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Ministry of Health

Guidance to enhance ART adherence, viral load monitoring, and regimen optimization to improve HIV viral suppression among PLHIV on ART

2nd Edition

April 2020



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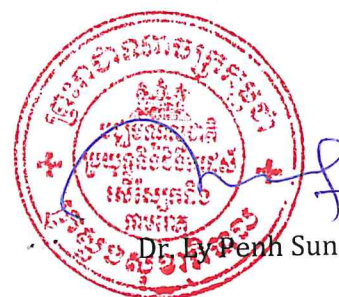
Acknowledgements

The guidance was prepared based on the National HIV clinical management guidelines for Adults and Adolescents, officially approved by the ministry of health, dated on 09 August, 2016. This revised document will provide details guidance and specific tools to ART Team to implement viral load testing and use these VL result, and enhanced adherence counseling to improve HIV viral load suppression among PLHIVs on ART.

In this accession, The National Center for HIV/AIDS, Dermatology and STD (NCHADS), would like to express the deepest thanks to all NCHADS officers and development partners who actively participated in and contributed to the development and update of this guidance note on enhance ART adherence, viral load monitoring, and regimen optimization to improve HIV viral suppression among PLHIV on ART. In particular, I am grateful to Dr Samreth Sovananrith, Chief of Technical Bureau, Dr Ngauv Bora, Deputy Chief of Technical Bureau, Dr Chhay Mengsomythd, Dr Khiev Channiphal, Dr Khiev Samnang, Dr Ky Sovathana, and Mr Roeun Moeung, Technical staffs of NCHADS, Dr Laurent Ferradini, and Dr Deng Serongkea (WHO), Dr Chan Sodara and Ms Soch Kunthea (US-CDC), Mr Caroline Barrett and Ms Sivantha Hul (CHAI), Dr Phoeurn Norathik (AHF), Dr Chel Sarim (FHI360/LINKAGES) and Dr Denisa Augustinova, Mrs Say Leakhena (MAGNA) for their effort of this successful development and update of the guidance.

Phnom Penh, 06 / Apr / 2020

Director of NCHADS



Dr. Ly Penh Sun

1. Background

Routine HIV viral load testing for patients on ART is recommended by WHO as the best way to monitor a patient's adherence and response to treatment, and was recently included in Cambodia's National HIV Clinical Management Guidelines. Among UNAIDS 95-95-95 goals, the "third 95" focuses on ensuring that 95% of patients on ART achieve HIV viral suppression.¹

Cambodia is scaling up viral load (VL) testing for all ART patients. As more patients receive VL testing, clinicians will need to better understand what to do when a patient has a detectable VL test result. A patient with detectable VL may have already developed true resistance to his/her medication, or he/she may simply be not fully adherent to the medication.

A systematic review by WHO has shown that up to 70% of patients with a VL >1,000 copies/mL can achieve re-suppression after proper adherence support.² This demonstrates the importance of routine viral load monitoring as a tool to identify patients who need enhanced adherence support. Given the challenges and costs of 2L and 3L therapies, it is especially important to understand the cause of virological failure³, to provide high-quality, tailored adherence support and avoid premature switching to 2L or 3L "salvage" therapy.

2. Objectives

This guidance note provides recommendations to programmatic and clinical staff to improve viral suppression and patient outcomes, and thus accelerate progress toward Cambodia's "third 95" goal through:

- Implementing routine VL to monitor patient adherence
- Providing high-quality enhanced adherence counseling for those with unsuppressed VL
- Optimizing regimen and switch to 2L and 3L when necessary

The audience for this guidance note is:

- PHD and OD Programmatic Staff
- ART Site Clinicians, Nurses
- ART Site Counsellors

¹ Viral suppression refers to a viral load below the detection level using viral assays. *Consolidated Guidelines on the Use of Antiretroviral Drugs for Treating and Preventing HIV: Recommendations for a Public Health Approach*. World Health Organization. Second Edition. 2016. Page xiii.

<http://apps.who.int/iris/bitstream/10665/208825/1/9789241549684_eng.pdf?ua=1>

² Bonner K, Mezocho A, Roberts T, Ford N, Cohn J. Viral load monitoring as a tool to reinforce adherence: a systematic review. *J Acquir Immune Defic Syndr*. 2013;64(1):74–8.

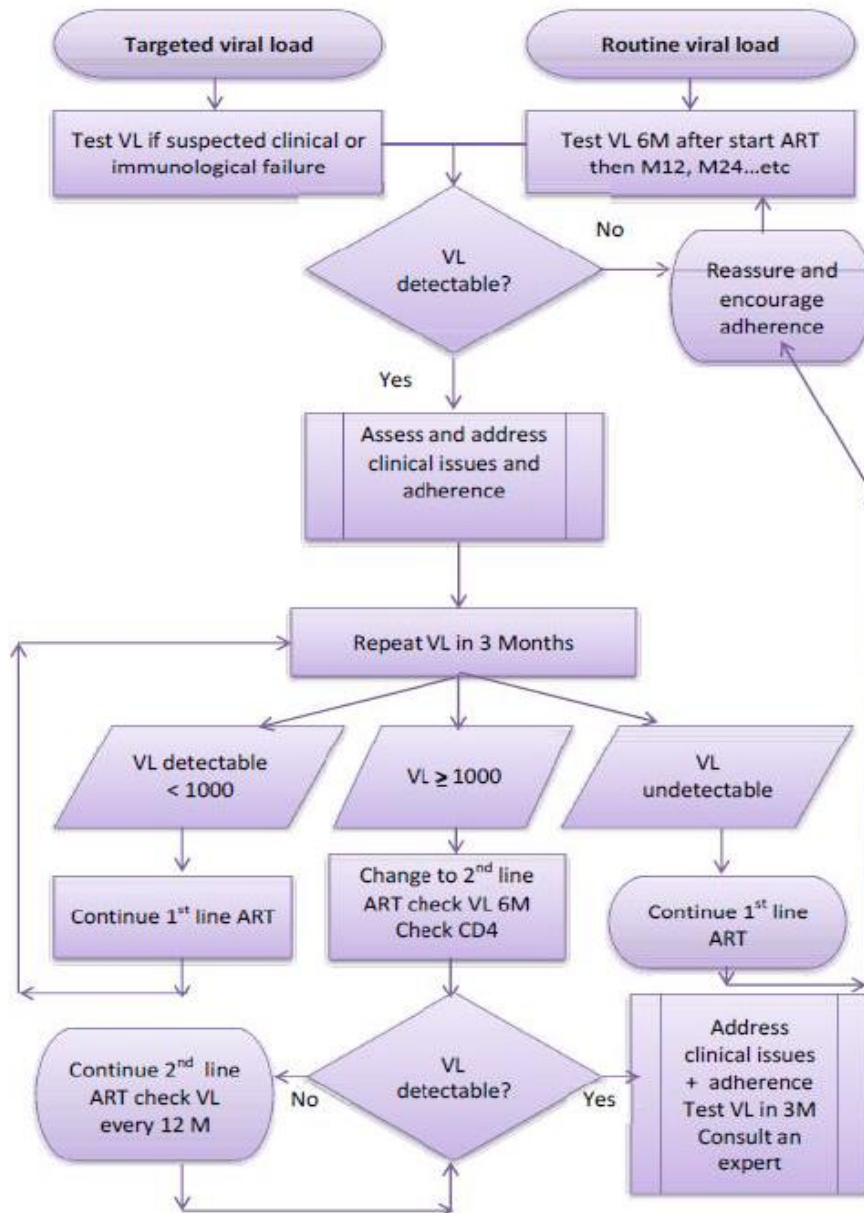
³ Viral failure is defined as a persistently detectable viral load exceeding 1000 copies/ml (that is, two consecutive viral load measurements within a 3-month interval, with adherence support between measurements) after at least 6 months of starting a new ART regimen. *Consolidated Guidelines on the Use of Antiretroviral Drugs for Treating and Preventing HIV: Recommendations for a Public Health Approach*. World Health Organization. Second Edition. 2016. Page xiii.

<http://apps.who.int/iris/bitstream/10665/208825/1/9789241549684_eng.pdf?ua=1>

3. When to conduct Routine Viral Load Testing

Routine viral load monitoring should be conducted 6 months after initiating ART, 12 months after initiating ART, and every 12 months after that if the VL is undetectable.

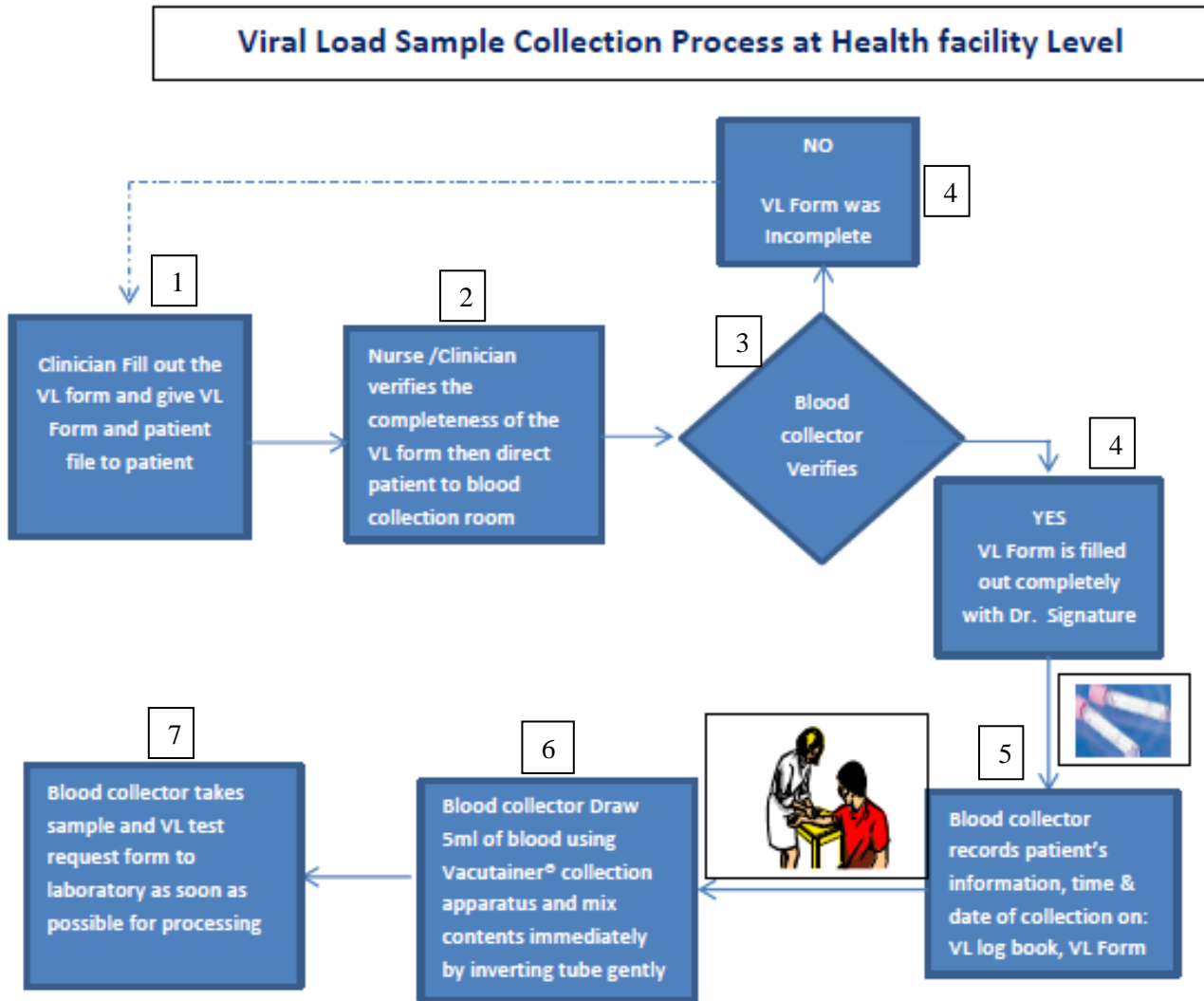
3.1 Cambodia Viral Load Algorithm⁴



⁴ National HIV Clinical Management Guidelines, NCHADS 2016, Figure 11-2, p68. Note: a detectable VL is defined as any result > 40 copies/mL.

4. How to conduct Routine Viral Load Testing?⁵

Implementation of Routine Viral Load Testing requires collaboration between clinical, counseling, and laboratory staff at the site level.



⁵ Refer to “Standard Operating Procedure for Implementing HIV-1 Viral Load Tests in Cambodia” (February 2017) for full details.

5. What to do when a patient has a detectable (≥ 40 copies/mL) VL result

A viral load may be detectable due to poor adherence, ART drug resistance, or a “blip” - sometimes the VL is detectable because of occasional viral replication, and will return undetectable without the need to change ART regimen.

A detectable VL is a medical emergency. When a patient has a detectable VL, you must:

- Provide 3 months of tailored Enhanced Adherence Counseling (one appointment each month)
- Perform a second VL test after this 3-month period of Enhanced Adherence Counseling

Definition: Enhanced Adherence Counseling is a series of 3 counseling appointments – 1 appointment per month for 3 months. Enhanced Adherence Counseling:

- Can be conducted by site counselor, nurse, or doctor
- Should begin as soon as possible after a detectable VL test result
- Sessions should last at least 30 minutes each
- Aims to both assess adherence to ART, and improve adherence to ART
- Should be tailored to address the patient’s specific challenges with adherence

Key Components: Enhanced Adherence Counseling should:

- Assess adherence
- Explore barriers to adherence
- Find solutions to improve adherence
- Monitor adherence progress from each EAC session. **The Enhanced Adherence Counseling Form (part of Annex 1) must be completed at each EAC session and place in the patient’s file.**

5.2 Referrals and Resources

During Enhanced Adherence Counseling sessions, you may notice barriers that require referral to other interventions or services. Your site’s coordinator for Enhanced-Integrated Active Case Management (B-IACM) will help the patient receive additional support and services. You should refer these cases to the B-IACM coordinator at your site.

5.3 Specific adherence support interventions for children

Successfully treating a child requires the commitment and involvement of responsible caregivers. Such caregivers may also be living with HIV, and poor quality of care for adult family member(s) may result in poor care for the child. Other challenges include limited choice of pediatric formulations, poor taste of syrup, difficult swallowing tablets, and frequent dosing requirements.⁶

Improving poor adherence in a child could require:

- Visiting the child’s home to understand the full social and economic context
- Building a relationship with a well, capable adult family member

⁶ 2015 WHO Guidelines.

- Optimizing the child’s formulation to reduce pill burden and poor taste⁷

5.4 Specific adherence support interventions for adolescents

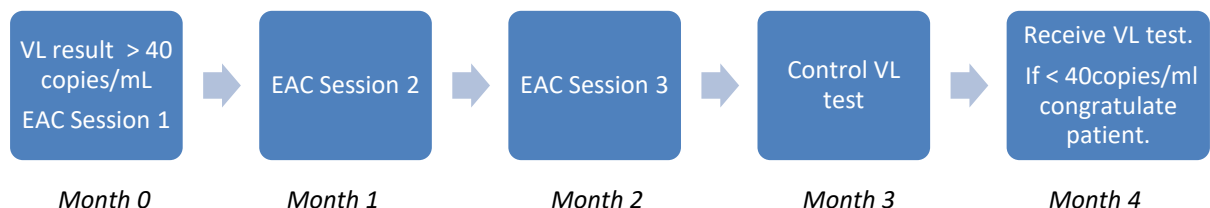
It is estimated that one-third of adolescent ART patients worldwide are not fully adherent to their medication.⁸ Adolescent patients experience a number of unique challenges to adherence, including fears around stigma and confidentiality when attending clinic, lack of a daily routine, busy social life, and lack of pocket money to pay for transport to clinic, and/or reluctance to switch to new providers at adult clinic.

Improving poor adherence in an adolescent could require:

- Changing appointment times to be more convenient with school schedule
- Relationship-building between a single provider and the patient to establish trusting and candid interactions, especially for adolescents who have recently transitioned to adult clinic
- Close monitoring of patient’s engagement in their care and rapid follow-up if patient starts to disengage
- Technology-based methods to remind the patient to take their medication (such as phone alarms)

5.5 Repeat VL test (“control” VL test)

After 3-months of Enhanced Adherence Counseling, you must perform a second VL test – the “control VL” test. If the viral load is undetectable, congratulate the patient and celebrate this accomplishment. Reinforce good adherence.



6. What to do when a *patient on 1L regimen* has a confirmed virological failure (VL ≥1,000 copies/mL after 3-month Enhanced Adherence Counseling)⁹

If the VL is still ≥ 1,000 copies/mL:

- The regimen should be changed to 2L after all adherence issues have been addressed. If the VL decreases after adherence counseling, but remains ≥1000 copies / mL, still switch to 2L.

If VL is between 40 and 1,000 copies/mL:

- Continue 1L and repeat VL in 3 months. If this test is again between 40 and 1,000 copies/mL, consider switch to 2L.

⁷ Two new pediatric formulations are ABC/3TC 120mg/60 mg dosage, and LPV/r 40/10mg oral pellets.

⁸ 2015 WHO Guidelines.

⁹ National HIV clinical management guidelines for Adults and Adolescents, MoH Aug. 2016

SUMMARY: WHEN TO CHANGE TO 2ND LINE

- Two consecutive results of VL \geq 1000 copies / mL, AND
- Patient has received Enhanced Adherence Counseling (1 time per month in 3 consecutive months) between these two tests

6.1 OI Management

Check patient's CD4 count. If CD4 < 350 cells, start patient on cotrimoxazole. Refer to HIV Clinical Management Guidelines Section 5.2 "Criteria for cotrimoxazole prophylaxis."

6.2 Choosing a 2L regimen

Select 2nd line regimen according to the most updated Cambodian HIV Clinical Management Guidelines for Adults and Adolescents.

6.3 Monitor patient closely during transition to 2L

EAC: Conduct EAC **monthly** during **first 3 months of 2L treatment**, to detect any adherence issues immediately.

VL: Recheck VL at **6 months, 12 months after 2nd line regimen and then every year.**

7. What to do when a *patient on 2L regimen* has a confirmed virological failure (\geq 1,000 copies/mL after 3-month Enhanced Adherence Counseling)

Virological failure to 2L regimen may be due to ART resistance. Such patients may be eligible for third-line "salvage therapy." Suspected cases of 2L resistance should be referred to NCHADS for discussion with the 3L Technical Working Group, and to the site's B-IACM coordinator.

Refer suspected cases of 2L resistance to NCHADS if:

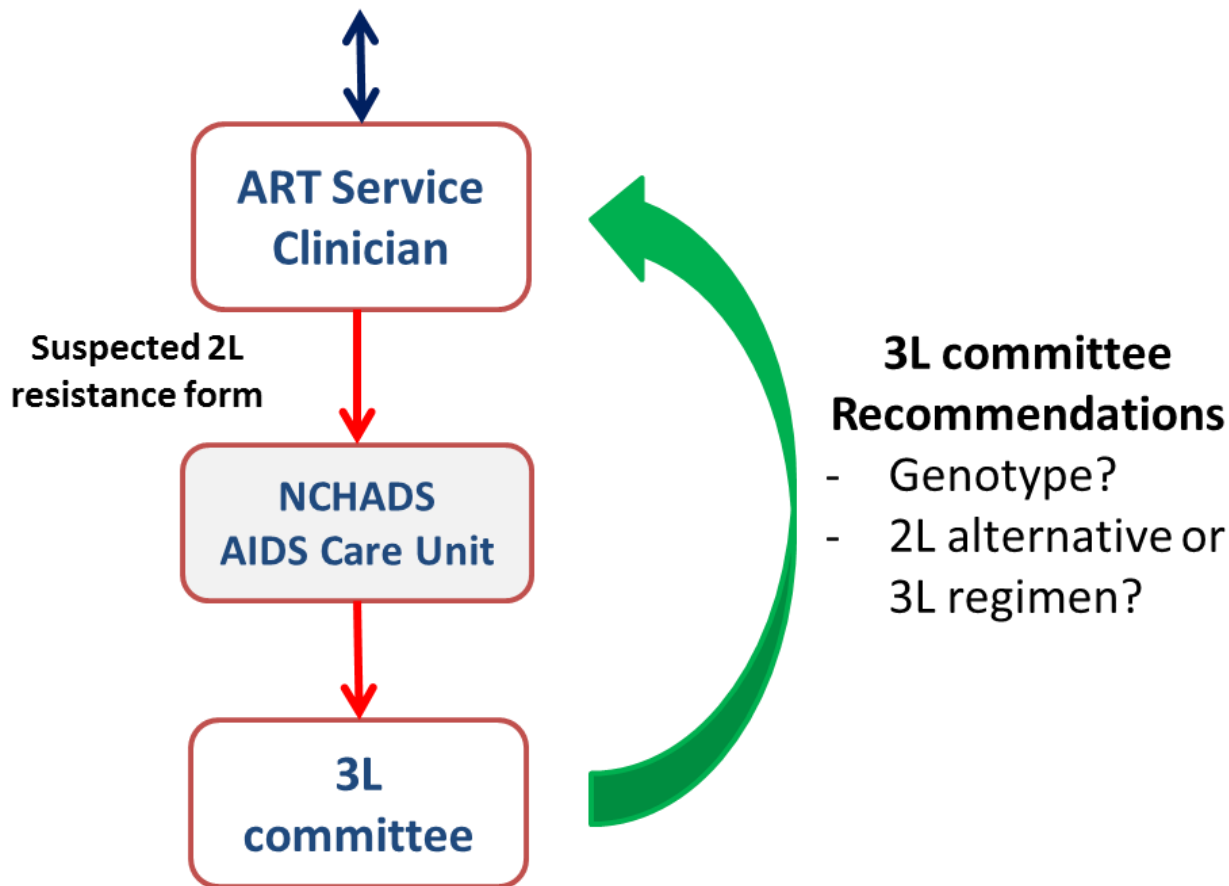
- Patient has been on PI-based regimen for at least 12 months **AND**
- Patient has had two consecutive VL results \geq 1000 copies/mL, separated by Enhanced Adherence Counseling (1 time per month in 3 consecutive months, using the process above)

These patients are experiencing a medical emergency. The clinician must:

1. Contact AIDS Care Unit
 - E-mail address: clinicalmentoring@nchads.org
 - Dr Ky Sovathana, AIDS Care Unit: 077 811 189 / kysovathana@nchads.org
 - Dr.Ngav Bora, AIDS Care Unit: bora@nchads.org
2. Fully complete the 'Suspected 2L Resistance Form' (Annex 2)

The patient's 'Suspected 2L Resistance Form' will be reviewed by the 3L TWG composed of partners, experts and NCHADS. The Cambodia 3L TWG will meet regularly to review all 2L suspected failure referrals and provide appropriate recommendations. NCHADS will feed back to the clinicians on site about the recommendations from the 3L TWG for each patient, especially about the need for an HIV genotype to further analyze HIV-1 gene mutations.

**PLHIV on 2L regimen
with 2 VL > 1,000 copies/ml after
boosted adherence counselling**



Process following the suspicion of 2L virological failure

ANNEX 1: BOOSTED ADHERENCE COUNSELING GUIDE¹⁰

Medical criteria for patient to see counselor:

- Suspicion of clinical and/or immunological failure
- Patients with detectable viral load (≥ 40 copies / mL)

Objectives of Boosted Adherence Counselling:

- To explain treatment failure
- To identify problems that influence adherence and find solutions

Counselling procedures:

- Sessions must be done 1:1 (patient and counselor)
- Patient should be mentally able to undergo the counselling session
- If the patient has a “treatment buddy,” he/she can attend the sessions to support the patient
- Time allocated for each session: 30 minutes
- Monthly visits for 3 months

Tools for the counselor:

- ARV flipchart
- VL visual aid
- Key messages on prevention of treatment failure

Session when drawing initial routine viral load

(can be done as individual or group)

Suggested steps

Step 1: To welcome the patient and to give a general introduction to the discussion

Examples:

“Good morning, I’m ... and you...?”

“Today I am going to check your viral load, which we regularly do for everyone to continuously monitor your condition.”

Step 2: To explain basic concepts

Examples:

“Do you know what viral load is and why it is important?”

“If your viral load is **undetectable**, it means the medicines are working well and you will continue your ARV treatment as before.”

“If your viral load is **detectable**, you will be referred to the health care team for a thorough examination and for further counselling support.”

Step 3: To assess recent adherence

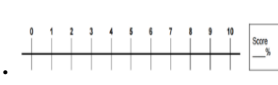
Check adherence since last visit in the usual fashion.

Check adherence with treatment buddy, if available

¹⁰ Adapted from MSF Patient Education and Counselling Handbook for HIV/TB infected adult patients, March 2012 and EOC Tool kit, US-CDC

Enhanced Adherence Counseling Form

EAC1
 EAC2
 EAC 3

I. Patient Information			
1.1 Patient Clinic ID:	1.2 Patient ID (ART number):		
1.3 Age:	1.4 Sex :.....		
1.5 ARV regimen			
		Date of initiation: / /	
		Date of initiation: / /	
		Date of initiation: / /	
1.6 Viral Load results: Last result:c/ml		Date:...../...../.....	
II. Counseling on High Viral Load			
2.1 VL test <input type="checkbox"/>	2.2 Treatment failure <input type="checkbox"/>	2.3 Resistance to ARV <input type="checkbox"/>	
III. Enhanced Adherence Session: EAC1 <input type="checkbox"/> EAC2 <input type="checkbox"/> EAC 3 <input type="checkbox"/>			
3.1 Adherence Assessment:			
3.1.1 Self-reporting Adherence	3.1.2 Pill Count	3.1.3 Scale Value	3.1.4 Adherence category
3a. Often forget taking ARV <input type="checkbox"/> Y <input type="checkbox"/> N 3b. Stopped taking ARV when feel better <input type="checkbox"/> Y <input type="checkbox"/> N 3c. Stopped taking ARV when feel worse <input type="checkbox"/> Y <input type="checkbox"/> N Score: 2 <input type="checkbox"/> 1 <input type="checkbox"/> 0 <input type="checkbox"/>	3d. Number of day return: 3d1. Early 3d2. On-Time 3d3. Late 3e. Number of pills Lost or Left: Score: 2 <input type="checkbox"/> 1 <input type="checkbox"/> 0 <input type="checkbox"/>	3f.  Score: 1 <input type="checkbox"/> 0 <input type="checkbox"/>	<input type="checkbox"/> 3g. Good = 5 <input type="checkbox"/> 3h. Fair = 4 <input type="checkbox"/> 3i. Poor = 0-3
3.2 Barriers:	3.3 Interventions		
<input type="checkbox"/> a. Knowledge/beliefs HIV/AIDS/ARVs <input type="checkbox"/> b. Forgot <input type="checkbox"/> c. Side effects <input type="checkbox"/> d. Pill burden <input type="checkbox"/> e. Physical illness <input type="checkbox"/> f. Depression <input type="checkbox"/> g. Fear disclosure <input type="checkbox"/> h. Stigma (discrimination) <input type="checkbox"/> i. Lost/ran out/drug stock out <input type="checkbox"/> q. Others.....	<input type="checkbox"/> j Family/partner (Experiencing SGBV) <input type="checkbox"/> k. Substance use <input type="checkbox"/> l. Poor supportive environment <input type="checkbox"/> m. Transport <input type="checkbox"/> n. Scheduling <input type="checkbox"/> o. Food insecurity <input type="checkbox"/> p. Child Behavior	3.3.1 Services: <input type="checkbox"/> a1. Education <input type="checkbox"/> a2. Counseling (individual) <input type="checkbox"/> a3. Counseling (group) <input type="checkbox"/> a4. Peer support <input type="checkbox"/> a5. Referral to:..... <input type="checkbox"/> a6. Others:	3.3.2 Tools: <input type="checkbox"/> b1. Pill box <input type="checkbox"/> b2. Calendar <input type="checkbox"/> b3. Scale value <input type="checkbox"/> b4. ARV swallowing instruction <input type="checkbox"/> b5. Written instructions <input type="checkbox"/> b6. Phone calls/SMS <input type="checkbox"/> b7. Alarms <input type="checkbox"/> b8. Others.....
3.4 Comments (describe barriers and planned interventions):			
IV. Conclusion:		
Counsellor Signature and Name:		Date:...../...../.....	
V. Viral Load Monitoring (Done at 1 month after the 3 rd EAC is completed--For clinician only)			
5.1 Date repeat VL Test: ... /...../.....	5.2 Repeat VL result:-----copies/ml	5.3 Date:/...../.....	
5.4 Plan: Treatment <input type="checkbox"/> 5.4.1 Remain on current regimen <input type="checkbox"/> 5.4.2 Switch to second-line regimen <input type="checkbox"/> 5.4.3 Refer to national program for further management	Viral load test <input type="checkbox"/> 5.4.5 Repeat viral load in 3 months Date:...../...../..... <input type="checkbox"/> 5.4.6 Repeat viral load in 6 months Date:...../...../..... <input type="checkbox"/> 5.4.7 Repeat viral load in 12 months Date:...../...../.....		
5.5. Comments:			
Clinician Signature and Name:		Date: / /	

Instruction of Enhance Adherence Counseling (EAC Form)

This instruction is written to instruct on how to fill out the “EAC Form”.

Every patient whose last viral load test is ≥ 40 copies, she/he should receive enhanced adherence counseling. Check box either EAC1, or EAC2, or EAC3 to indicate your current session **EAC1** **EAC2** **EAC 3**

- The 1st visit conduct EAC1, the counselor should fill in the EAC form section I. II. III. IV.
- The 2nd visit conduct EAC2, the counselor should fill in the EAC form section I. II. III. IV.
- The 3rd visit conduct EAC3, the counselor should fill in the EAC form section I. II. III. IV.
- The 4th visit conduct viral load control “1 month after the completion of 3rd EAC”. The clinician should fill in the EAC form section V on the previous EAC form when we conduct the 3rd EAC.

I. Patient Information

- 1.1 Write down patient’s clinic ID.
- 1.2 Write down patient’s ART code
- 1.3 Jot the age; e.g., 23
- 1.4 Write down either “F” or “M”
- 1.5 Write down name of ARV regimen and put date of its initiation; e.g. initial regimen, first switch, second switch and write down the date when switched
- 1.6 Jot down the last viral load test result and put date on the right side

II. Counseling on High Viral Load (HVL) –supposed to perform in EAC1

(Counselor seek information from patients prior to explain the 3 key messages: VL, treatment failure, resistance)

- 2.1 Tick box if you counsel on VL test.
- 2.2 Tick box if you discuss about treatment failure.
- 2.3 Tick box if you provide information about resistance to ARVs.

Note:

- **Viral load:** a measure of the HIV virus’s presence in your blood. A viral load result of more than 1,000 means that the virus is getting stronger in your body. It is very serious.
- **Treatment failure:** We say that a patient on ART is experiencing treatment failure when they have two consecutive viral load results of more than 1,000. A patient could experience treatment failure because he is not taking his medicine exactly as prescribed. Or, he could experience treatment failure because ARVs have stopped working. (Remember: his ARVs can also have stopped working even if he does not have symptoms.)
- **Resistance:** When a patient’s virus has changed and the ARVs no longer work against the virus, we say that patient has developed resistance.

III. Enhance Adherence Counseling Process

3.1 Adherence Assessment

3.1.1. Self-reporting adherence

Ask a patient on a 3 given questions (a1, a2, a3) and tick in the box of “Y” or “N” and give score:

- **2** if s/he answer “No” to 3 questions
- **1** if s/he answer “Yes” to 1 question
- **0** if s/he answer “Yes” to >1 question

3.1.2. Pill count

- Review last visited date and appointed date. Tick the box if s/he is **EARLY, ON TIME, or LATE**.
Then fill in number of days a patient come early, OR, late.

Example- Early: 5 days

Late: 2 days

- Count on actual tablets a patient received from clinic (excluding buffer) and review the regimen whether a patient is taking **once daily (OD)** or **twice daily (BID)**.

Give score:

- **2** if a patient missed **<2 doses** per month (OD) and **<4 doses** per month (BID)
- **1** if a patient did not bring tablets along
- **0** if a patient missed **≥2 doses** per month (OD) and **≥4 doses** per month (BID)

Note: For EAC1, if clinician gives pills more than one month, the calculation of pill count must multiply by the number of months.

3.1.3. Scale value

Show the patient the scale value tool and explain to him/her how to evaluate them taking their medications in the last four days. Tell her/him to point to 10 if s (he) has good adherence in the past 4 days. In some cases, a patient can feel uncomfortable to point this out as s(he) may have delayed taking medication around 5-15minutes from its usual time, so it could be possible to give full scores if s/he point it out around 9.5-10. Tell her/him to point to 0 if s/he has taken **NO DOSE** of medicine in the past 4 days. Give the patient time to reflect. Then ask him to place her/his finger on the scale. If s/he places her/his finger on 4, her/his score would be 40%.

Give score:

- **1** if **95% to 100%**
- **0** if **<95%**

3.1.4. Adherence category

- Total adherence score (compile scores from **3.1.1**, **3.1.2**, and **3.1.3**).
- Category score: Check box "Good", or "Fair", or "Poor" following total scores from **3.1.1**, **3.1.2**, and **3.1.3**

Give scores:

- **5** means "**Good**" if the total score of **3.1.1 + 3.1.2 + 3.1.3 = 5**
- **4** means "**Fair**" if the total score of **3.1.1 + 3.1.2 + 3.1.3 = 4**
- **0-3** means "**Poor**" if the total score of **3.1.1 + 3.1.2 + 3.1.3 = 0-3**

3.2 Barriers

- To explore barriers to adherence, a patient-centered approach is needed. Assure patient that adherence checking is not to blame patient but to help improve the treatment outcome.
- As provider speak with patients, tick the barriers' boxes to taking ARVs that are cited by a patient. Tick any factors/boxes (more than one box) depend on the discussion.

- **When the information is filled out in the EAC form, counselor can write down the code as being instructed in the table below. Example, "Knowledge"; its code is "K" in which contains of 3 questions/key points. Counselor can put either "K1" and/or "K2" and/or "K3".**
- **Note:** if a patient does not relate to a specific barrier, *example, drug use or alcohol use*, skip the questions. Example, physical illness, substance use.

Barriers	Questions to assess barriers
Knowledge (about HIV)/belief deficit (a)	a1: Can you list down the names of your ARVs? <i>(If the patients cannot, tell them again)</i> a2: What is your understanding of how you are supposed to take (e.g. what time of day, how much [if liquid], how many [if pills], where do you store your drugs?) a3: What is your understanding of the purpose of the ARVs?
Forgetting about medication (b)	b1: Do you often forget to take your medication? b2: Do you take/give them at a set time of day(s)? b3: What is your method of remembering/reminding yourself to take ARVs?
Side effects (c)	c1: Has the ARVs affected the way you feel? i.e. nausea, diarrhea, sleep disturbance
Pill burden (treatment discomfort) (d)	d1: Is there anything you feel uncomfortable with the drugs (size, shape, taste?) d2: If you have experienced any dizziness, stomach problems, fatigue, unusual dreams, or other side effect, do they deter you from taking your medicine?
Physical illness (treatment fatigue) (e)	e1: If you have other physical conditions (diabetes, hypertension, joint problems...), would you feel tired of taking ARVs every day? e2: Do you feel taking your treatment interrupts your life?
Depression (f)	f1: Have you ever lost interest or pleasure in doing thing you use to enjoy? f2: Do you feel down, depressed or hopeless? f3: Do you feel bad about yourself, or that you have let yourself or your family down?
Fear for disclosure (g)	g1: Have you disclosed your HIV status to anyone you trust? g2: Are they supportive of your treatment? g3: Have you disclosed your HIV status to your partner? g4: Are they supportive of your treatment? g5: If not, do you feel like not disclosing to your partner affects your Adherence?
Stigma (and discrimination) (h)	h1: Have you ever experienced stigma on your HIV-positive status h2: Have you ever been excluded or not invited to something because of your HIV-Positive Status? h3: Has anyone ever made rude comments to you because of your HIV-Positive status? h4: Have you ever been denied employment because of your HIV-positive status? h5: Do you face any challenges in coming for your drug refills at the clinic?
Lost/ran out of ARV (i)	i1: Have you ever lost ran out of ARVs?
Family/partner (experiences SGBV) (j)	j1: Have you ever been abused (by your family or partner)? j2: How do you feel about the relationship with your family/partner?
Substance use (alcohol, drugs use) (k)	k1: Have you ever felt you should cut down on your drinking/drug use? k2: Have people annoyed you by criticizing your drinking/drug habits? k3: Have you ever felt bad or guilty about your drinking/drug use? k4: Have you ever had a drink/used drugs first thing in the morning to steady your nerves or to get rid of a hangover?

Poor supportive environment (l)	<p>l1: Is there anybody else in your environment taking ARTs?</p> <p>l2: If there is someone else taking ART do you support each other?</p> <p>l3: Are people around you (partner, family, community) supporting you?</p> <p>l4: Do you belong to or know a support group in your area you could join?</p>
Transportation (m)	<p>m1: Do you have difficulty getting to the health center to collect ARVs?</p> <p>m2: If yes, what are the reasons? (e.g. long distance, expense, job)</p>
Scheduling (n)	<p>n1: Have you ever been too busy or faced a schedule change that has made it difficult to take/give your child ARVs?</p> <p>n2: Does work take you away from home for long periods of time?</p>
Food insecurity (o)	<p>o1: Has a lack of adequate food ever been a problem for taking/giving your child ARVs?</p>
Child behavior /refusing to take ARV (p)	<p>p1: Do you have other concerns or struggles with your child (e.g. mood, school, behavior, anxiety, and other illnesses)?</p> <p>p2: Does your child refuse ARVs? Do these concerns impact your ability to give your child his/her medications?</p>
Others (q)	-

3.3 Interventions

- Providers should mark which intervention they have discussed as solutions to the barriers they found.
- Providers should repeat adherence sessions each month until good adherence is achieved. Tick any intervention boxes (more than one box) depend on the barriers they have found.

3.3.1 Services:

- Make a dialog to figure out the solution based on barriers the patients had raised up, for instance:

Barriers	Interventions to address barriers and improve adherence
Knowledge (about HIV)/belief deficit (a)	<ul style="list-style-type: none"> • Individual counseling for basic HIV/ARV education • Group counseling/peer support group • Written instructions
Forgetting about medication (b)	<ul style="list-style-type: none"> • Medication organizer (e.g. pillbox) • Visual medication schedule (e.g. calendar, journal/log) • Reminder devices (e.g. phone calls, SMS, watch alarm) • Treatment buddy or supporter • Directly Observed Therapy • Announced pill count at next session • Take pills late, do not skip dose
Side effects (c)	<ul style="list-style-type: none"> • Nausea -> take with food, anti-emetic • Diarrhea -> anti-diarrheal once infections ruled out, hydration • Anxiety/depression -> take before bed • Headache -> paracetamol, evaluate for meningitis • Fatigue -> check Hgb, consider substitution if on AZT
Pill burden (treatment discomfort) (d)	<ul style="list-style-type: none"> • Motivate the patient • Notify clinician in case regimen can be changed to address the side effects
Physical illness (treatment fatigue) (e)	<ul style="list-style-type: none"> • Motivate the patient • Notify clinician in case regimen can be simplified
Depression (f)	<ul style="list-style-type: none"> • Refer patient to mental health counseling services • Alert site

Fear for disclosure (g)	<ul style="list-style-type: none"> • If not yet disclose, review the benefits and risks of disclosure • Let the client decide if disclosure is right for them
Stigma (and discrimination) (h)	<ul style="list-style-type: none"> • Alert site B-IACM coordinator
Lost/ran out of ARV (i)	<ul style="list-style-type: none"> • Extra supply of pills • Drug pick-up group • Educate patient to alert facility if it occurs
Family/partner (experiences SGBV) (j)	<ul style="list-style-type: none"> • If no, alert B-IACM coordinator • Group counseling
Substance use (alcohol, drugs use) (k)	<ul style="list-style-type: none"> • Explore further • Alert site B-IACM coordinator
Poor supportive environment (l)	<ul style="list-style-type: none"> • Explore linking patient to a treatment buddy, peer counselor, or other support system
Transportation (m)	<ul style="list-style-type: none"> • Drug pick-up group • Three-month supply when feasible • ART group
Scheduling (n)	<ul style="list-style-type: none"> • Education (e.g. combine with daily routine such as bedtime or brushing teeth) • Reminder devices (e.g. phone calls, SMS, watch alarm) • Treatment buddy • Three-month supply when feasible • ART group
Food insecurity (o)	<ul style="list-style-type: none"> • Refer to social worker, peer worker, or NGO
Child behavior /refusing to take ARV (p)	<ul style="list-style-type: none"> • There are several ways you can help your child take medication. <ul style="list-style-type: none"> ○ Fill medication to the right number in the syringe. ○ Squeeze child’s cheeks to open mouth. ○ To give medicine, slide the syringe into the inside of the cheek. ○ Some little children prefer to take their liquid medication with a spoon. ○ Some children prefer to take pills mixed with a sticky food on a spoon. Something sweet can also help improve the taste. ○ Giving your child stickers immediately after they take their pills can help.
Others (q)	<ul style="list-style-type: none"> • Providers can list down any intervention that do not give in boxes above

3.3.2 Tools:

- Tools should be available on site in order to explain/demonstrate patients.
- Check boxes (more than one box) depend on tools you have used.

3.4 Comments

- Write down the specific barriers of each box that a patient is unaware of and put the intervention providers have done to reflex to the barriers they found.
- **Example**, a patient has “**forgot**”. His/her problem is “**b1: Forget to take medication often.**” Then your interventions are stressed on **pillbox** and **alarms**. S/He also has another barrier “**f1: Feeling down and depressed.**” The intervention for this is **referring to mental health service**.

There are three interventions suggested: ***Pillbox*** (provided), ***alarms, and referring to mental health services.***

Providers can write at comment such as

“Patient will try using pillbox and setting an alarm on their phone, and receiving mental health service”, or the patient has “b1 and f1; S/He will try using pillbox (provided), alarms, and receiving mental health services.”

- For EAC2, EAC3: provider follow-up on the progress the patient has done last previous month.

IV. CONCLUSION

This part, provider **SHOULD** do as following:

- Summarize: example, a patient has poor adherence because of forgot, unaware the purpose of taking ARVs. ***“Poor adherence-forgot, unaware of taking ARVs”***
- Set date for next: next visit...../...../..... atam/pm.
- Inform patient that s/he may see someone new at the next session
- **Fill out counselor’s signature and name and put the date at the right hand side.**

V. VL Monitoring (Perform 1 month after the 3rd EAC is completed—for clinician ONLY)

- 5.1. Write down the date of repeat VL test
- 5.2. Fill out the result
- 5.3. Write down the **date of the result received**
- 5.4. Tick any of the boxes below and put the date on the right hand side. Clinician can choose more than two among the four options including repeated VL test if necessary.
For example:
- 5.5. Comment[§] Write down the next steps in the box and table.

Fill out clinician’s signature and name and put the date at the right hand side.

Instruction of High Viral Load

This instruction is prepared to guide how to record the logbook which consists of 37 columns.

- Column 1:** Write down the serial number of the patient with high VL. These numbers must be close in each month. The counsellor should keep at least 3 lines, reserving for the patients requiring EAC1, EAC2 and EAC3. For the second round of EAC and/or third round of EAC, thus counsellor should record from column 15.
- Column 2:** Write down the ART code (4 digits), for example social health clinic ART site code is 1208
- Column 3:** Write down the ART code of the patient which consists of 9 digits (the first 4 digits are the ART site code and the rest 5 digits are the patient code). Example, each patient has a five-digit code of 00567, who is receiving the service at the social health clinic, so the code of the patient should be 120800567.
- Column 4:** Write down the name of patient, based on the patient's card or national ID card (please write down the nickname in the parenthesis if the patient has one).
- Column 5:** Write down "F" for Female and "M" for Male to each patient's gender (gender from birth).
- Column 6:** Write down the age in number, for example 32.
- Column 7:** Write down the date of when the patient started ART in the form of day/month/year (dd/mm/yy), for example 27/09/19.
- Column 8:** Write down the ARV regimen which the patient firstly initiated, for example 3TC+EFV+TDF.
- Column 9-12:** Record the history of ART:
- Column 9: Write "Y" if the ARV was interrupted more than 1 month and write "N" if there is no any interruption.
 - Column 10: Write "Y" if the patient discontinued ARV and write "N" if the patient still continued
 - Column 11: Write "PMTCT" for the patient with pregnancy experience or "PEP" if the patient used PEP after the risk exposure and write "PrEP" if the patient took it to prevent HIV infection.
 - Column 12: Write "Y" if the patient experienced a single ART substitution, and write "N" if there is no any substitution.
- Column 13:** Write the current ARV regimen, example 3TC+EFV+TDF.
- Column 14:** Write down the start date of the current ARV regimen in the form of dd/mm/yy.
- Column 15-16:** Write down the 1st high VL result, based on the list/report from the data management clerk.
- Column 15: record the date of the VL test performed in the form of dd/mm/yy.
 - Column 16: write the VL result in copies and log, example 1000c/ml = 2.5 log.
- Column 17-20:** Write down the outcomes of the EAC1.
- Column 17: record the situation of ARV adherence, i.e. "Good", "Medium" or "Poor", based on the EAC form, point 3.1.4.
 - Column 18: record the challenges identified, based on the EAC form, point 3.2. It could be written down in the code (please refer to the guide to select the code which is instructed in the instruction of EAC form).
 - Column 19: write down the name of the counsellor.
 - Column 20: record the date of the counselling in the form of dd/mm/yy.
- Column 21-24:** Write down the outcomes of the EAC2.
- Column 21: record the situation of ARV adherence, i.e. "Good", "Medium" or "Poor", based on the EAC form, point 3.1.4.
 - Column 22: record the challenges identified, based on the EAC form, point 3.2. It could be written

down in the code (please refer to the guide to select the code which is instructed in the instruction of EAC form).

- Column 23: write down the name of the counsellor.
- Column 24: record the date of the counselling in the form of dd/mm/yy.

Column 25-28: Write down the outcomes of the EAC3.

- Column 25: record the situation of ARV adherence, i.e. "Good", "Medium" or "Poor", based on the EAC form, point 3.1.4.
- Column 26: record the challenges identified, based on the EAC form, point 3.2. It could be written down in the code (please refer to the guide to select the code which is instructed in the instruction of EAC form).
- Column 27: write down the name of the counsellor.
- Column 28: record the date of the counselling in the form of dd/mm/yy.

Column 29-30: Record the last VL result after all EAC1, EAC 2 and EAC3 conducted.

- Column 29: record the date of which the VL test was performed again, one month after the EAC3 in the form of dd/mm/yy, based on the EAC form, point 5.1.
- Column 30: record the VL result in copies and log, i.e. 1000c/ml = 2.5 log

Column 31: Record the date which the TWG discussed the ARV regimen in the form of dd/mm/yy, based on the EAC form, point 5.4 (which is the date).

Column 32: Record the decision which was made by the TWG, based on the EAC form, point 5.4 (which is the plan).

Column 33: Write down the ARV regimens which was primarily initiated, i.e. 3TC+EFV+TDF.

Column 34: Record the date in the form of dd/mm/yy in which the patient is newly initiated on the **new ARV regimen**, if any. Note: Record the case (patient) who is switched to the new ARVs ONLY.

Column 35-36: Record the VL test after the TWG has discussed/endorsed the case.

- Column 35: record the date of the VL test if the TWG has requested for the new test
- Column 36: record the results of the VL in copies and log, i.e. 1000c/ml = 2.5 log

Column 37: List down the other key information which is not recorded in column 1 through 36, example, clinician's name, VL test code, patients showing up late, before or by appointment, LTFU patient or patient running out of ARV, information related to spouse and children who need to repeat the EAC.

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