Guidelines
For
Prevention of Mother-to-Child Transmission of HIV
In Ethiopia

Federal HIV/AIDS Prevention and Control Office

Federal Ministry of Health

July 2007

TABLE OF CONTENTS

TABLES

FIGURES

BACK POCKET UPDATES

1. Effects of antiretroviral (ARV) medications available in Ethiopia on cyclical oral contraceptives (COC)
2. Short course ARV prophylaxis for PMTCT in HIV-positive pregnant women and infants
3. Nevirapine dosage chart for ARV prophylaxis for infants of HIV-positive mothers
4. Trimethoprin/Sulfamethoxazole (cotrimoxazole) dosage chart for OI Prophylaxis for infants born to HIV-positive mothers
5. Ziduvudine dosage chart for PMTCT use only

(Back pocket updates are amenable to review and change as new technical information arises and is approved by the Ministry of Health and HAPCO)

Foreword

The expanded and comprehensive response to the national HIV/AIDS epidemic is coordinated by the Federal HIV/AIDS prevention and control office (FHAPCO). Prevention of mother-to-child transmission of HIV (PMTCT) is a crucial element of the response.

This guideline replaces the previous guideline on *The Prevention of Mother-to-Child Transmission (PMTCT) of HIV,* November 2001. It updates earlier guidelines on the latest managerial, technical and clinical developments accepted nationally and internationally.

Integrated and "Opt-Out" approaches are promoted in this document as the most appropriate strategies for expanding national access and sustainability of PMTCT (HIV) services in the country. Consequently, behaviour changing communication for provider-initiated HIV counselling and testing as part of routine ANC (like a syphilis test) and usage of multiple drug prophylaxis are main issues addressed here.

Integration of PMTCT services with routine maternal and child and reproductive health services at all levels, strengthening capacity of the existing health system through implementing the health network model, referral system, expansion of PMTCT sites, promotion of PMTCT services, empowering PLWHA networks, reducing stigma and discrimination through community-based mothers' support groups are all nationally accepted parts of the implementation strategies.

Preparation of this guideline involved extensive consultation with and participation of all relevant partners, to whom the Ministry would like to express deepest gratitude. It is our strong belief that this guideline will be very useful in assisting all health providers and partners involved in PMTCT programs, including policy makers, program coordinators, health resource mobilizers and service providers.

Lastly, the Ministry of Health considers the four-pronged strategy (WHO) as the prominent guide to be followed by all partners. Defining implementation of this approach will contribute to the attainment of the nationally shared vision of a "*HIV-free generation by the year 2020*".

Dr. Betru Tekle
Director General
Federal HIV Prevention and Control Office

Acknowledgement

The Federal HIV/AIDS Prevention and Control Office acknowledges the individuals and institutions listed below for their invaluable contributions in revising these guidelines.

Dr. Yibeltal Assefa	FHAPCO
Dr. Afework Kassa	MOH/HAPCO
Dr. Solomon Kumbi	ESOG
Dr. Alemach T/Haimanot	UNICEF
Dr. Yetnayet Asfaw	IntraHealth
Dr. Sadik Mohammed	IntraHealth
Dr. Mohammed Ali	CDC-E
Dr. Abdulhamid Isehak	CDC-E
Professor. Sileshi Lulseged	CDC-E
Dr.ChandrakanttRuparelia	JHPIEGO
Dr.Tigistu Adamu	JHPIEGO
Dr. Eyerusalem Kebede	WHO
Dr. Ayele Debebe	WHO, FMOH
Ato Haile Wubineh	RPM +
Sister Tiruye Damtew	FHAPCO
Dr. Kidane G/Kidan	UNFPA
Dr. HelinaWorku	UCSD
Dr. Debela Challa	EPS
Dr. Hana Nekatibeb	EHNRI
Dr. MengistuTafesse	CU-ICAP
Dr. Fana Tefera	I-TECH
Dr. Meg Doherty	JHU-TSEHAI
Dr. Elias Abebe	FHAPCO
Dr. Esmael Wabela	FHAPCO
Dr. Jemal Ali	Tulane University
Sister Yetimwork Tekle	FHAPCO
Sister Kiros Alemayehu	Ethiopian Midwives Association
Pamela Scott	PEPFAR Ethiopia

FHAPCO also appreciates the assistance of Regional Health Bureaus, partner organizations, national and international universities, professional associations, regional HIV/AIDS offices, family health programs coordinators and implementers at all levels. Deepest appreciation is also extended the PMTCT Technical Working Group for its technical support.

The printing of the Guidelines has been funded by the United Nation's Children's Fund (UNICEF). The Federal HAPCO is grateful for the support.

Acronyms and Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
ARV	Antiretroviral
BCC	Behaviour Change Communication
BCG	Bacillus Calmette-Guérin
CBCP	Community-based Care Provider
CBRHA	Community-based Reproductive Health Agent
C/S	Caesarian Section
COC	Combined Oral Contraceptive
DNA	Deoxyribonucleic Acid
EDHS	Ethiopia Demographic Health Survey
ELISA	Enzyme-Linked Immunosorbent Assay
EFV	Efavirenz (also EFZ)
EPS	Ethiopian Paediatrics Society
FBOs	Faith-Based Organizations
FP	Family Planning
HAPCO	HIV/AIDS Prevention and Control Office
HAART	Highly Active Antiretroviral Therapy
HCT	HIV Counselling and Testing
HEW	Health Extension Workers
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
IEC	Information Education and Communication
IP	Infection Prevention
IMCI	Integrated Management of Childhood Illnesses
LAM	Lactational Amenorrhea Method
LPV/R	Lopinavir/Ritonavir
MCH	Maternal and Child Health
MDG	Millennium Development Goals
MNCH	Maternal, Neonatal and Child Health
MTCT	Mother-to-Child Transmission
NFV	Nelfinavir
NGO	Non-Governmental Organization
NVP	Nevirapine
OI	Opportunistic Infections
OPV	Oral Polio Vaccine
PCP	Pneumocystis carenii Pneumonia
PCR	Polymerase Chain Reaction
PEP	Post-Exposure Prophylaxis
PHC	Primary Health Care
PI	Performance Improvement
PLWHA	People Living with HIV/AIDS
PMTCT	Prevention of Mother-to-Child Transmission
RHB	Regional Health Bureau
RH	Reproductive Health
RTI	Reproductive Tract Infection
RNA	Ribonucleic Acid
SRH	Sexual and Reproductive Health
STI	Sexually Transmitted Infection
TB	Tuberculosis
TBA	Traditional Birth Attendant
TC	Testing and Counselling
TTBA	Trained Traditional Birth Attendant
TMP-SMZ	Trimethoprim-Sulphamethoxazole (Cotrimoxazole)
UNICEF	United Nations Children's Fund
UTI	Urinary Tract Infection
VCT	Voluntary Counselling and Testing
WHO	World Health Organization

Introduction

The HIV pandemic created an enormous challenge to the survival of mankind worldwide. With a national adult HIV prevalence of 2.1%, Ethiopia is one of the countries most severely hit by the epidemic. Besides the dominant heterosexual transmission, vertical virus transmission from mother to child accounts for more than 90% of paediatric AIDS. As PMTCT programs provide for both prevention of HIV transmission from mother to child and enrolment of infected pregnant women and their families into antiretroviral treatment, it is undertaken by the Government of Ethiopia in an effort to mitigate the impacts of the epidemic in the general population and amongst children in particular.

This document replaces the *National Guidelines on the Prevention of Mother-to-Child Transmission (MTCT) of HIV in Ethiopia* issued in November 2001. The current situation of MTCT in Ethiopia, updating the previous guidelines on the latest technical and clinical developments, and incorporating basic guidelines on national/international indicators, recording and reporting formats were some of the rationale for revising the 2001 version.

The guidelines were developed through a collaborative, consensus-building process involving stakeholders from a broad cross-section of organizations and individuals working in the field of PMTCT. The guidelines are updated based on in-country experience and internationally acclaimed standard recommendations. In general, the National PMTCT Guidelines is intended as a hands-on tool providing guidance for individuals working on PMTCT in different sectors (public, private or NGO) on how to provide standardized and high-quality services.

Therefore, the national PMTCT program priority strategy works in collaboration with family health departments at all levels to promote service expansion and integration with potentially available MCH and HIV/AIDS services in health facilities as well as in the community. Integration of PMTCT data elements into the MCH registers, training of MCH service providers, strengthening the referral system based on the health network model, coordinating all partners' efforts, mobilizing resources internationally and nationally, and monitoring and evaluation of the program is envisioned by the FHAPCO/MOH. By implementing these activities the Ministry of Health looks forward to universal provision of HIV/AIDS prevention, treatment and care/support services by 2010, while simultaneously achieving three of the MDG goals. Consequently the Ministry has a shared vision to see a HIV free generation by 2020.

. The specific objectives of the guidelines are to assist:

- Policy makers in development of PMTCT programs
- Health service planners and program managers in program implementation, supervision, monitoring and evaluation
- Training and educational institutions in delivering training consistent with the overall national program (i.e. the four-pronged comprehensive strategy/approach for PMTCT)
- Service providers in delivering comprehensive PMTCT services through strengthening intra and inter facility referral system at all levels and community linkages
- Communities in increasing ownership, capacity building and utilization of services and in making linkages to health facilities

Developing and implementing a comprehensive PMTCT program complete with strategies for primary, secondary and tertiary prevention (antiretroviral (ARV) prophylaxis and treatment, and safe obstetrical and infant feeding practices-is a complex process).The fourth strategy is also the care and support services that should be provided through community linkages.

To ensure its full implementation the guidelines must be available in all health care facilities providing PMTCT services and to those planning to provide them. Moreover, orientations/trainings on the guidelines have to be given to all potential users from community to policy maker levels. The guidelines should also be introduced to participants during all PMTCT-related trainings.

I. Overview of MTCT of HIV

1.1 Background

According to calibrated single point estimates (2007), the national adult HIV prevalence is reported to be 2.1% (7.7% in urban and 0.9% in rural areas). 977,394 Ethiopians are living with HIV/AIDS (41% males, 59% females); an estimated 75,420 HIV-positive pregnant women are anticipated in 2007. Highest prevalence occurs in the 15-24 age group and prevalence is higher among females than males in both urban and rural areas. Prevalence appears to have levelled off in urban areas but continues to rise in rural areas, where 85% of the population lives.

1.2 Guiding Principles of the PMTCT Program

Clinical providers, managers and decision-makers at all levels and trainers should incorporate the following principles into their professional approach.

- **Equity:** Access to services must be equitable without any discrimination.
- **Human rights:** Providers and services must uphold the right of all persons to the highest attainable standard of health, which includes ART, PMTCT, and access to family planning information and services. Program managers and service providers should respect the right of persons with HIV to decide on the number and timing of their children.
- **Integration:** PMTCT must be integrated with all appropriate services.
- **Family Focused:** use PMTCT as an entry point to HIV care for family
- **Prioritize pregnant women with advanced disease to HAART**
- **Standardization:** The essential PMTCT package of services sets the standard for all sectors.
- **Referral linkages:** The health network model links facilities and the community to reduce gaps in coverage (health centres to hospitals and community to health care facilities).
- **Confidentiality and voluntary informed consent**: HIV counselling and testing services must provide adequate information and be done voluntarily following informed consent.
- **Community participation and mobilization:** Community involvement is essential in offering prevention, treatment, care and support.
- **Male involvement:** Male partners and fathers should be encouraged to participate in PMTCT programs and services
- **The three ones**: The PMTCT program is part of one action framework, measured by one monitoring and evaluation framework and coordinated by one body.

1.2.1. Objectives of the PMTCT services in Ethiopia

1. Promote primary prevention of HIV amongst women and men of reproductive age
2. Reduce and ultimately eradicate new paediatric HIV infections
3. Promote access to HIV and antiretroviral treatment for HIV- infected pregnant women and their families
4. Reduce HIV related morbidity and mortality of HIV infected mothers through care, thereby preserving the family unit and reducing the incidence of orphans
5. Promote access of HIV exposed infants to care:
    a. Initiate CTX preventive therapy to reduce morbidity and mortality from PCP and other bacterial infections
    b. Identify infants and children with rapid disease progression and initiate antiretroviral treatment early
    c. Facilitate access to early infant HIV diagnostic services
6. Address family planning

1.3 National Strategy to Address MTCT of HIV/AIDS

The Government of the Federal Democratic Republic of Ethiopia is committed to reducing the spread of HIV/AIDS and address the consequences of the epidemic in the population. The national HIV/AIDS policy was enacted in 1998; and in 2001, the National HIV/AIDS Council declared HIV a national emergency. The National

HIV/AIDS strategic framework calls for a multi-sectoral response, guaranteeing rights of all people living with HIV/AIDS, and facilitating the supply and use of antiretroviral drugs.

Ethiopia has adopted the WHO/UNICEF/UNAIDS 4-pronged PMTCT strategy as a key entry point to HIV care for women, men and families. Technical interventions, including antiretroviral medications, essential obstetric care, health system management and resource allocation, and gender bias are part of the national comprehensive PMTCT program. Addressing all four prongs has potential to interrupt the cycle that leads to MTCT at several points. The four prongs and the national strategies for each prong are listed in Table 1.

Table 1: National Strategies for PMTCT

Prong	National Strategy
1. Primary prevention of HIV infection	- Communication for behaviour change (ABC approach) to protect reproductive men and women from becoming infected with HIV and other STIsProvide voluntary counselling and testing services following the National HIV Counselling and Testing Guidelines - Promote correct and consistent use of condoms - Encourage open discussion on reproductive health issues between parents and their children - Early diagnosis and treatment of STIs
2. Prevention of unintended pregnancies among HIV infected women	- Provide family planning counselling integrated into all potential PMTCT and VCT service sites
3. Prevention of HIV transmission from infected women to their infants	- Ensure availability of antiretroviral drugs and other appropriate supplies for PMTCT - Provide testing and counselling services integrated with ANC, labour & delivery and postnatal care - Safer obstetrical practices - Provide appropriate counselling on infant feeding and support exclusive breastfeeding
4. Treatment, care and support of HIV infected women, their infants and their families	- Provide ART for women with advanced disease - Provide pregnant women not eligible for ART with effective PMTCT regimens - Ensure appropriate follow-up of infants born to HIV positive women including: OI prophylaxis and early infant diagnosis - Provide HIV testing for family - Link PMTCT with care and support initiatives organized for infants and HIV infected women

II. PMTCT Interventions from the Community Through all Levels of the Health System

PMTCT services should be implemented at all facilities with capacity to offer them, and integrated with other services. Where capacity to deliver services is not yet in place, services should be strengthened and strong referral systems established to link clients with available services. Table 2 presents the services which should be available at community and health system levels.

Table 2: PMTCT Interventions: Community and Health System

Location	Activities
Community	
Individuals living in the community but without formal health training but who have general orientation on HIV	- BCC on safer and responsible sexual practice - Promotion of HIV counselling and testing - Male involvement (antenatal, postnatal care, child health, PMTCT) - Malaria prevention - Community support and use of integrated PMTCT services: early antenatal care, follow-up, birth preparedness plan, early referral to health facilities when needed - Development of comprehensive support groups for HIV-positive women and men - Promotion and support of exclusive breastfeeding - Referral to appropriate health and social services - General information and education on family planning
Health Facilities (by level)	
Primary Healthcare Unit (Health Post and Health Centre)	
Health Post	**Participate in all community activities listed above PLUS:** - Promote condom use and distribute them to women and men - FP counselling and provision of available methods to all women and men requesting them or referring for methods unavailable at this level - Focused antenatal care and clean and safe delivery - Use standard precautions for infection prevention - Initiate referrals as indicated for HIV-positive women and their newborns for evaluation at HIV care/ARV centre - HIV counselling and testing if available at health post - Clinical care and psychosocial support for HIV+ women and men - ARV prophylaxis to mothers and infants, when

Table 2: PMTCT Interventions: Community and Health System	
Location	**Activities**
	available and there are trained staff to do so. - Provide insecticide treated bed nets to pregnant women and their families in malaria endemic areas - Provide counselling on infant feeding according to the National Nutrition Guidelines - Record and report on PMTCT indicators
Health Centre	**All of the services listed above PLUS:** - ART for eligible HIV-positive pregnant women and their families and prophylactic ARV for non eligible pregnant women - Syndromic management of STIs - Diagnosis and treatment of UTI, anaemia, TB, malaria, intestinal parasites - Prophylaxis and treatment of opportunistic infections - Follow-up of all infants born to HIV-positive mothers - Skilled birth attendant at each delivery - Immunization of children - In-depth counselling on family planning to HIV-positive people, with emphasis on long-term and permanent methods and dual protection - Support activities at lower level facilities
District Hospital	All of the services listed above PLUS: - Comprehensive emergency obstetric care - Immediate neonatal care and resuscitation - Safe blood transfusion - Early infant diagnosis using DBS for DNA PCR
Regional Hospital	All of the services listed above PLUS: - Ultrasound - Pap smear and referral for cervical cancer treatment
Referral Hospital	All of the services listed above PLUS: - Diagnosis and treatment of all referral cases

III. Primary Prevention of HIV Infection

Preventing spread of HIV to parents and potential parents (e.g. adolescents, and unmarried persons) is the most effective way to ensure that HIV will not be transmitted to children. Strategies are listed below:

- Address factors that make girls and women especially vulnerable to HIV infection and that limit male involvement in PMTCT
- **Promote safer and responsible sexual behaviour and practices**

  Safer sexual behaviours include: delaying sexual debut; practicing abstinence; having sex with a HIV-negative partner, or correct consistent condom use with an HIV-positive partner or partner of unknown status; reducing the number of sexual partners; always using condoms.

  Ways to promote safer sex practices include:

  - Use community education and conversation and mobilize established groups (family, church, community)
  - Design community messages appropriate for individuals at higher risk
  - Assist individuals to make personal risk reduction plans through HIV counselling and testing
  - Supply condoms to men, women and adolescents in the community and as an integrated component of health care wherever possible (family planning, antenatal care, HIV counselling and testing, HIV care/ART MCH, STIs)
  - Promote and provide female condoms
  - Promote dual protection routinely during family planning counselling
  - Promote male involvement in HIV/AIDS prevention at all levels using locally acceptable and culturally sensitive approaches
- **Provide early diagnosis and treatment of STIs**

  Early diagnosis and treatment of STIs can reduce the HIV incidence in the general population by up to 40%. Information on transmission of HIV and HIV counselling and testing services should be available whenever and wherever STI care is available. Partner screening and treatment should be available as a routine element of STI care.
- **Provide HIV counselling and testing to all adults and adolescents**

  Knowledge of HIV status is essential in order to consider all available treatment options, and to make informed decisions related to partner infection, childbearing and pregnancy. Testing for pregnant women, youth and children at risk is a national priority. Provider-initiated approaches are being promoted to increase the availability of testing, reduce stigma and reach people in need of testing and treatment.

IV. Prevention of Unintended Pregnancies in HIV-Positive Women

Prevention of unintended pregnancy in the general population is critical to prevention of transmission of HIV to children because many women and men do not know their HIV status. Increasing family planning to prevent unintended pregnancy among HIV-positive women is a major method of preventing of HIV infection in children and is cost effective.

Family Planning Counselling and Methods

In providing family planning counselling, providers should:

- Respect the right of all women, regardless of HIV status, to decide the number and timing of children
- Encourage dual protection (using two forms of contraception; one should be a condom). Provide condoms wherever possible and refer clients to a convenient affordable source
- Provide full information about the possibility of transmitting HIV to a child
- Offer information about prevention and referral for HIV counselling and testing
- Counsel men and women who know they are positive, assisting them to make well-informed decisions
- Provide information on various family planning methods

Table 3 contains brief information on use of each contraceptive method among HIV-positive women and HIV-positive women on HAART.

Table 3: Family Planning Methods for HIV-positive women and Men

Method	Use in HIV-positive women	Use in HIV-positive women on HAART	Remarks
Male condom	Highly recommended. Spermicide use (Nonoxynol-9) is not recommended for clients at high risk of HIV or who are HIV-positive.	Highly recommended	Requires partner cooperation and correct technique; effectiveness depends on consistent correct use. Protects against transmission of STI and HIV. Latex condoms are more effective.
Female condom	Highly recommended. Spermicide use (Nonoxynol-9) is not recommended for clients at high risk of HIV or who are HIV-positive	Highly recommended	Limited availability and lack of knowledge on consistent and correct use may limit usefulness. Protects against transmission of STI and HIV.
Copper (Cu) IUD	May use; follow-up recommended	May use; follow-up recommended. May be associated with increased risk of bleeding and possible exacerbation of anaemia on ARVs. Slight risk of uterine infection with insertion. Women with IUDs who develop advanced HIV disease should be monitored closely for PID.	NOT recommended for use in women with PID in the last six months or other active STI. Offers no STI/HIV protection. Therefore provide with condoms.
Progesterone	No restrictions	May use with follow-up. Drug	Unclear interaction of

only injectable (DMPA) implant (NET-EN)	for use	interactions with some ARVs likely.	steroids and immune function. Offers no STI/HIV protection, therefore provide condoms
Combined Oral Contraceptives (COCs)	No restrictions for use	May use with follow-up. Drug interactions with some ARVs likely. Dual protection recommended.	See recommendations in back pocket update for COC's available in Ethiopia and ARV interactions. Offers no STI/HIV protection. therefore provide condoms
Surgical sterilization	No restrictions for use	No restrictions for use. Women with advanced disease may be at slightly higher risk of surgical complications. Consider delaying surgery pending initiation of ARVs.	No STI or HIV protection for client or partner. Offers no STI/HIV protection therefore provide condoms
Lactational Amenorrhea Method	No restrictions for use	No restrictions for use	Important to review ongoing risk of MTCT for HIV+ women during breastfeeding. Offers no STI/HIV protection therefore provide condoms.
Emergency contraception (Postinor-2, or use COC pills)	No restrictions	No restrictions	EC should be given to women who request it. Women who have been raped should be offered EC.
Dual protection	Recommended	Recommended	Dual protection should be recommended to all women and men, regardless of HIV status
Source: WHO Medical Eligibility Criteria, for Starting Contraceptive Methods, 2004			

Considerations for HIV-positive women on ART and Combined Oral Contraceptives (COCs):

- **Dual protection should be recommended for men and women on ART**. Limited data from small, mostly unpublished studies suggest that some ARVs influence serum levels of COCs. To ensure effective and appropriate contraception is available, specifically for women on ART with nevirapine (NVP), lopinavir/ritonavir (LPV/r), nelfinavir (NLF) and ritonavir (RTV), dual protection is recommended. HIV-positive women on ART with any of the above ARVs who are also using COCs need to be monitored closely. (Details of drug interaction between ARVs and COC is included in the back pocket)

- **Considerations for HIV-positive women on Rifampicin and COC.**

  Rifampicin, often used to treat tuberculosis in HIV-positive clients, also decreases effectiveness of COCs by reducing circulating oestrogen. Any woman on Rifampicin and COCs should use dual protection.

V. Prevention of HIV Transmission from HIV-Positive Women to their Infants

Interventions aimed to prevent mother-to-child HIV transmission go hand-in-hand with strengthening maternal and child health services, and other reproductive/sexual health programs. Many strategies for preventing MTCT benefit *all* women who are, or may become, pregnant. PMTCT services should be available to *all* pregnant women attending antenatal clinics. Quality antenatal, delivery and post partum care should be provided to all women, irrespective of HIV status.

5.1 HIV and Pregnancy

Pregnancy itself does not affect the outcome of HIV infection, but HIV may affect pregnancy outcome in numerous ways: HIV-positive pregnant women are at increased risk of premature deliveries, small for date babies and still birth.

5.1.1 Risk of MTCT during pregnancy, labour and childbirth, and breastfeeding

Table 4 below describes the rate of Mother-to-child Transmission in the absence of intervention.

Table 4: Estimated Risk of MTCT

Timing	Transmission rate without intervention
During pregnancy	5-10%
During labour and delivery	10-15%
During breastfeeding	5-20%
Overall without breastfeeding	15-25%
Overall with breastfeeding to six months	20-35%
Overall with breastfeeding to 18-24 months	30-45%
Note: Rates vary because of differences in population characteristics such as maternal CD4+ cell counts, RNA viral load and duration of breastfeeding.	
"HIV transmission through breastfeeding: A review of available evidence." Marie Louise Newell; endorsed by UNICEF, UNFPA, WHO, UNAIDS. 2004 (adapted from De Cock KM et al., 2000.).	

5.1.2. Risk Factors for MTCT

Several factors put a woman at a higher risk of transmitting HIV to her child.

Maternal Factors

- High maternal viral load
- Low CD4 count
- Advanced maternal disease
- Viral or parasitic placental infections during pregnancy, labour and childbirth
- Maternal malnutrition (including iron and folate, vitamin A, and zinc deficiencies)
- Nipple fissures, cracks, mastitis and breast abscess

Infant factors

- First infant in multiple birth
- Preterm low birth weight
- Duration of breastfeeding
- Mixed feeding
- Oral diseases in child

Obstetric and Delivery Practices

- Rupture of membrane for more than four hours
- Injuries to birth canal during child birth (vaginal and cervical tears)
- Ante partum procedures e.g. amniocentesis, external cephalic version
- Invasive childbirth procedures (e.g. episiotomy, fetal scalp monitoring)
- Vaginal delivery
- Delayed infant cleaning and eye care
- Routine infant airway suctioning

5.2 HIV-Positive Women Who Intend to Become Pregnant

General health measures for people living with HIV, which should be available to all HIV-positive women, are detailed in Table 5.

Table 5: Care for HIV+ Women Considering Pregnancy

1. Give Accurate Information on Risk of MTCT and Ensure Informed Decision to Conceive

- Risk of mother-to-child transmission
- Availability of prevention options
- Effect of HIV on pregnancy outcome
- Involvement and screening of partner
- Follow-up schedule

2. Maintain the Best Possible Health and Nutritional Status

- Adequate high calorie intake to support nutritional needs, and additional iron, folate and zinc at least three months prior to pregnancy; encourage consumption of foods rich in iron (e.g. green leafy vegetables, meat and liver).
- Prevention of malaria: encourage use of insecticide treated nets (ITN) for all women and early treatment for symptoms of malaria for women living in malaria endemic areas
- Prevention, screening and treatment of STIs before pregnancy
- Prophylaxis and treatment of opportunistic infections
- Avoid pregnancy until six months after recovery from any chronic infections, such as TB or other opportunistic infections

3. Provide ART for eligible HIV infected women, if not already on treatment and ARVs for PMTCT for those who are not eligible for ART: (See back pocket for current recommendations)

5.3 Antenatal Care

5.3.1 For *All* Pregnant Women

Focused antenatal care must be available to all pregnant women regardless of HIV status. Specific additional interventions for HIV-positive pregnant women are discussed in the next section. All women need information on HIV prevention through safer sex practices, diagnosis and treatment of STIs, and infant feeding counselling and support.

Antenatal care services for all pregnant women should include:

- At least four focused antenatal care visits (1st as early in pregnancy as possible, 2nd at 28-32 weeks, 3rd after 36 weeks, 4th before expected date of delivery or when woman needs to consult)
- The antenatal visit should include:
  - Client history
  - Thorough general physical examination
  - Abdominal examination
  - Pelvic examination
  - Routine offer of HIV counselling and testing
  - Routine laboratory diagnostic tests
  - Tetanus toxoid vaccination
  - Nutritional assessment and counselling
  - STI screening and treatment
  - Malaria prevention and treatment
  - Anaemia prophylaxis and treatment
  - Infant feeding counselling with emphasis on exclusive breastfeeding for the first six months
  - Counselling on danger signs of obstetric complications, on birth preparedness and complication readiness, contraceptives and safer sex practices
  - Family planning counselling especially for bilateral tubal ligation during caesarean section

5.3.2 HIV Counselling and Testing during Antenatal Care

Compared with other approaches, routine provider-initiated HIV counselling and testing using the opt-out approach for all pregnant women has resulted in greater acceptability, increased opportunity to prevent MTCT, and minimized stigma. Irrespective of the approach used, all information about HIV testing must be kept confidential and testing should be voluntary.

The pregnant woman should be given the results of a rapid HIV test within one hour whenever possible. Knowledge of HIV status is a very important step in providing appropriate recommendations and treatment for HIV-positive women and their partners when/if indicated.

Provider-initiated routine counselling and testing using the opt-out approach is recommended for all clients seen within the context of maternal care (i.e. antenatal, labour, immediate postpartum). This means that HIV testing is offered as a routine component of standard maternal health care. The client is given pre-test information in a group or individually on HIV/AIDS and PMTCT and is told that her routine antenatal laboratory tests will include an HIV test. The provider also must inform the client that she has the right to say "no" (to opt out), and this decision by no means affects the services she will get from the health facility

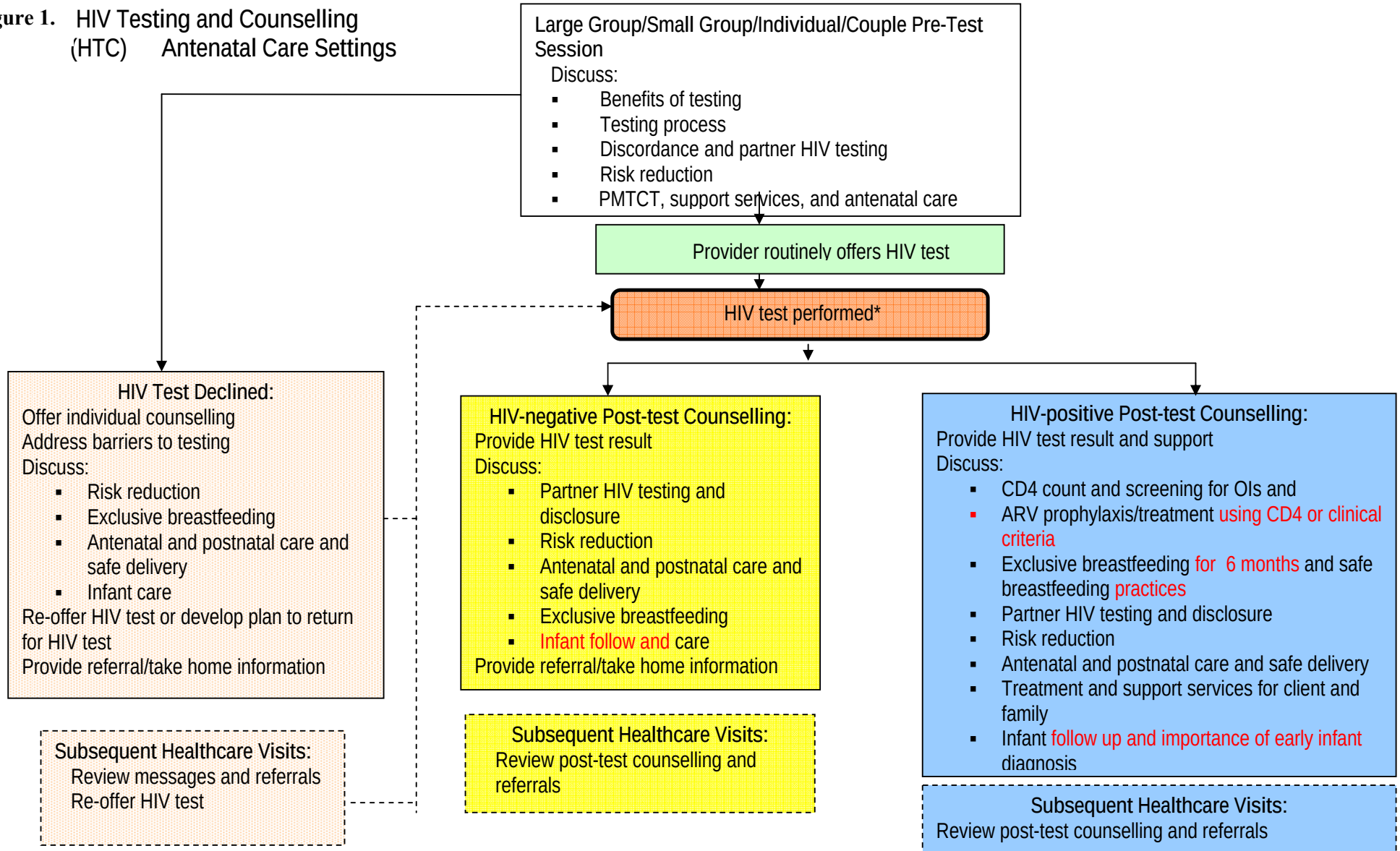
In summary: ***All women coming for ANC, labour and delivery and post partum follow-up, if not tested duringcurrent pregnancy shall be routinely informed about the benefits of HIV testing for mother and baby in a group or on individual basis and shall be told that their routine laboratory check up includes HIV testing unless they say "NO". The right to say "no" shall be clearly communicated.***

The pre-test information can be provided as part of a group session or incorporated into general health talks especially when the client load is high. If clients have additional questions or concerns, individual counselling can be used after group session or when client load is low. Also, pre-test session for couples can be arranged if couples are available. The pre-test session lasts 5-15 minute. For the key messages during the pre-test session refer the diagram on the next page.

For the implementation of opt-out approach the Ministry of Health has adapted the generic opt out tools and job aids developed by CDC/WHO. Providers are encouraged to use the tool in order to facilitate effective group counselling, and the PIHCT tool for individual counselling.

Rapid HIV testing must be used so results can be provided on the same day.

Figure 1. HIV Testing and Counselling (HTC) Antenatal Care Settings



**Follow national rapid testing algorithm/guidelines. Rapid testing with same day results is highly recommended*

5.3.3 Additional Antenatal Care Needs for HIV-positive Women

HIV-positive women need focused antenatal care as described in the previous section, but need *extra* care, including prevention and early treatment of opportunistic infections. This can reduce risk of adverse pregnancy outcomes and the likelihood of mother-to-child HIV transmission. All HIV-positive pregnant women should have CD4 determination either by sending blood samples or referring the client directly to a centre where CD4 testing is available. If CD4 testing is unavailable, HIV-positive pregnant women should be clinically assessed and staged for antiretroviral treatment eligibility, and baseline total lymphocyte counts should be carried out. At each antenatal clinic appointment, HIV-positive mothers should be routinely reassessed for OI prophylaxis and ART eligibility by clinical and/or immunological criteria as indicated by their condition**.** HIV infected women and their families should be enrolled in HIV care and treatment services

Additional history and clinical examination for HIV-positive pregnant women:

- Past history of HIV-related illness and HAART
- Duration of known HIV-positive status
- Assessment for symptoms of AIDS and HIV as per WHO Clinical Staging System for HIV status of other children and partner
- HIV and health status of other children and partner
- Partner disclosure and referral
- Any medications for HIV-related illness taken since beginning of pregnancy (e.g. TB or malaria medications, antiretroviral drugs, antibiotics for opportunistic infections)

Additional laboratory assessment of HIV-positive pregnant women:

- Screening CD4 count/percentage is routinely recommended, where the service is available. All HIV-positive pregnant women should have baseline total lymphocyte count at minimum. Additional laboratory investigations are recommended as relevant and indicated to diagnose opportunistic infections.

Antiretroviral therapy:

- All HIV-positive women should be routinely assessed for ART eligibility and initiated on HAART if eligible, at point of care or at HIV care/ART clinic. ART eligibility criteria for pregnant women are illustrated in the pocket guide. Sick mothers with advanced disease (i.e. CD4 <200) should be prioritized for antiretroviral treatment.

Prophylaxis and treatment for opportunistic infections:

- Provide routine TMP-SMT prophylaxis for all HIV-infected pregnant women with clinical stage 2, 3, 4 disease or CD4 count below 350 c/mm3
- Provide other OI prophylaxis and treatment for opportunistic infections as per the national guidelines

Tuberculosis (TB):

- Screen all pregnant HIV-positive pregnant women for TB
- Screen all clients with cough of more than two weeks for TB according to national guidelines.

Malaria:

- All pregnant women should be advised to use insecticide treated bed nets to prevent malaria. All HIV-positive pregnant women in malaria endemic areas should receive malaria prophylaxis and treatment as per the national guidelines for malaria.

Short course ARV prophylaxis to reduce MTCT during pregnancy:

- Administer prophylaxis with short course ARVs to reduce the risk of MTCT for HIV-positive women who do not meet medical criteria for HAART. The back pocket update includes specific dosages and regimens for ARV use for PMTCT. These recommendations should be updated frequently and used in accordance with national guidelines for use of ARVs in adults and adolescents in Ethiopia and current WHO PMTCT recommendations.

Infant Care:

- Counsel pregnant women about infant feeding with emphasis on exclusive breastfeeding for the first six months of life, with introduction of appropriate complementary feedings at six months with continued breastfeeding until 12–18 months. Educate mothers on the importance of infant follow-up, cotrimoxazole preventive therapy and early infant diagnosis.

Counselling on signs and symptoms of HIV/AIDS disease progression:

- Provide information and instructions on seeking care for symptoms of HIV disease progression. Women should be referred to ART sites for appropriate management of complications, consultation or ongoing care when indicated.

Partners and family:

- Help women through the process of disclosure, involving partner and/or couple counselling, and on effective involvement of the family in care and support.

Support:

- Counsel and refer to community care and support organizations and ensure feedback.

Prevention:

- Counsel: primary prevention, condoms, infant feeding, postpartum contraception including counselling for family planning and provision of contraceptive methods as a part of postnatal care.

5.4 Intra partum care: Labour and Delivery

As up to a third of infant HIV infections occur through transmission from the mother during labour and delivery, this period for prevention of MTCT is critical. Many strategies which prevent MTCT, including standard infection prevention precautions and limiting/avoiding unnecessary obstetric interventions, are protective for *all* women and their infants.

Intra partum care and infection prevention include:

- **Essential obstetric care for all mothers**
- A skilled attendant at every birth (at home or at healthcare facility).

  (Note: *WHO defines a skilled attendant as "a health provider who has at least the minimum knowledge and skills to manage normal childbirth and provide basic emergency obstetric care"*).
- Early identification of danger signs and prompt referral to a facility where comprehensive obstetric care is available.

- **Safe delivery practices and avoiding invasive procedures when possible** (no artificial rupture of membrane to shorten labour, no routine episiotomy, avoid use of vacuum extraction and forceps if possible, limit vaginal examinations during labour, treatment of acute chorioamnionitis, early infant eye and cord care).
- **Safe delivery practices designed to protect health workers, mothers, family members, and babies**. (Use of standard precautions at every delivery, covering umbilical cord with gauze before cutting, safe handling and disposal of placenta and soiled materials, proper processing of used instruments).

5.4.1 Testing and Counselling during Labour

As up to two thirds of pregnant women attend health facilities for the first time when in labour, HIV counselling and testing should be offered routinely for all mothers admitted for delivery. Active identification of women in labour with unknown HIV status and offering of HIV counselling and testing shall be part of standard of care. HIV-positive women identified through this means shall receive prophylactic antiretroviral treatment and be linked to care for themselves and their infants.

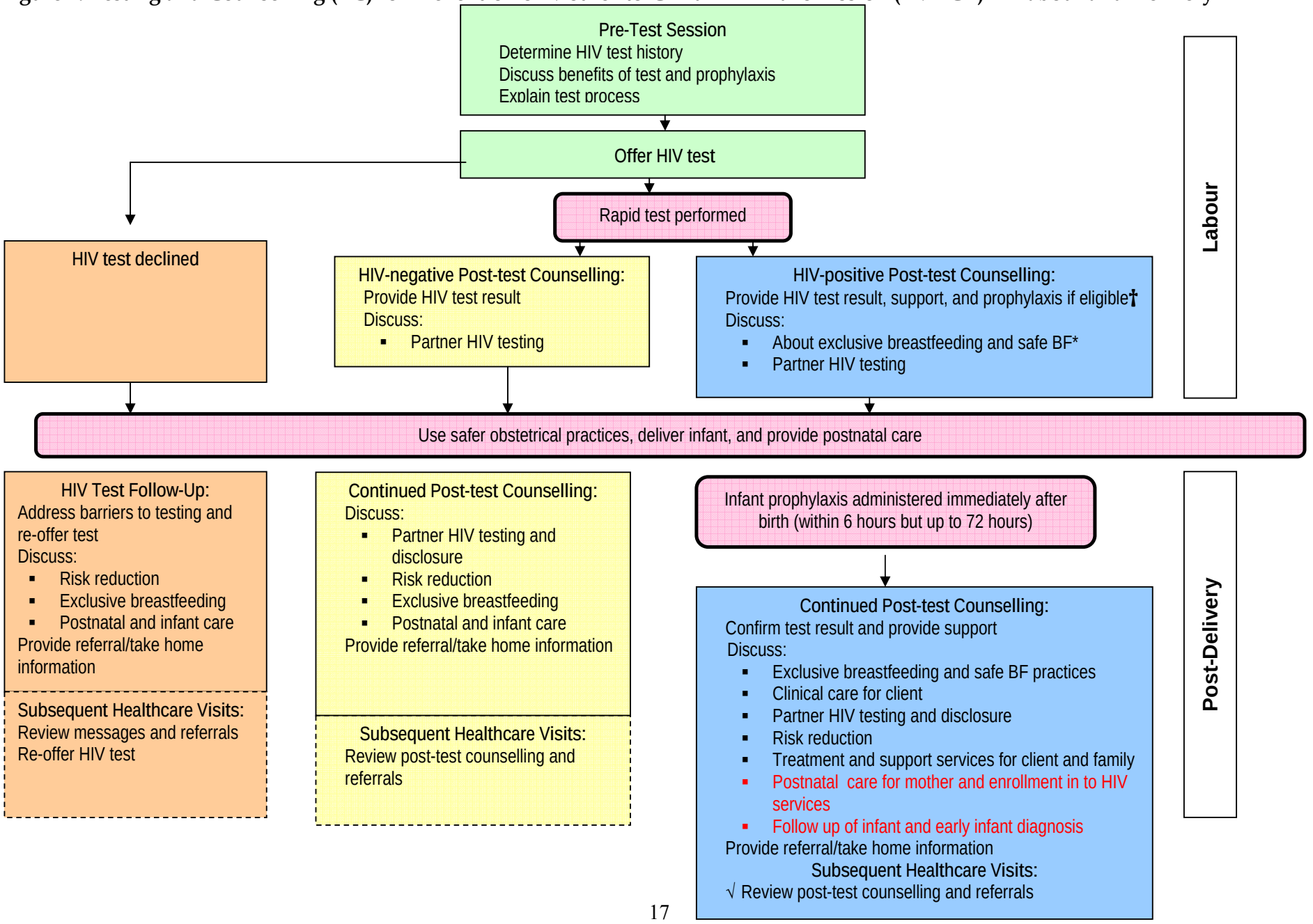
The right of women to decline HIV testing must always be respected. The approach and timing of pre and post test sessions will be guided by the stage of labour in which a woman presents. If in advanced labour, HIV TC can be offered immediately after delivery before discharge so the baby can still receive ARV prophylaxis and both mother and baby can receive or be referred for other HIV prevention interventions, treatment, care and support services.

The pre-test session in labour should be very short (2-5 minutes) and should provide sufficient information to enable the woman to make an informed decision on whether to opt out of the test.

If all components cannot be completed because a woman is in active labour, complete at an appropriate time as soon as possible after delivery.

The messages and action steps for routine offer of HIV counselling and testing to all women in labour should be conducted according to the following protocol:

Figure 2. Testing and Counselling (TC) for Prevention of Mother-to-Child HIV Transmission (PMTCT) in Labour and Delivery



5.4.2 Additional Intra Partum Interventions for HIV Positive Women

- Decisions about these interventions must be based on resources of the health facility, skilled provider availability, and the pregnant woman's preference. Where resources exist, balancing risks and benefits carefully, consider elective Caesarean Section (C/S) delivery for HIV-positive women who desire this; vaginal delivery increases the risk of MTCT and C/S delivery before the onset of labour decreases it. In resource-limited settings, the morbidity associated with C/S due to anaesthesia, surgical complications, and post-procedure infection needs to be balanced against that of MTCT.
- Use a single dose prophylactic antibiotic prior to elective or emergency C/S to reduce risk of obstetric infections
- Administer ARV prophylaxis for the prevention of MTCT, in accordance with current recommendations i.e. Combination ARVs in facilities where ART is available and single dose nevirapine at the onset of labour if antiretroviral treatment is unavailable. (see back pocket update for the detail)

5.5 Postpartum care

The postpartum period is a critical transitional time for women, their newborns and families. Ideally, postpartum care should be provided by the health worker or skilled attendant present at delivery and the mother and newborn should be cared for together. Important components of care after delivery for the new mother are outlined below. Postpartum care at six hours, six days and six weeks for all newborns is outlined in Table 6.

If the mother was not counselled and tested for HIV during pregnancy or labour and delivery, provide counselling and testing services within 72 hours of birth to preserve the possibility of giving the infant prophylaxis in case of a positive test result. *(For further description on use of ARVs for prophylaxis refer to the back pocket)*

5.5.1 For All Women and their infants

Postpartum care at six hours, six days and six weeks for all women and newborns is outlined below.

Table 6: Postpartum Care of All Women and their Infants

Within 6 Hours	
Mother	**Infant**

• **Assess maternal well-being**
  • Measure blood pressure and body temperature
  • Assess for vaginal bleeding, uterine contraction and fundal height.
  • Identify any signs of serious maternal complications (haemorrhage, eclampsia, and infection)and initiate treatment
  • Suture episiotomy or perineum as appropriate.
• Counsel on disposal of potentially infectious soiled pads or other materials.
• Advise on where to call for help in case of emergency (for home-based delivery)
• Immunize with Tetanus Toxoid if not done during pregnancy
• Support initiation of breastfeeding.
• Continue micronutrient supplementation (iron, folate, iodized salt, and Vit. A 200000 IU single dose before discharge from facility)
• Offer HIV testing if not done already
• Schedule return visit
	• Thermal protection to baby, providing warm environment and keeping mother and baby together
	• Frequent exclusive breast feeding
	• Keep baby clean and clean cord care
	• Weigh the baby
	• Examine newborn's health as per standards
	• Frequent observation of baby by the mother for danger signs
	• Immunize with BCG, and OPV
	• Schedule return visit

Within 6 Days	
Mother	**Infant**
• General well-being, micturition, and other possible complaints • Fundal height, distended bladder • Perineum, vaginal bleeding, lochia, haemorrhoids • Thrombophlebitis, signs of thrombosis • Temperature, if infection is suspected • Supplementation of micronutrients (iron, folate, iodized salt, Vit. A) • Counsel on safe disposal of potentially infectious soiled pads or other materials • Advice/counselling on maternal and newborn nutritional, physical, psychological and cultural needs • Advice/counselling on nutrition and breastfeeding • Information regarding warning signs, where to seek help • Counselling on sexual issues related to postpartum period, including family planning and provision of contraceptive methods • Immunization of newborn and women as applicable • Offering HIV testing if not done already • Encourage continued use of ITNs for women in malaria endemic areas	• Address concerns about breastfeeding and growth of baby as mother perceives these • Assess general condition of baby: active, feeding well, frequently? • Observe how baby is breast feeding • Observe skin for signs of jaundice • Assess vital signs if baby is not active • Immunization with BCG, and OPV if not done already
Within 6 weeks	
• Routine postpartum physical examination	• Identify warning signs of complications

• Assessment for signs of postpartum complications • Counselling on appropriate nutrition, and micronutrient supplementation • Counselling on family planning and safe sex practices • Counselling on breastfeeding and support as needed • Counselling on personal hygiene and disposal of soiled pads. Micronutrient supplementation as appropriate • Encourage continuous use of ITN for women in malaria endemic areas • Routine offer of HIV testing if not already done • Plan next visit and immunization of baby	• Routine examination of the baby • Immunization: BCG if not already done, first dose of OPV, DPT

.5.2 Additional postpartum care for known HIV-positive women

In addition to postpartum care that all new mothers need, HIV-positive women should receive:

- If mother is on antiretroviral treatment ensure she continues to take this postpartum and check adherence. If she is on short course antiretroviral drugs for PMTCT verify completion of antiretroviral prophylaxis
- If mother was identified HIV-positive during labour and delivery refer for CD4 evaluation, HIV care and treatment
- Schedule return visit in 6 weeks
- Extra nutrition and micronutrient support – continue iron and folate supplement for at least 6 weeks postpartum and longer if indicated, particularly if a woman has underlying anaemia due to HIV disease or ARVs. An additional two varied meals per day are recommended to meet energy needs and avoid malnutrition while breastfeeding
- Close monitoring for secondary postpartum haemorrhage, which may be more dangerous if a woman has anaemia
- Early recognition and treatment of infections, including urinary tract infection, reproductive tract or obstetric infections (endometritis, wound infection from C/S or episiotomy/laceration repair), mastitis and breast abscess and respiratory infection
- Counselling regarding early initiation of family planning within three to four weeks of delivery; particularly if a woman chooses not to breastfeed, causing early return to normal fertility
- Reinforcement of safe sexual behaviour and need for dual protection
- Counselling about safe disposal of potentially infectious soiled pads or other garments
- A plan for an ongoing link with appropriate HIV/AIDS medical services should be initiated. The family should also be given information about social services and support in the community to assure long term support

5.6 Care of Infants Born to HIV-Positive Mothers

There are no specific signs or features diagnostic of HIV at birth, but clinical signs of HIV may start to appear around 4-6 weeks of life.

Principles of the care of infants born to HIV-positive mothers:

- Respect confidentiality of the mother and family
- Care for the newborn as for any other newborn, but pay particular attention to infection prevention procedures
- Give the newborn all routine recommended immunizations
- Administer ARV prophylaxis for the newborn; check adherence to infant prophylaxis during follow-up
- Promote and support exclusive breastfeeding for the first six months. Inform mother that formula feeding is not the best choice as it is associated with increased risk of illness and death. If mother chooses replacement feeding, advise her on appropriate replacement feeding, and about the dangers associated with mixed feeding and early weaning.
- Counsel the mother on early infant diagnosis and cotrimoxazole prophylaxis. Encourage early intervention for any infections or illnesses; explain when and where to take the child for HIV testing
- Ensure follow-up and comprehensive care and treatment of HIV exposed infants including cotrimoxazole prophylaxis

Table 7: Care of Infants Born to HIV-positive Mothers
Newborn and Postnatal Care ***A. Routine measures*** - Handle infants with gloves until maternal blood and secretions are washed off - Clean all injection sites with antiseptic and dispose of needles and syringes into puncture-resistant sharp containers (See: *National Infection Prevention Guidelines*.)

- Clamp cord immediately after birth, and avoid milking the cord. Cover cord with gloved hand or gauze before cutting to avoid splashing of blood to the eyes
- Wipe infant's mouth and nostrils with gauze when the head is delivered
- Use airway suction only when meconium-stained liquid is present and it is clinically indicated. Use mechanical suction <100mm Hg or bulb suction; never use mouth-operated suction
- Keep baby clothed or covered as much as possible to maintain warmth
- Administer eye care with antibiotic (Tetracycline 1% eye ointment) as soon as possible after birth
- Administer BCG and OPV vaccines. (See national EPI recommendations.)

B. ARV Prophylaxis to all infants born to HIV-positive mothers to prevent MTCT

(Refer to back pocket inserts for options.)

Follow-up care and treatment

- During the postnatal period, mother and newborn should be seen together. Early neonatal care should be closely linked with ongoing services for health care, including Integrated Management of Childhood Illnesses wherever it is implemented.
- All children born to HIV-positive women should be followed up regularly. This provides a continuum of care for women who received PMTCT services before and/or during delivery and allows regular reassessment of infants in order to diagnose HIV infection early (Follow instructions in the IMCI chart booklet)

Follow-Up Of Infants Born To HIV-Positive Mothers

- Follow-up: at 6 hours, 6 days, 6 weeks, 10 weeks, 14 weeks, then monthly until 6 months, and thereafter every 3 months until 18 months if infant is asymptomatic
- Monitor growth and development at each visit; refer to national paediatric guidelines
- Reassess fully and reclassify for HIV on each follow-up visit
- Counsel about infant feeding practices and support mother's choice
- Provide cotrimoxazole prophylaxis starting at 4-6 weeks old (see below for doses)
- Wherever possible do DNA PCR testing at 6 weeks or as early as possible thereafter if not possible at 6 weeks (refer national infant HIV diagnosis algorithm)
- Refer the child for HIV/ART care clinic if child:
  - has a positive virological test
  - is suspected of having symptomatic HIV or displays any severe classifications possibly due to HIV or has positive antibody test under 18 months and 2 or more of the following: oral thrush, severe pneumonia or severe Sepsis

COTRIMOXAZOLE PROPHYLAXIS

Using cotrimoxazole for ALL HIV EXPOSED INFANTS significantly reduces the rate of PCP and other bacterial infections which in turn reduces infant mortality rates.
Cotrimoxazole prophylaxis is indicated:

- For all infants born to HI-positive mothers (HIV exposed infants) starting at 4-6 weeks of age. Continue until infant is no longer breastfeeding and HIV infection has been excluded. Dose for cotrimoxazole is shown below.

Age	Suspension in ml (5 ml syrup 200mg/40mg)	Paediatric tablets (20mg Trimethoprim& 100mg sulfamethoxazole)	Single strength tablet (80mg Trimethoprim& 400mg sulfamethoxazole	Double strength tablet (160mg trimethoprime & 800mg sulfamethoxazole
<6 mo	2.5ml per day	1 tab per day	¼ tablet	
6mo-5 yrs	5ml per day	2 tabs per day	½ tab per day	
>6-14 yrs	10ml per day	4 tab per day	1 tab per day	½ tab per day
>14 yrs			2 tabs per day	1 tab per day

Table 8: HIV testing of Infants Born to HIV-positive Mothers			
HIV testing in children born to known HIV-positive women			
Age	**HIV testing**	**What results mean**	**Considerations**
<18 months	HIV ANTIBODY TEST (rapid HIV test)	If negative and not breastfed for last 6 or more weeks, the baby is **not HIV infected.**	Negative test usually rules out infection acquired during pregnancy and delivery. But child can still be infected by breastfeeding.
		If negative **and** breastfeeding – repeat test once breastfeeding is discontinued for 6 or more weeks.	
		If positive, test does not reliably indicate HIV infection. Repeat test at ≥18 months or do DNA PCR test if child is sick.	Confirms child has been exposed to HIV, as passive transfer of maternal antibodies can cause positive test results.
	HIV virological test (DNA PCR using DBS)	Positive virological test results at 6 weeks of age - child is **infected**. Assess or refer for ART care and treatment	DNA PCR test using DBS is done at 6 weeks to identify infected infants, not to exclude infection.
		Negative virological test in an infant NEVER breastfed implies the child is uninfected. Perform confirmatory antibody test at >12 months of age**.**	A negative DNA PCR result at 6 weeks in a breastfeeding baby does not exclude infection, since the infant is at ongoing risk. continue close follow-up and CPT, If the baby gets sick follow-up repeat DNA PCR test. If infant stays well do rapid antibody test at least 6 weeks after complete cessation of breastfeeding or at 12 months or later. Refer to national infant HIV diagnosis algorithm for further information.
≥18 months	**HIV antibody test** (rapid test or EIA)	Results valid as for adults. Negative=the child **is not infected**; Positive=the child is **infected.**	If negative and still breast feeding– repeat test once at > 6 weeks after complete cessation of breastfeeding.

*By the age of 12 months, most infants will have lost maternal antibody. A positive antibody test result is most likely due to the child being HIV infected. Repeat DNA PCR to confirm HIV infection status. This is especially true in a sick child with signs and symptoms of HIV infection.

5.7 Infant feeding in the context of maternal HIV

Figure 3. Infant-feeding counseling for HIV-positive women

During antenatal care
- Explain to the mother that even if there is a small risk of HIV transmission by breastfeeding, breast milk is shown to give the best chance of survival even for babies born to HIV-positive mothers
- Encourage mothers to breastfeed exclusively for the first 6 months
- Explain the risks of replacement feeding and inform mothers that currently this is not recommended for feeding infants born to HIV-positive mothers in Ethiopia. Explain the danger of mixed feeding and early weaning
- Review the Key Messages for HIV-positive mothers who choose to breastfeed or who choose to use replacement feeding, depending on the choice (Table 14)

Post partum
- Encourage and support mother's choice

At each postnatal visit
- o Support mother's choice
- o Monitor growth and development

Preferred infant feeding method
- o Exclusive breastfeeding for the first 6 months
- o Avoid mixed feeding, feed only breast milk until 6 months old
- o Introduce complementary feeding at 6 months and continue breastfeeding until 12-18 months (when infant can get adequate calories without breast milk)
- o Counsel mothers on safe breastfeeding practice
- o Promptly manage breast problems like mastitis, cracked nipples etc
- o Ensure eligible mothers are on antiretroviral treatment for their own benefit
- o Provide nutritional and psychosocial support to mothers

Alternative feeding method
- This is for the minority of women who choose replacement feeding
- Review optimal replacement feeding principles, including use of cup and spoon and avoiding mixed feeding and bottle feeding
- Make sure mother can safely provide formula
- No breastfeeding with replacement feeding [mixed feeding]
- Provide clear information about risks of formula; that it is not currently recommended
- Mothers should use commercial infant formula. Home-modified animal milk should only be used as a temporary measure since it does not provide the micronutrient needs of infants <6 months.
- Ensure mother has an uninterrupted supply of formula for at least 12 months
- o Teach mother how to prepare the replacement feeding and provide intensive counselling on hygienic preparation of formula at each visit
- o Avoid bottle feeding, in order to avoid the risk of diarrhoea and malnutrition
- o Ensure close follow-up to monitor growth and nutritional status monthly to prevent malnutrition and gastroenteritis during the first 2 years of life

Table 9: Infant Feeding : Key Messages

Infant feeding counselling and support for HIV-positive mothers who choose to breastfeed:
- Support the mother's choice
- Encourage exclusive breastfeeding for 6 months
- Advise the mother ***never to mix feed*** as this may increase risk of HIV transmission and illness or death from diarrhoea and other illnesses
- Ensure correct positioning and attachment to prevent mastitis and damage to mother's nipples:
  - Advise the mother to return immediately if she encounters breast or nipple problems, or if baby has any difficulty feeding
  - Ensure follow-up during first week after discharge to assess attachment and positioning and the condition of mother's breasts
  - Ensure infant follow-up and access to early infant diagnosis service and cotrimoxazole preventive therapy
- Introduce appropriate complementary feeding at 6 months
- Continue breastfeeding after 6 months unless mother is able to provide adequate replacement feeding to sustain normal growth and development
- Ensure maternal health and nutrition specially enrolment into HIV/ART care.

Infant feeding counselling and support for HIV-positive mothers who choose replacement feeding:

- Support the mother's choice
- Ensure mother can provide exclusive replacement feeding for the first 6 months and adequate complementary feeding and milk thereafter. ***Never mix with breast milk.*** (Refer to PMTCT reference manual for details).
- Ensure mother understands how to prepare and use infant formula
- Home-modified animal milk is not recommended for infants unless as a temporary measure
- Demonstrate how to prepare and use a cup and spoon; ***never use feeding bottle***
- Give mother written instructions on safe preparation of replacement feed (GIVE OPTIONS)
- Explain the risks of replacement feeding and how to avoid them
- Advise the mother to seek care if the baby has problems such as:
  - Feeding less than six times daily
  - Diarrhoea
  - Poor weight gain
  - Ensure a follow visit during the first week after discharge to assess how mother is coping with replacement feeding
  - Ensure baby receives regular follow-up visits with appropriate child care providers in a health or other facility and access to infant HIV diagnostic service.

VI. Treatment, Care and Support to HIV-positive Women, their Infants and their Families

PMTCT programs should support the right of HIV-infected women, their infants and families to the highest attainable standards of health care. Detailed information about the broader care of HIV-positive women and their infants is beyond the scope of these guidelines, therefore readers should refer to relevant national guidelines for detailed information with regard to HIV care, treatment and support.

Table 10: Summary of Treatment, Care and Support Services

HIV-infected women and their partners: - Psychosocial support - Nutritional support - Reproductive health care including family planning counselling and services - Antiretroviral therapy and support - Prevention and treatment of opportunistic infections - Management of acute illness - Palliative care - Community-based support for the well-being of the family including socio-economic and legal support
HIV exposed and infected infants and children : - Routine newborn and child health care, including growth monitoring and immunization according to national Extended Program on Immunization (EPI) schedule for all children - Diagnosis and treatment for all health needs, according to national Integrated Management of Child Illness (IMCI) protocols - Nutrition counselling and support for both infant and mother - HIV care and treatment including antiretroviral treatment per the national guideline for infants and children - Opportunistic infection prophylaxis as indicated
Families with HIV-infected women or infants: - Home-based care and community support - Parent-to-child HIV transmission education, including partner notification - HIV testing for other children in the family of an HIV-positive woman

VII. Basic Principles for use of Antiretroviral Drugs for PMTCT

Paediatric HIV is a preventable disease. Antiretroviral drugscan decrease viral replication and viral load and significantly reduce or prevent the risk of maternal to child HIV transmission. In sub-Saharan Africa, 20-30% of HIV infected pregnant women are eligible for ART based on CD4 criteria. Initiating antiretroviral treatment, rather than PMTCT, for eligible pregnant women improves maternal and infant outcomes, decreases vertical transmission and minimizes the issue of antiretroviral resistance. By attending to the health of the mother and treating pregnant and breastfeeding women with advanced HIV disease with antiretroviral treatment, one can markedly reduce the risk of infant infection. Expediting assessment for antiretroviral treatment eligibility and antiretroviral treatment initiation is therefore a priority for HIV infected pregnant women.

As this information is rapidly changing and needs updating frequently, ARV dose and regimen recommendations are included in the back pocket folder. These standards are based on policies and guidelines issued by Ministry of Health.

1. **ART (Antiretroviral Therapy)** — is use of 3 or more ARVs simultaneously to treat HIV infection. ART is a life-long treatment for the mother and can also significantly reduce MTCT.

2. **ARV prophylaxis—short term** use of ARV drugs in the mother and/or infant to reduce MTCT.

HAART is indicated based on WHO clinical staging and/or CD4 count

1. If CD4 testing is available:
   - WHO Stage IV disease irrespective of CD4 cell count
   - WHO Stage III with CD4 cell count < 350/mm^3
   - WHO Stages I or II disease with a CD4 cell count $\leq$ 200/mm^3

2. If CD4 count is not available
   - WHO Stage IV disease irrespective of total lymphocyte count
   - WHO Stage III irrespective of total lymphocyte count
   - WHO Stage II disease with a TLC $\leq$ 1200/mm^3

If HAART is not indicated or unavailable for an HIV-positive pregnant woman, antiretroviral prophylaxis should be used to reduce mother-to-child transmission. In accordance with WHO recommendations, in order to expand coverage and ensure the largest number of women and their infants benefit, simple and effective PMTCT interventions including short course antiretroviral must be delivered in all settings with trained health workers, even with limited capacity.

Resistance is one possible consequence of short course ARV prophylaxis particularly with use of nevirapine and 3TC for both the HIV-positive mother and newborn. The short course ARV prophylaxis regimens listed in the back pocket update are designed to give more alternatives for different settings and have acceptable efficacy and safety, and the lowest risk of developing resistance if nevirapine is not included in the regimen.

Table 11: Principles for use of Antiretroviral drugs for PMTCT

A. ARV *Treatment* for HIV infected women who become pregnant while receiving HAART

- When pregnancy is recognized in the first trimester, the potential benefits and risks of HAART for the health of the mother and infant should be considered
- For women who become pregnant while receiving an EFV-containing regimen and are in the first trimester of pregnancy, NVP must be substituted for EFV with close monitoring of mothers who have higher CD4 cell count (> 250mm^3) for the first 12 weeks
- Women who are in the second or third trimester can continue the current regimen
- Exposure to EFV during pregnancy is not indication to terminate pregnancy
- Women should continue their HAART during labour and post partum
- Infants born to mothers receiving ARVs should receive AZT 4mg/kg/dose twice daily for 7 days

B. ARV Treatment for HIV-infected pregnant women eligible for HAART and their infants

- All pregnant HIV-positive women should be evaluated for ART eligibility using immunological and clinical criteria. They should also be screened for common OI and managed accordingly. Health care workers must link such women to facilities where such service is provided.
- During the first 12 weeks of pregnancy ART should be started if only the benefit outweighs any risk to the foetus; if mother has advanced HIV infection or a CD4 count is <200, treating her should be a priority.
- Pregnancy does not preclude the use of HAART. However, there are cautions for use of some antiretroviral drugs during pregnancy. Efavirenz (EFV) is contraindicated during the first 3 months of pregnancy due to risk of birth defects. Dual NRTIs, d4T and ddI are associated with significant side effects during pregnancy, therefore co administration is contraindicated
- Antiretroviral therapy during pregnancy must be closely monitored by appropriately trained providers
- All antiretroviral therapy started in pregnancy should continue during labour and delivery, and the post partum period, and thereafter
- Infants born to HIV-infected mothers on ART should receive post-exposure prophylaxis with AZT for seven days. The dosage for newborns is listed in the back pocket update

C. ARV *prophylaxis* for HIV-positive pregnant women not eligible for ART and their infants (see back pocket for specific drugs and regimens used both for mother and the infant)

- Starting from 28 weeks of pregnancy, short course ARV prophylaxis with combination drugs is recommended for the mother and infant in facilities where ARVs have been distributed.
- Short course ARV prophylaxis acts in two ways to reduce HIV transmission:
  - Reducing maternal viral load
  - Pre and post exposure prophylaxis of infant
- Single drug prophylaxis (nevirapine) mother and baby is an interim measure used in many low resource settings, including Ethiopia, until ARV provision is complete. However, where possible, it is preferable to use more than one antiretroviral drug.
- Antiretroviral prophylaxis for MTCT should be given by a skilled attendant or other health worker to the mother during labour and to the newborn within the

first 72 hours.

- Where women deliver at home, health workers should:
  - Provide ***at least*** a single dose nevirapine at first opportunity during ANC visits and ensure reinforcement to take NVP at the onset of labour at home
  - Stress newborns should receive a single dose of NVP within the first 72 hours at the closest health care facility, and encourage women to make plans to (or have a relative) take the infant to the health facility

VIII. Additional Elements of Clinical Care

8.1 Infection prevention

Standard precautions apply to both clients and providers attending health care facilities and are designed for the care of everyone, whether or not potentially infected with HIV or other infections (e.g. Hepatitis, TB…). Standard precautions imply a physical, mechanical or chemical barrier between micro organisms and an individual in order to prevent transmission. Standard precautions apply to blood and body fluids, secretions and excretions, non-intact skin, and mucous membranes. Standard precautions should be routinely practiced in health care settings, not based on the nature of procedures or actual (or assumed) HIV status. Key components are:

- Hand washing before and after all patient contact
- Use of gloves and other protective barriers when exposed to potentially infected body fluids, mucous membranes, broken skin, or contaminated waste material
- Use of physical barriers (apron, face mask, goggles) if splashes or spills are likely
- Use of antiseptic agents for cleaning the skin or mucous membrane prior to surgical procedures, cleaning wounds, doing hand scrubs
- Use of safe work practices including not recapping or bending needles, using "safe zone" for passing instruments and suture material, and when appropriate using blunt needles
- Safe disposal of infectious waste materials to protect those who handle them
- Safe disposal of sharp needles, scalpels and other sharp instruments
- Processing of instruments, gloves, and other items after use by first decontaminating and thoroughly cleaning them, and then sterilizing or high-level disinfectant application

8.2 Reducing occupational exposure and risk of HIV transmission

HIV transmission to health care workers is a serious potential hazard and a source of concern and anxiety. Exposure that could put a health care worker at significant risk include either of the following, if it involves blood, tissue or other body fluids containing visible blood

- Percutaneous needle injury
- Contact of mucous membrane or non-intact skin

Blood through needle stick injuries is the primary route of occupational exposure, though exposure through other infected body fluids and mucous membrane through contact is also possible. Patient to provider transmission can be prevented or minimized through appropriate infection prevention measures, including adherence to standard precautions, safe occupational health measures and ongoing education.

8.3 Post-exposure Prophylaxis (PEP) for occupational exposure

Short course antiretroviral drugs can reduce the likelihood of infection following HIV exposure by as much as 80%. Post-exposure prophylaxis should be administered as soon as possible after exposure, ideally within 2 hours. Early rapid testing of the source patient can help determine the need for PEP and may eliminate unnecessary antiretroviral

medication. An accidentally-exposed health worker should have pre-test counselling and an HIV test within 8 days of exposure. All health workers who initially test negative should have a follow-up HIV test at three months. Currently, there is no single recommended PEP regimen, but as with all antiretroviral treatment a dual or triple drug therapy is recommended, depending on: the type of injury and transmission medium, the source client's status, HIV viral load and treatment history if known, and the ARV drugs available in the facility. The health worker must have access to a full month's supply of ARV once started.

- *Two-drug regimen: **AZT/3TC,** AZT/FTC, d4T/3TC, d4T/FTC, TDF/3TC, TDF/FTC
- Three-drug regimen: Two NRTIs (above) plus LPV/r.
  Alternatives: SQV/r.ATV/r.ATV,IDV/r, or EFV
- Drugs **NOT** recommended: NVP, ABC, DLV, ddC

**Adapted from John G.Bartlett, MD. And Joel E.Gallant. MD., M.P.H.: medical management of HIV infections 2005-2006*

IX. Program Management and Coordination

To be effective, the PMTCT program has to have strong coordination among programs at both management and service delivery levels.

9.1 Service Delivery Planning and Management

All healthcare facilities should provide PMTCT services as an integral component of maternal, neonatal, and child health care services.

The key elements of service delivery planning and management are:

- **Human capacity development:** Training requirements for each category of care providers is based on skills needed to do the job
- **Management of drugs and supplies**: PMTCT drug procurement, distribution, storage and utilization must comply with the national Drug Policy and all regulations related to drugs in Ethiopia
- **Ensure community involvement:** Understanding the community perspective is essential in planning PMTCT programs at facility level
- **Assessment**: Assessment of the current state of services and how they are perceived by clients and community can help focus efforts where critical changes are needed and assist managers in establishing efficient services that women and families will use
- **Organization of services:** Issues to consider in determining where services will be offered include:
    - **Integration and linkages:** Every client should have access to elements through the full 4-prong approach, preferably in a single visit. This requires integration of care in STI, MCH, HCT, HBC and family planning services
    - **Multiple contacts:** Family planning counselling should be available at every antenatal visit, as a standard component of counselling, during labour and delivery, and at postnatal visits
    - **Convenience:** Services should be located as close to each other as possible and must ensure privacy and confidentiality
    - **Remove barriers:** Assess whether services are client-friendly and change processes and procedures that discourage their use (e.g. burdensome or duplicative administrative requirements, cost, long waits, perception that confidentiality is not ensured, PLWHA-unfriendliness.)
    - **Comprehensive approach:** Consider every element of care that takes place including: intake, history-taking, examinations, pre-testing counselling/group education, sample collection, lab work, post-test counselling and return visits, referral to HIV care/ART and support.
    - **Caseload**: Resource allocation, including human resource, should be based on the number of clients and work load.

9.2 Staff Performance and Motivation

- All sites should follow PMTCT performance standards developed by the MOH to ensure quality of services
- All staff members need to know about PMTCT service standards and be able to, at a minimum, direct women to the facility or area where services are offered
- Hold regular meetings to discuss staff problems and reduce burnout
- Follow-up that includes supportive supervision and problem solving
- Provide monetary and non-monetary recognition of the valuable service provided. Ensure continuous flow of medical supplies and equipment
- Provide job aids (reference materials, pocket guides, wall charts…)
- Make sure job descriptions are regularly updated and are clear
- Host review meetings to get feedback and set agendas for changes needed
- Provide infection prevention supplies and post exposure prophylaxis

9.3 Referrals

Standing referral and feedback arrangements should be put in place that:

- Encourage counselling, testing and treatment for partners of women who test positive
- Refer all HIV-positive mothers for ART, care and support, prophylaxis and treatment of OI and psychological support
- Family planning follow-up, especially for women who do not seek routine health services in the facility where they delivered
- Support infant feeding options chosen by the mother
- Support adherence to antiretroviral treatment or other medications
- Coordinate with health extension workers, community volunteers, and association of people living with HIV

9.4 Monitoring and Evaluation

Systematic data collection, its utilization and dissemination are important to measure program performance, track progress, evaluate impact, guide program implementation and future planning should be an integral part of the PMTCT program. Systematic data collection, analysis and utilization are also vital for advocacy and informed policy decisions.

The National Monitoring and Evaluation (M&E) Framework for the Multi-Sectoral Response to HIV/AIDS in Ethiopia (issued December 2003) has identified indicators for the PMTCT program (Annex F) which should be used for M&E of the PMTCT program.

X. Program Effectiveness

Many PMTCT programs may not be effective at start up, which can be frustrating and difficult for providers and others involved in implementing services. Table 12 lists potential gaps that indicate low program effectiveness and actions that can be taken in health facilities and community to address them.

Table 12: Potential gaps and Strategies to Increase PMTCT
Program Effectiveness

Gaps	Strategies
High stigma and discrimination	- Model respect for women and PLWHA during all client contacts and in the community - Take a visible leadership role in community activities to address stigma and discrimination and support IEC and BCC - Speak out about gender inequality especially practices that make women vulnerable to HIV and limits their ability to use PMTCT - Involve PLWHA in campaigns to reduce stigma and discrimination and to be part of prevention and care services - Involve local officials, political leaders, community and FBO leaders to ensure that other sectors such as agricultural extension workers, education workers, youth associations, women's associations, PLWHA and health workers are aware of the problem and collaborate to resolve it - Expansion of treatment, care and support services - Strengthen/facilitate pro-poor micro financing schemes
Low male involvement	- Promote involvement of men in PMTCT and MCH programs as partners, fathers and concerned community members - Promote couples counselling and testing; involve men with women's consent - Inform men about PMTCT/MCH services and infant feeding - Promote a male-friendly environment at clinics by having flexible hours - Involve local officials, community and FBOs to ensure that other sectors such as agricultural extension workers, education workers, youth associations, women's associations and health workers to improve male involvement - Make PMTCT services an integrated, routine part of care
Poor community uptake of available services	- Make services an integrated, routine part of MNCH and other health care services. - Maintain and ensure client confidentiality and privacy. Make sure clients understand that confidentiality and privacy will be maintained - Involve local officials and community leaders, FBO, through social mobilization to ensure that other sectors such as agricultural extension workers, education workers, youth associations, women's associations and health workers are aware of this problem and can work to improve uptake
High percentage of women do not get skilled antenatal, delivery and postpartum care	- Promote skilled delivery/ through IEC/BCC from community level workers - Ensure that services are of high quality and promote quality to boost community confidence in services - Let mothers take nevirapine home to take at the onset of

	labour - Make sure maternal services where women go for childbirth can identify women in need of prophylaxis and act accordingly
High percentage of women and children do not use the full course of prophylaxis	- Stress importance of adherence and of making birth plan/emergency preparedness to deliver at the health facility - Involve male partner in counselling - If the woman can't follow the course openly, help her plan how to use it privately - Strengthen care and support mechanisms, such as mothers' support groups to help women and families address challenges in utilizing services
High staff turnover and low staff motivation	- Develop performance-based monetary and non-monetary recognition schemes (salary increment, staff housing, certificates, newsletter acknowledgement, and other schemes) - Delegate tasks/responsibilities to qualified mid-level health professionals/non health professionals - Regular updates and on-the-job training - Increase training support to facilities to cover as many providers as possible through on-the-job training and clinical mentoring
Staff not performing up to standard	- Provide job aids and follow-up on training within 8-10 weeks of training, at the latest - Introduce PMTCT performance standards at facilities to motivate and help providers improve performance and assess service provision - Provide supportive supervision and integrate PMTCT in supervisor training and supervisor checklists. Supervision should cover community outreach as well as facility-based activities

References

Ethiopia Ministry of Health, 1996. Family Planning Manual for Health Workers. Ethiopia. Addis Ababa: Ministry of Health.

Ethiopia Ministry of Health, 2005. Guidelines for Implementation of Antiretroviral Therapy in Ethiopia. Addis Ababa: Ministry of Health.

Ethiopia Ministry of Health, 2000. Guidelines for the Clinical Management of HIV Infection in Adults in Ethiopia, Addis Ababa: Ministry of Health.

Ethiopia Ministry of Health, 2005. Guidelines for Use of Antiretroviral Drugs in Ethiopia. Addis Ababa: Ministry of Health.

Ethiopia Ministry of Health, 2005. Infection Prevention Guidelines for Healthcare Facilities in Ethiopia. Addis Ababa: Ministry of Health.

Ethiopia Ministry of Health, 2004. Malaria Diagnosis and Treatment Guidelines for Health Workers in Ethiopia. Addis Ababa: Ministry of Health.

Ethiopia Ministry of Health, 1999. MCH protocols. (Module One: Introduction to Integrated RH/MCH Services, Module Two: Antenatal Care, Module Three: Intrapartum Care, Module Four: Postnatal Care, Module Seven: Traditional Practices.

Ethiopia Ministry of Health, 2003. Monitoring and Evaluation Framework. Addis Ababa: Ministry of Health.

Ethiopia Ministry of Health, 2004. National Guidelines for ANC-Based HIV Surveillance. Addis Ababa: Ministry of Health.

Ethiopia Ministry of Health, 2002. National Guidelines for Voluntary HIV Counselling and Testing in Ethiopia *and HIV Counselling and Testing Guidelines. Under development*.

Ethiopia Ministry of Health, 2001. National Guidelines for the Management of Sexually Transmitted Infections using the Syndromic Approach.

Ethiopia Ministry of Health, 2004. National Guidelines for Control and Prevention of Micronutrient Deficiencies, Ministry of Health: Family Health Department.

Ethiopia Ministry of Health, 2003. National Implementation Framework for the Prevention of Mother-to-Child Transmission of HIV in Ethiopia. Addis Ababa: Ministry of Health.

Ethiopia Ministry of Health, 2005. PMTCT Curriculum Reference. Addis Ababa: Ministry of Health.

Ethiopia Ministry of Health, 2002. Tuberculosis and Leprosy Prevention and Control Programme. Disease Prevention and Control Department.

Ethiopia Ministry of Health, 2005. National Reproductive Health Strategy 2005-2015.

Ethiopia Ministry of Health, 2004. National Strategy for Infant and Young Child Feeding. Ethiopia/MOH, April 2004.

Ethiopia Ministry of Health, 2002 Tuberculosis and Leprosy Prevention and Control Programme. Disease Prevention and Control Department.

Ethiopia Ministry of Health, 2004. National Guidelines for Control and Prevention of Micronutrient Deficiencies. Ethiopia/MOH. Family Health Department.

Ethiopia Ministry of Health, 2003. National Monitoring and Evaluation Framework for Multi-Sectoral Response to HIV/AIDS in Ethiopia. National HIV/AIDS Prevention and Control Office (HAPCO)

Ethiopia Ministry of Health, 2005. Essential Nutrition Actions to Improve the Nutrition of Women and Children in Ethiopia in the Context of HIV/AIDS.

Ethiopia Ministry of Health, 2005. Guidelines for the Clinical Management of HIV Infection in Adults in Ethiopia (Ethiopia/MOH, 2000) and Guidelines for Use of Antiretroviral Drugs in Ethiopia.

FHI/UNAIDS, 2001. Best Practices in HIV/AIDS Prevention. Washington: FHI/Geneva: WHO. (Downloaded Sept. 13, 2005)

Hareg Project, 2004. DRAFT Ethiopia Hareg Health Management Information System (HMIS) Manual for Managers.

Horizons Program, 2002. Integrating HIV Prevention and Care into Maternal and Child Health Care Settings: Lessons learned from Horizons Studies.

IntraHealth International-Ethiopia, 2005. A Practical Guide to PMTCT Service Implementation.

Preble, Elizabeth A. and Ellen G. Piwoz, 2001. Prevention of Mother-to-Child Transmission of HIV in Africa: Practical guidance for programs. Washington: AED. Support for Analysis and Research in Africa (SARA) Project.

Rutenberg, Naomi and Carolyn Baek, 2004. Review of Field Experiences: Integration of Family Planning and PMTCT Services. New York: Population Council.

Rutenberg, Naomi, Sam Kalibala, Carolyn Baek, and James Rosen, 2003. Programme Recommendations for the Prevention of Mother-to-Child Transmission of HIV: A practical guide for managers. New York: UNICEF.

Rutenberg, Naomi, Carolyn Baek, Sam Kalibala, and James Rosen, 2003. Evaluation of United Nations-Supported Pilot Projects for the Prevention of Mother-to-Child Transmission of HIV. New York: UNICEF

UNICEF, 2003. Programme Recommendations for the Prevention of Mother-to-Child Transmission of HIV.

UNICEF, 2004. Prevention of Mother-to-Child Transmission of HIV (PMTCT): Checklist for Developing a Supply Management Strategy. (Downloaded Sept 30 2005.)

World Health Organization, 2004. Prevention of mother-to-child transmission of HIV generic training package.

World Health Organization, 2006, antiretroviral drugs for treating pregnant women and preventing HIV infection in infants in resource-limited settings, towards universal access.

ANNEX

ANNEX A Minimum PMTCT program package includes:

Minimum PMTCT program package includes:

- Routine offering of HIV counselling and testing
- Safe and quality obstetrical services
- Provision of HIV care/ART for mothers, if indicated
- ARV prophylaxis for mother and infant
- Infant feeding counselling
- FP counselling
- Functional referral linkage

The minimum requirement to initiate and sustain integrated PMTCT service delivery at health facility level is indicated below.

Area	Minimum Requirement
Human Resource	A minimum of 6 health care providers trained in comprehensive PMTCT service delivery (HCT, safer obstetricalp, infant feeding options, family planning counselling, IP). Target: Aim to train at least 60% of technical staff in PMTCT at each facility level
Infrastructure	- Counselling room with doors and windows to ensure auditory and visual privacy - Functional labour and delivery unit - Functional laboratory - Running water & electricity supply
Logistics and Supplies	**Test kits:** ▪ Rapid test kits recommended by country policy/ guideline ▪ Test tubes/ vacutainer tubes **Drugs**: ▪ Nevirapine syrup and tablets ▪ Other drugs for ART prophylaxis recommended in this guideline ▪ Cotrimoxazole syrup and tablets ▪ FeSo4 tablets and Vitamin A ▪ STI drugs **IP supplies** ▪ Gloves (surgical/gynaecological and utility), disposable syringes and needles, goggles, plastic apron) ▪ Chlorine solution, detergents ▪ Autoclave ▪ Puncture-proof sharp disposal containers **Family Planning supplies** ▪ Condoms and other FP commodities **HMIS** ▪ Register books, reporting formats **Job Aids** ▪ PMTCT cue card, PMTCT guideline, PMTCT performance standard ▪ Client education materials (optional) - Basic delivery equipment and supplies. Delivery couch, delivery set.
Support System	- Management support (ongoing supportive supervision and feedback, logistics and supply management, performance-based motivation/recognition) - Referral linkage with prevention , ART and care and support Performance improvement tools such as COPE, PIA

ANNEX B Human Capacity Development Needs by Category

Position/Category	Areas for capacity development
For all categories	- IEC and BCC on: PMTCT, safe traditional practices, risks associated with harmful practices, etc.
Community/family members	- Home-based care of mothers and children living with HIV - Community dialogue on PMTCT knowledge, family planning, male involvement in maternal and child care, stigma alleviation and recognition of danger signs for appropriate referral to HC or HP.
Association of people living with HIV/AIDS (PLWHA)	- Same as above - PMTCT literacy, promotion of male involvement and responsibility of PMTCT to HIV
Community health workers (traditional birth attendants, TBA, CBRHAs, CHBC providers, CHAs, etc)	- Same as above - Partner with family and community members—to recognize problems and take action, birth preparedness
Health Extension Workers	- Same as above - FP, antenatal care, obstetric first aid and normal delivery and postnatal care - Infant and child feeding - care of PLWHA in the health care setting and at home - IEC/BCC related to PMTCT - Prevention of STIs - HIV Rapid testing - Counselling pregnant women - Administration of NVP prepared for community distribution.
Clinicians (Midwives, nurses, medical doctors and health officers)	- Completion of PMTCT Training Course - Antenatal and postnatal care, safe obstetrical care, FP - Infant and child feeding - Care of PLWHA in the health care setting and at home - Legal and ethical issues related to ART - Infection prevention/standard precautions - IEC/BCC related to PMTCT - Monitoring and evaluation of PMTCT provision - ART - Treatment of OIs and STIs - Provision of essential obstetric care - HIV rapid testing - Counselling pregnant women - Using Standard Based Management approach and PI process for improving the quality of PMTCT services.
Laboratory technicians	- Infection prevention/standard precautions - HIV testing (mother and infant) - ART monitoring laboratory methods - Quality assurance for HIV testing. - Basic laboratory equipment maintenance
Environmental health technicians	- Infection prevention/standard precautions - Disinfection and sterilization of instruments and materials used by HIV-positive mothers and children - Disposal of wastes - IEC/BCC
Health officers/managers and administrators	- PMTCT program planning - Drug supply, logistics, management - Quality assurance - Monitoring and evaluation

ANNEX C Checklist: Talking with parents about their child's positive HIV test results

Checklist: Talking with parents about their child's positive HIV test results

Prepare to talk with parent or guardian

- Make sure you have the child's result and inform the parent you have it
- Schedule an appointment
- Greet the client and establish rapport
- Ask the parent or guardian whether they have had any questions since the child's blood test
- Answer questions and let the client know that counselling will continue to be available to help with important decisions

Inform the parent of the test result

- Give the parent time. Ask, "Are you ready to receive your child's HIV test result?"
- State, in a neutral tone, "The baby's test result is positive after ruling out other causes. This means that the baby has HIV infection."
- Pause and wait for the parent to respond before continuing. Give the parent time to express any emotions
- If the parent would like to see proof of the result, provide it
- Check the parent's understanding of the result's meaning
- Discuss and support the parent's feelings and emotions
- Explain that the blood test found evidence of HIV, the virus that causes AIDS, in the baby's body. Review the testing procedure with the parent and check s/he understands the results. Explain the accuracy of the test.
- Allow time for silence
- Reassure the family that, although there is no cure, there is treatment available and emphasize that children can live many years before they become sick with HIV-related illnesses. Talk about available antiretroviral treatments for HIV, when the child needs them
- Recognize that many people may interpret this diagnosis as a death sentence
- Anticipate reactions of grief, shock, disbelief, denial, and anger. Offer appropriate support
- Discuss ways to keep the child healthy
- Emphasize the need for immunizations
- Talk about good nutrition
- Stress the child should live an active life and play like other children whenever possible
- Review the importance of prompt medical attention as well as preventive care. If the baby is less than 12 months old, stress the importance of PCP prophylaxis; ensure access to cotrimoxazole, and instruct the parent how to give the liquid. If this is an HIV-exposed infant, communicate with the parent that the cotrimoxazole is not to prevent HIV infection, and avoid mislabelling the infant as HIV-positive
- Review Standard Precautions for Infection Prevention
- Reassure the family that close familial contact and normal baby care do not transmit HIV
- Review measures for diaper/nappy changing (no gloves are necessary), blood spills (use a barrier), and open sores (they should be covered)
- Identify other family members who could be at risk for HIV infection
- Identify, counsel, and test siblings who could be at risk. Families must be given time and support to do this
- Identify a support system
- Identify a personal support system for the family
- Assess the psychological status of mother and other family members
- Refer family to a support group, if they are interested
- Provide the family with written material that they can take home, if they are interested
- Review issues of confidentiality
- Introduce disclosure issues
- Explain how confidentiality is handled in the clinical setting
- Assess the family's understanding of the diagnosis and care at each visit
- Review and offer additional information as appropriate

.

ANNEX D Antenatal Care Services for HIV positive or HIV status unknown pregnant women

Table 9: Antenatal Care Services for HIV positive or HIV status unknown pregnant women	
Encourage a minimum of FOUR focused antenatal visits: **1-as early in pregnancy as possible 2-at 28-32 weeks 3-after 36 weeks** **4-before expected date of delivery or when woman needs to consult**	
Client history	Obtain routine data including medical, obstetric and psychosocial history. Determine medication history, known allergies and use of any complementary medical care, such as herbal products or traditional healers. Record estimated date of delivery.
Baseline assessment	Record weight, height, blood pressure and edema. Clinical assessment for signs or symptoms of current illness including TB, malaria, severe anaemia and STIs.
Abdominal exam	Palpate for foetal position and measure foetal growth. Listen to foetal heart. Check for masses or hepatospleenomegaly.
Pelvic exam	Where affordable and feasible, all women should have a pelvic exam at least once during pregnancy to screen for RTI's and perform bimanual examination
Lab diagnostics	Perform routine testing, including: • Blood type and Rh factor • Syphilis serology • HIV test for unknown status • Hematocrit for anaemia at first visit, repeated in third trimester • Stool exam for ova and parasites • Blood sugar for gestational diabetes where indicated • Urine culture at intake, if available, and otherwise as indicated if suspicion of UTI • Urinalysis for protein in third trimester • Consider testing for malaria in endemic areas.
Tetanus	Tetanus Toxoid immunization as indicated for all women
Nutritional assessment and counselling	Nutritional counselling including: • Pregnant women should be encouraged to eat a varied diet with one extra meal per day. • Iron and folate supplementation recommended for at least 6 months of pregnancy, 2 months postpartum. • Increased Vitamin A intake should be recommended through food sources, or where unavailable, by supplementation with a multivitamin containing 7000-1000 IU of Vitamin A per day OR 25,000 IU (one half of 50,000 IU Vitamin A capsule) once a week. • Routine consumption of iodized salt, or in highly endemic areas one capsule of supplemental iodine, which will cover a pregnant woman for 1-2 years. (See National Guidelines for Control and Prevention of Micronutrient Deficiencies, 2004)
STI Screening	• Include risk assessment for STIs. Diagnosis and early treatment of STIs • Educate women about relationship of HIV and other STIs and to avoid transmission or re-infection. • Partner notification
Tuberculosis	All women with a cough of more than two weeks duration should be screened for tuberculosis.
Malaria	All pregnant women in malaria endemic areas should be encouraged to use insecticide treated bed nets (ITNs) and receive immediate treatment for malaria following the National Guidelines
Anaemia	Prevention of anaemia due to parasitic infections: all pregnant

	women should receive single dose of 500mg of mebendazole (after 1st trimester) to prevent/treat asymptomatic hookworm.
Infant feeding	All women should receive optimal infant-feeding counselling and support. For all women, regardless of HIV status, exclusive breastfeeding should be promoted and supported.
Counselling	Danger signs - provide information and instructions on seeking essential obstetric services for danger signs of complications (e.g. bleeding, fever, severe headache and/or loss of consciousness and abdominal pain.
Birth preparedness and complications	Preparing for normal birth: plan for place of delivery, presence of a skilled birth attendant at home or in facility, and essential clean items for delivery Complication readiness: recognize danger signs, designate decision maker(s), plan for emergency funds and transport, rapid referral and blood donors if necessary
Contraception/Safer Sex	Counsel on consistent use of condoms during pregnancy, as well as postpartum and while breast feeding to avoid exposure or re-exposure to STI's and HIV. Encourage partner involvement where possible.

Source: Adapted from: Table 3.1 Module 3-7 PMTCT Curriculum Reference.

ANNEX E Checklist for PMTCT Monthly Site Supervision

Supportive supervision of PMTCT sites is key to sustainable improvement of the PMTCT service delivery in particular and for the improvement of MCH service in general. Before going for the supportive supervision, supervisors should have basic data and information about the service they are going to supervise.

1- Identification

Month _____ Date of visit_____

Name of site visited _____ Region _____

Name of supervisor/team leader_____

2. Service integration to	**Yes**	**No**	**If yes, write number of mothers referred**
Labour and Delivery	[ ]	[ ]	_____from_____to _____
PNC follow-up	[ ]	[ ]	_____from_____to _____
IMCI/EPI	[ ]	[ ]	_____from_____to _____
FP	[ ]	[ ]	_____from_____to _____
OI	[ ]	[ ]	_____from_____to _____
VCT	[ ]	[ ]	_____from_____to _____
ART	[ ]	[ ]	_____from_____to _____

3. Any service interruption? [Y] [N]
Why?

_____

_____

4. Community referral	**Yes**	**No**
Any community referral card in the facility?	[ ]	[ ]
Is the community team actively functioning?	[ ]	[ ]
Regular meeting, community conversation, house visit etc.	[ ]	[ ]

Any other?

_____

_____

Any problems

_____

_____

5. Essential equipment and supplies

5.1 Antiretroviral	**Yes**	**No**	**Exp. Date**
Nevirapine Tablet	[ ]	[ ]	_____
Nevirapine Syrup	[ ]	[ ]	_____

Others if any, _____

ARV drug stock balance

_____

_____

5.2 Where is Neverapine kept?	**Yes**	**No**	
In ANC	[ ]	[ ]	_____
In L&D	[ ]	[ ]	_____

Other place, specify _____

5.3 Laboratory Supplies	**Yes**	**No**	**Comment**

HIV Screening Test Kit	[ ]	[ ]	_____
HIV Confirmatory Test Kit	[ ]	[ ]	_____
HIV Tie Breaker Test Kit	[ ]	[ ]	_____
Test tubes	[ ]	[ ]	_____
Paster pippet tip	[ ]	[ ]	_____
Nunc tube	[ ]	[ ]	_____

5.4. IP Supplies	**Yes**	**No**	
Gloves	[ ]	[ ]	_____
Aprons	[ ]	[ ]	_____
Goggles	[ ]	[ ]	_____
Autoclaves	[ ]	[ ]	_____
Sharp boxes	[ ]	[ ]	_____

5.5. Basic Obstetric Care Supplies	**Yes**	**No**	
Delivery couches	[ ]	[ ]	_____
Delivery sets	[ ]	[ ]	_____
Oxytocine	[ ]	[ ]	_____

How are the kits and supplies stored?

_____

_____

6. Job Aids and IEC Materials	**Yes**	**No**	**Comment**
PMTCT brochures	[ ]	[ ]	_____
Birth preparedness checklist	[ ]	[ ]	_____
PMTCT leaflets	[ ]	[ ]	_____
Health education on PMTCT given	[ ]	[ ]	_____
If yes, how many times per week? _____			
Monthly group	[ ]	[ ]	
Education schedule	[ ]	[ ]	_____
PMTCT guide line available	[ ]	[ ]	_____
7. Available PMTCT Related Format			
Monthly summary reporting format	[ ]	[ ]	_____
Counselling registration book (Form1)	[ ]	[ ]	_____
ANC PMTCT enrolment register (Form 2)	[ ]	[ ]	_____
Labour and delivery register (Form 3)	[ ]	[ ]	_____
Paediatric follow-up register (Form 4)	[ ]	[ ]	_____
Lab log book (Form 5)	[ ]	[ ]	_____
Lab referral slips	[ ]	[ ]	_____
Referral linkage slips	[ ]	[ ]	_____
ANC-PMTCT appointment card	[ ]	[ ]	_____
PMTCT stickers	[ ]	[ ]	_____

8. Management support	**Yes**	**No**
Is there a functional management team?	[ ]	[ ]
Is there a counsellor support group?	[ ]	[ ]

Any related issues

_____

_____

_____

9. HMIS/Health management information system

Completeness of the report and registration

_____

_____

_____

Analysis and use of data at facility level

_____

_____
_____
Availability of management improvement tools such as COPE, PIA,
_____
_____

Actions taken and support provided by facilitator during site visit:

_____
_____
_____
_____

General comment and suggestions:

_____
_____
_____
_____

Comments of the supervisee:

_____
_____
_____
_____

Signature of the supervisee_____

*Signature of the supervisor/team leader*_____

ANNEX F: PMTCT Indicators

The Ministry of Health and HAPCO monitors PMTCT activities and achievements and evaluates the program success in meeting goals by compiling reports on the indicators listed below:

PMTCT Indicators
Percentage of HIV infected pregnant women receiving a complete course of antiretroviral prophylaxis to reduce the risk of MTCT in accordance with the nationally approved treatment protocol in the last 12 months (disaggregated by region)
Percentage of HIV infected infants born to HIV infected mothers (disaggregated by region)
Percentage of all possible public, private, missionary and workplace health facilities (family planning and primary health care clinics, ANC/MCH, and maternity hospitals) providing the minimum package of services to prevent HIV infection in infants in the past 12 months (disaggregated by region.)
Percentage of pregnant women that: a. Attend ANC at least once b. Receive pre-test counselling/information on HIV c. Receive HIV testing d. Receive post-test counselling on HIV e. Receive HIV results f. Tested positive and referred to treatment care and support g. Received antiretroviral drugs for PMTCT purposes Percentage of infants that: a. Received antiretroviral drugs for prevention b. Received CTX prophylaxis c. Tested for confirmation using either antigen or antibody test
Number of health facilities providing PMTCT services in the past 12 months (disaggregated by region)
Percentage of HIV-positive women receiving contraceptive methods and condoms
The contraceptive prevalence rate in the operational area
Number of referrals for care and support
Number of support groups established by woreda
Percentage of woredas with at least one health facility providing PMTCT (disaggregated by region)