REGIONAL FRAMEWORK FOR

The Triple Elimination of Mother-to-Child Transmission of HIV, Hepatitis B and Syphilis in Asia and the Pacific, 2018–2030
Regional Framework for the Triple Elimination of Mother-to-Child Transmission of HIV, Hepatitis B and Syphilis in Asia and the Pacific, 2018–2030
# ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ANC</td>
<td>antenatal care</td>
</tr>
<tr>
<td>ART</td>
<td>antiretroviral therapy</td>
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<tr>
<td>ARV</td>
<td>antiretroviral (drug)</td>
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<tr>
<td>EMTCT</td>
<td>elimination of mother-to-child transmission</td>
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<tr>
<td>HBIG</td>
<td>hepatitis B immunoglobulin</td>
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<tr>
<td>HBsAg</td>
<td>hepatitis B surface antigen</td>
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<tr>
<td>HBV</td>
<td>hepatitis B virus</td>
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<tr>
<td>MDGs</td>
<td>Millennium Development Goals</td>
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<td>RMNCH</td>
<td>reproductive, maternal, newborn and child health</td>
</tr>
<tr>
<td>STI</td>
<td>sexually transmitted infection</td>
</tr>
<tr>
<td>SDGs</td>
<td>Sustainable Development Goals</td>
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<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<td>UNAIDS</td>
<td>Joint United Nations Programme on HIV/AIDS</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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ACKNOWLEDGEMENTS

This Regional Framework was developed through contributions from and in collaboration with Member States in Asia and the Pacific, civil society organizations, partner organizations and individuals, including: the United Nations Children’s Fund (UNICEF), the Joint United Nations Programme on HIV/AIDS (UNAIDS), experts from the Chinese Center for Disease Control and Prevention, the Center for Disease Analysis, the Peter Doherty Institute for Infection and Immunity, the Global Validation Advisory Committee for Elimination of Mother-to-Child Transmission of HIV and Syphilis, the Hepatitis B Immunization Expert Resource Panel, the Independent Review Group for Early Essential Newborn Care, the London School of Hygiene & Tropical Medicine, the National Center for Global Health and Medicine Japan, TREAT Asia (Therapeutics Research, Education, and AIDS Training in Asia), the United States Centers for Disease Control and Prevention, and ZeShan Foundation.
FOREWORD

Every child should be given the best chance to start a healthy life, free from preventable infections.


Mother-to-child transmission of these infections can be effectively prevented by simple interventions including antenatal screening and treatment for women and her partners, and vaccination for infants through reproductive, maternal, newborn and child health (RMNCH) services.

However, many infants continue to be born with these preventable and treatable infections in Asia and the Pacific due to limited availability and access to these essential interventions.

EMTCT of each infection shares similar interventions providing an opportunity for synergy and efficient service delivery through the common RMNCH platform. Suboptimal coordination among concerned programmes results in gaps or duplication of activities, thus making these services less accessible for women, children and their families, and thereby decreasing the effectiveness of these services. An introduction of additional interventions may be required to prevent perinatal infection among infants born to mothers with high hepatitis B viral load. However, the current capacity and resources of RMNCH programmes – and more broadly of health systems – limit the availability and accessibility of these services.

Substantial scale-up of existing interventions and proposed interventions require investments in RMNCH services. Experiences from Member States suggest that strengthened RMNCH services and better coordination among programmes will make services more accessible for women, children and their families and will result in better outcomes, more efficient use of resources and sustainable mechanisms.

The Regional Framework for the Triple Elimination of Mother-to-Child Transmission of HIV, Hepatitis B and Syphilis in Asia and the Pacific 2018–2030 was developed from 2016 in collaboration with the WHO Regional Office for South-East Asia, and through consultation with Member States, civil society, as well as regional and global experts from partner organizations to guide a path towards triple elimination in Asia and the Pacific.
Subsequently, this Framework was endorsed by all Member States during the sixty-eighth session of the Regional Committee for the Western Pacific (WPR/RC68.R2) in October 2017. This framework proposes an integrated and coordinated approach towards the goal of triple elimination, emphasizing the principle of mother-newborn-and-child-centred care and universal health coverage. Through implementation of this framework, we will demonstrate the significance of collaboration among programmes and joint efforts towards the common goal of triple elimination.

Shin Young-soo, MD, Ph.D.
Regional Director
EXECUTIVE SUMMARY

Every child should be given the best chance to start a healthy life, free from preventable communicable diseases. However, a significant number of infants each year in Asia and the Pacific are born with or infected early in life with HIV, hepatitis B or syphilis.

The Regional Framework for the Triple Elimination of Mother-to-Child Transmission of HIV, Hepatitis B and Syphilis in Asia and the Pacific 2018–2030 offers a coordinated approach towards achieving the elimination of mother-to-child transmission (EMTCT) of HIV, hepatitis B and syphilis and provides guidance for decision-makers, managers and health professionals working in programmes addressing reproductive, maternal, newborn and child health (RMNCH), HIV, hepatitis, sexually transmitted infections and immunization.

The Global Strategy for Women’s, Children’s and Adolescents’ Health (2016–2030) aims for the highest attainable standards of health and well-being. Similarly, the global health sector strategies on HIV, viral hepatitis and sexually transmitted infections for 2016–2021 set specific goals for the EMTCT of HIV by 2020 and the EMTCT of hepatitis B and syphilis by 2030. These goals can only be achieved when access to quality RMNCH services is ensured for all women, children and their families in the context of universal health coverage.

Mother-to-child transmission of HIV, hepatitis B and syphilis can be effectively prevented and eliminated by similar interventions, including the prevention of new infections among people of reproductive age, prevention of unintended pregnancies, antenatal screening, treatment and vaccination through the RMNCH platform. The similarity of interventions also provides an opportunity for efficient service delivery and better outcomes.

However, these interventions are not always provided as standard components of RMNCH services. The planning, implementation, reporting and monitoring of these interventions do not always occur in coordination, resulting in gaps or duplications – thus making services less accessible to women, their partners, children and families. This also results in missed opportunities to use available resources efficiently and limits the impact of the interventions.

This Regional Framework proposes an integrated and coordinated approach towards triple elimination – emphasizing the principle of mother-newborn-and-child-centred care and a human-rights-based approach for every child, mother, her partner and their families. It also presents potential new interventions for EMTCT of hepatitis B, building upon the successful vaccination programmes to achieve ≤ 0.1% hepatitis B surface antigen (HBsAg) prevalence among children by 2030.
1. BACKGROUND

1.1 GLOBAL GOALS FOR ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION OF HIV, HEPATITIS B AND SYPHILIS

HIV, hepatitis B and syphilis can be transmitted from infected mothers to their infants, causing significant morbidity and mortality. However, transmission of these infections can be prevented by simple and effective interventions, including the prevention of new infections among people of reproductive age, prevention of unintended pregnancies, antenatal screening, treatment and vaccination.

Every child should be given the best chance to start a healthy life, free from preventable communicable diseases. This can only be possible when access to quality reproductive, maternal, newborn and child health (RMNCH) services is ensured for all women, children and their families in the context of universal health coverage. The Sustainable Development Goals (SDGs) strive to end poverty and hunger and ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment. SDG 3 strives to ensure healthy lives and promote well-being for all at all ages by addressing health priorities, including reproductive, maternal and child health (RMNCH), and communicable diseases (1). Similarly, the Global Strategy for Women’s, Children’s and Adolescents’ Health (2016–2030) (2) aims for the highest attainable standards of health and well-being, and its implementation is supported by the Every Woman Every Child movement (3).

With specific targets for elimination of mother-to-child transmission (EMTCT) of HIV, hepatitis B and syphilis, the Global Health Sector Strategy on HIV 2016–2021 (4), the Global Health Sector Strategy on Viral Hepatitis 2016–2021 (5) and the Global Health Sector Strategy on Sexually Transmitted Infections 2016–2021 (6) set global goals to end the AIDS and sexually transmitted infections (STIs) epidemics and to eliminate viral hepatitis as a
public health threat by 2030. Supported by the endorsement by Member States of these goals and targets in 2016, multiple calls, including the 2016 Political Declaration on HIV and AIDS (7), have also been established to support these control and elimination endeavours.

The World Health Organization (WHO) has defined EMTCT of HIV and syphilis and set the global criteria for elimination (8). The Global Health Sector Strategy on Viral Hepatitis 2016–2021 defines EMTCT of hepatitis B as achievement of a 90% reduction in new chronic infections, equivalent to 0.1% prevalence of hepatitis B surface antigen (HBsAg) among children (5). These elimination criteria and disease-specific targets are summarized in Table 1, section 2.3. In order to achieve elimination, the following must be achieved: a reduction of the overall prevalence of HIV, hepatitis B and syphilis; prevention of unintended pregnancies; provision of EMTCT interventions during the antenatal, delivery and postnatal periods; and high hepatitis B vaccination coverage.

1.2 REGIONAL PROGRESS IN ASIA AND THE PACIFIC

Reproductive, maternal, newborn and child health

The Asia and Pacific region has seen significant progress in achieving Goals 4 (reduce child mortality) and 5 (improve maternal health) of the Millennium Development Goals (MDGs). In the WHO Western Pacific Region and the South-East Asia Region, the maternal mortality ratios, between 1990 and 2015, have decreased by 64% and 69%, respectively (9). The decline is greater than the global rate. The dramatic increases in antenatal care (ANC) coverage (at least one visit), births attended by skilled birth attendants and improved quality of care are the main contributors to this success (9, 10).

Challenges remain in addressing both inequities in access to health services, especially for vulnerable populations, and the persistence of inappropriate practices by health-care providers that contribute to poor quality of care. To address these concerns through the provision of evidence-based guidelines and interventions, Member States in the Western Pacific Region endorsed the Action Plan for Healthy Newborn Infants in the Western Pacific Region (2014–2020) (11). The South-East Asia Region is developing both the Regional Framework for Reproductive, Maternal, Newborn, Child and Adolescent Health and Strategic Guidance on Adolescent Health for Countries in the South-East Asia Region 2017–2020 to further accelerate RMNCH services.
Dual elimination of mother-to-child transmission of HIV and syphilis

HIV prevalence in Asia and the Pacific remains low at 0.2%, with 5.1 million people estimated to have been living with HIV in 2016 (12). In 2016, approximately 71,000 pregnant women were living with HIV, and 15,000 cases of new paediatric HIV infections (21% mother-to-child transmission rate) were estimated to have occurred in the region. Only 46% of pregnant women living with HIV received antiretroviral therapy (ART) in 2016, which was significantly lower than the global ART coverage of 76% (13). This was primarily due to low HIV testing coverage during ANC, which resulted in a significant gap in diagnosing pregnant women with HIV in many countries (Fig. 1).

The incidence of STIs is higher in Asia and the Pacific as compared to the other regions (6, 14). While quality data are rather limited for STIs, a modelling study estimated the regional prevalence of maternal syphilis as 0.24% for the Western Pacific Region and 0.32% for the South-East Asia Region in 2012 (15), with a reported increasing trend of syphilis infections among key populations and young people in several countries. The same study also indicated that 167,000 cases of maternal syphilis have occurred in Asia and the Pacific, resulting in 65,800 adverse outcomes including early fetal deaths. Yet, coverage of syphilis screening during ANC and treatment remains low in many countries.

The Asia-Pacific Prevention of Parent-to-Child Transmission Task Force has been providing technical support on dual EMTCT of HIV and syphilis. Building on this effort, the WHO regional offices for South-East Asia and the Western Pacific jointly established the

Figure 1. EMTCT cascade for HIV in Asia and the Pacific (2016)

ARV = antiretroviral (drugs), PMTCT = prevention of mother-to-child transmission
Regional Validation Secretariat in 2015 to support countries seeking validation of EMTCT of HIV and syphilis in partnership with the United Nations Children’s Fund (UNICEF) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) (16). The Regional Secretariat works closely with the Global Validation Advisory Committee, which declared in June 2016 that Thailand had become the first country in Asia and the Pacific to achieve the EMTCT of HIV and syphilis.

**Hepatitis B control through vaccination**

Asia and the Pacific bear a significant burden of hepatitis B. In the Western Pacific Region, 115 million people are estimated to be living with chronic hepatitis B, which accounts for 45% of infections worldwide (17, 18). In the South-East Asia Region, 39 million people, representing 15% of global infections, are estimated to have chronic hepatitis B infection (17, 19).

As a result of successful hepatitis B vaccination programmes in the Western Pacific Region, 21 countries and areas have been verified as meeting the 2017 goal of reducing prevalence to < 1% among 5-year-old children as of May 2018, with an estimated regional prevalence of 0.93% among children born in 2012. As a result of hepatitis B vaccination programmes, more than 37 million cases of chronic hepatitis B infection and 7 million deaths have been averted among children born between 1999 and 2014 (20). The Regional Action Plan for Viral Hepatitis in the Western Pacific 2016–2020 (21) provides a systematic approach for reducing the impact of viral hepatitis aligned with the global goal of reducing the prevalence of HBsAg to equal or below 0.1% by 2030. The Western Pacific Region achieved 84% birth-dose coverage and 94% third-dose coverage among countries reporting on the 2015 WHO/UNICEF Joint Reporting Form (Fig. 2).

In the South-East Asia Region, hepatitis B vaccine third-dose coverage reached 87% in 2015. A birth dose is currently provided in six countries and in one region of Thailand, however, the birth dose continues to be a challenge in countries with low rates of facility deliveries or births attended by skilled birth attendants. The WHO Regional Committee for South-East Asia in 2016 endorsed the Regional Action Plan for Viral Hepatitis in South-East Asia: 2016–2021 (22), followed by the recommendation from the Regional Immunization Technical Advisory Group to adopt the 2020 global target of HBsAg prevalence of < 1% among children under 5 years of age.

**Uncoordinated approach among programmes**

A review of the current situation in Asia and the Pacific revealed that EMTCT interventions for HIV, hepatitis B and syphilis were not necessarily provided as standard components of RMNCH services. While they share a common RMNCH-care platform, the planning, implementation, reporting and monitoring of these discrete but related interventions do
not always occur in coordination – resulting in gaps or duplications and thereby making services less accessible to women, their partners, children and families. This also results in missed opportunities to use available resources efficiently and prevents achieving maximum impact. Better collaboration and synergy among programmes are urgently needed to improve accessibility, effectiveness and efficiency of EMTCT interventions.

1.3 A NEW APPROACH TO EMTCT OF HEPATITIS B

A comprehensive package of interventions is needed to achieve the global goal of ≤ 0.1% HBsAg prevalence among children (5). This should be built on a strong hepatitis B vaccination programme and strengthened RMNCH services, and includes prevention of infection in young women, screening and care of pregnant women with chronic hepatitis B infection, the possible use of antiviral drugs and the use of hepatitis B immunoglobulin (HBIG) among infants born to HBsAg-positive mothers (5).
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 a ≥2% (intermediate) or ≥5% (high) HBsAg seroprevalence in the general population (23). With an estimated prevalence of hepatitis B virus (HBV) infection of 6.2% in the Western Pacific Region and 2.0% in the South-East Asia Region (17), antenatal screening plays an important role. It is reported that more than 14 countries have already included HBsAg screening in ANC packages in Asia and the Pacific (24).

Recently, some countries have included hepatitis B in their EMTCT plans, by integrating HIV, syphilis and hepatitis B antenatal screening, prevention and treatment interventions into their RMNCH package of services. Some countries face challenges of limited capacity and resources for their RMNCH programmes – and more broadly capacity and resource constraints on their entire health system – that present barriers to the introduction of new interventions. In this regard, a tiered approach (Fig. 3) is proposed in order to introduce a comprehensive package of interventions for EMTCT of hepatitis B, considering various levels of health system capacities. As of June 2017, WHO guidance on the use of antiviral drugs for HBsAg-positive pregnant women with high HBV DNA levels or hepatitis B e-antigen-positive status was not available.

**Figure 3.** Tiered approach to introduction of additional interventions for EMTCT of hepatitis B
1.4 RATIONALE AND SCOPE OF THE REGIONAL FRAMEWORK

The objective of this Regional Framework is to suggest a coordinated approach towards achieving triple elimination and provide guidance for decision-makers, managers and health professionals working in programmes addressing RMNCH, HIV, hepatitis, STIs and immunization.

EMTCT interventions for HIV, hepatitis B and syphilis are essential components of quality RMNCH care. The similarity of these interventions to prevent mother-to-child transmission of these three infections through the common platform of reproductive, antenatal, childbirth, postnatal and child care provides a unique opportunity for coordination and integration of services and maximizes their accessibility, effectiveness, efficiency and sustainability (Fig. 4). This also aligns with and supports an effort towards achieving the SDGs within a context of declining external funding for health in some countries in the region.

In order to provide every child the best chance to start a healthy life free of preventable communicable diseases and recognizing the scope of the problem across Asia and the Pacific, the WHO Regional Office for the Western Pacific, the WHO Regional Office for South-East Asia and their partners jointly developed this Regional Framework for the Triple Elimination of Mother-to-Child Transmission of HIV, Hepatitis B and Syphilis, in close consultation with Member States and experts. Member States have provided inputs to this Framework from 2016 to 2017, and a consultation on the Framework brought together national, regional and global experts in Manila in February 2017 (25).

Aligning with the existing global and regional strategies, action plans and goals for RMNCH and control of HIV, hepatitis and STIs, this Regional Framework is intended to propose an integrated and coordinated approach towards triple elimination, emphasizing the principle of mother-newborn-and-child-centred care and a human-rights-based approach for every child, mother, her partner and their families. This Framework also discusses potential new interventions for EMTCT of hepatitis B, building upon successful vaccination programmes to achieve ≤ 0.1% HBsAg prevalence among children by 2030.
Figure 4. EMTCT interventions for HIV, hepatitis B and syphilis

**ANTENATAL CARE**

<table>
<thead>
<tr>
<th>GESTATION in WEEKS</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
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<tbody>
<tr>
<td>HIV confirmatory test (+)</td>
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<td>HIV test</td>
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**HIV**

**HEPATITIS B**

- HBeAg and HBV DNA tests
- if (+) HBsAg test
- In settings with a ≥ 2% or ≥ 5% HBsAg seroprevalence in the general population

**SYPHILIS**

- Treatment
- if (+) Syphilis test
- Syphilis test/Treatment
- Syphilis retest for high-risk women

ARV = antiretroviral (drug). HBeAg = hepatitis B e-antigen, HBIG = hepatitis B immunoglobulin, HBsAg = hepatitis B surface antigen, HBV = hepatitis B virus

Note: Screening tests are recommended at the first antenatal care visit, ideally before 20 weeks gestation; for women presenting after 20 weeks, screening tests and treatment should be done as soon as possible.
### POSTNATAL CARE

<table>
<thead>
<tr>
<th>Visits</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th/1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
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<tr>
<td><strong>AFTER BIRTH</strong></td>
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<td></td>
</tr>
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<td></td>
<td>Day 0–1</td>
<td>Day 3</td>
<td>Day 7–14</td>
<td>Week 6</td>
<td>Week 10</td>
<td>Week 14</td>
<td>Month 6</td>
<td>Month 9</td>
</tr>
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### WELL-CHILD VISIT

- HIV retest for high-risk women
- ARV prophylaxis for 6–12 weeks
- Co-trimoxazole prophylaxis (from 4–6 weeks)
- Early infant diagnosis at 4–6 weeks
- HIV tests at 9 and 18 months

### (SOME MAY BE ON TREATMENT BEFORE PREGNANCY)

1. 12 weeks of prophylaxis for high-risk breastfed infants
2. Continued until final diagnosis after cessation of exposure

### (POTENTIAL USE OF ANTIVIRAL TREATMENT FOR WOMEN WITH HIGH VIRAL LOAD)

- Vaccine birth dose within 24 h
- 2nd dose ≥ 4 weeks
- 3rd dose ≥ 4–8 weeks
- Post-vaccination serologic testing

- HBIG
- For infants of HBsAg-positive mothers

### Treatment

- Given to infants born to mothers who were inadequately treated/not treated

2. REGIONAL FRAMEWORK

2.1 VISION, GOAL AND PRINCIPLES

VISION: Every infant free of HIV, hepatitis B and syphilis

GOAL: Achieve and sustain elimination of mother-to-child transmission (EMTCT) of HIV, hepatitis B and syphilis and achieve better health for women, children and their families through a coordinated approach and efforts by 2030

PRINCIPLES

• Mother-newborn-and-child-centred care
  Reproductive, maternal, newborn and child health (RMNCH) services including essential EMTCT interventions should be provided in the best interests of women, their partners, children and their families, putting them at the centre of care.

• Universal health coverage for quality and equitable care
  Quality RMNCH services including essential EMTCT interventions should be available, accessible and affordable without the risk of financial hardship to all women, their partners, children and their families.

• Sustainable mechanisms
  Efforts for triple elimination should be built into existing health systems and further strengthen them to ensure sustainability.

• Promotion of human rights, gender equity and equality
  The rights of women, their partners, children and their families should be respected, and gender equity and equality need to be ensured.

• Multi-stakeholder involvement including individuals, families and communities
  All stakeholders should be involved in planning, implementation, and monitoring and evaluation of efforts towards triple elimination, in particular affected communities and vulnerable populations.
2.2 PILLARS: PRIORITY ACTIONS TO ACHIEVE TRIPLE ELIMINATION

This section proposes priority actions for a coordinated approach to triple elimination, supported by three pillars: 1) policy, 2) service delivery, and 3) monitoring and evaluation (Fig. 5). Targets and milestones are set for each pillar to support coordinated approaches (Fig. 6). Member States are encouraged to consider and implement suggested actions reflecting country-specific contexts and health system capacities.

Figure 5. Structure of the Regional Framework for triple elimination

<table>
<thead>
<tr>
<th>VISION</th>
<th>GOAL</th>
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<tr>
<td>Every infant free of HIV, hepatitis B and syphilis</td>
<td>Achieve and sustain EMTCT of HIV, hepatitis B and syphilis and achieve better health for women, children and their families through a coordinated approach and efforts by 2030</td>
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PILLAR 1: POLICY
Coordinated national policy and strategy

PILLAR 2: SERVICE DELIVERY
Seamless quality care for women, newborns, children and their families

PILLAR 3: MONITORING AND EVALUATION
Coordinated monitoring and evaluation of elimination

Figure 6. Targets and milestones of the Regional Framework for triple elimination

<table>
<thead>
<tr>
<th>IMPACT TARGETS</th>
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<tr>
<td>&lt; 50 new paediatric HIV infection per 100 000 live births</td>
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<tr>
<td>HIV MTCT rate &lt; 5% or &lt; 2%</td>
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<tr>
<td>≤ 0.1% prevalence of HBsAg among children</td>
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<tr>
<td>≤ 50 congenital syphilis cases per 100 000 live births</td>
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<table>
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<tr>
<th>2020 MILESTONES</th>
<th>2030 TARGETS</th>
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<tbody>
<tr>
<td>- Coordination mechanism for EMTCT established</td>
<td>- National RMNCH policy includes EMTCT as standard component</td>
</tr>
<tr>
<td>- Coordinated EMTCT plan developed</td>
<td>- Universal access to core EMTCT services</td>
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<tr>
<td>- EMTCT indicators included in national health information system</td>
<td>- Coordinated monitoring through interlinked system</td>
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<tr>
<th>PROGRAMME TARGETS (95+)</th>
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<tr>
<td>- Antenatal care coverage ≥ 95%</td>
</tr>
<tr>
<td>- Births attended by skilled health personnel ≥ 95%</td>
</tr>
<tr>
<td>- Antenatal HIV, hepatitis B and syphilis screening ≥ 95%</td>
</tr>
<tr>
<td>- Treatment coverage (HIV and syphilis) ≥ 95%</td>
</tr>
<tr>
<td>- Hepatitis B vaccine birth-dose coverage ≥ 95%</td>
</tr>
<tr>
<td>- Hepatitis B vaccine third-dose coverage ≥ 95%</td>
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</table>

EMTCT = elimination of mother-to-child transmission, MTCT = mother-to-child transmission, RMNCH = reproductive, maternal, newborn and child health
PILLAR 1

COORDINATED NATIONAL POLICY AND STRATEGY

Proposed priority actions for Member States

1. Advocate high-level political commitment for the achievement of EMTCT of HIV, hepatitis B and syphilis.

2. Develop coordinated policies and strategies for triple elimination that are built into national and subnational RMNCH policies, strategies, plans and guidelines, aligning with related programmes with defined roles and responsibilities of each programme and stakeholders.

3. Establish a mechanism for coordination, implementation and monitoring, building on existing systems and stakeholders including affected communities.

4. Strengthen RMNCH and other related programmes by ensuring adequate and sustainable financial and human resources and by developing capacities to provide quality services including interventions for triple elimination.

5. Ensure that interventions for triple elimination are included in essential health services packages and access to services are ensured and covered by public funding.

6. Address and remove social and financial barriers for all women, children and their families, including vulnerable and marginalized populations, to access services for triple elimination within reproductive, antenatal, childbirth, postnatal and child care.

7. Respect human rights of all women, their partners, children and families; ensure protection of their privacy and confidentiality; and address stigma and discrimination associated with implementation of interventions.

8. Consider possibility to expand the synergies within the RMNCH platform to include other health issues as appropriate in view of potential benefits.
Proposed priority actions for WHO and partners

1. Support Member States to advocate high-level political commitment for triple elimination, including development of communications materials and tools.

2. Support Member States to develop coordinated policies and strategies for triple elimination within reproductive, antenatal, childbirth, postnatal and child care.

3. Ensure coordination across programmes among WHO and partners to provide coordinated support to Member States.

4. Support Member States to estimate and allocate adequate resources and develop capacities of the RMNCH and other related programmes to provide quality RMNCH services, including interventions for triple elimination.

5. Support Member States to include triple elimination interventions in essential health service packages covered by public funding and to ensure the access to services by addressing and removing social and financial barriers.

6. Facilitate intercountry and regional partnerships, sharing of best practices and lessons learnt, and mentoring among countries and regions.

7. Support Member States to ensure a human-rights-based approach and to address ethical aspects related to implementation of interventions.

8. Support Member States to consider inclusion of other health issues in the RMNCH platform.
PILLAR 2

SEAMLESS QUALITY CARE FOR WOMEN, NEWBORNS, CHILDREN AND THEIR FAMILIES

**Proposed priority actions for Member States**

1. Assess and map where and how interventions for triple elimination are currently being provided within reproductive, antenatal, childbirth, postnatal and child care services, and identify gaps and opportunities for coordination and integration.

2. Update, refine and link national policies, guidelines and training on reproductive, antenatal, childbirth, postnatal and child care to provide the latest evidence-based quality of care for all pregnant women, newborns and children, including interventions for triple elimination.

3. Develop a plan for strengthening or scaling up coordinated interventions for EMTCT, including universal screening for HIV, syphilis and, as appropriate, hepatitis B surface antigen (HBsAg) for women and their partners, linkages to appropriate care and treatment, timely hepatitis B birth dose and follow-up vaccination.

4. Provide guidance and tools for health workers and those to be involved in service provision related to EMTCT within RMNCH care, through pre-service education and on-the-job training.

5. Engage communities and related sectors and provide information to all women, their partners and families to improve awareness and demand for quality RMNCH care including triple elimination, remove barriers to access services, and increase utilization.

6. Apply a tiered approach to introduce additional interventions for EMTCT of hepatitis B including antenatal screening, the possible use of antiviral drugs and the use of hepatitis B immunoglobulin (HBIG) among infants born to HBsAg-positive mothers based on evolving evidence and recommendations.

7. Consider application of new interventions and technologies that support the achievement of EMTCT of HIV, hepatitis B and syphilis and other communicable diseases, including the use of new diagnostic assays such as dual HIV/syphilis rapid test kits.

8. Ensure the quality of services provided for triple elimination, including laboratory services and those delivered by private health facilities, by building upon existing quality assurance mechanisms and approaches.
Proposed priority actions for WHO and partners

1. Support Member States to map and identify gaps and opportunities for coordination and integration for EMTCT interventions.

2. Support Member States to update national policies, guidelines and training on reproductive, antenatal, childbirth, postnatal and child care to reflect the latest evidence-based WHO recommendations through coordinated approaches across programmes and expertise.

3. Support Member States to review progress on EMTCT of HIV, hepatitis B and syphilis, determine additional steps and develop a plan for strengthening or scaling up coordinated interventions to achieve elimination.

4. Develop guidance and tools for health workers and those involved in service provision on interventions related to EMTCT including screening, referral, treatment and follow-up within reproductive, antenatal, childbirth, postnatal and child care.

5. Support Member States to develop communications materials and tools to provide information to women and their partners.

6. Develop guidance on a tiered approach for additional interventions for EMTCT of hepatitis B and provide support to Member States for its implementation.

7. Support Member States for the introduction of new interventions and technologies related to EMTCT through necessary analysis and the use of new diagnostic assays.

8. Support Member States to improve and ensure the quality of interventions, including laboratory services for triple elimination.
PILLAR 3

COORDINATED MONITORING AND EVALUATION OF ELIMINATION

Proposed priority actions for Member States

1. Standardize key indicators to be monitored based on global and regional recommendations and set national and subnational milestones and targets for EMTCT.

2. Review and map key indicators and determine how these key indicators are collected, analysed and used by national programmes and stakeholders to identify any duplications or gaps and develop a plan to improve data quality.

3. Refine and link existing data collection systems, including those in the private sector, to support better linkages and the monitoring of EMTCT progress by national programmes and stakeholders.

4. Monitor EMTCT indicators and report progress regularly through a coordinating mechanism to prepare for validation of elimination and the maintenance of elimination status after validation.

5. Conduct research to inform and adjust policy and improve implementation of EMTCT interventions.

6. Share experiences of implementation and lessons learnt with stakeholders within and outside of country.
Proposed priority actions for WHO and partners

1. Obtain consensus on key indicators building into existing global, regional and national reporting mechanisms and contribute to global discussions on setting interlinked elimination criteria for EMTCT of hepatitis B and updating the HIV and syphilis component.

2. Provide clear guidance for Member States on the validation process and data requirements, and provide support to standardize indicators, link existing data collection systems, improve data quality and assess EMTCT progress.

3. Identify potential areas for coordination and integration of regional mechanisms for validation of EMTCT and support Member States for validation through existing mechanisms, including the network created by the Asia-Pacific Prevention of Parent-to-Child Transmission Task Force for HIV and syphilis, the Hepatitis B Immunization Expert Resource Panel, the Regional Immunization Technical Advisory Group and the biennial meeting on accelerating progress in Early Essential Newborn Care.

4. Monitor EMTCT progress in Asia and the Pacific, and summarize and publish a regional report regularly.

5. Support Member States to conduct research to inform and adjust policy and improve implementation of EMTCT interventions.

6. Facilitate dissemination of best practices and experiences of countries for EMTCT.
2.3 TARGETS AND MILESTONES

Coordination targets and milestones

This Framework proposes triple elimination coordination targets and milestones under each pillar to encourage coordination and collaboration among programmes and stakeholders to maximize impact.

PILLAR 1 POLICY

— 2020 milestone
   A coordination mechanism is established to plan, implement and monitor EMTCT of HIV, hepatitis B and syphilis.

— 2030 target
   The national policies and strategies for RMNCH include plans and interventions for EMTCT of HIV, hepatitis B and syphilis as standard, integrated components of quality care for RMNCH.

PILLAR 2 SERVICE DELIVERY

— 2020 milestone
   A plan to provide quality and seamless services for every woman, newborn, child and their families to achieve triple elimination is developed through coordination and collaboration across concerned national programmes and stakeholders.

— 2030 target
   Core services for EMTCT of HIV, hepatitis B and syphilis are available through accessible, affordable and quality reproductive, antenatal, childbirth, postnatal and child care to every woman, newborn, child and their families.

PILLAR 3 MONITORING AND EVALUATION

— 2020 milestone
   National health information includes key indicators for EMTCT of HIV, hepatitis B and syphilis.

— 2030 target
   Key indicators are collected, analysed and used with effective communications among national programmes and stakeholders working in RMNCH, immunization, and the control of HIV, STIs and hepatitis through interlinked health information systems to monitor progress and guide actions towards triple elimination.
Disease-specific elimination targets

This Regional Framework for the Triple Elimination of Mother-to-Child Transmission of HIV, Hepatitis B and Syphilis in Asia and the Pacific 2018–2030 aligns its targets with the existing global and regional targets suggested by the global health sector strategies on HIV, Viral Hepatitis and STI 2016–2021 (4, 5, 6) and the Regional Action Plan for Viral Hepatitis in the Western Pacific 2016–2020 (21), which have been endorsed by Member States. It also aligns with the Global Guidance on Criteria and Processes for Validation: Elimination of Mother-to-Child Transmission of HIV and Syphilis (8).

Table 1 presents disease-specific elimination impact and process targets.

<table>
<thead>
<tr>
<th>IMPACT TARGET</th>
<th>PROCESS TARGET</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reproductive, maternal, newborn and child health (RMNCH)</strong></td>
<td>ANC coverage (at least one visit) (\geq 95%)*</td>
</tr>
<tr>
<td></td>
<td>Proportion of births attended by skilled health personnel (\geq 95%)</td>
</tr>
<tr>
<td><strong>HIV</strong></td>
<td>(&lt; 50) new paediatric infections per 100 000 live births</td>
</tr>
<tr>
<td></td>
<td>Mother-to-child transmission rate of (&lt; 5%) (breastfeeding populations) or (&lt; 2%) (non-breastfeeding populations)</td>
</tr>
<tr>
<td></td>
<td>(\geq 95%) HIV testing coverage of pregnant women (pregnant women with known HIV status)(\geq 95%)</td>
</tr>
<tr>
<td></td>
<td>Antiretroviral therapy (ART) coverage of HIV-positive pregnant women (\geq 95%)</td>
</tr>
<tr>
<td><strong>Hepatitis B</strong></td>
<td>(&lt; 0.1%) prevalence of the hepatitis B surface antigen (HBsAg) among children(\leq 100) cases/100 000 live births</td>
</tr>
<tr>
<td></td>
<td>(\geq 95%) Hepatitis B birth-dose vaccine coverage (\geq 95%)**,(c)</td>
</tr>
<tr>
<td></td>
<td>(\geq 95%) Hepatitis B third-dose vaccine coverage (\geq 95%)**,(c)</td>
</tr>
<tr>
<td></td>
<td>(\geq 95%) HBsAg testing coverage of pregnant women (\geq 95%)**,(d)</td>
</tr>
<tr>
<td><strong>Syphilis</strong></td>
<td>(&lt; 50) congenital syphilis cases per 100 000 live births (****)</td>
</tr>
<tr>
<td></td>
<td>(\geq 95%) Syphilis testing coverage of pregnant women (\geq 95%)</td>
</tr>
<tr>
<td></td>
<td>Treatment of syphilis-seropositive pregnant women (\geq 95%)</td>
</tr>
</tbody>
</table>

* Targets may be added in due course based on evolving WHO guidance and recommendations on additional interventions required to eliminate mother-to-child transmission of hepatitis B.


*** In the 2017 Guidelines on Hepatitis B and C Testing, 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 \(\geq 2\%\) or \(\geq 5\%\) HBsAg seroprevalence in the general population. A threshold of \(\geq 2\%\) or \(\geq 5\%\) seroprevalence was based on several published thresholds of intermediate or high seroprevalence. The threshold used will depend on other country considerations and epidemiological context. As the Regional Framework calls for coordinated screening for HIV, hepatitis B and syphilis, the proposed process target of HBsAg testing coverage of pregnant women \(\geq 95\%\) aligns with globally established process targets of \(\geq 95\%\) for HIV and syphilis screening. Hepatitis B looks to be incorporated into the global guidance for validating
elimination of mother-to-child transmission (EMTCT) of HIV and syphilis.

**** The global surveillance case definition for congenital syphilis: 1) a live birth or fetal death at > 20 weeks of gestation or > 500 grams (including stillbirth) born to a woman with positive syphilis serology and without adequate syphilis treatment; or 2) a live birth, stillbirth or child aged < 2 years born to a woman with positive syphilis serology or with unknown serostatus and with laboratory, and/or radiographic and/or clinical evidence of syphilis infection (regardless of timing or adequacy of maternal treatment).

Sources:


3. PROCESS OF VALIDATION

WHO will establish a coordinated process and mechanisms for validation of elimination of mother-to-child transmission (EMTCT) of HIV, hepatitis B and syphilis. It is anticipated that for a country to seek validation of EMTCT of HIV, hepatitis B and/or syphilis, the country will be required to report focusing on a range of impact and programme indicators. An indicative list, most of which are already being collected by countries, is provided below for planning purposes. These key indicators may be revised and/or added as new evidence and recommendations become available.

3.1 POLICY INDICATOR

1. National policy and plan for elimination and validation of mother-to-child transmission of HIV, hepatitis B and syphilis are in place

3.2 IMPACT INDICATORS

1. Case rate of new paediatric HIV infections per 100,000 live births
2. Mother-to-child transmission rate of HIV
3. Hepatitis B surface antigen (HBsAg) prevalence among children
4. Case rate of congenital syphilis per 100,000 live births
### 3.3 Programme (Process) Indicators

1. Percentage of pregnant women visiting ANC at least once
2. Percentage of pregnant women visiting ANC at least four times
3. Percentage of pregnant women with known HIV status (include both newly tested and those with known status)
4. Percentage of ANC attendees tested for HBsAg*
5. Percentage of women accessing ANC who were tested for syphilis
6. Percentage of pregnant women living with HIV who received antiretroviral therapy (ART)
7. Percentage of pregnant women with a positive syphilis serology who were treated adequately**
8. Proportion of births attended by skilled health personnel
9. Stillbirth rate (per 1000 total births)
10. Percentage of infants receiving a birth dose (disaggregate for timely birth dose within 24 hours of birth and outside of 24 hours)
11. Coverage of the third dose hepatitis B vaccine among infants

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* 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.

** At least one injection of 2.4 million units of intramuscular benzathine penicillin at least 30 days prior to delivery (26).
References


ANNEX

Regional Framework for the Triple Elimination of Mother-to-Child Transmission of HIV, Hepatitis B and Syphilis in Asia and the Pacific 2018–2030

VISION: Every infant free of HIV, hepatitis B and syphilis

GOAL: Achieve and sustain elimination of mother-to-child transmission (EMTCT) of HIV, hepatitis B and syphilis and achieve better health for women, children and their families through a coordinated approach and efforts by 2030 in Asia and the Pacific

POLICY AND IMPACT TARGETS

POLICY: National policy and plan for elimination and validation of mother-to-child transmission of HIV, hepatitis B and syphilis are in place

HIV:
\[ \leq 50 \text{ new paediatric infections per 100 000 live births} \]
Mother-to-child transmission rate of \(< 5\%\) (breastfeeding populations) or \(< 2\%\) (non-breastfeeding populations)

HEPATITIS B:
\[ \leq 0.1\% \text{ prevalence of the hepatitis B surface antigen (HBsAg) among children} \]
\(\leq 100 \text{ cases per 100 000 live births}\)

SYPHILIS:
\[ \leq 50 \text{ congenital syphilis cases per 100 000 live births} \]

PROGRAMME TARGETS

ANC coverage (at least one visit) \(\geq 95\%\)
Proportion of births attended by skilled health personnel \(\geq 95\%\)
HIV testing coverage of pregnant women (pregnant women with known HIV status) \(\geq 95\%\)
Antiretroviral therapy (ART) coverage of HIV-positive pregnant women \(\geq 95\%\)
Hepatitis B birth-dose vaccine coverage \(\geq 95\%\)
Hepatitis B third-dose vaccine coverage \(\geq 95\%\)
HBsAg testing coverage of pregnant women \(\geq 95\%\)
Syphilis testing coverage of pregnant women \(\geq 95\%\)
Treatment of syphilis-seropositive pregnant women \(\geq 95\%\)

Additional programme indicators
ANC coverage at least four times throughout pregnancy
Stillbirth rate (per 1000 total births)
### PILLAR 1. COORDINATED NATIONAL POLICY AND STRATEGY

<table>
<thead>
<tr>
<th>2030 target</th>
<th>The national policies and strategies for RMNCH include plans and interventions for EMTCT of HIV, hepatitis B and syphilis as standard, integrated components of quality care for RMNCH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2020 milestone</strong></td>
<td>A coordination mechanism is established to plan, implement and monitor EMTCT of HIV, hepatitis B and syphilis</td>
</tr>
</tbody>
</table>

#### Proposed priority actions for countries

1. Advocate high-level political commitment for the achievement of EMTCT of HIV, hepatitis B and syphilis (triple elimination).
2. Develop coordinated policies and strategies for triple elimination that are built into national and subnational RMNCH policies, strategies, plans and guidelines, aligning with related programmes with defined roles and responsibilities of each programme and stakeholders.
3. Establish a mechanism for coordination, implementation and monitoring, building on existing systems and stakeholders including affected communities.
4. Strengthen RMNCH and other related programmes by ensuring adequate and sustainable financial and human resources and by developing capacities to provide quality services including interventions for triple elimination.
5. Ensure that interventions for triple elimination are included in essential health service packages and access to services are ensured and covered by public funding.
6. Address and remove social and financial barriers for all women, children and their families, including vulnerable and marginalized populations, to access services for triple elimination within reproductive, antenatal, childbirth, postnatal and child care.
7. Respect human rights of all women, their partners, children and families; ensure protection of their privacy and confidentiality; and address stigma and discrimination associated with implementation of interventions.
8. Consider possibility to expand the synergies within the RMNCH platform to include other health issues as appropriate in view of potential benefits.

#### Proposed priority actions for WHO and partners

1. Support Member States to advocate high-level political commitment for triple elimination, including development of communications materials and tools.
2. Support Member States to develop coordinated policies and strategies for triple elimination within reproductive, antenatal, childbirth, postnatal and child care.
3. Ensure coordination across programmes among WHO and partners to provide coordinated support to Member States.
4. Support Member States to estimate and allocate adequate resources and develop capacities of the RMNCH and other related programmes to provide quality RMNCH services, including interventions for triple elimination.
5. Support Member States to include triple elimination interventions in essential health services packages covered by public funding and to ensure the access to services by addressing and removing social and financial barriers.
6. Facilitate intercountry and regional partnerships, sharing of best practices and lessons learnt, and mentoring among countries and regions.
7. Support Member States to ensure a human-rights-based approach and to address ethical aspects related to implementation of interventions.
8. Support Member States to consider inclusion of other health issues in the RMNCH platform.
## PILLAR 2. SEAMLESS QUALITY CARE FOR WOMEN, NEWBORNS, CHILDREN AND THEIR FAMILIES

<table>
<thead>
<tr>
<th>2030 target</th>
<th>Core services for EMTCT of HIV, hepatitis B and syphilis are available through accessible, affordable and quality reproductive, antenatal, childbirth, postnatal and child care to every woman, newborn, child and their families</th>
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</thead>
<tbody>
<tr>
<td>2020 milestone</td>
<td>A plan to provide quality and seamless services for every woman, newborn, child and their families to achieve triple elimination is developed through coordination and collaboration across concerned national programmes and stakeholders</td>
</tr>
</tbody>
</table>
| Proposed priority actions for countries | 1. Assess and map where and how interventions for triple elimination are currently being provided within reproductive, antenatal, childbirth, postnatal and child care services, and identify gaps and opportunities for coordination and integration.  
2. Update, refine and link national policies, guidelines and training on reproductive, antenatal, childbirth, postnatal and child care to provide the latest evidence-based quality of care for all pregnant women, newborns and children, including EMTCT interventions.  
3. Develop a plan for strengthening or scaling up of coordinated interventions for EMTCT, including universal screening for HIV, syphilis and, as appropriate, hepatitis B surface antigen (HBsAg) for women and their partners, linkages to appropriate care and treatment, timely hepatitis B birth dose and follow-up vaccination.  
4. Provide guidance and tools for health workers and those to be involved in service provision related to EMTCT within RMNCH care, through pre-service education and on-the-job training.  
5. Engage communities and related sectors and provide information to all women, their partners and families to improve awareness and demand for quality RMNCH care including triple elimination remove barriers to access services and increase utilization.  
6. Apply a tiered approach to introduce additional interventions for EMTCT of hepatitis B including antenatal screening, the possible use of antiviral drugs and the use of hepatitis B immunoglobulin (HBIG) among infants born to HBsAg-positive mothers based on evolving evidence and recommendations.  
7. Consider application of new interventions and technologies that support the achievement of EMTCT of HIV, hepatitis B and syphilis and other communicable diseases, including the use of new diagnostic assays such as dual HIV/syphilis rapid test kits.  
8. Ensure the quality of services provided for triple elimination, including laboratory services and those delivered by private health facilities, by building upon existing quality assurance mechanisms and approaches. |
| Proposed priority actions for WHO and partners | 1. Support Member States to map and identify gaps and opportunities for coordination and integration of interventions for triple elimination.  
2. Support Member States to update national policies, guidelines and training on reproductive, antenatal, childbirth, postnatal and child care to reflect the latest evidence-based WHO recommendations through coordinated approaches across programmes and expertise.  
3. Support Member States to review progress on EMTCT of HIV, hepatitis B and syphilis, determine additional steps and develop a plan for strengthening or scaling up of coordinated interventions to achieve elimination. |
### PILLAR 2. SEAMLESS QUALITY CARE FOR WOMEN, NEWBORNS, CHILDREN AND THEIR FAMILIES (continued)

<table>
<thead>
<tr>
<th>Proposed priority actions for WHO and partners (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Develop guidance and tools for health workers and those involved in service provision on interventions related to EMTCT including screening, referral, treatment and follow-up within reproductive, antenatal, childbirth, postnatal and child care.</td>
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<td>5. Support Member States to develop communications materials and tools to provide information to women and their partners.</td>
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<td>6. Develop guidance on a tiered approach for additional interventions for EMTCT of hepatitis B and provide support to Member States for its implementation.</td>
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<td>8. Support Member States to improve and ensure the quality of interventions, including laboratory services for triple elimination.</td>
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</tbody>
</table>
### PILLAR 3. COORDINATED MONITORING AND EVALUATION OF ELIMINATION

#### 2030 target

Key indicators are collected, analysed and used with effective communications among national programmes and stakeholders working in RMNCH, immunization, and the control of HIV, sexually transmitted infections (STIs) and hepatitis through interlinked health information systems to monitor progress and guide actions towards triple elimination.

#### 2020 milestone

National health information includes key indicators for EMTCT of HIV, hepatitis B and syphilis.

#### Proposed priority actions for countries

1. Standardize key indicators to be monitored based on global and regional recommendations and set national and subnational milestones and targets for EMTCT.
2. Review and map key indicators and determine how these key indicators are collected, analysed and used by national programmes and stakeholders to identify any duplications or gaps and develop a plan to improve data quality.
3. Refine and link existing data collection systems, including those in the private sector, to support better linkages and the monitoring of EMTCT progress by national programmes and stakeholders.
4. Monitor EMTCT indicators and report progress regularly through a coordinating mechanism to prepare for validation of elimination and the maintenance of elimination status after validation.
5. Conduct research to inform and adjust policy and improve implementation of EMTCT interventions.
6. Share experiences of implementation and lessons learnt with stakeholders within and outside of country.

#### Proposed priority actions for WHO and partners

1. Obtain consensus on key indicators building into existing global, regional and national reporting mechanisms and contribute to global discussions on setting interlinked elimination criteria for EMTCT of hepatitis B and updating the HIV and syphilis component.
2. Provide clear guidance for Member States on the validation process and data requirements, and provide support to standardize indicators, link existing data collection systems, improve data quality and assess EMTCT progress.
3. Identify potential areas for coordination and integration of regional mechanisms for validation of EMTCT and support Member States for validation through existing mechanisms, including the network created by the Asia-Pacific Prevention of Parent-to-Child Transmission Task Force for HIV and syphilis, the Hepatitis B Immunization Expert Resource Panel, the Regional Immunization Technical Advisory Group and the biennial meeting on accelerating progress in Early Essential Newborn Care.
4. Monitor EMTCT progress in Asia and the Pacific, and summarize and publish a regional report regularly.
5. Support Member States to conduct research to inform and adjust policy and improve implementation of EMTCT interventions.
6. Facilitate dissemination of best practices and experiences of countries for EMTCT.