NATIONAL GUIDELINE ON THE PREVENTION AND MANAGEMENT OF HIV IN CAMEROON

JANUARY 2015
PREFACE

New WHO recommendations on the prevention and treatment of HIV infection in pregnant/breastfeeding women, children, adolescents and adults are available since June 2013. They follow recommendations on the management of adults and adolescents first published in 2002, then simplified in 2003 and updated in 2006 and 2010. The first guidelines for the Prevention of Mother to Child Transmission (PMTCT) of HIV adapted from WHO publication on the use of Antiretrovirals (ARVs) were published in 2004.

The 2013 guidelines obey the principles of a public health approach. They are the result of field experiences based on scientific evidence. For the first time, WHO revised and consolidated these publications and other guiding documents on ARVs in a set of consolidated guidelines.

The targeted goal is to obtain better results by using ARVs for managing and preventing HIV infection in all age groups and all populations, based on the broad continuum of HIV care.

Following the dissemination of the WHO recommendations that coincide with the revision of the national guidelines, it became important to adapt them to the current context of service provision in Cameroon.

These revised guidelines address WHO key messages, namely:

- Early initiation of antiretroviral treatment when the number of CD4 count is ≤ 500 cell/mm³;
- Adoption of option B+ for the prevention of mother to child transmission of HIV;
- Use of simplified drug regimens with fewer adverse events;
- Improved management of co-infections (TB/HIV, HBV/HIV and HCV/HIV) and co-morbidities;
- Community appropriation of the continuum of HIV care.

I hope that these guidelines will be a valuable tool for health personnel and other community members involved in the integrated management of HIV/AIDS for a harmonized and efficient practice in a resource-limited environment.

The Minister of Public Health

André MAMA FOUDA
ACKNOWLEDGEMENTS

The National Guidelines for the Management of HIV/AIDS, obtained after a long and participatory process is the result of joint efforts from a large number of actors. I wish to express my gratitude to all organizations and people who took part in the drafting of this document. This document would not have been possible without contributions from professionals in health, communication and administration; development partners and members of the civil society who took time to offer their criticisms and comments.

I would like to extend my gratitude to:

- The Departments of the Ministry of Public Health for their leadership and technical expertise;
- The National AIDS Control Committee;
- UN agencies for their technical assistance and financial support including WHO, UNICEF, UNAIDS;
- Bilateral cooperation partners, notably PEPFAR/CDC, ESTHER;
- Clinicians in health facilities and the civil society.

I equally wish to express my sincere appreciation to all institutions that have not been mentioned individually, and resource persons who, through their commitment and professionalism, contributed in developing these guidelines.
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**ACRONYMS**

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<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3TC</td>
<td>Lamivudine</td>
</tr>
<tr>
<td>ABC</td>
<td>Abacavir</td>
</tr>
<tr>
<td>AFAAS</td>
<td>Accessible, Feasible, Available, Acceptable and Safe</td>
</tr>
<tr>
<td>AffTC</td>
<td>Affiliated Treatment Centre</td>
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<tr>
<td>ART</td>
<td>Antiretroviral Therapy</td>
</tr>
<tr>
<td>ARV</td>
<td>Antiretroviral</td>
</tr>
<tr>
<td>ATC</td>
<td>Approved Treatment Centre</td>
</tr>
<tr>
<td>BAL</td>
<td>Bronchoalveolar Lavage</td>
</tr>
<tr>
<td>BEA</td>
<td>Blood Exposure Accident</td>
</tr>
<tr>
<td>CBO</td>
<td>Community-based Organization</td>
</tr>
<tr>
<td>CHW</td>
<td>Community health worker, Zidovudine</td>
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<tr>
<td>CNCD</td>
<td>Chronic Non Communicable Disease</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>CTX</td>
<td>Cotrimoxazole</td>
</tr>
<tr>
<td>DOTS</td>
<td>Directly Observed Therapy Short Course</td>
</tr>
<tr>
<td>DTC</td>
<td>Diagnostic and Treatment Centre</td>
</tr>
<tr>
<td>EBV</td>
<td>Epstein Bar Virus</td>
</tr>
<tr>
<td>EFP</td>
<td>Essential Family Practices</td>
</tr>
<tr>
<td>EFV</td>
<td>Efavirenz</td>
</tr>
<tr>
<td>EMTCT</td>
<td>Elimination of Mother To Child Transmission of HIV</td>
</tr>
<tr>
<td>EPI</td>
<td>Expanded Programme on Immunization</td>
</tr>
<tr>
<td>EPT</td>
<td>Extrapulmonary Tuberculosis</td>
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<tr>
<td>EWI</td>
<td>Early Warning Indicator</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
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<td>-------------</td>
</tr>
<tr>
<td>FHB</td>
<td>Foetal Heart Beat</td>
</tr>
<tr>
<td>FIFO</td>
<td>First In First Out</td>
</tr>
<tr>
<td>FP</td>
<td>Family Planning</td>
</tr>
<tr>
<td>FTC</td>
<td>Emcitrabine</td>
</tr>
<tr>
<td>HBV</td>
<td>Hepatitis B Virus</td>
</tr>
<tr>
<td>HCV</td>
<td>Hepatitis C Virus</td>
</tr>
<tr>
<td>HDV</td>
<td>Hepatitis D Virus</td>
</tr>
<tr>
<td>HF</td>
<td>Health facility</td>
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<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<tr>
<td>HPV</td>
<td>Human Papilloma Virus</td>
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<tr>
<td>HV</td>
<td>Home Visit</td>
</tr>
<tr>
<td>IDR</td>
<td>Intradermal Reaction</td>
</tr>
<tr>
<td>IDU</td>
<td>Intravenous Drug Users</td>
</tr>
<tr>
<td>IFN</td>
<td>Interferon</td>
</tr>
<tr>
<td>ILD</td>
<td>Intestinal Lung Disease</td>
</tr>
<tr>
<td>IMCI</td>
<td>Integrated Management of Childhood Illnesses</td>
</tr>
<tr>
<td>INH/PT</td>
<td>Isoniazid Preventive Treatment</td>
</tr>
<tr>
<td>IP/r</td>
<td>Pegylated Interferon /ribavirin</td>
</tr>
<tr>
<td>IPT</td>
<td>Intermittent Preventive Treatment</td>
</tr>
<tr>
<td>IRIS</td>
<td>Immune Reconstitution Inflammatory Syndrome</td>
</tr>
<tr>
<td>IUD</td>
<td>Intra-Uterine Device</td>
</tr>
<tr>
<td>IV</td>
<td>Intravenous</td>
</tr>
<tr>
<td>LB</td>
<td>Liver Biopsy</td>
</tr>
<tr>
<td>LB</td>
<td>Liver Biopsy</td>
</tr>
<tr>
<td>LLIN</td>
<td>Long Lasting Insecticide Treated Net</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>LTF</td>
<td>Lost to follow-up</td>
</tr>
<tr>
<td>MNCH</td>
<td>Maternal, Newborn and Child Health</td>
</tr>
<tr>
<td>MSM</td>
<td>Men having Sex with Men</td>
</tr>
<tr>
<td>MU</td>
<td>HIV Management Unit</td>
</tr>
<tr>
<td>MUAC</td>
<td>Middle Upper Arm Circumference</td>
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<tr>
<td>NACC</td>
<td>National AIDS Control Committee Antenatal consultation</td>
</tr>
<tr>
<td>NGO</td>
<td>Non Governmental Organization</td>
</tr>
<tr>
<td>NNRTI</td>
<td>Non-Nucleoside Reverse Transcriptase Inhibitor</td>
</tr>
<tr>
<td>NRTI</td>
<td>Nucleoside Reverse Transcriptase Inhibitor</td>
</tr>
<tr>
<td>NSP</td>
<td>National Strategic Plan</td>
</tr>
<tr>
<td>NTCP</td>
<td>National Tuberculosis Control Programme*</td>
</tr>
<tr>
<td>NVP</td>
<td>Nevirapine</td>
</tr>
<tr>
<td>ORS</td>
<td>Oral Rehydration Solution</td>
</tr>
<tr>
<td>PI</td>
<td>Protease Inhibitor</td>
</tr>
<tr>
<td>PICT</td>
<td>Provider-initiated Counselling and Testing</td>
</tr>
<tr>
<td>PMTCT</td>
<td>Prevention of Mother to Child Transmission of HIV</td>
</tr>
<tr>
<td>PSE</td>
<td>Parasitological Stool Examination</td>
</tr>
<tr>
<td>PSE</td>
<td>Parasitology Stool Examination</td>
</tr>
<tr>
<td>PSS</td>
<td>Blood Exposure Accident</td>
</tr>
<tr>
<td>PTB-</td>
<td>Smear-negative Pulmonary Tuberculosis</td>
</tr>
<tr>
<td>PTB+</td>
<td>Smear-positive Pulmonary Tuberculosis</td>
</tr>
<tr>
<td>PTE</td>
<td>Patient Therapeutic Education</td>
</tr>
<tr>
<td>PW</td>
<td>Pregnant Woman</td>
</tr>
<tr>
<td>SD</td>
<td>Single Dose</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually Transmitted Infection</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>SW</td>
<td>Sex Worker</td>
</tr>
<tr>
<td>TDF</td>
<td>Tenofovir</td>
</tr>
<tr>
<td>UNFPA</td>
<td>United Nations Population Fund</td>
</tr>
<tr>
<td>VIA</td>
<td>Visual Inspection with Acetic Acid</td>
</tr>
<tr>
<td>WCA</td>
<td>Women of Childbearing Age</td>
</tr>
</tbody>
</table>
GENERAL INTRODUCTION

These guidelines are intended to improve access and quality of the prevention and integrated management of people living with HIV/AIDS (PLWHA) in Cameroon. In this regard, the Minister of Public Health took measures to standardize the comprehensive and integrated management of HIV throughout the country. A technical group of experts was put in place to review these guidelines.

Based on scientific developments and the 2013 WHO recommendations, these new guidelines reflect Cameroon’s experience on decentralization, task shifting, integration of services, community outreach and programmatic aspects.

This document is organized in three parts divided into sections. The first part deals with the clinical management of the Prevention of Mother To Child Transmission (PMTCT), the management of HIV-exposed or infected children, adolescents and adults. The second part addresses operational aspects with a focus on support, care continuum and community-based management. The third part deals with programmatic aspects.

For the Technical Group of Experts
Prof. Sinata KOULLA SHIRO
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   1.4 Mechanisms of MTCT of HIV
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INTRODUCTION

Cameroon is one of 22 PMTCT priority countries including 21 in sub-Saharan Africa. These countries account for nearly 80% HIV MTCT cases in the world.

The prevalence of HIV infection among pregnant women is 7.6% (2012 Sentinel Survey) and an estimated 7 600 new pediatric infections occur each year (2012 EMTCT plan) in Cameroon.

Without intervention, approximately 35% of children born to HIV-positive mothers will contract HIV during pregnancy, delivery or breastfeeding.

PMTCT involves four pillars of interventions implemented to prevent the child from being infected with HIV.

The analysis of PMTCT cascade at the end of 2012 still revealed shortcomings both in the demand and quality of services offered in health facilities throughout the country.

The following will be discussed in this section of the document:

- National PMTCT Guidelines;
- Strategies/measures to take at the community level and in health facilities.
1. GENERAL NOTIONS ON MOTHER TO CHILD TRANSMISSION (MTCT)

1.1 DEFINITIONS

MTCT: Mother to Child Transmission of HIV
PMTCT: Prevention of Mother to Child Transmission of HIV. It is a set of interventions implemented to prevent children from being infected with HIV by their mother.
e-MTCT: Elimination of the Mother to Child Transmission of HIV

1.2 MTCT FREQUENCY
Without preventive interventions, MTCT rate of HIV ranges between 25% and 45% in developing countries.

1.3 MTCT PERIODS
HIV may be transmitted from mother to child during pregnancy, delivery and postpartum through breastfeeding.

Transmission risk during pregnancy starts around the second trimester of pregnancy and gradually increases due to contractions becoming stronger and more frequent as the pregnancy is progressing to term.

The highest risk period of MTCT occurs during delivery because the child is no longer protected by membranes and is in direct contact with its mother’s HIV-infected blood and fluids.

MTCT risk during breastfeeding is increased by a combination of factors as breastfeeding is prolonged in time.

The table below summarizes estimated risk of MTCT per period.

<table>
<thead>
<tr>
<th>Period</th>
<th>Estimated Risk of MTCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>During pregnancy</td>
<td>10-20%</td>
</tr>
<tr>
<td>During labour and delivery</td>
<td>30-40%</td>
</tr>
<tr>
<td>During breastfeeding</td>
<td>15-30%</td>
</tr>
<tr>
<td>Transmission rate without breastfeeding</td>
<td>15-25%</td>
</tr>
<tr>
<td>Transmission rate with breastfeeding up to 6 months</td>
<td>25-35%</td>
</tr>
<tr>
<td>Transmission rate with breastfeeding up to 6-12 months</td>
<td>30-45%</td>
</tr>
</tbody>
</table>

1.4 MTCT MECHANISMS
MTCT may occur in utero, per and postpartum during breastfeeding.

1.4.1 In utero transmission

This can be done through:
- The placenta containing cells that express CD4 receptors and may be infected with HIV at all stages of the pregnancy.
- HIV-infected amniotic fluid where the virus is found in a free state or combined with cells.
- Micro transfusions during exchanges between the pregnant woman and the foetus during pregnancy. This phenomenon is increased as the pregnancy is progressing to term.
1.4.2 Perpartum transmission
It is explained through two mechanisms:

- Direct contact of the unprotected foetus with infected body fluids (mother’s blood, amniotic and genital fluids) passing through the birth canal.
- Birth trauma that may cause various skin or mucosal lesions creating direct contact between the baby’s blood and its mother’s blood and HIV-infected secretions.

**Stronger and longer uterine contractions during delivery are a risk factor**

1.4.3 Postpartum transmission

It mainly occurs through breastfeeding. HIV is found in breast milk in a free state or combined with cells.

With the permeability of the intestinal mucosa and the immaturity of the immune system in early life, HIV contained in breast milk taken by the baby may travel through the mucosa to the blood stream and cause HIV infection.

1.5 RISK FACTORS OF MTCT OF HIV

Five factors increase the risk of MTCT of HIV, including:

1.5.1 Viral factors
HIV1, due to its faster replication and its higher virulence compared to HIV2 presents a greater risk of mother to child transmission. **This risk is estimated at 25% for HIV1 and only 1% for HIV2.**

1.5.2 Maternal factors
- Advanced stage of HIV infection (AIDS)
- Primary infection
- Low CD4 count
- High viral load
- Poor nutritional status
- Anemia
- Vitamin A Deficiency

1.5.3 Obstetrical factors
- Vaginal delivery more risky than Caesarean section
- Instrumental delivery (forceps or ventouse)
- Prolonged labour
- External or internal rotation
- Prolonged rupture of membranes (> 4 hours)
- Invasive obstetrical procedures: episiotomy, artificial rupture of membranes, amniocentesis, chorionic villus biopsy, etc.
1.5.4 Foetal factors
- Prematurity
- First born in a multiple birth
- Hypotrophy

1.5.5 Factors related to feeding options
- Unprotected breastfeeding (with ARVs)
- Prolonged breastfeeding
- Mixed feeding
- Breast lesions: mastitis, nipple cracks, breast abscess
- Poor nutritional status of the mother
- Oral infections in the baby: candidiasis, stomatitis, ulcers.

The high viral load of the mother is the greatest amongst these risk factors of MTCT of HIV.

Some infectious co-factors are likely to reduce the efficiency of the antiretroviral therapy or increase the risk of MTCT of HIV. These are:
- Chorioamnionitis
- STIs
- Malaria (increases MTCT of HIV through placentitis)

Table II: Main risk factors of MTCT of HIV

<table>
<thead>
<tr>
<th>Pregnancy</th>
<th>Labour and delivery</th>
<th>Breastfeeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>High viral load (recent infection or advanced stage of AIDS)</td>
<td>High viral load (recent infection or advanced stage of AIDS)</td>
<td>High viral load (recent infection or advanced stage of AIDS)</td>
</tr>
<tr>
<td>Viral, bacterial or parasitic Infection of the placenta (malaria)</td>
<td>Rupture of membranes for over 4 hours</td>
<td>- Duration and bad breastfeeding practices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Breast diseases: mastitis, cracks, infections...</td>
</tr>
<tr>
<td>Sexually Transmitted Infections (STIs)</td>
<td>Invasive procedures during delivery increasing contact with infected blood from the mother’s genital mucosa (episiotomy, foetal scalp monitoring)</td>
<td>Introduction of supplementary feeding before 6 months (food, liquids and/or formula)</td>
</tr>
<tr>
<td>Maternal malnutrition (indirect cause)</td>
<td>First born in a multiple birth</td>
<td>Mother’s insufficient or unbalanced diet</td>
</tr>
<tr>
<td></td>
<td>Chorioamnionitis</td>
<td>Oral infections in the child (thrush, stomatitis, ulcers, etc.)</td>
</tr>
</tbody>
</table>
1.6 PREVENTION STRATEGIES OF MTCT OF HIV IN CAMEROON

Cameroon articulates its prevention strategy of MTCT of HIV on three major areas to maximize results:

1.6.1 Integration of PMTCT and Maternal, Newborn and Child Health (MNCH)

The goal here is to use all entry points to MNCH care (ANC, maternity, immunization service, postpartum monitoring service, family planning service, etc.) to identify persons with needs to address and provide those services

Services to provide include:
- either prevention of HIV infection (PMTCT pillar 1) and any other diseases or unwanted pregnancies (PMTCT pillar 2);
- or the adequate management of pregnancy and/or HIV infection (PMTCT pillars 3 and 4)

Figure 1: The four pillars of PMTCT

1.6.2 Actions to encourage for each PMTCT pillar

**Pillar 1: Primary prevention of HIV among future parents**
- Provide information and awareness for behaviour change;
- Promote safer sexual practices:
  - Abstinence for adolescents and young people not yet sexually active
  - Fidelity to one uninfected partner for couples
  - Correct use of condoms for all risky sexual intercourse
- Facilitate access to condoms (male and female);
Early diagnose and treat STIs;
Make HIV counseling and testing widely available;
Provide adequate prevention advice to HIV negative women;

**Pillar 2: Prevention of unwanted pregnancies in HIV positive women**

- Systematically provide counseling for family planning (FP) at all entry points of MNCH;
- Offer a reliable and effective contraception method to all women who need it;
- Promote safer sexual practices (systematic and correct use of condoms).

**Pillar 3: Prevention of MTCT of HIV**

- Systematic and early HIV testing for all pregnant women during the first ANC;
- Initiate ART in all HIV positive pregnant women as early as possible based on HIV diagnosis;
- Promote safe sexual behaviour;
- Advice delivery in a health facility;
- Adhere to good practices during delivery;
- Provide counseling for infant feeding;
- Ensure medical and psychosocial management;
- Provide necessary support for ARV adherence;
- Test and treat any disease likely to increase MTCT risk (urinary and cervicovaginal infections);
- Quickly stop postpartum exposure of the baby to its mother’s blood and secretions by washing the baby in a warm antiseptic solution;
- Give the baby Nevirapine prophylaxis;
- Start safe feeding for the baby.

**Pillar 4: Treatment, care and support of HIV+ women and their infected family members**

- Carry out HIV testing for partners and other children of HIV positive pregnant women and mothers;
- Offer treatment, care and support to all HIV positive women and their HIV infected partners and children;
- Ensure clinical and biological follow-up based on national recommendations;
- Provide necessary support to promote retention and treatment adherence;
- Organise a contact and collaboration system with community-based services for holistic and appropriate management.

1.7 **FAMILY APPROACH IN THE MANAGEMENT OF HIV INFECTION**

Providers should use the person already identified as infected (woman or her child) as a reference to reach other family members (sexual partner and/or other children) to offer them the healthcare services they need (HIV testing, ART, any other healthcare service).

The benefit of this approach is to provide comprehensive clinical and psychosocial management of all family members who can also provide mutual support to each other.
1.8 TASK SHIFTING/DECENTRALIZATION OF SERVICES

These strategies enable to bring healthcare services closer to populations and remedy the lack of human resources in quality and quantity.

Every Head of a health facility must use task shifting to enable the management of a greater number of patients and ensure care continuum (See 2013 Task shifting Guidelines; 2010 Mentoring Guide).

1.9 IMPLEMENTATION OF OPTION B+ FOR PMTCT

In August 2012, Cameroon adopted option B+ for the national PMTCT policy.

This approach advocates the systematic initiation of antiretroviral therapy (ART) for HIV positive pregnant or breastfeeding women regardless of the clinical and immunological stage. ART should be continued throughout pregnancy, delivery and for life.

1.10 MANAGEMENT OF PREGNANT WOMEN FOR PMTCT

Gateways to PMTCT

Antenatal consultation is the main gateway to PMTCT for pregnant women. Its goal is to:

- Promote the good development of the pregnancy;
- Prevent MTCT of HIV.

Other services where pregnant women may be identified and which are other gateways to PMTCT are:

- ANC;
- Labour room;
- Postpartum consultation;
- Paediatrics/Neonatology Service;
- Family Planning;
- Immunization service
- Community (Home delivery) etc.

Providers should:

- Use these gateways to encourage women to start antenatal consultations in the health facility of their choice once they are sure they are pregnant.
- During antenatal consultations, provide the basic package of services presented in the table below.

The basic package of services for ANC is made up of the elements below:

- HIV testing for all pregnant women. In case the 1st negative test is older than 3 months, repeat the test;
- Offer testing for her partner and children;
- Preparation plan for delivery;
- Prophylaxis (anemia, tetanus);
- Intermittent Preventive Treatment of Malaria (IPT);
- Biological test (Syphilis, hepatitis B ...).
### Table III: Package of services for antenatal consultation

<table>
<thead>
<tr>
<th>INTERVENTIONS</th>
<th>ANC1</th>
<th>ANC2</th>
<th>ANC3</th>
<th>ANC4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Period of visits</strong></td>
<td>1&lt;sup&gt;st&lt;/sup&gt; trimester (0-16 weeks)</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; trimester (16-28 weeks)</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; trimester (28-36 weeks)</td>
<td>4&lt;sup&gt;th&lt;/sup&gt; trimester (36-42 weeks)</td>
</tr>
<tr>
<td><strong>Timing of visits</strong></td>
<td>Any time before the 16&lt;sup&gt;th&lt;/sup&gt; week</td>
<td>24-28 weeks</td>
<td>32-36 weeks</td>
<td>After 36 weeks</td>
</tr>
<tr>
<td><strong>Complete clinical exam and assessment of pregnancy</strong></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Pelvic evaluation</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>Lab Exams</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HIV</strong></td>
<td>Test the pregnant woman and her partner if status unknown</td>
<td>Do HIV testing if:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− The pregnant woman and her partner have not yet been tested for HIV</td>
<td>− The pregnant woman and her partner were found HIV negative more than 3 months before</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Blood group and Rh-factor</strong></td>
<td>Determine blood group and rhesus factor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Syphilis</strong></td>
<td>Do TPHA/VDRL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>If positive: treat with Penicilline Benzathine (SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FBC</strong></td>
<td>If &lt;11.5g/l, the patient is anemic, double iron and folates intake and provide nutritional counseling</td>
<td></td>
<td>If the pregnant woman presents with signs of anemia (mostly paleness), do blood count</td>
<td></td>
</tr>
<tr>
<td><strong>Urine</strong></td>
<td>Screen for sugar and albumin at each visit: If presence of albumin, monitor BP and treat. If presence of sugar and acetone, screen for diabetes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hepatitis B Testing</strong></td>
<td>Routine screening for HBsAg for all pregnant women during 1&lt;sup&gt;st&lt;/sup&gt; ANC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTERVENTIONS</td>
<td>ANC1</td>
<td>ANC2</td>
<td>ANC3</td>
<td>ANC4</td>
</tr>
<tr>
<td>---------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Period of visits</strong></td>
<td>1&lt;sup&gt;st&lt;/sup&gt; trimester (0-16 weeks)</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; trimester (16-28 weeks)</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; trimester (28-36 weeks)</td>
<td>4&lt;sup&gt;th&lt;/sup&gt; trimester (36-42 weeks)</td>
</tr>
<tr>
<td><strong>Timing of visits</strong></td>
<td>Any time before the 16&lt;sup&gt;th&lt;/sup&gt; week</td>
<td>24-28 weeks</td>
<td>32-36 weeks</td>
<td>After 36 weeks</td>
</tr>
<tr>
<td>Complete clinical exam and assessment of pregnancy</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>Vaccinations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Give the first TT dose if unvaccinated</td>
<td>Give the second TT dose (at least 4 weeks after the 1&lt;sup&gt;st&lt;/sup&gt; visit) where applicable</td>
<td>Give one TT dose if necessary (if she has not yet received 2 doses since the beginning of pregnancy)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Supplements</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iron / folic acid</td>
<td>Give one iron tablet (200mg) and 1 folic acid tablet 5mg daily. For pregnant women presenting signs of anemia, double the dose</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mebendazole</td>
<td>Do not give during the 1&lt;sup&gt;st&lt;/sup&gt; trimester</td>
<td>Give Mebendazole tablets (500mg) or in the 3&lt;sup&gt;rd&lt;/sup&gt; trimester of pregnancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPT</td>
<td>Do not give IPT before 16 weeks of pregnancy, advise the use of LLINs</td>
<td>Give SP 500mg/25mg. If HIV+, give CTX instead of IPT</td>
<td>Give SP 500mg/25mg. If HIV+, give CTX instead of IPT</td>
<td>Advise the use of LLINs</td>
</tr>
<tr>
<td><strong>CTX and ARV</strong></td>
<td>If HIV+ pregnant woman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Give ARV as early as possible after diagnosis regardless of CD4 count and the trimester</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Give CTX at each visit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Ensure support to treatment adherence at each visit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.11  HIV COUNSELING AND TESTING

Pregnant women (PW) are a risk group to which Provider-Initiated Counseling and Testing (PICT) should systematically be proposed.

All pregnant or breastfeeding women should do HIV testing. HIV testing should be done based on the national algorithm. It must be repeated three months later for HIV negative pregnant women.

Health personnel should encourage partners of pregnant women to do their HIV test.

1.11.1  Guiding principles

Confidentiality: ensures that information shared between the client and the care provider remains private and the safety and confidentiality of medical records are guaranteed.

Information: clear, precise, concise and complete information on HIV testing is given to clients.

Post-test counseling: should be systematic, HIV test result should always be handed personally to the concerned, with related explanations and necessary guidance for appropriate management.

1.11.2  Skills required for a counselor

The counselor must be able to:

- Speak in clear, simple language, using words that are not confusing;
- Show empathy: understand the client’s feeling without being judgmental;
- Active and careful listening: pay attention to the client’s answers and facial expressions showing their feelings or worries;
- Remain focused: help the client remain focused on the goals of the session;
- Correct myths and fake information in a subtle way;
- Use amicable methods to teach and answer the client’s questions;
- Increase efforts towards behaviour change including safer sex practices.

Counseling and testing for HIV as part of PMTCT should be done during ANC, labour and delivery and during postpartum consultations.
Counseling and screening services should ensure confidentiality. The content of the discussion between the counselor, the screener and the client shall ONLY be disclosed to a third party if the person who did the test expressly gave their consent.

The counselor should:

- Endeavour to provide quality testing service and quality assurance mechanisms should be established to guarantee the accuracy of results.
- Have knowledge on HIV/AIDS, STIs and HIV, MTCT and how to prevent it, HIV testing process, benefits and risks of HIV testing; confidentiality; implications of a positive and a negative test; identification of support services, family planning, needs assessment
- Master two-way communication
- Encourage partners to discuss the implications of discordant results
- Ask about the HIV status of other family members and encourage those with unknown status to do the HIV test.

Quality assurance of the HIV testing should:

- Comprise internal (technician’s competence, respect of testing algorithm, logbook) and external (reference laboratory) measures based on needs to reduce the occurrence of false positive and false negative results

In antenatal consultation the provider should:

- Chose the opt out strategy for HIV testing
- Encourage PW to come with their partners for HIV testing

In the labour and delivery room, the provider should:

- Systematically ask about the HIV status of all PW in the delivery room with undocumented status or with negative status older than 3 months.
- If HIV test is positive, start antiretroviral therapy for the PW and give Nevirapine prophylaxis to the baby within 48 to 72 hours after birth based on national regimens.

In postpartum the provider should:

- Encourage all women with unknown status coming to the hospital within 72 hours following delivery to do HIV test free of charge.
- Immediately put the mother on ART if she is HIV+, and the baby must receive Nevirapine for 12 weeks if breastfed and Nevirapine for 6 weeks if not.
1.11.3 Important points in PMTCT counseling

- Insist on the importance of respecting ANC periods of visits;
- Encourage pregnant women to have their partners do their test;
- Educate on danger signs;
- Make the delivery preparation plan;
- Conduct breastfeeding counseling;
- Provide nutritional support;
- Provide support to treatment adherence;
- Give advise on the use of the various services available at the clinical and community level for care continuum;
- Provide counseling for post partum follow-up of the mother-child couple.

1.11.4 HIV testing algorithm for pregnant women

HIV testing should be done based on the algorithm below and the successive use of two different tests is necessary.

1.12 MANAGEMENT OF HIV+ PREGNANT AND BREASTFEEDING WOMEN WITH ARV

The provider should adhere to the following stages of ART initiation to pregnant or breastfeeding women: therapeutic education, mastery of the ART regimen, adequate counseling for treatment monitoring.
Table IV

<table>
<thead>
<tr>
<th>ART initiation in HIV positive pregnant or breastfeeding women</th>
<th>Providers should initiate ART to HIV positive pregnant or breastfeeding women regardless of WHO clinical stage or CD4 count (OPTION B+)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prerequisites for ART initiation</strong></td>
<td><strong>Providers should</strong> carry out therapeutic education and assessment of factors likely to impair the quality of treatment.</td>
</tr>
<tr>
<td><strong>ART regimen</strong></td>
<td><strong>Providers should</strong> ensure the clinical monitoring of HIV positive pregnant or breastfeeding women on ART</td>
</tr>
<tr>
<td><strong>Clinical and biological monitoring of ART</strong></td>
<td></td>
</tr>
</tbody>
</table>

1.12.1 Carry out pre-therapeutic education

Pre-therapeutic education consists in explaining:

- Treatment goal;
- Why treatment should start immediately and continue for a long time;
- Treatment modalities (name of the specialty, dose, presentation, intake frequency, administration route and possible side effects);
- How adherence quality influences results;
- The consequences of poor adherence;
- Conditions for treatment follow-up.

It also involves:

- Looking for possible factors likely to hinder the smooth conduct of the treatment and discuss possible solutions;
- Request client’s commitment to take up the treatment.

At the end of this session, the provider should demonstrate their availability to support the client as much as possible

1.12.2 ART Initiation (Option B+)

**Treatment regimens**

- If intolerance to Tenofovir: Give AZT/3TC twice daily + Efavirenz 600mg once daily;
- If intolerance to Efavirenz: Give TDF (300mg)/3TC (300mg) once daily + NVP 1 tablet twice daily or TDF/3TC once daily + Lop/r 200/50mg 2 tablets twice daily.

**Follow-up of antiretroviral therapy**

The follow-up of ART is both clinical and biological and its calendar must be coupled with that of child monitoring as indicated in the table below:
**Table V:** Summary of the clinical and biological follow-up of ART among HIV+ pregnant or breastfeeding women

<table>
<thead>
<tr>
<th>Appointment</th>
<th>At ART initiation</th>
<th>1 month after ART initiation</th>
<th>6 months after ART initiation</th>
<th>6 weeks postpartum</th>
<th>Every three months</th>
<th>12 months postpartum then once/year</th>
<th>15 months postpartum</th>
<th>18 months postpartum</th>
<th>24 months postpartum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical exam</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Hepatitis B Virus Testing</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply in ARVs and CTX</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Adherence support</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CD4*</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viral load (VL)</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creatininemia</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transaminases</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood glucose level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Although the mother is seen every three months after 6 months following postpartum, the supply in ARVs and Cotrimoxazole should continue on a monthly basis along with support for treatment adherence. Any possible change in this period shall be done based on a purely individual motive.
1.13 MANAGEMENT OF LABOUR, DELIVERY AND POSTPARTUM

Labour is a very delicate time for pregnant women, but even more for HIV+ pregnant women.

Labour and delivery are indeed the greatest risk periods of mother to child transmission of HIV. Special precautions should be taken by maternity personnel to reduce this risk. A set of measures enable to reduce it when implemented.

The risk of MTCT of HIV remains beyond delivery and throughout the postpartum monitoring period of the mother-child couple as long as breastfeeding continues. ART and all other parameters of postpartum follow-up of the mother-child couple should be carefully monitored by providers throughout this period.

The following table summarizes the package of services for women during labour, delivery and postpartum.
### Table VI: Package of services for mother and child during labour, delivery and postpartum

<table>
<thead>
<tr>
<th>LABOUR AND DELIVERY</th>
<th>POSTPARTUM FOLLOW-UP OF THE MOTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Periods of visits</strong></td>
<td><strong>N/A</strong></td>
</tr>
<tr>
<td><strong>Timing of visits</strong></td>
<td>Labour and delivery and within the first 24 hours</td>
</tr>
<tr>
<td><strong>Objectives</strong></td>
<td>Promote eutocic delivery to obtain an HIV-free living newborn</td>
</tr>
<tr>
<td><strong>Interventions</strong></td>
<td>Prevent any situation likely to increase foetal-maternal blood exchanges that would increase the risk of MTCT of HIV. To do this: − Use the partograph − Avoid ARM − Avoid episiotomy − Avoid foetal trauma (manoeuvres, instrumental delivery) − Ensure good reception of the baby</td>
</tr>
<tr>
<td><strong>Follow-up</strong></td>
<td>Family Planning</td>
</tr>
<tr>
<td><strong>Health promotion and counseling</strong></td>
<td>− Inform the client on danger signs of the postpartum period − Sensitize and encourage the client for a return visit to the HF</td>
</tr>
<tr>
<td>Labortory testing and screening</td>
<td>Anemia</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Tuberculosis</td>
</tr>
<tr>
<td></td>
<td>Physical exams</td>
</tr>
<tr>
<td></td>
<td>Nutritional status</td>
</tr>
<tr>
<td></td>
<td>WHO Classification</td>
</tr>
<tr>
<td>Laboratory tests</td>
<td>HIV</td>
</tr>
<tr>
<td><strong>CD4</strong></td>
<td>Perform CD4 sampling for all HIV positive mothers who have not done CD4 count or whose count is older than 6 months</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Syphilis</strong></td>
<td>If the mother is tested positive during pregnancy: give a single dose of Penicillin Benzathine to the newborn</td>
</tr>
<tr>
<td><strong>Iron/folic acid</strong></td>
<td>Give 1 iron tablet (200mg) + 1 folic acid tablet (5mg) daily. If anemia, double the dose. Give 1 iron tablet (200mg) + 1 folic acid tablet (5mg) daily for 3 months</td>
</tr>
<tr>
<td><strong>Mebendazole</strong></td>
<td>If the patient did not receive it during pregnancy, give a Single Dose. Give Mebendazole 500mg (SD) every 6 months</td>
</tr>
<tr>
<td><strong>IPT</strong></td>
<td>Advise the mother on the use of ITNs and if necessary give her one if available</td>
</tr>
<tr>
<td><strong>ARV</strong></td>
<td>Give CTX to the mother. Give CTX to the HIV positive mother during each visit. Give ARVs. Give Nevirapine to the baby from the first 72 hours of life and continue for 6 weeks.</td>
</tr>
<tr>
<td><strong>CTX</strong></td>
<td>Give prophylactic ARVs to the baby. Give CTX to the exposed newborn from the 6th week. Continue with CTX</td>
</tr>
<tr>
<td><strong>HIV diagnosis in infants</strong></td>
<td>Carry out HIV diagnosis in the baby. Collect infant blood sample on blotting paper (DBS) for early diagnosis of HIV through PCR. Continue diagnosis process based on national algorithm</td>
</tr>
</tbody>
</table>
1.13.1 Management of children born to HIV positive mothers

1.13.1.1 ARV prophylaxis in children born to HIV positive mothers

For any child born to an HIV+ mother who is breastfed or receives replacement feeding, the personnel of the maternity or in charge of the follow-up of the mother-child couple should start ART as early as possible following childbirth or as they are aware of its exposure.

In Cameroon, ART consists in Nevirapine to be given daily in a single dose for six weeks.

The table below indicates the dose of prophylactic Nevirapine for children born to HIV+ mothers based on birth weight.

### NVP dosages for the exposed child

<table>
<thead>
<tr>
<th>Age</th>
<th>Daily intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>From birth to 6 weeks</td>
<td></td>
</tr>
<tr>
<td>▪ Weight : 2000 to 2499g</td>
<td>10 mg in a single dose (1 ml)</td>
</tr>
<tr>
<td>▪ Weight ≥ 2500g</td>
<td>15 mg in a single dose (1.5ml)</td>
</tr>
</tbody>
</table>

**Note:** In a newborn with a low birth weight (<2000 g), start with 2 mg/kg (0.2 ml/kg) daily until it reaches 2000g

1ml = 10 mg of NVP

1.13.1.2 Monitoring of children born to HIV+ mothers

All children born to HIV+ mothers also known as exposed children should be regularly followed up at the health facility till the end of the period of the postpartum transmission risk of HIV (18 -24 months postpartum).

a. **Follow-up schedule**

After delivery and before hospital discharge, children born to HIV+ mothers should undergo complete clinical and neurological exams and information on these exams should be documented in their medical records. Efforts should also be made to identify children born to HIV+ mothers at entry points of child care (immunization service, paediatric service, ART service, etc.)
**TABLE VII: SCHEDULE AND PACKAGE OF SERVICES FOR THE FOLLOW-UP OF CHILDREN BORN TO HIV+ MOTHERS**

<table>
<thead>
<tr>
<th>Services</th>
<th>At birth</th>
<th>At 6 weeks</th>
<th>At 10 weeks</th>
<th>At 14 weeks</th>
<th>At 5 months</th>
<th>At 6 months</th>
<th>At 9 months</th>
<th>At 12 months</th>
<th>At 15 months</th>
<th>At 18 months</th>
<th>At 21 months</th>
<th>At 24 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARV</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight and anthropometric measurements (W, H, HC)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Assessment of psychomotor development</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Complete clinical exam</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Feeding counseling</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Immunization</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cotrimoxazole</td>
<td>Start with Cotrimoxazole at the age of 6 weeks and continue till the time of confirmation of non contamination with HIV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV Diagnosis</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Do testing first then confirm positive serology with DBS/PCR</td>
<td>HIV Diagnosis through testing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychosocial support to the mother</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
b. Package of services at each follow-up visit

At each follow-up visit, providers shall offer children born to HIV+ mothers the package of services indicated in the figure below.

**Figure 2:** Package of services for the follow-up of children born to HIV+ mothers

**At 6 weeks**
- Monitor growth
- Monitor development
- Assess treatment adherence to ARV
- Provide feeding counseling
- Initiate CTX
- Diagnose and treat identified diseases
- Document care activities
- Indicate the date of next appointment

**From 6 weeks to 6 months**
(Monthly visits)

**At each visit:**
- Do EPI vaccinations
- Monitor growth
- Monitor development
- Administer CTX (monthly supply)
- Counseling
- Infant feeding
- Vaccinate based on EPI
- Do HIV testing based on national algorithm
- PCR at 6 weeks and before 9 months if necessary
- HIV serology at 9-18 months and confirmatory PCR for positive serologies
- Initiate ART if the child is infected with HIV

**From 6 to 24 months**
(Visit every three months)

**At each visit:**
- Monitor growth and development
- Administer CTX (3 months supply)
- Counseling on child nutrition
- Vaccinations based on EPI
- Search for pathologies and treat
- HIV serology at 9 months and confirmatory PCR if positive serology
- HIV serology at 18 months or 6 weeks following cessation of breastfeeding
- Initiate ART if the child is infected with HIV

Systematically document all care activities and set the date of the next appointment

1.13.1.3 Feeding of infants born to HIV positive mothers

**General principles on infant feeding**

Adequate nutrition promotes good growth and harmonious development of the infant (0-2 years). Insufficient food, in quantity or quality, during the first years of life hampers its growth and development and also increases morbidity and mortality.
Nutritional assessment should be done at each follow-up visit through measuring the weight, height, head circumference compared to standard growth curves. It equally enables to assess adequacy between the child and its nutritional needs.

Nutritional needs are even greater in HIV infected children as the clinical stage of disease is advanced.

Infant feeding therefore largely depends on the family’s ability to meet the needs of HIV-exposed or infected children with their clinical condition.

**Before 6 months**

Advice HIV+ mothers to exclusive breastfeeding protected with ARVs (NVP) or replacement feeding up to 6 months if the living conditions of the family allows it.

Exclusive breastfeeding is recommended for HIV negative women or women with undocumented HIV status.

**Between 6 and 12 months**

Continue breastfeeding and associate adapted, sufficient and balanced complementary feeding. Gradually introduce new foods to enable the child progressively adapt to its new feeding mode.

Milk remains an essential nutrient for infant feeding at this age and it must receive at least half a litre daily in addition to its complementary food.

**Above 12 months**:

- Breastfeeding should be stopped and replaced by any other whole milk (cow’s milk or milk sold in the market) for children born to HIV positive mothers whose HIV infection cannot be established, to prevent the child’s exposure to an additional risk of contracting HIV infection. In addition to this milk, the child will be fed on family’s food which will be adapted to its development stage;

- For children for whom HIV infection is already confirmed, the provider will encourage the mother to continue breastfeeding to enable the baby receive for some time the nutritional benefits of breast milk.

1.13.1.4 Guidelines in feeding counseling

Counseling for infant feeding should:

- Start during antenatal consultations and continue during successive follow-up visits of the pregnant woman and the mother-child couple;

- Be based on national guidelines;

- Be adapted to the individual situation of the family and consider customs and beliefs;

- Involve information on various feeding options;

- Tend to strengthen competences of women in breastfeeding without risking their baby’s life;

- Encourage the partner’s involvement and/or any other member of the family in selecting the feeding method of the baby;

- Encourage women to inform at least one trusted person on their HIV status.
Note:
1. The decision on the choice of the feeding method is the sole responsibility of the mother and her family. They must take this decision knowingly, informed by the healthcare personnel.
2. Health personnel should then support the mother and her family for the adequate implementation of the feeding option selected.

1.13.1.5 Assessing the feasibility of the implementation of the infant feeding option

a. Breastfeeding option
   - Define exclusive breastfeeding;
   - Recall the merits and disadvantages of breastfeeding;
   - Specify that the maximum duration of exclusive breastfeeding is 6 months;
   - Point out constraints to its proper implementation;
   - Define mixed feeding and explain the dangers;
   - Explain the dangers of mastitis or any breast infection;
   - Show good breastfeeding position;
   - Demonstrate the technique for pumping breast milk;
   - Show availability to support the implementation of the feeding option selected.

b. Formula feeding option
   Ensure the formula feeding option selected is acceptable, feasible, affordable, sustainable and safe:
   - **Acceptable**: No pressure of any kind: partner, culture, family, etc.
   - **Feasible**: the mother fully understands the conditions for preparing formula milk and has the necessary equipment;
   - **Affordable**: the financial cost is affordable to the family;
   - **Sustainable**: Sustainable over time;
   - **Safe**: safe for the child.

If all these prerequisites are met
   - Help the mother chose the formula milk brand;
   - Demonstrate how to prepare formula milk;
   - Show availability to support the implementation of the feeding option selected.

1.13.6 Principles in the implementation of infant feeding

The child should receive sufficient and balanced food at all ages that will promote its growth and harmonious development.

   Food quantity and its composition, meal frequency and its presentation should evolve as the child grows to enable it meet its needs.
   Balanced diet in sufficient quantity also helps the child fight against diseases.

The guiding principles of infant feeding are summarized in the table below:
Table VIII: Type, quality, quantity and frequency of meals based on age

<table>
<thead>
<tr>
<th>AGE</th>
<th>Composition</th>
<th>Meals frequency</th>
<th>Quantity per meal</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 6 months</td>
<td>Breast milk</td>
<td>On demand</td>
<td>Sufficient quantity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>compared to needs</td>
</tr>
<tr>
<td>6 months</td>
<td>Light then thick porridge and puree (meat, vegetables or fruits)</td>
<td>Twice daily + frequent milk rations</td>
<td>2 - 3 tablespoons</td>
</tr>
<tr>
<td>7 - 11 months</td>
<td>Finely chopped food and food that the baby can hold</td>
<td>3 meals + 1 snack between meals + milk rations</td>
<td>2/3 cups</td>
</tr>
<tr>
<td>12 - 24 months</td>
<td>Family food chopped or mashed if necessary</td>
<td>3 meals + 2 snacks between meals + milk rations</td>
<td>1 full cup</td>
</tr>
</tbody>
</table>

If the baby is not breastfed, add 1 to 2 cups of milk daily and 1 to 2 additional meals per day

Note: Whenever possible the baby’s diet should be based on local food and usual utensils of the family should be used to measure quantities. One cup = 250ml

1.13.1.7 HIV testing in children born to HIV positive mothers

HIV testing in children born to HIV positive mothers should be done based on the national algorithm:

\[ a \] At 6 weeks: PCR Testing

The test used for early diagnosis at 6 weeks is DNA PCR. Blood sample is taken at the infant’s heel and dried on blotting paper (DBS = Dry Blood Spots). Collected and dried samples are packaged and sent to reference laboratories via the existing transportation system used in the locality. Reference laboratories perform the DNA PCR test and return the results to the sampling sites to guide child management. When PCR test is positive, it enables to confirm the presence of the HIV virus in the blood, hence confirming HIV diagnosis.

\[ b \] Between 9 and 18 months: First serology testing, then confirmatory PCR of positive serology

The blood of infants born to HIV positive mothers contains HIV antibodies which were passed unto them by their mother during intrauterine life. These antibodies are gradually eliminated from birth and at the age of 18 months, the child has completely eliminated them. Their persistence in the infant’s blood makes the HIV test positive without real HIV infection.
Thus, for children between 9 to 18 months, and to reduce the cost of HIV testing, serology is done first to identify those having HIV antibodies. Then, PCR test is performed for those with positive serology to separate those who are actually infected with HIV and for whom treatment is initiated immediately from those with positive serology in the absence of HIV infection due to the mere persistence of the mother’s antibodies. This category does not require ARV.

**c) Children above 18 months: Diagnosis by serology**

Children in this age group have already completely eliminated their mother’s antibodies.

Their result should be negative for serology and only those with HIV infection will have positive serology.

Screening for HIV infection in these children is done by serology alone and with the same national testing algorithm used for adults.

The testing algorithm for HIV infection in children born to HIV positive mothers is presented below.
HIV testing algorithm for children born to HIV positive mothers

- Child born to an HIV positive mother
  - DBS/PCR at 6 weeks or as early as possible after 6 weeks
    - DBS/PCR positive
      - Continue follow-up based on recommendations
    - DBS/PCR negative
      - Continue follow-up based on recommendations

  - Symptomatic child < 9 months
    - (Onset of suggestive signs of HIV infection)
      - Repeat DBS/PCR
    - Positive DBS/PCR
      - Start ART
    - Negative DBS/PCR
      - Diagnosis and treatment of current disease

  - Asymptomatic child < 9 months
    - Continue follow-up
    - Do HIV serology at 9 months

  - Serology done between 9 and 18 months
    - * Positive serology
      - Perform confirmatory DBS/PCR
    - * Negative serology and current breastfeeding
      - Continue follow-up and repeat serology * at 18 months or beyond, 6 weeks after breastfeeding
    - * Negative serology without breastfeeding ≥ 6 weeks
      - Negative DBS/PCR
      - Routine follow-up at HF
    - Positive DBS/PCR
      - * Positive serology

* Serology performed with rapid tests based on national algorithm

If new PCR is requested to confirm positive result of a first PCR, initiate ART pending results
**1.13.1.8 Vaccination of children born to HIV+ mothers**

Children born to HIV positive mothers should be vaccinated following the Expanded Programme on Immunization (EPI) calendar below:

<table>
<thead>
<tr>
<th>Age</th>
<th>Contacts</th>
<th>Vaccines</th>
<th>Targeted diseases</th>
<th>Administration route</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>At birth</strong></td>
<td>1&lt;sup&gt;st&lt;/sup&gt; contact</td>
<td>BCG OPV-0</td>
<td>Tuberculosis Poliomyelitis</td>
<td>Intradermal Oral</td>
</tr>
<tr>
<td><strong>At 6 weeks</strong></td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; contact</td>
<td>DTC1 : Hep- Hib.1 Pneumo-13.1 OPV.1</td>
<td>Poliomyelitis Diphtheria, Tetanus, Pneumococcal Haemophilus</td>
<td>Intramuscular Oral</td>
</tr>
<tr>
<td><strong>At 10 weeks</strong></td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; contact</td>
<td>DTC2 : Hep-Hib.2 Pneumo-13.2 OPV.2</td>
<td>Pertussis, viral Hepatitis B</td>
<td>Intramuscular Oral</td>
</tr>
<tr>
<td><strong>At 14 weeks</strong></td>
<td>4&lt;sup&gt;th&lt;/sup&gt; contact</td>
<td>DTC3 : Hep-Hib.3 Pneumo-13.3 OPV-3</td>
<td></td>
<td>Intramuscular Oral</td>
</tr>
<tr>
<td><strong>At 6 months</strong></td>
<td>5&lt;sup&gt;th&lt;/sup&gt; contact</td>
<td>Vitamin A (1&lt;sup&gt;st&lt;/sup&gt; dose)</td>
<td></td>
<td>Oral</td>
</tr>
<tr>
<td><strong>At 9 months</strong></td>
<td></td>
<td>Measles Vaccine</td>
<td>Yellow fever</td>
<td>Subcutaneous</td>
</tr>
</tbody>
</table>

However, do not administer live vaccines (BCG, measles or Yellow fever vaccine) if:

- The child presents with signs of HIV infection
- The child presents with signs of severe measles

Other vaccines (inactivated) should be administered as recommended for children of the same age group.
1.14 INITIATION OF ART IN HIV+ PREGNANT AND BREASTFEEDING WOMEN

### Antepartum

- Assess clinical stage,
- Do CD4 cell count (not required for starting ART),
- Administer Cotrimoxazole
- Preparation to ART initiation
- Initiate ART (TDF+3TC+EFV)

**Other regimen:**
- If intolerance to EFV, replace with NVP
- If intolerance to TDF, replace with AZT

**Note:** If already on ART when pregnancy occurs, continue with the same treatment

### Labour and Delivery

- Continue with ART

**In the labour room:**
- Check the status of the woman in the labour room
- Test every woman with unknown HIV status
- Initiate ART for any HIV+ woman in the labour room

### Postpartum

- Breastfeeding or food replacement
- Mother: Continue with ART and Cotrimoxazole
- Exposed child: NVP as from birth until 6 weeks
- Start Cotrimoxazole at 6 weeks, do PCR at 6 weeks and HIV test
- 6 weeks after discontinuation of breastfeeding

<table>
<thead>
<tr>
<th>NVP Dosage from birth to 6 weeks (10mg/ml)</th>
<th>2 to 2.5 kg</th>
<th>&gt;2.5 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1ml once daily</td>
<td>1.5ml once daily</td>
<td></td>
</tr>
</tbody>
</table>
1.15 HIV INFECTION AND FAMILY PLANNING

Adding FP to PMTCT services of HIV may prevent 55 000 additional infant deaths and 150 000 unwanted pregnancies in countries where HIV prevalence is high.

Most women and men coming for counseling and testing (CT) are sexually active. Many of them have unmet needs in terms of contraception, whether HIV positive or not. Counseling in FP should always be given and as far as possible, contraceptives should be offered on site.

HIV positive women have the right to equal access to family planning services. The occurrence of pregnancy in these women is associated with higher maternal mortality and various birth outcomes including low birth weight and stillbirth. Women who have started ART should have access to FP and ART sites should provide voluntary contraception to these clients.

The prevention of unwanted pregnancies among HIV positive women may notably reduce MTCT of HIV and contraception methods may constitute appropriate choices for these women.

Benefits of integrating FP and PMTCT

- Improved access to key Reproductive Health (RH) and HIV services as well as an increased use of these services adapted to their needs;
- Reduced stigmatization and discrimination associated with HIV;
- Better coverage of vulnerable key populations;
- Greater support for dual protection;
- Reduced infant mortality;
- Improved quality care;
- Reduced duplication of efforts and competition concerning resources;
- Better understanding and protection of individuals rights;
- Strengthened effectiveness and efficiency of programmes.
1.16 INTERACTIONS WITH CONTRACEPTIVES IN VARIOUS CLINICAL SITUATIONS

<table>
<thead>
<tr>
<th>Contraceptive options</th>
<th>NNRTI</th>
<th>NRTI Lopi/R</th>
<th>Anti-convulsants</th>
<th>Systemic antifungals</th>
<th>Untreated Chlamydia and Gonorrhea</th>
<th>Clinical AIDS and poor response to ART</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NVP</td>
<td>EFV</td>
<td>AZT, D4T, 3TC, ABC, TDF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male and female condoms</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>COC</td>
<td>**</td>
<td>**</td>
<td>*</td>
<td>***</td>
<td>***</td>
<td>*</td>
</tr>
<tr>
<td>Progestogenic</td>
<td>**</td>
<td>**</td>
<td>*</td>
<td>***</td>
<td>***</td>
<td>*</td>
</tr>
<tr>
<td>Implants</td>
<td>**</td>
<td>**</td>
<td>*</td>
<td>**</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Injectable</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>IUD</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>***</td>
</tr>
<tr>
<td>Tubal Ligation Vasectomy</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>***</td>
</tr>
<tr>
<td>Desire for pregnancy</td>
<td>*</td>
<td>***</td>
<td>*</td>
<td>***</td>
<td>***</td>
<td>***</td>
</tr>
</tbody>
</table>

*: Appropriate method; no interaction

**: Possibility to reduce the contraceptive effectiveness or increase adverse effects of hormonal methods (Associate an alternative method such as condom to compensate for a possible reduction of the contraceptive effectiveness)

***: Do not use the method (contraindicated)

1.17 RETENTION AND ADHERENCE SUPPORT WITHIN THE PMTCT PROGRAMME

1.17.1 Organizing the follow-up system for the retention of clients within the health facility

- Ensure that the personnel is implementing a clear and precise schedule for the follow-up of clients;
- Open an appointment diary in which the identity of clients and all the necessary information for tracing them, when necessary, are recorded;
- Make up a team of community health workers whose members are organized by coverage areas around the health facility;
- Train community workers on their duties within the care system in the health facility and in the community;
Make a list of expected clients for each follow-up day.

At the end of each follow-up visit day, the provider must identify clients who failed to attend their appointment and make a list to be given to the community health worker in charge of tracing the lost to follow-up. This will be done either by telephone or through home visits. The community health worker will use his telephone or visit the person only to renew contact and negotiate a new appointment in the health facility. He will also inform the care team of the health facility on the date of the new appointment.

The community health worker will be available to welcome the client in the health facility on the set date and will accompany them to their meeting with the members of the care team. At the end of this visit, the community health worker will see the person off while expressing readiness to provide support as much as possible.

1.17.2 Organizing the support system to treatment adherence in the health facility

- Establish the systematic count of remaining drugs at the pharmacy at each follow-up visit;
- Ensure the introduction of a reminder of missed doses and support to treatment adherence in routine counseling during follow-up visits;
- Organize clients in support groups and help them establish their appointment schedule;
- Provide them with needed support in organizing and facilitating activities of the support group;
- See to the diversification of these activities to include subjects related to HIV infection and treatment, as well as any other topic of interest for its members;
- Encourage each member to speak freely during support group meetings;
- Encourage experience sharing by group members and the organization of recreational and leisure activities for their children.

1.18 SERVICE ORGANIZATION AND REFERRAL IN THE HEALTH FACILITY

The aim is to foster harmony in the deployment of PMTCT activities.

1.18.1 Organization of services

As far as possible, organize the service provision system within the health facility in a “One Stop Shopping” to guarantee that each client receives all the services they need in one visit.

Where services offered to clients involve various distinct units, the patient’s circuit should be organized in a clear and functional manner. Members of the multidisciplinary team should be posted along this circuit, each one with well defined duties so that they all work in a coordinated manner to provide a comprehensive package of services to each client.
As part of task shifting and decentralization for the implementation of option B+, it is recommended that:

- The authorized personnel of PMTCT/MNCH services start first-line ART (TDF+3TC+EFV) for HIV+ pregnant and breastfeeding women and provide them with good clinical and biological follow-up;
- In the event of adverse effects or if drug inefficiency is suspected or established, the provider shall assess adherence to treatment and provide the necessary support. If any treatment adherence problem has been noted, the provider shall refer the client to the nearest ART centre (MU or ATC) for appropriate counseling and management.

1.18.2 Referral and counter-referral system

Establish the referral and counter-referral system among units involved in care provision to clients.

Referral may be physical (the client is physically taken from one unit to another). Referral may be done using a referral form duly filled in by the referring service and given to the client who will present it to the provider on arrival at the destination unit.

1.18.3 Establishment of a system for the follow-up of retention and support to treatment adherence

Introduce the appointment diary with a list of clients expected for each consultation day.

At the end of each consultation day, identify clients who missed their appointment and make a list to trace them.

Ask community health workers to look for clients who missed their appointment and the lost to follow-up found on the list given to them at the end of each consultation day.

Train community health workers in using tools put at their disposal and the tracking system of clients for better client retention in the health care system.

Give community health workers communication means (telephone, text messages, etc.) and the necessary logistics to trace defaulters and the lost to follow-up.

Set up a peer-education system with identified and well trained peer educators who will provide psychological and treatment adherence support to their peers through sharing of personal experiences.

Organize the establishment and functioning of support groups within the health facility and draw up their meeting schedule. Discussion topics during these meetings should take into consideration the interests of members and set treatment goals.

Systematically document referral and counter-referral activities in the corresponding tools of the referral and destination units.

Equally document all activities of support groups.

1.19 RELATIONSHIP BETWEEN HEALTH FACILITY AND COMMUNITY

Identify existing organizations and associations within the community and contact those presenting an interest for the proper follow-up of PMTCT clients.
Train members of these organizations and associations in implementing information, awareness and community mobilization activities for PMTCT to encourage demand for services available in health facilities for themselves and their families.

Encourage PMTCT clients to become members of these associations or work with organizations likely to support them in adhering to their treatment in the health facility and the community.

**1.20 MANAGEMENT OF PMTCT INPUTS**

The availability and good management of PMTCT inputs are very important for the continuity and quality of services provided to clients. Health facilities should contribute in the good management of all inputs. They are partakers from quantification through requisition to distribution of inputs within the programme.

**1.20.1 Quantification, requisition, supply and distribution**

Every health facility should regularly collect, analyse and send the programme’s data based on national recommendations. These data help in quantifying and forecasting inputs which shall be supplied and distributed following recommended procedures.

Health facilities will thus create a robust logistics system through an appropriate and updated inventory mechanism. This will reduce stock surplus and expiration before use and poor storage or stock-outs leading to an interruption of services.

Inputs requisitions must be done adequately taking into account safety stock and stock to be used before supply.

**1.20.2 Storage and stock management**

The management of the stock of inputs should be done using appropriate tools by a provider trained to this effect. Health facilities should therefore have key tools for stock management (order forms, stock control register, order/reception forms, stock delivery forms, stock delivery register...). They must have adequate storage for inputs.

Inputs should be stored away from weather conditions and rodents, the expiry date should always be checked and inputs should be taken out based on the FIFO « First in, First out » approach.

**1.20.3 Inputs regulatory system**

The management of inputs should be included in the agenda of Health districts coordination meetings. A presentation of the situation of inputs in each health facility shall enable to redistribute the surpluses of some health facilities to others with insufficient inputs. These coordination meetings shall also serve as a forum for retraining providers on some important public health issues. The regulatory system should also involve RPSCs to ensure adequate supply of district health services.
1.21 MONITORING AND EVALUATION OF THE PMTCT/MNCH INTEGRATED PROGRAMME

Regular monitoring is a key activity of the programme enabling to assess the progress of results through predefined indicators and their change over time. The analysis of these results guides the decision-making process to improve the quality of the implementation and the results of the programme.

1.21.1 Monitoring and evaluation tools

Tools for documenting (patients’ records, registers and electronic databases) and collecting data (monthly data collection form of the HF) of the PMTCT/MNCH integrated programme have been or are being developed.

The personnel in health facilities should be trained in the proper use of these tools to ensure good documentation of the programme activities.

1.21.2 Indicators

A list of indicators for the PMTCT/MNCH integrated programme has been developed and is appended to this document.

Health facilities staff should compile and analyse the programme data, including data on pregnant women on ART in the MNCH service (PMTCT) to ensure exhaustiveness of data and assess the quality of the programme implementation on their site. The establishment of a standardized laboratory register will enable to assess the quality of HIV testing on site. Data reporting should be done on a monthly basis at specified periods based on the data reporting circuit below.

1.21.3 PMTCT data reporting circuit

PMTCT data reporting should be done following the circuit below:
### No health data

<table>
<thead>
<tr>
<th>Ministries: Sub-departments for Health, sport and school extracurricular activities</th>
</tr>
</thead>
</table>

### Coordination

<table>
<thead>
<tr>
<th>Work group</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Planning, M * F</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOH</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Planning unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDPH</td>
</tr>
</tbody>
</table>

### Health data

<table>
<thead>
<tr>
<th>Council agents</th>
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</thead>
<tbody>
<tr>
<td>Health District</td>
</tr>
</tbody>
</table>

| - DH |
| - SMC |

<table>
<thead>
<tr>
<th>Sub-divisional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social centers</td>
</tr>
<tr>
<td>Schools</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional Delegations</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINAS</td>
</tr>
<tr>
<td>MINEDUB, MINSEC</td>
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<table>
<thead>
<tr>
<th>Divisional Delegations</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINAS</td>
</tr>
</tbody>
</table>

| Sub-departments for Health, sport and school extracurricular activities |

The reporting circuit used in Cameroon requires that, on a monthly basis (no later than the 5\textsuperscript{th} of each month), each PMTCT reporting site should send the programme data to the affiliated district health service. The district health service summarizes data received from all sites and sends them to the regional delegation (latest 10\textsuperscript{th} of each month) with a copy to the RTG/NACC. The Regional Delegation in turn shall forward a monthly summary of the Region to the Department of Family Health (latest the 15\textsuperscript{th} of the month) with a copy to the RTG/NACC.

1.2.1.4 Analysis and use of the programme data

The PMTCT programme data thus collected and compiled should be analysed on the site where they were produced and then at each level of the health pyramid to assess the quality of the implementation and results of the programme.

A feedback on the assessment of the quality of data and the results of the programme shall be sent by the district health service to each sender site, by the Regional Delegation to each District and by the Department of Family Health to each Regional Delegation.

The conclusions on this analysis shall orientate the implementation of the PMTCT programme to improve quality and results at all levels.
CONCLUSION

PMTCT is a set of interventions to minimize the risk of transmission and progression of the disease in the mother and the child.

Its success relies on routine HIV testing antepartum, perpartum and postpartum to ensure that all HIV positive cases are identified and managed.

It also requires a rational use of available resources for the proper and continuous management of persons in need.

Good education of populations and good communication among caregivers, clients and the community are very important in carrying out this activity.

Cameroon is committed to eliminating mother-to-child transmission of HIV by 2015, hence, responding to the call of the international community. The participation of all, at all levels, is therefore highly recommended to contribute in the national efforts towards achieving this goal.
SECTION 2: MANAGEMENT OF HIV-EXPOSED OR INFECTED CHILDREN
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2. GUIDELINES FOR HIV SCREENING IN CHILDREN AND PROVIDER-INITIATED COUNSELING AND TESTING

1. The parent/legal guardian of a child in contact with the health system should be proposed a free HIV test for the child at all gateways for care, if the child’s status is unknown.
2. The parent/legal guardian of a hospitalized child should be proposed a free HIV test adapted to its age if the child’s status is unknown.
3. The parent/legal guardian of a malnourished child should be proposed a free HIV test for the child.
4. Any infected parent treated in the management units or approved treatment centres must be proposed free HIV testing for their offsprings.
5. The consent of the parent/legal guardian is needed for child screening in the community.
6. For HIV screening of children in the community, the provider must have the approval of the Health District and/or the Regional Delegation of Public Health.
7. School age children as well as their parents or guardians should be informed that they are infected with HIV. The disclosure of the child’s HIV status should be done progressively taking into account their cognitive skills and emotional maturity to prepare them for the complete disclosure of their status while respecting guidelines 5 and 6.
8. For adolescents, it is recommended to do HIV counseling and testing while linking them to prevention, care and treatment services and respecting guidelines 5, 6, 7.

2.1 GUIDELINES FOR MONITORING AND PROPHYLAXIS OF HIV-EXPOSED CHILDREN

2.1.1 Monitoring of children born to HIV positive mothers

All children born to HIV positive mothers, also called exposed children, should be regularly monitored at the health facility till after the risk period of post natal transmission of HIV (18 -24 months postpartum)

*Follow-up calendar*

After delivery and before hospital discharge, children born to HIV positive mothers should undergo complete clinical and biological testing and test data should be documented in their medical records. Efforts should also be made to identify children born to HIV+ mothers at entry points of children (immunization, paediatrics, ART service).
## CALENDAR AND PACKAGE OF SERVICES FOR THE FOLLOW-UP OF CHILDREN BORN TO HIV POSITIVE MOTHERS

<table>
<thead>
<tr>
<th>Services</th>
<th>At birth</th>
<th>At 6 weeks</th>
<th>At 10 weeks</th>
<th>At 14 weeks</th>
<th>At 5 months</th>
<th>At 6 months</th>
<th>At 9 months</th>
<th>At 12 months</th>
<th>At 15 months</th>
<th>At 18 months</th>
<th>At 21 months</th>
<th>At 24 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prophylactic ARV</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight and measurements (W, H, HC)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Assessment of psychomotor development</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Complete clinical exam</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Feeding counseling</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Immunization</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cotrimoxazole</td>
<td></td>
<td>Start with Cotrimoxazole at 6 weeks and continue till non contamination with HIV is confirmed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV Diagnosis</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>First do serology test and then confirmatory DBS/PCR for positive result</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychosocial support to the mother</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
Health facilities providing PMTCT service should set up follow-up consultations for HIV-exposed children.

All children born to HIV+ mothers should be recorded and receive follow-up consultations based on the vaccination calendar.

Cotrimoxazole prophylaxis should be initiated for all newborn/HIV-exposed children as from 6 weeks following birth and continue till weaning and exclusion of HIV infection.

Newborns to HIV+ mothers should receive NVP prophylaxis as follows:

- For 6 weeks, if the mother received antiretroviral tritherapy during pregnancy regardless of the feeding method selected by the mother;
- For 12 weeks, if the infant is breastfed; if the mother did not receive treatment during pregnancy or received it for less than 4 weeks;
- Throughout breastfeeding if the mother received antiretroviral therapy during pregnancy (option A).

2.1.2 ARV prophylaxis for children born to HIV-positive mothers

- In Cameroon, Nevirapine is taken in a single dose daily according to the regimen.
- The table below indicates the dose of prophylactic Nevirapine to administer to children born to HIV+ mothers depending on birth weight.

**Table I: Nevirapine (NVP) dosages in exposed children**

<table>
<thead>
<tr>
<th>From birth to 6 weeks</th>
<th>10 mg in a single dose (1 ml)</th>
<th>15 mg in a single dose (1.5ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight: 2000 to 2499 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight ≥ 2500 g</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: For newborns with low birth weight (<2000 g), start with 2 mg /kg (0.2 ml/kg) daily until they reach 2000 g*

1ml = 10 mg NVP

Isoniazid (INH) Preventive Treatment at 10mg/kg/daily for six months should be proposed with regular monitoring for:

- HIV-infected children less than 12 months of age, who have been in contact or not with Isoniazid;
- Children below five years who have been in contact with a TB case regardless of the HIV status;
- All asymptomatic HIV-exposed children should receive EPI vaccines in accordance with the national calendar in force;
- All asymptomatic HIV-exposed children should receive the first dose of the measles vaccine (VAR) at six months and a second dose at nine months.

All asymptomatic HIV-exposed children should take BCG, Yellow Fever and Measles vaccines only in the case when the child is immunocompetent (CD4>25% or WHO stage I/II).
2.2 GUIDELINES FOR THE FEEDING OF CHILDREN

In the event of child exposure to HIV, the mother must choose between exclusive breastfeeding on ART recommended for the first 6 months of life according to option A or B+ and formula feeding when it is acceptable, feasible, affordable, sustainable and safe. Therefore, the provider should support the mother regardless of the choice.

Classification of acute malnutrition according to the age of the child

<table>
<thead>
<tr>
<th>Age of the child</th>
<th>No acute malnutrition</th>
<th>Moderate acute malnutrition</th>
<th>Severe acute malnutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children below six months</td>
<td>Normal weight curve</td>
<td>Breathing weight curve W/H &lt;3Z And /Or Oedema</td>
<td></td>
</tr>
<tr>
<td>Children between 6 to 59 months</td>
<td>MUAC And W/H And no oedema</td>
<td>12 mm and 115 And/or And No oedema</td>
<td>And/or oedema</td>
</tr>
<tr>
<td>Children aged 5 and above</td>
<td>BMI And/or W/H&gt; NCHS No oedema</td>
<td>BMI 17 and And/or W/H 80% and 70 No oedema</td>
<td>BMI And/or W/H And/or oedema</td>
</tr>
</tbody>
</table>

Any child presenting with severe acute malnutrition (SAM) and infected with HIV should first receive nutritional management for at least one week followed by a reassessment of its nutritional status before initiating ARV based on the therapeutic regimen recommended per age.

The treatment of severe acute malnutrition is done based on the steps below:

**Step 1: Restore electrolyte balance and nutrients**

The patient should receive at least 8 meals daily. A nasogastric tube is placed if the patient takes less than 75 kcal/kg/daily (F75: 100 ml = 75 kcal)

- Product used for F75 (130ml = 100kcal) should be given regardless of age groups except for children below 6 months;
- The quantity to be given at each meal is determined by the patient’s age group and weight;
- Meals should be monitored accurately: quantity, problems during meals intake should be written down on the monitoring form immediately.

**Step 2: Administer routine treatment**

Routine medical treatment:

- Routine antibiotic therapy: Amoxicillin or amoxicillin + clavulanic acid should be given systematically to children presenting with severe malnutrition for 5 days;
Malaria treatment based on the national regimen;
Measles vaccine.

**Step 3: Establish good surveillance**

1) Take temperature twice daily;
2) Record once daily, on the form and the graph: the weight, extent of oedemas (0 to +++), clinical signs: number of stools, vomiting, dehydration, cough, number of breaths/min;
3) On each meal form, tick: refusal, vomiting. In the event of refusal, place a nasogastric tube;
4) Measure Middle upper arm circumference (MUAC) every 7 days;
5) Every 21 days, measure the height.

- All information should be noted down on the monitoring form;
- When appetite is regained, mark the beginning of the recovery phase, switch to F100 to obtain quick weight gain;
- Surveillance should continue;
- Weight: ideal increase of about 10g/Kg/day;
- Pulse and breathing rate to monitor possible heart failure.

**NOTE:** *In case of quick weight gain, far above 10g/Kg/day, look for hepatomegaly and oedema to exclude heart failure.*

Principles of the treatment of severely malnourished dehydrated children:

- History of recent water loss alone may help in diagnosing dehydration;
- Dehydration signs may be visible in the event of SAM with no real dehydration;
- It is very dangerous to treat dehydration in non-dehydrated children because malnourished children are very sensitive to excess sodium;
- Intravenous treatment is very dangerous and should be used for some specific serious cases.

### 2.3 GUIDELINES FOR DIAGNOSIS IN CHILDREN

Infants below 9 months born to mothers with established HIV positive status should receive early testing by PCR.

Infants below 18 months born to mothers with unknown HIV status should first undergo HIV serology testing. If serology is positive, the result should be confirmed by PCR. If PCR is positive, the child is declared HIV positive.

Infants or children aged above 18 months, symptomatic or with unknown status should do serology test.

In the absence of clinical or suggestive signs of HIV disease, always look for HIV infection in the child.

All symptomatic infants below 18 months tested positive after HIV serology in the absence of PCR and having suggestive diagnosis of HIV, presenting with:

- At least two of the following criteria: oral candidiasis, severe pneumonia, severe infection;
- Or with a diagnosis of AIDS-defining illness (*Pneumocystis* pneumonia, Cryptococcal meningitis, acute severe malnutrition, Kaposi sarcoma or extrapulmonary tuberculosis);
- Or the recent death of the mother related to HIV, or advanced stage of HIV infection in the mother and/or CD4 cell count of the infant < 20%;

**SHOULD BE PUT ON ARV AND HIV DIAGNOSIS SHOULD BE CONFIRMED AS EARLY AS POSSIBLE.**

HIV testing in children born to HIV+ mothers should be done based on the national algorithm:

**At 6 weeks: testing by PCR**

The test used for early diagnosis at 6 weeks is DNA PCR. Blood sample is taken at the infant’s heel. It is collected and dried on blotting paper (DBS = Dry Blood Spots). The samples collected and dried are packaged and sent to reference laboratories using the existing transportation system in the locality. The reference laboratory performs the test by DNA PCR and sends back the results to sample collection sites to guide children management. When PCR testing is positive, it helps to confirm the presence of HIV virus in the blood, hence, diagnosing HIV infection.

**Between 9 and 18 months: Testing with serology test first, then confirmatory PCR of positive serology.**

The blood of infants born to HIV positive mothers contains HIV antibodies which were passed unto them by their mother during intrauterine life. These antibodies are gradually eliminated from birth and at the age of 18 months, the child has completely eliminated them. Their persistence in the infant’s blood makes HIV test by serology positive without real HIV infection.

Thus, for children between 9 to 18 months, and to reduce the cost of HIV testing, serology is done first to identify those having HIV antibodies. Then, PCR test is performed for those with positive serology to separate those who are actually infected with HIV and for whom treatment is initiated immediately from those with positive serology in the absence of HIV infection due to the mere persistence of the mother’s antibodies. This category does not require ARV.

**Children above 18 months: Diagnosis by serology**

Children in this group age have already completely eliminated their mother’s antibodies.

Their result for serology should be negative and only those with HIV infection will have a positive serology.

HIV testing in these children is done by serology alone and with the same national testing algorithm used for adults.

The testing algorithm for HIV infection in children born to HIV positive mothers is presented below.
HIV testing algorithm in children born to HIV+ mothers

- **Children born to HIV positive mothers**
  - DBS/PCR at 6 weeks or as soon as possible after 6 weeks

  - DBS/PCR
  - DBS/PCR

  - Continue the follow-up as recommended

  - **Children < 9 months symptomatic**
    - DBS/PCR positive
    - DBS/PCR negative

    - Diagnosis and current pathology treatment

    - Start ARV treatment

  - **Children < 9 months asymptomatic**

    - Serology performed between 9 and 18 months

      - * Positive Serology
      - * Negative serology and currently breastfeeding

      - Continue follow up
      - Perform serology at 9 months

- **Children < 9 months symptomatic**

  - DBS/PCR positive
  - DBS/PCR negative

  - Diagnosis and current pathology treatment

  - Perform confirmation DBS/PCR

  - Positive DBS/PCR
  - Negative DBS/PCR

  - Continue follow up and redo serology* at 18 months or beyond 6 weeks after breastfeeding

  - * positive Serology
  - *Negative serology

  - Routine follow up in a HF

* : Serology done with rapid testing according to the national algorithm
If a new PCR is required to confirm the positive result of the first PCR, start ARV treatment while waiting for the second PCR result
2.4 GUIDELINES ON THE MANAGEMENT OF INFECTED CHILDREN

2.4.1 Identification of children on ARVs

Every HIV-infected child should benefit from a planned follow-up consultation. It is based on:

- **Questioning:**
  - Parents or guardian
    - Full name, age and profession;
    - Lifestyle (couple, separated, living, dead and cause of death);
    - Socio-economic conditions: determine indigency;
    - Serological status, PMTCT in the mother or not, the treatment received by the mother.
  - Child
    - Full name, age;
    - PMTCT protocol received;
    - Diet, if breastfeeding, weaning date;
    - Psychomotor development, immunization status, last deworming;
    - Background: siblings/number, serological status of other siblings, notion of follow-up or not.

- **A clinical examination based on:**
  - The measurement of weight, height, HC, MUAC, temperature, respiratory rate;
  - Assessment of nutritional status;
  - Check for retarded growth, hepato splenomegaly, lymphadenopathy, infection site (ENT, pulmonary, digestive), mucocutaneous manifestations (candidiasis, canker sores, shingles), and a neurological disorder.

- **Determine the degree of immune deficiency of the child**

At the end of the examination the health worker should:

- Diagnose possible opportunistic infections or other conditions to be treated;
- Classify the child according to WHO clinical stages and refer if needed;
- Perform FBC and CD4 count for the eligibility file to be presented to the therapeutic committee.

2.4.2 Identification of cases to put on ARV

Any HIV-infected child under 60 months should be put on ART regardless of CD4 count or WHO clinical stage.

Any infant under 18 months with a presumptive diagnosis of HIV infection should be put on antiretroviral treatment and diagnosis by PCR must be confirmed as soon as possible.
**Table II**

Recommendations for starting ART in infants or children according to the clinical stage and availability of CD4 immunological markers (WHO 2013)

<table>
<thead>
<tr>
<th>AGE</th>
<th>CLINICAL STAGE</th>
<th>IMMUNOLOGICAL STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 60 months</td>
<td>Treat all the children regardless of clinical or immunological stage</td>
<td></td>
</tr>
</tbody>
</table>
| > 60 months| Treat all the children with clinical stage III or IV                  | Treat all the children with CD4 <500 cells/mm³  
Starting treatment should be a priority if CD4 <350 cells/mm³ |

Any HIV-infected child should receive a free initial check up for initiating antiretroviral therapy. This check up includes: CD4, FBC, transaminases and chest X-ray (to eliminate tuberculosis).

For each HIV-infected child eligible for ART:
- Conduct a social survey and assess indigency;
- Prepare a file for the therapeutic committee;
- Assess the adherence of the family/guardian in terms of antiretroviral therapy for the beginning of treatment.

For each HIV-infected child eligible for ART:
- Assess the family's ability to administer ART;
- Identify the person who will be responsible for administering medications prior to the start of ART

Make a reference clinical assessment (pre-treatment) after confirmation of HIV status of the child which takes into account:
- Anthropometric parameters (weight, height, head circumference and MUAC);
- Clinical stages of HIV infection;
- Psychomotor development of the child;
- Malaria, tuberculosis test and exposure to tuberculosis;
- Examination for co-morbidities (TB, hepatitis B and OIs) or adolescent pregnancy;
- History of concomitant medications, including cotrimoxazole and traditional herbal treatments;
- Assessment of nutritional status, including nutritional intake.

For any child eligible for ART, an assessment of the child's readiness and the person responsible for the administration of treatment must be done by the provider before starting ART.
Table III: Therapeutic regimens of first-line ARVs for infants and children (adapted from WHO, 2013)

<table>
<thead>
<tr>
<th></th>
<th>1st LINE</th>
<th>1st ALTERNATIVE LINES *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children &lt; 3 yrs</td>
<td>ABC + 3TC + LPV/r AZT + 3TC + LPV/r</td>
<td>ABC + 3TC + NVP AZT + 3TC + NVP</td>
</tr>
<tr>
<td>Children 3-10 yrs</td>
<td>ABC + 3TC + EFV</td>
<td>ABC + 3TC + NVP AZT + 3TC + EFV or NVP</td>
</tr>
<tr>
<td>Adolescents &gt;35</td>
<td>TDF** + 3TC (or FTC) + EFV</td>
<td>ABC + 3TC + EFV (or NVP) AZT + 3TC + EFV (or NVP) TDF + 3TC (ou FTC) + NVP</td>
</tr>
</tbody>
</table>

* Alternative lines should be used in case of unavailability of the first preferred line
** TDF should be used in children from 10 years

Recommendations for ARV treatment in case of TB-HIV co-infection (adapted from WHO, 2013)

Figure 1: Diagram for ARV treatment recommendations in case of TB-HIV co-infection (adapted from WHO, 2013)
2.4.3 Follow-up of children on ART

The follow up of an HIV-infected child must be done according to an integrated approach that takes into account the family context, i.e. the involvement of the child’s father must be done in agreement with the mother for an integrated management of the family.

The healthcare provider should explain to the mother, the benefits of such involvement, for herself, the child and the rest of the family (facilitating the choice of feeding method, testing and management of the rest of the family).

The frequency of clinical follow-up of an HIV-infected child on antiretroviral treatment is monthly for the first 6 months and then quarterly (every 3 months).

Any HIV-infected child on ARV treatment should have during its follow up a free biannual laboratory test made up of CD4 and/or viral load, if available.

Any HIV-infected child above 5 years who is not eligible for antiretroviral treatment must be followed up once every 4 months to exclude any pathology and must have a free laboratory biannual follow-up test made up of CD4 and/or viral load.

2.4.4 Management of Treatment Failure

Treatment failure can be clinical, immunological and virological.  
**Clinical failure:** Emergence or re-emergence of new or recurrent clinical events reflecting advanced or severe immunosuppression (pathology defining a WHO clinical stage III or IV, with the exception of tuberculosis) after 6 months of effective ARV treatment. 

**Immunological failure:** Persistent CD4 count <200 cell/mm³ or a CD4 percentage rate of <10% in children less than 5 years or the persistence of CD4 <100 cells/mm³ in children above 5 years after 6 months of effective ARV treatment,

**Virological failure:** viral load is above 1000 copies/ml after 6 months of effective ARV treatment based on two measurements done after every 3 months, with adherence support.
Figure 2: Management of treatment failure adapted from WHO 2013

For every child on ART with treatment failure, before moving to second-line treatment, the health provider must ensure good adherence, resume therapeutic education, try the Directly Observed Therapy (DOT) and control viral load at 3 months if there is persistent failure after a resistance test (if possible).

2.4.5 Indication for second and third-line antiretroviral treatment

In case of treatment failure refer to the table below

Table IV: Second-line regimens for infants and children
<table>
<thead>
<tr>
<th>Situation</th>
<th>Preferred first intention regimen</th>
<th>Preferred second intention regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children below 3 yrs</td>
<td>(ABC ou AZT) +3TC+LPV/r</td>
<td>(ABC ou AZT) + 3TC+RAL*</td>
</tr>
<tr>
<td></td>
<td>(ABC ou AZT) + 3TC +NVP</td>
<td>(ABC ou AZT) + 3TC+LPV/r</td>
</tr>
<tr>
<td>Children between 3 and 10 yrs</td>
<td>(ABC ou AZT) +3TC+EFV</td>
<td>(ABC ou AZT) + 3TC+LPV/r</td>
</tr>
<tr>
<td></td>
<td>(ABC ou AZT) + 3TC+EFV</td>
<td>(ABC ou AZT) + 3TC+ATV/r**</td>
</tr>
<tr>
<td>Adolescent between 10 and 19 yrs</td>
<td>TDF + 3TC+EFV</td>
<td>ABC+3TC+(LPV/r ou ATV/r)</td>
</tr>
<tr>
<td></td>
<td>ABC+3TC+EFV</td>
<td>TDF+3TC+LPV/r ou ATV/r</td>
</tr>
</tbody>
</table>

In case of 2nd line treatement failure: 3rd line is possible after genotyping

| RAL + DRV/r** + ETV          | RAL + DRV/r + TDF***         | RAL + ATV/r + TDF                |

NB: If the first-line regimen contains AZT, it will be replaced in second-line by:
* ABC + RAL if failure of first-line treatment occurs before the age of 3
** ATV/r if failure of first-line treatment occurs after the age of 6
***TDF will be used only in children older than 10 years.

2.4.6 Therapeutic Education

For the provider or parent, educational objectives of therapeutic education of infected children on ART according to age are as follows:

Before 5 years
- Show their treatment;
- Say when they take the drugs (associate drug time with activities of the day);
- Tell the mother (or other relative) that he/she has vomited, is injured, bleeding or feeling pains.

Between 5 and 6 years
- Explain the disease using analogies such as germs, the benefit of the treatment and regular intake of drugs.

Between 7 and 10 years
- Explain the benefit of regular drug intake by introducing the notion of interval when the child is aged 9-10 years or why he has to take the drugs every day, the consequences if the treatment is stopped and the benefit of medical and biological follow-up imposed by the disease.

Between 12 and 13 years
- Explain the purpose of the treatment, the role of condoms to children and how to interpret biological results.

After the diagnosis has been completely disclosed to the child who should ideally be under 12, the provider and/or the child's parent must name the disease and explain the prevention methods.

Between 14 and 16 years
- Show the child how to use a condom (for adolescents who are sexually active)
2.4.7 Disclosure of results

It is an information process that should start from the school age with the consent of the parents. However, an exception should be made in case the adolescent is a parent or one who takes life threatening risks.

**Recommended procedures for disclosure of results to the child**

The preparation of the parent/guardian must be done through individual interviews to prevent building up of psychological barriers (shock in children, guilt of parents).

The child's preparation must be done through a parent/child discussion. The provider must establish a relationship of trust with the child and tell the adult that it is possible to talk about their illness using representations for children (objects, drawings, films/videos, and photographs) to make sure they understand and ask questions.

The disclosure procedure should begin around the age of 6-7, from the time when the child asks questions or when there is a change in behaviour (sadness, violence or academic difficulties).

The provider should carefully listen to the child and give explanations based on their maturity. The child is and remains the best indicator of the moment “when to start the disclosure and why it is done”.

- The disclosure is a continuous and repetitive process. It should take into account the age and maturity of the child.

**Disclosure proper:**

- Focus on listening ++++, give information and quickly see the child again;
- The status should not be disclosed in a haste nor in an emergency context;
- The disclosure is made up of a series of information revealed by parents or the caregiver;
- The disclosure is never an achievement, but a repetitive and constructive process that requires close follow-up and the health care provider must necessarily reformulate it as the child grows up.

Adolescents have the right to receive the information themselves on HIV and participate in decision-making concerning them in a manner adapted to their level of maturity (as from 13 years) especially in case of life threatening risk behaviour.

Adolescents should be counseled on the benefits and potential risks of disclosing their HIV status and supported in order to determine when, how and to whom to communicate their status in order to avoid discrimination against them.
SECTION 3:
MANAGEMENT OF ADOLESCENTS
### INTRODUCTION

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More than two million adolescents worldwide, aged between 10 and 19 live with HIV and the majority of them do not receive the care and support they may need to be healthy and avoid transmitting the virus.

Between 2005 and 2012, the insufficiency of suitable and acceptable HIV infection management services for teenagers resulted in an increase of 50% of AIDS-related deaths in this age group, against a decline of 30% in the general population.

In 2012, the general population of Cameroon was estimated at 21.7 million inhabitants, with 23.2% of adolescents (10 to 19 years old). However, it is estimated at 30 000 (17 000 girls and 13 000 boys), that is, 5% of adolescents are living with HIV (2012). There are 4 000 new infections and deaths are estimated at 1 900 (source: UNICEF/WHO/UNAIDS, 2012). According to WHO, adolescence is a period of growth and human development which is between childhood and adulthood, between the age of 10 and 19. It represents a critical transition period in life and is characterized by a high rate of growth and change. Its characteristics are more pronounced in HIV-infected adolescents who carry the stigma because of late management. In adolescence, the transition from childhood to adulthood is marked by emotional and social pressures. Adolescents should have health services and support adapted to their needs.

WHO recommends that authorities review their legislation so that adolescents have access to screening. These guidelines suggest the establishment of quality health and support services for adolescents.

3. GENERAL INFORMATION ON ADOLESCENCE

Adolescence is a period that is characterized not only by physical and sexual changes of the body ruled by puberty but also a questioning of identity at the mental and psychic level. It is also characterized by the questioning of infant/parent position and with the discovery of a new sexuality. It thus poses a problem in the care of the adolescent, for he is caught up between adults care and paediatric care service. In addition to these problems related to adolescence, it is also noted that many adolescents are faced with sexually transmitted infections (STIs) and chronic diseases, including HIV. To close this gap, it is important to establish a specific framework that is suited for the consultation of adolescents because of their specific needs.

To protect the adolescent who is often vulnerable because of psychological, social, economic difficulties caused by the diseases and to protect their dignity, every HIV-positive adolescent has the same rights as everyone:

- The right to health;
- The right to non-discrimination;
- The right to information;
- The right to social protection.

3.1 STAGES OF ADOLESCENT DEVELOPMENT

Adolescent development is divided into three stages:
Early adolescence (10-13 years);
Mid- adolescence (14-16 years);
Late adolescence (17- 19 years)

Understanding this development can be stratified according to the classification of TANNER

What evolution for girls and boys according to stages of maturity?

3.2 DEVELOPMENT AND SEXUAL MATURITY

Early (10-13 years): For girls: breast buds, fluffy pubic hair around the labia majora, growth peak.

For boys: darkening and enlargement of the scrotum, testicular growth, fluffy pubic hair

Middle (14-16 years): For girls: more advanced breast growth, increased pigmentation, development of pubic hair.

For boys: Increase of the size of the testicles, enlargement of the penis,

End > 19 years: Mature physical development.

3.3 EMOTIONAL DEVELOPMENT

Early adolescence (10-13 years)
- Moody, intense feelings, poor impulse control

Mid adolescence (14-16 years);
- Feeling of invulnerability, peak of risky behaviour

Late adolescence (> 19 years)
- Sense of responsibility for their health, increase in the feeling of vulnerability.
- Can think of others and forget their own needs, takes less risks.

3.4 COGNITIVE DEVELOPMENT

Early adolescence (10-13 years)
- Concrete thinking;
- Low ability to anticipate the long-term consequences of their actions, literal interpretation of ideas.

Mid adolescence (14-16 years)
- Able to conceptualize abstract ideas such as love, justice, truth, spirituality.

Late adolescence (> 19 years)
- Concrete operational ideas;
- Able to understand and give limits;
- Understand the opinions and feelings of others.

3.5 RELATION WITH PEERS

Early adolescence (10-13 years)
- Increase in the importance of same sex relationships
Mid adolescence 14-16 years;

- Peak of compliance with what the peers do;
- Increased opposition in relation with the opposite sex.

Late adolescence > 19 years;

- Decrease in the importance of peers;
- Begins to develop reciprocity, mature intimate relationships.

3.6 RELATIONSHIP WITH THE FAMILY

Early adolescence: 10-13 years

- Distancing;
- Need for solitude.

Mid adolescence: 14-16 years

- Peak of conflict;
- Rejection of parental values.

Late adolescence: > 19 years

- Improved communication;
- Acceptance of parental values.

3.7 CLINICAL MANAGEMENT OF ADOLESCENTS LIVING WITH HIV

HIV transmission routes are as follows:

An adolescent can contract HIV:

- Through MCT;
- During sexual intercourse including violence;
- By other means such as; blood transfusions, intravenous drug abuse, scarification, contaminated sharp objects.

Gateways

- Routine consultations of patient (children/adults);
- Descendants of HIV-infected parent;
- Partner notification;
- Hospitalization;
- Consultation of adolescents with STIs;
- Antenatal care consultations;
- Tuberculosis;
- Counseling and voluntary testing;
- Institutional reference (community, community-based organization (CBOs), orphanage);

3.7.1 Counseling, screening and HIV status disclosure

Screening and counseling for HIV testing

The provider must do pre-test counseling for the parent/guardian
Adolescents from 10 to 13 years old can benefit from a pre-counseling and testing with parental consent through appropriate tools and communication media that is adapted to the age (movie, picture box, leaflets);

Adolescents from 14 to 19 years can directly benefit from HIV testing, if sexually active or is a family head.

Status disclosure

Adolescents themselves should receive information about HIV and participate in decision-making in a manner appropriate to their level of maturity or minors (as from 13 years) especially in case of life-threatening risk;

Adolescents should be counseled on the benefits and potential risks of disclosing their HIV status and supported in order to determine when, how and to whom to communicate their status to avoid discrimination against them;

Providers must respect the confidentiality/disclosure of their status to their parents;

The disclosure of status to the infected adolescents must be done gradually depending on the level of psychological maturity and should be planned by the healthcare team.

Consultation process

The provider must comply with the practices for adolescent consultation which are:

- Flexibility of consultation hours (preferably Wednesday afternoon in French speaking areas or Saturday morning in English speaking areas) to avoid repetitive absence permissions for schooling adolescents;
- Systematic modification of a schedule when the teenager is met alone (consultation with the parent(s) and the teenager is done before or after the meeting).

During the consultation, the provider should:

- Do a clinical test without the presence of the parents ;
- Respect the confidentiality of the interview with the adolescent;
- Update the adolescent and his parents with information about the disease, its challenges and consequences;
- Empower the adolescent with increased vigilance in the frequency of follow-up ;
- Maintain their position: they must neither be a relative nor friend;
- Talk about sexuality.

3.7.2 Diagnosis

The clinical diagnosis of HIV in adolescents is done as in children (ref. management of HIV-infected children). The peculiarity in adolescents is the diagnosis disclosure that has to be done gradually.

Every HIV-infected adolescent should benefit from a planned follow-up consultation. It is based on:

- Questioning : (ref. infected child)

A clinical test based on:

- The measurement of weight, height, body mass index (BMI), temperature, respiratory rate;
- The assessment of nutritional status;
The search of retarded growth, hepatosplenomegaly, adenopathy, infection site (ENT, pulmonary, digestive), mucocutaneous manifestations (candidiasis, canker sores, shingles), and a neurological disorder;

A determination of the immune deficiency level of the adolescent

After the test, the provider should:

- Eventually make the diagnosis of opportunistic infections or other conditions to be treated;
- Classify adolescents according to WHO clinical stages and refer if necessary;
- Do a FBC, creatinine and CD4 count for the eligibility file to be submitted to the therapeutic committee.

3.7.3 Indication for ART initiation

Eligibility criteria: CD4 <500, regardless of the clinical stage (priority should be given to those with CD4 <350)

- In case of co-infection with hepatitis B and tuberculosis, regardless of CD4 count and clinical stage. The treatment of tuberculosis should start first, before the beginning of ART);
- All HIV-infected pregnant adolescents should be put on ART regardless of CD4 count and clinical stage (Option B+);
- The teenager infected in a sero-discordant couple should be put on ART regardless of CD4 count and clinical stage;
- All HIV-infected adolescents in high-risk groups (sex workers, MSM, IDU), should be put on ART regardless of CD4 count and clinical stage.

Follow-up of adolescents ineligible for ART:

- Continue clinical follow-up every three months with systematic evaluation of opportunistic infections;
- Do the CD4 count every 6 months;
- Regularly assess risk factors for the disease (smoking, alcohol consumption and sexual activity) during each visit;
- Screen and treat of STIs.

The adolescent should receive the following prophylaxis:

- Cotrimoxazole prophylaxis;
- The vaccine against HPV (If she is not yet sexually active).

Heads of institutions (primary, secondary and university, orphanages, boarding schools and prisons) should be educated about HIV care for the protection of adolescents.
3.7.4 ARV Treatment

All teenagers eligible for tritherapy should receive adherence counseling and therapeutic education sessions with a parent and/or guardian responsible for their healthcare before the start of treatment.

For adolescents eligible for ART, the evaluation of their level of preparation and that of the person responsible for the administration of their treatment must be made by the provider before ART initiation.

Every HIV-infected adolescent should receive a free check-up before ART initiation. This check-up includes: CD4 count, FBC, transaminases, creatinine levels.

For each HIV-infected teenager eligible for ART, the provider should:
- Conduct a social survey and assess indigency;
- Compile a file for the therapeutic committee;
- Evaluate the compliance of the family/guardian/institution (orphanage, boarding schools) in terms of antiretroviral therapy for the beginning of treatment.

For each HIV-infected adolescent eligible for ART:
- Assess the family capacity to administer ARV
- Identify the person who will be responsible for administering medications prior to the start of ARV;
- Make a reference clinical assessment (pre-treatment) after confirmation of HIV that takes into account:
  - Anthropometric parameters (weight, height, BMI);
  - Clinical stage of HIV infection;
  - Psychomotor development of the child;
  - Screening for malaria, tuberculosis and exposure to tuberculosis;
  - Test for co-morbidities (TB, hepatitis B and other OIs) or pregnancy;
  - History of concomitant medications, including cotrimoxazole and traditional herbal treatments;
  - Assess nutritional status, including nutritional intake.

3.7.5 Disclosure to the adolescent

Procedure for disclosure to the family

Reasons for the disclosure:

For the Child: Disclosure to the child contributes to his psychological balance; it enables the child adopt preventive methods vis-à-vis his environment and avoids the risk of him discovering his HIV status by himself;

For the parent: It is a relief. They are able to manage the reactions of the children and it helps them to better support treatment adherence;

Actors of disclosure (caregivers, other actors, educators, psychologists): It is important to ask the parents about their wishes and insist on the importance of consent. Both parents and caregivers should speak the same language.
Assessing the issue at the family level

The aim is to evaluate the acquisition of knowledge and build skills to help every family to take its own decision; in all cases, the disclosure must be adapted to the development of the child. Revealing the status or not is a decision that must take into account the opinion of the parents. But the team must persuade parents to accept that the disclosure should be made when a child’s interest is at stake.

Recommended procedures for disclosure

Preparation of parent/guardian

This preparation is done through individual interviews. It prevents the build-up of psychological barriers (shock in children, guilt in parents...). Parents can also participate in infected parent groups.

Preparation of the Mother-child couple

The child’s preparation is done through an interview of the mother-child couple. It is important to establish a relationship of trust with children and show the adults that it is possible to talk with the child about his illness. Use child’s representations, use tools, drawings, photos, ensuring understanding and stimulating questions. It is desirable, if possible, to send him to therapeutic classes where topics on health, hygiene, family and drugs are discussed.

The provider must take into account the characteristics and psychological manifestations of the adolescent for the status disclosure.

These manifestations could be:

- Emotional shock;
- Fear;
- Guilt;
- Anger;
- Revolt;
- Concentration disorders;
- Loss of autonomy;
- Isolation;
- Stigmatization;
- Sadness.

The provider should address the specific problems in the psychosocial framework of infected adolescents.

Difficulties to cope with chronic ill health, pain and malaise

- The fact of not being like the others;
- The fear of abandoning school;
- Lack of answers or evasive answers to questions;
- Specific problems to parents /guardians, health personnel.

The HIV status disclosure to the adolescent by the provider/parent/guardian must take into account his intellectual understanding level, stage of development, clinical status, and socio family context. This disclosure process should be personalized.
This is an information process that should start at school age in the presence of parents and with their consent. Parents and trained health personnel (nurses, doctors, psychologists, and social workers) are the privileged interlocutors of this disclosure.

**Pedagogic strategies for disclosure**

Actively listen to the adolescent and provide explanations based on his maturity.

**Disclosure steps (adolescent)**

- First disclosure: to the adolescent through medical consultation, nutritional assessment, biological check-up and gradual preparation from 10 years
- Second disclosure: At pre-adolescence, 10-12 years
- Third disclosure: individual or in group between 13 and 19 years

**Disclosure process**

The provider must respect the process and steps of the said disclosure:

- Preparation of the parents;
- Informed consent;
- Disclosure;
- Managing emotional reactions.

**Note:** *The disclosure is a continuous and repetitive process. It should take into account the age and maturity of the child. It can begin as soon as the child begins to ask questions.*

**Steps of the disclosure**

- Self introduction;
- Win the trust of the adolescent;
- Preferably in a conducive environment;
- Focus on listening;
- Provide accurate information;
- The HIV status disclosure to the adolescent must be done without haste and urgency.
- See the adolescent again as soon as possible;

**Note:** *The disclosure is made up of a series of revelations done by the parent or caregiver. Disclosure is never a complete achievement, but a repetitive and constructive process that requires close follow-up.*

**Services available for the disclosure**

The provider must use different communication techniques (therapeutic classes, medical consultations, individual or group discussion to help adolescents and families in the disclosure process.

**Before the age of 10-11 years**

At the intermediate level, the service provider must provide partial information, and achieve a compromise between the need to provide point of references to the adolescent without risking damage, taking into account the parents’ reluctance to name the disease.

At this stage, do not name the virus nor the disease; the concept of monitoring the immune defence system and protecting it by taking drugs should be mentioned (easily understood even by young children). Symptoms are described to adolescents if there are
any. However, the teenager is often asymptomatic, contrasting with the idea that a drug is associated with an asymptomatic disease.

**At the age of 11 or 12 years**

The adolescent has reached the stage of formal thinking: knowing the name and details of the disease becomes indispensable for complete development. If the adolescent encounters difficulties in adapting, it is better to wait until he is more comfortable to do so. HIV seropositivity and AIDS concepts can be clearly outlined by differentiating them and highlighting the protective role of drugs.

Naming the disease is a critical stage for parents because they assume that the child is able to understand all the consequences on them, which is generally not the case. Through their subjective experience the child can gradually get used to the information and accept it.

The disclosure is never completely done; if parents and trained health personnel are relieved to have fulfilled a difficult mission, they will necessarily have to reformulate it throughout the development of the child.

Recommendations for starting ART in adolescents according to the clinical stage and availability of CD4 immunological markers (WHO 2013)

<table>
<thead>
<tr>
<th></th>
<th>1st LINE</th>
<th>1st LINE ALTERNATIVES *</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adolescents &lt; 35kg</strong></td>
<td>ABC + 3TC + EFV</td>
<td>ABC + 3TC + NVP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AZT + 3TC + EFV or NVP</td>
</tr>
<tr>
<td><strong>Adolescents (10 – 19 years) ≥ 35 kg</strong></td>
<td>TDF** + 3TC + EFV</td>
<td>ABC + 3TC + EFV (or NVP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AZT + 3TC + EFV (or NVP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TDF + 3TC + NVP</td>
</tr>
</tbody>
</table>

* Alternative lines should be used in case of unavailability of the preferred first-line

** TDF should be used in children from 10 years

• Clinical follow-up (ref. Follow-up of infected children)

At each visit the provider must ensure:

• The proper understanding of dosage, acceptance of the therapy and good treatment compliance by the adolescent.

Biological follow-up of the patients starting ART should be done as follows:

**On D30**

- Creatinine levels, if the regimen contains TDF;
- Urinary dipstick if the regimen contains Tenofovir and if clinically indicated;
- FBC (if the regimen contains AZT and if clinically indicated at M2 and M3);
- Transaminase levels (if the regimen contains Nevirapine and if clinically indicated).
At the sixth month and every 6 months for 2 years and then once a year after clinical and immunological stabilization:

- Creatinine levels according to molecules used (ddI, TDF or LPV/r), and if clinically indicated;
- Urinary dipstick if the regimen contains Tenofovir;
- CD4 count;
- At six months and at least once a year;
- Creatinine levels according to molecules used (ddI, TDF or LPV/r) and if clinically indicated;
- Viral load (in referral centres if possible and elsewhere in case of clinical and/or immunological failure).

At year 1 and once a year

- Amylase level, FBC, SGPT/SGOT and creatinine, Cholesterolemia and triglyceridemia if clinically indicated or if the protocol contains a PI;
- Fasting blood sugar;
- Urine dipstick.

3.7.6 Therapeutic education

Pedagogic objectives for therapeutic education of infected adolescents on ART according to age are as follows:

- At about 12 years: explain the purpose of the treatment and the role of condoms, how to interpret biological results;
- After complete disclosure of the diagnosis/status, which ideally should be at the age of 13 latest, name the disease and explain the prevention methods;
- At about 14-16 years: How to use a condom (for sexually active adolescents)

Therapeutic education sessions are real forums where children are prepared for the disclosure of their status. Groups and messages given during these sessions are adapted to their age.

All the staff must make efforts to ensure that all adolescents are aware of their status at the age of 12 years latest to facilitate adherence to ART.

3.8 TREATMENT FAILURE

(ref. MANAGEMENT OF INFECTED CHILDREN)

3.9 MANAGEMENT OF ART INTERRUPTIONS AND LOST TO FOLLOW-UP

Interruption of treatment is defined as missing one or more doses of ART in a given period.

- Interruption ≤ a month: strengthen observance, follow the same protocol
- Interruption ≥ a month (ref. Management of infected children).

Retention in the healthcare system for adolescents

Healthcare and HIV treatment programmes should include community-based approaches to improve adherence and retention of adolescents living with HIV. Healthcare
providers should be trained on treatment adherence and retention in care among adolescents living with HIV.

The management of the adolescent must be done in collaboration with clinical psychologists and social workers trained to help the young person to understand, accept their diagnosis and prevent serious reactions such as suicide or depression. The provider must comply with these rules to facilitate the transition from teenager to adult services:

- Identify adult management referents who will take care of the child;
- Introduce the adolescent to the adult management team;
- Maintain the relationship (accept to listen to the adolescent’s impressions after consultations in the adult care unit and reassure him until he is ready).

**Indication for second-line and third-line antiretroviral treatment**

In case of treatment failure refer to the table below.

**Table II: Second-line regimens for infants and children**

<table>
<thead>
<tr>
<th>Situation</th>
<th>Preferred first intention regimen</th>
<th>Preferred second intention regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children below 3 yrs</td>
<td>(ABC ou AZT) + 3TC + LPV/r</td>
<td>(ABC ou AZT) + 3TC + RAL*</td>
</tr>
<tr>
<td></td>
<td>(ABC ou AZT) + 3TC + NVP</td>
<td>(ABC ou AZT) + 3TC + LPV/r</td>
</tr>
<tr>
<td>Children between 3 and 10 yrs</td>
<td>(ABC ou AZT) + 3TC + EFV</td>
<td>(ABC ou AZT) + 3TC + LPV/r**</td>
</tr>
<tr>
<td></td>
<td>(ABC ou AZT) + 3TC + EFV</td>
<td>(ABC ou AZT) + 3TC + ATV/r**</td>
</tr>
<tr>
<td>Adolescent between 10 and 19 yrs</td>
<td>TDF + 3TC + EFV</td>
<td>ABC + 3TC + (LPV/r ou ATV/r)</td>
</tr>
<tr>
<td></td>
<td>ABC + 3TC + EFV</td>
<td>TDF + 3TC + LPV/r ou ATV/r</td>
</tr>
</tbody>
</table>

In case of 2nd line treatment failure: 3rd line is possible after genotyping

| RAL + DRV/r** + ETV             |
| RAL + DRV/r + TDF***            |
| RAL + ATV/r + TDF               |

**NB:** If the first-line regimen contains AZT, it will be replaced in second-line by:

* ABC + RAL if failure of first-line treatment occurs before the age of 3
** ATV/r if failure of first-line treatment occurs after the age of 6
***TDF will be used only in children older than 10 years.
SECTION 4: MANAGEMENT OF ADULTS
INTRODUCTION

4 STRATEGIES AND INTERVENTIONS
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4.2 SCREENING PRINCIPLES
4.3 SCREENING PROCEDURES
4.4 TARGET POPULATIONS FOR SCREENING
4.5 PREVENTION OF HIV AND STIs
4.6 PREVENTION AND REDUCTION POLICY OF HIV AND STI RISK
4.7 FIGHT AGAINST DISCRIMINATION AND STIGMATIZATION
4.8 ARV FOR THE PREVENTION OF HIV INFECTION
   4.8.1 Pre-exposure
   4.8.2 Post-exposure
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4.9 IMMEDIATE PRECAUTIONS
4.10 INITIAL ASSESSMENT
4.11 RISK ASSESSMENT OF EXPOSURE AND ANTIRETROVIRAL THERAPY
4.12 CASE OF RAPE
4.13 PSYCHO-SOCIAL SUPPORT
4.14 BIOLOGICAL FOLLOW-UP OF BEA
4.15 ARV TREATMENT
   4.15.1 Diagnostic procedure
   4.15.2 WHO and CDC Classification
4.16 INDICATION FOR TREATMENT
4.17 FOLLOW-UP OF PATIENTS
   4.17.1 Paraclinical check-up before starting treatment
   4.17.2 ARV treatment in adults
4.18 FIRST-LINE ARV PROTOCOL
4.19 TREATMENT FAILURE
4.20 SECOND-LINE ARV PROTOCOL
4.21 THIRD-LINE ARV PROTOCOL
4.22 CLINICAL AND BIOLOGICAL FOLLOW-UP OF THE PATIENT AFTER STARTING TREATMENT
4.23 MANAGEMENT OF ART INTERRUPTIONS
4.24 MANAGEMENT OF FIRST-LINE ARV TREATMENT FAILURE
INTRODUCTION

NACC activity report indicates that 130,000 patients were on ARVs in Cameroon in late 2013; that is, about 40% of those eligible according to the 2010 national recommendations and 28% according to WHO 2013 recommendations. Many factors may explain this low ARV coverage. Among them are: the small proportion of the population who know their HIV status, the weak relation with the management structures, the high number of lost to follow-up even when on treatment. This phenomenon is not specific to Cameroon. In fact, some authors such as Gardner and al. and CDC experts have shown that in developed countries, 82% of the general population know their HIV status. 37% of this population are enrolled in HIV care, 33% begin antiretroviral treatment and only 25% observe the treatment and get to have an undetectable viral load. This demonstrates a significant loss of patients from the testing phase to measure the effectiveness of the treatment (retention in healthcare and undetectable viral load). This loss hampers the achievement of the treatment objective which is to obtain an undetectable viral load at both the individual and community levels. This guide will describe the antiretroviral treatment and the healthcare and support package to offer PLWHA in order to effectively achieve the treatment objective, and will be in line with the National Strategic Plan for HIV/AIDS control 2014-2017. The vision of this Plan is that of a Cameroon with no new infections, no deaths and no discrimination related to HIV. This is to achieve Universal Access to prevention, care, support and treatment of HIV. To do this, the goal is to reach 80% coverage of ARVs. The specific objectives of this guide are to:

- Increase from 22% to at least 50% the number of people screened and who know their status;
- Ensure that at least 80% of people tested HIV positive are referred to a management structure;
- Ensure that at least 80% of HIV positive people receive at least one item of the support and care package;
- Increase by at least 80% the retention of people receiving support and care;
- Increase by at least 80% the proportion of eligible people (prevention and treatment) receiving ARV treatment;
- Reduce the proportion of lost to follow-up to a maximum of 10%;
- Increase to 95% the number of people adherent to treatment and with undetectable viral load.

4. STRATEGIES AND INTERVENTIONS

To achieve the specific objectives above, the following strategies and interventions must be carried out.

4.1 COUNSELING AND SCREENING

The following strategies should be implemented to increase the number of people who know their HIV status:

- Strengthen the promotion of HIV testing in the various groups (key populations, workers, youth, adults and indigenes);
- Provision of HIV testing at all levels;
Strengthen HIV testing strategies (fixed Counseling and Provider-initiated counseling and testing (PICT), advanced and mobile).

4.2 SCREENING PRINCIPLES

All forms of counseling and testing should be voluntary and include the five elements recommended by WHO: informed consent, confidentiality, counseling, correct test results, relation with healthcare services for treatment and prevention. Mandatory or forced testing is never appropriate be it from the health care provider, a partner or a family member. The key principles below apply to all counseling and screening models for HIV:

- For counseling on HIV testing to be done, the beneficiary must give their informed consent. They must be informed of the process and their right to refuse the test;
- Counseling and HIV testing services are confidential; which means that the content of discussions between the provider and the client will not be disclosed to a third party;
- The counseling and HIV testing service must be accompanied by appropriate quality information before testing;
- The provider must strive to provide quality testing services and quality insurance mechanisms should be put in place to ensure the accuracy of the reported results;
- The connection with the services of prevention, healthcare and treatment must include an orientation and referral to the appropriate service.

4.3 SCREENING PROCEDURES

- Screening initiated by the client;
- Provider-Initiated Counseling and Testing (PICT);
- Community screening (door to door, group ...);
- Screening in friendly environments (drop-in-centers, schools, universities, prisons);
- Screening in companies

4.4 TARGET POPULATIONS FOR SCREENING

People with signs or symptoms of HIV infection (STI, TB and other reasons for hospitalization)

- The partners of people living with HIV;
- Family members of indexed cases;
- Key populations;
- Adolescents;
- Pregnant women;
- Infants and children below 18 months.

4.5 PREVENTION OF HIV AND STIs

The combined prevention associates behavioural, biomedical prevention methods and ARV treatment in order to reduce the transmission of HIV in the population.

4.6 PREVENTION AND REDUCTION POLICY OF HIV AND STI RISK

In adults and adolescents

- Delay as much as possible the first sexual intercourse among adolescents;
- Have as much as possible one partner;
- Avoid unwanted pregnancies and if possible, plan your pregnancies;
Consistently and correctly use condoms to avoid unsafe sex; Diagnose and treat any episode of STIs.

**In key populations**
- Limit the number of sexual partners;
- consistently and correctly use quality lubricated condoms during sexual intercourse;
- Set up a needle exchange programme (syringes) and opioid substitution therapy with methadone for IV drug users.

**In women and young girls**
- Avoid trans-generational relationships;
- Popularize the use of female condoms;
- Create a friendly environment for the development of young girls (Women Care Centres and listening centres);
- Promote the fight against gender-based violence (assistance in police stations, law against early marriages, fight against excision);
- Make accessible Family Planning (FP) inputs.

### 4.7 FIGHT AGAINST DISCRIMINATION AND STIGMATIZATION

- Make health facilities client friendly;
- Fight against discrimination and stigmatization in workplaces and schools;
- Mobilize associations for the fight against discrimination and stigmatization;
- Ensure the link between screening and enrolment in care;
- Advise on the benefits of ARV treatment;
- Encourage joining support groups;
- Make follow-up references and monitoring by SMS;
- Offer reproductive health services;
- Support infected and affected people (treated mosquito nets, potable water, nutritional education, counseling and possibly offer nutritional supplements...).

### 4.8 ARV FOR THE PREVENTION OF HIV INFECTION

#### 4.8.1 Pre-exposure

The use of ARVs for HIV prevention in pre-exposure is not part of the prevention strategies adopted in Cameroon.

#### 4.8.2 Post-exposure

**Discordant Couples**

In a sero-discordant couple, ARV treatment should be offered to the infected partner no matter the CD4 count in order to reduce HIV transmission to the partner who is not infected.

**Key populations**

ARV treatment is offered to HIV infected key populations regardless of CD4 count to prevent HIV transmission to their partner(s).
4.8.3 Blood Exposure Accident (BEA)

Blood exposure accident (BEA) is any accidental contact of a mucous membrane or damaged skin (bite, cut, scratch, and dermabrasion) with body fluids (blood, cerebrospinal fluid, pleural or pericardial fluid ...) or tissue likely to be infected. Rape cases are also considered as BEA. BEA exposes to infection risks by HIV, HBV and HCV and other infectious agents from blood.

4.9 IMMEDIATE PRECAUTIONS

In case of BEA:
- Allow the wound to bleed without pressing, clean without scrubbing, wash the wound and surrounding area with soap and water, then rinse thoroughly with water;
- Disinfect the wound and surrounding area with 2.5% povidone iodine or 70% alcohol. Do a wet dressing for 5 to 10 minutes with 2.5% povidone iodine. Avoid irritating solutions such as caustic agents (pure bleach).

If the eyes, mouth and mucous membranes are affected, immediately rinse the exposed area with isotonic saline solution for 10 minutes. Antiseptic eye drops can also be used in the case of exposure that involves the eyes. If you do not have any of these solutions, use clean water to rinse thoroughly.

4.10 INITIAL ASSESSMENT

For the victim:
- Do the HIV, Hep C and Hep B, VDRL/TPHA test;
- Assess the risk of contamination;
- Prescribe prophylactic ARVs if indicated, taking into account the protocol, viral load and treatment adherence failure of the source (suspected contaminant) person.

For the source (suspected contaminant):
- Do the HIV, Hep C and Hep B, VDRL/TPHA test;
- If HIV, HBV, HCV or VDRL test are positive, refer for treatment.

4.11 RISK ASSESSMENT OF EXPOSURE AND ANTIRETROVIRAL THERAPY

The need initiate antiretroviral therapy in the prophylaxis context after accidental exposure to HIV (AE-HIV) is based on the patient’s HIV status or source (contaminant) subject and the victim. It also takes into account the risk assessment elements defined below:
- **High risk**: Deep pierce with a hollow needle from a vein or arterial line;
- **Intermediate risk**: Cut with a scalpel through gloves; Superficial puncture with a hollow needle;
- **Low risk**: Superficial pierce with a suture needle or a hollow needle that was used for intramuscular or subcutaneous injection; splash on a mucous or wounded skin;
- When the contaminant is known to be HIV positive while the victim is detected negative for HIV, preventive antiretroviral treatment should be proposed to the victim;
- When the two subjects, source and victim are tested positive for HIV, they are referred for treatment according to the modalities described below;
When the HIV status could not be determined in the source subject while the victim is HIV negative, assume he is HIV positive and propose a tritherapy to the victim if high risk or intermediary risk. ARV treatment is not recommended in the case of low risk exposure;
- The specified protocol includes 2 NRTIs + 1 boosted PI:
  - AZT + 3TC + LPV/r or TDF + 3TC or FTC + LPV/r
- The maximum time to initiate treatment is 72 hours;
- The duration of treatment is 4 weeks.

Find out if the source subject is on ARV treatment. In this case, the treatment regimen will take into account the source patient's response to treatment prior to the accident.

**4.12 CASE OF RAPE**

**In cases of rape:**
- Treat skin lesions and do surgery, if necessary, for tears;
- Use a tetanus serovaccination if the wound is contaminated with soil or plant debris;
- Prevent pregnancy in adolescents or women of childbearing age by prescribing emergency contraception (œstroprogestative or pure progestative – NORLEVO R);
- Prevent STIs by prescribing antibiotics for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* (prescription to be specified);
- Start ART when the status of the assailant is positive or unknown and this is 72 hours after the assault. The protocol is the same that is, a triple antiretroviral therapy 2 NRTIs + 1 boosted PI.

**4.13 PSYCHO-SOCIAL SUPPORT**

- Make the caregiver or the exposed person feel less guilty;
- Assist in the sharing of information with spouse and management of protected sex and/or sexual abstinence for the duration of antiretroviral chemoprophylaxis and follow-up (6 months);
- If it is a caregiver, prepare him to overcome his fears when he resumes work.

**4.14 BIOLOGICAL FOLLOW-UP IN CASE OF BEA**

Biological follow up will be done for 6 months as follows:

**At day 14**
- Do FBC if AZT and ensure observance
- Search P24 antigen and HIV RNA if possible

**At 1 month**
- Repeat HIV serology + antigen or HIV RNA if possible;
- Repeat the FBC if AZT and do creatinine if TDF;
- If seroconversion (development of anti-HIV antibodies or antigen) refer for appropriate care in MU or ATC;
- If no seroconversion continue monitoring.

**At 3 months**
- Repeat HIV test;
- If seroconversion: refer for appropriate care in a MU or ATC;
- If no seroconversion, continue monitoring.
At 6 months
- Repeat HIV test;
- If seroconversion: refer for appropriate care in a MU or ATC;
- If no seroconversion: close.

Vaccination against hepatitis B is advisable within 15 days if the victim is not immunized. Whether to continue the vaccination will be discussed based on the results of the initial serology (HBsAg, anti-HBc, anti-HBs antibodies). Nevertheless, in case of prior vaccination a booster dose of the vaccine is recommended, unless it is possible to check the health or vaccination booklet of the victim.

4.15 MANAGEMENT WITH ARV

4.15.1 Diagnostic procedure

Any screened and confirmed HIV positive person should receive a total evaluation including:

Clinical Examination

It is comprehensive, concerns all the systems and systematic anthropometric parameters: weight, height, body mass index (weight (kg)/height² (cm)). Physical examination data will be recorded in the national medical record (soft or hard copy).

Serious common diseases should be looked for particularly:

- Actively look for TB and perform INH prophylaxis. Signs suggestive of tuberculosis to systematically look for are: fever and cough for over 3 weeks, night sweats and weight loss. In the absence of these signs the patient is put on prophylaxis with INH as recommended (see chapter on co-morbidities);
- Screen for STIs according to syndromic and/or biological approach described in the chapter on co-morbidities;
- Detect viral hepatitis B and C. (see chapter on co-morbidities);
- Establish the vaccination calendar. (See Appendix on vaccination and HIV);
- Prevent and detect cervical cancer in women and young girls;
- Prevention is done by systematically screening for cervical cancer and anti HPV vaccine administration in the pre-pubescent girl;
- Evaluate and provide nutritional support.

Psychological management and development of a support plan

It aims to help the patient and their environment to:

- Understand their condition and treatment;
- Cooperate with caregivers;
- Live as healthy as possible;
- Maintain or improve quality of life;
- Manage their health;
- Acquire and maintain the resources necessary to optimally manage his life with the disease.

It has four basic steps:
**Initial education phase:** is the time when the disease is diagnosed and aims at developing self-protection skills;

**Educational follow-up phase:** identification of the educational needs of the patient and their links with therapeutic needs and care;

**Educational recovery phase:** intervenes during an event considered important both for the patient and the caregiver;

**Assessment of the transformation of the patient:** assessment of acquired skills.

See chap. on community care. FP consultation and reproductive health, referral to a support group.

**Biological check-up**

As applicable, (WHO clinical stages 1 and 2) an initial biological check-up that includes assessment of the immune status (CD4 lymphocytes count assessment considered as orientation work up in Cameroon) and the remaining tests are included in pre-ARV therapy assessment. The number of CD4 T-cells also allows for WHO immunological classification (see Appendix)

4.15.2 WHO and CDC Classification

Based on the WHO and/or CDC classification, the clinical and laboratory assessment determines if the HIV infected person is eligible for antiretroviral treatment.

**Patients not eligible for ART**

Patients who do not have ARV treatment indications (WHO 1 and 2, CD4> or = 500 / mm³, no active TB or hepatitis B etc.) will be subjected to an overall assessment described above every three months by the medical doctor or nurses trained for this purpose. They will also benefit from a minimum package of treatments including: cotrimoxazole prophylaxis, education on water purification (see appendix), the unique donation of a long-lasting insecticide treated net (LLIN) and all RH activities.

Any clinical events occurring during this period should be the subject of an overall assessment.

4.16 INDICATION FOR TREATMENT

**Patients eligible for ART**

Start ARV treatment in any patient with:

- Stage 1 or 2 of the WHO classification or stage A and B of the CDC classification if CD4 count ≤ 500 cells/mm³. However, priority should be given to patients with CD4 ≤350;
- Stages 3 and 4 of the WHO classification or stage C of the CDC classification regardless of the CD4 lymphocyte count (see Appendices 3 and 4);
- HIV/HBV coinfection regardless of the CD4 count;
- In any HIV+ person in a serodiscordant couple regardless of the CD4 count;
- Key populations infected with HIV (SW, MSM, IDU) regardless of CD4 count;
- Pregnant women regardless of CD4 count.
4.17 FOLLOW-UP OF PATIENTS

4.17.1 Paraclinical check-up before starting treatment
It includes the following essential tests with a subsidized minimum package:

**Subsidized tests (minimum package)**

Orientation work up:
- CD4 Lymphocytes

Follow-up work up:
- Viral load.

**Unsubsidized Tests**
- Transaminases;
- FBC;
- Creatinine;
- Urine dipstick;
- HVB and HCV serology;
- Syphilis serology (VDRL/TPHA);
- Pregnancy test;
- Pap smear;
- Chest X-ray.

According to the clinical setting, look for opportunistic infections and identify concomitant risk factors for cardiovascular and renal diseases (smoking, hypertension, diabetes, gout (uricaemia), dyslipidemia by a lipid profile, etc.)

* Request these tests as clinically indicated and through the referral/counter-referral system.

4.17.2. ARV treatment in adults

Any introduction to ARV treatment should be made preferably by a medical doctor or trained nursing staff. ART is renewable in ATC, AffTC, MU, sexual and reproductive health services, drop-in centers and any other health facilities designated by a ministerial decision. Each of these structures should regularly update its list of ARV prescribers. However, prescription renewals may possibly be done in some health facilities by trained nurses and supervised by the treating medical doctor.

Initiation to ART requires a prior preparation of the patient to ensure better adherence to therapy (psychosocial support).

**Preparation of the patient for ARV treatment (phase 2 of therapeutic education)**

HIV infection is a chronic disease that, in the present state of knowledge, requires regular and lifelong treatment. It is therefore necessary before starting treatment, to ensure proper understanding of the disease by the patient and their adherence to ART (their will to be treated).

Therapeutic advice will be given by the nursing staff, counselors, pharmacist or laboratory technician/pharmacy clerk.
Choice and initiation of treatment

The choice of treatment should take into account the history, the existence of co-morbidities, potential drug interactions, the patient’s lifestyle and the type of virus (HIV-1, HIV-2, HIV-1 subtypes O, N, P). Furthermore, the need to treat any opportunistic infection or any other progressive disease is required before initiating ART.

4.18 FIRST-LINE ARV PROTOCOL

First-line ARV protocol

The combination of an NNRTI and +2NRTIs is the recommended regimen for ARV first-line treatment in treatment-naive patients. In order to increase the patient’s observance and sustainability of first-line treatment effectiveness, ARV fixed-dose and single dose is preferred.

First-line ARV protocol or preference

2 NRTI + 1 NNRTI:
Tenofovir + Lamivudine/Emtricitabine + Efavirenz

What to AVOID:

- Prescribe Nevirapine full dose 400 mg at the beginning of treatment.
- Prescribe Nevirapine in patients with ALT levels 3 times the normal value.
- Prescribe NVP as first choice in women with CD4 cell counts > 250 cells / mm$^3$ and in men > 450 cells / mm$^3$.
- Prescribe EFV to people with a psychiatric history.
- Prescribe the combination 3TC and FTC (interchangeable).
- Prescribe ARVs in bi or monotherapy

Alternative first-line ARV protocols

- Zidovudine + Lamivudine + Efavirenz
- Zidovudine + Lamivudine + Nevirapine
- Tenofovir + Lamivudine + Nevirapine

Special cases
Abacavir + Lamivudine + Efavirenz/Nevirapine
Zidovudine/Abacavir + Lamivudine + Lopinavir/r or Atazanavir/r

ARV protocols in case of infection with HIV-2 and HIV-1 group O

HIV-2 and HIV-1 group O have a natural resistance to NNRTIs (EFV, NVP). These molecules should not be prescribed for these patients. In these cases, therapy should include the following combinations:

- 2NRTI + boosted PI (see 2nd line protocols)
- 3NRTI
**NB:** Recently discovered sensitivity profile to ARV of HIV1 group N and of HIV1 group P is still to be determined

### One regimen cannot fit all: alternative, special situations

<table>
<thead>
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<th>1st Line ART</th>
<th>Adults and Adolescents (including pregnant women, TB co-infection and HBV co-infection)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preferred (FDC) Regimen(s)</td>
<td>TDF+3TC (or FTC) + EFV</td>
</tr>
<tr>
<td>Alternative Regimens</td>
<td>AZT+3TC + EFV (or NVP)</td>
</tr>
<tr>
<td></td>
<td>TDF+3TC (or FTC)+ NVP</td>
</tr>
<tr>
<td>Special situations</td>
<td>ABC +3TC +EFV (or NVP)</td>
</tr>
<tr>
<td></td>
<td>AZT (or ABC) + 3TC + LPV/r or ATV/r</td>
</tr>
</tbody>
</table>

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**Second-line ART**

Second-line ART protocols are indicated in cases of failure of 1st line treatment. To avoid compromising the efficiency of the second-line treatment, by changing prematurely or late the 1st line, the time to move from the first to the second-line should be decided carefully considering the elements described in Table 2.

In Cameroon, PI boosted by ritonavir (boosted PI) are reserved for the second-line except in cases of infection with HIV-1 group O, HIV-2. (See Chapter "Antiretroviral Therapies in Special Populations).  

### 4.19 TREATMENT FAILURE

**Treatment failure** is defined in clinical, immunological and/or virological failure (see Table II). The viral load measurement, if available, enables to confirm treatment failure (persistence of viral load >1000 copies/ml after 6 months of good administration of ART); it is to be preferred. In the absence of the viral load, the use of immunological criteria to confirm the therapeutic failure as described in Table 2 must be exceptionally done.

In case of treatment failure, the principle consists in using a new therapeutic regimen (PI boosted by Ritonavir) added to AZT + 3TC when TDF is used in the first line or TDF + 3TC if AZT is used in the first line.
**4.20 SECOND-LINE ART PROTOCOLS**

**Preferred ARV protocols**

2NRTI + 1 PI/r

- Zidovudine + Lamivudine + Atazanavir/r*
- Zidovudine + Lamivudine + Lopinavir/r
- Tenofovir + Lamivudine + Atazanavir/r*
- Tenofovir + Lamivudine + Lopinavir/r

Atazanavir is the preferred choice because it is easy to take (one tablet), better digestive tolerance and better preservation of 2nd generation PI.

**Alternative ARV protocols**

- Abacavir + Didanosine + Lopinavir/r

**What should not be done:**

- Prescribe PI without ritonavir (unboosted PI)
- Prescribe PIs in first line EXCEPT in special cases (HIV-1 group O and HIV-2)
- Prescribe the combination of DDI and TDF

Table I focuses on the choice of second-line protocol

<table>
<thead>
<tr>
<th>First-line regimens (2NRTI+ 1NNRTI)</th>
<th>Second-line regimen</th>
<th>3rd line</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preferred protocol</strong></td>
<td>TDF+3TC/FTC+EFV</td>
<td>Atazanavir/r or Lopinavir/r (thermostable)</td>
</tr>
<tr>
<td>NRTI</td>
<td>AZT + 3TC</td>
<td></td>
</tr>
<tr>
<td><strong>Alternative protocols</strong></td>
<td>TDF + 3TC + NVP or TDF+3TC or TDF+FTC</td>
<td></td>
</tr>
<tr>
<td>Protocols</td>
<td>TDF + FTC + NVP or TDF+3TC or TDF+FTC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AZT + 3TC</td>
<td></td>
</tr>
</tbody>
</table>

Adapted from WHO recommendations, 2013

**4.21 THIRD-LINE ARV PROTOCOLS**

Presently, the number of people requiring third-line ARV treatment in Cameroon is increasingly growing. Individual management of confirmed cases and the therapeutic choice in case of failure in the 2nd line will be guided by the resistance profile (genotyping). Also the third-line regimens should include new ARV with proven HIV activity: second generation PI (Darunavir/ritonavir), anti integrase (Raltegravir or dolutegravir). The choice of treatment will take into account the level of viral load and sensitive molecules.

These cases should be managed in referral ATCs with proven expertise.

* A motivated request for import authorization of appropriate ARVs should first be addressed to the Minister of Public Health by the ATC.
4.22 CLINICAL AND BIOLOGICAL FOLLOW-UP OF THE PATIENT AFTER TREATMENT

Clinical follow-up

The attending medical doctor and his team are in charge of clinical follow-up. It shall be done as follows:

- 15th day of treatment (day 15);
- Once a month during the first three months (M1, M2, M3);
- Every 3 months during the first 2 years;
- Once every 6 months after clinical and immunological stabilization that is, undetectable VL for 2 years.

This frequency may be increased depending on the patient’s clinical condition. At each of these visits the medical staff should:

- Always ensure proper understanding by asking the patient to repeat the dosage;
- Always ensure the acceptance of the therapy by the patient by objectifying their personal organization in the treatment decision (integrate treatment in their daily life);
- Ensure good adherence to the treatment by the patient (number of doses missed in the last 4 days);
- Make use the observations of the pharmacist (or clerk) on the availability of molecules and patient adherence;
- Monitor the nutritional status of the patient (regular weight record);
- Monitor the safety and toxicity of the treatment;
- Evaluate the clinical efficacy of treatment;
- Refer the patient to support services.

Biological follow-up

Biological follow-up of patients starting ARV treatment will be done as follows:

Day 15 on ARV treatment:
- FBC (if the regimen contains AZT);
- Transaminases (if the regimen contains NVP).

Day 30
- Creatinine if the regimen contains TDF;
- Urinary dipstick if the regimen contains Tenofovir and if clinically indicated;
- FBC (if the regimen contains AZT and if clinically indicated in the 2nd and 3rd months);
- Transaminases (if the regimen contains Nevirapine if clinically indicated).

At the sixth month and every six (6) months for two (2) years and once a year after clinical and immunological stabilization
- Creatinine according to molecules used (ddI, TDF or LPV/r) and if clinically indicated;
- Urinary dipstick if the regimen contains Tenofovir;
- CD4 T-cell count, stop testing if the prior 2 values are greater than 350 cells/mm³.

At six months and at least once a year
At twelve months, and once a year
- Amylase level, FBC, SGPT/SGOT;
- Cholesterol and triglyceride if clinically indicated or if the protocol contains a PI;
- Fasting blood sugar;
- Urinary dipstick

Table II: Clinical, immunological and virological definitions of treatment failure

<table>
<thead>
<tr>
<th>Clinical failure</th>
<th>Occurrence or recurrence of a new affection classified in WHO clinical stage IV (OI, tumors) after 6 months of effective treatment.</th>
</tr>
</thead>
</table>
| Immunological failure | CD4 count falls to the baseline (or below) and after 6 months of well observed and effective ART  
                          OR  
                          Persistent CD4 levels < 100 cells/mm³ after 6 months of well observed and effective ART treatment |
| Virological failure | Viral load > 1000 copies/ml after 6 months (or 12 months depending on the time of follow-up result) of well observed and effective treatment. |

Adapted from WHO recommendations 2013

4.23 MANAGEMENT OF ARV TREATMENT INTERRUPTIONS

Treatment interruption is defined as missing one or more doses of ARV treatment in a given period
- Interruption ≤ 1 month: enhance adherence, follow the same protocol;
- Interruption > 1 month: enhance adherence, redo the immunological checkup and follow the same protocol. Follow-up of treatment will be done in the same manner as in the beginning.

In any case, support and assistance in compliance will be carried out by a counselor trained for this purpose.

4.24 MANAGEMENT OF FIRST-LINE ARV TREATMENT FAILURE

Before thinking of changing the treatment, always make sure the patient is taking it. Moreover, the decision to change a treatment protocol after failure of the 1st line treatment will be guided by the availability of sufficiently powerful therapeutic options to make viral load undetectable and which the patient can easily accept and tolerate. Also, the patient's clinical stage, availability of CD4 count and viral load are taken into account. Decision elements are summarized in Table 2 above.

Note: Viral load measurement is the best indicator of ART failure.
SECTION 5: MANAGEMENT OF CO-INFECTIONS AND CO-MORBIDITIES
5. CLINICAL SIGNS, DIAGNOSIS, MANAGEMENT AND PREVENTION OF CO-INFECTIONS

5.1 HIV/TUBERCULOSIS CO-INFECTION

5.1.1 Background and Rationale

5.1.2 Physiopathology

5.1.3 Clinical signs of TB associated with an HIV infection

5.1.4 How to diagnose TB

5.1.5 Management of TB/HIV co-infected patients

5.1.6 TB treatment of people with HIV

5.1.7 ART in TB/HIV co-infected patients

5.1.8 Recommended ARV protocols in case of TB/HIV co-infection

5.1.9 Recommended protocols in HIV/TB co-infected children on anti-TB treatment (WHO 2010)

5.1.10 Recommended protocols in HIV/TB co-infected children on ART and who have to receive TB treatment (WHO 2010)

5.1.11 When to start antiretroviral treatment in case of TB/HIV co-infection

5.1.12 TB Prevention in PLWHIV

5.1.13 Case of newborn and infant less than 6 months whose mother is suffering from a contagious TB

5.2 STRATEGIC ORIENTATIONS

5.2.1 Implementation level of activities

5.2.1.1 Activities implemented at the strategic level

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5.3 HIV- VIRAL HEPATITIS CO-INFECTION

5.4 HIV-VHC CO-INFECTION

5.5 SEXUALLY TRANSMITTED INFECTIONS AND OTHER NONCOMMUNICABLE GENITAL AFFECTIONS

5.5.1 Background and Rationale

5.5.2 Clinical signs, etiology and management of major STI cases

5.5.3 Prevention of STIs

5.5.4 Cryptococcal infection

5.6 TOXOPLASMA

5.6.1 Background and Rationale

5.6.2 Diagnosis and Management

5.7 PULMONARY PNEUMOCYTIS

5.7.1 Background and Rationale

5.7.2 Diagnosis and Management

5.7.3 Treatment

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Co-infections and co-morbidities are a significant part of morbidity and mortality in HIV patients. They are common and may either indicate HIV infection or occur as the disease progresses. The occurrence in HIV patients of some infections and OIs is an indication of ART failure or inadequate ARV therapeutic management. Despite an increased life span due to antiretroviral treatment, PLWHIV suffer from a number of co-morbidities due to aging.

The problem of these co-infections lies in prevention, early detection, treatment and follow-up. It is important to take into account, when starting ART, the choice of ARVs to be prescribed and especially the time to start ART given the risks of drug interactions and the occurrence of immune reconstitution inflammatory syndrome (IRIS).

Tuberculosis is the first opportunistic infection in patients infected with HIV living in countries with a high prevalence of both diseases. According to WHO, one third of patients with HIV is co-infected with BK.

A multidisciplinary management is essential in order to optimally take into account co-infections and co-morbidities while maintaining the quality of life of patients.

5. CLINICAL SIGNS, DIAGNOSIS, MANAGEMENT AND CO-INFECTIONS

5.1 TB/HIV CO-INFECTION

5.1.1 Background and rationale
Globally, TB is the first cause of death in HIV-infected people and is responsible for one quarter of deaths.
In Cameroon in 2013, 26 000 TB cases were reported, with HIV co-infection in 38%. Intensive search for TB in PLWHIV and routine HIV testing among TB patients and their joint management is a huge challenge for TB and HIV control programmes.

5.1.2 Physiopathology
The immunological effect of HIV is seen especially on cell-mediated immunity, the part of the immune system that plays the most important role in defending the body against the *Tubercle bacillus*. Immune deficiency caused by HIV infection decreases the ability of the host to contain TB infection and prevents new infection or reinfection with *Tubercle bacillus*. This deficit also changes the delayed hypersensitivity reaction that occurs in the tuberculin skin test (intradermal tuberculin reaction), explaining negative tuberculin skin test commonly observed in HIV infected patients.
*M. tuberculosis* increases the replication of HIV and TB accelerates the progression of HIV infection in co-infected patients.

5.1.3 Tuberculosis clinical signs associated with an HIV infection
TB can occur at any stage of HIV immunosuppression and defines, regardless of the CD4 count, a transition to the AIDS stage as classified by the CDC or WHO stage III (pulmonary tuberculosis) or IV (extrapulmonary tuberculosis). The clinical presentation of tuberculosis in HIV infection depends on the state of the immune system of the subject during diagnosis,
evaluated by counting CD4 lymphocytes.

When TB occurs in early HIV infection, the clinical presentation and radiographic abnormalities of the chest are often typical and are similar to that of the subject not infected with HIV. X-rays may show nodules, infiltrates and cavities mainly situated at the apex of the lungs. The frequency of extrapulmonary tuberculosis is not very high. The signs and symptoms of extrapulmonary tuberculosis depend on the organ affected. The tuberculin skin test is positive in two third of cases.

When TB occurs at the advanced immunosuppression stage, extrapulmonary locations become more frequent especially ganglionic, pleural, pericardial and peritoneal affections. Miliary tuberculosis and multifocal attacks are also common in cases of advanced immunosuppression. Unusual locations such as cerebral tuberculosis and abscess of the thoracic wall readily occur in this context. On a chest X-ray, opacities can be located only at the bases and are relatively less extensive. Excavations are less frequent. Pleural and pericardial effusions are more common. The chest X-ray may be normal or subnormal. It is difficult to have a positive result for sputum examination at this stage.

5.1.4 How to diagnose tuberculosis

Pulmonary tuberculosis is suspected in PLWHIV presenting the following: cough, whatever the duration, fever, weight loss or night sweats. The presence of only one of the symptoms requires a TB test;

Chest X-ray with suggestive signs of tuberculosis;

Children in contact with a TPM+ patient with a low weight gain or breaking in the weight curve, cough, fever, or weight loss;

The diagnosis is confirmed by the presence of BK (direct examination, culture, molecular biology) in sputum, bronchial aspirate, serous liquid or biopsies of affected organs.

In addition, any person who has been treated in the past for pulmonary tuberculosis should benefit if possible from a search for a possible drug resistance by conventional phenotypic and/or by molecular methods.

5.1.5 Management of the TB/HIV co-infected patient

TB treatment should be initiated primarily in adults and children regardless of CD4 count and followed by ART as soon as possible within 8 weeks after anti TB treatment initiation. TB can occur during the first months of antiretroviral therapy either by diagnostic failure when placing the patient on treatment, or because of immune reconstitution syndrome (IRIS), or as a sign of ART failure.

5.1.6 TB treatment in HIV infected people

TB treatment is equally effective in HIV infected people as well as in those who are HIV negative.

Which drugs to use

The main drugs used in TB treatment by the National Tuberculosis Control Programme (NTCP) are Isoniazid (H), Rifampicin (R), Pyrazinamide (Z), Streptomycin (S) and Ethambutol (E).
Which therapeutic regimens
The treatment regimens are those recommended in the national guidelines of the National Tuberculosis Control Programme (NTCP) and are the same for PLWHIV and non-infected persons.
Therapeutic regimens always have 2 phases: an initial intensive phase of 2 or 3 months and a continuation phase of 4 or 5 months depending on the type of cases to be treated:
New cases (6 months treatment): 2 \{RHEZ\}/ 4 \{RH\}
  Intensive phase with 4 molecules (RHEZ), duration 2 months;
  Continuation phase with 2 molecules (RH), duration 4 months;
Retreatment cases (8 months of retreatment): 2 \{RHEZ\}/ 1 \{RHEZ\}/ 5 \{RHE\}
  Intensive phase with 2 months of (RHEZ), then 1 month of (RHEZ);
  Continuation phase of 5 months of (RHE)

How to monitor TB treatment
Therapeutic regimens should be supervised;
Sputum control is done at the end of the 2\textsuperscript{nd} or 3\textsuperscript{rd} month (case to be re-treated) at the end of the 5\textsuperscript{th}, 6\textsuperscript{th} or 8\textsuperscript{th} month (case to be re-treated).
The treatment must be taken regularly till the end. Regularly encourage the patient so as to obtain good compliance and healing.

5.1.7 Antiretroviral therapy in co-infected TB/HIV patients
Rifampicin, which is a major anti-TB drug, has important interactions with some antiretroviral drugs such as non-nucleoside reverse transcriptase inhibitors and protease inhibitors, hence the importance to choose an antiretroviral regimen to provide a highly effective treatment for HIV infection which has few interactions with anti-TB drugs. (See table below)

Table I: Interactions of Rifampicin with antiretrovirals

<table>
<thead>
<tr>
<th>Antiretroviral drugs</th>
<th>Interactions</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efavirenz</td>
<td>Moderate reduction in blood levels of Efavirenz</td>
<td>Do not increase the dose</td>
</tr>
<tr>
<td>Nevirapine</td>
<td>Moderate reduction in blood levels of Nevirapine</td>
<td>Avoid combination</td>
</tr>
<tr>
<td>Protease inhibitors</td>
<td>Significant reduction in blood levels of PI</td>
<td>Avoid combination or double the booster dose</td>
</tr>
</tbody>
</table>
5.1. Recommended ARV protocols in case of TB/HIV co-infection

→ In adults including pregnant and breastfeeding women

For co-infected patients not yet on ART: choose the protocol compatible with anti-TB treatment.
For patients already on ART: make sure that the protocol is compatible with TB treatment, if not change if the current protocol includes NVP or PI.

1st line:
2NRTI 1 NNRTI (EFV) or 3 NRTIs if contraindicated to EFV

Standard Protocol
TDF + 3TC (or FTC) + EFV

Alternative Protocols
AZT+3TC+ABC
AZT + 3 TC + EFV

2nd line:
Substitute Rifampin with Rifabutin (less interactions with PIs and NNRTIs)
If Rifabutin not available:
TDF + 3TC (or FTC) +LPV/r by doubling the dose of Ritonavir*
When Ritonavir is not available in separate molecules, it is recommended to double the dose of Lopinavir at the same time.

→ In children

The occurrence of patent tuberculosis in children as in adults immediately classifies them at the stage of AIDS and is an indication for ART regardless of the degree of immunological deficiency. The choice of a protocol compatible with ART is essential. Due to interactions between rifampicin and LPV/r or NVP, rifampicin and EFV, the combination of the two treatments is a challenge for children under 3 years. The prescription of EFV is not recommended in co-infected children under 3 years. However, recent studies have shown the effectiveness of a triple combination of NRTIs, providing a treatment option in cases of TB/HIV co-infection in this age group. At the end of anti-TB treatment, establish protocols with PIs or NNRTIs according to the age of the child.

Two situations to consider:
1. HIV positive child tested positive to TB and not on ART:
   → Establish priority TB treatment according to national guidelines;
   → Secondly, introduce ART as soon as possible by choosing the protocol compatible with anti-TB drugs.
2. Child on antiretroviral treatment who has tuberculosis
   → Start TB treatment as soon as the diagnosis is made;
   → ARV treatment should not be interrupted, but we must ensure the compatibility of the current protocol and therefore consider the change of certain molecules.
### 5.1.9 Recommended ARV protocols in HIV/TB co-infected children on TB treatment (WHO 2010)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>ARV Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children under 3 years</td>
<td>Two NRTIs + NVP, make sure that NVP dose is 200 mg/m² or Triple NRTI (AZT + 3TC + ABC)</td>
</tr>
<tr>
<td>Children aged 3 and above</td>
<td>Two NRTIs + EFV or Triple NRTI (AZT + 3TC + ABC)</td>
</tr>
</tbody>
</table>

### 5.1.10 Recommended protocols in HIV/TB co-infected children on ART and who have to receive TB treatment (WHO 2010)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>ARV Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children under 3 years</td>
<td>Continue NVP, ensure that the NVP dose is maximum 200 mg/m² or Triple NRTI (AZT + 3TC + ABC)</td>
</tr>
<tr>
<td>Children aged 3 years and above</td>
<td>if the child receives EFV, continue the same regimen</td>
</tr>
<tr>
<td></td>
<td>If the child receives NVP, substitute with EFV or Triple NRTI (AZT + 3TC + ABC)</td>
</tr>
<tr>
<td>Children on standard regimen containing PIs (two NRTIs + LPV/r)</td>
<td>Triple NRTI (AZT + 3TC + ABC) or Substitute LPV/r with NVP, ensure that NVP dose is maximum 200 mg/m² or Continue LPV/r and increase RTV dose to get the therapeutic dose of LPV in mg (ratio of 1:1)</td>
</tr>
<tr>
<td>Children aged 3 years and above</td>
<td>if the child has no past history of therapeutic failure of a combination including NNRTIs:</td>
</tr>
<tr>
<td></td>
<td>Substitute with EFV or Triple NRTI (AZT + 3TC + ABC) or Continue LPV/r and increase RTV dose to get the LPV therapeutic dose in mg (ratio of 1:1)</td>
</tr>
<tr>
<td></td>
<td>If the child has past history of therapeutic failure of a combination including NNRTIs:</td>
</tr>
<tr>
<td></td>
<td>Triple NRTI (AZT + 3TC + ABC) or Continue LPV/r and increase RTV dose to get the LPV therapeutic dose in mg (ratio of 1:1)</td>
</tr>
<tr>
<td></td>
<td>Move to 2&lt;sup&gt;nd&lt;/sup&gt; line</td>
</tr>
</tbody>
</table>
5.1.11 When to start ART in case of TB/HIV co-infection

It is recommended to start antiretroviral therapy in any TB/HIV co-infected patient regardless of CD4 count.

The use of ARVs in TB treatment can increase certain side effects, making it difficult to simultaneously administer the two treatments and jeopardizing compliance. Patients with profound immunosuppression (CD4 <50/mm$^3$) should receive antiretroviral treatment within 2 weeks following TB treatment initiation.

**Management of HIV and multidrug-resistant tuberculosis (MDR-TB) co-infection**

MDR-TB is defined as TB resistant to isoniazid and rifampicin, which are the main anti-TB drugs.

The screening test for TB using molecular biology tools (Xpert for example) should be performed in PLWHIV suspected for MDR-TB whenever possible; this test has a good sensitivity for the early detection of not only TB but rifampicin resistance, which can significantly shorten the time of diagnosis and treatment of MDR-TB.

Therapeutic regimens currently used to treat multidrug-resistant TB do not contain rifampicin. It is therefore not necessary to change the current ARV protocol for multidrug-resistant tuberculosis patients; PIs and NVP can be used.

5.1.12 Prevention of TB in PLWHIV

**INH Chemoprophylaxis**

It is recommended to actively look for TB in all PLWHIV each time the patient visits the health facility with a simplified TB screening algorithm based on the presence of four clinical symptoms associating cough (whatever the duration), night sweats, fever or weight loss. This simplified algorithm helps to distinguish those who may receive isoniazid prophylactic treatment (INH/PT) from those to have further diagnostic investigations for tuberculosis infection or other diseases. People with no symptoms are unlikely to have active TB (negative predictive value set at 98%). They must receive INH/PT as part of comprehensive prevention and care for HIV.

Chest X-ray and tuberculin skin test are no longer compulsory to begin isoniazid preventive treatment.

Preventive chemotherapy reduces from 64 to 33 % the risk of developing tuberculosis.
Figure 1: TB screening algorithm in adults and adolescents living with HIV in a context of high HIV prevalence and limited resources

* Wherever healthcare is provided, measures for infection control to reduce transmission of M. tuberculosis should be put in place.

** If possible, a chest X-ray may be performed to classify patients in groups “Presence of tuberculosis” and “Absence of tuberculosis.” However, it is not obligatory.

*** Contraindications are: presence of active hepatitis (acute or chronic), regular and significant consumption of alcohol and symptoms of peripheral neuropathy. Neither a history of tuberculosis nor the presence of a pregnancy constitutes contraindication to start INH/PT. Although it is not obligatory to begin INH/PT, IDR can be used in some situations to determine eligibility for treatment.

**** The investigations for tuberculosis should be performed according to national guidelines in force.
Figure 2: TB screening algorithm in children over 12 months living with HIV

* All children and infants less than one year should receive INH/PT if they have been in contact with a TB case.

** We talk of low weight gain in case of weight loss or very low weight (value of z-score of weight/age ratio below -3) or underweight (the z value of the weight/age ratio below -2) or confirmed weight loss (> 5%) since the last visit, or flattening of the growth curve.

*** Contraindications are: presence of active hepatitis (acute or chronic) and symptoms of peripheral neuropathy. History of tuberculosis does not constitute a contraindication for INH/PT. Although it is not obligatory to start INH/PT, IDR can be used in certain situations to determine whether a person is eligible for treatment.

**** The investigations for tuberculosis should be performed according to national guidelines in force.

5.1.13 Case of a newborn and infant less than 6 months old whose mother is suffering from a contagious tuberculosis

Newborns and infants breastfed by mothers with smear-positive pulmonary tuberculosis are at high risk of being infected and develop TB because they are exposed to a high risk of contamination.
What to do

Standard TB treatment in the mother. She should not be separated from her child and should breastfeed normally; give her hygiene advice for cough.

If there are clinical and/or radiological findings suggestive of tuberculosis in the newborn or infant, TB treatment should be administered to the child;

In the newborn or apparently healthy infant, the action to be taken depends on when maternal tuberculosis was identified and if on treatment:
- For mother treated for more than 2 or 3 months before birth and if smears were negative before delivery, vaccinate the infant with BCG, chemoprophylaxis is useless;
- For mother treated for less than 2-3 months before delivery or less than 2-3 months after and her smears are positive, prescribe for the newborn a chemoprophylaxis with isoniazid and vaccinate with BCG at the end of the chemoprophylaxy;
- For treatment started beyond 2 to 3 months after delivery, prescribe chemoprophylaxis to the newborn for 6 months. Whether vaccination was done at birth or not, vaccinate the child with BCG at the end of the chemoprophylaxy.

Who should receive INH/PT

All PLWHIV must receive INH/PT at the start of ART after excluding active tuberculosis

These are:
- Adults and adolescents who have little risk of suffering from active tuberculosis based on the clinical algorithm;
- Adults and adolescents successfully treated for tuberculosis in secondary prophylaxis for an additional period of 6 months;
- Pregnant women, preventive treatment with isoniazid is safe in pregnant women;
- Children, regardless of their age who have the following symptoms: low weight gain, fever, cough, or have been in contact with a TB case, and whose screening for tuberculosis is negative;
- Children above 12 months, with no suspicious symptoms of active TB and not in contact with a TB case;
- Children below 12 months in contact with a case of tuberculosis and in whom investigations to look for tuberculosis were negative;
- Children who have successfully completed their treatment against tuberculosis in secondary prophylaxis for an additional period of 6 months.

**NB:** Administering INH/PT for people living with HIV does not increase their risk of developing tuberculosis resistant to isoniazid (INH). Fears about the development of isoniazid resistance should therefore not prevent administerin of INH/PT.

Dosage of isoniazid and duration of INH/PT

- **Children**: 10 mg/kg per day
  INH dosage: 100 mg tablet according to weight

<table>
<thead>
<tr>
<th>Weight Range</th>
<th>Tablet Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 5 kg</td>
<td>½ tab.</td>
</tr>
<tr>
<td>5-9.9 kg</td>
<td>1 tab.</td>
</tr>
<tr>
<td>10-13.9 kg</td>
<td>1 ½ tabs.</td>
</tr>
<tr>
<td>14-19.9 kg</td>
<td>2 tabs.</td>
</tr>
<tr>
<td>20-24.9 kg</td>
<td>2 ½ tabs.</td>
</tr>
<tr>
<td>&gt; 25 kg</td>
<td>3 tabs.</td>
</tr>
</tbody>
</table>

- **Adults**: INH dosage: one 300mg tablet per day, for 6 months
**NB:** On INH/PT, continue the active search for TB using a clinical algorithm for screening and look for INH side effects.

**Table II: Management of INH side effects**

<table>
<thead>
<tr>
<th>Side effects</th>
<th>Measures to be taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euphoria, insomnia, joint pains, dry mouth</td>
<td>Check dosage and morning intake</td>
</tr>
<tr>
<td>Generalized hypersensitivity</td>
<td>Stop treatment</td>
</tr>
<tr>
<td></td>
<td>Immediate hospitalization of the patient</td>
</tr>
<tr>
<td></td>
<td>Start appropriate treatment</td>
</tr>
<tr>
<td>Polyneuritis</td>
<td>Dosage to be checked</td>
</tr>
<tr>
<td></td>
<td>Vitamin B6 (pyridoxine)</td>
</tr>
<tr>
<td>Hepatitis with jaundice</td>
<td>Stop treatment</td>
</tr>
<tr>
<td></td>
<td>Monitoring</td>
</tr>
<tr>
<td></td>
<td>After normalization, resume gradual dose to reach the adequate dose based on weight</td>
</tr>
</tbody>
</table>

**Prevention of Nosocomial Transmission of Tuberculosis**

It is imperative to take measures to reduce the transmission of TB in health facilities and to protect health care workers in charge of TB patients and HIV patients in a context of high prevalence of tuberculosis and generalized HIV epidemic. These measures are:

**Administrative:**

- Physical separation of smear-positive TB patients or suspects from HIV positive non-tuberculosis patients who can easily be infected and develop TB disease;
- Reduce as much as possible the time that the suspects and smear-positive cases spend in the health centre or hospital.

**Environmental:**

The role is to reduce the concentration of infectious droplets in the air.

- Cough hygiene: the TB suspect or patient should cover their mouth and nose properly using a paper tissue. The tissue will be placed after each use in a plastic bag which should be evacuated every day;
- The regular ventilation of the room, opening of doors and windows, allows fresh air to circulate.

**Personal protection:**

- Respiratory protection for healthcare workers wearing filter masks especially for personnel in charge of multidrug-resistant tuberculosis patients;
- All HIV-positive health personnel should not be in charge of TB patients;
- Encourage all staff to regular do HIV testing and change the workstation of those who are HIV positive.

**BCG vaccine**

Infants exposed to HIV should normally receive their vaccine at birth according to the EPI. Infected children with advanced immunosuppression are most at risk of developing complications with live vaccines.
BCG is a live attenuated vaccine; it can cause disseminated disease (BCG inflammatory syndrome) in patients because of HIV. It should therefore not be administered to HIV-positive children.

5.2 STRATEGIC ORIENTATIONS

The national integration policy for TB/HIV control activities focuses on three strategic points:

Point 1: Establishment and strengthening of a platform for collaboration of activities of HIV and Tuberculosis control programmes at the level of the Department of Disease, Epidemics and Pandemics Control (joint NACP and NTCP);

Point 2: Reducing the TB burden among people living with HIV and early start of ARVs (HIV programme);

Point 3: Reducing the disease burden due to HIV infection in TB patients and those suspected for tuberculosis (TB Programme).

5.2.1 Implementation level of activities

5.2.1.1 Activities implemented at the strategic level

- Create and strengthen a coordinating body for collaborative activities operating at all levels;
- Monitor HIV prevalence among TB patients and the prevalence of TB among PLWHIV;
- Jointly plan the integrated delivery of TB and HIV care;
- Ensure the monitoring and evaluation of collaborative TB/HIV activities.

5.2.1.2 Activities implemented at the operational level

They are conducted at three levels:

In DTCs

- Provide counseling and free HIV testing for all TB patients and TB suspects;
- Ensure HIV prevention methods among TB patients and TB suspects;
- Prescribe preventive cotrimoxazole to all co-infected patients;
- Ensure quality TB treatment to all co-infected patients;
- Provide antiretroviral treatment for TB patients living with HIV.

In ATCs/MUs

- Actively look for suspicious suggestive symptoms of TB using a clinical algorithm for all HIV-positive patients before prescribing ARVs and during each visit to the health facility;
- Detect tuberculosis in all suspected patients and prescribe TB treatment;
- Prevent TB by prescribing isoniazid to all patients with no suggestive symptoms of active TB and through early start of ART;
- Introduce transmission measures of TB control in health services and community facilities.

In communities

- Sensitize and mobilize the community;
- Provide home care to co-infected patients;
Provide psychosocial care to co-infected patients;
Look for irregular patients and lost-to-follow up.

5.3 HIV/VIRAL HEPATITIS CO-INFECTION

5.3.1 Background and Rationale

HIV and HBV/HDV co-infections (hepatitis B/delta virus) and HIV/HCV (hepatitis C virus) have become one of the prime factors of co-morbidities and mortality apart from HIV, largely due to the increase in the lifespan of PLWHIV.

Due to the modes of transmission of HIV and Hepatitis B virus (HBV) (through blood, sexual contact or from mother to child), HIV and HCV (through blood), the prevalence of co-infection with HBV and HCV in the population of HIV infected people is high. HIV infection alters the natural history of infection with HCV and HBV/HDV favouring a shift towards chronic forms and rapid evolution towards complications (cirrhosis and hepatocellular carcinoma).

In HBV and HCV co-infected patients, the evaluation of liver disease should be done as early as possible because a poor outcome can be prevented by introducing antiretroviral treatment, some of which are very effective on HBV infection.

The increase in transaminase levels in HIV/HBV co-infection are common and of different origin:
- ARV Hepatotoxicity or prophylactic treatments of opportunistic infections;
- Immune reconstitution inflammatory syndrome (IRIS) on ART, especially when the CD4 count is below 200/mm³ and in the presence of high levels of HBV DNA.

The therapeutic objective is the eradication of the HCV virus, a suspension of viral replication of B virus in order to obtain a regression of the fibrosis and prevention of complications.

5.3.2 HIV/HBV co-infection

a) Epidemiology

The prevalence of chronic HBV infection (HBsAg+ or HBV DNA+) in HIV infected patients is poorly documented in our milieu, but should be between 8 to 10% (WHO).

b) Influence of HIV on the natural history of hepatitis B

- Effects of HIV infection on hepatitis B
  - HIV infection alters the natural history of HBV and worsens the prognosis of chronic hepatitis B;
  - HIV infection increases the chronicity of acute hepatitis B by increasing viral replication;
  - HIV infection increases the rate of progression of fibrosis, the development of cirrhosis and hepatocellular carcinoma.

Poor prognostic factors during HIV/HBV co-infection are: low CD4 count, the persistence of HBeAg, multiple infections (HBV, HCV and HDV) and alcohol consumption. These factors should be identified and taken into account in the treatment decision process.

- Effects of HBV infection on the progression of HIV infection

Studies carried out showed no influence of the viral B infection on the survival or progression of the HIV infection.
c) How to diagnose and assess HBV infection in HIV/HBV co-infection

The search for markers of HBV infection (HBsAg, anti-HBc) must be systematic as well as the search for immunization against HBV (anti-HBs).

In all HBsAg carriers, a search for anti-delta antibodies should be done. A positive delta serology should lead to the search for an HDV viral replication by molecular biology (HDV RNA).

In HBsAg patients, an assessment of the severity of hepatitis B and virological profile should be carried out in a specialized unit (Hepato Gastroenterology, Internal Medicine, Infectiology). It shall include:

- A clinical examination for signs and symptoms of chronic liver disease;
- Repeated analysis of transaminase levels, especially in patients with negative HBeAg because fluctuations are frequent;
- A determination of the HBV viral load (HBV DNA) by a quantitative test with good sensitivity (tests based on gene amplification in real time with results expressed in IU/ml and IU/ml log);
- In patients with unexplained cytolysis and a serological profile of isolated anti-HBc type, it is appropriate to do an HBV DNA assay to eliminate occult HBV infection which could be more common in HIV and/or HCV co-infected patients.

HIV-HBV-HDV triple infection and HIV-HBV-HDV-HCV quadruple infection can be found in some populations (people who have received multiple blood transfusions ...). This situation absolutely requires management in hepatology.

d) How to assess liver damage in HIV/HBV co-infection

In the case of increased transaminase levels and in the presence of an HBV detectable viral load (> 2000 IU/ml), an assessment of liver disease should be done to determine the stage of the disease, the risk of progression to cirrhosis and its complications, and help in the therapeutic decision.

This assessment, which aims at evaluating the necroinflammatory activity and fibrosis, is based on histologic examination of the liver through Liver Biopsy (LB). Although not yet validated for this indication, serum markers of fibrosis (FibroTest-Actitest, Fibromere®) and Fibro Scan exam are increasingly used as an alternative to liver biopsy.

An abdominal ultrasound and assay of α-fetoprotein are used to look for direct or indirect signs of cirrhosis on the one hand, and on the other hand, hepatocellular carcinoma which can occur at any stage of the HBV infection.

e) When to start treatment in case of co-infection

The main factors to be considered in the indication of treatment of HBV infection is the severity of liver disease and the level of viral replication. The treatment is indicated by the presence of histological evidence of active and/or advanced disease (activity ≥ A2 and/or ≥ F2 fibrosis).

In the HIV/HBV co-infected patient, treatments are more widely given taking into account the activity of certain anti-HIV molecules (LAMIVUDINE, TENOFOVIR) against HBV.

f) Which anti-HBV drugs in case of HIV/HBV co-infection
There are:

- A limited duration treatment with pegylated interferon;
- A long-term treatment with nucleoside or nucleotide analogues.

**Pegylated Interferon**
The duration of the treatment is 48 weeks, regardless of the HBe status. Its high cost and its many side effects are the main factor limiting access to this treatment. There are effective molecules on HBV and HIV.

- **Lamivudine Emtricitabine and Tenofovir**
  These are nucleoside analogues widely used in HIV infection and active against HBV. Lamivudine has as advantage its easy use and low toxicity. Its main disadvantage is to constantly induce resistance mutations vis-à-vis HBV. Abrupt discontinuation of Lamivudine without relay by another treatment involves a high risk of viral reactivation associated with clinical and laboratory rebound of hepatitis B, sometimes severe. This discontinuation should therefore be avoided. The use of Lamivudine in HBV monotherapy is not recommended: it is always included in the antiretroviral combinations at a dose of 300mg/daily.
  
  **FTC (Emtricitabine):** This molecule is a very similar to Lamividune with which it shares advantages, disadvantages and rules of use. Resistance to Emtricitabine is similar to that of Lamivudine. It is used at the dose of 200 mg/daily.
  
  **Tenofovir:** Tenofovir Disoproxil Fumarate (TDF) (Viread®) is a nucleotide analogue similar to Adefovir, used in the treatment of HIV infection. The efficiency of Tenofovir in the treatment of chronic hepatitis B has been demonstrated in HBV mono-infected patients and in HIV/HBV co-infected patients.

In HIV/HBV co-infected patients, Tenofovir is most often used in combination with Lamivudine or Emtricitabine.

**g) Which therapeutic strategies in case of HIV/HBV co-infection**

The three parameters taken into account for the initiation of treatment are:

- HBV DNA serum level (> 2000 IU/ml);
- Increase in transaminase levels;
- Liver histology lesions, preferably through LB (activity ≥ A2 and ≥ F2 fibrosis).

**In practice, according to national guidelines HIV/HBV co-infection is an indication to ART. This treatment should definitely include Tenofovir Lamivudine+ Tenofovir Emtricitabine.**

**h) How to monitor treatment**

In HBsAg+ patients treated for their HBV infection, at least a quarterly monitoring of transaminase levels and HBV viral load should be done. The effectiveness of treatment should be assessed on the continuous decrease and eventually an undetectable viral load, as well as HBeAg seroconversion. A search for HBsAg must be done regularly (6 or 12 months) to assess the loss of this marker and the acquisition of anti-HBs, especially with treatments providing good control of viral replication.
A resistance should be suspected, after verification of compliance, in case of a confirmed increase by more than one log viral load. In this situation, the determination of the sequence of the gene coding for viral polymerase can be justified.

**i) When and who to vaccinate in case of co-infection**
Hepatitis B can be effectively prevented by vaccinating HIV infected patients. Therefore, it is essential to systematically do a serological and complete HBV virological screening in all HIV infected patients (treated or untreated), with titration of anti-HBs and HBV DNA research and a delta co-infection where necessary. This should be repeated annually in conjunction with the application of preventive measures (including anti-HBV vaccination). Anti Hepatitis A vaccine is recommended for HIV infected people with HCV or HBV. It is indicated especially in cases of severe liver disease (cirrhosis). Vaccination is recommended after a check of the absence of anti-HAV antibodies. It is less effective if CD4 count is less than 200/mm³.

**5.4 HIV/HCV CO-INFECTION**

**a) Epidemiology**
The seroprevalence of HCV infection in HIV-infected patients was estimated at 10% in Cameroon. This prevalence varies widely depending on the studies.

**b) Influence of HIV on the natural history of HCV co-infection**
HIV infection significantly alters the natural history of HCV:
- it increases HCV viral load by a factor of 2 to 8, resulting in an increased risk of mother–to-child transmission and sexual transmission of HCV compared to HCV mono-infection on the one hand, and a decrease in spontaneous recovery after acute hepatitis C on the other hand;
- it worsens the prognosis of HCV infection, with more rapid progression of liver fibrosis. CD4 counts less than 200/mm³ is an independent factor associated with more rapid progression of HCV disease in most studies.

**c) Influence of HCV on the natural history of HIV**
HCV infection does not appear to influence the course of HIV infection both in terms of progression of HIV disease or immune restoration under multi antiretroviral therapy. However, there is a more frequent liver toxicity of antiretrovirals.

**d) Diagnosis and assessment of HCV infection**

- **How to carry out a biological and virological diagnosis**
  Anyone infected with HIV should be tested for anti-HCV antibodies using last generation ELISA.
  When anti-HCV antibodies are positive, looking for HCV replication by PCR should be done routinely. Its positivity enables to discuss or not the interest of the genotype determination and assessment of liver damage (liver biopsy or non-invasive tests such as Fibrotest®, Fibrometre®, Fibroscan) in order to discuss treatment initiation.
  Viral load should also be assessed in any HIV-infected person having a negative C antiviral serology, when there is an unexplained increase in transaminase levels and exposure risk factor for HCV.
How to assess liver damage
It guides and determines the therapeutic attitude and monitoring of the patient. It falls within the area of specialists (hepato gastroenterologists, infectiologists and internists trained in the management of viral hepatitis). *It is important to note that due to the high cost of this assessment, it should only be done if the initiation of an anti-HCV treatment is possible.*

It usually includes an initial assessment that consists of a minimum of the following:
- AST, ALT, GGT, PAL, total and conjugated bilirubin, albuminaemia;
- FBC, platelets;
- TP;
- HCV RNA (PCR techniques);
- HCV genotype;
- HBsAg (anti Delta and Ac if HBsAg-positive);
- α-fetoprotein (if severe fibrosis F3 or F4 cirrhosis);
- Abdominal ultrasound.

It is important to emphasize that normal transaminase levels do not exclude the existence of lesions, sometimes severe. If this initial assessment shows no obvious sign for cirrhosis lesions, an assessment of liver lesions by liver biopsy or by non-invasive techniques must be done.

e) Treatment of HIV/HCV co-infection

- What is the impact of HCV on antiretroviral therapy
  Among the different classes of antiretroviral drugs, NNRTIs and PIs are mainly metabolized by the liver (via cytochromes), in contrast to NRTIs, except abacavir, which is also metabolized by the liver. NNRTIs and PIs can have their pharmacological properties significantly altered in patients with cirrhosis, with potential consequences in terms of antiretroviral efficiency, as well as toxicity.

- What is the impact of antiretroviral therapy on viral hepatitis
  The introduction of Highly Active Antiretroviral Therapy (HAART) usually has a beneficial effect on the development of hepatitis C. The primary objective is to achieve an undetectable HIV viral load on antiretroviral treatment, because it is associated with less progression of liver fibrosis.

- What are the interactions between antiretroviral therapy and hepatitis C treatment
  Didanosine and stavudine were removed from the armamentarium of antiretroviral drugs. Their combination with ribavirin was contraindicated because of the significant risk of acute pancreatitis and/or mitochondrial cytopathy and anaemia. The introduction of a combination therapy with interferon (IFN)-ribavirin is likely to increase the risk of occurrence of anaemia bone marrow failure in patients treated with zidovudine, due to its myelotoxicity. This combination should be avoided. The use of abacavir could reduce the likelihood of virological success of HCV therapy, possibly due to an interaction with ribavirin. Such an association, when necessary, reinforces the need to use substantial doses of ribavirin or to rely on a monitoring of plasma ribavirin levels when available.

- Which HCV treatment and duration in case of co-infection
  Indications
The treatment decision is best taken in a multidisciplinary meeting in which the patient's opinion is important, incorporating the following criteria:

**Histology**
A significant hepatic fibrosis (≥ F2 in METAVIR score), regardless of the degree of activity or a moderate hepatic fibrosis (F1) associated with signs of significant activity (≥ A2) are indications for HCV treatment.

**HCV genotype**
International recommendations of the last European Consensus Conference, recommend HCV treatment without assessing liver histologic lesions in the following cases:
- HCV infection with genotypes 2 or 3;
- HCV infection with genotype 1 with a low HCV viral load (<800,000IU/ml). For co-infected patients with genotype 1 whose HCV viral load is high, the decision to initiate treatment must include the stage of liver disease.

**Biochemistry**
Transaminase levels are not correlated with the stage of liver fibrosis, especially in HIV/HCV co-infected persons. Normal transaminase levels should therefore not be a reason to postpone HCV treatment. In this situation, the assessment of liver disease provides useful arguments for taking a more informed decision to start or delay HCV treatment.

**Clinical**
Initiation of HCV treatment without an assessment of liver histologic lesions is also recognized for extra hepatic disease including cryoglobulinemia vasculitis. In decompensated cirrhosis, interferon-based treatments are not recommended.

![Figure 1. HCV therapeutic indications](image-url)
How to monitor untreated patients

Monitoring untreated patients is essential to detect progression of liver fibrosis and the occurrence of complications. It must be based on the assessment, at least annually, of markers by non-invasive techniques of fibrosis, abdominal ultrasound (every 3 months for fibrosis ≥ 3) and possibly the re-evaluation of histologic lesions by LB if co-morbidities.

What are the treatment strategies

Several situations can be distinguished according to whether a co-infected person receives or not an antiretroviral therapy.

Patient not treated for HIV and without any treatment indication for HIV

This is the simplest situation, since the treatment is for an immunocompetent person. In this situation, HCV treatment is similar to that advocated in mono-infected patients. However, we should remain alert to the risk of decrease in CD4 of about 100/mm³ (no percentage change) with interferon.

Patient not treated for HIV with treatment indication for HIV

In this situation, HIV treatment should be preferred using antiretroviral therapy taking into account the future HCV treatment to be implemented.

Patients receiving antiretroviral therapy

Antiviral therapy may be considered if the HIV infection is well controlled. This treatment, however, is disrupted with the occurrence of many side effects. The availability of less toxic ARVs, a better management of side effects and the wider use of growth factors enhance the tolerance of hepatitis C treatment in patients on antiretrovirals.

In practice

Initiation of an antiretroviral therapy in an HIV/HCV co-infected patient:

- Should not be delayed and must comply with current recommendations;
- Has priority over HCV treatment when both are needed;
- Must take into account the hepatotoxic potential of most antiretroviral drugs;
- Requires adapting the choice of ARV molecules, in particular;
- In case of moderate hepatic insufficiency (Child-Pugh B cirrhosis), use NNRTIs, some PI/r and abacavir, with caution;
- In case of severe liver failure (Child-Pugh C cirrhosis), avoid NNRTIs, some PI/r and Abacavir unless no effective antiretroviral treatment alternative is possible.

Must take into account the risk of interactions with concomitant HCV dual therapy or expected in the short term:

- Prohibit the use of Didanosine;
- Avoid Stavudine and Zidovudine;
- Be cautious about the use of Abacavir;
- Practically, treatment of HIV/HCV co-infection does not differ from monoinfection treatment of hepatitis C: Pegylated Interferon + Ribavirin

However, the WHO new recommendations of April 2014 suggest: Sofosbuvir + Ribavirin +/- Pegylated Interferon combination.

Fixed doses based on Ledipasvir Sofosbuvir are highly recommended and validated.
Duration of treatment

Treatment duration with Pegylated Interferon is usually extended in case of HIV/HCV co-infection. Depending on the kinetics of C viral drop, the duration of treatment in case of co-infection may be 48 weeks for genotype 2 or 3 (against 24 cases in case of mono-infection) and 72 weeks for genotype 1 and 4 (against 48 weeks in case of co-infection).

5.5 SEXUALLY TRANSMITTED INFECTIONS AND OTHER NON COMMUNICABLE GENITAL CONDITIONS

5.5.1 Background and Rationale

HIV infection, other sexually transmitted infections (STIs) and non-sexually transmissible infections of the reproductive system are frequently observed in the same patient. Most infections are asymptomatic, especially in women. Although asymptomatic, STIs can cause complications and increase the risk of acquiring or transmitting HIV.

In addition, HIV infection alters the natural history of STIs. The objectives of the diagnosis and management of STIs include identification of infection, administration of appropriate treatment and prevention. In accordance with the recommendations of WHO, UNAIDS and UNFPA, the control of STIs is a priority component for the prevention against HIV/AIDS especially for the transmission of HIV infection from mother to child. Moreover, the country has integrated prevention and syndromic management of STIs in the National HIV/AIDS Control Programme.

Screening, diagnosis and treatment of STIs should be proposed systematically as part of comprehensive care for HIV/AIDS infection in adults and adolescents.

5.5.2 Clinical signs, etiology and management of major STIs

The management of STIs should take into account several objectives:
- Identify STIs in any patient, their localisation, specific signs/symptoms and complications;
- Take into account the interactions between HIV/AIDS and STIs;
- Apply clinical stages of the patient’s overall assessment (see clinical record);
- Treat STIs and HIV/AIDS according to national guidelines;
- Work in a comprehensive care context.

Two approaches
### SYNDROMIC APPROACH

<table>
<thead>
<tr>
<th>SYNDROME</th>
<th>SYMPTOMS</th>
<th>SIGNS</th>
<th>STI CAUSES</th>
<th>PROCEDURE TO FOLLOW</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vaginal discharge</strong></td>
<td>Unusual vaginal discharge</td>
<td>Abnormal vaginal discharge</td>
<td><strong>VAGINITIS:</strong>&lt;br&gt;- Trichomoniasis&lt;br&gt;- Candidiasis</td>
<td><strong>First choice:</strong>&lt;br&gt;Metronidazole 2g, orally in a single dose, or metronidazole 400 or 500 mg orally twice a day for 7 days.</td>
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<tr>
<td></td>
<td>Vaginal itching</td>
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<td><strong>Other highly effective drugs:</strong>&lt;br&gt;Clindamycin cream 2%, an applicator&lt;br&gt;Whole (5g), intravaginally, at bedtime for 7 days, or Clindamycin 300 mg orally twice a day for 7 days; Tinidazole 2g, orally in a single dose, or tinidazole 500 mg, orally twice a day for 5 days.</td>
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<tr>
<td></td>
<td>Dysuria (painful urination)</td>
<td></td>
<td><strong>CERVICITIS:</strong>&lt;br&gt;- Gonorrhea&lt;br&gt;- Chlamydia</td>
<td><strong>Treatment of vaginitis caused by candida albicans</strong>&lt;br&gt;<strong>First choice:</strong>&lt;br&gt;miconazole 200 mg vaginal ovule, one daily for 3 days, or Clotrimazole 100 mg, vaginal tablets, twice a day for 3 days, or fluconazole 150 mg oral tablets in a single dose.</td>
</tr>
<tr>
<td></td>
<td>Dyspareunia (pain during sexual intercourse)</td>
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<td><strong>Other highly effective drugs:</strong>&lt;br&gt;Nystatin vaginal tablets 100 000 units, 1 daily for 14 days.</td>
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<td><strong>If the woman is pregnant or breastfeeding: after the first trimester:</strong>&lt;br&gt;Miconazole 200 mg vaginal suppository, 1 daily for 3 days, or Clotrimazole 100 mg, vaginal tablets, 2 per day for 3 days, or Nystatin vaginal tablets 100 000 units, 1 daily for 14 days. Educate and counsel</td>
</tr>
<tr>
<td><strong>Urethral discharge</strong></td>
<td>Urethral discharge</td>
<td>Urethral discharge (If necessary ask the patient to describe the discharge)</td>
<td><strong>Gonorrhea</strong>&lt;br&gt;<strong>Chlamydia infection</strong></td>
<td><strong>Ciprofloxacin</strong> 500 mg orally in single dose&lt;br&gt;<strong>Doxycyclin</strong> 100 mg orally twice daily for 14 days&lt;br&gt;Control after 3 days Educate and counsel</td>
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<tr>
<td></td>
<td>Dysuria</td>
<td></td>
<td></td>
<td><strong>Treatment of urethritis:</strong>&lt;br&gt;Ciprofloxacin 500 mg orally in single dose&lt;br&gt;Doxycyclin 100 mg orally twice daily for 14 days&lt;br&gt;Control after 3 days Educate and counsel</td>
</tr>
<tr>
<td></td>
<td>Frequent urination</td>
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<td><strong>Other highly effective drugs:</strong>&lt;br&gt;Acyclovir 200 mg orally 3 times 2 tablets daily for 7 days&lt;br&gt;Povidone-iodine (aqueous eosin) Educate and counsel</td>
</tr>
<tr>
<td><strong>Genital ulcer</strong></td>
<td>Genital lesion</td>
<td>Genital ulcer</td>
<td><strong>Syphilis</strong>&lt;br&gt;<strong>Chancroid</strong>&lt;br&gt;<strong>Genital Herpes</strong></td>
<td><strong>Benzathine-penicillin</strong> 2.4 million units in a single intramuscular injection&lt;br&gt;Ciprofloxacin 500 mg orally 4 times daily for 7 days&lt;br&gt;Acyclovir 200 mg orally 3 times 2 tablets daily for 7 days&lt;br&gt;Povidone-iodine (aqueous eosin) Educate and counsel</td>
</tr>
<tr>
<td>Anal syndrome</td>
<td>Anal pain Bleeding during defecation Yellow abnormal secretions or bleeding</td>
<td>Vesicles or ulcerative lesions Yellow abnormal secretions or bleeding Tear/rip Fistula</td>
<td>Genital Herpes Haemorrhoidal disease Cancer (HPV) Trauma Tear/rip Fistula</td>
<td>Acyclovir 200 mg orally 5 times daily for 5 days Ointments and anti-haemorrhoidal suppositories Local care by avoiding irritating products Fight against constipation Surgery if indicated Refer if necessary</td>
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<tr>
<td>Lower abdominal pain</td>
<td>Lower abdominal pain Dyspareunia (pain during sexual intercourse)</td>
<td>Vaginal discharge Lower abdominal tenderness on palpation Temperature &gt;38°C</td>
<td>Gonorrhea Chlamydial infection Mixed infections Anaerobes</td>
<td>Ciprofloxacin 500 mg orally 2 times daily for 3 days + Doxycycline 100 mg orally 2 times daily for 14 days + Metronidazole 500 mg orally 2 tablets daily for 14 days + Ibuprofen 100 mg orally 3 tablets daily for 5 days Educate and counsel</td>
</tr>
<tr>
<td>Swelling of the scrotum</td>
<td>Scrotum pain and swelling</td>
<td>Swelling of the scrotum</td>
<td>Gonorrhea Chlamydial infection</td>
<td>Ciprofloxacin 500 mg tablet orally in a single dose Or Erythromycin tablet 500 mg orally 4 times a day for 7 days + Doxycycline 100mg tablet orally 2 times a day for 14 days Pain killers if needed Control after 7 days Educate and counsel</td>
</tr>
<tr>
<td>Inguinal bubo</td>
<td>Enlarged and painful inguinal nodes</td>
<td>Enlarged inguinal nodes Fluctuation Abscess or fistula</td>
<td>Lymphogranuloma venereum (LVG) Chancroid</td>
<td>Doxycycline 100 mg orally twice daily for 14 days Or Erythromycin 500 mg orally 4 times a day for 14 days + Ciprofloxacin 500 mg orally 4 times a day for 7 days Or Azithromycin 1g orally in single dose, Control after 3 days Educate and counsel</td>
</tr>
<tr>
<td>Newborn conjunctivitis</td>
<td>Swollen eyelids Discharge The baby cannot open eyes</td>
<td>Oedema of the eyelids Purulent discharge</td>
<td>Gonorrhea Chlamydial infection</td>
<td>Saline solution Antibiotics: - Tetracycline 1% ointment 2 applications per day for 10 days + Ceftriaxone : 50 mg by IM with a maximum of 125mg once daily - Control after 3 days, 7 days, 10 days + care for mothers</td>
</tr>
</tbody>
</table>
## ETIOLOGICAL APPROACH

<table>
<thead>
<tr>
<th>Etiology</th>
<th>GERM</th>
<th>TRANSMISSION BY TYPE OF SEXUAL INTERCOURSE</th>
<th>LOCALISATION</th>
<th>SYMPTOMATOLOGY</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GONORRHEA</strong></td>
<td>Neisseria gonorrhoea (bacteria)</td>
<td>Vaginal Oral Anal Oro anal</td>
<td>Urethra Vagina Throat Anus</td>
<td>Urethritis: purulent, yellow abnormal secretion, more or less burning sensation with urination or ejaculation Vaginitis: Pain during sexual intercourse or purulent secretions Pharyngitis: dry throat, sore throat and cough suggesting a viral respiratory infection Anusitis: abnormal yellow secretion or bleeding, more or less painful and bleeding during defecation or anal intercourse</td>
<td>Clinical examination and rapid test if available (sample) Treatment (antibiotics) of patients and partner(s) Regular screening for asymptomatic infections</td>
</tr>
<tr>
<td><strong>Chlamydia</strong></td>
<td>Chlamydia trachomatis (bacteria)</td>
<td>Vaginal Oral Anal Oro anal</td>
<td>Urethra Vagina and female genital organs Scrotum Anus</td>
<td>Urethritis: purulent yellow abnormal secretion, more or less burning sensation with urination or ejaculation Vaginitis: pain during sexual intercourse or purulent secretions Scrotal infection: inflammation and pain around the testicles Anusitis: abnormal yellow secretion or bleeding, more or less painful and bleeding during defecation or anal intercourse</td>
<td>Clinical examination and bacteriology test if available (sample) Treatment (antibiotics) of patient and partner(s) Regular screening for asymptomatic infections</td>
</tr>
<tr>
<td><strong>Syphilis</strong></td>
<td>(Treponema pallidum (bacteria)</td>
<td>Vaginal Oral Anal Oro anal</td>
<td>Skin or mucosa External genital organs Mouth CNS (Central nervous system)</td>
<td>3 stages of infection: Primary syphilis. Ulcers (canker) painless, indurated, at the point of inoculation Secondary syphilis: rash, neurological (meningitis), eye damage Tertiary syphilis: neurological damage</td>
<td>Clinical examination and rapid test if available (otherwise RPR VDRL) test confirmation Treatment (antibiotics) of patient and partner(s)</td>
</tr>
<tr>
<td>Condition</td>
<td>Pathogen</td>
<td>Symptoms</td>
<td>Treatment</td>
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<tr>
<td>Chancroid</td>
<td>Haemophilus ducreyi</td>
<td>Skin or mucosa External genital organs Inguinal nodes</td>
<td>Inflammatory, painful, deep, non-indurated, pruritus ulceration Satellite lymphadenopathy</td>
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<td></td>
<td></td>
<td></td>
<td>Clinical examination Treatment (Ceftriaxone) inguinal nodes suction</td>
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<tr>
<td>Herpes</td>
<td>Herpes simplex virus type 1 or 2</td>
<td>Vaginal Oral Anal Oro anal</td>
<td>Single or multiple painful ulcerations and vesicles</td>
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<td></td>
<td></td>
<td></td>
<td>Clinical examination Treatment (acyclovir) of patient and partner(s) Annual screening for asymptomatic infections</td>
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<td></td>
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<tr>
<td>Warts or venereal wart</td>
<td>Human Papilloma Virus</td>
<td>Vaginal Anal</td>
<td>Venereal Vegetation: mucocutaneous growths increase the risk of anal cancer</td>
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<td>Physical examination including anoscopy Cryotherapy (external lesion) or surgical excision and topical application</td>
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<tr>
<td>Lymphogranuloma venereum</td>
<td>Chlamydia trachomatis</td>
<td>Vaginal Oral Anal Oro anal</td>
<td>Clinical examination Treatment (Doxycycline) of patient and partner(s) Annual screening for asymptomatic infections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>Hepatitis A Virus - HVA</td>
<td>Oro faecal Oro-anal Sex Exchange of sex toys</td>
<td>Jaundice, fever and acute liver failure</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Clinical examination and serology (AbHVA IgM type) Symptomatic treatment Immunization Annual screening for other asymptomatic infections</td>
<td></td>
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<tr>
<td>Hepatitis B</td>
<td>Hepatitis B virus - HBV</td>
<td>All unprotected sex, drug</td>
<td>Severe hepatitis: asymptomatic</td>
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<td></td>
<td></td>
<td></td>
<td>Clinical examination Virological examination</td>
<td></td>
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</tr>
<tr>
<td>Hepatitis C</td>
<td>Hepatitis C virus-HCV</td>
<td>Anal sex (especially fisting) Drug injection Blood transfusion and blood products</td>
<td>Systemic (Liver++)</td>
<td>Same as HBV</td>
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<tr>
<td>Injection</td>
<td>Unsafe blood transfusion Mother-to-child transmission</td>
<td>▪ or non-specific symptoms (nausea, vomiting, flu-like syndrome) ▪ jaundice Chronic hepatitis: ▪ asymptomatic ▪ or non-specific symptoms (fatigue, jaundice, dark urine) ▪ or signs of complications (cancer, cirrhosis)</td>
<td>(HBs antigen, HBc and HBs Ab) Biochemical examination (ALT, AST) If HIV-HBV co-infection, early initiation adapted to ARVs Annual screening for other asymptomatic infections</td>
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</table>
5.5.3 Prevention of STIs

All STIs, including HIV, are preventable. Prevention is based on "4 Cs" (counsel, contact, condom and compliance). It may be primary, secondary or tertiary.

**Primary prevention** is to prevent people from becoming infected with an STI or HIV. **Secondary prevention** is the provision of treatment and care for those infected to prevent transmission to others. **Tertiary prevention** aims at preventing complications in patients.

a) **Primary prevention**

Adopt safer sexual behaviour and only engage in safer sexual acts:
- Abstain from any sexual intercourse;
- Delay the age of the first sexual intercourse;
- Remain mutually monogamous throughout life;
- Reduce the number of sexual partners;
- Use condoms correctly and consistently;
- Only engage in sex without penetration: mutual masturbation and body caresses;
- Only engage in penetrative sex using condoms (male or female). Penetrative sexual intercourse include vaginal, oral and anal.

b) **Secondary prevention:**

The promotion of health-seeking behaviour by:
- Public education campaigns;
- The opening of non-stigmatizing or discriminatory health facilities;
- The provision of quality care;
- Ensuring a continuous supply of effective drugs and condoms.

**Case detection:**
- The examination of women with mild symptoms when they come to the health centre in maternal and child health services and family planning;
- Partner notification and treatment;
- Education, screening and treatment of target population groups, such as professional sex workers, truck drivers, soldiers, men having sex with men and young people, including athletes and artists.

**Rapid and effective treatment of individuals with STIs:**
- Comprehensive management of STI syndromes;
- Training of service providers for the management of cases.

**Tertiary prevention**

- Screening and early management of complications;
- Reinforcing adherence to treatment;
- Palliative care and end-of-life support.

**Conditions for a good comprehensive management of STIs**

Focus care on the patient, with the help of the family and the community. (Treat sexual partner(s)).
- Include psychological, economic and social support, clinical care, access to rights and support for families and communities affected by the pandemic. (Provide guidance for treatment compliance);
- Promote integrated approaches for the control of associated infections;
Ensure continuity of care and support to patients through better coordination between public and private health services, and home care programmes (support to compliance);

Advise on risk reduction (counseling for HIV and hepatitis testing, use of condoms);

Refer the patient to another level of competence, if necessary.

5.5.4 Cryptococcal infection

Cryptococcal infection is one of the most important opportunistic infections and neuromeningitis form contributes to high mortality among PLWHIV with advanced immunosuppression, before and after initiation of ART.

Death rates at 3 months of the infection vary from 60 to 100% in Cameroon (Koulla and al. 2007; Mbuagbaw and al. 2006; LUMA and al. 2013)

Diagnosis and Management

Screening is done by looking for the antigen of Cryptococcus neoformans (AgCr) in the serum, plasma, urine and CSF.

For asymptomatic patients with positive antigenemia, consider antifungal prophylaxis if CD4 count is below 100/mm³, before beginning ARV treatment to reduce the risk of developing the disease.

For asymptomatic patients with negative or unknown antigenemia, the antifungal prophylaxis is not recommended regardless of CD4 count.

Treatment:

Induction Phase

- Amphotericin B: 0.7 to 1mg/Kg/d IV + flucytosine 100mg/Kg/d orally for 2 weeks

Consultation phase

- Fluconazole 400 mg/d for 8 weeks

Maintenance phase

- Fluconazole 200mg/d up to CD4 > 200/mm³

In case of unavailability of Amphotericin B, start the induction phase to fluconazole at a dose of 1200 mg/d in 4 doses.

NB: Emptying CSF by puncture to lower intracranial pressure is an integral part of cryptococcal meningitis.

When to start antiretroviral treatment for cryptococcal meningitis

In patients with cryptococcal meningitis, the immediate initiation of antiretroviral therapy is not recommended because of the high risk of developing immune reconstitution syndrome with effects on the central nervous system, which can be life-threatening.

In an HIV patient with recent diagnosis of cryptococcal meningitis, ART should be deferred until good clinical response in antifungal treatment: (WHO Recommendations 2011)
• Start ART after 2 to 4 weeks of induction and consolidation treatment if the regimen contains Amphotericin + flucytosine or fluconazole.
• Or after 4 to 6 weeks of induction and consolidation if the treatment regimen includes fluconazole orally at high doses.

5.6 TOXOPLASMOSIS

5.6.1 Background and Rationale
Toxoplasmosis is the set of events due to toxoplasma, a protozoan parasite called *Toxoplasma gondii*. This is a cosmopolitan parasitosis. In HIV-infected patients, clinical manifestations occur in the context of an endogenous re-infection (reactivation cysts remained in the quiescent state).

Generally, toxoplasmosis occurs with CD4 count <200/mm$^3$ (rare when CD4 > 200/mm$^3$) and in the absence of specific prophylaxis. The most common sites of toxoplasmosis in HIV infection are cerebral toxoplasmosis and toxoplasmosis chorioretinitis. More rarely, it may be an Interstitial Lung Disease (ILD) or the disseminated form with septic shock. All organs can be virtually invaded by toxoplasma.

5.6.2 Diagnosis and Management

Clinical manifestations
Cerebral toxoplasmosis is the most common central nervous system infection. It is responsible for an acute phase involving mild or low-grade fever, headache, focal point depending on the localisation of abscesses, seizures, sometimes vigilance disorders. The most common sites are the frontal lobes and basal ganglia. Cerebral lymphoma is the main differential diagnosis of cerebral toxoplasmosis.

Chorioretinitis is characterized by a decrease in visual acuity, impression of "myiodesopsia" and one red eye.

Diagnosis
In case of cerebral toxoplasmosis, brain imaging (CT scan and magnetic resonance imaging) with and without contrast injection reveals multiple images with contrast nodular way or rosette, corresponding to abscesses.

The diagnosis of toxoplasma chorioretinitis is evoked after ophthalmologic examination

Serology is only useful if it is negative to eliminate the diagnosis of toxoplasmosis.

Direct detection of *Toxoplasma gondii* is through PCR by brain fragments biopsy (lack of improvement on treatment), cerebrospinal fluid (low sensitivity) or on samples of affected organs (bronchoalveolar lavage fluid, biopsy of organs).

5.6.3 Treatment

Primary and secondary prevention
Primary and secondary prevention includes the use of cotrimoxazole 960mg/day. Secondary prophylaxis can be discontinued if CD4 count is above 200/mm$^3$. 
Curative treatment

The duration of initial treatment is six weeks. The evolution of cerebral toxoplasmosis rapidly improves with appropriate treatment. In the absence of favourable development, the diagnosis should be discussed again.

1st intention:

Pyrimethamine (MALOCIDE) 100mg **D1** and **50mg/d from D2 to 6 weeks**
+ Sulfadiazine (ADIAZONE 100mg/kg/d, taken 4 times with a maximum of 6 g/d for 6 weeks +
  Folinic acid (LEDERFOLINE, 25mg/d).

2nd intention:

Cotrimoxazole 960mg: 2 tab x 3/d or equivalent 75/15 mg/kg/day in children
In case of intolerance to sulphonamides, the alternative to Sulfadiazine is Clindamycin
(DALACINE 2.4g/day 3 to 4 doses intravenously or orally).

Other measures: Anticonvulsant treatment is recommended in case of current or former
lobe epilepsy. Similarly, corticosteroid is recommended only if there is a mass syndrome or
significant oedema peri-lesional related to encephalic focal lesions. Motor physiotherapy
should be started early in patients with motor dysfunctions

5.7 PNEUMOCYSTIS CARINII PNEUMONIA

5.7.1 Background and Rationale

Pneumocystis carinii pneumonia is an infection of the lung caused by a parasite, *pneumocystis jivereocii*. This is one of the most common opportunistic infection after tuberculosis. It occurs in patients with advanced state of immunosuppression and signals the transition to the AIDS stage.

5.7.2 Diagnosis and Management

Pneumocystis carinii pneumonia is suspected in respiratory symptoms: dry or less productive cough, moderate fever, and especially dyspnea at the least effort in a patient with severe immunosuppression.

Chest X-ray may reveal miliary image or sometimes may be normal. Diagnosis is confirmed by the demonstration of Pneumocystis cysts in bronchoalveolar lavage (BAL) fluid.

5.7.3 Treatment

Curative treatment

If pneumocystis carinii pneumonia is suspected, specific treatment should be promptly initiated. Reference treatment is cotrimoxazole (trimethoprim/sulfamethoxazole). Parenteral route is recommended in severe forms and oral route in moderate forms.

Dosage is 15/75mg/kg/day in 3 doses not exceeding 12 vials/day in IV, and 6 tablets at 160/800mg/day orally. Duration of treatment is 3 weeks. If allergic to cotrimoxazole, prescribe as alternative Atovaquone (Wellvone, 750mg x 2/day) if available.

The rapid addition of a corticotherapy not later than 72 hours after initiation of cotrimoxazole is recommended in case of severe dyspnea (possible hypoxemia below 70mm/Hg). Before any corticotherapy prescription, eliminate any associated active tuberculosis. It should be prescribed for a total duration of 14 days, in regressive doses.
Recommended corticotherapy: prednisone (or equivalent) orally: 60-80mg/day in 2 doses from D1 to D5; 40mg/d from D6 to D10; 20mg/d from D11 to D14

Pneumocystis prophylaxis
Any HIV-infected patient with CD4 count ≤ 500mg should receive primary prophylaxis with cotrimoxazole 960mg/day in a single dose.
Secondary prophylaxis follows the initial treatment: cotrimoxazole 960mg/day in one dose.
Alternative treatment: atovaquone (1500mg/day once daily) or dapsone (Disulone® 50 to 100mg/day).
Stopping prophylaxis may be considered when obtaining immune restoration on ART.

5.7 MALARIA
5.8.1 Background and Rationale

HIV-infected persons living in malaria endemic zones are at high risk of complications from malaria, particularly children under 5 and pregnant women. The effect of malaria on HIV is explained by an increase in viral load 9 weeks after the episode of malaria and an accelerated decline of the CD4 count. Malaria increases transplacental transmission of HIV from mother to child.

5.8.2 Diagnosis and Management
In case of suspected malaria, a parasitological confirmation examination must be carried out for any suspected case either by microscopy or by rapid diagnostic test (RDT).
Key interventions to control malaria include, fast and efficient treatment of cases by a combination of artemisinin-based antimalarial drugs, the use of LLINs, spraying insecticide inside homes to fight against vector mosquitoes and intermittent preventive treatment in pregnant women.
HIV-infected persons who develop malaria should receive an effective antimalarial treatment as soon as possible. There may be interactions between antimalarial and antiretroviral drugs (artemisinin, lumefantrine, NNRTIs and PIs).
Patients receiving both treatments should be well monitored while looking for side effects.
Patients on Zidovudine and Efavirenz should avoid, if possible artemisinin, combination with amodiaquine because of the increased risk of neutropenia with zidovudine and hepatotoxicity with efavirenz.
HIV patients receiving prophylaxis with cotrimoxazole should not receive intermittent preventive treatment with sulfadoxine-pyrimethamine.

5.9 ACUTE COMMUNITY PNEUMONIA (ACP)
5.9.1 Background and Rationale
Acute respiratory infections by ordinary germs are fairly common in HIV-infected patients. PLWHIV with CD4 counts <200/mm³ are 5 times more likely to have ACP than HIV-negative subjects.
ACPs are more severe during HIV infection due to more frequent bacteremia. Other respiratory diseases (tuberculosis, specific germs infections) should be investigated and eliminated in HIV patients with signs suggestive of ACP.

Two or more occurrences of ACP episodes in a PLWHIV classifies them in stage C of CDC classification regardless of CD4 count and indicates the initiation of antiretroviral treatment.

5.9.2 Diagnosis and Management
CP treatment in HIV-positive subjects is not fundamentally different from that used in HIV-negative subjects. Antibiotic first-line uses the β-lactam antibiotics (amoxicillin or amoxicillin clavulanic acid) and macrolides (spiramycin, erythromycin ...).

The wide cotrimoxazole prophylaxis reduces the incidence of ACP in HIV infection.

5.10 CHRONIC DIARRHOEA

Background and Rationale
Chronic diarrhoea is defined as passing out at least 3 stools per day of abnormal consistency for at least 1 month.

The frequency of chronic diarrhoea has drastically decreased since the advent of antiretroviral therapy, but it remains a major problem in PLWHIV, especially in developing countries where HIV infection is still usually diagnosed at a late stage of immunosuppression.

The physiopathological mechanisms of diarrhoea remain very poorly understood. The combination of a secretory mechanism and malabsorption mechanism seems quite common, especially for organisms such as Cryptosporidia and Microsporidia. Malabsorption may also explain some secondary diarrhoea extensive lesions by cytomegalovirus or Kaposi sarcoma, or in case of outbreak of anaerobes.

The 2 main etiologies are parasites and idiopathic diarrhoea but among these, infectious causes are possible. Generally, etiologies of chronic diarrhoea are often infectious.

The most common etiologies of diarrhoea as well as their characteristics and the proposed treatment are summarized in the table below (Table).

Diagnosis and Management (see table)

Symptomatic treatment should be applied as in all patients with diarrhoea. It includes:

- Rehydration (by ORS or intravenously in severe dehydration or in case of associated vomiting) is important and must cover the losses;
- Antidiarrheals (loperamide up to 8 tabs/d).
**Table III:** Causes, characteristics, methods of diagnosis and treatment of chronic diarrhoea in PLWHIV

<table>
<thead>
<tr>
<th>Type</th>
<th>Etiologies</th>
<th>Characteristics</th>
<th>Diagnostic criteria</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parasitic</strong></td>
<td>Cryptosporidia</td>
<td>criterion of AIDS disease</td>
<td>PSE ± duodenal biopsies</td>
<td>Paromomycin Nitazoxanide</td>
</tr>
<tr>
<td></td>
<td>microsporidia</td>
<td></td>
<td></td>
<td>Fumagillin</td>
</tr>
<tr>
<td></td>
<td><em>Isospora belli</em></td>
<td>criterion of AIDS disease Frequent recurrences</td>
<td>PSE</td>
<td>Cotrimoxazole Metronidazole</td>
</tr>
<tr>
<td></td>
<td>-Amoebae -Giardia</td>
<td>Dysentery syndrome</td>
<td>PSE</td>
<td>Metronidazole</td>
</tr>
<tr>
<td><strong>Bacterial</strong></td>
<td>-minor or non-typhoid Salmonella -Shigelles</td>
<td>- Frequent bacterial - tendency to relapse -possible erythematoulcerated colitis -Rarely the cause - isolation in the context of chronic diarrhoea</td>
<td>Stool culture Blood culture</td>
<td>Quinolones 3 G Cephalosporins</td>
</tr>
<tr>
<td></td>
<td>Campylobacter</td>
<td>same</td>
<td>same</td>
<td>Quinolones Macrolides</td>
</tr>
<tr>
<td></td>
<td><em>Clostridium difficile</em></td>
<td>Select by antibiotherapy</td>
<td>- Stool culture with search for toxin - pseudomembranous colitis</td>
<td>Metronidazole Vancomycin</td>
</tr>
<tr>
<td></td>
<td>Atypical mycobacteria</td>
<td><em>Mycobacterium avium</em> and intracellular complex Rare, severe immune deficiency</td>
<td>Duodenal biopsy and culture</td>
<td>Association of several antituberculosiss (ineffective)</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td>Fungal diseases</td>
<td>Histoplasmosis, Cryptococcosis (very rare)</td>
<td>Colic biopsy Cultures</td>
<td>Amphotericin B Fluconazole (corticosteroids) Itraconazole (Histoplasmosis)</td>
</tr>
<tr>
<td></td>
<td>Cytomegalovirus</td>
<td>Rarely the cause of chronic diarrhoea Criterion of AIDS disease</td>
<td>Colic biopsy</td>
<td>Ganciclovir Foscarnet</td>
</tr>
<tr>
<td></td>
<td>Tumorous</td>
<td>Lymphoma and Kaposi sarcoma</td>
<td>Biopsy</td>
<td>Chemotherapy</td>
</tr>
<tr>
<td></td>
<td>Idiopathic enteropathy</td>
<td>(HIV enteropathy) -Inflammatory colitis -Autonomous neuropathy HIV itself</td>
<td>Exclusion diagnosis</td>
<td>- Symptomatic treatment -Antibiotics and/or classical antiparasites</td>
</tr>
<tr>
<td></td>
<td>Iatrogenic: antiretroviral</td>
<td>Didanosine and protease inhibitors</td>
<td>Evocative background</td>
<td>- Symptomatic treatment - Rarely drug withdrawal</td>
</tr>
</tbody>
</table>
5.11 PREVENTION AND MANAGEMENT OF OTHER CO-MORBIDITIES AND CHRONIC CARE

5.11.1 Chronic Non-communicable Diseases

PLWHIV have a high risk of developing a number of chronic non-communicable diseases (CNCDs), including cardiovascular diseases, diabetes, chronic respiratory diseases and certain types of cancers.

With effective antiretroviral therapy, PLWHIV live longer and can develop CNCDs related to age. The management of HIV and CNCDs requires the health system to provide acute care and effective chronic care, as well as support for treatment adherence.

HIV chronic care offers the opportunity to identify, track and manage CNCDs, especially through primary health care.

It is important to integrate interventions such as nutritional support, tobacco weaning, promotion of physical exercise, control of blood pressure and blood cholesterol dosage in the complete package of HIV chronic care to reduce the risk of CNCDs in PLWHIV.

5.11.2 Kaposi sarcoma

a) Background and Rationale

Kaposi sarcoma (KS) is a malignant vascular starting point tumour with a mucous and visceral skin tropism of variable evolution. Kaposi sarcoma is the 2nd most common tumour after non-Hodgkin's lymphomas. It is still common in Central African countries, an endemic zone. It involves functional and vital prognosis.

The causative agent is a virus of the Herpes viridae family called Herpes Human Virus 8 (HHV 8). Transmission is primarily through sexual practices such as: oro-anal sex, receptive anal intercourse, and incidentally saliva and seminal secretions.

b) Diagnosis and Management

Clinically, we usually observe angioma mucocutaneous lesions that can be associated with lymphatic and visceral affections. Skin affection is the most common form and visceral affections often aggravate the severity of KS. This condition most often occurs in the context of advanced immunosuppression (CD4 <200/mm^3).

Confirmation diagnosis is made by histology of a biopsy specimen and easier in the cutaneous form. Diagnosis of KS is not made through HHV8 serology test.

The occurrence of KS immediately classifies PLWHIV at WHO clinical stage IV and indicates ART initiation regardless of CD4 count.

First intention treatment is based on effective antiretroviral therapy. Thanks to immune reconstitution, the patient is stabilized or recovers completely.

Local treatment (carcinomectomy of a sarcoma lesion, radiotherapy) and/or general treatment (recombinant alpha interferon or antimitotic chemotherapy) is/are sometimes given in addition to ART.
5.11.3 Lymphoma

a) Background and Rationale
The risk of developing Non-Hodgkin's Lymphoma (NHL) is about 200 times higher for an HIV-infected person. The risk of occurrence is even more important when CD4 counts are low. EBV (Epstein Bar Virus) is the cause of half the cases.

b) Diagnosis and Management
Non-Hodgkin's Lymphoma (NHL)
NHL may reveal HIV infection. In the case of NHL associated with HIV, the specific clinical picture may include: frequent visceral affections and difficulties in differentiating them from some opportunistic infections. Lymphomas in PLWHIV look different from those in the general population in terms of appearance (large tumour size) and localization. Visceral affection is localized and can affect all organs. The most common extra-nodal forms are localized in the digestive system (25%) and the central nervous system (20%) presenting as one or more brain masses. General symptoms may exist and signs of advanced NHL are: severe weight loss, fever, abundant night sweats waking the patient, sometimes tenacious pruritus.

Burkitt's lymphoma
This is a Hodgkin’s lymphoma with extensive visceral affection quickly spreading to liver, spleen, spinal cord and neurological system (cranial and/or meningitis). Several types of presentation are possible: a large axillary, cervical or inguinal mass, or a large abdominal mass causing pain and an occlusive syndrome, or febrile pancytopenia or hyperleukocytosis (leukemia), or affection of a brain nerve, or a testicular tumour, or a kidney failure. This type of lymphoma can grow extremely fast (doubling in less than 48hrs), and can be responsible for a lysis syndrome with kidney failure, hyperuricemia, and requires urgent diagnosis.

Hodgkin's disease (HD)
Hodgkin's disease is not recognized as one of the manifestations of AIDS. HD in PLWHIV is constantly associated to EBV. It can occur in the absence of major immune deficiency. Its clinical form is different from that of the general population: localized nodal forms are rare and disseminated forms with visceral affections are the most frequent. Spinal cord affection is present in more than two thirds of cases.

Treatment
The therapeutic approach is similar to that of lymphomas in non HIV-infected patients - and requires multidrug therapy and radiotherapy. The choice of the protocol depends on the general condition of the patient.

When the lymphoma is diagnosed in an ART-naive patient, chemotherapy must be combined with an effective ART.

5.11.4 Cervical cancer

a) Background and rationale
Cervical cancer in most cases is caused by an infection with Human Papilloma Virus (HPV). Cervical cancer can be prevented by vaccination. It is curable if diagnosed at an early stage. Women living with HIV have a higher risk of developing this cancer.

b) Management

The occurrence of cervical cancer is a disease classified at WHO stage IV and therefore indicates the initiation of antiretroviral treatment.

All HIV-infected women should be screened for cervical cancer by Visual Inspection with Acetic Acid Method (VIA) (spraying diluted acetic acid (3% to 5%) on the cervix), or by Visual Inspection with Lugol’s iodine (VILI). Monitoring should be regular (every six months).

Vaccination against HPV and the management of cervical cancer are congruent with what is done in non HIV-infected women.

5.11.5 Mental Health

PLWHIV may at some point need support in mental health services. The most frequent co-morbidities are depression, anxiety, dementia and other psychological problems that could be related to ARV drugs and other psychoactive substances. These diseases and their treatment may influence treatment adherence and retention in care units.

The detection and management of these diseases should be part of the chronic care package offered to all PLWHIV and is subject to specialized management.

Drug consumption and drug-related problems

PLWHIV who take drugs can develop a number of disorders such as addiction, signs of intoxication, withdrawal and overdose. Drug use by injection is associated with some communicable infections and local infections including viral hepatitis B and C, septicaemia, bacterial endocarditis.

Key interventions for the prevention, treatment and rehabilitation of these drug users are essential.

5.11.6 Cotrimoxazole prophylaxis

Cotrimoxazole prophylaxis (960mg/day) must be initiated in PLWHIV with CD4 count ≤ 350/mm³. This reduces not only the incidence of several opportunistic infections, but also prevents common infections and malaria in these PLWHIV.

It is particularly important to look for hypersensitivity to cotrimoxazole and interrupt the treatment.

5.11.7 Vaccination

Vaccination with live attenuated vaccines (BCG, yellow fever vaccine) should be avoided in any person living with HIV. Newborns from HIV-infected mothers should be vaccinated with BCG unless they have obvious signs of immunosuppression. Anti HVB vaccination is recommended for all PLWHIV with negative HBsAg.
Vaccination with inactivated vaccines follows the general guidelines of vaccination to these agents. In general, vaccination is effective in subjects receiving effective ART and those who do not have severe immunodeficiency.

**REFERENCES**

- National Guidelines for global management of adults and adolescents living with HIV in Cameroon. 2008 edition
- National Guidelines for the management of children exposed and infected with HIV in Cameroon. 2007 edition


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6. PSYCHOLOGICAL MANAGEMENT

INTRODUCTION

HIV-infected patients are faced with serious psychological problems and existential crisis because their adaptation resources are compromised by their health condition.

In addition, they must deal with the psychological and social disorders marked by the severity of emotional states that may vary with the passing days, by feelings of fear, anger, guilt, shame or depressive anxiety disorders that weaken them. This state of psychological discontent calls on the clinical psychologist who plays two parts:

- Facilitate the well-being and recovery of patients by helping them to cope well with the disease;
- Create a relationship in which patients can express their anxiety and fears and talk about their depression related to their situation.

From observation, perception and listening of mental processes and their hazards, the clinical psychologist must identify the nature of mechanisms involved in the so-called normal and/or pathological mental functioning and propose a course of action.

6.1 GUIDELINES FOR PSYCHOLOGICAL SUPPORT

6.1.1 Psychological management must be operational in all health sectors

1) Every HIV-infected person should receive psychological support;
2) Every HIV-infected person can benefit from psychological counseling;
3) Every health staff who acts as psychological attendant should be trained and equipped for this purpose;
4) Every care provider to PLWHIV should receive psychological counseling at least once a year.

6.1.2 Approach to psychological support

It is a therapeutic support approach based on a doctor-patient relationship and that ensures continuity of care in conjunction with the social environment.

It comprises:

Listening sympathetically without interrupting;
- Support in difficult and promising times;
- Help to become aware of hurts and manage them;
- Assist in regaining self-confidence and attaining goals corresponding to the patient’s deep aspirations, in appropriate timing, far from the hustle and bustle of everyday life.

Role of the clinical psychologist

The clinical psychologist or psychosocial worker must conduct psychological consultations with all PLWHIV with or without psychological distress. Such consultations shall be governed by the clinical method comprising:

- Listening;
- Observation;
Clinical interview with a diagnostic end (psychopathological approach, syndromic approach); Tests.

NB: The clinical interview approach depends partly on the therapeutic strategy (psychoanalytic therapy, cognitive behavioural therapy, Carl Rogers non-directive interview...)

6.1.3 Psychological assessment
During the interview, the provider should:
- determine in details, the origin and nature of the patient's problem;
- Identify the symptom, its origin, its cause, and factors that contribute to its persistence;
- Observe the resulting consequences on the various domains of the patient’s life;
- At the end of the interview, suggest personalized patient management.

6.1.4 Psychological follow-up
The provider must ensure the psychological follow-up and its duration depends on the psychotherapeutic orientation of the clinician (analytic therapies, CBT...) and make psychological assessments.

6.2 PSYCHOLOGICAL TESTS
The provider must use psychological tests for a better prognosis to know the psychological state of the person (thematic and structural projective tests). These tests are designed to assess the patient's personality with personality traits and his psychopathological state.

6.3 PSYCHOLOGICAL AND SOCIAL SUPPORT
Psychological and social support corresponds to the perceived impact of the given assistance and the extent to which the latter feels that the expectations are satisfactory. It consists of the psychological and social support components.

PSS Practice

The provider should be able to:
- Identify mental suffering (unpleasant from a real or imaginary situation that triggers a sensation and a feeling of uneasiness)
- Reduce existing anxiety, and bring about a feeling of well-being to strengthen the hope of the patient;
- Bring out a particular quality of verbal and non-verbal communication, based on listening;
- Reduce the state of crisis, anxiety and restlessness to establish minimum contact;
- Understand the history of the patient's experience;
- Bring out morbid elements that reveal a state of uneasiness on the cognitive, (thoughts, emotions, feelings ...) emotional and behavioural levels. Then list them and process to elimination;
- Use a systemic approach of reducing behavioural problems;
Follow-up and refer the patient to a clinical psychologist if necessary.

6.4 SPECIAL CASES OF PSYCHOLOGICAL MANAGEMENT

6.4.1 Cases of children and adolescents

Heads of health facilities must ensure:
- The integration of psychological management of children and adolescents in all health sectors;
- The psychological management of every child and adolescent infected with HIV.

The clinical psychologist must apply the same methods of psychological management while adapting it to children and adolescents. He must use psychological tools according to the target.

6.4.2 Counseling and screening

Any patient willing to make an HIV test should receive counseling.

A provider who ensures counseling should be trained, equipped, respect confidentiality and have the informed consent of his client.

Counseling is an integral part of the HIV screening process.

The Psychosocial counselor is trained to conduct counseling (interviews on HIV/AIDS) for any patient who is willing to be screened.

Motivational interview is the basic element of this Counseling, which according to WHO "...is a confidential dialogue between a client and a service provider to enable the client to overcome stress and make personal decisions related to HIV/AIDS. Counseling consists particularly in evaluating the personal risk of HIV transmission and facilitating the adoption of preventive behaviours". Its role is to bring the client to express himself better, to help him understand the difficulties encountered; to be able to assimilate the information received during the interview and make a decision.

6.4.3 Counseling stages
- Pre-test
- Post-test
- Follow-up

To all these stages:
- Psychological support is essential;
- The implementation of communication must take into account the fact that the person is a special case, with difficulties and specific needs;
- The counselor should know how to address sensitive issues such as sexual practices, taking into consideration emotional reactions and the socio-cultural characteristics of the person.
6.4.4 Pre-test Counseling

Pre-test counseling aims at preparing the person for HIV testing. A well-conducted pre-test counseling facilitates the disclosure of result.

To start with, the counselor introduces themselves, explains their role and reassures the person on the respect of confidentiality.

Then, the counselor discusses about HIV with the person and the benefits of screening.

To structure their interview, they must successively address the following:

- The person’s knowledge on HIV/AIDS;
- The risk of having been exposed to HIV and the possibility of a risk reduction plan;
- The meaning of HIV serology tests;
- The implications of screening results on the life of the person;
- The person’s ability to cope with seropositivity and its consequences;
- The informed consent of the person before screening;
- If possible, discuss contraception in women;
- The screening of couple/partners.

Note: Pre-test counseling may require several interviews, for example, if the person is not sure they want to do the test or would like to ask more questions.

After pre-test counseling, the counselor gives an appointment for post-test counseling. (Ideally, the same day, a few hours later) and ensures on that occasion that the person is ready to receive the result.

6.4.5 Post-test Counseling

Post-test counseling is the interview during which the result of the HIV test (positive, negative or indeterminate) is disclosed to the person who requested it:

Disclosure of result

To start the interview, the counselor:

- Verifies the client’s identity;
- Reassures him about the confidentiality of the interview;
- Congratulates him for coming back;
- Makes a brief reminder of the initial interview and asks about the client’s feelings during the waiting period;
- Opens the envelope for the joint discovery of the result;
- Gives the result in a neutral tone and without judgement;
- Clearly explains the meaning;
- Checks the client’s understanding of the result, prompts questions and gives complete answers.

After the disclosure phase, the interview continues in different ways depending on the result:

In case of a negative result

The counselor discusses the following points:

- The possibility of being in a phase of seroconversion with the need for a control test 3 months after the last risk exposure;
- The means of HIV infection prevention and the importance of using condoms (with possible revision of the risk reduction plan discussed during pre-test counseling),
recalling that a negative result does not mean being protected from HIV (even in a discordant couple);

- The notion of discordance, notification of the result to the partner and the decision to be taken by the partner to get tested.

**In case of a positive result the counselor should:**

- Determine the most appropriate information to be delivered according to the specific needs of the person (whose attention to explanations is reduced after disclosure of an HIV-positive result) and emphasize on the elements that can reassure them;
- Explain the significance of the result;
- Recall that with proper medical management, a long-term normal life is possible;
- Address the prevention of transmission (condom) and its implications;
- In case of pregnancy, insist on the fact that a rapid management and ART initiation can prevent infection of the unborn baby;
- In women of childbearing age, indicate that it is possible to have subsequent pregnancies without risk for the partner and without significant risk to the unborn child, subject to good medical monitoring and advice on prevention;
- Address psychological and social support;
- Conclude by proposing referral to a social, psychological and medical management structure.

**In case of indeterminate result, the counselor should:**

- Carry out a control test (test different from the first) as soon as possible and under the best possible conditions (if necessary, in another structure);
- Carry out psychological management, as it is done after disclosure of seropositivity.

**6.4.6 Follow-up beyond disclosure of test result**

The provider/counselor must ensure that:

- People tested HIV-negative must be advised to adopt a lifestyle that permits them to avoid the risk of contamination;
- People tested HIV-positive should receive the necessary psychological support and be referred to a healthcare facility for adequate management.

**6.5 SPECIAL COUNSELING CASES**

**6.5.1 The case of a couple**

During couple counseling, the provider/counselor must separately follow and carry out several steps for each of the partners:

- Obtaining consent to participate in the interviews;
- Assessing the risk of an HIV infection during pre-test counseling (each of them must be able to freely assess their own risks);
- Disclosing tests results during post-test counseling, unless both partners have expressed a desire to receive their results together and provided it was freely done;
- After disclosing the results, the partners or couple, if they wish, can be received together for further post-test counseling.

**6.5.2 If the couple is HIV-negative**

The provider should:
Revise the plan to reduce the risk developed during pre-test counseling, by insisting on how to maintain safer behaviours and protect their health;

Explain the concept of seroconversion phase and the need for a control test within 3 months after the last exposure.

6.5.3 If the couple is HIV-positive
The provider should:

- Know how to approach psychological reactions of the two partners, interview them individually and make necessary arrangements for reconciliation;
- Take specific time to discuss with the woman, to clear up misunderstandings between partners and help reduce the risk of violent reactions towards her;
- Help partners to identify solutions that enable them understand each other and support themselves medically;

Note: Superinfection is possible, but with low consequences for the couple. The use of condoms by the couple is not necessary except used as contraception.

6.5.4 If the couple is serodiscordant,
The provider should:

- Help partners overcome their misunderstandings and emotions: the HIV-negative partner should be able to accept and support the other; the HIV-positive partner should be encouraged to live as positively as possible;
- Discuss a long-term risk reduction plan for protecting the negative partner from contamination;
- Explain the concept of seroconversion and the possibility that the negative partner had a high risk intercourse in the previous 3 months, and then encourage the HIV-negative partner to do a control test 3 months after the last unprotected intercourse;
- Emphasize on the importance of the use of condom, especially if the infected partner is not treated;
- Explain the possibility of a post-exposure treatment and the need of an HIV control test if unprotected sex or condom breakage.

6.5.5 Case of children
In most cases, the discovery of an HIV-infection in the mother or in a woman who was raped requires HIV screening test in children presenting clinical signs suggestive of immunosuppression.

The provider should always involve children and their parents or guardians in counseling sessions. In case of a seropositive child with seronegative parents, the provider must ensure the psychological support of the parents to avoid rejection.

6.5.6 Case of adolescents

- The counselor should not carry out a test without the consent of the parents/legal guardians if the adolescents are minors;
- The counselor should encourage minors to obtain parental consent to get tested for HIV;
- If a child comes for counseling with his parents, the counselor must ensure steps for a private interview with him so he can speak freely, especially on the issue of sexuality;
The counselor should provide psychological support that consists in building good relations which are intended to help a person or group of people overcome physical and/or mental difficulties during a crisis, occurrence of a pathology, disability or trauma.

6.6 QUALITIES REQUIRED FOR SUPPORT

Empathy
- Is understanding what the person feels without feeling the same emotions.
- Requires the accompanying person to keep a distance that allows them to remain professional, objective and efficient.

Self-control
- Enables in understanding the reactions of PLWHIV, whether negative or positive, and their families, while controlling one’s own reactions.
- Is essential even if the person refuses to cooperate or shows resistance or hostility.
- Reassures accompanied clients and helps build a trustworthy relationship.

Neutrality and tolerance
The provider must:
- Be open-minded, able to overcome his own prejudices and stereotypes;
- Abstain from judging (positively or negatively) the accompanied clients, irrespective of their tradition, religion, beliefs, lifestyle or sexual orientation;
- Not take the place of the religious guide.

Confidence building capacity
To succeed in creating a trustworthy relationship, the accompanying person must:
- Strive to establish a sincere and truthful dialogue;
- Practise active listening so that the person recognizes the attention being paid to them.

Clarity and precision
As a third person, the accompanying person must:
- Have a good mastery of the topic;
- Be able to provide simple and comprehensible explanations;
If the provider is not sure of a piece of information, they should not hesitate to tell the accompanied person and guide them, if necessary, to someone appropriate.

Team work capacity
To meet the needs of HIV+ persons and their families, psychological support requires group management as part of care and skills continuum;
Teamwork requires:
- The ability to work with other providers, particularly in an interdisciplinary framework, either within an organization or institution, or in conjunction with other organizations and institutions;
- To have the reflex to guide those involved, with their consent, to other persons and structures when necessary.
Commitment

Every accompanying person supporting PLWHIV must be conscious of the necessary physical, emotional and psychological commitment that it requires.

Their commitment must be part of an ongoing process, inevitably marked by peak periods during difficult moments. A sincere motivation is essential.

This commitment must, however, have limitations which include the need to separate one’s professional life from one’s private life.

Knowing one’s limits

Knowing one’s limits is essential to the caregiver to help them know when to ask for technical or possibly psychological assistance in a difficult situation.

Objectives to achieve during support

Any good support starts with a clear explanation of the terms, issues and possible constraints of the process.

The objective is to foster good communication because it is only by analyzing what they feel that the person can make positive changes.

The aim is also to help people to become actors and autonomous vis-à-vis the disease. The accompanying person must give the client all the necessary information to enable them understand and know their disease, to accept their HIV status and enhance their abilities or skills to implement adaptation strategies to their HIV status.

The accompanying person will use open-ended questions requiring discussion rather than closed-ended questions.

For example: "What do you think if your partner is informed about your HIV status?" Avoid the "preachy" monologue, which is inefficient.

6.7 ASSESSMENT OF PSYCHOLOGICAL CAPACITIES

The provider must:

- Recognize signs of psychological distress (neglected attire, crying, shifty eyes...);
- Identify the psychological defence of the person by asking about their reactions during difficult life events already faced, sexuality;
- Stop dramatizing without trivializing (be honest with the person, inform without compromising, even if it hurts; identify resources that will help overcome the situation);
- Respect intimacy and privacy;
- Avoid addressing intimate matters if they are not relevant for support or if the person does not wish to;
- Not perform any activity considered intrusive, inappropriate or unacceptable by the person (e.g., home routine visits without prior agreement, sometimes resented);
- Not share their own privacy (fear of reversing roles...);
- Promote individual responsibility of PLWHIV and enhance their skills;
- Master communication techniques.
6.8 SOCIAL SUPPORT

Different structures or tools can be used to help people with HIV according to needs and what exists.

The social worker must conduct social surveys in the community to assess the needs and the degree of poverty.

6.8.1 Hospital visit
Hospital visit consists in going to a health centre to provide support to in-patients. It is organized at the request of the patient, sometimes through medical personnel.

6.8.2 Objectives of hospital visit
- Help the patient with their personal hygiene and clothing;
- Provide psychological support;
- Provide nutritional support (help the patient to eat, get the food they want…);
- Assist the patient in buying drugs prescribed by the medical staff;
- Mediate between the patient, their family and/or relatives, and sometimes the medical team;
- Break the isolation of the patient who is, in some cases, abandoned by their family or relatives.

6.8.3 Conditions for a hospital visit
The social worker must:
- Respect confidentiality;
- Obtain the patient's consent;
- Obtain the approval of the medical or paramedical personnel;
- Respect the visiting hours specified by the health centre;
- Avoid disturbing the tranquillity of other in-patients.

NOTE: Those visiting hospitals must be known to the medical staff to discuss with them the benefits and outcomes of the visits.

6.8.4 Home visit (HV)
Home visit consists in paying a visit to a person at their home to support and/or counsel the person. It is made by the community health worker (CHW) and if required by the social worker.

HV occurs in the following cases:
- Bedridden or disabled person who moves with difficulty;
- Person who expressed the need for a mediation vis-à-vis their relatives (raising awareness and information on the patient's needs, basic hygiene measures to avoid rejection and discrimination);
- Persons lost to follow-up to understand the reason and, if possible, help them resume follow-up;

The community health worker for HV must:
- Have the consent of the person concerned;
Check whether the person has informed their family and/or relatives of their HIV status;

Plan for the HV in time and structure its content (the person must understand the objectives and the benefit that can be drawn; HVs help make it possible to give advice to improve health and quality of life, to check the level of adherence, check with the person if the means and resources are used effectively and in some cases, provide care);

The community health worker should never:

- Organize an HV without the knowledge and consent of the patient;
- Compel the person to accept the HV or to live it as a "control".

GROUP ACTIVITIES

DISCUSSION GROUP

Discussion group is a strategy used mainly by community organizations (associations or community health centres). The main objective is to enable PLW HIV to share their experience of the disease, especially since it is difficult to talk about it in their usual environment (family, work ...).

It consists in grouping patients with problems of the same nature to discuss a particular topic that affects their health, be it "technical" or mostly psychological (desire for children, difficulties in serodiscordant couples, difficulties in talking about the disease to their entourage, difficulties in getting a spouse, treatment compliance difficulty, management of side effects of ARVs, nutrition ...).

The discussion group is led by an accompanying person with a mastery of HIV.

The facilitator must know how to manage very painful feelings and strong emotions that people sometimes express during a group discussion.

The number of participants in a discussion group can range from 5 to 20 maximum.

The discussion group should enable participants to feel comfortable discussing all the issues that concern them and which relate to the topic on the agenda.

ANIMATING A DISCUSSION GROUP

- Confidential environment;
- Welcoming and introduction;
- Purpose and duration of the session;
- Exploration of knowledge;
- Identifying concerns;
- Building a dynamic interaction;
- Reformulation;
- Review of key elements;
- Summarizing;
- Agreeing on the next theme and meeting.

6.9 THERAPEUTIC EDUCATION

6.9.1 Guidelines for therapeutic education of the patient
Therapeutic education must be integral to patient follow-up;
Every health personnel carrying out this activity must be trained and skilled;
All HIV-infected patients should benefit from PTE sessions;
All HIV-affected persons can benefit from PTE sessions;

**Definition**

An approach aiming at educating the patient (and their environment) to acquire skills and competences:
- To heal;
- To adapt to the disease;
- To cope as well as possible with their disease and treatment;
- To cooperate with caregivers;
Enable the patient to be able to:
- actively manage their disease, care, prevention of transmission in partnership with caregivers;
- Prevent complications related to the disease;
- Improve adherence;
- Maintain or improve their quality of life.

**6.9.2 Approach of therapeutic education**

The starting point of therapeutic education is an educational diagnosis to identify the competences the patient needs to live better with their disease and to build a relation with them in a programme corresponding effectively to their needs. Then, they should agree on an educational planning with the patient starting from the inventory of competences and objectives.

**NB:** PTE must be progressive and redefine objectives, taking into account changes in the patient’s life:
- Poor tolerance or progression of the disease that requires to adapt treatments;
- A situation of psychological vulnerability, a change in career, family or other;
- A new prioritization of needs can then intervene. The educational diagnosis is updated.

**6.9.3 Implementation**

Sessions can be individual or in group according to the patient’s possibilities or wishes. In group sessions, do not to exceed 15 participants (to preserve interactivity of the group)
The duration is 45 minutes in a room dedicated to the PTE.
Using a learning tool is essential during a PTE session.

**Assessment**

It is necessary to assess the skills acquired by the patient and their satisfaction at the end of an educational session.

**Follow-up**

At the end of a learning session, regular and thorough follow-up is proposed to the patient.
A personalized PTE programme helps develop:

**Self care skills**
They weigh the knowledge and experience that the patient has on their disease and the knowledge/experience they need to make decisions to better manage their disease on a daily basis.

**Adaptation skills**
They are mobilized by and for the patient themselves (managing emotions, strengthen their sense of self-efficacy)
Interpersonally, they are mobilized by the patient in their relation with others (informing their environment).

### 6.10 WHEN TO PROPOSE PTE

**Upon discovery of HIV status** (whether during routine screening or during the occurrence of an opportunistic infection).

**At time of ART initiation and during treatment follow-up.**

a) **Treatment preparation phase**
   - A minimum of three educational sessions whose contents should be structured and cover the 3 sessions. The authorization to start treatment is given when key information is considered acquired.
   - These sessions are usually spread over a maximum of 2-3 weeks or a few days in cases where treatment should be started quickly.
   - In no event should PTE sessions stop ARV initiation.

**The first 6 months of treatment**
   - The first months after starting treatment is a period that requires special attention to identify possible difficulties;
   - A first systematic session after the initial prescription is recommended in **D15 then in M1, M3, M6 M9, and M12.**

**At each renewal of ARVs** (monthly in general):
   - Short sessions (adherence support) with referral of the patient to complete PTE session, if any difficulty is identified.
   - Adherence is indeed a dynamic phenomenon that can vary over time: a patient perfectly adhering to treatment for several months or years may, on the occurrence of a traumatic event, become non-adherent.
   - On the contrary, a regular non-adherent patient may become adherent.

**In case of:**
- Patient's request;
- Compliance problems;
- Treatment failure;
- Modification of ART;
- Desire for pregnancy;
Sharing status;
Problems of all kinds: psychological, social, economic, legal.
Ensure to refer the patient to an appropriate structure or service.

b) Learning tools
- Picture books/ Cartoons;
- True/false, certainty;
- Treatment plan;
- Board game;
- Photo expression.

c) PTE quality criteria
Therapeutic education must meet several quality criteria. It requires

<table>
<thead>
<tr>
<th>PRINCIPLES AND QUALITY CRITERIA OF PATIENT EDUCATION</th>
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<tbody>
<tr>
<td>Focus on the patient and their environment</td>
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<tr>
<td>Professional trained for education</td>
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<tr>
<td>Caregiver/patient Partnership</td>
</tr>
<tr>
<td>Formatted Organized</td>
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<tr>
<td>Continuous process</td>
</tr>
<tr>
<td>Biomedical, Pedagogical Psychological Assessment</td>
</tr>
<tr>
<td>Integrated to Multiprofessional, Interdisciplinary, intersitutional care</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>d) Who are the actors?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A State Registered Nurse</td>
</tr>
<tr>
<td>And/or a pharmacist;</td>
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<tr>
<td>And/or a medical doctor;</td>
</tr>
<tr>
<td>And/or a psychologist;</td>
</tr>
<tr>
<td>And/or a social worker;</td>
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<tr>
<td>And/or a dietician;</td>
</tr>
<tr>
<td>And/or a patient or a representative of patients’ association</td>
</tr>
</tbody>
</table>

This entire staff should be trained in therapeutic education
STRUCTURING A PTE SESSION

- Present the objective of the session and relate it with the previous session;
- Make the patient talk on their prior knowledge and experiences on the subject matter;
- Validate the knowledge and complete it if necessary, providing new knowledge;
- Consider the transfer or use of knowledge in their daily life;
- Make a summary/ask the patient to summarize;
- Link with the next session and make an appointment if helpful.

INTEGRATION OF PTE IN THE MANAGEMENT CIRCUIT

6.11 PTE IN CHILDREN/ADOLESCENTS

Guidelines
Every HIV-infected child aged as from 3 years must take part in PTE sessions.

6.11.1 Therapeutic education of the patient in paediatrics

There is no official definition of PTE in paediatrics. However, experience enables to specify, from the general definition of PTE, the specificity of PTE in paediatrics:

This approach aims at teaching the child and/or their entourage to acquire skills: it is therefore required to develop activities in which the child is ACTOR, alone and/or with their entourage.

It aims at making the child more autonomous and thus able, depending on their degree of maturity, to:
Participate in the management of their disease, care, prevention of transmission in partnership with caregivers and their environment;
Adhere to treatment and follow-up;
Make appropriate decisions to maintain their health and improve their quality of life.

This approach consists of four steps:

**Educational diagnosis:** analyzing the educational needs of the child and/or parents/guardians;

**Negotiation of educational objectives** with the child according to their maturity and/or parents/guardians;

**Organization of educational sessions** individually and/or in groups with children alone and/or parents/guardians;

**Assessment of skills** of children and/or parents/guardians.

### 6.11.2 PTE Stages of the child

In paediatrics, different PTE Stages should be discussed in a team, depending on the age groups, the maturity of children and on the knowledge they have or not of their disease:

- For those less than 3 years with parents/guardians;
- For children between 3-6 years, with or without their parents (no knowledge of their disease);
- For those between 7-11 years (partial disclosure);
- For the group over 12 years (when disclosure is made).

The definition of these stages helps to organize the necessary resources.

### 6.11.3 PTE approaches

**Educational diagnosis in children**

It enables the child to:

- Talk about their life, disease, needs, project;
- Talk about their experience and better understand it;
- Become aware of their need to learn;
- Understand the meaning of education and enhance motivation;
- Discover who the caregiver/educator is and their requirements.

Educational diagnosis is essential to know the child, what they know, what they live, where they are, questions they raise or do not raise. This is the first contact between the child and the caregiver/educator. It changes over time and must be updated regularly and systematically upon the occurrence of any new developments.

### 6.11.4 How is an educational diagnosis carried out?

**Self introduction...**

My name is (name of the educator), I am (educator’s job), I also work in the management team and I receive you today for therapeutic education.

And you? Can you tell me who you are?

**Let me tell you why we are here...**

The doctor asked me to see you for the first interview. This is to know each other better and decide together if we will meet again.
Do you know what my work as an educator entails? Do you have an idea of what I can do for you as an educator?
It is to help you understand things about your disease, your medication, to answer your questions based on your needs and requirements.

Let's agree....
Are you willing to listen to me?
If you don't mind I'll write what you tell me not to forget anything. However if you want to tell me secret things, I'll take them into account. (Building trust).

Educational objectives are defined in therapeutic education during educational assessment. They correspond to what the child needs to know and know-how to solve situations of daily life and not to endanger them.
They contribute to help the child build themselves, grow in a "normal" life with the disease.
There are two types of skills:

- **Self-care skills** (everything about the disease and treatment). These are the skills that enable the child to manage the disease, monitor what is going on, cope with problems, and take their treatment.

- **Adaptation skills** with disease (everything related to adapting to the disease). These are skills that help establish a new relationship with oneself, others, the environment.

Addressing adaptation skills can “bring PTE programmes closer to the reality of people.”

In paediatrics, we differentiate two target groups:
- Children;
- Parents and/or guardians.

The needs and therefore the educational goals of the two groups differ.

In adults, educational assessment enables to specify their needs.

In children, too, they differ in terms of:

- Their psychomotor development, which is why it is ESSENTIAL to take into account the child's developmental stages to appreciate what they can or cannot do;
- The level of knowledge of their HIV status (disclosure not made, partially made, fully made).

Overall, the educational needs are:

**The "Understanding" for children and parents**

- Effects on social life;
- Effects on emotional and sexual life;
- Effects on their health, their body;
- Effects on their habits, health behaviour.

**The "Doing" for children**

- Explain what the problem is;
- Identify to whom to say it, how to say it;
- Adapt their responses to situations encountered in social and emotional life;
- Etc.

**The "Doing" for parents/guardians**

- Answer the child's questions about the disease, treatment;
Disclose their disease to the child;
Detect signs of discomfort, anxiety, unease and be present;
Appeal to caregivers;
Seek support from other family members or from the environment;
Etc.

6.12 UNIVERSAL SET OF EDUCATIONAL OBJECTIVES FOR CHILDREN

a) Educational objectives for children aged 3 to 5 years
- Show them their treatment;
- Say what they like and dislike;
- Tell them how their drug taste;
- Associate drug taking to an event of the day;
- Tell their mother (or other persons) they are hungry, ill, vomited, injured, bleeding;
- Identify members of their family;
- Identify personal hygiene and dangerous objects (toothbrush, blade, sharp objects);
- Practice handwashing and associate it with an event.

b) Educational objectives for children aged 6 to 12 years (by age group)

<table>
<thead>
<tr>
<th></th>
<th>6-8 years:</th>
<th>9-10 years:</th>
<th>10-12 years:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Express their experience of the disease and treatment</td>
<td></td>
<td></td>
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<tr>
<td>Express their feelings on health</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Express difficulties experienced with respect to treatment</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Express emotions during disclosure</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Understand, explain the disease</td>
<td></td>
<td></td>
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<tr>
<td>Explain the disease (what they suffer from) using analogies (&quot;germs&quot;, &quot;soldiers&quot; ....)</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Give the name of the virus and the disease</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Give the importance of the drug to be taken and its effects on germs and the body</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Explain the fact of not necessarily feeling sick</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Describe their sensitivity to germs due to lack of immune defence</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>State the importance to respect appointments of a regular follow-up</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Identify symptoms they suffered in connection with the disease</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Name HIV transmission and prevention modes</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Name prevention measures</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Understand, explain their treatment and follow-up in National Guidelines for the Prevention and Management of HIV in Cameroon</td>
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</tbody>
</table>
### Hospital

<table>
<thead>
<tr>
<th>Task</th>
<th>Mark</th>
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<tbody>
<tr>
<td>Understand the importance of medical and biological follow-up</td>
<td>X</td>
</tr>
<tr>
<td>Name their drugs and/or show them</td>
<td>X</td>
</tr>
<tr>
<td>Describe the different times to take the drugs</td>
<td>X</td>
</tr>
<tr>
<td>Explain the interest of taking regular treatment using analogies</td>
<td>X</td>
</tr>
<tr>
<td>Interprete, analyze, identify</td>
<td></td>
</tr>
<tr>
<td>Identify personal hygiene and dangerous objects</td>
<td>X</td>
</tr>
<tr>
<td>Identify resource persons in their environment</td>
<td>X</td>
</tr>
<tr>
<td>Solve daily life problems</td>
<td></td>
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<tr>
<td>Identify where to store the drugs</td>
<td>X</td>
</tr>
<tr>
<td>Store your drugs</td>
<td>X</td>
</tr>
<tr>
<td>Explain what to do in case they forgot, if vomiting</td>
<td>X</td>
</tr>
<tr>
<td>Explain what to do to avoid drugs stock-outs</td>
<td></td>
</tr>
<tr>
<td>Explain what to do in case of injury, bleeding</td>
<td>X</td>
</tr>
<tr>
<td>Ask for help, the support of a family member</td>
<td>X</td>
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</tbody>
</table>

### Educational Objectives for Children Above 12 Years (Adolescents)

<table>
<thead>
<tr>
<th>Task</th>
<th>Mark</th>
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</thead>
<tbody>
<tr>
<td>Make known their needs and difficulties with treatment</td>
<td></td>
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<tr>
<td>Express their resentment faced with constraints related to their follow-up</td>
<td></td>
</tr>
<tr>
<td>Express difficulties in their family setting faced with the management of treatment</td>
<td></td>
</tr>
<tr>
<td>Make known their needs and difficulties on sex life</td>
<td></td>
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<tr>
<td>Express their questioning, apprehensions and doubts when dealing with sexual practice</td>
<td></td>
</tr>
<tr>
<td>Discuss their relationship with family and social network</td>
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<tr>
<td>Understand the concepts of desire, seduction</td>
<td></td>
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<tr>
<td>Explore the relationship to their body</td>
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<tr>
<td>Implement preventive behaviours</td>
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<tr>
<td>Discuss the benefits of using a condom</td>
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<tr>
<td>Using a male or female condom</td>
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<tr>
<td>Analyze situations with contamination risks</td>
<td></td>
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<tr>
<td>Name prevention measures at their disposal</td>
<td></td>
</tr>
<tr>
<td>Explain their disease, treatment, follow-up</td>
<td></td>
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<tr>
<td>Explain HIV transmission modes</td>
<td></td>
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<tr>
<td>Explain the progress of the disease with and without treatment</td>
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<tr>
<td>Distinguish between the contradictory messages of school health education sessions on HIV/AIDS and educational messages they listen to during consultations</td>
<td></td>
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<tr>
<td>Explain the reasons for their follow-up at the hospital</td>
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<td>--------------------------------------------------------</td>
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<tr>
<td>Explain the importance of a regular biological follow-up</td>
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<tr>
<td>Explain some signs and symptoms related to treatment</td>
<td></td>
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<tr>
<td>Explain the need to continue follow-up in adult care units</td>
<td></td>
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<tr>
<td>Manage treatment</td>
<td></td>
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<tr>
<td>Ensure the renewal of their drugs;</td>
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<tr>
<td>Plan their treatment</td>
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<tr>
<td>Monitor their health</td>
<td></td>
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<tr>
<td>Explain/analyze biological results</td>
<td></td>
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<tr>
<td>Identify symptoms suggestive of the disease</td>
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<tr>
<td>Explain the purpose of preventive treatment</td>
<td></td>
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<tr>
<td>Solve a problem related to their health or treatment</td>
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<tr>
<td>Identify where to store the drugs</td>
<td></td>
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<tr>
<td>Prepare their medication for the day and when travelling</td>
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<tr>
<td>Decide what to do in case they forgot, if vomiting, side effects</td>
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<tr>
<td>Explain what to do to avoid drugs stock-outs</td>
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<tr>
<td>Explain what to do in case of injury, bleeding</td>
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<tr>
<td>Ask for help, the support of a family member, caregivers</td>
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<tr>
<td>Note, programme and respect follow-up appointments</td>
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<tr>
<td>Adapt their social life</td>
<td></td>
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<tr>
<td>Identify the people with whom they can share their status</td>
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<tr>
<td>Inform a person about their status</td>
<td></td>
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<tr>
<td>Understand the reactions of those around them after disclosing their status</td>
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<tr>
<td>Join a group</td>
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</table>
SECTION 7: CARE CONTINUUM
7. GUIDELINES FOR OPERATIONAL ASPECTS AND INTEGRATION OF SERVICES

7.1 SERVICES MANAGING HIV AND TUBERCULOSIS

7.2 PALLIATIVE CARE

7.3 OBJECTIVES OF PALLIATIVE CARE

7.4 DECISIONS OF PALLIATIVE CARE

7.5 PSYCHOLOGICAL MANAGEMENT
7. GUIDELINES FOR OPERATIONAL ASPECTS AND INTEGRATION OF SERVICE

7.1 SERVICES MANAGING HIV AND TUBERCULOSIS

What to do
- Adherence to ART;
- Retention in care;
- Innovative models of service delivery (integration, decentralization and tasks shifting);
- Human resources;
- Laboratory and diagnostic services;
- Procurement and distribution management systems.

Retention in care; adherence to ART; human resources; service delivery models, focusing on decentralization of ART to primary health care services and integration of ART in TB management services, antenatal care and maternal and child health programmes, drug abuse management services; laboratory services; and management of drug distribution.

7.2 PALLIATIVE CARE AND HIV

BACKGROUND

Definition
Palliative care is active care provided in a comprehensive approach to the person with a serious, progressive or terminal disease.

a) Why palliative care

Less known and less practised
- WHO estimates that by 2030, nearly 21.4 million new cancer cases will be diagnosed worldwide;
- Low and middle-income countries are expected to represent 61% of all cancers in the world by 2050 (Bray and al, 2006);
- By 2050, the prevalence of HIV/AIDS is expected to increase to 278 million (UNFPA, 2003);
- At least 25% of patients with HIV/AIDS and 80% of cancer patients suffer from pain in the terminal phase of the disease (World Health Organization, 2004).

b) Who provides palliative care?

A multidisciplinary team consisting of at least a doctor and a nurse and, based on the needs, other skills and specialists (dietician, social worker, psychologist, religious, etc. ....) to meet the various problems presented by the patient and their family.

c) What more does palliative care provide in medicine?
- A more human approach to patient-care personnel relationship;
- A holistic view of the human person in all stages of their life, even close to death;
Means for the control of pain and other symptoms;
Means of psychological support to suffering and death.

7.3 OBJECTIVES OF PALLIATIVE CARE

- Relieve physical pain;
- Relieve other symptoms;
- Take into account the psychological, social and spiritual suffering in order to improve the quality of life of the patients.

7.4 DECISIONS IN PALLIATIVE CARE

7.4.1 The provider must identify the patient's suffering for setting priorities to make diagnostic and therapeutic decision

- Limit diagnostic and therapeutic measures;
- Limit food intake;
- Limit hydration;
- Set priorities;
- Make decisions.

7.4.2 The provider must establish criteria for a poor prognosis

- Poor response to specific treatment;
- Frequent complications;
- Collapse of the general condition;
- Feeding problems;
- Some co-morbidities (cerebral toxoplasmosis, cryptococcosis neuromeningitis, etc.).

7.4.3 The provider must recognize the signs and symptoms of agony

- Extreme fatigue, with rapid progression;
- Bed rest;
- Impossible to administer oral medications;
- Dysphagia;
- Difficulty communicating, indifference;
- Moans, wheezing, apnoea breaks;
- Cold finger tips;
- Alteration of vital signs;
- Significant decrease in muscle tone;
- New symptoms or worsening of existing symptoms;
- Oliguria/anuria;
- Decrease of level of consciousness;
- Agitation/hallucinations;
- Stupor and coma;
- Intense emotional impact;
7.4.4 The provider must be able to control the symptoms based on the indications below

- Feeling of imminent death.

- **7.4.4 The provider must be able to control the symptoms based on the indications below**

- Crakles: Buscapine or Scopolamine ;
- Dyspnea: **Morphine**
  - As co-adjuvant: Madapolam,
  - Dexamethasone if obstruction of the airway
  - Oxygen
- Pain: administer the right dose at the right time with WHO grade I, II or III analgesics. The choice of the molecule is determined by the severity of the pain, the site and the type of pain.

- Delirium and agitation-anxiety: **Haloperidol** ½ vial/15-20 min 1st hr after every 60 min, Max 20mg/24hrs
  - Levomepromazine: 12.5-50mg/4-8hrs
  - Midazolan: 2.5-5mg/3hrs SC
- Seizures: Diazepam 5-10mg IV/IM
- Insomnia: benzodiazepine
- Search: urinary retention (catheterization) and faecal impaction.
- Asphyxia or Haemorrhage: Midazolam
- Nursing and local care
- Palliative sedation: Midazolan, levomepromazine, Haloperidol

It is applied in the case of clinical failure of usual pharmacological and non-pharmacological measures, with the objective of reducing the patient's consciousness when he presents intolerable symptoms and death is near.

The most common refractory symptoms are:

- Dyspnea;
- Delirium;
- Psychological distress;
- Pain.

Sedation should not be a systematic procedure during the dying process.
The medical officer should control symptoms while maintaining consciousness level, possibly the last words and last movements.

**Drugs used during palliative care**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Drug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>Dexametasone</td>
</tr>
<tr>
<td>Midazolam</td>
<td>Tramadol</td>
</tr>
<tr>
<td>Haloperidol</td>
<td>Metoclopramide</td>
</tr>
<tr>
<td>Saline solution</td>
<td>and mixed serum.</td>
</tr>
</tbody>
</table>

7.4.5 The healthcare provider must make decisions in situations of agony because:

- The dying process should be painless and calm;
The patient may experience an improvement, limited in time; 
Badly relieved sufferings during the days preceding the death of the patient will remain in the memory of their environment.

For this, the healthcare worker should:
- Withdraw non-essential drugs; subcutaneously;
- Avoid repeated aspiration;
- Take care of all orifices (mouth, genitals, anus, etc.);
- Frequent contact with family (physical and verbal);
- Not force feed.

7.5 PSYCHOLOGICAL CARE

The healthcare provider should ensure psychological care for a dignified death, which should be:
- Painless;
- Calm;
- Accompanied;
- Accepted by the family.

The health care provider should always do something to improve the quality of the patient’s life and ensure a respectful and dignified death.

The Ministry of Public Health should make morphine available and accessible to ensure better management of patients.

CONCLUSION

Whatever the disease, there is always something to do to improve the quality of the patient’s life.

Death is part of life; patients should be allowed to die in peace and with respect for their dignity.

To ensure better care for patients, the Ministry of Public Health should make morphine available and accessible.
SECTION 8:

COMMUNITY MANAGEMENT
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8.2 TRAINING OF CHW/SUPPORT GROUP MEMBERS IN INTEGRATED COMMUNITY MANAGEMENT OF HIV
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8 BACKGROUND/RATIONALE

In a context of limited resources (human, material, financial) and the search for successful health outcomes, the Ministry for Public Health adopted the development of Community Health Workers programmes in accordance with various recommendations of the World Health Organization and the Global Health Work Force.

Multifunctional community health workers are trained and contribute in an integral manner to the implementation of care continuum for PLWHA, in the search for lost to follow-up for HIV and TB treatment as well as in the treatment and management of malaria.

8.1 DEFINITION OF CONCEPTS AND TERMS

Community mobilization

Community mobilization involves raising community awareness, to improve the quality of life/survival through an informed choice of life and the use of health services. To achieve this, the community should be involved in all stages of the development of health care services, notably in the identification of needs as well as objectives, planning, implementation, monitoring and evaluation.

a) Community

This is a group of people (families, neighboring villages or municipalities) living in a given geographical area, with common interests and sharing the same health concerns.

Persons that have an important role to play in the community management of HIV infection are:

- PLWHIV;
- NGO/Support Groups;
- Family, friends;
- Opinion/community leaders (religious, traditional healers ...)
- Community health workers.

Community Health Worker: A man or woman belonging to a community, who is chosen, supported and trained by the latter for a short period of time to take care of its health problems under the supervision of health services.

Multifunctional Community Health Worker: Trained CHW who is able to implement the activities of several programmes within the same community.

Interventions under Community Supervision: One or more health services carried out at the community level under the support of the community itself.

The difference between the concepts "community-based" and "community-directed" is at the level of community appropriation; "Community-directed" being the maximum level of appropriation.
Integration: Strategy which advocates the joint implementation of interventions of several programmes by the same worker or a group of workers in the same space at the same time and with the same resources.

Advocacy: is a coherent set of actions to convince or influence a decision or to obtain a change in the interests of a community.

Advocacy aims to change the policies, opinions or programmes of an institution. When a change requires the intervention of a political action, advocacy has a role to play.

b) Educational talk
This is a group animation method whereby a facilitator shares ideas and information on health issues related to a group or community.

c) Counseling
Counseling is a face-to-face communication technique whereby a person assists one or two individuals to take a decision to solve a problem.

d) Home visit (HV)
Home visit involves visiting a family to meet a person, couple (counseling) or group of people (educational talk) to give them information, advice to help solve their health problems.

e) Communication for development
A set of methods and approaches for knowledge, experience, and opinion sharing among participating populations which aims to encourage the adoption of new behaviors in relation to a given situation. It enhances the dissemination of information by emphasizing on dialogue and sharing based on opinions consistent with socio-cultural references.

f) Referral
Referral is the guided movement of clients to obtain services based on specific needs. A referral may involve sending a client from a health facility to another organization, person or entity. Referral may involve sending a client from a health facility to another higher category health facility to ensure continuity and improvement of care, while respecting the functioning of the health pyramid, or from a private community-based organization to other organizations for care continuum.

g) Objectives
The overall objective of the community management of HIV is to contribute in reducing new infections, improve the quality of care and support PLWHIV as well as reducing the impact of AIDS on the society.

More specifically:
- Provide guidance on key operational issues of service delivery at the community level;
Provide care to improve access to services related to HIV infection;
Strengthen care continuum of HIV infection;
Further integrate the supply of ARVs and other associated inputs in health systems.

8.2 TRAINING OF CHW/SUPPORT GROUP MEMBERS FOR INTERGRATED COMMUNITY MANAGEMENT OF HIV

Training is an essential part of the competencies of a CHW. In this context, they should be given special attention by all stakeholders. The initial training of any programme should include the basic module on the understanding of the roles and responsibilities, interpersonal communication and mobilization techniques, basic themes on the promotion of universal Essential Family Practices (EFP). These practices are lifesaving and have a strong impact centered on the family, the welfare of the community and are available at the community level.

In addition, they will receive further training programmes specific to HIV control with the aim of integration. These include;

- Definition of concepts (HIV, AIDS, PLWHIV ....);
- HIV transmission modes;
- Signs and symptoms of HIV;
- HIV danger signs;
- Community-based Integrated management of HIV

Training, whether initial, complementary or continuing, is placed under the responsibility of district management teams with the support of Programmes, and should be conducted regularly (at least once a year during sessions and at least once a month during supervisions).

8.3 COMMUNITY MANAGEMENT ACTIVITIES OF HIV

Community Health Workers can contribute in the promotional, preventive, curative and rehabilitation domains under the active supervision of district health personnel. These include among others:

a) Preventive activities

- Malaria prevention;
- HIV counseling and screening in the community;
- Community advocacy/diagnosis of problems related to the HIV/AIDS infection;
- Education for behavior change (counseling, educational talk, home visits);
- Fight against stigmatization and discrimination;
- Support for HIV positive pregnant women and newborns of HIV-positive mothers;
- HIV screening in malnourished children;
- Service delivery launched in collaboration with the health services;
- Recognition of side effects;
- Collection, summary, analysis and transmission of information in accordance with the valid channel (maternal, neonatal and infant mortality as well as home birth).
b) Curative activities

- Treatment of uncomplicated cases of ARDS (pneumonia) with antibiotics;
- Treatment of uncomplicated cases of malaria;
- Treatment of uncomplicated cases of diarrhea with Low osmolarity ORS and Zinc;
- Realization of the rapid diagnostic test for malaria;
- Management of moderate acute malnutrition;
- Treatment of other diseases which studies have shown require home care;
- Search for the Lost to follow-up (immunization, TB, HIV, ANC, malnutrition);
- Support in monitoring adherence and management of ARV side effects;
- Preparation of the patient/parent for antiretroviral treatment, therapeutic counseling of the patient/or parent, ARV distribution;
- Psychosocial, spiritual and legal support etc;
- Referring patients to Health Facilities;
- Completing the community-based disease monitoring tools and forwarding the said tools to the Head of the health facility;
- Managing nutrition and hygiene of the HIV patient;
- Palliative care (pain monitoring, psychosocial and end-of-life support);
- Mass distribution campaigns: LLINs, Vitamin A.

c) Promotional activities

- Promotion of EFP;
- Promotion of risk-free breastfeeding (mother on ARVs to prevent transmission) or exclusive artificial feeding during the first 6 months of life;
- Promotion of basic hygiene rules (consumption of potable water, washing hands with water and soap or ash);
- Promotion of the use of improved latrines, hygiene and sanitation within the environment;
- Vitamin A Supplement;
- Monitoring the implementation of the complete vaccination calendar for children from 0 to 11 months;
- Counseling pregnant women in ANC;
- Counseling pregnant women who come to health centres for delivery;
- Promotion of HIV screening;
- Promotion of FP;
- Promotion and protection of the rights to health for all, especially for key populations and vulnerable persons;
- Participation in mass health activities;
- Education for behavior change to other problems of society necessitating a change (alcoholism, management of family food).

d) Rehabilitation activities

- Assist in functional rehabilitation;
- Assist in social rehabilitation;
- Assist in social reintegration (mentally ill, leprosy and fistula patients, etc).

8.4 OTHER HEALTH ACTIVITIES

- Mobilization of local resources;
Collection and transmission of health information (management of the stocks of inputs, number of home births, maternal and infant deaths, etc);

- Participation in search activities in the community.

In the case of a generalized HIV outbreak, in addition to provider-initiated counseling and testing, it is recommended to do community-based counseling and testing linked with prevention, care and treatment services (strong recommendation, low quality evidence).

Given that some children are not identified as HIV-exposed or are lost to follow-up after birth, an active search in the community should be made by members of support groups/CHW and refer them to the health facility.

Adolescents should be counseled on the benefits and potential risks of sharing their HIV status with another person, as well as the means and support to determine if they should share that status, when to do, how and with whom (recommendation subject to conditions, very low quality data).

**Fight against stigmatization and discrimination**

Stigmatization refers to unfavorable attitudes and beliefs towards a person or thing. Discrimination is a biased or prejudiced behavior/action we have vis-à-vis an individual or group of individuals. Stigmatization related to HIV/AIDS increasingly appears as the main obstacle to slowing the spread of HIV/AIDS.

CHWs will increase community awareness, the respect for the rights of PLWHIV, strengthening care as well as support and guidance.

**8.4.1 Curative activities**

Capacity building of CHWs enables them to be able to manage some uncomplicated cases of diseases at home especially with health staff supervision.

**Search of the lost to follow-up (Immunization, TB, HIV, ANC, malnutrition …)**

In constant contact with the health staff in the health facility, the CHW takes note of PLWHIV on ART and/or follow up needs. In case of non-respect of appointments, the care provider notifies the CHW to report the lack of follow up of the patient/client duly recorded in the lost to follow-up register. Then, the CHW integrates the search for the patient/client in their work plan (phone call, SMS, scheduling appointments, field visit etc).

**8.4.2 Promotional Activities**

These activities are designed to encourage the population to adopt healthy behaviors in the community management of HIV.

**Participation in Mass Activities**

Community mobilization is the key to provide the community with information they need to actively participate in the improvement of their health conditions.

The purpose of community mobilization is:

- Creating a real partnership between health care services/health facilities and the community;
Involving the community at all stages of the development of health care services, including the identification of needs/expression of objectives, planning, implementation, monitoring and evaluation. The involvement of the community is to ensure that these services planned for the community meet their expressed unmet needs. Community mobilization aims to raise community awareness, improve the quality of life/survival of the population through an informed choice of life and use of health services.

OTHER HEALTH ACTIVITIES

The participation of CHWs in research studies and collection of health information in communities and many other activities are within their domain of competence.

8.5 MONITORING AND EVALUATION OF COMMUNITY MANAGEMENT

The monitoring of community management activities ensures the quality of the implementation of activities and can be done by supervisory missions in the field or the analysis of activity reports.

a) The purpose of monitoring

The monitoring of community management has several goals, they include the following:

- Identify difficulties encountered during activities;
- Provide solutions to the problems identified;
- Ensure quality services;
- Assess the performance of the community health worker;
- Motivate the community worker.

b) Monitoring proper

It can be done through:

- Analysis of activity reports;
- Field visits;
- Analysis of the monitoring sheets filled by the community health worker;
- Sharing meetings.

8.6 TOOLS FOR THE MONITORING OF ART ON COMMUNITY MANAGEMENT

- Follow-up and monitoring sheet;
- Monitoring sheet for patients on ART;
- Referral and counter referral sheet;
- HV checklist;
- Educational talk sheet;
- Monthly activity report;
- Daily sheet for monitoring inputs;
- Sheet for the search/referral of lost to follow-up;
- Communication sheet.
8.7 PROCUREMENT AND MANAGEMENT OF INPUTS

The general objective for a successful community management is to do everything possible to ensure that eligible PLWHIV:

- Have equitable access to essential drugs at a good price/quality ratio and acceptable safety, to manage priority diseases: HIV/AIDS, TB, Malaria and IMCI;

The rational use of these drugs by health workers and patients.

Also, the following prerequisites are required:

- Integrate the supply system of drugs and reagents in the national system;
- Encourage and enhance transparency by establishing mechanisms for consultation and coordination at all levels: Regional Procurement Coordination Unit;
- Train HF staff on stock management at all levels: selection, procurement, storage, distribution, and use.

a) Selection

The selection of drugs of national therapeutic protocols adopted consensually at the national level, notably 1st line molecules: reference is necessary here because only 1st intention treatments will be included.

The selection of reagents found in the national testing algorithms according to laboratory equipment.

The community health worker receives the list of inputs from the main health facility of their health area.

b) Procurement

This will be achieved through the implementation of harmonized procurement procedures;

- The procurement of inputs should be done as much as possible in accordance with the needs of the HF: Drugs and reagents at good price/quality ratio, available and accessible (avoid stock outs);
- Ensure that necessary stocks of drugs are available at all time;
- Appropriate management tools (needs assessment, ordering, delivery, stocks);
- Effective information and logistics management system (quality data for the calculation of required inputs);
- Establish and strengthen the National Drugs Procurement System (training of inputs managers, data transmission circuit, feedback);
- Take into account costs and funding options.

The Head of the Health Area allocates inputs to community health workers based on identified needs.

c) Storage

Compliance with good storage practices are required, they include:

- Adequate storage surfaces;
- Appropriate storage conditions;
- Classification of inputs per category;
- Conforming to security measures.

Products are stored in HF pharmacies of the Health Areas. However, the CHW will receive a quantity of inputs for the identified needs of his community.
d) Distribution/dispensation

The distribution/dispensation system must be efficient and effective:
- Define/refine the distribution/dispensation networks;
- Organize and make functional an information flow system between the structure that distributes and the one that allocates inputs;
CHWs do not distribute inputs. They are allocated under the supervision of the health personnel of the main health facility.

e) Usage

- Reagents

The CHW mobilizes the population towards the services or screening units where he conducts screening at the community level with rapid HIV diagnostic tests (blood collected from a pricked finger tip). This facilitates the extension of counseling and testing in the community, especially at home, in bus stations, in places of worship, schools, universities, workplaces and in places visited by key populations.

Based on the screening results, he refers HIV-positive persons to health facilities for integration into the health care system. They are assessed following the clinical and laboratory protocol and put on treatment, CHWs ensure their retention in the active file. If not, the CHW refers the HIV-positive persons to the community support structures.

- Condoms

The CHW ensures the continuous sensitization of HIV-negative persons in their community. They promote the proper use, distribution and sales of condoms

- Case of Drugs (ARVs, MIO, others ....)

The community health worker receives inputs taking into account initial prescriptions of patients in the health facility. He can ensure the supply/distribution during home visits, in relation to the screening result of the targeted inputs. They ensure the proper completion of the input follow-up sheet.

8.8 ORGANIZATION OF THE REFERRAL/COUNTER REFERRAL SYSTEM

Information necessary for CHW to refer a patient:
- Health facilities and their technical levels;
- Available support structures (CBOs, local NGOs, dialogue and denominational structures, HGs etc ....);
- Care protocols according to levels: when to refer as well as follow up in the community;
- A defined and available care package by level;
- Financial support mechanisms of the patient/client;
- Available referral/counter referral tools;
- Transportation means.
Referral proper

The CHW should:
- Identify the problem or unmet needs;
- Complete the referral sheet, make transportation arrangements;
- Make sure the family has necessary financial means to ensure survival and care continuum;
- Establish communication with the referral structure;
- Seek the assistance of support structures;
- Physically accompany the patient/client to the referral structure;
- Follow up counter referral of the patient/client.

8.9 SUSTAINABILITY MECHANISMS FOR CHW ACTIVITIES

Structural and functional mechanisms for sustainability should enable long-term implementation of community-directed interventions:

a) Structural Mechanisms
- Identification of CHWs and their roles;
- Establishment of an appropriate legal framework;
- Mobilization of local resources for community-directed activities;
- Development of local partnership.

b) Functional Mechanisms
- Integrated planning and implementation of CHW activities;
- Supervision of CHWs;
- Monitoring and evaluation of CHW activities;
- Use of management tools;
- Motivation of CHWs;
- Funding of community-directed interventions.

8.10 RECOMMENDATIONS

The success of community management requires the following key recommendations:

8.10.1 Establishing a monitoring and evaluation framework for treatment compliance and adherence
- Simplifying tools for the supervision and monitoring of the use of drugs, the efficiency and effectiveness of the treatment programme by community workers and other health care workers;
- Develop simplified tools, a coordinated and systematic mechanism for monitoring, surveillance and follow-up to be used by service providers involved in community management.

8.10.2 Steps for a successful implementation
- Availability of policy documents and definition of a clear strategy;
- Mapping of existing services;
- Development of a communication strategy to reduce stigmatization, proper dissemination of information, availability of information/basic data;
Modification of treatment guidelines to strengthen community service providers and health professionals in prescribing ARVs;
Redevelopment of health facilities to provide quality health care;
Involvement of PLWHIV, community care based organizations;
Development of a critical mass in planning at all levels: plans that include the allocation of resources for ARV programmes for vulnerable groups that are difficult to reach such as the poor, women, youth and children;
A single plan taking into account interventions of partners;
Enhancement of community education.

8.10.3 Management perspective of the community management programme
- Developing a participative approach with the involvement of clinicians, other specialists and all actors;
- Reinforcing coordination, appropriation, capitalization and sustainability.

8.11 ESTABLISHMENT AND MANAGEMENT OF LINKS BETWEEN CHW AND CARE SERVICES

8.11.1 Good practices for establishing links with health care services
Interventions to improve links with health care services should be assessed more rigorously. Several best practices can help CHWs to improve links with health care services. These include:
- Involving the health worker in charge of conducting community outreach activities to identify the lost to follow-up;
- Ensuring support by peers or expert patients and using new technologies, such as SMS through mobile phones as a reminder tool to encourage adherence.

8.11.2 Community management activities of HIV

A) PMTCT
- Carry out sensitization and ensure community mobilization to increase the systematic use of PMTCT services;
- Contribute to trace cases of missed appointments and finding lost to follow-up;
- Strengthen links with community-based organizations for psychosocial support and assist in treatment compliance;
- Establish members of support and capacity building groups for PMTCT mobilization.

More specifically, according to recommendations for the prevention of MTCT, CHWs should:
- Advice mothers with known HIV infection and follow them up so they breastfeed while receiving ART or they completely avoid breastfeeding, according to their specific case;
- Encourage and support breastfeeding as well as ART to give the best survival chance to HIV-free infants born to mothers with known HIV-infection;
- Postpartum prophylaxis for the infant remains crucial. An infant born to a mother receiving ART and breastfed should receive daily administration of NVP-infant prophylaxis for six weeks;
- Specific interventions (such as the integration of follow-up in immunization services and other services to ensure the child’s welfare) should be considered to improve the
follow-up of the mother-infant pair after delivery, this follow-up is absent in most programmes;

- The positive effects of breastfeeding with the use of ARVs and aspects regarding the duration of breastfeeding to be considered at the local level must be communicated clearly and effectively to the community and to service users.

**B) PEDIATRIC MANAGEMENT**

**a) Screening/Result disclosure**
- Incentive to screening (counseling);
- Community IMCI.

**b) Monitoring of the infected child**
- Identify lost to follow-up in the lost to follow-up register;
- Dispensation of Cotrimoxazole to non-eligible children;
- Systematic follow-up assistance with appointment reminder.

**c) ART**
- DOTS TB;
- Compliance support;
- Identify LTF with HV (death, transfer, etc ...)

**d) Teens and Adolescents**
- User-friendly services for teenagers and adolescents

**e) Management of co-infections**
The CHW should refer in case of:
- Cough irrespective of the duration, fever;
- Weight loss, night sweats;
- Suspected TB symptoms to ATCs;
- Yellow eyes (jaundice) occurring during treatment, advise the patient to go for consultation

The CHW should ensure patient compliance with treatment, provide psychological support; refer all PLWHIV with the following symptoms to the health facility; headache, acute or chronic diarrhea (advise ORS), jaundice.

**f) Management of STI-HIV**

In line with WHO, UNAIDS and UNFPA recommendations, sexually transmitted infections control is a priority component for the prevention against HIV/AIDS, especially for the transmission of HIV infection from mother to child. Also, the country has integrated prevention and syndromic management of sexually transmitted infections in the National AIDS Control Programme.

**Primary prevention**
- Abstain from sex;
- Delay the age of first sexual intercourse;
- Remain mutually monogamous throughout life;
- Delay the start of sexual activity (for adolescents);
- Reduce the number of sexual partners;
Correctly and consistently use condoms;
Promote safe sex;
The CHW should promote CBC to reduce the risk of HIV and STIs: Train homogeneous groups (age, sex, gender);
Establish if their behavior has a high HIV and STIs infection risk;
Make them understand and recognize the risks resulting from their behavior, lifestyle and the image they have of themselves;
Help them see how to change their behavior;
Work with them to adopt new behaviors and adhere to them;
Counsel, Contact, Condoms, Compliance (4C).

Secondary prevention
The CHW should take into account: the promotion of health-seeking attitudes through public information campaigns;
Ensure case notification;
Ensure a continuous supply of condoms;
Education of key populations, professional sex workers, truck drivers, military men, and young people, including athletes and artists, both in and outside school. Counseling, Contact, Condoms, Compliance.

g) Adult management
The CHW will act in further expanding access coverage to ARV, within the framework of the decentralization of ART to health care services, and to ensure the effectiveness and sustainability of these outreach programmes at the operational level.
For this, it will involve working within the community in order to strengthen:
Retention in care;
ART compliance;
Human resources;
Service delivery models.

More specifically, the CHW will:
Ensure the continuation of ART at the Community level (excluding health facilities for example in extra-institutional sites, home care or community-based organizations) alternating with regular home visits in counseling services;
Establish links and refer patients to services specialized in continuous care for HIV and ART.

CONCLUSION
The community health worker/support group member is the centre of the whole process and serves as a link between the community and health services. He should ensure that each stakeholder (women, partners/spouses, families, leaders, health workers, NGOs, associations, support groups, etc.) can help to improve the management of PLWHIV/TB/VH/STI and contribute to a better coverage of the target in HIV prevention and management.
8.12 DECENTRALIZATION OF ACCESS TO ARV

The enrolment rate of new management units will be about 40-60 per year to cover all the health district hospitals within 3 to 4 years.

The prerequisites for a successful decentralization of access to ARVs are:

- Assess the current care capacity in health facilities concerned;
- Identify the need for human resources, material, equipment and procurement as well as the distribution system of drugs and the information system;
- Equip health facilities for management of PLWHIV;
- Produce/disseminate training modules and management materials;
- Train health staff and community workers on national management protocols;
- Set up teams of the different structures;
- Produce and disseminate data collection and monitoring and evaluation tools;
- Organize supervision and tutoring by referral centres;
- Document the process and results of the decentralization of the management with ARVs.

8.13 MOBILIZATION AND INVOLVEMENT OF ALL PARTNERS

A) ROLE OF THE DIFFERENT ACTORS INVOLVED IN MANAGEMENT

a) The role of psychosocial workers

It consists of:

- Clarifying the knowledge of PLWHIV on ARVs (explanations on side effects, toxicity, time constraints, cost, the notion of resistance);
- Prevent obstacles that can disrupt treatment;
- Identify obstacles and emerging needs of patients;
- Resolve problems related to the obstacles;
- Help the patient to make personal choices in terms of treatment compliance;
- Help in reintegration;
- Promote safer behavior;
- Promote a healthy lifestyle (avoidance of alcohol and tobacco);
- Refer to a health facility as much as possible.

b) Role of associations of PLWHIV and Community Relay Agents

They need to be more involved and their duties include:

- Visiting the patient at home;
- Explaining to patients how to take their ARVs and possibly other treatments (TB, malaria, etc ...);
- Encouraging the patient in case of weariness;
- Educating patients about potential side effects and opportunistic infections;
- Searching for lost to follow up patients who had abandoned their treatment;
c) The role of opinion leaders and communicators

Communication for behavior change and social mobilization are the best guarantors of socio-cultural acceptance and for reducing the exposure of the most vulnerable populations to STI/HIV/AIDS. The role of communicators and opinion leaders is to provide simplified information on prevention, ARVs, stigmatization, nutrition and compliance.

B) ROLE OF DEVELOPMENT PARTNERS

The support to the development of ARVs access goes through a sustained and coordinated mobilization of multilateral and bilateral partners as well as non-governmental organizations in the country.

Technical support, advocacy, resource allocation and strengthening the capacity of the health system as well as community-based organizations are the priority lines of action of this partnership in accordance with the national guidelines on HIV/AIDS response.

a) Conditions for the organization of a good counseling session

- A quiet and discreet environment;
- Have at least two chairs at the patient’s bedside;
- A good atmosphere that encourages confidentiality;
- Good furniture arrangement.

The counseling method is based on the so-called GATHER approach

G = Greet the person and put them at ease
A = Allow the patient to express themselves
T = Tell them about the problem/situation that brought them or /Risk assessment
H = Help them adopt an action plan
E = Explain how to live with their HIV status, manage the situation, and implement their action plan
R= Refer the patient to appropriate services (laboratory, pharmacy, specialist, support structure, etc.) and plan follow-up visits.
**Identification of actors and their roles**

<table>
<thead>
<tr>
<th>ACTOR</th>
<th>ROLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community</td>
<td>✓ Participates in the selection process of CHWs; ✓ Participates in monitoring and evaluation of CHWs; ✓ Mobilizes resources for the implementation of community-directed interventions; ✓ Convinces community members to join the process;</td>
</tr>
<tr>
<td>Community Health Worker (CHW)</td>
<td>✓ Implement the integrated activity package; ✓ Collect and transmit health information to the head of the health area of his locality; ✓ Participate in epidemiological surveillance of diseases; ✓ Serve as a communication channel between the community and health services; ✓ Report to the head of the community.</td>
</tr>
<tr>
<td>Support group members</td>
<td></td>
</tr>
<tr>
<td>Health Committee (HC)</td>
<td>✓ Sensitizes communities in the selection process of CHWs; ✓ Participates in the selection of CHWs ✓ Participates in the evaluation of CHWs ; ✓ Mobilizes resources for community-directed interventions; ✓ Convinces community members to join the process; ✓ Facilitates drug and inputs supply to the health center and CHWs;</td>
</tr>
<tr>
<td>District Health Committee (DHC)</td>
<td>✓ Sensitizes communities on the selection process of CHWs; ✓ Participates in the selection of CHWs ✓ Participates in the evaluation of CHWs; ✓ Mobilizes resources for community-directed interventions;</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interventions</strong></td>
<td><strong>Health Area Team (HAT)/District Core Team (DCT)</strong></td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>✓ Convinces community members to join the process;</td>
<td>✓ Ensures the establishment of the selection process of CHWs;</td>
</tr>
<tr>
<td>✓ Participates in improving the quality of health services in the HD;</td>
<td>✓ Coordinates community-directed interventions;</td>
</tr>
<tr>
<td>✓ Facilitates the procurement and management of drugs and inputs for health facilities in the Health District and for CHWs.</td>
<td>✓ Trains and supervises CHWs;</td>
</tr>
<tr>
<td></td>
<td>✓ Participates in the evaluation of CHWs;</td>
</tr>
<tr>
<td></td>
<td>✓ Programmes activities in the community in collaboration with CHWs;</td>
</tr>
<tr>
<td></td>
<td>✓ Summarizes and analyzes the activity reports of CHWs;</td>
</tr>
<tr>
<td></td>
<td>✓ Makes decisions to solve problems that hinder the smooth running of activities;</td>
</tr>
<tr>
<td></td>
<td>✓ Facilitates the supply of drugs and inputs to CHWs;</td>
</tr>
<tr>
<td></td>
<td>✓ Contributes to the motivation of CHWs;</td>
</tr>
<tr>
<td></td>
<td>✓ Documents community-directed interventions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Interventions</strong></th>
<th><strong>Regional Delegation for Public Health (RDPH)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Mobilizes resources for the implementation of health activities;</td>
<td>✓ Ensures the programming of integrated activities;</td>
</tr>
<tr>
<td>✓ Supervises and trains DCTs;</td>
<td>✓ Coordinates HD activities;</td>
</tr>
<tr>
<td>✓ Participates in the evaluation of HD activities;</td>
<td>✓ Facilitates the supply of drugs and medical supplies to health facilities;</td>
</tr>
<tr>
<td>✓ Ensures the programming of integrated activities;</td>
<td>✓ Transforms the health policy on community-based approaches into activities;</td>
</tr>
<tr>
<td>✓ Coordinates HD activities;</td>
<td>✓ Documents community-directed interventions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Interventions</strong></th>
<th><strong>Regional and local authorities (RLAs)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Ensure the administrative supervision of community-directed interventions;</td>
<td>✓ In charge of the establishment of a legal framework;</td>
</tr>
<tr>
<td>✓ Contribute in the motivation of CHWs;</td>
<td>✓ Coordinates community-directed interventions;</td>
</tr>
<tr>
<td>✓ Mobilize resources to implement community-directed interventions.</td>
<td>✓ Ensures advocacy with partners;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Interventions</strong></th>
<th><strong>MOH</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Provide technical, logistical and financial support.</td>
<td>✓ In charge of the establishment of a legal framework;</td>
</tr>
<tr>
<td>✓ Provide technical and/or financial support.</td>
<td>✓ Coordinates community-directed interventions;</td>
</tr>
<tr>
<td></td>
<td>✓ Ensures advocacy with partners;</td>
</tr>
<tr>
<td></td>
<td>✓ Develops the basic training module on EFPs for CHWs.</td>
</tr>
</tbody>
</table>

**Related sectors**  

**Partners**
List of tools for community-based activities and completion level

<table>
<thead>
<tr>
<th>THE MEANING OF BEING ADHERENT</th>
<th>THE MEANING OF BEING NON-ADHERENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respecting doses prescribed by the doctor. Not taking more or less medication than prescribed</td>
<td>Taking more or less medication than that prescribed by the doctor.</td>
</tr>
<tr>
<td>Respecting the prescribed form of the medication, e.g. tablets or syrup</td>
<td>Opening the capsules and mixing the contents with food or drink.</td>
</tr>
<tr>
<td>Observing the number of drugs taken daily.</td>
<td>Decreasing or increasing the number of drugs.</td>
</tr>
<tr>
<td>Respecting the timing and intervals between doses of the prescribed medication.</td>
<td>Changing the timing and intervals between doses of prescribed medication.</td>
</tr>
<tr>
<td>Observing diet, fasting and drinking tips</td>
<td>Eating immediately or when taking drugs if the medication should be taken on an empty stomach</td>
</tr>
<tr>
<td>Do not take other drugs that were not prescribed by the doctor without telling him.</td>
<td>Taking other drugs that were not prescribed by the doctor without telling him.</td>
</tr>
<tr>
<td>Do not take substances that may influence the treatment efficiency.</td>
<td>Taking substances that may influence the treatment efficiency (alcohol, drugs)</td>
</tr>
</tbody>
</table>

8.14 HOME VISIT CHECK LIST

8.14.1 Definition

HV is a visit made to a person or family in order to:

- Give advice
- Give information on a specific topic
- Find a solution to a problem.

8.14.2 Steps for making a home visit

<table>
<thead>
<tr>
<th>1) What should be done first:</th>
<th>Yes</th>
<th>No</th>
<th>Poorly done</th>
<th>Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Identify the family</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>✓ Identify the problem</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>✓ Set the purpose of the visit (what I specifically want to do in the family)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>✓ Develop the approach strategy (what I should do to achieve the target)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>✓ Review knowledge on the objectives of the visit</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>✓ Prepare the materials that would be</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
1. Gather all the materials needed for the educational talk during the visit.

2. Notify the family of the day of the visit (negotiate an appointment).

<table>
<thead>
<tr>
<th>2. What should be done during the visit:</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Go to the family and introduce yourself according to the traditions and customs of the area</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Exchange usual greetings</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Introduce yourself if you are not yet known in the family</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Establish trust with family members</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>State the reasons for the visit</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Allow the family to explain their worries/concerns</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Reassure the family of the confidentiality of the interview</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Explain the contents in relation to the worries/concerns of the family and complete/give correct and clear information on the subject concerned</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>During the discussion with the family, ask clear and precise questions to know the views of the family and provide them with necessary information to achieve the set goals</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Through information and concrete examples, help the family to adopt solutions to problems</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Throughout the visit, the visitor (facilitator) should show their availability, attentiveness, courteousness, respectfulness, patience, etc. (apply all the qualities of a good facilitator)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Make partial summaries.</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

At the end of the interview:

- Make a general summary of the meeting while highlighting the important conclusions that the family must retain from the discussion.
Thank the family for their availability and take another appointment if necessary.

### 3. After the visit:

- **Arrange the materials and ask for directions**
- **Complete the technical animation sheet and review its work plan as required**

### 8.14.3 Evaluation of the educational talk session:

This step consists in assessing the session in relation to skills implemented by the facilitator. To do this, the following self-assessment sheet can be used:

<table>
<thead>
<tr>
<th>During the educational talk session, the facilitator should:</th>
<th>-</th>
<th>Grading</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduce the session</td>
<td></td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>2. Make the participants to be comfortable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Explain the objectives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Ask questions requiring participation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Use listening skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Involve group members</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Facilitate communication within the group</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8. Ensure transition between the points developed during the session</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>9. Use educational materials</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Give appropriate information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Summarize</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Manage time</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 8.15 MONTHLY ACTIVITY SHEET FOR PRE-TEST COUNSELING

Name of CHW/Support Group member: _____________________ Telephone number: _____________________________

Health Facility: _______________________________ Association: _____________________________

<table>
<thead>
<tr>
<th>NUMBER OF PERSONS COUNSELED</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
</tr>
<tr>
<td></td>
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<tr>
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<tr>
<td></td>
</tr>
</tbody>
</table>

### 8.16 MONTHLY ACTIVITY SHEET FOR POST-TEST COUNSELING

Name of CHW/ Support Group member: ______________________________ Telephone number: ______________________

Health Facility: _________________________________ Association: _____________________________

<table>
<thead>
<tr>
<th>NUMBER OF COUNSELED PERSONS WHO COLLECTED THEIR RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
</tr>
</tbody>
</table>
### 8.17 ACTIVITY SHEET FOR EDUCATIONAL TALK (ET)

**Name of CHW/Support Group member:** ____________________________  **Telephone number:** ____________________________

**Health Facility:** ____________________________  **Association:** ____________________________

**ET No.** : ________  **Date:** ____________________________

<table>
<thead>
<tr>
<th>Themes discussed</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Domain (Tick)</th>
<th>Prevention (IEC/CBC)</th>
<th>Assistance to compliance</th>
<th>Nutrition</th>
<th>__ other (specify) :</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NUMBER OF PERSONS AFFECTED**

<table>
<thead>
<tr>
<th>TOTAL</th>
<th>PLWHIV</th>
<th>Non PLWHIV</th>
<th>Men</th>
<th>Women</th>
<th>Children (&lt;15 yrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≥ 15 ≥ 24 yrs</td>
<td>&gt; 24 yrs</td>
<td>≥ 15 ≥ 24 yrs</td>
<td>&gt; 24 yrs</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Number of educational materials distributed (number of leaflets)**

<table>
<thead>
<tr>
<th>Prevention</th>
<th>Assistance to compliance</th>
<th>Nutrition</th>
<th>__ other (specify) :</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The major issues discussed by participants

1

2

3

Information to prepare for the next talk with the same group if applicable

1

2

3

Other points of interest raised by participants

1

2

National Guidelines on Prevention and the management of HIV in Cameroon

Signature of Head of Health Facility

Signature of the CHW/ Support group member

Date
8.18 ACTIVITY SHEET FOR THE SEARCH OF THE LOST TO FOLLOW-UP (LTF)

Name of CHW/ Support Group member: ______________________________ Telephone number: __________________

Health facility: ______________________________ Association: ______________________________

Code of the beneficiary: ______________________________

(One sheet per PLWHIV followed-up)

Information on the beneficiary: sex _____ age _____ telephone number: ____________ neighbourhood: __________

Date of last missed appointment by the patient: __________

Number of missed appointments: ______________________

FIRST CONTACT

Date: ______________________________

Appointment was fixed through __ a phone call to the patient
__ a phone call to a relative (specify)
(Tick) __ during a visit to the community

IF THE PATIENT IS LOCATED DURING A COMMUNITY VISIT

General situation of the family:

Easily accessible neighbourhood or not: __________ squatter settlements/permanent dwellings (describe):

Existence of a source of revenue in the family: __________ (Regular, irregular, none, + or - 10 000 per month)

Other relevant information: _________________________________________________________________

Take note of any additional information, then enter in the log book. Always use the patient’s code in written documents.

NB: Everything you write should be read by the person visited, write down only what they tell you in their own words. Let them clearly explain what you misunderstand, do not interpret; rephrase what the person said to be sure you have understood.

CONCLUSIONS OF THE FIRST CONTACT

___ The patient has forgotten his appointment; a new appointment is scheduled (to be followed up)
    Specify date of the new appointment: ________________

___ The patient does not want to come for his appointment (to be followed up)
    Specify reasons if possible: __________________________________________________________________

___ The patient is followed up in another health facility
    Specify: __________________________________________________________________

___ The patient is unreachable
    Tick the reason: ___ death (date if available: ________________) ___ invalid address / telephone

RECOMMENDED ACTIONS FOLLOWING THE FIRST CONTACT (TICK OPTION)

___ Check if the patient respects their next appointment and ensure follow-up (routine HV, follow-up counseling etc.)

___ Schedule a follow-up visit if the patient refuses to respect their appointment

___ Update the logbook if the patient is transferred to another health facility (remove from the active file)

___ Update the logbook in case the patient dies (remove from the active file)
FOLLOW UP VISIT

No. : ___________ Date: _________________________________

ACTIVITIES CARRIED OUT BY CHW/ SUPPORT GROUP MEMBER DURING FOLLOW-UP VISIT:

___ IEC / CBC
Main themes discussed (tick): ____ prevention; ____ positive prevention; ____ positive life

____ Other (specify): _____________________________________________________________
Main themes discussed by the patient (tick): ____ support to adherence; ____ nutrition; ____ stigma;
____ other (specify): ____________________________ basic home treatment

Intervention of CHW/ Support Group member (describe): ____________________________ Referral/counter referral

Details of the referral (describe): _________________________________________________

Findings: ___ patient ready to be reintegrated into the management channel __ another follow-up visit programmed (date: ___________

___ Conclusion (information to be forwarded to the Head of the Health Facility)

Other important information: ____________________________________________________

Beneficiary: ________________________________________________________________

No. ________ Date: _________________________________

ACTIVITIES CARRIED OUT DURING THE FOLLOW-UP VISIT:

___ IEC / CBC
Main themes discussed (tick): ____ prevention; ____ positive prevention; ____ positive life

____ Other (specify): _____________________________________________________________
Main themes discussed by the patient (tick): ____ support to adherence; ____ nutrition; ____ stigma; ____ other (specify):

____ Basic home treatment Intervention of CHW (describe): ________________________________

____ Referral / counter referral Details of the referral (describe): ________________________________

Findings: ___ patient ready to be reintegrated into the management channel __ another follow-up visit programmed (date: ___________

___ Conclusion (information to be forwarded to the Head of the Health Facility)

Other important information: ____________________________________________________

Signature of beneficiary: ______________________________________________________
### 8.19 Monthly Activity Sheet for Follow-Up Counseling

Name of CHW / Support Group member: __________________________ Telephone number: ______________
Health facility: __________________________ Association: __________________________

<table>
<thead>
<tr>
<th>Number of persons counseled</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DATE</strong></td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
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<tr>
<td></td>
</tr>
</tbody>
</table>

### 8.20 Activity Sheet for Routine Home Visit (HV)

Name of CHW / Support Group member: __________________________ Telephone number: ______________
Health facility: __________________________ Association: __________________________

Code of beneficiary: __________________________
(One sheet per PLWHIV monitored at home)

**FIRST VISIT (FIRST CONTACT)**

The contact was made
- by the patient
- by a close relation
- following referral (tick)

Information on the beneficiary:
- sex
- age
- marital status

Does the visited person inform / wish to inform his close relations
- yes
- no
- some

Specify (person already informed or who will be informed)

<table>
<thead>
<tr>
<th>number of persons</th>
<th>In the household</th>
<th>Present during the visit</th>
<th>Affected persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults (25 yrs +)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Youths (15-24 yrs)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children (&lt; 15 yrs)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
General situation of the family:
Easily accessible neighbourhood or not: ___________________

Existence of a source of revenue in the family: __________________________
(Regular, irregular, none, + or - 10 000 per month)

Other relevant information: __________________________

Take note of any additional information, then enter in the logbook. Always use the patient’s code in written documents.

NB: Everything you write should be read by the person visited, write down only what they told you in their own words. Let them clearly explain what you misunderstand, do not interpret; rephrase what the person said to be sure you have understood.

Is the person on ARV (yes or no): ________
On cotrimoxazole (yes or no): _____________________
Since when: ______________________________

ACTIVITIES CARRIED OUT BY THE CHW DURING HV:
___ IEC / CBC
Main themes discussed (tick): ____ prevention; ___ positive prevention; ___ positive life
____ Other (specify): ____________________________
Advice
Main themes discussed by the patient (tick): ____ support to compliance; ___ nutrition; ___ stigma;
____ Other (specify): ____________________________
Intervention of CHW/ Support Group member (describe): ____________________________
Referral / counter referral

To be drawn by the CHW/ Support Group member for the next visit/other activities to be carried out

__________________________

Signature of the beneficiary: ____________________________
HV No.: ___________ Date: ____________________________

General Condition of the beneficiary (describe): _____________________________________________________________________

ACTIVITIES CARRIED OUT BY THE CHW DURING HV:
___ IEC / CBC
Main themes discussed (tick): ____ prevention; ___ positive prevention; ___ positive life
____ Other (specify): ____________________________
Advice
Main themes discussed by the patient (tick): ____ support to adherence; ___ nutrition; ___ stigma;
____ Other (specify): ____________________________
Intervention of CHW/ Support Group member (describe): ____________________________
Referral / counter referral

To be drawn by the CHW/ Support Group member for the next visit / other activities to be carried out

__________________________

Signature of the beneficiary: ____________________________
HV No.: ___________ Date: ____________________________

General condition of the beneficiary (describe): _____________________________________________________________________

ACTIVITIES CARRIED OUT BY THE CHW DURING HV:
___ IEC / CBC
Main themes discussed (tick): ____ prevention; ___ positive prevention; ___ positive life
____ Other (specify): ____________________________
Advice
Main themes discussed by the patient (tick): ____ support to adherence; ___ nutrition; ___ stigma;
____ Other (specify): ____________________________
Intervention of CHW/ Support Group member (describe): ____________________________
Referral / counter referral

To be drawn by the CHW/ Support Group member for the next visit / other activities to be carried out

__________________________

Signature of the beneficiary: ____________________________
HV No.: ___________ Date: ____________________________

General condition of the beneficiary (describe): _____________________________________________________________________
## 8.21 SUMMARY SHEET OF MONTHLY ACTIVITIES FOR COMMUNITY HEALTH WORKERS (CHW)

(Summary of data from the full records of activities (educational talks, counseling sessions, routine HV, LTF, HV, etc.) carried out by the CHW during the period in question)

<table>
<thead>
<tr>
<th>Organization:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project code:</td>
<td>Month:</td>
</tr>
<tr>
<td></td>
<td>year</td>
</tr>
<tr>
<td>Name and phone No. of CHW / Support Group member</td>
<td>Telephone No. of official in charge of follow-up activities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of activity carried out</th>
<th>Expected number of activities</th>
<th>Numbers of activities carried out</th>
<th>%</th>
<th>Number of beneficiaries reached</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>men</td>
<td>women</td>
<td>children (&lt;15 years)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 15 yrs ≤ 24 yrs</td>
<td>&gt; 24 yrs</td>
<td>≥ 15 yrs ≤ 24 yrs</td>
</tr>
<tr>
<td>IEC/CBC Prevention sessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutritional counseling sessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Therapeutic educational sessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational talk</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telephone contact with LTF PLWHIV</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>HV active search for the lost to follow-up PLWHIV</td>
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<tr>
<td>Routine HV</td>
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<td></td>
</tr>
<tr>
<td>Referral and counter referral</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-test counseling sessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Post-test counseling sessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>men</td>
<td>women</td>
<td>children (&lt;15 yrs)</td>
<td>Pos</td>
</tr>
<tr>
<td></td>
<td>≥ 15 yrs ≤ 24 yrs</td>
<td>&gt; 24 yrs</td>
<td>≥ 15 yrs ≤ 24 yrs</td>
<td>&gt; 24 yrs</td>
</tr>
<tr>
<td></td>
<td>Pos</td>
<td>Neg</td>
<td>Pos</td>
<td>Neg</td>
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<tr>
<td>other observation (specify):</td>
<td></td>
<td></td>
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</tbody>
</table>

Prepared by: ____________________________  Validated by: ____________________________

Community Health Worker/ Support Group member  Official in charge

Signature ____________________________  Signature ____________________________

Date ____________________________  Date ____________________________

National Guidelines on Prevention and the management of HIV in Cameroon
8.22 INTEGRATED MANAGEMENT AND SUPPORT

Initial phase
Consolidation phase
Knowledge assessment phase
Action plan for follow-up and support in the implementation

- PICT assumes that HIV testing should be part of routine laboratory workup. In PICT, the pre-test stage is minimized to the least to receive the patient, provide them with key information, explain the meaning of HIV serology test, explain the benefits of knowing their status, obtain their consent and take blood samples for HIV screening;

- Not taking the test: The client has the possibility here to either refuse or accept taking the test. The approach concerning the decision not to take the test focuses on the fact that HIV screening is a systematic step of care. However, the client has the right to refuse the test. The person in charge should identify the problem and help them overcome the fears that are preventing them from doing the test;

- Counseling is a confidential dialogue based on an assistance relationship between a client and a trained person called a "counselor". This component is an essential part of care and is necessary for good patient management. It is important that the latter knows and accepts their status to enable them benefit comprehensive care for themselves and HIV infection prevention measures for babies of pregnant women;

- Management of HIV-positive people is not just medical care. In addition, within the framework of comprehensive care, it has other aspects: psychological management; patient education; nutritional management; socio-economic.

The organization of support for PLWHIV should be adapted to their unmet needs: home visit (HV) involves going to the person’s home to:
- Give advice;
- Provide information on a specific topic;
- Find a solution to a problem.

Hospital visit consists of going to a health centre to support hospitalized patients. It is organized at the request of the patient, sometimes through medical personnel.

**Ability to work in a team:** requires network management, an awareness of indispensable physical, emotional and psychological commitment, *clarity and precision, confidence, capacity building, neutrality and tolerance.*

1) **Conditions and goals of psychological counseling**

Respect the views and beliefs of the person, clarify paraphrased speech, correlate, challenge, identify, motivate, prioritize, establish action plans and support in the implementation, summarize.

Respect for confidentiality, empathy, self-control, knowledge of one’s limitations.

Foster good communication.

Encourage them to express their feelings.
2) The fundamental rights of PLWHIV

The protection and promotion of the rights of PLWHIV are essential: to protect their dignity.

Every person living with HIV has the same rights as everyone else:
- Right to life, health, physical integrity; they should be able to benefit from scientific progress;
- Right to respect, to information, privacy, freedom of association and assembly;
- To non-discrimination, freedom to travel and move;
- Rights to education, to work, to inheritance;
- Marriage and procreation.

3) Therapeutic Education

The aims of Therapeutic education are:
- Understanding one’s disease and its treatment;
- Actively manage the disease, care and prevention of transmission, in cooperation with caregivers;
- Improve treatment compliance;
- Live as healthily as possible;
- Maintain or improve quality of life.

4) The main activities of PTE

- Educational diagnosis: identify the patient's skills, establish a link with them as well as a programme responding to almost all their needs;
- Organization of care, PTE;
- Involvement of the healthcare team in the comprehensive management and care plan;
- A written document for educational follow-up and tracing of activities; establishing a caregiver/patient partnership; a definition of the contents of the therapeutic education programme within a referential guide. PTE can take place in all the circumstances of a meeting.

Nutritional education

- The main side effects of antiretroviral drugs used today are nausea, vomiting, lack of appetite and diarrhea;
- In addition to drugs used against opportunistic infections their side effects significantly influence the patient’s nutrition;
- In the case of HIV infection, nutritional education consists of ensuring that the patient has a normal weight and takes a proper diet covering their nutritional needs during the different stages of the infection, in order to maintain their physical strength so as to preserve their independence for their daily activities, and reduce or even prevent their hospitalization;
- Pregnant women and children are vulnerable to malnutrition and this can worsen the health of the mother and child, impair the immune system and the developing fetus. The main causes of malnutrition are, apart from financial difficulties, lack of appetite, digestive disorders, diseases that impede food intake (oral candidiasis and/or esophageal), psychological difficulties;
Most ARVs may cause long-term diabetes or lipid disorders with cardiovascular risk. If the mother is HIV+, dietary management is fundamental to keep mother and child healthy.

- Recommend a varied, balanced diet, limiting fatty meats (beef) and favouring white meats and especially fish when possible, in sufficient quantity. It should be based on local eating habits and include to the maximum local ingredients that are generally affordable;
- Regularly repeat the simple rule "eat less sweets, less fats and less salt";
- Learn about the composition of meals to verify balanced diet and, if necessary, adapt the diet based on local resources.

Always recommend dietary supplement rules:
- The practice of regular physical activity; it has in fact been proven that it improves health and decreases cardiovascular risk;
- The consumption of at least 1.5 liters of water every day.

For an adapted supply of protein, there are cheap combinations of plant foods with high biological quality (red bean stew with groundnut sauce and corn seeds) as well as soybeans, which in addition to flavonoids is rich in unsaturated fatty acids. It is recommended to eat fish rich in fatty acids Omega-3 and Omega-6 such as herring, mackerel or tuna because these fatty acids play an important role in strengthening the immune system, as well as crayfish which contains selenium.

**Socio-economic support.**

The main economic assistance:
- Refer the person to structures that meet their needs for them to be autonomous (they should master the map of structures that provide the assistance which they need);
- Vocational rehabilitation, food aid, tutoring, access to care;
- Housing assistance, legal assistance (e.g. theft of land or property because of the weakness of the person living with HIV);
- Participation in Income Generating Activities (IGA), grant award or microcredit, etc.

Financial or material support has a limit, especially as it may make the person dependent on assistance. This support should help address the most urgent situations and give back to the person the strength and means to generate their own resources/income.

**Other assistance**

- Legal;
- Spiritual.

5) **Situations of PLWHIV requiring specific support**

- HIV-positive women;
- Prisoners;
- Men having sex with men (MSM);
- Serodiscordant couples;
- End-of-life;
- Prostitution (sex workers);
- Internally displaced refugees, OVCs, lost to follow-up.
## 8.23 DOMAINS OF INTERVENTION

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>Service providers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IHC</td>
</tr>
<tr>
<td>Awareness, IEC and counseling</td>
<td>x</td>
</tr>
<tr>
<td>Screening and counseling</td>
<td>x</td>
</tr>
<tr>
<td>Prevention (interventions)</td>
<td>x</td>
</tr>
<tr>
<td>Management of infected patients</td>
<td>x</td>
</tr>
<tr>
<td>Recording and taking parameters</td>
<td>X</td>
</tr>
<tr>
<td>Evaluating the clinical condition</td>
<td>X</td>
</tr>
<tr>
<td>WHO classification</td>
<td></td>
</tr>
<tr>
<td>Support to treatment compliance</td>
<td>x</td>
</tr>
<tr>
<td>Provide Cotrimoxazole treatment</td>
<td>x</td>
</tr>
<tr>
<td>Fill the logbook for the lost to follow-up</td>
<td>X</td>
</tr>
<tr>
<td>Provide psychosocial support</td>
<td>x</td>
</tr>
<tr>
<td>Provide information on the medical record</td>
<td>x</td>
</tr>
<tr>
<td>Management of watery diarrhea</td>
<td>x</td>
</tr>
<tr>
<td>Management of fever and uncomplicated malaria</td>
<td>x</td>
</tr>
<tr>
<td>Identify suspicious signs of TB (cough regardless of the duration, fever, weight loss, night sweats) and encourage to consult</td>
<td>x</td>
</tr>
<tr>
<td>Monitor response to TB treatment</td>
<td>x</td>
</tr>
<tr>
<td>Provide TB/ARV DOTS</td>
<td>x</td>
</tr>
<tr>
<td>Administer ARVs and other drugs</td>
<td>x</td>
</tr>
<tr>
<td>Prepare the patient and/or parent to treatment</td>
<td>x</td>
</tr>
<tr>
<td>Provide patient and/or parent therapeutic education</td>
<td>x</td>
</tr>
<tr>
<td>Take anthropometric measurements</td>
<td>x</td>
</tr>
<tr>
<td>Recognize the side effects of ARVs and OI drugs</td>
<td>x</td>
</tr>
<tr>
<td>Help in monitoring compliance and management of side effects</td>
<td>x</td>
</tr>
<tr>
<td>Ensure the continuation of the dispensation of ART at the Community level while alternating with regular home visits between regular clinical visits and other drugs</td>
<td>x</td>
</tr>
<tr>
<td>Assist in monitoring</td>
<td>x</td>
</tr>
<tr>
<td>Assist in treatment compliance</td>
<td>x</td>
</tr>
<tr>
<td>Evaluate pain</td>
<td></td>
</tr>
<tr>
<td>Search obstacles to compliance/adherence</td>
<td>x</td>
</tr>
<tr>
<td>Adjust the dose according to the weight</td>
<td>x</td>
</tr>
<tr>
<td>Search for LTF</td>
<td>x</td>
</tr>
<tr>
<td>Provide psychosocial support</td>
<td>x</td>
</tr>
<tr>
<td>Manage hygiene and nutrition in HIV+ patients</td>
<td>x</td>
</tr>
<tr>
<td>Management of pregnant HIV+ women and exposed children</td>
<td>x</td>
</tr>
<tr>
<td>Support in monitoring, compliance and management of side effects</td>
<td>x</td>
</tr>
<tr>
<td>Support in the adherence of ARV prophylaxis for neonates</td>
<td>x</td>
</tr>
<tr>
<td>Provide a plan for monitoring newborns including Cotrimoxazole</td>
<td>x</td>
</tr>
<tr>
<td>Ensure the follow-up of the HIV-negative exposed child on breastfeeding</td>
<td>x</td>
</tr>
<tr>
<td>Provide counseling on early diagnosis (time of testing)</td>
<td>x</td>
</tr>
<tr>
<td>Counsel the mother on child’s feeding</td>
<td>x</td>
</tr>
<tr>
<td>Psychosocial and end-of-life support</td>
<td>x</td>
</tr>
</tbody>
</table>
PART C: PROGRAMMATIC ASPECTS
SECTION 9: PLANNING FRAMEWORK
INTRODUCTION

9. JUSTIFICATION FOR THE CONSOLIDATION OF THE GUIDELINES

9.1 ETHICAL ASPECTS

9.2 METHODS USED IN DEVELOPING THESE NEW CONSOLIDATED GUIDELINES

9.3 TARGET POPULATION
INTRODUCTION

The development and implementation of consolidated guidelines taking into account the use of ARVs for the treatment and prevention of HIV infection based on care continuum complemented by other strategies is a complex process. The new recommendations of the guidelines support national policies, while orientating the coordination and effective implementation of the support programme. Efforts in programming can save time, money and ensure resource targeting, while enabling the final product to be well accepted and the effects and the desired impact are achieved.

Goal

The purpose of this guide is to contribute to improving management quality. This will enable all persons who meet the criteria to receive ART according to adopted national standards while ensuring good care continuum.

Objectives

- Provide recommendations on infection prevention strategies of HIV and STIs to all stakeholders involved in the management
- Present national guidelines for patients to be put on ART including care continuum of HIV infection;
- Provide guidance on key operational issues to improve access to management services;
- Present integration strategies for inputs management at all levels of the supply chain;
- Present data circuit and quality control system;
- Provide clinical and operational recommendations following the order of priorities;
- Orientate the monitoring and evaluation of guidelines implementation and the expected results at different levels.

9- JUSTIFICATION FOR THE CONSOLIDATION OF THE GUIDELINES

The consolidation of the guidelines comprises several advantages which are described below:

- Harmonization of guidelines on the use of ARVs (prevention, screening, care and treatment)

This section also addresses other important aspects of care related to HIV infection (co-infection, co-morbidity, management of STIs, etc.).

- Use of ARVs for all age groups and in all populations.

This document consolidates the guidelines on the use of ART to harmonize as much as possible ARV regimens and treatment methods in all age groups of the population.

- Consistency of the methods used and links between the different structures.

This consolidated document facilitates links and consistency of methods used in different structures which supply ARVs and related services, including specialized care for HIV infection, primary health care, community-based care, maternal and child health services, support services for tuberculosis and addiction centres.
Evaluation of the Implementation.
Firstly, these guidelines will enable appraisal every two years, new scientific data and the different practices regarding the use of ARVs. Secondly, they will determine their main clinical, operational and programmatic implications for the different age groups and situations to evaluate the achievement of set objectives.

9.1 ETHICAL ASPECTS
The revision of the guidelines and national treatment policies must take into account the respect of human rights in terms of health and ethical principles to ensure that these policies are fair and meet the specific needs of all beneficiaries.

Planning Process
- Planning and development of the guidelines in a participative manner by incorporating all actors for good decision-making;
- Human and financial resources;
- Roles and responsibilities of each actor in the health system.

9.2 METHODS USED TO DEVELOP THESE NEW CONSOLIDATED GUIDELINES
These new recommendations were developed in accordance with procedures established by the Working Committee.

The stages of the development of the new guidelines are:
- Workshop for information;
- Workshop for the launching;
- Development of draft 0 by the group of experts;
- Development of Draft 1 of the pocket guide, finalization of consolidated guidelines, circulars, prefaces, etc.
- Proofreading;
- Translation;
- Validation;
- Production of documents;
- Information and dissemination at the central level;
- Information and dissemination at the regional level;
- Information and dissemination at the district level;
- Training of service providers;
- Implementation;
- Monitoring and evaluation.

a) Sources of information
The sources of information listed below were used in the development of the new guidelines:
- Existing recommendations of former guidelines (basic documents);
- The 2013 WHO guidelines;
- Programmatic data;
- The country framework documents (PSN, monitoring and evaluation plan, etc.).
b) External Participation

- The process was supported by five external and distinct groups which developed the guidelines theme by theme (adults; maternal and child health, operational aspects and service delivery; programmatic aspects) with a total of 30 people and an external review group of peers consisting of more than 15 people;
- The list of members of these groups is in the end of this document. The composition of the groups was in line with procedures for developing the WHO guidelines (1). The group included experts in HIV infection, researchers, programme administrators, specialists in the methodology used for developing guidelines, epidemiologists, experts in human rights, development agencies, members of community groups, UN partners, representatives of the civil society and representatives of networks of PLWHIV. Adequate representation by region and gender was also taken into account when selecting members;
- All these members were selected by service memo taking into account their expertise in each separate domain;
- Other experts who did not participate in the development of the document did the proofreading.

c) Evaluation

Evaluation was based on the Tanahashi model in order to assess the key points that would enable us to analyze our results:

**Management of inputs**

We will be contented to see if there is an operational plan for quantification and procedures in the management of inputs.

- Supply;
- Transport;
- Storage;
- Distribution;
- Statement of the monthly stock.

**Human Resources**

The HR development plan shows the training needs of personnel in the comprehensive management of HIV / STI / AIDS

- Accessibility;
- Use of services;
- Continuum of service.

d) Distribution by health facility of the services that will be offered and officials in charge of the activities (task shifting)

The challenges are based on several points that are described below

- Prevention of HIV infection;
- HIV screening;
- Conditions to be put on ART;
- Biological follow-up;
Follow-up and long-term support of people on ART;
Care continuum;
Integration of services/programme and the implementation of task shifting and innovative methods (not taking into account the sustainability and effectiveness of AIDS control programmes);
Treatment compliance;
Transportation of samples;
Appropriation by the communities of the comprehensive management of HIV;
HIV Surveillance (Early Warning indicators (EWI), toxicity, resistance);
Quality control of field tests (LOGBOOK);
EWI;
The provision of adequate and efficient human resources;
Management of inputs;
Functioning health information system (circuit and role/responsibility of the actors at all level/mapping) and include the organic aspect of the circuit and establish an algorithm;
Establishment of an operational, programmatic and ethical plan for managers; the development of policies and those responsible for implementation;
Establishment of a document for the work group on the management of ART.

9.3 TARGET POPULATION

This document is primarily intended for:
Managers of the national AIDS control programme;
National advisory groups on the treatment and prevention of HIV infection;
National officials of tuberculosis control programmes;
Heads of maternal, newborn and child health programmes (MNCH) and other health programmes (cancer, reproductive health, etc ...);
Clinicians and other health care providers;
Heads of national laboratory services;
People living with HIV and community-based organizations;
Development partners that provide financial and technical support to AIDS control programmes in the country.
SECTION 10: IMPLEMENTATION FRAMEWORK
National treatment guidelines should take into account the respect for human rights in terms of health and ethical principles to ensure that these policies are equitable and meet the specific needs of all beneficiaries. At least one copy of the Guidelines should be available in each care unit and accessible to every actor involved in management. Each of the structures in charge of supervising or training providers will also have one.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Structure in charge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t3</td>
<td>t4</td>
<td>t1</td>
<td>t2</td>
<td>t3</td>
</tr>
<tr>
<td>Production of the new guidelines and algorithms</td>
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<tr>
<td>Development of the circular on the implementation of the new guidelines</td>
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<tr>
<td>Information and awareness workshop for officials of the central and regional levels on integrated management of HIV in compliance with the new guidelines</td>
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<tr>
<td>Training workshop on the awareness and appropriation of providers on integrated management of HIV under the new guidelines</td>
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<tr>
<td>Post-training follow-up</td>
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<tr>
<td>Conducting impact studies (treatment survivals, incidence, MTCT rate, etc.)</td>
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<tr>
<td>Establishing an EWI surveillance system</td>
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<tr>
<td>Supervision of the quality of care and data</td>
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<tr>
<td>Retraining providers</td>
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</table>
SECTION 11: SURVEILLANCE, MONITORING AND EVALUATION
SURVEILLANCE (SUPERVISION)

These Guidelines aim at guiding the supervision team whose role is to promote better quality care in management units as well as the administrative level of this healthcare. The improvement of these services requires periodic visits or close support of the providers at different levels. These visits can only be made according to the following minimum standards:

a) The supervisor should have a higher technical competence in management than the person supervised
b) The supervisor should conduct a review of the list of performance indicators
   The supervisor should ensure that there are technical performance indicators for the site; if these indicators do not exist, establish them during the first supervision.

c) Evaluation of the performance level
   The supervisor should ensure the evolution of the indicators based on the last supervision. They should have enough time to observe the implementation of supervised staff activities.

d) Review of the management of collection tools
   The supervisor should ensure the proper use of registers and records, the proper completion of records, sheets, reports and posters, as well as the use of data for planning and monitoring of projects.

e) Review of the data collection and reporting
   A functional data collection system is essential for effective service management. The supervisor plays a key role in ensuring compliance between physical data and reports for a reliable and effective information system.

f) Review of the Management and use of data
   Identifying problems related to the management of databases is an important element of the supervisory visit. The supervisor should ensure the use of data for the planning of management services and performance monitoring.

g) Review of the competence of service providers
   The rigorous application of the management principles of technical standards and procedures should be respected. The supervisor should ensure compliance by providers of recommended principles and techniques, strengthening of good practice and ensure adherence to these standards. The supervisor should ensure the training and retraining of providers. He should organize brief orientation sessions during each visit adapted to the specific needs of the supervised staff.

h) Problem solving
   Problem solving is the core of supervision. Together with the staff the supervisor should search for solutions to identified problems. Some can be solved at the site and others brought to the attention of the next level. A note should be made of problems whose
solutions are at a higher level and action should be taken for monitoring. The quality of supervision is mainly judged by its ability to solve short and mid-term problems based on the nature of the problems identified.

i) Other
Practitioners often have personal problems that need to be addressed. The supervisor should be available to listen with sympathy, support and assist them according to their ability.

11.1 Monitoring and evaluation
Monitoring and evaluation of management are aligned to the national framework of monitoring and evaluation of the NSP (National Strategic Plan) 2014-2017. The data will follow the diagram below:

The expected impact of management guidelines is to improve the quality of management to enable all persons who meet the criteria to receive ART according to national standards adopted while ensuring good care continuum. Quality indicators of the management will be monitored at different levels.
Defining an indicator index
To be completed by clinicians, defining the weight of parameters on the quality and the specific and general thresholds of quality indices.

**Flexibility (Weight)**
*Service not available = 0*
*Service partly available = 1*
*Service available = 2*

<table>
<thead>
<tr>
<th>No.</th>
<th>Parameter</th>
<th>Domain</th>
<th>Weight</th>
<th>Index</th>
</tr>
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<tbody>
<tr>
<td>01</td>
<td>Screening</td>
<td>Availability of Test</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Staff trained</td>
<td></td>
<td></td>
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<tr>
<td>02</td>
<td>ARVs</td>
<td>Availability of adult protocols</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Availability of children protocols</td>
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<td></td>
<td></td>
<td>Dispensation service</td>
<td></td>
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<td></td>
<td></td>
<td>Availability of primary data collection tools</td>
<td></td>
<td></td>
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<tr>
<td>03</td>
<td>Therapeutic follow up</td>
<td>Availability of biological check</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Availability of follow up tools</td>
<td></td>
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<td></td>
<td></td>
<td>Staff trained</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Availability of primary data collection tools</td>
<td></td>
<td></td>
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<tr>
<td>04</td>
<td>Community monitoring</td>
<td>Staff trained (ASOC, CHW)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Normative documents</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Availability of CHW kits</td>
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<td></td>
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<td>Existence of a work plan</td>
<td></td>
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<tr>
<td>05</td>
<td>PMTCT</td>
<td>Staff trained</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Normative documents</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Availability of inputs</td>
<td></td>
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<td></td>
<td></td>
<td>Link between services</td>
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<tr>
<td></td>
<td></td>
<td>Availability of primary data collection tools</td>
<td></td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>Pediatric management</td>
<td>Staff trained</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Normative documents</td>
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<tr>
<td></td>
<td></td>
<td>Availability of inputs</td>
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<td></td>
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<td>Link between services</td>
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<tr>
<td></td>
<td></td>
<td>Availability of primary data collection tools</td>
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<tr>
<td>07</td>
<td>Management of adolescents</td>
<td>Staff trained</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Normative documents</td>
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</table>
### Table of indicators

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Base line</th>
<th>Target</th>
<th>MOV</th>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated number of infected people who are managed</td>
<td>131 531</td>
<td>157 908</td>
<td>175 655</td>
<td>226 623</td>
</tr>
<tr>
<td>Number of LTF</td>
<td></td>
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<tr>
<td>Proportion of providers with recommendations on prevention strategies of HIV and STI infections</td>
<td>75%</td>
<td>85%</td>
<td>90%</td>
<td>100%</td>
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<tr>
<td>Number of providers trained on national guidelines for ART initiation, including care continuum for HIV infection;</td>
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<tr>
<td>Number of providers trained on the guidance on key operational issues to improve access to management services</td>
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<tr>
<td>Number of providers trained on inputs management integration strategies at all levels of the supply chain</td>
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<tr>
<td>Number of structures that transmit reports in the circuit of the conventional data</td>
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</table>
SECTION 12
COORDINATION SYSTEM
12. COORDINATION SYSTEM

The purpose of the coordination of these Guidelines is to ensure their effective and efficient implementation. This coordination is based on guiding principles according to the Strategic Guidelines of the NSP 2014-2017:

- Appropriation of the response to HIV and AIDS by all actors and stakeholders;
- Effective multi-sector control of HIV through its appropriation;
- Leadership capacity building of all stakeholders and in all sectors;
- Decentralization at all levels;
- Compliance with the Paris Declaration on Alignment;
- Effective involvement of PLWHA in HIV control;
- Effective articulation of the guidelines with other frameworks and national planning instruments;
- Good multi-sector technical framework for M&E;
- Provision of adequate resources (human, material and financial) to implement the guidelines; Compliance with national and international commitments;
- Accountability;
- An effective management and supply system for drugs and other inputs for HIV and AIDS control.
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