Ministry of Health

NATIONAL GUIDELINES
FOR PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV

September 2014

The Republic of Ghana

National Guidelines
for Prevention of Mother to Child Transmission of HIV

September 2014

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Foreword

Ghana has made significant gains in the response to the HIV epidemic over the years. The prevalence of HIV amongst pregnant women has declined from 3.6% in 2003 to 1.9% in 2013 (NACP/GHS). The prevalence in the general population has also been on a downward trend, declining from 1.5% (2011) to an estimated 1.3% in 2013.

In spite of these gains, the burden of HIV among children and their mothers has remained of great concern to the country, particularly the health sector. Ghana has therefore endorsed recent global initiatives on eliminating new HIV infections in children by 2015 in recognition of the fact that Mother-To-Child Transmission of HIV (MTCT) is practically the most significant contributor to the acquisition of HIV by children under the age of five. This realization has guided the health sector to prioritize the elimination of Mother-To-Child Transmission of HIV (eMTCT) as a key intervention hence adopting the 2010 WHO Option B Recommendations for PMTCT which includes the use of triple combination Antiretrovirals (ARV) as either treatment or prophylaxis for all HIV positive pregnant women.

The recent '2013 Progress Report on the Global Plan towards the Elimination of New Infections among Children By 2015 And Keeping Their Mothers Alive' highlights Ghana as one of seven countries in sub-Sahara Africa to have reduced new infections among children by more than 50% since 2009. Indeed with a 76% decline since 2009, Ghana showed the greatest decline in the rate of new infections among children (UNAIDS, 2013).

At the current stage of the national response, Ghana finds the recent 2013 WHO Recommendations (WHO, 2013) for countries on HIV Prevention, Treatment, Care and Support interventions as timely and a strong impetus to accelerate the gains towards the realization of the elimination of new infections in children by 2015 and keeping their mothers alive. To stay on course towards elimination of new infections in children by 2015 and be able to keep their mothers alive, there is the need to move from the current Option B approach to PMTCT to the more scientifically superior Option B-plus as outlined in the new WHO Recommendations.

These guidelines provide the basis for training and implementation of PMTCT interventions in Ghana. All health care workers, especially personnel providing sexual and reproductive services must therefore apply these guidelines at all levels of service delivery as part of the national efforts at eliminating mother to child transmission by 2015.

I commend the experts who worked very hard to produce this revised document, the World Health Organization Country office for the technical support and the Global Fund to Fight HIV, TB and Malaria for the bulk of financial support.

Dr. Kwaku Agyeman-Mensah
Hon. Minister of Health

Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ANC	Ante Natal Clinic
ART	Antiretroviral Therapy
ARV	Antiretroviral
AZT	Zidovudine
BCG	Bacillus Chalmette- Guerin
CD4	Cluster Differentiation 4 cells- T4 helper cells
CITC	Client Initiated Testing and Counselling
DBS	Dried Blood Spots
EFV	Efavirenz
eMTCT	Elimination of mother to child transmission
FTC	Emtricitabine
HAART	Highly Active Antiretroviral Therapy
Hb	Haemoglobin
HIV	Human Immunodeficiency Virus
HSS	HIV Sentinel Survey
HTC	HIV Testing and Counselling
IEC	Information Education and Counseling
IPT	Intermittent Preventive Prophylaxis
JICA	Japan International Cooperation Agency
3TC	Lamivudine
LMIS	Logistics Management Information System
MOH	Ministry of Health
MTCT	Mother to Child Transmission
NACP	National AIDS/ STI Control Programme
NVP	Nevirapine
OI	Opportunistic Infection
PCR	Polymerase Chain Reaction
PITC	Provider Initiated Testing and Counselling
PLHIV	People Living with HIV
PMTCT	Prevention of Mother- to- Child Transmission
PoC	Point of Care
RCH	Reproductive and Child Health
SP	Sulphadoxime-Pyrimethamine
STI	Sexually Transmitted Infection
TB	Tuberculosis
TDF	Tenofovir
UNICEF	United Nations Children's Education Fund
WHO	World Health Organization

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Introduction 1.0

The 2013 estimated national prevalence of HIV in Ghana was 1.3% with an estimated 224,488 persons living with HIV (PLHIV) of which 131,737 are females, majority of whom are in the reproductive age group. The median HIV prevalence in women attending antenatal care in 2013 was 1.9% (HSS Report 2013, NACP/GHS). Mother- to- child transmission of HIV is the second most common mode of transmission and accounts for HIV infections in almost all children under 15 years. Without any intervention, up to 40% of HIV positive mothers will transmit HIV to their babies.

Interventions aimed at preventing this vertical transmission of HIV have become invaluable and must be fully integrated into all maternal, neonatal and child health services. Ghana has been cited as one of seven countries in sub-Sahara Africa to have reduced new infections among children by more than 50% since 2009 due to the implementation of the Prevention of Mother-To-Child Transmission of HIV (PMTCT) interventions in the country. Indeed with a 76% decline since 2009, Ghana showed the greatest decline in the rate of new infections among children (UNAIDS, 2013).

Notwithstanding the progress made so far, the prevalence of HIV amongst children born to HIV positive mothers by DNA-PCR testing in 2013, was found to be about 7% (out of the 2,986 babies tested), which is in contrast with what occurs in the developed world where less than 2% of HIV positive mothers transmit HIV to their babies; achieved through routine HIV testing and counselling of all pregnant women, provision of anti-retroviral treatment, safe delivery practices, and counselling and support on infant feeding.

Ghana's commitment to the target of elimination of mother-to-child transmission of HIV (e-MTCT) by 2015 underlies the reason for adopting the new WHO Recommendations of 2013, enshrined in these revised guidelines, and summarized as routine offer of HIV testing and counselling to all pregnant women and provision of anti-retroviral treatment using triple fixed-dose combination ARVs to those found to be HIV positive, as well as prophylaxis and early diagnosis for the exposed infant to avert child morbidity and mortality.

Ghana aims at making e-MTCT services universally available and accessible. The interventions so far have focused mostly on HIV positive women during pregnancy, labour and delivery and feeding of the baby, but the new direction under these revised guidelines is to extend the focus beyond pregnant women to cover breastfeeding women, as well as partners and all children of pregnant and breastfeeding HIV-positive women. Also all exposed infants are to be provided with ARV prophylaxis for the first 6 weeks of life.

It is expected that the implementation of theses revised national PMTCT guidelines at all levels of healthcare delivery chain including community level facilities and private hospitals and maternity homes will lead to the attainment of the national goal of virtual elimination of mother to child transmission,(e-MTCT) of HIV by 2015 and beyond.

2.0 Guiding Principles

The PMTCT guidelines are developed in line with the following guiding principles recommended by the WHO.

a. A public health approach for increasing access to PMTCT services.
This approach involves the PMTCT programme being built around standardized regimens and protocols according to national guidelines.

b. Delivering a comprehensive package of services based on the UN strategic approach to the prevention of HIV infection in infants and young children.
The PMTCT programme in Ghana is based on the WHO promoted comprehensive Strategic approach to the prevention of HIV infection in infants and young children.

c. Integrated delivery of interventions for PMTCT within maternal, newborn and child health services including links between the services. Programmes to prevent MTCT shall be implemented and scaled up both as important prevention interventions and as access points for care, treatment and support for women living with HIV, their children and families. For this to happen, interventions to prevent MTCT need to be integrated into reproductive and child health services and programmes for HIV and care.

d. Women's health is the overarching priority in decisions about ARV treatment during pregnancy to improve maternal and child survival. For HIV positive pregnant women treatment reduces maternal mortality and morbidity. It is the most effective method of preventing MTCT of HIV by securing the health and improving the chances of survival of her child.

e. Necessity for highly effective ARV regimens and simple formulations for eliminating HIV infection in infants and young children.

f. Urgent need to scale up services to achieve equitable national coverage and universal access aiming for impact and equity.

g. Emphasizing partnerships and participation of people living with HIV and communities including male involvement.

2.1 Goal of PMTCT in Ghana

The goal of PMTCT is to provide a comprehensive family centered continuum of promotive, preventive, clinical and supportive services in conjunction with other public health interventions to maintain the health of the mother and prevent the transmission of HIV from a mother to her infant(s).

2.2 The Strategy for PMTCT in Ghana

The components of the strategy are:

1. Primary prevention of HIV infection
2. Prevention of unintended pregnancies among women infected with HIV
3. Prevention of HIV transmission from women infected with HIV to their infants
4. Provision of treatment, care and support to women infected with HIV, their infants and their families

The first 2 components are addressed in other documents such as the Reproductive Health Policy and Standards and Adolescent Reproductive Health Policy. The rest of this PMTCT policy document focuses on component 3 and 4 of the strategy.

2.3 Approach for the provision of PMTCT Services in Ghana

PMTCT services shall be provided in both public and private health care settings in Ghana where antenatal, delivery and postnatal services are conducted. The national strategies for providing services for the prevention of mother-to-child transmission of HIV have two main approaches.

1. Facility based care
It comprises clinical and public health interventions in health care settings both public and private which reduce the transmission of HIV from a pregnant woman to the new-born.

These consist of the provision of:

- IEC on the transmission of HIV and STI
- Both client-initiated and provider-initiated testing and counselling strategies
- Antiretroviral therapy
- Continued supportive counselling for all HIV positive mothers
- Counselling on and support for infant feeding

2. Outreach/community based services

- Psychosocial care and community support
- Outreach maternity services
- Child Welfare Clinic
- Nutritional counselling and support for safer infant feeding practices
- Home visits by Community Health Officers and others
- Linkages of families and household members to care
- Mother support groups

2.4 Cost of Care

Subject to any policy directive or law to the contrary that shall subsequently be made or enacted, every mother accessing PMTCT service interventions shall be provided services free of charge; and this shall include ante-natal care, labour and delivery, as well as postnatal care up to 18 months.

2.5. Guiding Principles for HIV Testing for PMTCT

The guiding principles for HIV testing in PMTCT are Confidentiality, Informed consent and Post-test Counselling and support services:

1. Confidentiality:
   Maintaining confidentiality is an important responsibility of all healthcare providers. Clients should however be informed that their HIV test results may be disclosed to other healthcare providers to ensure they receive appropriate medical care.

2. Informed consent:
   In the context of PMTCT written consent is not required but it is the responsibility of providers to ensure that:
   - Clients understand the purpose and benefits of testing; and
   - Client's decision to refuse testing is respected.

3. Post- test Counselling and Support services:
   The result of an HIV test should always be offered to a person with appropriate post-test information, counselling or referral.

HIV Testing strategies for PMTCT

3.0

HIV testing is a process that determines whether a person is infected with HIV or not. HIV testing detects antibodies or antigens associated with HIV in blood and other body fluids.

3.1 Framework for Testing

In the context of MTCT prevention, HIV testing shall be integrated into Reproductive and Child Health (RCH) services. All pregnant women accessing RCH services shall receive information on HIV testing. All HIV testing and counseling shall be performed by trained counselors and nurses.

3.2 Advantages of Testing and Counselling for PMTCT

After testing, HIV negative pregnant women are to be counselled to remain uninfected.
For pregnant women who test positive counselling shall be undertaken to help them:

- Make informed decisions about their pregnancy
- Receive appropriate and timely interventions to reduce MTCT including:
  - Follow up and ongoing health care for themselves, their HIV exposed infants and family
  - Antiretroviral treatment
  - Infant feeding counselling and support
  - Information and counselling on family planning

3.3 Types of HIV Testing strategies for PMTCT

- Client Initiated HIV Testing and Counselling (CITC) and
- Provider Initiated HIV Testing and Counselling (PITC)
  - Routine offer of HIV Testing and Counselling
  - Diagnostic HIV Testing and Counselling

3.3.1 Routine Offer of HIV Testing

The main mode of testing for PMTCT in Ghana shall be the provider initiated testing strategy. Consequently, HIV Testing and Counselling shall be routinely offered to all pregnant women as part of initial and subsequent ANC services as early as possible in the pregnancy.
All women after an initial negative HIV test result shall be encouraged to have the test repeated in the third trimester.

The minimum amount of information that should be provided to clients includes the following:

- Clinical and prevention benefits of testing
- Follow-up services offered
- In the event of a positive test result, anticipating the need to inform partners and other family members who may be at risk of exposure to HIV infection.

3.4 When a Client Declines to Test

Some women may initially decline an HIV test as a result of some concerns. They might accept at a later date, especially if their reasons for declining are discussed and addressed. Thus it is important to continue routine offer of testing during subsequent visits. Certain women will continue to decline testing and their decisions shall be respected and documented in the medical record. Their refusal shall not compromise the quality of care they receive.

3.5 Other Opportunities for HIV Testing and Counselling

3.5.1 HIV Testing during Labour

Any woman with undocumented HIV status at the time of labor shall be offered HIV testing and counseling. Testing shall not however be done when delivery is imminent or in the second stage of labour. Immediate initiation of appropriate antiretroviral treatment shall be recommended to women in labour in the event of a positive test.

3.5.2 Post-partum and Newborn Testing

A woman whose HIV status is unknown postpartum shall be offered HIV testing and counseling.

In the situation where the mother's HIV status is unknown postpartum and she is unavailable to be counseled and tested, rapid testing of the newborn as soon as possible after birth (within 48 hours postpartum) is recommended.

In all of the above, a positive HIV test indicates the baby is HIV exposed and shall be offered the recommended antiretroviral prophylaxis and care as early as possible until their status is confirmed with PCR testing when child is six weeks.

In case of indeterminate result, put child on prophylaxis and then follow up with further test to confirm the status of the child.

3.5.3 Couple and Partner HIV Counseling and Testing

Couple and partner HIV testing and counseling including disclosure should be encouraged, supported and offered.

Partner consent is not mandatory for HIV testing and counseling.

3.6 HIV Testing Algorithms

See Annex A (Figure. 1) for the testing algorithm to be followed in HIV testing.

- Serial testing with two rapid HIV testing kits shall be used.

Recommended Antiretroviral Protocols for PMTCT. 4.0

Antiretroviral therapy shall be given to all HIV positive pregnant and breastfeeding women for treatment and prevention of mother to child transmission of HIV. This reflects a change in policy from a short term ARV prophylaxis to a life long treatment of HIV for PMTCT.

4.1 Preferred ART Regimen for PMTCT

All pregnant women should be put on the preferred ART regimen

The preferred treatment regimen is a triple fixed-dose formulation of:
TDF plus 3TC (or FTC) plus EFV

4.2 Alternative ART Regimen for PMTCT

Alternative Regimen:
a. AZT plus 3TC plus NVP ; or
b. TDF plus 3TC (or FTC) plus NVP ; or
c. AZT plus 3TC plus EFV

4.3 ARV Prophylaxis for the HIV-Exposed Infant

All HIV- exposed infants irrespective of feeding option are to be provided within 48 hours of birth with:
AZT 12 hourly for six weeks.

Where AZT is contraindicated (e.g. anaemia or bleeding disorder), NVP daily for six weeks should be given.

Breastfeeding must be up to 12 months; with first 6 months being exclusive breastfeeding.

Refer to Annex D.

NB: AZT: Zidovudine; 3TC: lamivudine; NVP: nevirapine; EFV: Efavirenz; TDF: Tenofovir; FTC: Emtricitabine.

5.0 Care for HIV Infected Women and Women of Unknown Status

Clients identified as HIV infected during pregnancy require active follow-up counselling and support services to facilitate the acceptance of their sero-status and linkage to treatment and care services. Women with unknown HIV status shall be routinely offered HIV testing and counseling any time they access maternity services and be given the necessary care and interventions to reduce the possible risk of MTCT.

The comprehensive care of persons living with HIV require both acute (immediate) and chronic (long term) care at the health facility and at home. Care providers caring for HIV positive pregnant women will be required to provide management for acute care problems and illnesses associated with HIV infection such as opportunistic infections (bacterial, skin, neurologic, and mental health problems) whilst also addressing the long term needs associated with chronic diseases. This calls for planned management and good client-provider partnership.

Pregnancy provides a unique opportunity for such a long term relationship between the care provider and the HIV positive client. Principles of chronic care must guide this relationship. These principles focus on clients' concerns and priorities, as well as supporting client's self-management. Care providers must be guided by the 5A's of ASSESS, ADVISE, AGREE, ASSIST, and ARRANGE, in their dealings with their clients.

Follow up of the HIV pregnant woman must be proactive but also according to their needs (emotional, physical, and psychosocial).

A team approach to care is important and must include linkages to the Paediatrician, Obstetrician, Physician, Psychologist, medical social worker, ART centers, family planning services, and community based support services.

Good documentation and communication are important to support such continuum of care.

Care providers must understand that the socio-cultural milieu, gender issues, economic situations that can affect the HIV positive mother's behaviour and adherence to advice and treatment. This understanding is necessary for the provision of optimum care.

The midwife shall remain the primary care provider until after the post-partum period.

5.1 During Pregnancy

The essential antenatal care package shall include, but not be limited to the following:

- Health Information and Education
  - Birth preparedness and complication readiness
  - Maternal nutrition
  - Health problems in pregnancy associated with HIV infection
  - Safer sex practices
  - Family planning

- HIV Testing and Counselling
  - Routine Offer (Provider-Initiated TC)
  - Partner(s) HIV Testing and Counselling
  - Repeat HIV TC in the third trimester for a woman who tested negative in the early stages of pregnancy

- Women of unknown HIV status shall routinely be offered HIV TC at all ANC visits.
  - Follow up counseling on subsequent visits

- Intermittent preventive therapy (IPT) for malaria

- Screening for and treatment of anaemia

- Tetanus Toxoid Immunization

- De-worming

- Prevention, Screening and management of STIs (including syphilis)
  - Provision of information on early recognition and treatment of STIs

- Follow up care and treatment of HIV positive women
  - Clinical assessment (WHO staging; see Annex B)
  - Immunological assessment (CD4 cell count) of HIV-positive women
  - Prevention, Screening and Treatment of TB
  - Initiation of ART for PMTCT
  - Co-trimoxazole prophylaxis

  (*Do not give SP/IPT to clients on Co-trimoxazole prophylaxis)

- Nutritional support
  - Nutrition counselling
  - Initiation of micronutrient supplementation for the mother (vitamin, folic acid and iron)
  - Counselling and support on infant feeding choices
  - A woman who is HIV-positive shall be supported to make an informed decision between breastfeeding and replacement feeding

    (Refer to: National Breastfeeding Policy (See Annex C))

5.2 During Labour and Delivery

Safe delivery services

- Vaginal delivery is still the safest mode of delivery. Caesarean section shall be considered on obstetric grounds rather than solely for PMTCT. Where Caesarean section is indicated this must be performed promptly.
- Minimise the risk of postpartum haemorrhage by active management of third stage of labour.
- Use safe blood transfusion practices.

Interventions that can reduce MTCT include the following:

- Administration of ARV treatment during labour in accordance with national protocols.
- Routinely offering TC during early labour where feasible for women of unknown HIV status.
- Use of good infection prevention practices for all client care.
- Performing vaginal examinations as per partograph protocols and /or when absolutely necessary and with appropriate clean technique.
- Avoiding prolonged labour (use a partogram to measure the progress of labour).
- Avoiding routine artificial rupture of membranes.
- Avoiding unnecessary invasive procedures during and after delivery e.g. routine episiotomy, vacuum delivery, milking of umbilical cord and routine suctioning of baby.

Post Partum Care of HIV Infected Women, Women of Unknown Status and the Newborn

6.0

6.1 Care for Mother

Though not limited to the following, post-partum care for the mother shall include:

- Women of unknown HIV status shall be routinely offered HTC
- Information Education and Counseling (IEC) on e.g. danger signs, self-care, nutrition and postpartum clinic attendance
- Screening for health problems associated with HIV infection in postpartum period e.g. puerperal sepsis and anaemia
- Screening and treatment for STIs
- Counselling on breast and cervical cancer screening
- On-going counseling and support
- Provision of medical and psychosocial supportive care
- Prophylaxis with Co-trimoxazole and treatment for OIs and other infections for HIV positive symptomatic mothers
- All HIV positive mothers and exposed infants shall be linked to ART clinical care and follow up.

6.2 Newborn Care

- Standard care of the newborn
- Initiate and support infant feeding choice
- Initiate ARV prophylaxis in infants of HIV positive mothers
- Immunization (BCG and OPV)

6.3 Discharge After Delivery

The mother and baby shall be followed up after delivery to ensure continuity of care started in the antenatal period. As much as possible appointments for mother and baby shall be synchronised.

Checklist for Discharge after Delivery
- Give counselling and support on method of infant feeding chosen by mother (see below) and on maternal nutrition including micronutrient supplementation
- General physical examination of infant to exclude birth injuries and congenital abnormalities
- Physical examination of mother for anaemia and sepsis or signs of other opportunistic infections
- Supply drugs and explain dosage, timing, adherence and duration of ARV treatment for mother and ARV prophylaxis for baby
- OI prophylaxis for mother
- Educate on recognition of ill health in mother and new-born and appropriate actions to be taken[1]
- Advice and support on preventive measures such as hygienic practices, malaria prevention
- Ensure BCG/OPV immunisation for infant has been given
- Record infant weight, length and head circumference in Child Health Record booklet
- Psychosocial /Community support
- Give appointment for first Post-natal clinic visit (3-7 days)

6.4 Post-Natal Follow-up

Clinic visit

Follow up visits for healthy mothers at the Post-natal clinic shall be within 3-7 days and at, 6weeks postpartum. Women who delivered at home shall be encouraged to report to the postnatal clinic within 48 hours after delivery. The HIV positive mother and baby shall be linked to both the RCH/Child welfare and the ART clinics. Mothers with HIV related complications should be seen more frequently as needed.

[1]. Education should be given on Child Survival Strategies including (Growth & development monitoring, use of ORS to prevent and treat dehydration, safer infant feeding [see infant feeding section], immunization, food supplementation, IEC relevant to improved infant care and skills training for the mother, family planning services for the mother and partner, treatment for acute illnesses).

First Post -Natal clinic Visit

Mother

- History and physical exam to exclude complications such as pallor, complications related to genital tract and breasts (engorgement, cracked nipples, infection) etc
- Discuss chosen infant feeding option and challenges
- Discuss Safe Sex and Family Planning
- Provide OI prophylaxis
- Emphasize ART adherence
- Provide adequate supply of ART until six weeks visit. Give 6 week appointment for Post- natal clinic
- Assess Nutritional/ Psychosocial /Community support
- Women of unknown HIV status shall be routinely offered HIV TC

New-born

- History and physical exam including assessment for pallor, jaundice, weight, length, head circumference, birth injuries and congenital abnormalities. Refer for clinical care if indicated
- Assess adherence to feeding choice, provide counselling and support (see below)
- BCG/OPV if not already given
- Assess adherence to infant ARV prophylaxis and ensure adequate supply until next scheduled visit at 6 weeks
- Educate on recognition of ill health (especially for anaemia) in new-born and appropriate actions to be taken
- Give 6 week appointment for Maternal New-born and Child Health (MNCH)/Child Welfare clinic
- Where mother is not available to be offered testing and counselling, a serological test shall be offered to establish whether the baby is HIV exposed or not

6 week postnatal clinic visit

Mother

- Fulfil all relevant actions as at first postnatal visit
- Refer to centre for Comprehensive HIV care and treatment
- If indicated supply ART drugs until next scheduled follow-up visit at ART centre

Infant

- History and physical exam including assessment for pallor, jaundice, weight, length, head circumference and development. Refer for clinical care if indicated
- Assess adherence to feeding choice, provide counselling and support (see below)
- Pentavalent/OPV immunisation
- Assess adherence to ARV prophylaxis and stop ARV prophylaxis at six weeks
- Start Co-trimoxazole prophylaxis once daily for all HIV exposed babies from six weeks onwards
- Take Dried Blood Spot (DBS) for early infant diagnosis (EID) at six weeks
- Refer to ART Clinic for HIV care and follow-up (to attend for 1st visit in one month i.e. age 10 weeks)

Maternal, Neonatal and Child Health (MNCH)/Child Welfare Clinic

Beyond the six weeks post natal period, HIV positive mothers and their new babies will require continuing care. Such comprehensive care is best provided through linkage of maternal and child health care services to the ART Clinics. As much as possible appointments for mother and baby shall be synchronised.
Schedule monthly follow-up visits for healthy mothers and babies until12 month of age then every 3 months. For mothers/babies with problems schedule more frequent visits as needed.

Mother

- Assess for general wellbeing (including childcare and support)
- Assess for opportunistic infections and manage accordingly
- Inquire about adherence to ART
- Inquire about adherence to agreed infant feeding plan
- Provide counselling and support as needed
- Monitor viral load according to adult ART protocol

Infant

Whenever the mother brings the child to the clinic, the baby should be monitored for adherence to co-trimoxazole prophylaxis, weight gain, development and evidence of OI. Additional sessions may be required during special high-risk periods, such as when the:

- Child is sick
- Mother returns to work
- Mother decides to change feeding methods

ART clinic

All Infants

Duration of follow-up depends on when HIV infection status is determined and on feeding method. At each visit the following activities should take place:

- DNA PCR test if not yet done
- Assess and initiate ART in all confirmed HIV infected infants and children under five regardless CD4 count or WHO staging. (Refer to ART Guidelines)
- History and physical exam including assessment for pallor, weight, length, head circumference, development and features of HIV associated illnesses
- Counselling and support on feeding (see below)
- Immunisations according to national immunization schedule. Symptomatic infants (Stage 4) should not be given yellow fever immunisation
- Continue Co-trimoxazole prophylaxis once daily in all infants who are at risk or are HIV positive
- Early and aggressive treatment of opportunistic infections (OIs)
- Nutrition intervention
- Vitamin A supplementation
- Regular 6 monthly de-worming

Breastfed infant

- HIV status should be determined at 6 weeks with DNA PCR test:
  If the baby tests positive, then the infant is HIV infected and shall be referred for comprehensive HIV care including the initiation of ART.
  * If the initial HIV DNA PCR test is negative, it shall be repeated 6 weeks after complete cessation of breastfeeding.
  * If DNA PCR testing at 6 weeks after stoppage of breastfeeding is negative, discharge from follow up and refer to child welfare clinic for continuing child care.

- Serological HIV testing (Rapid test) shall be used in infants older than 18 months. (See Annex A (Figure 2).

- For children less than 18 months, where DNA PCR testing is not available:
  * Children less than 18months who tested positive by a previous serological test should have the serological test repeated at 18months (See annex A figure 2.).
  * A child whose serologic test is still positive at 18 months has HIV infection and should continue to receive comprehensive HIV care and treatment for life.

6.5 Infant Feeding

Mothers known to be HIV-infected will be provided with lifelong ART interventions to reduce HIV transmission through breastfeeding. In view of this, mothers who are HIV-positive shall be counseled on infant feeding over the course of several sessions during the antenatal period. At least three counseling sessions shall take place sometime during ANC after post-test counseling.

Mothers shall be counselled to exclusively breastfeed their infants for the first 6 months of life introducing appropriate complementary foods thereafter and continuing breastfeeding for the first 12 months of life. Breastfeeding should be stopped only when a nutritionally adequate diet can be provided. Avoidance of mixed feeding during the first 6 months should be emphasized.

Mothers and their infants shall be seen regularly to monitor wellbeing and infant feeding progress.

The following recommendations are made:

- Mothers known to be HIV-infected who decide to stop breastfeeding at any time before 12 months should be supported to stop gradually within one month.

- Mothers must continue their ART throughout breastfeeding and for life.

- When mothers known to be HIV-infected decide to stop breastfeeding at any time, infants should be provided with safe and adequate replacement feeds to enable normal growth and development.

- Mothers known to be HIV-infected should only give commercial infant formula milk as a replacement feed to their HIV-exposed infants or infants who are of unknown HIV status, when the following specific conditions are met:
  - safe water and sanitation are assured at the household level and in the community;
  - the mother, or other caregiver can reliably provide sufficient infant formula milk to support normal growth and development of the infant;
  - the mother or caregiver can prepare it cleanly and frequently enough so that it is safe and carries a low risk of diarrhoea and malnutrition;
  - the mother or caregiver can, in the first six months, exclusively give infant formula milk;
  - the family is supportive of this practice; and
  - the mother or caregiver can access health care that offers comprehensive child health services.

If infants and young children are known to be HIV-infected, mothers are strongly encouraged to exclusively breastfeed for the first six months of life and continue breastfeeding as per the recom-mendations for the general population, that is, up to two years or beyond.

Counselling should emphasise the following:
- Information about the risk of HIV transmission through breastfeeding
- Reduction of risk of transmission of HIV through breast milk by ARVs
- Advantages and disadvantages of breastfeeding
- Consideration for local customs, practices, and beliefs when helping a mother to make infant-feeding choices
- Disadvantages of practising mixed feeding during the first 6 months

Skilled counselling and support for appropriate infant feeding practices and ARV interventions shall be provided to all pregnant women and mothers.

Note: Mixed feeding should always be avoided in the first 6 months.
(See annex C)

Evaluation of Child at 18 Months

At 18 months the definitive HIV infection status of each child should be determined. Some would have been proven to have a negative infection status by DNA PCR testing earlier on or by negative serologic test result at least 12 weeks after cessation of breastfeeding.

- All HIV-exposed children should have serologic testing at 18 months.
- A negative HIV test result means the child is not infected (if breastfeeding had been stopped at least 12 weeks prior to the test).
- A positive serological test at 18 months means the child is infected.

- A child whose serologic test is positive should receive comprehensive HIV care and ART for life.
- Co-trimoxazole prophylaxis should be stopped in the non-infected child and the child should be discharged from follow up back to MNCH clinic.

Diagnostic Testing of Infants and Young Children Exposed To HIV

7.0

ARV treatment for the mother and ARV prophylaxis for the infant significantly reduces but does not completely eliminate the risk of MTCT.

7.1 Using Antibody Tests

In children older than 18 months, antibody tests shall be used for HIV diagnosis, as shown in the algorithm in Figure 2 of Annex A. If the child is still breastfeeding, the antibody test shall be repeated 12 weeks after the child stops breastfeeding.

Children 9 - 18 months who were never breast fed

- A negative HIV test result for a child 9-18 months indicates the child is not infected with HIV.

- A positive HIV antibody test between 9 months up to 18 months indicates the child may have maternal antibodies and test should be repeated at 18 months or above.

- A positive HIV antibody test result at 18 months and above indicates that the child is infected with HIV.

7.2 Using HIV Viral Assays

These assays could be used for detection of HIV infection in infants less than 18 months. Early detection allows for initiation of counselling for infant feeding methods and early clinical care for infected infants.

Where viral assay testing (DNA PCR) is available the algorithm in Figure 3 of Annex A is recommended for use.

8.0 Psychosocial and Community Support

Women shall be supported and encouraged to undergo pre-marital and couple counseling and testing. Women who test positive shall be provided with follow-up counseling and support and encouraged to disclose test results to their partners and families.

By disclosing her HIV status to her partner and family, the woman could be in a better position to:

- Access PMTCT interventions.
- Receive support from her partner(s) and family when accessing PMTCT and HIV treatment, care, and support services.
- Encourage the partner(s) to go for HIV testing and counselling.
- Prevent the spread of HIV to her partner(s).
- To have other children tested the family shall be encouraged to support the woman in making and adhering to the infant feeding choice that works best for her. All attempts shall be made to link mothers and their newborn babies to comprehensive medical care and social support systems. After delivery and before discharge, the mother, partner and/or family shall be given specific information on care and support. This will include the names of social support organizations, their addresses, and the kind of service they provide and their work schedule.

Providing psychosocial support

Midwives and other care givers providing care for HIV positive mothers can provide support to these clients by:

- Providing continuing counseling support throughout pregnancy, childbirth, postpartum and postnatal periods.
- Helping mothers identify confidants and other support persons.
- Counselling identified confidants/support persons on their expected roles and responsibilities.
- Linking them to other support groups and institutions such as social welfare, PLHIV etc.

PMTCT Logistics Management 9.0

All ARVs and other logistics shall be procured solely by Ministry of Health (MOH) in Ghana. All facilities accredited for PMTCT shall be supplied ARV in line with the supply chain management of MOH.

The pharmacy staff at the facility level as well as district and regional pharmacists shall ensure that all:

- The medications required for PMTCT are available and adequately stored at the facility and at all levels.

- Logistics Management Information System (LMIS) reporting forms are sent to the next level in a timely manner.

10.0 Psychosocial and Community Support

This shall be done using standard indicators from data capture registers, reports and monitoring visits. PMTCT indicators shall be integrated with reproductive and child health records to facilitate easy collation and reporting. Data on PMTCT shall be validated and reported through the District Health Information Management System.

Periodic assessment of the PMTCT service quality and data shall be carried out to evaluate its effectiveness and efficiency. Facilities providing PMTCT services shall also be enrolled into an HIV proficiency testing programme to assure valid test results for quality service. This will be complemented by period laboratory quality assurance support for all HCWs providing rapid serological HIV testing within PMTCT and other service settings in accordance with national algorithms and protocols.

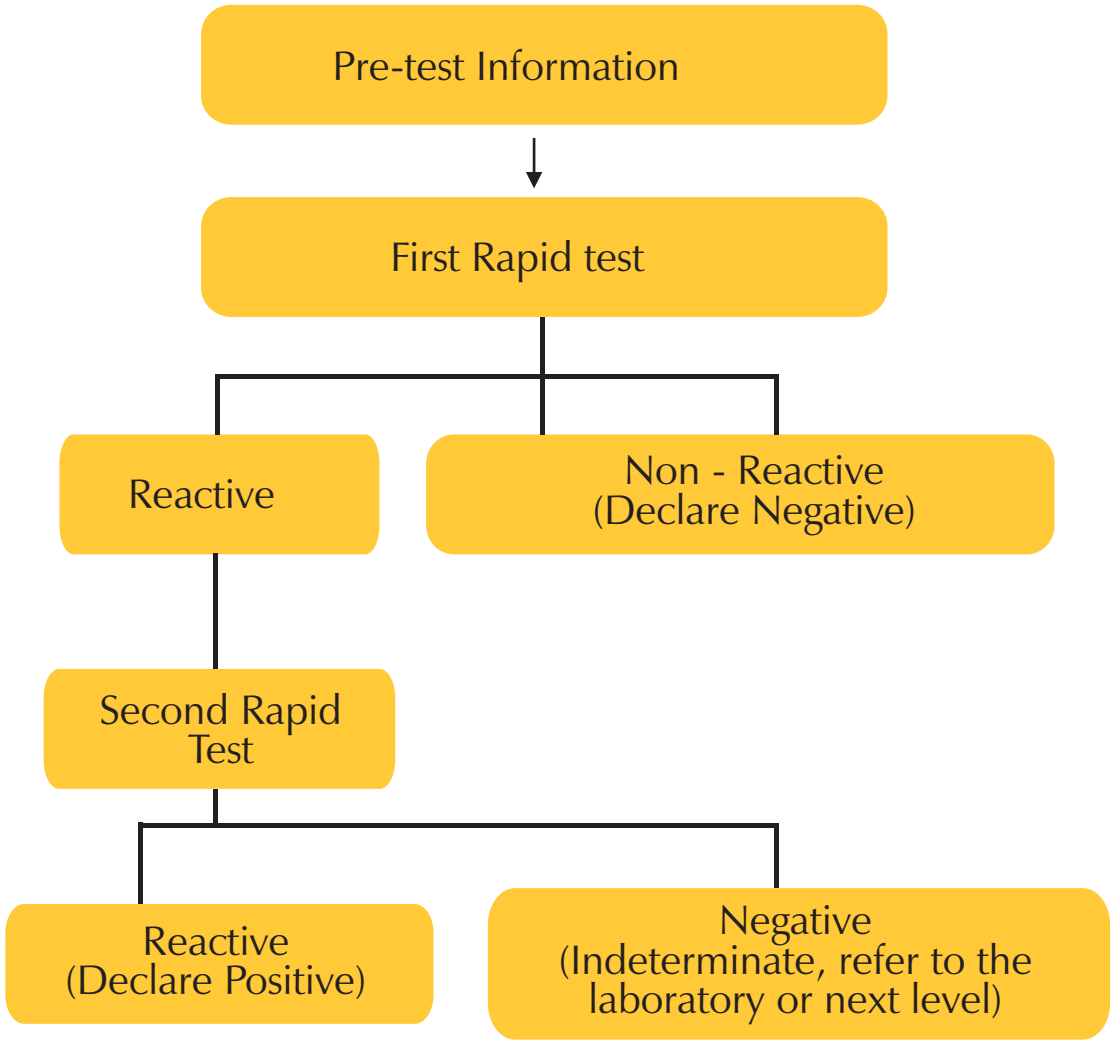
ANNEXES

September, 2014

ANNEX A

Algorithms for Antibody and DNA PCR Testing

■ **Figure 1:** Rapid HIV Testing Algorithm



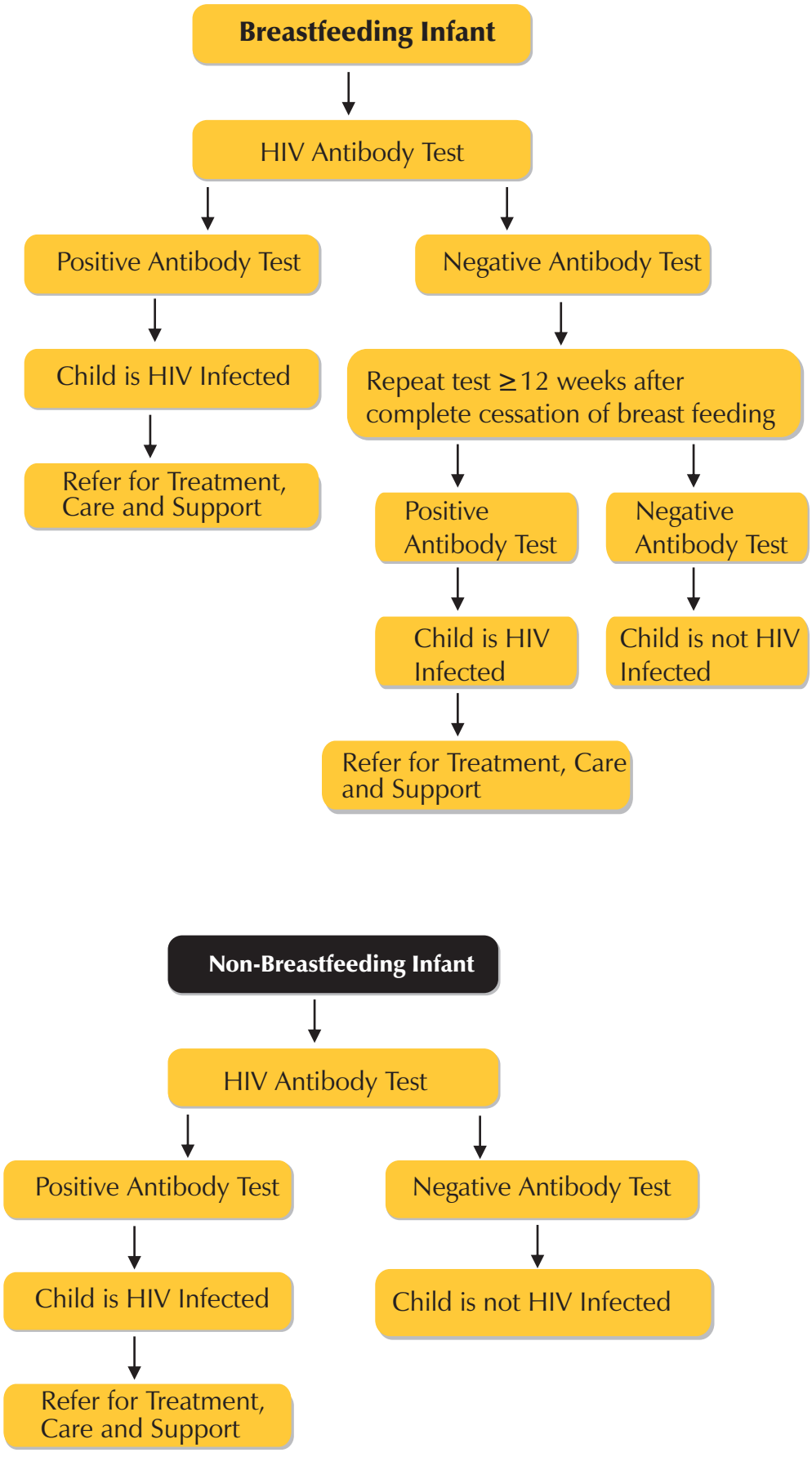
Children greater than18 months who never breastfed or stopped breastfeeding at least 12 weeks prior to testing

- A negative HIV antibody test result for a child 18 months or older indicates a child is not infected with HIV
- A positive HIV antibody test at 18 months or older indicates the child is infected with HIV

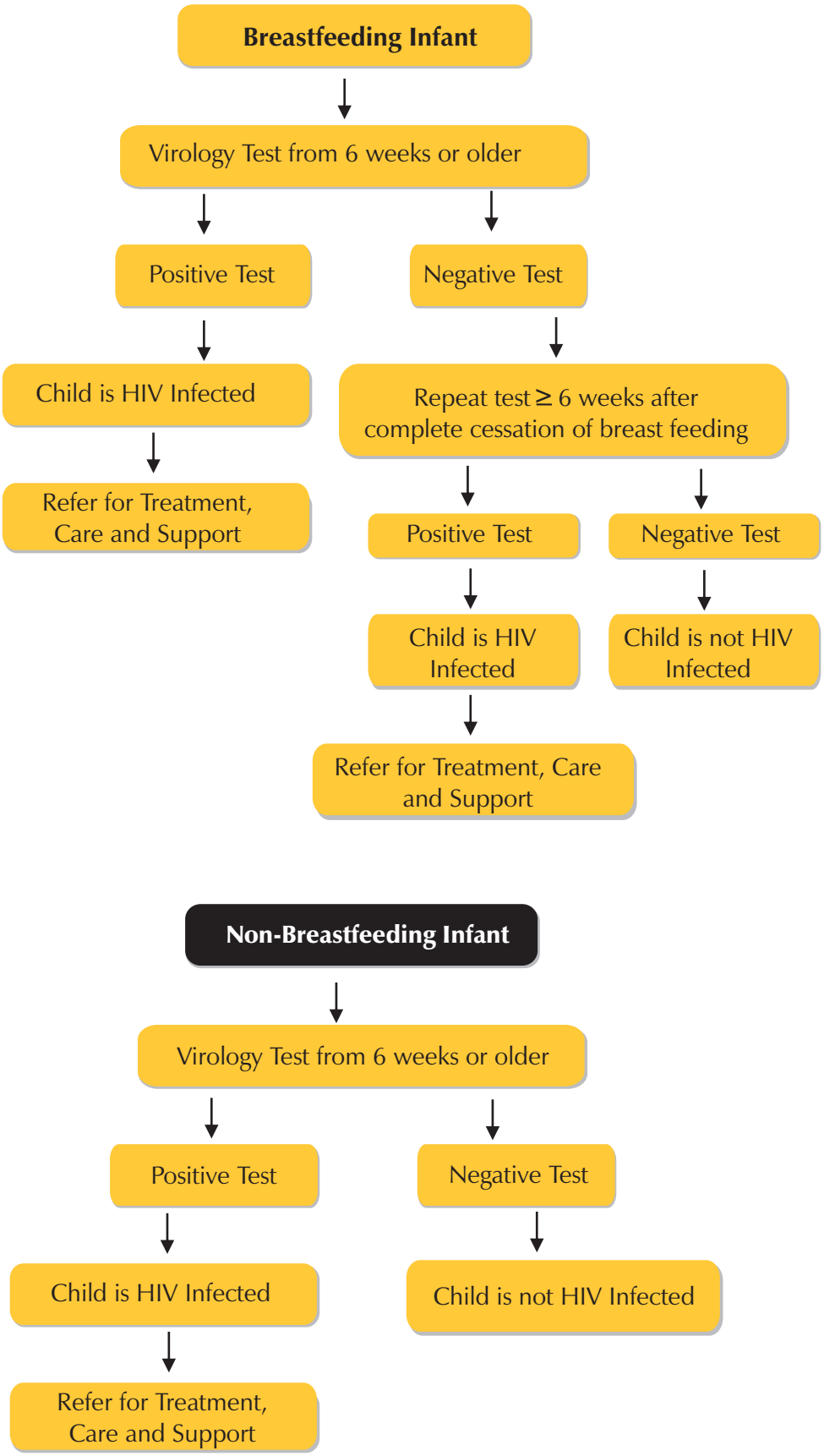
For children greater than 18 months who were breastfed or are still breastfeeding

- If the test is negative at 18 months or older and the child was breastfed in the last 12 weeks or is still breastfeeding, the antibody test should be repeated 12 weeks after complete cessation of breastfeeding.

■ **Figure 2:** HIV diagnosis in children 18 months and older with antibody tests.



■ **Figure 3:** HIV diagnosis in infants and young children less than 18months with viral assay (DNA PCR)



ANNEX B

WHO Clinical Staging of HIV/AIDS for Adults And Adolescents

Stages	
Clinical Stage I	
	• Asymptomatic • Persistent generalized lymphadenopathy
Clinical Stage 2	
	• Moderate explained weight loss (<10% of presumed or measured body weight) • Recurrent respiratory tract infections (RTIs, Sinusitis, bronchitis, otitis media, pharyngitis) • Herpes zoster • Angular cheilitis • Recurrent oral ulcerations • Papular pruritic eruptions • Seborrhoeic dermatitis • Fungal nail infections of fingers
Clinical Stage 3	
	• Severe weight loss (>10% of presumed or measured body weight) • Unexplained chronic diarrhoea for longer than one month • Unexplained persistent fever (intermittent or constant for longer than one month) • Persistent oral candidiasis • Oral hairy leukoplakia • Pulmonary tuberculosis • Severe bacterial infections (e.g. pneumonia, empyema, meningitis, pyomyositis, bone or joint infection, bacteraemia, severe pelvic inflammatory disease) • Acute necrotizing ulcerative stomatitis, gingivitis or periodontitis • Unexplained anaemia (<8g/dl), neutropenia (<500/mm3) and/or chronic thrombocytopenia (<50 000/mm3) for more than one month

Stages	
Clinical Stage 4	

- HIV wasting syndrome
- Pneumocystis jiroveci pneumonia
- Recurrent severe bacterial pneumonia
- Chronic herpes simplex infection (orolabial, genital or anorectal of more than one month's duration or visceral at any site)
- Oesophageal candidiasis (or candidiasis of trachea, bronchi or lungs)
- Extrapulmonary Tuberculosis
- Kaposi sarcoma
- Cytomegalovirus disease (retinitis or infection of other organs excluding Liver, spleen and lymph nodes)
- Central nervous system toxoplasmosis
- HIV encephalopathy
- Extrapulmonary Cryptococcosis including meningitis
- Disseminated non-tuberculous mycobacteria infection
- Progressive Multifocal Leukoencephalopathy (PML)
- Chronic Cryptosporidiosis
- Chronic Isosporiasis
- Disseminated mycosis (histoplasmosis, coccidiomycosis)
- Recurrent septicaemia (Including non-typhoidal Salmonella)
- Lymphoma (cerebral or B cell non-Hodgkin)
- Invasive cervical carcinoma
- Atypical disseminated leishmaniasis
- Symptomatic HIV-associated nephropathy or HIV-associated cardiomyopathy

Mother who is known to be HIV negative or of unknown status	• Counsel mother to exclusively breastfeed for the first 6 months. Introduce complementary feeds at 6 months whilst continuing breastfeeding for 24 months and beyond • Counsel and support mother to breastfeed as safely and successfully as possible • Continue to offer HIV testing to mother of unknown status at every contact • Counsel on ways to avoid HIV infection including the appropriate use of condoms • Counsel on family planning
Mother HIV positive and receiving ARV interventions with breastfeeding	• Promote exclusive breastfeeding for 6 months • Introduce appropriate complementary feeds at 6 months with continued breast feeding until baby is 12 months old. • Counsel the mother on how to breastfeed as safely and successfully as possible • Stop breastfeeding only once a nutritionally adequate diet without breast milk can be provided • Support mother to complete cessation of BF gradually within one month • Mothers should continue receiving ARVs throughout breastfeeding and for the rest of their lives.
Mother HIV positive and receiving ARV interventions but decides not to breastfeed	Mother should be counselled to give commercial infant formula as a replacement feed only when: • Safe water and sanitation are available at household and community level; • Mother or caregiver can reliably provide sufficient infant formula to support normal growth and development of the infant; • The mother or caregiver can prepare the feed cleanly and frequently so that it is safe and carries a low risk of diarrhea and malnutrition; • The mother or caregiver can exclusively give infant formula during the first 6 months; • The practice of formula feeding is supported by the family; and • The mother or caregiver can access comprehensive child health care services.

ANNEX D

i. Algorithm on Antiretroviral Treatment for PMTCT

MOTHER:
All women identified as HIV Positive during pregnancy and breastfeeding will be initiated on ART and will continue treatment for life.

(Preferably: Fix-dosed combination of **TDF+3TC (or FTC) +EFV)**

INFANT:
All exposed infants will receive ARV Prophylaxis for 6 weeks.

Give AZT 12 hourly for 6 weeks

REPLACEMENT FEEDING:
Exclusive commercial infant formula milk for six months.

Infant will receive AZT 12 hourly for six weeks

BREASTFEEDING:
Exclusive breastfeeding for six months then complementary feeds with continued breastfeeding until adequate alternate feeding is assured. Child should not be breastfed beyond 12 months.

Infant will receive AZT 12 hourly for six weeks.

ANNEX D

ii. Antiretroviral Regimen to Prevent MTCT

HIV-related treatment, care and support must be provided during the antenatal and postpartum periods. All HIV-exposed infants should be followed-up for diagnosis of HIV, prophylaxis of opportunistic infection, and treatment, care and support.

All regimens are administered by mouth. Paediatric formulations are available for the main drugs used in current prophylactic regimen to prevent MTCT (AZT, NVP). Effort must be made to monitor side effects and support maternal and infant adherence.

Regimen for Mother	Dosing	Regimen for Baby	Dosing
Preferred regimen:		Preferred regimen:	
TDF+3TC (or FTC)+EFV (300mg/300mg(or 200mg FTC)/600mg) (fixed-dose combination)	One tablet daily	**AZT (ZDV)**	4mg/kg body weight 12 hourly for 6 weeks
Alternative Regimen:		Alternative Regimen:	
TDF+3TC (or FTC) (300mg/300mg(or 200mg) (fixed-dose combination) **PLUS** NVP (200mg)	One tablet daily One tablet 12 hourly	NVP (use when AZT is contraindicated eg. Anaemia or bleeding disorder)	200mg/m^2 /dose daily for 6 weeks (use appropriate dosing chart) NB: Any baby requiring NVP on account of anaemia or bleeding disorder must be urgently referred to a doctor/paediatrician.
AZT+3TC (300mg/150mg) (fixed-dose combination) **PLUS** EFV (600mg)	One tablet 12 hourly One tablet every night		
AZT+3TC (300mg/150mg) (fixed-dose combination) **PLUS** NVP (200mg)	One tablet 12 hourly One tablet 12 hourly		

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NATIONAL GUIDELINES
FOR PREVENTION OF
MOTHER TO CHILD
TRANSMISSION OF HIV