



Republic of Rwanda
Ministry of Health



National Guidelines for Prevention and Management of HIV

Edition 2020

PREFACE

Despite many advances in the fight against and control of HIV/AIDS in the last couple of decades, HIV/AIDS still remains a major health problem in developing countries. Even though Rwanda is among a few countries at the forefront of reaching the three 90s and thereby paving the way to achieve HIV epidemic control in the near future, it still counting more than 220,000 people living with HIV/AIDS with a treatment coverage of more than 80%. Identification of the remaining population infected by HIV, reducing new HIV infections and the expansion of antiretroviral treatment to reach all identified positive are top priorities of the Ministry of Health.

There is evidence that starting ART early to HIV-infected patients can reduce devastating impact of HIV pandemic. To maximize early initiation, Rwanda adopted “Treat All” policy for HIV positive patients since July 2016. While this was another excellent opportunity to increase the number of new patients on treatment and put the national HIV program in the right direction towards attainment of the 90-90-90 targets, strategies for identification of those hard to reach population initiate and keep them on treatment with good adherence for better outcome.

However, the journey towards epidemic control can only be reached through active participation and engagement of all stakeholders, both national and international for technical and financial support and implementation of evidence-based national guidelines. Cost effective innovative strategies should be prioritized in all interventions.

Human capacity strengthening should occupy an important place during the process through guideline to support implementation of quality of services.

These are National Guidelines for Prevention and Management of HIV, Edition 2020, in accordance with the most updated scientific evidences and adapted to the Rwandan national context. It thus responds to the need by the Ministry of Health to improve the quality of HIV services offered in both public and private health facilities countrywide as well as the skills of actors in the health sector.

We are fully aware that despite the progress made, there is still a lot to be done in prevention and management of HIV towards a healthy people and wealthy nation.

May this publication contribute to improve the living conditions of our population and in improving the knowledge on HIV/AIDS of all actors in the health sector.

Dr Daniel NGAMIJE

Minister of Health

ACKNOWLEDGEMENTS

The Rwanda Biomedical Centre (RBC/IHDPC/HIV Division) is grateful to all the organizations and persons who contributed to the development and revision of the 2020 National Guidelines for Prevention and Management of HIV Infection.

These guidelines would not have been finalized without the usual support of all the stakeholders who are involved in HIV response in Rwanda. We give our sincere thanks and appreciation to the following organizations, for their technical and/or financial support:

- To MOH-RBC staff, mainly HIV Division staff
- To all HIV experts (members of technical working groups, clinicians, researchers and other stakeholders, network of people living with HIV) who participated actively in writing the different chapters,
- To the US government, mainly Centers for Disease Control and Prevention (CDC) and USAID RWANDA and Department of Defense (DOD),
- To the UN family, UNICEF, WHO, UNFPA and UNAIDS
- To all implementing
- To the local and international NGO supporting HIV control in Rwanda
- To Civil society organizations

Our appreciation goes to all people who, from near and far, contributed to the realization of these guidelines; please accept our heartfelt gratitude.

Dr Sabin NSANZIMANA
Director General
Rwanda Biomedical Centre

ABBREVIATIONS AND ACRONYMS

3TC	Lamivudine
ABC	Abacavir
AEB	Accidental Exposure to Blood
ACBS	Active Case-Based Surveillance for HIV
ACF	Active Case Finding
AEE	African Evangelistic Enterprise
AIDS	Acquired Immune Deficiency Syndrome
ALAT	Alanine Aminotransferase
ANC	Antenatal Care
ART	Antiretroviral Therapy
ARV	Antiretroviral Therapy
ASAT	Aspartate Amino Transferase
AZT	Azido thymidine
CBS	Case-Based Surveillance for HIV
CD4	Cluster of Differentiation 4 (Stands for T4 Lymphocytes)
CSB+	Corn Soya Blend
CTM	Cotrimoxazole
DBS	Dried Blood Spot
DH	District Hospital
DNA	Deoxyribonucleic Acid
DQA	Data Quality Assessment
DSDM	Differentiated Services Delivery Model
DTG	Dolutegravir
ECD	Early Child Development
EFV	Efavirenz
EID	Early Infant Diagnosis
EIMC	Early Infant Male Circumcision
e-LMIS	electronic Laboratory Management Information System
EMR	Electronic Medical Record
EMTCT	Elimination of Mother to Child Transmission
FP	Family Planning
FSWs	Female Sex Workers
FTC	Emtricitabine
GBV	Gender Based Violence
GF	Global Fund
HBe Ag	Hepatitis B Envelop Antigens
HBs Ag	Hepatitis B Surface Antigens
HBV	Hepatitis B Virus
HC	Health Center

HCV	Hepatitis C Virus
HCW	Health Care Worker
HIV	Human Immunodeficiency Virus
HIVDR	HIV Drug Resistance
HMIS	Health Management Information System
HTS	HIV testing and counseling services
IBBSS	Integrated Behavioral and Biological Surveillance Survey
IEC	Information and Education Communication
IGA	Income Generating Activities
IHDPC	Institute of HIV/AIDS Disease Prevention and Control
IRIS	Immune reconstitution inflammatory syndrome
KPs	Key Populations
LDV	Ledipasvir
LIS	Laboratory Information System
MOH	Ministry of Health
MSM	Men who have Sex with Men
MTCT	Mother to Child Transmission
NCBT	National Center for Blood Transfusion
NCDs	Non Communicable Diseases
NNRTI	Non-Nucleoside Reverse Transcriptase Inhibitor
NRTI	Nucleoside Reverse Transcriptase Inhibitor
NRL	National Reference Laboratory
NVP	Nevirapine
OBBI	Other Blood Borne Infections
OI	Opportunistic Infection
PCR	Polymerase Chain Reaction
PE	Peer Educator
PEP	Post Exposure Prophylaxis
PEPFAR	President's Emergency Plan For Relief
PIT	Partner Initiated Testing
PLHIV	People Living with HIV
PMTCT	Prevention Mother to Child Transmission
POCT	Point of Care for Testing
PrEP	Pre Exposure prophylaxis
PSG	Psychosocial Support Group
RBC	Rwanda Biomedical Centre
RDHS	Rwanda Demographic Health Survey
RNA	Ribonucleic Acid
RTV	Ritonavir
SGBV	Sexual Gender Based Violence
STIs	Sexual Transmitted Diseases

TAT	Turn Around Time
TB	Tuberculosis
TDF	Tenofovir
TLD	Tenofovir – Lamividune – Dolutegravir
TLE	Tenofovir – Lamividune – Effavirenz
TPT	Tuberculosis Preventive Therapy
UNAIDS	Joint United Nations Program on HIV/AIDS
UNICEF	United Nations Children Fund
VCT	Voluntary Counselling and Testing
VL	Viral Load
VLS	viral load suppression
VLSMS	Viral Load Short Message Service
VMMC	Voluntary Male Circumcision
VPD	Vaccine-Preventable Diseases Division
VZV	Varicella Zoster Virus
WHO	World Health Organization

Table of Contents

ABBREVIATIONS AND ACRONYMS	4
Table of Contents	7
List of Tables	10
List of Figures	11
DEFINITION OF KEY TERMS	12
SECTION ONE – HIV PREVENTION SERVICES	13
1.1. INTRODUCTION	13
1.2. REQUIREMENTS FOR HIV PREVENTION SERVICES DELIVERY	13
1.2.1. Training of Personnel	13
1.2.2. Required Physical Infrastructure	13
1.2.3. Required Materials and Equipment	14
1.3. ETHICAL CONSIDERATIONS FOR OPERATING HIV PREVENTION SERVICES	14
1.3.1. Consent for HIV Testing.....	14
1.3.2. Confidentiality	14
1.4. HIV DIAGNOSIS	15
1.4.1. Key messages.....	15
1.4.2. HIV Testing and Counselling (HTC)	15
1.4.3. HTS Guiding Principles.....	16
1.4.4. HTS Procedures	16
1.4.5. Pre-test Counselling	16
1.4.6. Pre-test counselling provided in a group	16
1.4.7. Individual pre-test counselling	17
1.4.8. HIV Testing.....	17
1.4.9. Settings for HIV Testing Services (HTS)	21
1.4.10. New HIV testing strategies; Index Case Testing and Partner Notification	21
1.4.11. HIV Case based surveillance (CBS) and recency testing	22
1.4.12. HIV Testing and Counselling in Special Cases.....	23
1.5. PRE EXPOSURE PROPHYLAXIS (PREP) IN KEY POPULATIONS	25
1.6. PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV (PMTCT)	28
1.6.1. Key recommendations on PMTCT	28
1.6.2. General Overview	29

1.6.3.	PMTCT Pillars.....	29
1.6.4.	Prevention of unintended pregnancies.....	29
1.6.5.	Pregnancy Desire.....	30
1.6.6.	Follow up during antenatal period.....	31
1.6.7.	Interventions during Labour.....	31
1.6.8.	The use of ART Drugs in PMTCT.....	31
1.6.9.	ART for HIV-Negative Pregnant Woman in a SDC.....	33
1.6.10.	HIV Exposed Infant Prophylaxis.....	33
1.6.11.	Postnatal follow up for the Mother-Child Pair.....	34
1.6.12.	Infant feeding and nutrition.....	34
1.6.13.	HIV positive mother post-partum follow up.....	35
1.6.14.	Early infant diagnosis (EID).....	35
1.6.15.	Infant Growth Monitoring and Evaluation of Nutritional Status.....	37
1.6.16.	Syphilis screening and treatment for pregnant women.....	37
1.7.	HIV PREVENTION AMONG DISCORDANT COUPLES.....	38
1.8.	PRE AND POST-EXPOSURE PROPHYLAXIS.....	38
1.8.1.	Pre-exposure prophylaxis in the context of PMTCT.....	38
1.8.2.	PrEP for safer pregnancy.....	39
1.8.3.	ART for Post-Exposure Prophylaxis (PEP).....	39
1.8.4.	Special Considerations.....	39
1.8.5.	ART Prophylaxis in PEP.....	41
1.9.	COMBINATION PREVENTION OF HIV.....	42
1.9.1.	Biomedical Prevention.....	42
1.9.2.	Prevention with People Living with HIV.....	44
1.9.3.	Behavioural Interventions.....	45
1.9.4.	Structural and Supportive Interventions.....	45
1.10.	LINKAGE TO CARE AND TREATMENT.....	46
1.10.1.	Linkages to Care and Treatment for Individuals Testing HIV Positive.....	46
1.11.	KEY RECOMMENDATIONS FOR HIV PREVENTION SERVICES.....	48
SECTION TWO – HIV CARE AND TREATMENT SERVICES.....		49
2.1.	MINIMUM SERVICE PACKAGE FOR PEOPLE LIVING WITH HIV.....	49
2.2.	PSYCHOSOCIAL CARE.....	51
2.2.1.	Key message on psychosocial care.....	51
2.2.2.	Preparation to ART initiation.....	55

2.2.3.	HIV counselling.....	56
2.2.4.	Adherence counselling for patients on ART	62
2.2.5.	Adherence and retention to HIV care and treatment	64
2.2.6.	Mental health status screening	67
2.2.7.	Psychosocial support groups	68
2.2.8.	Home visit.....	70
2.2.9.	Community support of people living with HIV	71
2.3.	NUTRITION ASSESMENT, CARE AND SUPPORT (NACS)	79
2.3.1.	Introduction	79
2.3.2.	Components of NACS	79
2.4.	DIFFERENTIATED SERVICE DELIVERY MODEL (DSDM).....	83
2.4.1.	Definition of DSDM.....	83
2.5.	HIV CLINICAL MANAGEMENT FOR CHILDREN	85
2.5.1.	Initial clinical and laboratory evaluation	85
2.5.2.	ART regimen for children younger than 10 years of age	86
2.4.2.	HIV Clinical management for adolescents & Adults	94
2.4.3.	Management of Advanced HIV Disease	99
2.6.	PREVENTION, SCREENING AND MANAGEMENT OF CO-INFECTIONS AND OPPORTUNISTIC INFECTIONS	102
2.6.1.	HIV-TB co-infection	102
2.6.2.	Screening and diagnosis of TB-HIV co-infection	102
2.6.3.	TB infection control in HIV care and treatment settings	102
2.7.	KEY RECOMMENDATIONS FOR HIV CARE AND TREATMENT SERVICES.....	104
ANNEXES	105
Annex I:	Accreditation Form	105
Annex II:	Policy Statement of Quality of HIV Testing Services	109
Annex III:	Screening for IPV	109
Annex IV:	Management of opportunistic infections.....	110
A.	Bacterial infection.....	110
B.	Viral infection.....	111
C.	Parasitic infections	114
D.	Fungal infections.....	115
Annex V:	Screening and Management of most frequent Non-Communicable Diseases.....	117
Annex VI:	Management of side effects	118

A. Evaluation of Dermatological Toxicity	118
B. Evaluation of Hepatotoxicity.....	118

List of Tables

Table 1: Summary of HIV Testing & Counselling Recommendations	26
Table 2: Management of Exposure to HIV	41
Table 3: Follow-up of Person on Post-Exposure Prophylaxis.....	41
Table 4: Summary of minimum care package for PLHIV	49
Table 5: Psychosocial assessment at enrollment.....	52
Table 6: Characteristics of Youth Friendly Services.....	55
Table 7: Counselling to Medication	55
Table 8: Counselling Strategies	66
Table 9: Strategies for improving and supporting adherence and retention.....	66
Table 10: Psychosocial support group according the age group.....	69
Table 11: Nutrition Assessment, Diagnosis and Interventions for under 5 years	81
Table 12: Nutritional management for 5-19 years living with HIV	82
Table 13: Assessment, Diagnosis and Interventions for adults living with HIV	82
Table 14: First line options for ART regimen in children.....	86
Table 15: TB Treatment for children: 2 (RHZ) E/4(RH).....	88
Table 16: ART and Anti-TB therapy in Children	89
Table 17: Second-line ART in children	91
Table 18: Recommendations on treatment monitoring for children	93
Table 19: Practical advice for administration of ARVs in children.....	93
Table 20: ART Regimen in Adult	96
Table 21: Dosage and administration of first-line regimen.....	97
Table 22: Recommended regimens for 2nd line ART in adults after failure of specific first line regimens	97
Table 23: Dosing of third line drugs in adolescent and adult.....	98
Table 24: Recommendations on Patient Monitoring	99
Table 25: Components of the package of care interventions for advanced HIV disease	100
Table 26: Recommendations on TB-HIV Management	103

List of Figures

Figure 1: HIV Testing Algorithm	18
Figure 2: Recency testing algorithm.....	23
Figure 3: Viral load monitoring in PMTCT	33
Figure 4: Algorithm for HIV testing among HIV exposed infants.....	36
Figure 5: Flow chart for PE elections.....	74
Figure 6: DSDM flowchart.....	84
Figure 7: Algorithm for early management of treatment failure.....	90
Figure 8: Management of treatment failure for patients on second line regimen	92

DEFINITION OF KEY TERMS

The following definitions are used to ensure consistency within these guidelines:

- **A child:** a child is a person younger than 10 years old.
- **An adolescent:** an adolescent is a person 10–19 years old inclusive
- **An adult:** an adult is a person older than 19 years.
- **Differentiated service Delivery Model:** A patient-centered approach to HIV care and treatment that categorizes patients on ART into two groups, stable and unstable according to the pre-defined criteria and informs pharmacy refill and clinical follow-up period.
- **Viral load suppression:** Viral suppression is defined as, literally, suppressing or reducing the function and replication of a virus. According to WHO someone is considered as having suppressed, when s/he has 1000 copies/ml. In Rwandan context as per the current HIV guidelines, patients are considered to have suppressed when their VL is under 200 HIV RNA copies/ml.
- **Undetectable viral load:** ART can reduce a person's viral load to the point it becomes so low. The current Rwanda guidelines consider a patient with undetectable VL when it is under 20 copies/ml. It does not fully clear the virus from the body or cure someone of HIV. Excellence adherence, or taking ART as prescribed, is important to maintain an undetectable viral load.
- **Treatment failure:** Treatment failure refers to the current WHO virological criteria for treatment failure, which is two consecutive viral load tests ≥ 1000 HIV RNA copies/ml.
- **Advanced HIV disease:** In accordance with WHO: (i) All children with HIV younger than five years old should be considered as having advanced disease at presentation; (ii) among adults, adolescents, and children \geq five years, advanced HIV disease is defined as a CD4 cell count < 200 cells/mm³ or a WHO clinical stage 3 or 4 event at presentation for care.

SECTION ONE – HIV PREVENTION SERVICES

1.1. INTRODUCTION

This chapter offers background, definitions, objectives, and description of the package of services for each prevention component. Components of HIV Prevention are part of the package of health services offered at health facilities and any other recognized organization providing health services. The services provided under HIV prevention include information, education and communication/ behavior change communication (IEC/ BCC), community mobilization, HIV Testing Services (HTS), Prevention of Mother-to-Child Transmission (PMTCT), Voluntary Medical Male Circumcision (VMMC), Pre and Post Exposure Prophylaxis, prevention services for key populations and condom programming.

This chapter also describes requirements for HIV prevention services delivery in Rwanda including the location of activities and the requirements for opening HIV prevention services in a health facility.

1.2. REQUIREMENTS FOR HIV PREVENTION SERVICES DELIVERY

HIV prevention services must be integrated into the package of services offered by all public health facilities and be included in outreach activities targeting groups at high risk of HIV in the community. Rwanda Biomedical Centre (RBC) issues the accreditation requirements for HIV prevention services.

Upon fulfilling accreditation requirements, public and private health facilities and any other recognized entity providing health services may carry out prevention services under supervision of the District Hospital.

1.2.1. Training of Personnel

To provide HIV prevention services, the health facility should have certified staff with relevant trainings. Healthcare providers are trained using standard training modules validated by the Rwanda Biomedical Centre. These trainings are integrated and must combine all HIV prevention components. Refresher trainings of personnel should be organized at least every two years to ensure continuity of training. These include doctors, nurses, social workers, nutritionists, clinical psychologists, laboratory technicians, and pharmacists. The specific services provided will vary according to the professional's area of expertise.

1.2.2. Required Physical Infrastructure

The infrastructure must enable the provision of high-quality services and be designed in such a way as to respect confidentiality and allow easy dialogue. In order to offer HIV prevention services, a health facility and any other recognized entity providing health services must have at least one reception room, a counselling office, and a laboratory with standard equipment.

PMTCT services must be offered by a health facility with maternal and child health services including antenatal care services, maternity, vaccinations services. For details regarding the required infrastructure, refer to the “Health Facility Evaluation Form” (See Annex I).

1.2.3. Required Materials and Equipment

To provide clinical HIV prevention services, a health facility must have the suitable material and equipment according to the MOH standards. Apart from office equipment, the health facility must have national guiding documents for reference:

- Current National guidelines for prevention and management of HIV and STIs
- Health care provider training manuals and job aids
- Standards operating procedures (SOP) for all HIV prevention services
- IEC materials and demonstration tools

1.3. ETHICAL CONSIDERATIONS FOR OPERATING HIV PREVENTION SERVICES

1.3.1. Consent for HIV Testing

The decision to be tested must be made by the person concerned. This person has the right to receive all the information related to HIV testing and all the possible outcomes prior to giving consent to be tested. Verbal consent is sufficient and written consent is not required.

Any person aged 12 years and above may provide his or her own verbal consent for an HIV test. The counsellor, however, should assess each child's ability to consent to HTS, according to the following:

- Understanding information about the benefits, risks and individual and social implications of HIV testing
- Reacting accordingly (i.e., agree or refuse to test) based to the child's understanding of the information received
- Dealing with his or her HIV test outcome.

For children under 12 years of age, the consent of a parent or a guardian is required. However, due to vulnerability to HIV and other STIs, an exception for consenting can be made for specific cases such as key populations including sex workers, men who have sex with men, people who inject drugs, or for girls who are pregnant, may not require parental consent.

NB: *If a person has mental disability to make an informed decision about the test, the procedure will be performed only when it is certified to be in his or her medical interest. Whenever possible, consent from a parent or a guardian may be sought.*

1.3.2. Confidentiality

Confidentiality is the client's right and an obligation of the provider. Confidentiality means to keep the client's information private. Client information can only be shared with others when the client has given consent to release the information. Confidentiality must be guaranteed at all stages of the counselling process. The client's confidentiality is protected by ensuring the following:

- Files and records of clients must be kept confidential.
- System of archiving and storing client files must be designed in a way that guarantees confidentiality.
- All personnel with access to medical records or test results are bound to confidentiality.
- In case of referrals, it is mandatory to observe the rules of shared confidentiality.

1.4. HIV DIAGNOSIS

1.4.1. Key messages

- The voluntary testing of HIV is a personal decision. For people aged 12 years and above, their verbal consent is required. For children under 12 years old, the consent from a parent or a guardian is required.
- The goal of HTS is to identify people living with HIV as early as possible and link them to appropriate prevention, care, and treatment services in a timely manner.
- The initial HIV testing is performed using finger prick method. All clients identified HIV positive will be retested for verification, preferably by laboratory technician. If this is not possible testing may be performed by another trained health care provider on the same day, using the same testing algorithm with a new blood sample.
- The HIV rapid testing algorithm comprises 2 stage tests using Alere HIV Combo as first screening test and Stat Pak as second screening test.
- HIV Self-Testing is done by the client him/herself using the OraQuick test kit. Each positive result must be confirmed by a trained healthcare provider using the national HIV testing algorithm within a facility accredited for HIV testing.
- Only people aged 16 years and above are allowed to perform HIV self-testing.
- Persons using self-testing must be informed that a negative test does not exclude HIV infection especially if they had a recent HIV exposure as they may still be in the window period.
- Index testing refers to a focused approach to HIV testing in which family members (including children of HIV positive mothers) and/or sexual partners of people diagnosed with HIV (index case) are offered HIV testing services.
- The partner notification process involves a trained health care provider asking a person diagnosed with HIV, to voluntarily disclose all his/her sexual partners and if agrees to offers them HIV testing services.
- Recency testing is an approach to detect early HIV infection from newly diagnosed HIV clients, with an objective to identify recent infections, characterize them and inform prevention interventions.

1.4.2. HIV Testing and Counselling (HTC)

The overall goal of HTC is to ensure that everyone knows his/her HIV status. It is also to identify people living with HIV as early as possible after acquiring HIV infection and link them in a timely manner to appropriate prevention, care, and treatment services.

People who tested HIV-negative should receive appropriate counselling and be linked to prevention services to remain HIV negative.

HIV testing services (HTS) include voluntary HIV counselling and testing (VCT), provider-initiated HIV testing and counselling (PITC), index testing and partner notification and recency testing. VCT services are provided to the client who decides on his/her own to undertake HTS, while PITC is offered by a health care provider to a client responding to PITC eligibility criteria or for populations with high risk to acquire HIV infection.

1.4.3. HTS Guiding Principles

All forms of HTS should be voluntary and adhere to the five C's:

- Consent
- Confidentiality
- Counselling
- Correct test results and
- Connections to care, treatment and prevention services.

Mandatory or coerced testing is never appropriate, whether that coercion comes from a healthcare provider or from a partner or family member.

Connections to prevention, care, and treatment services should include the provision of effective referral to appropriate follow-up services as indicated, including long-term prevention and treatment support. Each positive patient must have a unique identifier (for example TRACnet or UPID Number) in the HTS register under the observation column.

1.4.4. HTS Procedures

HTS procedures should be executed in the same place and include pre-test counselling, HIV testing, post-test counselling with delivery of results, and linkage to care and treatment for those tested HIV positive or prevention services as needed for those who tested HIV negative.

1.4.5. Pre-test Counselling

Pre-test counselling should be concise and brief and provided to all people seeking or requiring HIV testing. It may be provided individually, to a couple, to a group of people or, if necessary, to a parent or guardian (for children below 12 years, and people with mental disability). Verbal informed consent is required according to the guidance outlined in section 1.4.1. In case of language problems, the counsellor shall use an interpreter to assure that the client understands all steps of counselling including implications of test results; this process must respect confidentiality.

1.4.6. Pre-test counselling provided in a group

Should utilize Information, Education and Communications/Behavior Change Communication (IEC/BCC) approach. IEC/BCC approach should provide information about:

- Difference between HIV and AIDS
- Importance of being tested
- Modes of HIV transmission
- Means of HIV prevention
- Testing procedure and possible results and their significance
- Importance of index testing (family testing and partner notification)
- Process of partner notification
- Introduction of recency testing
- Case based surveillance (CBS)
- Availability of care and treatment services

- Demonstration on use of condoms

1.4.7. Individual pre-test counselling

It takes place in a designated counselling area, where clients are received one at a time. It must follow the following steps:

- Reception and introduction
- Screening of client's eligibility for consenting process
- Assessment of the client's knowledge on HIV and AIDS
- HIV risk assessment (Number of sexual partners, condom use, HIV status for the sexual partner...)
- Preparation for HIV testing and acceptance of test results and its significance
- Provision of information on availability of care and treatment services in case of a positive result.
- Obtaining an informed consent for HIV testing. (Refer to section 1.3.1)

1.4.8. HIV Testing

HIV testing can be performed using blood or oral fluids.

1.4.8.1. HIV testing using blood

This should be conducted by a trained Healthcare provider using finger prick method. This method is easy to use, less invasive than other blood draws, and better tolerated by clients.

HIV testing is performed using the national HIV testing algorithm (Figure 1) to provide a final HIV test result. National HIV testing algorithm is implemented in two main settings; health facilities and in the community/outreach. Clients with inconclusive test results according to the testing algorithm will return for retesting after 14 days except following cases:

- Pregnant women attending antenatal clinics and delivery room,
- Couples who seek HIV testing for marriage
- Rape cases

For these cases, the sample will be sent immediately for testing using PCR.

The initial HIV testing of eligible consented clients is performed by trained healthcare provider at the different entry points using finger prick method. For the HIV positive clients, retesting for verification is performed preferably by a laboratory technician on the same day using the same national testing algorithm on a new blood sample.

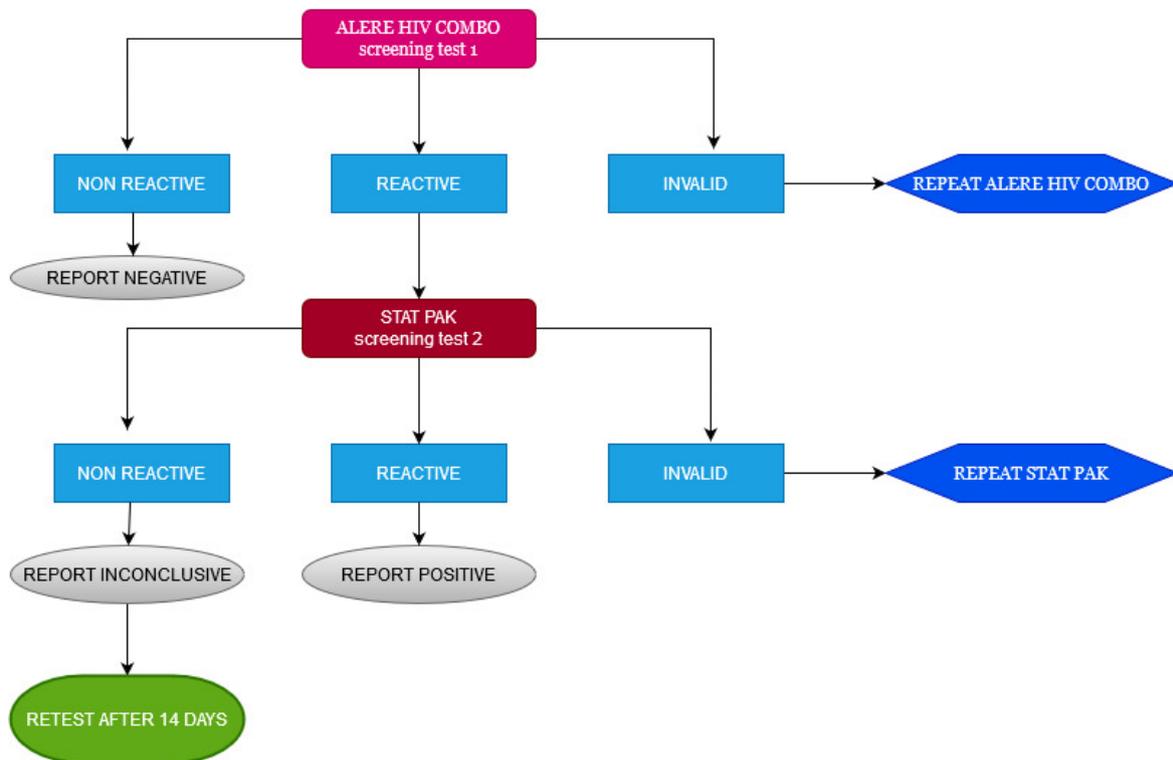
However, where a lab technician is not available, retesting for verification may be conducted by another trained healthcare provider before initiation of ART. Any discrepancy in the results between testers requires obtaining another sample for PCR testing. The PCR should be performed at the Testing Hub for confirmatory test.

1.4.8.2. HIV Testing algorithm

The current national HIV testing algorithm is a serial algorithm that is comprised of 2 stage tests:

- Alere HIV Combo as first screening test
- Stat Pak as second screening test

Figure 1: HIV Testing Algorithm



1. All HIV positive cases will be confirmed following the same national testing algorithm
2. If the result is 2 consecutive inconclusive results, a DBS sample should be sent for PCR at the testing hub
3. NRL will continue to provide PT panel to health facilities to ensure QA

Quality assurance of HIV testing should be implemented in all testing sites to ensure the accuracy and reliability of results. This includes but is not limited to:

- Training of testers
- Use of standard documents (SOPs, logbooks, job aids, etc...)
- Internal quality control
- External quality assessment (proficiency testing: PT, supervision and mentorship)

National reference lab should continue to oversee implementation of the quality assurance program. (See policy statement Annex II).

1.4.8.3. HIV self-testing using oral fluids

This approach is currently recommended by the World Health Organization as a way to facilitate access to people who do not access existing HIV testing services thus providing information about their HIV status. HIV self-testing is an approach by which a person who wants to know his or her HIV status collects oral fluids/ sample, carries out a test and interprets the test result in private. The recommended HIV self-testing is the one using oral fluids and anyone aged 16 years and above can use the test.

Nevertheless, HIV self-testing does not provide final HIV result; instead, it is a screening test looking for the presence of HIV-1/2 antibodies. Thus, any positive/reactive HIV self-test should be confirmed with an additional test performed at the health facility by a trained provider in accordance with national testing algorithms.

If the result is negative, the individual's HIV status should be considered negative. If an individual has been recently exposed or is at ongoing risk, then re-testing should be recommended after 3 months and the client should be referred for HIV preventions services.

HIV self-test kits are available in different locations including health facilities, workplace areas, private pharmacies, condom distribution kiosks located in key population hotspots as well as at university campuses.

Pre-test counselling materials include visual instructions of how to use the test and interpret the result, as well as information on where and how to seek additional support, further testing and services for HIV prevention, care and treatment.

Post-test support may provide an opportunity for community members to disclose their result, and it also may include face to face counselling, peer support and referrals for additional services for HIV prevention, treatment and care.

1.4.8.4. Disclosure of Result

The results of an HIV rapid test are to be given the same day. The communication of the results is verbal. Request for written results must be reviewed by the health facility management to issue written results.

Positive or negative test results may vary due to many factors (client exposure after previous test, window period, inconclusive results, sample and human errors) therefore written results should be interpreted with caution.

For clients able to give their own consent (per section 1.3.1), HIV test results should be given in person to the consenting individual or consenting couple. For those under the age of 12 or those unable to provide consent for themselves, their results should be communicated to the parent or guardian. Minors should receive age-appropriate counselling.

1.4.8.5. Post-Test Counselling

The same person who gave the pre-test counselling should provide the post-test counselling. In case of language problems, the counsellor may use an interpreter to assure that the client understands all steps of counselling. This process must respect confidentiality.

In case the client is a child below 12 years or an adult with mental disability, post-test counselling will be given to the parents or guardian.

In case of **negative results**:

- Post-test counselling should emphasize on risk reduction strategies for HIV prevention and the counsellor should give information to the client about the seroconversion period and its implications.
- For high-risk clients who test HIV-negative such as sex workers, men who have sex with men, or HIV-negative partners in discordant couples, the counsellor should encourage HIV risk reduction behaviors and the importance of retesting every 12 months. The above-mentioned population should be kept in continuous follow up to ensure that the package of services is offered as per the national guidelines.
- Individuals presenting with signs or symptoms of acute HIV infection should undergo HIV testing and if found and confirmed to be HIV-infected get started on ART for their own health and prevention of further HIV transmission.
- Pregnant women in sero-discordant couple relationships should be encouraged to retest every 3 months until the end of PMCT follow up.
- HIV negative clients who are not at high risk of HIV infection should be advised to keep protecting themselves against HIV and plan to retest only after a high-risk exposure.
- HIV negative clients who have HIV positive partners (discordant couple) that are not virally suppressed should be initiated on pre exposure prophylaxis.
- Discuss the HIV risk reduction plan that includes: Abstinence, Being faithful to one partner, Condom use, Don't share needles, Education and information for behaviour change (ABCDE).

In case of **positive results**:

- Post-test counselling will encourage risk reduction and secondary prevention of HIV infection.
- HIV-positive clients should be referred to a comprehensive HIV care and treatment clinic for enrolment, ART initiation and follow-up. (See section 1.10 below, on procedures for linkage to care and treatment)
- Enrolment into care and initiation of ART should be done the same day as the diagnosis day taking into consideration the client's readiness to initiate ART. For those clients not ready or requiring more preparation the goal should be to initiate ART within 7 days.
- Clients must be encouraged to live positively, adopt healthy lifestyles, to reduce further exposure, and to avoid transmitting new infections to others.
- Clients are advised to disclose their status to their sexual partners and invite them for HIV testing. For female clients who test positive and have children, they are encouraged to bring untested children in for testing as well.
- All newly diagnosed HIV positive clients will be introduced to recency testing services.

1.4.9. Settings for HIV Testing Services (HTS)

Diverse models of HTS delivery are used with the aim to increase population's access to HIV testing, identify new HIV+ cases and link them to care and treatment.

HIV testing services are available in health care facilities, in other recognized organizations providing health services, in the community and home (HIV self-testing). Each setting involves specific HTS approaches.

1.4.9.1. Health Facility Based HIV Testing and Counselling

It is recommended to routinely offer HTS in clinical settings through different entry points. HTS are offered as scheduled by the health facility and follow principles outlined under section 1.4.3

Through the following points, facility based HIV testing and counselling services are offered in various entry points as follows:

- Voluntary HIV counselling and testing
- Provider initiated testing and counselling (STI, tuberculosis, nutrition, family planning, immunization, inpatient, outpatient...)
- Prevention of mother to child HIV transmission (ANC, maternity, labor and delivery, EID)
- Voluntary medical male circumcision

1.4.9.2. Community-Based HIV Testing and Counselling

HTS can be offered at community level. The same principles for HTS outlined section 1.4. 3 also apply for community-based HTS (pre-test counselling, consent, testing, post-test counselling, and linkage to appropriate care and treatment or prevention services).

In Rwanda, community-based HTS refers to outreach or mobile HTS. It is recommended for key populations in (specifically sex workers, men who have sex with men, mobile populations, etc.) in hotspots with linkage to prevention, care, and treatment services. Refer to section 1.10 for detailed guidelines on pre-test counselling, testing, post-test counselling, and linkage to further services for treatment or prevention.

1.4.10. New HIV testing strategies; Index Case Testing and Partner Notification

- ✚ **Index testing** refers to a focused approach to HIV testing in which the household, family members (including children below 15 years for HIV positive mothers) and sexual partners of people diagnosed with HIV (index case) are offered HIV testing services.
- ✚ **Index client** is defined as an individual newly diagnosed as HIV-positive and/or a previously diagnosed HIV-positive individual who is reporting new exposures who may require testing.
- ✚ **Partner Notification** refers to voluntary process where trained counsellors and/or health care workers ask index clients to list all of their sexual partners or/and injecting drug users partners of the last year.

Index testing and partner notification services are integrated approaches in HTS. It is recommended to be offered to people who have been tested HIV+ (index clients) and their sexual partners or injecting drug use partners, family members including the children of HIV positive women that are at risk of HIV infection.

The goal of index testing and partner notification services is to reach the above mentioned high risk groups in order to provide them with HTS thus identifying and treating new HIV positive individuals to interrupt the chain of HIV transmission and optimize the benefits of treatment for the individual's own health. Furthermore, partner notification serves as entry point to other prevention services as well as linkage to care and treatment.

1.4.10.1. Principles of Index Testing and Partner Notification Services

Index testing and partner notification services (PNS) should be voluntary whereby the client chooses and consents to the best PNS options for him/her. It should be confidential and delivered in a non-judgmental manner. Furthermore, it should be accessible and available to all as well as comprehensive. The health care provider should document the PNS provided to the clients and their partners.

Partner notification combines the following approaches:

- Passive HIV partner notification
- Assisted HIV partner notification

✚ **Passive HIV partner notification services:** HIV positive individuals are encouraged by a trained provider to disclose their status to their sexual and/ or drug injecting partners by themselves, and to also suggest HTS to the partner(s) given their potential exposure to HIV infection.

✚ **Assisted HIV partner notification services:** HIV-positive clients consent to be supported by a trained provider to directly disclose their status or to anonymously notify their sexual and/or drug injecting partner(s) of their potential exposure to HIV infection.

Assisted partner notification should be done using client referral; provider referral or dual referral approaches.

- **Client referral:** The index client takes responsibility for disclosing his HIV status to partner(s) and encouraging partner(s) to seek for HIV testing services.
- **Provider referral:** With the consent of the Index client, a nurse/counsellor will call or visit the partner of index case and inform him or her about voluntary HTS.
- **Dual referral:** Index client and nurse/counsellor will work together to notify the partner.

After obtaining consent from the index client, the health care provider should screen for intimate partner violence (IPV) for each sexual and/or injection needles sharing partner. Every listed partner where the risk of IPV is eliminated is: (1) **contacted**, (2) **informed that they have been exposed to HIV**, and (3) **offered voluntary HIV testing services (HTS)**. Refer to Annex III.

1.4.11. HIV Case based surveillance (CBS) and recency testing

Case based surveillance (CBS) refers to the longitudinal follow up of HIV positive clients with the objective of monitoring their clinical outcomes as well as HIV transmission. It is composed of two components:

- Active case finding

- Routine longitudinal follow up of client in care and treatment

CBS starts with enrolment of the HIV positive client into care and treatment and documenting all the programmatic packages provided to him/her including index testing, recency testing, biological and clinical outcomes.

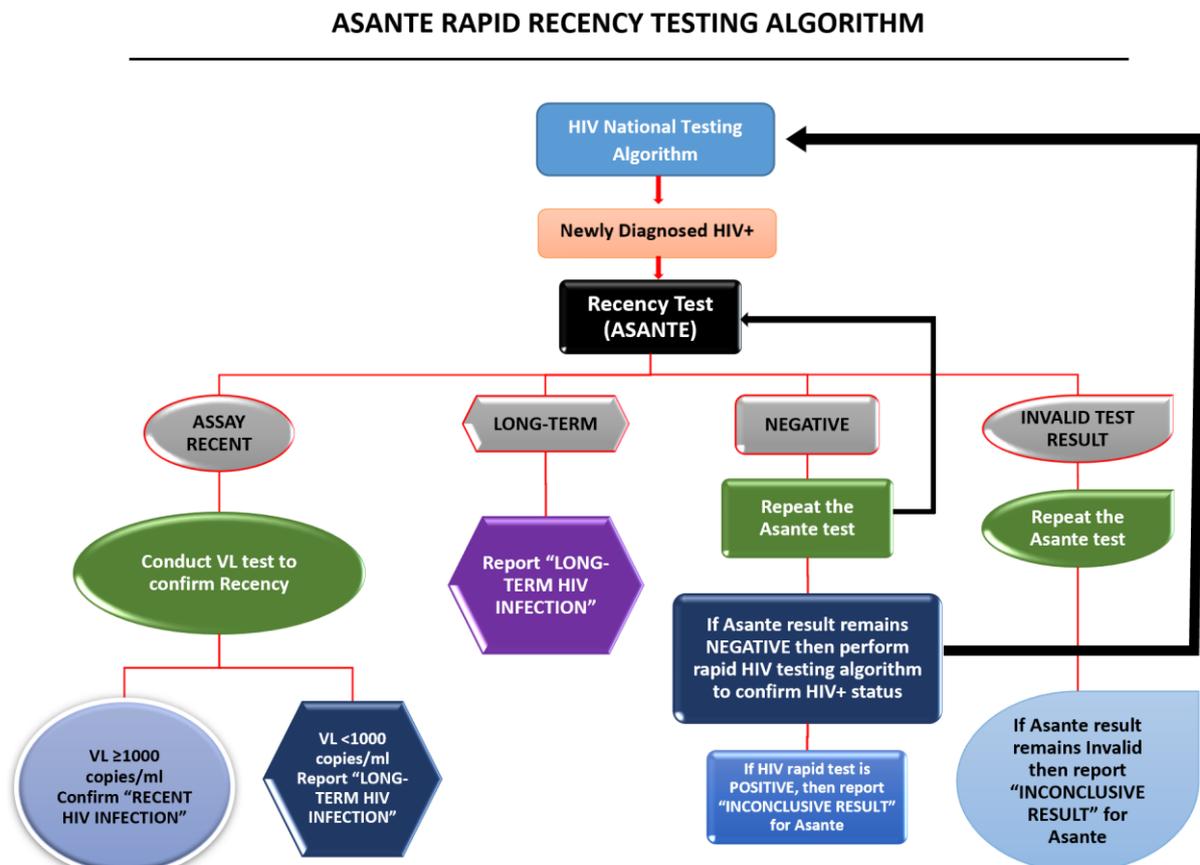
Recency testing is an integrated approach of testing used to detect HIV early infection (recent) or long-term HIV infection from newly confirmed HIV-positive clients. Every client diagnosed as HIV-positive using the national HIV rapid testing algorithm is to be considered eligible by a counsellor and consented for recency testing.

Blood sample is collected by venipuncture and referred to designated laboratory for testing using recency testing algorithm (Refer to Figure 02). Recency test results are returned and communicated to the clients in a post counselling session.

The objective of recency testing is to identify recent HIV infections among newly diagnosed cases, characterize them to inform prevention interventions and enhance active case finding.

Recency is tested using the Asante test.

Figure 2: Recency testing algorithm



1.4.12. HIV Testing and Counselling in Special Cases

The following paragraphs describe the procedures for HIV counselling and testing in the case of couples, children, adolescents, key populations and mobile populations. Healthcare providers should

address the specific needs of each of these groups while also respecting the principles of HTS outlined in Section 1.4.3.

1.4.12.1. Couples Counselling and Testing

The counselling and testing of couples should involve a confidential dialogue between the two people in a couple and a counsellor. This enables the counsellor to give general information, assess the risk of HIV transmission, support mutual disclosure of their HIV status and overcoming stress within the couple. It is important to ensure that the entire process is voluntary and no member of the couple is coerced to take the test. If the counsellor suspects any coercion on a member of the couple, the counsellor should encourage the couple to return after they have made the decision jointly and without any coercion. HTS should be offered to married and cohabiting couples, premarital couples, polygamous unions, and any other partnerships free of discrimination.

The couples HTS model was proven acceptable, feasible and effective. It allows identifying sero-concordant negative/positive and sero-discordant couples who are then linked to prevention and care and treatment services according to their HIV status. It is recommended that the sero-concordant positive and sero-discordant couples whereby a mother is positive should be encouraged to test their children.

1.4.12.2. Infants and Children (less than 10 years)

HIV-exposed infants and children younger than 24 months should be:

- Tested at 6 to 8 weeks after birth so that those already infected with HIV may start ART in a timely fashion.
- Follow HTS schedule for HIV-exposed infants include testing at 9 months; 18 and 24 months (3 and 6 months post cessation of breastfeeding) as outlined in the PMTCT guidelines in section 1.6.
- Confirm HIV infected only using virological tests because of the presence of persisting maternal HIV antibody in the child up to 15–24 months of age.

Children aged two up to 11 years should be tested using HIV rapid test algorithm upon consent of parents or legal guardians. Children aged 5 years and older should be informed of their HIV positive status in the presence of their parents or caregiver. The disclosure should be conducted after an attentive assessment of their cognitive and emotional maturity. For a detailed description of the process of disclosure, refer to the section II.2 (Psychosocial care).

1.4.12.3. Adolescents (10-19 years)

Adolescents are often underserved and given insufficient priority in many HIV programs, leading to poor access and uptake of HTS as well as linkage to prevention and care. Sexually active adolescents are also vulnerable to HIV infection and should benefit from access to friendly, acceptable and effective HIV services, including HIV testing and counselling as well as HIV care and treatment for those who are HIV-positive.

To ensure access to HTS, health facilities should:

- Avail youth friendly services to provide a comfortable environment to get HTS and other sexual reproductive health services.
- Ensure parental or guardian consent for children aged 10-11 years, while adolescents aged between 12 to 19 years may consent themselves for HTS.
- Ensure adolescents receive special post-test counselling from a trained counsellor about HIV risk reduction, available HIV prevention and treatment services.
- Emphasize the potential benefits and risks of disclosure of their HIV status and receive support to determine, when, how and to whom to disclose.
- Encourage index testing and partner notification for those who tested HIV positive (Refer to index and PNS sections 1.4.10).

1.4.12.4. Key Populations

Key populations include commercial sex workers, men who have sex with men, injection drug users and sero-discordant couples, all of whom are at high risk of HIV Infection.

To reach these groups, health facilities should ensure that innovative and tailored models for delivering HIV testing services are available as follows:

- Mobile/outreach HIV testing services,
- Home-based testing such as HIV self-testing
- Voluntary HIV testing
- Provider-initiated testing and counselling
- Couples and partner testing
- Index testing and partner notification.
- Social network testing
- Community health facility linkage for HIV testing through peer education program

Outreach testing requires additional effort for linkage and enrolment into HIV care and treatment services. However, outreach organizers (health facilities, partners) have the responsibility to ensure effective linkage of HIV positive clients to care and treatment. HIV negative individuals in key populations should receive strong risk reduction counselling and be encouraged to get tested for HIV every 12 months and stay in long term follow up. They should be supported to be linked to other prevention services such as VMMC, PrEP, PEP, condoms and STI screening and treatment.

1.5. PRE EXPOSURE PROPHYLAXIS (PREP) IN KEY POPULATIONS

HIV negative key populations with persistent risk for HIV infection assessment should be offered PrEP after discussing other possible available HIV prevention options. PrEP uptake should be a voluntary process.

HIV testing services for FSWs and MSM should be performed before administering PrEP and this testing will be done every 3 months. However, PrEP does not reduce the need for continuing counselling on consistency use of condoms and risk reduction.

The PrEP recommended regimen is the combination of TENOFOVIR + EMTRICITABINE (TRUVADA) or TENOVOVIR + LAMIVUDINE. Adherence support is an important process for everyone on PrEP. All PrEP users should be advised that PrEP reaches full protection after 7 daily doses. Renal function by measuring creatinine clearance should be assessed before PrEP initiation and quarterly during PrEP use for the first 12 months, then annually thereafter.

Healthcare providers should conduct a regular assessment of clients at risk of HIV exposure and determine whether PrEP will be continued or stopped. Thus, clients on PrEP should be retested every 3 months.

N.B: In case the client is tested positive for HIV, the health care provider stops PrEP and immediately links the client to care and treatment.

Table 1: Summary of HIV Testing & Counselling Recommendations

Who to Test	When to Test	Where to Test
People with signs or symptoms of HIV infection	Integrate in health care encounter	In all healthcare settings
Partners of people living with HIV	<ul style="list-style-type: none"> As soon as the partner has been diagnosed HIV positive Every 12 months for the HIV negative partner in sero-discordant couples Newly identified HIV positive should be encouraged for index testing and partner notification 	In all healthcare settings, home based testing (HIVST)
Families members (children and partner) of individuals testing HIV- positive	<ul style="list-style-type: none"> As soon as possible after the family member is diagnosed Clients newly identified HIV positive are encouraged to bring their spouse and children (if the mother is HIV positive or unknown HIV status) 	In all healthcare settings home based (HIVST), community outreach
Key populations: Men who have sex with men and sex workers	<ul style="list-style-type: none"> Every 12 months. Every 3 months for those on PrEP 	In all healthcare settings, outreach services for key populations, and home based testing (HIVST)
Pregnant women and their partners	<ul style="list-style-type: none"> At the first antenatal care visit. During labour. 	In antenatal care and maternity services
Pregnant women with unknown status.	During labour in maternity	In antenatal care and maternity services
Pregnant women who tested HIV negative during ANC	During labour	In antenatal care and maternity services
Infants and children <24 months old whose mothers are living with HIV	At 6 weeks, 9, 18 and 24 months	In all health care settings especially maternal, neonatal and child healthcare services
Children with signs or symptoms of HIV infection or who have parents or siblings living with HIV	Every health care encounter	In all healthcare settings (out-patient department, inpatient services, paediatric clinic)
Adolescents	Initial HIV testing and after HIV exposure	HIV youth-friendly centres health care settings, STI clinics, outreach

HIV negative mother with HIV positive partner	Every 3 months until end of PMTCT period (24 months) and/or end of breastfeeding period.	In ANC clinics, Labour and postnatal clinics.
---	--	---

1.6. PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV (PMTCT)

The goal is to eliminate mother to child HIV transmission as per the following recommendations.

1.6.1. Key recommendations on PMTCT

- Routine HIV testing for all pregnant women attending ANC for first time during current pregnancy together with their male partners (unless already known HIV positive status). It is preferable that these services are offered during the first trimester of pregnancy but they should be ongoing until delivery.
- Every HIV-positive woman will be provided with specific counselling on family planning and get an access to a family planning method of her choice.
- HIV positive pregnant and breastfeeding women should be offered index testing, partner notification and family testing services.
- Every pregnant woman whose HIV status is unknown during ANC should be tested for HIV at the time of delivery.
- Every pregnant woman who tested HIV negative during ANC should be retested at the time of delivery. Thereafter, retesting during postnatal period will be based on HIV risk assessment outcomes.
- Women tested HIV positive during ANC or at the time of labor, should start anti-retroviral therapy immediately. In case of delay, ART initiation should not go beyond 7days.
- Every pregnant or breastfeeding woman newly tested positive for HIV should start with ART regimen Tenofovir + Lamivudine + Dolutegravir.
- Every pregnant or breastfeeding woman newly tested HIV-positive and on ART, should receive the first viral load test three months after ART initiation and then after every six months until the end of PMTCT follow up.
- All infants born to a known HIV positive mother should receive ART prophylaxis with zidovudine and Nevirapine immediately. If not done immediately, it should be in first 72 hours post-partum or as soon as possible during the first six weeks of life.
- Breastfed infants who are at high risk of acquiring HIV, including those first identified as exposed to HIV during the postpartum period, should continue infant prophylaxis for an additional 6 weeks (total of 12 weeks of infant prophylaxis) using NVP (once daily).
- The follow-up of an infant exposed to HIV infection includes PCR/DBS at 6 to 8 weeks and serological tests at 9, 18 and 24 months. A positive diagnosis using serological test should be confirmed using PCR
- In case the child is tested HIV positive, she/he must be initiated on ART immediately or as soon as possible.
- All HIV exposed or infected children should have regular growth monitoring to enable early detection of growth retardation and undertake appropriate management.
- Pre exposure prophylaxis is offered in the context of PMTCT to HIV negative pregnant and/or breastfeeding women in the following circumstances:
 - *Women in discordant relationship whose partners are either not on ART or are on ART but not virally suppressed*
 - *Women practicing sex work*

- The regimen recommended for PrEP is a once daily TRUVADA or Tenofovir and Lamivudine for the entire pregnancy and breastfeeding period.

1.6.2. General Overview

In countries like Rwanda, where breastfeeding is a common practice, the probability of transmission of HIV from the mother to her child (MTCT) is very high in the absence of prevention interventions with ART. The probability of transmission varies between 20-45%, with 5-10% risk of transmission during pregnancy, 10-20% during delivery and 5-20% during breastfeeding.

Since 2012, Rwanda has been implementing a lifelong treatment for all HIV positive pregnant women irrespective of the CD4 count, exclusive breastfeeding protected by ART, and mothers continuing ART as a recent national data through HMIS (2016-2017) shows that, the Option B+ implementation has contributed to a reduction of the MTCT rate at 18 months to 1.5% in a cohort of HIV exposed infants.

1.6.3. PMTCT Pillars

The PMTCT program is based on a comprehensive four-pronged approach:

1. Primary prevention of HIV infection among women in childbearing age
2. Preventing unintended pregnancies among women living with HIV
3. Preventing HIV transmission from women living with HIV to their infants
4. Providing appropriate treatment, care and support to mothers living with HIV, their children and families

HIV Testing Services (HTS) for pregnant women are a key component in all antenatal services. All pregnant mothers attending ANC are recommended to receive HTS with their partners, at the time of their first ANC visit preferably within the first trimester. Strong emphasis will continue being put on male partner involvement in PMTCT cascade.

In addition to HIV testing at the first ANC visit, it is recommended that retesting of negative pregnant women occurs for the pregnant woman at the time of labour. The rationale of re-testing is the risk of acquiring HIV infection among women who previously tested HIV negative during pregnancy and the possibility of seroconversion before delivery.

1.6.4. Prevention of unintended pregnancies

All HIV-positive women should be offered specific counselling on family planning and access to family planning methods. Contraceptives are an important part of a woman's reproductive rights and are a key strategy for PMTCT, as they help to prevent unintended pregnancies. Every health facility providing PMTCT services should also provide family planning services.

Generally, it is safe to use all contraceptive methods with ARVs. However, the patient's clinical status should be assessed to guide the type of contraceptive.

The use of condoms among women who are HIV positive remains an important strategy for preventing transmission of HIV to uninfected partners and offers dual protection for HIV negative women in discordant couples. Condom use also prevents sexually transmitted infections, which are not prevented by any other means.

1.6.5. Pregnancy Desire

It is necessary to regularly discuss pregnancy desires with HIV-positive female patients during clinical follow up because most patients will not talk about it spontaneously. Ultimately, it is the woman's right to choose whether she would like to conceive.

The healthcare provider together with the client should have more than one counselling session, preferably together with the male partner, focusing on the pregnancy desire, associated risk on mother's health, and the risk of mother-to-child HIV transmission. The healthcare provider should accompany the woman/couple in their decision-making process.

If the woman/couple decides to have children, the healthcare provider will conduct close follow up of the mother in order to ensure optimum clinical outcome (viral load suppression, absence of opportunistic and sexually transmitted infections) and provide recommendation on optimum timing of conception to reduce the risk.

In a discordant couple, the desire for pregnancy should be weighed against the risk of HIV transmission to the HIV-negative partner. The early initiation of ART and special adherence follow-up to ensure sustained viral suppression for the HIV-positive partner should be provided. The health care provider should also assist the couple to estimate the woman's fertile period. It is recommended that conception is attempted during this period, in order to limit repetitive attempts that increase the risk of HIV transmission.

 **When an HIV-positive woman wishes to become pregnant, assess the following:**

If the male partner is HIV positive, assess both partners for

- Viral load suppression
- Adherence to treatment
- Comorbidities and opportunistic infections

If the male partner is HIV-negative, advise the following:

- Voluntary medical male circumcision
- Provide pre-exposure prophylaxis to HIV negative male partner when the woman is not virally suppressed
- Consistently use of condom

 **When HIV-negative woman in discordant couple wishes to become pregnant, involve the partner and assess the following:**

- Viral load suppression
- Adherence to treatment
- Provide pre-exposure prophylaxis to HIV negative woman when the partner is not virally suppressed
- Comorbidities and opportunistic infections

1.6.6. Follow up during antenatal period

The follow up of HIV positive pregnant woman should start immediately after conception. Initiation of antiretroviral drugs and counselling on ART adherence must be followed by a couple counselling on delivery and postnatal period.

The counselling session is addressed to all HIV positive pregnant women & women in discordant couples and their partners. It will be conducted in the third trimester of pregnancy preferably during the fourth antenatal care visit.

The counselling session shall focus on the following:

- Adherence to ARV treatment
- Emphasize the advantages of delivery at the health facility
- Disclosure of HIV status to health care workers during labour
- Information on ART prophylaxis for the newborn
- Options and period for breastfeeding
- Family planning

1.6.7. Interventions during Labour

Interventions during labour aim at minimizing HIV transmission risks to the new-born. Invasive procedures (forceps, vacuum extraction, artificial rupture of membranes, scalp monitoring and episiotomy) during delivery should be avoided whenever possible. Health care providers should pay attention and take action in the case of premature rupture of membranes and prolonged labour. The early neonatal management of the HIV exposed new-born is the same as for HIV-unexposed infants except the ART prophylaxis.

1.6.8. The use of ART Drugs in PMTCT

It is recommended that any HIV-positive pregnant woman receives a continuum of care including ART in the same health facility. This should be done also for the HIV positive partner of a pregnant woman in discordant couple. Initiation of ART should start as early as possible following the outlines below.

1.6.8.1. ART for HIV Positive pregnant woman

The use of ART for HIV positive pregnant women will depend on whether she was already on ART or not. The following situations are possible during pregnancy:

A. If the HIV-Positive pregnant woman is already initiated on ART, consider the following aspects:

- Adherence to the current ART regimen
- Viral load suppression as per the most recent viral load test results
- Consider viral load result as 'recent' if it was performed less than six months prior to the first ANC visit.

- It is mandatory to repeat the viral load test for all pregnant women not tested at the first ANC, before the third term of pregnancy (preferably at 6 months of pregnancy)
- If the woman is virally suppressed, she will be kept on her current ART regimen.
- If the woman is not virally suppressed (>200 copies/ml), she will be switched to a Dolutegravir based regimen plus two NRTIs.
- The switch to Dolutegravir- based regimen will be conducted concurrently with the adherence counselling for patients with documented poor adherence.

B. If a woman is newly diagnosed HIV positive during pregnancy:

- The woman is immediately enrolled in care and initiated on ART
- The preferred ART regimen is Tenofovir + Lamivudine + Dolutegravir (TDF+3TC+DTG)
- Any woman with impaired renal function or any contraindication to TDF will receive ABC + 3TC + DTG

NOTE: Doses are the same as in non-pregnant adults' HIV treatment (see details in care and treatment chapter). Monitoring of renal function is important.

1.6.8.2. The viral load monitoring for pregnant and breastfeeding woman

The viral load monitoring for pregnant and breastfeeding woman will be done as follows:

A. If the HIV-positive pregnant woman is already enrolled in HIV program, consider:

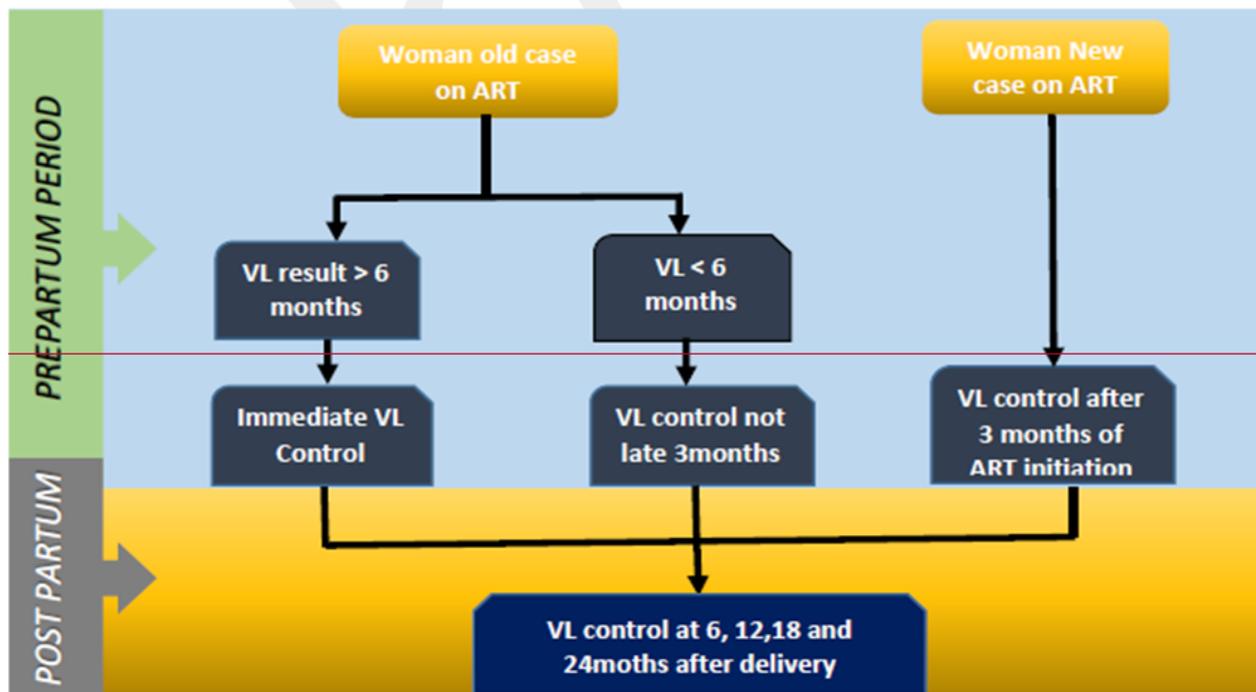
- The viral load result is 'recent' when the test was performed in less than six months before the first ANC visit.
- For every pregnant woman who comes for ANC in third trimester, if her viral load test is aged more than 6 months, it is mandatory to repeat a VL test.
- If the recent viral load test was done more than six months prior to the first ANC visit, then, request an immediate (control) viral load test.

B. If the HIV-positive pregnant woman is newly enrolled in the HIV program, the viral load test should be done 3 months after ART initiation then continue every 6 months.

C. In the post-partum period up to 24 months, the viral load monitoring should be done every six months.

- Every HIV-positive woman will be provided with specific counselling on family planning and get an access to a family planning method of her choice.
- Routine HIV testing for all pregnant women attending ANC for first time during current pregnancy together with their male partners (unless already known HIV positive status). It is preferable that these services are offered during the first trimester of pregnancy but they should be ongoing until delivery.

Figure 3: Viral load monitoring in PMTCT



1.6.9. ART for HIV-Negative Pregnant Woman in a SDC

An HIV-negative pregnant woman in a sero-discordant couple (i.e.: the partner is HIV positive and the woman is HIV-negative) will need to be tested for HIV every three months, as well as at the onset of labour.

- If she is shown to be HIV-positive: refer to chapter of ART initiation in HIV positive pregnant women.
- If she remains HIV-negative or in case of premature rupture of membranes, she will receive during labour: A single dose of TDF + 3TC + DTG.

1.6.10. HIV Exposed Infant Prophylaxis

A child is considered as 'exposed to HIV', if he/she is born to an HIV positive mother. The initiation of infant prophylaxis depends on the time the mother was diagnosed HIV positive. Children born to HIV negative mothers in discordant couple will not receive any prophylaxis as long as their mothers remain HIV negative.

1.6.10.1. Infant born to a known HIV-positive mother:

All children born to a known HIV positive mother (before or during labour) will receive zidovudine and Nevirapine (AZT+ NVP) as soon as possible within 72 hours after birth up to six weeks of life. The baby will also start cotrimoxazole prophylaxis at the age of 6 weeks until the final confirmation of HIV negative status at the age of 24 months.

1.6.10.2. Infant born to a mother diagnosed for HIV after delivery

If the mother is identified to be HIV-positive at the time of breastfeeding, she should be put on ART. The child will start a combined AZT and NVP as soon as possible for six weeks. At the end of 6 weeks ART prophylaxis; the child will also start cotrimoxazole prophylaxis until the final confirmation of HIV negative status at 24 months of life.

All Breastfed infants who are at high risk of acquiring HIV, including those first identified as exposed to HIV during the postpartum period, should continue infant prophylaxis for an additional 6 weeks (total of 12 weeks of infant prophylaxis) using NVP and AZT.

High-risk infants are defined as:

- *born to women with established HIV infection who have received less than four weeks of ART at the time of delivery; or*
- *born to women with established HIV infection with viral load >1000 copies/mL in the four weeks before delivery, if viral load measurement available; OR –*
- *identified for the first time during the postpartum period, with or without a negative HIV test prenatally*

1.6.11. Postnatal follow up for the Mother-Child Pair

The mother-child pair needs close follow up to ensure vertical transmission will not occur during delivery and the breastfeeding period. The success of a mother child pair follow up will depend on the quality of counselling given to the mother, the family and community support received, and the efficiency of the follow up done by the health care team.

The follow up of the mother-child pair will include:

- a. *Counselling on infant feeding and nutrition*
- b. *HIV positive mother post-delivery follow up*
- c. *Early Infant diagnosis (EID)*
- d. *Infant growth monitoring and evaluation of nutritional status*
- e. *Immunization*

1.6.12. Infant feeding and nutrition

Advice on a healthy and balanced diet for the child and the mother must be given to the mother during the monthly visit in the HIV clinic. Counselling on nutrition and infant feeding should begin as soon as pregnancy test results are announced and will continue through postnatal counselling.

The recommended feeding methods for the infant are as follows:

- Exclusive breastfeeding until 6 months
- Introduction of a healthy, balanced, and appropriate complementary food will begin at six months and together with continuation of breastfeeding.
- Encourage mother to continue breastfeeding up to a maximum of 2 years

- Support the mother to adhere to antiretroviral treatment to maintain optimal viral suppression during breastfeeding period
- If a mother, for any medical reason, cannot breastfeed the child, refer her appropriate management

1.6.13. HIV positive mother post-partum follow up

The post-partum follow-up of an HIV infected mother, should be conducted on a monthly basis and correlate with the follow up of her HIV exposed infant. For each clinical appointment the health care provider must assess:

- The mother-child pair clinical follow up occur simultaneously
- The ART adherence continuously promoted
- The mother's viral load is done three months after ART initiation then every six months, and prompt action taken as per results
- If the mother has a family planning method
- The mother's nutrition status and provide counselling and/or food supplement when necessary.

1.6.14. Early infant diagnosis (EID)

HIV exposed infant should be closely monitored, clinically and biologically, in order to diagnose the HIV infection. If the HIV test becomes positive, the child must be initiated to ART immediately or preferably within 7 days. The biological follow-up includes PCR at 6 to 8 weeks and serological tests at 09, 18 and 24 months. Refer to figure 4) HIV testing among HIV exposed Infants. A positive serological test should be followed by a confirmatory PCR test

The first appointment at 6 weeks is crucial. During this appointment, the child receives the following:

- *Immunization*
- *PCR test*
- *Start cotrimoxazole prophylaxis*
- *Monitoring of growth and psychomotor development.*

The clinical monitoring will continue every month and should be synchronized with immunization schedule. The identification of HIV-exposed infant in the vaccination service will be facilitated by the immunization card integrating information about the mother's HIV status.

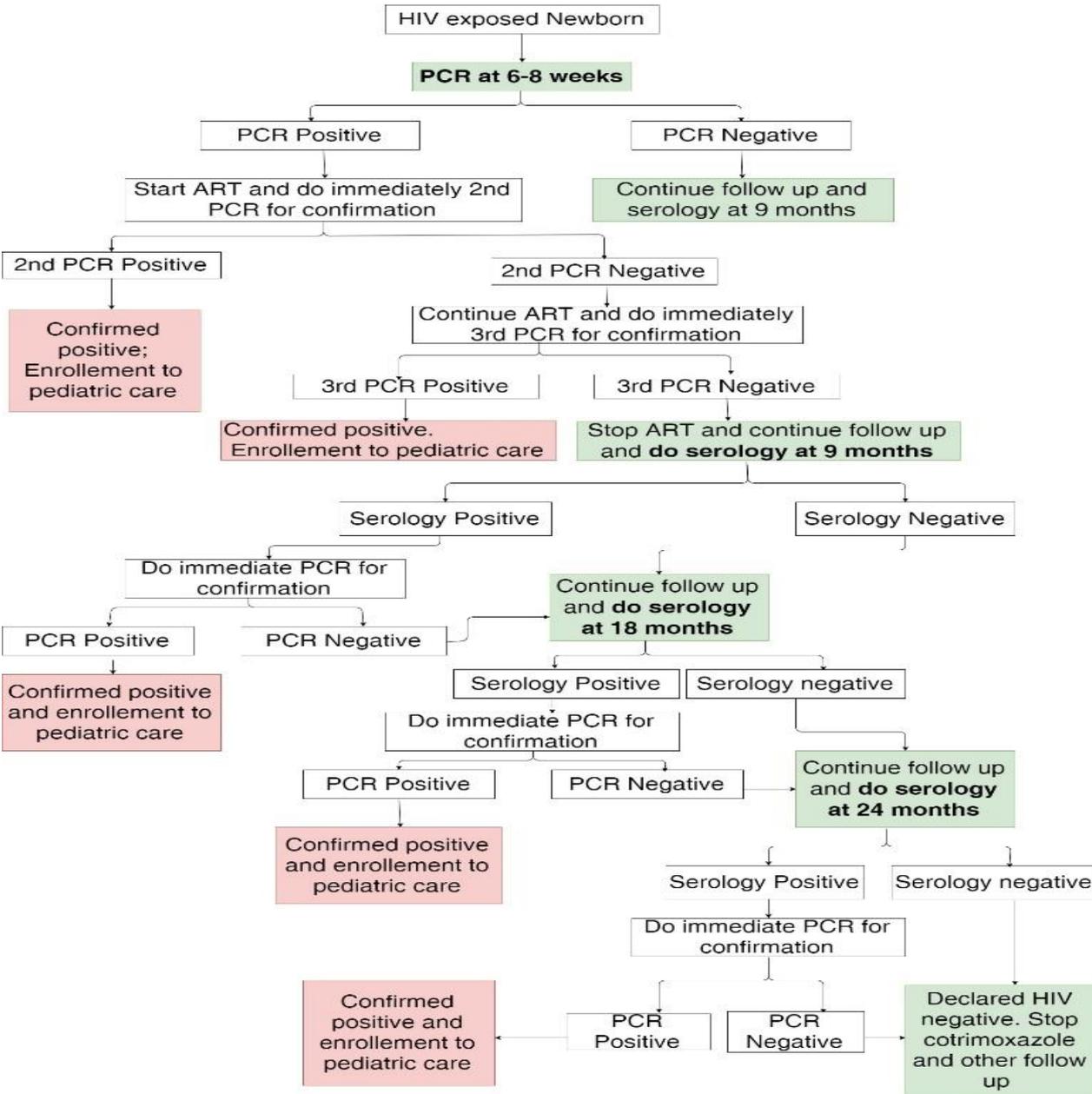
The first PCR test will be performed at the age of 6 to 8 weeks and if the result is negative, the child will continue the monthly clinical follow until the age of nine months where a serological test will be performed. If the six weeks PCR result is positive, the child will be initiated on ART and a second PCR will be immediately requested. Results of second PCR will either confirm the HIV infection (If the two PCR are concordant) or a third PCR test will be needed (if the two PCR results are discordant). The results of the third PCR test will confirm or not the child's HIV infection.

At the age of 9 months, an HIV serology test will be performed. If the result is negative, the child will continue the monthly follow up to 18 months at which point the next serological test is performed.

The positive result will need to be confirmed by a PCR test, which will be requested immediately. If the PCR result is positive, the child will be confirmed positive and enrolled on ART. If the PCR result is negative, the same process will be repeated at 24 months or six weeks after complete cessation of breastfeeding (for few cases of children who might continue breastfeeding) when the final HIV confirmation test will be performed.

It is important that mother receive support counselling of infant feeding especially on the weaning process by 18 months in order to be certain of the child’s HIV negative sero-status at the age of 24 months. In order to ensure quality of HIV testing, it is important to follow carefully HIV testing algorithm for HIV exposed infants, as described below.

Figure 4: Algorithm for HIV testing among HIV exposed infants



NB: It is worth noting some particular situations:

- When the result of an HIV-exposed infant test is 'inconclusive' at any serological tests used, a PCR test should be immediately performed for confirmation purpose.
- For any HIV exposed infant enrolled late in PMTCT between the age of 6 weeks and 9 months, immediate PCR will be performed, then follow the process described in figure 4.
- For any HIV exposed infant enrolled late in PMTCT after 9 months, immediate HIV serology test will be performed then follow the process described in figure 4.

1.6.15. Infant Growth Monitoring and Evaluation of Nutritional Status

Regular growth monitoring is critical for clinical follow up of an HIV-exposed or infected child. It allows for early detection of growth retardation to undertake appropriate management. The following anthropometric measures are most commonly used for growth monitoring in children:

- **Weight:** *The naked or lightly dressed (without shoes) child is weighed with a well-calibrated scale.*
- **Height:** *The child under two years should be measured lying down; older children should be measured upright using a height board. Never use a tape measure.*
- **Head circumference:** *This should be measured at birth in all children and up to five years. A tape measure should be used by passing around the frontal and occipital bones.*

The first 2 years of life is a period of rapid growth in childhood. The average child's weight at birth is about 3 kg. The child doubles his/her birth weight after 6 months and triples it after one year. At 2 years, he/she weighs about 12 kg on average. The child's height is about 50 cm at birth. It increases to about 75 cm after one year and to 85 cm at two years. The head circumference is between 33 cm and 36 cm at birth. It increases to about 45 cm after one year and to 47 cm after two years.

All HIV-exposed infants should be thoroughly examined (head circumference, length, weight, neurological development, suspicious signs of infection) every month until the age of 24 months. During the HIV exposed infant follow up, the completion of growth charts at each clinical visit is mandatory. The trend in the weight and height growth should be captured monthly using growth curves in the child's file. At the health centre level, in case the child shows growth retardation, neurological deficits or suspicious signs of infection (fever, impaired general condition, dyspnea, etc.), he/she will be referred immediately to a doctor for appropriate management.

1.6.16. Syphilis screening and treatment for pregnant women

Syphilis is transmitted from mother to child (congenital syphilis) if not detected and treated early in pregnancy. Congenital syphilis can cause early foetal death (stillbirths), neonatal, deaths/low birthweight. It is recommended to screen all pregnant women for syphilis during the first antenatal care visit using Rapid Plasma Reagin (RPR) test or dual test kit for syphilis and HIV.

For women who did not attend antenatal care visits, this screening will be done in maternity before delivery. Pregnant women screened positive for syphilis will be treated together with their sexual partner using benzathine penicillin 2.4 million international units IM in single dose and erythromycin, 1 gram 2 times per day orally for 14 days.

1.7. HIV PREVENTION AMONG DISCORDANT COUPLES

Evidence-based interventions package for HIV sero-discordant couples can be provided through facility based and/or community interventions. Although these interventions are delivered in a package, providers must ensure that they contextualize the specific, particular needs of the couple since different couples may have different needs.

The objectives of these interventions are:

- To protect the negative partners from acquiring HIV infection
- To provide care and treatment to HIV positive partners, allowing them access to early treatment that improves clinical outcomes
- To protect future children from HIV infections
- To offer the appropriate HIV prevention package for children and other family members of the HIV positive individuals
- To support the prevention of unwanted pregnancies in discordant couples

The overall intervention package for discordant couples consists of the following:

- Risk reduction counselling and condom provision
- Initiation of pre-exposure prophylaxis for those whose HIV positive partner is not yet on ARV or are not virally suppressed
- Family planning counselling and service provision
- Repeat HIV testing for the uninfected partner every 12 months
- Care and treatment for the HIV-positive partner
- STI screening and treatment

In case of a pregnant HIV-negative partner:

- ✚ The HIV testing shall be done every three months
- ✚ A pre-exposure prophylaxis should be offered in case of non-viral suppression for the positive partner.
- ✚ At labor, a single dose of TDF+3TC+DTG will be offered for all women who are not taking the pre-exposure prophylaxis.

The health care provider should encourage the discordant couple to follow up in the same health facility and synchronize with pharmacy refills and appointment schedule. Ongoing psychosocial support and counselling shall be offered to the discordant couple.

1.8. PRE AND POST-EXPOSURE PROPHYLAXIS

1.8.1. Pre-exposure prophylaxis in the context of PMTCT

Pre-exposure prophylaxis is offered as part of an enhanced comprehensive HIV prevention approach, for female sex workers at high risk of HIV infection and HIV negative persons in discordant couple relationships. In our context, female sex workers considered at high risk of HIV infection are those who are not consistently using condoms.

It is recommended to offer prophylaxis with anti-retroviral drugs (combination of a once daily Tenofovir and Emtricitabine/Lamivudine) for the entire period of HIV exposure to HIV negative partner in discordant couple, whose partners are not yet on ART or on ART without viral suppression (<200 copies/ml).

Initiation of PrEP is provided to those who consent to take and adhere to it. Adherence counselling must be emphasized on the proper use of ART. Laboratory assessment is recommended before (creatinine test) initiation and every six months on ART and repeat HIV testing every six months.

For HIV positive partners on ART, their viral load test shall be done regularly to ascertain HIV transmission risk to their female partners. All HIV negative partners in discordant couple whose partners have viral loads >200 copies/mL shall be eligible for PrEP as per the previous paragraph. All female sex workers who are not consistently using condoms should be offered PrEP irrespective of the sero-status of their partners.

1.8.2. PrEP for safer pregnancy

The HIV-negative partner in discordant couple remains at high HIV risk during the period of conception when the partner living with HIV is either not on ART or is on ART but not virally suppressed. Offering PrEP shall decrease the risk of viral transmission to the HIV-negative partner and reduce anxiety about HIV transmission at a time when the couple is not always using condom to prevent HIV transmission. It also reduces vertical HIV transmission to the infant. The decision whether to take PrEP should always be voluntary, following discussion on the risks and benefits with the health-care provider.

1.8.3. ART for Post-Exposure Prophylaxis (PEP)

Every person who has experienced exposure to blood/body fluids, victim of sexual assault, or accidental sexual exposure (i.e., condomless, sex with a known HIV-positive person; condom breakage) must have access to an early evaluation of the risk of HIV infection and antiretroviral prophylaxis if indicated. It is therefore necessary to have PEP services. Evidence shows that initiating ART prophylaxis soon after exposure to HIV reduces the risk of HIV infection by about 80%. Post-exposure prophylaxis (PEP) is short-term ART to reduce the likelihood of acquiring HIV infection after potential exposure.

Post-exposure prophylaxis should be provided immediately or preferably within 72 hours of exposure. An HIV serology test should be performed on the exposed individual as soon as possible (ideally within 48 hours) following the HTS procedures outlined in section 1.4.4. If the test result is negative, the guidelines below should be followed for the administration of PEP. Serologic monitoring will be done at one month, three months and at the end of the sixth month.

1.8.4. Special Considerations

1.8.4.1. Case of Accidental Exposure to Blood (AEB) or Other Biological Fluids

In case of accidental exposure to blood, always clean the exposed area immediately. In case of exposure through needle stick or skin injury, clean the wound immediately with clean water and soap.

In case of splash on the mucous membranes (particularly the conjunctiva), rinse at least for 5 minutes with copious amounts of water or preferably physiological saline or any available saline and do not apply disinfectant on the mucous membranes.

One of the health care providers from the health facility must evaluate the actual risk for a given patient. This evaluation includes:

- The severity of the exposure, which is directly linked to the depth of the wound and the type of needle that was responsible for the injury (venipuncture needle, needle for injection, non-sharp instrument).
- For external contact of secretions with the skin or mucosa (splash), the risk is higher with blood than with any other body secretions (amniotic fluid, serous fluid).

The person assumed to be the source should be assessed on his or her HIV status, clinical and immunological status and history of ART. If the HIV status is not known, it is important to establish it with his/her free consent according to guidelines outlined in section 1.2.3.1. If the HIV status of the source person cannot be obtained within 4 hours, prophylaxis for the exposed person should be started immediately after a negative HIV test. If eventually the person assumed to be the source is proven to be HIV-negative, then ARV prophylactic treatment may be stopped.

1.8.4.2. Case of Sexual Assault or Rape

In case of rape, the provider must first follow the HIV counselling and testing steps described in the above paragraphs before giving prophylactic treatment.

PEP should be offered to the sexual assault victim once the clinician has assessed all the factors involved in the likelihood of HIV transmission (suspicion of HIV positivity in the assailant, probability of HIV transmission). PEP might help the victim gain a sense of control and decrease their anxiety about acquiring HIV.

Consider HIV post-exposure prophylaxis for survivors of sexual assault presenting within 72 hours of the assault. In addition to HIV post-exposure prophylaxis, women should be offered emergency contraception to prevent unintended pregnancy immediately or preferably within 72 hours after sexual exposure.

Table 2: Management of Exposure to HIV

HIV Status of Source Person	HIV Status of Exposed Person	Recommendation
Positive or negative	Known positive	<ul style="list-style-type: none"> ✚ No prophylaxis is indicated ✚ Ensure enrolment in HIV treatment and care ✚ In case of sexual exposure, provide emergency contraception if the exposed is female and accepts.
Known HIV positive	HIV-negative or unknown	<ul style="list-style-type: none"> ✚ Immediate HIV rapid test done on the exposed person. ✚ If HIV-negative, then counsel and offer prophylaxis ✚ If HIV-positive, ensure linkage to HIV treatment ✚ In case of sexual exposure, provide emergency contraception if the exposed is female and accepts.
Unknown	HIV-negative or unknown	<ul style="list-style-type: none"> ✚ Immediate HIV rapid test done on the exposed: ✚ If the exposed is HIV negative, then counsel and offer prophylaxis; ✚ In case of sexual exposure, provide emergency contraception if the exposed is female and accepts.

1.8.5. ART Prophylaxis in PEP

The current recommended duration of post-exposure prophylaxis for HIV infection is 28 days. Treatment should start as early as possible, within the first 4 hours following the exposure, without waiting for results of HIV serology of the source person. A limit of 72 hours is reasonable in seeking maximum efficacy, however the sooner the better.

The recommended post-exposure prophylaxis drugs are based on the current second and first line regimen:

1. **TDF + 3TC/ FTC + ATV/r**
2. **AZT + 3TC/ FTC + ATV/r (If no TDF or a contraindication)**

NB: The recommended ART Prophylaxis is the same in rape/sexual assault and exposure to biological fluids

Table 3: Follow-up of Person on Post-Exposure Prophylaxis

Test	Source	Exposed persons	1 month after exposure	3 months after exposure	6 months after exposure
	Baseline	Baseline			
HIV Test (serology)	√	√	√	√	√
Hepatitis B serology	√	√	-	-	√
Hepatitis C antibody	√	√	-	-	√
Syphilis serology	√	√	√	-	√
Gonorrhoea	√	√	√	-	-
Chlamydia	√	√	√	-	-
Pregnancy	-	√	√	-	-
Serum creatinine	-	√	√	-	-

1.9. COMBINATION PREVENTION OF HIV

Definition: Combination HIV preventions tailoring and coordinating biomedical, behavioural and structural strategies to reduce HIV infections. These programs operate on different levels (individual, relationship and community levels) to address the specific but diverse needs of the populations at risk of HIV infection.

1.9.1. Biomedical Prevention

1.9.1.1. Condoms

Condom use is a critical element in a comprehensive, effective, and sustainable approach to HIV prevention across the continuum of response. They provide the additional benefits of providing protection from STI and unwanted pregnancy as well. Condom distribution and promotion should be key components of all packages of interventions for all populations, where appropriate. Male condoms reduce heterosexual transmission by at least 80% and offer 64% protection in anal sex among men who have sex with men, if used consistently and correctly. Fewer data are available for the efficacy of female condoms, but evidence suggests they can have a similar prevention effect.

Condom programming should engage the public, social marketing and private sectors in condom distribution and promotion and should include a plan for increasing sustainability of condom programming. Social marketing programs should provide subsidized and marketed commodities to poor and vulnerable populations where the private sector does not supply these commodities. Free public sector condoms should primarily be distributed to population segments lacking disposable income and/or those most at risk of HIV transmission or acquisition.

Specifically, for key populations (female sex workers and men who have sex with men), condom programming and distribution should go hand in hand with the distribution of water-based lubricants.

1.9.1.2. Voluntary Medical Male Circumcision (VMMC)

Three randomized controlled trials have demonstrated that VMMC reduces men's risk of HIV acquisition by approximately 60 percent, making it an effective HIV prevention intervention. WHO/UNAIDS issued normative guidance in March 2007, recognizing that VMMC is an additional important intervention to reduce the risk of male heterosexually acquired HIV infection and that VMMC should always be implemented as part of a comprehensive HIV prevention package.

VMMC should be provided by using a conventional surgical method focusing on dorsal slit procedure as recommended by WHO or a device-based method (eg: Shang Ring).

Clients seeking circumcision service should be informed about the availability of the aforementioned circumcision methods and related eligibility criteria. Nevertheless, every client should make his own choice based on received information and clinical evaluation findings.

Eligibility criteria for VMMC methods

Eligibility criteria for both surgical and device-based method include absence of STIs, bleeding disorders, uncontrolled hypertension and diabetes, penile cancer, scar tissue at the frenulum, allergy to anesthesia and other abnormalities of the genitalia such as hydrocele causing swelling.

Currently, the device-based method is recommended for use starting from 10 years and above. Surgical methods are appropriate for all ages. However the priority age is 15 years and above considering the incident rates of circumcision to that age below to 15 years and to have the impact on HIV prevention to the person at high risk.

The VMMC package for both surgical and non-surgical method includes:

- Clinical evaluation of the client
- The provision of HTS to clients aged 15 years and above at high risk of HIV
- Administration of tetanus vaccine

Important notes:

- ❖ For both surgical and non-surgical methods: **a single dose of tetanus vaccine** must be administered prior to the procedure, unless proof of updated vaccination is provided showing that a client has received one dose of tetanus vaccine in the last 3 months. In case where a client has received two doses, the client will be protected for 3 years.
- ❖ **Informed consent** should be used to ensure that the client has been informed about the benefits and potential side effects of male circumcision. For children aged below 18 years, a consent from a parent or a legal guardian will be required prior to any VMMC procedure.
- ❖ **After the circumcision procedure, the client should:**
 - Receive all the information regarding possible complications to include bleeding, important pain, difficulty urinating, swelling or local infection.
 - Avoid any sexual intercourse or masturbation for at least 6 weeks after VMMC.
 - Receive before and after the procedure, the education on clean wound care of the circumcision site, especially the danger of applying substances that may contain *Clostridium tetani* such as animal dung poultices or herbal remedies to wounds.
 - Return at the health facility after 7 days for device removal and 2 days after removal for wound dressing in cases using a circumcision device
 - Return to the health facility in 2 days after circumcision using surgical method for wound dressing
 - Receive the prevention information for STIs, promotion of safer sex practices and the provision of condoms.
- ❖ **In case of complications beyond the health facility competencies or by the client's request**, transfer should be done according to the referral system applicable in Rwanda.

VMMC Setting

VMMC package is offered in public and private health facilities fulfilling the conditions required by the Ministry of Health:

1. To have a procedure-room for at least minor surgery;
2. To have at least one health care provider trained (nurse or medical doctor) on VMMC procedures;
3. To have necessary equipment for sterilization of materials;
4. To have necessary materials for the performance of male circumcision (depending to the VMMC method);
5. To respect scrubbing and infection prevention principles especially skin preparation of the genital area.

Early Infant Circumcision

The Early Infant Male Circumcision (EIMC) program in the country is using the Mogen clamp procedure. This is a clamp-based procedure prequalified by the WHO and performed on infants between 7 and 60 first days of life. It has several advantages as it takes less time to be performed, the wound heals quickly, the procedure is cost effective, and it causes less pain to the infant.

Early infant circumcision should be done if the infant is healthy, full-term, and weighs 2,500 g or more. Only babies who have normal physical examination should be considered for male circumcision. Contraindications for EIMC include any known haematological disorders and jaundice. In addition, any congenital abnormality on the genitalia is also a contraindication.

Monitoring and Evaluation System

A process is in place to monitor and evaluate the quality and safety of services which includes a process for data collection and analysis, actions taken to improve care and services, and the monitoring of the effect of these actions. There should be a system for prompt reporting and review of adverse events.

1.9.2. Prevention with People Living with HIV

HIV prevention with people living with HIV, referred to as **Prevention with Positives** (PWP), integrated into routine care is a core component of a comprehensive and integrated HIV prevention, care and treatment strategy. Prevention services for HIV-positive persons include both behavioural and biomedical interventions aimed at reducing the morbidity and mortality experienced by HIV-positive individuals and reducing the risk of transmission to HIV-negative partner(s) and infants.

By focusing on partner and couples' HIV testing and counselling (HTS), PWP service provision can contribute to the identification of HIV-positive individuals as well as sero-discordant couples and partnerships. Partners who are newly identified as HIV-positive shall pass through partner notification process and then linked into HIV prevention, care and treatment services.

PWP activities are summarized below:

- Give key prevention messages to the HIV-positive patient during each visit
- Evaluate the patient's adherence to ARV treatment and other treatment at each visit
- Evaluate the patient for possible signs and symptoms of STIs at each clinic and visit
- Evaluate if the patient is pregnant and the intention of the patient /patient's partner desire to have a child
- Give condoms and lubricants to the patient when needed
- Assess for specialized care needs and refer patients to the appropriate services

1.9.3. Behavioural Interventions

The goal of behavioural interventions is to reduce HIV risk behaviours and HIV transmission. To reach this goal, interventions aim:

1. To decrease the number of sexual partners,
2. To promote consistent use of condom
3. To encourage adherence to clinical interventions for preventing HIV transmission

Programs use various communication approaches – for example, school-based sex education, peer education/counselling, community-level education, and interpersonal counselling – to disseminate behavioural messages designed to encourage people to reduce behaviour that increases the risk of HIV and increase protective behaviour. Protective behaviours include safer drug use, delaying sexual debut, reducing the frequency of unprotected sex with multiple partners, using male and female condoms correctly and consistently and knowing one's own and partner's HIV status.

1.9.4. Structural and Supportive Interventions

Structural approaches aim to mitigate the impact of HIV by altering structural factors, which include physical, social, cultural, organizational, community, economic, legal or policy aspects of the environment that determine HIV risk and vulnerability.

Structural interventions involve more than the service providers and beneficiaries; these interventions include working with various stakeholders including governmental and non-governmental agencies and addressing the factors that impede or facilitate efforts to prevent HIV infection.

These interventions affect access to, uptake of and adherence to behavioural and biomedical interventions. Such interventions address the critical social, legal, political and environmental enablers that contribute to HIV transmission. This includes legal and policy reform, measures to reduce stigma and discrimination, the promotion of gender equality and prevention of gender-based violence, economic empowerment, access to schooling and supportive interventions designed to enhance referrals, adherence, retention and community mobilization.

1.10. LINKAGE TO CARE AND TREATMENT

Knowledge of HIV status allows people to make informed decisions about HIV prevention and treatment. Strong linkages to effective HIV prevention, treatment, care and support services are essential if people are to carry out these decisions.

1.10.1. Linkages to Care and Treatment for Individuals Testing HIV Positive

HIV-positive individuals should be referred for ART. For those who test HIV positive, the HTS provider should:

1. Provide clear information on ART and its benefits for maintaining health and reducing the risk of HIV transmission, as well as where and how to obtain ART.
2. Provide information on how to prevent transmission of HIV, including information of the reduced transmission risk when virally suppressed on ART.
3. Make an active referral for a specific time and date. An active referral is one in which the tester makes an appointment for the client or accompanies the client to an appointment, including an appointment for co-located services, and enrolment into HIV clinical care.
4. Arrange for follow-up of clients who are unable to enrol in HIV care on the day of diagnosis.
5. Provide condoms, contraception, and lubricants and guidance on their use.
6. For couples who are sero-discordant, HTS provides access to HIV treatment for his/her own health to reduce the chance of HIV transmission to the uninfected partner. It is critical for people living with HIV to enrol in care as early as possible in order to benefit from immediate offer of ART as well as access to interventions to prevent the further transmission of HIV, prevent other infections and comorbidities and to minimize loss to follow-up.

Several good practices are proposed to improve linkage to care. These include:

1. Integrating HIV testing and counselling and care services;
2. Involving the community to identify the people lost to follow-up;
3. Ensuring support from peer patients;
4. Using new technologies, such as mobile phone text messaging for follow-up.

Connecting individuals and couples that have been tested for HIV to prevention, care and treatment services is one of the guiding principles of HTS conduct.

1.10.1.1. Recommendations for Retesting Individuals Prior to ART Initiation

To ensure that individuals are not needlessly placed on life-long ART (with potential side-effects, waste of resources, psychological impact of misdiagnosis), all individuals will be retested to verify their HIV status prior starting ART. Retesting (verification testing) before ART initiation should follow the following procedures:

- *Testing of a new specimen for each newly diagnosed individual*
- *Retesting is to be conducted by a different trained healthcare provider, preferably the lab technician*
- *Retesting must use the same (national) testing algorithm*

1.10.1.2. Linkage to Further HIV Prevention for Individuals testing HIV Negative

For individuals identified as HIV-negative and sero-concordant negative couples, HTS provides access to HIV prevention services. The health care provider should provide the following to those who test HIV negative:

- Education on methods to prevent HIV acquisition and provision of condoms, contraceptives, lubricant and guidance on their use;
- Emphasis on the importance of knowing the HIV status of sexual partner(s)
- Information about the availability of partner and couples testing services;
- Referral and linkage to relevant HIV prevention services, including voluntary male medical circumcision (VMMC) for HIV-negative men, PrEP and PEP
- For adolescents in particular, provide information and education about healthy behaviours, such as:
 - ✓ *Correct and consistent condom use*
 - ✓ *Reduction of risk-associated behaviours and prevention of HIV and unwanted pregnancy*
 - ✓ *Retesting if they have new sexual partners*
 - ✓ *Referred to appropriate prevention services, such as VMMC for males and contraception.*

1.10.1.3. Recommendations for Retesting for Individuals who Test HIV-Negative

The vast majority of individuals do not require retesting to verify an HIV negative status, particularly in the absence of any ongoing risk. However, it is important to accurately identify individuals who test HIV-negative and may require retesting in certain circumstances:

- Individuals from key populations
- Individuals with a known HIV-positive partner
- Individuals with known recent HIV exposure
- Individuals seen for a diagnosis or treatment of STIs
- Individuals with TB
- Outpatients with clinical conditions indicative of HIV infection
- Individuals taking PEP.

In the absence of linkages to these services, HTS will have only a moderate impact on HIV prevention.

1.11. KEY RECOMMENDATIONS FOR HIV PREVENTION SERVICES

Voluntary Testing

Rec. 1: Voluntary testing for HIV is a personal decision. For people aged 12 years and above, their verbal consent is required. For children under 12 years old, the consent from a parent or a guardian is required.

HIV Testing

Rec. 2: Initial HIV test is performed using finger prick method. All clients tested HIV positive will be retested using the same testing algorithm, preferably by a lab technician on the same day, using a new blood draw. However, where a laboratory technician is not available, verification testing can be done by another trained health care provider.

Rapid HIV Testing algorithm

Rec. 3: HIV rapid testing algorithm comprises 2-stages: Alere HIV combo as first screening test and Stat Pak as a second screening test. Testing procedure must include both tests for HIV positive cases.

HIV Self-Testing

Rec. 4: HIV self-testing is done by the client when is aged 16 years and above. The HIV positive result must be confirmed at Health Facility using national HIV testing algorithm.

Index, PNS & Recency

Rec. 5: All HIV positive clients (newly identified and existing) will be proposed for index testing, partner notification and recency testing (only for newly identified) as part of active case finding.

Testing at ANC

Rec. 6: Pregnant women attending antenatal care services receive HIV testing together with their male partners.

Retesting

Rec. 7: Each pregnant woman whose previous HIV status is unknown or negative during ANC will be tested for HIV in maternity at the beginning of labor.

HIV PW

Rec. 8: Each HIV pregnant & breastfeeding woman tested HIV positive will start ART immediately or as soon as possible. The starting ART regimen is a combination of Tenofovir + Lamivudine + Dolutegravir (TDF+3TC+DTG).

HIV exposed

Rec. 9: Any child born to a known HIV positive mother will receive ART prophylaxis (Zidovudine and Nevirapine), within 24 hours of birth or as soon as the infant (newborn) presents during the first 6 weeks of life. Testing using PCR is done at 6 weeks of age, and serological tests are done at 9, 18 and 24 months.

PrEP

Rec. 10: PrEP is offered to an HIV negative partner in a sero-discordant couple whose partner is not enrolled in care or who is on ART but not virally suppressed. PrEP is also administered to HIV negative female sex workers and HIV negative men who have sex with men who are not consistently using condoms.

PEP

Rec. 11: PEP is offered to an HIV negative person who has been exposed to HIV infection. PEP is administered within 72 hours following exposure.

Tetanus Vaccine

Rec. 12: A tetanus vaccine is administered prior to each VMMC procedure, in both surgical and non-surgical methods.

SECTION TWO – HIV CARE AND TREATMENT SERVICES

2.1. MINIMUM SERVICE PACKAGE FOR PEOPLE LIVING WITH HIV

The minimum care package should be offered to all people living with HIV upon enrollment and during their entire time in HIV care. The package should be tailored to their individual needs. The package is summarized in Table 4.

Table 4: Summary of minimum care package for PLHIV

Service Area	Service Description
Clinical evaluation and monitoring of HIV disease	Provide clinical evaluation and monitoring to all PLHIV to ascertain the WHO clinical stage of disease and exclude comorbidities.
Antiretroviral therapy	Initiate same day of diagnosis or at the earliest opportunity in all people with confirmed HIV infection; regardless of clinical stage or CD4 cell count.
Nutrition services	Conduct nutrition assessment, counseling and support (NACS).
Opportunistic infection screening, prevention, and management	<ul style="list-style-type: none"> • Provide cotrimoxazole prophylaxis if eligible. • Provide TPT prophylaxis if eligible. • Screen and manage other OIs like TB and cryptococcal infection.
Screening and treatment of co-morbidities	Screen and manage NCDs including: <ul style="list-style-type: none"> • Hypertension • Cervical cancer • Diabetes • Mental health (especially depression)
Sexual and reproductive health services	<ul style="list-style-type: none"> • Screen and manage sexually transmitted infections • Provide family planning and pre-conception services. • Ensure resources for early identification of pregnant mothers and linking them to ANC • Promote facility delivery and postnatal care • Provide cervical and breast cancer screening
Adherence counseling	Do adherence preparation, monitoring and support
Psychosocial support and palliative care	<ul style="list-style-type: none"> • Assess family and community support to the client • Assess for stigma and discrimination • Link client to a psychosocial support group • Assess for any social challenges the client might have • Refer for palliative care when required.
Orphans and vulnerable children (OVC)	<ul style="list-style-type: none"> • Conduct basic assessment for vulnerability • Provide HIV testing for family members either at facility or community level as appropriate • Refer and link to a CBO/CDO • Conduct nutrition assessment, counseling and support • Initiate ART for HIV-positive children and their caretakers • For details of OVC care, refer to the <i>SPPI, Ministry of Labor, Gender, and Social Development</i>
Positive health, dignity and prevention	<ul style="list-style-type: none"> • Support client to disclose HIV status to family and significant others • Provide active partner and family tracing for HIV testing • Educate, provide and promote correct and consistent use of condoms • Provide family planning counseling and services with consent of the patient • Provide STI screening, prevention and treatment services • Provide routine adherence counseling to patients on ART • Provide gender-based violence screening and support

Service Area	Service Description
Other prevention services	<ul style="list-style-type: none">• Provide immunizations according to the national immunizations schedule• Educate and promote use of long-lasting insecticide-treated mosquito nets (LLINs)• Educate and promote use of safe water, sanitation and hygiene practices

2.2. PSYCHOSOCIAL CARE

2.2.1. Key message on psychosocial care

- Psychosocial support is part of the package of HIV prevention, care and treatment which aims to improve the quality of life of PLHIV;
- In Rwanda, psychosocial support of PLHIV is delivered at two levels: health facilities and community level;
- At health facilities, psychosocial care activities of PLHIV are conducted by healthcare providers trained in HIV care and treatment;
- At community level, psychosocial care activities of PLHIV are conducted by peer educators.

Below are key activities conducted at health facility to ensure the psychosocial care of PLHIV:

- *Psychosocial assessment and support for new HIV positive clients at enrolment*
- *Preparation to ART initiation*
- *ART adherence counselling*
- *Peer support groups and home visits*
- *Disclosure of HIV diagnosis to the child; this is a process and not a one single day event. It is conducted individually by a trained healthcare provider or parents assisted by a healthcare provider. It starts at early ages and follows the stages below:*
 - ✓ *0-4 Years old: No disclosure yet*
 - ✓ *5-7 years old: Early disclosure*
 - ✓ *8-10 years: Partial disclosure*
 - ✓ *11-14 years old: full disclosure*
- *Screening of mental health problems done to all PLWHIV ≤15 years old*
- *Adolescent friendly services are offered by trained healthcare providers*

At community level, the psychosocial care of PLHIV is ensured by peer educators chosen by their peers according to defined selection criteria. They play a role to support the adherence and the retention of their peers.

Below are activities ensured by peer educators:

- *Organize monthly support group meetings*
- *Conduct home visits*
- *Conduct referrals and linkages at HF level*
- *Facilitate referrals and linkages to services available at community level, sensitize the community on HTS*
- *Produce reports of performed activities*

2.2.1.1. Definition

The word “psychosocial” comes from two words: psychological and social.

- Psychological refers to our thoughts, feelings, beliefs, attitudes and values. These things cannot be seen or heard but they exist “inside” each one of us.
- Social refers to our relationships with our families, community, workplace and friends.
- As defined by WHO (2003), Psychosocial support addresses the ongoing psychological and social problems of HIV infected individuals, their partners, families and caregivers.

2.2.1.2. Rationale

HIV infection affects all dimensions of a person’s life: physical, psychological, social and spiritual. Psycho-social support helps people to cope more effectively with each stage of the infection, enhance quality of life to prevent further transmission of HIV infection and to support adherence to treatment regimens.

2.2.1.3. Psychosocial assessment and support for PLHIV

The psychosocial needs assessment should be conducted to all new HIV positive clients on the same day of HIV testing in order to evaluate all psychosocial needs and priorities or concerns of clients and their families. After assessing all the needs, a healthcare provider has to ensure an appropriate counseling and links HIV positive clients to relevant other services (laboratory, pharmacy, nutrition...). Psychosocial assessment is also done at every visit to ensure good adherence and psychosocial well-being and appropriate counselling is offered.

- **For children under 7 years** (before the child has concrete thinking): the psychosocial assessment is done through their parents/caregivers as the successful and sustained administration of ART is dependent on the agreement and support of their parents/caregivers.
- **For children aged 7-10:** the psychosocial assessment considers not only caregivers needs but also child needs.
- **For adolescents and adults:** the psychosocial assessment is conducted through individual/couple counseling. It is done to every new HIV positive enrolled in care and to experienced ART clients at every visit.

The table below provides details on how to conduct psychosocial assessment among children, adolescents and adults.

Table 5: Psychosocial assessment at enrollment

Age category	What to assess
Children 0-6 years old	<p>Through counselling healthcare providers assess psychological and socio-economic status of caregivers.</p> <p>Socio-economic assessment: Assess all problems which can affect adherence and social life of the child and address them accordingly.</p> <p>Child and caregiver’s social status: Assess child's identification</p> <ul style="list-style-type: none"> • What is the relationship of child with the caregiver (parents, uncle, aunt, others)? • Does the child have siblings? At which range is she/he in the family? • Are the members of the family tested for HIV? How many among them are HIV positive? If any, are they on ART? • Does he/she go to school? If yes, at which level? If no, why? <p>Parent/caregiver Identification includes:</p> <ul style="list-style-type: none"> ✓ Residence of the caregiver: This information intends to know not only the location of the client but also to understand the accessibility of the client to the health facility, especially the distance from home to health facility. ✓ Marital status of the caregiver: The provider should know if the caregiver is married, single, divorced, widow/widower or separated aiming at understanding if the caregiver has a sexual partner, if the couple is stable and in good relationship. ✓ In the case of discordant couple or HIV positive concordant couple, assess if they have protected sexual intercourse. Did they disclose their HIV status to each other?

Age category	What to assess
	<p>✓ How is the spiritual life of the caregiver?</p> <p>Socio-economic status of the caregiver and the family: This information allows the provider to know the size of the family, the economic status of the family, occupation of the caregiver as the source of income, Ubudehe category, if any support is needed e.g: nutrition, education and health insurance, etc. It is also important to know if the caregiver has his/her accommodation, if they have access to clean water and sanitation.</p> <p>Psychological assessment of the caregiver: Healthcare provider will use the mental health screening tool. In case of positive screening and depending on the problem found, the HCP will provide appropriate counseling or refer to mental health services.</p>
<p>Children 7-10 years old</p>	<p>✓ For this age category, a psychosocial assessment is done for the caregivers as well as the child.</p> <p>✓ HCPs assess all above mentioned psychological and social needs of caregivers but also assess the following key element for the child:</p> <ul style="list-style-type: none"> • <i>Child development (physical, psychological, emotional, and cognitive)</i> • <i>School performance - If the child is not enrolled at school, assess the reasons.</i> • <i>Assess the family support (happiness, if no violence, stigma and discrimination).</i> <p><i>In addition, the HCP will discuss with the caregiver on disclosure process for the child. For more details on the disclosure see the chapter on disclosure.</i></p> <p>Notes:</p> <ul style="list-style-type: none"> • These children have to be accompanied with their parents or caregivers in the enrolment process. • All information related to psychosocial assessment has to be documented in patient file.
<p>Adolescents 10-19 years old</p>	<p>A psychosocial assessment should be conducted with each adolescent client at enrollment in HIV care and treatment services then at each clinical follow up visit.</p> <p>HCPs should always respect client confidentiality and conduct sessions in a space that offers visual and auditory privacy.</p> <p>Key elements to assess for adolescents:</p> <ul style="list-style-type: none"> ✓ Home & environment: Use open ended questions to get information on adolescents' relationships with parents and siblings, home environment ✓ Education & employment: Does the adolescent go to school/ which grade, performance, stigma, future orientation. ✓ Does the adolescent have a job? How is she/he performing? ✓ Activity & exercise: Open-ended questions allow the provider to explore possible eating disordered behavior or body-related self-esteem problems in a non-threatening way. ✓ Does adolescent have any activities outside of school? ✓ What does she/he do for fun or free time? ✓ Drugs & alcohol use: HCPs should discuss with the adolescent about the use of drugs and alcohol ✓ Sexuality: Discuss with the adolescent about his/her feeling about sexuality, sex abuse, safe sex and contraception, pregnancies, abortion ✓ Depression/suicide: <ul style="list-style-type: none"> ○ <i>Did the adolescent ever have thoughts about hurting her/himself, or suicidal ideas? Explore more about the depression symptoms</i>

Age category	What to assess
	<ul style="list-style-type: none"> ✓ Key information from the psychosocial assessment should be recorded in the patient's file for reference during follow-up visits.
<p>Adult 20+ years old</p>	<ul style="list-style-type: none"> ✓ A psychosocial assessment should be conducted with each adult client at enrollment in HIV care and treatment services then at each clinical follow up visit. ✓ HCPs should always respect client confidentiality and conduct sessions in a space that offers visual and auditory privacy. ✓ Key information from the psychosocial assessment should be recorded in patient's file for reference during follow-up visits

2.2.1.4. *Special consideration for Adolescents*

Adolescence is a period of physical, biological, emotional and social change - a situation that is determined by decision taking and acquiring habits, which often influence the rest of their life. However, all those above-mentioned changes affect their adherence and retention. That is why they need particular attention.

The recommended adolescent minimum package in Rwanda includes:

- **HIV testing and counselling**
- **HIV disclosure to all adolescents**
- **Enrolled into health facility-based peer support group**
- **Sexual and reproductive health services:** contraception/emergency contraception, family planning, sex education with focus on condom use as dual protection, STIs screening and management.
- **Psychosocial assessment and support:** mental health screening and referral, adherence counseling, disclosure counseling, substance abuse counseling.
- **Clinical services for adolescents living with HIV** (linkage, ART provision, laboratory, pregnancy screening, Viral load monitoring, TB screening...
- **IEC:** prevention, treatment literacy, disease literacy, living positively existing legal rights (as they apply locally).
- **Effective referral system with follow-ups, linkages with family, community, linkages with other youth services.**

Each health facility providing HIV services in Rwanda has to ensure adolescent friendly services with the following minimum package. For services to be considered “youth-friendly,” the World Health Organization (WHO) has agreed upon a set of overarching characteristics:

- **Accessible and equitable:** All adolescents are able to use the services if they wish. All the essential health services that adolescents need are being provided in ways that make it possible for all adolescents to use them.
- **Acceptable:** Adolescents are willing to use available services. Health workers and health facility staff are trained to provide services to young people in a way that is respectful and that ensures client privacy and confidentiality.
- **Appropriate:** Health services at the point of service delivery meet the needs of adolescent clients. If an adolescent client seeks help for the management of a sexually transmitted infection and these services are not being provided, the point of service delivery is not meeting the individual's needs.
- **Effective:** The services make a difference in improving the health of adolescents. The necessary skills, equipment, and supplies are in place to provide quality services for adolescents.

Characteristics of adolescent/youth friendly health facility

In accordance with World Health Organization, adolescent friendly services require some characteristics for a health facility:

Table 6: Characteristics of Youth Friendly Services

Characteristics	Explanation
Special times for adolescents	Facilities can fix special session for adolescent: during late afternoons, after school/ work, during weekends, or holidays in order to make it possible for them to attend. Furthermore, they should be flexible in offering appointments as young people sometimes decide spontaneously to drop-in and seek help or information. Long waiting times and overcrowding should be avoided to not discourage young people.
Adequate space and sufficient privacy	Rooms should be created in a way that adolescents feel free to be and express their concerns and problems. In a situation where there is no special place for adolescents in a health facility, special arrangements can be made to establish adolescent friendly services, to guarantee privacy.
Trained staff	A HCP dealing with adolescent care should have knowledge and skills on how to provide adolescent friendly services.

2.2.2. Preparation to ART initiation

Clients testing HIV positive should be prepared and initiated on ART the same day where feasible after assessing their readiness. For those who are not ready to initiate treatment the same day, HCPs will conduct treatment preparation sessions for them and ensure the ART initiation takes place within 7 days. Treatment preparation education sessions will be conducted individually or in group counselling.

Phases and topics to be discussed during treatment preparation to medication counseling

Table 7: Counselling to Medication

Phases	Key points of discussion
Readiness assessment	<ul style="list-style-type: none"> • Explore how the client feels after receiving HIV positive result • Explore client's knowledge about HIV (transmission, prevention, care and treatment) • Assess client expectation on treatment (treatment goal) • Discuss with the client about treatment supporters (family members, relatives) • Screen mental health status
Basic information about HIV care and treatment	<ul style="list-style-type: none"> • The client's understanding of his/her own diagnosis • Knowledge of how HIV is transmitted and prevented • How HIV affects the immune system • What is ART and who needs ARVs, myths and beliefs surrounding ART • Categorization of patients in DSDM • The meaning of the CD4 count and VL

Phases	Key points of discussion
	<ul style="list-style-type: none"> • Benefits and challenges of ART and drug resistance • Importance of good adherence • Positive living • Importance of disclosure • Nutrition • Safer sex, dual protection • Prevention and treatment of STIs • Opportunistic Infections prophylaxis and treatment of OIs (especially CTX) • Existing social support (family, treatment supporter, counselor, support groups, community groups...)
Adherence to HIV care and treatment services	<ul style="list-style-type: none"> • ART is a lifetime treatment that needs self-commitment. • Importance of adherence to care and treatment plan • Consequences of poor/bad adherence • Barriers and challenges related to adherence and strategies to overcome them • Special adherence issues by age category (children, adolescents and adults). • Treatment plan (explanation of ARV regimen, dosage, actions in case of missed or late doses, and integration of care and treatment plan in daily life) • Identification and management of side effects • Reminder on positive living, safer sex, and pregnancy planning • Linkages and referral to peer support groups and other existing support services in community

2.2.3. HIV counselling

2.2.3.1. Definition

Counselling in HIV&AIDS has become a core element in holistic model of HIV care and treatment in which psychological issues are recognized as integral to client's management. It is a dialogue between a client and a HCP, where feelings, thoughts and attitudes of clients are expressed, explored and clarified with aim of enabling clients to cope with stress and to make personal decisions related to HIV &AIDS prevention, care and treatment.

2.2.3.2. Who should provide HIV&AIDS Counselling?

A wide range of people can play a role in the provision of HIV & AIDS counselling. These people include: health care providers such as doctors, nurses, community health workers, social workers, specialized professionals or any other trained person in HIV & AIDS counselling.

2.2.3.3. Who needs HIV counselling?

HIV counselling can be conducted for individuals, couples, families and group of people.

- People in need of HIV testing (VCT, PMTCT, ANC, PIT)
- Discordant couples
- PLHIV and their families
- Any other person affected by HIV

2.2.3.4. *Characteristics and requirements of effective counselling*

Below are key characteristics for characteristics HIV counselling:

- ✓ **Confidentiality:** Confidentiality ensures that any reference to or discussion about a client (except within a professional relationship) will not be undertaken without the expressed consent of the client.
- ✓ **Trust:** is one of the most important factors in the relationship between the counsellor and the client. It enhances the opportunity for deep exploration of the client's condition and improves the chances that the client will act decisively on the information provided.
- ✓ **Time and space:** It is essential to provide enough time for the effective counselling to take place as it takes time to develop trust in the relationship. In addition of the time the space where the counselling sessions take place must be a private and safe room that enables the client to express his/her feelings without any barrier. Some people may require many counselling sessions in order to explore their problems, acknowledge the need to change a particular behaviour.
- ✓ **Acceptance and respect:** PLHIV need to feel that they are fully accepted by the counsellor that is why the counsellor must be self-aware and non-judgmental in the counselling session.
- ✓ **Consistency and accuracy:** Any information provided in the counselling session must be consistent over time. The counsellor therefore, needs to have a full knowledge of the facts related to HIV&AIDS, or have the ability to seek out the knowledge that he/she lacks. The counsellor must keep up with the knowledge development as HIV & AIDS information is changing rapidly.
- ✓ **Accurate empathic understanding:** Accurate empathic understanding means that the counsellor understands their client's experience and feelings in an accurate and compassionate way. Empathy, according to Rogers is the ability to experience another person's world as if it were one's own without ever losing that 'as if' quality. Empathy is needed for the counsellor to be sensitive, moment-to-moment, to the changing experiences of the particular person seeking help.
- ✓ **Congruence (genuineness):** Congruence refers to the counsellor being real, authentic, and genuine with their clients. It is called congruence because their inner experience and outward expression match. By being authentic, the counsellor shows he/she is trustworthy, which helps in building a good therapeutic relationship with the client. It also serves as a model for clients, encouraging them to be their true selves, expressing their thoughts and feelings, without any sort of false front.

2.2.3.5. *Techniques for HIV counselling*

There are many different techniques that counsellors can use with their clients. Here is a look at some of the techniques that are felt to be most effective during a counselling session:

- ✓ **Clarification:** A counsellor should often ask their client to clarify what they are telling them to make sure that they understand the situation correctly to avoid assumptions or misconceptions.

- ✓ **Confrontation:** It is an attempt by the counsellor to gently bring awareness in the client that they may have overlooked or avoided.
- ✓ **Encouraging:** This technique asks the counsellor to focus on the client's strengths and assets to get them in a positive light. It helps also the counsellor to encourage the client to continue expressing his or her feelings, thoughts.
- ✓ **Focusing:** This technique involves the counsellor demonstrating that s/he understands what their client is experiencing by using non-judgmental attention without any words. Focusing can help the counsellor determine what the client needs to obtain next from their services.
- ✓ **Listening Skills:** With any relationship, listening skills are needed to show that the counsellor understands and interprets the information that their client gives them correctly. The counsellor should do this by showing attentiveness in non-verbal ways, such as: summarizing, capping, or matching the body language of their clients. Active listening is very important skill for an effective counselling.
- ✓ **Open-Ended Questions:** Open-ended questions encourage people in a counselling session to give more details on their discussion. Therefore, these types of questions are used as a technique by counsellors to help their clients answer how, why, and what.
- ✓ **Paraphrasing:** This technique will show clients that the counsellor is listening to their information and processing what they have been telling them. Paraphrasing is also good to reiterate or clarify any misinformation that might have occurred.
- ✓ **Reflection of Feeling:** Counsellors use this technique to show their clients that they are fully aware of the feelings that their clients are experiencing. They can do this by using exact words and phrases that their clients express.
- ✓ **Working Alliance:** This technique involves the client and counsellor being active collaborators during counselling and agreeing upon goals of treatment that are necessary, as well as how to achieve those goals.
- ✓ **Hierarchy of Needs:** This technique involves the counsellors assessing their client's level of needs as based on the progress that they are making.

2.2.3.6. *Steps of counselling session*

1. **Rapport building:** Establishing a safe trustworthy environment between counsellor and client.
2. **Assessment of problem of client:** Helping client to narrate his concerns and issues. This requires active listening on the part of a counsellor by focusing on client's feeling for the event rather than event itself.
3. **Transforming problem statements of client into targeted goals:** This takes place by setting achievable goals in a time-bound manner by overcoming probable obstacles to goals.
4. **Developing an action plan:** This requires setting objectives and tasks that client is supposed to do in order to achieve a targeted goal. It is an active implementation stage of counselling process.
5. **Review and Feedback:** The aim of review and feedback is to give continuous reinforcement to client for consistent attitude and behavioural change.

2.2.3.7. *Special counselling types*

Disclosure of HIV result to the child

The disclosure of HIV positive result to the child is a process, not a single day event, which is conducted individually by a health care provider trained or parents assisted by a healthcare provider. It is started at the early ages with the following stages:

- ❖ 0-4 years old: No disclosure yet,
- ❖ 5-7 years Old: Early disclosure,
- ❖ 8-10 years: Partial disclosure,
- ❖ 11-14 years old: Full disclosure.

Disclosure of HIV status is not a one-time event, but rather a process, involving ongoing discussions about the disease as the child matures cognitively, emotionally, and sexually.

Why is disclosure important?

- Disclosure may increase social support available to child and family, may increase a child's willingness to adhere to treatment regimen
- Disclosure helps children understand the illness and avoids an accidental disclosure from occurring (e.g., child overhears caregiver discussing it).
- The children have the chance to ask questions about their illness.

Who should disclose to a child?

In collaboration with parents/caregivers, the health care providers have to make a disclosure plan for every child and involve the parents /caregivers in process.

The parents can do disclosure at home. In the case of parents/caregivers who are not comfortable to disclose to their children, health care providers do the disclosure and the parents/caregivers assist the process.

When to announce the diagnosis to a child?

The choice of the best moment to announce the result to the child is decided together with parents/guardians. It is preferable to provide complete announcement (HIV/AIDS) before 14 years.

Factors to consider & assess before disclosure

Parental issues:

- Available social support
- Family understanding and knowledge
- How much information the parent wants to share about their own history
- Potential conflicts/safety issues
- Readiness of the family for the disclosure
- Readiness to tell extended family/siblings
- Adjustment with HIV parents' status
- Communication skills with child -Right time

Child issues:

- Age/developmental level
- Child/Adolescent's current knowledge/understanding of illness
- Child/Adolescent's health status
- Child/Adolescent's emotional status support system ("safe" people for the child to talk to about HIV)
- Child/Adolescent's readiness

What can be barriers to disclosure?

Parents' fears of child's reaction to diagnosis:

- Child is not old enough to understand illness or death
- Child can't keep a secret
- May bring more social isolation or peer rejection
- Child may become more anxious during medical procedures and hospitalizations
- Child may become depressed and give up

How to deal with the barriers?

- Discuss the following with caregivers on an ongoing basis:
- Caregivers' concerns about disclosure
- The importance of ongoing communication with child regarding health issues
- Benefits and risks of disclosing the diagnosis of HIV infection to children and adolescents
- Potential harm that can result from long-term nondisclosure

How should the disclosure process take place?

- Build on child's understanding and knowledge
- Provide Information which are developmentally appropriate for a child
- Correct and clarify misinformation
- Provide basic education over several discussions that lead up to diagnosis after child understands the virus, role of meds, etc. (refer to child disclosure tool)
- Prepare for difficult questions that may come later
- Inspire hope

What are the steps of disclosure?

- ✓ **0-4 years old: No disclosure yet**

The aim of this step is to build up confidence of child in health workers and taking medicine. Child will depend on adult for all needs, information, comfort, support and most of all security. The child is too young for direct information about HIV but to give the explanations to caregiver about how HIV can affect the child remain important. It's a good opportunity to provide ideas to help caregiver support child taking medicine, to congratulate child on taking medicines well; to address caregiver anxieties;

to build relationship with the child through play/singing and to provide a safe and welcoming clinic. The caregiver has to carry on consultation with child present.

✓ **5-7 years Old: Early disclosure**

At this age the aim of the early disclosure is to allow to the children to understand that medicines help to keep the body healthy. In general, the child needs to learn about illness but not HIV by name yet. The following are key elements the provider has to explain to the children:

- Healthy living by eating healthy food, maintaining good hygiene, exercising.
- How medicines help to keep a body healthy and strong. Infections can be described as ‘germs’ that can hurt or damage the body.
- (White) blood cells as the part of the body that look for and kill infections and how medicines help the blood cells to fight the germs.

✓ **8-10 years: Partial disclosure**

At this step the aim will be to name the infection as a virus infection. The provider will explain that the germ concerned is a virus which can damage white blood cells. If medicines are not taken correctly, the virus can get stronger and stop the medicines working (resistance). During the session, naming of virus as HIV should occur but not essential. The provider will explain that information is private and should only be shared with those agreed with the caregiver(s). He will help the child to identify who they can talk with about their health.

✓ **11-14 years old: Full disclosure**

The HIV full disclosure can be done at this age. The child has the full understanding of the disease and their rights and responsibilities as well as the ability to negotiate his/her own health care. The provider checks understanding of health, medicines, sexual development and HIV infection.

The provider assesses the need to understand responsibility for not transmitting HIV i.e. safer sex, and their rights regarding family planning and confidentiality. The teenager is prepared for the future, encourages direct involvement in discussions and decisions. The provider promotes the benefits of attendance at adolescent support group.

✓ **Post-Disclosure**

After the HIV diagnosis has been disclosed, follow-up calls or visits should be made to assess the child/adolescent’s understanding of the illness and emotional and psychological adjustment. The provider discusses the pain and distress after disclosure to:

- Assess emergent psychological symptoms regularly (shock, anger, sadness/depression, embarrassment, fear, confusion, loss, rejection and isolation);
- Offer your continued support and availability;
- Discuss the importance of having continued counselling sessions on a regular basis;

- Encourage teenager to always ask questions and discuss his/her concerns and fears and
- Explore the teenager's hopes, ambitions and plans for the future using questions addressing wishes.

At each visit after disclosure, health care providers assess child/adolescent's emotional well-being and functioning in the following areas:

- School functioning
- Family and peer relationships and support
- Interests and activities
- Mood and behaviour

Health care providers work closely with caregivers to monitor for changes in functioning that may signify poor adjustment.

Notice:

- As soon as they are able, children above 12 years old have the right to give their opinion about HIV testing but the provider should assess the level of understanding, social support and ability of coping before testing and provide counselling tailored.
- Date of disclosure should not coincide with other events such as birthdays, holidays, graduation, etc.
- Disclosure can be a difficult process for all concerned, effective conversations are dependent on the age and understanding (developmental level) of the child
- The provider has always to assess what information the child has and clarify the information according the age of the child. Never proceed to the following steps if the child does not have knowledge of the current steps. Failure of full disclosure by early teenage years can lead to:
 - i) Poor adherence;
 - ii) Emotional difficulties
 - iii) Poor school performance
 - iv) HIV transmission if sexually active.

✓ **How to report the disclosure?**

At each stage, the provider has to document how the disclosure process is going on in patient file. The document to be used in this reporting is the register with the following information: date, Tracnet, name, age, sex, family status (orphan or have one parent or two parents), reason of disclosure, reaction, next step.

2.2.4. Adherence counselling for patients on ART

Adherence counselling helps clients understand their treatment and its challenges. It provides an ongoing support for them to adhere to treatment over the long term.

ART adherence counselling should be conducted:

- At ART initiation
- During treatment maintenance and sustainability
- At the change of the regimen

- At the change of DSDM group category
- At every clinical visit

Adherence changes over time. Someone may be adherent when he/she starts treatment, but this can change due to different factors. This is why it is recommended to conduct ART adherence counselling at every visit. HCP will focus on the following elements:

- Avoid being judgmental
- Discuss with the patient his/her treatment plan and challenges s/he is facing
- Remind the goal of ART for treatment and consequences of poor adherence
- Discuss together how to overcome the challenges
- Assess the side effects; if any provide appropriate intervention
- Encourage the clients for a good adherence and empathize with client's facing treatment difficulties.

For adherence counselling at initiation and during maintenance and sustainability refer to sections mentioned earlier in the part of ART initiation.

2.2.4.1. Counselling at treatment change

There are several reasons for changing antiretroviral treatment including: client intolerance of a medication, significant adverse effects and treatment failure. In these cases, the counsellor should consider the following:

- Avoid being judgmental
- Reinforce the treatment goal and the consequences of poor adherence
- Explain the reason for treatment change
- Explore the feelings of the client (shame, guilt, embarrassment or fear of failure)
- Discuss the new treatment plan based on the client's previous experience on HIV treatment: what worked and what did not work?
- Discuss treatment supporter role if the client maintains the same or wish to change

2.2.4.2. Counselling for patients shifting from unstable to stable group or vice versa

DSDM categorizes patients into stable and unstable groups. It allows patients to move from one category to another. The counsellor should explain at the time of enrolment that there is possibility to switch/shift from one category to another.

From unstable to stable category

The counsellor should consider the following:

- Discuss with the patients the goal of ART treatment
- Congratulate the client for good adherence
- Remind the client that there are two categories of patients (stable & unstable)
- Inform the client that s/he is qualified to move to stable category

- Ask the consent of the patient to shift to the stable group
- Explain to the client his or her schedule of pharmacy pick-up and clinical visits as a stable patient and peer support group
- Discuss with the client the storage of the drugs
- Encourage the patient to respect the treatment plan for good outcome in the future.

From stable to unstable category

- Avoid judging the client
- Discuss ART treatment goal
- Discuss the possible causes of VL increase
- Discuss treatment plan
- Ask the patient the treatment plan challenges s/he faced
- Explain to the client his or her schedule of pharmacy pick-up and clinical visits as an unstable patient and peer support group
- Help the client to find strategies to overcome barriers of good adherence and ensure regular follow up.

Ensure the client that when she/he adheres to the treatment plan and VL is suppressed again, they may be shifted to stable group.

2.2.5. Adherence and retention to HIV care and treatment

In the context of ART medication, a client is adherent when s/he takes at least 95% of their doses to maximize the long-term benefits of ART.

2.2.5.1. Definitions

ART adherence refers to a client's ability to follow an ART treatment plan. This includes the client's ability to take medication as prescribed (the right regimen, frequency, dose and time) and to follow any prescribed dietary restrictions and other healthcare provider instructions.

Retention in care is the ability to adhere to critical aspects of care: attend regular follow-up appointments, scheduled lab tests, and other monitoring activities according to health system standards and as pre-scribed by a health care provider.

2.2.5.2. ART adherence barriers and retention in care

1.11.1.1.

For addressing adherence among PLHIV, HCP should know the potential barriers to adherence. Poor adherence can be related to many different issues:

- Drug related issues: Number of pills prescribed, the complexity of the regimen, medication side effects
- Socio-demographic factors (age, gender, income, education, housing status, insurance status)

- Psychosocial factors (mental health, substance use, knowledge and attitudes about HIV and its treatment)
- Stigma, peer pressure, low self-esteem, fear and lack of belief in the effectiveness of medications, disclosure issues, denial, forgetting, cultural/spiritual beliefs
- Stage and duration of HIV infection, associated opportunistic infections, and HIV-related symptoms
- Provider related issues: Patient-provider relationship, wrong prescription, incorrect dosage, delay of drug requisition, scheduling appointments

2.2.5.3. *Adherence assessment methods*

Continuously assessing adherence is vital to a comprehensive and sustainable approach to ART delivery. It should be the duty of every health care provider participating in care of HIV positive people. Adherence is assessed in every service: pharmacy, consultation, nutrition and social services.

There is no gold standard method to assess adherence but each method complements each other. Below are four methods to be used at health facility:

Pill identification test (in pharmacy service)

- Could you share with me the name or show me the medication that you take/your child takes?
- Explain more how and when these medications are taken

Pharmacy record form review (in pharmacy service)

Health care providers check if the caregivers/adolescent or adults attend their appointment for picking up their medication, if he/she does not experience any medication stock out.

Pill count method (in pharmacy service)

At every visit, clients are encouraged to bring the remaining pills for the next appointment. When the child is taking the syrup, the caregivers bring the bottles and in collaboration with health care providers they compare the remaining quantity with the full bottles.

With this, HCP in collaboration with clients, calculate the proportion of adherence by using the bellow formula:

$$\% \text{ Adherence} = (\text{Dispensed} - \text{Returned}) \times 100 / \text{Expected to be taken}$$

Self-report (consultation, counselling and pharmacy service)

Through individual counselling, HCP encourage the client or caregiver/ to be honest and report on how he/she is taking or giving medicine and the challenges he/she is facing in order to address them together for a good adherence. The provider must avoid using judgmental language during assessment.

Table 8: Counselling Strategies

Strategies	What to do
Clients friendly services	1. For children <ul style="list-style-type: none"> • Make the environment pleasant and comfortable, avoid long wait times and provide a shady waiting area, convenient hours, and welcoming staff • Prioritize young children • In the case of HIV positive parents/caregivers, ART visits for caregiver and the child occur on the same day. For children aged 2 years and above who have parents/caregivers in stable DSDM groups, they will have also the provision of drugs for three months. • Arrange appointments for other support services (nutritional and social) on the same day of pharmacy/clinic visits
	2. Adolescents /adults <ul style="list-style-type: none"> • Arrange appointments for adolescents who have to see more than one service at one visit • Arrange appointments for adolescent outside of school hours (weekends) • Arrange a comfortable environment (where clients could sit with shade) • Arrange special consultation time for adolescents • Provide education materials • Reduce unnecessary clinical visits • Build trusting relationships with clients
Good communication	<ul style="list-style-type: none"> • Health care providers must have good attitude for all patients • Practice active listening • Respect the dignity of the patient /caregiver • Never judge someone that you are counselling. • Be sensitive to adolescent culture * • Ask open-ended questions about adherence to help the client share. • Acknowledge and congratulate for big steps achieved
Confidentiality	<ul style="list-style-type: none"> • Remind adolescents/adults or caregivers that care and treatment information may be shared among the multidisciplinary team but will not be disclosed outside that group • Make sure all clients understand that what is said at the health facility is confidential • Assure adolescents /adults or caregivers that their HIV status/of their children will not be disclosed without their consent

Table 9: Strategies for improving and supporting adherence and retention

Action	To be done
Ongoing education, counselling and peer support	For children <ul style="list-style-type: none"> • At every visit, provide ongoing education for caregivers in groups or individually and insist on the following key points: • Importance of early HIV testing among children

Action	To be done
	<ul style="list-style-type: none"> • Importance of ART medication to their own health (in case the caregiver is HIV positive) as well as the child's • Importance and participation in peer support group • In the case of HIV positive caregivers, HCP assesses their adherence on ART medication • Through counseling session, HCP assess the psychological and mental health status of caregivers • Remind how to take/administer the medication properly • Disclose the HIV status to the child at the right time and according to development age <p>For adolescents and adults</p> <ul style="list-style-type: none"> • Provide regular individual counseling to adolescents/adults. • Adolescent HCP should ensure that the adolescent knows his/her HIV status, especially when the diagnosis was disclosed to their parents when the adolescent was young. If the disclosure is not yet done, plan it in collaboration with adolescent/caregiver • HCP must assess coping ability of adolescent
Follow up and linkage	<p>At every visit, health care providers should:</p> <ul style="list-style-type: none"> • Conduct IEC sessions on different topics such as the importance of taking the drugs every day, drug resistance, safe sexual activity, how to handle medication adverse effects • Remind clients how to take the medication properly • Discuss traditional medicine, religious beliefs, sexual re-productive health, family planning • Encourage adolescents/adults to use phones, watches or other technologies as reminders to take medications and attend appointments • Connect the adolescent/adult to peer support and encourage participation. Adolescents who are in boarding school should be encouraged to identify a teacher or adult person who can be a treatment supporter at school • Every 6 months, HCP education sessions for adolescents and their caregivers to increase health literacy about HIV, treatment and the importance of a good adherence <p>For all clients</p> <ul style="list-style-type: none"> • Managing adverse effects of ART • Assess mental health of caregivers of adolescents/adults every six months • Identify a backup caregiver to be involved in providing care • When caregiver(s) is HIV positive, encourage him/her to have treatment supporters who might help when the caregiver(s) is unwell. • Use an appointment system to track which patients are supposed to come to the clinic each day, and for each service • Give the clients reminder cards (carte de rendezvous) • Advise clients to use phone reminders, calendars, radio and watches to help them remember their medication and medical appointments • Link clients to supports groups or associations in the community • Keep the contact information updated • Conduct home visits for the clients who miss the appointment without any reason

2.2.6. Mental health status screening

HIV/AIDS imposes a significant psychological burden. People with HIV often suffer from depression and anxiety as they adjust to the impact of their diagnosis and face the difficulties of living with a chronic life-threatening illness, including shortened life expectancy, complicated therapeutic

regimens, stigmatization, loss of social support, family or friends. HIV infection can be associated with high risk of suicide or attempted suicide. Integration of mental health into HIV service presents an opportunity to improve the health of people living with HIV/AIDS. To include assessment of mental and substance-use disorders and their appropriate management these services need to collaborate closely with HIV/AIDS services at all levels.

Screening for mental illness at ART clinic is done for adolescent and adult clients at enrolment and every six months. Clients screened positive should be referred to mental health clinic for further management.

Mental health services should ensure access to voluntary and confidential HIV testing and counselling for those at risk and linkage of those found HIV positive to care and treatment.

2.2.7. Psychosocial support groups

People facing the same problem such as HIV can support each other and improve their wellbeing. A support group of PLWH brings them together to talk about the challenge, experience and/or role, what they have in common as PLHIV.

By joining support groups, PLHIV realize that they are not alone in their situation. They also brainstorm solutions to the challenges they face and provide advice to each other.

2.2.7.1. Support group Organization

- **Membership and participation:** A PLHIV support group member is any person living with HIV who has voluntarily decided to join a support group and is willing to take part in the group activities. Other support groups members can be caregivers and partners of people living with HIV.
- **A support group** is formed by PLHIV from the given geographic area; preferably, the same cell and should not have more than 50 people.
- **Venue:** The support group-meeting venue needs to be accessible, affordable, safe and agreeable to group members. It can take place in the HF or in the community.
- **Rules:** The group should establish meeting ground rules. These rules are specific and include things such as agreeing to listen when others are speaking, respecting time, respecting the confidentiality of other members.
- **Facilitation:** The support group meeting facilitators may come from inside or outside the group. E.g. a peer educator, a HCP, an expert in a given domain.
- **Topics and Materials:** The topics are scheduled depending on the age category, previous sessions and level of the group. Material is determined and prepared based on the target group and the topic of the day.

2.2.7.2. Process of support group

- Welcoming members
- Introduction of each participants
- Remind the ground rules
- Introduction of the topic of the day
- Encourage the participants to discuss about it

- Concluding the topic
- Fix the next appointment and next topic
- Closing

Table 10: Psychosocial support group according the age group

Age category	Topic
<p>Children ≤4</p>	<p>At this age the role of support group is to support the caregivers by sharing problems they face day to day related to care of their children</p> <p>Topics to be discussed include:</p> <ul style="list-style-type: none"> • HIV/AIDS, transmission and prevention • Medical and biological follow up of exposed infants • Monitoring of drugs taking for the child, supporting adherence • Follow up
<p>Children 5-7 years</p>	<p>At this age, the role of PSG is to start the disclosure process for children accompanied by their caregivers in order to strengthening adherence.</p> <p>Topics to be discuss should be the same as those for 0-4 years but the providers have to be attentive for any question from caregivers.</p>
<p>Children 8-10 years</p>	<p>The aim is to promote emotional support and exchange of experience and to strengthen adherence to antiretroviral treatment for children.</p> <p>Topics to be discussed:</p> <ul style="list-style-type: none"> • Define HIV • The body, the role of blood, immunity • Taking drugs • Life hygiene <p>In additional to the discussion, the following should also be done for the 8-10 years old range category:</p> <ul style="list-style-type: none"> • Evaluate expectations and proper needs of children aged between 8 – 10 years old. • Support the integration of children in school, social and family life. • Help children to express themselves through leisure activities. • Sensitize children on the importance of regular taking of drugs.
<p>Adolescent 11-14 years</p>	<p>The objectives are to understand: how the virus affects the body (i.e. how HIV affects cells), identify the three modes of transmission of HIV, what does NOT transmit HIV (the myths/ misconceptions); confidentiality (age appropriate discussions); and challenges to taking medicine at school.</p> <p>Topics to be discussed:</p> <ul style="list-style-type: none"> • The multiplication of the virus and the role of ARV; • Life experience with HIV, secret; • Taking drugs; • Life hygiene; • Hard times in the life of the child and the future; • HIV transmission and prevention;

Age category	Topic
15-21 years	<ul style="list-style-type: none"> • Positive behavior; <p>For this category of age, the role of Psychosocial Support Group (PSG) is to help adolescent to:</p> <ul style="list-style-type: none"> • Identify their own emotions • Share these emotions with the class • Talk about how to deal with these feelings • Talk about ways of combating stigma • Define self-esteem and life skills • Share problems they are facing at home or in school because of stigma <ul style="list-style-type: none"> * Define school, home, and self-stigma * Talk about reproductive health and positive prevention * Life skills
Above 21 years	<p>The role of support group is to discuss:</p> <ul style="list-style-type: none"> • HIV transmission, prevention and treatment, prevention and treatment of STIs • Side effects • Positive living • Reproductive health • Opportunistic infection • Stigma and discrimination • Disclosure • Nutrition • Life skills

Note: The meeting of peer a support group should be reported in register: Date, topics discussed, facilitator, time, participants (names), next topics, observation.

2.2.8. Home visit

Home visit is one of strategies to support adherence. It can be conducted by HCP or a peer educator (PE). In this case a HCP or a PE should develop and provide a personalized plan of care that helps the client adhere to care and to treatment plan.

2.2.8.1. Objectives of home visits:

- Identify the residence of the patient: to verify and complete the information that was recorded earlier in the patient's dossier.
- Ensure more intensive counselling (e.g. for clients failing to disclose HIV status, refusal of testing by the partner, patients missing appointments to follow up).
- Assess socio-economic status of the patients and provide support where possible.
- Trace and bring back patients who have missed an appointment or are lost to follow up in care and treatment.
- Catalyse participation of the family in the treatment process.
- Break the isolation of the patient.

2.2.8.2. *Clients in need of home visit*

- Patients newly enrolled
- Patients who missed their appointment (clinical, lab, and pharmacy visits)
- Clients who missed peer support group meeting without informing the peers
- On client's demand

Before conducting any home visit, the HCP or a PE should confirm the client or care giver has given their consent for such visits during enrolment.

2.2.8.3. *Organization of home visits*

Before:

- Determine the individual objective of the home visit for each patient
- HCP in collaboration with PEs identify cases that need home visits
- Inform the patient of the visit where possible, date and time, team to conduct the home visit
- Prepare all logistics (transport means, forms)

During:

- Introduce the team and the objective of the visit
- Take time to interact with the client or the care giver
- Listen carefully to the client/care giver and provide advice
- Discuss the expected outcomes and summarize key points discussed
- Set up a plan for the future
- Close the session

After:

- Record all necessary information in the home visit register
- Report the home visit to the HCP team
- Make a follow up

NB: Ideally, home visit should be conducted between 45-60 minutes.

2.2.9. **Community support of people living with HIV**

At the community level, peer educators who are chosen by their peers according to selection criteria, ensure the psychosocial care of PLHIV. They play a role to support the adherence and the retention of their peers through the following activities: organize monthly support group, conduct home visits, conduct referrals and linkages at HCP level, facilitate referrals and linkages to services available at community level, sensitize the community on HTS and produce reports of activities performed.

The spacing nature of DSDM allows for many patients enrolled in HIV program to spend much of their time in the community without coming at health facility. It is understandable that for DSDM to be successful the program must be supported by a community-based approach through peer education.

Peer education provides moral and psychological support to patients and promotes adherence to treatment and retention. Peer education contributes to reducing the financial and time costs associated with frequent clinical visits.

From a health system perspective, reducing clinic contact required for clinically stable ART populations and refocusing resources towards managing sick patients with complex clinical problems is a key objective, with anticipated reduction of staff workload and improvements in quality of care.

From the perspective of social impact mitigation of HIV, the peer education approach will also play a key role in improving referrals and linkages between the community and health facility.

Peer education is expected to contextualize the approach in Rwanda to ensure efficiency and quality of services depending on resources, drug supply mechanisms, and a monitoring system that can follow patients in and out of the community to the HF.

2.2.9.1. Objectives and outcomes of the community support for PLHV

Main objective:

Improve and sustain adherence and retention to HIV services.

Specific objectives:

- Minimize lost to follow up (LTFU)
- Strengthen community-based follow up of PLHIV
- Promote HIV prevention services
- Improve self-efficacy among PLHIV to access all support services available

2.2.9.2. Expected outcomes

The expected outcomes include:

- Improved adherence on ART
- Improved retention in care and treatment services
- Improved access to HIV services
- Improved social impact mitigation of HIV

2.2.9.3. Peer education approach

Peer educators are an excellent source of practical and psychosocial support for other PLHIV who may feel more at ease sharing feelings, concerns, experiences, and problems with someone who has faced a similar situation.

The greater involvement of PLHIV (PE) and their continuous engagement through peer education and community HIV/AIDS support groups can complement the work of health care providers and play an important role in ensuring access to effective and sustained adherence on ART and retention into care and treatment. PEs play an important role not only in HIV prevention and treatment but also contribute to social impact mitigation.

2.2.9.4. *Definition of peer education*

Peer education is the sharing of knowledge by someone who is either directly a part of the same social group as the individual with whom the knowledge is being shared, or who is of the same age, gender, sexual orientation, race and ethnicity, occupation, socio-economic, and/or health status. But, most importantly, a peer educator must inspire trust.

In relation to HIV education, peer education is a less formal and more intimate approach to education that helps people who are unfamiliar with, or dislike a formal way of learning, to be presented with knowledge by their peers.

This educational intervention occurs at various levels, depending upon where the person finds herself/ himself within the continuum of HIV diagnosis to HIV care.

For instance, the peer education process has helped many individuals deal with the first emotional reaction at the time of diagnosis by learning from a person who has experienced it or can relate to the experience first-hand.

2.2.9.5. *Selection criteria of peer educators*

Below are general characteristics that each person should have in order to be selected as a peer educator depending on the target group:

- Be HIV+
- Be willing to volunteer and be available for peer education
- Be able to maintain confidentiality
- Reside in the same geographic area with the peers (within at least the same cell)
- Be stable as defined in the DSDM
- Be able to read and write at least in the local language (Kinyarwanda)
- Be able to disclose his or her HIV status to others
- Be non-judgmental, compassionate, honest, upright (inyangamugayo).
- Be able to communicate effectively, comfortable discussing sensitive topics including sexuality-related matters.
- Be a member of a recognized association/group of PLHIV is an added value

2.2.9.6. *Exclusion criteria*

The following are criteria that can lead to ineligibility as a PE:

- PE not fulfilling his/her role as a peer educator
- Not behaving as required of a peer educator
- Change of residence/location
- Death of a PE
- Not willing to continue to be a PE

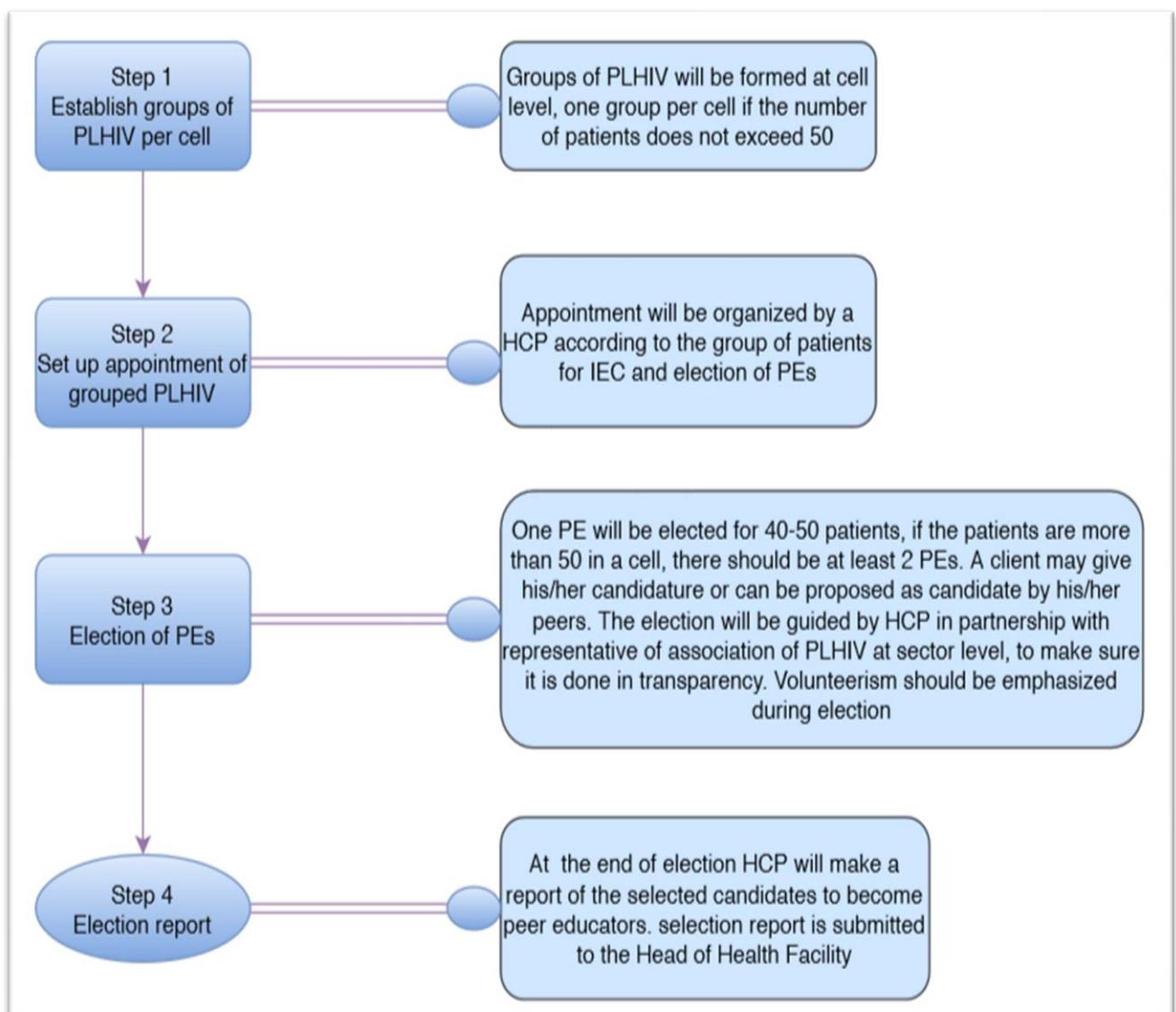
2.2.9.7. Selection/election process of peer educators

A PE will be elected at the health facility level by the peers supported by a health care provider (HCP) working in ARV services.

Patients should be given enough information and be well prepared in advance, understanding the benefits for joining a group of peers. Patients will be encouraged to join support groups but it is a patient's right to decline participation in any group.

Below are the steps of electing peer educators:

Figure 5: Flow chart for PE elections



2.2.9.8. Roles/scope and responsibilities of peer educators

The scope of work for a PE includes the following:

- ✚ **Organize monthly support group meetings with peers in the community or at a health facility as convenient.**

The meetings are suggested to be organized at a convenient time for participants (e.g. in the evening, weekend or any time agreed upon). These meetings will include the following activities:

- PE leads the group education on ART adherence
- Experience sharing and challenge on adherence
- Drug storage
- Health status in general (any illness)
- Linkages and referral to existing services in the community-based on needs
- Positive living
- Sensitize group members to HTS amongst dependents/ family members
- Discuss on other topics related to health (STIs, TB, FP, condom use, PMTCT, nutrition, to name a few)

- ✚ **Conduct home visits**

Home visits should be catered to the client's needs and willingness to participate. If a quarterly appointment is missed, the health care provider should inform the PE the same day. In this case, home visit should be made within 24 hours; and the outcome should be reported immediately to the health care provider. Individuals choosing not to be enrolled in the peer education model will require follow up by a health care provider. Home visits should be conducted under the following circumstances:

- Missing the appointment at the health facility without prior communication.
- Failure to attend support group meeting without prior communication
- Conducting follow up visits to track the progress of previous visits.

When conducting home visits, the PE should address the following:

- *ART literacy*
- *Drug storage*
- *Health status in general*
- *Health status in general (any illness)*
- *Broader psychosocial needs*
- *Complaints related to common opportunistic infections (TB/STIs)*
- *Nutrition including breastfeeding and food security*
- *Adherence*
- *Sexual and reproductive health*

✚ **Conduct the referral and linkages at HCP level.**

The responsibility for referral and linkage is bidirectional: from HCP to the peer educators and peer educators to HCP.

✚ **Facilitate referral and linkages with available services in the community**

✚ **Sensitize the community on HIV testing services.**

✚ **Produce a report of the activities performed.**

2.2.9.9. Capacity building of peer educators

Building the capacity of PEs (as they will serve as active givers and receivers of prevention, care and treatment, and support services) will ensure greater involvement of people living with HIV.

Community-based PEs can also contribute to increased uptake of care and treatment services, adherence to treatment, treatment literacy, and improved quality of HIV/AIDS services in Rwanda.

The capacity building activities include:

- Reviewing the PE training manual by central level/RBC
- Training health providers at health centres to train peer educators
- Training peer educators. Every new peer educator must be trained before starting responsibilities
- Organizing the refresher training according to the new guidelines

2.2.9.10. Leadership, coordination and implementation

- Overall leadership and coordination is provided by MOH through RBC
- The implementation is led by the Rwanda Network of PLHIV (RRP+) in close collaboration with health facilities and community-based partners/stakeholders

RRP+ being a network of PLHIV and based on its expertise in implementing a peer education approach with a decentralized structure of its members up to sector level with staff in the field, their role will be crucial to support DSDM implementation. A set of activities will be conducted, consisting mainly of quarterly supervision (conducted by the Field Officer) and **quarterly** coordination meetings. **Monthly** supervision will be aiming at:

- (i) Coaching the PE when providing the PE sessions
- (ii) Strengthening the collaboration with health facilities
- (iii) Identifying the challenges encountered by PE and patients at the community level and address them or escalate to a higher level
- (iv) Documenting and ensuring that the PE supports their peers regularly through home visits and monthly meetings.

The findings from quarterly supervisions will be shared during the **bi-annual** coordination meetings organized at national level. Coordination meetings will involve different stakeholders including health

facilities, NGOs, MoH-RBC and the local government in order to share with them the findings, best practices, lesson learnt from the field and discuss how challenges can be addressed.

RRP+ will have to share the compiled report to the central level (MoH/RBC), local leaders and heads of health facilities which should include recommendations from the beneficiaries.

2.2.9.11. Monitoring, evaluation and learning

A PE will have a checklist of tasks that will be used during the home visit. S/he will compile the information collected and submit a monthly report to the health centre.

The health care provider will have a tool that will be used to compile monthly reports from peer educators into a quarterly report. The flow of reporting will go into the following steps:

- Health care provider (HCP) convenes a peer educators' (PE) monthly organizational meeting at health facility. All the peer educators reporting to a specific health facility will attend this meeting as it will be an opportunity for review and compilation of different reports.
- The health care providers at the health centre level compile monthly reports from peer educators and enter the report into HMIS.

RRP+ will also submit a quarterly narrative report detailing how the work of PE has been conducted, key successes, lessons learned, challenges and propose recommendations.

The health facility leadership in collaboration with RRP+ and on a quarterly basis will hold meetings with all community-based partners and key local authorities to share the progress and lessons learned about the peer support program in their respective locations.

2.2.9.12. Motivation of peer educators

The motivation of peer educators is important and will be done in different ways. The suggested ways of motivating the peer educators include:

- **Emotional and social motivations:** Respect and recognition are key motivational factors for PEs. PEs should be known by local authorities and given time to talk during various community gatherings when needed. Appreciation may also be provided through certificates of recognition.
- **Educational and developmental motivations:** PEs will have access to training and information to build their personal and professional skills. These include access to up-to-date facts and figures, good-quality training, opportunities to exchange lessons learned (e.g. study tours, meetings among themselves and with local officials, community radio programs, conferences and peer educator fora), and opportunities to share their experiences and skills with others (e.g. acting as mentors or trainers for new peer educators).

- **Financial motivation:** PEs will be incentivized to carry out their work. PEs may be supported in accessing loans and creating saving and lending groups.

However, the motivation will continually be reviewed, as needed especially financial motivation depending on available funds.

2.2.9.13. Special considerations

Some PLHIV depending on their particular characteristics will be encouraged by a HCP to form their own support groups at health facility level. Like others they will elect their PE respecting the ratio of 1 PE per 40 to 50 patients at maximum. The groups include:

1. Key populations (female sex workers and men who have sex with men),
2. Adolescents (in and out schools) and young adults in the range of 15 to 24 years old.

2.2.9.14. Key indicators to be reported by peer educators

- Number of patients followed up by a PE (disaggregated into stable and unstable)
- Number of patients who missed monthly support group meeting
- Number of home visits conducted
- Number of patients referred/linked to other service

2.3. NUTRITION ASSESMENT, CARE AND SUPPORT (NACS)

Nutrition assessment, counselling and support (NACS) are essential pillars and constitute an important component of care and treatment of PLHIV. Malnutrition management should be done as per the national protocol of management of malnutrition.

2.3.1. Introduction

Nutrition and HIV are strongly interdependent and interconnected. They may aggravate each other in a vicious circle: HIV can cause or worsen undernutrition by causing reduced food intake, increased energy requirements, and poor nutrient absorption. Undernutrition in turn further weakens the immune system, increases vulnerability to infection and worsens the disease's impact.

Nutrition care and support helps PLHIV to maintain and improve their nutritional status and to strengthen immunity which results in reduction of the frequency and severity of symptoms.

Nutritional Assessment, Counselling and Support (NACS) are essential pillars and component of care and treatment to PLHIV. The purpose of this chapter is to provide practical guidance to healthcare providers on how to ensure good nutritional status of PLHIV.

The detailed knowledge and skills on nutritional management are developed in the national protocol for the management of malnutrition.

2.3.2. Components of NACS

2.3.2.1. Nutrition Assessment

Nutritional assessment must be done at every clinical visit whereby measuring all anthropometric parameters, classifying and plotting them to WHO charts/BMI curves in the patient file and conducting clinical assessments, dietary assessments and biochemical tests if necessary.

PLHIV who have severe acute malnutrition with complications should be treated as inpatients. Those with severe acute malnutrition without complications should be treated as outpatients and follow-up done weekly for children and every 2 weeks for adults.

For PLHIV with moderate malnutrition, follow-up should be done monthly. Good nutrition care starts with good assessment (measurement and classification) of nutritional status. Nutrition assessment is a critical first step in improving and maintaining nutritional status.

NACS aims to establish routine nutrition assessment as an integral component of health facility screening, care, and support. Nutrition assessment will help to:

- *Identify medical complications that affect nutritional status;*
- *Track growth and weight trends;*
- *Detect diet habits that make it difficult to improve health or that increase the risk of disease;*
- *Inform nutrition messages and counselling;*

- *Identify people at risk of undernutrition and take action before they become severely malnourished;*
- *Measure changes in nutritional status to monitor progress;*
- *Determine interventions according to clients' needs.*

2.3.2.2. *Nutritional counselling*

Nutritional counselling, when informed by nutrition assessment, assists clients to understand nutritional needs, identify constraints and options for improved diet, and plan feasible dietary actions to achieve or maintain good nutritional status. Nutrition counselling is an interactive process between a client and a trained counsellor that uses information from nutrition assessment to prioritize actions to improve nutritional status.

Counselling helps identify client preferences, barriers to behaviour change and possible solutions to overcome those barriers. With this information, the client and healthcare provider jointly plan a feasible course of action to support healthy practices.

The healthcare provider may use job aids to select appropriate messages and guide counselling sessions. Group education on key nutrition topics can be provided in health facility waiting rooms or for community groups using various flyers and audio-visual media.

2.3.2.3. *Nutritional Support*

Nutritional support includes therapeutic, supplementary food and micronutrient supplements for the clients with or at risk of under nutrition. Nutrition support includes:

- *Therapeutic and supplementary foods to treat clinical malnutrition;*
- *Complementary food supplements for children 6–24 months old to prevent malnutrition;*
- *Micronutrient supplements to prevent vitamin and mineral deficiencies;*
- *Referral and linkage.*

Nutrition Assessment, Counselling and Support of children under 5 years living with HIV

Strong recommendations: HIV-infected children should be routinely assessed for nutritional status every month. This includes weight for height, weight for age and height for age.

- HIV infected children who are moderately or severely malnourished should be managed as per the current national protocol for nutrition.
- HIV-infected infants and children between 6 and 59 months of age should receive high-dose vitamin A supplementation every 6 months as per the current national guidelines for nutrition
- HIV-infected infants and children between 6 and 24 months of age should receive 2 to 3 sachets of Micronutrient Powders (MNP) supplementation every week.
- HIV-infected children who have diarrhoea should receive zinc supplementation.

- For infants and young children known to be HIV positive, mothers are strongly encouraged to exclusively breastfeed for 6 months and continue breastfeeding as per recommendations for the general population.

Table 11: Nutrition Assessment, Diagnosis and Interventions for under 5 years

For the acute malnutrition assessment of children under five, refer to WHO 2006 Unisex Weight/Height tables that are found in the patient file.

Assessment	Diagnosis	Intervention
Measure the height, weight and MUAC of the child <ul style="list-style-type: none"> • Note the age in months • Observe the signs of malnutrition • Record in the patient file 	Severe acute malnutrition if weight/Height= $<3Zs$,	If medical complications (e.g. infection, severe anemia, dehydration) - admit or refer the child to hospital. Treat urgently complications.
	If MUAC <12 cm or bilateral oedema	Give F75, F100 or RUTF according to the national guidelines and continue breastfeeding if the child is under 18 months.
	Severe chronic malnutrition if Height/Age= $<3Zs$,	If no medical complications: treat as an outpatient with RUTF and continue breastfeeding if the child is under 18 months.
		Provide appropriate nutrition counseling.
		Follow-up must be done weekly Refer to community nutrition-sensitive interventions
	Mild or moderate acute malnutrition if weight/height	If medical complications, admit the child and treat these complications. Give CSB+ and continue breastfeeding if the child is under 18 months.
	$>-3Zs-2Zs/$	Provide appropriate nutrition counseling
	$2Zs-1Zs$ and MUAC between 12cm and 13cm	Follow-up must be done monthly.
Moderate chronic malnutrition if height/age ≥ -3 to <-2 ZS	Refer to community nutrition-sensitive interventions	
Good nutritional status if W/H ≥ -2 to $\leq +2ZS$ and MUAC $>>13$ cm	Praise the mother and encourage her. Continue breastfeeding if the child is below 18 months. Provide appropriate nutrition counseling.	
If the Weight/Height is $> +2$ to $\leq +3$ SD: overweight or $> +3$ SD: obesity.	Identify the possible causes and provide appropriate dietary counseling to prevent obesity and complications.	

Table 12: Nutritional management for 5-19 years living with HIV

Assessment	Diagnosis	Intervention
Measure the height and weight, know the age.	Refer to WHO 2006 growth tables for boys.	If medical complications (infection, severe anemia, dehydration):
Observe the signs of malnutrition and record.	Severe acute malnutrition if Weight for Height < 3Zs or oedema.	• Admit or refer the to hospital.
		• Treat complications
		• Give F75, F100 or RUTF
		Continue breastfeeding if the child is under 18 months.
		If no medical complications:
		• Treat as outpatient with RUTF, continue breastfeeding if under 18 months.
		• Provide appropriate nutrition counseling
		• Follow-up must be done weekly.
	Mild and moderate Malnutrition if the weight/height	If medical complications, treat these complications, give CSB+.
	2ZS to -1Zs: Mild ≥ -3 to < -2 ZS: moderate	If no complications, give CSB+ and continue counselling.
	Good nutritional status: If weight for Height ≥ -2 to $\leq +2$ ZS	Provide appropriate nutrition counseling follow up every month.
	If the Weight/Height is $> +2$ to $\leq +3$ SD: overweight or obesity.	Identify possible causes and provide appropriate dietary counseling to prevent obesity and complications.

Nutrition Assessment, Counselling and Support for Adults living with HIV

Among adults, weight loss and wasting are strongly associated with poor health outcomes for PLHIV. Maintaining weight is a key component of any healthcare plan for PLHIV. Many anthropometric indices can be used for adults but the most commonly used are BMI and MUAC. PLHIV at risk of malnutrition should be weighed every month and keep a record of weight to detect changes as quickly as possible. Weight should be assessed using the same scales.

Table 13: Assessment, Diagnosis and Interventions for adults living with HIV

Assessment	Diagnosis	Intervention
Measure weight and height then calculate BMI = Weight (kg)/ height (m ²)	If BMI 18.5-24.9 or MUAC ≥ 23 : Good Nutritional status.	Encourage the client and ensure regular monitoring.
	If BMI between 16-18.49 or MUAC between 19-23 cm: malnutrition	Treat with CSB+ (250gr/day), identify possible causes and provide appropriate nutritional counselling.
	If BMI < 16 or MUAC < 19 cm Severe malnutrition	Treat with RUTF or F75, F100 according to the national protocol.
MUAC if unable to measure height and weight or client is	If BMI between 25 and 29.9: Overweight	Identify possible causes and provide counselling to prevent obesity
	If BMI ≥ 30 : Obesity	Identify possible causes and provide counselling to prevent complications.

pregnant
lactating

or

2.4. DIFFERENTIATED SERVICE DELIVERY MODEL (DSDM)

2.4.1. Definition of DSDM

With Treat All recommendations and expanding availability of ART, people are presenting to care earlier and require less intensive clinical care. This increase number of patients taking ART and tend to increase the burden on health systems, particular at sites with high number of patients on ART and unnecessarily clinical visits.

To reflect the preferences and expectations of various groups of PLHIV and to reduce unnecessarily burdens on the health system and multiple clinical visits for patients, HIV national program has adopted a differentiated model for ART service delivery. A differentiated model for ART service delivery aims to decrease patient clinical visits to six months and pharmacy pick-up for medications (ARVs and OIs prophylaxis) visits to three months. This model puts patients in different categories based on their needs.

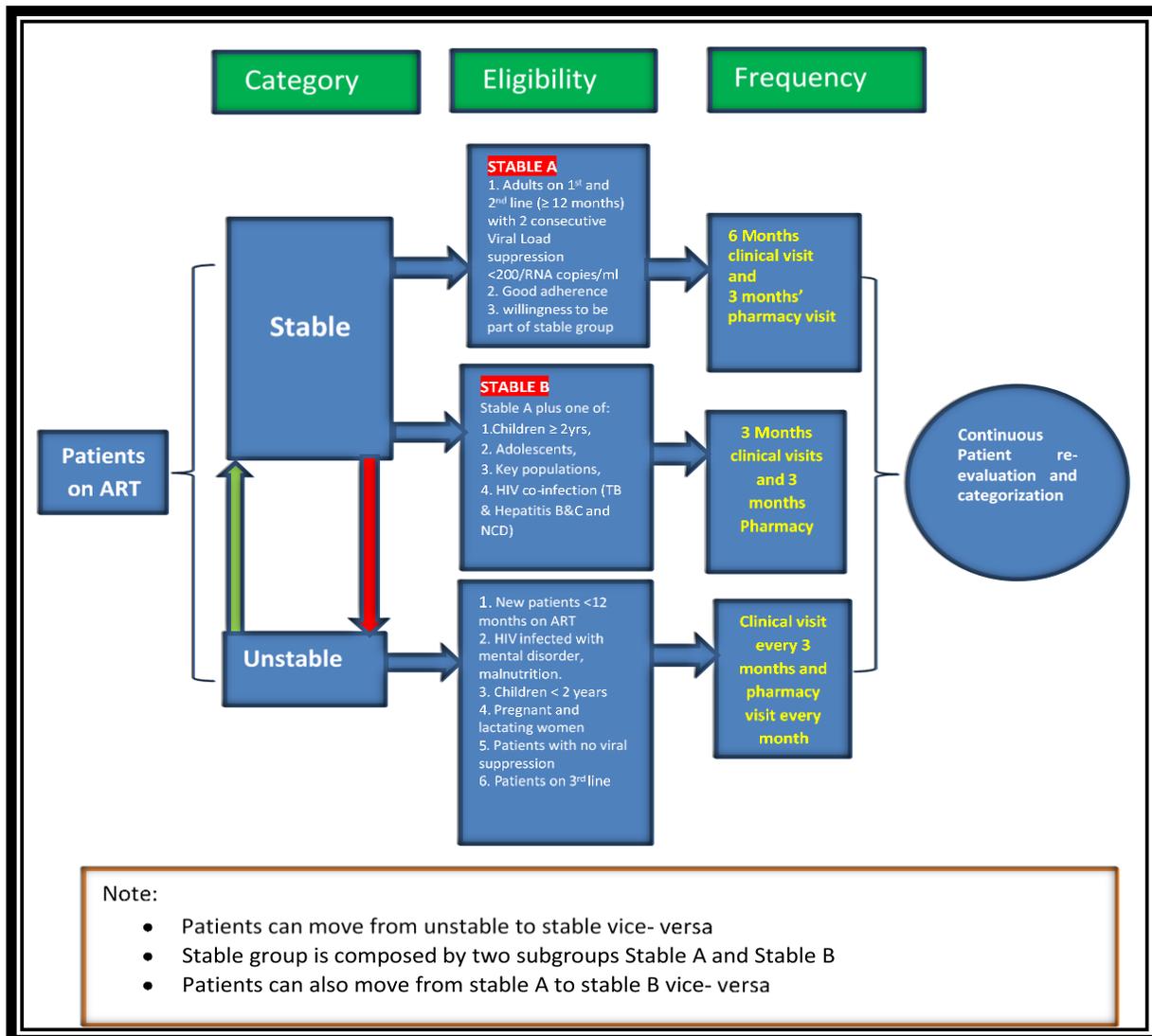
2.4.1.1. Patient categorization

Health providers classify patients in two categories: stable and unstable based on predefined criteria (see Figure flowchart on DSDM).

2.4.1.2. Education and counselling sessions

All Patients should participate in an education and counselling sessions, at least two sessions. Health providers have to explain different details and steps to be taken in order to move from one category to another. Stable patients should not have the same package of education and counselling.

Figure 6: DSDM flowchart



2.5. HIV CLINICAL MANAGEMENT FOR CHILDREN

Below are key considerations in clinical management of HIV among children:

- Clinical and laboratory evaluations are the cornerstones of care and treatment of HIV positive children of ≤ 10 years old.
- DTG is used for children with weight ≥ 20 kgs
- The preferred 1st line option for children less than 20kg is ABC/3TC+LPV/r.
- The preferred 1st line option for children of ≥ 20 kg is ABC/3TC+DTG.
- The preferred 1st line option for children of 30kgs and above without renal failure is TDF/3TC/DTG.
- For children on LPV/r, the preferred formulation is pellet (40mg/10mg, oral pellet) due to its storage and palatability reasons.
- For children with more than 15kg, ATV/r can be used to replace LPV/r.
- For children on ABC/3TC, 120/60mg is the preferred strength.
- ABC is contra-indicated for children less than 3 months.
- If HIV is confirmed before 3 months, the recommended 1st line ART regimen is AZT+3TC+LPV/r.
- Switch to AZT-based regimen in case of intolerance to ABC.
- LPV/r is contra-indicated for newborn less than 15 days ;
- If switching from AZT-based regimen, consider VL suppression;
- If treatment failure, consider second line regimen.
- TB screening is mandatory for all children at enrolment and at each clinical visit.
- TPT (Tuberculosis preventive therapy) should be integrated in HIV management
- IPT (Isoniazid 10mg/Kg) is used for 6 Months to all HIV children of ≤ 5 years old without active TB but with a history of TB contact.
- Anti-TB should be initiated immediately and ART within 2 to 8 weeks.
- The treatment failure (TF) is defined by the virological failure (plasma viral load >1000 copies/ml) based on two consecutive viral load measurements after 3 months with intensive adherence support.
- The management of 1st line TF is done after identifying its probable cause and then act as shown by figure 7.
- If the cause of TF requires shift to 2nd line, refer to Table 16
- The recognition of 2nd line TF is similar to the 1st line TF and the shift to 3rd line is guided by genotyping and expert consultation.
- The monitoring of children on ART encompasses clinical and laboratory monitoring in order to assess treatment response and potential drug toxicity.

2.5.1. Initial clinical and laboratory evaluation

2.5.1.1. Clinical evaluation

General history taking and comprehensive physical examination

- WHO HIV staging in children
- Growth assessment and malnutrition screening
- Neurodevelopment and intellectual assessment

- Drug history for the child and parents

2.5.1.2. Laboratory evaluation

- Baseline:
 - CD4 count (percentage preferred if < 5 years old)
 - CD4 absolute figures for children of 5 years and above
 - Hepatitis B surface antigen
 - Hepatitis C antibody,
 - Liver Function (ALAT*, ASAT*) + Additional lab exams as clinically indicated.

2.5.2. ART regimen for children younger than 10 years of age

2.5.2.1. ART First Line in Children

Table 14: First line options for ART regimen in children

Treatment range	weight	Preferred regimen	Alternative Regimen	Comments
CHILDREN LIVING WITH HIV INITIATING ART				
≥ 20 kg	20-30kg	ABC+3TC+DTG	ABC+3TC+EFV	When reaching 30 kg a child should be transitioned to TDF + 3TC + DTG
	>30kg	TDF+3TC+DTG	TDF+3TC+EFV	
< 20 kg		ABC sp + 3TC sp+LPV/r (40mg/10mg)pt Or ABC + 3TC + LPV/r (Syrups)	ABC+3TC+NVPsp / EFV	If less than 20kg a child should stay on LPV/r until he reaches 20kg and shift to DTG. EFV is for children of ≥ 3yrs

Current regimen	Weight band	Optimal regimen for transition	Comments
CHILDREN LIVING WITH HIV ALREADY ON ART			
ABC + 3TC + EFV	<20 kg	No change ABC+3TC+EFV	If a child reaches 20 kg shift to ABC+3TC+DTG
	20–30 kg	ABC + 3TC + DTG	If a child reaches 30 kg shift to TDF + 3TC + DTG
	> 30 kg	TDF + 3TC + DTG	
ABC + 3TC + LPV/r	<20 kg	No change ABC+3TC+LPV/r	If a child reaches 20 kg shift to ABC+3TC+DTG
	20–30kg	ABC + 3TC + DTG	If a child reaches 30 kg shift to TDF + 3TC + DTG
	> 30kg	TDF + 3TC + DTG	

2.5.2.2. HIV-TB co-infection screening diagnosis and management in children

All HIV positive children should be screened for active TB disease at enrolment and regularly at each visit at a health facility. Children having the following symptoms should be evaluated for TB disease:

- Any cough
- Fever
- Loss of weight (or failure to gain weight)
- History of contact with an infectious TB case.

❖ Diagnosis of TB in children with history of contact with a bacteriologically confirmed infectious TB case:

- Ask for the following symptoms: cough, fever, night sweats, weight loss
- Give counselling for HIV Test
- Systematic chest X-ray

❖ Tuberculosis preventive Therapy (TPT) in children

Children ≤ 5 years old living with HIV who are unlikely to have active TB based on screening and normal chest x-ray and have been in contact with a TB case should receive 6 months of Isoniazid (10 mg/kg/day). Children aged more than 5 years old will be advised to consult in case of cough and/or other symptoms of TB.

A. Screening and diagnosis:

The following examinations are used to diagnose active TB infection:

- Sputum if child is able to produce sputum sample, induced sputum if available, or gastric aspirate if child unable to provide sputum sample (typically younger than 10 years old).
- Acid Fast Bacillus (AFB) microscopy with Ziehl Neelsen stain and culture, if available GeneXpert (based on availability).
- Tuberculin skin test (TST): A negative TST does not exclude TB disease. It may be negative despite the child having TB, especially in severe disseminated TB, malnutrition and HIV disease
- Chest X-ray.

B. Management

❖ Treatment of TB-HIV co-infection in children

- As for TB uninfected children, all HIV-positive children with confirmed TB co-infection are eligible for ART regardless of CD4 count and clinical stage.
- ART should be initiated for any child with active TB disease as soon as possible and within eight weeks following the initiation of anti-TB treatment irrespective of the CD4 count and clinical stage.
- The TB treatment in children diagnosed with TB disease should be initiated immediately. The TB treatment duration is 6 months for newly diagnosed cases and 8 months for previously treated cases, but lasts 12 months for meningeal and osteo-articular forms of TB disease.

NOTES:

1. For more details on TB-HIV co-infection screening and management in children, refer to the current TB-HIV algorithms.
2. Children suspected of having extra-pulmonary TB should be managed at a referral centre. Fine needle aspiration (FNA) or a lymph node biopsy may be performed if a lymph node is suspicious for tuberculosis.

Table 15: TB Treatment for children: 2 (RHZ) E/4(RH)

Phase	Months / Dosage	Pediatric tablets			
		Drug	Weight		
			5-7Kg	5-7Kg	15-20 kg
Intensive	2 months (56 doses)	(R60H30Z150)	1	2	3
		(R60H60)	1	2	3
		(E100)	1	2	3
Continuous	4 months (112 doses)	(R60H30)	1	2	3
		(R60H60)	1	1	2

NB: Infant with weight below 4kg, the dosage is as follows:

Drug Name	Dosage
Rifampicin(R)	15mg/kg (10 to 20mg/kg), max 600mg/day
INH(H)	10mg/kg (10 to 15 mg/kg), max 300mg/day
Pyrazinamide(Z)	35mg/kg (30 to 40mg/kg)
Ethambutol(E)	20mg/kg (15 to 25mg/kg)

Table 16: ART and Anti-TB therapy in Children

Current ART	ART Adjustment with anti-TB Therapy	
	< 3 Years Old	Children > 3 years
ABC/AZT+ 3TC + EFV	ABC+AZT+3TC	ABC/AZT+ 3TC + EFV
	EFV currently not recommended under 3 years*	
ABC/AZT+ 3TC+LPV/r	If VL suppressed: ABC+AZT+3TC or replace with NVP and increase NVP by 30%*	If VL suppressed: replace LPV/r with EFV
	If VL not suppressed: increase the dose of ritonavir to achieve 1:1 ratio (LPV/r) and seek expert consultation.	If VL not suppressed: increase the dose of ritonavir to achieve 1:1 ratio (LPV/r) and seek expert consultation.

2.5.2.3. Management of Opportunistic Infections in Children

For management of common opportunistic infections, refer to **annex IV** of this guideline.

2.5.2.4. Identification and management of unsuppressed viral load and treatment failure

Identification of treatment failure

The treatment failure is defined by the virological failure (plasma viral load >1000 RNA copies/ml) based on two consecutive viral load measurements after 3 months with intensive adherence support.

Monitoring people living with HIV receiving ART is important to ensure successful treatment, identify adherence problems and determine whether and which ART regimens should be switched in case of treatment failure.

However, a poor immune reconstitution despite a good virological control is frequent during the first year of HAART. This condition seems mainly associated the age and the low baseline CD4 count of the patients. The monitoring of ART response and identification of treatment failure are the same as for adolescent and adults.

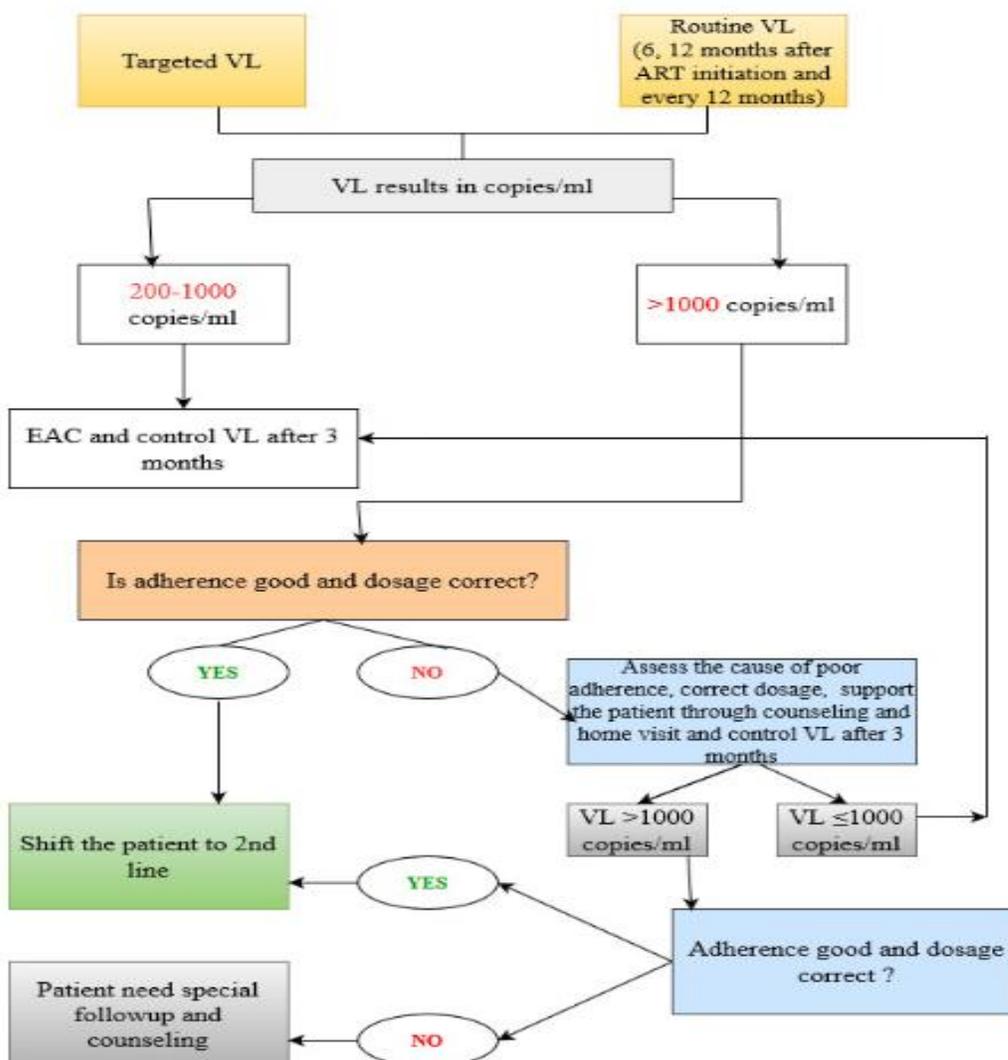
Management of treatment failure

Below are the main steps in the management of treatment failure:

The first step in management of treatment failure is to assess probable causes of treatment failure, which can be related to patient/care giver, drug, virus and provider.

1. **Patient/care giver related causes:** Poor adherence, co-morbidity and malabsorption
2. **Drug related causes:** Pill burden, drug taste, side effects, and drug-drug interactions
3. **Clinician related causes:** wrong prescription of the regimen, inadequate dosage, stock outs
4. **Virus related causes:** Transmitted resistance mutations.

Figure 7: Algorithm for early management of treatment failure



2.4.1.1. Second-line ART in children

Table 17: Second-line ART in children

Failing regimen	first-line	Preferred regimen	second-line	Alternative second-line regimen	Comments
ABC or TDF + 3TC + DTG		AZT+ 3TC + LPV/r		HIV expert opinion	ATV/r can be used as alternative to LPV/r for children ≥15kg
ABC or TDF + 3TC + LPV/r		HIV expert opinion		AZT + 3TC + DTG (in children ≥ 20 kg)	
ABC + 3TC + EFV		AZT + 3TC + DTG (in children ≥ 20 kg)		AZT + 3TC + LPV/r	ATV/r can be used as an alternative to LPV/r for children ≥15 kg

For children weighing more 30 kg and above change ABC to TDF

- In case of active HBV infection, seek expert opinion
- ATV cannot be co-administered with rifampicin.

Dosing of Second-line Drugs in Children

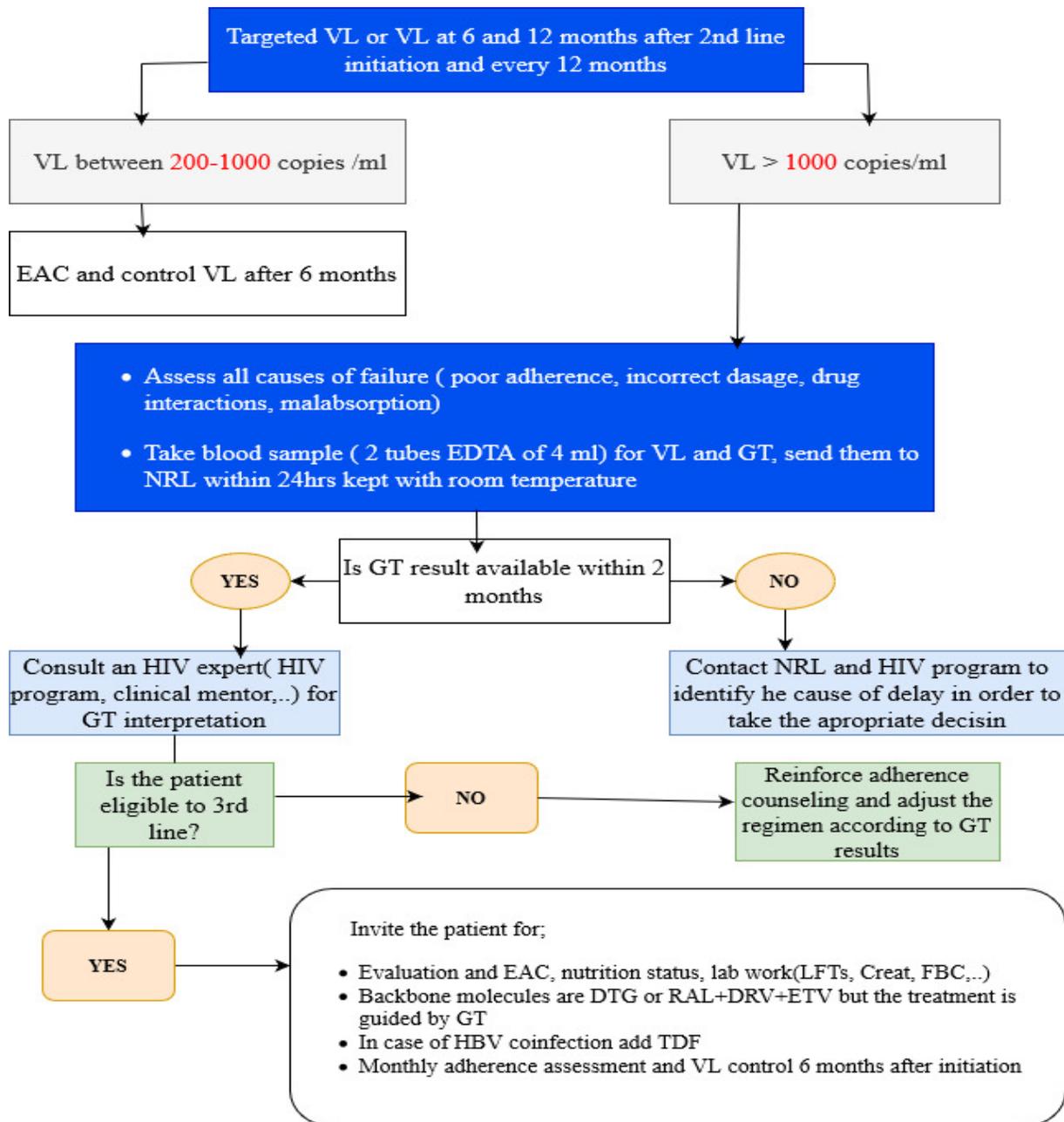
- ABC/TDF/3TC and LPV/r: refer to the first line regimen dosage in the patient medical file (paediatric dosage)
- ATV/r capsules: 100 mg, 150 mg, 200 mg, and 300 mg

Weight (kg)	Once-Daily Dose
15–<20 kg	ATV 150 mg + RTV 100 mg, both once daily with food
20–<40 kg	ATV 200 mg + RTV 100 mg, both once daily with food
≥40 kg	ATV 300 mg + RTV 100 mg, both once daily with food

Note:

- FDC is preferred where possible
- In some cases, switching to second line may require genotyping (clinical decisions in case of poor adherence suspicion).

Figure 8: Management of treatment failure for patients on second line regimen



2.4.1.1. Regimens for third-line ART in children

The third line regimen will be guided by genotyping results and will require expert consultation.

The available backbone molecules for third line treatment: ETV (Etravirine), DRV (Darunavir), Ritonavir (RTV), DTG (Dolutegravir) or RAL (Raltegravir).

2.4.1.1. Monitoring of children on ART

Clinical and laboratory monitoring of children on ART play a key role to assess the treatment response and potential drug toxicity. Note that ART is a treatment for life but could be changed in the following cases:

- Drug toxicity or severe side effects
- Drug interaction
- Co-infection
- Treatment failure confirmed by viral load
- Others

2.4.1.2. Recommendations on treatment monitoring for children

Table 18: Recommendations on treatment monitoring for children

Period	Laboratory	Clinical	Psychosocial and Nutrition
M0 (Baseline)	Creatinine, CD4, GeneXpert, HBsAg, HCV Ab, CrAg if CD4 <200/mm ³ LFTs if NVP, DTG or VH coinfection	Comprehensive clinical assessment (TB, STI & NCD)	<ul style="list-style-type: none"> • Readiness assessment to start ART • Growth monitoring
M1	Creatinine (clearance) if TDF	Screen side effects and comprehensive clinical assessment	Adherence and growth monitoring
M2	None	+	+
M3	Creatinine (clearance) if TDF	+	+
M6	<ul style="list-style-type: none"> • VL, creatinine (clearance) if TDF • LFTs if NVP, DTG or VH 	+	+
M12	VL, creatinine (clearance) if TDF	+	+
After 12months	VL every 12 months, creatinine (clearance) if TDF every 6 months	Comprehensive clinical assessment, side effects screening	Continue adherence support

Table 19: Practical advice for administration of ARVs in children

Practical advice for administration of ARVs in children	
Regular check if the children receive the correct dose, based on their weight	
ARV Advice	
Abacavir (ABC)/ Lamivudine (3TC)	<ul style="list-style-type: none"> • In patients who have had a hypersensitivity reaction, ABC would be stopped and never re-challenged. • No food restrictions, oral solution – room temperature. Tablets are scored can be divided; crushed and mixed with a small amount of water or food –
Efavirenz (EFV)	Tablets must not be chewed, divided or crushed; swallow the tablet with or without food e.g. yoghurt or banana. Capsules may be opened and powder contents dispersed in water or mixed with a small amount of food (e.g. yoghurt) to disguise peppery taste. Ingest immediately. Best given at bedtime to reduce CNS side effects, especially during first 2 weeks

Practical advice for administration of ARVs in children	
Lopinavir/ritonavir (LPV/r) pellets, Aluvia® OR Kaletra®	<ul style="list-style-type: none"> • Dose is calculated on Lopinavir component. Solution is best taken with food as it increases absorption. If there is no food, then the patient can take the medicine without food. Solution should be refrigerated. If no fridge is available, it can be stored at room temperature of 25°C for 6 weeks. Techniques to increase tolerance & palatability: coat mouth with peanut butter, dull taste buds with ice, follow dose with sweet foods. • Tablets must not be chewed, divided or crushed; swallow with or without food. Many drug interactions
Nevirapine (NVP)	Once-daily dosing during the first 2 weeks of treatment reduces frequency of rash. If a mild rash occurs during the induction period, continue once daily dosing and only escalate dose to twice daily once the rash has subsided and the dose is well tolerated. NVP should be permanently discontinued and not restarted in children who develop severe rash, especially if accompanied by fever, blistering or mucosal ulceration. No food restrictions. Tablets can be crushed and mixed with a small amount of water or food and immediately ingested. Avoid NVP if rifampicin is being co-administered. Consider drug-drug interactions
Ritonavir (RTV)	Only recommended use at present is as a booster for Lopinavir/ritonavir when co-administered with rifampicin-containing TB treatment. Should be taken with food. May be stored at room temperature, limited shelf life of 6 months. May need to use techniques described for Kaletra® to improve tolerance of bitter taste
Zidovudine (AZT)	No food restrictions and oral solution may be stored at room temperature. Capsules may be opened and powder contents dispersed in water or mixed with a small amount of food (e.g. yoghurt) and immediately ingested. Currently available tablets are not scored.

2.4.2. HIV Clinical management for adolescents & Adults

Below are key considerations in clinical management of adolescents and adults living with HIV:

- ❖ Clinical and laboratory evaluations are the cornerstones of care and treatment of HIV positive adolescents and adults.
- ❖ Renal creatinine clearance is mandatory for adolescents and adults since they initiate with TDF based regimen.
- ❖ Viral load monitoring should be conducted at 6 months and at 12 months after ART initiation, and annually thereafter. DTG-based regimen remains the preferred first-line option.
- ❖ TDF/3TC/EFV600mg is the alternative first-line regimen for adults and adolescents who cannot take TLD
- ❖ DTG-based regimen is the preferred 2nd line option for patients failing a non-DTG 1st line regimen.
- ❖ For patients failing DTG-based regimen, specialist consultation and genotyping should be considered.
- ❖ PLHIV with advanced HIV disease should be offered a package of interventions including screening, treatment and/or prophylaxis for major OIs, rapid ART initiation and intensified adherence support.

- ❖ TB screening should be done at enrolment and at each clinical visit
- ❖ Cotrimoxazole should be given to patients with advanced diseases.

2.4.2.1. Initial clinical and laboratory evaluation

Clinical evaluation

- ❖ Present and past medical history
- ❖ Comprehensive physical examination
- ❖ WHO staging
- ❖ Drug history
- ❖ Sexual history
- ❖ Nutrition status assessment
- ❖ OI screening (e.g. TB)
- ❖ NCDs screening mainly (**Refer annex V**).
 - Cardiovascular disease: blood pressure, cardiomyopathies
 - Malignancies: cervical cancer, breast cancer
 - Metabolic diseases: diabetes, hyperlipidemia, hypocholesteremia
 - Mental health illness

Laboratory evaluation

Baseline:

- CD4 cell count,
- Cryptococcus antigen (if CD4 count < 200 cells/mm³)
- Renal function (creatinine and calculation of creatinine clearance)
- Hepatitis B surface antigen (Ag HBs)
- Hepatitis C antibody (HCV Ab)
- LFTs
- GeneXpert if TB screening is positive
- Additional investigations as clinically indicated

Creatinine clearance calculation

If creatinine machine reports in mg/dl:

$(140 - \text{age}) \times \text{weight (kg)}$
 ----- $\times 0.85$ for a woman and $\times 1$ for a man $72 \times \text{creatinine (mg/dl)}$

Or

If creatinine machine reports in $\mu\text{mol/L}$:

$(140 - \text{age}) \times \text{weight (kg)}$
 ----- $\times 0.85$ for a woman and $\times 1$ for a man $0.81 \times \text{creatinine } (\mu\text{mol/L})$

Interpretation of Renal Creatinine Clearance

- ❖ ≥ 90 ml/min. = Normal
- ❖ 60-89 ml/min = Mild renal insufficiency
- ❖ 30-59 ml/min = Moderate renal insufficiency
- ❖ ≤ 29 ml/min = Severe renal insufficiency

Note:

- ❖ If clearance > 50 mL/min, give TDF; if clearance < 50 ml/min, give ABC
- ❖ If decrease in creatinine clearance $\geq 15\%$, assess other possible causes, continue monitoring and consider switching to ABC at less than 50.

2.4.2.2. ART Regimen in adolescents and Adult

Table 20: ART Regimen in Adult

Treatment line	Preferred regimen	Alternative regimen
1 st line	2NRTI+1 Integrase Inhibitor	2NRTI +1NNRTI
2 nd line	2NRTI+ 1PI	2NRTI +1 Integrase Inhibitor
3 rd line	Optimized NRTI or ETV+1PI+1 Integrase Inhibitor based on genotyping results	

First line ART regimen options

There are two options recommended in first line regimen:

1. DTG-based
2. NNRTI-based

Preferred 1 st line regimen	Alternative 1st line regimen
*TDF/3TC/DTG	*TDF/3TC/EFV600
Note: *If TDF is contraindicated, replace with ABC.	

✚ Dosage and administration of first-line regimen

Table 21: Dosage and administration of first-line regimen

Molecule	Dosage
Tenofovir (TDF)	300 mg once a day
Abacavir (ABC)	300 mg twice a day or 600 mg once a day
Lamivudine (3TC)	300 mg once a day
Dolutegravir (DTG)	50 mg once a day
Efavirenz (EFV)	600mg once evening

✚ Prescription of ART first line regimen

1. TDF/3TC/DTG (300/300/50 mg) (OD)
2. ABC/3TC (600/300 mg) + DTG (50 mg) (OD)
3. TDF/3TC/EFV (300/300/400mg)
4. ABC/3TC (600/300mg) + EFV 600mg

Notes:

- ❖ Encourage taking EFV based regimens in the evening before 8:00 pm to minimize dizziness
- ❖ Patients with EFV associated side effects should be advised to take it either 1-2 hours before or after meals to minimize side effects

2.4.2.3. Management of treatment failure among adolescents and adults

- ❖ The monitoring of ART response and identification of treatment failure are the same as for children
- ❖ For early management of treatment failure as well as second line treatment failure refer to the treatment failure algorithm in children section.

2.4.2.4. Recommended regimens for second-line ART

Table 22: Recommended regimens for 2nd line ART in adults after failure of specific first line regimens

Failing first line	Preferred 2 nd line	Alternative 2 nd line
TDF/ABC+3TC+DTG	AZT+3TC+ATV/r (LPV/r)	Consider specialist consultation and/or genotyping
TDF/ABC+3TC+EFV	AZT+3TC+DTG	AZT+3TC+ATV/r(LPV/r)
TDF/ABC+3TC+ PIs	AZT+3TC+DTG	

Note: Genotyping test may be necessary

Consider specialist consultation and/or genotyping

Note:

- If TDF is contraindicated, replace with ABC.
- **In case of Hepatitis B co-infection, maintain TDF: TDF + AZT/3TC + ATV/r or LPV/r**

+ Dosing of second line ART in adolescent and adult

Molecules	Dosage
DTG 50 mg	50mg once a day
ATV/r 300 mg/100 mg (FDC)	300/100 mg orally once a day
LPV/r 200/50 mg	200/50 mg 2 tablets twice a day
AZT/3TC 300/150 mg	300/150 mg twice a day

Notes:

- For TDF and ABC refer to the dosing table for the first line regimen
- Any patient on the second line with VL > 1,000 copies/ml based on two consecutive viral load measurements after 3 months of enhanced counselling and corrected adherence is eligible for genotyping to decide on the appropriate third line regimen.

2.4.2.5. Recommended regimens for third-line ART

- DTG 50mg BID + Darunavir/ritonavir + Optimized NRTI or Etravirine can be used based on genotyping results
- The 3rd line regimen must only be given upon expert consultation and usually with the assistance of genotyping results.
- Before prescribing third-line therapy, the patient must undergo extensive additional adherence counselling and should have a treatment partner involved in adherence assistance. Adherence counselling is critical to the success of this regimen.
- NRTI backbone may be necessary based on genotyping test or in case of Hepatitis B co-infection.

Table 23: Dosing of third line drugs in adolescent and adult

Molecules	Dosage
Dolutegravir	50mg twice a day
Raltegravir	400 mg twice a day
Ritonavir	100 mg twice a day

Darunavir	600 mg twice a day
Etravirine	200 mg twice a day

2.4.2.6. Monitoring of adolescents and adults on ART

Clinical evaluation and laboratory tests play a key role in assessing adolescents and adults before ART initiation, and then monitoring their treatment response as well as possible toxicity of antiretrovirals. Note that once started, ART is a treatment for life but should be changed in the following cases:

- **Drug toxicity**
- **Drug-drug interactions**
- **Co-infection**
- **Treatment failure confirmed by viral load**

Table 24: Recommendations on Patient Monitoring

Period	Laboratory	Clinical	Psycho
	Creatinine, CD4, chest X-R,]GeneXpert, HBsAg, HBV viral load if HBsAg is positive, HCV Ab, HCV viral load if HCV Ab is positive, CrAg if CD4<200cells/mm ³ , LFTs if DTG	TB, STIs and NCDs screening	✓
M1	Creatinine (clearance) if TDF	TB, STIs and NCDs screening	✓
M2	None	TB, STIs and NCDs screening	✓
M3	Creatinine (clearance) if TDF	TB, STIs and NCDs screening	✓
M6	VL, creatinine (clearance) if TDF, LFTs if DTG or VH coinfection	TB, STIs and NCDs screening	✓
M12	VL, creatinine (clearance) if TDF, LFTs if DTG (yearly)	TB, STIs and NCDs screening	✓

Notes:

- **The follow up of CD4 count should be done whenever clinically indicated.**
- **For STIs management, refer to national guidelines for STIs and hepatitis**

2.4.3. Management of Advanced HIV Disease

Advanced HIV disease is defined as HIV infected adults, adolescents, and children ≥ five years with a CD4 cell count <200 cells/mm³ or a WHO clinical stage 3 or 4 event, and all children younger than five years old who have HIV. Recent studies estimate that about 30-40% of people living with HIV (PLHIV) starting ART in low- and middle-income countries (LMICs) have a CD4 cell count of less than 200 cells/mm³, and 20% have a CD4 cell count of less than 100 cells/mm.

In Rwanda, People with advanced HIV disease are at significantly higher risk of opportunistic infections and death due to advanced immunosuppression, with risk increasing with decreasing CD4 cell count especially with CD4 cell count < 100 cells/mm³. Leading causes of mortality among adults with advanced HIV disease globally include tuberculosis (TB), severe bacterial infections, cryptococcal meningitis, toxoplasmosis and Pneumocystis jirovecii pneumonia. Among children, TB, severe bacterial infections, Pneumocystis jirovecii pneumonia, diarrheal diseases, malnutrition and wasting are the leading causes of death.

It is important to identify persons with advanced HIV disease and institute strategies to reduce morbidity and early mortality among PLHIV with advanced disease. Individuals presenting or returning to care with advanced HIV disease represent one of the groups for which WHO recommends a differentiated package of care to reduce morbidity and mortality. Below Table outlines the components of the package of care.

Table 25: Components of the package of care interventions for advanced HIV disease

Areas for the package	Intervention	CD4 cell count or WHO staging	Adults and adolescents	Children
Screening and diagnosis	Sputum Xpert MTB/RIF as first test for TB diagnosis in symptomatic patients	Any	Yes	Yes
	Urine LF-LAM for TB diagnosis in patients with symptoms and signs of TB	≤100 cells/mm ³ or at any CD4 cell count value if seriously ill, can consider for CD4 <200 cells/mm ³	Yes	Yes*
	Cryptococcal antigen (CrAg) screening	≤ 100 cells/mm ³ , can consider if <200 cells /μL***	Yes	No
Prophylaxis and presumptive treatment	Co-trimoxazole prophylaxis	≤350 cells/mm ³ or WHO clinical stage 3 or 4 event. Any CD4 cell count value in settings with high prevalence of malaria and/or severe bacterial infections or per national guidelines	Yes	Yes**
	TB preventive treatment	Any	Yes	Yes
	Fluconazole pre-emptive therapy for CrAg-positive patients without evidence of meningitis	< 100 cells/mm ³ , can consider if <200 cells/mm ³	Yes	Not applicable (screening not advised)
	Rapid ART initiation	Any	Yes	Yes
ART initiation	Defer ART initiation if clinical signs and symptoms are suggestive of TB or cryptococcal meningitis	Any	Yes	Yes
Adapted adherence support	Tailored counselling to ensure optimal adherence to advanced disease care package, including home visits if feasible	< 200 cells/mm ³ or stage 3 or 4 disease	Yes	Yes

- For children <12 months of age, only those with a history of TB contact should receive TB preventive treatment if the evaluation shows no active TB disease.
- Limited data available for children
- Priority should be given to all children less than 5 years old regardless of CD4 cell count or clinical stage, and those with severe or advanced HIV clinical disease (WHO clinical stage 3 or 4 event and/or those with CD4 \leq 350 cells/mm³).
- Co-trimoxazole, isoniazid and pyridoxine are available as a fixed-dose combination tablet.
- Urine LF-LAM: lateral flow urine lipoarabinomannan assay. PEPFAR also recommends Urine LAM testing for those with CD4 \leq 200 cells/mm³ in addition to those who are seriously ill.
- WHO Cryptococcal guidelines now includes a consideration for CrAg screening for those with CD4 <200 cells/mm³.

2.6. PREVENTION, SCREENING AND MANAGEMENT OF CO-INFECTIONS AND OPPORTUNISTIC INFECTIONS

2.6.1. HIV-TB co-infection

Tuberculosis remains the most important opportunistic infection among PLHIV in Rwanda. Based on the WHO estimate for 2017, there were 1,500 (980 to 2,200) HIV associated TB incident cases in Rwanda which represents a rate of 12 TB cases per 100,000 population. Also, in 2017 HIV prevalence was 22% among TB patients who know their HIV status.

To reduce TB morbidity and mortality among PLHIV the integration of TB prevention, diagnosis and treatment in HIV services is essential.

2.6.2. Screening and diagnosis of TB-HIV co-infection

All HIV-positive adolescents and adults should be screened for active TB infection at enrolment and regularly at each clinical encounter with a clinical algorithm using the following symptoms or signs:

1. Current cough
2. Fever
3. Night sweats
4. Weight loss
5. Contact with someone known to have TB

2.6.2.1. Tuberculosis preventive therapy (TPT)

Preventive therapy of Tuberculosis (TB) is the use of one or more anti-TB drugs given to individuals with latent Mycobacterium tuberculosis (M.tb) infection in order to prevent the progression to active TB disease. Isoniazid (INH) is the most common drug used because of its bactericidal action, low cost, and infrequent toxicity.

TB Preventive Therapy (TPT) significantly reduces the risk to develop active tuberculosis (TB) disease in people who are infected with MTB. According to a WHO systematic review of randomized controlled trials, TPT reduces overall risk of developing TB disease among PLHIV by 33%.

When symptomatic TB screening is negative, it is very unlikely that the patient has active TB. Further evaluation with chest radiograph is recommended to confirm the absence of presumptive active TB disease before initiation of TPT. All PLHIV who are screened TB negative are eligible to TPT.

Currently in Rwanda, the drug of choice for TPT is a fixed-dose combination of isoniazid 300/cotrimoxazole 960/pyridoxine 100mg for 6 months. The option of once weekly isoniazid and rifapentine for 3 months (3HP) could be considered when available.

2.6.3. TB infection control in HIV care and treatment settings

2.6.3.1. Treatment of TB-HIV co-infection

The following are national recommendations on TB-HIV management:

- The standard first-line anti-tuberculosis regimen in Rwanda is 2RHZE7/4RH7 (see Rwanda National TB Guidelines for detailed instructions regarding management of TB).
- TB-HIV co-infected patients on PI based ART regimen should receive anti TB treatment based on rifabutin to replace rifampicin
- Patients with MDR -TB should be referred to appropriate treatment centers
- TB-HIV co-infected patients should receive pyridoxine 25mg daily (100 mg daily for MDR-TB/HIV).

In co-infected patients, the priority is to begin TB treatment first based on patient’s clinical status and CD4 cell count. Time for ART initiation varies between 2 and 8 weeks as follows:

- CD4 cell count ≤ 50 : Start ART within 2 weeks
- CD4 cell count > 50 : Start ART between 2-8 weeks.

For more details on TB screening, diagnosis and management among HIV+ adolescents and adults, refer to the current algorithms of TB-HIV.

Table 26: Recommendations on TB-HIV Management

People on different ART regimens	ART regimens adjustment
TDF or ABC/3TC/DTG	DTG should be dosed twice daily (50mg BID) if rifampicin is used
TDF or ABC/3TC + EFV	No adjustment (EFV remains 600mg daily)
TDF or ABC or AZT/3TC + ATV/r or LPV/r	Substitute rifampicin with rifabutin
ETV + DRV/r +DTG/ RAL	Substitute rifampin with rifabutin

2.6.3.2. Cotrimoxazole prophylaxis

Based on the evidences and WHO recommendations, cotrimoxazole should be given to patients with advanced disease. The following are the new guidelines for cotrimoxazole prophylaxis eligibility in Rwanda:

1. All children HIV+ under five years (either as part of TPT or as separate cotrimoxazole).
2. On completion of TPT, the child will continue cotrimoxazole alone and stop at five years if virally suppressed.
3. All new patients (all ages) with baseline CD4 count less than 200 cells/mm³ up to suppression (VL<200 RNA copies/ml).
4. All existing patients of 5 years old and above not suppressing their viral load (VL>200 RNA copies/ml).
5. Cotrimoxazole shall be reintroduced in patients failing ART if CD4 count falls below 200 cells/mm³.

Note: Cotrimoxazole should be phased out to all 5+ years old existing patients with viral suppressions (VL<200 copies/ml).

2.7. KEY RECOMMENDATIONS FOR HIV CARE AND TREATMENT SERVICES

SDE

Rec. 1: Same-day enrollment and ART initiation among clients tested HIV+ is recommended to avoid lost to follow up between testing and care and treatment services, taking into consideration client readiness.

Treat
all

Rec. 2: The initiation of antiretroviral therapy (ART) for everyone living with HIV regardless of clinical stage and/or CD4 count ("Treat all" policy).

DTG

Rec. 3: Dolutegravir (DTG), an integrase inhibitor, based regimen is the preferred first line regimen for clients weighing at least 20 kg

CTX

Rec. 4: Cotrimoxazole for OI prophylaxis is indicated for all children below 5 years. new patients with advanced diseases (CD4 less than 200 cells/mm³ and/or WHO clinical stage 3 or 4) or existing patients with unsuppressed viral loads (more than 200 copies/ml)

TPT

Rec. 5: TPT is recommended for PLHIV who meet inclusion criteria

PS

Rec. 6: Psychosocial support for PLHIV is provided at both health facility and community level.

Adher
ence

Rec. 7: Adherence assessment and counseling support should be done at each visit.

DSDM

Rec. 8: Patients into visits categories according to their needs. All patients on ART The categorization will guide their clinic and drug pick-up appointment schedule

NACS

Rec. 9: Nutrition Assessment, Counseling and Support (NACS) should be done at every visit.

Under
3

Rec. 10: For children less than 3 years, LPV/r pellets formulation is preferred.

ANNEXES

Annex I: Accreditation Form



A Healthy People. A Wealthy Nation

INSTITUTE OF HIV/AIDS, DISEASE PREVENTION & CONTROL
HIV-AIDS, STIs & Other Blood Borne Infections Division

**FICHE DE DEMANDE D'ACCREDITATION DES
FORMATIONS SANITAIRES POUR LES
SERVICES VCT-PMTCT-ARV**

Version 2012

FORMULAIRE D'EVALUATION DES FOSA POUR ACCREDITATION

A. ACCREDITATION POUR LES SERVICES VCT

Critères	Situation du Site				Commentaires
Salle d'IEC Disponible	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Laboratoire Equipé pour les tests rapides	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Counselor formé Disponible	0	1	2	Autres	
Bureau de Counseling	0	1	2	Autres	
Laborantin Formé Disponible	0	1	2	Autres	

B. ACCREDITATION POUR LES SERVICES DE PMTCT/ARV

Critères	Situation du Site				Commentaires
Salle d'IEC Disponible	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Laboratoire Equipé pour les tests rapides	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Bureau de Counseling	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Bureau de Consultations Disponible	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Table d'examen dans le service PMTCT	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Service de dépistage de la TB Disponible	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Service de PF Disponible ?	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Examens Hématologiques faisables?	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
ALAT, ASAT faisables ?	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Créatinine faisable ?	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
CD4 Faisable ?	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Service d'hospitalisation disponible	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Incinérateur disponible et en bon état	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Electricité Disponible	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Disponibilité du Frigo	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Moyen de déplacement disponible	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Ordinateur disponible	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Pharmacie stock disponible et fonctionnel	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Pharmacie de distribution disponible	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Armoire Fermée pour les Dossiers	<input type="checkbox"/> Oui	<input type="checkbox"/> Non			
Médecins formés sur la PEC du VIH	0	1	2	Plus	
Infirmier Formé sur le TS	0	1	2	Plus	
Infirmiers formés sur la PEC du VIH	0	1	2	Plus	
Counselor formé Disponible	0	1	2	Plus	
AS formées sur la PEC du VIH	0	1	2	Plus	
Laborantin Formé Disponible	0	1	2	Plus	
Nombre de bureaux de consultation ARV	0	1	2	Plus	

2

CONCLUSION DE L'EVALUATION

Nous,

- 1)-----
- 2)-----
- 3)-----
- 4)-----
- 5)-----

Représentant l'Hôpital de _____,

Déclarons qu'après notre évaluation effectuée en date du ____ / ____ / ____ ;

Le Site de _____ peut démarrer les services de :

◇ VCT

◇ MTCT

◇

Chef d'Equipe des Evaluateurs : _____

Cachet et Signature

Date : ____ / ____ / ____

Autorisation de RBC/IHDPC/HIV Division : _____

Cachet et Signature

Date : ____ / ____ / ____

Annex II. Policy Statement of Quality of HIV Testing Services

The Ministry of Health through RBC is committed to support provision of high-quality HIV testing services at health facilities by ensuring the reliability and accuracy of test results as recommended by published WHO handbook on improving the Quality of HIV-Related Point-of-Care Testing. The RBC establishes procedures and processes for performing and improving the quality of HIV rapid testing sites. Those procedures include periodic provision of proficiency testing (PT) materials, timely feedback of performance to all testers and enforcement of corrective actions, periodic site audits of testing entry points using standardized checklist and continuous quality improvement with support of the Q-corps and a national certification framework of testers.

Annex III. Screening for IPV

IPV is one of the most common forms of gender-based violence (GBV). IPV is behaviour by an intimate partner that causes physical, sexual, or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse and controlling behaviours. This definition covers violence by both current and former spouses and other intimate partners. (WHO, 2013).

Other terms: domestic violence, wife or spouse abuse, wife/spouse battering.

Dating violence usually refers to intimate relationships among young people, which may be of varying duration and intensity, and do not involve cohabiting. (WHO, 2013).

Screening Questions for Intimate Partner Violence (IPV): The following questions are aimed at assessing the risk of partner violence toward the index client following notification.

1. ***Has (partner name) ever hit, kicked, slapped, or otherwise physically hurt you in the last 12 months?***

Yes No

2. ***Has (partner name) ever threatened to hurt you in the last 12 months (say physically, killing you, divorce or separation, chase you away from family home, withdraw financial support, or take away your children)?***

Yes No

3. ***Has (partner name) ever forced you to have sex?***

Yes No

The above questions should be asked for each partner. If the client answers “YES” to any of the question, the partner should not be notified

Annex IV: Management of opportunistic infections

A. Bacterial infection

1. Pneumococcal and other bacterial pneumonia	
Symptoms & Signs	Diagnostic Test(s)
<ul style="list-style-type: none"> Fever and productive cough of acute onset, pleuritic chest pain, malaise, chills and dyspnoea 	<ul style="list-style-type: none"> CXR Sputum microbiology, GeneXpert, culture & sensitivity
Clinical findings:	Treatment
<ul style="list-style-type: none"> Fever, signs of consolidation on the diseased side or simply crackles, low blood pressure, tachypnea, sometimes leading to confusion or decreased level of consciousness in advanced cases. 	<ul style="list-style-type: none"> The assessment of severity is important to decide about the right treatment. If the patient presents with 3 of severity signs, transfer to a facility with ventilation should be considered. O₂ and rehydration Analgesics and antipyretics Antibiotics
Mild to moderate:	If severe pneumonia:
<ul style="list-style-type: none"> Infants under 3 months: amoxicillin 30mg/kg/day BID Po for 7 days Children less than 40 kg (3 months -15years): amoxicillin 50mg/kg/day BID Po for 7 days Adult and children with more than 40 kg: amoxicillin 500 mg TDS Po X 7days 	<ul style="list-style-type: none"> Children: Amoxy-clavulinic acid 90mg/kg/day IV BID; not to exceed 4g/day or ceftriaxone IV 50-100mg/kg/day OD or cefotaxime IV 150-200 mg/kg/day divided in 4 doses Adult: Amoxy-clavulinic acid 1000/250 mg IV BID for 7-10 days or ceftriaxone IV 1g BID or cefotaxime IV 1g TDS

2. Miliary TB	
Symptoms & Signs	Diagnostic Test(s)
Fever, night sweats, weakness, weight loss, cough, dyspnoea, hepatomegaly, splenomegaly, lymphadenopathy, choroidal tubercles on eye examination.	<ul style="list-style-type: none"> CXR: Miliary pattern. Lab: Sputum ZN staining is negative in 80% Anaemia, leukopenia, DIC.
Treatment: 2 RHZE7 4RH7.	

3. Disseminated M. Avium Complex	
Symptoms & Signs	Diagnostic Test(s)
Fever, night sweats, weight loss, diarrhoea, abdominal pain, hepato-splenomegaly	Culture from non-pulmonary sterile site, AFB blood culture, biopsy from liver, bone marrow or lymph node, CD4 less than 100 cells (adult and children more than 5 years) or < 20% or less than 500 cells for children less than 5 years, elevated alkaline phosphatase and LDH
Treatment:	
Children: clarithromycin 15-30 mg/kg/day BID (note exceed 500mg) + ethambutol 15-25mg/kg/day once for 12 months	
Adult: clarithromycin 500mg BID Po + ethambutol 15 mg/kg/day once for 12 months	
<ul style="list-style-type: none"> • Criteria for prophylaxis: • Not active signs of MAC disease • CD4 less than 50 cells 	
Adult: clarithromycin 1200 mg/week	
<ul style="list-style-type: none"> • Note that prophylaxis can be discontinued if CD4 are more than 100 cells for adult and children more than 5 years, and CD4 more than 200 cells for children less than 5 years and at least 6 months on ARVs. Check CD4 count every 6 months. • ARV simultaneously or in 1-2 weeks 	

4. Pulmonary TB (refer TB/HIV sections)

B. Viral infection

1. Oral Hairy Leucoplakia	
Symptoms & Signs	Diagnostic Test(s)
<ul style="list-style-type: none"> • White asymptomatic lesion with corrugated surface • Very often on lateral surface of the tongue. 	Diagnosis is clinical. EBV may be detected but is of little clinical value.
Treatment	
<ul style="list-style-type: none"> • Indicated if children < 12 years: 20 mg/kg/dose 5x/day for 2 to 3 weeks • > 12 years: 10mg/kg/dose 5x/day for 2 to 3 weeks • Adult: Acyclovir 800mg Po 5x/day for 2 to 3 weeks ARV 	

2. Herpes Zoster (Zona)	
Symptoms & Signs	Diagnostic Test(s)
<ul style="list-style-type: none"> • Lesions are vesicles, painful and involve several dermatomes • Lesions can take a long time to heal when they become necrotic. • They can show secondary infection and deep scarring. • Zoster ophthalmic is when the ophthalmic branch of the trigeminal nerve is involved and cause corneal scarring with loss of vision in that eye. 	<ul style="list-style-type: none"> • Based on clinical symptoms and signs. • A Tzanck test show multinucleated giant cells with inclusion bodies which are pathognomonic.
Treatment:	
Children:	
<ul style="list-style-type: none"> • < 12 years: Acyclovir 20mg/kg/dose 5x/day for 7 to 10 days • > 12 years: Acyclovir 10mg/kg/dose 5x/day for 7 to 10 days 	

Adult:

- Acyclovir 10mg/kg IV every 8 hours for 7-10 days (encephalitis: 21days) or Acyclovir 800mg PO 5 times daily for 7 to 10 days
- + Systemic antibiotics
- + Analgesics for pain and fever
- + Non-steroidal anti-inflammatory drugs (NSAID) or carbamazepine 200-600mg daily or amitriptyline 25-75 mg (effective in controlling post –zoster neuralgias)

3. Disseminated CMV**Symptoms & Signs**

Retinitis, esophagitis, colitis, encephalitis, polyradiculomyelopathy, pneumonitis, pancytopenia

Diagnostic Test(s)

Fundoscopy, biopsy, CSF

Treatment

- Adult and children: ganciclovir 5 mg/kg IV BD for 3-4 weeks
- Add foscarnet 60 mg/kg/day TDS if CNS signs

4. Progressive Multifocal Leukoencephalopathy (PML)**Symptoms & Signs**

- Cognitive disorder ranges from mild impairment of concentration to dementia.
- Insidious onset.
- Focal neurological deficit seizures, loss of sensation.
- Fever and headache are rare.

Diagnostic Test(s)

- Initial recognition of PML relies on a combination of clinical and neuro imaging findings. The first step is usually identifying the clinical picture of steady progression of focal neurological deficits. CT scan may be helpful but MRI is the best imaging modality to exclude other pathologies
- CSF: elevated protein

Treatment: ARVs.**5. Herpes Simplex****Symptoms & Signs**

- Orolabial herpes (e.g., cold sores, fever blisters) is the most common manifestation of HSV-1 infection. Classic manifestations include a sensory prodrome in the affected area, rapidly followed by the evolution of lesions from papule to vesicle, ulcer, and crust stages on the lip. The course of illness in untreated patients is 5 to 10 days but may be chronic in immunosuppressed. Lesions recur 1 to 12 times per year and can be triggered by sunlight or physiologic stress.
- Genital herpes is the most common manifestation of HSV-2 infection. Typical genital mucosal or skin lesions evolve through stages of papule, vesicle, ulcer, and crust.

Diagnostic Test(s)

Clinical examination or HSV DNA polymerase chain reaction (PCR), and viral culture are preferred methods for diagnosis of mucocutaneous HSV lesions caused by HSV.

Treatment**Orolabial and genital lesions (duration: 5–10 days)**

- Children less than 45kg: acyclovir 20 mg/kg/day Po TID (not to exceed 400 mg)
- Adult and children more than 45kg: acyclovir 400 mg PO TID (AIII)

Severe Mucocutaneous HSV Infections (AIII)

- For adult and children, initial therapy acyclovir 5 mg/kg IV TID
- After lesions begin to regress, change to oral therapy as above.
- Continue treatment until lesions have completely healed

6. Kaposi's sarcoma	
Symptoms & Signs	Diagnostic Test(s)
<ul style="list-style-type: none"> Hyper pigmented nodules, purpuric or erythematous plaques sometimes progressing to ulcerative lesions on the face, trunk, limbs, or oral cavity. They are usually asymptomatic and neither painful nor pruritic. Lymphadenopathy may be present and bulky Visceral involvement may lead to respiratory, GIT, pericardial or ocular symptoms 	Clinical diagnosis, histology by biopsies if available
Treatment	
<ul style="list-style-type: none"> ARVs Bleomycin for visceral involvement 	
<p>Children: 15IU/m²/week IV/IM/SC for 3 weeks then twice a month for 3 months</p> <p>Adult: 0.25-5 UI/kg/week IV/IM/SC for 3 weeks then fortnightly twice a month for 3 months</p>	

7. Lymphomas (Non Hodgkin Lymphoma)	
Symptoms & Signs	Diagnostic Test(s)
NHL B cell types, stage 4 disease with B symptoms, weight loss, fever, hepatic dysfunction, lymphadenopathy, marrow failure, lung disease and effusion, CNS signs.	Biopsy
Treatment	
<ul style="list-style-type: none"> Chemotherapy: CHOP Cyclophosphamide, Doxorubicin, Vincristine, Prednisone 	

C. Parasitic infections

1. Pneumocystis Jirovecii Pneumonia (PJP)	
Symptoms & Signs	Diagnostic Test(s)
<ul style="list-style-type: none"> • Sub-acute onset of shortness of breath • Dry cough • Fever, fatigue, chest pain • HIV + with low CD4 count 	<ul style="list-style-type: none"> • Hypoxia (low saturation on walking) • Elevated LDH: sensitive but not specific • CXR: usually a diffuse, bilateral interstitial pattern, pneumothorax • CXR normal in early disease in up to 10 to 20% • Sputum induction and staining
Clinical Findings:	
<ul style="list-style-type: none"> • Fever • Tachypnea • Tachycardia • Normal chest exam in 50%, rales/ rhonchi • Cyanosis 	
Treatment	
<ul style="list-style-type: none"> • Oxygenation • Rehydration 	
For moderate to severe PJP - total duration = 21 Days (All):	
<p>Preferred therapy:</p> <ul style="list-style-type: none"> • Children: TMP-SMX (TMP 15–20 mg/day but not exceed 300 mg IV given q6h (AI), may switch to PO after clinical improvement (AI) • Adult: TMP-SMX (TMP 15–20 mg/day IV given q6h (AI), may switch to PO after clinical improvement (AI) 	
<p>Alternative Therapy:</p> <ol style="list-style-type: none"> 1. Pentamidine: Adult and children more than 4 months: 4 mg/kg IV/IM once daily (AI); may reduce the dose to 3 mg/kg IV once daily because of toxicities (BI) or 2. Primaquine 	
<p>For adult only: 15-30 mg (base) PO once daily + (clindamycin IV 30 mg/kg/day TID or PO 450 mg 4 times a day] (AI)</p> <p>**Adjunctive corticosteroid may be indicated in some moderate to severe cases (see indications and dosage recommendations below)</p>	
For Mild to Moderate PJP - total duration = 21 days (All):	
<p>Preferred Therapy:</p> <p>Adult and children: IV TMP-SMX: (TMP 15–20 mg/kg/day TID (AI) or TMP-SMX DS (960Mg) - 2 tablets TID (adult)(AI).</p>	
<p>Alternative Therapy:</p> <ol style="list-style-type: none"> 1. Dapsone: Children more than 1 month: 2mg/kg /day for 21 day Adult and adolescent: 100 mg PO daily for 21 days 2. Primaquine: For adult only: 30 mg (base) PO daily + Clindamycin PO (450 mg 4 times a day) (BI) or adjunctive 	
<p>Corticosteroids:</p> <p>For moderate to severe PJP based on the following criteria:</p> <p>2 < 90%, beginning as early as possible and within 72 hours of PJP therapy) (AI)</p> <p>isone tablet:</p> <ul style="list-style-type: none"> • Children less than 13 years: <ul style="list-style-type: none"> ✓ 1-5 days: 1mg/kg BID ✓ 6-21 days: 0.5mg/kg OD • Adult and Children more than 13 years: <ul style="list-style-type: none"> ✓ 1-5 days: 40mg PO BID, 6-10 days: 40mg OD, 11-21 days: 20 mg OD or IV methylprednisolone IV 75% prednisone dosing for adult ✓ IV methylprednisolone for children: ✓ 1-7 days: 1mg/kg q6hr, 8-9 days: 1mg/kg OD, 10-11days: 0.5 mg/kg BID, 12-16 days: 1mg/kg OD 	

2. Cerebral Toxoplasmosis/ Toxoplasma Gondii Infection	
Symptoms & Signs	Diagnostic Test(s)
<ul style="list-style-type: none"> Focal neurological signs (hemiparesis/hemiplegia) Cognitive dysfunction Seizures Headache and fever Symptoms of diffuse encephalopathy Meningeal irritation is less frequent Sometimes signs of raised ICP (papilledema/vomiting) 	<p>LP:</p> <ul style="list-style-type: none"> CSF may be normal or nonspecific (mild mononuclear pleocytosis and mild to moderately elevated protein). Toxoplasma antibody absence has a high negative predictive value of 94-97%. CT scan brain with contrast
Treatment:	
<p>Preferred Regimen (AI):</p> <ul style="list-style-type: none"> Cotrimoxazole Children: TMP-SMX: TMP 15–20 mg/day but not exceed 300 mg IV given q6h (AI) for 6 weeks Adult: 960 mg PO TID or TMP-SMX IV as: TMP 15–20 mg /day IV given q6h for 6 weeks <p>Adult and children more than 13 years: Prednisone tablet:</p> <ul style="list-style-type: none"> 1-5 days: 40 mg PO BID 6-10 days: 40 mg OD 11-21 days: 20 mg OD or IV methylprednisolone IV 75% prednisone dosing 	
Antiepileptic in case of seizure:	
<p>Children:</p> <ul style="list-style-type: none"> Phenytoin 15-20 mg/kg as loading dose Maintenance: 4-8mg/kg/day BID <p>Adult:</p> <ul style="list-style-type: none"> Phenytoin 300 mg OD 	

D. Fungal infections

1. Cryptococcal meningitis	
Symptoms & Signs	Diagnostic Test(s)
<ul style="list-style-type: none"> Insidious onset of fever, malaise Headache with/without vomiting Diplopia, blurry vision 	<ul style="list-style-type: none"> CT scan brain Lumber puncture and India ink staining, Cryptococcal Ag testing (serum and CSF)
Clinical Findings:	
<ul style="list-style-type: none"> Features of AIDS, neck stiffness, behaviour changes, confusion and sometime seizures, bulging optic disc 	
Treatment	
<p>Scenario 1: If patient has symptoms and CrAg is positive or/and cerebrospinal fluid analysis is suggestive: Treatment for cryptococcal meningitis consists of 3 phases: induction, consolidation, and maintenance therapy.</p>	
1. Induction Therapy:	
<p>Preferred regimen:</p> <ul style="list-style-type: none"> One week of amphotericin B 1mg/kg/day + flucytosine (100mg/kg/day in four divided doses per day) <p>Alternate regimens:</p> <ul style="list-style-type: none"> Two weeks of fluconazole (1200 mg daily for adults, 12 mg/kg/day for children and adolescents) + flucytosine (100 mg/kg/day, divided into four doses per day) Two weeks of amphotericin B deoxycholate (1.0 mg/kg/day) + fluconazole (1200 mg daily for adults, 12 mg/kg/day for children and adolescents up to a maximum of 800 mg daily) 	

- Fluconazole monotherapy is no longer recommended for cryptococcal meningitis
- Repetitive lumbar punctures to decrease Intracranial pressure.
- Antiepileptic if seizures.
- Management of coma if comatose

2. Consolidation therapy for at least 8 weeks: To begin after induction therapy (defined as substantial clinical improvement and a negative CSF culture after repeat LP)

Regimen: Fluconazole (800 mg daily for adults, 6–12 mg/kg/day for children and adolescents up to a maximum of 800 mg daily)

3. Maintenance Therapy

Regimen: Children: 3mg/kg Po daily for at least 1 year Adult; Fluconazole 200mg PO for at least 1 year

4. Stopping Maintenance Therapy

If the following criteria are fulfilled: Completed initial (induction, consolidation) therapy, and at least 1 year on maintenance therapy, and remains asymptomatic from cryptococcal infection, and CD4 count ≥ 200 cells/mm³ for ≥ 3 months for adult or $\geq 20\%$ for children and suppressed HIV RNA in response to effective ART.

Note: Corticosteroids and mannitol are ineffective in reducing ICP and are NOT recommended

Scenario 2: If patient has no symptoms and CrAg is positive:

Induction phase:

Children: fluconazole 12mg/kg daily for 2 weeks
 Adolescents: fluconazole 12mg/kg daily for 2 weeks
 Adults: fluconazole 800 mg daily for 2 weeks.

Consolidation phase:

- Children: fluconazole 6mg/kg daily for 8 weeks
- Adolescents: fluconazole 6-12mg/kg daily for 8 weeks
- Adults: fluconazole 400 mg daily for 8 weeks

Maintenance phase:

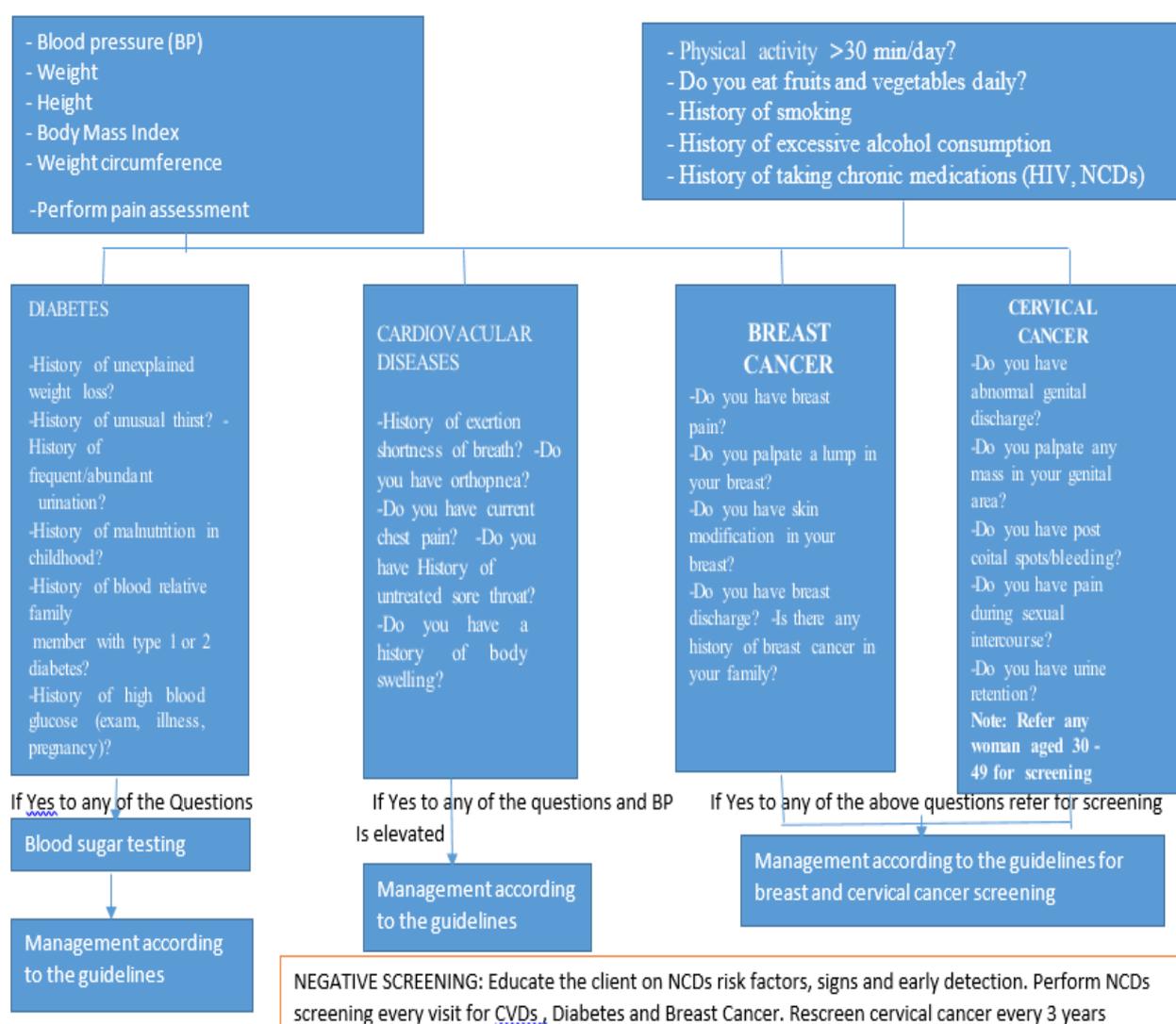
- Children: fluconazole 3mg/kg/daily CD4 $>20\%$ for 1 year on ART
- Adolescents and adults: fluconazole 200 mg daily until CD4 >200 for 1 year on ART

Note:

- Perform ASAT/ALAT every 2 weeks if fluconazole ≥ 800 mg /day for adult and > 6 mg/kg for children
 - Avoid combination of fluconazole with NVP - use EFV
 - Do not use fluconazole in the first trimester of pregnancy
- Rifampicin decreases fluconazole concentration: increase fluconazole from 800 to maximum dose (1200 mg) and double dosing if maintenance.
 - If relapse (documented previous sterile culture), reinstitute induction therapy with amphotericin 1mg/kg/day + fluconazole 800mg –1200mg for 2 weeks and then continue with consolidation therapy

2. Candida Esophagitis/Mucosal Candidiasis	
Symptoms & Signs	Diagnostic Test(s)
Diffuse retrosternal pain, dysphagia, odynophagia, thrush.	Oral thrush and retrosternal chest pain.
Treatment:	
Children: 3mg/kg/day OD PO for 2-3 weeks Adult: fluconazole 200 mg OD PO for 2-3 weeks.	
Uncomplicated vulvovaginal candidiasis preferred therapy: <ul style="list-style-type: none"> • Oral fluconazole 150 mg for 1 dose; • Topical azoles (clotrimazole, butoconazole, miconazole, tioconazole, or terconazole) for 3–7 days 	

Annex V. Screening and Management of most frequent Non-Communicable Diseases



Annex VI: Management of side effects

A. Evaluation of Dermatological Toxicity

Grading and evaluation of dermatological toxicity

Grade 1	Grade 2	Grade 3	Grade 4
Erythema, pruritus	Widespread maculopapular eruptions of dry desquamation	Appearance of blisters or humid desquamation or ulceration or association with fever or pain	Appearance of the following signs: affect the mucosa, Stevens Johnson syndrome, erythema multiform, necrosis, or exfoliative dermatitis.

Note: The suspected molecule will be stopped only if the toxicity is \geq Grade 3.

B. Evaluation of Hepatotoxicity

Grading and evaluation of hepatotoxicity

	Normal	Grade 1	Grade 2	Grade 3	Grade 4
ALAT (SGPT) (U/l)	< 40	50-100	100-200	200-400	>400

Biological toxicity and ART switching indications

Laboratory exam	Indication of switch (grade 3 of toxicity)
Hemoglobin	< 6,9 g/dl
Neutrophil	< 749/mm ³
Platelet	< 49999/mm ³
Sodium	< 122 mmol/L or > 159mmol/L
Potassium	< 2,4 mmol/L or > 6,6mmol/L
Bilirubin	> 2,5 times the normal
CrCl	< 50 ml/min or loss of 15% of CrCl baseline
Glucose	<0,39 g/L or > 2,51 g/L (for not diabetic fasting)
Amylase lipase	> 5 times the normal

✚ ART side effects

Molecule	Major Type of Toxicity	Suggested Management
Tenofovir Disoproxil Fumarate (TDF)	<ul style="list-style-type: none"> • Tubular renal dysfunction • Fanconi syndrome • Decreases in bone mineral density • Lactic acidosis or severe hepatomegaly with steatosis 	<ul style="list-style-type: none"> • If TDF is being used in first-line ART, substitute with AZT or ABC • Use alternative drug for hepatitis B treatment (such as entecavir) to avoid hepatic flares if TDF is replaced due to toxicity
Abacavir (ABC)	<ul style="list-style-type: none"> • Hypersensitivity reaction • Gastrointestinal intolerance 	<ul style="list-style-type: none"> • If ABC is being used in first-line ART, substitute with TDF • If ABC is being used in second line ART, substitute with TDF
Zidovudine (AZT)	<ul style="list-style-type: none"> • Anemia, neutropenia • Myopathy • Lipoatrophy or lipodystrophy • Lactic acidosis 	<ul style="list-style-type: none"> • If AZT is being used in first-line ART, substitute with TDF or ABC • If AZT is being used in second-line ART, seek expert opinion

Molecule	Major Type of Toxicity	Suggested Management
Efavirenz (EFV)	<ul style="list-style-type: none"> • Persistent central nervous system toxicity (such as abnormal dreams, depression or mental confusion, convulsions) • Hepatotoxicity • Gynecomastia • Hypersensitivity reaction, Stevens-Johnson syndrome 	Substitute with DTG or PIs
Etravirine (ETV)	Severe skin and hypersensitivity reactions	<ul style="list-style-type: none"> • Seek expert opinion • Do not combine with NVP, EFV and Atazanavir
Raltegravir (RAL)	<ul style="list-style-type: none"> • Rhabdomyolysis, myopathy, myalgia 	<ul style="list-style-type: none"> • Seek expert opinion • Do not combine with: rifampicin, phenytoin, and phenobarbital.
Dolutegravir (DTG)	<ul style="list-style-type: none"> • Hypersensitivity, skin rash, hepatotoxicity • Slightly increased risk of neural tube defects 	If first or second line based, switch with NNRTI or PIs
Atazanavir (ATV)	<ul style="list-style-type: none"> • Indirect hyperbilirubinemia (clinical jaundice) • Nephrolithiasis and risk of prematurity • Rash 	Switch with LPV/r or DRV/r. If boosted PIs are contraindicated and NNRTIs have failed in first-line ART, consider integrase inhibitors
Darunavir (DRV)	Skin rash (10%) and Stevens Johnson syndrome have been reported in some cases. Hepatotoxicity, diarrhoea, nausea, headache, hyperlipidaemia,	<ul style="list-style-type: none"> • Do not combine with: rifampicin, astemizole, alfuzosin and in case of severe liver failure do not adjust • Do not use with pregnant women • If DRV/r is being used in second line ART, substituting with ATV/r or LPV/r can be considered. When it is used in third-line ART, limited options are available, seek expert opinion

Molecule	Major Type of Toxicity	Suggested Management
Lopinavir (LPV)	<ul style="list-style-type: none"> • Electrocardiographic abnormalities (PR and QT interval prolongation, torsades de pointes) • Hepatotoxicity • Pancreatitis, lipoatrophy or metabolic syndrome, dyslipidaemia or severe diarrhoea • Risk of prematurity 	<ul style="list-style-type: none"> • If LPV/r is used in first-line ART for children, use an age-appropriate NNRTI (NVP for children younger than 3 years and EFV for children 3 years and older). • ATV can be used for children older than 6 years • If LPV/r is used in second-line ART for adults, use ATV/r or DRV/r. • If boosted PIs are contraindicated and the person has failed on treatment with NNRTI in first-line ART, consider integrase inhibitors, seek expert opinion
Ritonavir (RTV)	<ul style="list-style-type: none"> • Gastro-intestinal discomfort (Diarrhoea, nausea, vomiting) • Paraesthesia, hyperlipidaemia (especially hypertriglyceridemia) • Hepatitis, asthenia, sweetness disturbance; hyperglycaemia, fat redistribution; probability of worsening bleeding with hemophilia. 	Switch PIs with integrase inhibitors
Cotrimoxazole (CTX)	<ul style="list-style-type: none"> • Anaemia, neutropenia • Severe skin rash • GI Intolerance (nausea, vomiting) • Hepatotoxicity 	<ul style="list-style-type: none"> • Switch with dapsone or clindamycin + primaquine • Desensitization

Annex VII. Drugs That Should Not Be Used with Selected Antiretroviral Agents due to Proven or Predicted Pharmacokinetic Interactions

ARVs	Cardiac Agents	Lipid Lowering Agents	Anti- infective Agents	Antiepileptic Agents	Neurologic Agents	HCV Agents	Other Agents
ATV/r	Eplerenone Ivabradine	Lovastatin Simvastatin	Rifampin Clarithromycin	ATV only: Carbamazepine Phenobarbital Phenytoin	Lurasidone Midazolam Pimozide Triazolam	Elbasvir/ Grazoprevir	PPIs, sildenafil for PAH corticosteroids: (local injections, including intra-articular, epidural, intra-orbital) methylprednisolone, prednisolone, triamcinolone
DRV/r	Dronedaron Eplerenone Ivabradine	Lovastatin Simvastatin	Rifampin Clarithromycin	DRV/c only: Carbamazepine Phenobarbital Phenytoin	Lurasidone Midazolam Pimozide Triazolam	Dasabuvir Elbasvir/ Grazoprevir	
LPV/r	Dronedaron Eplerenone Ivabradine Ranolazine Propafenone Quinidine Ranolazine	Lovastatin Simvastatin	Rifampin Clarithromycin	None	Lurasidone Pimozide Triazolame	Dasabuvir Elbasvir/ Grazoprevir Ombitasvir Paritaprevir Simeprevir	
EFV	None	None	None	Carbamazepine Phenobarbital Phenytoin one	Midazolam Triazolam	Dasabuvir Elbasvir/ Grazoprevir Ombitasvir Paritaprevir Simeprevir	
ETV	None	None	Rifampin	Carbamazepine Phenobarbital Phenytoin one	None	Dasabuvir Elbasvir/ Grazoprevir Ombitasvir Paritaprevir Simeprevir	Clopidogrel
DTG	Dofetilide	None	Rifapentine	Carbamazepine Phenobarbital Phenytoin Oxcarbazepine	None	None	None
RAL	None	None	None	None	None	None	
TDF						Ledipasvi/ Sofosbuvir	Al- Mg hydroxide antacids

www.moh.gov.rw | www.rbc.gov.rw

