9%
With AHD [CD4 <200]	1,037	15%
TB-LAM Tested	750	72%
TB-LAM Positive	99	13%
Started on TB Treatment	86	87%
CrAG Tested	718	69%
CrAG Positive	41	6%
Received Flucanozole	12	29%

Left axis: -, 10,000, 20,000, 30,000, 40,000, 50,000, 60,000, 70,000, 80,000
Right axis: 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100%

⚠️ A Critical Bottleneck : 71% of CrAg+ clients did NOT receive Fluconazole

- **Root Cause:** MMD bypasses the CD4 trigger, causing community clients to miss facility screenings
- **Priority Action:** Scale-up Visitect community CD4 testing and use a VL register in AHD entry points

AHD Data Use

- 🗺️ 👥 🔍 Helps identify high risk populations (High burden age groups, locations etc) and areas of improvement
- 🎯 Guides targeted interventions eg campaigns especially where cases are high, prioritization, provide targeted mentorship or supervision., intensify early screening and testing
- 📦 🚚 Use consumption and testing data to forecast and prevent stock-outs of AHD commodities
- ✔️ Helps the clinic teams to monitor the uptake of the AHD service package along the cascade eg testing and screening, access to treatment and progression
- 📈 Helps monitor trends on AHD incidence, prevalence and treatment outcomes mortality rates among AHD patients, retention in care and viral suppression
- 📜 🔄 Informs changes and shifts in policies eg updating of clinical guidelines

Key Lessons, Challenges and Adaptations

What is Working

- AHD embedded in HMIS and DHIS2 — monitoring is more sustainable because it sits inside routine reporting
- Full cascade tracking (not just CD4) helps reveal bottlenecks at each step
- Hub-and-spoke model improves access to diagnostics in lower-level facilities
- CQI projects and TSS/mentorship are helping maintain quality under reduced partner support
- TX_NEW cascade performing relatively well: 85% CD4 coverage, 96% TB

Persistent Challenges

- CD4 testing remains very low among non-suppressed clients (9%) — MMD contributes to missed triggers
- CD4 equipment breakdown and decommissioning continue to create access gaps
- CrAg/TB-LAM commodity insecurity: short expiry, stock-outs, small kit sizes
- Fluconazole initiation sub-optimal for CrAg+ clients: 68% (TX_NEW), 29% (NS)

Adaptations Made

- Visitect (device-free CD4) used where machine-based CD4 is unavailable
- Reduced CrAg kit packaging size for easier community-level distribution
- GoU health workers increasingly absorbing HRH gaps from partner transitions
- Mobile X-ray used for TB screening where TB-LAM supply is constrained
- Uganda EMR/eAFYA rollout helping reduce paper HMIS burden

Key contrast: TX_NEW cascade performing well (85% CD4, 96% TB treatment linkage) — but non-suppressed clients remain largely invisible to AHD screening (only 9.5% tested). Fixing this gap is Uganda's highest AHD priority.

Sustainability Principle: Integrate AHD within existing HMIS—avoid creating parallel M&E systems—and ensure commodity tracking is aligned with routine service delivery systems.

Priority Actions and Sustainability Strategies Under Constrained Resources

1. Close the CD4 gap for non-suppressed clients

- Scale up Visitect community CD4
- Risk-stratify MMD clients
- Use VL register as systematic AHD entry point.

2. Secure AHD commodity supply chain

- Quantify and procure CrAg and TB-LAM through GoU supply chain. Advocate for a dedicated national budget line for AHD commodities.

3. Close treatment linkage gaps (fluconazole & TB)

- Strengthen referral for CrAg+ patients
- Track fluconazole initiation in HMIS 106a
- Deploy CHWs for AHD client follow-up in the community

4. Sustain and strengthen HMIS data quality

- Accelerate Uganda EMR/eAFYA rollout
- Run routine mentorship and CQI at facility level to improve AHD recording and reporting

- Uganda has a strong foundation, with AHD integrated into national guidelines and HMIS
- The current opportunity is not to create parallel M&E system, but strengthen the existing one

The focus should be on:

  - Early identification of all eligible clients
  - Ensuring access to the full AHD diagnostic package
  - Rapid linkage to treatment
  - Effective follow-up through routine HIV care systems

Thank You!