PREVENTION OF MOTHER TO CHILD TRANSMISSION
OF HIV AND PAEDIATRIC HIV CARE
GUIDELINES

Second Edition
July 2008
ACKNOWLEDGEMENTS

This 2nd Edition of the Prevention of Mother to Child Transmission of HIV (PMTCT) and Paediatric HIV Care Guidelines 2008 was made possible through hard work by the Ministry of Health, National AIDS Commission and representatives of local and international non-governmental organizations (NGOs) and development partners. The guidelines have been updated in line with the most recent guidance form WHO on PMTCT and Paediatric HIV Care of HIV prevention, care and treatment services for pregnant women, mothers, children and families through the family-centred care model that is being implemented in Malawi. Thanks go to the Swaziland Ministry of Health for the use of their national PMTCT Guidelines in the development of these guidelines.

The MoH acknowledges the technical support from various partners in revising the First Edition PMTCT Guidelines 2004 and ensuring that this Second Edition is comprehensive and has been updated to include Paediatric HIV Care. We also acknowledge the participation of regional and headquarter technical advisers from partner organisations working in PMTCT and Paediatric HIV Care represented in Malawi.

We are indebted to the following individuals for the commitment to participate in the review and finalisation of the guidelines:

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Finally thanks go to the National AIDS Commission and UNICEF for the financial support to print these Guidelines.
Mother-to-Child Transmission (MTCT) is the main source of HIV infection in children. An estimated 90% of children acquire HIV infection during pregnancy, labour and delivery or through breastfeeding (UNAIDS 2004). Approximately 50% of these children will die before their second birthdays. The PMTCT programme is the primary prevention intervention of MTCT of HIV from pregnant women to infants. It is also the pillar for the provision of care and treatment for members of the family living with HIV through the family-centred care model that is being implemented in Malawi.

In 2007, the HIV prevalence rate among pregnant women was 12.6% (MOH 2008). It reduced from 15% in 2005 (MOH 2006). However, to reduce paediatric HIV infection in children and ensure an HIV free generation in Malawi, all pregnant women should have access to comprehensive quality PMTCT services as outlined in this Second Edition PMTCT and Paediatric HIV Care Guidelines 2008. Therefore, a concerted effort by all stakeholders from the household to policy making level is needed to reduce HIV infection in children.

The Government of the Republic of Malawi is committed to providing equitable access to cost-effective and quality HIV prevention, care and treatment services, bringing them, as close to the family as possible through existing structures in the public sector, the Christian Health Association of Malawi (CHAM) and the private sector with linkages to community-based organizations (CBOs), households and communities. PMTCT and paediatric HIV care has been integrated into routine Maternal and Child Health (MCH) services. Therefore, the MoH will continue to provide leadership, policy and technical guidance to ensure access to PMTCT and paediatric HIV services at every health facility and in the community.

PMTCT is effective in reducing paediatric HIV infections through the four pronged approach: 1) primary prevention of HIV infection among women of child bearing age, 2) prevention of unintended pregnancies among HIV-positive women; 3) prevention of HIV transmission from HIV-positive mothers to the infants; and 4) provision of continuous care and treatment for infected mothers, partners and their children. These guidelines have outlined the skills required to implement the four PMTCT prongs and ensure sustainable continuum of care and referral system for pregnant women, mothers, infants, children and family members infected and affected by HIV.

The Second Edition PMTCT Guidelines 2008 are comprehensive and user friendly for all health workers providing maternal and child health services (MCH), PMTCT and paediatric HIV care services for women in child bearing age, their children and families. The Ministry of Health urges all health workers to use the guidelines in the provision of comprehensive PMTCT and Paediatric HIV care services.

Christopher V. Kang’ombe
PRINCIPAL SECRETARY FOR HEALTH
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### Abbreviations

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<tbody>
<tr>
<td>3TC</td>
<td>Lamivudine</td>
</tr>
<tr>
<td>AFASS</td>
<td>Affordable, feasible, acceptable, safe and sustainable</td>
</tr>
<tr>
<td>ALT/AST</td>
<td>Alanine amino transaminase/Aspartate amino transferase</td>
</tr>
<tr>
<td>ANC</td>
<td>Antenatal Care</td>
</tr>
<tr>
<td>ART</td>
<td>Antiretroviral Therapy</td>
</tr>
<tr>
<td>ARV</td>
<td>Antiretroviral (drugs)</td>
</tr>
<tr>
<td>AZT</td>
<td>Zidovudine</td>
</tr>
<tr>
<td>BASICS</td>
<td>Basic Support for Institutionalizing Child Survival</td>
</tr>
<tr>
<td>BCG</td>
<td>Bacillus Calmet Guerin</td>
</tr>
<tr>
<td>BLM</td>
<td>Banja La Mtsogolo</td>
</tr>
<tr>
<td>BIPAI</td>
<td>Baylor International Pediatric AIDS Initiative</td>
</tr>
<tr>
<td>CBO</td>
<td>Community-based Organization</td>
</tr>
<tr>
<td>CHAI</td>
<td>Clinton Foundation HIV/AIDS Initiative</td>
</tr>
<tr>
<td>CD4</td>
<td>T Helper Cell lymphocyte</td>
</tr>
<tr>
<td>CDC</td>
<td>Centers for Disease Control and Prevention</td>
</tr>
<tr>
<td>CHAM</td>
<td>Christian Health Association of Malawi</td>
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<tr>
<td>CHSU</td>
<td>Community Health Services Unit</td>
</tr>
<tr>
<td>CPT</td>
<td>Cotrimoxazole Preventive Therapy</td>
</tr>
<tr>
<td>CS</td>
<td>Caesarean Section</td>
</tr>
<tr>
<td>EGPAF</td>
<td>Elizabeth Glaser Pediatric AIDS Foundation</td>
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<td>ELISA</td>
<td>Enzyme-Linked ImmunoSorbent Assay</td>
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<td>FHI</td>
<td>Family Health International</td>
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<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<td>HSA</td>
<td>Health Surveillance Assistance</td>
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<tr>
<td>HTC</td>
<td>HIV Testing and Counselling</td>
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<tr>
<td>HUTAP</td>
<td>Howard University Technical Assistance Project</td>
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<tr>
<td>MoH</td>
<td>Ministry of Health</td>
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<tr>
<td>MCH</td>
<td>Maternal and Child Health (Services)</td>
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<td>MSH</td>
<td>Medici</td>
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<tr>
<td>MTCT</td>
<td>Mother-to-Child Transmission (of HIV)</td>
</tr>
<tr>
<td>NAC</td>
<td>National AIDS Commission</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-governmental Organization</td>
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<tr>
<td>NVP</td>
<td>Nevirapine</td>
</tr>
<tr>
<td>OI</td>
<td>Opportunistic Infection</td>
</tr>
<tr>
<td>OPC</td>
<td>Office of the President and Cabinet</td>
</tr>
<tr>
<td>PMTCT</td>
<td>Prevention of Mother-to-Child Transmission (of HIV)</td>
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<tr>
<td>QA</td>
<td>Quality Assurance</td>
</tr>
<tr>
<td>SD-NVP</td>
<td>Single-dose Nevirapine</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually Transmitted Infection</td>
</tr>
<tr>
<td>UNC</td>
<td>University of North Carolina</td>
</tr>
<tr>
<td>UNFPA</td>
<td>United Nations Population Fund</td>
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<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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1. INTRODUCTION

1.1. BACKGROUND

Malawi, a landlocked country with a population in 2007 of 13.6 million people has one of the highest HIV prevalence rates in the world. The first case of HIV was identified in 1985 and since then the number of newly infected persons has been increasing each year. The national HIV sero-prevalence in pregnant women is still high and is currently estimated at 12.6 percent (MOH 2007).

It is estimated that 89,000 children are living with HIV (Sentinel Surveillance, MOH 2007). In the absence of any interventions the rate of HIV transmission in developing countries is estimated to be 25-35 percent. Thus, to reduce the risk of MTCT, it is imperative for health care workers to uphold recommended obstetric/midwifery practices when attending to all women, with known and unknown HIV status, in labour. This should include effective counselling on infant feeding options for all HIV-positive mothers. Table 1 indicates the risk factors related to MTCT during these three critical periods for mothers and infants.

Table 1: Risk factors of mother-to-child transmission of HIV during pregnancy, labour and delivery and post-partum

<table>
<thead>
<tr>
<th>Pregnancy</th>
<th>Labour and Delivery</th>
<th>Post-Partum</th>
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<tbody>
<tr>
<td>• Unprotected sex</td>
<td>• High maternal viral load (especially with a recently acquired HIV infection during pregnancy)</td>
<td>• Breastfeeding</td>
</tr>
<tr>
<td>• High maternal viral load (especially with a recently acquired HIV infection or advanced HIV disease)</td>
<td>• Low maternal CD4 count</td>
<td>• High maternal viral load (especially with a recently acquired HIV infection)</td>
</tr>
<tr>
<td>• Low maternal CD4 count</td>
<td>• Rupture of membranes more than 4 hours before delivery</td>
<td>• Low maternal CD4 count</td>
</tr>
<tr>
<td>• Viral or bacterial infections</td>
<td>• Invasive delivery procedures (e.g., episiotomy, artificial rupture of membranes, vacuum or forceps) increase exposure of the infant to mother's infected blood or body fluids</td>
<td>• Duration of breastfeeding</td>
</tr>
<tr>
<td>• Parasitic infections</td>
<td>• Chorioamnionitis (from untreated STI or other infections)</td>
<td>• Mixed feeding prior to six months of age (e.g., food or fluids in addition to breast milk)</td>
</tr>
<tr>
<td>• Sexually transmitted infections (STIs)</td>
<td>• Prematurity</td>
<td>• Breast abscesses, nipple fissures, mastitis</td>
</tr>
<tr>
<td>• Maternal malnutrition</td>
<td>• First twin</td>
<td>• Poor maternal nutritional status</td>
</tr>
<tr>
<td>• Anaemia</td>
<td>• Low birth weight</td>
<td>• Oral disease in the infant (e.g., thrush or sores)</td>
</tr>
<tr>
<td>• External cephalic version (ECV)</td>
<td>• Breaks in the skin or mucous membranes of the infant</td>
<td></td>
</tr>
<tr>
<td>• Amniocentesis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Chorioamnionitis (from untreated STI or other infections)</td>
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PMTCT of HIV is the primary intervention in reducing HIV infection in children. It requires continuous follow-up of HIV-positive pregnant women, mothers, exposed infants, children and family members infected with HIV for care, adherence to CPT and treatment, and psychosocial support.

In 2007 the PMTCT facility coverage was 64 percent of 544 health facilities and only 26 percent of women in need of PMTCT accessed services. The national PMTCT Acceleration plan targets 100 percent roll out of services by the end of 2008 and to reach 60 percent of women in need of services. The uptake of PMTCT services by pregnant women increased in 2007, but male partners still do not often come forward to test for HIV, thus missing the opportunity for couples to make informed lifelong decisions together regarding their own health and the health of their entire family.
1.2. **Vision**

The vision of the PMTCT programme is to have HIV free generation in Malawi.

1.3. **Goal**

The goal of PMTCT is to reduce the number of paediatric HIV infections and improve the quality of life for HIV exposed infants, infected children and parents living with HIV.

1.4. **Objectives**

1. To provide universal HIV testing and counselling (including Provider Initiated Testing and Counselling) for women and their partners, adolescents in child bearing age
2. To increase access to family planning and HIV prevention services for HIV-positive women of child-bearing age
3. To provide comprehensive PMTCT, care, treatment and support to HIV positive pregnant and lactating women and their families
4. To provide care and support to all HIV exposed infants at facility and community levels

PMTCT has the potential to increase access to HIV prevention, care, treatment and psychosocial support of HIV-positive pregnant women, mothers, children and family members infected and affected by HIV, and to reverse the devastating impact of HIV on child survival. The following are direct benefits of PMTCT services:

- Will strengthen the MCH service delivery system through integrating HTC in all MCH service delivery points: family planning, antenatal, postnatal care and under-five clinics, paediatric and NRU wards and Youth Friendly Health services.
- Provides an opportunity for early knowledge of both mother’s, partner’s, and child’s HIV status
- Provides an opportunity to access early and comprehensive care and support for the mother, partner and family members in need of HIV services
- Decreases the number of new HIV infections among children
- Increases child survival
- Decreases patient load on HIV services in the health system.
2. PMTCT POLICY ISSUES

Strengthening and expanding interventions that prevent mother-to-child transmission of HIV in Malawi is in line with the National Action Framework (2005-2009) and the MOH Plan of Work (2004-2010). In order for interventions like PMTCT to be successful, it requires clear policies and guidelines, which should also be flexible in order to provide guidance to emerging issues. It is in this context that PMTCT policy statements have been developed and will have to be used in conjunction with the Reproductive Health Policy, MOH Plan of Work, National Action Framework and the National HIV&AIDS Policy.

2.1. THE PMTCT PACKAGE

The full PMTCT Package comprises of Provider Initiated Counselling and Testing (PITC); for HIV comprehensive Reproductive Health care; Anti-retroviral drugs for PMTCT; Infant feeding counselling and support; Counselling and follow up. The full package could be offered within the Integrated PMTCT Model, which is described below. Implementation of the full PMTCT package could be feasible at the Central, District Hospitals, Rural hospital and health centres.

2.2. PMTCT MODEL

Integrated PMTCT Services Model

HTC services are integrated within the MCH clinics. The integrated services includes the following: Antenatal care; pre-test counselling, HIV testing and post test counselling (VCT); specific counselling on PMTCT; infant feeding, nutritional, maternity services, family planning, STI and management of ARV Prophylaxis. These are linked to other existing services and community structures for mobilization and continuum of care. Integrated PMTCT services will be mainly provided by trained counsellors, nurse/midwives and clinicians.

A diagram of the model is in the Annex 1.

All pregnant mothers attending the antenatal clinic will be routinely be offered HTC by health workers initially through group motivational talk and thereafter they will proceed to receive one-to-one antenatal care services.

2.3. TARGET GROUP FOR THE PMTCT SERVICES

- Youth and adolescents
- All pregnant women
- Lactating mothers
- Male partners of women and their families
- Exposed infants and young children

2.4. ELIGIBILITY CRITERIA FOR PMTCT SERVICES

Health facilities providing PMTCT services shall have the following:

- Appropriate and adequate ANC services as detailed in RH guidelines
- Trained service providers
Essential laboratory services or ability to perform HIV rapid tests
- Follow standard drug and supplies management systems
- Quality maternity in-patient services
- Good management and referral systems in place

2.5. BEHAVIOUR CHANGE COMMUNICATION

Behaviour Change Communication in the general community and Family planning services shall be part of primary prevention. Development and implementation of IEC for PMTCT shall be guided by the National PMTCT Communication Strategy and the Behaviour Change Interventions strategy.

2.6. HIV TESTING AND COUNSELLING

- Health workers providing PMTCT services shall be trained in both HTC and PMTCT as stipulated in the guidelines.
- All pregnant women shall be routinely offered HTC.
- Those pregnant women who are HIV positive and have undergone counselling shall be supported through psychological counselling within the facility or in the community.
- Couple counselling shall be encouraged to ensure joint responsibility for child bearing, safer sex and other related decisions.
- HTC for PMTCT shall be offered at various entry points in the health care system.

2.7. QUALITY SERVICE DELIVERY

2.7.1 Medical Screening and Treatment

(i) All pregnant women attending ANC shall be routinely screened where applicable for HIV, haemoglobin, blood group, syphilis as well as other sexually transmitted infections and conditions.

(ii) All HIV positive pregnant women should be provided with Cotrimoxazole Preventive Therapy for opportunistic infections and they shall be treated according to national treatment guidelines. Where such services are not available they shall be referred for appropriate management of the opportunistic infections and ART.

(iii) All pregnant women attending ANC shall have access to tetanus toxoid vaccine, Iron and Vitamin A.

(iv) Couples and partners, with discordant HIV status and those who are not aware of their sero-status, shall be encouraged to use condoms during pregnancy and lactation to reduce the risk of HIV transmission.

(v) All PMTCT services shall ensure that all beneficiaries have access to information and supply of male and female condoms.

2.7.2 Malaria Prevention

All pregnant women shall be encouraged to use treated bed nets to prevent malaria (primary prevention) as well as the recommended doses of sulphadoxine-
pyrimethamine for malaria prophylaxis. The HIV positive pregnant women shall be given three doses of sulphadoxine-pyrimethamine (SP) at an interval of four weeks between the 12th and 32nd week of pregnancy except when they are on CPT.

2.7.3 Health Facility Infection Prevention
Infection Prevention standards shall be maintained at all times in all the sites offering PMTCT services in line with National Infection Prevention Guidelines.

2.7.4 Labour and delivery Management
Management of labour and delivery for the HIV positive mothers at all health facilities shall be guided by the obstetric management protocols and health workers should ensure adherence to the modifications as outlined in these PMTCT guidelines. Those women of unknown status will be offered HTC in the first stage of labour and postpartum.

2.7.5 Provision of ARVs for PMTCT
- Women who test positive for HIV will be informed in detail on the use of recommended more efficacious regimens for PMTCT.

2.7.6 The appropriate ARV regimen for PMTCT shall be given to all HIV positive pregnant women

Access to HTC services
- Women shall have access to quality HTC services as defined in the HTC chapter.
- Women who are HIV negative shall be counselled to remain negative through provision of services for primary prevention for HIV/STIs.
- Women who are HIV positive shall receive quality care according to existing guidelines.
- Women who are HIV positive shall have access to correct information through VCT in order to make informed choice

2.7.7 Nutrition and Infant and Young Child Feeding Counselling
- Health workers at all levels shall have access to adequate and up to date information on infant feeding through regular in-service and on-the-job training
- Women who are HIV positive shall have access to information on Infant and Young Child Feeding during antenatal care and postpartum in order to make informed choices using AFASS criteria.
- Women who are HIV negative shall be counselled and supported to practice exclusive breastfeeding up to 6 months and to sustain breastfeeding with appropriate complementary feeding up to 2 years.
2.7.8 Continuum of Care

All HIV positive women shall be referred to existing community or medical support services for continuing support and care. Shared confidentiality with partners or family members shall be encouraged to reduce stigma and foster support.

2.8. Care of the Infant

All infants including those born to HIV positive mothers shall receive the recommended package of care that includes immunisation, vitamin supplementation and other micronutrients as well as the regular under-five services. All HIV exposed infants shall be referred for follow up HIV care at the under five clinic including CPT and Early infant Diagnosis of HIV.
3. HIV TESTING AND COUNSELLING

HIV testing and counselling (HTC) is an integral part of Maternal and Child Health, Youth Friendly Health Services, and STI services. HTC offers an opportunity to counsel young people, women and men on risk reduction and prevention of HIV infection (MoH 2006). For pregnant women HTC, provides them the opportunity know their HIV status and to access early treatment and care, thereby maximizing prevention of HIV transmission to the infant.

3.1. PROVIDER INITIATED TESTING AND COUNSELLING

Provider Initiated Counselling and Testing (PICT) is recommended as a component of health care services. PICT is recommended in all MCH and health services to provide routine HIV testing and counselling to women as a routine component of ANC, childbirth, postpartum care, and it is linked to HIV Care and treatment services.

Through PICT the health worker will:

- Provide an opportunity for young women of child bearing age to know their HIV status before they get pregnant and as early as possible during pregnancy and post partum
- Provide an opportunity to promote risk reduction behavior in both HIV positive and negative women
- Provide the opportunity for HIV positive women to have an HIV-free infant
- Provide an entry point to HIV Treatment & Care
- Encourage disclosure and partner or couple counselling & testing
- Sustain HIV testing as an entry point to care, psychosocial support and treatment for HIV-positive pregnant women, mothers, exposed infants, children and families
- Encourage risk-reducing behaviour including the use of condoms to prevent HIV infection during pregnancy and lactation.
- Encourage partner disclosure and partner testing so that more male partners can access care, support and treatment
- Link HIV-positive pregnant women and lactating mothers into appropriate care.

3.2. COUPLE & FAMILY CENTRED MODEL HIV TESTING AND COUNSELLING

Women provide an opportunity for the family to know their HIV status. All health workers are responsible for providing information to women & their partners on the importance of knowing the HIV status of their family. The couple has a chance to make informed decisions together on living positively with HIV, share responsibility for preventing HIV in the unborn child and they can discuss safer sex practices and make informed decisions to access care and treatment. Health workers should do the following:

- Offer the partner HTC and encourage shared confidentiality and disclosure
- Counsel discordant couples with reference to national HTC guidelines
- Discuss safer sex practices
- Offer HTC to exposed infants and children

3.2.1 HIV-positive couples intending to have a child:

If HIV-positive couples strongly feel that they want to have a child, provide/offer the following services:

- Counselling on pregnancy and HIV
- Clinical, obstetric and laboratory assessments, especially CD4 counts
- Couples who are on ART should continue their treatment (regimen) if compatible with pregnancy
- Initiate eligible women and their partners on ART
- Provide combination prophylaxis to those women who do not qualify for ART
- Advise couples on condom use during pregnancy and breastfeeding to reduce the risk of MTCT.

### 3.2.2 Discordant couples

Advise couples on family planning and safer sex practices (e.g. condom use) during pregnancy.

### 3.3. HIV INTEGRATION INTO HEALTH EDUCATION PROGRAMMES

HIV information should be integrated into health education that takes place in ANC, Maternity, family planning & under 5 clinics and other settings. This education should include the following:

- Routine blood tests including HIV testing in pregnancy haemoglobin level, and syphilis
- Modes of HIV transmission and prevention, PMTCT and access to care and treatment.
- Emphasize the importance of skilled attendance and clean delivery and newborn care
- Nutrition for mother & infant including exclusive breastfeeding and AFASS
- Condom use for prevention of sexually transmitted infections and HIV during pregnancy and postpartum
- Appointment for family planning at 6 weeks postpartum
- Repeat HIV testing for previously sero-negative women

### 3.4. TESTING ALGORITHM

The Ministry of Health changed the HIV testing algorithm from parallel testing to serial testing in 2007. Use the algorithm in Figure 1 for HIV serial testing.

### 3.5. POST-TEST COUNSELLING FOR HIV

Post-test counselling is a critical step in assisting the client to know the HIV status. Counsellors and health workers should:

- Counsel clients individually except when the post-test counselling is provided to a couple or to a child’s parent(s) or guardian(s).
- Inform clients of their HIV results during post-test counselling.
- Educate HIV-negative clients on how to remain negative, as infection occurring during pregnancy or during breastfeeding is associated with a higher risk of MTCT.
- All clients need to know how to prevent transmission of HIV to their infants.
- Provide specific information to HIV-negative and HIV-positive women during post-test counselling (table 2).
- Make an appointment for repeat test for HIV negative persons.
Table 2. Key Information for Pregnant Women tested for HIV

<table>
<thead>
<tr>
<th>HIV-negative women</th>
<th>HIV-positive women</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Inform client about HIV results and PMTCT interventions</td>
<td>1. Inform client about HIV results and PMTCT interventions</td>
</tr>
<tr>
<td>2. Discuss safer sex practices, FP &amp; Child spacing</td>
<td>2. Discuss safer sex practices, FP &amp; Child spacing</td>
</tr>
<tr>
<td>3. Explain discordance where applicable</td>
<td>3. Discuss importance of children &amp; partner testing and male involvement</td>
</tr>
<tr>
<td>4. Explain need for repeat HIV testing after 3 months and give an appointment</td>
<td>4. Explain discordance where applicable</td>
</tr>
<tr>
<td>5. Discuss importance of partner testing and male involvement</td>
<td>5. Discuss exclusive breastfeeding &amp; AFASS</td>
</tr>
<tr>
<td>6. Discuss exclusive breastfeeding up to six months</td>
<td>6. Take specimen for CD4 and do clinical staging</td>
</tr>
<tr>
<td></td>
<td>7. Give CPT according to guidelines</td>
</tr>
<tr>
<td></td>
<td>8. Refer to post test support group</td>
</tr>
<tr>
<td></td>
<td>9. Emphasise skilled attendance and clean delivery</td>
</tr>
</tbody>
</table>

Figure 1. HIV Testing Algorithm for Serial HIV Testing

```
Pre-test education and counselling

First HIV Rapid test:

Negative

Counsel for negative results

Positive

Second HIV Rapid test:

Negative: Discordant results

Positive: Counsel for positive results

Conduct tie-breaker test:

Negative: Counsel for negative results

Positive: Counsel for positive results
```
3.6.  **QUALITY ASSURANCE IN HIV TESTING**

Accuracy and reliability of diagnostic/laboratory testing is critical to the success of HIV/AIDS programmes. In order to ensure this reliability and reduce errors to a minimum, a quality assurance (QA) system that addresses all aspects of the testing is essential. The quality assurance system is important in any laboratory or testing site.

**Internal Quality Assurance**

Internal QA is an essential part of comprehensive PMTCT service delivery. Table 3 indicates factors that enhance or affect the quality of HIV testing in PMTCT settings.

**Table 3: Internal quality control factors**

<table>
<thead>
<tr>
<th>Pre-analytical factors</th>
<th>Analytical factors</th>
<th>Post analytical factors</th>
<th>Test performance factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper sample collection procedure s</td>
<td>Use required sample volume per test</td>
<td>Interpret results accurately</td>
<td>Proper storage and handling of test kits</td>
</tr>
<tr>
<td>Proper labelling</td>
<td>Use proper buffer solution per test</td>
<td>Record results accurately</td>
<td>Changes in the environment</td>
</tr>
<tr>
<td></td>
<td>Time the tests correctly</td>
<td>Keep records in a lockable cupboard</td>
<td>Accurate calibration of equipment (external and internal controls)</td>
</tr>
</tbody>
</table>

Be cognizant of the above factors at all times in order to maintain the quality of HIV testing in PMTCT settings.

**External quality assurance**

The National HIV Laboratory at the Community Health Services Unit (CHSU) coordinates the testing QA in the country. It archives HIV-negative and positive control specimens and provides them to all the sites every 3 months. Once in every six months, the National HIV Laboratory sends proficient testing panels to all the sites in the country to assess the performance of each individual conducting HIV testing at peripheral and intermediate levels.
4. INTERVENTIONS FOR PREVENTION OF MOTHER TO CHILD TRANSMISSION

4.1. INTEGRATION OF PMTCT IN MCH SERVICES

HTC is a critical entry point to PMTCT, HIV care, treatment and support for individuals who test HIV-positive at ANC and family planning clinics, labour and postnatal wards, and adolescent youth friendly health services. PMTCT interventions are integral parts of the continuum of care for pregnant women, mothers and children in MCH services. MCH facilities that provide PMTCT services help increase access to ARV prophylaxis, care, treatment, infant care, psychosocial support and follow-up of mothers, infants and children.

4.2. SERVICES PROVIDED TO ANC CLIENTS

4.2.1 Focused Antenatal Care

Focused antenatal care involves the provision of a package of services to clients at all ANC visits as follows:

- Four focused ANC visits are recommended for all pregnant women however, more appointments can be given to women requiring follow-up of other conditions such as pre-eclampsia. Clients registering for ANC later in pregnancy than scheduled should be provided with services that they may have missed.
- The focused visits are scheduled as follows:
  1. 16 weeks or less
  2. 24-28 weeks
  3. 32 weeks
  4. 36 weeks

Table 4 below provides a list of the antenatal care services provided to pregnant women at each FANC visit.

4.2.2 Additional services for HIV-positive pregnant women

- CD4 count is prioritised and recommended for all HIV-positive pregnant women
- Clinically Stage all HIV pregnant women and mothers irrespective of CD4 count at subsequent ANC visits or as per appointments to monitor disease progression
- Refer all HIV+ pregnant women eligible for initiation of ART as recommended in the Treatment of AIDS Guidelines
- Routinely provide CPT at the time of diagnosis regardless of gestation
- Treat or refer the clients for treatment of opportunistic infections

4.2.3 Cotrimoxazole Prophylaxis Therapy for HIV-positive pregnant women

- Give cotrimoxazole preventive therapy (CPT) to all HIV-positive pregnant women at the time diagnosis regardless of gestation.
- Do not give SP for malaria prophylaxis to HIV-positive pregnant women who are on CPT. See Annex 4 for more information on CPT.
<table>
<thead>
<tr>
<th>Task</th>
<th>Visit at 16 weeks or less</th>
<th>24-28 weeks</th>
<th>32 weeks</th>
<th>36 weeks</th>
</tr>
</thead>
</table>
| **1. HIV Testing and Counselling** | ➢ Health Education on safe motherhood  
➢ HIV Group counseling including the benefits the PMTCT programme  
➢ HIV testing for those that consent to be tested  
➢ Post test counseling for all who are tested for HIV  
➢ Partner involvement  
➢ Development of a birth preparedness plan | ➢ Repeat PMTCT group talk  
➢ Repeat HIV counseling for HIV negative & women of unknown status  
➢ Health education group talk on safe motherhood practices  
➢ Counseling on infant and young child feeding options  
➢ Supportive/psycho social counseling for HIV+ women  
➢ Counseling on safe sex practices and family planning | Counseling on:  
1. ARV prophylaxis & compliance  
2. Danger signs in pregnancy  
3. Counseling on safe sex  
4. Birth preparedness  
5. Infant and young child feeding | ➢ Counseling on ARV prophylaxis & compliance  
➢ Counseling on infant and young child feeding  
➢ Counseling on safe sex |
| **2. Clinical Screening** | ➢ Assessment of pregnancy  
➢ Detail history  
➢ Full examination  
➢ Screen for opportunistic infections such as TB  
➢ Screen for STIs | Review History  
Examination of pregnancy, palpations, physical, blood pressure and weight interpretation  
Screen for infections | Routine examination  
Examination of pregnancy, palpations, physical, blood pressure and weight interpretation  
Screen for infections  
Physical check | Routine examination  
Examination of pregnancy, palpations, physical, blood pressure and weight interpretation  
Screen for infections  
Physical check |
| **3. Laboratory investigations** | Syphilis test which ever is available HB, Urinalysis HIV test  
If HIV positive and services available conduct a CD4 count and refer for ART as per national ART protocol. | Repeat for HB for anaemia patients Urinalysis  
HIV testing and Syphilis test to be offered to new or untested pregnant women | Repeat HB for anaemia patients Urinalysis  
Repeat HIV test for those that tested negative if > 3 months since last test  
HIV testing to be offered to new or untested pregnant women | Repeat HB for anaemia patients  
Repeat HIV test for those that tested negative if > 3 months since last test  
Urinalysis  
PITC for new or negative pregnant women |
<table>
<thead>
<tr>
<th>Task</th>
<th>Visit at 16 weeks or less</th>
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<th>32 weeks</th>
<th>36 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Prophylaxis and treatment and</td>
<td>Iron Sulphate prophylaxis 200mg BD Folate 5mg OD Multivitamins OD For anaemia patients iron sulphate 200mg TDS</td>
<td>Iron Sulphate prophylaxis 200mg BD Folate 5mg OD Multivitamins OD For anaemia patients iron sulphate 200mg TDS</td>
<td>Iron Sulphate prophylaxis 200mg BD Folate 5mg OD Multivitamins OD For anaemia patients iron sulphate 200mg TDS</td>
<td>Iron Sulphate prophylaxis 200mg BD Folate 5mg OD Multivitamins OD For anaemia patients iron sulphate 200mg TDS</td>
</tr>
<tr>
<td></td>
<td>Tetanus toxoid</td>
<td>First dose of IPT (except for women on CPT) &amp; provision of ITN</td>
<td>Repeat IPT (except for women on CPT)</td>
<td>Tetanus toxoid</td>
</tr>
<tr>
<td></td>
<td>Syndromic management of STIs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Schedule of PMTCT ARV options</td>
<td>Provision of nevirapine tablet with instruction to take at the on set of labour Staging &amp; CD4 count Initiation of ART or refer to ART clinic ARVs and Adherence counselling for HIV+ women not eligible for ART Commence CPT for all HIV positives</td>
<td>Start AZT from 28 weeks Counseling for all HIV+ women Counsel on ARV adherence Provide CPT</td>
<td>ARV adherence counseling for HIV+ women repeated Start AZT for women not given at 28 weeks AZT 300mg tablets bd until delivery</td>
<td>ARV adherence counseling for HIV+ women repeated AZT 600mg tablets stat until delivery Administer nevirapine tablet with instruction to take at the on set of labour for women missed at the third visit CPT</td>
</tr>
</tbody>
</table>
5.1. INTRAPARTUM CARE

5.1.1 Safe obstetric practices
- Avoid artificial rupture of membranes (ARM) as this increases the risk of HIV transmission
- Relieve pain and help the woman relax so that labour can progress faster
- Do not perform routine episiotomy except for specific obstetric indications
- Avoid frequent vaginal examinations
- Use a partogram to monitor the progress of labour in order to improve the management and reduce the risk of prolonged labour
- Active management of labour in accordance with obstetric practices
- Continue ARV therapy if mother is on ART or on combination regimen prophylaxis (see Chapter 4).

5.1.2 Intrapartum care for HIV-positive women
- Confirm the HIV status in Health Passports of all women who are admitted to antenatal and labour wards
- Check the laboratory tests done and drugs provided, such as antiretrovirals including AZT used during pregnancy or SD-NVP taken at the commencement of labour.
- Provide ARV prophylaxis for HIV-positive mothers if needed and not eligible for ART (see Chapter 4)
- Avoid invasive procedures as these can transmit HIV from the mother to the child
- Monitor foetal and maternal conditions and progress of labour
- Observe universal precautions at all times to prevent HIV transmission.

5.1.3 Intrapartum care for HIV-Negative women and women with unknown HIV status
- Routinely offer HTC in the first stage of labour; or
- Routinely offer HTC shortly after delivery
- Observe safe obstetric practices to minimise the risk of MTCT of HIV

Administer ARV prophylaxis to exposed infants born to HIV-positive mothers (see Chapter 4)

5.2. CARE OF NEWBORN BABIES

Utilize universal precautions in labour and postnatal wards to avoid infection. Care for a newborn should include the following:

- Handle all newborns with gloves until maternal blood and secretions are washed off
- Cut the cord under lightly wrapped gauze and advise mother on cord care to prevent sepsis.
- Immediately after birth, wipe the baby dry with a towel to remove maternal body fluids.
- Do not suction the newborn with a naso-gastric tube unless there is meconium-stained liquor
- Where suction is required, it is better to use a mechanical suction unit (at 100mmHg) or bulb suction if possible rather than mouth-operated suction.
- Give Vitamin K
- Give BCG and polio immunization according to schedule.
- Give infants recommended eye ointment as prophylaxis against ophthalmia neonatorum
- Establish skin-to-skin contact between the mother and infant to prevent hypothermia.
- Advise mothers to breastfeed immediately except for HIV-positive women who have chosen not to breastfeed after consideration of AFASS (see Chapter 7).
5.3. **POSTNATAL CARE**

The postnatal follow up schedule is one week and then 6 weeks. Those who deliver at home should attend postnatal clinic within 72 hours. The postpartum period provides an opportunity to educate all mothers about HIV. Women with unknown HIV status in postnatal and Under-five Clinics (including women who delivered at home) should be offered routine HTC.

Optimal Breastfeeding management includes the following:

- Advise lactating mothers to empty both breasts properly to avoid breast engorgement
- Assist mothers to ensure proper attachment and positioning of babies during breastfeeding to minimize nipple cracks and fissures
- Advise women to watch for signs of breast infections
- Treat breast infections and mastitis promptly to reduce likelihood of HIV transmission to the infant through breastfeeding.

5.3.1 **FOLLOW-UP OF HIV-POSITIVE WOMEN POSTPARTUM**

- Check in the Health Passport for the woman's HIV status at every visit
- Give women appointments for physical check up and follow-up including for family planning. Write the appointments in Women Health Passports
- Provide adherence support on CPT or ART for mother and infant.
- Clinical Staging & CD4 count repeated when indicated\(^1\)
- Referral for ART when indicated
- Link women to mentor mothers or support groups as needed.
- Provide support and counselling on infant and young child feeding counselling

5.3.2 **FOLLOW-UP OF HIV-NEGATIVE WOMEN AND WOMEN OF UNKNOWN STATUS**

- Support exclusive breastfeeding up to six months
- Advise HIV negative women to test for HIV after three months
- Counsel women for family planning and safer sex

**Family planning and safer sex**

Discuss and emphasise the importance of family planning and condom use with every woman at each antenatal, postnatal care and follow-up visit and:

- Encourage couple counselling
- Reduce the risk of STI infection
- Reduce the risk of HIV infection and re-infection
- Promote child growth and survival with child spacing.

Dual protection is the use of two contraceptive methods at the same time (condom and any other contraceptive). It protects from contracting infections such as STI and HIV, and prevents unwanted pregnancies.

**Care of the perineum**

- Encourage proper hygiene by use of saline sitz baths
- Treat promptly pre-existing vulva abscesses or warts (Refer to STI Guidelines)
- Advise against sexual intercourse until bleeding has stopped
- Encourage use of condoms to avoid infection and re-infection of HIV throughout breastfeeding period.

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\(^1\) Indication for repeat CD4 count test at 6 months intervals when last CD4 was less than 500, repeat CD4 count test after 12 months when last CD4 count was over 500.
5.4 SUMMARIES OF FANC, LABOUR AND DELIVERY, AND POST-NATAL CARE FOR ALL WOMEN

The following three flowcharts shows the services to be offered to all women accessing MCH services. HIV-specific information for mothers at various stages of pregnancy and post-partum can be found in the following chapters.
Figure 2. Client Flow in Antenatal Clinic

Client Flow in Antenatal Care Services

Structured ANC Group Education

All pregnant women routinely offered testing and counselling alone or with partners

Woman declines HIV test

Woman accepts the HIV test

Perform HIV test

Unknown HIV status

Positive

Negative

Continue routine ANC and routinely offer testing and counselling at subsequent visits until HIV status is established

Post test counselling on HIV status including:
- Infant and young child feeding
- Offer partner testing and counselling if not done as couple
- Discuss safe sex and offer condoms
- Look for signs and symptoms of HIV
- Discuss positive living

Clinical stage I and II or CD4 >250

PMTCT ARV prophylaxis (See Chapter 5)

Cotrimoxazole Prophylaxis

Continue routine ANC and reinforce PMTCT messages at each visit

Clinical Stages III and IV or CD4 count <250

Initiate or ART or refer for ART

Post test counselling including:
- Discussion on window period, offer further HIV test in 3 months
- Offer partner testing and counselling if not done as a couple
- Discuss safer sex and give condoms
- Infant and young child feeding counselling
**Client Flow in Maternity Ward**

Woman presents in labour

- Establish that it is true labour

- Establish HIV status

  Positive
  - False labour: further counselling on ARV
  - True Labour
  - Continue ART for women on treatment.
  - Continue ARV prophylaxis for women on prophylaxis

Negative

Unknown

- Offer HTC if in 1st stage of labour
- Offer HTC shortly after delivery for those presenting in second stage of labour

Manage Labour and Delivery using: SAFE OBSTETRIC PRACTICES
- Give emotional support during labour for all women
- Use a partogram
- Avoid Artificial Rupture of Membranes
- Avoid frequent vaginal examinations and avoid episiotomy unless indicated
- Minimize trauma from instrumental delivery and routine suctioning of baby's mouth/nostrils
- Clamp cord immediately after birth and **DO NOT** "milk" the cord

- Handle all babies with gloves
- Dry baby and keep warm immediately after birth
- Apply baby friendly practices

Baby of HIV-positive woman
- ARV prophylaxis (Chapter 5)
- Follow-up of HIV exposed infants and children (Chapter 6)

Baby of HIV-negative woman
- Routine follow-up

Baby of woman with unknown HIV status
- Offer the mother HIV test
- If positive provide HIV interventions
Figure 4. Client Flow in Postnatal Clinic

CLIENT FLOW IN POSTNATAL CLINIC

Woman has delivered her baby

- Educate and counsel all mothers on the following:
  - Good hygiene and cord care
  - Care of the perineum
  - Care of the breasts
  - Signs and symptoms of infection in herself and the baby
  - Importance of good nutrition
  - Family planning
  - Importance of follow up visits
  - Encourage to seek health care promptly if problems arise in her or the baby
  - Encourage safer sexual practices
  - Monitoring
  - Signs and symptoms of post natal infection and offer treatment
  - Treat Opportunistic infections

Establish HIV status
(Identify women of unknown status in postnatal care and under-five Clinics including women who delivered at home)

Positive
- Ensure PMTCT ARV prophylaxis has been taken
- Continue ART for those on treatment
- Encourage proper perineum hygiene by use of saline sitz baths
- Support chosen infant feeding option
- Treat pre-existing vulva abscess or warts promptly
- Advise against sexual intercourse until bleeding has stopped
- Encourage use of condoms to avoid re-infection of HIV
- Advise lactating mothers to empty both breasts to avoid breast engorgement
- Assist mothers to ensure proper attachment and positioning of babies during breast feeding to minimize nipple cracks and fissures
- Treat breast infections and mastitis promptly

Unknown status
- Offer routine HIV testing and counselling

Negative
- Support exclusive breast feeding
- Encourage retesting for HIV
- Encourage dual protection (use of condoms)

Long-term follow-up
- Schedule mother and infant follow-up visits according to EPI follow-up schedule
- Ensure that mother and baby are seen together
- Follow – up schedule should include:
  - Checking for signs and symptoms of postnatal infections and offering treatment as needed
  - Treatment of opportunistic infections, STI, malaria and TB
  - Clinical staging and CD4 count repeated every 6 months for HIV positive women
  - Couple counselling
  - Family planning including dual protection using condoms
6. Antiretroviral Drugs for PMTCT

6.1. PMTCT ARV Prophylaxis

SD-NVP has been the primary ARV prophylaxis regimen used to prevent paediatric HIV infection since PMTCT programme started in 2003. It is the minimum prophylaxis regimen that must be provided to every HIV-positive pregnant woman to take home at the time of diagnosis in order to take it at the commencement of true labour. In 2007 MoH introduced combination ARV prophylaxis regimen to reduce further the risk of MTCT. Details of this ARV prophylaxis regimen during pregnancy, labour and post-partum are presented later in this chapter.

6.2. ART and PMTCT

Women on ART

ART is the best way to prevent transmission of HIV to an infant, as well as reducing maternal morbidity and mortality. It also improves the quality of life of women infected with HIV. Support pregnant women already on ART to continue with the recommended regimen. Women who are already on ART do not require SD-NVP at the onset of labour. However, give AZT to be taken twice daily for 4 weeks to the exposed infants born to women on ART (see table 5).

HIV Positive Women not on ART

HIV-positive pregnant women who are not yet on ART should be clinically staged and the CD4 counts measured. Those women in Clinical Stages III or IV or in Clinical Stages I and II with a CD4 count <250 should start ART (figure 2 and annex 4).

Mothers with CD4 cell count >250 on a NVP-containing regimen have a higher chance of hepatotoxicity which increases the importance of close clinical monitoring during the initiation period and they require close monitoring of clinical status.

6.3. ARV Prophylaxis for Pregnant Women Not Eligible for ART

More efficacious combination ARV regimen will be given to HIV positive women not eligible for ART during pregnancy, labour and delivery and postpartum periods. This prophylactic regimen includes maternal AZT (from 28 weeks of pregnancy or as soon as possible thereafter) plus single-dose nevirapine, and a 7-day tail of AZT and 3TC. The infant regimen includes a one-week course of AZT (see table 5).

6.3.1 Single Dose Nevirapine

This regimen is not the preferred choice of ARV prophylaxis and should only be given when a facility is not able to offer combination ARV prophylaxis. The SD-NVP is administered as follows:

Mother

- Give HIV-positive pregnant women SD-NVP tablets at the time of HIV diagnosis together with infant SD-NVP 6mg syrup in a baxa dispenser/syringe to take home
- DO NOT repeat the SD-NVP dose due to the increased risk of NVP resistance. Pregnant women should only ingest one dose of SD-NVP even if that dose is taken during false labour.
Infant

- Give infant dose SD-NVP syrup 6mg (2mg/kg birth weight which is 0.6mls in Baxa dispensers/syringes) to the infant immediately after delivery or within 72 hours of birth for those born at home
- Repeat same dose of SD-NVP syrup if the child vomits within half an hour after taking it

Immediately record the ARV prophylaxis regimen given to HIV-positive pregnant women and exposed infants in the registers and both mother’s and child’s Health Passports.

6.4. CONSIDERATIONS FOR SPECIAL CASES

HIV-positive pregnant women with:

6.4.1 ANAEMIA

- AZT should not be started or should be stopped on women with Hb less 8g/dl
- Treat severe anaemia first
- Refer to ART clinic

6.4.2 ACTIVE TUBERCULOSIS:

Screen all HIV-positive pregnant women for tuberculosis (TB) by asking them about the following and support them to access TB services:

- Cough for three weeks or more at first and subsequent ANC visits
- Loss of weight of ≥1.5 kg in the previous 4 weeks
- Night sweats >2 weeks
- Fever > 2 weeks
- Refer women with two or more of the above to TB services (refer to ART/TB guidelines for management of HIV/TB co-infection).
Table 1. ARV Prophylaxis in Pregnancy, Labour and Postpartum

<table>
<thead>
<tr>
<th>PREGNANCY</th>
<th>LABOUR</th>
<th>POSTPARTUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Women on ART</td>
<td>Continue ART as per usual schedule</td>
<td>Continue ART</td>
</tr>
<tr>
<td>2. Women who received at least 4 weeks of AZT 300mg before onset of labour</td>
<td>1. SD-NVP 200mg to be taken at onset of labour 2. AZT/3TC 600mg at onset of labour</td>
<td>AZT/3TC 300mg every 12 hours for 7 days</td>
</tr>
<tr>
<td>3. Women who received less than 4 weeks of AZT</td>
<td>1. SD-NVP 200mg at onset of labour 2. AZT/3TC 600mg at onset of labour</td>
<td>AZT/3TC 300mg every 12 hours for 7 days</td>
</tr>
<tr>
<td>4. Women who present during labour and have not received AZT</td>
<td>1. SD-NVP 200mg to be taken at onset of labour 2. AZT/3TC 600mg at onset of labour</td>
<td>AZT/3TC 300mg every 12 hours for 7 days</td>
</tr>
<tr>
<td>5. Women who present late in or after labour and have had no ARVs during pregnancy, and no ARVs during labour</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>6. In settings where only SD-NVP is available</td>
<td>SD-NVP 200mg to taken at onset of labour</td>
<td>1. SD-NVP 6mg within 72 hours</td>
</tr>
</tbody>
</table>

NB: low birth babies <2.5 kg will receive 2mg/kg)
7. FOLLOW-UP OF MOTHERS AND HIV EXPOSED INFANTS

7.1. FOLLOW-UP OF WOMEN AFTER DELIVERY

Encourage all women to return within seven days and again at six weeks, to the facility for continued care and support after delivery. Thereafter they should return as per appointments for MCH services and HIV services needed as discussed below. Ensure that the mother and the infant are seen together (see Chapter 6 for follow-up care for the infant).

Follow-up care for all mothers should include the following services:

1. For mother of unknown or negative status:
   - Continue to offer HIV testing to women of unknown HIV status
   - Encourage repeat HIV testing for previously HIV negative women for as long as she is breastfeeding
   - Recommend HIV testing of family members

2. For mothers on ARVs:
   - Counsel on completion of ARV prophylaxis
   - Counsel on continuation ART regimen

3. For all HIV positive mothers continue CPT

4. For HIV positive mothers who are not on ART
   - Conduct clinical staging and CD4 count (see Chapter 5 section 5.2) and refer eligible clients for ART
   - Treat HIV related infections, STIs, malaria and TB

   - Identify signs and symptoms of postnatal infections and treat accordingly
   - Assess and manage nutritional status of mother and infant
   - Provide Family Planning services

7.2. FOLLOW UP HIV -EXPOSED INFANTS AND CHILDREN

Advise the mother to return with the child for check-up one week after delivery for continued care. This is primarily for infant feeding support and counselling, and adherence to any drugs.

The follow up care for HIV exposed infants is as follows:

- Counsel on completion of ARV prophylaxis
- Commence CPT from 6 weeks (see table 7)
- Counsel the mother on optimal infant feeding to minimize MTCT, prevent malnutrition and promote growth and development (refer to chapter 6)
- Offer DNA PCR testing for HIV where available from 6 weeks and counsel on repeat testing for HIV negative infants (refer to chapter 3)
- Clinically Stage all infants/children at every visit
- Refer all HIV infected infants for initiation of ART
  - Monitor CD4 cell percentage
- At each visit examine the infant for signs and symptoms of infection and refer for further management if needed.
- Conduct routine immunizations as scheduled. At any visit should the infant show any sign of severe immune suppression do not administer live vaccinations (BCG, OPV) and refer child to paediatric ART clinic.
Table 6. Cotrimoxazole Preventive Treatment Dosages

Give CPT to:

- **All HIV-Exposed Infants**: From 6 weeks of age until HIV infection is definitely excluded and the child is no longer breastfeeding
- **All HIV-Infected Children**
- **All Infected Adults with WHO Stage 2, 3 and 4 or CD4<500/mm³ or less regardless of symptoms**
- **All Infected Pregnant Women irrespective of Clinical Stage or CD4 count**

Dosing for Cotrimoxazole (Trimethoprim/Sulphamethoxazole) TMP/SMX, CPT, Septrin, Bactrim

<table>
<thead>
<tr>
<th>Age</th>
<th>Suspension 5ml – 240mg</th>
<th>Paediatric tablet 120mg</th>
<th>Single Strength Adult Tablet 480mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 weeks – 5 months</td>
<td>2.5 ml daily</td>
<td>1 tablet (120mg) daily</td>
<td>1/4 tablet (120mg) daily</td>
</tr>
<tr>
<td>6 months – 4 years</td>
<td>5 ml daily</td>
<td>1 tablet (240mg) twice a day</td>
<td>1/2 tablet (240mg) daily</td>
</tr>
<tr>
<td>5 – 14 years</td>
<td>–</td>
<td>–</td>
<td>1 tablet (480mg)</td>
</tr>
<tr>
<td>&gt;15 years</td>
<td>–</td>
<td>–</td>
<td>1 tablet (480 mg) twice a day</td>
</tr>
</tbody>
</table>

**Information for parents/care givers**

- Cotrimoxazole prevents serious disease and death in children with HIV and can help them feel better and live longer
- CPT is not an antiretroviral drug and does not treat or cure the HIV virus
- The dose of cotrimoxazole will change as your child grows older

Tablet can be crushed and mixed with:

- Clean water or breast-milk for babies
- Cotrimoxazole can be given with food

**Serious Side Effects**

If your patient has these symptoms, the patient must see a medical officer immediately:

- Severe abdominal pain with prolonged vomiting/nausea
- Severe progressive rash – especially on eyes and mouth

April 2008
Based on Malawi Paediatric and Treatment of AIDS Guidelines

HIV-positive children may have frequent infections and need continuous care. Use Paediatric AIDS and Integrated Management of Childhood Illness (IMCI) Guidelines to detect clinical signs of HIV infection (see Annex).

**7.3. HIV DIAGNOSIS IN INFANTS**

HIV testing in infants and young children is done with two different types of testing: rapid tests, and DNA-PCR tests. The choice of which test to use depends on the age of the child
and whether they are breastfeeding or not. Figures 2, 3, and 4 show how to diagnose HIV in breastfeeding infants, non-breastfeeding infants and those aged over 18 months.

7.3.1 RAPID TESTING IN INFANTS AND YOUNG CHILDREN

HIV-exposed infants and young children have maternal antibodies passively transferred to them from their mothers during pregnancy, labour and delivery and through breastfeeding. An infant born to an HIV-positive mother is considered HIV exposed and is therefore at high risk for HIV infection. The use of a rapid test in infants <18 months can only be used to confirm HIV exposure, if the status of the mother is unknown.

For infants and young children 12 months and older who have not breastfed for at least 3 months, rapid testing can be done as follows:

- HIV rapid tests are reliable at 12 months for infants who stopped breastfeeding for at least 3 months prior to the test
- For HIV-positive results, clinically stage the infant and collect blood specimen for CD4 counts
- If the antibody test is negative then the infant is not infected with HIV. Conduct a repeat rapid test at 18 months to confirm the HIV status
- Conduct serial testing using rapid tests to determine the presence of HIV antibodies in children over 18 months of age
- Repeat the test for infants who test HIV-negative but are still breastfeeding three months after cessation of breastfeeding.

7.3.2 DNA-PCR TESTING IN INFANTS

The first vaccination visit at six weeks represents an ideal opportunity to screen children for HIV and clinically stage those with suspected or confirmed infection. If DNA-PCR testing is available, test exposed infants for HIV at 6 weeks of age. Figure 2 provides guidance for PCR testing in non-breastfeeding infants.

DNA-PCR testing is used for definitive diagnosis of HIV infection in children <18 months of age and if the test is positive, the child is infected. If the test is negative, this only confirms absence of infection if the child stopped breastfeeding six weeks prior to the test.
Algorithm for HIV Testing in Children

6 wks*-9 months old

Test mother if never tested or tested once ≥3 months ago

Maternal status HIV+ **

- Register in program
- Complete Mastercard
- Clinical Assessment
- Infant feeding counseling
- Prescribe CPT
- Schedule follow-up in 1 month in MCH

Do PCR test

PCR POSITIVE
- Child is infected
- Refer to ARV clinic

PCR NEGATIVE
- Current or recent (within 6 wks) breastfeeding?

YES
- Child is exposed
- Continue CPT
- Continue monthly review
- Re-test ≥6wks after breastfeeding stops according to algorithm for age **

NO
- Child is uninfected**
- Stop CPT

* PCR should be done in a child with signs of immune suppression at any age less than 9 months.

** If child presents with any signs or symptoms of immune suppression, the child should be tested according to the algorithm for age, regardless of maternal HIV status or previous negative HIV testing results in the child.
Algorithm for HIV Testing in Children

9-18 months old

Test mother if never tested or tested once ≥3 months ago

Maternal status HIV+ *

- Register in program
- Complete Mastercard
- Clinical Assessment
- Infant feeding counseling
- Prescribe CPT
- Schedule follow-up in 1 month in MCH

Do rapid test

RT POSITIVE
- Child is exposed
- Do PCR to test for virus

RT NEGATIVE
- No antibodies detected
- Do PCR to test for virus

Do PCR test

PCR POSITIVE
- Child is infected
- Refer to ARV clinic

PCR NEGATIVE

Current or recent (within 6 wks) breastfeeding?

YES
- Child is exposed
- Continue CPT
- Continue monthly review
- Re-test >6wks after breastfeeding stops according to algorithm for age **

NO
- Child is uninfected**
- Stop CPT

** If child presents with any signs or symptoms of immune suppression, the child should be tested according to the algorithm for age, regardless of maternal HIV status or previous negative HIV testing results in the child.
Algorithm for HIV Testing in Children

18 months old or older

Do rapid test

POSITIVE
• Child is infected
• Refer to ARV clinic

NEGATIVE
• Current or recent (within 6 wks) breastfeeding?

YES
• Mother HIV+?

NO
• Child is uninfected**
• Stop CPT (if taking)

YES
• Child is exposed
• Prescribe/continue CPT
• Continue monthly review
• Repeat rapid test ≥6wks after breastfeeding stops**

NO
• Child is uninfected**
• Stop CPT (if taking)

**If child presents with any signs or symptoms of immune suppression, the child should be tested according to the algorithm for age, regardless of maternal HIV status or previous negative HIV testing results in the child.
7.4. **REFERRAL TO SPECIALISED CARE AND SUPPORT**

7.4.1 **CLINICAL REFERRALS**

Refer all HIV exposed and infected Infants identified with a medical conditions for specialised care. These may include the following:

- ART Clinic
- Paediatric clinic
- Feeding Programs (Outpatient Therapeutic centres, Nutritional Rehabilitation Unit, supplementary feeding)
- TB Clinic

7.4.2 **COMMUNITY REFERRALS**

Facilitate a connection with community-based initiatives by networking with supportive community agencies, identifying key partners and preferred methods of contact and communication because:

- Social issues, including cultural practices within a community, may facilitate or hinder participation of women, men and other population groups in PMTCT
- Issues of stigma and discrimination have their origin in society and are enhanced at the community level through a system of norms, beliefs, values, myths and sanctions. Communities may associate HIV/AIDS with immorality and ill-treat those who become infected with HIV. It is important to address this through community mobilisation so that people living with HIV can freely access services without feeling threatened.

7.5. **COMMUNITY MOBILIZATION AND SENSITIZATION**

Community mobilisation is the process of sensitising and supporting communities to collectively address community problems. Community members if educated and sensitised on the need for comprehensive PMTCT related services can begin to take responsibility of initiating and sustaining activities to support service integration.

The starting point in mobilising a community is to ensure that community members engage in the development initiative to:

- Assess community capacity to address the issues on HIV prevention, care and treatment for women, exposed infants, spouses, children and families in their communities
- Develop a plan of action that will meet specific community needs
- Enlist the support of community organisations
- Establish a mechanism for monitoring their plan of action and outcomes.

More information on community mobilization can be found in the PMTCT Communication Strategy.
8. FEEDING OF HIV-EXPOSED INFANTS AND YOUNG CHILDREN

8.1.  INTRODUCTION

Breastfeeding remains the natural and best source of nutrition and child care practice for the majority of young children. Breastfeeding does not only save lives, but also greatly improves the quality of life of infants and young children through its nutritional, immunological, psychological and contraceptive benefits.

Milk is essential for all infants and young children in the first two years of life. The Ministry of Health, therefore, promotes, protects and supports breastfeeding for all children unless medically indicated. The possible transmission of HIV from an infected mother to the child through breastfeeding poses a challenge for feeding infants and young children that are HIV exposed.

Prevention of HIV transmission through breastfeeding should, therefore, be part of the comprehensive approach both to HIV prevention and care during antenatal, labour and delivery, postnatal care and mother-infant follow-up to 2 years after child birth. During this period, specific care can be defined according to the infant’s HIV status, along with the mother’s management of HIV related infections.

This chapter provides guidelines on feeding infants and young children that are HIV exposed, during the first two years of life. The guidelines are expected to guide service providers to adequately counsel and support the mothers and caregivers in order to facilitate adoption of optimal feeding practices, which will not only eliminate or reduce the risk of MTCT of HIV through breastfeeding, but will also ensure that optimal nutrition requirements for infants and young children are met.

These guidelines should be used along with National Infant and Young Child Nutrition Policy and Guidelines, the National Nutrition Guidelines, the Code of Marketing Infant and young child foods, the Essential Nutrition Actions recommended for improving women and child nutrition and any other global recommendations and declarations that may be announced from time to time.

8.2.  RECOMMENDATIONS FOR FEEDING HIV-EXPOSED CHILDREN DURING THE FIRST TWO YEARS OF LIFE

Mothers who are HIV positive should be given adequate information on possible risk of HIV transmission to the child through breastfeeding, and should be assisted to make an informed choice on how to feed the child. The most appropriate infant feeding option for a mother who is HIV positive depends on her individual circumstances, her health status and the local situation. It also depends on availability and access to health care and support services.

The following recommendations, however, should be followed to guide the technical advice and support given to the mothers and other caregivers:

- Exclusive breastfeeding is recommended for the HIV-exposed infants for the first 6 months of their life unless replacement feeding is acceptable, feasible, affordable, sustainable and safe (AFASS) for them and their infants before that time. Exclusive breast feeding means feeding the child breast milk only with no other foods or fluids, not even water during the first six months of the child’s life.

- When replacement feeding is acceptable, feasible, affordable, sustainable and safe, avoidance of all breastfeeding by HIV-infected women is recommended.

- At six months, if replacement feeding is still not acceptable, feasible, affordable, sustainable and safe, continuation of breastfeeding with appropriate complementary foods is recommended, while the mother and infant continue to be regularly assessed. All
Breastfeeding should stop once a nutritionally adequate and safe diet without breast milk can be provided.

- Breastfeeding mothers of infants and young children who are known to be HIV-infected should be strongly encouraged to continue breastfeeding.

- All mothers who are HIV negative or those who do not know their HIV status, should exclusively breastfeed for the first six months and continue breastfeeding with appropriate complementary feeding from six months until the child is two years or beyond.

- The Code of Marketing Infant and Young Child Foods should be adhered to in order to prevent spill over among the HIV negative women and those of unknown HIV status.

- Whatever the feeding decision mothers or caregiver opt for, service providers should follow-up all HIV-exposed infants and continue to offer infant feeding counselling and support at every contact point within the health service delivery system.

### 8.3. Feeding Options for HIV-Exposed Infants from Birth to Six Months

#### 8.3.1 Exclusive Breastfeeding

Exclusive breastfeeding means that the baby is fed on breast milk only from birth to 6 months unless otherwise indicated. No other foods or fluids such as glucose water, gripe water, other milks, juices, sodas, thobwa, dawale, mzuwa or other traditional drinks or solids are given to the child during this time. Mothers should be supported through on-going counselling, follow-up and psychological support by health workers in order to maintain exclusive breastfeeding and to adopt optimal practices for successful and safe breastfeeding.

Mothers and caregivers should be counselled on the dangers and increased risk of HIV transmission through giving the child other foods and fluids while breastfeeding (mixed feeding). If the child is given other foods and fluids, they may irritate the lining of the infant’s stomach and increase the chances of HIV transmission through breast milk. Counsellors should remind the mothers of these risks.

The health worker should:

- Support the mother to initiate breastfeeding with early skin-to-skin contact within the first 30 minutes of birth.

- Help the mother to position and attach the child to the breast correctly.

- Remind or counsel the mother to breastfeed on demand at least 8 to 12 times day and night

- Follow up the mother within the first six hours after delivery to ensure correct positioning and attachment to the breast for effective suckling.

- Emphasize the importance of safer sex to prevent HIV re-infection during breastfeeding.

- Encourage the mother to eat a variety of foods from the six food groups with two additional meals and to receive vitamin A supplementation within 8 weeks of delivery for her own good health

- Explain to the mother when to return for follow-up for infant feeding counseling, growth monitoring and immunization according to schedule or when she has problems with the child or her own health.

- Encourage HIV disclosure to the family for support of her decision to exclusively breastfeed.
For mothers who develop breast problems (mastitis, cracked nipples), advise as follows:

- If one breast is affected, continue breastfeeding on the unaffected side only. The mother should manually express and discard breast milk from the affected breast so that milk supply is not affected.

- If both breasts are affected, consider heat treatment of expressed breast milk until the breasts heal. Manually express breast milk every 3-4 hours so that milk supply is not affected.

- If AFASS requirements are met at the time that the mother has a breast or nipple problem, the mother may opt to use replacement feeds and stop breastfeeding.

- Go to the nearest health facility for treatment immediately.

### 8.3.2 Replacement Feeding

Replacement feeding is the feeding of infants with a diet that provides the nutrients that the infant needs until the age at which he or she can feed on family foods. This option completely excludes breast milk and eliminates the risk of HIV transmission through breastfeeding; however, it deprives the child and mother of the benefits of breastfeeding. Replacement feeding also lacks other nutritional and immunological factors found in breast milk that provide optimal growth and development.

Commercial infant formula is the recommended replacement feeding option when AFASS conditions are met. The formula is already modified to suit the physiological needs of the child. In addition commercial infant formula is fortified with vitamins and minerals that the infant requires. However, commercial formula is costly. For instance, an infant fed from birth to 6 months should consume approximately 40 tins of commercial formula weighing 500g each (or 50 tins weighing 400g each). Mothers should cost this and check if they have resources for the entire duration of replacement feeding.

If a mother chooses replacement feeding:

- Emphasize to the mother the importance of exclusive replacement feeding on demand.

- Emphasize to the mother that she should not breastfeed at all.

- Demonstrate to the mother how to safely prepare the commercial infant formula based on the instructions on the pack.

- Advise the mother to follow all the instructions given for the preparation and mixing of infant formula.

- The mother should always check the expiry date on the pack to ensure that the milk is not expired.

- Advise the mother to prepare enough formula for one feed at a time as indicated in the table below showing the required amount and number of feeds per day.

- Advise the mother not to keep milk in a thermos flask to avoid microbial growth; however she may keep hot water in the thermos to make formula for each feed.

- Give mothers information on the dangers of bottle feeding.
8.3.3 Infection Prevention

Emphasize to the mother the importance of following basic hygiene practices to prevent introduction of harmful bacteria to the infant. Therefore, advise the mother to:

- Boil or use bleach to disinfect utensils for preparing feeds before use. Follow manufacturer's instructions if bleach is used to disinfect utensils.
- Keep the utensils in a clean and covered container
- Wash hands with soap and water before handling and preparing the feed and before feeding the child.
- Wash hands every time she changes or cleans the child and after going to the toilet.
- Always use previously boiled water to prepare formula.
- Use an open cup to feed the child.

The following table can be used as a guide to determine the number of feeds an infant will need per day, as well as how much formula is needed per feed:

Table 2. Guide for the number of infant feeds needed per day

<table>
<thead>
<tr>
<th>Age (months)</th>
<th>Weight (kg)</th>
<th>Amount per feed (ml)</th>
<th>Minimum Number of feeds per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>60ml</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>90ml</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>120ml</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>120ml</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>150ml</td>
<td>8</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>150ml</td>
<td>8</td>
</tr>
</tbody>
</table>

8.4. Feeding of HIV-exposed Infants and Children from 6 – 24 Months

Complementary foods should be introduced after six months and given to the child at the recommended frequency (F), in an adequate amount (A) and density (D) to meet the body's nutrient requirements. The food should also be in the right form and consistency to facilitate proper digestion and to ensure proper utilization (U) of the nutrients in the body. The mother or other care givers should sit with the child and help him/her to eat adequately (Active feeding, (A)). Therefore always discuss the FADUA (Feeding Frequency, Amount, Density, Utilisation and Active feeding) with the mother. This applies to all infants regardless of their HIV status and feeding method.

8.4.1 Complementary Feeding

Mother or care giver should use locally available and nutrient-rich foods beginning from 6 months of age. Counsel the mother and care giver as follows...
(i) Introduce the other foods and fluids slowly in small quantities because the child’s stomach capacity is still small and not yet fully developed to digest various foods adequately.

(ii) Give the child food prepared from variable food combinations from the six food groups based on foods that are available in the area. This is necessary to ensure that the child gets a variety and more total nutrients every day. The foods complement each other and some nutrients facilitate optimal absorption of other nutrients in the body.

(iii) Give the child food from individual plate. This is necessary to ensure that the child eats enough food. At this age the child is slow in eating and may therefore not compete adequately with older siblings if they eat from the same plate.

(iv) Increase the frequency of feeding and the amount, thickness and variety of food as the child gets older, adapting to the child’s nutritional requirements, physiological and physical abilities. It is necessary to ensure that the child is given food with the right consistency (neither too hard nor watery) for easy chewing and digestion but also with the right energy and nutrient density so that the child should get adequate amounts of nutrients. The energy density can be improved with addition of cooking oil, dry coconut or avocado pear which are fat containing foods.

(v) Give the child family foods by 12 months. Mother or caregiver gives child a variety of foods in order to gradually accustom the child to family foods.

(vi) Interact with child during feeding (active or responsive feeding). Mother or caregiver should sit and interact with child during feeding to help the child eat more food and stimulate child’s verbal and intellectual development.

(vii) Give freshly prepared food at each meal and follow good hygiene and sanitation practices during food preparation and feeding to avoid contaminating the food which could lead to diarrhoea.

(viii) Feed the child using a cup or plate but not a bottle. A bottle is difficult to clean, hence may keep dirt and germs that may cause the child to be sick from diarrhoea and other diseases.

8.5. FEEDING RECOMMENDATIONS FOR THE SICK CHILD

An infant or child that is ill needs to continue to eat and feed according to the infant feeding option and age.

Counsel the mother or caregiver to:

- Continue to feed the infant during illness according to the feeding option.
- Feed the child as often as he or she wants, day and night, a least eight times in 24 hours.
- Increase fluid intake by providing more frequent breast or replacement feeds, as appropriate.
- Give small frequent feeds according to the feeding option.
- Do not give other foods or fluids like water or phala.
- If the infant has diarrhoea, give ORS, maintaining proper hygiene in its preparation.
- Take the infant to the nearest health facility for treatment immediately.

For children aged six months and above additionally advise the following

- Prepare the food in a way that will help the child eat well, and encourage them to eat nutritious palatable foods.
8.6. **MOTHER-INFANT PAIR FOLLOW-UP**

*During each visit, assess and counsel on:*

- Sustainability of exclusive breast feeding
- Timely introduction of complementary feeding at 6 months with continued breastfeeding or early cessation of breastfeeding or as soon as AFASS conditions are met.
- Maternal general health status including general wellbeing and weight loss, ability to care for the child, breastfeeding management skills and related problems and HIV disclosure to significant others. If a mother develops AIDS, counsel for alternative breastfeeding
- Child’s health and look for signs of infections such as oral thrush, persistent diarrhoea, failure to thrive, present or past ear discharge, enlarged lymph nodes and recurrent pneumonia

Infants with possible HIV infections should be referred to paediatric HIV or ART clinic for consultations while continuing to breastfeed before decision on early breastfeeding cessation is made. The infant feeding counsellor should work hand in hand with ART and paediatric HIV clinics.

8.7. **INFANT FEEDING COUNSELLING**

The figure below summarises the steps that should be taken for counselling mothers infected with HIV on infant feeding.
Figure 8. Steps for counselling mothers infected with HIV on Infant & Young Child Feeding options

Step 1
Give an overview of MTCT

Step 2
Explain the advantages and disadvantages of exclusive breastfeeding and exclusive replacement feeding options starting with the mother’s initial preference

Step 3
Explore with the mother, her home and family situation. Offer to discuss with her partner before she decides and acknowledge her rights in her decision

Step 4
Help the mother choose an appropriate feeding option

Step 5
Demonstrate the chosen feeding option

Exclusive Breastfeeding

Exclusive Replacement feeding

Step 6
Provide follow-up counseling and support. Repeat steps 3-5 if the mother changes her original feeding choice

Step 7
(i) Monitor growth during Post-natal visits (ii) Check feeding practices and whether any change is desirable (iii) Check for signs of illness (iv) If baby is breastfeeding, observe how well the baby is attached to the breast and check if she breastfeeds exclusively

Step 8
Discuss complementary feeding plans for age 6-24 months
CONSIDERATIONS FOR SPECIAL CASES

Counselling on other feeding options may only apply on individual basis where the following special cases exist:

- During transition from breastfeeding to replacement feeding when AFASS conditions are met.
- When there is temporary stock out of replacement feeding
- When the mother has breast conditions and is unable to breastfeed
- When the mother is too sick to breastfeed
- High viral load
- Orphaned children when the mother dies

9.1. Monitoring and Evaluation

Definitions
Monitoring is a routine, tracking of key parts of the program using record keeping and regular reporting.

Evaluation is the process of gathering and analysis information for the purpose of determining whether a program is carrying out the activities as planned and the extent to which the program has achieved its stated objectives. Evaluation takes an objective look at the activities performed and identifies the reasons for both success and failure, and how your future work can learn from both.

Monitoring and evaluation (M&E) helps programme implementers and service providers to:
- Determine the progress of programme implementation
- Build on strengths in the implementation process
- Identify areas requiring strengthening and take actions to rectify problems
- Mobilise and utilise resources to implement programme activities, including monitoring consumption of these resources
- Assess the outcomes and impact of the programme

9.2. Record Keeping and Reporting

It is important to maintain complete records of clients at all service delivery points. Accurate recording of information results in timely utilisation at a facility, district and national levels.

Figure 9  PMTCT data collection and reporting procedure

Recording HIV information on Mothers and Child Health Passports
Note: HCWs should use the national codes for recording HIV information in Mother and Child Health Passports.

Indicators:
Indicators are measures that determine to what extent PMTCT interventions are achieving the program objectives.
Key PMTCT indicators for monitoring progress and quality of service delivery are integrated into health passports and MCH registers and other complementary registers such as HTC, family planning and STI. PMTCT indicators have been integrated in the registers and Monthly Summary Report Form (Annex 7):

PMTCT sites are required to use the information tools for data management:

- Health Passport and Registers
- Standard monthly reporting forms

9.3. ESTIMATING SUPPLY REQUIREMENTS

One the important use of data is to estimate supply requirements to avoid stock outs. See Table 11 below for examples on how to calculate/estimate the PMTCT supplies for your services.

Table 8: Example of yearly national estimates for PMTCT

<table>
<thead>
<tr>
<th>Commodity required</th>
<th>Rate/Estimate Needed</th>
<th>Rate/Number</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of pregnant women per year</td>
<td>600,000</td>
<td>600,000 x 0.90 = 540,000</td>
</tr>
<tr>
<td></td>
<td>90% of pregnant women offered HIV testing</td>
<td>90%</td>
<td></td>
</tr>
<tr>
<td>Rapid Test kits</td>
<td>80% of those offered testing accept</td>
<td>80%</td>
<td>540,000 x 0.80 = 432,000</td>
</tr>
<tr>
<td></td>
<td>Number of pregnant women tested HIV+</td>
<td>432,000</td>
<td>432,000 x 0.15 = 64,800 HIV+ pregnant women</td>
</tr>
<tr>
<td></td>
<td>HIV+ prevalence rate: 12.6% national (use district level prevalence if available)</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>NVP 200 mg tablets</td>
<td>100% of HIV+ pregnant women</td>
<td>100%</td>
<td>64,800 SD-NVP tablets</td>
</tr>
<tr>
<td>AZT 300mg tablets</td>
<td>Estimate coverage of combination regimen in your district (i.e. 50% of all HIV+ pregnant women)</td>
<td>50%</td>
<td>64,800 x 0.50 = 32,400 AZT combination regimens (number of tablets)</td>
</tr>
<tr>
<td>ART</td>
<td>20% of all pregnant women testing HIV+ will need ART</td>
<td>10%</td>
<td>64,800 x 0.10 = 6,480 new ART patients</td>
</tr>
<tr>
<td></td>
<td>Number of HIV+ pregnant women</td>
<td>64,800</td>
<td></td>
</tr>
<tr>
<td>NVP and AZT suspensions</td>
<td>All infants born to HIV+ mothers not on ART (90% of all testing positive)</td>
<td>90%</td>
<td>64,800 x 0.90 = 58,320 infant short courses of AZT and SD-NVP</td>
</tr>
<tr>
<td></td>
<td>Number of HIV+ pregnant women</td>
<td>64,800</td>
<td></td>
</tr>
<tr>
<td>Cotrimoxazole tablets</td>
<td>100% HIV+ pregnant women</td>
<td>64,800</td>
<td>64,800 courses of CPT x 6 months</td>
</tr>
<tr>
<td>Cotrimoxazole syrup/suspension</td>
<td>100% of HIV-exposed infants</td>
<td>64,800</td>
<td>64,800 (x bottles of syrup x 6 months)</td>
</tr>
</tbody>
</table>
STRUCTURE FOR THE FLOW OF REPORTS FROM THE FACILITIES

The registers and monthly reporting forms will be managed as follows:

Health facilities

- PMTCT service providers should compile HIV information (data) from the MCH registers by adding up daily summaries in the registers for the last month by the second first week of every month. For example, January data should be ready by the second week of February.
- Record the monthly data on carbonated monthly report forms (Annex 9), distribute and use the data as follows:
  - Original copy of the summary monthly report forms to the DHO
  - Return the copy at your facilities for records
- Use the data to monitor consumption of PMTCT supplies and monitoring the quality of PMTCT services provided to assist you in planning, teamwork to implement the four prongs of PMTCT among all service providers at facilities where there is more than one member of staff and service delivery systems strengthening. For example, how to strengthen follow-up of HIV-positive mothers and their babies for care and treatment and ensuring that HIV-positive pregnant women and mothers and adolescents access PMTCT and family planning services.

District Health Offices (DHOs)

- Retain the original copy of the monthly summary forms from the health facilities and enter the data in district database
- Use the data from the database to compile quarterly reports, distribute and use the data as follows:
  - One copy to the HMIS officer at Zonal Health Offices (ZHOs)
  - One copy to the national PMTCT Coordinator at the Department of HIV and AIDS at MoH Headquarters
- Analyse the quarterly reports to assess the performance of each facility and provide supportive supervision to health care workers providing PMTCT, HTC and ART services in support of HIV prevention, care and treatment services for pregnant women, mothers, spouses, exposed infants, children and families
- Give each facility written feedback and use it during supportive supervision
- Use the data to quantify and order PMTCT supplies from Central Medical Stores (CMS) and to monitor consumption of these supplies.

Zonal Health Offices (ZHOs)

- Enter the data in the quarterly reports from DHOs in the zonal database
- Analyse the data to assess the performance of the PMTCT programme in each district.
- Give each district written feedback on its performance and use this during supportive supervision to district and/or facilities
- Enter selected PMTCT indicators in the HIMS for quarterly reporting and send the report to the M&E and Research Unit at the MoH Headquarters.

Department of HIV and AIDS, MoH

- Enter PMTCT data in the database every quarter
- Analyse the quarterly reports from the DHOs to assess the performance of the PMTCT programme.
- Give each district written feedback on their performance and use it during supportive supervision to district and/or facilities together with ZHOs and DHOs
- Use the data to quantify PMTCT supplies for procurement and to monitor consumption of these supplies.
- Produce annual PMTCT reports and circulate them widely,

Monthly reports generated at the health facilities assist facilities, DHOs, ZHOs and the central ministry to improve not only service delivery but also management of the programme e.g. planning, decision making and ensuring adequate logistics and supplies.
9.4. PROCUREMENT, STORAGE, AND DISTRIBUTION OF COMMODITIES

All drugs will be procured through the national procurement system, and stored and distributed by the CMS (Figure 9). Public, NGO and private health facilities will estimate and submit their requirements to DHOs who in turn will submit them to the Department of HIV and AIDS at MoH Headquarters for quantification in collaboration with the CMS. The CMS will distribute the supplies directly to regional pharmacies and then to district pharmacies who in turn will distribute them to the facilities Upon submission of requests.

Figure 10. Flow of drugs and supplies in the national system
ANNEXES

ANNEX 1  Model of PMTCT Services

- Community mobilization
- HIV TC Services
  - HIV Pre & Post Test Counselling
- Continuum of care
- Family Planning
- STI Management
- Maternity Services
  - Delivery Services
  - Postnatal Services
- Nutrition Counselling
  - Infant Feeding Options
- ANC Clinic
  - Group Education Talk
  - Focused ANC Care
  - Examination
  - Investigations
  - Prophylaxis: CPT, IPT, STI
- Laboratory Services
  - HIV & other essential tests
Annex 2: Core PMTCT interventions within the context of a comprehensive approach

<table>
<thead>
<tr>
<th>Element</th>
<th>Key activities to be considered</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary prevention of HIV infection among women, especially young women</strong></td>
<td>- Health information and education&lt;br&gt;- HIV testing and counselling - regular retesting for those with exposure&lt;br&gt;- Couple counselling and partner testing&lt;br&gt;- Safer sex practices, including dual protection (condom promotion)&lt;br&gt;- Delay of onset of sexual activity&lt;br&gt;- Behavioural change communications to avoid high risk behaviour</td>
</tr>
<tr>
<td><strong>Prevention of unintended pregnancies among HIV-infected women</strong></td>
<td>- FP counselling and services to ensure women can make informed decision about their reproductive health&lt;br&gt;- HIV testing and counselling in RH/FP services&lt;br&gt;- Safer sex practices, including dual protection (condom promotion)</td>
</tr>
<tr>
<td><strong>Prevention of HIV transmission from HIV-infected women to their infants</strong></td>
<td>- Quality antenatal and delivery care&lt;br&gt;- HIV testing and counselling in ANC, retesting in late pregnancy in high prevalence settings&lt;br&gt;- Clinical (staging) and immunological (CD4) assessment of pregnant women&lt;br&gt;- ART for pregnant women eligible for treatment&lt;br&gt;- ARV prophylaxis for MTCT prevention for women not receiving ART and for all exposed children&lt;br&gt;- Safer obstetric practices&lt;br&gt;- Infant feeding counselling and support</td>
</tr>
<tr>
<td><strong>Provision of appropriate treatment, care and support to HIV-infected mothers, their infants and family.</strong></td>
<td><strong>Package of services for mothers</strong>&lt;br&gt;- ART for women eligible for treatment&lt;br&gt;- Co-trimoxazole prophylaxis&lt;br&gt;- Continued infant feeding counselling and support&lt;br&gt;- Nutritional counselling and support&lt;br&gt;- Sexual and reproductive health services including FP&lt;br&gt;- Psychosocial support</td>
</tr>
<tr>
<td><strong>Provision of appropriate treatment, care and support to HIV-infected mothers, their infants and family.</strong></td>
<td><strong>Package of services for HIV-exposed children</strong>&lt;br&gt;- ARV prophylaxis&lt;br&gt;- Routine immunization and growth monitoring and support&lt;br&gt;- Co-trimoxazole prophylaxis starting at 6 weeks&lt;br&gt;- Early diagnosis testing for HIV infection at 6 weeks where virological tests are available&lt;br&gt;- Antibody testing for young children at 18 months where virological testing is not available&lt;br&gt;- Continued infant feeding counselling and support&lt;br&gt;- Screening and management of tuberculosis&lt;br&gt;- Prevention and treatment of malana&lt;br&gt;- Nutrition care and support&lt;br&gt;- Psychosocial care and support&lt;br&gt;- Antiretroviral therapy for eligible HIV infected children&lt;br&gt;- Symptom management and palliative care if needed.</td>
</tr>
</tbody>
</table>

---

2 PMTCT Briefing Note –WHO 1 October 2007.
Annex 3: Rapid HIV testing algorithm for parallel testing in PMTCT

1. Pre-test education and counselling
2. Parallel HIV rapid tests
3. Negative
   - Counsel for negative results
4. Positive
   - Counsel for positive results
   - One negative and one positive result = discordant results
   - Use same sample to do rapid test
5. Negative
   - Counsel for negative results
6. Positive
   - Counsel for positive results
### Annex 4: Clinical Staging for infants and young children (age range 14 years and below)

<table>
<thead>
<tr>
<th>Clinical Stage 1</th>
<th>Clinical Stage II</th>
<th>Clinical Stage III</th>
<th>Clinical Stage IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asymptomatic</td>
<td>Mild symptoms</td>
<td>Advanced symptoms</td>
<td>Severe/very advanced symptoms</td>
</tr>
<tr>
<td>Persistent generalised lymphadenopathy</td>
<td>Unexplained persistent hepatomegaly and splenomegaly</td>
<td>Moderate unexplained malnutrition not responding to standard therapy*</td>
<td>Unexplained severe wasting, stunting, or severe malnutrition not responding to standard therapy*</td>
</tr>
<tr>
<td>Papular itchy skin reactions</td>
<td>Extensive skin warts (human papilloma virus infection)</td>
<td>Unexplained persistent diarrhoea for longer than 14 days</td>
<td>Pneumocystic jiroveci (formerly: carinii pneumonia (PCP))</td>
</tr>
<tr>
<td>Extensive molluscum contagiosum</td>
<td>Recurrent oral ulcerations</td>
<td>Unexplained persistent fever above 37.5 (intermittent or constant for longer than one month)</td>
<td>Recurrent severe presumed bacterial infections (e.g. empyema, pyomylitis, bone or joint infections, meningitis, sepsis, excluding pneumonia)</td>
</tr>
<tr>
<td>Unexplained persistent parotid gland enlargement</td>
<td>Lineal gingival erythema</td>
<td>Persistent oral candida (outside the first 6-8 weeks of life)</td>
<td>Toxoplasmosis of the brain</td>
</tr>
<tr>
<td>Herpes zoster</td>
<td>Oral hairy leukopenia</td>
<td>Oral hairy leukopenia</td>
<td>Cryptosporidiosis with diarrhoea &gt; 1 month</td>
</tr>
<tr>
<td>Recurrent or chronic respiratory tract infections (sinusitis, otomylitis, tonsillitis, otitis media)</td>
<td>Acute necrotising ulcerative gingivitis or periodontitis</td>
<td>Acute necrotising ulcerative gingivitis or periodontitis</td>
<td>Isosporiasis with diarrhoea &gt; 1 month</td>
</tr>
<tr>
<td>Fungal nail infections</td>
<td>TB lymphadenopathy</td>
<td>TB lymphadenopathy</td>
<td>Cryptococcosis, extra pulmonary</td>
</tr>
<tr>
<td></td>
<td>Pulmonary tuberculosis</td>
<td>Pulmonary tuberculosis</td>
<td>Cytomegalovirus of an organ other than liver, spleen or lymph node</td>
</tr>
<tr>
<td></td>
<td>Severe recurrent presumed bacterial pneumonia</td>
<td>Severe recurrent presumed bacterial pneumonia</td>
<td>Recurrent severe or radiological presumed bacterial pneumonia</td>
</tr>
<tr>
<td></td>
<td>Symptomatic lymphoid interstitial pneumonia</td>
<td>Symptomatic lymphoid interstitial pneumonia</td>
<td>Recurrent bacteraemia or sepsis</td>
</tr>
<tr>
<td></td>
<td>Chronic HIV-associated lung disease, including bronchiectasis</td>
<td>Chronic HIV-associated lung disease, including bronchiectasis</td>
<td>Chronic herpes simplex infection (oralalib or cutaneous for &gt; 1 month) or visceral at any site</td>
</tr>
<tr>
<td></td>
<td>Unexplained anaemia (8g/dl), neutropenia (&lt; 500/mm3) or thrombocytopenia (&lt;50,000/mm3)</td>
<td>Unexplained anaemia (8g/dl), neutropenia (&lt; 500/mm3) or thrombocytopenia (&lt;50,000/mm3)</td>
<td>Progressive multifocal leucoencephalopathy</td>
</tr>
<tr>
<td></td>
<td>HIV-associated cardiomyopathy or HIV-associated nephropathy</td>
<td>HIV-associated cardiomyopathy or HIV-associated nephropathy</td>
<td>Any disseminated endemic mycosis</td>
</tr>
</tbody>
</table>

*Note: *standard therapy refers toỡ standard antiretroviral therapy (ART) in combination with standard supportive care and antibiotics for bacterial infections.*
# Clinical Staging for infants and young children (age range 14 years and below)

<table>
<thead>
<tr>
<th>ART if CD4 &lt; 250</th>
<th>ART if CD4 &lt; 250 CPT (Prophylaxis)</th>
<th>ART CPT (Prophylaxis)</th>
<th>ART CPT (Prophylaxis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants</td>
<td>* In general, defined by weight for height 70-79%; weight for age 70-79% (or below the third percentile in weight for age chart in health passport) on 2 measurements 3 months apart; weight loss &gt; 10% sustained over three months. In under 5s: defined as failure to gain weight over a period of 6 months. In children 1-5 years: defined as MUAC of 11-11-9cm.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPT (Prophylaxis) from 6 weeks of age</td>
<td>* In general, defined by weight for height 70%; oedema of both feet. In children 1-5 years: defined as MUAC of 11-11-9cm.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Annex 5: Clinical Staging for adults and adolescents (age range 15 years and above)

<table>
<thead>
<tr>
<th>Clinical Stage 1</th>
<th>Clinical Stage II</th>
<th>Clinical Stage III</th>
<th>Clinical Stage IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asymptomatic</td>
<td>Moderate unexplained weight loss (&lt; 10% of presumed or measured body weight)</td>
<td>Unexplained severe weight loss (&lt; 10% of presumed or measured body weight)</td>
<td>HIV wasting syndrome</td>
</tr>
<tr>
<td>Persistent generalised lymphadenopathy</td>
<td>Recurrent respiratory tract infections (sinusitis, tonsillitis, bronchitis, otitis media, pharyngitis)</td>
<td>Unexplained persistent fever (intermittent or constant for longer than one month)</td>
<td>(unexplained weight loss (&lt; 10% plus either chronic diarrhoea or fever in the absence of concurrent illness)</td>
</tr>
<tr>
<td></td>
<td>Herpes zoster</td>
<td>Persistent oral candida</td>
<td>Pneumocystis jiroveci (formerly: carinii pneumonia (PCP))</td>
</tr>
<tr>
<td></td>
<td>Angular cheilitis</td>
<td>Oral hairy leukopenia</td>
<td>Recurrent severe or radiological presumed bacterial pneumonia</td>
</tr>
<tr>
<td></td>
<td>Recurrent oral ulceration</td>
<td>Pulmonary tuberculosis (active or within the previous 2 years)</td>
<td>Recurrent bacteraemia or sepsis</td>
</tr>
<tr>
<td></td>
<td>Papular itchy dermatitis</td>
<td>Severe presumed bacterial infections (e.g. pneumonia, empyema, pyomyositis, bone/joint infections, meningitis, sepsis)</td>
<td>Toxoplasmosis of the brain</td>
</tr>
<tr>
<td></td>
<td>Seborrheic dermatitis</td>
<td>Acute necrotising ulcerative stomatitis, gingivitis or periodontitis</td>
<td>Cryptosporidiosis</td>
</tr>
<tr>
<td></td>
<td>Fungal nail infections</td>
<td>Unexplained anaemia (8g/dl), neutropenia (&lt; 500/mm3) or thrombocytopenia (&lt;50,000/mm3)</td>
<td>Isosporiasis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cryptococcosis, extra pulmonary</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cytomegalovirus of an organ other than liver, spleen or lymph node</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Herpes simplex infection, mucocutaneous for &gt; 1 month or visceral</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Progressive multifocal leucoencephalopathy</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Any disseminated endemic mycosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Candidiasis of oesophagus, trachea and bronchus</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Atypical mycobacteriosis, disseminated or lungs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Extra pulmonary tuberculosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lymphoma (cerebral or B cell non-Hodgkin)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Invasive cervical carcinoma</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Kaposis sarcoma</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HIV encephalopathy</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Visceral leismaniasis</td>
</tr>
</tbody>
</table>
## Annex 6: Services for women and children during follow-up visits

### 2 weeks after delivery

<table>
<thead>
<tr>
<th>Women</th>
<th>Children</th>
</tr>
</thead>
</table>
| • Perform physical examination: Pallor, Pulse, temperature, BP, breast (cracks, fissure, abscess, engorgement), uterus involution, lochia, anaemia, exclude puerperal sepsis  
• Give vitamin A 200,000IU if not given at delivery  
• Family planning counselling  
• Counsel and support infant feeding (feed every three hours, proper breast attachment)  
• Counsel on new born care (keep baby warm, danger signs: breathing fast, fever, refusal to feed, septic umbilical stump)  
• Give next appointment date | • Perform physical examination: Respiratory rate, pulse, temperature, signs of dehydration  
• Assess for adverse drug reactions – ARV prophylaxis  
• Counsel on adherence to ARV prophylaxis  
• Confirm or give Immunization: Polio, BCG  
• Weigh the baby and monitor growth  
• Observe how the baby is breastfeeding  
• Assess the umbilical cord  
• Treat infection if indicated or refer  
• Give next appointment date |

### 6 weeks after delivery

<table>
<thead>
<tr>
<th>Women</th>
<th>Children</th>
</tr>
</thead>
</table>
| • Perform physical examination: Pallor, Pulse, temperature, BP, breast condition  
• Counsel and support infant feeding (feed baby every three hours, proper breast attachment)  
• Counsel on Family planning and provide client method of her choice  
• Perform WHO clinical staging  
• Treat opportunistic infection  
• Give cotrimoxazole prophylaxis if indicated  
• Give vitamin A 200,000IU if not given in previous visit  
• Counsel the mother on nutrition  
• Give appointment for her next visit | • Give Polio, Combined DPT/HB  
• Weight and growth promotion  
• Perform physical examination: Respiratory rate, Pulse, temperature, signs of dehydration  
• Perform WHO clinical staging  
• Give cotrimoxazole prophylaxis  
• Treat opportunistic infection  
• Take blood for PCR tests, CD4 cell count percent  
• Give next appointment date |

### 10 weeks after delivery

<table>
<thead>
<tr>
<th>Women</th>
<th>Children</th>
</tr>
</thead>
</table>
| • Perform physical examination: Pallor, Pulse, temperature, BP, breast condition  
• Treat opportunistic infection  
• Give cotrimoxazole prophylaxis if indicated  
• Counsel and support infant feeding (feed baby every three hours, proper breast attachment)  
• Support the mother on her Family planning choice  
• Counsel the mother on nutrition  
• Give appointment for her next visit | • Give Polio, Combined DPT/HB  
• Weight and growth promotion  
• Perform physical examination: Respiratory rate, Pulse, temperature, signs of dehydration  
• Perform WHO clinical staging  
• Give cotrimoxazole prophylaxis  
• Treat opportunistic infection  
• Give appointment for her next visit |

### 14 weeks after delivery

<table>
<thead>
<tr>
<th>Women</th>
<th>Children</th>
</tr>
</thead>
</table>
| • Perform physical examination: Pallor, Pulse, temperature, BP, breast condition  
• Counsel on Family planning and provide client method of her choice  
• Perform WHO clinical staging  
• Treat opportunistic infections  
• Give cotrimoxazole prophylaxis if indicated  
• Counsel the mother on nutrition | • Give Polio, Combined DPT/HB  
• Weight and growth promotion  
• Perform physical examination: Respiratory rate, Pulse, temperature, signs of dehydration  
• Perform WHO clinical staging  
• Give cotrimoxazole prophylaxis  
• Treat opportunistic infection  
• Take blood for PCR tests, CD4 cell count percent if not previously done |
### Services for Women and Children during follow-up visits (continued)

<table>
<thead>
<tr>
<th>6 months after delivery</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Women</strong></td>
<td><strong>Children</strong></td>
</tr>
<tr>
<td>▪ Perform physical examination: Pallor, Pulse, temperature, BP, breast condition</td>
<td>▪ Give Polio, Combined DPT/HB</td>
</tr>
<tr>
<td>▪ Help mother to prepare for transition from exclusive breastfeeding to weaning or complementary feeding as found in Annex 8</td>
<td>▪ Weight and growth promotion</td>
</tr>
<tr>
<td>▪ Counsel on Family planning and provide client method of her choice</td>
<td>▪ Perform physical examination: Respiratory rate, Pulse, temperature, signs of dehydration</td>
</tr>
<tr>
<td>▪ Perform WHO clinical staging</td>
<td>▪ Perform WHO clinical staging</td>
</tr>
<tr>
<td>▪ Treat opportunistic infection</td>
<td>▪ Give cotrimoxazole prophylaxis</td>
</tr>
<tr>
<td>▪ Give cotrimoxazole prophylaxis if indicated</td>
<td>▪ Treat opportunistic infection</td>
</tr>
<tr>
<td>▪ Counsel the mother on nutrition</td>
<td>▪ Give vitamin A 100,000 IU</td>
</tr>
<tr>
<td>▪ Book the patient appointment for review by ART doctor</td>
<td>▪ Give next appointment date</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9 months after delivery</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Women</strong></td>
<td><strong>Children</strong></td>
</tr>
<tr>
<td>▪ Perform physical examination: Pallor, Pulse, temperature, BP, breast condition</td>
<td>▪ Perform physical examination: Respiratory rate, Pulse, temperature, signs of dehydration</td>
</tr>
<tr>
<td>▪ Counsel on Family planning and provide client method of her choice</td>
<td>▪ Give Polio, Combined DPT/HB, measles vaccines</td>
</tr>
<tr>
<td>▪ Perform WHO clinical staging</td>
<td>▪ Weight and growth promotion</td>
</tr>
<tr>
<td>▪ Treat opportunistic infection</td>
<td>▪ Perform WHO clinical staging</td>
</tr>
<tr>
<td>▪ Continue or start cotrimoxazole prophylaxis if indicated</td>
<td>▪ Give cotrimoxazole prophylaxis</td>
</tr>
<tr>
<td>▪ Counsel the mother on nutrition for herself and the baby</td>
<td>▪ Treat opportunistic infection</td>
</tr>
<tr>
<td>▪ Give appointment for her next visit</td>
<td>▪ Give next appointment date</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12 months after delivery</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Women</strong></td>
<td><strong>Children</strong></td>
</tr>
<tr>
<td>▪ Perform physical examination: Pallor, Pulse, temperature, BP,</td>
<td>▪ Give Polio, Combined DPT/HB</td>
</tr>
<tr>
<td>▪ Counsel on Family planning and provide client method of her choice</td>
<td>▪ Weight and growth promotion</td>
</tr>
<tr>
<td>▪ Treat opportunistic infection</td>
<td>▪ Perform physical examination: Respiratory rate, Pulse, temperature</td>
</tr>
<tr>
<td>▪ Continue and start cotrimoxazole prophylaxis if indicated</td>
<td>▪ Perform WHO clinical staging</td>
</tr>
<tr>
<td>▪ Counsel the mother on nutrition for herself and the baby</td>
<td>▪ Treat opportunistic infection</td>
</tr>
<tr>
<td>▪ Give appointment for her next visit</td>
<td>▪ Give Vitamin A 100,000 IU</td>
</tr>
<tr>
<td></td>
<td>▪ Do antibody test</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>18 months after delivery</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Women</strong></td>
<td><strong>Children</strong></td>
</tr>
<tr>
<td>▪ Perform physical examination: Pallor, Pulse, temperature, BP, breast condition</td>
<td>▪ Give Polio, Combined DPT/HB</td>
</tr>
<tr>
<td>▪ Counsel on Family planning and provide client method of her choice</td>
<td>▪ Weight and growth promotion</td>
</tr>
<tr>
<td>▪ Perform WHO clinical staging</td>
<td>▪ Perform physical examination: Respiratory rate, Pulse, temperature</td>
</tr>
<tr>
<td>▪ Treat opportunistic infection</td>
<td>▪ Perform WHO clinical staging</td>
</tr>
<tr>
<td>▪ Give cotrimoxazole prophylaxis if indicated</td>
<td>▪ Give cotrimoxazole prophylaxis</td>
</tr>
<tr>
<td>▪ Counsel the mother on nutrition for herself and the baby</td>
<td>▪ Treat opportunistic infection</td>
</tr>
<tr>
<td>▪ Give appointment for her next visit</td>
<td>▪ Give Vitamin A 100,000 IU</td>
</tr>
<tr>
<td></td>
<td>▪ Do antibody test</td>
</tr>
</tbody>
</table>
### Annex 7: PMTCT Monthly Report Form

**ANTENATAL CARE CLinic MONTHLY REPORT**

#### Site Details and Reporting Period

<table>
<thead>
<tr>
<th>ANC site name</th>
<th>Reporting Month</th>
<th>Reporting Year</th>
</tr>
</thead>
</table>

#### New booking visits in the Reporting Month

**New women registered**

#### Outcomes of the Booking Cohort

<table>
<thead>
<tr>
<th>Reporting Month</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
</tr>
</thead>
</table>

**Booking Cohort (circle)**  Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun

#### Number of ANC visits per woman

<table>
<thead>
<tr>
<th>1</th>
<th>1 visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2 visits</td>
</tr>
<tr>
<td>3</td>
<td>3 visits</td>
</tr>
<tr>
<td>4</td>
<td>4 visits</td>
</tr>
<tr>
<td>5+</td>
<td>5+ visits</td>
</tr>
</tbody>
</table>

**Total women in cohort**

<table>
<thead>
<tr>
<th>Sum 1–5</th>
<th>( \sum )</th>
</tr>
</thead>
</table>

#### HIV test result

<table>
<thead>
<tr>
<th>19</th>
<th>Previous negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Previous positive</td>
</tr>
<tr>
<td>21</td>
<td>New negative</td>
</tr>
<tr>
<td>22</td>
<td>New positive</td>
</tr>
<tr>
<td>23</td>
<td>Not done</td>
</tr>
</tbody>
</table>

#### First visit at

<table>
<thead>
<tr>
<th>6</th>
<th>0–12 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>13+ weeks</td>
</tr>
</tbody>
</table>

#### (Pre-) Eclampsia

<table>
<thead>
<tr>
<th>8</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### TTV doses

<table>
<thead>
<tr>
<th>10</th>
<th>0–1</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>2+</td>
</tr>
</tbody>
</table>

#### SP doses

<table>
<thead>
<tr>
<th>12</th>
<th>0–119</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>120+</td>
</tr>
</tbody>
</table>

#### Any FeFo

<table>
<thead>
<tr>
<th>14</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### Syphilis test

<table>
<thead>
<tr>
<th>16</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Positive</td>
</tr>
<tr>
<td>18</td>
<td>Not done</td>
</tr>
</tbody>
</table>

#### Report filled Date

<table>
<thead>
<tr>
<th>Report filled Date</th>
<th>Name</th>
</tr>
</thead>
</table>

#### Report received Date

<table>
<thead>
<tr>
<th>Report received Date</th>
<th>Name</th>
</tr>
</thead>
</table>

---

1. check: total must be equal to total women in cohort
2. check: total must be equal to field 20 + field 22
### Annex 8: National Core PMTCT Indicators

<table>
<thead>
<tr>
<th>Area</th>
<th>Indicator</th>
<th>Measurement method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policies and guidelines</td>
<td>Core indicator 1: Existence of national policies and guidelines in line with international standards for the prevention of mother to child transmission</td>
<td>Key informant interview and document review</td>
</tr>
<tr>
<td>Availability of PMTCT services</td>
<td>Core indicator 2: percentage of ANC facilities that provide both HIV testing and ARVs for PMTCT</td>
<td>National programme records</td>
</tr>
<tr>
<td>Testing and counselling</td>
<td>Core indicator 3: percentage of pregnant women who were tested for HIV and received their results</td>
<td>National programme records</td>
</tr>
<tr>
<td>ART eligibility assessment</td>
<td>Core indicator 4: percentage of HIV infected pregnant women attending PMTCT services who were assessed for ART eligibility</td>
<td>National programme records</td>
</tr>
<tr>
<td>ARV regimens</td>
<td>Core indicator 5: percentage of HIV infected pregnant women who received antiretroviral to reduce the risk of mother to child transmission</td>
<td>National programme records</td>
</tr>
<tr>
<td>Co-trimoxazole for HIV-exposed infants</td>
<td>Core indicator 6: percentage of infants born to HIV infected pregnant women who started CPT within two months of birth</td>
<td>National programme records</td>
</tr>
<tr>
<td>HIV-exposed infant testing</td>
<td>Core indicator 7: percentage of infants born to HIV infected pregnant women who received an HIV test within 12 months</td>
<td>National programme records</td>
</tr>
<tr>
<td>Infant feeding</td>
<td>Core indicator 8: percentage of HIV exposed infants who are exclusively breastfeeding, replacement feeding and mixed feeding at 3 months</td>
<td>National programme records</td>
</tr>
<tr>
<td>Coverage of family planning services</td>
<td>Core indicator 9: Proportion of HIV+ women receiving modern family planning methods in HIV testing and counselling settings</td>
<td>National programme records</td>
</tr>
<tr>
<td>Impact of the PMTCT intervention</td>
<td>Core indicator 10: percent infants born to HIV infected women</td>
<td>Modelling</td>
</tr>
<tr>
<td>Availability of decentralized CD4 testing services</td>
<td>Additional indicator 1: percentage of districts that have CD4 testing available</td>
<td>Lists of facilities or laboratories with CD4 machines</td>
</tr>
<tr>
<td>Availability of virological testing services</td>
<td>Additional indicator 2: percentage of health facilities that provide virological testing services for infant diagnosis, on site through Dried Blood Spots (DBS)</td>
<td>Lists of facilities that provide on-site virological testing or provide EID through DBS</td>
</tr>
<tr>
<td>Male involvement</td>
<td>Additional indicator 3: percentage of male partners of pregnant ANC clients who were tested for HIV</td>
<td>National programme records</td>
</tr>
<tr>
<td>Health provider training</td>
<td>Additional indicator 4: percentage of health workers newly trained or retrained in the provision of PMTCT services</td>
<td>Health facility survey</td>
</tr>
<tr>
<td>ARVs for HIV exposed infants</td>
<td>Additional indicator: percentage of HIV exposed infants who received ARVs for PMTCT</td>
<td>National programme records</td>
</tr>
</tbody>
</table>
Annex 9: Safety of ARVs for pregnant women and infants

All ARV drugs are associated with some adverse effects/toxicity. The risks of adverse events when short-course prophylactic ARV regimens are used in prevention of MTCT are less than when drug combinations are used for a longer period. Similarly, the potential toxicity to infants exposed to short course ARV drugs is expected to be less than when they are exposed for longer periods. Table 6 below shows the adverse effects associated with ARV use in mother and infant.

ARV DRUGS ADVERSE EFFECTS AND TOXICITY

<table>
<thead>
<tr>
<th>ARV drug</th>
<th>Adverse effects/ Toxicity</th>
<th>Contraindication</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZT</td>
<td>Headache, nausea, myalgia, insomnia, anaemia and/or neutropenia (incidence decrease with time).</td>
<td>Known allergy, anaemia (Hb &lt; 8g/dl) or severe neutropenia (neutrophils 750) and severe liver or kidney dysfunction.</td>
</tr>
<tr>
<td>3TC</td>
<td>Few side effects</td>
<td>Hypersensitivity, impaired renal/hepatic dysfunction</td>
</tr>
<tr>
<td>Didanosine (ddI)</td>
<td>Pancreatitis, peripheral neuropathy, hepatotoxicity/renal toxicity, lactic acidosis, blood disorders, diabetes anaphylaxis, teratogenicity</td>
<td>Hypersensitivity impaired renal/hepatic dysfunction. Use with caution in pregnancy, pancreatitis, impaired renohepatic dysfunction, gout</td>
</tr>
<tr>
<td>Stavudine (d4T)</td>
<td>Pancreatitis, peripheral neuropathy, hepatotoxicity/renal toxicity, lactic acidosis, blood disorders, diabetes anaphylaxis, lipodystrophy (long term), skin rash, headache</td>
<td>Don't administer with Zidovudine, impaired renohepatic dysfunction, gout.</td>
</tr>
<tr>
<td>NVP</td>
<td>Skin rash including Steven Johnson Syndrome, hepatotoxicity, GIT symptoms</td>
<td>Liver dysfunction – induces cytochrome P450 which in turn decreases nevirapine efficacy.</td>
</tr>
<tr>
<td>EFV</td>
<td>Skin rash, CNS disturbance, teratogenicity, hepatotoxicity</td>
<td>First trimester and in children less than three years of age.</td>
</tr>
<tr>
<td>Protease Inhibitors</td>
<td>Metabolic disorders, including lipodystrophy, hyperglycaemia, onset or exacerbation of diabetes mellitus and ketoacidosis</td>
<td></td>
</tr>
</tbody>
</table>

Despite the above ARV drugs adverse effects and toxicity, the benefits of ARV drugs in pregnancy outweigh potential risks to the mother and the infant.
REFERENCES