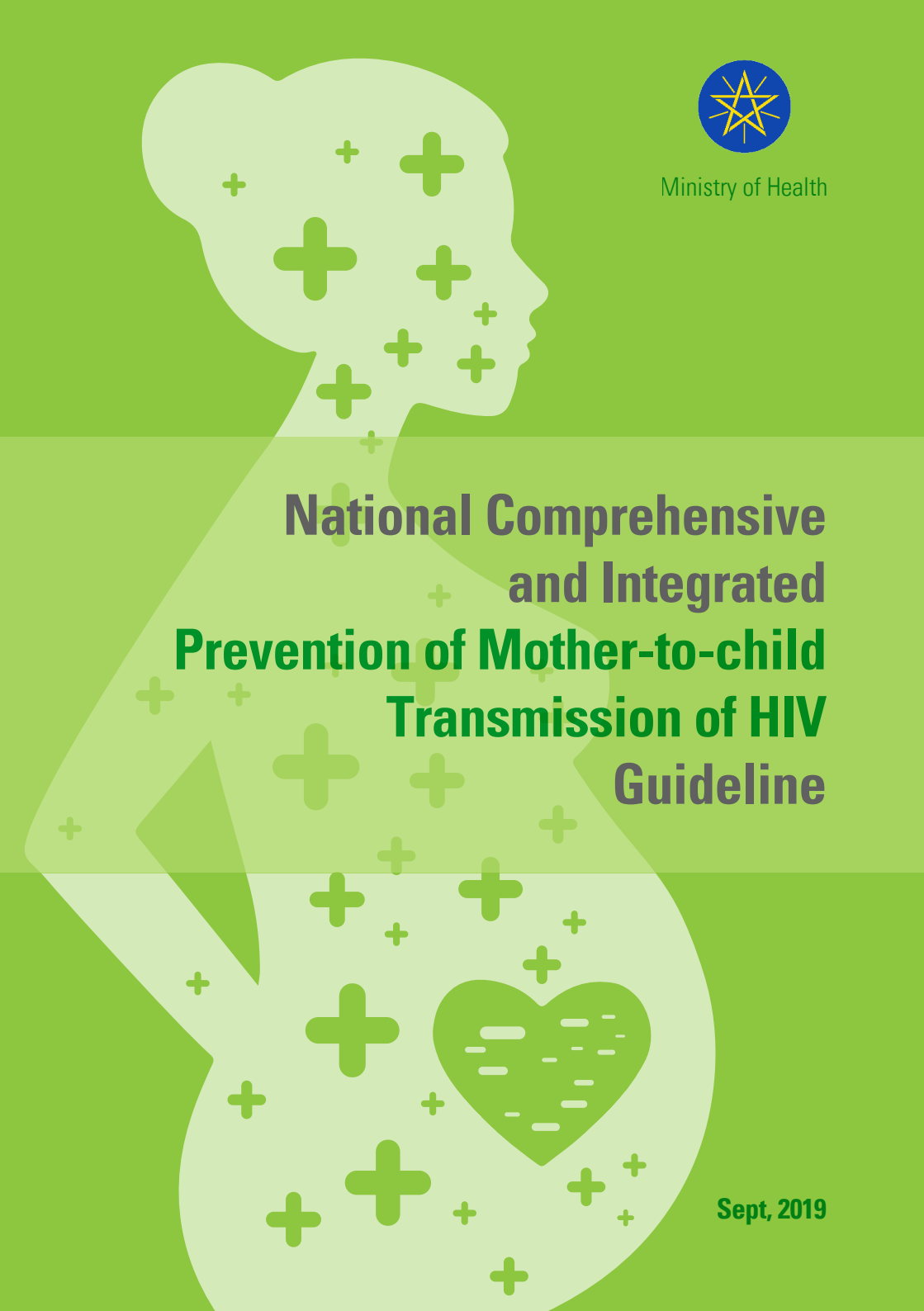

Ministry of Health

National Comprehensive and Integrated Prevention of Mother-to-child Transmission of HIV Guideline

Sept, 2019

NATIONAL COMPREHENSIVE AND INTEGRATED PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV GUIDELINE

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Foreword

Aligning itself with global initiatives, Ethiopia has transformed its prevention of mother to child transmission of HIV {PMTCT) program to e-MTCT since 2013 and has demonstrated promising results that seek intensified and sustained programmatic implementation to ensure no child is born infected with HIV.

Key interventions of the initiative include adoption of option B+, a WHO recommendation where all pregnant, laboring and lactating women living with HIV are started on lifelong ART regardless of CD4 count or clinical disease stage (test and treat strategy), rolling it out to integrate ART treatment and clients follow up care at RMNCH platforms at different level. Implementation of continuous quality improvement model (CQI) performed to monitor the quality of service provision and mother-baby pair cohort follow up also started to see the retention and survival of the mother as well as the outcome of the HEI. While the country is looking forward to seeing sustainable response of interventions, it's important to revise its PMTCT guideline in alignment with the HIV investment case (2015 - 2020), HSTP (2016 - 2020) and e-MTCT of HIV and congenital syphilis strategic plan {2017 - 2020) and the 2016 national consolidated guidelines for compressive HIV prevention, care and treatment.

This guideline endorses measures which would improve clients retention on treatment and follow up of care; such as the use of fixed dose combination (FDC) ART,monitoring viral suppression with viral load testing, intensifying adherence counselling and follow up, CD4 testing for all pregnant and lactating women on treatment as well as strengthening STI management in the context of elimination of HIV and congenital syphilis.

This guideline provides a clear direction to maximize the current experience of early infant diagnosis EID with shortest turnaround time (TAT) to less than three weeks through using existing postal and SMS means in use of new technology like EID point of care testing (POC). This will be used to give direction in managing all linking of HIV positive babies with pediatric ART as soon as possible and counseling the mother and or the family for an informed decision. While the classical four prong approach for PMTCT remains to be the cornerstone of this guideline, new modalities of programmatic interventions such as community based HIV testing by HEWs through shared confidentiality and linkage is piloted. Provision of care and support through a strong network between health posts and health center workers, counseling HIV positive women for family planning options and adherence to treatment by mother mentors and health workers through improving access to treatment literacy and share confidentiality is emphasized nationally. Mother Baby Pair Cohort Follow up (MBPCF) is a new approach where al HIV positive mothers and their children are followed as pair in the ANC clinic for two years until the infection status of the child is known.

It is our strong belief that this guideline will be very useful in assisting all health services providers (public and private), partners and stakeholders involve in e-MTCT, including policymakers, program coordinators, researchers, advocators and health resource mobilizers in expansion of promising practices and provision of quality care for women, children and PLHIV to realize the vision of HIV free generation.

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Acknowledgment

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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ANC	Ante-Natal Care
ARV	Anti-Retroviral
ART	Anti-Retroviral Therapy
CAC	Comprehensive Abortion Care
COC	Combined Oral Contraceptive
C/S	Caesarean Section
CPT	Co-trimoxazole Preventive Treatment
CQI	Continuous Quality Improvement
DBS	Dried Blood Sample
DNA-PCR	Di-ribonucleic Acid Polymerase Chain React
Dashboard	MNCH/PMTCT performance monitoring tool
e-MTCT	Elimination Mother-to-child transmission
EID	Early Infant Diagnosis
EFV	Efavirenz
EPHI	Ethiopian Public Health Institute
GIPA	Great Involvement of PLHIV
HAART	Highly Active Anti-Retroviral Treatment
FP	Family Planning
FMOH	Federal Ministry of Health
GIPA	Great involvement of PLHIVS
L&D	Labor and Delivery
HAPCO	HIV/AIDS Prevention and control office
HEI	HIV Exposed Infant
HTC	HIV Testing and Counseling
HIV	Human Immuno-deficiency Virus

HMIS	Health Management Information System
IUCD	Intra Uterine Contraceptive Device
LPV/r Lo	pinavir/ritonavir
MTCT	Mother-to-Child Transmission
MUAC	Mid Upper Arm Circumference
NAT	Nucleic Acid Amplification Testing
NVP	Nevirapine
OI	Opportunistic Infection
PDSA	Plan-Do-Study-Act
PFSA	Pharmaceuticals Fund and Supply Agency
PHDP	Positive Health Dignity and Prevention
PID	Pelvic Inflammatory Disease
PITC	Provider Initiated Testing and Counseling
PMTCT	Prevention Mother-To-Child Transmission
PNC	Post Natal Care
PPD	Plan and Program Directorate
RMNCAH	Reproductive Maternal, New-born, Child and Adolescent Health
RTV	Ritonavir
SRH	Sexual Reproductive Health
STI	Sexually Transmitted Infections
TB	Tuberculosis
TDF	Tenofovir
URI	Urinary Tract Infections
VMMC	Voluntary Male Medical Circumcision
VL	Viral load
WHO	World Health Organization

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1 Introduction

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1.1. Background

The HIV pandemic has created an enormous challenge to the survival of mankind world-wide. Ethiopia, with an estimated population of 90 million(CSA, population projection for 2015), has made significant strides to curb the spread of HIV infection throughout the country. According to EDHS 2011, the national adult HIV prevalence was 1.5 percent, with women having higher prevalence (1.9 percent) than men (1.0 percent).The HIV prevalence among pregnant women attending Ante-Natal Care (ANC) is estimated at 2.0 percent in 2012 (sentinel surveillance at ANC clinics, 2012). This population burden continues to place Ethiopia among the hard hit countries in the world.

In Ethiopia, despite the dominant heterosexual transmission in adults, over 90 percent of new pediatric HIV infections are due to vertical transmission from an infected mother to her child. Of the estimated new HIV infections in 2014, children constitute 13% of the estimated total HIV positive population (HIV Related Estimate and Projections for Ethiopia, July 2015, FHAPCO). The government of Ethiopia is maximizing its efforts to rapidly reduce and subsequently eliminate MTCT and realize the vision of an HIV free new generation by 2020. The 2012 programmatic update by WHO has paved the way for initiating lifelong antiretroviral therapy (ART) for HIV positive pregnant and lactating women that provide an opportunity for faster elimination of HIV transmission from mother-to-child as well as prolong the life of the mother.

1.2. Rationale for the revision of the 2011 National PMTCT guidelines

Ethiopia has been implementing the PMTCT Option "A" of WHO (2010) recommendations since December 2011 in an accelerated mode to scale up PMTCT services. Since then, substantial clinical and programmatic developments have been made on simplification of HIV treatment for pregnant and breastfeeding women through the introduction of a single fixed drug regimen which can be rolled out on maternal, newborn and child health (RMNCAH) platforms (WHO, 2012). Option B + is a "test and treat" approach that was introduced in 2012 where HIV positive pregnant and breastfeeding women are initiated on ART regardless of their immunological status and continue treatment for life. Hence, the Ethiopian Federal Ministry of Health (FMOH) endorsed Option B+ in August 2010 as an approach to avert new pediatric HIV infections and improve the survival of mothers and their babies. The National Operational Plan (December 2012) was developed to guide the implementation roll out of Option B+ strategy throughout the country. By December 2013, most PMTCT sites across the country have introduced Option B+.

A comprehensive PMTCT/ART service is essential for the proper management of HIV positive pregnant, laboring and breastfeeding mothers and their HIV exposed infants as well as discordant and concordant couples. In line with this, there is a need for revising the national guidelines, in order to standardize implementation of ART HIV care and follow up services Option B+ in the RMNCAH platform based on in-country experience and the 2013 WHO consolidated guidelines on the use of antiretroviral drugs to treat and prevent HIV infection.

Therefore, the 2015 National Comprehensive and Integrated PMTCT guideline replaces the 2011 National Guidelines for the Prevention of Mother-to-Child Transmission (PMTCT) of HIV in Ethiopia. It is intended to provide guidance for individuals working on PMTCT programs in various sectors (public, private and the community) to deliver standardized and high-quality services. This guideline represents an important step towards achieving the national plan for EMTCT of HIV and congenital syphilis.

1.3. Objectives of the guideline

General objective The general objective of this guideline is to provide up-to-date and evidence-based clinical standards on the new version of PMTCT recommendations with the goal of eliminating mother-to-child transmission of HIV and improving the health of mothers.

Specific Objectives

- To provide guidance on comprehensive PMTCT service delivery in the health system using the four pronged PMTCT approach
- To standardize the PMTCT of HIV Option B + in terms of both clinical and programmatic implementations for comprehensive and integrated operation
- To guide management of integrated MNCH/PMTCT/EID programs & service delivery for all HIV positive pregnant clients on ART and link their HEI in MNCH/PMTCT platform
- To improve the quality of PMTCT services and management of STIs including syphilis.

1.4. Target audience of this guideline

The PMTCT guideline is designed specifically for use by the health workforce, including:

- Policy makers to set standards for service provision on PMTCT program
- Health service planners and program managers to mobilize resources and coordinate implementation, undertake supervision, mentoring, monitoring and evaluation including research, of the PMTCT Option B+ program and elimination of MTCT strategy;
- Federal agencies (Pharmaceuticals Fund and Supply Agency/PFSA, Ethiopian Public Health Institute/EPHI, and HIV AIDS Prevention and Control Office/HAPCO) to share responsibilities in availing essential inputs for PMTCT and conduct diagnostic services;
- Educational institutions and in-service trainers to provide standardized training packages consistent with the national program;

- Service providers to deliver comprehensive integrated PMTCT services in RMNCAH platforms through strengthening intra-and inter-facility referral system at all levels including linkages to community;
- Communities to improve ownership, awareness, and access and utilization of health services;
- International and bilateral agencies and organizations that provide financial and technical support for the implementation of the national PMTCT program.

This guideline is also expected to serve as a resource for development of training materials for RMNCAH service providers, strengthen the referral system based on the health network model and coordinate all partners' efforts working on health. In addition, this guideline will serve as a document to guide advocacy efforts towards mobilizing resources internationally and nationally, monitoring and evaluation of the health response as envisioned by the FMOH.

Hence, in order to effectively implement PMTCT programs, this guideline needs to be available at all tiers of the health system.

1.5. Key Principles of the National Comprehensive and Integrated PMTCT guideline

The Comprehensive and Integrated PMTCT guideline rests on the following key principles that the health workforce should incorporate in their daily professional activities:

- **Equity:** Access to services must be equitable, i.e. HIV positive pregnant women should be prioritized for HAART.
- **Human rights:** Health providers and service delivery points must uphold the right of all persons irrespective of their HIV status, to the highest attainable standard of health including the right of persons with HIV to decide on the number and timing to have children.
- **Gender sensitive/responsiveness:** Male partners should be involved and encouraged to participate in PMTCT programs and services. PMTCT interventions need to be gender sensitive and responsive.
- **Adolescent sensitive:** PMTCT services should be responsive to the needs and preferences of adolescents.
- **Integration:** PMTCT services must be integrated with other RMNCAH services and foster the dual elimination of MTCT of HIV and syphilis.
- **Quality of services:** PMTCT services will need to maintain high and acceptable quality of standards at all levels.
- **Family Focused:** PMTCT services should be used as an entry point to HIV care and prevention for the family
- **Community involvement and mobilization:** Engaging the community, inclusive of PLHIV particularly mother support groups from the start, making them part of the program should be ensured to enhance acceptability and impact of MNCH/PMTCT/EID services. Women development army will need to be empowered to create demand in the community for improved service utilization, along with community HEP based HIV testing services with linkage to prevention, treatment and care services.

2 PMTCT Services in the Health Tier System

- PMTCT approaches and implementation modalities
- Standard PMTCT services at each tier of the health system

2.1. Standard PMTCT service at each tier of the health system

PMTCT services should be available in all health facilities that provide RMNCAH services and be an integral part of the service provided at each tier of the health system. Facilities with limited capacity to provide PMTCT services need to have a strong referral linkage to connect clients with nearby and easily accessible facilities that can provide PMTCT services.

Services that should be available at community and health system levels are described in Table 2.1 below.

Table 2.1: Services available at community and health facilities level

Location	Activities
Community level	
1. Women development Army **2. Male Development Army** **3. Religious Leaders and other influencers** **4. Community Based Organizations**	■ Enhance social and behavioral communication on safer and responsible sexual practice ■ Promote HIV and STI prevention ■ Promote male involvement in PMTCT ■ Support utilization of integrated MNCH/PMTCT services, i.e. early antenatal care follow up, birth preparedness, early referral to health facilities, promotion of early health seeking behavior ■ Strengthen peer support groups for HIV-positive women and men including the family ■ Provide quality integrated information and messages to improve community health literacy that eventually improve the quality of life for HIV infected mothers, partners and families. ■ Promote skilled delivery, postnatal care and family planning service uptake ■ Promote and support mothers to exclusively breastfeed their infants up to six month of age ■ Promote and support HIV testing for HIV exposed infants and children ■ Promote and provide family planning information for the community

	■ Provide general information on avoidance of traditional harmful practices that can expose to HIV ■ Provide information on importance of sunshine for infants ■ Promote balanced diet in the first one thousand days starting from in utero until the child is at least two to three years of age to prevent stunting ■ Promote intake of variety of food for pregnant and lactating women ■ Promote personal hygiene and proper disposal of soiled sanitary pads ■ Promote protection of PLHIV from stigma and discrimination by encouraging open discussion ■ Actively involved in identification of high risk individuals for testing
PRIMARY HEALTH CARE UNIT	
Health Post	Participate in all community activities listed above, **PLUS:** ■ Promote and demonstrate condom use and application, and distribute to women and men ■ Counsel on FP and provide available methods of choice to all women and men in need (Particular focus and attention to women and men who are HIV positive) or refer for methods unavailable at this level ■ Provide Focused Antenatal Care and promote skilled birth attendance ■ Use standard precautions in provision of services to prevent infections ■ Provide HTC by HEWs and urban health extension professionals inclusive of HIV & syphilis co-testing when feasible ■ Refer HIV positive clients to health centers for 2nd HTC and verification and management using referral system ■ Involve in follow up of HIV positive pregnant and lactating mothers, families and HEI through shared confidentiality and family centered approach ■ Initiate referral for all pregnant, laboring and lactating women and their newborns for evaluation including HIV and syphilis testing at health centers ■ Provide diagnostic service, insecticide treated bed nets and treatment to pregnant women and their families in malaria endemic areas ■ Counsel HIV positive clients on prevention with positives (PWP) ■ Provide counseling on infant feeding according to the 2014 National Nutrition Guideline ■ Record and report on PMTCT indicators for health post

	■ Work in collaboration with health facilities in tracing clients lost to follow-up care ■ Provide ongoing counseling on PMTCT/EID based on shared confidentiality by HEW level 4/UHEP. ■ Screen for TB and refer to health center for further management.
Health Centers	Ensure an uninterrupted availability of all of the services listed above, **PLUS:** ■ Provide Focused Antenatal Care and skilled birth attendance ■ Provide family planning services to women who choose. Women receiving HIV care in the postpartum period would have the opportunity to also know more about and access to family planning services. ■ Provide HTS (HIV testing services) using the standard algorithm and provide verification test for those that tested HIV positive before initiation of ART ■ Provide early diagnosis and treatment of STIs ■ Ensure strong coordination, continuation, collaboration and better performance of PMTCT services within the RMNCAH platform. ■ Ensure strong coordination and collaboration with regional and central laboratories for quality assurance and timely reporting of test results. ■ Initiate and/or refill ART to all HIV positive pregnant, laboring and lactating women by staff trained in competency based comprehensive PMTCT ■ Newly diagnosed HIV positive pregnant and lactating mothers, have initiated ART have to have intensive adherence counseling by health service provider and mother mentors accordingly ■ Facilitate monitoring of viral suppression with viral load testing for HIV positive pregnant and lactating mothers at: — For newly diagnosed pregnant mother VL done after three months of ART initiation and then every six months : at 6, 12, 18 and 24 months throughout Maternal and HEI PMTCT cohort follow up for EMTCT reason and advance the management accordingly. — For those who are already on ART for more than three months with out any previous VL test or their VL test is longer than 6 months back do VL soon after pregnancy is known; the routine VL testing should continue as mentioned above. — For those who are already on ART for less than three months and linked to PMTCT, do VL at three months of ART initiation and the routine VL testing should continue as mentioned above. ■ HIV positive children, pregnant and lactating mothers are the priority clients to have access to viral load testing result be available within 10 days of turnaround time.

	■ Encourage male partner testing for HIV and provide family centered HIV prevention, care and other follow up services including for older children in the household. Update family matrix for each pregnant and lactating mothers in the MNCH platform and encourage HIV testing to screen children and partner ■ Ensure that sound professional ethics and behavior is practiced among duty bearers to protect, fulfill and respect the rights of clients. ■ Provide ART to discordant and concordant male partners in the same settings, or refer and link the client to ART units. ■ Provide ARV prophylaxis for PMTCT with regular follow-up to all infants born to HIV-positive mothers ■ Provide prophylaxis and treatment for opportunistic infections ■ Provide syphilis testing and manage cases to eliminate congenital syphilis in the newborn. ■ Screen pregnant, lactating women for TB and provide INH prophylaxis for those screened negative. ■ Diagnose and treat UTI, anemia, TB, malaria and intestinal parasites and screen clients for cervical cancer ■ Provide DBS collection and sample referral services for HIV exposed infants and children and call the post office to collect the specimen to the central laboratory per the MOU (agreement set) ■ Ensure and encourage mothers who are in care for continued follow up and adherence using mother support groups.
Primary Hospital	All of the services listed above, **PLUS:** ■ Perform Comprehensive emergency obstetric and new-born care ■ Provide Safe blood transfusion
General Hospital	All of the services listed above, **PLUS:** ■ Provide ultrasound and radiological investigations ■ Screen and refer for cervical cancer treatment ■ Provide obstetric surgical interventions of complicated cases ■ Provide treatment for severe cases of HIV/AIDS and TB
Specialized Hospital	All of the services listed above, **PLUS:** ■ Provide diagnosis and treatment of all referral cases (difficult and complicated cases including HIV drug resistance and management of birth defects)

3 The Four-Pronged Approach to PMTCT

- **Prong 1: Primary Prevention of HIV infection**
- **Prong 2: Prevention of unintended pregnancies in HIV positive women**
- **Prong 3: Prevention of HIV transmission from HIV positive women to their infants**
  - **HIV and Pregnancy**
  - **Intrapartum care: labor and delivery**
  - **Postpartum care**
- **Prong 4: Treatment, care and support for HIV positive mothers, their exposed infants, partners and family**
  - **Basic principles in the use of ARV drugs for PMTCT**
  - **Additional elements of clinical care**

Ethiopia has long adopted the WHO PMTCT strategy of the 4-pronged approach towards the provision of HIV prevention, care and treatment for pregnant, laboring and breastfeeding women, and their infants and partners. Addressing all the four prongs has the potential to interrupt the HIV infection at each component of the PMTCT approach. In order to maximally utilize the benefits of the comprehensive and integrated PMTCT program, all the four prongs need to be implemented synchronously; i.e. the HIV prevention strategy (structural, behavioral and bio-medical preventions), reproductive health program services and community involvement should be consolidated effectively.

Table 3.1: PMTCT four pronged approaches and corresponding strategic interventions

Prong	Intervention
1. Primary prevention of HIV infection	■ Behavioral Change Communication on HIV risk reduction including all STIs through women development army, mass communication strategy and other proven mechanisms to protect men, women, boys and girls of reproductive age and health literacy through all appropriate means using all available new technologies. ■ Promote ABCD (Abstinence, Be-faithful, use Condom and Discussion on sex and sexuality issues) ■ Promote correct and consistent use of condoms ■ Discourage early sexual debut as well as practices with multiple partners to reduce the risks of HIV transmission, cervical cancer and other STIs. ■ Promote safer sex practices among discordant couples; provide ART to the HIV positive partner. ■ Provide voluntary HIV counseling and testing services following the National HTC Guideline, including couple counseling and promote the benefits of early HIV diagnosis and ART initiation.

	■ Encourage open discussion on reproductive health issues among couples, and between parents and their children. ■ Enhance early diagnosis and treatment of STIs including HIV ■ Promote Voluntary Male Medical Circumcision (VMMC) in regions where male circumcision is not routinely done. ■ Adhere to Universal Precaution procedures for prevention of infections in healthcare settings. ■ Ensure utilization of safe blood for transfusion ■ Promote Positive Health Dignity and Prevention (PHDP) ■ Provide PEP, for HIV, following occupational exposure and sexual assault per national guidelines recommendations.
2. Prevention of unintended pregnancies among women living with HIV	■ Integrate provider initiated HIV testing and counseling (PITC) in all family planning (FP) services for early diagnosis of HIV infection with linkage to care and treatment including adherence to FP methods. ■ Provide service for FP method of choices for HIV positive women in ART setting ■ Provide 24/7 emergency contraceptives for HIV positive women and girls ■ Provide safe pregnancy counseling ■ Involve mother mentors in support groups to provide family planning information for individuals and couples ■ Integrate FP services in routine postpartum care of all women, including those living with HIV.
3. Prevention of HIV transmission from infected women to their infants	■ Ensure availability of antiretroviral drugs and other appropriate supplies for PMTCT ■ Ensure provider initiated testing and counseling services (PITC) integrated into ANC, labor & delivery and postnatal care and FP services and management of cases accordingly ■ Ensure that clients (mothers and babies) and essential data recorded during L&D are linked with ANC and PNC settings (Mother-baby pair cohort follow up) ■ Provide ART for pregnant, laboring and lactating women who tested HIV positive and prophylaxis for HIV exposed infants at MNCH unit ■ Promote safer obstetric practices ■ Provide appropriate counseling on infant feeding and support for exclusive breastfeeding including maternal nutrition ■ Provide quality service for all women and children under RMNCAH platform through application of CQI models and dashboard for performance monitoring ■ Involve and encourage mutual disclosure and couple's counseling and testing.

	■ Promote male partner testing, including sexual partner testing, regardless of the HIV status of the pregnant and breastfeeding woman. ■ When a male partner tests HIV positive, provide treatment, care and support in MNCH platform in PMTCT only site or link with the ART unit when PMTCT and ART sites are collocated. ■ Promote disclosure counseling and manage accordingly, as well as in the emergency and birth preparedness planning during pregnancy and delivery ■ Execute GIPA principle by involving mother mentors groups (MSG) in supporting the psychological and emotional effect posed by HIV and other STIs including syphilis; supporting ART adherence and mother baby pair follow up; and in assisting mutual disclosure and partner involvement in HIV prevention, treatment care and support of their families ■ Augment competency based comprehensive PMTCT trainings by involving expert patient trainers of mother mentors during all types of training
4. Treatment, care and support of HIV infected women, their infants and their families	■ Provide life long ART for pregnant, laboring and breastfeeding women living with HIV to improve their own health, and prophylaxis for their newborns within the RMNCAH platform. ■ Monitoring viral suppression with viral load testing ■ For newly diagnosed pregnant mother VL done after three months of ART initiation and then every six months : at 6, 12, 18 and 24 months throughout Maternal and HEI PMTCT cohort follow up for EMTCT reason and advance the management accordingly. ■ For those who are already on ART for more than three months with out any previous VL test or their VL test is longer than 6 months back do VL soon after pregnancy is known; the routine VL testing should continue as mentioned above. ■ For those who are already on ART for less than three months and linked to PMTCT, do VL at three months of ART initiation and the routine VL testing should continue as mentioned above. ■ Ensure appropriate follow-up for HIV-exposed infants including cotrimoxazole prophylaxis and early infant diagnosis and link HIV infected infants for early ART initiation. ■ Provide routine screening and management for tuberculosis per national guidelines recommendations. Provide treatment and support for co-morbidities for HIV positive pregnant and lactating women. ■ Provide HIV testing early during pregnancy and follow-up care for families to increase access and utilization of PMTCT services ■ Support initiatives organized for infants and HIV-infected women including nutritional support ■ Promote mother mentor groups to support retention in care, complement ongoing treatment adherence counseling, HIV exposed infant follow up including EID, and palliative care at facility and family level.

3.1. Primary Prevention of HIV Infection

The most effective way to ensure that HIV will not be transmitted to children is through prevention of HIV infection among parents and potential parents. Furthermore, addressing factors that make girls and women especially vulnerable to HIV infection and limit their access to care are critical interventions that require focused approach. Additionally, male involvement in PMTCT programs could empower pregnant and breastfeeding women for a joint decision making on health issues.

Interventions for primary prevention of HIV

Promote safer and responsible sexual behavior and practices

Safer sexual behavior includes delaying sexual debut, practicing abstinence, being faithful to sexual partner, practicing correct and consistent condom use and reducing the number of sexual partners. Safer sex practices can be promoted through the following approaches:

- Use women development army for community education
- Design community messages that are appropriate for high risk individuals
- Assist individuals to make personal risk reduction plans through HIV counseling and testing
- Promote and supply male & female condoms to men, women and adolescents in the community as an integrated component of healthcare at different entry units (family planning, antenatal care, HIV counseling and testing, HIV care, STI services)
- Promote dual protection methods routinely, during family planning counseling
- Promote male involvement in HIV prevention at all levels using locally acceptable and culturally sensitive approaches
- Promote voluntary male medical circumcision, where relevant.

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 STIs& HIV, and HIV testing and counseling services should be available whenever and wherever care is provided. Similarly, HIV clients need to be offered STI screening at all times. Partner screening and treatment should be routinely available as part of STI services.

Provide HIV counseling and testing to adults and adolescents

Knowledge of HIV status is an entry to access HIV care and treatment, including PMTCT services. Providing HIV testing services to pregnant women;STI and FP service clients; adolescents, young adults and children at risk is a national priority. Provider-initiated approaches need to be promoted to increase the availability of testing, reduce stigma and reach people in need of testing and treatment.

Couple counseling enhances opportunities to prevent mother-to-child transmission of HIV. Both partners must know their HIV status to contend with HIV and plan their future. Couple counseling also helps to ease tension and diffuse blame as well as relieve the burden to disclose results and persuade partner to be tested. Couple counseling facilitates communication and cooperation required for risk reduction. Couples counseling should be based on mutual disclosure and consent. A woman (including men) should not be forced to disclose to their partner and go through couples counseling.

Couples and partners should be offered HIV testing at all RMNCAH entry points with support for mutual disclosure. If a pregnant and breastfeeding woman is HIV negative and that of her sexual partner is positive (discordant couple), the male partner should be treated or referred to adult HIV clinic for initiation of ART regardless of CD4 count.

3.2. Prevention of Unintended Pregnancies in HIV-Positive Women

Since many women and men do not know their HIV status, prevention of unintended pregnancy in the general population is critical to prevent transmission of HIV to children. Moreover, integrating family planning and HIV services is a cost-effective approach to service delivery that offers more women living with HIV access to options for family planning and reduce the number of new pediatrics infections through mother-to-child transmission. Improving family planning services to prevent unintended pregnancy among HIV-positive women is one of the methods to preventing HIV infection in children.

3.2.1. Family Planning Services

Provide all available reproductive choices for people living with HIV and their families. When providing family planning counseling, providers should:

- Respect the right of all women, regardless of HIV status, to decide the number and timing of children
- Counsel HIV positive women on all options of family planning
- Encourage dual protection using two forms of contraception where one should be condom
- Provide condoms wherever possible and refer clients to a convenient and affordable source
- Provide integrated FP/HIV and STI services at all levels of care
- Provide full information about the possibility of transmitting HIV to a child
- Offer information about prevention and referral for HIV counseling and testing
- Counsel men and women who know they are positive, assisting them to make well-informed decisions to meet their family planning needs.

Brief information on the use of contraceptive method among HIV-positive women and those on ART is stipulated in Table 3.2 below.

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

Some ARVs interact with COCs resulting in decreased efficacy of contraception. Specifically, women on Nevirapine (NVP), Efavirenz (EFV), Tenofovir(TDF), Lopinavir/ritonavir (LPV/r) and Ritonavir (RTV) who are also using COCs should be monitored closely and counseled and offered on dual protection methods.

Considerations for HIV-positive women on Rifampicin, anti-epileptics, anti-fungal medications and COCs:

Rifampicin (usually used to treat TB in HIV-positive patients), anti-epileptic and anti-fungal medications can interact with COCs resulting in decreased protection against pregnancy. Therefore, any woman taking Rifampicin, anti-epileptic and anti-fungal drugs along with COCs should be informed about this risk and offered dual protection.

Table 3.2 :Family Planning Methods for HIV-positive women and men

Method	Use in HIV-positive women	Use in HIV-positive women on ART	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 and correct use. Protects against transmission of STIs 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 STIs and HIV.
Copper (Cu) IUD	May be used; follow-up is recommended	May be used; follow-up recommended. May be associated with increased risk of bleeding and possible exacerbation of anemia on ARVs. Slight risk of uterine infection with insertion. Women with IUDs who develop advanced HIV disease should be monitored closely for Pelvic Inflammatory disease (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 condoms in addition.

Progesterone only injectable (DMPA) Implants	No restrictions for use	May use with follow-up. Drug interactions with some ARVs likely.	Unclear interaction of steroids and immune function. Offers no STI/HIV protection, therefore provide condoms in addition.
Combined Oral Contraceptives (COC)	No restrictions for use	Interactions with some ARVs likely. Dual protection recommended.	Interaction with some ARVs may reduce effectiveness of COCs. May use with follow-up. Offers no STI/HIV protection, therefore provide condoms in addition.
Surgical Sterilization	No restrictions for use	No restrictions for use. Women with advanced HIV disease may be at slightly higher risk of surgical complications. Consider delaying surgery pending initiation of ART.	Offers no STI/HIV protection therefore provide condoms in addition.
Lactational Amenorrhea Method	No restrictions for use	No restrictions for use	Important to review on-going risk of MTCT for HIV+ women during breastfeeding. Offers no STI/HIV protection therefore provide condoms in addition.
Emergency Contraception (EC) (Postinor-2, or use COC pill) IUCD	No restrictions Restricted in the presence of active STI	No restrictions. In patients using Efavirenz, there is potential failure of progesterone component therefore may need to increase progesterone dose when used for EC.	EC should be given to women who request it. Women who have been raped should be offered EC. Oral contraception can be used within 72 hours while IUCD can be used within the first 5 days
Dual protection	Recommended	Recommended	Dual protection should be recommended to all women and men.
Source: WHO Medical Eligibility Criteria for Starting Contraceptive Methods, 2009			

3.3. 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 as well as 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 women attending antenatal, delivery and postpartum services. Quality antenatal, delivery and postpartum care should be provided to all women, irrespective of HIV status. All HIV positive pregnant, postpartum and breastfeeding women should initiate ART regardless of their clinical, immunological and virological status but need to check routinely viral load every 6 months throughout PMTCT follow up.

3.3.1. HIV and Pregnancy

Pregnancy itself does not necessarily affect the outcome of HIV infection, but HIV may affect pregnancy outcomes in a number of ways: HIV-positive pregnant women are at increased risk for premature deliveries, small for gestational age babies and stillbirth. Other health issues associated with HIV infection, such as anemia and malnutrition, also can lead to birth complications and negative birth outcomes.

Risk of MTCT during Pregnancy, Labor, Childbirth, and Breastfeeding

Vertical transmission of HIV can occur during antepartum, intrapartum and postpartum period at variable rate depending on the timing of infection and the availability of services for preventing mother-to-child transmission.

The table below describes the rate of mother-to-child transmission in the absence of intervention (Table 3.3)*. However, many medical advances have made it possible to dramatically reduce the risk of MTCT of HIV. Effective use of available medications, appropriate labor and delivery protocols, and optimal breastfeeding practices can reduce a child's overall risk to less than 5%. For example, provision of ART to a mother throughout the breastfeeding period can reduce the risk of postnatal MTCT by more than 50%.

Table 3.3: Estimated Risk of MTCT

Timing	Transmission rate without intervention
During pregnancy	10- 25%
During labor and delivery	35-40%
Overall with breastfeeding up to 6-24 Months	35-40%
Note: Rates of transmission vary because of differences in population characteristics such as maternal CD4+ counts, RNA viral load, exclusivity and duration of breastfeeding	

March 2014 *Supplement to 2013 consolidated guidelines

Risk Factors for MTCT (HIV)

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

Maternal Factors

- High maternal viral load, such as due to recent HIV infection and advanced HIV infection
- Low CD4 count
- Viral or parasitic placental infections during pregnancy, labor and childbirth
- Maternal malnutrition
- Nipple fissures, cracks, mastitis and breast abscess
- Poor ART adherence

Infant factors

- First infant in multiple birth
- Prematurity and low birth weight
- Longer duration of breastfeeding
- Mixed feeding during the first six months of life
- Oral diseases in the child

Obstetric and Delivery Practices

- Rupture of membrane for more than four hours
- Injury to birth canal during childbirth (vaginal and cervical tears)
- Antepartum procedures (e.g. amniocentesis, external cephalic version)
- Invasive childbirth procedures (e.g. episiotomy, fetal scalp monitoring)
- Vaginal delivery
- Instrumental delivery (Vacuum, forceps assisted)
- Delayed infant drying with clean towels and delayed eye care
- Routine infant airway suctioning

Care for HIV+ Women

Pre-Conceptual Care

- Give accurate information on risk of MTCT
- Ensure informed decision to conceive
- Explain availability of prevention options
- Describe effects of HIV on pregnancy outcomes
- Discuss the benefits of involvement and HIV testing of partner
- Ensure follow-up schedule
- Maintain the best possible health and nutritional status
  - Adequate calorie intake to maintain a healthy weight, and additional iron, folate at least three months prior to pregnancy; encourage consumption of foods rich in iron (e.g. beans, lentils, green leafy vegetables, meat and liver) and use of iodized salt.
- Provide teaching on malaria prevention in malaria endemic areas
- Prevention, screening and treatment of STIs before pregnancy
- Prophylaxis and treatment of opportunistic infections
- Discuss the risks of pregnancy until six months after recovery from any chronic infections, such as TB or other opportunistic infections

3.3.2. Antenatal Care

ANC for All Pregnant Women

Focused antenatal care must be available to all pregnant women regardless of HIV status. All women need information on HIV prevention through safer sex practices, diagnosis and treatment of STIs, and infant feeding counseling and support.

At least four focused antenatal care visits are recommended: 1stvisit as early in pregnancy as possible, preferably before 16th week, 2nd at 28-32 weeks, 3rd after 36 weeks, and 4th before expected date of delivery or when the woman needs to consult.

Antenatal care services for all pregnant women should include:

Client history: Obtain routine data including medical, obstetric, and psychosocial history. Ask if patient is using any medication, including traditional medicines.
Physical examination: Thorough general physical examination, including abdominal and pelvic exams
ANC Profile: Routine tests for syphilis, Hemoglobin, blood group, urinalysis and provide rapid HIV testing to the pregnant woman and her partner if accompanying her
Provide **Tetanus toxoid** vaccination
Family planning counseling on the best available option for the specific client
Provide Nutritional assessment (MUAC and weight gain) and nutrition counseling and counseling on realistic diet adjustment to meet the increased need of pregnancy and people living with HIV.
Provide counseling on **iron/folate supplementation**
Infant feeding counseling with emphasis on exclusive breastfeeding for the first six months
Routine offer of **HIV counseling and testing** as well as other STIs including syphilis and partner testing
Counseling on **danger signs of obstetric complications**, on birth preparedness and complication readiness, contraceptives and safer sex practices
Counsel on the importance of regular follow up visits and need for **skilled birth delivery**.
Counsel on **malaria prevention** and treatment for those from malaria endemic areas

ANC for HIV positive pregnant women

All HIV positive women need to be transferred to ANC clinic as soon as pregnancy is confirmed. In addition to the focused ANC that is offered to every woman, HIV positive pregnant women need visits for:

- Periodic thorough clinical assessment
- Initiation of recommended and safe ART regimen if not started
- Monitoring and support for HAART adherence

- Prevention and early treatment of opportunistic infections
- CD4 count determination for baseline
- Viral load monitoring to detect emergence of virological failure.

For the best pregnancy outcome and reduction of potential risk, HIV positive pregnant women should be assessed for:

- Past history of HIV-related illness
- Duration of knowledge of HIV-positive status
- Symptoms of AIDS as per WHO Clinical Staging
- HIV and health status of other children, if any, and partner
- Partner testing/management and disclosure
- Any medications for HIV-related illness taken during the current pregnancy (e.g. medications for TB, malaria, hepatitis, or any antibiotics for opportunistic infections)
- Any potential factor that can hamper the adherence to HAART (such as alcohol or substance use, stigma).
- Non-communicable diseases (NCD) such as diabetes, goiter, cancer and heart disease.
- Laboratory investigations as needed to diagnose opportunistic infections
- Nutritional status (through anthropometric measurements such as MUAC and weight).

3.3.3. HIV Counseling and Testing during Antenatal Care

Compared with other approaches, routine provider-initiated HIV testing and counseling using the opt out approach for all pregnant women has resulted in greater acceptability, increased opportunity to prevent MTCT, and minimize stigma. All information about HIV testing must be kept confidential and testing should be voluntary. All forms of HIV testing and counseling should be voluntary and adhere to the five C's: **consent, confidentiality, counseling, correct test results and connections to care, treatment and prevention services.**

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 indicated.

Provider-initiated routine counseling and testing using the opt-out approach is recommended for all clients seen within the context of maternal care (i.e. antenatal, labor, postpartum). This means HIV testing is offered as a routine component of standard maternal/child health care. The client is given pre-test information with a group or individually on HIV/AIDS and PMTCT and is informed 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 non-HIV care services she will get from the health facility.

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 counseling can be used after a group session. Also, pre-test counseling for couples should always be encouraged and should last 5-15 minutes.

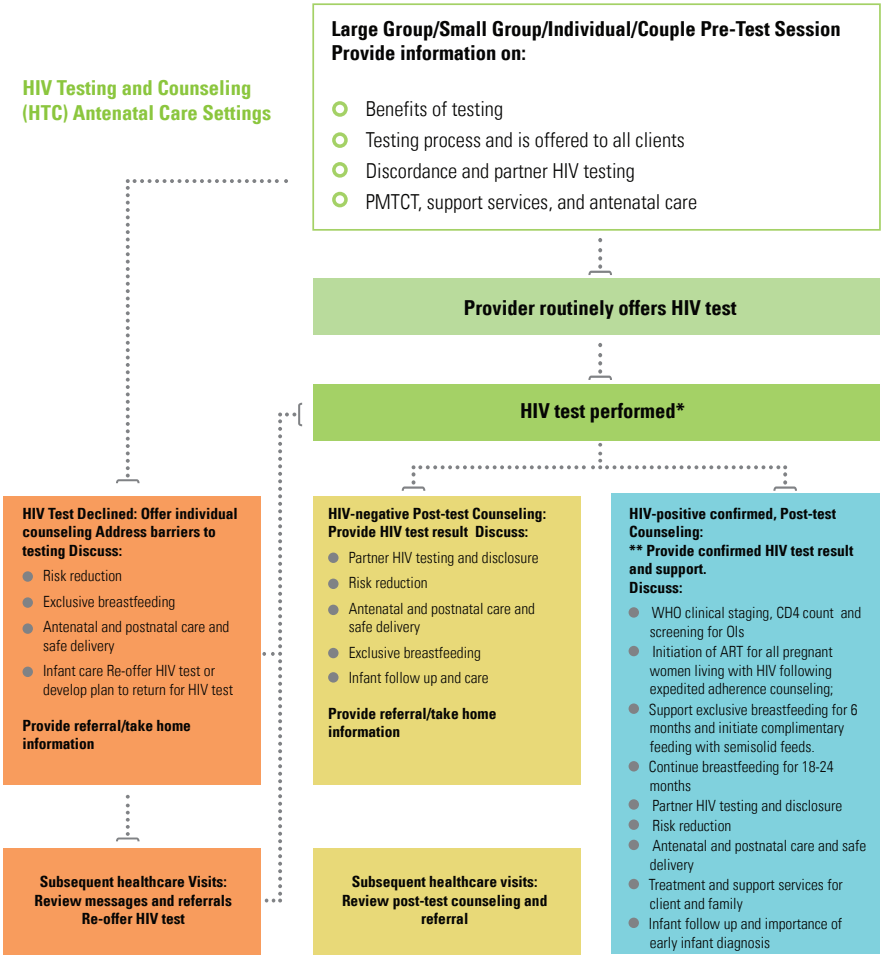
If the HIV test result for pregnant woman is negative during early pregnancy, re-testing can be done during late pregnancy, labor or postnatal period based on risk assessment. Retesting HIV negative pregnant and breastfeeding women at regular intervals with the whole algorithm is important to identify acute infection.

Key points to remember:

- Provider-initiated HIV testing and counseling should be offered to all pregnant women
- Pretest information can be offered individually or in a group
- If a patient refuses HIV testing, explore the reasons for the refusal and address any concerns or misconceptions.
- The client can be encouraged to test, but do not pressure or coerce a client to HIV test. The client has the right to refuse.
- If the test is negative, retesting can be done preferably in late pregnancy.
- All information about the client should be kept confidential.

For key messages during the pre-test session, refer to the diagram on the next page.

Figure 1. Title



***Follow national rapid testing algorithm/guidelines. Rapid testing with same day results is highly recommended. Mothers clearly counseled for the need to have two tests if the first test is positive from the beginning.**

**** Re testing /Verification test with rapid test must be initiated in ANC unit possibly by different experienced health worker in HIV testing,using different sample but the same algorism before post-test counseling. If Test discordant occurs, the third blinded test should be performed by laboratory personnel**

Retest

Re-testing is recommended for persons who tested negative but have an ongoing risk:

- Occupational exposure or sexually assaulted client who started PEP, retest at 6 weeks, 3 months and 6 months
- Pregnant women, who have tested HIV negative in the first /second trimester of pregnancy; retest during third trimester or labor or postpartum
- Have an STI: after 3 months
- Have continuing or ongoing risk of acquiring HIV (MARPs); every 12 months but for female sex workers consider retesting every six month
- Have specific incidents of known HIV exposure within the past three months, after 3 months
- Discordant Couple, retest after 6-12 month

Retesting before initiating of ART

It is required that all clients linked to care and treatment services need to have a repeat HIV testing done before treatment is initiated. Retesting aims to rule out possible technical or clerical errors; including specimen mix-up through mislabeling and transcription errors, as well as random error either due to the provider or the test device.

Retesting a person diagnosed to be HIV positive to verify the diagnosis should include:

- Take a new specimen for each newly and previously diagnosed individual, preferably conducted by a different provider using the current testing algorithm, prior to initiation of ART;
- Retesting that is preferably conducted at a different site/ unit, ideally the site where the decision about ART initiation will be made. For PMTCT, where there are providers other than who did the first test, retesting could be done at the PMTCT unit.
- If the retesting result is negative, the client should be referred to the facility laboratory. If the facility does not have laboratory, the client should be referred and linked to the nearest facility where there is laboratory service.
- Testing at L&D for pregnant mother with unknown status will be done, If positive, provide ART for the mother and ARV prophylaxis for the infant. After delivery, perform retesting and if the positive test is verified, continue ART; If negative, send the mother to facility laboratory or nearest facility where there is laboratory service. If the HIV status is the same upon retesting, the person's HIV-positive status should be considered as verified and initiated on ART.

Antiretroviral therapy:

- All HIV positive pregnant and breastfeeding women should have a retest or verification test prior to initiating ART in order to ensure correct diagnosis.
- All HIV positive pregnant, laboring and lactating mothers will be initiated on ART for life (TDF, 3TC and EFV).
- HIV positive women already on ART at time of pregnancy should continue and stay on the same regimen and followed in MNCH platform with proper transfer-out formal to make it happen. If there is a need to change this is still done jointly by both the ANC/ART services provider
- Pregnant women with WHO clinical stage 1 and 2 can safely be initiated on ART in ANC; however, those diagnosed with advanced HIV disease at ANC (WHO stage 3 and 4) and have opportunistic infections should promptly be provided treatment of OI and initiation of ART in consultation with ART clinic provider. On-going care and treatment initiation will be followed per the client status. The regimen selected for lifelong treatment in Ethiopia is easy to prescribe, easy to take, has low risk of side effects, requires less laboratory investigations to monitor toxicity and is provided as a fixed dose combination pill (single tablet of triple ARV drugs to be taken once daily).
- There is no need to change ARVs if a woman gets pregnant while taking TDF/3TC/EFV since evidence demonstrates safety of EFV during early pregnancy.
- ARV drugs refill and follow up treatment for HIV positive transferred-out mothers from ART will be done at the ANC unit by trained health workers.

Adherence to treatment:

- Pregnant and postpartum women have adherence challenges due to multiple factors including due to morning sickness and postpartum depression and require additional support throughout pregnancy and following childbirth.
- Adherence limiting factors should be assessed and addressed as promptly as possible to start pregnant women on ART within the shortest possible time.
- Continuous monitoring and support for adherence should be provided at RMNCAH setting to ensure pregnant mothers comply with treatment recommendations.
- Adherence support mechanisms such as MSGs and case managers'/adherence supporters should be established and involved at all levels of the health system.
- Mechanism for retention of patients and tracing of lost to follow up should be in place in all facilities that provide PMTCT services. Tracing pregnant women lost from care should be initiated within seven days of a missed appointment.
- Modern technologies such as m-health can be used to improve access and adherence to treatment

Prophylaxis and treatment for opportunistic infections:

- Provide routine Trimethoprim-Sulfamethoxazole(TMP-SMT) or cotrimoxazole prophylaxis for all pregnant women living with HIV with clinical stage 2, 3, 4 disease or CD4 count below or equal to 350 /mm3
- Provide other OI prophylaxis (IPT) and treatment for opportunistic infections as per the national guidelines.

Tuberculosis (TB)

- Screen all HIV positive pregnant and lactating women for tuberculosis by asking the woman for presence of fever, cough of any duration, weight loss (or poor weight gain if pregnant), and night sweat per national TB and HIV guidelines recommendations.
- All HIV positive pregnant and breastfeeding women with presumptive TB should be investigated for TB using GeneXpert MTB/RIF assay and with radiography at hospital level if feasible and deemed necessary.
- Link pregnant and postnatal women with TB diagnosis to TB clinic and follow-up their status during RMNCAH visits.

Malaria

- All pregnant women residing in malaria endemic areas should be advised to use insecticide treated bed nets, preferably the long lasting insecticide treated bed-nets (LLITN), to prevent malaria.
- All HIV-positive pregnant women diagnosed with malaria should receive treatment as per the national guidelines for malaria.

Nutrition during pregnancy

- The combined additional energy demands of HIV infection and pregnancy may lead to inadequate weight gain during pregnancy and result in birth complications. Women should be screened for malnutrition using MUAC at the first ANC visit.
- HIV-positive pregnant women should be counseled to eat at least one extra meal per day, and weight gain should be monitored on a regular basis to ensure weight gain of approximately 2 kilograms per month during the second and third trimesters.
- Weight gain of one kilogram or less per month is a sign of a serious problem that should be assessed and managed. Counseling on nutrition and household food safety; and personal hygiene are critical for reducing the risk of nutrient loss due to infections.

Infant feeding

- Counsel HIV-positive pregnant women on the importance of exclusive breastfeeding for the first six months of life, followed by introduction of appropriate complementary feeding at six months with continued breastfeeding for at least 12 months.
- Discontinuing breastfeeding is recommended only when nutritionally adequate and safe diet without breast milk is available. Weaning should be done gradually within a week. Educate mothers on the importance of continuing infant follow-up even after breastfeeding is discontinued.

Partners and family

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

Support

- Counsel and refer to community care and support organizations and ensure feedback from the receiving end(refer to Community Care Guideline for detail).
- Engage mother mentors for ongoing counseling and HIV exposed infant follow up or involve HEWs (health post) for referral that assures confidentiality of the client.

Prevention

- Counsel on primary prevention including condoms use, infant feeding, the use and provision of contraceptive methods including postpartum contraception for family planning.

Intrapartum care: Labor and Delivery

Most pediatrics HIV infection occurs through transmission from the mother during pregnancy, labor and delivery and breastfeeding and is a critical period for prevention of MTCT. Strategies that prevent MTCT, including standard infection prevention precautions and limiting/avoiding unnecessary obstetric interventions, are also protective for all women and their infants.

Intrapartum care and infection prevention include:

- Essential obstetric care for all mothers
  - A skilled attendant at every birth.
  - Early identification of danger signs and urgent referral to a facility where comprehensive obstetric care is available.

- Safe delivery practices and avoiding invasive procedures when possible.
  - Avoid artificial rupture of membrane to shorten labor
  - No routine episiotomy
  - Avoid use of vacuum extraction and forceps if possible
  - Limit vaginal examinations during labor
  - Treat acute chorioamnionitis promptly
  - Provide early infant eye and cord care
- Safe delivery practices designed to protect health workers, mothers, family members, and babies and include:
  - 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.

HIV Testing and Counseling during Labor

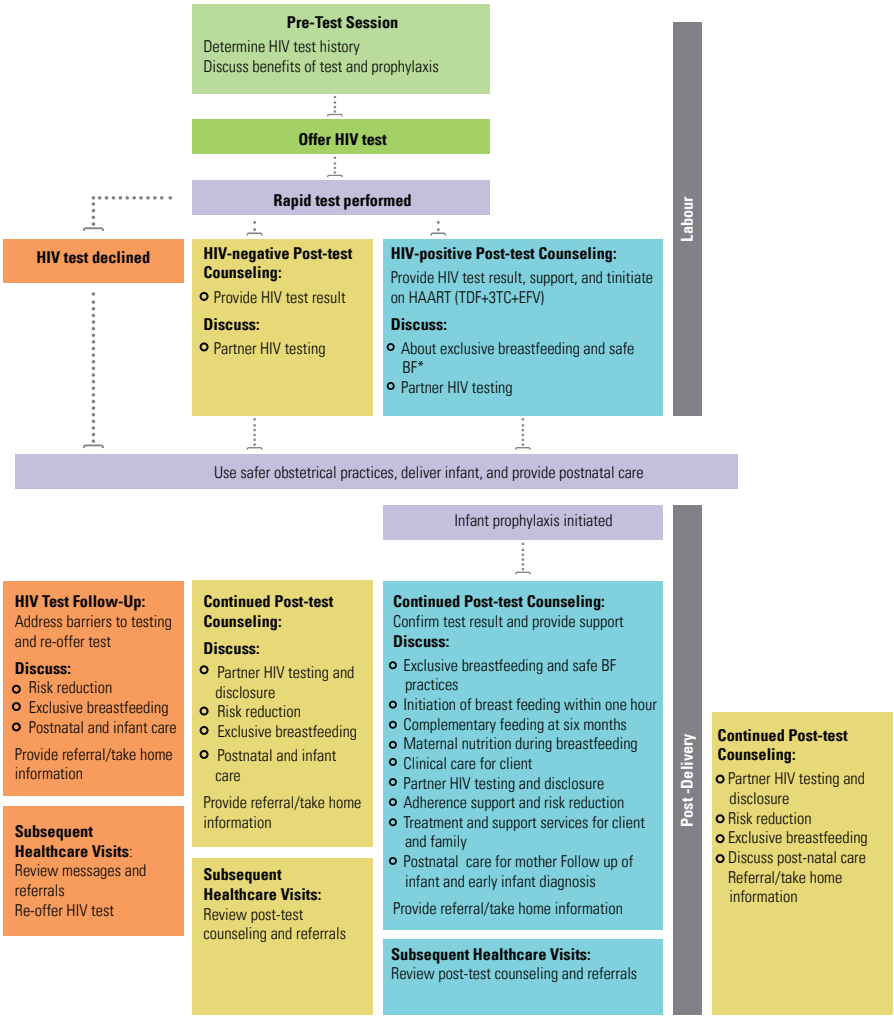
As many pregnant women attend health facilities for the first time during labor, HIV testing and counseling should be offered routinely for all pregnant women admitted for delivery that were not tested at ANC as well as their partners. Active identification of women in labor with unknown HIV status (never tested previously or tested during or prior to the first trimester) and offering HIV testing and counseling shall be part of the standard delivery care. HIV-positive women identified during delivery shall receive antiretroviral treatment immediately before delivery and get linked for follow up of PNC 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 labor in which a woman presents. If in advanced labor, HTC 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. Before discharging the client, the cohort registration should be completed.

The pre-test session in labor should be very short (2-5 minutes) and provide sufficient information to enable the woman to make an informed decision on whether to accept the test or not. If all components cannot be completed because a woman is in active labor, complete at an appropriate time as soon after delivery as possible.

The messages and action steps for routine offer of HIV testing and counseling to all women in labor should be conducted according to the following protocol (figure 2)

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



Postpartum Care

The postpartum period is a critical transition time for the woman, her newborn and the family.

Ideally, postpartum care should be provided by the health worker or skilled attendant present at delivery. The mother and newborn should be cared for together. Important components of care after delivery for the infant-mother pair are outlined in Table 3.4 below.

Postpartum care for all mothers and their infants

Postpartum care should be provided in the health facility for the first 24-48hrs and return for follow up care at 3-4days, 5-7days and 6 weeks, or at any point if complications arise. The following table illustrates the postpartum care component that needs to be provided for all mothers and newborns

Table 3.4: Postpartum Care of All Women and their Infants

First 24-48 hours	
Mother	**Infant**
■ General well-being, micturition, & other possible complaints — Fundal height, distended bladder — Perineum, vaginal bleeding, lochia, hemorrhoid — Thrombophlebitis, signs of thrombosis — Temperature, if infection is suspected ■ Supplementation of micronutrients (iron, folate, iodized salt) ■ Counsel on safe disposal of potentially infectious soiled pads or other materials ■ Advice/counseling on maternal and newborn nutritional, physical, psychological and cultural needs ■ Information regarding danger signs, where to seek help ■ Counsel on sexual issues related to postpartum period, including family planning and provision of contraceptive methods ■ Offer HIV testing if not done already	■ Assess general condition of baby: — Observe for active movement (tone) — Observe how baby is breastfeeding (positioning and breast attachment) — Observe skin for signs of pallor and jaundice (yellowish eyes and skin)refer if present — Assess vital sign if baby is not active ■ Give immunization for BCG and OPV1 if not given already ■ Advise on direct sunlight exposure for 20 minutes covering eyes and genitals

At 3- 7 Days	
Mother	**Infant**
■ General well-being, micturition, & other possible complaints — Fundal height, distended bladder — Perineum, vaginal bleeding, lochia, hemorrhoid — Thrombophlebitis, signs of thrombosis — Temperature, if infection is suspected ■ Supplementation of micronutrients (iron, folate, iodized salt) ■ Counsel on safe disposal of potentially infectious soiled pads or other materials ■ Advice/counseling on maternal and newborn nutritional, physical, psychological and cultural needs ■ Information regarding danger signs, where to seek help ■ Counsel on sexual issues related to postpartum period, including family planning and provision of contraceptive methods ■ Offer HIV testing if not done already	■ Assess general condition of baby: — Observe for active movement (tone) — Observe how baby is breastfeeding (positioning and breast attachment) — Observe skin for signs of pallor and jaundice (yellowish eyes and skin)refer if present — Assess vital sign if baby is not active ■ Give immunization for BCG and OPV1 if not given already ■ Advise on direct sunlight exposure for 20 minutes covering eyes and genitals
At 6 weeks	
■ Assessment for signs of postpartum complications ■ Assessment of nutritional status (MUAC and/ or weight) ■ Counsel on appropriate nutrition and micronutrient supplementation ■ Counsel on family planning options and safe sex practices ■ Counsel on breastfeeding and support as needed ■ Counsel on personal hygiene and disposal of soiled pads. ■ Micronutrient supplementation as appropriate ■ Encourage on continued use of ITN for women living in malaria endemic areas ■ Offer HIV testing if not already done	■ Identify signs of complications ■ Follow up on healthy baby care including developmental milestones ■ Routine assessment including checking for weight gain ■ Immunization: first dose of OPV if not already given, pentavalent vaccine, pneumococcal vaccine (PCV) and Rotavirus vaccine ■ Plan for revisit and immunization of baby

If the mother was not counseled and tested for HIV during pregnancy or labor and delivery provide counseling and testing services during postpartum so that the infant can get timely prophylaxes in case the mother's test is positive. Provision of timely HTC greatly improves the success of PMTCT.

Postpartum care for HIV-positive women

In addition to routine postpartum care that is offered to all mothers, HIV-positive women should receive:

- Antiretroviral treatment:
  - If mother was identified as HIV-positive during labor and delivery, initiate her on ART.
  - Ensure linkage of all newly identified HIV positive mothers and HIV exposed infants to ANC clinic.
  - If mother is on antiretroviral treatment, ensure she continues to take her medications during labor and postpartum period and check for adherence
- Extra nutrition and micronutrient supplement:
  - Continue iron and folate supplement for at least 6 weeks postpartum and longer if indicated.
  - Additional two varied meals per day are recommended to meet energy need and avoid malnutrition while breastfeeding.
- Counseling on how to express breast milk in case of engorgement or breast health problems. Refer if situation is unresolved and use the breast that is not swollen to feed the baby and seek medical help before it gets worse.
- Close monitoring for secondary postpartum hemorrhage, which may be more dangerous if a woman anemic.
- 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
- Counseling regarding early initiation of family planning within three to four weeks of delivery; particularly if the woman chooses not to breastfeed, causing early return to normal fertility
- Reinforcement of safe sexual practice and need for dual protection
- Counseling about safe disposal of potentially infectious soiled sanitary pads or other garments
- A plan for an on-going care and follow up with appropriate HIV care services should be initiated.
- Information about social services and support in the community to assure long term support needs to be given to patient and her family.

Care of Infants born to HIV Positive Mothers

Key principles for the care of infants born to HIV-positive mothers are:

- Respect confidentiality of the mother and family
- Care for the newborn like any other newborn, but pay particular attention to infection prevention procedures.
- Promote and support exclusive breastfeeding for the first six months for all infants, including HIV-exposed infants:
  - Inform mother that formula feeding can increase the risk of illness and death from contaminated water and bottles and that breastfed babies are more likely to grow and develop well.
  - Caution all mothers about the danger of mixed feeding (breast milk plus any other liquid, including water, or food) during the first six months, that can increase risk of MTCT of HIV, and increase risk of morbidity and mortality compared to exclusive breastfeeding.
- Give the newborn all routine immunizations, per national schedules
- Administer NVP once daily for six weeks for the newborn; check adherence to infant prophylaxis during follow-up.
- Collect specimen (DBS) for DNA PCR testing at 6 weeks of age
- Start co-trimoxazole prophylaxis for all HIV exposed infants from 4-6 weeks of age and continue until HIV negative status is confirmed.
- Assess TB risk in every follow-up visit
- Counsel and encourage the mother on early intervention for any infection or illnesses
- Explain when and where to take the child for HIV testing
- Assess growth and development with emphasis on the critical developmental milestones
- Ensure management follow-up and comprehensive care and treatment of HIV exposed infants

Table 3.5: Follow up visit schedule for HIV exposed infants

Age in weeks/months	At birth	6 week	10 week	14 week	5 months	6 months	9 months	12 months	15 months	18 months
History	x	x	x	x	x	x	x	x	x	x
Physical exam	x	x	x	x	x	x	x	x	x	x
Growth assessment	x	x	x	x	x	x	x	x	x	x
Developmental assessment	x	x	x	x	x	x	x	x	x	x
Infant feeding counseling	x	x	x	x	x	x	x	x	x	x
Determination of HIV status		DNA PCR	Do DNA PCR if the test is not done at 6 weeks** Repeat DNA PCR if infant is sick or the first DNA PCR test is positive					Perform rapid antibody test at least 6 weeks after cessation of breastfeeding		
NVP	x									
Cotrimoxazole Preventive Therapy		x	Continue until HIV is excluded and infant is no longer at risk from breastfeeding							
TB Risk Assessment	At each visit									
Immunizations	x	x	x	x			x			
Adherence counseling	x	x	x	x	x	x	x	x	x	x

* This is the minimum; children should be seen more frequently if clinically indicated.

** If the infant is between 9-12 months, first do Antibody test and if positive do DBS for DNA

Routine Newborn and Postnatal Care

- Handle newborn with gloves
- Clean all injection sites with antiseptic and dispose of needles and syringes into puncture-resistant sharp containers (refer to National Infection Prevention Guidelines for details)
- Clamp cord 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 warm (skin to skin contact with mother)
- Administer eye care with antibiotic (Tetracycline 1% eye ointment) as soon as possible after birth
- Administer BCG and OPV vaccines (refer to national EPI recommendations for details).
- Support initiation of breastfeeding within one hour of delivery

Table 3.6: NVP daily dose for HEIs

Infant age		NVP daily dosing	Dose in ml
Birth to 6 weeks	Birth weight 2000 g - 2499 g	10 mg once daily	1ml
	Birth weight ≥ 2500	15 mg once daily	1.5ml
Age 6 weeks to 6 months		20 mg once daily	2ml
Age 6 months to 9 months		30 mg once daily	3ml
Age > 9 months		40 mg once daily	4ml

- Low birth weight infants (<2000mg) should receive mg/kg dosing, suggested dose is 2 mg/kg once daily.
- Follow the manufacturer's instruction for the duration of use following opening. The bottle should be labeled with the date on which it was 1st opened.
- NVP infant dose: The oral syringe should not be placed directly in to the bottle. Infant dose should be measured by pouring a small amount of NVP syrup into a cup, and then draw the actual dose with oral syringe. Discard the leftover suspension in the cup.
- NVP syrup dosing beyond 6 weeks of age in special situations in which prolonged dosing of up to 12 weeks should be considered (such as the mother having had less than one month coverage with ART before giving birth and not being likely to be virally suppressed; the infant is identified as HIV exposed after birth and is breastfeeding)
- Enhanced postnatal prophylaxis for HEI (NVP + AZT for 6weeks and continued NVP prophylaxis for another 6weeks) for high risk HEI is suggested whenever essential inputs are adequate.

  NB. Consider supply availability to start enhanced post natal prophylaxis for High risk HEI is where the mother has started ART very late usually less than 1 month time before giving birth and mother shall have high Viral load. Therefore, AZT syrup dosing starting at birth to six weeks of age shall be provided together with NVP syrup and continue NVP for additional 6 weeks to reduce the risk of MTCT of HIV. Since HEI born to HIV Positive mothers with known high viral load and those their viral status is unknown, because they came late and initiated with ART for less than one month time before giving birth are at risk

Follow-up care and treatment

- During the postnatal period, the mother and newborn should be seen together in ANC unit to follow the mother and HEI as a cohort to be able to see the outcome of PMTCT interventions
- Early neonatal care should be closely linked with on-going services for health care, including Integrated Management of Childhood Illnesses wherever it is implemented.
- All children born to HIV-positive women should be followed 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-up within 6 - 24 hours, 3-7days,6 weeks, 10 weeks, 14 weeks, then monthly until six months, and thereafter every 3 months until 18 months if infant is asymptomatic.
- Monitor growth and development at each visit
- Reassess fully (history and physical examination that includes growth and development, screening for TB, laboratory investigations) on each follow-up visit
- Encourage exclusive breastfeeding for the first six months and discourage mixed feeding. At six months, encourage continued breastfeeding for at least one year and counsel on complementary feeding. When appropriate, support safe weaning.
- Counsel about infant feeding practices and support mother's choice.
- Provide co-trimoxazole prophylaxis starting at 4-6 weeks old (see Table 6 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 to the national infant HIV diagnosis algorithm for detail).
- Whenever possible manage the child in the same clinic as the mother or refer to HIV/ART clinic if child:
  - has a positive virological test
  - is suspected of having symptomatic HIV or displays any severe classification possibly due to HIV or has positive antibody test under 18 months and has 2 or more of the following: oral thrush, severe pneumonia or severe sepsis
  - Presents with severe acute malnutrition or moderate acute malnutrition that does not respond normally to treatment

Table 3.7: COTRIMOXAZOLE PROPHYLAXIS THERAPY (CPT)

Dosage of Co-trimoxazole preventive therapy in infants and children			
Age	Suspension per 5 ml (200/40mg)	Pediatric tablet (100/20mg)	Single strength adult tablet (400/80 mg)
< 6 months	2.5 ml	1 tablet	¼ tablet
6 months - 5 years	5 ml	2 tablets	½ tablet

HIV testing of Infants Born to HIV positive Mothers

There are broadly two types of HIV testing that can be performed on infants: Serological/antibody tests, and virological/DNA PCR tests. For babies under the age of 18 months, antibody testing can be used as a screening tool to determine if a child has been exposed to HIV. However, they cannot be used to confirm if an infant has become infected. Therefore, all infants born to HIV-infected women should be tested using DNA PCR test at the age of 4-6 weeks. Infants born to women of unknown HIV status should get an antibody test and, if found positive, should get a DNA PCR test to confirm HIV status of the infant (mother should also be tested). All exposed infants should again be screened later using an HIV antibody test (see table below for various options).

Table 3.8: HIV testing of infants born to HIV-positive women and women of unknown HIV status

HIV testing in children born to known HIV-positive women and women of unknown HIV status			
Age	**HIV testing**	**Interpretation of results**	**Considerations**
<18 months	HIV antibody test(rapid HIV test) Used for screening children 9 months of age and older If positive, test does not reliably confirm HIV infection. Thus, do DNA PCR test (if antigen test is not available,repeat antibody test at ≥18 months of age).	If negative and not breastfed for last 6 or more weeks, the baby is not HIV infected	
	Confirms child has been exposed to HIV, as passive transfer of maternal antibodies can cause positive test results.	If negative and breastfeeding, repeat test once breastfeeding is discontinued for 6 or more weeks	
	HIV virological test (DNA PCR using DBS) Used for diagnosing HIV in infants and young children starting at 4-6 weeks	Positive virological test results at 6 weeks of age indicates child is infected. Repeat DNA PCR if possible and Start ART.	
		Negative virological test in an infant NEVER breastfed implies the child is uninfected. Perform confirmatory antibody test at >12* months of age.	
>18 months	HIV antibody test (rapid test, if positive perform confirmatory test)	Results valid as for adults. Negative= the child is not infected; Positive=the child is infected	If negative and still breastfeeding– 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.*

NAT testing at birth (Birth testing) and Early infant diagnosis (EID) using POC

NAT testing at birth is a new consideration at the global arena as an additional opportunity of testing to the existing early infant diagnosis (EID) to identify HIV infection in HEI. Virologic HIV testing at birth is suggested whenever the evidences related to implementation is adequate in the mean time preparatory work can be undertaken.

Early infant diagnosis (EID) with shortest turnaround time (TAT) to less than three weeks through using the existing postal and SMS means and use of new technologies like EID point of care testing (POC) will be used with other CD4,VL and TB with networking of the health facilities and managing or linking of HIV positive babies with pediatric ART as soon as possible and counseling the mother and or the family for informed decision is mandatory.

Infant feeding in the context of maternal HIV Infection

Infant-feeding counseling for HIV-positive women during antenatal/postpartum care should include:

- Explain to the mother that even if there is a small risk of HIV transmission through breastfeeding, breast milk is shown to give the best chance of health and 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 replacement feeding is not recommended for any infant; however, feeding choice of the mother should be respected with appropriate counseling.
- Explain the danger of mixed feeding before six months
- Encourage the mother to continue breastfeeding until her child is at least12 months old
- Provide practical/hands-on help to the mother for successful breastfeeding
- Inform the mother that infant needs to take ARV prophylaxis for a total of 6 weeks regardless of when it was initiated (every effort has to be made to start ARVs immediately after birth)
- At each postnatal visit, monitor growth and development and provide counseling and necessary referrals to promote optimal growth

Recommended infant feeding method and key messages:

- Initiate early breastfeeding, within one hour of giving birth
- Exclusively breastfeed(EBF) for 6 months
  - Breastfeeding should be on demand, which is usually 8-12 times per day
- Introduce complementary feeding at 6 months and continue breastfeeding until at least 12 months
- Counsel mothers on safe breastfeeding practice and support her practice with correct positioning and attachment to prevent mastitis and injury to mother's nipples

- Advise the mother to return immediately if she encounters breast or nipple problems, or if baby has difficulty feeding. If she has sores on one breast, she should express and heat treat or throw out that milk and feed from the other breast.
- Promptly manage breast problems such as mastitis, cracked nipples etc.
- Ensure breastfeeding mothers are on ART consistent with Option B+
- Provide nutritional and psychosocial support to mothers
- Explain the importance of monthly growth monitoring and promotion as HIV-exposed infants are more likely to experience growth problems.
- Explain that at 6 weeks HIV test (DNA PCR) will be performed. Regardless of the test outcome, exclusive breastfeeding is the safest option for feeding an infant through the age of 6 months.

The duration of breastfeeding by mothers living with HIVa

- Mothers living with HIV should breastfeed for at least 12 months and may continue breastfeeding for up to 24 months or longer (similar to the general population) while being fully supported for ART adherence (see the WHO consolidated guidelines on ARV drugs for interventions to optimize adherence
- In settings where health services provide and support lifelong ART, including adherence counseling, and promote and support breastfeeding among women living with HIV, the duration of breastfeeding should not be restricted.
- "Mothers known to be HIV-infected (and whose infants are HIV uninfected or of unknown HIV status) should exclusively breastfeed their infants for the first six months of life, introducing appropriate complementary foods thereafter and continue breastfeeding."
- "Breastfeeding should then only stop once a nutritionally adequate and safe diet without breast milk can be provided."

When mothers living with HIV do not exclusively breastfeed

- Mothers living with HIV and health-care workers can be reassured that ART reduces the risk of postnatal HIV transmission in the context of mixed feeding. Although exclusive breastfeeding is recommended, practicing mixed feeding is not a reason to stop breastfeeding in the presence of ARV drugs.

When mothers living with HIV do not plan to breastfeed for 12 months

- Mothers living with HIV and health-care workers can be reassured that shorter duration of breastfeeding of less than 12 months are better than never initiating breastfeeding at all.

**Guideline: updates on HIV and infant feeding: the duration of breastfeeding, and support from health services to improve feeding practices among mothers living with HIV. World Health Organization 2016*

3.4. Care and Support for HIV Positive Mother and Her Exposed Infant

Basic Principles for use of Antiretroviral Drug for PMTCT

- PMTCT services are provided in RMNCAH platform
- All HIV positive pregnant and lactating women should be initiated on ART irrespective of CD4 count and WHO clinical stage
- Viral load should be done for newly HIV positive pregnant mothers at 3 months and then every 6 months: at 6, 12,18 and 24 months after ART initiation for routine monitoring throughout PMTCT follow up Viral load for already known HIV positive pregnant women and are on ART should similarly be done every six months. Ensure that the last documented viral load test done is within the last six months.
- CD4 count should be done as soon as possible as a baseline and for monitoring purposes
- HEI DNA/PCR test need to be done at 6weeks of age
- Family planning counseling should begin during ANC visit and FP options chosen need to be attached on the integrated maternal or women's card so that she is provided the option when she is back at six weeks postpartum
- Postpartum family planning counseling and method provision should be given to all HIV positive mothers in an integrated manner in the ART unit and in RMNCAH platform
- Transfer out HIV positive pregnant women on ART to ANC unit per national recommendations and register for mother-baby-pair cohort follow up for nearly two years in RMNCAH platform.
- Transfer out HIV positive mothers who are under ANC registered for mother- baby-pair cohort follow up, following cessation of breastfeeding and testing the child post weaning, to ART unit after ensuring issues of accessibility and adherence are addressed.

ART (Antiretroviral Therapy): is the use of 3 or more ARV drugs simultaneously to treat HIV infection. ART is a life-long treatment for the mother that can also significantly reduce MTCT.

ARV prophylaxis: is short term use of ARV drug for HIV exposed infants to prevent mother to-child transmission of HIV

1. TDF+ 3TC + EFV: Triple ARV started as soon as diagnosed and continued for life
2. If HIV positive woman who is already on ART gets pregnant, she should stay on the same regimen.
3. Infants born to HIV positive mothers who stayed on ART for more than one month will be on daily Nevirapine for six weeks starting immediately at birth
4. An infant born to a mother who is on ART for less than one month before childbirth will be put on daily Nevirapine for 12 weeks starting at birth or consider NVP + AZT prophylaxis for 6 weeks and continue NVP prophylaxis for another 6 weeks when condition allows.

When to start ART in pregnant and breast feeding women

ART for pregnant and breastfeeding women living with HIV is indicated based on global WHO guidance. The current national guideline recommends ART for all people living with HIV, irrespective of their CD4 count or clinical stage of HIV infection.

Start ART as early as possible to all pregnant & breastfeeding women living with HIV regardless of their WHO clinical stages and CD4 counts. For a women identified at labor & delivery, provide ART the same hour with brief counseling and provide detailed counseling on ARVs & Adherence after delivery. Consequently, provide prophylaxis for the infant for 6 to 12 weeks based on the duration of maternal ART coverage (Refer to HEI section).

Table 3.9: Summary of first-line ART regimens for adults, adolescents, pregnant and breastfeeding women and children

Population	Preferred first Line regimens	Alternative First Line regimens
Adults (including pregnant and breastfeeding women and adults with TB co-infection)	TDF + 3TC + EFV(FDC)	AZT + 3TC + EFV AZT + 3TC + NVP TDF + 3TC + NVP
Adolescents (10 to 19 years) ≥35 kg		AZT + 3TC + EFV AZT + 3TC + NVP TDF + 3TC + NVP ABC + 3TC + EFV

Rationale for using TDF/3TC/EFV in HIV positive pregnant women

- NVP containing regimen can cause severe toxicity in patients with high CD4 count.
- TDF is more suitable for HIV+ pregnant women than AZT because it does not cause anemia which is common during pregnancy; and is less likely to cause long term side effects.
- TDF/3TC also treats Hepatitis B virus co-infection

Use of Efavirenz in HIV positive pregnant women

- Efavirenz has been suspected to cause birth defects; however recent findings confirm the safety of Efavirenz. Therefore, Efavirenz can be used at any time during pregnancy.
- There is no need to stop or switch Efavirenz containing regimen for a woman who gets pregnant while on such treatment.

Starting Life Long ART for Pregnant and Lactating Women

- The ART regimen for newly diagnosed HIV positive pregnant/lactating women is TDF/3TC/EFV.
- Confirmed HIV positive status is the only requirement for starting ART for pregnant or lactating women, and her infant and partner.
- There is no need to wait for CD4 count to initiate treatment
- CD4 count is important to assess severity of HIV infection; viral load test is more effective to monitor treatment response and detect virological failure. Once started, all persons living with HIV should continue taking ART for life. Thus, make sure that the client understands the importance continuity of care and treatment adherence.
- HIV infected pregnant and lactating women need to be supported for adherence.
- ARVs provide life-saving treatment, but sometimes cause side effects or toxicities that should be monitored and managed.
- HIV infected pregnant/lactating women may have multiple health problems that may require use of other drugs in addition to ARVs.
- Understanding interactions between drugs that may be prescribed to HIV-infected pregnant women is necessary to ensure clients' safety and to obtain the maximum benefit from the medicines administered.
- Pregnant or lactating women should start ART as soon as possible and be ready to initiate therapy within 7days from the time the HIV positive result is known.
- Women presenting in labor, who are not able to initiate ART before delivery should start ART as soon as possible after delivery with rapid adherence counseling.
- Infants born to mothers receiving ART should receive daily Nevirapine syrup 2 mg /kg from birth through age 6 weeks regardless of infant feeding method.
- Infants born to HIV positive women who started ART will be monitored and continue their follow up at RMNCAH clinic until the infant is free from risk of HIV; that is six weeks after breastfeeding discontinued; approximately until the age of 18-24 months.

Summary of maternal and infant ARV prophylaxis for different clinical scenarios

A once-daily fixed-dose combination of TDF + 3TC + EFV is recommended as first-line ART in pregnant and breastfeeding women, including pregnant women in the first trimester of pregnancy and women of childbearing age.

Infants whose mothers are receiving ART and are breastfeeding should receive six weeks of infant prophylaxis with daily NVP. Infant prophylaxis should begin at birth or when HIV exposure is recognized postpartum.

Table 3.10: Clinical scenarios for mother baby pair ART treatment or ARV prophylaxis

No	Scenario	Maternal ARV	Infant ARV prophylaxis	Duration of infant ARV prophylaxis
S1	Mother is diagnosed with HIV during pregnancy	Initiate maternal ART	NVP	6 weeks
S2	Mother is diagnosed with HIV during labor or immediately postpartum and plans to breastfeed	Initiate maternal ART	NVP	6weeks; consider extending this to 12 weeks
S3	Mother is diagnosed with HIV during labor or immediately postpartum and plans replacement feeding	Initiate maternal ART	NVP	6 weeks
S4	Infant identified as HIV exposed after birth (through infant or maternal HIV antibody testing) and is breastfeeding	Initiate maternal ART	NVP	Perform infant PCR early infant diagnosis test and then immediately initiate 6 weeks of NVP – strongly consider extending this to 12 weeks
S5	Infant identified as HIV exposed after birth (through infant or maternal HIV antibody testing) and is not breastfeeding	Initiate maternal ART	NVP	Do HIV PCR test in accordance with national recommendations on early infant diagnosis; initiate treatment if the infant is infected
S6	Mother receiving ART but interrupts ART regimen while breastfeeding (due to toxicity, stock-outs or refusal to continue)	Determine an alternative ART regimen or solution; counsel regarding continuing ART without interruption link with MSGs for experience sharing	NVP	Until 6 weeks after maternal ART is restarted or until 1 week after breastfeeding has ended
S7	Mother receiving ART but interrupted for any reason and got pregnant while not taking ART	Determine an alternative ART regimen and continuing ART with out interruption, link with MSG for experience sharing	NVP	6weeks

Additional Elements of Clinical Care

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 involve physical, mechanical or chemical barriers between microorganisms 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 just based on the nature of procedures or actual or assumed HIV status.

Key components of infection prevention 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) in situations where splashes or spills expected
- 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 proper surgical procedures, cleaning wounds, doing hand scrubs
- 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, and other items after use by first decontaminating and thoroughly cleaning them, and then sterilizing or applying high-level disinfectant application

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 health care workers at significant risk include either of the following, and involves blood, tissue or other body fluids containing visible blood:

- Percutaneous needle injury
- Contact with 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.

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 the incident (within 1-2 hours). However, it is not advisable to consider PEP beyond 72 hours post exposure. Prophylaxis is to be given for 28 days. Early rapid testing of the source patient can help determine the need for PEP and may eliminate unnecessary antiretroviral use. HIV testing should be offered following occupational exposure immediately after the incident. If result is positive there is no need for PEP, but if negative PEP should be administered as soon as possible as outlined above and then repeat HIV testing at6 weeks, 3 months, and 6 months. Currently, there is no single recommended PEP regimen, but as with antiretroviral use 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.

4 Monitoring and Evaluation System

- **PMTCT routine program monitoring**
- **Indicators for PMTCT**
- **PMTCT data recording and reporting standard tools**
- **Monitoring and evaluation of the PMTCT service at each level of the health care system**
- **Data use at different levels**
- **Data collection at different levels**
- **Data quality assurance procedures**
- **Record keeping procedures**
- **Evaluation of the PMTCT Option B+ services at the facility and national level**
- **Mother-baby pair cohort follow-up using indicator monitoring dash board at Woreda and health facility levels and cohort analysis for the mother and baby separately using maternal PMTCT enrolment as shared event**

Monitoring and evaluation plays an important role in the management of health programs to ensure resources are appropriately utilized, services are accessed, activities occur in a timely manner, and expected results are achieved. This management function facilitates the most effective and efficient use of human and financial resources for the achievement of elimination of mother-to-child transmission targets which is especially relevant in areas where resources are limited. As more pregnant women are initiated in ART, strengthening the relationship between PMTCT and ART programs, ensuring long term retention in services, and increasing adherence to ART medications will become increasingly important.

Monitoring the PMTCT program will help:

- Assess program performance
- Detect and correct implementation challenges
- Make efficient use of PMTCT program resources

4.1. PMTCT routine program monitoring

The PMTCT activities will be monitored through the national Health Management Information System (HMIS) using various facility based patient records, registers and reporting formats while the program is monitored using various program and administrative records at different administrative levels.

Routine PMTCT monitoring includes tracking all activities aimed at providing the minimum package of services, such as:

- HIV testing and counseling for pregnant women and their families
- ARV for treatment of HIV positive pregnant and breastfeeding women
- ARV prophylaxis for HIV-exposed infants
- Follow-up of HIV positive mothers and their HIV-exposed children
- Counseling and support for infant feeding practices
- Family planning counseling and referral services

The national PMTCT routine monitoring system includes the following:

1. Clearly defined indicators (as per HMIS) data collection and reporting procedure
2. Standard data capturing tools (cards and registers)
3. Descriptions of data flow and responsibilities at each level of the healthcare system
4. Data use at different levels (unit/department, facility, woreda, regional and national)
5. Data quality assurance procedures
6. Monitoring HIV care and treatment in RMNCAH platform

4.2. Indicators for PMTCT in HMIS

There are 8 indicators for PMTCT included in the HMIS for mothers and infants born to HIV positive mothers. Abstracting extra PMTCT indicators beyond those mentioned above can be done separately from registers, cards and reporting formats.

HIV positive women indicators

- Percentage of pregnant and lactating women who were tested for HIV and know their results
- Number of HIV positive pregnant and lactating women who received ART at ANC, L&D, P&C for the first time
- Number of HIV positive women who get pregnant while on ART and linked to ANC
- Percentage of HIV infected women on HIV care and using modern family planning method.

Exposed infant indicators

- Percentage of infants born to HIV-infected women receiving a virological test for HIV within 12 months of birth

- Percentage of infants born to HIV-infected women who were started on cotrimoxazole prophylaxis within 12 months of birth
- Percentage of infants born to HIV-infected women receiving antiretroviral prophylaxis for prevention of mother-to-child transmission
- Percentage of HIV exposed infants receiving HIV (confirmatory test antibody test) by 18 months of birth

4.3. PMTCT data recording and reporting standard tools

The PMTCT program uses standard HMIS tools to collect and document information on PMTCT monitoring information which includes;

Facility-based paper system

- Integrated antenatal, labor& delivery, newborn and postnatal care card
- HIV Exposed Infant follow up card
- HIV Care/ART Follow-up form (the blue card)
- ART intake forms (A-G)
- HMIS registers (ANC, L&D, Postnatal care, Under-five children register, Mother-Baby Pair Cohort register)
- Monthly HMIS service delivery report with PMTCT component (Annex B)
- Cohort follow up wall chart at facility levels
- Mother Baby Pair Cohort analysis reporting format
- Transfer in and transfer out forms
- Internal and external Referral form
- Appointment book (in development)
- Performances monitoring mechanism (Woreda level dash board)

Integrated ANC, L&D, NB &PNC (RMNCAH) Card:

The RMNCAH Card is used to record health information for each pregnant client including HIV and syphilis test results, malaria treatments given, immunizations, vitamins, ART dispensed to the mother during ANC. It also contains information on ARV dispensed and taken during L&D for both the mother and the new born baby and postpartum follow up information.

HIV/Care follow-up card (blue):

This card is used to record patient HIV information following diagnoses with HIV. Information from the follow up card is used to update the ART register and the Mother-Baby-Pair Cohort register (Integrated RMNCAH/PMTCT).

ART intake form (A to G):

Should be completed by PMTCT health care workers for all patients on ART including pregnant and lactating women and is used to take basic baseline information about the women enrolled into the PMTCT program. It has seven components;

a. Patient registration form,
b. Past medical/ treatment history form,
c. General condition/physical exam,
d. Clinical review,
e. Social assessment form,
f. ART adherence counseling, and
g. A form on ART Assessment and plan.

EPI Card:

The EPI Card is used to record important health information for children from birth through 1 year. It includes like birth weight, immunizations, growth monitoring and development etc.

HIV-exposed infant card:

The HIV-exposed infant card is designed to be completed at RMNCAH clinic. If the pregnancy results in live birth(s), an HIV- exposed infant card is prepared for each live child and attached to the mother's card. The card needs to indicate the type of ARV prophylaxes the child received after delivery, when CPT was started and the child's HIV-exposure status.

HMIS registers:

There are three registers for all pregnant women irrespective of HIV status: any pregnant woman who come to RMNCAH is registered in the following registers;

- Antenatal Care register (for every pregnant woman)
- Labor and Delivery register (for every laboring mother)
- Postnatal Care register (for every client receiving postnatal care)

Integrated MNCH/PMTCT Register:

Available in all ART providing facilities and used to record the follow-up care provided to HIV positive mothers and their HIV-exposed infants including co-trimoxazole dosing and infant HIV test. All HIV positive pregnant and lactating women should be recorded in the PMTCT register.

Transfer- in and transfer-out Form:

The transfer-in and transfer-out forms will be used to facilitate health care delivery for clients transferred within the same facility as well as those transferred to another facility.

Reporting Forms:

Monthly reporting form: The PMTCT monthly reporting format is part of the routine medical service delivery report form (HMIS data collecting tool) and the report will be collected monthly with the service delivery report form. The PMTCT component of the service delivery reporting format addresses eight PMTCT indicators (see above). Important information/ data/ indicators that are not captured by the monthly PMTCT service delivery report (HMIS monitoring), can be collected and utilized by the facility or the Ministry as per the guiding principle indicated under continuous quality improvement (CQI) which includes using during periodic surveys or supportive supervision. (See Annex B: monthly PMTCT reporting format).

Mother and Baby Cohort analysis PMTCT report for the mother: The cohort analysis report contains information on the status of HIV positive mothers at 3, 6 and12 months after starting ART to enable the follow up of Mother-Baby Pairs (Annex C).

4.4. Data Abstraction for the monthly PMTCT service delivery report:

In order to collect the right data for the monthly report, health care providers need to know where and how to extract data. HMIS data abstraction and extraction principle will be utilized.

- For HIV testing abstract data from ANC, L&D & PNC registers.
- For ART uptake, abstract data from Mother-Baby-Cohort register including new and already on ART, and ANC, L&D & PNC registers.
- For HIV exposed infant related reports, extract data from Mother-Baby-Pair Cohort register, HIV Exposed infants follow up register.
- For PMTCT cohort report, extract data from Mother-Baby-Pair Cohort register.
- For modern FP utilization report, extract data from Mother-Baby-Cohort register.

4.5. Monitoring & Evaluation of the PMTCT service at each level of the healthcare system

Different responsibilities are performed at each level of program management to ensure the proper flow of PMTCT monitoring and evaluation information (data) from the health facility to the National level and feedback from respective levels.

At health facility level

Healthcare workers use the tools available at the health facility to record PMTCT service provisions. PMTCT health facilities trained health workers staff will be responsible for completing the following: integrated ANC, L&D & PNC (Maternal) card; ART Intake forms (A to G); HIV/Care follow up card ; HIV-exposed Infant card; Information about PMTCT on the Immunization card; HMIS register (ANC, Postnatal, Labor and Delivery, Comprehensive Abortion Care); Mother-Baby-Cohort register.

At the woreda level

To ensure that PMTCT information collected monthly from the PMTCT/ART health facilities flows smoothly, the HMIS coordinators must work in collaboration with ART data clerks and the health providers to ensure that PMTCT service and HMIS reports are accurate, compiled and submitted to regional health bureau HMIS coordinator.

On a quarterly basis, the woreda PMTCT focal person compile service utilization and coverage by comparing selected PMTCT indicators from different facilities in order to identify facilities with performance gaps, challenges and barriers. Performance monitoring mechanisms like dashboard shall be used at woreda and at different levels of the health structure to ensure transparency and accountability for actions.

At the zonal level

Regional states that have zonal departments, intermediary between woreda and the respective regional office, ensure direct and smooth flow of PMTCT information collected monthly from the woredas and PMTCT/ART health facilities. HMIS coordinators must work in collaboration with woreda focal persons and ART data clerks as well as health providers to ensure that PMTCT services and HMIS reports are accurately compiled and submitted to regional health bureau's HMIS coordinator. On a quarterly basis, the Zonal PMTCT focal person compiles service utilization and coverage by comparing select PMTCT indicators from different woredas and/or facilities in order to identify facilities with performance gaps, challenges and barriers.

At Regional level

The regional health bureau is responsible for compiling, analyzing, aggregating and sending all PMTCT reports to the FMOH Policy and Planning Directorate.

At National level

The FMOH/RMNCAH unit conducts coordination meetings at the end of each quarter in order to share reports, analyze data and provide feedback to regions on the national program, regional achievements and gaps of implementation. The analysis and coordination informs policy development, planning and decision-making. The FMOH PMTCT case team can access this data/report to provide constructive feedback on performance to the regions for the purpose of solving programmatic challenges, service quality improvement, better planning and decision making.

4.6. Data use at different levels

The effective use of data at different reporting levels ensures smooth running of the program. Data is used at different levels of programme management to inform planning, decision making, advocacy, resource allocation, and accountability.

At the national level

The national level has the overall responsibility for monitoring and evaluating the nation-wide PMTCT programme. The national office uses data to:

- Develop program plans and budgets
- Provide feedback to regions to help identify and address problems to improve PMTCT services
- Ensure adequate coverage of PMTCT services and assure quality of services

At Regional Health Bureau/Zone/Woreda level

Regional, zonal and woreda offices use data for a number of purposes:

- Provide feedback to Zones, woreda and healthcare facilities in an effort to help identify and address problems and improve implementation of PMTCT services
- Inform program planning and budgeting
- Ensure adequate coverage of PMTCT services within the area
- Report and exchange information with the national office

At Health facility level

Health care workers at PMTCT sites review the monthly reports to track program progress and gaps and improve implementation of PMTCT services. HMIS technicians conduct regular meetings with staff members to disseminate findings and review progress, problems, and challenges at health facility level. Data/information will be reviewed at Multi-disciplinary team (MDT) meetings if these are available and whenever possible.

4.7. Data collection and reporting procedure

Reporting: PMTCT data is reported on a monthly basis according to the HMIS procedures.

Feedback: Providing feedback is an essential aspect of programme monitoring. Feedback helps stakeholders identify successes, problems and activities that need to be completed to meet programme goals. Feedback is done at all levels and in both directions before the next reporting month.

Confidentiality: PMTCT monitoring data is collected daily and is recorded accurately and consistently in a way that protects client's confidentiality.

4.8. Data quality assurance procedures

Data quality assurance activities should be included in programme implementation plans in order to accurately measure achievements of a program such as conducting data quality audits or assessments, ensuring use of data collection tools and conducting site supervision visits for verification.

Supportive supervision should also be conducted (see checklist annex C).Findings from supportive supervision should be compiled and analyzed and feedback provided.

4.9. Record keeping procedures

All patient records, registers and necessary reporting formats and documents should be maintained in order to ensure they are accurately completed, stored securely to prevent damage, remain confidential and easily retrievable.

4.10. Evaluation of the PMTCT service at the facility and national level

Evaluation is the episodic assessment of results that can be attributed to program activities; it uses monitoring data and often indicators that are not collected through routine information systems. Evaluation allows exploration of the causes of failure to achieve expected results on schedule and the mid-course corrections that might be necessary. It assesses progress in program implementation and coverage and measure the effect of program activities on the target population.

The Ethiopian National Strategic Plan for Elimination of Mother to Child Transmission of HIV (eMTCT of HIV& syphilis) listed selected outcome and impact targets to be achieved by 2020.

The evaluation will therefore be used to understand if the interventions are working/ making a difference by measuring the degree to which the desired/ planned change has occurred. The following PMTCT service evaluation questions can be used to explain the level of achievement.

- What is the incidence of HIV in the reproductive age group?
- What is the HIV test rate including disclosure and partner testing?
- What is the rate of HIV related maternal deaths?
- What is the rate of MTCT of HIV?
- What are the ART coverage, adherence rate and retention rate for the PMTCT services?
- What is the infection rate among HIV exposed infants?
- What is the impact of the option B+ towards the elimination of HIV?

The evaluation of the PMTCT service shall be done periodically at all levels:

- At community level on awareness and service utilization,
- At health care delivery level on service quality, and performance,
- At Regional and -national level on outcome and impact of the PMTCT service.

Evaluation of the PMTCT service can be done using different mechanisms. Facilities can conduct self-assessments for selected indicators and analyze the findings/ performance for planned intervention. The FMOH at national level can perform an assessment or study (evaluation) of the service performance through supportive supervision and surveys

5 Continuous Quality Improvement of PMTCT Services

Assessing and addressing emerging issues is a key for improvement. Quality is a dynamic cyclic process that assesses; plans, implements/test and re-assesses work performance in a spiral cyclic growth for improvement.

Each health facility or health service entry points should use their own data for identifying areas of improvement in their work process. In order to implement and continually work through improvement, it is important to establish multidisciplinary team based on the health system building blocks (service delivery, human resource, finance, logistics and pharmaceutical supplies, health information system and governance). Assessing the consumers/clients' (end users of health services) views in the health service exit points is a critical input that helps identify how much the service impacted the quality life of our clients. Thus, the measure for quality of service is the satisfaction of service users echoed by the increased demand for the service. Therefore, quality is triangulated between the clients' satisfaction, the skilled and well-mannered service providers and the health governance reflected in the health system.

To maintain quality health service, the duty bearers (the health workforce) need to continuously reflect upon their work performance to capitalize on their strengths, and look for gaps, barriers or challenges and look into new remedial strategy to put into test and learn from it. Crafting an action plan, which will be set for periodic evaluation in an agreed time table, is part of the important process that designate accountability, indicate target, strategize test intervention and assist in the follow-up. Re- assessing the test intervention is part of the dynamic process of quality; hence, if the test intervention failed to work, envisaging for other remedial strategic interventions for action until clients are satisfied with the measure will be devised. It is through this continuous cyclic pedaling process, which helps move the quality of health service forward, that standard quality service could be met.

Different tools could possibly be applied to assess and analyze quality of PMTCT services. Some common tools are cited in the national quality guidance for PMTCT, FMOH 2012 on key PMTCT issues. For example, exit interview of clients, checklists consists of performance, standard indicators to be improved in the process of implementing the continuous quality improvement model. Fish bone analysis, the plan, do, study and act (PDSA), the five whys and key driver diagram are tools mentioned for use in the analysis process. The findings are thus put as source data to feed the next cycle of quality improvement and to set frame for newer plan of actions. Thus, this continuous process of PDSA (plan- do-study-act) cycle is translated to reality through team approach, which is one of the principles of continuous quality improvement.

Quality improvement process is also an instrument that motivates staff and creates a healthy competition of work. It contributes largely to making the working atmosphere more conducive through setting an understanding of situations and act with rational and evidence-based manner by putting equity at the center for decision.

After orienting all health workforce of a health facility on values of quality improvement, the prime step is to establish multi-disciplinary team that implement the task of continuous quality improvement.

For more details refer to National Continuous Quality Improvement Guideline, FMOH 2012

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Annexes

Annex A: Checklist for talking with parents about their child's positive HIV test results

- Prepare to talk with parent or guardian,
- Make sure you have the child 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 test
- Answer questions and let the client know that counseling will continue to be available to help with important decisions
- Inform the parent of the test result:
- Give the parent time. Ask, bout the test result:
- Now that counseling will continue to be available
- State, in a neutral tone, result: now that counseling will continue to be available to help with important decisions commendations for
- 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 would like to see proof of the result, Discuss and support the parents.
- Explain that the blood test found evidence of HIV, the virus that causes AIDS, in the baby's any emotions rtant decisions commendations for a public health approach, 2010 Office (HAPCO) 2003uality improvement. For more
- 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, and early initiation of treatment will benefit and protect the child from getting sick
- 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, including the important of continuing breastfeeding for as long as one year if the mother is still breastfeeding.
- Explain the importance of routinely monitoring the child, continuing breastfeeding for as long as one year if the mother is still breastfeeding.
- 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. Communicate with the parent that the co-trimoxazole is not to prevent HIV infection.
- 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 denasality is handled in the clinical settingme, if they
- Review and offer additional information as appropriate

Annex B: Monthly HMIS service delivery report– PMTCT Indicators

	PMTCT Indicators
1	Percentage of pregnant and lactating women who were tested for HIV and who know their result [Numerator: No of pregnant women tested for HIV at ANC , L&D, and PNC in the reporting month Denominator: No. of pregnant women eligible to attend ANC, L&D, PNC for the first time in the reporting month]
1.1	Number of pregnant women tested and know their result during pregnancy
1.2	Number of pregnant women tested and know their result during labor& delivery
1.3	Number of lactating women tested and know their result during the postpartum period
1.4	Number of women who knew their HIV status before the current pregnancy (on ART and pre ART)
2	Number of women tested positive for HIV (Newly identified and already known)
3	**Percentage of HIV Positive pregnant and lactating women who received ART at ANC+L&D+PNC for the first time based on option B+** [Numerator: No. of HIV positive pregnant women received ART in ANC + L&D + PNC in the Reporting period Denominator: No. of HIV positive pregnant women eligible for the month in ANC + L&D +PNC]
3.1	Number of HIV Positive pregnant who received ART at ANC for the first time based on option B+
3.2	Number of HIV positive Pregnant women who received ART to reduce the risk of mother to child transmission during L&D for the first time
3.3	Number of HIV positive lactating women who received ART to reduce the risk of mother to child transmission during PNC for the first time
4	**Percentage of HIV-positive women who get pregnant while on ART** [Numerator: No of HIV positive women on ART who become pregnant Denominator: No of HIV positive women on ART in the reporting period
	Number of HIV-positive women who get pregnant while on ART and linked to ANC
5	Percentage of women on ART for PMTCT Numerator: No. of HIV positive pregnant women received ART (option B+) in ANC + L&D + PNC plus Number of HIV-positive women who get pregnant while on ART and linked to ANC Denominator: All eligible pregnant women needing ART for PMTCT in the reporting period

6	**Number of HIV infected women aged 15-49 reported the use of any method of modern family planning Percentage of HIV infected women using a modern family planning method** [Numerator: No. of HIV infected women aged 15-49 years attending PNC + ART+ pre ART reported the use of any method of modern family planning Denominator: No. of HIV positive women aged 15-49 years attending PNC + ART+ pre ART during the reporting month]
7	Percentage of partners of pregnant, laboring and lactating women tested for HIV during the reporting month (Numerator: Number of partners of pregnant, laboring and lactating women tested for HIV Denominator: Total number of pregnant, laboring and lactating women tested for HIV
7.1	Number of partners of pregnant, laboring and lactating women tested for HIV whose test result is HIV negative
7.2	Number of partners of pregnant, laboring and lactating women tested for HIV whose test result is HIV positive
	HIV exposed infants
8	**Percentage of infants born to HIV infected women receiving a virological test for HIV within 12 months of birth** [Numerator: No. of HIV exposed infants who received an HIV DNA/PCR test within 12 months of birth, during the reporting month (8.1-8.6) Denominator: Number of eligible HEI or eligible HIV positive women during the reporting month
8.1	Number of HIV exposed infants who received an HIV DNA/PCR test within 2 months of birth, during the reporting period
8.2	Number of HIV exposed infants receiving HIV DNA/PCR test within 2 months of birth - whose test result is HIV negative
8.3	Number of HIV exposed infants receiving HIV DNA/PCR test within 2 months of birth - whose test result is HIV positive
8.4	Number of HIV exposed infants who received an HIV DNA/PCR test between 2 to 12 months, during the reporting period
8.5	Number of HIV exposed infants receiving HIV DNA/PCR test within 2 to 12 months of birth - whose test result is HIV Negative
8.6	Number of HIV exposed infants receiving HIV DNA/PCR test within 2 to 12 months of birth whose test result is HIV positive

9	**Percentage of Infants born to HIV-infected women started co-trimoxazole prophylaxis within two months of birth** Numerator: Number of infants born to HIV infected women started on co-trimoxazole prophylaxis within two months of birth during the reporting month Denominator: Number of eligible HEI or eligible HIV positive women during the reporting month
9.1	Number of infants born to HIV positive women started on co-trimoxazole prophylaxis within two months of birth
10	**Percentage of infants born to HIV-infected women receiving antiretroviral (ARV) prophylaxis for prevention of mother-to-child transmission (PMTCT)** [Numerator: Number of exposed infants received ARV prophylaxis at 6 weeks Denominator: Number of eligible HEI or eligible HIV positive women during the reporting month
10.1	Number of HIV exposed infants who received antiretroviral (ARV) prophylaxis at L&D and PNC registered in the MNCH/PMTCT or mother baby pair register
11	**Percentage of HIV exposed infants receiving HIV confirmatory (antibody test) test by 18 months** [Numerator: No of HIV exposed infants receiving HIV confirmatory (antibody test) by 18 months during the reporting month Denominator: Number of eligible HEI or eligible HIV positive women during the reporting month
11.1	Number of HIV exposed infants receiving HIV confirmatory (antibody test) by 18 months-whose test result is HIV Negative
11.2	Number of HIV exposed infants receiving HIV confirmatory (antibody test) by 18 months-whose test result is HIV Positive

Annex C: Maternal and HIV Exposed Infant (HEI)Cohort Report

FEDERAL MINISTRY OF HEALTH OF ETHIOPIA
MATERNAL PMTCT COHORT REPORT FORM FOR THE HEALTH FACILITY

Maternal Enrollment Cohort Month : _____ Year: _____
Health Facility Name : _____

Region : _____ Woreda: _____

Facility type: ☐ Health Center ☐ Hospital ☐ Other: _____

Facility ownership : ☐ Public ☐ Private not for profit ☐ Private for profit ☐ Uniformed

For this maternal cohort, record the number of women enrolled in PMTCT (Month 0). Assess the following at 3, 6, and 12 months since the mothers' enrollment into PMTCT.

	Fill in the exact Month/Year of the month of mother's PMTCT enrollment (COHORT MONTH & YEAR = Month 0), and Month 3, 6, and 12 months since PMTCT enrollment	Maternal Cohort Month 0 [mm/yy]	Maternal Cohort Month 3 [mm/yy]	Maternal Cohort Month 6 [mm/yy]	Maternal Cohort Month 12 [mm/yy]	Maternal Cohort Month 24 [mm/yy]
A	Number of HIV-infected women enrolled in PMTCT in this facility during this month and year (Month 0)					
	UPDATE THE COHORT SIZE					
B	Total number of Transfer in (TI) since Month 0					
C	Total number of Transfer out (TO) since Month 0					
D	Number of mothers in the current cohort = Net current cohort (A+B-C)					
	RECORD MATERNAL OUTCOME					
E	Mothers Alive and on ART					
F	Lost to F/U (not seen >1 month after scheduled appointment)					
G	Known dead					
	CALCULATE MATERNAL RETENTION AND LTF (%)					
H	% of mothers in net current cohort Alive and on ART [(E/D) x 100% at 3, 6, and 12 months since PMTCT enrollment]					
I	% of mothers in net current cohort Lost to F/U [(F/D) x 100% at 3, 6, and 12 months since PMTCT enrollment]					

FEDERAL MINISTRY OF HEALTH OF ETHIOPIA

Annex D: HIV-EXPOSED INFANT (HEI) PMTCT COHORT REPORT FORM FOR THE HEALTH FACILITY

Maternal Enrollment Cohort Month : _____ Year: _____
Health Facility Name : _____

Region : _____ Woreda: _____

Facility type: ☐ Health Center ☐ Hospital ☐ Other: _____

Facility ownership : ☐ Public ☐ Private not for profit ☐ Private for profit ☐ Uniformed

For this HIV-exposed Infant (HEI) cohort, report the number of infants born to mothers who enrolled in PMTCT (shared event = maternal enrollment Month 0). Assess the following at 12, 18, 24 and 30 months since the mothers' enrollment into PMTCT.

	Fill in the exact Month/Year of 12, 18, 24 and 30 months from the month of maternal PMTCT enrollment (MATERNAL COHORT MONTH & YEAR).	Maternal Cohort Month 12 [mm/yy]	Maternal Cohort Month 18 [mm/yy]		Maternal Cohort Month 24 [mm/yy]		Maternal Cohort Month 30 [mm/yy]	
A	Number of HIV-infected women enrolled in PMTCT in this facility during this month and year (Month 0)							
B	Total number of HEI Transfer In (TI) since Month 0							
C	Number of HEI in the current cohort (A+B)							
	LOST TO FOLLOW UP – (report at MATERNAL COHORT MONTH 12, 18, 24)							
D	Total number of Transfer in (TI) since Month 0							
	HEI WITH DNA PCR COLLECTION – (report at MATERNAL COHORT MONTH 12, 18)		**#**	**%***	**#**	**%***		
E	HEI with DNA PCR test collected by 2 months of age							
F	HEI with DNA PCR test collected between 2 and 12 months of age							
	HEI FINAL OUTCOME – (report at MATERNAL COHORT MONTH 30)						**#**	**%***
G	HEI discharged negative (DN)							
H	HEI diagnosed positive (P)							
I	Final HEI Lost to F/U							
J	HEI still exposed/breastfeeding (CPT)							
K	HEI known dead (D)							
L	HEI transferred out (TO to another facility--NOT to ART clinic)							

*Calculate percentages for HEI DNA PCR and Final Outcome as Number of infants with given outcome divided by the number of HEI in the current cohort. Cohort size is found in Row A for Maternal Cohort Month 12, and Row C for Maternal Cohort Months 18, 24, 30.
For Month 12, use formula: #/Row A *100%
For Months 18 and 30, use formula: #/Row C *100%
Revised April 13, 2017

Annex E: HIV Exposed Infant (HEI) PMTCT Cohort wall chart

FACILITY NAME: _____

HIV-exposed infant cohorts are defined by Month / Year of mother's PMTCT Enrollment (Maternal Cohort Month 0)

		MATERNAL COHORT MONTH:				MATERNAL COHORT MONTH:				MATERNAL COHORT MONTH:				MATERNAL COHORT MONTH:				MATERNAL COHORT MONTH:			
		Month 12	Month 18	Month 24	Month 30	Month 12	Month 18	Month 24	Month 30	Month 12	Month 18	Month 24	Month 30	Month 12	Month 18	Month 24	Month 30	Month 12	Month 18	Month 24	Month 30
	Month																				
	Year																				
A	Number of HEI born to HIV+ mothers who enrolled in PMTCT during Maternal Cohort Month 0																				
B	Total number of HEI Transfer in (TI) since Maternal Cohort Month 12																				
C	Number of HEI in the present cohort (A+B)																				
D	HEI Lost to F/U																				
	CALCULATIONS: HEI DNA PCR COVERAGE and FINAL OUTCOMES																				
	HEI WITH DNA PCR COLLECTED (%) *– at MATERNAL COHORT MONTH 18*	Month 12	Month 18	Month 24	Month 30	Month 12	Month 18	Month 24	Month 30	Month 12	Month 18	Month 24	Month 30	Month 12	Month 18	Month 24	Month 30	Month 12	Month 18	Month 24	Month 30
E	% of HEI in present cohort with DNA PCR by 2 months of age *[E/C x 100%]*																				
F	% of HEI in present cohort with DNA PCR between 2–12 months of age *[F/C x 100%]*																				
	HEI OUTCOME (%) *– at MATERNAL COHORT MONTH 30*	Month 12	Month 18	Month 24	Month 30	Month 12	Month 18	Month 24	Month 30	Month 12	Month 18	Month 24	Month 30	Month 12	Month 18	Month 24	Month 30	Month 12	Month 18	Month 24	Month 30
G	% of HEI in present cohort discharged **HIV negative** *[G/C x 100%]*																				
H	% of HEI in present cohort diagnosed **HIV positive** *[H/C x 100%]*																				
I	% of HEI in present cohort Lost to F/U *[I/C x 100%]*																				

Annex F: Maternal PMTCT Cohort Wall Chart

MATERNAL PMTCT COHORT WALL CHART

FACILITY NAME: _____

Maternal cohorts are defined by Month / Year of mother's PMTCT Enrollment (Month 0)

		MATERNAL COHORT MONTH:					MATERNAL COHORT MONTH:					MATERNAL COHORT MONTH:					MATERNAL COHORT MONTH:				
		Month 0	Month 3	Month 6	Month 12	Month 24	Month 0	Month 3	Month 6	Month 12	Month 24	Month 0	Month 3	Month 6	Month 12	Month 24	Month 0	Month 3	Month 6	Month 12	Month 24
	Month																				
	Year																				
A	Number of HIV-infected women enrolled in PMTCT during this month and year																				
B	Total number of Transfer in (TI) since Month 0																				
C	Total number of Transfer out (TO) since Month 0																				
D	Number of mothers in the current cohort = net current cohort (A+B-C)																				
E	Mothers Alive and on ART																				
F	Lost to F/U (>1 month)																				
G	Known dead																				
	MATERNAL OUTCOMES (%) *-- at MATERNAL COHORT MONTH 3, 6,&12*	Month 0	Month 3	Month 6	Month 12	Month 24	Month 0	Month 3	Month 6	Month 12	Month 24	Month 0	Month 3	Month 6	Month 12	Month 24	Month 0	Month 3	Month 6	Month 12	Month 24
H	% of mothers in net current cohort retained in PMTCT (Alive and on ART) *[E/D x 100%]*																				
I	% of mothers in net current cohort Lost to F/U (LTF) *[F/D x 100%]*																				

Annex G: Dashboard for monthly MNCH/PMTCT Performance Monitoring

DASHBOARD SCORING		
	Percentage	**Scoring Definitions**
	Green: 80%-100%	Target has been met
	Yellow:60%-79%	Good progress has been made
	Red:<60%	No progress/ remain stagnant for the indicator, Needs Attention!

Note that Dash board is useful at facility, Woreda/ sub city / zone / Region and National level. Dashboard Scoring is done by color and this helps to monitor PMTCT performances at each level Monthly/quarterly. You may need to add the backlogs to the next month &look for strategies to progress to achieve 100 % of each indicator every month

Region _____ Zone _____ Woreda/Sub city _____
No. of Health Facility _____

Total population _____ Total Estimated pregnant women/Annum _____Total Estimated HIV positive Mothers needing PMTCT _____

SN.	Indicators	Monthly plan from Eligible in #	J	A	S	O	N	D	J	F	M	A	M	J	Coverage (eligible)	Score in color	Annual Plan (eligible)
1	# of ANC first visit																
2	# of ANC first visit tested for syphilis																
3	# of ANC, L&D & PNC accessed to HTC																
4	#of HIV+ women identified at ANC, L&D & PNC and on ART & Pre ART and linked with ANC																
5	# HIV+ ANC +Laboring + Lactating women Initiated on ART (Option B+ regimen) for the 1st time																
6	# of HIV positive mothers pregnant while on ART and linked with ANC																
7	Total on ART /(#4+#5)																
8	# of HEI started with cotrimox-azole at 6 wks of age																
9	% Eligible Infants getting DNA/ PCR around 2 months of age and 2-12 months of age																
10	% of HEI, Confirmatory Anti body test done at 18 months of age																
11	% of partners of ANCs tested for HIV																
12	% of HIV positive mothers using modern FP services																

Name and responsibility of the reporter _____ Month _____ Year _____

Annex H: Checklist for PMTCT Monthly Site Supervision

Continuous and regular supportive supervision is the key to sustainable improvement of the PMTCT service delivery and for the improvement of RMNCAH/SRH 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: _____ Zone: _____ Woreda: _____
Telephone: _____ e-mail of supervisor/team leader: _____

2. Leadership (program management)	**Yes**	**No**	**If no write the reason why**	**Comments**
Is focal person assigned for PMTCT				
Functioning TWG for E-MTCT				
3. Human Resource				
Enough trained staff deployed per facility (4 of supervisor/team				
Does the training of PMTCT includes EPI program staff				
4. Finance management				
Is enough budgets allocated for PMTCT? (comment on source of budget)				
If source of fund is of partners, is there an outstanding fund? (fund that was not liquidated timely)			**If yes, why?**	
5. Integrated Service Delivery			**If yes, write number of mothers referred**	
Is PMTCT integrated in ANC				
Labor and Delivery			_____From _____ to_____	
PNC follow-up			_____From _____ to_____	
IMCI/EPI			_____From _____ to_____	
FP			_____From _____ to_____	
OPD			_____From _____ to_____	
IPD			_____From _____ to_____	

VCT			_____From _____ to_____	
ART			_____From _____ to_____	
Proportion of Pregnant women tested				
Proportion of HIV positive women initiated with ART				
5.1 Any service interruption?			**If yes, why?**	
5.2. Community referral				
5.2.1 Is there any community referral card in the facility?				
5.2.2 Is the community team actively functioning?				
5.2.3 Regular meeting, community conversation, house visit etc.				
5.2.4 Any other?				
6. Sustainable Supply mgmt. system: Essential equipment and supplies			**If no, why?**	
6.1 Antiretroviral drugs				Expiry date
Nevirapine Syrup in labor ward				
TDF+3TC+EFV (combined) at ANC/Labor ward and pharmacy				
ARV drug stock balance update				
6.2 Laboratory Supplies				
HIV Screening Test Kit				
HIV Confirmatory Test Kit				
HIV Tie Breaker Test Kit				
DBS testing kits				
DNA-PCR reagents				
6.3 IP Supplies				
Gloves				
Aprons				
Goggles				
Autoclaves				
Sharp containers				

6.4 Basic Obstetric Care Supplies/equip				
Delivery couches				
Delivery sets				
Oxytocine				

How are the kits and supplies stored?

_____

_____

_____

Please comment on the supply chain management:

_____

_____

_____

PMTCT Dashboard

7. Job Aids and IEC Materials	**Yes**	**No**	**If no, why?**	**Comments**
PMTCT updated guideline available				
PMTCT brochures/leaflets				
EID job aids available				
Birth preparedness checklist			If yes, frequency per week	
Health education sessions on PMTCT conducted				
Presence of monthly group education schedule				
8. Available PMTCT Related Formats and register			**If no, why?**	
Integrated/PMTCT/RMNCAH register				
ANC/L&D/PNC register				
Lab log book (EID)				
Lab referral slips				
Referral linkage slips				
ANC-PMTCT appointment book				
Monthly summary reporting format (HMIS)				
PMTCT cohort report format				

9. Management support			**If no, why?**	
Is there a functional management team?				
Is there a counselor support group?				
Is there CQI team (multidisciplinary team)?				
How regular is the MDT conduct their function?				
Is there clinical and systemic mentoring conducted?				
10. HMIS/Health management information system- M&E			**If no, why?**	
Completeness of the report and registration				
Is cohort follow-up report done quarterly?				
Analysis and use of data at facility level				
Other				
Best Practice/initiative			**If no, why?**	
Any innovative experience/initiative practiced or documented?				
Service uptake in the last quarter # of ANC: _____ # of ANC/HTC: _____ # of ANC/VDRL: _____ # of ANC /VDRL reactive: _____ # treated: _____ # of male partner tested and know their status: /VDRL # of HIV Pos. ANC + Labouring + Lactating mothers:_____ # of HIV pos. mothers on FDC: _____ # of HEI s DBS done: _____ # Infants HIV positive: _____ .....ing mothers: _____ # HIV Pos. Women (on ART/ on pre ART/ room under follow up in RMNCAH) and are on Family planning: _____				

Priority challenges identified:

_____

_____

_____

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 I: Mother Baby Pair Cohort Register

Annex J. Definitions of Data Elements

Federal Republic of Ethiopia

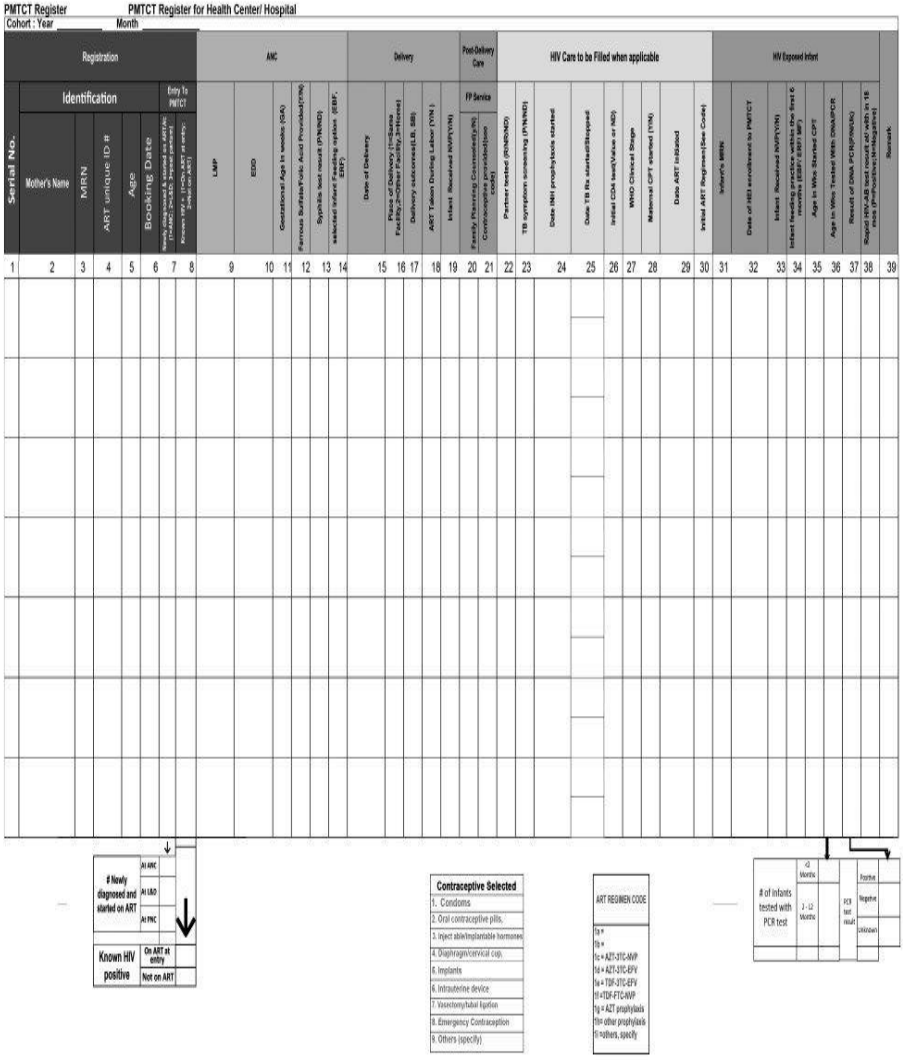
Health Center / Clinic/ Hospital

Integrated MNCH / PMTCT Register

Region	Sub city/Woreda	Health Facility	Begin Date	End Date

Col. No.	Data Element	Description
1	Serial No.	Sequential serial number in registration book, beginning with 1 for the first client in this page (the first line of each page of the register)
2	mothers name	write name of the index mother
3	MRN	Record the Medical Record Number (MRN)
4	ART unique ID #	Record the existing Unique ART number or assign one during initiation. Patients should be assigned a unique ART number if initiated on ART at MNCH clinic. This will be: region number / facility type code / specific facility code / patient assigned number. Region number: the following code numbers are used: 1. Tigray 7. SNNPR (SN) 2. Afar 12. Gambella (GA) 4. Oromia 13. Harar (HA) 3. Amhara 14. Addis Ababa (AA) 5. Somali 15. Dire Dawa (DD) 6. Benishangul Gumruz (BG) Facility type code: 08 = Hospital 09 = Health Center Specific facility code: Each HC / hospital in each region is coded with three digits starting from 001. These specific facility codes are assumed to be given by regions together with federal, which means it is pre coded and given to each facility centrally. Patient assigned number: A 5 digit number unique within the facility; the first pregnant woman to start ART in the facility will be given 00001. Would be the same as Unique ART . NB. Facilities with ART clinic will give unique ART # to MNCH clinics in their sequence ,but PMTCT only sites will give unique ART # by themselves.
5	Age	Age of the woman in years
6	Booking Date	date of initial visit to MNCH site
7	Entry To PMTCT : Newly diagnosed & started on ART At: (1=ANC; 2=L&D; 3=post partum)	previously with unknown HIV status being positive, but diagnosed & confirmed HIV positive for the first time and started on ART during ANC(1),L & D(2),and PNC(3).
8	Entry To PMTCT : Known HIV + (1=On ART at entry; 2=Not on ART)	Women who were tested and confirmed HIV-positive at any point prior to the current pregnancy, who are attending MNCH for the current pregnancy.
9	LMP	first date of the last menstrual period (first date of the last mensus)
10	EDD	Expected date of delivery as calculated by adding 40 completed weeks (280days) of pregnancy to the first date of the last mensus
11	GA in weeks	Put the gestational age of pregnancy at time of visit based on LMP or fundal height.
12	Ferrous Sulfate/Folic Acid Provided (Y/N)	Write Y if ferrous sulphate / folic acid provided and N if ferrous sulphate / folic acid not given
13	Syphilis test result (P/N/ND)	Enter P if the test is positive, N if negative and ND if syphilis test is not done.
14	selected Infant Feeding option (EBF, ERF)	After counseling on the infant feeding options and based on the decision of women on the selected infant feeding option put EBF for exclusive breast feeding,and ERF for exclusive replacement feeding as selected
15	Date of delivery	write the date of child birth in Ethiopian calendar
16	Place of Delivery (see code)	Place of Delivery could be 1 if the Mother has delivered at the same facility or 2 mother has delivered at another health facility and came to this facility after delivery for HIV and other care or 3 if it is home delivery. See code at the bottom.
17	Delivery Outcome (LB,SB)	Put delivery outcome as LB for Live Birth or SB for Still birth .
18	ART Taken During Labor (Y/N)	write Y if she took ART in labor or N if she did not take ART in labor
19	Infant Received NVP (Y/N)	Check Y if received, N if none.
20	Family Planning Counseled (Y/N)	Write Y if mother counseled on family planning and N if not counseled for family planning.
21	Contraceptive provided (see code)	Contraceptive method a client chooses. See code at the bottom. Code number 9 (others include those women not received contraceptive)
22	Partner tested (R/NR/ND)	Enter R in red pen if test is reactive; NR in normal color of pen if test is not reactive; or ND if partner test is not done.
23	TB symptom screening (P/N/ND)	Write the result of TB symptom screening P for Positive, N for Negative and ND for not done
24	Date INH prophylaxis started	Record the date, written as Ethiopia (dd/mm/yy) INH prophylaxis is initiated.
25	Date TB Rx started/Stopped	Record the date, written as Ethiopia (dd/mm/yy) TB Rx is initiated and stopped
26	initial CD4 count (Value/ND)	Enter initial patient's CD4 count, corresponding to the Visit date on which sample is taken.
27	WHO Clinical Stage	Enter client's WHO clinical stage when ever she comes as per schedule
28	Maternal CPT started (Y/N)	CPT prophylaxis – if started Y or if no put N.
29	Date ART initiated	ART start date in Ethiopian calendar (dd/mm/yy)
30	Initial ART Regimen (See Code)	Record the ARV regimen dispensed, use the code at the bottom of the page on the specific ART regimen. See code at the bottom.
31	Infant's MRN	Write the medical record number of the HIV exposed infant from the HEI follow up card
32	Date of HEI enrollment to PMTCT	Write date of the HEI enrolled to care/PMTCT
33	Infant Received NVP (Y/N)	Check Y if received, N if not.
34	Infant feeding practice within the first 6 months (EBF/ ERF/ MF)	Write in: EBF if exclusive breastfeeding, ERF if replacement feeding, MF if mixed feeding. Provider should refer the patient follow up card "what/how did you feed your baby in the last 24 hours?". (Complete this at 6th month of infant age)
35	Age in Wks Started CPT	Write age in weeks when cotrimoxazole prophylaxis initiated,
36	Age in Wks Tested With DNA/PCR	Write age in weeks when DNA/PCR done,
37	Result of DNA PCR (P/N/UK)	Write P if positive; N if negative result are received for DNA/PCR test and UK if result is unkown on the expected date by facility.
38	Rapid HIV-AB test result (P=Positive; N=Negative)	Write P if positive; N if negative result are received for rapid HIV-antibody test
39	Remarks	Write important patient related issues not incorporated in the list of data
40-81	cohort follow up (Right page)	Fill the status of mother and infant pairs in each visit using the codes mentioned at the bottom; and write their sums every six months in the direction of the arrows at the bottom. For viral load at 12 months, tick on the upper row if viral load is performed at 12 months; on the lower row, write undetectable level if the viral load is <1,000 copies per ml, otherwise, write detectable level.
Arrows	↓	For data elements related with "Maternal Status", write the regimen code if alive & on ART; Write "TO" if the mother is Transferred Out to other facility; Write LTF if the mother is lost to follow up; write D for Known Dead. For data elements related with "Infant status", Write NVP for 1st month of life and CPT after 1st month of life; Write "TO" if the infant is Transferred Out to other facility; Write LTF if the infant is lost to follow up; write D for Known Dead. Write DN for Discharged negative infants.

Annex K.1 Left Side



Annex K.2.Right Side

Cohort register **Month**

	Months 0-6									Months 7- 12									Months 13 - 24																Months 24-30							
							6 months								12 months									18 months								24 months								30 months		
	Month 0	Month 1	2	3	4	5	Regimen	MUAC	CD 4	7	8	9	10	11	Regimen	MUAC	CD 4	Viral load performed (√) (detectable/undetectable)	13	14	15	16	17	Regimen	MUAC	CD 4	19	20	21	22	23	Regimen	MUAC	CD 4	25	26	27	28	29	Regimen	MUAC	CD 4
	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81
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Maternal Status	↓	↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓				↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓		
Indicate regimen code if alive & on ART;																																										
TO for Transferred Out;																																										
LTF for Lost to F/U;																																										
D for Known Dead																																										
Infant Status	↓	↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓				↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓		
Indicate NVP for 1st month of life and CPT after 1st month of life.																																										
TO for Transferred Out;																																										
LTF for Lost to F/U;																																										
D for Known Dead																																										
DN for Discharged negative infants																																										

Updates on DTG and EFV 400 mg for Pregnant and Lactating women and Women of Child bearing age

Dolutegravir (DTG) is an antiretroviral (ARV) drug that belongs to the class of Integrase Inhibitors. DTG acts by impairing the function of HIV integrase and preventing integration (insertion) of HIV DNA into the host cell DNA. DTG is included in the 2018 edition of the comprehensive HIV prevention, care and treatment guidelines of Ethiopia as a preferred first line ARV.

Advantages of using DTG as preferred first line ARV:

As stated in the World Health Organization (WHO) 2018 interim guideline, using DTG as preferred first line ARV has the following benefits.

- More rapid and higher viral suppression
- Higher CD4 cell count recovery rates
- Higher genetic barrier against ARV drug resistance.
- Lower risk of treatment discontinuation and
- Lower potential for drug–drug interactions

DTG is currently available in the market as a generic FDC combined with TDF and 3TC (TDF300mg+3TC300mg+DTG50mg) as a once daily dose. It is also available as a single 50mg tablet for convenience of users who need to take a separate DTG tablet. Its availability as a generic formulation at a price cheaper or comparable to other currently existing ARVs in most low- and middle-income countries also supports the use of DTG as a better option.

The 2019 updated guidelines provide the latest recommendations based on rapidly evolving evidence of safety and efficacy and programmatic experience using DTG and EFV 400 mg in pregnant women and people coinfected with TB. These guidelines provide further reassurance of DTG as the preferred antiretroviral (ARV) drug in first and second-line regimens due to the declining estimate of neural tube defect risk and observed efficacy. This reassurance comes at a time when pretreatment resistance to non-nucleoside reverse-transcriptase inhibitors (NNRTI) is increasing in low- and middle-income countries, creating demand for access to alternative non-NNRTI ARV drugs.

These guidelines reconfirm the recommendation to use DTG-containing regimens as the preferred option for first-line and second-line antiretroviral treatment (ART) across all populations.

The guidelines development group also emphasized the need for ongoing monitoring of the risk of NTDs and the importance of supporting women's autonomy in decision making and informed choice.

The guideline has underwent through numerous review meetings and consultative workshops. The Maternal and Child Health and Nutrition Directorate appreciate the contribution of the following Contributors, Reviewers and Editors:

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NATIONAL COMPREHENSIVE AND INTEGRATED PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV GUIDELINE

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Ministry of Health