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The MoH acknowledges the central and facilitating roles played by the government staff, the National AIDS Commission (NAC), UNICEF, WHO, Baylor College of Medicine, Lighthouse, UNC and other key PMTCT partners in revising the First Edition PMTCT Guidelines 2004 and ensuring that this Second Edition is comprehensive and has up to date PMTCT interventions to reduce the risk of mother-to-child transmission (MTCT) of HIV among pregnant women.

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Finally, but not least, we are grateful to NAC and UNICEF for the financial support to print these Second Edition PMTCT Guidelines.
FOREWORD

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% (NAC 2007). It reduced by 2.4% from 15% in 2006 (NAC 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 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 Churches Health Association of Malawi (CHAM) and the private sector with linkages to community-based organizations (CBOs), households and communities. PMTCT 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 that all pregnant women access PMTCT services at every health facility of their choice, and in the community, inclusive of care and treatment services.

Evidence abounds regarding the effectiveness of PMTCT 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 care workers providing maternal and child health services (MCH). PMTCT and paediatric HIV care services for women in child bearing age, adolescents, pregnant women, mothers, exposed infants, children and families. We urge all of them to use the guidelines as a resource in their daily work as they strive to provide comprehensive HIV prevention, care and treatment for the people infected and affected by HIV at public, CHAM and private sector health facilities in all corners of the country.

Chris K. Kang’ombe
SECRETARY FOR HEALTH
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<th>Abbreviation</th>
<th>Full Form</th>
</tr>
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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>Centres for Disease Control and Prevention</td>
</tr>
<tr>
<td>CHAM</td>
<td>Christian Health Association of Malawi</td>
</tr>
<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>
</tr>
<tr>
<td>ELISA</td>
<td>Acronym-Enzyme-Linked ImmunoSorbent Assay</td>
</tr>
<tr>
<td>FHI</td>
<td>Family Health International</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>HSA</td>
<td>Health Surveillance Assistance</td>
</tr>
<tr>
<td>HTC</td>
<td>HIV Testing and Counselling</td>
</tr>
<tr>
<td>HUTAP</td>
<td>Howard University Technical Assistance Project</td>
</tr>
<tr>
<td>MoH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MCH</td>
<td>Maternal and Child Health (Services)</td>
</tr>
<tr>
<td>MSH</td>
<td>Medici</td>
</tr>
<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>
</tr>
<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>
</tr>
<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>UNPFA</td>
<td>United Nations Population Fund</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
CHAPTER 1
PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV

1.1 BACKGROUND

Malawi, a landlocked country with a projected population in 2007 of approximately 13.6 million people (80% reside in rural areas), 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 estimated at 12.6% (NAC 2007). The prevalence declined by 2.6% from 15% in 2006 (MoH, 2006).

It is estimated that 89,000 children are living with HIV (Sentinel Surveillance, 2007). Few children have access to care and treatment. Most women and children, who require HIV prevention, care and treatment services, can access these services through the extensive network of public, NGO and private facilities which exists in the country. The Government of Malawi is the largest provider of health services, followed by CHAM, Banja La Mtsogolo (BLM), and the private sector.

MTCT of HIV is the main source of HIV infection in children. The 2007 NAC report shows that HIV prevalence in antenatal women age 15-49 is 17.1% in urban areas, 16.4% in semi-urban areas and 12.1% in rural areas (total national prevalence 12.6%). Approximately 575,000 deliveries are registered every year (RHU, 2007). With HIV prevalence among pregnant women of 12.6% (NAC 2007) approximately 72,450 HIV-exposed infants are born each year. With no PMTCT interventions, an estimated 30-45%, or 21,735-32,600, infants will contract HIV from their mothers. If Malawi is able to reach its goal of providing comprehensive access to quality PMTCT nationwide, this number will be reduced by at least half.

The rate of transmission is highest during labour and delivery. 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>
</tr>
</thead>
<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)</td>
<td>Mixed feeding prior to six months of age (e.g., food or fluids in addition to breast milk)</td>
</tr>
<tr>
<td>Parastic infections</td>
<td>Increase exposure of the baby to mother's infected blood or body fluids</td>
<td>Breast abscesses, nipple fissures, mastitis</td>
</tr>
<tr>
<td>Sexually transmitted infections (STIs)</td>
<td>Chorioamnionitis (from untreated STI or other infections)</td>
<td>Poor maternal nutritional status</td>
</tr>
<tr>
<td>Maternal malnutrition</td>
<td>Prematurity</td>
<td>Oral disease in the baby (e.g., thrush or sores)</td>
</tr>
<tr>
<td>Anaemia</td>
<td>First twin</td>
<td></td>
</tr>
<tr>
<td>External cephalic version (ECV)</td>
<td>Low birth weight</td>
<td></td>
</tr>
<tr>
<td>Amniocentesis</td>
<td>Breaks in the skin or mucous membranes of the baby</td>
<td></td>
</tr>
<tr>
<td>Chorioamnionitis (from untreated STI or other infections)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A lot of progress has been made in the last few years to ensure access nationally to PMTCT services by pregnant women. The number of sites increased from 140 in April 2007 to 360 at the end of December 2007. However, more work is needed to ensure access to PMTCT services by all pregnant women and to care and treatment for those who test HIV-positive and their family members living with HIV.

1.2 PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV

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 out of 675,000 expected pregnancies, 284,474 pregnant women (42%) were tested for HIV at 360 sites. About 65% (16,864 out of 25,966) HIV-positive women received ARV prophylaxis to reduce the risk of MTCT. About 51% (13,413 out of 25,966) HIV-exposed infants received ARV prophylaxis within 72 hours after birth, and, 4,213 eligible pregnant women were on ART (MoH 2007). 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.

Vision
HIV free Malawi.

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.

Objectives
1. To routinely offer HIV testing and counselling to women and adolescents in child bearing age, pregnant and post-partum women and their partners, and family planning clients
2. To increase access to family planning 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
5. To strengthen the MCH service delivery system through integrating HTC in all MCH service delivery points (family planning, antenatal, postnatal care and under-five clinics, and adolescent health youth friendly services).

Benefits of PMTCT services
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:
- 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.

HIV infection in pregnant women, non-pregnant women, adolescent girls and children can be prevented through the following four PMTCT prongs below. Actions taken by health care workers at every point in MCH services as follows:

Prong 1: Primary prevention of HIV infection among women of child bearing age
At reception/registration of clients at family planning, postnatal care, under-five clinics and adolescent health youth friendly services, routinely check the HIV status in Women and Child Health Passports. Knowing one’s status can greatly influence behaviour change in women and adolescents of child bearing age.

Give appointments for repeat HIV tests after three months to family planning clients, mothers with unknown HIV status identified at postnatal care and under-five clinics, and adolescents identified at youth friendly health services with HIV negative results that are older than three months. Write the appointment dates in Women Health Passports.

Routine offer HTC to non-pregnant women and adolescent girls attending family planning and adolescent youth friendly health services, and mothers with unknown HIV status identified at postnatal care and under-five clinics. Counsel women in groups of up to ten (10) at a time in order to create a conducive environment for women to be close to the counsellor and accord them the opportunity to ask questions on areas that are unclear to them.

Encourage clients with HIV-negative results to stay negative by adopting safer sex practices.

Refer clients who test HIV-positive to care and treatment services within the facility if available or to the nearest ART Clinic.

Counsel clients on family planning and offer the methods of choice.

Screen for syphilis and treat those with the infection. Syphilis increases the risk of HIV transmission.

Promote safer sex practices including condom use for dual protection at all MCH service delivery points – family planning, adolescent youth friendly health services, postnatal care and under-five clinics and during health education and ANC clinics.

Collaborate with and advise stand alone HTC services and NGOs and community-based organizations (CBOs) providing HTC in the community to take these actions so as to uphold same practice standards for this PMTCT prong.

**Prong 2: Prevention of unintended pregnancies among HIV-positive women**

At reception/registration, routinely check HIV status in Women Health Passports at family planning, postnatal care, under-five clinics and adolescent health youth friendly services. Checking HIV status in Child Health Passports can help to determine a mother’s HIV status if it is not in her Health Passport.

Routinely offer HTC to non-pregnant women and adolescent girls attending family planning and adolescent health youth friendly services, and mothers with unknown HIV status identified at each MCH service delivery point. Counsel women in groups of up to ten (10) at a time in order to create a conducive environment for women to be close to the counsellor and accord them the opportunity to ask questions on areas that are unclear to them.

Educate HIV-positive pregnant women at ANC and mothers at postnatal clinics on the family planning service offered at your facility. The information should include the days of the week the family planning service is offered, clinic operating times, the methods available at your health facility and the staff member(s) who provide the service.

Provide family planning services or work with health care workers who provide family planning services to:

- Counsel non-pregnant women (and couples) and adolescents on the importance of family planning and offer the contraceptive methods of choice inclusive of male and female condoms for dual protection, if available at your health facility.
- Give appointments for next visits and enter the dates in Women Health Passports.

Refer HIV-positive women to the nearest health facilities that provide family planning services if your facility does not, including referral for permanent family planning methods (e.g. tubal ligation or vasectomy for spouses) if these are in accordance with the woman’s or couple’s choice. Also, get feedback if the client accessed the service.

Provide education on the importance of knowing the HIV status of family members to HIV-positive pregnant women during post-test counselling and reinforce the information at every subsequent ANC visit. Encourage the women to return to the health facility six weeks after delivery for postnatal check up, family planning and immunization of the infant.

Screen for syphilis and treat those with the infection. Syphilis increases the risk of HIV transmission.

**Prong 3: Reduction of mother-to-child transmission of HIV among pregnant women**
At reception/registration at ANC Clinic, check the HIV status in Women Health Passports to identify those with unknown HIV status and those with previous negative HIV results older than three months.

Routinely offer HTC to all ANC clients with unknown HIV status. Encourage both HIV-negative and HIV-positive pregnant women to bring their spouses to the health facility for HTC. Counsel women in groups of up to ten (10) at a time in order to create a conducive environment for women to be close the counsellor and accord them the opportunity to ask questions on areas that are unclear to them.

Counsel and test couples together whether the HIV status of the pregnant woman is known or unknown in order to give appropriate advice to the couple, including appropriate advice in cases of discordance.

Provide take home ARV prophylaxis at the time of diagnosis of HIV infection to all HIV-positive pregnant women. Give appointments to women on combination regimen to return to the facility every month for physical check up and monitoring of Hb levels.

In labour wards routinely offer HTC to pregnant women with unknown HIV status in early first stage of labour, and to mothers who deliver with unknown HIV status, so that exposed infants can receive the ARV prophylaxis if the mothers test HIV-positive.

Clinically Stage HIV-positive pregnant women.

Take blood specimens for CD4 count from all HIV-positive pregnant women at ANC and maternity and give them appointments to return to the facility to receive results so that eligible women can access treatment immediately.

Start HIV-positive women on CPT from the second trimester and give them monthly appointments for physical check up and adherence support. Provide CPT every two months.

Refer eligible pregnant women for ART with CD4 count <250 within your health facility if this service is provided or to the nearest ART Clinic. Get feedback if the women you referred to ART accessed the service. If not, follow them up in collaboration with Health Surveillance Assistants (HSAs) and/or other community-based health workers working in the community.

Counsel mothers on infant feeding options and support their choices.

Routinely offer HTC to mothers with unknown HIV status identified at under-five clinics through checking both Women and Child Health Passports at registration. The HIV results will help in giving relevant advice to the women on family planning, CPT and ART services.

During post-test counselling (Chapter 2), to reduce MTCT, give HIV-positive pregnant women condoms to take home. Also counsel spouses on condom use and emphasize dual protection.

Promote safe sexual behaviour during pregnancy and lactation period to reduce the risk of MTCT.

Screen for syphilis and treat those with the infection.

Educate pregnant women and mothers on the importance of early infant diagnosis of HIV at 6 weeks of age and at 18 months. Inform mothers where they can access DNA testing at 6 weeks if this service is not provided at your site.

**Progn 4: Care, support and treatment for HIV-positive women and their families**

At every visit to the health facility, routinely check Women (as well as spouses) and Child Health Passports for CD4 count results and CPT (and ART) prescriptions and provide adherence support accordingly.

Give appointments to HIV-positive women and their families to visit the facility for check up, follow-up and to receive CPT supplies. Work closely with the ART Clinic, either at your health facility or the nearest one to your facility.

At all times identify and follow-up both HIV-positive and exposed infants and positive children in under-five clinics.

Write due dates for CD4 count tests in the Health Passports and inform clients where to go for these tests e.g. at your facility or to the laboratory at another facility.

Take blood specimens for clients due for CD4 count tests and give them appointments when they should receive their results. Write appointment dates in the Health Passports.

At every visit conduct physical check up of HIV-positive women, exposed infants and family members living with HIV.

Give two-month supplies for adult and children cotrimoxazole (CPT) as needed.

Support HIV-positive pregnant women/mothers and family members to adhere to CPT (and ART) as needed.
- Support mothers’ infant feeding choices
- Screen for and treat STIs
- Work with mother mentors/support groups to support HIV-positive women with ARV prophylaxis for MTCT, adherence to care and treatment, infant feeding, family planning, care and treatment services for their own health and that of family members
- Collaborate with HSAs and other community-based health workers to strengthen follow-up of HIV-positive women and their families.

The above actions taken in providing HIV prevention, care and treatment services for pregnant women and their families require integrating PMTCT in all MCH clinics. PMTCT will be more effective if spouses/partners, family members and trusted confidants are, from the outset, involved in the care for both HIV-negative and HIV-positive pregnant women. Specifically, ensure support for HIV-positive pregnant women, mothers, adolescents and children.
CHAPTER 2
HIV TESTING AND COUNSELLING

2.1 APPROACH

HIV testing and counselling (HTC) is an integral part of MCH services -- family planning, ANC, labour and delivery, postnatal care, and under-five services. It offers an opportunity to counsel pregnant women, couples and adolescents on risk reduction and prevention of HIV infection, and early access to care and treatment services (MoH 2007). It maximizes prevention of HIV transmission during pregnancy, labour and delivery, and through breastfeeding. The routine offer of HTC must be instituted at all MCH service delivery points at hospitals, health centres, clinics and in the community (Refer to HTC Guidelines). At registration/reception, routinely check all Women and Child Health Passports for HIV status before offering MCH services. In maternity, routine offer of HTC should be done after establishing, through vaginal examination, women who are in first stage of labour and also for those who deliver with unknown HIV status in maternity.

Purpose of Routine HTC in MCH Services

- Improves the quality of MCH services in the era of HIV
- Promotes HIV prevention in MCH services as a top priority to protect the future generation of the country
- Mitigates the impact of HIV among pregnant women, mothers, exposed infants, children and families
- Sustains HIV testing as an entry point to care, treatment and psychosocial support for HIV-positive pregnant women, mothers, exposed infants, children and families
- Enhances risk-reducing behaviour including the use of condoms to prevent sexually transmitted infection (STI) and HIV infection during pregnancy and lactation and for dual protection
- Encourages partner disclosure and partner testing so that more male partners can access care, support and treatment as needed
- Gets HIV-positive pregnant women into appropriate care and treatment services as applicable

Benefits of Routine HTC in MCH Services

PMTCT services integrated within MCH services benefit both clients and the health system by:

- Reducing stigma associated with both HTC and HIV infection
- Reaching clients utilizing ANC, family planning, postnatal care and under-five clinics as well as maternity services
- Ensuring continuous care and psychosocial support for HIV-positive pregnant women and mothers, including those who decline to test for HIV at the initial contact in PMTCT settings
- Identifying HIV-positive women and affected family members for them to access care, treatment and support
- Enabling HIV-positive clients to access care, support and treatment early
- Reinforcing safer sexual practices to prevent the spread and/or contracting of HIV and STIs

Family-centred care model

The MoH promotes the family-centred care model in the fight against HIV in women, men, children and family members. Women are ideal entry points for the rest of family members in a household to know their HIV status. The family-centred care model creates a supportive environment for care and treatment for those living with HIV/AIDS inclusive of referral to other support services. Potential advantages are:

- Reduced stigma
- Increased chances of disclosure of HIV status to family members or friends or significant others
- Motivated family members living positively with HIV and utilizing care and treatment services
- Enhanced acceptance of the people living with HIV
- Increased psychosocial support for family members living with HIV
- Enhanced adherence to care and treatment.
Every health care worker working in MCH, maternity, and in the community is responsible for providing information to women and their partners on the importance of knowing the HIV status of the whole family.

**Benefits of Couple Testing and Counselling**

- Provides the couple with a chance to make informed decisions on how to stay negative if both of them test negative, how to handle discordance between them and/or how to live positively with HIV
- Encourages male partners to accept HTC because of having more information on HIV and AIDS
- Increases support and acknowledgement of the HIV-positive status of women
- Promotes shared responsibility between the couple to prevent HIV in the unborn child
- Accord couples opportunities to discuss safer sex practices and infant feeding options in case of HIV-positive results
- Creates a supportive environment for making informed decisions to access care and treatment
- Encourages couples to know the HIV status of children and other dependants in their households.

**2.2 GUIDING PRINCIPLES FOR HIV TESTING AND COUNSELLING IN PMTCT SETTINGS**

HTC is part of the routine services at all MCH services. The guiding principles include upholding confidentiality on the information shared with the client as follows:

- Routinely offering HTC with opt-out option for all clients attending various MCH services including labour wards and postnatal wards. Counsel women in groups of no more than ten (10) at a time in order to create a conducive environment for women to be close the counsellor and accord them the opportunity to ask questions on areas that are unclear to them
- Providing information on HIV and interventions available for HIV-positive clients in MCH services
- Offering HTC prior to offering other ANC and related services
- Counselling all pregnant women on infant and young child feeding, infant feeding options and, for those who test positive for HIV, family planning
- Ensuring a continuum of care and support for HIV-positive pregnant women, mothers, adolescents and family members.

**2.3 PRE-TEST COUNSELLING FOR HIV**

During group education for all pregnant women, mothers, family planning women and adolescents, emphasize the importance of:

- Confidentiality and shared confidentiality. Keep private information shared between you and the client
- Routine blood tests including HIV testing in pregnancy -- haemoglobin level, syphilis and HIV tests
- Opt-out approach to HTC. This approach accords an HIV-positive woman the opportunity to decline an HIV test especially at the first pre-test counselling. Give the woman an appointment for individual counselling or encourage her to attend the next pre-test session or refer her to a mother mentor either, at the facility or in the community, for support and encouragement to take the HIV test
- HIV transmission and how to prevent it
- **Couple counselling:** Advise all pregnant women (both HIV-negative and positive) to encourage male partners to test for HIV. Knowledge of HIV status among couples will improve uptake of PMTCT and subsequent care, psychosocial support and treatment services
- Sharing results with partners and/or family member(s) (disclosure)
- Maternal nutrition
- ARV prophylaxis for PMTCT
- CPT for HIV-positive pregnant women from second trimester, mothers and exposed infants/children
- ART for eligible women to reduce further the risk of HIV transmission from the mother to the infant
- Early infant diagnosis of HIV at 6 weeks
- Rapid HIV test for the baby at 18 months
- Family planning
- New born care and infant feeding options (reinforce exclusive breastfeeding for 6 months)
- Interaction between HIV and other diseases like STIs and TB
- Delivering in health facilities
- Family HIV care services.

2.4 TESTING ALGORITHM

In 2007, the MoH changed the testing algorithm from parallel testing to serial testing. Use the algorithm in Figure 1 for HIV serial testing. Refer to Annex 1 for information on parallel testing.

**Figure 1: Rapid HIV testing algorithm for serial testing**

![Flowchart showing the rapid HIV testing algorithm for serial testing]

2.5 POST-TEST COUNSELLING FOR HIV

Post-test counselling is a critical step in assisting the clients to know their HIV status. Counsellors and health care 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 with a caring, friendly and understanding person-to-person interaction.
- 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.
- Reinforce the information given during pre-test counselling to HIV-positive pregnant women and adolescents on how to prevent transmission of HIV to their infants.

Table 2 below covers important information which should be given to HIV-negative and HIV-positive women during post-test counselling.

Table 2: Key Information given to HIV-negative and positive women during post-test counselling

<table>
<thead>
<tr>
<th>HIV-negative women</th>
<th>HIV-positive women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safer sex practices with partner, especially condom use, to prevent HIV infection during pregnancy and while breastfeeding</td>
<td>Reinforce key PMTCT messages given in pre-test counselling, including infant feeding</td>
</tr>
<tr>
<td>Importance of family planning or child spacing</td>
<td>Encourage the client to attend the facility for continuous care, support and treatment, which will include:</td>
</tr>
<tr>
<td>The meaning of discordance (when applicable)</td>
<td>o Clinical Staging:</td>
</tr>
<tr>
<td>Importance of partner testing – emphasize to the client that it is possible that the partner could be infected by HIV therefore MTCT can occur during this current pregnancy</td>
<td>o CPT</td>
</tr>
<tr>
<td>The need to repeat HIV testing three months after the initial testing because of the window period.</td>
<td>o CD4 counts</td>
</tr>
<tr>
<td>o ART if needed</td>
<td>Emphasize the importance of adhering to CPT and/or treatment as applicable</td>
</tr>
<tr>
<td></td>
<td>Explore and encourage testing of partners and children: emphasize to the client that it is possible that the partner could be HIV-negative. For women with more children, inform them that it is also possible that one or more children could be HIV-positive</td>
</tr>
<tr>
<td></td>
<td>Reinforce positive living, and link to support groups</td>
</tr>
<tr>
<td></td>
<td>Provide condoms and advise clients how to use them. Request the women to encourage the male partners to undergo HTC including demonstration of condom use if need be</td>
</tr>
<tr>
<td></td>
<td>Give appointments for return visits.</td>
</tr>
</tbody>
</table>

2.6 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 QA system is important in any laboratory or testing site.
Internal Quality Assurance

Internal QA is an essential part of comprehensive PMTCT service delivery. QA is conducted on every new test kit opened. Table 3 indicates factors which 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 procedures</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>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Following recommended sample collection technique</td>
</tr>
</tbody>
</table>


Be aware 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 QA testing system 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, CHSU 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

In addition, each site should send to CHSU blood specimens with inconclusive HIV results after using the tie breaker for further analysis with ELISA.
CHAPTER 3

INTERVENTIONS FOR PREVENTION OF MOTHER TO CHILD TRANSMISSION

3.1 INTEGRATION OF PMTCT IN MCH SERVICES

PMTCT is a critical entry point to HTC, 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 irrespective of the HIV status. They continuously improve provision of comprehensive quality MCH services by increasing access to ARV prophylaxis, care, treatment, infant care, psychosocial support and follow-up of mothers and infants/children..

3.2 SERVICES PROVIDED TO ANC CLIENTS AT FIRST AND SUBSEQUENT VISITS

Comprehensive ANC

Comprehensive ANC involves the provision of a package of services to all HIV-negative and HIV-positive clients at all ANC visits as follows:

- Four focused ANC visits. There are five visits in the ANC register for additional appointments (more appointments can be given to a client if needed) for continuous counselling on clients’ individual needs and for women requiring follow-up of other conditions such as pre-eclampsia (hypertension).
- Encourage all pregnant women to deliver at health facilities for:
  - Safe delivery
  - HTC for those with unknown HIV status
  - ARV prophylaxis for exposed infants immediately after birth

Table 4 below provides a complete list of the antenatal packages/services which should be provided for all pregnant women at each ANC visit.
## Table 4: Services provided to ANC clients at first and subsequent visits

<table>
<thead>
<tr>
<th>First Visit - all women (4-16 weeks)</th>
<th>Subsequent visits all women (2nd visit:24 to 28 weeks; 3rd visit:32 and 36 weeks; 4th visit:36 and above)</th>
<th>Subsequent visits (HIV-positive Pregnant women and mothers) 2nd visit:24 to 28 weeks; 3rd visit:32 and 36 weeks; 4th visit:36 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>• General health education</td>
<td>• General health education</td>
<td>• General health education and continuous counselling</td>
</tr>
<tr>
<td>• Check weight</td>
<td>• Check weight</td>
<td>• Check weight</td>
</tr>
<tr>
<td>• Investigations: Hb, syphilis and HIV</td>
<td>• Repeat investigations if necessary</td>
<td>• CD4 cell count,</td>
</tr>
<tr>
<td>• Physical examination (look for signs and symptoms of HIV/STI/HIV)</td>
<td>• Physical examination</td>
<td>• FBC if eligible for ART</td>
</tr>
<tr>
<td>• Assess nutrition status and advise the client accordingly</td>
<td>• Find out how the client is feeling before physical examination and attend to complaints if any</td>
<td>• Chemistry (LFT, RFT) if eligible for ART</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Assess nutrition status and advice the client accordingly</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sputum for AFB if TB is suspected</td>
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<tr>
<td></td>
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</tr>
<tr>
<td>• Give health education on maternal nutrition and identify women who need individual counselling</td>
<td>• Emphasize the importance of good nutrition in pregnancy to promote good pregnancy outcome</td>
<td>• Find out how the client is feeling before physical examination and attend to complaints if any</td>
</tr>
<tr>
<td></td>
<td>• Give individual nutrition information to women who need special attention</td>
<td>• Physical examination, use Clinical Staging (Annex 3) to stage every woman and provide care and/or refer to a doctor as necessary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Assess nutrition status and advise the clients accordingly</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Encourage women to request partners to test for HIV – it is possible that some partners of HIV-negative women could be positive</td>
<td>• Encourage partners to test for HIV – it is possible that some partners of HIV-negative women could be positive</td>
<td>• Encourage women to access care, support and treatment and to request partners to test for HIV – it is possible that some partners of HIV-positive mothers are HIV-negative</td>
</tr>
<tr>
<td>• Counsel couples together</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Counsel couples together</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Family planning including condoms for dual protection</td>
<td>• Family planning, including condoms for dual protection</td>
<td>• Family planning, including condoms for dual protection</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Give women iron, albendazole and SP (DO NOT give SP to HIV-positive women on CPT) - Refer to Reproductive and CPT Guidelines on administration of SP to pregnant women)</td>
<td>• Give women iron, albendazole and SP (DO NOT give SP to HIV-positive women on CPT) - Refer to Reproductive and CPT Guidelines on administration of SP to HIV-positive pregnant women)</td>
<td>• Give women iron, albendazole, CPT and INH (Refer to Reproductive and CPT Guidelines on administration of SP and to TB Guidelines on administration of INH to HIV-positive pregnant women)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Additional services for HIV-positive pregnant women should include:

- Refer all HIV+ pregnant women eligible for initiation of ART as recommended in the Treatment of AIDS Guidelines
- Clinically Stage all HIV pregnant women and mothers at all follow-up visits irrespective of CD4 count
- CD4 count (recommended for all HIV-positive pregnant women)
- Follow-up HIV-infected women at subsequent ANC visits or as per appointments to monitor disease progression
- Treat or refer the clients for treatment of opportunistic infections
- Diagnose and treat sexually transmitted infections (STIs)
- Follow-up HIV-infected women at subsequent ANC visits or as per appointments to monitor disease progression

**Nutritional support for HIV-positive women and women with MUAC <22 cm**

Nutrition requirements are greater during pregnancy, even for healthy women, because of elevated nutritional needs of both the mother and the foetus. HIV-infected women are at greater risk during pregnancy than their HIV-negative counterparts, because viral replication, combined with the consequences of common HIV-related infections and illnesses, limit dietary intake and reduce nutrient absorption (see Chapter for more information on nutrition for pregnant women, mothers and infant and young children).

Adequate nutrition, including nutritional support can help to:

- Ensure adequate weight gain during pregnancy
- Maintain Hb within normal limits
- Maintain a strong immune system
- Decrease susceptibility to infection
- Slow HIV disease progression
- Ensure adequate growth of the foetus

To ensure adequate maternal nutrition, health workers should:

- Advise pregnant women to maintain adequate nutritious diets throughout pregnancy, postnatal and lactation periods, daily choosing foods from the six food groups. (see Chapter six)
- Advise pregnant women to eat one extra meal per day during pregnancy and lactation
- Provide iron and folate supplements to all pregnant women throughout the pregnancy according to protocol (Refer to RHU Guidelines)
- Provide malaria prophylaxis (**DO NOT** give SP for malaria prophylaxis to HIV-positive pregnant women who are on CPT. Cotrimoxazole has a sulphur base, which has been found to prevent malaria).
- Provide de-worming tablets (abendazole) to all pregnant women according to RHU Guidelines protocol
- Provide supplementary feeding to malnourished women, using national admission criteria.
- Advise the pregnant women to have adequate rest daily
- Counsel women on the importance of family planning or birth spacing.

**Cotrimoxazole Prophylaxis Therapy for HIV-positive pregnant women**

Give cotrimoxazole for preventive therapy (CPT) to all HIV-positive pregnant women from the second trimester to prevent opportunistic infections. See Annex 4 for complete information about CPT prophylaxis in HIV-positive pregnant women and HIV-exposed and positive infants. **DO NOT** give SP for malaria prophylaxis to HIV-positive pregnant women who are on CPT.

Complete information on ARV prophylaxis for HIV-positive pregnant women is provided in Chapter 4.
SUMMARIES OF ANC, LABOUR AND DELIVERY, AND POST-NATAL CARE FOR ALL WOMEN

The following three flowcharts show/cover the comprehensive services which should 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: summary of antenatal care services and practices for all women in Malawi (HIV-positive, HIV-negative and unknown HIV status)

Structured ANC Group Education

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

Woman declines HIV

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 counseling if not done as couple
- Discuss safer sex and offer condoms
- Look for signs and symptoms of HIV
- Discuss positive living

Clinical stage I and II or CD4 >350

PMTCT ARV prophylaxis (See Chapter 4)

Cotrimoxazole Prophylaxis

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

Clinical Stages III and IV or CD4 count <250

Initiate or ART or refer for ART

Continue routine ANC and reinforce PMTCT messages at each visit
Figure 3: Summary of labour and delivery services and practices for all women in Malawi (HIV-positive, HIV-negative and unknown HIV status)

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

Manage Labour and Delivery using: SAFE OBSTETRIC PRACTICES
- Give emotional support during labour for all women
- Use a partogram
- Avoid ARM where possible
- Avoid frequent/unnecessary vaginal examinations
- Avoid unnecessary episiotomy
- Minimize trauma from instrumental delivery and routine suctioning of baby’s mouth/nostrils
- Clamp cord immediately after birth and DO NOT “milk” the cord

NEGATIVE

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

UNKNOWN

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

Baby of HIV-negative woman
- Routine follow-up

Baby of woman with unknown HIV status
- Routine follow-up

Baby of HIV-positive woman
- ARV prophylaxis (Chapter 4)
- Follow-up of HIV exposed infants and children (Chapter 5)
Figure 4: Summary of postnatal and long-term follow-up services and practices for all women in Malawi

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
### 3.3 INTRAPARTUM CARE

**Specific intrapartum interventions: safe obstetric/midwifery practices**

- Give emotional support during labour for all women
- 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 episiotomy as a routine, except for specific obstetric indications
- Avoid frequent/unnecessary vaginal examinations
- Use a partogram to monitor the progress of labour in order to improve the management and reduce the risk of prolonged labour
- Manage labour actively in accordance with obstetric/midwifery practices
- Continue ARV therapy if mother is on ART or on combination regimen prophylaxis (see Chapter 4).

**Intrapartum care for HIV-positive women**

**DO NOT** isolate or treat HIV-positive women and adolescents differently from other women in the labour ward. Give them the same quality of intrapartum care given to HIV-negative women:

- Confirm the HIV status in Health Passports of all women who are admitted to labour and antenatal wards
- Take patient history and check the laboratory tests done and drugs, such as ART and AZT, used during pregnancy or SD-NVP taken at the commencement of labour. Also check drugs to be used during pregnancy/labour e.g. combination ARV prophylaxis to reduce the risk of MTCT
- Avoid invasive procedures as these can transmit HIV from the mother to the baby
- Monitor foetal and maternal conditions and progress of labour
- Provide ARV prophylaxis for HIV-positive mothers not on ART (see Chapter 4)
- Uphold universal precautions at all times to prevent HIV transmission.

**Intrapartum care for women with unknown HIV status**

- Routinely offer HTC to women and adolescents with unknown HIV status in first stage of labour; or
- Routinely offer HTC shortly after delivery
- Uphold safe obstetric/midwifery practices to minimise the risk of MTCT of HIV
- Administer ARV prophylaxis to exposed infants born to HIV-positive mothers (see Chapter 4)

**Intrapartum care for HIV-Negative women**

Refer to safe obstetric/midwifery practices as discussed in 3.3

### 3.4 POST-NATAL CARE FOR ALL WOMEN

The postpartum period provides an opportunity to educate all mothers about HIV. Identify women with unknown HIV status in postnatal and Under-five Clinics (including women who delivered at home) and offer them routine HTC. Provide the care below for all pregnant women irrespective of HIV status.

**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 re-infection of HIV throughout breastfeeding period.
Care of the breast:
- 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.

See Chapter 5 for information on the care and follow-up of the exposed infants/children.

3.5 LONG-TERM FOLLOW-UP OF ALL WOMEN AFTER DELIVERY
Encourage women to return within 14 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 baby are seen together (see Chapter 5 for follow-up care for the infant). Follow-up care for all mothers should include the following services:

- Signs and symptoms of postnatal infections and treatment as needed
- Treatment of opportunistic infections, STIs, malaria and TB.

3.6 SPECIFICS FOR LONG-TERM FOLLOW-UP OF HIV-POSITIVE WOMEN AFTER DELIVERY
- Give women appointments monthly for physical check up and follow-up including for family planning. Write the appointments in Women Health Passports
- Adherence support to CPT or ART for mother and baby as needed
- Clinical Staging & CD4 count repeated every 6 months
- Referral for ART when indicated
- Link women to mentor mothers or support groups as needed.

3.7 SPECIFICS FOR LONG-TERM FOLLOW-UP OF HIV-NEGATIVE WOMEN AFTER DELIVERY
- Support exclusive breastfeeding
- Advise woman to test for HIV every three months
- Provide or refer women for family planning.

Family planning
- Discuss and emphasise the importance of family planning/child spacing and the role of condom use (dual protection) 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. Injectable and oral contraceptives are the most effective methods to prevent pregnancies.
3.8 LONG-TERM FOLLOW-UP FOR WOMEN OF UNKNOWN HIV STATUS AFTER DELIVERY

- Routinely offer HTC to all pregnant women who deliver with unknown HIV status
- Provide information to negative women on how to stay negative
- Give the exposed infant ARV prophylaxis after birth or within 72 hours for those born at home
- Take blood specimen for CD4 count. Give the women appointments and write the dates in the Women Health Passports when they should return to get their results
- Provide care or ART or refer to the nearest health facility
- Advise women on the importance of testing the baby for HIV at 6 weeks and 18 months
- Encourage both HIV-positive and HIV-positive women to get their partners tested for HIV
- Promote family HIV care for all positive women.
CHAPTER 4

ANTIRETROVIRAL DRUGS USED IN THE PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV

4.1 OVERVIEW OF ARV PROPHYLAXIS FOR PMTCT

SD-NVP has been the primary ARV prophylaxis regimen used to prevent paediatric HIV infection in Malawi when the 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, the 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.

4.2 WOMEN WHO BECOME PREGNANT WHILE ON ART

Support women who become pregnant while on ART to continue with their current ART regimen. Do not give them SD-NVP to take 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.

4.3 WOMEN ELIGIBLE FOR ART

Initiate ART or refer, as soon as possible, HIV-positive pregnant women in Clinical Stages III or IV or in Clinical Stages I and II with a CD4 count <250 to ART Clinic (see Annex 3 for Clinical Staging information).

HIV-positive pregnant women in Clinical Stages III or IV or in Clinical Stages I and II with a CD4 count <250 should start 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, exposed infants and children infected with HIV.

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. They require close monitoring of clinical status, ALT (alanine amino transaminase), and AST (aspartate amino transferase) in the first 12 weeks of therapy. These liver enzymes should be measured at baseline, 2, 4, 8 and 12 weeks when feasible.

The following ARVs should not be used in combination:

- D4T and ddI – this induces toxicity
- D4T and AZT – the two drugs are ineffective together

4.4 ARV PROPHYLAXIS FOR PREGNANT WOMEN NOT ELIGIBLE FOR ART

- In Malawi, combination ARV prophylaxis AZT/3TC and SD-NVP will be given during pregnancy, labour and delivery and postpartum periods to all women except in situations/circumstances where this service will not be feasible. Give AZT from 28 weeks of gestation if:
  - Anaemia has been excluded (haemoglobin level ≥7g/dl) and will be tested for monthly while on AZT
  - Client has been counselled on all aspects of adherence to this drug regimen.
  - Clients have been encouraged to deliver in health facilities
- Routinely offer HTC to women with unknown HIV status in first stage of labour, and provide the appropriate combination ARV prophylaxis regimen.
**Combination ARV prophylaxis during pregnancy, labour and delivery and postpartum**

Table 5 below indicates the regimens used to reduce MTCT of HIV depending on eligibility for ART of the pregnant women and the time of her presentation to ANC and maternity.

**Table 5: Combination ARV prophylaxis administration in pregnancy, labour & delivery, and postpartum**

<table>
<thead>
<tr>
<th>PREGNANCY</th>
<th>LABOUR</th>
<th>POSTPARTUM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mother</strong></td>
<td><strong>Infant</strong></td>
<td></td>
</tr>
<tr>
<td>1. Women on ART</td>
<td>Continue ART</td>
<td>Should continue ART postpartum</td>
</tr>
<tr>
<td>2. Women who received AZT 300mg twice a day from 28 weeks gestation until onset of labour</td>
<td>1. SD-NVP 200mg to be taken at onset of labour 2. AZT/3TC at onset of labour and then every 12 hours continuing into postpartum period.</td>
<td>AZT/3TC 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 300mg every 12 hours until delivery.</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 300mg every 12 hours until delivery.</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>

1. SD-NVP 6mg within 72 hours
2. AZT 4mg/kg every 12 hours for 7 days (NB: low birth babies <2.5 kg will receive 2mg/kg)
3. Babies delivered at home should get SD-NVP and start AZT within 72 hours of delivery

1. SD-NVP 6mg within 72 hours
2. AZT 4mg/kg every 12 hrs for 4 weeks (NB: low birth babies <2.5 kg will receive 2mg/kg)
3. Babies delivered at home should get SD-NVP 6mg, and AZT 4mg/kg 12 hourly for 4 weeks (NB: low birth babies <2.5 kg will receive 2mg/kg)

1. SD-NVP 6mg within 72 hours
2. AZT 4mg/kg 12 hourly for 4 weeks (NB: low birth babies <2.5 kg will receive 2mg/kg)
3. Babies delivered at home should get SD-NVP 6mg, and AZT 4mg/kg 12 hourly for 4 weeks (NB: low birth babies <2.5 kg will receive 2mg/kg)
Single-dose Nevirapine

This regimen should only be given to women seen at health facilities that are not able to offer combination ARV prophylaxis. The SD-NVP is administered as follows:

- 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
- Give infant dose SD-NVP syrup 6mg (0.6mls in Baxa dispensers/syringes) standard dose or 1ml syrup (2mg/kg birth weight) single dose to the baby after delivery or within 72 hours of birth for those born at home
- Give a second dose of SD-NVP syrup if the baby vomits within half an hour after taking it

Pregnant mothers should only ingest one dose of SD-NVP even if that dose is taken during false labour. **DO NOT** repeat the SD-NVP dose due to the increased risk of NVP resistance.

In ANC or labour wards, immediately record the ARV prophylaxis regimen given to HIV-positive pregnant women and exposed infants in both mother’s and child’s Health Passports.

4.5 CONSIDERATIONS FOR SPECIAL CASES

**HIV-positive pregnant women with 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).

**HIV-positive couples intending to have a child:**

If HIV-positive couples strongly feel that they want to have a baby, 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.

**Discordant couples**

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

4.6 SAFETY OF ARV DRUGS 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.
### Table 6: 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; 7g/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>Efavirenz (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.
CHAPTER 5

FOLLOW-UP OF HIV EXPOSED INFANTS

5.1 CARE OF NEWBORN BABIES

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

- Handle all babies regardless of HIV status with gloves until maternal blood and secretions are washed off.
- Cut the cord under lightly wrapped gauze and advise the 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 baby 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 (Refer to Child Health Guidelines).
- Give infants 1% tetracycline eye ointment or 1% silver nitrate eye drop 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 6).

5.2 MANAGEMENT OF HIV-EXPOSED INFANTS AND CHILDREN

Clinical management of HIV-exposed infants starts from maternity and is continued at health centres utilized by mothers:

- Advise mothers to return for a physical check-up within two weeks of delivery for continued care for themselves and the infants. This is primarily for infant feeding support and counselling, and adherence to any drugs.
- Educate all HIV-positive mothers before discharge on the importance of CPT for their babies. CPT should start at 6 weeks of age and continue until the baby’s HIV status is determined.
- Emphasize to mothers to take the infants to Under-5 clinic at age 6 weeks for HIV testing.
- Give mothers appointments monthly for immunizations, infant feeding counselling and support, growth and development monitoring, and adherence to CPT (and ARVs if applicable).

Counsel the mother and family on:
- Optimal infant feeding to minimize MTCT, prevent malnutrition and promote growth and development.
- Good personal and food hygiene to prevent common infections.
- Follow-up of the child and offer the appropriate package of services at each visit (Annex 3).
- Provide psychosocial support to the infected child and parents/family.
- Encourage caregivers to bring all untested household members for HTC.

Indications for cotrimoxazole prophylaxis:
- All HIV-exposed infants from six weeks of age until HIV infection has been ruled out.
- All HIV-infected children from time of diagnosis.
- All children with clinical signs or symptoms suggestive of HIV, regardless of age (Annex 3).
Table 7: Dosages for cotrimoxazole preventive therapy

<table>
<thead>
<tr>
<th>Age</th>
<th>Oral suspension 5 ml - 200/40</th>
<th>Paediatric tablet 120mg</th>
<th>Single strength tablet (480 mg tablets)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 weeks – 5 months</td>
<td>2.5 ml</td>
<td>1 tablet (120mg) daily</td>
<td>¼ tablet (120 mg) daily</td>
</tr>
<tr>
<td>6 months – 4 years</td>
<td>5 ml</td>
<td>1 tablet (240mg) twice a day</td>
<td>½ tablet (240 mg daily)</td>
</tr>
<tr>
<td>5 – 14 years</td>
<td>–</td>
<td>–</td>
<td>1 tablet (480 mg) daily</td>
</tr>
<tr>
<td>&gt;15 years</td>
<td>–</td>
<td>–</td>
<td>1 tablet (480 mg) twice a day</td>
</tr>
</tbody>
</table>

NB: Only split tablets into quarters if syrups or paediatric tablets are not available.

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 3).

The standard care of HIV-exposed and HIV-infected infants includes:

- Monitoring CD4 cell count/percentage every six months
- Clinically Staging all infected infants/children at first visit, when sick, and at least every six months (see Annex 7)
- Monitoring all exposed and infected children’s growth and development with monthly visits
- Ensuring that immunizations are started and completed according to the EPI schedule (Refer to EPI Guidelines)
- Providing CPT from age 6 weeks to prevent opportunistic infections and monitor adherence to CPT
- Actively looking for and treating infections early during monthly visits – including a physical exam of the child at every visit
- If at any visit the infant shows any sign of severe immune suppression (e.g. new Stage 3 or stage 4 condition as shown in Annex 7), do not administer live vaccinations (BCG, OPV), refer child to paediatric ART Clinic.

5.3 HIV DIAGNOSIS IN INFANTS

HIV testing in infants and young children is done with two different types of testing: rapid and DNA-PCR tests. The choice of which test to use depends on the ages of the children 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.

**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 who have not breastfed for at least 3 months, rapid testing can be done:

- HIV rapid tests are reliable at 12 months for infants who are not breastfeeding or 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 count
- If the antibody test is negative then the baby 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 tests for infants who test HIV-negative but are still breastfeeding three months after ceasing to breastfeed.

**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:
  - 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 three months prior to the test.
- Breastfeeding babies continue to be at risk of HIV transmission through breast milk
- Repeat DNA-PCR testing with a rapid test 3 months after breastfeeding is stopped.
Figure 5: Diagnosing HIV in non-breastfeeding infants

Pre-test education and counselling

First HIV Rapid test

Negative

Counsel for negative results

Positive

Second HIV Rapid test

Negative: Discordant results

Conduct tie-breaker test

Negative: Counsel for negative results

Positive: Counsel for positive results

Positive: Counsel for positive results


Figure 6 below provides guidance for PCR testing in breastfeeding infants.
Figure 6: Diagnosing HIV in breastfeeding infants

Breastfeeding Infant

DNA PCR test (from 6wks of age)

Positive

Child is HIV-positive: Plan for care, treatment, and support

Negative

At 12 months – did breastfeeding cease at least 3 months earlier?

Yes

Do rapid test

Negative

Child is not HIV-positive

Positive

Repeat rapid test at 18 months

No

Do rapid test 3 months after complete cessation of breastfeeding

Negative

Child is not HIV-positive

Positive

Repeat rapid test at 18 months (confirmation)

Child is HIV-positive: Plan for care, treatment, and support

5.4 HIV DIAGNOSIS IN CHILDREN FROM 18 MONTHS OF AGE

The flow charts in Figure 7 show the steps taken to diagnose HIV in children older than 18 months of age.

Figure 7: Diagnosing HIV in children over 18 months

5.5 REFERRALS/LINKAGES TO SPECIALISED CARE AND SUPPORT

Clinical Referrals

Referrals are an important part of managing HIV exposed infants and/or children infected with HIV. This includes referrals to the following specialised care for further investigations and treatment:

- ART Clinics
- Outpatient Therapeutic Programs/Community Therapeutic Centres
- Nutritional Rehabilitation Units
- TB Clinics

Community referrals

Facilitate partnerships 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 the participation in PMTCT of women, men, adolescents and other population groups
- 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, sanctions and expectations
- 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 and sensitisation on HIV so that people living with HIV can freely access services without feeling threatened.

5.6 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 and related services, can begin to take responsibility in 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 respective communities
- Develop a plan of action that will meet specific community needs
- Enlist the support of community organisations
- Maximise utilisation of community resources e.g. HSAs and other community-based health workers, including support groups
- Establish a mechanism for monitoring the plans of action and outcomes of these community groups (more information on community mobilisation can be found in the PMTCT Communication Strategy)
CHAPTER 6
FEEDING OF HIV-EXPOSED INFANTS AND YOUNG CHILDREN

6.1 INTRODUCTION
Breastfeeding remains the natural and best source of nutrition and child care practice for the majority of babies/children. Breastfeeding does not only save lives, but also greatly improves quality of life for 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 MoH, 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 HIV-exposed infants and young children.

Prevention of HIV transmission through breastfeeding should, therefore, be part of the comprehensive approach for HIV prevention and care during pregnancy, labour and delivery, postnatal care and mother-baby follow-up 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 HIV-exposed infants and young children 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. These 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.

Use these guidelines simultaneously with the 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.

6.2 RECOMMENDATIONS FOR FEEDING HIV-EXPOSED INFANTS AND YOUNG CHILDREN DURING THE FIRST TWO YEARS OF LIFE
Give HIV-positive mothers adequate information on possible risk of HIV transmission to the child through breastfeeding. Assist them to make informed choices 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
- Availability and access to health care and support services.

Follow the recommendations below to give technical advice and support to the mothers and other caregivers:

- Counsel mothers on the choice of replacement feeding to ascertain if it is acceptable, feasible, affordable, sustainable and safe (AFASS) for them, their babies and families
- Promote and support mothers to exclusively breastfeed their babies for the first six months if AFASS criteria for replacement feeding cannot be met. 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.
- Counsel and support mothers of babies with HIV-positive status established at six weeks or any time before 18 months of age, to continue breastfeeding with appropriate complementary feeding from six months up to two years or beyond.
- Assist, through continuous counselling, mothers whose babies test HIV-negative at 6 weeks, to make informed decisions, in relation to their socio-economic status, as to how their children will be fed from six months to two years or beyond. Mothers who can afford commercial infant formula or other forms of milk, animal milk, and adequate and nutritious complementary food...
should discontinue breastfeeding. All breastfeeding should stop once a nutritionally adequate and safe diet without breast milk can be provided.

- All HIV-negative mothers and mothers with unknown HIV status should exclusively breastfeed for the first six months and continue breastfeed with appropriate complementary feeding from six months until the child is two years or more. Adhere to the Code of Marketing Infant and Young Child Foods in order to prevent spill over among the HIV negative women and those of unknown HIV status.

### 6.3 FEEDING OPTIONS FOR HIV-EXPOSED INFANTS AND YOUNG CHILDREN

There are two feeding options for HIV-exposed infants: Breastfeeding and Replacement Feeding.

**Breastfeeding Options**

- Exclusive breastfeeding by the biological mother for the first six months
- Wet nursing – breastfeeding by another woman.

**Exclusive Breastfeeding**

Exclusive breastfeeding means that from birth to 6 months the baby is fed on breast milk ONLY except for prescribed medicines e.g. CPT:

- Inform mothers not to give children foods or fluids such as glucose water, gripe water, other milks, juices, sodas, thobwa, dawale, mzuwa or other traditional drinks or solids during this period
- Support mothers to exclusively breastfeed and to adopt optimal practices for successful and safe breastfeeding through on-going counselling, follow-up and psychological support
- Continuously counsel mothers and caregivers on the dangers of mixed feeding i.e. giving the child other foods and fluids while breastfeeding. The foods and fluids given during this period are likely to irritate the lining of the baby’s stomach and increase the chances of HIV transmission through breast milk
- Reinforce to mothers the possible risk of HIV transmission through breast milk while emphasising that not all mothers who are HIV-positive will transmit the HIV to their children.

**Health workers should:**

- Support mothers to initiate breastfeeding with early skin-to-skin contact within the first 30 minutes after birth
- Within the first six hours after delivery, check mothers for correct positioning and attachment of the nipples for effective sucking
- Ensure mothers give return demonstrations while in the maternity unit and before discharge
- Good breastfeeding techniques help to reduce the risk of transmission of HIV to the baby because they prevent cracked nipples, breast engorgement and mastitis which are associated with MTCT through breastfeeding
- Emphasise to mothers the importance of breast milk only, and frequent and on demand breastfeeding
- Explain to mothers the importance of keeping follow-up appointments for: counselling on infant feeding, growth monitoring, adherence to the immunization schedule and when they have problems with either their own health or the health of their babies
- Encourage HIV disclosure to gain family support for her decision to exclusively breastfeed
- Emphasise the importance of safer sex practices to prevent HIV re-infection during breastfeeding.

**Wet Nursing**

This is where a woman is requested, or volunteers to breastfeed another woman’s baby. **Discourage this option at all cost in this era of HIV.** However, if the family insists on this option, the following conditions must be met:

- The wet nurse is counselled, tested and is HIV negative
- The wet nurse is protecting herself from HIV infection the entire time that she is breastfeeding, by practicing safe sex or abstinence
- The wet nurse is available to breastfeed the infant frequently and on demand
If the caregivers (or the family) insist on using the wet nurse to breastfeed the infant, educate them together with the wet nurse about the risk of HIV transmission to the wet nurse through breastfeeding if the baby is already infected with HIV. The wet nurse needs to know about this risk. She should avoid breastfeeding while the baby has oral sores or the wet nurse has cracked nipples.

**Early cessation of breastfeeding**

In some instances, a mother may wish to practice early cessation of breastfeeding, where the child is weaned from the breast at six months. This is aimed at reducing the risk of transmission by shortening the length of time the infant is exposed to HIV through breast milk. Timing of cessation should not be dictated by the infant’s age alone, but rather the broader context of the infant’s and mother’s situation.

Early cessation of breastfeeding should only be done in situations where the mother can provide replacement feeding which meets the AFASS requirements. If infants are weaned from breast milk at six months without adequate or safe replacement feeding, they are likely to become malnourished or sickly. Abrupt cessation of breastfeeding is not recommended. During counselling, health care workers should emphasize the following points to mothers and caregivers:

- While still breastfeeding, teach the baby to drink expressed, unheated or heated breast milk from an open cup to acquaint him/her self to cup feeding
- Increase the frequency of cup-feeding every few days and reduce the frequency of breastfeeding
- Stop putting the baby to the breast completely as soon as the mother and the baby are accustomed to frequent cup feeding, and gradually replace the expressed breast milk with replacement milk. From this point on, it is best to heat treat breast milk as discussed below
- Check that the baby is passing enough urine - at least 6 wet nappies in every 24-hour period. This means that the baby is getting enough milk (note that this is true for babies who are receiving milk only)
- Do not begin breastfeeding again once it has been stopped as the risk of passing HIV to the baby would continue
- Express a little milk whenever the mother’s breasts are full, to avoid breast engorgement
- Demonstrate to mothers how to use cold compresses to reduce inflammation of the breasts (mastitis).

**Heat-treated breast milk**

- Heating expressed breast milk kills the HIV virus. Expressed heat treated breast milk technique can be used in any of the following situations to sustain exclusive breastfeeding:
  - When the infant has diarrhoea and/or oral thrush or sores
  - When the mother has bilateral breast conditions (cracked nipples, sore nipples, blocked ducts, mastitis and breast abscess)
  - When the mother is too ill from possible infections that increase viral load
  - As a method during transitioning to complementary feeding
- It is important that family members support the mothers in expressing and heating breast milk.

**How to heat-treat breast milk**

- Teach the mother and a support person how to express and heat-treat breast milk
- Heat the breast milk to the boiling point and then place the pot in a container of cool water so that it cools more quickly. If that is not possible, let the milk stand until it cools
- Only boil enough expressed milk for one feed. Store it in a clean covered container in a cool place and use it within one hour
- Discard any leftover heated milk
- Always use a clean open cup for feeding the baby, **NEVER** use a bottle
- Ideally give a multivitamin infant suspension to the infant (where available)
- Advise mothers to follow basic hygiene practices when expressing, preparing and feeding the baby.
Replacement Feeding

Replacement feeding is the feeding of infants, who are receiving no breast milk, with a diet that provides the nutrients the infants need until the age at which they can feed on family foods. This option completely eliminates the risk of MTCT through breastfeeding. However, it does not provide protection against diseases.

Replacement feeding also lacks other nutritional factors found in breast milk that have been linked with optimal growth and development. When replacement feeding is AFASS for HIV infected mothers and families, babies should not be breastfed. Replacement feeding can be 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 this. If a mother chooses replacement feeding emphasise the following points:

- Importance of exclusive replacement feeding
- No breastfeeding at all and demonstrate to mothers how to prepare the replacement feeds
- Follow all the instructions given for the preparation and mixing of formula and do not make the milk at a weaker or stronger strength than recommended. Advise mothers to always check the expiry date on tins to ensure that the milk is not expired
- Prepare one feed at a time
- Not to keep milk in a thermos flask because it can easily be contaminated. However, mothers may keep hot boiled water in the thermos to make formula for each feed
- The dangers of bottle feeding including the risk of introducing infectious diseases (e.g. diarrhoea).
- Importance of following basic hygiene practices to prevent introduction of harmful bacteria to infants thereby reducing the risk of diarrhoeal diseases. Advise mothers 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 mothers change or clean the children and after going to the toilet
  - Always use previously boiled water to prepare formula
  - Use an open cup to feed the child

Use the information in Table 8 as a rough guide to determine the number of feeds per day an infant will need, as well as how much formula is needed per feed.

<table>
<thead>
<tr>
<th>Age (months)</th>
<th>Weight (kg)</th>
<th>Amount per feed (ml)</th>
<th>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>

Replacement Feeding Options for the first six months of age

Commercial formula is the recommended replacement feeding option if AFASS conditions are met. Currently, home prepared formula using fresh animal or powdered milk is not recommended as a replacement feed in the first six months of life, due to challenges in preparation of the feeds as well
as nutrient utilisation by the infant. However, where the only source of milk is fresh animal milk or powdered milk, these may be used to prepare formula.

**Commercial infant formula**

Infant formula is fortified with all the vitamins and minerals that the baby requires. Mothers should prepare the feeds according to the instructions on the tin(s). After six months, they can feed the babies with other forms of milk.

**Home-prepared formula using fresh animal milk**

Fresh cow or goat's milk must be modified before using as the level of proteins and some nutrients in these milks are too high and are difficult for an infant’s kidneys to excrete. Animal milk lacks some of the vitamins, minerals and essential fatty acids needed for the baby. Therefore, infants on fresh animal milk will require supplementation of necessary nutrients on daily basis.

**Home-prepared formula using powdered cow’s or goat's milk**

Inform mothers that full cream milk powder is fresh cow milk from which all the water has been removed, and it needs to be modified before a young infant can drink it.

### 6.7 CONTINUED FEEDING OF HIV-EXPOSED INFANTS AND CHILDREN FROM 6–24 MONTHS

Breast milk and other forms of milk are essential up to 2 years or more. However, after six months of age, milk alone is not adequate to meet the baby's nutritional needs. Complementary feeding is the gradual introduction of other foods in addition to milk, up to 24 months. At six months of age, the mother should introduce complementary foods and liquids to the infant. This applies to all infants regardless of their HIV status and feeding method. Breastfeeding or replacement feeding should continue at the same rate as before foods are introduced. Complementary food should follow the FADUA principle (i.e. Frequency, Amount, Density, Utilization and Active feeding based on the baby’s age). Table 9 below provides guidance for introducing complementary feeding after 6 months of age.

**Table 9: Type, Number of feeds, and amounts of complementary foods required by age per day**

<table>
<thead>
<tr>
<th>Age (months)</th>
<th>Texture</th>
<th>Frequency</th>
<th>Amount of food an average child will usually eat at each meal</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 – 8 months</td>
<td>Start with thick porridge, well mashed foods Continue with mashed family foods</td>
<td>2-3 meals per day plus frequent breastfeeds Depending on the child’s appetite, 1-2 snacks may be offered</td>
<td>Start with 2-3 tablespoonfuls per feed Increasing gradually to ½ of a 250 ml cup</td>
</tr>
<tr>
<td>9-11 months</td>
<td>Finely chopped or mashed foods, and foods that baby can pick up</td>
<td>3-4 meals plus breastfeeds Depending on the child’s appetite, 1-2 snacks may be offered</td>
<td>½ of a 250 ml cup</td>
</tr>
<tr>
<td>12-23 months</td>
<td>Family foods, chopped or mashed if necessary</td>
<td>3-4 meals plus breastfeeds Depending on the child’s appetite, 1-2 snacks may be offered</td>
<td>¾ to one 250ml cup</td>
</tr>
</tbody>
</table>

If baby is not breastfed, give in addition: 1-2 cups of milk per day, and 1-2 extra meals per day

*The amounts shown assume an energy density of 0.8 to 1 Kcal/g

**Guidelines for Introducing Complementary food**

- Use locally available and nutrient-rich foods beginning from 6 months of age
- Increase food quantity as the child grows older while maintaining breastfeeding if no milk or animal source foods are available
Gradually increase food consistency and variety as the infant gets older, adapting the diet to the infant’s requirements and abilities.

Diversify the diet to improve quality and micronutrient intake. This includes giving fortified foods where available, and vitamin A and other vitamin and mineral supplements, if available.

Practice frequent and responsive feeding during and after illness.

Practice good hygiene and proper food handling.

It is important for mothers, infants and young children to maintain a healthy diet throughout the breastfeeding and complementary feeding phase. This can be achieved by eating a variety of foods chosen from the six food groups every single day (Table 10).

Table 10: The six food groups for use in Malawi

<table>
<thead>
<tr>
<th>THE SIX FOOD GROUPS FOR USE IN MALAWI</th>
<th>Legumes and nuts:</th>
<th>Animal foods:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Staples:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Cereals – Maize, rice, sorghum, millet,</td>
<td>- Soya beans</td>
<td>- Meat, fish, poultry</td>
</tr>
<tr>
<td>- Starchy roots – cassava, potatoes, sweet potatoes</td>
<td>- Groundnuts</td>
<td>- Milk, eggs</td>
</tr>
<tr>
<td>- Starchy fruits – green bananas, plantains</td>
<td>- Beans</td>
<td>- Insects, rodents</td>
</tr>
<tr>
<td><strong>Green leafy and yellow vegetables:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Pumpkin</td>
<td></td>
<td>- Meat, fish, poultry</td>
</tr>
<tr>
<td>- Pumpkin leaves</td>
<td></td>
<td>- Milk, eggs</td>
</tr>
<tr>
<td>- Carrots</td>
<td></td>
<td>- Insects, rodents</td>
</tr>
<tr>
<td>- Spinach</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fruits:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Mango</td>
<td></td>
<td>- Cooking oil</td>
</tr>
<tr>
<td>- Pawpaw</td>
<td></td>
<td>- Margarine</td>
</tr>
<tr>
<td>- Guava</td>
<td></td>
<td>- Peanut butter</td>
</tr>
<tr>
<td>- Banana</td>
<td></td>
<td>- Avocado</td>
</tr>
<tr>
<td>- Orange</td>
<td></td>
<td>- Fat from meat</td>
</tr>
<tr>
<td>- Baobab</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Custard apple</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fats and substitutes:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Cooking oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Margarine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Peanut butter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Avocado</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Fat from meat</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.8 FEEDING RECOMMENDATIONS DURING SICKNESS

For infants under six months of age

An infant or child who is ill needs to continue to eat and feed according to the infant feeding option and age. For children below six months of age, advise mothers or caregivers to:

- Continue to feed the babies during illness according to the infant feeding options
- Feed the children on demand, day and night, at 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 options
- Do not give other foods or fluids like water or phala
- If the baby has diarrhoea, give ORS, maintaining proper hygiene in its preparation. Take the baby to the nearest health facility for treatment immediately.

For children aged six months and above:

Advise mothers or caregivers to:

- Continue feeding the babies during illness according to the infant feeding option
- Feed the children on demand, day and night, at least eight times in 24 hours.
- Give small frequent feeds according to the feeding options
- Increase fluid intake by providing more frequent breast or replacement feeds, as appropriate
- Prepare the food in a way that will help the babies to eat well, and encourage them to eat nutritious palatable foods.
- If the baby has diarrhoea, give ORS, maintaining proper hygiene in its preparation. Take the baby to the nearest health facility for treatment immediately.

**Feeding infants when the mother has breast problems**

For mothers who develop breast problems (mastitis, cracked nipples), give them the following information:

- If one breast is affected, continue breastfeeding on the unaffected side only. Mothers 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 mothers have a breast or nipple problem, they can opt to use replacement feeds and stop breastfeeding.
- Treat or refer mothers to the nearest health facility for treatment immediately.

**6.9 Mother-Infant Pair Follow-up**

During each visit, assess and counsel mothers on the importance of:

- Continuing exclusive breastfeeding.
- 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 well-being and weight loss, ability to care for the baby, breastfeeding management skills and related problems and HIV disclosure to significant others. If a mother develops AIDS, counsel for alternative breastfeeding.
- Infant/child’s health including possible signs of HIV infection such as oral thrush, persistent diarrhoea, failure to thrive, present or past rear discharge, enlarged lymph nodes and recurrent pneumonia.

Refer infants with possible HIV infections to paediatric HIV Clinics for consultations while continuing to breastfeed before a decision on early breastfeeding cessation is made. The infant feeding counsellor should work hand in hand with ART and paediatric HIV Clinics.

**6.10 Infant Feeding Counselling**

Figure 8 below summarises the steps which should be taken in counselling mothers infected with HIV on infant feeding.
Figure 8: Steps for counselling mothers infected with HIV on infant and young child feeding options

**Step 1:** Explain the risks of MTCT

**Step 2:** Explain the advantages and disadvantages of the main feeding options (exclusive breastfeeding and replacement feeding) 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 on the option and assure her that she can change her mind

**Step 4:** Help the mother choose an appropriate feeding option

**Step 5:** Demonstrate the chosen feeding option

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

At every post-natal visit:
- Monitor growth
- Check feeding practices and whether any change is desirable
- Check for signs of illness
- If baby is breastfeeding, observe how well the baby is attaching the breasts and check if she breastfeeds exclusively

Discuss complementary feeding plans for age 6-24 months
CHAPTER 7
MONITORING AND EVALUATION OF PMTCT PROGRAMME AND ESTIMATING
SUPPLY REQUIREMENTS

7.1 MONITORING AND EVALUATION

Definitions

Monitoring is a regular, routine, systematic collection and analysis of information monthly, quarterly and annually to track the progress of programme implementation with the specific aim of improving service delivery.

Evaluation is the systematic examination and/or analysis of past decisions in order to assess value, worth or impact, and to learn from them and improve. 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. It is normally not routine, but carried out at specified periods.

Monitoring and evaluation (M&E) helps programme implementers and service providers to:

- Monitor the progress of programme implementation
- Build on strengths in the implantation 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
- Evaluate the extent to which the programme is having or has had the desired impact

7.2 RECORD KEEPING AND REPORTING

It is extremely important to maintain complete records of clients in the ANC, maternity, postnatal care and follow-up and under-five registers including records from adolescent youth friendly health services. Records from the adolescent youth friendly health services are vital in ensuring that adolescents access MCH services when they need them including treatment of STIs. Accurate recording of information in registers, master cards, and health passports results in timely, accurate and complete information that can be analyzed to generate a report on utilization of services by the target population. Record keeping and reporting of routine programme monitoring is useful to service providers at the facility and programme managers at district, zonal and national levels for planning, management and resource mobilisation and allocation to health programmes.

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 following registers and Monthly Summary Report Form (Annex 8):

- HTC Register
- Antenatal Care Register
- Maternity Register
- Postnatal Care and Follow-up Register
- Under-five Register
- ART Register

During delivery of PMTCT services:

- Record HIV information in Women, Child and Men Health Passports for every client attended to
- Record HIV information and other relevant data in ANC, maternity, family planning, postnatal care and follow-up registers at the end of each working day
- Write the summaries daily at the bottom of each page in the registers
The data collected at facilities is used by the MoH to mobilize resources from treasury and from cooperating partners not only for PMTCT but for all the health programmes.

7.3 ESTIMATING SUPPLY REQUIREMENTS
Use your district level data to help you estimate your requirements correctly to avoid stock outs of PMTCT supplies. See Table 11 below for examples on how to calculate/estimate the PMTCT supplies for your services.

Table 11: Example of yearly national estimates for PMTCT

<table>
<thead>
<tr>
<th>Commodities required</th>
<th>Rate/Estimate Needed</th>
<th>Rate/Number</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of pregnant women</td>
<td>600,000</td>
<td>600,000 x 0.90 = 540,000</td>
<td></td>
</tr>
<tr>
<td>per year</td>
<td>90%</td>
<td>90%</td>
<td></td>
</tr>
<tr>
<td>90% of pregnant women</td>
<td>600,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>offered HIV testing</td>
<td>90%</td>
<td></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>Number of HIV+ pregnant</td>
<td>432,000</td>
<td>432,000 x 0.15 = 64,800</td>
<td></td>
</tr>
<tr>
<td>women tested</td>
<td>15%</td>
<td>HIV+ pregnant women</td>
<td></td>
</tr>
<tr>
<td>HIV+ prevalence rate:</td>
<td>432,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15% national</td>
<td>432,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(use district level</td>
<td>432,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>prevalence if available)</td>
<td>432,000</td>
<td></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+</td>
<td>50%</td>
<td>64,800 x 0.50 = 32,400 AZT</td>
</tr>
<tr>
<td></td>
<td>pregnant women)</td>
<td></td>
<td>combination regimes (number of</td>
</tr>
<tr>
<td></td>
<td>64,800</td>
<td></td>
<td>tablets)</td>
</tr>
<tr>
<td>ART</td>
<td>10% of all pregnant women testing HIV+ will need ART</td>
<td>10%</td>
<td>64,800 x 0.10 = 6,480 new ART</td>
</tr>
<tr>
<td></td>
<td>Number of HIV+ pregnant women</td>
<td>64,800</td>
<td>patients</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</td>
</tr>
<tr>
<td></td>
<td>Number of HIV+ pregnant women</td>
<td>64,800</td>
<td>short courses of AZT and SD-NVP</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</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>months)</td>
</tr>
</tbody>
</table>
7.4 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.
7.5 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 9: Flow of PMTCT supplies through the national procurement system
Annex 1: Rapid HIV testing algorithm for parallel testing in PMTCT

1. Pre-test education and counselling
2. Parallel HIV rapid tests
   - Negative
     - Counsel for negative results
   - Positive
     - Counsel for positive results
3. One negative and one positive result = discordant results
   - Use same sample to do rapid test
     - Negative
       - Counsel for negative results
     - Positive
       - Counsel for positive results
<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>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></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>Pneumocystic 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, pyomysitis, bone/joint infections, meningitis, sepsis)</td>
<td>Toxoplasmosis of the brain</td>
</tr>
<tr>
<td></td>
<td>Seborrhoeic 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>ART if CD4 &lt; 250</td>
<td>ART if CD4 &lt; 250</td>
<td>ART</td>
<td>HIV wasting syndrome</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>Pregnant women</td>
<td>ART (Prophylaxis)</td>
<td>(unexplained weight loss (&lt;10% plus either chronic diarrhoea or fever in the absence of concurrent illness)</td>
</tr>
<tr>
<td>CPT (Prophylaxis) from time of HIV diagnosis (No SP)</td>
<td>ART if CD4 &lt; 250</td>
<td>CPT (Prophylaxis)</td>
<td>Pneumocystic jiroveci (formerly: carinii pneumonia (PCP)</td>
</tr>
<tr>
<td></td>
<td>CPT (Prophylaxis)</td>
<td></td>
<td>Recurrent severe or radiological presumed bacterial pneumonia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ART (Prophylaxis)</td>
<td>Recurrent bacteraemia or sepsis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CPT (Prophylaxis)</td>
<td>Toxoplasmosis of the brain</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cryptosporidiosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></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>HIV wasting syndrome</td>
</tr>
<tr>
<td></td>
<td></td>
<td></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></td>
<td></td>
<td>Pneumocystic jiroveci (formerly: carinii pneumonia (PCP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Recurrent severe or radiological presumed bacterial pneumonia</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Recurrent bacteraemia or sepsis</td>
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<tr>
<td></td>
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<td></td>
<td>Toxoplasmosis of the brain</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Cryptosporidiosis</td>
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<td></td>
<td></td>
<td></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>HIV wasting syndrome</td>
</tr>
<tr>
<td></td>
<td></td>
<td></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></td>
<td></td>
<td>Pneumocystic jiroveci (formerly: carinii pneumonia (PCP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Recurrent severe or radiological presumed bacterial pneumonia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Recurrent bacteraemia or sepsis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Toxoplasmosis of the brain</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Cryptosporidiosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></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>HIV wasting syndrome</td>
</tr>
<tr>
<td></td>
<td></td>
<td></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></td>
<td></td>
<td>Pneumocystic jiroveci (formerly: carinii pneumonia (PCP)</td>
</tr>
</tbody>
</table>
### Annex 3: 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></td>
<td>• Papular itchy skin reactions</td>
<td>• Unexplained persistent diarrhoea for longer than 14 days</td>
<td>• Pneumocystic jiroveci (formerly: carinii pneumonia (PCP))</td>
</tr>
<tr>
<td></td>
<td>• Extensive skin warts (human papilloma virus infection)</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, pyomatis, bone or joint infections, meningitis, sepsis, excluding pneumonia)</td>
</tr>
<tr>
<td></td>
<td>• Extensive molluscum contagiosum</td>
<td>• Persistent oral candida (outside the first 6-8 weeks of life)</td>
<td>• Toxoplasmosis of the brain</td>
</tr>
<tr>
<td></td>
<td>• Recurrent oral ulcerations</td>
<td>• Oral hairy leukopenia</td>
<td>• Cryptosporidiosis with diarrhoea &gt; 1 month</td>
</tr>
<tr>
<td></td>
<td>• Unexplained persistent parotid gland enlargement</td>
<td>• Acute necrotising ulcerative gingivitis or periodontitis</td>
<td>• Isosporiasis with diarrhoea &gt; 1 month</td>
</tr>
<tr>
<td></td>
<td>• Lineal gingival erythema</td>
<td>• TB lymphadenopathy</td>
<td>• Cryptococcosis, extra pulmonary</td>
</tr>
<tr>
<td></td>
<td>• Herpes zoster</td>
<td>• Pulmonary tuberculosis</td>
<td>• Cytomegalovirus of an organ other than liver, spleen or lymph node</td>
</tr>
<tr>
<td></td>
<td>• Recurrent or chronic respiratory tract infections (sinusitis, otitis media, tonsillitis, otitis media)</td>
<td>• Severe recurrent presumed bacterial pneumonia</td>
<td>• Recurrent severe or radiological presumed bacterial pneumonia</td>
</tr>
<tr>
<td></td>
<td>• Fungal nail infections</td>
<td>• Symptomatic lymphoid interstitial pneumonia</td>
<td>• Recurrent bacteraemia or sepsis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Chronic HIV-associated lung disease, including bronchiectasis</td>
<td>• Chronic herpes simplex infection (oralabial or cutaneous for &gt; 1 month) or visceral at any site</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Progressive multifocal leuencephalopathy</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, excluding TB lymphadenopathy</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>• Acquired HIV-associated fistula</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>
</tbody>
</table>
Annex 3: Clinical Staging for infants and young children (age range 14 years and below) cont.

<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>CPT (Prophylaxis) from 6 weeks of age</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>* 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>
</tr>
</tbody>
</table>
Cotrimoxazole Prophylaxis

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)

<table>
<thead>
<tr>
<th>Age</th>
<th>Suspension 5ml – 200mg/40mg</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>1/4 tablet (120 mg daily)</td>
</tr>
<tr>
<td>6 months – 4 years</td>
<td>5 ml daily</td>
<td>Half tablet (240 mg daily)</td>
</tr>
<tr>
<td>5 – 14 years</td>
<td>–</td>
<td>One tablet (480 mg daily)</td>
</tr>
<tr>
<td>&gt;15 years</td>
<td>–</td>
<td>One 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

### Tablets 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
Annex 5: Services for women and children during follow-up visits

<table>
<thead>
<tr>
<th>Women</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2 weeks after delivery</strong></td>
<td></td>
</tr>
<tr>
<td>• Perform physical examination: Pallor, Pulse, temperature, BP, breast (cracks, fissure, abscess, engorgement), uterus involution, lochia, anaemia, exclude puerperal sepsis</td>
<td>• Perform physical examination: Respiratory rate, pulse, temperature, signs of dehydration</td>
</tr>
<tr>
<td>• Give cotrimoxazole prophylaxis if indicated</td>
<td>• Assess for adverse drug reactions – ARV prophylaxis</td>
</tr>
<tr>
<td>• Give vitamin A 200,000IU if not given at delivery</td>
<td>• Counsel on adherence to ARV prophylaxis</td>
</tr>
<tr>
<td>• Family planning counselling</td>
<td>• Confirm or give Immunization: Polio, BCG</td>
</tr>
<tr>
<td>• Counsel and support infant feeding (feed baby every three hours, proper breast attachment)</td>
<td>• Weigh the baby and promote growth</td>
</tr>
<tr>
<td>• Counsel on new born care (keep baby warm, danger signs: breathing fast, fever, refusal to feed, septic umbilical stump)</td>
<td>• Observe how the baby is breastfeeding</td>
</tr>
<tr>
<td>• Give next appointment date</td>
<td>• Assess the umbilical cord</td>
</tr>
<tr>
<td>• Perform physical examination: Respiratory rate, Pulse, temperature, signs of dehydration</td>
<td>• Treat infection if indicated or refer</td>
</tr>
<tr>
<td>• Assess for adverse drug reactions – ARV prophylaxis</td>
<td>• Give next appointment date</td>
</tr>
<tr>
<td>• Counsel on adherence to ARV prophylaxis</td>
<td></td>
</tr>
<tr>
<td>• Confirm or give Immunization: Polio, BCG</td>
<td></td>
</tr>
<tr>
<td>• Weigh the baby and promote growth</td>
<td></td>
</tr>
<tr>
<td>• Observe how the baby is breastfeeding</td>
<td></td>
</tr>
<tr>
<td>• Assess the umbilical cord</td>
<td></td>
</tr>
<tr>
<td>• Treat infection if indicated or refer</td>
<td></td>
</tr>
<tr>
<td>• Give next appointment date</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Women</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6 weeks after delivery</strong></td>
<td></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 and support infant feeding (feed baby every three hours, proper breast attachment)</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>• Give vitamin A 200,000IU if not given in previous visit</td>
<td>• Take blood for PCR tests, CD4 cell count percent</td>
</tr>
<tr>
<td>• Take blood for laboratory test: CD4, FBC, Hb, RFT, LFT</td>
<td>• Give next appointment date</td>
</tr>
<tr>
<td>• Counsel the mother on nutrition</td>
<td></td>
</tr>
<tr>
<td>• Give appointment for her next visit</td>
<td></td>
</tr>
<tr>
<td>• Perform WHO clinical staging</td>
<td></td>
</tr>
<tr>
<td>• Treat opportunistic infection</td>
<td></td>
</tr>
<tr>
<td>• Give next appointment date</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Women</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10 weeks after delivery</strong></td>
<td></td>
</tr>
<tr>
<td>• Perform physical examination: Pallor, Pulse, temperature, BP, breast condition</td>
<td>• Give Polio, Combined DPT/HB</td>
</tr>
<tr>
<td>• Treat opportunistic infection</td>
<td>• Weight and growth promotion</td>
</tr>
<tr>
<td>• Give cotrimoxazole prophylaxis if indicated</td>
<td>• Perform physical examination: Respiratory rate, Pulse, temperature, signs of dehydration</td>
</tr>
<tr>
<td>• Counsel and support infant feeding (feed baby every three hours, proper breast attachment)</td>
<td>• Perform WHO clinical staging</td>
</tr>
<tr>
<td>• Support the mother on her Family planning choice</td>
<td>• Give cotrimoxazole prophylaxis</td>
</tr>
<tr>
<td>• Counsel the mother on nutrition</td>
<td>• Treat opportunistic infection</td>
</tr>
<tr>
<td>• Give appointment for her next visit</td>
<td>• Give next appointment date</td>
</tr>
<tr>
<td>• Perform WHO clinical staging</td>
<td></td>
</tr>
<tr>
<td>• Treat opportunistic infection</td>
<td></td>
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<tr>
<td>• Give next appointment date</td>
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</table>

<table>
<thead>
<tr>
<th>Women</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>14 weeks after delivery</strong></td>
<td></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, signs of dehydration</td>
</tr>
<tr>
<td>• Treat opportunistic infections</td>
<td>• Perform WHO clinical staging</td>
</tr>
<tr>
<td>• Give cotrimoxazole prophylaxis if indicated</td>
<td>• Give cotrimoxazole prophylaxis</td>
</tr>
<tr>
<td>• Take blood for laboratory test: CD4, FBC, Hb, RFT, LFT</td>
<td>• Treat opportunistic infection</td>
</tr>
<tr>
<td>• Counsel the mother on nutrition</td>
<td>• Take blood for PCR tests, CD4 cell count percent</td>
</tr>
<tr>
<td>• Book an appointment for review by ART doctor</td>
<td>• Book the patient appointment for review by ART doctor</td>
</tr>
<tr>
<td>• Book an appointment for review by ART doctor</td>
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<table>
<thead>
<tr>
<th>Women</th>
<th>Children</th>
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</thead>
<tbody>
<tr>
<td><strong>14 weeks after delivery</strong></td>
<td></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, signs of dehydration</td>
</tr>
<tr>
<td>• Treat opportunistic infections</td>
<td>• Perform WHO clinical staging</td>
</tr>
<tr>
<td>• Give cotrimoxazole prophylaxis if indicated</td>
<td>• Give cotrimoxazole prophylaxis</td>
</tr>
<tr>
<td>• Take blood for laboratory test: CD4, FBC, Hb, RFT, LFT</td>
<td>• Treat opportunistic infection</td>
</tr>
<tr>
<td>• Counsel the mother on nutrition</td>
<td>• Take blood for PCR tests, CD4 cell count percent</td>
</tr>
<tr>
<td>• Book an appointment for review by ART doctor</td>
<td>• Book the patient appointment for review by ART doctor</td>
</tr>
<tr>
<td>• Book an appointment for review by ART doctor</td>
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Annex 5: Services for Women and Children during follow-up visits (continued)

<table>
<thead>
<tr>
<th>6 months after delivery</th>
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</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>• Take blood for laboratory test: CD4, FBC, Hb, RFT, LFT</td>
<td>• Give Vitamin A 100,000 IU</td>
</tr>
<tr>
<td>• Counsel the mother on nutrition</td>
<td>• Give next appointment date</td>
</tr>
<tr>
<td>• Book the patient appointment for review by ART doctor</td>
<td></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>• Give cotrimoxazole prophylaxis if indicated</td>
<td>• Give cotrimoxazole prophylaxis</td>
</tr>
<tr>
<td>• Take blood for laboratory test: CD4, FBC, Hb, RFT, LFT</td>
<td>• Treat opportunistic infection</td>
</tr>
<tr>
<td>• Counsel the mother on nutrition for herself and the baby</td>
<td>• Give next appointment date</td>
</tr>
<tr>
<td>• Give appointment for her next visit</td>
<td></td>
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</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>• Give 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>• Give Polio, Combined DPT/HB</td>
<td>• Give albendazole one tablet</td>
</tr>
<tr>
<td>• Give albendazole one tablet</td>
<td>• Do antibody test</td>
</tr>
<tr>
<td>• Do antibody test</td>
<td>• Book the patient appointment for review by ART doctor</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,</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>• Give cotrimoxazole prophylaxis if indicated</td>
<td>• Perform WHO clinical staging</td>
</tr>
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<td>• Do antibody test</td>
</tr>
<tr>
<td>• Do antibody test</td>
<td>• Book the patient appointment for review by ART doctor</td>
</tr>
</tbody>
</table>
Annex 6: 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>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Number of ANC visits per woman</th>
<th>HIV test result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 visit</td>
<td>19 Previous negative</td>
</tr>
<tr>
<td>2 visits</td>
<td>20 Previous positive</td>
</tr>
<tr>
<td>3 visits</td>
<td>21 New negative</td>
</tr>
<tr>
<td>4 visits</td>
<td>22 New positive</td>
</tr>
<tr>
<td>5+ visits</td>
<td>23 Not done</td>
</tr>
</tbody>
</table>

Total women in cohort: sum 1–5

First visit at 1

<table>
<thead>
<tr>
<th>0-12 weeks</th>
<th>13+ weeks</th>
<th>(Pre-) Eclampsia</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Yes</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TTV doses</th>
<th>ART eligibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24 No</td>
</tr>
<tr>
<td>0-1</td>
<td>25 Yes</td>
</tr>
<tr>
<td>&gt;=2+</td>
<td>26 Unknown</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SP doses</th>
<th>PMTCT regimen mother</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>29 None</td>
</tr>
<tr>
<td>0-119</td>
<td>30 ART</td>
</tr>
<tr>
<td>120+</td>
<td>31 sdNVP</td>
</tr>
<tr>
<td>Any FeFo</td>
<td>32 AZT</td>
</tr>
</tbody>
</table>

NVP dispensed for baby 2

| 1        | 33 No              |
| 2        | 34 Yes             |

<table>
<thead>
<tr>
<th>Syphilis test</th>
<th>1 check: total must be equal to total women in cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>16</td>
</tr>
<tr>
<td>Positive</td>
<td>17</td>
</tr>
<tr>
<td>Not done</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Report filled Date</th>
<th>Report received Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Version 1

Report filled Date

Report received Date

Name

Name

Check: total must be equal to field 20 + field 22
References