National Strategic Plan for Triple Elimination of Mother-to-Child **Transmission of HIV, Syphilis, and Hepatitis B Virus 2021-2025**

FEDERAL DEMOCRATIC
REPUBLIC OF ETHIOPIA MINISTRY
OF HEALTH

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MINISTRY OF HEALTH-ETHIOPIA
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Foreword

The previous strategic plan on dual elimination of mother- to-child transmission (MTCT) of HIV syphilis was concluded with encouraging process and impact indicators at the national level, Taking the experience and success stories of the dual elimination strategic plan and the global efforts as a motivating move, the Ministry of health (MoH) is encouraged to launch the triple elimination of MTCT of HIV, syphilis, and hepatitis B virus (HBV).

As the elimination of MTCT of HBV is a new initiative, the Ministry is cognizant that there may be challenges in establishing a system a system at the health facility level, in terms of capacitating for universal testing and treating in the continuum of care, Nevertheless, the Ministry is committed to materialize the current strategic plan by being encouraged by the emerging low-cost and use friendly diagnostic and monitoring technologies for both HIV and HBV. This strategic plan is aligned with health sector transformation plan II (HSTP II), the new national antenatal care guideline and obstetric management protocol.

It has given due emphasis to innovative approaches to improve the process indicators as a basic requirement for the impact indicators, with progressively increasing pregnant women's access to the antenatal care, delivery service, and postnatal care, a significant in test and treatment uptake is highly anticipated. The cumulative effect is expected to enable us in achieving the elimination of MTCT of HBV and syphilis by 2025 and making a good progress in eliminating of MTCT of HBV before 2030. This strategic plan will be effective with the collective efforts of Ministry of Health, Reginal Health Bureaus and development partners.

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State Minister, Ministry of Health

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Table of content

Figures list

Tables

Acronyms

ARV	Antiretroviral drugs
ART	Antiretroviral treatment
CS	Caesarean section
EID	Early infant diagnosis
EDHS	Ethiopian demographic & health survey
EHSP	Essential health service package
EMTCT	Elimination of mother-to-child transmission
EPHI	Ethiopian public health institute
GNI	Gross National Income
HEI	HIV exposed infant
HEP	Health extension program
HEW	Health extension worker
HSDP	Health sector development plan
HSTP	Health sector transformation plan
HBeAg	Hepatitis B e antigen
HBIg	Hepatitis B immunoglobulin
HBsAg	Hepatitis B surface antigen
IEC	Information, education and communication
HBV	Hepatitis B virus
MCH	Maternal and child health
MMR	Maternal mortality ratio
MDG	Millennium development goals
MOH	Ministry of Health
MTCT	Mother-to-child transmission
PLHIV	People living with HIV
PMTCT	Prevention of mother-to-child transmission
PHCU	Primary health care unit.
RHB	Regional health bureau
RTI	Reproductive tract infection
RH	Reproductive health
SBCC	Social behavioral change communication
STI	Sexually transmitted infections
SDG	Sustainable development goals
UN	United Nations
UHC	Universal Health Coverage
UNAIDS	Joint United Nations Program on HIV/ AIDS
WHDT	Women health development team
WorHO	Woreda Health Office
WHO	World Health Organization

Executive summary

The triple elimination of mother to child transmission (EMTCT) of HIV, syphilis, and HBV is a current global priority, taking into account several low and middle income countries making significant strides in reducing the MTCT of HIV and syphilis risk to targets set by the WHO for achieving elimination. Considering the observed decline in reducing MTCT of HIV, yet inadequate progress, and the significant improvement in the obstetric services utilization over the last decade, Ethiopia too is motivated to launch the triple elimination framework in the period of 2021-2025 by instituting universal HIV, syphilis, and HBV testing at all reproductive health service (RH) portals.

The integration of the triple elimination initiative in the RH service portals is a synergistic approach to improve a broad range of maternal and child health services and outcomes. The successful implementation of this strategic plan and achievement of the elimination targets is possible with efficient, equitable, and quality maternal and child health services, which is in line with the guiding principles of universal health coverage.

It is noted that the bottlenecks for the realization of EMTCT of HIV, syphilis, and HBV are more programmatic than technical. In other words, it is a well-established fact that EMTCT of HIV, syphilis, and HBV is possible provided that interventions are implemented across the continuum of obstetric and neonatal care for all pregnant and breastfeeding women.

This strategic plan aims to prevent MTCT of HIV, syphilis, and HBV by applying the protective measures starting from primary prevention of acquiring these infections, preventing unintended pregnancies, and continuing with preventing the vertical transmission by practicing safe pregnancy and delivery interventions, and administering prophylactic and/or therapeutic medications. Care and support after birth to the HIV positive women and their family members is given equal due consideration. For the full implementation of this strategic plan and achievement of targets for EMTCT of HIV, syphilis, and HBV, creating ownership among stakeholders, making the triple EMTCT framework a political agenda, motivating the health staff, and mobilizing adequate resources are recognized as critical undertakings.

01 Introduction

1.1. Overview of the triple EMTCT of HIV, syphilis, and HBV initiative

A number of years have been counted after the world has embarked on elimination of mother-to-child transmission (EMTCT) of certain diseases at various points in history based on available evidence on potential eliminability, safety of medical interventions, and capacity of health systems to do so.

EMTCT of HIV, Syphilis, and Hepatitis B virus (HBV) infections has become the current global priority after validating the success story of many countries, including low-income countries. Specifically, the global strategy for elimination of syphilis was initiated in 2007;[1] and in 2011, UNAIDS targeted elimination of new HIV infections among children by 2015 globally.[2] In 2014, the World Health Organization (WHO) established the global criteria for dual EMTCT of HIV and syphilis, which was reaffirmed in 2017.[3,4]

The global success story of the prevention of mother-to-child transmission (PMTCT) of HIV programs has become a motive for the amicable integration of syphilis and HBV as triple framework initiative. Additionally, as supported by research reports, the similarity in types of interventions makes the integration of vertical transmissions of HIV, syphilis, and HBV makes the EMTCT highly feasible, and clinically as well cost-effective.[5,6] In particular, the momentum created by the achievement of 11 countries for WHO validation for EMTCT of HIV and/or syphilis in 2017 has galvanized a large number of countries to launch the current triple elimination initiative.[7-9]

Ethiopia, as one of the 23 countries where 87% of the world's pregnant women with HIV reside,[2] had implemented the first and second strategic plans on EMTCT of HIV, and EMTCT of HIV and syphilis between 2013 to 2015 and 2017 to 2020, respectively.[10] So far, some encouraging progresses has been made over the last decade, but they do not signify that Ethiopia is on the path to the EMTCT of HIV.

Based on the experience of the earlier years, available documented scientific evidence, and the current global efforts, the Government of Ethiopia has endorsed and is committed to achieving the triple elimination of MTCT of HIV, HBV, and syphilis by 2025 to ensure they no longer need to be a major public health priority. The strategic plan is, therefore, purposed to service as a guide for the implementation of the triple elimination framework across the nation through a harmonized approach. The triple elimination strategy is also a synergy that will improve a broad range of maternal and child health services and outcomes.[3]

While the country progresses towards achieving the ultimate goal of the triple elimination, efforts to recognize/validate its successful elimination or path-to-elimination should be guided by a separate document which takes the WHO indicators into account (Table 1).

Table 1. WHO criteria for certifying countries as "on the path to elimination" or "validated" for elimination of MTCT of HIV, syphilis, and HBV as successful, and the set process and impact indicators targets for prevention of MTCT of HBV by 2030.

Indicators	Path to Elimination			Validated as elimination successful
	Bronze tier	Silver tier	Gold tier	
At least one antenatal care visit (shared indicator)	≥90%	≥90%	≥95%	≥95%
HIV indicators				
Pregnant women who know their HIV status	≥90%	≥90%	≥95%	≥95%
ARV uptake by HIV positive pregnant women	≥90%	≥90%	≥95%	≥95%
Women with suppressed viral load at delivery‡				≥95%
Case rate of pediatric HIV infection due to MTCT	≤750	≤500	≤250	≤50
MTCT rate of HIV among breast feed‡	< 5%	< 5%	< 5%	< 5%
MTCT rate of HIV among non-breast feed‡	< 2%	< 2%	< 2%	< 2%
Syphilis indicators				
Syphilis test uptake by pregnant women	≥95%		≥95%	≥95%
Treatment given to syphilis-seropositive pregnant women	≥95%		≥95%	≥95%
Case rate of congenital syphilis†‡	≤750	≤500	≤250	≤50
Hepatitis B virus indicators*				
Birth-dose vaccination for HBV§				≥90%
HBsAg prevalence among childrenĄ‡				≤ 0.1%
MTCT rate of HBV				≤2%

**WHO target for 2030; †cases per 100,000 live births; ‡maintained for 1yr; process indicators; ‡impact indicators; §or HBIg administration; Ą HBsAg prevalence in children is considered as a surrogate marker for the definition of HBV elimination (defined as a 90% reduction in incidence and a 65% reduction in mortality, compared with the 2015 baseline).*[13]

1.2. Background

Ethiopia is the second most populous country in Africa with an estimated population of 101 million[11] and geographic area of 1.127 million sq.km. About 79% of the population reside in rural areas. Approximately 65% of the population is under 25 years of age; and 47% is under 15 years of age. The World Bank Poverty and Equity data indicate that 27% of the population remains below the poverty line (<$1.90/ day),[12] and the country ranked 173rd out of 189 countries in the 2019 Human Development Report. Between 1990 and 2020, Ethiopia's life expectancy at birth has increased by 19.8 years (from 46.9 to 66.7 years); mean and expected years of schooling have increased by 1.3 and 5.6 years, respectively. Ethiopia's Gross National Income (GNI) per capita has increased by about 604 USD between 1990 and 2019 (from 254 to 858 USD).[13]

Ethiopia is among the countries with a high burden of HIV/AIDS, HBV, and syphilis, consequently with high rate of MTCT of these infections. This strategy, therefore, intends to aid the country ensure elimination of mother to child transmission (MTCT) of these infections through comprehensive interventions. These include primary prevention, prevention of unplanned pregnancy, providing care and treatment for pregnant women and their infants, and care and support to the women living with HIV, syphilis, and HBV, and exposed infants and the family at large to these infections.

1.3. The health care delivery system

The health care delivery system of Ethiopia is a three-tiered health system. The primary level care is provided at primary hospitals, health centers and health posts, while the secondary and the tertiary level care are provided in general hospitals and specialized hospitals, respectively. In order to ensure the elimination of MTCT of HIV, syphilis and HBV infection, the optimal functionality of the health facilities is the minimum requirement. The HIV, syphilis, and HBV infection prevention and diagnosis are expected at all levels, including health posts where their human and facility capacity is soon to be upgraded, while the treatment and follow up is provided to the minimum at the health center level.

1.4. Health service expansion interventions and initiatives

Over the past two decades, Ethiopia has achieved tremendous results in health services expansion, which has been made possible through joint efforts of government, donors, and the community at large. It has also created favorable grounds for accelerated expansion of HIV prevention, care and treatment services in the country. It has as well created favorable ground for accelerated expansion of HIV prevention, care and treatment services in the country.

Ethiopia's health policy focuses on preventive and promotive services provided at the primary health care level to achieve one of the pillars of the universal health coverage (increasing the health coverage). The essential health services package (EHSP), which guides the delivery of health services, particularly at the level of Primary Health Care (PHC), was defined in 2005. The 2019 revision of the EHSP comprises nine components as outlined in the Health Sector Transformation Plan (HSTP) II, which the government intends to make available at the respective service delivery levels with an adequate level of quality.[14]

Progressive introduction of various initiatives such as a district health information system (DHIS2), a health care financing system, a supply chain management system, and regulatory systems have all contributed to shape the health sector into a more responsive sector.

1.5. Epidemiology of HIV/AIDS

According to the Joint United Nations Program on HIV/AIDS (UNAIDS) 2020 report, by the end of 2019, 75.7 million people globally were infected with HIV since the start of the pandemic in 1981, with nearly 33 million total deaths. This report also indicated that there were 38.0 million people living with HIV in 2019 and 1.7 million people became newly infected in the same year. The global cumulative increase in people living with HIV (PLHIV) is mainly due to improved access to ART (increased survival), alongside declining new HIV infections (though it is still very high).

Despite global effort to eliminate mother to child transmission of HIV, 15% of pregnant women living with HIV did not have access to antiretroviral drugs to prevent transmission of HIV to their child in 2019. Unless these pregnant women are put on ART and viral suppression (<50 copies/ml after 3-6 months on ART) achieved, the chance of MTCT will be high. There are 1.8 million children 0-14 years living with HIV in 2019.[15]

The national adult (15-49 years) prevalence of HIV in 2019 in Ethiopia was 0.9%, with the highest prevalence being in females (1.2%). Estimated number of PLHIV is 670,000; of which, 44,000 are children less than 15 years of age.[16] Currently, there is a mixed type of distribution with wide regional variations and high concentration in urban hot spot areas. There are several subpopulations with HIV prevalence exceeding 5% in urban areas. Differences have been also observed in the prevalence among regions and city administrations. Gambella has the highest adult HIV prevalence (4.32%) followed by Addis Ababa (3.58%), while Somali (0.16%) and SNNP (0.42%) regions have the lowest prevalence.

According to national estimates, HIV prevalence has declined from 7.9% in 2004 to 2.9% in 2018 in urban areas of the country. However, the data on rural areas, has shown no significant decline, but rather stabilized. For instance, the prevalence in rural areas was 1% in 2004 and stabilized at 0.4% from 2012 to 2018. According to EDHS 2016, the current HIV prevalence is seven times higher in urban areas than in rural areas (2.9% versus 0.4%, respectively).[17]

Although the prevalence of HIV among the pregnant population showed a declining trend, parallel to that of the general population, the 2014 antenatal sentinel surveillance disclosed that the prevalence was still higher amongst the pregnant women. Nationally, in 2019, there were a total of 19,110 HIV positive pregnant women. Of which, only 14,149 (74%) women were accessing PMTCT interventions,[18] which is far below the global achievement of more than 85%.[15]

1.6. Epidemiology of Syphilis

Annually, an estimated 2 million pregnant women have an active syphilis infection globally, but only less than 10% would be diagnosed and receive the treatment. More than 90% of these infections occur in resource limited settings.[19-21] Globally, it is estimated that the prevalence of syphilis in both men and women was 0.5% with regional variations ranging from 0.1 to 1.6%. This prevalence estimate corresponds to the total of 19.9 million cases of syphilis in the general population. The WHO African Region had the highest prevalence of syphilis in men and women.[22]

In 2019, data from 38 of 78 reporting countries showed that each has 1% or more of antenatal care attendees with positive results for syphilis. In these countries, on average, 3.2% of antenatal care attendees tested positive for syphilis.

Worldwide, syphilis is the second leading cause of stillbirth and can also lead to low birth weight, prematurity, neonatal death,

and infection in newborns.[22] About 80% of cases of syphilis in pregnant women can result in adverse outcomes of pregnancy, such as stillbirth and spontaneous abortion (40%), perinatal death (20%), serious neonatal infections, and low-birth weight babies (20%). Syphilis also increases the potential for morbidity and mortality as it is associated with increased risk for HIV associated morbidity.[23]

The analysis of 44 studies revealed that the pooled prevalence of syphilis among pregnant women in sub-Saharan Africa was 2.9%. Pooled prevalence of syphilis varied by region: 2.2% in Eastern Africa, 0.2% in Western Africa, 1% in Central Africa, and 2.5% in Southern Africa.[24]

Syphilis has been a well-known health problem in Ethiopia, but study findings on the prevalence of syphilis among pregnant women are highly variable and inconsistent. According to recent studies conducted in different geographical locations in Ethiopia, the prevalence of syphilis ranged from 0.6% to 5.1%.[25-28] However, it is more prevalent in young and urban pregnant women.[29,30] Guidelines recommend universal syphilis screening and treatment as part of routine practice in antenatal care settings in Ethiopia; however, the 2019/20 data have shown that only 65.9% of pregnant women were screened and those with positive result were treated for syphilis. Like in other countries, the building blocks for elimination of congenital syphilis are already in place. Hence, it is very crucial to ensure that all pregnant women received testing for syphilis.

1.7. Epidemiology of Hepatitis B Virus

Currently, hepatitis B virus (HBV) is a global public health problem,[31,32] with 350 million people diagnosed to have chronic HBV infection and 686,000 people dying each year from its complications, which include cirrhosis and hepatocellular carcinoma.[31] About 2.6 million people living with HIV are also co-infected with HBV.[33] In 2015, HBV was the cause for an estimated 887,000 deaths worldwide, and most deaths were from liver cirrhosis and primary hepatocellular carcinoma.

As of 2016, only 10.5% of all people estimated to be living with HBV knew that they were infected, and only 16.7% of the people diagnosed were on treatment. Recently, WHO reported that there was a significant decline in the number of chronic HBV infection. The proportion of children under five years of age with chronic HBV infection was under 1% in 2019, which has declined from around 5% in the pre-vaccine era, (from 1980s to the early 2000s).[34] In countries where HBV infection prevalence is intermediate to high level, almost half of HBV infected patients have acquired it either through MTCT or in early childhood.[35,36] The prevalence of chronic HBV infection varies from 0.1 to 20% in different areas of the world. The prevalence of HBV is highest in Sub-Saharan Africa and East Asia.[37]

A systematic review and meta-analysis of HBV infection among pregnant women in Ethiopia indicated that the prevalence among the included studies ranges from a minimum of 2.3% in southern Ethiopia[38] to a maximum of 7.9% in Gambella Hospital.[39] The pooled prevalence of HBV infection among pregnant women was 4.8%.[40] This indicates that the prevalence of HBV infection among pregnant women in Ethiopia is at intermediate level.

In Ethiopia, HBV testing coverage and treatment is low. It is not routinely done for pregnant women, indicating the need to largely invest in capacity building of the health facility and health workers to achieve the global target of HBV elimination by 2030.

1.8. The significance of universal health coverage in the progress towards EMTCT of HIV, syphilis, and HBV

An overarching framework of Universal health coverage (UHC) is what the MOH of Ethiopia would like to achieve in the coming 10 years in line with the sustainable development goal (SDG). The implication is that the successful implementation of this strategic plan and elimination targets is possible with efficient, equitable, and quality maternal and child health services. This in turn is partly dependent on the progress and sustainability of the financial protection as per the guiding principles of universal health coverage, at least at primary health care (PHC) level.

The factors that makes the UHC and triple elimination framework congruent and complementary to each other are the dimensions both entail (population, service, and financial coverage) and the goal they aspire to. After launching UHC and securing financial protection, many countries have been able to accelerate progress in achieving near universal ANC, the uptake of testing and treatment for HIV, syphilis, HBV, and other infections and disorders, assisted the acceleration. Notably, those countries which are validated for EMTCT of HIV and syphilis (like Cuba, Thailand, Belarus, Armenia, Moldova) have demonstrated universal or near universal health care access, which includes free and comprehensive ANC for pregnant women and infants.[41]

The achievement of EMTCT of HIV, syphilis, and HBV is a proxy indicator for good progress towards UHC, and contributes to SDG 3.3. Implementation of the triple elimination framework is, therefore, recognized as a critical step towards the achievement of the UHC targets before the SDG due date. Hence, accelerating UHC is accelerating the triple elimination framework and many more maternal and child health issues.

1.9. The prospect of financial protection for EMTCT of HIV, syphilis, and HBV

While the population size of Ethiopia is increasing yearly by nearly 3 million, the observed progressive decline in the donor health financing raises concerns (as predicted in the 2020 report by the SDG fund for MoH representatives) on the sustainability of the current health services, including MNCH and achievement of the UHC unless domestic financing increases. The global financial crisis due to the COVID-19 pandemic and the donors' shift of focus towards this infection is presumed to be a huge barrier for the developed countries to donate to the traditionally known public health priorities.

Although the slowly increasing government health expenditure may help to offset the decline in slowed donor support, Ethiopia has not yet fulfilled the Abuja declaration (allocating 15% of the government's expenditure to health services), with so far approximately 8% of government expenditure allocated to health. The domestic health financing can also be better strengthened by the health insurance schemes. In summary, the achievement of the triple EMTCT framework targets is highly dependent on the financial support of the program.

02 Situational Analysis

2.1. An overview of the dual elimination of MTCT of HIV and syphilis strategy

Previously, Ethiopia developed two EMTCT strategic plans, the first for 2013-2015 and the second for 2017-2020. In-order to align with global initiatives, the second strategic plan was developed to achieve dual elimination of MTCT of HIV and syphilis in an integrated manner. The goal of the 2017-2020 EMTCT strategic plan was to reduce syphilis to a level where it is no longer a public health problem (<50 per 100,000 live births). The target for elimination of MTCT of HIV was to achieve a transmission rate of <2% in non-breast fed and <5% in breastfed infants. Several outcome, impact, health system, and equity indicators were proposed to measure the effect of the elimination of MTCT of HIV and syphilis strategy for 2017-2020. In order to assess the progress towards the achievement of the 2017-2020 strategy, seven primary indicators were selected and evaluated (Table 2)

Table 2. Targets for process and impact indicators, dual EMTCT of HIV and syphilis strategy (2017-2020)

SN	Primary Indicators	Baseline in 2016	Target for 2019/20	Achievement of 2019/20	Data source	Remarks
1	HIV test during pregnancy, L & D and PNC (%)	85	95	85	HMIS DHIS2	Not achieved
2	ART for PMTCT (linked and Option B+) converge among HIV +Ve pregnant, L & D and lactating women (%)	57	95	91	HMIS DHIS2	Not achieved
3	ARV Prophylaxis among HIV exposed infants (%)	41	95	61	HMIS DHIS2	Not achieved
4	Early Infant Diagnosis (EID) virologic test (at 2 months) (%)	25	95	67	HMIS DHIS2	Not achieved
5	National rate of MTCT of HIV (% final)	18.1	<5	14.96	HMIS EPHI projection	Not achieved
6	Syphilis testing and treatment during pregnancy, L & D and PNC (%)	40.5	95	66	HMIS DHIS2	Not achieved
7	Rate of congenital syphilis (per 100,000 live births)	NA	<50			Data not available

2.2. Progress of implementation and achievement for eMTCT of HIV and Syphilis

Since 2001, Ethiopia has been implementing PMTCT of HIV programs. A PMTCT guideline was developed in 2007 to provide ARV prophylaxis and encourage exclusive breastfeeding. Since 2013, the Option B+ PMTCT program which recommends initiation on life-long ART for all HIV-positive pregnant women regardless of CD4 count, has been implemented in all hospitals, majority of health centers, and private/NGO clinics providing Maternal, Newborn, and Child Health (MNCH) services.

Currently, integrated comprehensive PMTCT services are available in 2,865 health facilities in one-stop service approach using the MNCH platform. The country has also adopted provision of enhanced postnatal prophylaxis (NVP+AZT) for the first 6 weeks and NVP alone for the subsequent 6 weeks for all HIV Exposed Infants as noted below. The current guideline emphasizes the importance of retaining mothers on treatment and follow up care, and recommends regular viral load monitoring (after three months of ART initiation during pregnancy, at 34-36 weeks of gestational age (or at the latest at delivery) and 3 months after delivery and every six months thereafter until MTCT risk ends). It also gives a clear direction to improve Early Infant Diagnosis (EID) coverage and to shorten the turnaround time (TAT) for testing. Point of Care EID testing using GeneXpert machines and same day results has been provided in 119 health facilities and should be considered for expansion. Most health facilities collect and send Dried Blood Sample (DBS) for DNA PCR test, but there is usually an extended TAT for results which ranges from 2 to 6 months.

There has been a gradual decline in new adult HIV infections from an estimated 13,394 for the year 2016 to 11,613 in 2019 in Ethiopia. This reduction has been achieved by implementing a combination of HIV prevention interventions. Nationally, around 25% of the overall HIV/AIDS funding has been allocated to HIV prevention. Each year, 150 million condoms have been distributed, which has probably played a central role in the reduction of new HIV infection.

Prevention of unwanted pregnancy reduces the number of infants exposed to infection within a woman's lifetime. Therefore, family planning plays a key role in terms of PMTCT of infections. In its first PMTCT strategic plan for 2015-2020, Ethiopia had planned to reduce the unmet need for modern family planning among married HIV positive women to 10%. However, more than half (52%) of HIV positive pregnant women attending PMTCT clinic were those linked from ART clinic,49 suggesting that integration of modern family planning to HIV care and treatment setting has probably been suboptimal. Therefore, preventing unplanned pregnancies by improving the family planning service and reducing the unmet need is an area that needs to be given due attention in this strategic plan.

Pregnant, laboring and breastfeeding women and their partners with unknown status have always been the priority population for testing. According to 2019/20 annual performance report by MoH of Ethiopia, the status of the 1st 90 was 78.7%,42 which is close to the global achievement of 81%,15 but far behind the national and global target for 2020. Specific to HIV testing for pregnant women, the performance in the same year was 85%.

Over the last five years, great progress has been achieved in attaining the second 90 among pregnant and lactating women in Ethiopia. In 2019/20, 17,366 (91%) pregnant and lactating women received ART for the PMTCT of HIV. The proportion of pregnant and lactating women who received ART has increased by 29% from 2015, which was

taken as a baseline. However, about 9% (1,744) of HIV positive pregnant and lactating women either did not know their HIV status or were not linked to ART, which opens the loop for the virus to be transmitted to their children. Regarding the third 90, remarkable achievement has been made over the past 5 years. In 2015, 76% of those HIV positive patients had viral load suppression, while this figure was increased to 91.3% in 2019/20.[42]

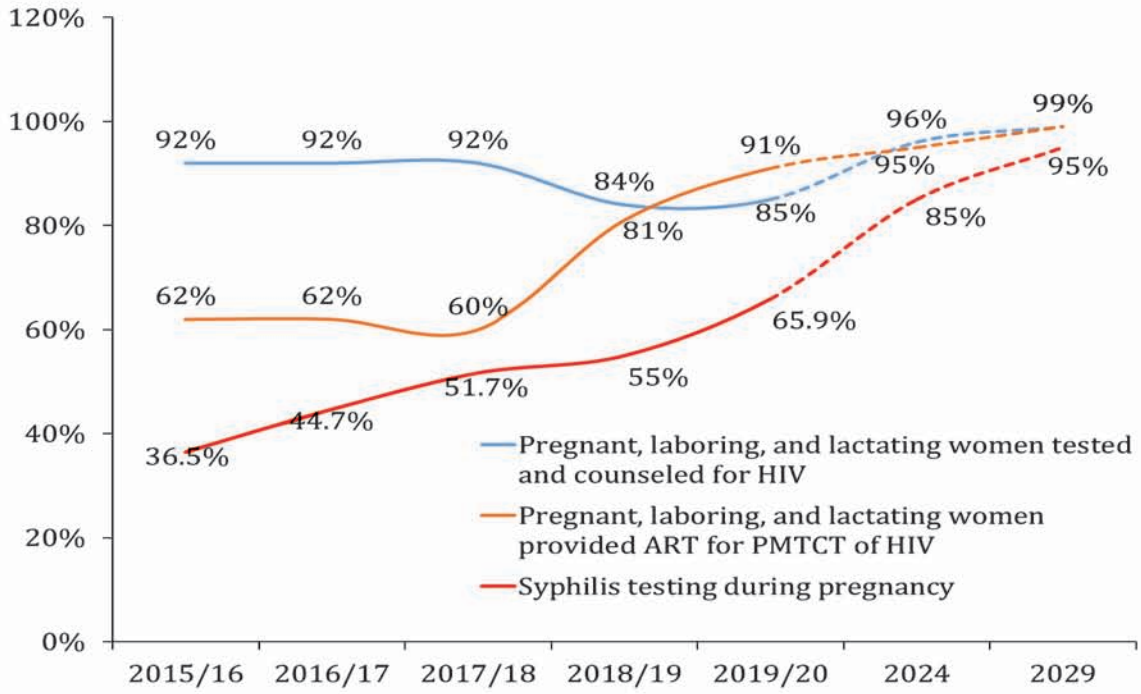

Figure 1. Trends in HIV and syphilis testing, and ART treatment for HIV positive pregnant and lactating women in Ethiopia, including the HSTP II projection for 2024 and 2029. Data source: MOH annual performance report, 2019/20, and HSTP II.

As shown in Figure 1, syphilis screening in the antenatal care setting was not satisfactorily conducted. In 2019/20, only 66% (29% less from the target) of pregnant women attending antenatal care were screened for syphilis,[42] implying that many women have remained undiagnosed and untreated. However, the testing rate for syphilis has increased by about 10% from 2017 to 2019. The adoption of dual HIV and syphilis testing as of 2017 probably has contributed to the increment in three-year period.

Nationally, a remarkable achievement was recorded with regard to the availability and accessibility of early infant diagnosis (EID). Since 2018, in addition to 20 conventional laboratory sites, 119 points of care (POC) testing sites have used the GeneXpert device for EID. This has contributed a lot to an increase in the rate of EID from 25% in 2016 to 67% in 2020. In 2016, WHO has recommended dual infant prophylaxis for HIV exposed infants. Since 2019, Ethiopia has implemented dual prophylaxis (AZT + NVP for 6 weeks and NVP alone for an additional 6 weeks) as one of the key prevention approaches of MTCT of HIV for all HIV exposed infants. The inclusion of syphilis and HBV elimination in the PMTCT of HIV program makes the POC efficient and cost-effective.

2.3. Challenges faced in the process of EMTCT of HIV and syphilis

Despite documented benefit of PMTCT of HIV interventions and huge investments, all the top 23 countries, in which 87% of HIV-positive women reside, were not able to manage to reduce the MTCT of HIV rates to under 5%. The progress in many of them, however, was impressive.[43] Thus, many developing countries (including Ethiopia) are far from EMTCT of HIV and syphilis even after launching the program. This is due to multiple factors limiting the process towards preventive and therapeutic interventions. What makes the process complex and challenging is partly because of the asymptomatic nature of the course of infections for longer time, and mainly the inaccessibility of the at-risk women, primarily due to low HIV and syphilis test uptake at the community, as well as low utilization of antenatal, delivery, and postnatal services.

Of all the challenges, the latter three have been the major contributors to the delay of the dual elimination process and failure to achieve targets in the previous strategic plan, and by large the HSTP I. This was partly due to starting at a lower base; as prior to 2010, home delivery was a common practice in Ethiopia; however, half of the deliveries are still not attended by a skilled person,[44] and 53% of HIV exposed infants are not taking ARV prophylaxis.[11]

The inaccessibility of pregnant women living with HIV and HIV exposed infants in Ethiopia continues to be the major challenge to providing ART during pregnancy and breastfeeding in order to reach the set target (95%), which is recognized as the major milestone in the EMTCT of HIV. HIV+ patients' refusal to take and/or discontinuation of ART, as well as having the majority of the population living in rural areas are additional challenges limiting the EMTCT initiative.

In addition to the process indicators, impact indicators related to the HIV prevalence among pregnant women will be set. One of the WHO targets to certify a country as "on the path to elimination" or "achieved elimination" is a case rate of pediatric HIV ≤50/100 000 live births. This is influenced by the maternal HIV prevalence, and corresponds to 5% or less maternal HIV prevalence and MTCT of 1%.[45]

In Ethiopia, for instance, where the estimated HIV prevalence among ANC attending women was 5.74%,[46] and MTCT of HIV was 14.96%,[11] the estimated case rate was about 769/100,000 live births, mainly in the last five to ten years. Probably, the same is true for the syphilis case rate target for the definition of elimination. In this strategic plan, a collective decision is made to set impact indicators targets for HIV, syphilis, and HBV, taking into consideration the possible limiting factors.

As we learnt from history, meeting the target of elimination/eradication in the specified time frame was not possible in many infectious disease conditions. The WHO was motivated by the small pox eradication and tempted to eradicate neonatal tetanus and dracunculiasis by 1995, leprosy and poliomyelitis by 2000, and many other infections. However, after three decades, it is realized that elimination rather than eradication of many infections, including neglected tropical diseases (NTD) is possible. Therefore, the declaration of elimination of MTCT of HIV and syphilis for the second time, and HBV infection for the first time is to strive hard for the set targets with all possible means and concerted efforts.

03 SWOT Analysis

Table 3: SWOT analysis of the situation of EMTCT of HIV, syphilis & HBV program implementation

Internal	
Strength	Weakness
Improved accessibility and availability of PMTCT services, particularly for HIV and syphilis	High prevalence of HBV infection and syphilis among pregnant women
Increasing public awareness	Significant lost to follow up along the PMTCT continuum of care
Demand creation by health extension workers (HEWs)	Low coverage of ART among HIV positive pregnant and lactating women
Existence of community based groups (WHDTs) for awareness creation	Low coverage of ARV prophylaxis for HEI
Relatively high ANC coverage (at least once)	Shortage of drugs for OIs
Increasing HIV testing during ANC and delivery	Significant regional variations in uptake of test and provision of ART
Improving institutional delivery	Poor recording and reporting, and low use of data for decision making at all levels
Implementation of dual prophylaxis for HEI	Low uptake and high unmet need of contraceptives
Expanding point of care testing for EID	Low coverage of EID
Decreasing national prevalence and incidence of HIV due to primary prevention	Interruption of laboratory services for timely determination of viral load and CD4 counts
Initiation of integration of FP to HIV care and treatment services	High turnover of trained staff
Presence of PMTCT strategy and guidelines	Inadequate supply and laboratory reagents, especially for syphilis testing
Implementation of new initiatives for prevention, case finding, care and treatment of HIV	Shortage of kits- DBS, RTK
Implementation of continuous quality improvement- utilization of the dash board, cohort monitoring, facility led assessment checklist	Long TAT of viral load and DBS test results
Improving implementation of health care financing reform (exempted cost for maternal and newborn services)	HBV screening not yet integrated as a routine testing for pregnant women, even when screened appropriate management is not provided
Regular mentorship and integrated supportive supervision	Some health facilities are not providing PMTCT services
Catchment based clinical mentorship initiatives	Low domestic resource mobilization and low budget allocation for PMTCT services
Availability of mother support groups in most health facilities	Poor FP service integration to HIV care and treatment
Improving human resource capacity- training health care workers	Low coverage of birth attended by skilled health care provider
Engagement of partners in the continuum of care, including PMTCT	Poor male partner's involvement and low disclosure, in turn, leading to discontinuation of services
Improving leadership's commitment, good governance and management at all levels	Inadequate health infrastructure
Introduction of dual HIV and syphilis test kit	
Improving public-private partnership	

External	
Opportunity	Threat
Existence of organizational health structure up to lower level (kebeles) Development partners' interest in EMTCT of HIV, syphilis, and HBV infection Existence of community structure to implement community based PMTCT Expansion of media and communication for information dissemination Improving digital technology for data capturing, analysis, utilization and dissemination National focus on achieving global target of EMTCT of HIV, syphilis, and HBV infection	Global rising costs of pharmaceuticals, medical supplies, and equipment Community misconception on family planning Declining donor funding to support the programs Low involvement of private sectors in PMTCT of HIV, syphilis, and HBV infection COVID-19 pandemics Inadequate and inaccessible transportation

Stakeholder Analysis of the EMTCT of HIV, Syphilis and HBV response

Stakeholders	Behaviors we desire	Stakeholders need	Stakeholders reaction and impact for unmet issues	Stakeholders influence	Institutional response
Government	Leadership commitment and ownership and enforcement of policy and proclamations, domestic resource mobilization for EMTCT, ensure accountability	Effective implementation of policies, proclamations, and strategies.	Administrative measures, organizational restructuring, influence on budget allocation	High	Attaining and sustaining EMTCT, put in place strong M&E system and efficient capacity building mechanisms
Minster of health	Enhance implementation of EMTCT strategic plan, adopt and enforce guidelines based on the national context, support in creating access to service for pregnant and lactating women, advocate for domestic resource mobilization, ensure quality laboratory services, ensure availability of commodities for EMTCT and leadership commitment to attain and sustain EMTCT, ensure integration of EMTCT in all MNCH platform	Coordination, resource mobilization for EMTCT, efficient allocation and utilization, coordination, engaging in Planning, M&E, quality plan and reports	Inefficiency, weak coordination, delays in procurement and distribution	High	Strengthen sectoral ownership and leadership of the EMTCT response
Regional Health Bureaus	Adopt the national EMTCT strategic plan and ensure its implementation in their respective region, allocate resources, coordinate and ensure quality basic training, provide technical support for health facilities, supervising and mentoring all EMTCT activities	Coordination, resource allocation, supportive supervision and clinical mentor ship	Inefficiency, weak coordination	High	Capacity building, strengthen mentor ship system

Development partners	Harmonized and aligned support to national priorities & plans, provision of financial and technical support	Efficiency in allocation & utilization of resources, assurance of the proper use of resources, transparency, coordination, involvement in planning, implementation and M&E, reduce dependency	Inefficiency, fragmentation	High	Build implementation capacity for EMTCT response, ensure accountability, transparency & efficient use of resources, build financial management system, increasing domestic resource mobilization
PLHIV associations, Women development groups, Religious leaders	Awareness creation, Enrolment and adherence to HIV, Syphilis and HBV care and treatment	Access to quality services, uninterrupted supply of testing services and drugs, avoidance of stigma, confidentiality	Low uptake of services, poor adherence, loss to follow up, drop out ,Stigma	Medium	Improve quality of services, strengthen adherence support systems, empower positives to engage in comprehensive care
Private Health sectors	Service provision, referral and Linkage	Access to quality services, Awareness creation, uninterrupted supply of testing services and drugs	Low uptake of services, Poor referral networking	Medium	Improve service accessibility, Improve quality of services

04 Strategic framework

4.1. Vision

- MTCT of HIV, syphilis, and HBV free Ethiopia

4.2. Goal

- Achieve and sustain elimination of mother-to-child transmission (EMTCT) of HIV and syphilis, and achieve on the path to elimination of MTCT of HBV by 2025.

4.3. Core values

- Equity of HIV, syphilis and HBV care
- Quality in the continuum of care
- Service integration
- Universal testing
- Point-of-care testing
- Treatment as prevention
- Multilevel intervention
- Safety and confidentiality
- Partner responsiveness
- Family, adolescents and young women inclusive
- Community engagement
- Domestic financing
- Financial protection

4.4. Process and impact indicators and targets

Table 4. Process and impact indicators and targets for EMTCT of HIV, syphilis, and HBV for 2025 and 2029.

S/N	EMTCT of HIV, syphilis and HBV indicators	Baseline as of 2020	Target for 2025	Target for 2029
	Process indicator:			
1	Pregnant women attending at least one ANC visit	96%	>95%	≥95%
2	Pregnant women who know their HIV status (new and known)	84%	≥95%	≥95%
3	HIV positive pregnant women who are on ART (new and known)	91%	≥95%	≥95%
4	HIV exposed infants receive dual ARV prophylaxis	53%	≥95%	≥95%
5	Early Infant Diagnosis (EID) of HIV exposed infants	67%	≥90%	≥95%
6	Pregnant women tested for syphilis	66%	≥95%	≥95%
7	Pregnant women who receive complete treatment for syphilis		≥95%	≥95%
8	Pregnant women tested for HBV	20%	≥90%	≥95%
9	Birth-dose vaccination for HBV		≥50%	≥90%
10	Third-dose vaccination for HBV	96%	≥90%	≥90%
	Impact indicator:			
11	Case rate of pediatric HIV infection due to MTCT per 100,000 LBs	769	<50	<50
12	MTCT rate of HIV among breast feed	14.96%	<5%	<5%
13	Case rate of congenital syphilis per 100,000 LBs		<50	<50
14	HBsAg prevalence among under five children		<1%	<0.1%

Source for baseline data: Annual performance report, MOH, 2012 EC
Source of data for 2025 and 2029: HSTP II projection for 2024 and 2029.

4.5. Strategic issues

The following strategic issues are used as a guide for the formulation of strategic objectives and strategic directions.

1. Primary prevention of HIV, syphilis, and HBV infection
2. Community engagement in the elimination of HIV, syphilis, and HBV
3. Preconception service provision for HIV, syphilis, and HBV prevention and detection
4. Continuum of HIV, syphilis, and HBV care
5. Quality improvement in the continuum of care
6. Integration of HIV, syphilis, and HBV in all RH services
7. Domestic financing
8. Financial protection and sustainability
9. Generating scientific evidence for action

4.6. Strategic objectives

Although the primary focus of this strategic plan is EMTCT of HIV, syphilis, and HBV, the mother and the family at large benefit from the comprehensive EMTCT services, as they will be tested, diagnosed, and treated in due course through the continuum of care. The EMTCT of HIV, syphilis, and HBV require a range of interventions, including primary prevention, providing medications during pregnancy, delivery and postnatal period, applying safe obstetrical procedures during labor and delivery, responsible infant feeding and meticulous follow up for those pregnant women with one or more of these infections. Hence, the strategic objectives and strategic directions herein underscore the continuum of care in the life-course.

In line with the HSTP II priorities, due emphasis is given to the continuum of care (starting from the pre pregnancy state to the postnatal period) and use of all opportunities to increase the testing and administering therapeutic or prophylactic medications to EMTCT of HIV, syphilis, and HBV.

Therefore, the overarching objective of this strategic plan is achieving the milestones towards EMTCT of HIV, syphilis, and HBV by:

1. Enhancing primary prevention among adolescents, women, and men;
2. Preventing unintended pregnancy;
3. Improving the quality of obstetric care;
4. Enhancing the test and treatment uptake in the maternal and neonatal continuum of care; and
5. Ensuring the continuity of prevention, treatment, care and support.

4.7. Strategic directions

Strategic direction 1. Enhancing the activities towards EMTCT of HIV, syphilis, and HBV during the continuum of preconception to neonatal care

Strategy 1. 1. Initiating preconception care using available reproductive health service platforms to enhance primary HIV, syphilis, and HBV prevention

Performance targets:

- Preconception care is initiated in all platforms
- Preconception care becomes a culture

The primary prevention of vertical transmission of HIV, syphilis, and HBV infections involves applying preventive measures to reduce the chances of infection. Preventing unintended pregnancy among women with HIV, and untreated syphilis, and/or HBV positive couples, and providing treatment and care to lower the viral load of HIV and completely treat syphilis before conception are also essential preconception interventions. It is clear that the best strategy to prevent MTCT of HIV, syphilis, and HBV infections is preventing the transmission of these infections to the parents-to-be in the first place. However, the incidence of HIV and HBV in Ethiopia is still among the highest. The high unmet need for family planning may also contribute to the increased total fertility rate and increased risk of MTCT of HIV, syphilis, and HBV. Therefore, to achieve the desired impact, the preconception protective measures have paramount significance. That is why prevention of MTCT of HIV, syphilis, and HBV is recommended to begin prior to conception.[47] The preconception care can be availed through available portals of RH service platforms (in the family planning, abortion care, gynecologic clinics, student clinics, and adolescent and youth health clinics).

Major activities:

1. Counseling the couple on primary prevention of STI (including HIV, syphilis, and HBV infections) through safe sex, safe injection, and avoiding skin contact with the suspected active syphilis patient

2. Promoting safer and responsible sexual practices among discordant couples, including consistent and proper use of condoms and administration of pre exposure ARV prophylaxis (PrEP)

3. Counseling the couple on family planning and preventing unintended pregnancies by providing contraceptive of their choice

4. Providing testing for HIV, syphilis, and HBV infections at all RH portals

5. Providing medication for HIV, syphilis, and/or HBV positive couple

6. Ensuring access to and providing post exposure prophylaxis for HIV and HBV as per the national guideline

7. Ensuring blood safety for transfusion by screening at least for HIV, syphilis, HBV, and HCV

8. Delaying pregnancy till risk factors for MTCT of HIV, syphilis, and HBV and medical disorders are less, preferably using dual protective methods

Strategy 1.2. Providing comprehensive family planning services to women in reproductive age groups especially adolescents and youth to prevent unintended pregnancy and HIV, syphilis, and HBV

Performance targets by 2025:

- Reduce adolescent pregnancy from 12% to 7%
- Reduce unmet need for family planning from 22% to 19%

In Ethiopia, where the child marriage is around 40%, teenage pregnancy is 13% (both with little change over 20 years), and risky sexual behavior is rampant in both secondary and tertiary level students,[48,49] the importance of providing to prevent the transmission of STI (including the focus of this strategic plan) and preventing unintended pregnancy, thereby reducing the risk of their vertical transmission is timely and highly desirable. International data have shown that improving the knowledge and life skills of adolescents and youths has paramount significance to reducing their risk for STI, unintended pregnancy, unsafe abortions, and sexual violence.[50] This strategy aimed at promoting and enhancing safe and responsible sexual behavior among adolescents and youths, includes (but is not limited to) delaying sexual debut and practicing abstinence, use of condoms and preexposure ARV prophylaxis, and limiting the number of sexual partner to one and only one.

Major activities:

1. Ensuring availability of adolescent friendly services, access to appropriate information and a variety of modern contraceptive method for adolescent and young women

2. Promoting the use of condoms for adolescent and young women in their pre-marriage sexual life if delaying sexual debut and abstinence is impossible

3. Strengthening early diagnosis and providing treatment for STI and post exposure prophylaxis for HIV and HBV as per the national guideline

4. Strengthening family planning integration to HIV care

Strategy 1.3. Improving the quality of antenatal care and skilled person attended delivery to increase the service utilization and accelerate the EMTCT of HIV, syphilis, and HBV

Performance targets by 2025:

- Enable to achieve the Antenatal care one 95%
- Enable to achieve the delivery attended by skilled persons 76%

There is a large body of evidence that has demonstrated a significant increment in HIV and syphilis testing and prophylaxis/treatment uptake coverage when the antenatal care is commenced early in pregnancy and the care continued to puerperium.[11] Providing a quality service is a common impetus for the increased and continued service utilization across the life course of pregnancy. At the national level, failure to achieve the previous strategic plan target is partly attributed to the low antenatal and skilled person attended delivery coverage. Therefore, improving and making the continuum of care comprehensive and linked with increased availability of HIV, syphilis, and HBV testing and treating services, is the intention of this strategy.

Major activities:

1. Ensuring the availability and accessibility of quality and integrated antenatal care, delivery, postnatal care and other RMNCH services
2. Promoting early initiation of antenatal care and retention in the continuum of care by leveraging community networks to sensitize population, promote adoption of positive sociocultural practices, and create awareness on importance of early ANC attendance
3. Strengthening the peer support group (Mother support group) to increase the therapeutic and prophylactic services uptake
4. Promoting and providing skilled delivery and postnatal services with compassion, caring, respect, and participatory communication and decision making
5. Counseling on exclusive breastfeeding, family planning, nutrition, harmful traditional practices, and screening for cervical cancer, preferably during antenatal care

Strategy 1.4. Improving the efficiency and quality of screening and treatment of HIV, syphilis, and/or HBV infections during pregnancy, delivery, and lactation.

Performance targets by 2025:

- 95% of pregnant women attending antenatal care or delivered in a health facility are tested for HIV, syphilis, and HBV
- 95% of partners of HIV positive pregnant women and those who have risky behavior are tested for HIV in the continuum of maternal and neonatal care

Testing and diagnosing is the second core component of the intervention of this strategic plan to achieve EMTCT of HIV, syphilis, and HBV. The guiding principle 'treatment as prevention' becomes effective when the test uptake is up to the need. Pregnancy in general creates an opportunity to access health facilities and get tested and treated for several infectious and noninfectious medical disorders Therefore, this strategy (to the minimum) aims universal screening as one of the effective prevention modalities of MTCT of HIV, syphilis, and HBV.

Major activities:

1. Ensuring provider initiated universal and early HIV, syphilis, and HBV testing and counseling for pregnant, laboring, and breastfeeding women

2. Making HIV, syphilis, and HBV testing and providing treatment a routine practice at each tier of the health facility for all pregnant women in the continuum of care during pregnancy and peripartum period

3. Promoting and providing HIV, syphilis, and HBV testing for sexual partners, children and others in the family who are at risk of acquiring these infections

4. Offer HIV self-testing in case of opt out for HIV testing

5. Scale up dual testing (HIV and syphilis) and other new testing innovative

6. HIV, syphilis, and HBV testing for pregnant women and their partners is provided in all health facilities, including health post with linking to health centers for treatment and follow up

Strategy 1.5. Increasing the treatment uptake for HIV, syphilis, and/or HBV infections during pregnancy and delivery.

Performance targets by 2025:

- 95% of HIV positive pregnant or laboring women received ART
- 95% of pregnant and lactating/ postpartum women are adhering to treatment
- All pregnant or laboring women received a full course of treatment for syphilis
- All eligible pregnant women with HBV receive prophylaxis or treatment

Early initiated ART or achieving low viral load prior to conception and providing treatment for opportunistic infections is long ago recognized as an effective intervention to eliminate MTCT of HIV. The success stories recorded in many countries with MTCT risk of HIV < 2% is mainly by their achievement in availing universal ART for pregnant women. In addition to universal early initiation of ART, adherence to treatment, viral load monitoring, and switching to second line regimens when treatment failure or resistance detected are among the major outcome determinants (MTCT of HIV and maternal health). MTCT of syphilis and HBV can also be eliminated by treating positive women and their partners (with active infection) and continuing the prophylactic/therapeutic interventions during the postnatal period as noted hereunder.

Major activities:

1. Providing prophylaxis and/or treatment to women and their partner diagnosed to have HIV, syphilis, and/or HBV. Counseling on the maternal and fetal advantage of early initiation of and adherence to ART

2. Instituting the lost-to-follow up tracing mechanism (through Mother support group and utilization of innovative technologies as a reminder) to ensure adherence to ART and retention in the continuum of care

3. Enhancing the retention of pregnant and lactating women in the treatment and follow up for HIV, syphilis, and/or HBV

4. Involving peer counselors/mother support group as 'counselor' to support the treatment and prophylaxis uptake and mothers and their babies adhere to and retain in the health care

5. Counseling and providing treatment for concordant partners and ARV (pre exposure) prophylaxis for HIV and HBV discordant partners

6. Expand point-of-care viral load testing for pregnant women on ART

7. Strengthening the mother baby cohort registration

Strategy 1.6. Increasing the testing, prophylaxis, and treatment uptake of infants exposed to HIV, syphilis, and/or HBV

Performance targets by 2025:

- 90% of HIV exposed infants receive ARV prophylaxis
- 90% of HIV exposed infants receive an Early Infant Diagnosis (EID)
- 50% of HBV exposed infants receive a birth dose and 90% third dose vaccination for HBV
- 95% of infants born to inadequately treated/not treated mothers with syphilis receive antibiotic treatment

As there is a possibility of passive maternal antibody transfer to the fetus both in utero and during lactation, antibody test before 18 months of baby's age is only for screening purpose. The DNA-PCR test (HIV antigen/virological test) at 6weeks of birth and the antibody test after 18 months are confirmatory tests for MTCT of HIV. Although it is possible to make HIV diagnosis in the infant starting from birth, the national guidelines recommendation is to start the DNA-PCR testing starting from 6 weeks of infant's age, and initiating on ART if the result is positive, primarily taking into account the feasibility/accessibility of DNA-PCR in all health facilities of the Ethiopian health system. Those babies with negative DNA-PCR test and on breastfeeding can be tested with antibody test at 18 months.

The risk of mortality and chronicity is higher when HBV is vertically transmitted. HBV vaccination administered within 12 hours of birth can prevent transmission by 80-95%.[51] Provision of immunoprophylaxis for infants born to HBV infected mothers, including hepatitis B vaccination starting with birth dose and continuing with three more doses, administration of hepatitis B immune globulin within 12 hours of birth when condition allows to do so is in the treatment package of this strategy. Regardless of the mother's serostatus for HBV, vaccination of all infants with the hepatitis B vaccine series is routine, with the first dose administered within 24 hours of birth. Antibiotic treatment for syphilis is indicated when the infant is born to untreated or inadequately treated woman with positive syphilis. Symptomatic congenital syphilis needs a linkage to follow up clinic.

Major activities:

1. Ensuring the provision of early infant diagnosis (EID) with DNA-PCR starting from 6 weeks of the infant's age

2. Expand point-of-care nucleic acid testing for HIV exposed infants

3. Strengthening the provision of enhanced postnatal prophylaxis for HEI

4. Ensuring that HIV positive infants are initiated on ART and linked to comprehensive care the sooner possible. Treating infants for syphilis who are born to inadequately treated/ not treated mothers

5. Ensuring that all HIV exposed infants receive co-trimoxazole prophylaxis and continue until HIV is excluded and the baby is no more on breastfeeding

6. Strengthening the provision HeB birth dose and 3-dose vaccination

7. Promoting follow up for all infants exposed to HIV, syphilis, and HBV and counseling on infant feeding practices by emphasizing on exclusive breastfeeding

8. Strengthen routine immunization, growth monitoring and support, screening and management of tuberculosis, prevention and treatment of malaria

Strategy 1.7. Integrating HIV, syphilis, and HBV point-of-care testing in other RH service portals and vice versa

Performance targets by 2025:

- The HIV, syphilis, and HBV testing are 100% integrated at all RMNCH services outlet

Integrating HIV testing and counseling, syphilis and HBV screening to other RH platforms is known to increase the test and treatment uptake. Integrating several of the RH services when there is access to women in certain RH service is a cost-effective and efficient way of maximizing the interrelated RH problems. Hence, services integration and point of care need to be a culture in all RH platforms to accelerate the identification of HIV, syphilis, and HBV infected women and their partners and thereby achieve the EMTCT.

Major activities:

1. Counseling on the antenatal care, skilled birth attendance, and postnatal care utilization when women are accessed for family planning, fertility treatment, HIV/STI treatment, and other sexual and reproductive health services

2. Promoting and providing the HIV, syphilis, and HBV point-of-care testing in other RH service portals, including family planning, screening for FGM, other STI management, precervical cancer screening, and other sexual and reproductive health services for early diagnosis and linkage to treatment

3. Integrating the aforementioned RMNCH continuum of care for early diagnosis and linkage to treatment

4. Implementing the one-stop shopping approach for testing and counseling to reduce the clients/patient inconvenience and lost to follow up

Strategic direction 2. Strengthening and upholding the community mobilization schemes supporting the EMTCT of HIV, syphilis, and HBV

Strategy 2.1. Enhancing the community mobilization to increase the national coverage of the pregnant and lactating women antenatal-to-neonatal service utilization

Performance targets by 2025:

- Community mobilization significantly contributed to increasing the pregnant, laboring, and lactating women and their babies access to EMTCT of HIV, syphilis and HBV services utilization

- Innovative approaches have increased pregnant and lactating women's access to services utilization in the continuum of care

Ethiopia has established a network of the HEW, the women's health development team (WHDT), and the nearby health center staff as a mentor to strengthen the

health extension program (HEP) and the PHCU, which is accepted as a best strategy for maximizing the health coverage and community engagement. Through such network, the community mobilization for the current triple elimination framework initiative can be activated to increase accessing pregnant and lactating women for testing and treating. In conjunction with the primary prevention (as noted in the strategy 1.1), the triple EMTCT of HIV, syphilis, and HBV will be materialized when the community mobilization and engagement for demand creation is complemented by improved access to health facility and customer satisfying service. This strategy aims to strengthen the existing community based platforms and applying innovative approaches to accomplish the objective.

Major activities:

1. Increasing the community engagement and demand creation in the antenatal care, skilled birth attendance, postnatal care utilization, and primary infection prevention through tailored social behavioral change communication (SBCC)

2. Revitalizing the WHDT-HEW-health center visiting staff mentorship and supportive networking

3. Establishing a performance based reward system for 'safe motherhood ambassadors' and WHDT so as to encourage their efforts to encourage pregnant and lactating women and their partners to access care at health facilities

4. Tracking the lost-to-follow up pregnant and lactating women through the WHDT, HEW, safe motherhood ambassadors, and peer counselors/ mother support group

5. Uplifting the community based primary HIV, syphilis, and HBV infection prevention activities

6. Discouraging stigma and discrimination encountered by pregnant women living with HIV, syphilis, and HBV within the community to enhance the test and treatment uptake and adherence

7. Cultivating the community's values, perceptions, and attitudes towards EMTCT of HIV, syphilis, and HBV infection

Strategy 2.2. Increasing public awareness about the benefit of early diagnosis, and building trust on the possibility of EMTCT of HIV, syphilis, and HBV

Performance targets by 2025:

- Public awareness about the benefit of early diagnosis and treatment for EMTCT of HIV, syphilis, and HBV has increased

It is a known fact in many initiatives that indoctrinating a program to the public to create good understanding of its public health significance and establishing trust is one step forward move for the desired outcome. In the EMTCT of HIV, syphilis, and HBV initiative too, describing the effectiveness of a series of interventions and the risk of acquiring these infections can increase the service utilization. Making note of the high fatality rate of neonatal hepatitis infection and the nearly 10% (more than 10 million) of the Ethiopian population is HBV positive may alert the people for health service care.

Major activities:

1. Impregnating the concept and intention of the EMTCT of HIV, syphilis, and HBV in the minds of the community through IEC and existing different community based platforms

2. Increasing the retention of clients and PLHIV and/HBV to care and follow up, by enhancing the community's understanding and improving the quality of service

3. Practicing awareness creation strategies that are culturally, religiously, socially, and politically acceptable, and avoids gender stereotyping.

4. Advocating and disseminating the EMTCT initiative through mother support groups and influential people

5. Buying airtime on radio, TV, and preparing billboards in big cities to promote the EMTCT of HIV, syphilis, and HBV activities

Strategy 2.3. Promoting male/partner involvement in the maternal and neonatal continuum of care

Performance targets by 2025:

- 80% of partners take part in the continuum of maternal and neonatal care

Like many African countries, traditionally Ethiopia has a patriarchal society, in which the male in the household is the primary owner of the property and decision maker for in-house and outside activities. The literature is rich in investigating the male involvement in the PMTCT of HIV programs, and service provision for HIV, syphilis, and HBV testing and treatment, and other related or integrated services. Promoting male/partner involvement in the triple elimination framework is part of the community mobilization.

The global experience in promoting male involvement in the continuum of care for improving the PMTCT of HIV includes but not limited to word-of-mouth (letting pregnant woman call her husband), sending invitation card, calling through telephone, advising using influential people, making home visits by health workers/agents, and disseminating information, education and communication (IEC) through public media. Several studies from Africa recommended use of written invitation using the pregnant woman's card or letter in an envelope, which may also be practiced in Ethiopian setting.

Major activities:

1. Promoting partners' involvement in the EMTCT of HIV, syphilis, and HBV infection endeavors through IEC sensitization, and creating awareness that the maternal and neonatal care is not only the women's domain

2. Motivating WHDT-HEW-health center platform to take the male involvement as a discussion and action agenda

3. Instituting the practice of sending an invitation letter to partners of both antenatal care attending and non-attending pregnant women

4. Providing HIV self-testing when there is resistance to go to a health facility; the test result may motivate/stimulate the male or both to go to a health facility for additional tests and retain in the follow up

Strategic direction 3. Improving the health facilities and health service providers' capacity for the provision of quality services to achieve EMTCT of HIV, syphilis, and HBV.

Strategy 3.1. Improving the health facilities capacity to achieve the EMTCT of HIV, syphilis, and HBV

Performance targets by 2025:

- 100% health facilities are enabled to perform HIV, syphilis, and HBV testing and treatment
- 100% continuous supply of consumables and medicines for HIV, syphilis, and HBV testing and treatment is ensured

Major activities:

1. Enabling health facilities to perform routine HIV, syphilis, and HBV testing and provide treatment
2. Enabling selected health facilities to perform viral load determination for HIV and HBV
3. Strengthening the logistics and supply chain management system to ensure continuous availability of medical equipment and laboratory reagents for HIV, syphilis, and HBV testing.
4. Improving the procurement systems to ensure uninterrupted availability of testing supplies and medication supply for HIV, syphilis, and HBV prophylaxis or treatment
5. Strengthening the continues quality improvement interventions at each health facility
6. Improving the logistic and laboratory networking for tests requiring specimen transportation to another facility
7. Strengthening health facility testing capacity using POC

Strategy 3.2. Improving the health workers' capacity to diagnose, treat, counsel, and integrate EMTCT of HIV, syphilis, and HBV related services

Performance targets by 2025:

- Health professionals developed the competence of DNA-PCR testing for HIV and HBV and viral load determination
- Health professionals developed the competence to treat HIV, HBV, and syphilis
- RH service providers are accustomed to integrating and point-of-care services

The human element is critical for the success of the EMTCT of HIV, syphilis, and HBV. Health workers' knowledge and skill, motivation to mobilize the community, adhere to the guidelines, encouraged to integrate the RH services and point-of-care can be elevated by training and incentives.

Major activities:

1. Ensuring the presence of adequate health workforce in all health facilities for the integrated and point-of-care service delivery
2. Providing off-site and on-site training on the triple elimination framework package and RH services integration and point-of-care
3. Regularly performing clinical service mentorship, with emphasis to capacity building, preferably using real patient/client
4. Regularly conducting supervision to evaluate performance and identify shortages
5. Considering task-sharing and task-shifting to increase the access and improve the integrated and point-of-care

6. Ensuring adherence to internal and external quality assurance and proficiency of testing for diagnosis, treating, and monitoring treatment progress

7. Motivating the health workforce by providing training and incentivizing for their performance

Strategic direction 4. Enhancing the domestic and external financial mobilization and expanding the financial protection schemes

Strategy 4.1. Increasing the domestic financing and sustaining the cost exemption for the maternal and neonatal health and HIV care, and inclusion of other STIs in the cost exemption

Performance targets by 2025:

- Cost exempted for diagnosis and treatment of all STIs, including syphilis and HBV
- Government's health expense is close to the Abuja declaration/African States pledge
- Out-of-pocket expenditure has reduced, and prepayment has increased

For the successful implementation of the triple elimination framework through universal access and service, investment in resourcing the package (training, medical equipment and sustainable consumables supply) and providing financial protection for all pregnant women and neonates is highly determinant. In Ethiopia, mainly with the support of multilateral and bilateral foreign funding sources, the cost of maternity and neonatal care, family planning, abortion care, and diagnosis and treatment for HIV positive persons is agreed to make it an exempt. Any other STI diagnosis and treatment for HIV negative individuals is not cost exempted, but shared.

Major activities:

1. Ensuring universal and equitable access to comprehensive antenatal care, delivery, and postnatal care, including testing and treating HIV, syphilis, and HBV and other STI with cost exemption

2. Ensuring adequate financial resources for health workers and health facility capacity building

3. Increasing the domestic financing and sustaining the financial protection for the EMTCT of HIV, syphilis, and HBV programs

4. Advocating for sufficient resource mobilization and increasing government health expenditure for EMTCT of HIV, syphilis, HBV

5. Increasing the government's health budget to ensure the sustainability of cost exemption for maternity and neonatal care and family planning, which are critically important for the success of the EMTCT of HIV, syphilis, and HBV

6. Promoting and expanding the domestic financing taking the health insurance (CBHI and SHI) as a lead health financing scheme

7. Minimizing the out-of-pocket expenditure and increasing the prepayment in the form of health insurance

Strategy 4.2. Improving the EMTCT of HIV, syphilis, and HBV performance to ensure result oriented fund mobilization

Performance targets by 2025:

- Additional multilateral and bilateral health funding sources become available

- EMTCT of HIV, syphilis, and HBV process and impact indicators have progressively increased

- In recent years, the external funding has been dwindling probably because of the on and off financial crisis, the years long internal conflict deteriorating the regular health programs performance leading to underutilization of the allocated fund, and the year back erupted COVID-19 pandemic forcing funders and the Ethiopian government to change the focus and resource allocation. The SDG funding representatives have predicted that the multilateral funding source will be declining by 33% by 2025. Therefore, the political leaders, Ethiopian diplomats, diplomatic community, and community influential people need to work hard to bring about national reconciliation and external fund mobilization. Above all, external funding is critically influenced by the performance or return for the planned activity, which reminds to improve the MCH performance for the better progress of the EMTCT of HIV, syphilis, and HBV.

Major activities:

1. Soliciting funds for the establishment of a performance based reward system

2. Promoting the success stories in MCH over the last decade to already onboard and potential bilateral and multilateral donors

3. Strengthening the external fund mobilization schemes to elevate bilateral and multilateral donors' contribution and searching for new partners

4. Promoting the EMTCT of HIV, syphilis, and HBV accelerating innovative programs to external donors

5. Ensuring equity and quality services as a vehicle for EMTCT of HIV, syphilis, and HBV and as an encouraging move to the donors' financial support

6. Evaluating opportunities for how EMTCT activities could fit into existing donor funding avenues

Strategic direction 5. Improving leadership, governance and partnership for the roll out and monitoring of the EMTCT of HIV, syphilis, and HBV

Strategy 5.1. Strengthening the capacity of the health managers and programmers to enable them lead the delivery of quality EMTCT of HIV, syphilis, and HBV services

Performance targets by 2025:

- Ministry of Health, Regional health bureaus, Zonal health departments, Woreda health offices had the capacity to plan and deliver EMTCT of HIV, syphilis, and HBV

- Relevant Federal Regional, Zonal, and Woreda offices support the implementation of EMTCT of HIV, syphilis, and HBV

Creating ownership and building the implementation capacity of health service programmers and managers through training and regular supervision can increase their efficiency in leading the EMTCT of HIV, syphilis, and HBV program. When the health service programmers and managers own the EMTCT program as an important health service agenda, they will be committed to allocate adequate budget, mobilize additional resource from potential donors, and make it one of the criteria for performance evaluation.

Empowering women and ensuring gender equality as part of the leadership commitment, in particular, is a driving force for the pregnant and laboring women to make decision and be able to access a health facility.

Major activities:

1. Demonstrating government's commitment for EMTCT of HIV, syphilis, and HBV, by incorporating this activity and adequately budgeting in the national and regional health plan

2. Ensuring that this strategic plan is a guiding document for programming EMTCT of HIV, syphilis, and HBV at all levels

3. Ensuring the leadership, governance, and management competence at the program and facility level to strengthen the EMTCT of HIV, syphilis, and HBV undertakings

4. Promoting and collaborating with other sectors to ensure gender equality and women's including adolescent in decision making

5. Coordinating the inter-programmatic activities in the health system, focusing on EMTCT of HIV, syphilis, and HBV

6. Providing technical support to all Regions, Zones and Woredas to adopt regional strategic plans in line with the national EMTCT strategic plan, including cost estimate, financial mapping in collaboration with key stakeholders

7. Supporting Regional states, Zones, and Woredas to have EMTCT focal person and to establish multi-sectorial EMTCT team at each level and put functional structure in place

8. Facilitating periodic review meetings with key stakeholders to evaluate progress towards this plan and align on new or updated priorities

9. Coordinating M&E processes, systems, data reviews

Strategy 5.2. Strengthening the EMTCT of HIV, syphilis, and HBV advocacy for the effective implementation of the strategic plan

Performance targets by 2025:

- The strategic plan becomes a working document for the EMTCT of HIV, syphilis, and HBV
- Regional health bureaus have adapted and worked for the success of the EMTCT of HIV, syphilis, and HBV process and impact targets

Advocacy for: creating ownership, making the triple EMTCT framework a political agenda, motivating the health workers for implementation of the strategic plan, and mobilizing adequate resource are critical undertakings for the full implementation of the strategic plan and achieving on the path to EMTCT of HIV, syphilis, HBV. Therefore, the implementation of this strategic plan needs the full engagement of the federal to Woreda level political leaders and health managers so as them to play a spearheading role in mobilizing other stakeholders and the health staff.

Major activities:

1. Conducting National, Regional, Zonal and Woreda levels launching of the EMTCT of HIV, syphilis, HBV strategic plan

2. Conducting national and regional level dialogues every year to evaluate their target status

3. Continuing to advocate for prioritization of the comprehensive and integrated EMTCT strategy as a critical health development agenda in social standing committee of the parliament and National and Regional Governments' councils

4. Advocating for EMTCT of HIV, syphilis, HBV strategic service delivery in all public and private facilities to promote equitable services

Strategy 5.3. Strengthen the multi-sectoral response and coordination through partnership and networking among stakeholders

Performance targets by 2025:

- EMTCT of HIV, syphilis, and HBV becomes a common agenda of both government and non-government stakeholders

PMTCT of HIV has been one the most generously supported health services programs, and with many stakeholders. Now, the triple EMTCT framework needs much concerted effort and strengthened multi-sectoral collaboration, for which the development partners' engagement and the Ministry's leadership do play a significant role for achieving the set goal.

Major activities:

1. Mapping stakeholders and partners working on EMTCT of HIV, syphilis, and HBV at different levels

2. Strengthening multi-sectoral collaboration and response among GOs, NGOs, CBOs, FBOS, Private Sectors, Developmental partners and International Organizations for better and shared responsibility and accountability for the delivery of quality EMTCT of HIV, syphilis, and HBV services.

3. Facilitating the public-private partnership with special attention to 'hot spot' areas, towns and urban settings where HIV, HBV, and syphilis prevalence is high

4. Providing technical support with special attention to 'hot spot' areas, mega projects, private health sectors, towns and urban settings where HIV prevalence is high in building capacity of sites to diagnose and treat HIV, HBV, and syphilis among pregnant women, their children and adolescents

5. Involving and building capacities of the local Faith Based Organizations, CBOs and other community Organization in demand creation and delivery of PMTCT services

Strategy 5.4. Improving the quality of data generation and management for effective monitoring and evaluation of the EMTCT of HIV, syphilis, HBV

Performance targets by 2025:

- National surveillance is conducted and assessed the magnitude of MTCT of HIV, syphilis, and HBV

- Data quality, management and use improved

The currently available data for the MTCT of HIV in Ethiopia (14.96%) is an experts' collective estimation. The national incidence of MTCT of HIV, syphilis (including symptomatic congenital syphilis), and HBV is unknown. This strategy aims to conduct national surveillance for MTCT of HIV, syphilis, and HBV, partly to evaluate the performance and partly to amend or maintain the strategic plan, taking the survey finding as a baseline data. The national surveillance will give an opportunity to identify missed or lost-to-follow up children living with HIV, syphilis, and/or HBV and link for treatment, and vaccination (catch-up vaccination) for HBV negative ones. It is also one of the requirements for initiating the EMTCT of HIV, syphilis, and HBV validation process.

Major activities:

1. Determining the baseline incidence and prevalence of MTCT OF HIV, syphilis and HBV through conducting a population based (national representative) surveillance on MTCT of HIV, syphilis, and HBV the sooner possible

2. Conducting mid-term review of the strategic plan

3. Revisiting the strategic plan as per the surveillance and midterm review finding and making a decision on the need of amendment

4. Improving the actual data systems and integrating tracking of mothers and infants

5. Improving linkage of facility data into national systems and improving visibility of data and utilization for quality improvement

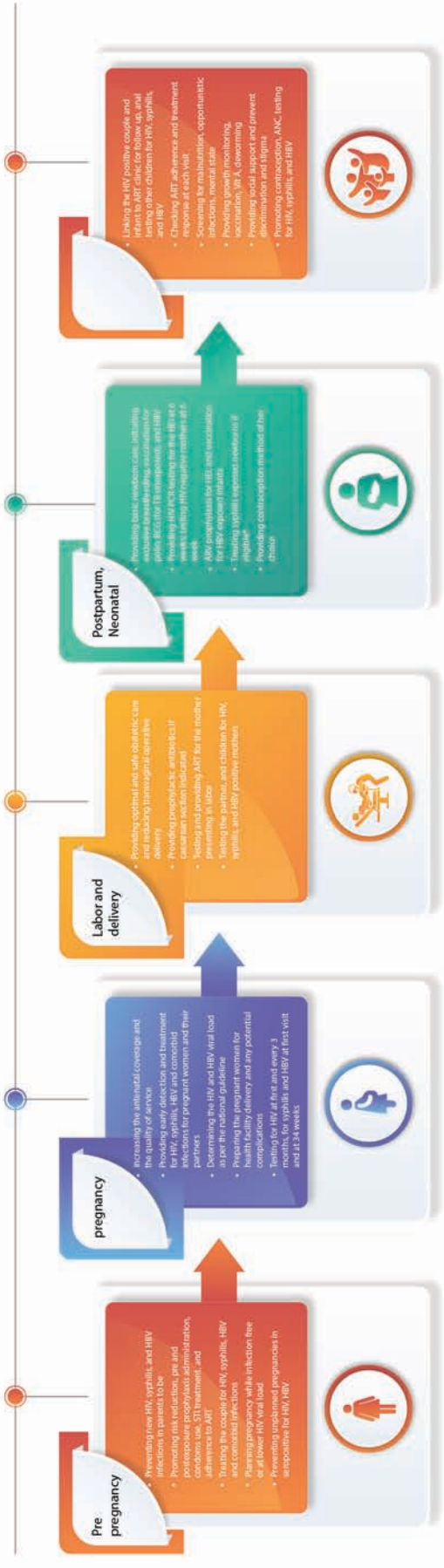

Figure 2. Key interventions in the continuum of services gearing to triple EMTCT of HIV, syphilis, and HBV.

05 Strategic map

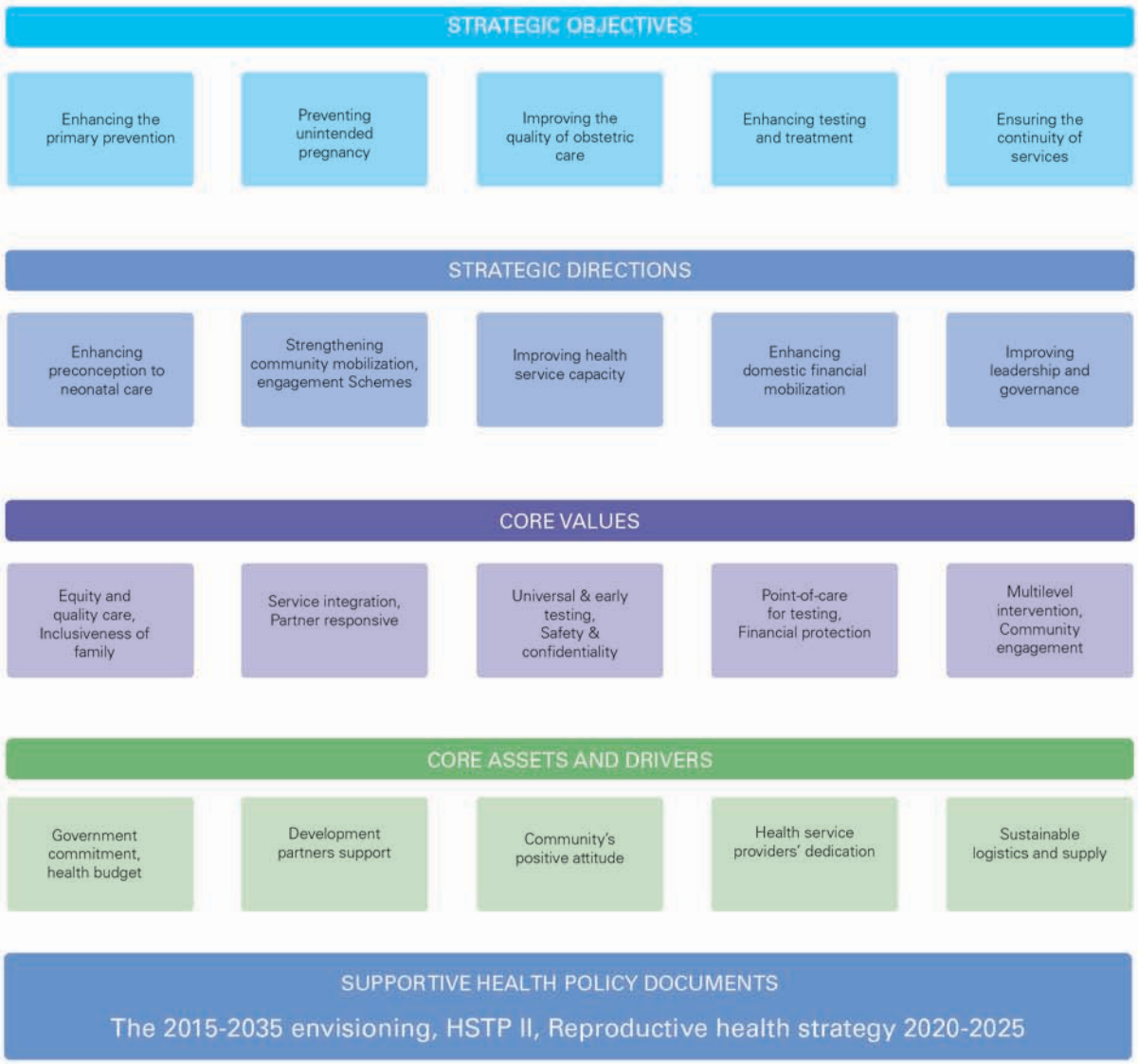

Figure 3. Strategic map summarizing the strategic framework for elimination of MTCT of HIV, syphilis, and HBV (symbolizing HIV, syphilis, and HBV free house)

06 Implementation plan

For the successful implementation of the EMTCT of HIV, syphilis and HBV strategic plan, advocacy work at all levels, domestic and external resource mobilization and health care workforce capacity building are of paramount importance. In other words, the goal of the strategic plan is achievable by availing the required funding, personnel, organizational structure, health facilities' capacity, and community engagement.

Advocacy:

Advocacy plays a key role for successful implementation of this strategic plan. It will make all people to be aware of the government's commitment of EMTCT of HIV, syphilis, and HBV that will affect primarily the health and life of the coming generation, and secondly the family and the community at large. Leadership at all levels have to advocate for the prioritization of comprehensive and integrated RMNCH, including EMTCT of HIV, syphilis and HBV strategy as a critical health development agenda in government accountability structures at kebele, woreda, zonal, regional and federal level.

MOH with partners will promote and support regional health bureaus on the concept and purpose of the triple elimination strategy to raise their awareness and for them take this agenda as a top priority. MOH will also bring all stakeholders working on the PMTCT onboard through a series of policy discussions and technical update platforms and workshops at national and regional level. Launching of the triple EMTCT of HIV, syphilis and HBV will be conducted at all levels. MOH, RHBs, Zonal health directorate, and Woreda health office will advocate for EMTCT of HIV, syphilis, and HBV strategic service deliveries in all public and private facilities to promote equitable and quality services. Advocacy work will also be done using different media to reach the public from first hand.

In order to disseminate the triple elimination strategy and to reach the public, MOH with RHBs and partners will develop culturally and linguistically appropriate educational messages and materials so as to avail appropriate information on EMTCT of HIV, syphilis and HBV to diverse population. Advocacy workshops for religious, community leaders and women development team about the EMTCT of HIV, Syphilis and HBV will be conducted in all regions.

Capacity building:

In order to equip the health care workers with the required knowledge, skills and attitude for the appropriate prevention, diagnosis and treatment of HIV, syphilis and HBV in pregnant and lactating women as per the national guideline, continuous capacity building through training, mentorship and supportive supervision will be conducted throughout the implementation of this strategic plan.

MOH with TWGs is updating, refining and linking national health policies (including HSTP II and Reproductive Health Strategy), guidelines, and training manuals with regard to the triple EMTCT of HIV, syphilis, and HBV. This enables to make all efforts complementary in providing the latest evidence-based quality of care for all pregnant women and infants,

regarding the interventions for the triple elimination. Specifically, as EMTCT of HBV is a new initiative, it will be incorporated into the national PMTCT guideline and training manuals. The training that will be given includes comprehensive MNCH/PMTCT training (including EMTCT of HBV), triple testing for HIV, syphilis, and HBV, and updating health professionals, cohort monitoring, mentorship training and training of mother mentors. MOH will provide training of trainers (TOT) to build regional capacity to own their potential trainers. RHBs will assess the training needs in their respective region and cascade the training on EMTCT of HIV, syphilis and HBV at all levels of service delivery points.

Resource mobilization

Increasing the allocation of the Government health expenditure, and specifically for the elimination of MTCT of HIV, syphilis, and HBV at federal and regional levels is one of the key strategies to achieve the triple elimination plan. FHAPCO, the MOH, regional HAPCOs, and regional health bureaus will strengthen advocacy and negotiation efforts to secure an increase in budget allocations for the EMTCT program from the Ministry of Finance (MOF) and regional finance bureaus. The MOH can also allocate adequate fund from the SDG fund for the realization of this strategic plan.

Currently, there is national expansion of health insurance coverage, which is a central component of Ethiopia's ongoing health financing reforms and proposed health care financing strategy. Integration of EMTCT of HIV, syphilis and HBV and other obstetric exempted services into the benefits packages of prepayment schemes is critical to ensure their long-term and sustainable financing. Therefore, the sooner possible, efforts will be made for the eventual integration of EMTCT of HIV, syphilis and HBV into social and community based health insurance benefits packages.

As the trend in the amount of external resources for HIV is declining, additional external resource mobilization for the implementation of the triple elimination of MTCT of HIV, syphilis and HBV strategic plan is critical. Although nearly 90% of the total HIV funding come from external sources, there is no strong structure across all levels to strategize and conduct external and domestic resource mobilization. Therefore, the resource mobilization strategy of the country should be inclusive of both the external and domestic resources, and favorable resource mobilization structure need to be established. For the sooner effect, the external resource mobilization interventions will showcase Ethiopia's ambition to move towards triple elimination of MTCT of HIV, syphilis and HBV.

07 Monitoring and evaluation

In order to know progresses in the implementation of EMTCT of HIV, syphilis and HBV, program monitoring using key indicators is planned. Indicators, including existing national PMTCT of HIV core indicators, have been identified to monitor program achievements. are included. Efforts are made to include some core international indicators of EMTCT of HIV, syphilis and HBV into existing national monitoring and evaluation framework. Based on the national and global recommendation, the current EMTCT of HIV, syphilis and HBV indicators will be monitored and progress reports will be prepared regularly through a coordinated mechanism to ensure the preparation for validation of EMTCT of HIV, syphilis and HBV and the maintenance of elimination status.

7.1. Frequency of reports across the different levels

The frequency of performance reporting follows the existing schedule of the MCH directorate of MOH. The schedule for routine DHIS2 reporting is organized as follows.

- Monthly reports from the Health post and health centers to Wereda Health Office (WorHOs)
- Monthly reports from WorHOs, Regional Hospitals, and Zonal health directorate to Regional health bureau (RHB)
- Monthly report from RHBs to the Ministry of Health (MOH)
- Monthly report from Regional Laboratories (RLs) to EPHI

7.2. Key Indicators for performance assessment

The EMTCT of HIV, Syphilis and HBV plan will be monitored and evaluated using the existing data collection and reporting system through harmonization and linkage within the health sectors. Indicators for EMTCT will be aligned and linked to the existing national M & E system (DHIS2 and patient monitoring data and other sources).

7.3. Program tools

The routine monitoring systems and tools to be used include the DHIS2, HSTP II annual performance report and Spectrum modeling.

7.4. Monitoring modalities

Monitoring of activities will be carried out at all levels (national, regional, ZONAL, Woreda and health facility levels) with a clear definition of roles and responsibilities. The overall process will be anchored on the following activities:

- Weekly data and performance review at health facility level
- Monthly cohort monitoring analysis at the health facilities
- Monthly monitoring/review meetings at the health facilities

- Strengthening performance monitoring team (PMT) and Multi-disciplinary team meeting
- Conducting clinical mentorship according to national guideline and regional plan
- Quarterly review meetings at the Zone/ town/ Woreda level
- Quarterly review meetings bringing together all stakeholders in the region to review progress, identify challenges and solutions, share experience, and reward well performing health centers and Woredas
- Bi-annual review at the national level, including annual review gathering all stakeholders at the national level, reviewing progress, identifying challenges and solutions, sharing experiences, and rewarding well performing regions and Woredas.

Table 5: Monitoring and Evaluation Framework for EMTCT of HIV, Syphilis and HBV for 2021-2025 strategic plan

Type of disease	Types of indicators	Indicators	Baseline at 2020	End of 2021	End of 2022	End of 2023	End of 2024	End of 2025 (Target)	Data source
HIV	Process indicators	Percentage of pregnant women with known HIV status (include both newly tested and those with known status)	84	86.2	88.4	90.6	92.8	95	DHIS2
		Percentage of pregnant women living with HIV who received antiretroviral therapy (ART)	91	91.8	92.6	93.4	94.2	95	DHIS2
		Percentage of pregnant and lactating women with suppressed viral load	90	91	92	93	94	95	DHIS2
		Percentage of HIV exposed infants who received ARV Prophylaxis (AZT+NVP)	53	61.4	69.8	78.2	86.6	95	DHIS2
		Percentage of HIV exposed infants who received cotrimoxazole prophylaxis	61.4	68.12	74.84	81.56	88.28	95	DHIS2
		Early Infant Diagnosis (EID) virologic test (at 2 months)	67	72.6	78.2	83.8	89.4	95	DHIS2
		HEI confirmatory test at 18 months (%)	50.4	59.32	68.24	77.16	86.08	95	DHIS2
	Impact indicators	Percentage of MTCT rate of HIV among breastfeeding infants	14.96	13.0	11.0	9.0	7.0	<5	DHIS2 GAPR
		Case rate of new paediatric HIV infections per 100 000 live births	769					<50	Special survey
Syphilis	Process indicators	Percentage of women accessing ANC who were tested for syphilis	65.9	71.72	77.54	83.36	89.18	95	DHIS2
		Percentage of pregnant women with a positive syphilis serology who were treated adequately*	70	75	80	85	90	95	DHIS2
	Impact indicators	Case rate of congenital syphilis per 100 000 live births						≤50	Special survey
HBV	Process indicators	Percentage of ANC attendees tested for HBsAg**	20	34	48	62	76	90	DHIS2
		Treatment of HBV positive in pregnancy (%)	10	26	42	58	74	90	DHIS2
	Impact indicators	Hepatitis B surface antigen (HBsAg) prevalence among children (%)	4.452					≤ 0.1	Special survey
Process indicators		Percentage of pregnant women visiting ANC at least once	74	78.2	82.4	86.6	90.8	95	EDHS DHIS2
		Percentage of pregnant women visiting ANC at least four times	43	50.6	58.2	65.8	73.4	81	EDHS DHIS2
		Proportion of births attended by skilled personnel (%)	50	55.2	60.4	65.6	70.8	76.0	EDHS DHIS2

* At least one injection of 2.4 million units of intramuscular benzathine penicillin at least 30 days prior to delivery.53

**WHO recommends that HBsAg testing be routinely offered to all pregnant women in antenatal clinics with linkages to prevention, care and treatment services in settings with ≥ 2% or ≥ 5% HBsAg seroprevalence in the general population

08 Costing of EMTCT of HIV, Syphilis and HBV National Strategy for 2021-2025

As noted earlier, in order to achieve the triple elimination of HIV, syphilis and HBV, internal and external resource mobilization is among the key strategies in this strategic plan, for which yearly required costing is essential. After identifying areas of interventions for EMTCT of HIV, syphilis and HBV, the required cost was projected for the period of 5 years, from 2021-2025. While developing costing for this strategic plan, affordable, feasible and cost effective interventions were considered. The total health facility deliveries, estimated number of women with HIV, syphilis, and HBV are taken into consideration for the cost estimation Table 7). Accordingly, the five-year budget requirement is outlined as shown in Table 8.

The cost estimation was done using OneHealth Tool V.6.00 (Dec 18, 2020), which is a tool for medium term strategic health planning at national level. Interventions like HIV testing, screening for syphilis and HBV, diagnostic supplies for viral load and CD4 count, exposed infant diagnosis, treatment for HIV, syphilis and HBV, pre-exposure prophylaxis for discordant couple at PMTCT, and maternal and exposed infant prophylaxis were also considered. Program cost for health workers capacity building through training, supervision, monitoring and evaluation, communication, media and outreach activities, and advocacy have been included in the cost of this strategic plan.

However, cost for human resources are excluded unless the person is directly hired for EMTCT activities. This is because this costs are expected to be included in other programs. The cost of family planning for HIV women and vaccination of exposed infants attending EMTCT program was not included as it was already costed in RH strategic plan. The cost for infrastructures are also excluded as this strategic plan will be implemented in the existing facilities.

Table 6. Summary cost for implementing Triple elimination of HIV, Syphilis and HBV for the year 2021-2025 strategic plan.

S.No	Cost Category	2021 (ETB)	2022 (ETB)	2023 (ETB)	2024 (ETB)	2025 (ETB)	Total (ETB)
1.	Intervention Cost						
1.1	HIV diagnosis and treatment in pregnancy, and lactation and diagnosis and prophylaxis of HEIs	526,420,575.28	572,127,904.47	612,877,568.01	648,078,544.79	691,447,003.13	3,050,951,595.69
1.2.	Syphilis diagnosis and treatment in pregnant women and their infants	314,268,886.06	333,055,619.74	349,431,956.93	363,127,472.44	382,089,887.94	1,741,973,823.11
1.3.	HBV diagnosis, prophylaxis and treatment in pregnancy	78,151,778.49	143,005,395.40	204,269,310.18	261,224,260.19	320,034,747.01	1,006,685,491.27
	Total intervention cost	918,841,239.83	1,048,188,919.61	1,166,578,835.13	1,272,430,277.41	1,393,571,638.08	5,799,610,910.06
2.	Program cost						
	Program-Specific Human Resources	8,640,000.00	8,640,000.00	8,640,000.00	8,640,000.00	8,640,000.00	43,200,000.00
	Training	38,248,000.00	36,693,600.00	36,339,460.00	33,972,100.00	32,487,200.00	177,740,360.00
	Supervision	16,849,920.00	16,849,920.00	16,849,920.00	16,849,920.00	16,849,920.00	84,249,600.00
	Communication, Media & Outreach	24,300,000.00	7,800,000.00	9,600,000.00	10,950,000.00	4,800,000.00	57,450,000.00
	Advocacy	4,950,000.00	5,040,000.00	1,140,000.00	1,140,000.00	5,040,000.00	17,310,000.00
	General Program Management	7,573,950.00	4,194,300.00	5,269,650.00	4,194,300.00	5,269,650.00	26,501,850.00
2.7	Other cost(Viral load machine for Hepatitis)	4,500,000.00	4,500,000.00	6,000,000.00	0	0	15,000,000.00
	Total program cost	105,061,870.00	83,717,820.00	83,839,030.00	75,746,320.00	73,086,770.00	421,451,810.00
Grand total		1,023,903,109.83	1,131,906,739.61	1,250,417,865.13	1,348,176,597.41	1,466,658,408.08	6,221,062,720.06

09 The roles and responsibilities of different stakeholders in the implementation of the EMTCT of HIV, SYPHILIS and HBV strategic plan

Parliamentarian and political leaders

- Advocating high level political commitment for triple elimination of MTCT of HIV, syphilis and HBV and keeping positive mothers alive.
- Ensuring that interventions for triple elimination are included in essential health services packages and effective collaboration and synergy between the HIV, syphilis, HBV and maternal, new-born and child health services around the goals of triple elimination of new HIV, Syphilis and HBV infections among children by 2025 and keeping their mothers alive.
- Strengthening RMNCH program by increasing adequate domestic financial contributions and external investment for the elimination of new HIV infections, congenital syphilis and HBV among children and keeping their mothers alive.
- Providing an action-oriented leadership to make the elimination of new HIV, Syphilis and HBV infections among children and keeping their mothers alive a high priority at national, regional, woreda and community levels and maximize strategic opportunities for collective action.
- Prioritizing populations with the highest unmet need and ensure actual implementation of the national plan and strategies.
- Assessing and removing the bottlenecks to free MNCH/HIV policies, syphilis and HBV services and make policy decisions for actual implementation of the strategic plan.
- Ensuring implementation of national policies to reduce HIV- and gender-related stigma and discrimination and other related barriers to effective uptake of essential MNCH/HIV STI services
- Promoting and strengthening strategic partnerships to improve sustainability of the national response to HIV, syphilis and HBV, including eliminating new HIV, syphilis and HBV infections in children and keeping their mothers alive.

The Ministry of Health (MOH) with the HAPCO

- The MOH will lead the implementation of the EMTCT of HIV, syphilis and HBV strategic plan. It will provide overall technical leadership, guidance, advice, resource allocation, monitoring and

evaluation of the implementation of EMTCT of HIV, syphilis and HBV strategic plan

- Developing/validating the national testing algorithm at regular intervals, EID, viral load, biochemistry, and hematology test associated with HIV, syphilis and HBV treatment, quality assurance, and conducts drug resistance surveillance.

- Developing and updating national guidelines and training manuals on EMTCT of HIV, syphilis and HBV so as to reflect the latest evidence-based WHO recommendations through coordinated approaches across programs and expertise.

- The MOH will ensure availability of essential drugs and supplies by facilitating efficient procurement and distribution to all levels of service delivery. In collaboration with PFSA, the MOH will facilitate forecasting and procurement of ARV, HIV, Syphilis and HBV test kits and other laboratory supplies and their timely distribution to all health facilities.

- Federal and regional HAPCOs will support multi-sectoral collaboration with other concerned line ministries such as education, water and communication. EPHI will support research, monitoring and evaluation, surveillance, laboratory functions (EID) and quality assurance, while FMHACA will lead the regulatory activities.

Working to ensure that national and sub national plans, policies, guidelines and protocols are endorsed and implemented by all stakeholders.

PMTCT Technical Working Group (TWG)

- Providing technical support to MOH in the implementation of triple elimination of HIV, syphilis and HBV strategy

- Regularly monitoring the barriers for program implementation and seek timely evidence informed solutions to the problems.

- In support of the MOH, leading, coordinating and overseeing partner support at national level to plan for the elimination of new HIV infections, congenital syphilis and HBV among children and keeping their mothers alive.

- Based on the evolving global evidences, informing and supporting the MOH in adopting new and innovative practices and strategies for EMTCT of HIV, Syphilis and HBV.

Regional Health Bureaus (RHBs)

- RHBs will adopt the national EMTCT of HIV, syphilis and HBV strategic plan and coordinate its translation into a context specific regional EMTCT plan

- RHBs to coordinate technical support to revision/update of and implementation of district micro plans in line with the national EMTCT of HIV, syphilis and HBV

- RHBs are responsible for planning, resource allocation, management, supervising and monitoring all EMTCT of HIV, syphilis and HBV activities and partners in the region.

- RHBs will coordinate and ensure quality training and mentoring of health care providers on EMTCT of HIV, syphilis and HBV at the district level and analyze, compile, disseminate and use reports and data on EMTCT of HIV, syphilis and HBV from the districts and send to the National Level.

- Working with partners, RHBs will coordinate and conduct supportive supervision and clinical mentoring visits to hospitals and health centers.

Zonal and Woreda Health Offices

- Zonal and Woreda health offices will develop and implement a context specific district EMTCT of HIV, syphilis and HBV plan (including Monitoring/ Supervision and Evaluation) through updating their existing plans. The Woreda based plans should include MNCH and EMTCT of HIV, syphilis and HBV targets and detailed scale up plans, as well as ensuring adequate allocation of human and financial resources.

- Zonal and Woreda health offices will provide technical support for quality EMTCT of HIV, syphilis and HBV services at the health facility level (hospital, health centers), including voluntary agencies and private health facilities. This includes setting up effective follow up mechanisms up to the community level for EMTCT of HIV, syphilis and HBV through involvement of HEW, HDA and associations of women living with HIV and women's coalition civic society organizations.

Health facilities (Hospitals and Health centers)

- As part of the district level planning process, health facilities will set clear targets for MNCH and EMTCT of HIV, syphilis and HBV for the catchment area population based on the PHCU principle.

- Facility managers will ensure availability of supplies and motivated staff to provide preventive and curative STI, including HIV, syphilis and HBV services, provide adequate supervision and monitoring, as well as mechanisms to improve motivation to provide high quality services.

- To ensure client satisfaction, retention, adherence and effective follow up, health facilities will need to provide quality services on HIV testing and counseling, syphilis and HBV screening information and counseling on PMTCT, family planning, tracking lost to follow up including reminder calls to women during pregnancy and postpartum period, drugs to prevent HIV transmission from mother to child, infant feeding counseling, and HIV treatment and care for infected mothers, infants and other family members.

- Each facility should put in place active referral and tracking mechanisms to ensure that women receive all the necessary services when moving from one level of care to the next.

- When possible, facilities will also be engaged in conducting community-based interventions in close

collaboration with HEWs and WHDTs: HIV testing and counseling, including voluntary HIV counseling and testing, home-based testing and counseling for partners, and community Mobilization

- Each hospital mentor should strengthen the capacity of health care providers at their Catchment area for those working at PMTCT

Health Extension Program (HEP)

- The HEWs will organize WHDTs, women's coalition, religious leaders and opinion leaders to promote MNCH services including HIV testing, syphilis and HBV screening for demand creation and pregnant mother-partner pair involvement.
- HEWs will support tracing of lost to follow up, referral, and adherence to treatment, with supervision and monitoring from the health center staff and a strong referral mechanism for HIV-positive women in need of services.
- The HEWs will work to identify local barriers to access of services and address them through national/ regional and/or locally adopted behavior change communication materials.
- HEWs will support optimal young infant feeding practices and referral of HIV testing of HIV exposed children.
- Mother Support Group counsels pregnant and breast feeding mothers on prevention, care and support, and tracing mothers and exposed infants of loss to follow up.

Faith Based and Civil Society Organizations, including mothers living with HIV and PLHIV association

- Through churches and mosques, community based organizations and groups, promote antenatal care, pre-marital HIV testing, family planning and birth spacing, HIV prevention and testing, skilled care at birth, postnatal follow ups, immunization, nutrition and prevention of harmful traditional practices.
- They will contribute to strengthen the engagement of women living with HIV, male partners, couples in HIV prevention in the context of treatment optimization through option B+, and treatment programs for mothers and children
- They will actively participate in planning, implementing, including monitoring of programs, and setting up accountability structures and mechanisms
- They will advocate and build constructive partnerships to ensure they are provided with necessary funding to support their contribution to the implementation of the plan
- They coordinate and harmonize national, regional and Woreda level civil society, networks of PLWH and activist groups in their various activities and particularly their advocacy agenda to ensure effective response from national and local governments, donors, partners and other Stakeholders

Development Partners, donors and implementing partners

- Overall, development and implementing partners and donors will support funding, coordination, and provide technical support for the implementation of the national and sub national EMTCT of HIV, syphilis and HBV
- They will incorporate community and health systems strengthening, including human resources into donor support.
- They will provide technical and financial support for expansion of services at the regional and Woreda levels. Specially, they will provide technical and financial support to regions and Woredas to identify needs/gaps and translate the National EMTCT of HIV, syphilis and HBV plan into regional and Woreda specific, actionable /effective comprehensive plans. In this process, partners and donors will avoid parallel structures/mechanisms that could undermine national ownership and sustainability.
- Donors and partners will strongly position EMTCT of HIV, syphilis and HBV elimination as integral to their support for strengthening broader maternal, newborn and child health.
- Development and implementing partners will strengthen coordination among themselves at national, regional and Woreda level to optimize their investment, accelerate expansion, improve performance assessment, and facilitate experience sharing and documentation of best practices that can be shared with RHBs, partners and MOH to improve implementation, uptake and outcomes of services.
- Implementing partners will also support capacity building activities to enable RHBs and Woredas to effectively plan, manage, implement and monitor the EMTCT program.
- Working in collaboration with RHBs, partners will provide technical support, mentoring, training and supervision. Training will be both the standard packages and on-the-job continuing medical/nursing/midwife education.
- They will support Woreda and site level supply and logistics management to avoid stock out of essential commodities.
- They will provide funding through a variety of modalities, including direct budget or pooled support and through support to projects that focus on MNCH, EMTCT of HIV, syphilis and HBV and researches as part of comprehensive HIV and MNCH services.
- They will develop rapid response mechanisms to respond timely to the country Technical advisory (TA) requests.

Media and communication

- Standard messaging and effective communication channels will be used for different audiences such as youths, women and men. Mobilizes champions to support the social mobilization and BCC activities.
- Media and communication structures will support the development and implementation of a communication strategy for social mobilization, demand creation, and stigma reduction.

Universities and colleges

- Universities and colleges will support pre-service and in-service training in MNCH, triple elimination of HIV, syphilis and HBV and inclusion of these subjects in the pre and in-service training curricula.
- They will ensure trainers have adequate knowledge and skills on MNCH, EMTCT of HIV, syphilis and HBV and able to conduct research to inform program design and implementation.
- Training institutions should include practicums that place students in health centers to learn and to provide additional support to health workers.
- Provide in-service training for health workers as part of continuing professional development (CPD)
- They will conduct operational research on EMTCT to identify the gaps and strengthen the service by providing scientific data for MOH and Regions policy input

Private Sector and the business community

- The private sectors will include HIV testing, syphilis and HBV screening and management, EID and Point of care (POC) diagnosis as a routine service for pregnant and lactating women.
- The private sector should have access to ART training and technical assistance to enable them to carry out quality services for clients. The PFSA will provide needed supplies and commodities to private facilities.
- Compile and report their data as per the national indicators and data elements
- They will advocate for the elimination of new HIV, syphilis and HBV infections among children and keeping their mothers alive within the business community.

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2021-2025