



Republic of Rwanda
Ministry of Health



GUIDELINES FOR HIV PREVENTION, TREATMENT AND CARE IN RWANDA

Edition 2022

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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
AGYW	Adolescent girls and young women
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 counselling 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	Provider 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
SDC	Sero-discondant couple
SGBV	Sexual Gender Based Violence
STIs	Sexual Transmitted Diseases
TAT	Turn Around Time
TB	Tuberculosis
TDF	Tenofovir
TLD	Tenofovir – Lamivudine – Dolutegravir
TLE	Tenofovir – Lamivudine – 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
VMMC	Voluntary Male Circumcision
VPD	Vaccine-Preventable Diseases Division
VZV	Varicella Zoster Virus
WHO	World Health Organization

Definition of key terms

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

- **A child:** a child is a person younger than 15 years old.
- **An adolescent:** This is a transitional phase between childhood and adulthood of a person whose age ranges between 10-19 years old inclusive
- **An adult:** an adult is a person aged 15 years and above
- **Adolescent girls and young women:** Any person defined biologically with female sex aged between 10-24 years of age
- **Female sex worker:** A self-reported women receiving money or goods in exchange for sexual services, either regularly or occasionally". It is important to note that sex work is consensual sex between adults, which takes many forms, and varies between and within countries and communities. Sex work may vary in the degree to which it is more or less "formal" or organized
- **Differentiated service Delivery (DSD) Model:** According to WHO DSD is "A person-centered approach that simplifies and adapts HIV services across the cascade in ways that both serve the needs of people living with and vulnerable to HIV and optimize available resources in health systems"
- **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 *less or below* 1000 HIV RNA 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 undetectable viral load is defined as VL results under 20 or 40 copies/ml depending on testing platform used (Roche COBAS4800/6800 and Abbott m2000sp). It does not mean the virus is fully cleared from the body or someone is cured from HIV.
- **Confirmed treatment failure:** Confirmed treatment failure is defined, referenced to the current WHO virological criteria for treatment failure, as two consecutive viral load tests ≥ 1000 HIV RNA copies/ml after 3 months with intensive adherence support.
- **Advanced HIV disease (ADH):** Advanced HIV disease is defined as CD4 cell count < 200 cells/mm³ or WHO stage 3 or 4 in adults and adolescents living with HIV. All children younger than five years of age are considered to have advanced HIV disease.

Preface

Rwanda has recorded significant achievements in the fight against and control of HIV/AIDS in the last couple of decades. However, HIV/AIDS remains a health concern in Rwanda, with more than 220,000 people living with HIV/AIDS, with a treatment coverage of more than 92.4%. Identification of the remaining population infected by HIV, reducing new HIV infections, and the expansion of optimized antiretroviral treatment to reach all identified positives are top priorities of the Ministry of Health.

There is evidence that starting ART early for HIV-infected clients can reduce the devastating impact of the HIV pandemic. To maximize early initiation, Rwanda adopted the “Treat All” strategy for HIV-positive clients in 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 the attainment of the 95-95-95 targets, there is a need for strategies for identification of those hard-to-reach population initiate and keep them on treatment with good adherence for a better outcome.

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

Human capacity strengthening, based on the most updated evidence, should occupy an important place during the process through guidelines to support the implementation of quality services.

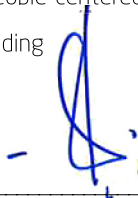


These are National Guidelines for Prevention and Management of HIV, Edition 2022, in accordance with the most updated scientific evidence and adapted to the Rwandan national context. It thus responds to the need by the Ministry of Health to improve the quality of HIV services offered in both public and 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 are remaining gaps that need to be addressed, eliminating new infections among key populations and youth, including finding the undiagnosed cases, non-communicable disease integration among PLHIV, and ensuring program continuity and sustainability.

Effective use of these guidelines will help a healthcare provider to deliver evidence-based services by ensuring all aspects of people-centered care.

Enjoy the reading



Dr Sabin Nsanzimana
Minister of Health





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To the local and international NGOs supporting HIV control in Rwanda

To Civil society organizations

We appreciate everyone's effort that contributed to realizing these guidelines; accept our heartfelt gratitude.


Prof Claude Mambo Muvunyi
Director General
Rwanda Biomedical Centre





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/behaviour 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 and priority 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.

1.1. REQUIREMENTS FOR HIV PREVENTION SERVICES DELIVERY

HIV prevention services must be integrated into the package of services offered by all public and private 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 general health services may carry out HIV prevention services under supervision of the District Hospital.

1.1.1. Training of Personnel

To provide HIV prevention services, the health facility should have certified staff with relevant training. Health care 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 training 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, pharmacists, peer educators and others. The specific services provided will vary according to the professional's area of expertise.

1.1.2. 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. For details regarding the required infrastructure, refer to the "Health Facility Evaluation Form" (See Annex I).

1.1.3. Required Materials and Equipment

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

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

1.2. ETHICAL CONSIDERATIONS FOR OPERATING HIV PREVENTION SERVICES

1.2.1. 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.

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 adolescent'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 adolescent's understanding of the information received
- Dealing with his or her HIV test outcome.

For persons under 12 years of age, the consent of a parent or a guardian is required.

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.

1.2.2. 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.

1.3. HIV DIAGNOSIS

1.3.1. Key messages

- The voluntary testing of HIV is a personal decision. For people aged 12 years and above, their verbal consent is required. For a person 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 HIV rapid testing algorithm comprises 2 stage tests using first and second screening tests.
- The initial HIV testing is performed using the 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. All these verifications are done using the same algorithm for technicity error exclusion.

- HIV Self-Testing is done by the client him/herself using capillary blood with CheckNOW kit or using oral fluids with Oral Quick test kit, as screening test. Each positive result must be confirmed by a trained health care provider using the national HIV testing algorithm within a facility accredited for HIV testing.
- Only people aged 16 years and above are allowed to use 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/ biological children's parents) and sexual partner 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 or injecting drug use partners within the past year and if agrees to offer 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 (acquired within the last 12 months), characterize them and inform prevention interventions.
- Retesting among people with HIV who already know their status, including those on treatment, is not recommended as it can provide incorrect results if the person with HIV is on ART and well suppressing.

1.3.2. HIV Testing Services (HTS)

HIV testing services (HTS) include voluntary HIV counselling and testing (VCT), provider-initiated HIV testing and counselling (PITC), HIV self-testing, 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.

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

1.3.3. 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 health care 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.

1.3.4. 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.

1.3.5. 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 1.3.1. 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.

1.3.6. Information, Education and Communication/Behavior change communication (IEC/BCC) provided in 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

1.3.7. 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 informed consent for HIV testing. (Refer to section 1.3.1)

1.3.8. HIV Testing

HIV testing can be performed using blood or oral fluids.

1.3.9. HIV testing using whole blood

This should be conducted by a trained Health care provider using patient whole blood from a finger prick.

HIV testing is performed following the national HIV testing algorithm (Figure 1) to provide a final HIV test result. The 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 blood sample will be sent immediately for testing using PCR.

The initial HIV testing of eligible consented clients is performed by trained health care providers 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.

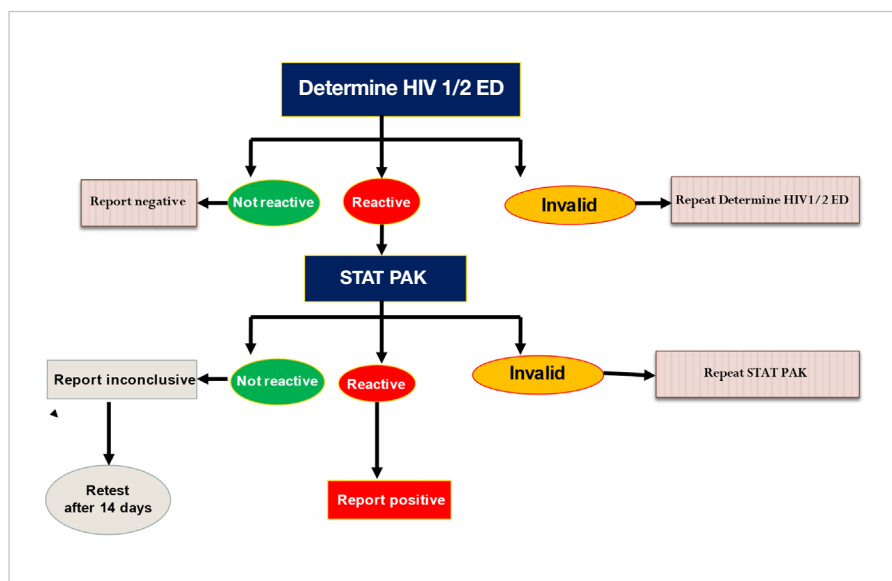
However, where a lab technician is not available, retesting for verification may be conducted by another trained health care provider before initiation of ART. Any discrepancy in the results between testers requires obtaining another sample for PCR testing at testing Hub for confirmatory.

1.3.10. HIV diagnosis and verification

The current national algorithm guideline recommends using HIV testing serial algorithm of 2 tests with $\geq 99\%$ sensitivity for the first and $\geq 98\%$ specificity for the second while exploring feasibility study of 3 tests.

1. The first test in an HIV testing strategy should have the highest sensitivity, followed by a second test with the highest specificity
2. All people newly diagnosed with HIV should be retested to verify their HIV status prior to starting ART, using the same testing strategy and algorithm as the original diagnosis.
3. All new tests will be approved by Rwanda Biomedical Center before use

Figure 1: HIV Testing Algorithm



1. If 2 consecutive inconclusive results, a sample should be sent for PCR at the testing hub
2. NRL will continue to provide PT panel to health facilities to ensure quality testing

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)
- Continuous quality improvement program

The National reference lab should continue to oversee implementation of the quality assurance program. (See details Annex II. Policy Statement of Quality of HIV Testing Services)

1.3.11. HIV self -testing

This approach is currently recommended by the World Health Organization to facilitate people with limited access to 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 sample fluids (oral or blood), carries out a test and interprets the test result in privacy or with someone he or she trusts. The recommended HIV self-testing is the one using either oral fluids or capillary blood. Only adults people aged 16 years and above will be eligible to use HIV self-testing kits.

Nevertheless, HIV self-testing it is a screening test and does not provide a final HIV result.. The presence of reactive test should be confirmed with a healthcare provider using a National HIV testing algorithm. A non-reactive test should be reported as negative HIV result. The rest of comprehensive HIV prevention services remain applicable to people tested negative after using HIV self-test kits.

HIV self-test kits are available in health facilities, private pharmacies, and distributed at community level to Key and priority populations in need. Apart the key populations that are benefiting HIV self- testing kits, men, partners of index cases that are hard to reach, are also targeted by this strategy.

1.3.12. Disclosure of Result

The results of an HIV rapid test are to be given the same time. The communication of the results is verbal. Requests for written results must be reviewed by the health facility management for approval or rejection.

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 issued 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 a parent or guardian. Minors should receive age-appropriate counselling.

1.3.13. 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 below 12 years or an adult with mental disability, post-test counselling will be given to the parents or guardian.

In case of **negative result**:

- 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 behaviours 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 including the pre-exposure prophylaxis.
- 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 sharp materials, Education and information for behaviour change (ABCDE).

In case of **positive result:**

- 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. 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 for testing as well.
- All newly diagnosed HIV positive clients will be introduced to recency testing services.

1.3.14. 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.

1.3.15. 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 in this guideline (section 1.3.3). 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, immunisation, inpatient, outpatient...)
- Prevention of mother to child HIV transmission (ANC, maternity, labour and delivery, EID)
- Voluntary medical male circumcision

1.3.16. Community-Based HIV Testing and Counselling

HTS can be offered at community level. The same principles for HTS outlined section 1.3.3 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 by HCWs. It is recommended for key and priority populations (specifically sex workers, men who have sex with men, mobile populations, high risk populations such as Adolescent Girls and Young Women and clients of female sex workers, 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.

1.3.17. New HIV-1 testing strategies; Index case testing (Partner Notification services, Family testing and Social network testing)

- ◆ **Index testing** refers to a focused approach to HIV testing in which the household, family members (including biological children 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** services refers to a voluntary process where trained counsellors and/or health care workers ask index clients to list all of their sexual partners of the last year.
- Family testing refers to HIV testing in which Index clients are requested to bring their biological children for provision of HIV testing services.

Index testing services with partner notification services and family testing 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, 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 an entry point to other prevention services as well as linkage to care and treatment.

1.3.18. Principles of Index Testing: Partner Notification Services and family testing

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 HIV testing services.
- **Provider referral:** With the consent of the Index client, a nurse/counsellor will call or visit the partner of the 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 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.

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

According to WHO consolidated guidelines 2017 the “Human immunodeficiency virus (HIV) case-based surveillance (CBS) systematically and continuously collects available demographic and health event data (sentinel events*) about persons with HIV infection from diagnosis and, if available, throughout routine clinical care until death, to characterize HIV epidemics and guide program improvement”

It is composed of two components:

- ◆ Active case finding
- ◆ Routine longitudinal follow up of client in care and treatment

The eligibility criteria to CBS include HIV positive status, age of 18 years old and above (new HIV positives patients and patients currently on ART), verbally consented. This includes sub-groups such as people tested for HIV recent infection, Women in PMTCT, Key population, and Priority population among others.

A PLHIV that meets the CBS eligibility criteria should be enrolled regardless of whether they can elicit one or more contacts at enrolment. After the enrolment in CBS, routine case surveillance commonly known as CBS longitudinal follow up occurs.

The routine surveillance involves a continuous collection of data on CBS sentinel events (ART regimen, Viral Load, AIDS-related OIs, etc.). 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, ART regimen, biological and clinical outcomes.

Data on CBS sentinel events are collected on each routine pharmacy pick-up visit. A centrally managed electronic CBS system was designed to allow real-time data entry and availability for surveillance teams.

Implementation of recency testing

The recency testing which 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 testing algorithm should be counselled for recency testing and enrolled systematically.

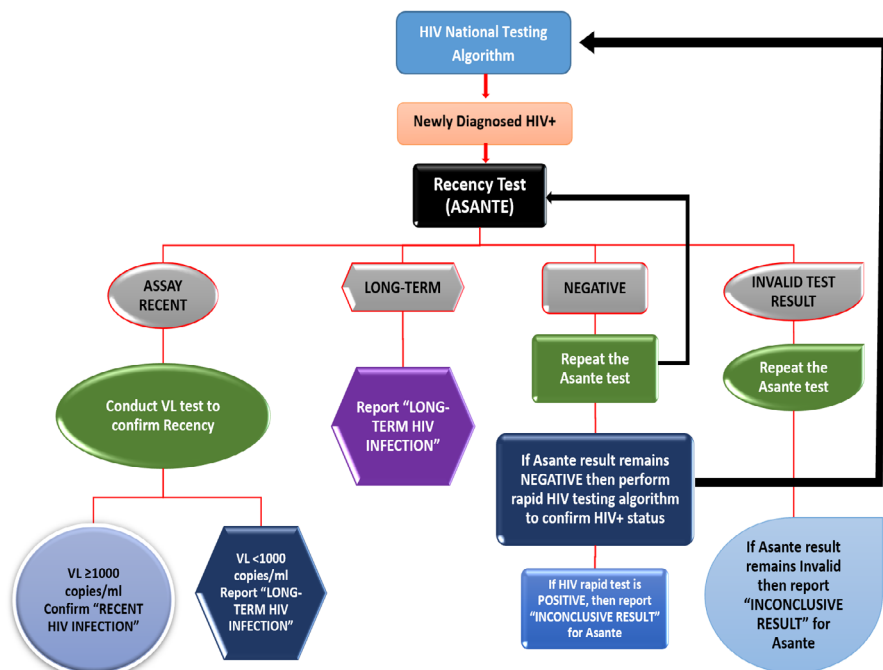
Blood sample is collected by venepuncture and referred to designated laboratory for testing using recency testing algorithm (Refer to Figure 02). Recency test results are returned and communicated to the clients in a post counselling session which can be in testing or care service.

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

ASANTE RAPID RECENCY TESTING ALGORITHM



1.3.20. 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.

1.3.21. 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.

1.3.22. Infants and Children (less than 12 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 section 1.6.
- Confirm HIV infection only using PCR because of the presence of persisting maternal HIV antibodies 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 of Psychosocial care.

1.3.23. 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 based on HCW assessment.
- Ensure adolescents receive special post-test counselling from a trained counsellor about HIV risk reduction, available HIV prevention and treatment services.
- Emphasise 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).

1.3.24. HIV prevention among adolescent girls and young women (AGYW)

Adolescent girls and young women (AGYW) are among the priority populations that need access to HIV prevention. Services delivery are offered through community and health facilities, focusing on the availability, accessibility, appropriateness, affordability, acceptability, and use of quality comprehensive HIV/AIDS prevention, sexual reproductive health (SRH) and mental health services. The services will be provided by health care providers in the community, Civil Society Organisations (CSOs), and other professionals in the mental health field, HIV prevention, and sexual and reproductive health. The core package will focus on improving knowledge on SRH, reducing HIV acquisition risk behaviours, providing available prevention packages for high-risk groups. AGYW should be prioritized to access other prevention services such as, PrEP, PEP, condoms, self-testing, and STI screening and treatment. All services should be offered in a non-discriminatory, non-judgemental and friendly environment.

1. Enrollment criteria for AGYW by age – band
2. Appropriate service delivery to age-band

HIV prevention, sexual reproductive health (SRH), and mental health among adolescent girls and young women (AGYW)

Enrollment criteria for adolescent girls and young women AGYW

Who ought to be considered for the AGYW service package, and enrollment requirements for the AGYW program, including youth corners, at the community and health facility levels (at least one requirement). As groups of AGYW who are difficult to reach and may need particular attention or considerations when providing HIV/AIDS prevention, SRH, and mental health services, all enrolled AGYW in the program countrywide, living in both rural and urban areas, in and out of school, should benefit from integrated services and interventions. Depending on the AGYW profile, some adjustments may be necessary.

Enrollment criteria for AGYW by age - band

Age - band	Enrollment criteria in the AGYW program (at least one criterion).
10 -14 years	<ul style="list-style-type: none"> • Ever had sex. • History of pregnancy • Experience of sexual violence (lifetime) • Experience of physical or emotional violence (within the last year) • Use of alcohol and drugs substance • Out of school • Orphanhood • AGYW with disability

<p>15 - 19 years</p>	<ul style="list-style-type: none"> • Multiple sexual partners (in the last year) • History of pregnancy • STI (diagnosed or treated) • No or irregular condom use. • Transactional sex (including staying in a relationship for material or financial support) • Experience of sexual violence (lifetime) • Use of alcohol and drugs (in the last 12 months) • Out of school • Orphanhood
<p>20 - 24 years</p>	<ul style="list-style-type: none"> • Multiple sexual partners (in the last year) • Sexually transmitted infections (STI) (diagnosed or treated) • No or irregular condom use. • Transactional sex (including staying in a relationship for material or financial support) • Experience of sexual violence (lifetime) • Use of Alcohol and drugs (in the last 12 months)

Age-appropriate service delivery for adolescent girls and young women (AGYW).

This is a comprehensive core of services specific to AGYW including HIV/AIDS prevention, SRH, and mental health services. The list of services should be offered to AGYW, at community and healthcare facilities, and their sexual partners. To highlight different service delivery models for AGYW-friendly services based on the category and health needs of each AGYW, it is organized by the level of health services.

Age group	10 - 14 years	15 - 19 years	20 - 24 years
The initial intervention	Primary prevention of Sexual and gender violence, Teenager pregnancy, and HIV infection	Social asset building	Social asset building
	HIV screening risk	School/community-based HIV, SGBV teenager pregnancy prevention	School/community-based HIV, SGBV teenager pregnancy prevention
	Positive parenting/ caregiver programming	Comprehensive HIV Prevention Education	Condom education and demonstration
	life skill education	Contraception IEC	HIV risk screening and HIV testing and index and PIT testing including social network.
	Social asset building	Financial capacity training (Literacy)	PMTCT, ANC, comprehensive HIV prevention Education
	Financial literacy		Contraception (IEC)
			Financial capacity training
			Entrepreneurship training

Subsequent intervention	Post-violence care	Post-violence care	Comprehensive HIV prevention provision
			Combination of socio-economic approaches (Vocational training internship)
	Education subsidies	Combination of social-economic approaches	PMTCT, ANC, Prep provision
	HTS (linkage/referral)	Education subsidies	Contraceptive method
	STI screening	Entrepreneurship training	Post-violence care
Contextual level Intervention	Parenting/ caregiver programming Community mobilization and norms change Reducing the risk of sexual partners (link to HTS, VMMC, Care and treatment)		

1.3.25. Key Populations

Key populations include commercial sex workers, men who have sex with men and sero-discordant couples, and other high-risk groups including people who inject drugs. However, National HIV program will ensure mapping and regular updating of this population needs.

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 strategy 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, and outreach organisers (health facilities, implementing partners) have the responsibility to ensure effective linkage of HIV positive clients to care and treatment. HIV negative 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 prioritized to access other prevention services such as VMMC, PrEP, PEP, condoms and STI screening and treatment.

Minimum package for KP

Health Facility should ensure that innovative and tailored models for delivering HIV testing services like 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 HF linkage for HIV testing through peer education program. The outreach testing requires additional effort for linkage and enrolment into HIV care and treatment services for those who are HIV positive. HIV negative individuals in KP 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, lubricants and STI screening and treatment

1.4. PRE-EXPOSURE PROPHYLAXIS (PrEP)

HIV negative people with substantial risk of HIV infection should be initiated on PrEP after discussing on other possible available HIV prevention options. PrEP uptake should be a voluntary process and eligible people include key populations, AGYW, discordant couples, index sexual partners and others with high risk of contracting HIV. The HIV testing services for them should be performed before administering PrEP and this testing will be done every 3 months. Remember that PrEP does not reduce the need for continuing counselling on consistent use of condoms and risk reduction.

The PrEP recommended regimen is the combination of TENOFOVIR + EMTRICITABINE (TRUVADA) or TENOFOVIR + 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.

Health care 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 with recorded substantial risks -PIT	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)

Family 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, out-reach 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 health care services
Children with signs or symptoms of HIV infection including malnutrition 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 the end of PMTCT period (24 months) and/or end of breastfeeding period.	In ANC clinics, Labour and postnatal clinics.

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

1.5.1. 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 up to six months protected by ART, and mothers continuing ART, as a recent national data through HMIS (July 2021-June 2022) shows that, the Option B+ implementation has contributed to a reduction of the MTCT rate at 24 months to 1.3% in a cohort of HIV exposed infants.

1.5.2. 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 the 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.

1.5.3. 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.

1.5.4. 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 health care 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 health care 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 recommendations 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
- ◆ Consistent 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

1.5.5. Follow up during antenatal period

The follow up of HIV positive pregnant women 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 should be held at every antenatal care visit. The enhanced testing and counselling should focus more on the following PMTCT target population: AGYW, FSW, SDC and other population defined by All HIV positive pregnant young women, and HIV positive FSW, All HIV negative pregnant and breastfeeding women who live with HIV positive male partners, and other populations excluding those mentioned above.

The counselling session should be 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 new-born
- Options and period for breastfeeding
- Family planning

1.5.6. 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.

1.5.7. 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.

1.5.8. 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 whose VL was not tested at the first ANC, Viral load test control should be requested and done immediately
- 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), adherence and treatment failure should be assessed and managed accordingly.
- 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.

1.5.9. 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 the 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.

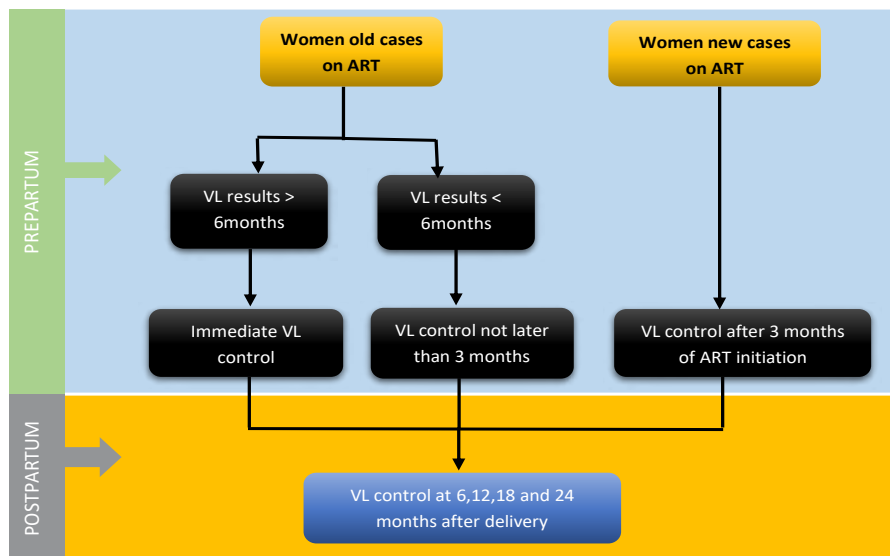
B. If the HIV-positive pregnant woman is newly enrolled in the HIV program, the viral load test should be done 3 months after ART initiation then continue every 6 months.

C. In the postpartum 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 access to a family planning method of her choice.
- Routine HIV testing for all pregnant women attending ANC for first time during

the 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



1.5.10. Management of 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, she will receive during labour: A single dose of TDF + 3TC + DTG.

1.5.11. 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 a discordant couple will not receive any prophylaxis as long as their mothers remain HIV negative.

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

All children born to a known HIV positive mother (before or during labour) will receive twice daily zidovudine and once daily 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.

1.5.13. 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 initiated on ART. The child will start a combined AZT and NVP as soon as possible for 12 weeks if tested HIV negative. At the end of 12 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

1.5.14. 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. Immunisation

1.5.15. 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

1.5.16. 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.

1.5.17. Early infant diagnosis (EID)

HIV exposed infants 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.

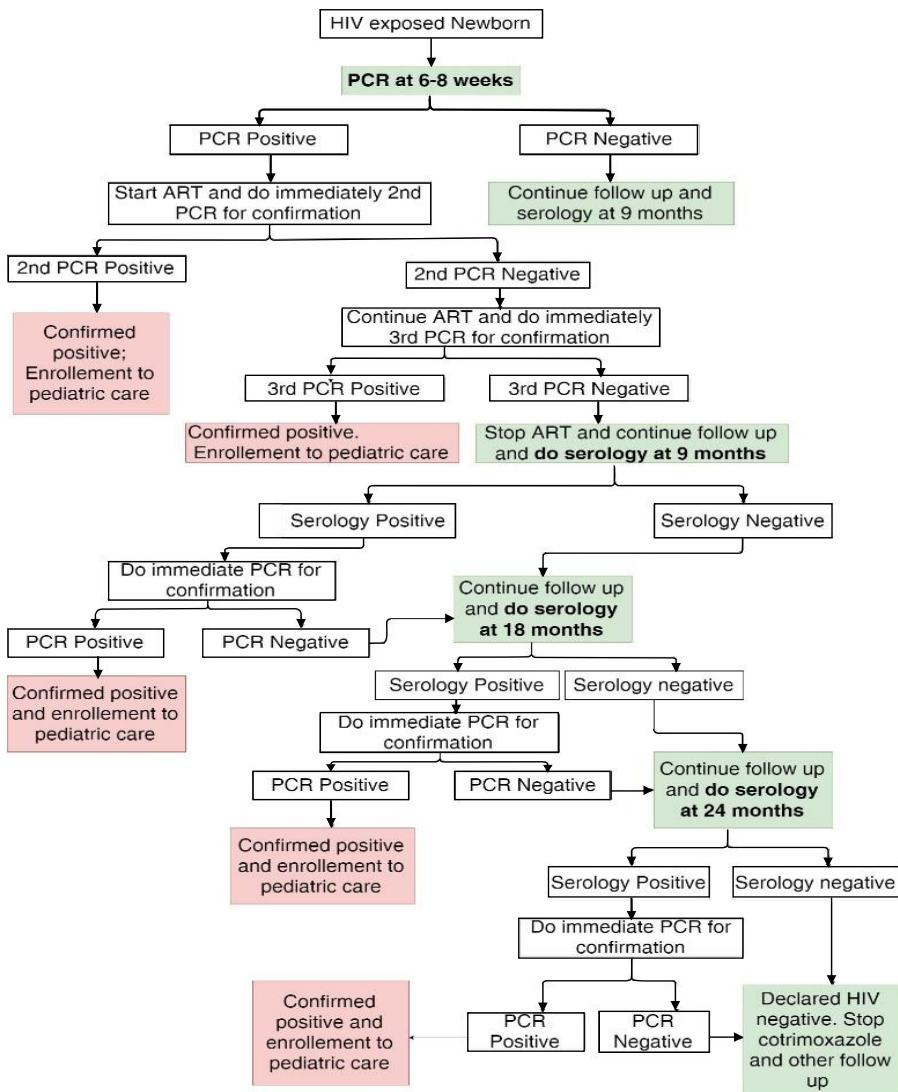
The clinical monitoring will continue every month and should be synchronized with immunization schedule. The identification of HIV-exposed infants in the vaccination service will be facilitated by the immunization card integrating information about the mother's HIV status.

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 6 weeks PCR result is positive, the child will be initiated on ART (AZT+3TC+,pDTG) and a second PCR will be immediately requested. Results of the 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 whether 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 mothers 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 carefully follow HIV testing algorithms 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 purposes.

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.

1.5.18. 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.

1.5.19. Syphilis, hepatitis screening and treatment for pregnant women

Syphilis and hepatitis are 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 and hepatitis B during the first antenatal care visit using rapid tests (Rapid Plasma Reagin (RPR) for syphilis and HbAg for hepatitis B) 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.

For pregnant women screened positive for hepatitis B, will be tested for HBV viral load confirmation. If Viral Load results are detectable, the new born will receive hepatitis B vaccine within 24hrs of life and regular follow up (see viral hepatitis guidelines for more details). All pregnant women with HBV VL from 20.000 IU/ml and above will be treated with tenofovir (TDF) or entecavir if there is contraindication to tenofovir.

1.5.20. Key recommendations on PMTCT

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

- Routine HIV testing for all pregnant women attending ANC for the 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 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 the postnatal period will be based on HIV risk assessment outcomes.
- Women tested HIV positive during ANC or at the time of labor, should start antiretroviral therapy immediately. In case of delay, the health care provider is advised to document the reasons.
- 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 dual twice zidovudine and once Nevirapine immediately. If not done immediately, it should be in the first 72 hours postpartum 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 with AZT and NVP.
- The follow-up of an infant exposed to HIV infection includes PCR 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. HIV PREVENTION AMONG DISCORDANT COUPLES

Evidence-based interventions packages 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 contextualise 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 labour, 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 synchronise with pharmacy refills and appointment schedule. Ongoing psychosocial support and counselling shall be offered to the discordant couple.

1.7. PRE AND POST-EXPOSURE PROPHYLAXIS

1.7.1. 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 emphasised 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 couples 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.

1.7.2. PrEP for safer pregnancy

The HIV-negative partner in a discordant couple remains at high risk of HIV 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.

1.7.3. 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.

1.7.4. Special Considerations

1.7.4.1. 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.

1.7.4.2. 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.
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1.7.5. 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, how-ever the sooner the better.

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

<i>First Option</i>	<i>Alternative</i>
TDF + 3TC / FTC + DTG	AZT + 3TC/ FTC +DTG or ATV/r (If no TDF/DTG 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	-	✓	✓	-	-

1.8. 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.

1.8.1. Biomedical Prevention

1.8.1.1. 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 subsidised 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.

1.8.1.2. Voluntary Medical Male Circumcision (VMMC)

Three randomised 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 in the absence of :

- STIs and other genital ulcerative disease
- Bleeding disorders including history to haemophilia and anaemia
- Uncontrolled hypertension and diabetes
- Anatomic abnormality of the penis
- Penile cancer
- Allergy to anaesthesia
- Other abnormalities of the genitalia
- Any drugs affecting blood coagulation.

Currently, circumcision methods are recommended for use starting from 10 years and the priority age is 15 years and above considering the low prevalence rates of circumcision to that age of 15 years and above 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 including General health and Penile anatomy and health
- Counselling of the client on HIV, STIs and pre and post procedure counselling of male circumcision
- The provision of HTS to clients aged 15 years and above with high risk to acquire HIV infection.
- Administration of tetanus vaccine
- Provision of condoms and other HIV prevention education
- Informed consent

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 cases where clients have received two doses, the client will be protected for 3 years.
- **Local Anaesthetic (without adrenaline):** Before undergoing the surgical method, the client should receive the local anaesthetic of 3 mg per kg body weight in relation to the volume of local anaesthetic. The local anaesthetic is administered through Dorsal penile nerve block and/or subcutaneous ring block injections
- Paracetamol should be given pre and postoperatively
- **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.
- **Pre and post Procedure Counselling** should be provided considering the age category of the clients
- **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, any case of above complication to visit the HF

- ◆ Avoid any sexual intercourse or masturbation for at least 6 weeks after VMMC.
 - ◆ Be informed that the period of superficial healing after MC is 5-7 days and 4-6 weeks for the wound to be fully healed.
 - ◆ 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.
 - ◆ Additional necessarily follow up should be done by the Community Health Worker to ensure the referral after 48 hours visit to the Health Facilities.
 - ◆ 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:

- To have a procedure-room for minor surgery and procedure instructions posted in the room.
- To have at least one health care provider trained (nurse or medical doctor) on VMMC procedures;
- To have necessary equipment for sterilisation of materials;
- To have necessary materials for the performance of male circumcision (depending on the VMMC method).

- To have necessary VMMC emergency supplies according to the health facilities level including:
 - ◊ Stethoscope
 - ◊ Sphygmomanometer (i.e., blood pressure cuff)
 - ◊ Sodium chloride (i.e., normal saline solution for IV infusion; 0.9% Sodium Chloride)
 - ◊ Tourniquet
 - ◊ IV infusion tubing
 - ◊ 3 sizes of IV catheters (G18-green, G20-pink, G22-blue)
 - ◊ Adrenaline
 - ◊ Hydrocortisone
 - ◊ 2 sizes of syringes (2ml and 10ml)
 - ◊ 2 sizes of needles (G21 and G23)
 - ◊ Bags and masks for respiratory support (e.g., Ambu bag): 1 child size & 1 adult size
 - ◊ Exam gloves
 - ◊ Alcohol swabs
 - ◊ Gauze
 - ◊ Adhesive Tape (strapping)
 - ◊ 3 sizes of oropharyngeal airways (green, yellow, and purple/red)
 - ◊ Glucometer strip
 - ◊ Paediatric blood pressure
 - ◊ Glucometer
- To respect scrubbing and infection prevention control 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 in 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.

Package of service of EIMC procedure include:

1. Group Education and Individual counselling to the parents should be conducted in Antenatal care service, postpartum service, immunisation Service and integrated in all health service
2. **Informed consent:** The parent/legal guardian should be informed about the risks and benefits of EIMC and that the information has been given in an understandable way. This information should be backed by printed materials in Kinyarwanda.

3. **Screening:** Early infant circumcision should be done if the infant is healthy, full-term, and weighs 2,500 g or more. Only babies with a normal physical examination should be considered for male circumcision.
4. EIMC should only be provided after thorough examination and exclusion of any contraindication.

Contraindications for EIMC include any known:

- Haematological disorders
- Jaundice
- Any congenital abnormality on the genitalia.

Anaesthesia for EIMC

Providing pain relief during infant male circumcision is a priority, but it must be done in a way that does not affect the long-term well-being of the infant. Only local anaesthesia should be used for EIMC.

The maximum safe dose of lidocaine in infants is 3 mg/kg of body weight. Anaesthetic solutions containing epinephrine (adrenaline) should never be used. Local Anaesthesia 1% lidocaine can be effectively provided by a dorsal penile nerve block.

EIMC Setting

The following criteria should be considered when evaluating a setting for EIMC:

- Preferably close to maternal, neonatal and child health (MNCH) services
- Post-operative review/recovery room
- Waiting/education room
- A clean room with good lighting (a theatre setting is not required)
- Resources for contaminated waste disposal
- Health-care workers trained to perform early infant male circumcision
- Health-care workers trained in caring for postoperative circumcision wounds and recognizing and treating complications of early infant male circumcision
- Access to care for routine follow-up and post-procedure emergencies

The following items must be immediately available and routinely checked before beginning any procedure in order to optimise safety during standard EIMC.

Equipment

- Operating table/s of sufficient height for provider
- Circumstraint for infant
- Portable source of light
- Sterilising and reprocessing equipment

Supplies

- Nappies/diapers
- Clean gloves
- Sterile "O" drape
- Povidone iodine or other skin-sterilising preparations.
- Sterile gauze pads
- Paraffin Gauze

Instruments

- Instrument trays, wrapped and sterile
- One 7.5-cm to 12.5 cm blunt probe
- Three small straight mosquito forceps (hemostats)
- Small straight scissors
- Mogen Clamp Device
- Scalpel (no. 10 blade)
- Anaesthesia 1% lidocaine (WITHOUT EPINEPHRINE).
- 1-ml sterile syringes with a small 25-gauge or similar needle.
- Paracetamol suppository 125mg.
- Sugar/sucrose.

Instrument in case of Post-circumcision bleeding

- Gel foam or equivalent
- Adson forceps
- 5-0 absorbable suture (chromic catgut or Vicryl) on a round-bodied needle (G 24-25)
- Needle holder
- Paraffin gauze
- Vitamin K
- Normal Saline 0.9%
- Small catheter (i.e. Suction tube size 6G)

POST OPERATIVE CARE

Petroleum/Vaseline helps to protect the wound, creates a barrier between the healing surfaces of the foreskin and denuded areas of the glans, and keeps the wound from sticking to the nappy/diaper, it should be applied immediately after surgery, before the dressing is applied, and regularly once the dressing is removed (not more than 48 hours after the procedure) and every time the diaper is changed until the wound has healed.

- **In case of complications** bleeding, important pain, difficulty urinating, swelling or local infection, the parents /legal guardian should visit the health facility.
- **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.
- **Monitoring and Evaluation System of VMMC program**

A process of monitoring and evaluation of the quality and safety of VMMC services should be systematically conducted and integrated in existing monthly quality assurance meetings at all health facility levels 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.

The reporting of Moderate and Severe Adverse Events that occurred during the VMMC procedures should be documented in VMMC tools and reported through the National reporting system.

In addition to the monthly reporting, the Severe Adverse Event should be immediately notified to the National level.

This will help to monitor the safety of the procedure and to know the progress of the program and to take action according to the data.

1.8.2. 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 the partner notification process and then be linked into HIV prevention, care and treatment services.

PWP activities are summarised 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 specialised care needs and refer patients to the appropriate services

1.8.3. Behavioral 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.

1.8.4. 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.

1.9. 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 for people to carry out these decisions.

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

HIV-positive individuals should be initiated on 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 and treatment.
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 best practices are proposed to improve linkage to care, including;

1. Integrating HIV testing, counselling and care services;
2. Assigning a nurse/social worker /community peer navigator to ensure enrolment into ART service
3. Ensuring the quality of Pre-ART counselling to facilitate same day ART initiation
4. Availing flexible and extended clinical hours to enhance same day ART initiation
5. Recovering none linked clients through Phone calls, SMS and home visit
6. Enhancing Referral and counter referral mechanism
7. Involving the community to identify the people lost to follow-up when applicable;
8. Ensuring support from peer educators when possible (Eg: FSW, DC in HF)
9. 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.

1.9.1.1. 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 to 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

1.9.2. 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.

1.9.2.1. 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.

1.10. 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, the first and second screening tests. 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
Infants**

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 PACKAGE OF SERVICES FOR PEOPLE LIVING WITH HIV

The minimum care package of services should be offered to all People Living with HIV (PLHIV) upon enrolment and during their entire time in HIV care. The package should be differentiated and tailored to meet individual PLHIV needs. The package is summarized in Table 4.

Table 4: Summary of minimum package of care for PLHIV

Service Area	Service Description
Clinical evaluation and monitoring of HIV disease	Upon enrolment, provide clinical evaluation and monitoring to all PLHIV to ascertain the WHO clinical stage of disease and exclude comorbidities.
Antiretroviral therapy	Initiate ART on the 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, counselling, and support (NACS).
Opportunistic infection screening, prevention, and management	<ul style="list-style-type: none">• Provide cotrimoxazole prophylaxis if eligible.• Provide TPT if eligible.• Screen and manage other OIs like TB and cryptococcal infection.

Service Area	Service Description
Screening and treatment of co-morbidities	<p>Screen and manage NCDs including:</p> <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 • Screen of interpersonal violence like Intimate Partner Violence (IPV)
Adherence counselling	<ul style="list-style-type: none"> • Do adherence preparation, monitoring and support • Encourage meaningful involvement and participation in the course of treatment <p>Include caregivers in the psychosocial management of the PLHIV</p>

Service Area	Service Description
Psychosocial support and palliative care	<ul style="list-style-type: none"> • Assess family and community support to the client • Assess for stigma and discrimination and provide stigma reduction support services. • Link client to a psychosocial support group • Assess for and provide services for psycho-social challenges • Refer for palliative care when required.
Orphans and vulnerable children (OVC)	<ul style="list-style-type: none"> • Conduct basic assessment for vulnerability among children and adolescents and link to available CBO/CDO • Screen and refer to health facilities for HIV testing of family members and enrolment to ART for those tested HIV positive. • Conduct nutrition assessment, counselling and support • For details of OVC care, refer to the SPPI, Ministry of Labor, Gender, and Social Development

Service Area	Service Description
Positive health, dignity and prevention	<ul style="list-style-type: none"> • Support client to disclose HIV status to family and or close friend (s). • Provide active partner and family tracing for HIV testing • Educate, provide and promote correct and consistent use of condoms • Promote U=U (Undetectable=Untransmissible) messaging. • Provide family planning counselling and services with the consent of the patient • Provide STI screening, prevention and treatment services • Provide routine adherence counselling to patients on ART • Provide gender-based violence screening and support
Other prevention services	<ul style="list-style-type: none"> • Provide immunizations according to the national immunizations schedule • Educate and promote the use of long-lasting insecticide-treated mosquito nets (LLINs) • Educate and promote the 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 health care providers trained in HIV care and treatment;
- At community level, psychosocial care activities of PLHIV are conducted by peer educators.

Below are key psychosocial support interventions at the health facility for improved ART adherence and retention:

- Psychosocial assessment and support for new HIV-positive clients at enrolment
- Preparation to ART initiation
- ART adherence counselling
- Peer support groups and home visits for eligible clients
- 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 health care provider or parents assisted by a health care 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
- Mental Health screening and referrals
- Provision of adolescent-friendly services

At the 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 retention of their peers.

Below are activities ensured by peer educators:

- Organize monthly adherence and retention community support group meetings
- Conduct home visits
- Conduct referrals and linkages at HF level
- Facilitate referrals and linkages to services available at community level
- 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, enhances the 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 for 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 appropriate counselling and links HIV-positive clients to relevant other services (laboratory, pharmacy, nutrition...). Psychosocial assessment is also done at every clinical follow-up and pharmacy refill visits 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 parents/caregivers' needs but also child's needs.
- **For adolescents and adults:** the psychosocial assessment is conducted through individual/couple counselling. 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 a psychosocial assessment among children, adolescents and adults.

Table 5: Psychosocial assessment at enrolment

Age category	What to assess
Children 0-6 years old	Through counselling health care providers assess the psychological and socio-economic status of caregivers.
	Socio-economic assessment: Assess all problems which can affect adherence and social life of the child and address them accordingly.
	Child and caregiver's social status: Assess the child's identification
	<ul style="list-style-type: none"> • What is the relationship of the child with the caregiver (parents, uncle, aunt, others)?
	<ul style="list-style-type: none"> • Does the child have siblings? At which range is she/he in the family?
	<ul style="list-style-type: none"> • Are the members of the family tested for HIV? How many among them are HIV positive? If any, are they on ART?
	<ul style="list-style-type: none"> • Does he/she go to school? If yes, at which level? If not, why?
	Parent/caregiver Identification includes:
	<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 the health facility.
	<ul style="list-style-type: none"> • 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, and if the couple is stable and in a good relationship.
<ul style="list-style-type: none"> • In the case of a discordant couple or HIV positive concordant couple, assess if they have protected sexual intercourse. Did they disclose their HIV status to each other? 	
<ul style="list-style-type: none"> • How is the spiritual life of the caregiver? 	

Age category	What to assess
	<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, the 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, and if they have access to clean water and sanitation.</p>
	<p>Psychological assessment of the caregiver: Healthcare providers will use the mental health screening tool. In case of positive screening and depending on the problem found, the HCP will provide appropriate counselling or refer to mental health services.</p>
<p>Children 7-10 years old</p>	<ul style="list-style-type: none"> • For this age category, a psychosocial assessment is done for the caregivers as well as the child. • HCPs assess all above mentioned psychological and social needs of caregivers but also assess the following key elements for the child: <ul style="list-style-type: none"> • Child development (physical, psychological, emotional, and cognitive) • School performance - If the child is not enrolled at school, assess the reasons. • Assess the family support (happiness, if there is no violence, stigma and discrimination). <p>In addition, the HCP will discuss with the caregiver on the disclosure process for the child. For more details on the disclosure see the chapter on disclosure.</p> <p>Notes:</p> <ul style="list-style-type: none"> • These children have to be accompanied by their parents or caregivers in the enrolment process. • Mental health screening (Depression/suicide) using the CDST(Child Depression Screening Tool)depending on the score found, the HCP will provide appropriate counselling or refer to mental health services. • All information related to psychosocial assessment should be documented in a patient file.

Age category	What to assess
<p>Adolescents 10-19 years old</p>	<p>Psychosocial assessment should be conducted with each adolescent client at enrolment in HIV care and treatment services then at each clinical follow-up visit and pharmacy refill visits.</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 behaviour or body-related self-esteem problems in a non-threatening way. • Does the 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 • Mental health screening (Depression/suicide): <ul style="list-style-type: none"> ◊ Did the adolescent ever have thoughts about hurting her/himself or suicidal ideas? Explore more about the depression symptoms • Key information from the psychosocial assessment should be recorded in the patient's file for reference during follow-up visits.

Age category	What to assess
Adult 20+ years old	<ul style="list-style-type: none"> • A psychosocial assessment should be conducted with each adult client at enrolment in HIV care and treatment services then at each clinical follow-up and pharmacy refill visits. • 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 the 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-making 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**
- **Community peer support**
- **Meaningful involvement and participation in their services**
- **Sexual and reproductive health services: contraception/emergency** contraception, family planning, sex education with a focus on condom use as dual protection, STIs screening and management, GBV screening and referrals.
- **Psychosocial assessment and support:** mental health screening and referral, adherence counselling, disclosure counselling, support for adolescents in boarding schools, support for transition to self-care and adult ART service after the age of 15, stigma reduction, age-appropriate disclosure, recreational activities to strengthen peer network, life skills school substance abuse counselling.
- **Clinical services for adolescents living with HIV** (linkage, ART provision, MMD, screening and management of opportunistic infections, including cotrimoxazole prophylaxis and TB Preventive Therapy (TPT), routine VL monitoring, timely

management of high VL >200 Copies/ml, laboratory tests and follow up, nutritional assessment, counselling and support (NACS).

- **Adolescent-friendly ANC and PMTCT services**
- **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 (Orphans and Vulnerable Children (OVC), and linkages with other youth services (RRP+).**

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 needs 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	<p>Facilities can fix special sessions for adolescents: during late afternoons, after school/ work, during weekends, or holidays in order to make it possible for them to attend.</p> <p>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 to seek help.</p>
Adequate space and sufficient privacy	<p>Rooms should be created in a way that adolescents feel free to be and express their concerns and problems.</p> <p>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.</p>
Trained staff	A HCP dealing with adolescent care should have knowledge and skills on how to provide adolescent-friendly services.
Meaningful engagement of adolescents in their services	Adolescent empowerment is key to improving HIV treatment outcomes. HCPs should meaningfully engage adolescents in the design, implementation, and evaluation of the adolescent care model. Adolescent peer educators can provide positive peer influence and lead group motivation to achieve desired treatment outcomes

2.2.2. Preparation for ART initiation

Like other newly identified HIV-positive clients, the goal is to have ART initiated the same day of HIV-positive results following pre-ART initiation counselling. 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 counselling

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 • 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, counsellor, support groups, community groups...)

Phases	Key points of discussion
<p>Adherence to HIV care and treatment services</p>	<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 the holistic model of HIV care and treatment in which psychological issues are recognized as integral to the client's management. It is a dialogue between a client and a HCP, where the feelings, thoughts and attitudes of clients are expressed, explored and clarified with the aim of enabling clients to cope with stress and 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, specialised 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 groups 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 of 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 effective counselling to take place as it takes time to develop trust in the relationship. In addition to 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 and 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 can 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 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, and express 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 also helps the counsellor to encourage the client to continue expressing his or her feelings and 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 a very important skill for effective counselling.
- **Open-Ended Questions:** Open-ended questions encourage people in a counselling session to give more details in 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 neO.
- **Hierarchy of Needs:** This technique involves the counsellors assessing their client's level of needs 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 the problem the of client: Helping client to narrate his concerns and issues. This requires active listening on the part of a counsellor by focusing on the client's feelings for the event rather than the event itself.
3. Transforming problem statements of clients 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 the client is supposed to do to achieve a targeted goal. It is an active implementation stage of the counselling process.
5. Review and Feedback: The aim of review and feedback is to give continuous reinforcement to clients 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 results 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 age 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?

- a. Disclosure may increase social support available to the child and family, and may increase a child's willingness to adhere to treatment regimen
- b. Disclosure helps children understand the illness and avoids an accidental disclosure from occurring (e.g., child overhears caregiver discussing it).
- c. 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 should make a disclosure plan for every child and involve the parents /caregivers in the 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 in 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 a complete announcement (HIV/AIDS) before 14 years.

Factors to consider & assess before disclosure**Parental issues:**

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

Child issues:

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

What can be barriers to disclosure?

Parents' fears of child's reaction to diagnosis:

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

How to deal with the barriers?

Discuss the following with caregivers on an ongoing basis:

- a. Caregivers' concerns about disclosure
- b. The importance of ongoing communication with the child regarding health issues
- c. Benefits and risks of disclosing the diagnosis of HIV infection to children and adolescents
- d. Potential harm that can result from long-term nondisclosure

How should the disclosure process take place?

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

What are the steps of disclosure?**0-4 years old: No disclosure yet**

The aim of this step is to build up the trust of the child in the health care worker. The Child will depend on the adult for all needs, information, comfort, support and most of all security. The child is too young for direct information about HIV but giving explanations to the caregiver about how HIV can affect the child remains important. It's a good opportunity to provide ideas to help caregivers support the child in taking medicine, for example: by congratulating the child on taking medicines well; to address caregiver anxieties; to build a relationship with the child through play/singing and to provide a safe and welcoming environment. The caregiver should carry on consultation when the child is present.

5-7 years Old: Early disclosure

At this age the aim of early disclosure is to allow 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 information that should be provided to the children by the HCPs:

- Healthy living by eating healthy food, maintaining good hygiene, and 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 looks for and kills infections and how medicines help the blood cells to fight 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 from working (resistance). During the session, naming of the virus as HIV should occur but not be 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 to about their health.

11-14 years old: Full disclosure

The HIV full disclosure can be done at this age. The child has a 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 the understanding of health, medicines, sexual development, and HIV infection.

The provider assesses the need to understand the 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 groups.

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 the 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 the 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 to 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 the 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 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 follow-up and pharmacy refill visits

Adherence changes over time. Someone may be adherent when he/she starts treatment, but this can change due to different factors. Therefore, 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 the consequences of poor adherence
- Discuss together how to overcome the challenges
- Assess the sides effects; if any provide appropriate intervention
- Encourage the clients for good adherence and empathise 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 the treatment supporter role if the client maintains the same or wishes to change

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

DSDM categorises patients into less-intensive (previously called stable) and more-intensive (previously called unstable) models. It allows patients to move from one model to another. The counsellor should explain at the time of enrolment that there is a possibility to switch/shift from one model to another.

From more-intensive to less-intensive model

The counsellor should consider the following:

- a. Discuss with the patients the goal of ART treatment
- b. Congratulate the client for good adherence
- c. Remind the client that there are two categories of patients (less-intensive models and more-intensive models) and explain the benefits of being in differentiated care models) Inform the client that s/he is qualified to move to a less-intensive model
- d. Ask the consent of the patient to shift to the less-intensive model
- e. Explain to the client his or her schedule of pharmacy pick-up, psychosocial follow-up and clinical visits as a stable patient and peer support group sessions.
- f. Discuss with the client the storage of the drugs
- g. Encourage the patient to respect the treatment plan for a good outcome in the future.

From a less-intensive model to a more-intensive model

- a. Avoid judging the client
- b. Discuss ART treatment goal
- c. Discuss the possible causes of shifting from a less intensive model to a more

intensive model (VL increase, ...)

- d. Discuss treatment plan
- e. Ask the patient the treatment plan challenges s/he faced
- f. Explain to the client his or her schedule of pharmacy pick-up, psychosocial follow-up and clinical visits as an unstable patient and peer support group session,
- g. 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 a less-intensive model.

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 maximise 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 health care 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 prescribed by a healthcare provider.

2.2.5.2. ART adherence barriers and retention in care

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 the care of HIV-positive people. Adherence is assessed in every service: pharmacy, consultation, nutrition, and psychosocial services.

There is no gold standard method to assess adherence, but each method complements each other. Below are four methods to be used at the 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 about 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 below 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 encourages 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 good adherence. The provider must avoid using judgmental language during the assessment.

Table 8: Counselling Strategies

Strategies	What to do
Clients' friendly services	<p>1. For children</p> <ul style="list-style-type: none"> • Make the environment pleasant and comfortable, avoid long waiting time and provide a shady waiting area, convenient hours, and welcoming staff • Prioritise young children • In the case of HIV-positive parents/caregivers, ART visits for the caregiver and the child occur on the same day. For children aged 2 years and above who have parents/caregivers in less-intensive DSDM groups, they will also have the provision of drugs for six months. • Arrange appointments for other support services (nutritional and social) on the same day of pharmacy/clinic visits
	<p>2. Adolescents /adults</p> <ul style="list-style-type: none"> • Arrange appointments for adolescents who are expected to see more than one service at one visit • Provide flexible appointments for adolescents (weekends, after school hours) • Provide a comfortable environment (where clients could sit with shade) • Provide adolescent clinical day and time • Provide education materials • Multi-month dispensing (ie: 3-6 months) for adolescents with suppressed VL (<200 copies/mL) as part of Differentiated service delivery model (DSDM) • Build trusting relationships with clients
Good communication	<ul style="list-style-type: none"> • Health care providers must have a good attitude for all patients • Practise 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.

Confidentiality	<ul style="list-style-type: none"> • Acknowledge and congratulate for big steps achieved • 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
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Table 9: Strategies for improving and supporting adherence and retention

Action	To be done
Ongoing education, counselling and peer support	<p>For children</p> <p>At every visit, provide ongoing education for caregivers in groups or individually and insist on the following key points:</p> <ul style="list-style-type: none"> • Importance of early HIV testing among children • 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 counselling session, HCP assess the psychological and mental health status of the caregivers • Remind how to take/administer the medication properly • Disclose the HIV status to the child at the right time and according to developmental age
	<p>For adolescents and adults</p> <ul style="list-style-type: none"> • Provide regular individual counselling 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 the adolescent's caregiver • HCP must assess the coping ability of the adolescent

Action	To be done
	<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 reproductive health, family planning • Encourage adolescents/adults to use phones, watches or other technologies as reminders to take medications and attend appointments
<p>Follow up and linkage</p>	<ul style="list-style-type: none"> • Connect the adolescent/adult to peer support and encourage participation. Adolescents who are in boarding school should be encouraged to identify a teacher or an adult person who can be a treatment supporter at school • HCP should provide education sessions for adolescents and their caregivers to increase health literacy about HIV, treatment, and the importance of a good adherence depending on their clinical visit schedule <p>For all clients</p> <ul style="list-style-type: none"> • Managing adverse effects of ART • Assess mental health of caregivers of adolescents/adults depending on their clinical visit schedule • Identify a backup caregiver to be involved in providing care • When a 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 community peer education support groups and / or other community platforms (OVC, RRP+)
- Keep the contact information (home address, phone number) updated
- Trace the clients who miss the appointment through phone calls, peer educators and home visits.

In patient file to record the summary of the counseling related to the HIV psychosocial and mental health issues, behaviors change and adherence strategies and make a follow up proposal according the discussion with the patient or the information from providers or family members, peer educators.

2.2.6. Mental health status screening

HIV/AIDS imposes a significant psychological burden. People living 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, stigmatisation, and loss of social support, family, or friends. HIV infection can be associated with a 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 the ART clinic is done for Children from 7 years old, adolescents, and adult clients at enrolment and every six months. Clients screened positive should be referred to a 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 well-being. A support group of PLWH brings them together to talk about the challenges, experiences, and/or roles that they may have in common as PLHIV.

By joining support groups, PLHIV realise 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 group 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, and 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, or an expert in a given domain.
- **Topics and Materials:** The topics are scheduled depending on the age category, previous sessions, and level of understanding 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 participant
- Reminder of 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 to the age group

Age category	Topic
Children ≤ 4	<p>At this age the role of the 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 • Adherence support and drug monitoring <ul style="list-style-type: none"> ◊ Follow up
Children 5-7 years	<p>At this age, the role of PSG is to start the disclosure process for children accompanied by their caregivers to strengthen adherence.</p> <p>Topics to be discussed should be the same as those for 0-4 years but the providers should be attentive to any question from caregivers.</p>

Age category	Topic
<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 addition 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; • Positive behaviour;

Age category	Topic
15-21 years	<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 the support group is to discuss:</p> <ul style="list-style-type: none"> • HIV transmission, prevention, and treatment, prevention and treatment of STIs <ul style="list-style-type: none"> ◊ Side effects ◊ Positive living ◊ Reproductive health ◊ Opportunistic infection ◊ Stigma and discrimination ◊ Disclosure ◊ Nutrition ◊ Life skills



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

2.2.8. Home visit

Home visit is one of the 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 personalised plan of care that helps the client adhere to the care and 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 file.
- 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 the 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

- a. Patients newly enrolled
- b. Patients who missed their appointment (clinical, lab, and pharmacy visits)
- c. Clients who missed peer support group meeting without informing the peers
- d. On client demand
- e. Clients with bad adherence especially those who don't suppress their viral load

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

2.2.8.3. Organisation 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 caregiver
- Listen carefully to the client/caregiver and provide advice
- Discuss the expected outcomes and summarise 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 visits 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: organise monthly support groups, conduct home visits, conduct referrals and linkages at the HCP level, facilitate referrals and linkages to services available at the community level, sensitise 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 to the 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 an 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 the health facility.

Peer education is expected to contextualise 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:

- Minimise 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 to 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 to 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, 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, and be comfortable discussing sensitive topics including sexuality-related matters.
- Being 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

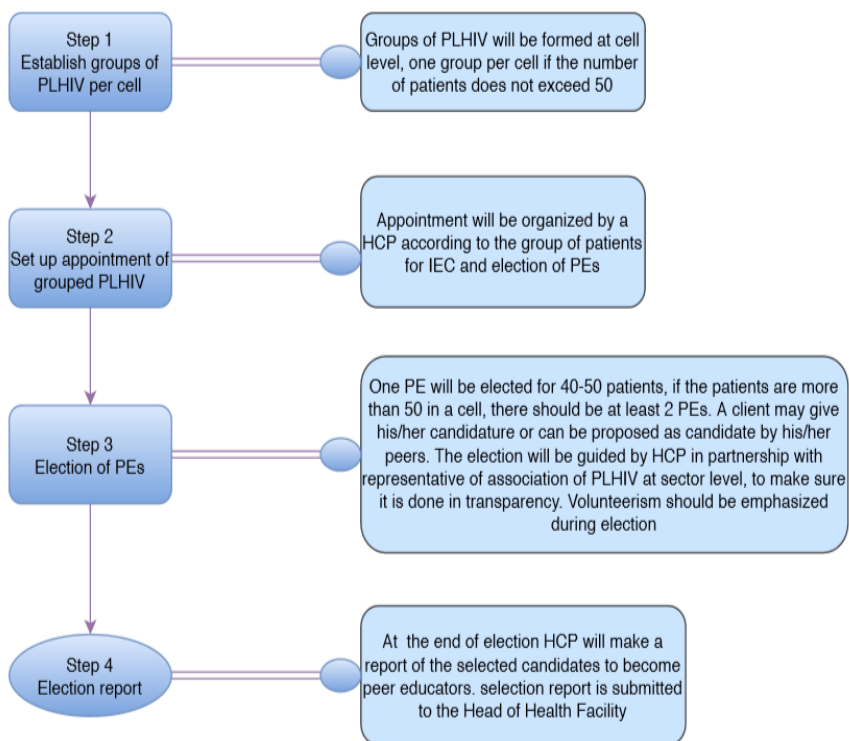
2.2.9.7. Selection/election process of peer educators

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 of 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 for 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:

Organise monthly support group meetings with peers in the community or at a health facility as convenient.

The meetings are suggested to be organised 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:

- a. ART literacy
- b. Drug storage
- c. Health status in general (any illness)
- d. Broader psychosocial needs
- e. Complaints related to common opportunistic infections (TB/STIs)
- f. Nutrition including breastfeeding and food security
- g. Adherence
- h. 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
- Sensitise 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 of health providers at health centres to train peer educators
- Training peer educators. Every new peer educator must be trained before starting responsibilities
- Organising the refresher training according to the new guidelines

2.2.9.10. Leadership, coordination, and implementation

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

A set of activities will be conducted, consisting mainly of quarterly supervision 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 organised at national level. Coordination meetings will involve different

stakeholders in order to share with them the findings, best practices, lessons learnt from the field and discuss how challenges can be addressed.

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 organisational meeting at a 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 proposed 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 CARE AND SUPPORT

2.3.1. Introduction

Nutrition care and support 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. 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.

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 Nutrition care and support

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:

- a. Identify medical complications that affect nutritional status;
- b. Track growth and weight trends;
- c. Detect diet habits that make it difficult to improve health or that increase the risk of disease;
- d. Inform nutrition messages and counselling;
- e. Identify people at risk of undernutrition and take action before they become severely malnourished;
- f. Measure changes in nutritional status to monitor progress;
- g. Determine interventions according to clients' needs.

2.3.2.2. Nutrition education and counselling

Nutrition education and counselling are integral parts of the nutrition care and support of people with HIV.

- **Nutrition education,** Group education on related key nutrition topics can be provided in health facility waiting rooms or for community groups using various flyers and audio-visual media and should emphasise on:
 - ◊ The need for regular weighing People with HIV enrolled in care and treatment should be weighed during every clinical visit. People not enrolled in such programmes can be weighed regularly in community-based programmes and support groups.
 - ◊ The need for an adequate diet
 - ◊ The need to increase energy intake in persons who are under weight or have ongoing OIs and maintain recommended protein and micronutrient intake.
 - ◊ The importance of treating illness promptly, People with HIV are vulnerable to infections that can affect food intake and nutritional status. Any illness should be taken seriously and treated quickly.
 - ◊ Ways to manage common HIV-related symptoms, Symptoms that can affect food intake and accelerate disease progression include thrush, mouth and throat sores, fever, fatigue/lethargy, diarrhoea, nausea/vomiting, taste alterations and loss of appetite (anorexia). Annex 6 lists ways to manage these common symptoms through diet.
 - ◊ The importance of personal and food hygiene and water safety, Infections that cause diarrhoea commonly cause HIV disease progression and morbidity. Health care providers should counsel people with HIV on how to wash their hands, make drinking and cooking water safe, dispose of garbage and faeces safely and prepare and store food safely

- ◊ The effects of smoking, alcohol intake and drug abuse on food intake, absorption and utilisation.
- **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 health care provider jointly plan a feasible course of action to support healthy practices.

The health care provider may use job aids to select appropriate messages and guide counselling sessions.

2.3.2.3. Nutritional Support

Nutritional support includes specialised Food Products (therapeutic, supplementary food), Enteral and Parenteral Nutrition Support and micronutrient supplements for clients with or at risk of undernutrition. Nutrition support includes:

- a. Specialised food products include therapeutic milk and ready-to-use therapeutic food (RUTF) to treat severely malnourished people with HIV and supplementary food like Corn Soya Blend Plus (CSB+), prescribed according to the guidance of utilisation.
- b. Education sessions for balanced diet targeting both underweight and overweight
- c. Enteral and Parenteral Nutrition Support, Rapid and unintentional weight loss, malabsorption, recurring infections and nutritional deficiencies are common problems for people with HIV; When they cannot take food orally, other options should be considered to help prevent malnutrition associated with these problems. Enteral and parenteral nutrition are usually undertaken only in a hospital setting. Parenteral nutrition, in particular, requires close monitoring and evaluation by trained staff.
- d. Complementary food supplements for children 6–24 months old to prevent malnutrition;
- e. Micronutrient supplements to prevent vitamin and mineral deficiencies;

2.3.2.4. Client Follow-up and Referral

A continuum of care is an integrated system of care that tracks a client over time through a comprehensive set of health services spanning all levels of care, from the hospital to the

home. Medical and social services should be pooled in the community and linkages made among the home, community and clinical care.

- **Follow-up,** Client follow-up starts from the time the client and health service provider agree on a return date and ends when the client is lost to follow-up, moves or dies. The frequency of follow-up depends on the client's health and needs. The purposes of client follow-up are to:
 - ◊ Review health and nutrition records.
 - ◊ Assess current nutritional status and weight gain or loss. Nutrition Guidelines for Care and Support of People with HIV 18
 - ◊ Assess progress managing symptoms and medication side effects.
 - ◊ Review the client's experience implementing nutrition recommendations.
 - ◊ Recommend modified practices if needed.
 - ◊ Support adherence to medication regimens.
 - ◊ Renew prescriptions for specialised food products.
- **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 anaemia, dehydration) - admit or refer the child to the hospital. Treat urgently complications.
	If MUAC < 11.5cm 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 counselling.
		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 counselling
	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 $\leq +2$ ZS and MUAC > > -13cm	Praise the mother and encourage her. Continue breastfeeding if the child is below 18 months. Provide appropriate nutrition counselling.	
If the Weight/Height is $> +2$ to $\leq +3$ SD: overweight or $> +3$ SD: obesity.	Identify the possible causes and provide appropriate dietary counselling 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 them.	Severe acute malnutrition if Weight for Height < 3Zs or oedema.	<ul style="list-style-type: none"> • Admit or refer the hospital. • Treat complications • Give F75, F100 or RUTF 	
		Continue breastfeeding if the child is under 18 months.	
		If no medical complications:	
		<ul style="list-style-type: none"> • Treat as an outpatient with RUTF, and continue breastfeeding if under 18 months. • Provide appropriate nutrition counselling • 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 < -2ZS: moderate	If no complications, give CSB+ and continue counselling.
Good nutritional status: If weight for Height ≥ -2 to ≤ +2ZS	Provide appropriate nutrition counselling follow-up every month.		
If the Weight/Height is > +2 to ≤ +3 SD: overweight or obesity.	Identify possible causes and provide appropriate dietary counselling 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 is between 16-18.49 or MUAC is 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. • Admit or refer to the Hospital if medical complications.
MUAC if unable to measure height and weight or client is pregnant or lactating	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.

2.4. DIFFERENTIATED SERVICE DELIVERY MODEL (DSDM)

2.4.1. Definition of DSDM

With “Treat All” recommendations and expanding the availability of ART, people are presenting to care earlier and require less intensive clinical care. This increasing number of patients taking ART tends to increase the burden on health systems, particularly at sites with a high number of patients on ART and unnecessary clinical visits.

To reflect the preferences and expectations of various groups of PLHIV and to reduce unnecessary burdens on the health system and multiple clinical visits for patients, HIV national program has adopted a differentiated model for ART service delivery. DSD is a responsive, client-centred approach that simplifies and adapts HIV services across the cascade to better serve individual needs and reduce unnecessary burdens on the health system. A differentiated model for ART service delivery aims to decrease patient clinical visits and pharmacy pick-up for medications (ARVs and OIs prophylaxis) to allow less interactions at the facility. This model puts patients in different models based on their needs and preferences.

2.4.1.1. Patient categorization

Health providers classify patients into two categories: less-intensive models (previously called stable) and more-intensive models (unstable) based on predefined criteria and patients’ choices (see Figure flowchart on DSDM).

2.4.1.2. Education and counselling sessions

All Patients should participate in 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 model to another. Stable patients should not have the same package of education and counselling.

2.4.1.3. The Building Blocks of DSD

Beyond considering people’s clinical needs, DSD should also consider the specific populations and contextual settings. DSD design should address the needs of children and adolescents, pregnant and breastfeeding women and KP.

Models should be adapted in settings with lower HIV prevalence, acute conflict or other emergency responses. Therefore, DSD for HIV treatment considers and adapts four building blocks (Fig. 1). The building blocks need to be defined separately for clinical consultations,

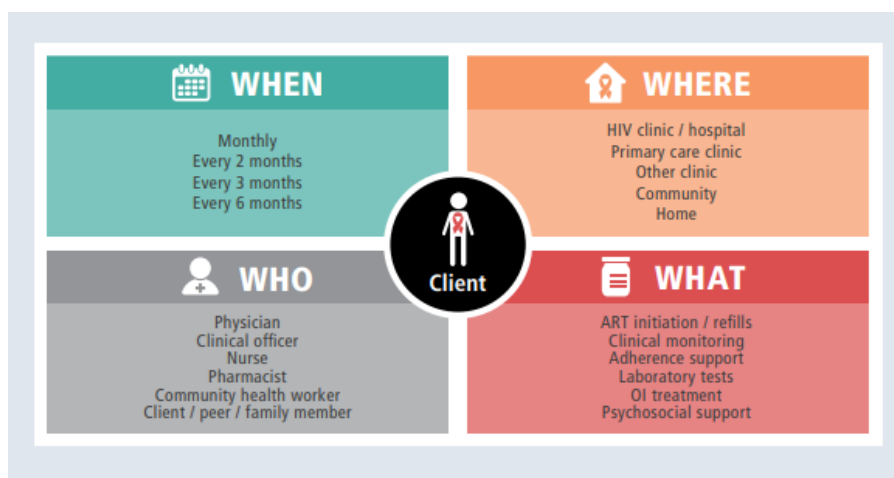
ART refills and psychosocial support.

The building blocks of DSD centre on four components: (1) When, (2) Where, (3) Who and (4) What.

WHAT (type of service package).

In these guidelines, we focus on Differentiated HIV Care and Treatment Services which is further differentiated based on 4 elements:

Figure 6: The building blocks of DSD (WHO 2021)



In all models of service delivery, the client is at the centre, The WHEN (service frequency), WHERE (service location), WHO (Service provider) and WHAT (Type of service). The stakeholders must balance the goal of improving client outcomes with their ability to utilise the available health system resources.

In Rwanda, the two services for adopting differentiated models are: 1. Differentiated HIV testing services 2. Differentiated HIV care and treatment services. In this guide, we focus on Differentiated HIV Care and Treatment Services which is further differentiated based on:

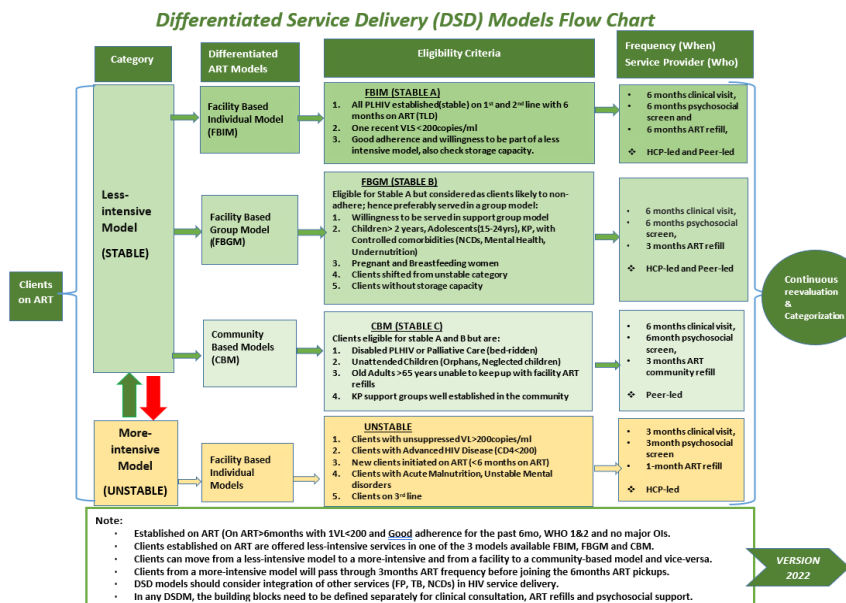
- Location (facility, community)
- Clinical characteristics of the client (establishment on ART)
- Specific populations (e.g., adults, children and adolescents, PBFw, KP, men)
- Context (e.g., urban/rural, unstable context, epidemic type)

Establishment on ART

Established on ART (Stable)	Unestablished on ART (stable)
1. PLHIV (Children >2years, Adolescents, Pregnant & Breast Breastfeeding and adults) on ARVs for >6	1. PLHIV on the ARVs for < 6 Months
2. Viral load suppressed (1 VL < 200 copies/ml) in the past 6 months	2. Viral load detectable (not virally suppressed; VL > 200 copies/ml)
3. Have no major HIV-related infections or sickness.	3. Has current or history of HIV-related infections or sickness within the past 6months.
4. PLHIV on 1st, 2nd and 3rd line ARV drugs	4. PLHIV with evidence of treatment failure
5. WHO clinical stage 1 and 2	5. WHO clinical stage 3 and 4
6. PLHIV with good adherence for the past 6 consecutive months	6. People living with HIV with poor adherence in the past 6 months.

- Note that the 1st VL should be scheduled 1 month ahead of completion of 6 months on ART (around the 5th month) in order to categorize newly initiated clients on their 6months visit.
- TPT completion among newly diagnosed HIV clients is considered as an eligibility criterion for a clients to join a less-intensive models

Figure 7: DSD flowchart



2.4.1.4 HIV Service Integration

HIV is a chronic condition that requires integrated services to provide a comprehensive HIV and care package including related services in the same settings, systems to share information and effective referrals across settings and providers.

Integrated services will reduce missed opportunities for ART initiation, enhance adherence support and optimise retention to care.

Integration Strategies may include:

1. Co-location of other services (NCD, SRH/FP, TB/TPT) and HIV treatment services (e.g., both provided at the same site)
2. Co-scheduling of other services (NCD, SRH/FP, TB/TPT) and HIV treatment services (e.g., both provided at the same visit)
3. Coordination of other services (NCD, SRH/FP, TB/TPT) and HIV medication refills to maximize client convenience and minimize visits to health facilities/pharmacies.

The key services recommended for integration are:

- Sexual and reproductive health services, including family planning, may be integrated within HIV services.
- Non-communicable diseases care such as Diabetes, hypertension and Mental healthcare may be integrated with HIV services.
- TB management especially TPT may be integrated with HIV services.

PLHIV are increasingly receiving ART through DSD models with extended ART refills and less-frequent clinical visits, therefore integrated services such as NCD services, TPT, SRH services including contraceptive commodities should be aligned with frequency of visits.

- PLHIV should receive 6 months to 12 months of oral Contraception preferably long-acting reversible contraception (LARC). Similarly, PLHIV and NCDs where feasible should be offered multi-months NCD drug refills while promoting self-management, community support and delivery.
- To move away from vertical and isolated service provision, A trained HIV service provider is the ideal person to offer integrated services; screening, diagnosis and treatment of comorbid conditions for PLHIV at the same clinic location as ART is provided.

Integrating HIV and SRH services will improve accessibility, nurse productivity and service efficiency while reducing stigma and without compromising uptake of care.

Integrated NCD services will increase access to routine screening and management of hypertension, diabetes, AIDS defining cancers and other CVRF thereby controlling these comorbidities among PLHIV with limited access to primary preventive services.

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 children living with HIV.
- Paediatric DTG formulation (DTG 10 mg) is now available and preferred for children with 3 Kg to 20 Kg body weight.
- The recommended 1st line ART regimen among children aged at least 4 weeks and weighing at least 3kg but less than 20 kg is ABC+3TC+pDTG.
- Switch to AZT-based regimen in case of intolerance to ABC.
- LPV/r is contra-indicated for new born less than 15 days.
- If switching from AZT-based regimen, consider VL suppression.
- DTG 50mg is the preferred 1st line option for children weighing 20kg and above.
- The preferred 1st line option for children of ≥ 20 kg 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 regimen.
- For all PLHIV weighing 20-30kg the 1st preferred regimen is ABC/3TC+DTG, use switch to EFV if DTG is not tolerated or contraindicated.
- For children weighing 30kg and above the preferred 1st regimen is TDF/3TC/DTG, use ABC/3TC+DTG, if there are signs of renal insufficiency and switch DTG with EFV if DTG is contraindicated or not tolerated.
- If failure to a non-DTG based regimen, DTG can be used in 2nd or 3rd line.
- Backbone drugs for 3rd line are: DRVr/ETV/RAL or DTG.
- DRV should not be used for children younger than three years and should be combined with appropriate dosing of ritonavir.
- ATV/DRV cannot be co-administered with rifampicin.
- In case of active HBV infection, seek expert opinion.
- TB screening is mandatory for all CLHIV at enrolment and at each clinical visit.
- TPT (Tuberculosis preventive therapy) should be integrated in HIV management.

- In case TB has been confirmed, anti-TB medication should be initiated immediately and ART are initiated within 2 to 8 weeks after anti TB initiation.
- Immediate ART initiation should be differed for 4-6 weeks in PLHIV with and on treatment for cryptococcal meningitis.
- For clients on TB therapy with Rifampicin based, DTG dose is doubled.
- 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 (change of drugs) 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.
- Cotrimoxazole should be given to patients with advanced diseases.
- 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:
 - a. CD4 count (percentage preferred if < 5years old)
 - b. CD4 absolute figures for children of 5 years and above
 - c. Hepatitis B surface antigen
 - d. Hepatitis C antibody,
 - e. Liver Function ALAT or ASAT and additional lab exams as clinically indicated.

2.5.2. ART regimen for children

Table 14: First line options for ART regimen in children

Client Standard	1 st Line Regimen	2 nd Line Regimen	3 rd Line Regimen
All CLHIV <20kg	ABC/3TC + pDTG Alternative; ABC/3TC + LPV/r or ATV/r if ≥ 15 kgs or ABC/3TC + NVP (syrup)	AZT/3TC + LPV/r or AZT/3TC + ATV/r if ≥ 15 kgs (If Pls were not used in 1 st line) or AZT/3TC + pDTG (If pDTG was not used in 1 st line)	Initiating 3 rd line regimen should always be guided by genotyping results and expert review Backbone molecules for 3 rd line are: DRVr/ETV/ RAL or DTG
All CLHIV 20-30kg	ABC/3TC + DTG Alternative; ABC/3TC + EFV If DTG is contra- indicated	AZT/3TC + ATV/r or AZT/3TC + LPV/r or AZT/3TC + DTG (If DTG was not used in 1 st line)	
All CLHIV ≥ 30 kg	TDF/3TC/DTG Alternatives; ABC/3TC + DTG If renal insufficiency; TDF/3TC/EFV If DTG is contra- indicated	AZT/3TC + ATV/r or AZT/3TC + LPV/r or AZT/3TC + DTG (If DTG was not used in 1 st line)	

Note:

FDC is preferred where possible

In some cases, switching to second line may require genotyping (clinical decisions in case of poor adherence suspicion).

Paediatric dosing chat per patient's weight (This table will be formatted)



2.5.2.1. 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
- Sputum examination using Gene X-Pert

Tuberculosis preventive Therapy (TPT) in children

Tuberculosis preventive therapy has been shown to save lives by preventing TB in high-risk populations. However, it should be noted that TB preventive treatment, like most preventive treatment, is offered to persons who are not currently sick. Therefore, the risks and benefits have to be carefully considered to ensure beneficence and to avoid doing harm.

Children and infants living with HIV :

- Infants aged <12 months who are in contact with a person with TB and who are unlikely to have active TB on clinical evaluation or according to national guidelines should receive TPT.
- Children aged \geq 12 months LHIV who are considered unlikely to have active TB on a clinical evaluation or according to national guidelines should be offered TPT if they live in a setting with high TB transmission, regardless of contact with TB.
- All CLHIV who have successfully completed treatment for TB disease may receive TPT.

		2-14 years				
3HP Weekly dose		10-15kg	16-23kg	24-30kg	31-34kg	>34kg
	Isoniazid, 100mg	3 tabs	5 tabs	6 tabs	7 tabs	7 tabs
	Rifapentine, 150mg	2 tabs	3 tabs	4 tabs	5 tabs	5 tabs
	Isoniazid 300mg+Rifapentine 300mg	1 tab	1+1/2 tab	2 tabs	2+1/2 tabs	2+1/2tabs
	>14 years					
	Above 30kg					
	Isoniazid 300mg+Rifapentine 300mg	3 tabs				

Summary of INH and Rifapentine Fixed dose combination Formulation: INH 300mg +RF 150mg

- 10-15kg: INH 300mg + RF300mg
- 16-30kg: INH 600mg +RF 600mg
- >30kg: INH 900mg + RF 900mg

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
- TB LAM for young and or very ill children
- Chest X-ray.

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:



- For more details on TB-HIV co-infection screening and management in children, refer to the current TB-HIV algorithms.
- 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)	(R6OH30Z150)	1	2	3
		(R6OH60)	1	2	3
		(E100)	1	2	3
Continuous	4 months (112 doses)	(R6OH30)	1	2	3
		(R6OH60)	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)

2.5.2.2. Management of Opportunistic Infections in Children

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

2.5.2.3. 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 (low CD4) despite a good virological control (VL undetectable) is frequent during the first year of HAART. This condition seems mainly associated the age and the low baseline CD4 count of the patients and does not require a change of ART regimen. 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 the management of treatment failure is to assess probable causes of treatment failure, which can be related to patient/caregiver, drug, virus, and provider.

1. Patient/caregiver 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, stockouts
4. Virus-related causes: Transmitted resistance mutations.

Figure 8: Management of treatment failure for clients on 1st line regimen

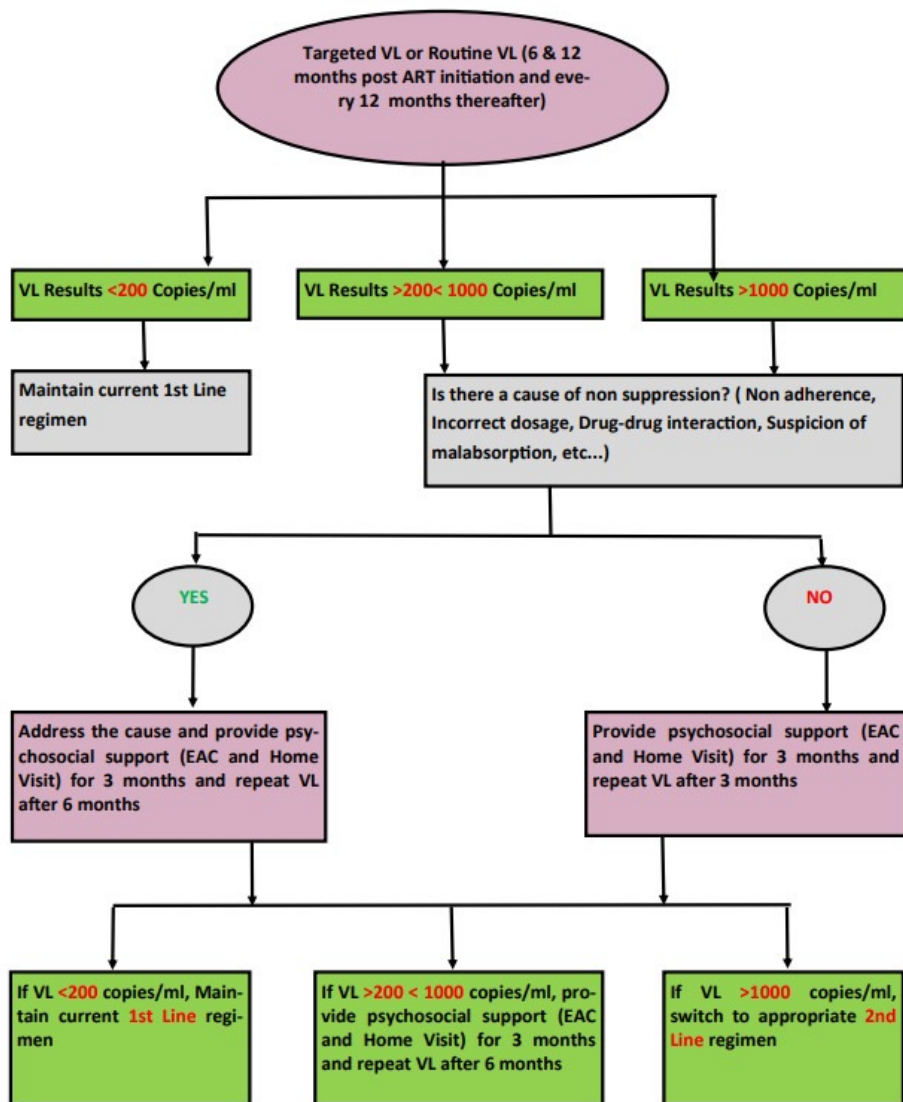
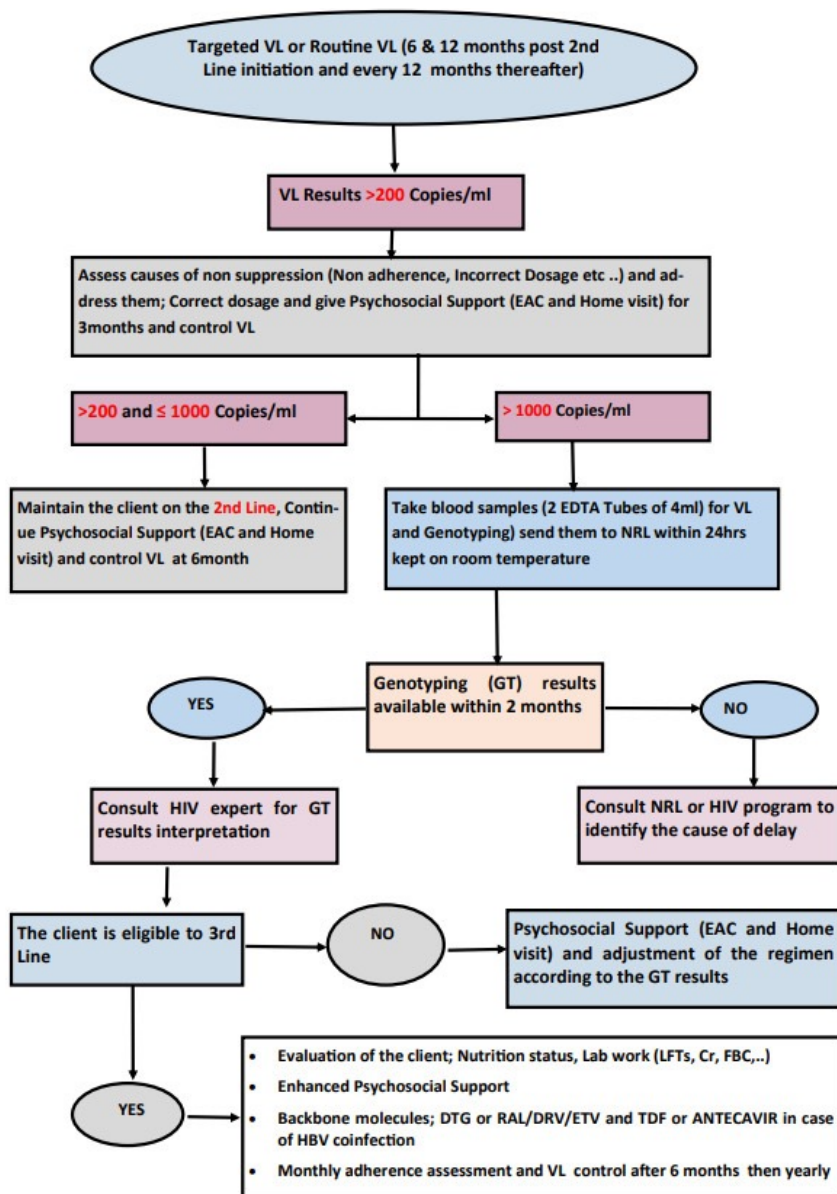


Figure 9: Management of treatment failure for clients on 2nd line regimen



2.5.2.4. 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

2.5.2.5. Recommendations on treatment monitoring for children

Table 16: 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 LFT and Glycemia if, DTG or VH coinfection	Comprehensive clinical assessment (TB, STI & NCD screening)	<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, DTG or VH coinfection 	+	+
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 17: 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"> For 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 and can be divided; crushed and mixed with a small amount of water or food – ingest immediately
Efavirenz (EFV)	Tablets must not be chewed, divided or crushed; swallow the tablet with or without food e.g. yogurt or banana. Capsules may be opened and powder contents dispersed in water or mixed with a small amount of food (e.g. yogurt) to disguise the peppery taste. Ingest immediately. Best given at bedtime to reduce CNS side effects, especially during first 2 weeks
Lopinavir/ritonavir (LPV/r) – pellets, Aluvia® OR Kaletra®	<ul style="list-style-type: none"> Dose is calculated on Lopinavir component. The 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)	<ul style="list-style-type: none"> Once-daily dosing during the first 2 weeks of treatment reduces the 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

Practical advice for administration of ARVs in children

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.

2.5.3. HIV Clinical management for adolescents & Adults

Below are key considerations in the 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.
- DTG-based regimen is the preferred 2nd line option for patients failing a non-DTG 1st line regimen.
- TDF/3TC/EFV is the alternative first-line regimen for adults and adolescents who cannot take TLD
- 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.

2.5.3.1. 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 to annex V).
 - ◊ Cardiovascular disease: blood pressure, cardiomyopathies
 - ◊ Malignancies: cervical cancer, breast cancer
 - ◊ Metabolic diseases: diabetes, hyperlipidemia, hypocholesterolemia
 - ◊ 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

Estimated Creatinine Clearance Rate calculation

For a woman:

Creatinine Clearance (CrCl) = $[(1.40 - \text{age}) \times \text{weight (kg)}] / [0.81 \times \text{creatinine } (\mu\text{mol/L})] \times 0.85$

For a man:

Creatinine Clearance (CrCl) = $[(1.40 - \text{age}) \times \text{weight (kg)}] / [0.81 \times \text{creatinine } (\mu\text{mol/L})] \times 1$

In both formulas, the calculation involves subtracting the age from 140, multiplying it by the weight in kilograms, and dividing it by the product of 0.81 (which is specific to creatinine clearance) and the creatinine concentration in $\mu\text{mol/L}$. The multiplication factor is 0.85 for women and 1 for men, depending on the gender.

Interpretation of Renal Creatinine Clearance

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

2.5.3.2. ART Regimen in adolescents and Adults

Table 18: ART Regimen in Adolescents and adults

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 it with ABC.	

Dosage and administration of first-line regimen

Table 19: 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 DTG based regimens in the morning to reduce sleeplessness as a side effect
- 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

2.5.3.3. 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 the children section

2.5.3.4. Recommended regimens for second-line ART

Table 20: 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 it 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

Drugs	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.
- Remember to assess the contraindication of drugs like renal failure due to TDF and use existing alternative



2.5.3.5. Recommended regimens for third-line ART

- DTG 50mg BID + Darunavir/ritonavir + Optimised 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 21: Dosing of third-line drugs in adolescent and adult

Drugs	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

2.5.3.6. 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 22: Recommendations on Patient Monitoring

Period	Laboratory	Clinical	Psycho
M0	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 < 200 cells/mm ³ , Glycemia 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, Glycemia LFTs if DTG or VH coinfection	TB, STIs and NCDs screening	✓
M12	VL, creatinine (clearance) if TDF, Glycemia 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**

2.5.3. Advanced HIV Disease

Advanced HIV Disease (AHD) is defined as HIV-infected adults, adolescents, and children \geq 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 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/mm³.

AHD includes people presenting to care for the first time following an HIV diagnosis and people who have treatment failure and consequent decline in CD4 cell count. Individuals who had previously initiated ART and are re-engaging with care after a period of ART interruption should be assessed for AHD and should be offered the advanced HIV disease package as appropriate to reduce morbidity and mortality.

In Rwanda, People with AHD 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 AHD 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. AHD is also associated with increased health-care costs, increased risk of OI, immune reconstitution inflammatory syndrome (IRIS), incomplete immune reconstitution, higher viral reservoirs, and more frequent monitoring needs. It is therefore important to identify persons with AHD and institute strategies to reduce morbidity and early mortality among PLHIV with advanced disease. The Table 25 below outlines the components of the package of care.

2.5.3.1 Assessing Advanced HIV Disease in PLHIV

CD4 cell count is the best indicator of disease stage and immediate risk of death and thus should be used to identify people with AHD. If access to CD4 count is limited or unavailable, WHO staging should be used.

PLHIV to consider for AHD assessment:

- Everyone entering (initiating ART) or re-entering care (re-engaging after 3 months) should receive a CD4 test at treatment baseline based as clinically indicated and mandatory for people who are severely ill, clinically unstable or have AHD.
- All children younger than five years (who are not already receiving ART and clinically stable) are considered to have advanced HIV disease.
- CD4 cell count testing can be performed using a variety of technologies, including laboratory based CD4 analysers, point-of-care technologies, and device-free semi-quantitative rapid tests.
- Lack of same-day availability of CD4 count results should not be a barrier to initiating ART on the same day.

2.5.3.2. Management of Advanced HIV Disease

Table 23: 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 the 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	≤200 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 events. Any CD4 cell count value in settings with a 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 by 4-6 weeks	Any	Yes	Yes
Adapted adherence support	Tailored counselling to ensure optimal adherence to advance 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 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 include 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 five 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 (MTB) infection in order to prevent the progression to active TB disease. Isoniazid (INH) is the most common drug-drug interaction, availability of drug, patient and clinician preference.

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

Adults and adolescents Living with HIV

- Adults and adolescents LHIV who are unlikely to have active TB should receive TPT.
- TPT is also given to those on ART, pregnant women irrespective of the degree of immunosuppression and even if LTBI testing is unavailable.
- TPT should be provided for persons who have completed TB treatment if they are exposed to TB.

Pregnant and breastfeeding WLHIV

- Pregnant and breastfeeding WLHIV who are unlikely to have TB should be offered TPT.
- Pregnant WLHIV can be offered preventive treatment that is considered safe for use in pregnancy, such as isoniazid and rifampicin.

Patients taking TPT should be monitored at monthly visits. The purpose of monthly visits is to screen for side-effects of the drugs, assess adherence and provide support as appropriate to safely retain the patient in care until treatment completion. Even if active TB has been ruled out prior to commencing treatment, a patient may develop active TB during TPT. Therefore, patients should be screened for the signs and symptoms of active TB at each monthly visit.

Table 24: Options for TPT treatment in Rwanda among PLHIV

Group	1st line option	2nd line option
Adults	3HP	6H
Children <24 months	3HR	6H
Children >24 months	3HR	6H
Pregnant women	6H	4R

3HP: Isoniazid and rifampentine once weekly for three months

6H: Isoniazid monotherapy for 6 months

3HR: Isoniazid and Rifampicin daily for 3 months

4R: Rifampicin daily for four months

Isoniazid + cotrimoxazole + pyridoxine combination (300/cotrimoxazole 960/pyridoxine 100mg for 6 months) is an FDC that may be considered as an alternative for PLHIV who need also cotrimoxazole.

2-14 years						
3HP Weekly dose		10-15kg	16-23kg	24-30kg	31-34kg	>34kg
	Isoniazid, 100mg	3 tabs	5 tabs	6 tabs	7 tabs	7 tabs
	Rifapentine, 150mg	2 tabs	3 tabs	4 tabs	5 tabs	5 tabs
	Isoniazid 300mg+Rifapentine 300mg	1 tab	1+1/2 tab	2 tabs	2+1/2 tabs	2+1/2tabs
	>14 years					
	Above 30kg					
Isoniazid 300mg+Rifapentine 300mg	3 tabs					

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 the 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 the patient's clinical status and CD4 cell count. Time for ART initiation varies between 4 and 6 weeks as follows:

- CD4 cell count ≤ 50 : Start ART within 2 weeks
- CD4 cell count > 50 : Start ART between 4-6 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 rifampicin 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-positive 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 350 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 the CD4 count falls below 200 cells/mm³.

6. Routine co-trimoxazole prophylaxis should be given to all people living with HIV with active TB, regardless of CD4 cell count.



- **Note: Cotrimoxazole should be phased out to all 5+ years old existing patients with viral suppressions (VL<200 copies/ml), except in special cases highlighted by the guideline.**

2.7. KEY RECOMMENDATIONS FOR HIV CARE AND TREATMENT SERVICES

SDE

Rec. 1: Same-day enrolment 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 350 cells/mm³ and/or WHO clinical stage 3 or 4) or existing patients with unsuppressed viral loads (more than 350 copies/ml)

TPT

Rec. 5: TPT is recommended for all eligible PLHIV who meet the inclusion criteria. TPT completion is one of the eligibility criterion for less-intensive model.

PS

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

Adherenc

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

DSD

Rec. 8: It is recommended to integrate other services (NCDs, TB/TPT, SRH/FP) within HIV care. Strategies of integration include coordination, co-location and co-scheduling of both services)

NACS

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

Under 3

Rec. 10: pDTG10mgs dispensable tablet is the preferred regimen for children between 3-20kgs and >4week old.



ANNEXES

Annex I. **Policy Statement of Quality of HIV Testing Services**

The Ministry of Health through RBC is committed to support the provision of high-quality HIV testing services at health facilities by ensuring the reliability and accuracy of test results as recommended by the 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 the 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 the standardized checklists and continuous quality improvement with the support of the Q-corps and a national certification framework of testers.

Annex II. **Screening for Intimate Partner Violence (IPV)**

IPV is one of the most common forms of gender-based violence (GBV). IPV is behavior by an intimate partner that causes physical, sexual, or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse, and controlling behaviors. 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).

Women who disclose any form of violence by an intimate partner (or other family members) or sexual assault by any perpetrator should be offered immediate support. Health care providers should, as a minimum, offer first-line support when women disclose violence. If health care providers are unable to provide first-line support, they should ensure that someone else (within their healthcare setting or another that is easily accessible) is immediately available to do so.

First-line support involves 5 simple tasks. It responds to both emotional and practical needs at the same time. The letters in the word "LIVES" can remind these 5 tasks that protect

women's lives:

LISTEN	Listen to the woman closely, with empathy, and without judging.
INQUIRE ABOUT NEEDS AND CONCERNS	Assess and respond to her various needs and concerns—emotional, physical, social, and practical (e.g., Childcare)
VALIDATE	Show her that you understand and believe her. Assure her that she is not to blame.
ENHANCE SAFETY	Discuss a plan to protect herself from further harm if violence occurs again.
SUPPORT	Support her by helping her connect to information, services, and social support.

Screening Questions for IPV: The following questions aim to assess the risk of partner violence toward the index client following notification.

- Has (partner name) ever hit, kicked, slapped, or otherwise physically hurt you in the last 12 months?
Yes No
- 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
- 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 III: 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 Blood culture
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 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 -15 years): 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-clavulanic 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 into 4 doses Adult: Amoxy-clavulanic 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, diarrhea, abdominal pain, hepato-splenomegaly	Culture from non-pulmonary sterile site, AFB blood culture, biopsy from the 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 (not 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. Criteria for prophylaxis:	
<ul style="list-style-type: none"> • 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 adults 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 to 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 the lateral surface of the tongue. 	<ul style="list-style-type: none"> 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: Acyclovir 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 causes corneal scarring with loss of vision in that eye. 	<ul style="list-style-type: none"> Based on clinical symptoms and signs. A Tzanck test shows multinucleated giant cells with inclusion bodies that are pathognomonic.

Treatment:**Children:**

- < 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 neuroimaging findings. The first step is usually identifying the clinical picture of the 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	Diagnostic Test(s)
<ul style="list-style-type: none"> • 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. 	<p>Clinical examination or HSV DNA polymerase chain reaction (PCR), and viral culture are preferred methods for diagnosis of mucocutaneous HSV lesions caused by HSV.</p>
Treatment	
<p>Orolabial and genital lesions (duration: 5-10 days)</p> <ul style="list-style-type: none"> • Children less than 45kg: acyclovir 20 mg/kg/day Po TID (not to exceed 400 mg) • Adults and children more than 45kg: acyclovir 400 mg PO TID (AIII) 	
<p>Severe Mucocutaneous HSV Infections (AIII)</p> <ul style="list-style-type: none"> • 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"> • Hyperpigmented 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, and 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. 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):	
Preferred therapy:	
<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) 	
Alternative Therapy:	
<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 For adults only: 15-30 mg (base) PO once daily + (clindamycin IV 30 mg/kg/day TID or PO 450 mg 4 times a day)) (AI) **Adjunctive corticosteroid may be indicated in some moderate to severe cases (see indications and dosage recommendations below) 	

For Mild to Moderate PJP - total duration = 21 days (All):**Preferred Therapy:**

Adult and children: IV TMP-SMX: (TMP 15–20 mg/kg/day TID (AI) or TMP-SMX DS (960Mg) - 2 tablets TID (adult)(AI).

Alternative Therapy:

1. Dapsone: Children more than 1 month: 2mg/kg /day for 21 days
Adult and adolescent: 100 mg PO daily for 21 days
2. Primaquine: For adults only:30 mg (base) PO daily + Clindamycin PO (450 mg 4 times a day) (BI) or adjunctive

Corticosteroids:

For moderate to severe PJP based on the following criteria:

If SaO₂ < 90%, beginning as early as possible and within 72 hours of PJP therapy) (AI)

Prednisone tablet:

- Children less than 13 years:
 - ◊ 1-5 days: 1mg/kg BID
 - ◊ 6-21 days: 0.5mg/kg OD
- Adult and Children more than 13 years:
 - ◊ 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:	

Preferred Regimen (AI):

- Cotrimoxazole

Children: TMP-SMX: TMP 15–20 mg/day but not exceed 300 mg IV given q6h (AI) for 6 weeks.

Adults: 960 mg PO TID or TMP-SMX IV as TMP 15–20 mg /day IV given q6h for 6 weeks.

Adults and children more than 13 years: Prednisone tablet:

- 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:**Children:**

- Phenytoin 15-20 mg/kg as loading dose
- Maintenance: 4-8mg/kg/day BID

Adults:

- 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 • Lumbar puncture and India ink staining, Cryptococcal Ag testing (serum and CSF)
Clinical Findings:	
<ul style="list-style-type: none"> • Features of AIDS, neck stiffness, behavior changes, confusion, and sometimes seizures, bulging optic disc 	
Treatment	
<p>Scenario 1: If the 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:

Preferred regimen:

- One week of amphotericin B 1mg/kg/day + flucytosine (100mg/kg/day in four divided doses per day)
Alternate regimens:
- 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
- Routine use of adjunctive corticosteroid therapy during the induction phase is not recommended in treating adults, adolescents and children who have HIV-associated cryptococcal meningitis

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 (400-800 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: Fluconazole 3mg/kg Po daily for at least 1 year. Adult: Fluconazole 200mg PO daily 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 the 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 until CD4 >20% for 1 year on ART.

• **Adolescents and adults:** fluconazole 200 mg daily until CD4 >200 for 1 year on ART.

Note:

- **Immediate ART initiation is not recommended for adults, adolescents, and children living with HIV who have cryptococcal meningitis because of the risk of increased mortality and should be deferred by 4-6 weeks from the initiation of antifungal treatment.**
- **Perform ASAT/ALAT every 2 weeks if fluconazole \geq 800 mg /day for adults and \geq 6mg/kg for children.**
- **Avoid the 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

Diffuse retrosternal pain, dysphagia, odynophagia, thrush.

Diagnostic Test(s)

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:

- Oral fluconazole 150 mg for 1 dose;
- Topical azoles (clotrimazole, butoconazole, miconazole, tioconazole, or terconazole) for 3-7 days.

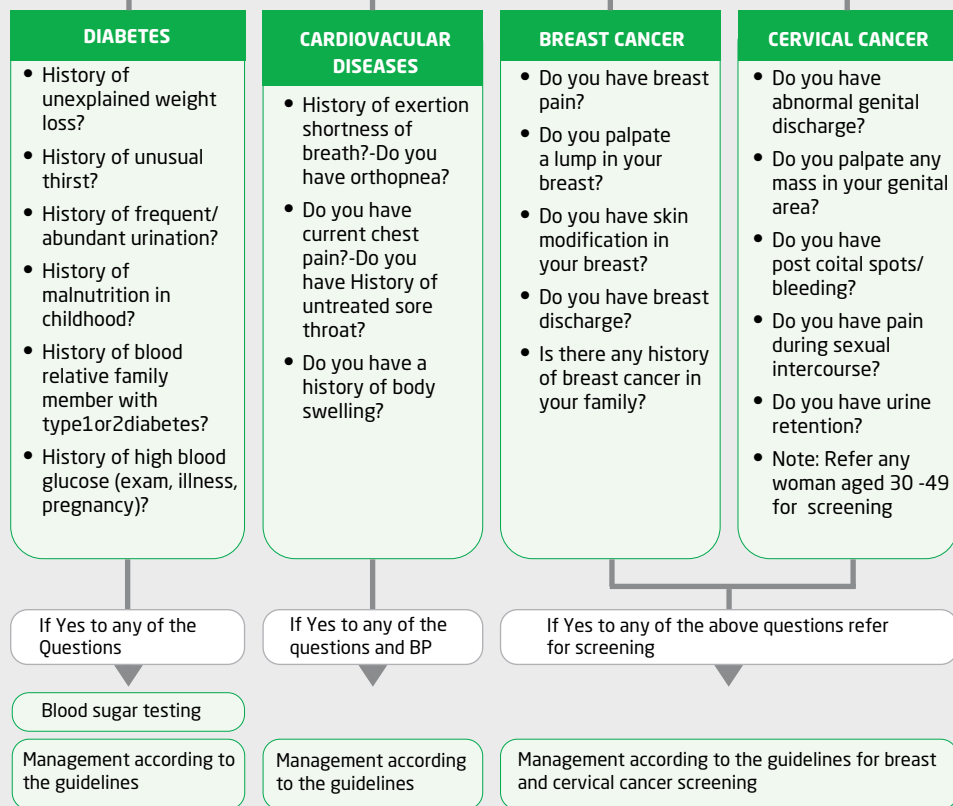
Annex IV. Screening and Management of most

General measurements

- Blood pressure (BP)
- Weight
- Height
- Body Mass Index
- Weight circumference
- Perform pain assessment

General questions

- Physical activity >30 min/day?
- Do you eat fruits and vegetables daily?
- History of smoking
- History of excessive alcohol consumption
- History of taking chronic medications (HIV, NCDs)



NEGATIVE SCREENING: Educate the client on NCDs risk factors, signs and early detection. Perform NCDs screening every visit for CVDs , Diabetes and Breast Cancer. Rescreen cervical cancer every 3 years

Annex V: Management of side effects

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.

Evaluation of Hepatotoxicity

Grading and evaluation of hepatotoxicity

	Normal	Grade 1	Grade 2	Grade 3	Grade 4
ALAT (SGPT) (UI/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)	<p>Skin rash (10%) and Stevens Johnson syndrome have been reported in some cases. Hepatotoxicity, diarrhoea, nausea, headache, hyperlipidaemia,</p>	<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. • f 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 VI. 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	Rifampicin 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	Dronedarone Eplerenone Ivabradine	Lovastatin Simvastatin	Rifampicin Clarithromycin	DRV/c only: Carbamazepine Phenobarbital Phenytoin	Lurasidone Midazolam Pimozide Triazolam	Dasabuvir Elbasvir/ Grazoprevir	
LPV/r	Dronedarone Eplerenone Ivabradine Ranolazine Propafenone Quinidine Ranolazine	Lovastatin Simvastatin	Rifampicin Clarithromycin	None	Lurasidone Pimozide Triazolam	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	Rifampicin	Carbamazepine Phenobarbital Phenytoin one	None	Dasabuvir Elbasvir/ Grazoprevir Ombitasvir Paritaprevir Simeprevir	

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

Annex VII. DOSING PER PATIENT'S WEIGHT

Product	3-5.9kg		6-9.9kg		10-13.9kg		14-19.9kg		20-24.9kg		25 - 34.9 kg		> 35 kg	
	Morning	Evening	Morning	Evening	Morning	Evening	Morning	Evening	Morning	Evening	Morning	Evening	Morning	Evening
Nevirapine 10 mg/ml syrup	5 ml	5 ml	8 ml	8 ml	10 ml	10 ml								
Zidovudine 10 mg/ml syrup	6 ml	6 ml	9 ml	9 ml	12 ml	12 ml								
ABC/3TC (120/60 mg) Dispersible, Scored Tablet	1 tablet od		1.5 tablets od		2 tablets od		2.5 tablets od		3 tablets od					
Dolutegravir 10mg	0.5 tablet od		1.5 tablets od		2 tablets od		2.5 tablets od							
Abacavir-Lamivudine 60 + 30 mg tablet					2 tab	2 tab	2.5 tab	2.5 tab	3 tab	3 tab				
Abacavir-Lamivudine 600 + 300 mg tablet											0.5 tab	0.5 tab	1 tab	
Lopinavir/ritonavir 100 + 25 mg tablet					2 tab	1 tab	2 tab	2 tab	2 tab	2 tab				
Lopinavir/ritonavir 200 + 50 mg tablet							1 tab	1 tab	1 tab	1 tab	2 tab	1 tab	2 tab	2 tab
Efavirenz 200 mg tablet						1 tab		1 tab		1 tab		2 tab		

Tenofovir- Lamivudine 300 + 300 mg tablet													1 tab	
Atazanavir 150 mg tablet								1 tab		1 tab				
Atazanavir 200 mg tablet												1 tab		1 tab
Ritonavir 100 mg tablet								1 tab		1 tab		1 tab		1 tab
Atazanavir/ ritonavir 300 /100 mg tablet														1 tab
Zidovudine- Lamivudine 60 + 30 mg tablet							2.5 tab	2.5 tab	3 tab	3 tab				
Zidovudine- Lamivudine 300 + 150 mg tablet											1 tab	1 tab	1 tab	1 tab
Raltegravir 400 mg									1 tab	1 tab	1 tab	1 tab	1 tab	
Darunavir 75 mg			1 tab	1 tab	1 tab	1 tab	1 tab	1 tab	1 tab	1 tab	2 tab	2 tab		
Darunavir 300 mg			1 tab	1 tab	1 tab	1 tab	1 tab	1 tab	1 tab	1 tab	1 tab	1 tab	2 tab	
Ritonavir 100mg			0.5 tab	0.5 tab	0.5 tab	0.5 tab	0.5 tab	0.5 tab	0.5 tab	0.5 tab	0.5 tab	0.5 tab	1 tab	
Etravirine 25 mg							1 tab	1 tab	2 tab	2 tab				
Etravirine 100 mg					1 tab	1 tab	1 tab	1 tab	1 tab	1 tab	2 tab	2 tab	2 tab	
Efavirenz 600 mg tablet														1 tab



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