

Advanced HIV Disease Package of Care

Dr Julia Turner



In 2025 should anyone
die from HIV?

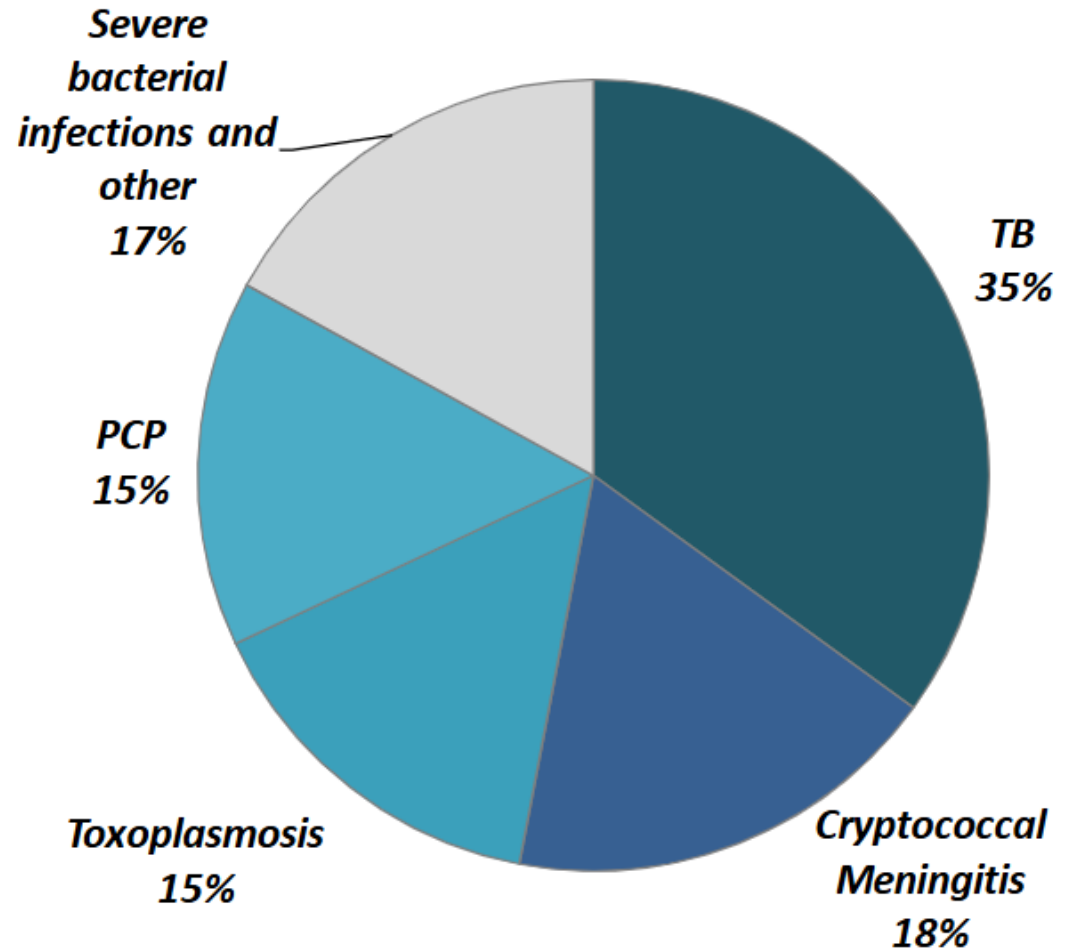
No

But are people are still dying?

Why?

Why?

The majority of AIDS-related deaths of hospitalized adults are caused by opportunistic infections, including:



Source: WHO AHD Guidelines, 2017.



Why?

- Weakened immune system



Why?

- Advanced HIV Disease



Why?

- Delayed HIV diagnosis
- Delayed ART initiation
- Missed appointments or loss-to-follow up
- Poor adherence or drug resistance



Why?

- Psychosocial challenges
- Stigma and discrimination
- Barriers to accessing care (health system, poverty)
- Poor retention strategies
- Lack of understanding/health literacy



We might be
in the same
storm, but



**WE ARE NOT ALL IN
THE SAME BOAT ...**







So how
can we
save
them?

1

Identify PLAHD



What is advanced HIV disease?

Box 1 The definition of Advanced HIV Disease (AHD)

- For adults, adolescents, and children **older than five years**, advanced HIV disease is defined as
 - a **CD4 cell count < 200 cells/ μ l**
 - a **WHO clinical stage 3 or 4 condition**
- All children living with HIV **younger than five years** should be considered as having advanced HIV disease (regardless of CD4% or clinical stage) unless they have been receiving ART for longer than one year and are clinically stable on ART



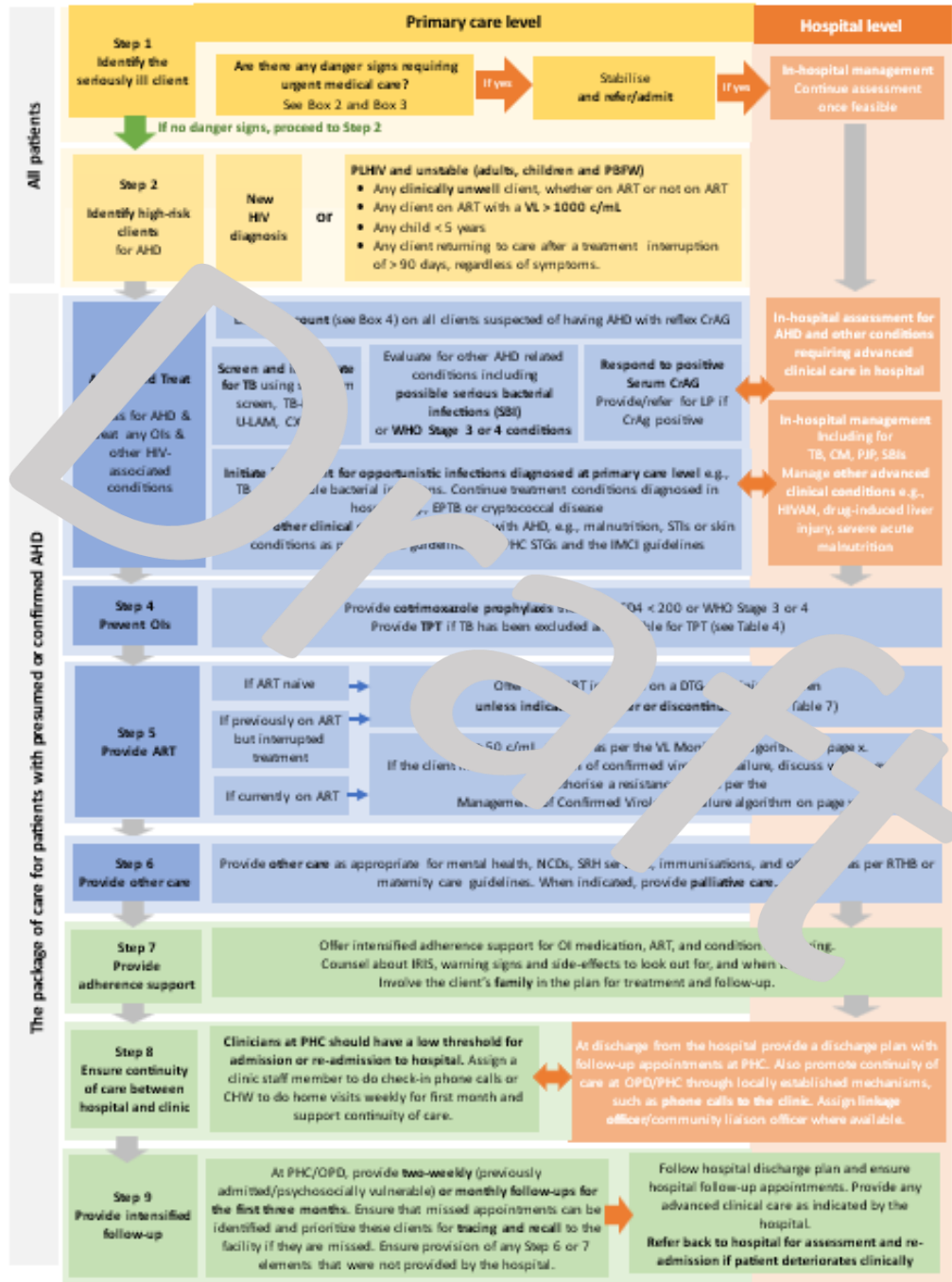
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9 Steps for managing a patient with AHD Overview

Algorithm for identifying and managing adults, adolescents, children and PBFW with advanced HIV disease



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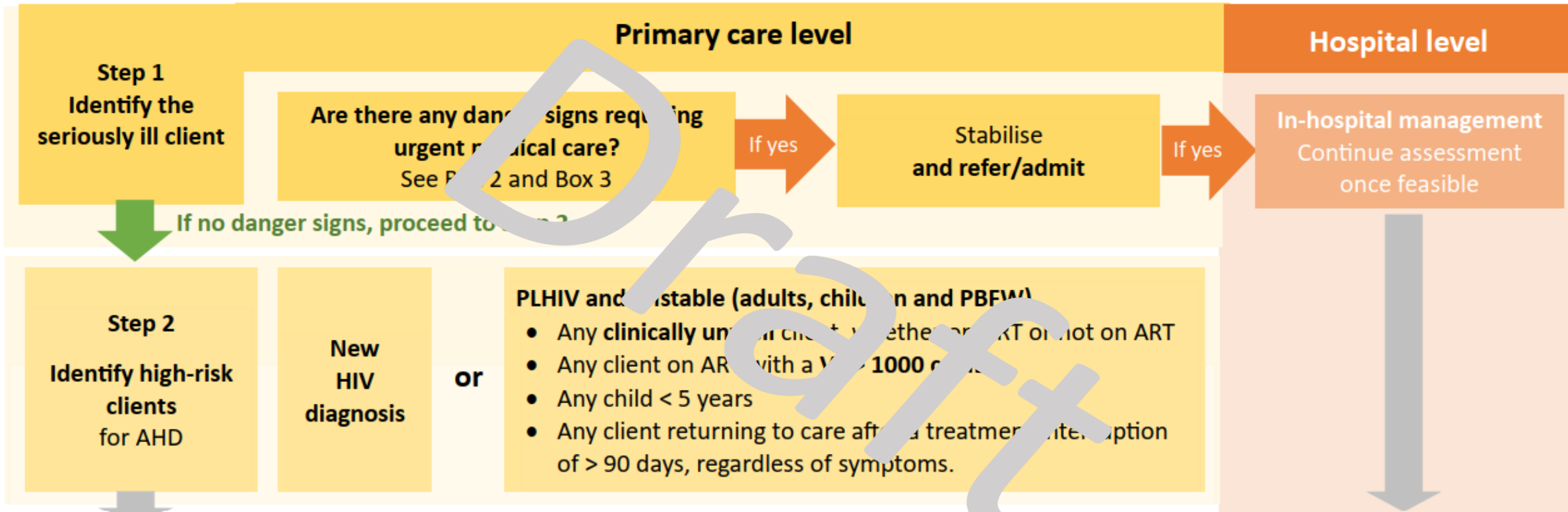
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Step 1 Identify the seriously ill client

Step 2 Identify high-risk clients

All patients



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Box 4: Indications for CD4 testing

Routine CD4 monitoring should be done for all patients:

- At HIV diagnosis and ART initiation
- After 10-12 months/dispensing cycles (DCs) on ART (aligned with annual VL).

CD4 monitoring is indicated in specific situations:

- If CD4 is ≤ 200 or $\leq 25\%$ (in children under 5 years): repeat every 6 months until CD4 $> 200 / > 25\%$
- If VL ≥ 1000 c/mL: do a CD4 to identify AHD and repeat CD4 every 6 months until VL < 1000 c/mL
- If a clinical indication arises, such as a new confirmed or presumed WHO stage 3 or 4 condition in a previously well patient
- If a patient returns to care > 90 days after missing a scheduled appointment

Source: SA NDoH 2023 ART Clinical Guidelines



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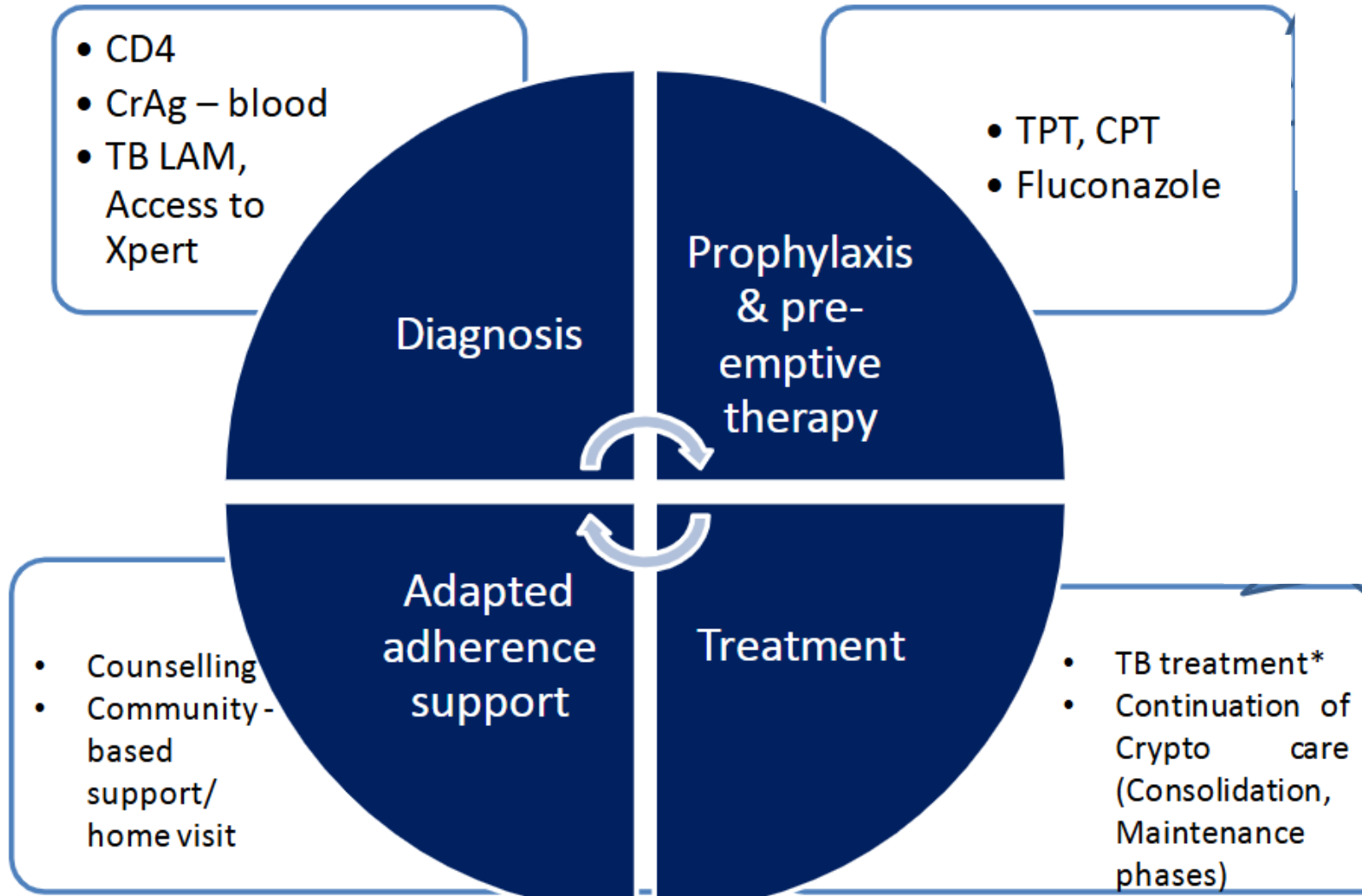
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Provide
Package
of Care

WHO AHD
Package of
Care

AHD Package for outpatients (Spoke)



Source

Step 3 Assess and Treat

Step 3 Assess and Treat

Assess for AHD & treat any OIs & other HIV-associated conditions

Do a **CD4 count** (see Box 4) on all clients suspected of having AHD with reflex CrAG

Screen and investigate for TB using symptom screen, TB-NAAT, U-LAM, CXR, etc.

Evaluate for other AHD related conditions including **possible serious bacterial infections (SBI)** or **WHO Stage 3 conditions**

Respond to positive Serum CrAG
Provide/refer for LP if CrAg positive

Initiate Treatment for opportunistic infections diagnosed at primary care level e.g., TB, or possible bacterial infections. Continue assessment and management of conditions diagnosed in hospital e.g., EPTB or cryptococcal disease
Manage **other clinical conditions** associated with AHD e.g., malnutrition, STI or skin conditions as per the APC guidelines, the PHC STGs and the IMCI guidelines

In-hospital assessment for AHD and other conditions requiring advanced clinical care in hospital

In-hospital management
Including for TB, CM, PJP, SBIs
Manage other advanced clinical conditions e.g., HIVAN, drug-induced liver injury, severe acute malnutrition

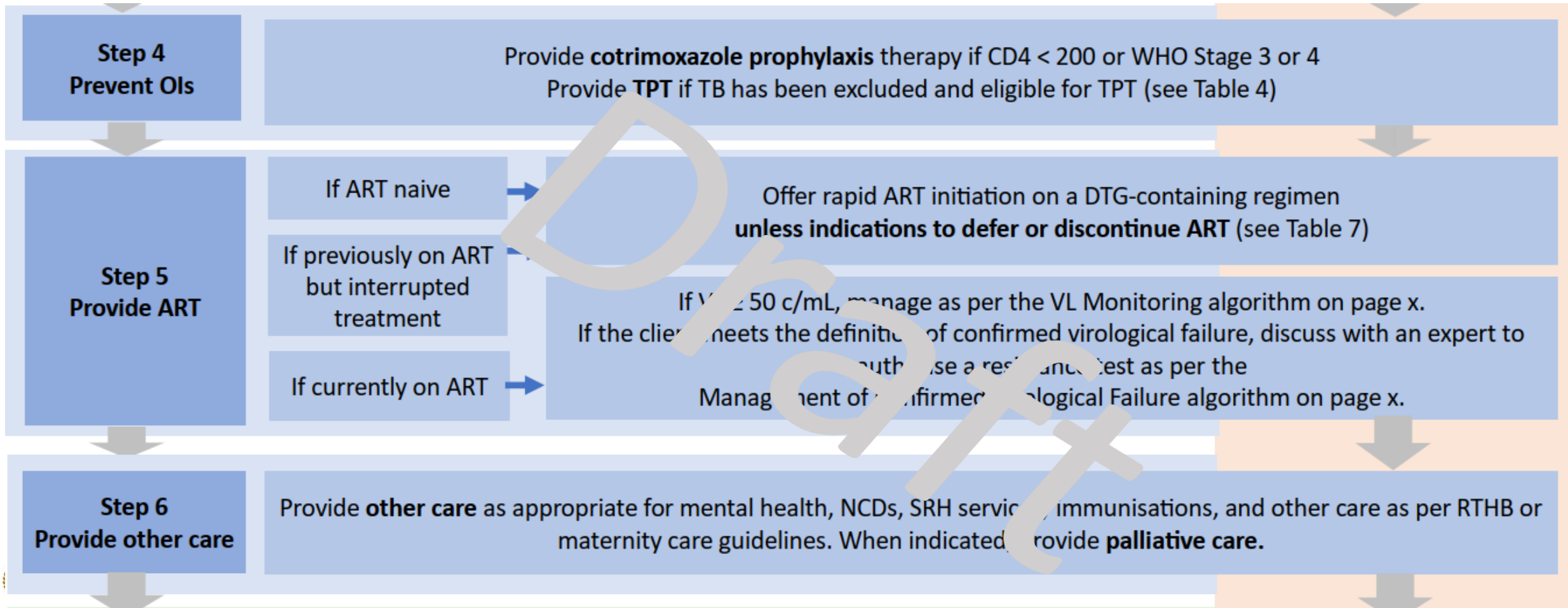


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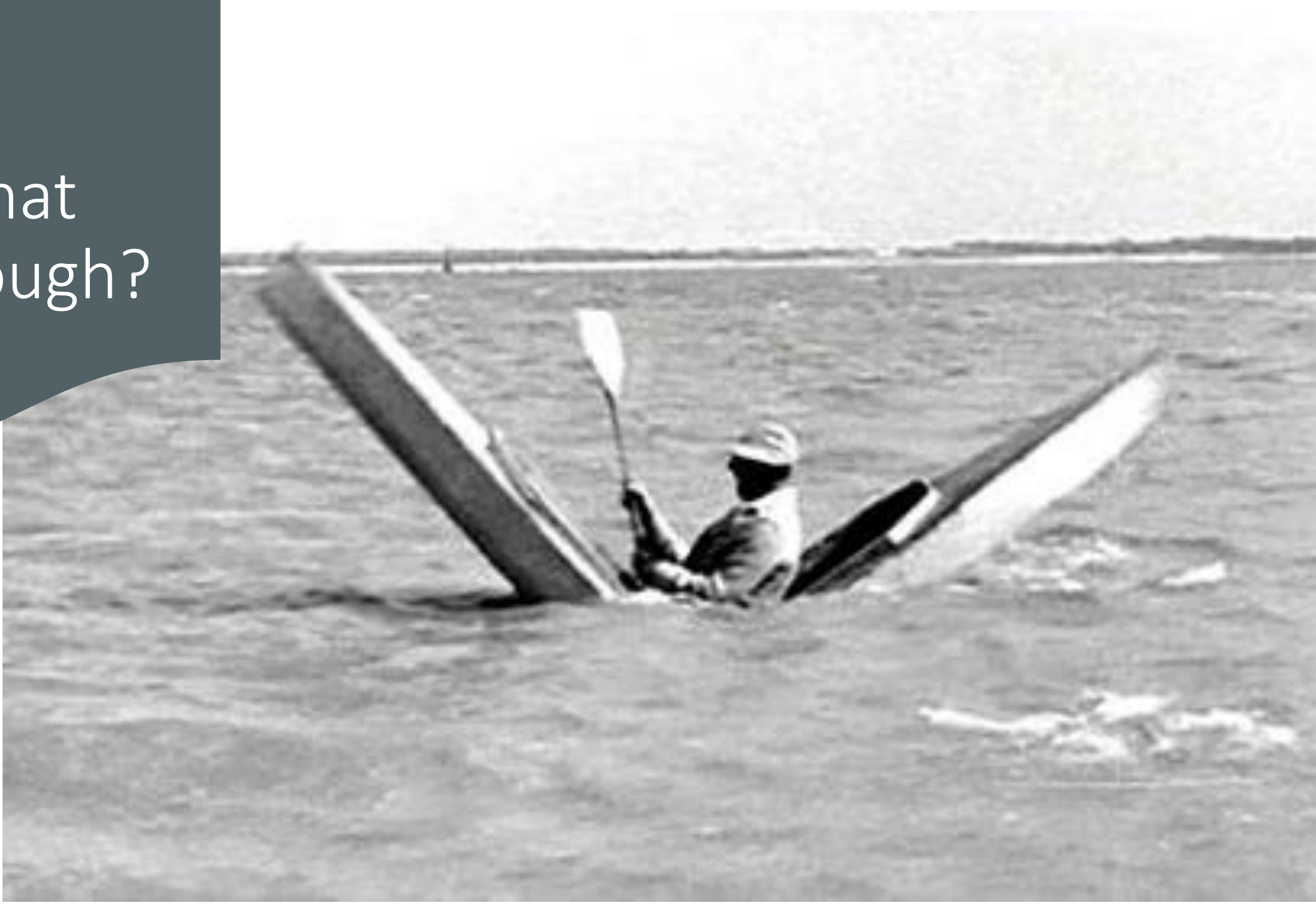
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Steps 4-6



Is that
enough?





Why?

- Delayed HIV diagnosis
- Delayed ART initiation
- Missed appointments or loss-to-follow up
- Poor adherence or drug resistance



Why?

- Psychosocial challenges
- Stigma and discrimination
- Barriers to accessing care (health system, poverty)
- Poor retention strategies
- Lack of understanding/health literacy

Steps 7-9

Step 7 Provide adherence support

Offer intensified adherence support for OI medication, ART, and condition monitoring. Counsel about IRIS, warning signs and side-effects to look out for, and when to return to the hospital. Involve the client's **family** in the plan for treatment and follow-up.

Step 8 Ensure continuity of care between hospital and clinic

Clinicians at PHC should have a **low threshold for admission or re-admission to hospital**. Assign a clinic staff member to do check-in phone calls or CHW to do home visits weekly for first month and support continuity of care.

At discharge from the hospital provide a discharge plan with follow-up appointments at PHC. Also promote continuity of care at OPD/PHC through locally established mechanisms, such as **phone calls to the clinic**. Assign linkage officer/community liaison officer where available.

Step 9 Provide intensified follow-up

At PHC/OPD, provide **two-weekly** (previously admitted/psychosocially vulnerable) or **monthly follow-ups for the first three months**. Ensure that missed appointments can be identified and prioritize these clients for **tracing and recall** to the facility if they are missed. Ensure provision of any Step 6 or 7 elements that were not provided by the hospital.

Review hospital discharge plan and ensure hospital follow-up appointments. Provide any advanced clinical care as indicated by the hospital.
Refer back to hospital for assessment and re-admission if patient deteriorates clinically

7

Provide Adherence Support



Adherence support plan for clients with AHD

AHD treatment literacy

- Explanation of AHD (WHO stage or low CD4) and increased risk of morbidity and mortality
- Importance of intensified clinical management with more regular visits/check-ins to identify any deterioration for 3 months
- Importance of monitoring (by the patient and their supporter) for warning signs and returning to the clinic or going to the hospital
- Provide information regarding medication side effects and IRIS.

DMoC SOP on page 179
(DMOC SOP 9)

Home support network

- Identify and document the chosen family member supporter and their contact details
- Ensure the identified supporter also receives information on AHD and how they can support the patient, including monitoring for warning signs and assisting with clinic attendance or hospital admission

Adherence and disclosure counselling

- If newly initiated, provide Fast Track Initiation Counselling (FTIC) as per DMOC SOP 1
- If already on ART but struggling with adherence, provide Enhanced Adherence Counselling (EAC) as per DMOC SOP 2.
- For children, provide disclosure counselling when appropriate as per DMOC SOP 3.
- Include adherence to OI medication

DMOC SOP 1-3
NDoH adherence plan

Mental health screening and referral

- Ensure mental health screening has been done as detailed in Step 6.
- Refer for further assessment and treatment if necessary

Mental Health
Assessment on page 175

Document main adherence barriers and plan

- Document the main barriers to adherence
- Document a plan to address the main barriers to adherence

<p>Identify the patients' preferred mechanisms for support</p> <ul style="list-style-type: none"> Discuss and document the patient's chosen methods for support, depending on what is available. Potential options include: a family member or friend to check in daily or weekly; WhatsApp communication with clinicians or linkage officer; WhatsApp or in-person support group; check-in phone calls; CHW home visits, or CBO or other community actor check-ins. 	<p>Each facility to identify possible support approaches</p>
<p>Psychosocial support referrals</p> <ul style="list-style-type: none"> Refer as appropriate to counselling or to a psychologist or social worker for assistance with food parcels, SASSA matters, ID documents, etc. 	<p>Referral SOPs</p>
<p>Document the agreed follow-up visit schedule and the format of the follow-up interaction e.g. in person or telehealth check-in or home visit</p> <ul style="list-style-type: none"> 1st follow-up visit (date and format) 2nd follow-up visit (date and format) 3rd follow-up visit (date and format) 	<p>Step 9</p>
<p>Tracing and recall</p> <ul style="list-style-type: none"> Discuss and get consent to phone the patient and/or visit them at home if they miss an appointment (especially in the first 3 months) or if they need to be recalled to the clinic for management of abnormal test results Verify and update the client's contact number and residential address 	<p>DMOC SOP 7 See further detail in Step 9</p>



Patients who have their **family or other support persons involved** in their adherence support plan have better retention in care and better treatment outcomes

Referral letters

Referral letter for admission
come in for with
dizziness.
A: Anti Gastric & anti DMN
N: finish up / evaluated.

Box 16: Hospital discharge summaries

Hospital discharge summaries should contain the following information:

- All diagnoses (chronic and acute) and the results of relevant investigations.
- Details of management provided in hospital, including:
 - HIV and ART management. If ART regimens have been changed, note why and whether the change is permanent or when it can change back.
 - Management of opportunistic infections, including treatment regimens and doses
 - Management of any complications or side effects which developed
 - Management of any co-morbidities
- The patient's state on discharge (to allow the nurse to assess whether the patient is improving or deteriorating).
- A detailed plan for care after discharge, including:
 - Medication that needs to be continued after discharge, for how long the medication needs to be taken, and at what dose. Pay particular attention to continuing treatment for opportunistic infections such as Cryptococcal disease and TB, which have different phases.
 - For the consolidation and maintenance phases of cryptococcal disease, indicate the dose and duration of fluconazole to be used, as well as the intended start and stop dates for each phase (see a template for inclusion in the discharge summary in Annexure 1 CrAg positive management summary)
 - For TB, use the available TB patient card. In children, ensure to provide the disease severity classification and whether or not the child is potentially eligible for treatment shortening
 - The plan for multidisciplinary team involvement, if indicated
 - Clinic- and community/home-based care recommendations,
 - The recommended frequency of follow-ups at the clinic;
 - If relevant, the plan for follow-up appointments at the hospital (where possible, pre-book the follow-up appointments and provide the dates on the discharge summary).
- The expected prognosis
- The signs and symptoms that would require urgent management or referral back to hospital (where possible, give details of which clinician or department to call or go to, should the patient deteriorate).

WHO AHD Toolkit

CRYPTOCOCCAL MENINGITIS

Cryptococcal meningitis is a serious fungal infection of the brain and spinal cord.

Symptoms are headache, fever, nausea, vomiting, light sensitivity, confusion and behavior changes.

Adults and adolescents with a CD4 count under 200 cells/mm³ should have a CrAg test and a lumbar puncture if necessary; if positive, depending on how bad the disease, fluconazole alone or in combination other medicines (amphotericin B and flucytosine) will be needed for treatment.

TB PREVENTION AND TESTING

Everyone starting ART will be screened for TB. Adults, adolescents and children who do not have TB should be offered TB preventive treatment.

All people with TB symptoms should get a sputum test called Xpert MTB/RIF. Adults, adolescents and children who are very ill and/or have a CD4 count below 100 cells/mm³ should get a urine test called TB-LAM.

WHAT IS ADVANCED HIV DISEASE (AHD)?

AHD means you have or could get certain illnesses that happen when someone's CD4 cell count is low. All children under five have AHD.



9

Intensified Follow-up

- Telephonic/whatsApp check-ins
- CHW home visit
- Consent and correct phone number and address

Determining the required visit frequency for a client with AHD

- If a patient is being treated for an active OI, additional clinical “check-ins” should be considered to ensure that OI medication and ART are adhered to and that there is no clinical deterioration.
 - These clients should be seen at least **monthly**, whether in person, via telehealth (phone calls or WhatsApp check-ins), or through community home visits.
 - In cases where the client is particularly vulnerable, interactions may need to be as frequent as **two-weekly**, at least for the first month.
- If a client has been assessed not to have any active OIs or any other indication for more frequent monitoring, telehealth check-ins or community visits may be considered.
- When a clinically well client has an elevated viral load or is re-engaging in care, appointment frequency should be determined based on required clinical management needs. Such patients can be offered three-monthly clinical reviews and aligned ART refills to support retention and viral suppression (DMG 2024).
- The factors in the table below should be considered to determine an appropriate appointment schedule for the first three months after AHD has been identified:

Table 32: Factors to consider when determining an appointment schedule for clients with AHD

Indications for increased patient interactions
• Recent hospitalization
• Current OIs that require increased clinical management
• Psychosocial vulnerability, e.g., an unstable home environment and/or mental health challenges
• Limited family/social support in the home environment who can monitor and respond to warning signs
• Poor treatment literacy and poor understanding of their AHD condition
• The health facility has limited telehealth/community support systems in place to carry out telehealth check-ins or home visits
Indications for the standard level of interactions or using additional telehealth interactions
• No OIs identified and clinically well
• The patient experiences difficulties in getting to the clinic (cost, work, social responsibilities, mobility)
• Strong family or social support in the home environment who can monitor and respond to warning signs
• The health facility has effective telehealth/community support systems in place to carry out telehealth check-ins or home visits, and the patient has consented to such interactions
• Good treatment literacy and good understanding of their AHD condition

Improve
the system



Improving delivery of the Advanced HIV Disease package of care through monthly low CD4 count file audits in Ehlanzeni District, South Africa

Turner J^{1,2}, Maunatlala S¹, Chasela C¹, Onaga CM¹ Jackson C¹

1. Right to Care, Johannesburg 2. University of Western Cape

Background

- People living with Advanced HIV Disease (PLAHD) are at high risk of morbidity and mortality and require a package of care (such as the WHO Package of Care), including screening, prevention, and treatment.
- As our guidelines recommend giving healthy-looking people 1 month of treatment at initiation, many people's blood results are only checked at that visit after 1 month, so some people with low CD4 counts are only identified after a month
- Right to Care NPO supported HIV care in Ehlanzeni District, Mpumalanga until January 2025.

Objective

- In order to improve management of PLAHD, we assessed clinical management of newly initiated people with $CD4 < 200$ and intervened early where necessary.

Method

- Monthly, Tier.net was used to create lists of all people initiated on ART in the previous month with CD4 <200.
- Right to Care nurse mentors audited these files to:
 - identify gaps in management
 - Correct management for those clients
 - Inform and train clinic staff on how to prevent the same gaps occurring again
- A secure excel-based tool captured findings, and
- A specially designed job aid guided corrective actions.

CTO Job Aid for actions following AHD audits: Baseline CD4 <200

	Challenge identified	Advice to write in the file	Additional actions
1	Not on Bactrim	<i>Start Bactrim at next visit</i>	If CD4<100 call patient if next appointment is >2 weeks away and check if they can come to facility earlier.
2	Baseline eGFR <50mL/min and on TLD	<i>At next visit repeat Cr, stop TLD, change to ALD and repeat Cr again after 3/12 Call helpline or refer to hospital if eGFR worsens or if it is <30mL/min</i>	Phone patient to explain that they need to come in as soon as possible to change their treatment because of the results of their blood test.
3	HBsAg positive	<i>Assess for jaundice, abdominal tenderness, or any sign of acute/recent liver disease. Collect ALT. Repeat HBsAg in 6/12</i>	Call helpline if eGFR <50mL/min
4	CrAg positive, no action taken yet	<i>Call patient to come for referral letter. Start fluconazole 1200mg daily. Refer to hospital for LP with CD4 and CrAg results</i>	Call patient to come urgently (within 1-2 days) for referral to hospital.
5	CrAg positive, already referred to hospital	<i>Phone patient and document what was said. Document LP results if found on LabTrak. To continue fluconazole for at least 12 months, or longer until VL LDL and CD4 >200.</i>	Phone patient to verify if they went to hospital for LP, if it's not indicated in the file. Trace LP results on LabTrak if done and results unknown. Assist with linkage if patient still hasn't attended hospital, or if they went but LP was not done.
6	GXP positive and not yet on TB treatment	<i>Call to initiate TB treatment and Bactrim</i>	Call patient to come as soon as possible for TB treatment initiation.
7	TB symptoms present at or before ART initiation, but GXP negative	<i>Do U-LAM (CD4 <200 and TB symptoms) Collect sputum for TB culture and DST</i>	Call patient to come for U-LAM and TB culture. Orientate OPM and nurses on TUTT algorithm if it is not being implemented correctly
8	TPT was deferred due to TB symptoms at baseline, but GXP was negative	<i>Do U-LAM and sputum culture (as above) Defer TPT Reassess TPT eligibility after 3/12</i>	Orientate OPM and nurses on TUTT algorithm and TPT guidelines if it is not being implemented correctly.
9	GXP and U-LAM negative and patient clinically unwell	<i>Document phone call to patient Collect sputum for TB culture and DST Refer to hospital</i>	Call patient back and arrange transfer to hospital.

			Orientate OPM and nurses on TUTT algorithm if it is not being implemented correctly
10	No TB symptoms and GXP negative, but not yet on TPT	<i>Start TPT next visit. Collect Sputum for TB culture and DST</i>	Check previous notes to see if there is a contra-indication to TPT Orientate OPM and nurses on TUTT algorithm and TPT guidelines if it is not being implemented correctly
11	No pap smear done in the past 3 years for females	<i>Do pap smear next visit</i>	Ensure all clinicians are reminded on the importance of doing pap smears
12	Pap smear done and abnormalities found, but not actioned yet	<i>If LSIL: repeat pap smear in 1 year If HSIL: refer to hospital with pap smear results. If candida or other infections: clotrimazole cream or appropriate antibiotics</i>	Ensure all clinicians know the management of abnormal pap smears
13	Female, not pregnant and no contraception indicated	<i>Discuss family planning options and recommend taking contraceptives at least until VL LDL and CD4 >200</i>	Remind clinicians to offer and document contraception to all women, especially at ART initiation
14	Pregnant	<i>Repeat VL after 3/12 Call the helpline for advice on management of low CD4 in pregnancy</i>	Make double sure that Bactrim and TPT are given (unless there are contra-indications)
15	No patient adherence plan in the file	<i>Please complete patient adherence plan session 1 and 2 at next visit</i>	Place patient adherence plan in the file
16	Critical results (like CrAg positive or eGFR <50) not actively managed and patient called back		D/w OPM and strengthen result management strategies to ensure there is always someone delegated to review results and action abnormalities
17	Any danger signs present at last visit (High temp, GXP, distress, low sats, systolic BP<90, dehydration, altered mental state, unable to walk unaided, coughing blood, decreased level of consciousness etc)	<i>Document any updates from patient of next of kin</i>	Check if patient was managed appropriately / transferred to hospital. Phone patient or next of kin to get feedback and document in the file.
18	CD4 <100	<i>Write all the relevant notes as above (Bactrim etc). Also add: Do full history and examination, Educate about low CD4 count, risk of OIs, risk of IRIS and importance of adherence</i>	Call back to facility as soon as possible for

Findings

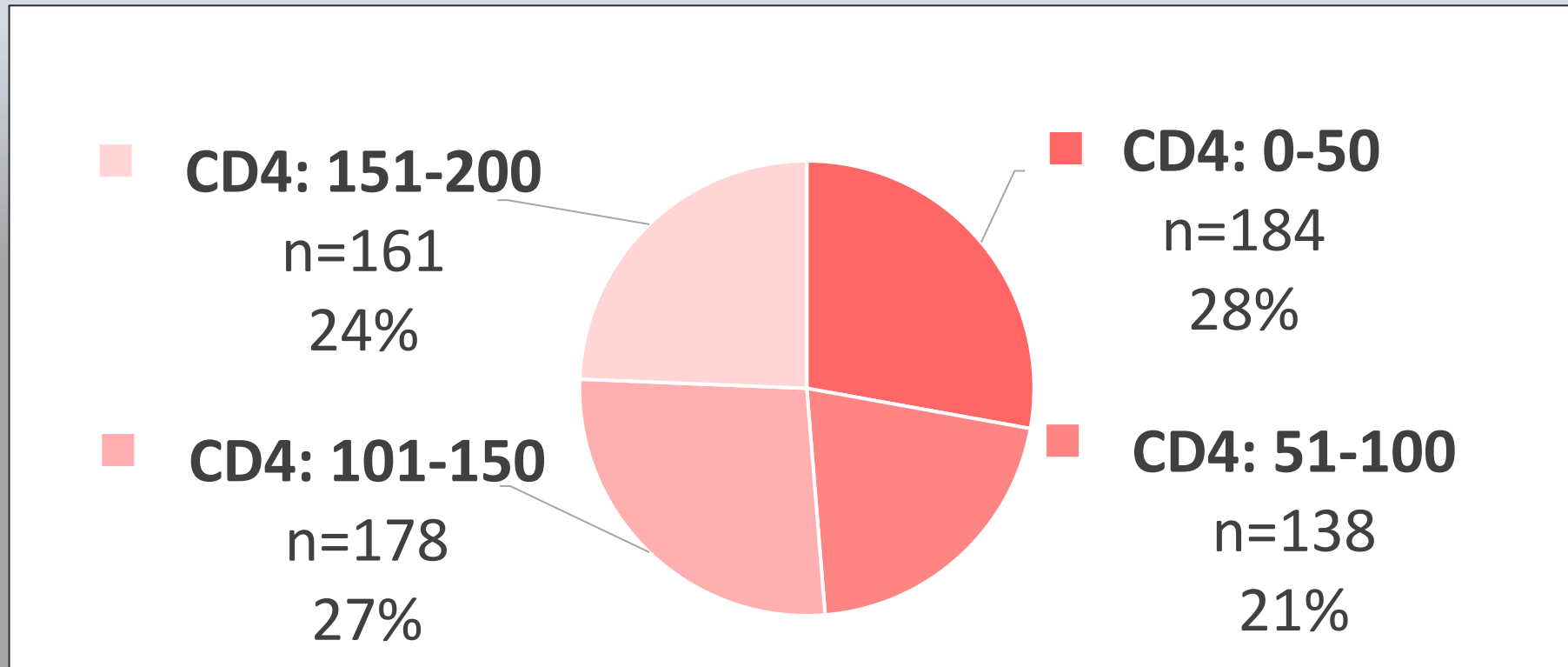
Over 4 months, in 138 facilities, there were
5286
client initiations

1021 (19%)
of new client initiations had CD4<200

661 (65%)
of the 1021 files were audited

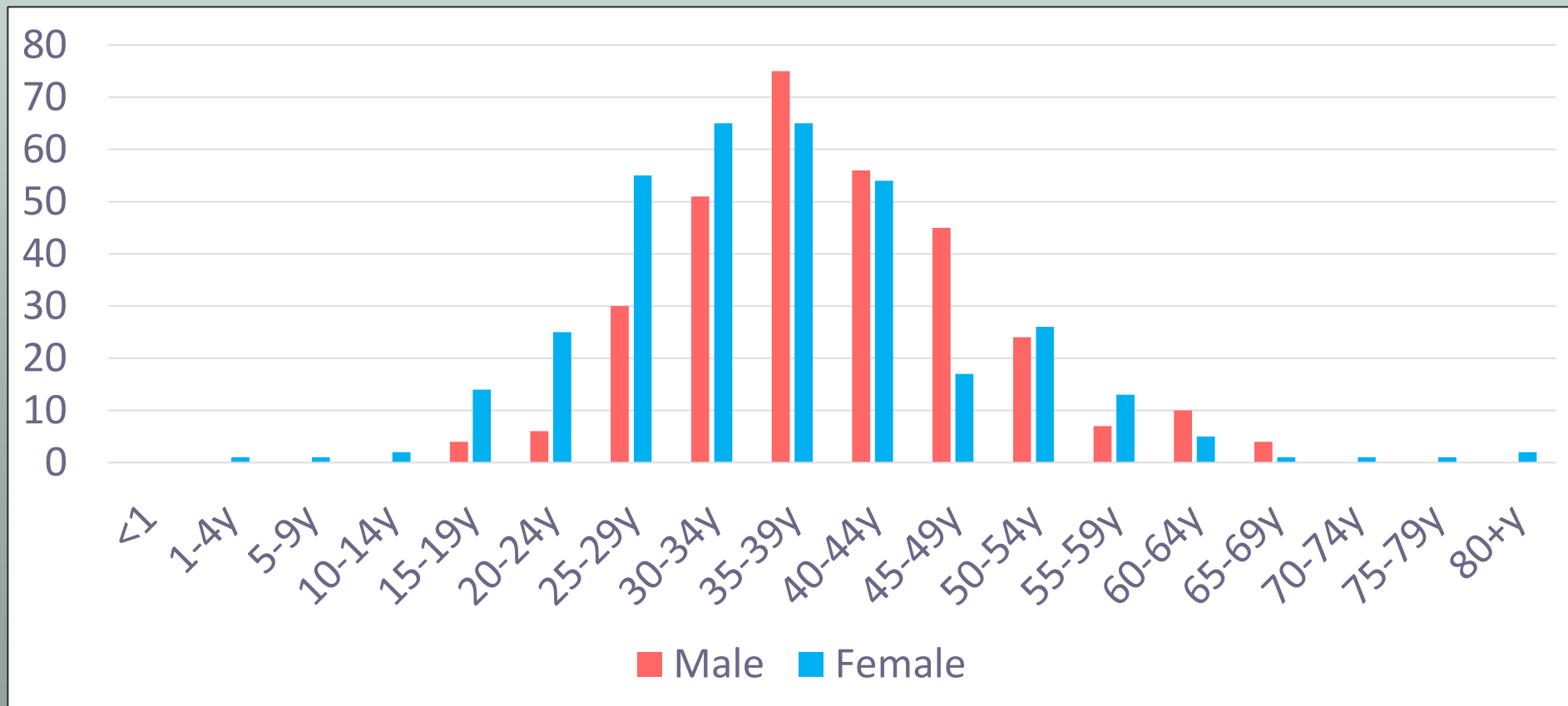
CD4 count Distribution

- Nearly half (49%) had CD4 <100, and 28% had CD4 <50.



Age and Gender Distribution

- Most, (85%) were aged 25–55, with numbers peaking at 35–39 years.



Initiation of ART

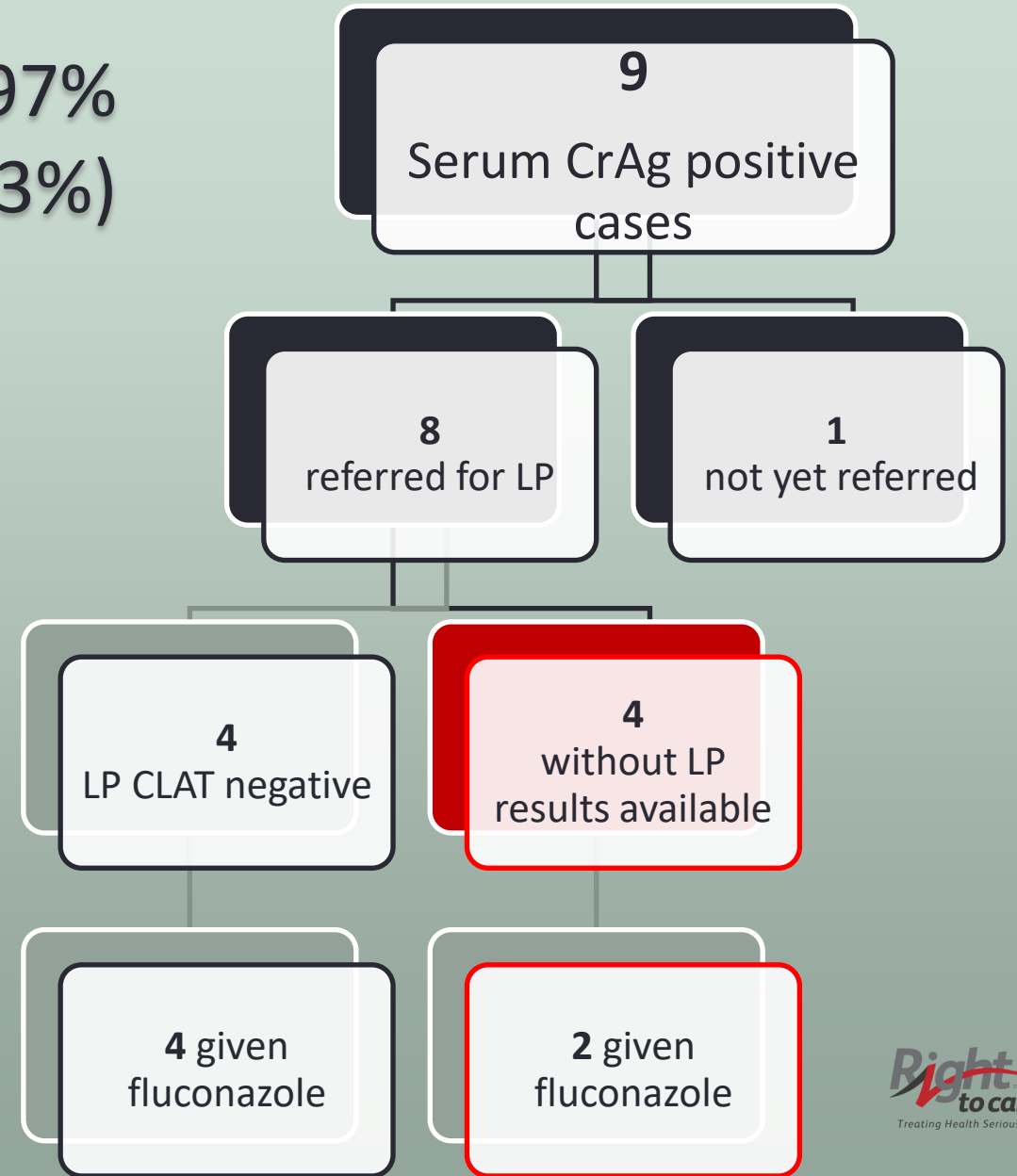
	Number	Percentage
<i>Regimens:</i>		
TLD	630	95%
ALD	9	1%
Other	1	0%
<i>New/Re-initiation:</i>		
New initiations	627	95%
Re-initiations	20	3%
<i>Same Day Initiations:</i>		
Same day initiation	552	84%
- <i>had a reason to defer</i>		11%
Deferred initiation	99	15%

Tuberculosis Screening

- TB screening was documented in 646 (99%); 139 (22%) were symptomatic, and 507 (78%) were asymptomatic.
- TB-NAAT was performed for 511 (78%), with 56 (11%) positive.
- U-LAM testing was done for 182 (28%), with 45 (25%) of them being positive.
- Among those with a positive symptom screen, 68 PLAHD (49%) were diagnosed with TB, (38 by TB NAAT alone, 18 by U-LAM alone, and 12 with both results positive).
- Among those with a negative symptom screen, 6 PLAHD (1%) were diagnosed with TB, all through TB NAAT testing.

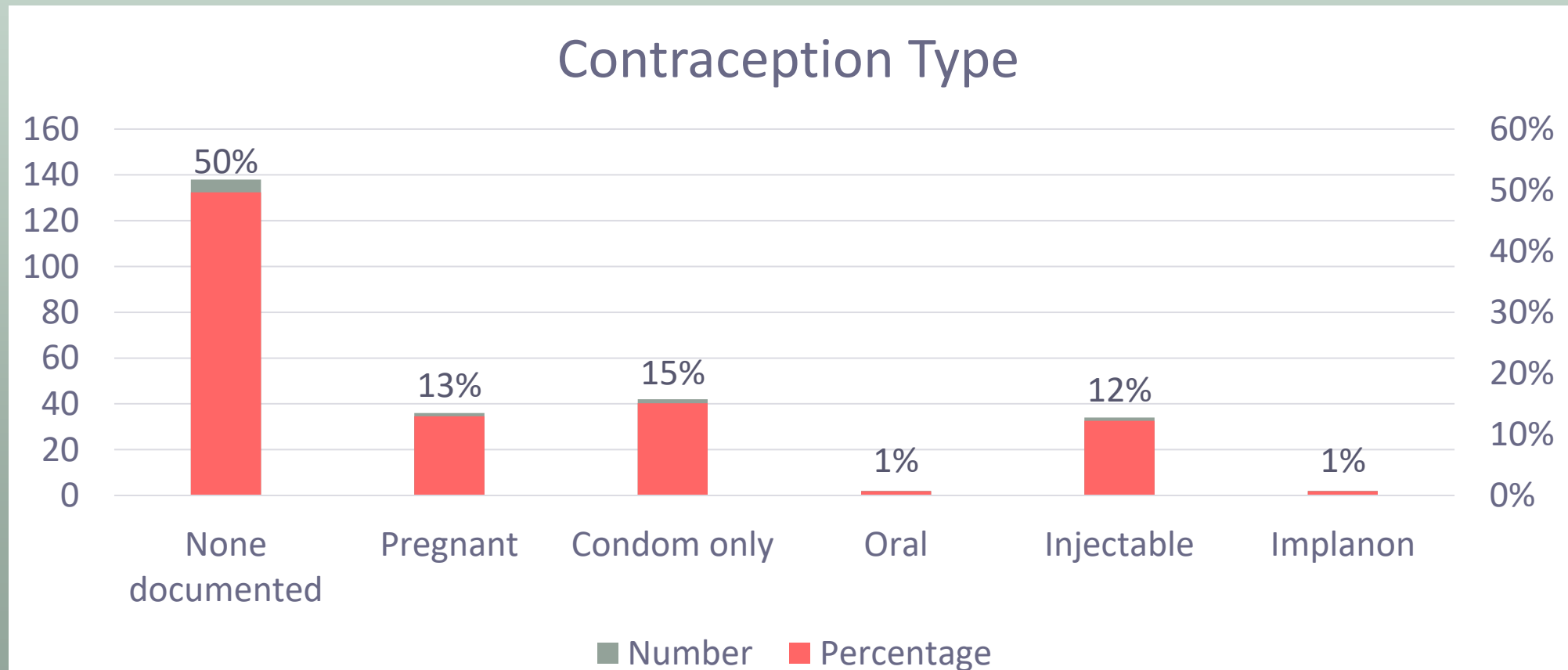
Cryptococcal Screening and Treatment

- CrAg testing was documented for 97% (310) of eligible clients, with nine (3%) positive.
- Of these, eight were referred for lumbar puncture; four had no results, four had meningitis excluded, and six had fluconazole documented in the file.



Prevention

- TPT was initiated in 534 (93%) of those eligible (80% at ART initiation), 39 (7%) still needed to start.
- Cotrimoxazole was started in 423 (65%), but 35% still required prescription.
- Only 50% of women aged 15–45 years old had documented contraception.



Additional Screening Tests

- Only 18% of women >15 years had a pap smear documented.

	Number	Percentage	
<i>eGFR (mL/min)</i>			
(n=618) (93%)	<50	30	5%
	50-59	33	5%
<i>Haemoglobin (g/dL)</i>			
(n=329) (50%)	<8	28	9%
	8-9.9	61	19%
	10-11.9	127	39%
	>12	113	34%
<i>Hepatitis B Surface Antigen</i>			
(n=350) (53%)	Positive	19	5%
	Negative	331	95%

Conclusion

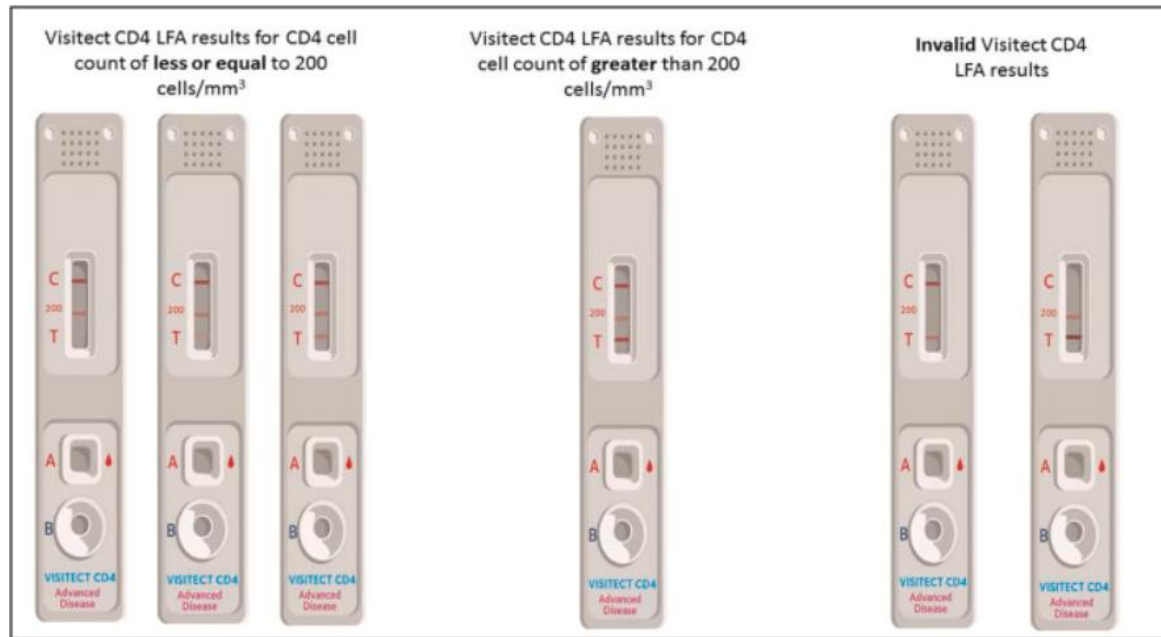
- We found that screening, prevention and treatment is available for PLAHD
- However, not all elements were provided to all clients, and not as early as we would like.
- 1 month delay after initiation
- Delay/not checking all results

Recommendation

- More needs to be done to ensure timeous identification of PLAHD and delivery of a complete package of care.
- To improve identification of PLAHD:
 - Point of care CD4 count testing

Point of Care CD4 Testing

Visitect CD4



A Prospective Evaluation of the Diagnostic Accuracy of the Point-of-Care VISITECT CD4 Advanced Disease Test in 7 Countries

Tinne Gils ✉, Jerry Hella, Bart K M Jacobs, Bianca Sossen, Madalo Mukoka, Monde Muyoyeta, Elizabeth Nakabugo, Hung Van Nguyen, Sasiwimol Ubolyam, Aurélien Macé ... Show more

[Author Notes](#)

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- Sensitivity: 93%
- Specificity 61%
- Below WHO threshold of 80%




Pima CD4 and Pima Analyser




CD4 PIMA




Collect 20-25 µL whole blood — avoid bubbles
Venous or finger pick




Apply sample to cartridge inlet — fill to line



Insert cartridge in correct direction until it seats



Automated run
Wait 20 min



Read results

- Pima Analyser

Recommendation

- More needs to be done to ensure timeous identification of PLAHD and delivery of a complete package of care.
- To improve identification of PLAHD:
 - Point of care CD4 count testing
 - Thorough history taking and examinations should be performed at initiation to identify those who should return sooner than 1 month
 - NHLS results should be reviewed routinely
 - A standardised job aid could be used to guide clinicians on how to manage abnormal results and how urgently to call patients in
 - CrAg RfA
- To ensure PLAHD receive the full package of care, we recommend sample file audits per facility to identify gaps

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- Dr Christi Jackson
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- Saul Maunatlala
- Prof Charles Chasela
- All the Right to Care nurse mentors
- DOH staff



Case

- 22 year old female
- Came in 1 week prior with a cough, tested HIV positive
- TB NAAT done, came back 3 days later, TB NAAT negative, CD4 count: 3, CrAg negative, initiated on ART, given cotrimoxazole, adherence done.
- Very low BMI, tachycardic, dizziness
- 3 years ago, age 19, pregnant and tested HIV positive, CD4: 110, started ART.

1. Identify danger signs
2. Identify AHD
3. Investigate
4. Treat
5. Prevent
6. Other
7. Adherence and health literacy
8. Continuity of care
9. Follow up

Advanced HIV Disease Chapter 2025

Take Home Message

- Identify AHD
- Comprehensive Package of Care
- Review results routinely and action abnormal results
- CrAg RfA
- Improving the system, monitoring and evaluating
- Share strategies

