

Who is starting ART with advanced HIV disease in Zambia?

Characteristics of outpatients with AHD presenting at primary healthcare clinics

KEY FINDINGS

- A quarter of clients screened for AHD in Zambia met AHD criteria; just over half were men.
- Among those with AHD, median baseline CD4 count was 114 cells/mm³; 59% were categorized as WHO stage 3 or 4.
- 22% of participants with AHD (and 35% without AHD) reported prior ART use; logistical barriers, relocation, and running out of medication were the most common reasons for previous disengagement.
- 24% of all participants couldn't be classified due to missing AHD screening information.
- Nearly 3/4 of re-engagers with confirmed AHD said they came back to the clinic due to ill health.
- <1/3 of those with AHD said they were told of their diagnosis, and only 40% indicated any knowledge or understanding of AHD.

WHY DOES THIS MATTER?

- In Zambia, some 20% of adults starting or re-starting HIV treatment are estimated to have advanced HIV disease (AHD).
- Most individuals with AHD at treatment initiation have either delayed starting treatment or interrupted treatment for too long, resulting in disease progression.
- While some individuals with AHD are admitted directly to hospitals, many are diagnosed and cared for at outpatient clinics.
- Understanding the characteristics, treatment histories, and reasons for delaying care of those who present with AHD may help prevent late presentation and improve targeting of interventions and treatment.

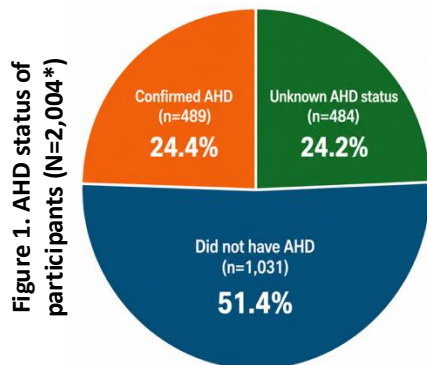
WHAT DID WE DO?

- Surveyed adults initiating or re-initiating ART who were screened for AHD.
 - 24 clinics in Lusaka, Central, Southern, and Copperbelt provinces in 2025.
 - Non-pregnant, non-breastfeeding clients who had initiated or re-initiated ART ≤6 months ago and were recorded in the AHD register by providers.
 - Screening for AHD determined by national guidelines and provider discretion.
 - AHD = CD4 count ≤200 cells/mm³ and/or WHO Stage 3 or 4.
 - Clients screened for AHD are recorded in AHD registers at the clinics.
- Collected self-reported data about demographic and economic characteristics, HIV care history, and reasons for delaying care; linked survey responses with individual medical records.
- Categories = confirmed AHD, confirmed non-AHD, and unknown AHD status (missing both CD4 count and WHO stage data).

Table 1. Participant characteristics (N=2,004)

Characteristic	AHD (N=497)	Non-AHD (N=1,028)	Unknown (N=479)
Sex (female)	243 (49%)	619 (60%)	278 (58%)
Age group			
18-25	65 (13%)	199 (19%)	77 (16%)
26-49	355 (71%)	719 (70%)	330 (69%)
>49	77 (16%)	110 (11%)	72 (15%)
Highest level of schooling completed			
None	22 (4%)	51 (5%)	41 (9%)
Primary	199 (40%)	443 (43%)	250 (52%)
Secondary or higher	276 (56%)	534 (52%)	188 (39%)
Primary occupation			
Formal employment	86 (17%)	147 (14%)	61 (13%)
Informal employment	254 (51%)	508 (49%)	268 (56%)
Unemployed/unpaid work/other	157 (32%)	373 (36%)	150 (31%)
Electricity in house (yes)	351 (71%)	731 (71%)	278 (58%)
Access to piped water (yes)	393 (79%)	798 (78%)	368 (77%)
People in your household sometimes or often went without food in past month	147 (30%)	322 (31%)	158 (33%)
If ZMW 100 (\$4) was needed for healthcare, would it be difficult or easy to find it?			
Easy/very easy	159 (32%)	290 (28%)	102 (21%)
Difficult/very difficult	338 (68%)	738 (72%)	377 (79%)

WHAT DID WE FIND?



- At least 69% of initiators were screened for AHD during the enrollment period; **24% of those screened had AHD.***
- Men comprised 51% of the AHD group vs. 40% of the non-AHD group; few other important differences were found.
- Nearly a **quarter did not have a CD4 count or WHO stage** documented (unknown).

**This is not the overall prevalence of AHD among all initiators, but only among those screened for AHD. Note that not all AHD registers could be found; 69% may underestimate the proportion screened.*

Table 2. HIV care histories (N=2,004)

Characteristic	AHD (N=497)	Non-AHD (N=1,028)	Unknown (N=479)
Condition at ART initiation			
N with CD4 count	441	708	0
Baseline CD4 count, median (IQR)	114 (49-178)	401 (269-567)	n.a.
N with WHO stage recorded	415	850	0
WHO stage 3 or 4	243 (59%)	0 (0%)	n.a.
Timing of first positive HIV test			
Today	158 (32%)	342 (33%)	74 (15%)
In the past month	138 (28%)	193 (19%)	63 (13%)
In the past year	123 (25%)	241 (23%)	123 (26%)
More than one year ago	70 (14%)	234 (23%)	210 (44%)
Don't know/can't remember	8 (2%)	18 (2%)	9 (2%)
Previous experience on ART if tested positive before today (yes)	73 (22%)	242 (35%)	156 (39%)
If previously on ART, reason(s) for stopping (multiple responses allowed)			
Ran out of medication	26 (36%)	82 (34%)	89 (57%)
Relocated	30 (41%)	101 (42%)	78 (50%)
Time/cost/transport	40 (55%)	129 (53%)	79 (51%)
Stigma/disclosure concerns	12 (16%)	34 (14%)	17 (11%)
Felt healthy	13 (18%)	48 (20%)	21 (14%)
Other	12 (16%)	62 (26%)	41 (26%)
If previously on ART, why returned to care (multiple responses allowed)			
Ill health	53 (73%)	107 (44%)	56 (36%)
Encouraged by family/friends	26 (36%)	77 (32%)	42 (27%)
Traced by facility	12 (16%)	63 (26%)	37 (24%)
Always intended to return	17 (23%)	60 (25%)	52 (33%)
Other	7 (10%)	52 (21%)	58 (37%)

- For participants with AHD, median baseline CD4 count was 114 cells/mm³; 59% were categorized as WHO stage 3 or 4.
- Participants with AHD were slightly more likely to report their first positive HIV test in the past month; 44% of those in the unknown group had been aware of their status for more than a year.
- Previous ART experience was reported by 22% of participants with AHD, 35% of those without AHD, and 39% of those with unknown status.
- Among those disclosing prior ART use:
 - Running out of medication, relocation, and logistical barriers were the most common reasons reported for previous disengagement.
 - Nearly 3/4 of those with AHD said they came back due to ill health, vs. 44% of non-AHD group and 36% of unknown group.
 - Encouragement from family or friends was mentioned by roughly a third of participants across groups, while tracing by the facility appears to have been more effective for participants without AHD.

Table 3. Experience of AHD care, by time on ART and AHD status (N=2,004)

Time on ART	AHD status	N	Months of ART received today				Next visit scheduled		Received counseling today? (yes)	Told you have AHD? (yes)	Any knowledge or understanding of AHD? (yes)
			None	≤1 month	2-5 months	6 months	≤1 month from now	>1 month from now			
Started ART today or <1 month ago	AHD	375	5%	84%	11%	1%	88%	12%	76%	22%	37%
	Non-AHD	778	4%	79%	14%	3%	82%	18%	77%	19%	29%
	Unknown	351	2%	64%	30%	4%	66%	34%	61%	10%	22%
Started ART 1-6 months ago	AHD	122	10%	22%	63%	5%	30%	70%	43%	30%	36%
	Non-AHD	250	3%	23%	64%	10%	26%	74%	32%	16%	31%
	Unknown	128	5%	17%	63%	16%	21%	79%	41%	13%	29%

- There were few differences in ART dispensing or follow-up schedules between participants with and without AHD.
- Fewer than one third of participants with AHD reported being told they had advanced HIV disease, and only 40% of those initiating treatment with AHD reported any knowledge or understanding of the condition.

CONCLUSIONS

- A quarter of ART initiators screened for AHD and recorded in AHD screening registers at outpatient clinics in Zambia meet criteria for AHD; just over half are men.
- Fewer initiators with AHD than without AHD or of unknown status self-reported previous ART exposure; while under-disclosure of prior disengagement from care is common, more of those with AHD report being ART-naïve.
- Missing baseline CD4 counts and WHO stages, longer time since HIV diagnosis, and longer dispensing intervals in the unknown group may reflect that they are returning to care, rather than initiating for the first time.
- Relocation and time/cost/transport concerns are major reasons for stopping treatment, which allows progression to AHD; these barriers can be addressed through improved data systems and patient-centered models of care.