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

(Draft)
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1. Background

1.1. Global goals for elimination of mother-to-child transmission of HIV, hepatitis B and syphilis

Every child should be given the greatest chance to start a healthy life, free from preventable communicable diseases. This can only be made possible when access to quality maternal, newborn and child health (MNCH) services is ensured for all women, children and their families in the context of universal health coverage. The continuum of care, often beginning with antenatal care (ANC), is an important entry point for the provision of integrated care.

The Sustainable Development Goals (SDGs), in particular SDG 3, seek to ensure health and well-being for all by addressing health priorities, including reproductive, maternal and child health, and communicable diseases. Similarly, the Global Strategy for Women’s, Children’s and Adolescents’ Health 2016–2030 (1) aims for the highest attainable standards of health and well-being at every age. 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 (2), the Global Health Sector Strategy on Viral Hepatitis 2016–2021 (3) and the Global Health Sector Strategy on Sexually Transmitted Infections 2016–2021 (4) set global targets to end the AIDS and sexually transmitted infections (STIs) epidemics and to eliminate viral hepatitis as a public health threat by 2030. Multiple calls including the 2016 Political Declaration on HIV and AIDS (5) have also been established to support these control and elimination endeavours.

The elimination of mother-to-child transmission of HIV and syphilis is defined by the World Health Organization (WHO) as: for HIV a case rate of new paediatric infection of ≤ 50 per 100 000 live births and a mother-to-child transmission rate of < 5% in the breastfeeding population or < 2% in the non-breastfeeding population; and for congenital syphilis a case rate of ≤ 50 per 100 000 live births. (6) High ANC coverage of ≥ 95%, HIV and syphilis testing coverage of ≥ 95%, and treatment coverage of ≥ 95% also need to be achieved. The Global Health Sector Strategy on Viral Hepatitis 2016–2021 sets the elimination goal of mother-to-child transmission of hepatitis B as a 90% reduction in new chronic infections, equivalent to 0.1% prevalence of hepatitis B surface antigen (HBsAg) among children. In addition, hepatitis B birth dose coverage and hepatitis B third dose coverage of 90% need to be met by 2030. (3)

Interventions to eliminate mother-to-child transmission of HIV, hepatitis B and syphilis are the essential components of quality maternal, newborn and child health care. The similarity of interventions for these three infections through the common platform of antenatal, delivery and postnatal care provides a unique opportunity for coordination
and integration of services and maximizes their accessibility, effectiveness and sustainability (Fig. 1).

Fig.1. Elimination of mother-to-child transmission interventions for HIV, hepatitis B and syphilis

* Please note that the speckled patterned interventions in the hepatitis B section are proposed actions that have not been endorsed by WHO to date.

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

1.2. Regional progress in Asia and the Pacific

Maternal, newborn and child health

The Asia and Pacific region has seen significant progress in achieving the Millennium Development Goal (MDG) 4 (reduce child mortality) and MDG 5 (reduce maternal mortality).

In WHO Western Pacific Region, the maternal mortality ratio decreased by 64% to 41 deaths per 100 000 live births between 1990 and 2015, in part due to the dramatic increases in ANC coverage (at least once) and births attended by skilled birth attendants, which reached 95% by 2015. Facility delivery rates have also improved significantly: in five of eight countries with the highest burden of maternal and neonatal mortality, over 80% of births are now occurring in health facilities.

Challenges remain in addressing inequities in access to maternal health services and persisting inappropriate childbirth practices that contribute to poor quality of care. As such, Member States are focusing on the quality of the continuum of care from ANC through to delivery and postnatal care. In addition, despite the significant reduction of 74% in under-5 deaths between 1990 and 2015, neonatal mortality remains an important concern in the Western Pacific Region. Half of all under-5 deaths occur in the first 28 days of life, further highlighting the need to improve childbirth and immediate newborn care. In 2013, Member States endorsed the *Action Plan for Healthy Newborn Infants in the Western Pacific Region (2014–2020)* to accelerate progress in improving newborn survival. Since then, 27 737 health providers from 2258 health facilities have been coached in Early Essential Newborn Care (EENC), corresponding to about 3.8 million mothers and babies reached with improved care. Still hospital assessments of childbirth and newborn care in the Western Pacific Region show gaps in clinical practices, including in recording of HIV and syphilis testing in mothers’ patient charts and timely vaccination of newborns.

In the WHO South-East Asia Region under-5 mortality has been reduced by 64% and maternal mortality by 69% between 1990 and 2015, the latter being the largest reduction among all the WHO regions. These declines are greater than the global rate of 44% and 52%, respectively. Three member states – Bhutan, Maldives and Timor-Leste – achieved the targets for both MDG 4 and MDG 5, while Bangladesh, Indonesia, Nepal and Thailand achieved the MDG 4 targets. Overall, the South-East Asia Region had a narrow miss on both MDG 4 and MDG 5 targets. In absolute numbers, this success translates to an estimated 149000 maternal deaths and 3 million child deaths averted in the South-East Asia Region.

Despite the success, coverage and the quality of evidence-based interventions for maternal and neonatal health remains low, more so among poor, rural, uneducated, socially marginalized and geographically inaccessible population subgroups that are also the most vulnerable.
To address these concerns and pave the path for achieving the targets for the SDGs, the South-East Asia Region, guided by the Technical Advisory Group for Women’s and Children’s Health established in 2015, is developing both a Regional Framework for Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH) with interim targets for 2020 and 2025 towards the goal of 2030, and Strategic Guidance on Adolescent Health for Countries in the South-East Asia Region 2017–2020. These documents will provide policy and programmatic guidance to Member States. To support implementation of evidence-based guidelines and interventions, the Regional Office for South-East Asia has developed a Pocketbook of Maternal Health that includes recommendations on improving facility-based quality of care at the time of birth. To improve monitoring of stillbirths, which is a challenge for all Member States, the Regional Office for South-East Asia has supported development of an online, hospital-based surveillance, called SEAR-NBBD that helps collect data on birth defects and stillbirths from over 200 facilities in nine Member States.

The WHO recommendations on antenatal care for a positive pregnancy experience (7) issued in November 2016 advocates that a pregnant woman should receive eight contacts – previously it was four – with health providers throughout her pregnancy. Evidence shows that eight or more contacts for ANC can significantly reduce perinatal deaths compared to four visits, if problems are identified during the contacts and potential complications are managed (7). This guideline uses the term “contact” as it implies an active connection between a pregnant woman and a health-care provider that is not implicit with the word “visit”. The emphasis is on provision of quality of care and support throughout pregnancy in a respectful way.

Elimination of mother-to-child transmission
HIV and syphilis

HIV prevalence in the Asia and the Pacific region remains low at 0.2%, with 5.1 million people estimated to be living with HIV in 2015. (8) In 2015, approximately 77 000 pregnant women were living with HIV, and 19 000 cases of new paediatric HIV infections were estimated to have occurred in the region. Only 39% of pregnant women living with HIV received antiretroviral (ARV) drugs in 2015, which was significantly lower than the global ARV coverage of 77%. (9) This is due to low HIV testing coverage during ANC, which resulted in a significant gap in diagnosing pregnant women with HIV in many countries (Fig. 2).

The incidence of STIs is high in Asia and the Pacific, with an increasing trend of syphilis infections reported in some countries. 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. 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. (10) Yet, coverage of syphilis screening during ANC and treatment remains low in many countries.
The United Nations Asia-Pacific Prevention of Parent-to-Child Transmission of HIV and Syphilis Task Force has provided support to national actions to eliminate new HIV infections and congenital syphilis among children since 1998. In December 2015, the WHO regional offices for South-East Asia and the Western Pacific jointly established regional mechanisms for the validation of EMTCT of both HIV and syphilis in partnership with UNICEF and UNAIDS. (11) In June 2016, Thailand became the first country in Asia and the Pacific to receive validation from WHO for achieving EMTCT of HIV and syphilis. At the same time, some countries are also including hepatitis B in their EMTCT plans, by integrating HIV, syphilis and hepatitis B antenatal screening, prevention and treatment interventions into MNCH packages of services.

**Hepatitis B**

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 hepatitis B infections worldwide. (12, 13) In the South-East Asia Region, there are estimated 39 million people with chronic hepatitis B infection, which accounts for 15% of worldwide infections. (12, 14) Both regions have a long history of hepatitis B control through immunization, and there have been significant achievements.

In the Western Pacific Region, Member States agreed in 2003 on a goal to reduce HBsAg prevalence to < 2% by 2012 as an interim goal towards reducing prevalence to < 1% among children ≥ 5 years by 2017. As of February 2017, 17 countries have been verified as meeting the 2017 goal with an estimated regional prevalence of 0.93% among children born in 2012.
As a result of successful hepatitis B vaccination programs across the Western Pacific Region, an estimated over 37 million cases of chronic hepatitis B infections and over 7 million deaths have been averted among children born between 1999 and 2014. (15)

*Fig. 3. Prevalence of chronic hepatitis B in the Western Pacific Region among children born each year after hepatitis B vaccine introduction*

The Western Pacific Region is working towards a Region free from new hepatitis infections and where people living with chronic hepatitis have access to care and effective treatment, guided by the Regional Action Plan for Viral Hepatitis in the Western Pacific 2016–2020. (16) The action plan suggests a systematic approach for reducing the impact of viral hepatitis, including optimization of hepatitis B birth-dose and third-dose coverage and partnering vaccination efforts with key programmes, such as MNCH services. The plan is in line with the global goals of reducing the prevalence of HBsAg to < 1% by 2020 and 0.1% by 2030. In 2015, the Region achieved 84% birth-dose coverage and 94% third-dose coverage among countries that reported through 2015 Joint Reporting Form (Fig. 3).

In the South-East Asia Region, hepatitis B third-dose coverage has increased from 53% in 2010 to 87% in 2015 with seven countries (Bangladesh, Bhutan, the Democratic People’s Republic of Korea, Maldives, Nepal, Sri Lanka, and Thailand) achieving coverage of > 90%. The hepatitis B birth dose is currently provided only in Bhutan, the Democratic People’s Republic of Korea, India, Indonesia, Maldives, Timor-Leste and Thailand in the South-East Region. Myanmar and Nepal may reconsider full or partial introduction of the birth dose as part of their national viral hepatitis control strategies. Providing timely birth-dose vaccination is challenging in many countries in the Region, as several countries have low rates of facility deliveries or skilled birth attendance. However, much experience has been gained by countries in terms of successful strategies for delivering a timely birth dose,
including integration of vaccination with essential newborn care and use of hepatitis B vaccine out of the cold chain.

The WHO Regional Committee for the South-East Asia recently endorsed a viral hepatitis control strategy, and in June 2016 the Regional Immunization Technical Advisory Group recommended adoption of the global target of HBsAg ≤1% among children under 5 years. The WHO Regional Office is currently finalizing a regional action plan on viral hepatitis control.

1.3. Rationale and scope of the framework

The review of current situation in Asia and the Pacific status revealed that EMTCT interventions for HIV, hepatitis B and syphilis were not necessarily considered or provided as a standard component of MNCH care services. While they share a common MNCH care platform for similar control interventions, actual planning, implementation and reporting of these discrete but related services do not always occur in coordination – resulting in gaps or duplications, thus making services less favourable and accessible to women, their partners, children and families. This also results in missed opportunities in using available resources efficiently and prevents achieving maximum impact.

In order to provide every child the greatest chance to start a healthy life free of preventable communicable diseases, the WHO Regional Office for the Western Pacific, the WHO Regional Office for South-East Asia and partners, recognizing the scope of the above mentioned problem across Asia and the Pacific and the need for a biregional approach, joined forces and consulted Member States and experts to develop the Regional Framework for the Triple Elimination of Mother-to-child Transmission of HIV, Hepatitis B and Syphilis.

Aligning with the existing global and regional strategies, action plans and goals for MNCH and control of HIV, STIs and hepatitis B, this framework aims at synergizing efforts of each programme and 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 family (Fig. 4).

Fig. 4. Concept of coordinated triple elimination
2. Integrated framework

2.1 Vision, goal and targets

Vision
Full protection from mother-to-child transmission of HIV, hepatitis B and syphilis for every infant

Goal
Collectively achieve and sustain elimination of mother-to-child transmission of HIV, hepatitis B and syphilis and better health for women and their families through a coordinated approach by 2030

Targets

Disease-specific elimination targets

This framework supports and aligns with the global and regional targets suggested by the Global Health Sector Strategies on HIV, Viral Hepatitis and STI 2016-2021, \(^2\), \(^3\), \(^4\) the Regional Action Plan for Viral Hepatitis 2016-2020\(^{13}\) and the Global Guidance on Criteria and Processes for Validation of Elimination of mother-to-child transmission of HIV and syphilis\(^5\) as below.

<table>
<thead>
<tr>
<th>MNCH</th>
<th>Impact target</th>
<th>Process target</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV</td>
<td>≤ 50 new paediatric infections per 100 000 live births</td>
<td>ANC coverage (at least once) ≥ 95% (^5)</td>
</tr>
<tr>
<td></td>
<td>Transmission rate of &lt; 5% (breastfeeding populations) or &lt; 2% (non-breastfeeding populations)</td>
<td>HIV testing coverage of pregnant women ≥ 95%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ARV coverage of HIV-positive pregnant women ≥ 95%</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>≤ 0.1 % prevalence of HBsAg among 5-year-old children(^5)</td>
<td>Birth-dose hepatitis B vaccination coverage of at least 95% (^{13})</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Three-dose vaccination coverage of at least 95% (^{13})</td>
</tr>
<tr>
<td>Syphilis</td>
<td>≤ 50 congenital syphilis cases per 100 000 live births</td>
<td>Syphilis testing coverage of pregnant women ≥ 95%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Treatment of syphilis-seropositive pregnant women ≥ 95%</td>
</tr>
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Triple elimination targets

The framework suggests triple elimination targets below to maximize coordination and collaboration among programmes and stakeholders. Each target is linked to a pillar and suggested actions.

1. **Coordinated national policy and strategy**: National policy and strategy on maternal, newborn and child health include plans and interventions for elimination of mother-to-child transmission (EMTCT) of HIV, hepatitis B and syphilis as a standard component of quality maternal, newborn and child health care (**Pillar 1**)

2. **Seamless quality care for women, newborns, children and their families**: Core services for EMTCT of HIV, hepatitis B and syphilis are available through accessible, affordable and quality antenatal, delivery and postnatal care to every woman, newborn, child and their families (**Pillar 2**)

3. **Coordinated monitoring and validation of elimination**: Key indicators are collected, analysed and used with good communications among national programmes and stakeholders working for MNCH, immunization and the control of HIV, STIs, and hepatitis through interlinked health information systems to monitor progress and guide actions towards triple elimination (**Pillar 3**)

**Fig.5. Regional framework for triple EMTCT**
Principles

- Mother-newborn-child-centred care
- Universal health coverage for quality and equitable care
- Sustainable mechanisms
- Promotion of human rights, equity and gender equality
- Multi-partner involvement including individuals, families and communities
2.2 Pillars: priority areas and actions to achieve triple elimination

Pillar 1. Coordinated national policy and strategy

2030 Target

National policies and strategies on MNCH include plans and interventions for EMTCT of HIV, hepatitis B and syphilis as a standard component of quality maternal, newborn and child health care

2020 Milestone

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

Proposed actions for Member States

1. Build high-level commitment for the achievement of triple elimination of mother-to-child transmission (EMTCT) of HIV, hepatitis B and syphilis.
2. Ensure coordinated policy and strategy for triple elimination are built into or aligned with existing national MNCH policies, strategies and plans with defined roles and responsibilities of each programme and stakeholder.
3. Establish a mechanism for coordination, implementation and monitoring, building on existing systems and groups including affected communities.
4. Ensure adequate and sustainable financial and human resources for the MNCH programme and other related programmes to provide quality MNCH services including interventions for triple EMTCT.
5. Ensure that interventions for triple EMTCT are included in essential health services packages and the access to services are ensured and covered by public funding.
6. Address and remove social and financial barriers for women, children and their families to access services for triple EMTCT within antenatal, peripartum and postnatal care.
7. Ensure promotion of human rights, equity and gender equality and address ethical aspects related to implementation of interventions.
8. Consider possibility to expand the synergies within the MNCH platform to include other health issues as appropriate in view of potential benefits.

Proposed actions for WHO and partners

1. Support Member States to advocate for high-level commitment for triple elimination including development communication materials and tools.
2. Support Member States to develop coordinated policies and strategies to achieve triple elimination of HIV, hepatitis B and syphilis within 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 for the MNCH programme and other related programmes to provide quality MNCH services including triple elimination.

5. Ensure consistent messages, guidance and recommendations across global and regional levels.

6. Facilitate cross-country 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 MNCH platform.

Pillar 2. Seamless quality care for women, newborns, children and their families

2030 Target

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

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.

Proposed actions for Member States

1. Map and analyse where and how EMTCT interventions are currently being provided within 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 antenatal, childbirth, postnatal and child care to provide the latest evidence-based quality of care for all pregnant women, newborns and children, including EMTCT.
3. Develop a plan for strengthening or scaling up of coordinated interventions for EMTCT, including universal screening for HIV and syphilis, linkages to appropriate care and treatment, timely hepatitis B birth dose and follow-up vaccination.

4. Provide training and tools for health workers on triple elimination, including screening, referral, treatment and vaccination within antenatal, childbirth, postnatal and child care.

5. Engage communities and other sectors to ensure that women and their partners are given integrated information on quality MNCH care, including triple EMTCT, to remove key challenges and barriers including stigma and discrimination to access services, and to refine approaches for increased demand and utilization of services.

6. Consider application of new interventions and technologies related to EMTCT of HIV, hepatitis B and syphilis and other communicable diseases, including a tiered approach for introduction of additional interventions for hepatitis B.

7. Ensure the quality of services provided for triple EMTCT, including laboratory services and those delivered by private health facilities, by building upon existing quality-assurance mechanisms and approaches.

Proposed actions for WHO and partners

1. Provide support for Member States for mapping and for identification of gaps and opportunities for coordination and integration for EMTCT interventions.

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

3. Support Members States to review the status of EMTCT of HIV, hepatitis B and syphilis and determine additional steps necessary to achieve elimination.

4. Develop tools for health workers on triple elimination to be adapted and used in countries for screening, referral, treatment and follow-up within antenatal, perinatal, postnatal and child care.

5. Provide support to Member States to develop communication materials and tools to provide information to women and their partners.

6. Provide support to Member States for the introduction of new interventions and technologies related to EMTCT, including development of guidance on a tiered approach for additional interventions for hepatitis B and the use of dual HIV/syphilis rapid test kits.

7. Provide support to Member States to improve and ensure the quality of interventions, including laboratory services for triple EMTCT.
Pillar 3. Coordinated monitoring and validation of elimination

2030 Target

Key indicators are collected, analysed and used with good communication among national programmes and stakeholders working for MNCH, immunization, and the control of HIV, STIs and hepatitis through interlinked health information systems to monitor progress and guide actions towards triple elimination.

2020 Milestone

National health information includes priority indicators for elimination of mother-to-child transmission of HIV, hepatitis B and syphilis.

Proposed actions for Member States

1. Standardize key indicators to be monitored based on global and regional recommendations and improve data quality.
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.
3. Refine and link existing data collection systems, including those in the private sector, to support better monitoring by national programmes and stakeholders.
4. Monitor EMTCT indicators and report progress regularly through a coordinating mechanism to prepare for validation and maintain elimination status after validation.
5. Share experiences of implementation and lessons learnt.

Proposed actions for WHO and partners

1. Obtain consensus on key indicators 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, improve data quality and link existing data collection systems.
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 United Nations Asia Pacific Prevention of Parent-to-Child Transmission of HIV and Syphilis Task Force, the Hepatitis B Immunization Expert Resource Panel, the Regional Immunization Technical Advisory Group and the biennial meeting on accelerating progress in EENC.
5. Facilitate dissemination of best practices and experiences of countries for EMTCT.
3. Key indicators

* Optional indicators according to country contexts

**Policy**

1. National policy and plan for elimination and validation of mother-to-child transmission of HIV, hepatitis B and syphilis
2. National antenatal screening policy for HIV, hepatitis B and syphilis
3. National policy for hepatitis B birth dose

**Maternal, newborn and child health**

**Process indicators**

1. Percentage of pregnant women visiting ANC at least once
2. Percentage of pregnant women visiting ANC at least four times throughout pregnancy
3. Pregnant women visiting ANC for eight times *
4. Percentage of women who received haemoglobin and urine tests during ANC *
5. Percentage of pregnant women with first ANC visit during their first trimester *
6. Percentage of deliveries taking place in health facilities
7. Percentage of women who received postnatal care in Week 6 after delivery *
8. Newborns who received a health check in Week 6 *
9. Stillbirth rate (per 1000 live births)

**HIV**

**Impact indicators**

1. Case rate of new paediatric HIV infections due to MTCT per 100 000 live births
2. MTCT rate of HIV in breastfeeding population or MTCT rate of HIV in non-breastfeeding population

**Process indicators**

1. Percentage of pregnant women who are tested
2. Percentage of pregnant women who tested positive for HIV
3. Percentage of pregnant women attending ANC whose sexual partners were tested for HIV
4. Percentage of HIV positive pregnant women who received ARVs to reduce MTCT
5. Percentage of infants born to HIV-positive women who received ARV prophylaxis to prevent MTCT in the first six weeks

Please suggest any indicators which are missing or not necessary
6. Infants born to HIV-positive women receiving a virological test within two months of birth
7. Infants born to HIV positive women started on co-trimoxazole prophylaxis within two months
8. Pregnant women and breastfeeding women with exposed infants known to be alive and on treatment 12 months after antiretroviral therapy (ART) initiation

**System indicators**

1. Number and percentage of health facilities providing ANC services that also provide ART
2. Number and percentage of health facilities that offer paediatric ART
3. Percentage of health facilities that provide virological testing services for diagnosis of HIV in infants on site or from dried blood spots
4. Health facilities that have experienced a stock-out of ARVs

**Hepatitis B**

**Impact indicators**

1. HBsAg prevalence among children 5 years of age

**Process indicators**

1. Percentage of ANC attendees tested for HBsAg *
2. Percentage of ANC attendees who tested positive for HBsAg *
3. Percentage of hepatitis B-positive pregnant women whose partners are tested *
4. Percentage of hepatitis B-positive pregnant women enrolled in care for further evaluation, including additional testing, monitoring and potential treatment *
5. Percentage of high viral load mothers who receive antivirals for preventing mother-to-child transmission of hepatitis B *
6. Percentage of infants receiving a birth dose within 24 hours of birth (timely birth dose)
7. Infants born to hepatitis B-positive women receiving hepatitis B immunoglobulin (HBIG) within ## hours (to be determined) of birth *
8. Coverage of the third dose hepatitis B vaccine among infants
9. Percentage of infants born hepatitis B-positive mothers who received post-vaccination serological test *

*(for consideration)*

10. Percentage of hepatitis B-positive pregnant women with viral load >#### IU/ml (to be determined), if VL testing conducted *
11. Percentage of HBsAg-positive pregnant women who are hepatitis B e antigen (HBeAg) positive, if HBeAg testing is conducted *
System indicators
1. Laboratory external quality assurance is in place
2. Country has a plan to verify global elimination goals
3. HBIG is available
4. HBIG is funded
5. Antiviral treatment is available
6. Antiviral treatment is covered by national insurance scheme
7. A policy for out-of-cold chain vaccines (if applicable)
8. Adverse events following immunization plan in place

Syphilis

Impact indicators
1. Case rate of congenital syphilis per 100,000 live births

Process indicators
1. Percentage of ANC attendees tested for syphilis
2. Percentage of ANC attendees tested seropositive for syphilis
3. Percentage of syphilis seropositive pregnant women who received adequate treatment
4. Percentage of infants born to syphilis-seropositive women who receive adequate treatment
5. Percentage of partners of syphilis-seropositive women who are appropriately treated
6. Percentage of mothers of stillbirths tested for syphilis

System indicators
1. Number of health facilities that have experienced a stock-out of syphilis testing materials in the last six months
2. Number of health facilities that have experienced a stock-out of benzathine penicillin in the last six months
3. Reference laboratories achieved at least 90% on external quality assurance in last year
Annexes

Guiding tools

Annex 1. Flowchart for management of infections within MNCH platform

a. HIV
b. hepatitis B
c. syphilis

Annex 2. Validation guidance and monitoring tools

(Existing guidance and tools such as the hepatitis B verification template and Asia Pacific Regional Validation Mechanism for EMTCT of HIV and syphilis to be included)

Annex 3. Costing tools for triple elimination

(to be included)

6 WHO (2014) Elimination of mother-to-child transmission (EMTCT) of HIV and syphilis: global guidance on criteria and processes for validation http://apps.who.int/iris/bitstream/10665/112858/1/9789241505888_eng.pdf?ua=1
8 UNAIDS, AIDsInfo http://aidsinfo.unaids.org/
11 Asia Pacific Regional Validation Mechanism for Elimination of Parent-to-Child Transmission of HIV and Syphilis http://www.wpro.who.int/hiv/documents/topics/pmtcs/asia_pacific_regional_validation_mechanism.pdf?ua=1
13 WHO Regional Office for the Western Pacific website http://www.wpro.who.int/hepatitis/en/
14 World Health Organization, Regional office for South-East Asia. Regional strategy for the prevention and control of viral hepatitis. New Delhi, 2013