

Regional Roadmap for

THE TRIPLE ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION OF HIV, SYPHILIS AND HEPATITIS B

in the Asia and Pacific Region
for 2024–2030

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Organization

Regional Roadmap for

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MOTHER-TO-CHILD TRANSMISSION
OF HIV, SYPHILIS AND HEPATITIS B**

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An HIV-infected mother, her HIV-free husband, and their daughter who was born free from HIV.

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Abbreviations and acronyms

AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal care
ART	Antiretroviral therapy
EAPRO (UNICEF)	UNICEF East Asia and Pacific Regional Office
EID	Early infant diagnosis
EMTCT	Elimination of mother-to-child transmission
EPI	Expanded Programme on Immunization
GDP	Gross domestic product
GNI	Gross national income
HBV	Hepatitis B virus
HIV	Human immunodeficiency virus
HBsAg	Hepatitis B surface antigen
HBeAg	Hepatitis B e-antigen
HEI	HIV-exposed infant
HepB3	Hepatitis B third dose
HepB-BD	Hepatitis B birth dose
HMIS	Health management information system
LIC	Low-income country
LLG	local level government (Papua New Guinea)
LMICs	Low- and middle-income countries
M&E	Monitoring and evaluation
MDGs	Millennium Development Goals
MNCH	Maternal, newborn and child health
MNH	Maternal and newborn health
MOH	Ministry of Health
MSM	Men who have sex with men
MTCT	Mother-to-child transmission
NACO	National AIDS Control Organization (India)
NACP	National AIDS Control Programme (Pakistan)
NCD	Non-communicable disease
NCHADS	National Centre for HIV/AIDS, Dermatology and STDs (sexually transmitted diseases) (Cambodia)

NDoH	Nation Department of Health (Papua New Guinea)
NGO	non-governmental organization
NMCHC	National Maternal and Child Health Centre (Cambodia)
NSACP	National STI/AIDS Control Programme (Sri Lanka)
PHC	Primary health care
PMTCT	Prevention of mother-to-child transmission
PPTCT	Prevention of parent-to-child transmission
RMNCAH	Reproductive, maternal, newborn, child and adolescent health
ROSA (UNICEF)	UNICEF Regional Office South Asia
SACS	State AIDS Control Societies (India)
SEARO (WHO)	WHO Southeast Asia Regional Office
STIs	Sexually transmitted infections
SDGs	Sustainable Development Goals
SDP	Service delivery package
ToT	Training of trainers
UHC	Universal health coverage
SRH	Sexual reproductive health
UNAIDS	Joint United Nations Programme on HIV/AIDS
WHA	World Health Assembly
WHO	World Health Organization
WPRO (WHO)	WHO Western Pacific Regional Office



A girl is weighed by a woman health worker at a local health clinic in the Trobriand Islands in Milne Bay Province, Papua New Guinea.

Foreword

Every child deserves the best start to a healthy life, free from preventable diseases and infections. The Asia-Pacific region has made commendable progress over the past few decades in safeguarding children and their families from the triple threat of HIV, syphilis and hepatitis B. These impressive achievements are the result of the unwavering commitment of governments, donors, health professionals, and researchers.

Unfortunately, despite promising progress, children and adolescents continue to be disproportionately affected by these preventable infections.

The Global Strategy for Women's, Children's and Adolescents' Health (2016–2030) sets an ambitious goal of ending all preventable maternal, newborn, and child deaths, including stillbirths, by 2030. Likewise, the Global AIDS Strategy 2021–2026 embodies bold approaches and an inequalities lens to close the gaps preventing progress towards ending AIDS. Similarly, in 2022, the World Health Assembly endorsed the three interlinked Global Health Sector Strategies on HIV, viral hepatitis, and sexually transmitted infections for 2022–2030 to eliminate mother-to-child transmission of HIV, syphilis, and hepatitis B virus.

With just six years left, governments need to invest more in robust policies and tailored programmes to meet the goal of eliminating mother-to-child transmission of HIV, syphilis and hepatitis B by 2030. This includes:

- Antenatal screening for HIV, syphilis and hepatitis B for women and their partners.
- Treatment and care services for women and their partners with HIV, hepatitis B and syphilis.
- Safe delivery and infant feeding options.
- Hepatitis B vaccination and immunoglobulins, and HIV prophylaxis for children and adolescents.

Likewise, ensuring close collaborations and integration within and across reproductive, maternal, newborn, child, and adolescent health services and immunization and disease-specific programmes is crucial. This will help improve the accessibility of health services for women, children, and their families, leading to better outcomes, more efficient resource use, and sustainable mechanisms.

The *Regional Roadmap for the Triple Elimination of Mother-to-Child Transmission of HIV, Syphilis and Hepatitis B in the Asia and Pacific Region for 2024–2030* was developed by UNAIDS, UNICEF and WHO to support countries in tailoring their national strategies and operational plans to meet their targets. The roadmap builds on the existing *WHO Regional Framework for the Triple Elimination of Mother-to-Child Transmission of HIV, Hepatitis B and Syphilis in Asia and the Pacific 2018–2030*.

The United Nations remains committed to supporting countries in the Asia-Pacific region in ending AIDS among children, adolescents, and pregnant mothers. In June 2021, the United Nations member states adopted a political declaration to eliminate vertical transmission and end paediatric AIDS. Subsequently, in 2022, the networks of people living with HIV, UNICEF, WHO and UNAIDS, and technical partners PEPFAR and the Global Fund, formed the Global Alliance to End AIDS in Children to eliminate AIDS in children by 2030.

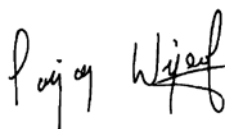
UNAIDS, UNICEF and WHO reaffirm their longstanding commitment to the triple elimination of HIV, hepatitis B and syphilis by 2030 in the Asia-Pacific region.

Regional success in achieving elimination will rely on the collaborative efforts of all key stakeholders and the involvement of communities, affected individuals, families, women and young people. Only then can we truly build a generation in which all children and their families are protected and thriving.



Ms. June Kunugi

Regional Director, UNICEF, East Asia and the Pacific Regional Office



Mr. Sanjay Wijesekera

Regional Director, UNICEF, Regional Office for South Asia



Mr. Eamonn Murphy

Regional Director, UNAIDS, Asia Pacific, Eastern Europe and Central Asia



Ms. Saima Wazed

Regional Director, World Health Organization, South-East Asia Regional Office



Dr. Saia Ma'u Piukala

Regional Director, World Health Organization, Western Pacific Regional Office

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The contents of this progress report and roadmap were informed by valuable inputs from government ministries of health from HIV/AIDS; and reproductive, maternal, newborn, child and adolescent health (RMNCAH) and disease control departments; and non-governmental organization (NGO) representatives, communities and other national partners. Insights were collected through a comprehensive triple elimination of mother-to-child transmission (EMTCT) country survey, country-level data updates on validation indicators, case studies from six countries and two regional virtual consultation workshops that brought together over 100 experts from 21 focus countries in the region. The Joint United Nations HIV and Health country teams played a key role in the country-level coordination for gathering data and country-contextualized inputs for this roadmap.

This roadmap development was led by UNICEF regional health advisors, Basil Rodriques (EAPRO) and Rene Ekpini (ROSA). UNICEF health specialists Salwa Aleryani (EAPRO) and Asheber Gaym (ROSA), guided the work in close collaboration with Brigitte Quenum and Ye Yu Shwe (UNAIDS Asia and the Pacific), Po-lin Chan and Tiara Mahatmi Nisa (WHO SEARO), and Kiyohiko Izumi (WHO WPRO). Anuradha Nair (Gender Specialist, UNICEF ROSA), Komi Ganyo Atsu Eklu (Gender Specialist, UNICEF EAPRO) and Shreyasi Jha (Regional Adviser Gender and Development, UNICEF EAPRO) provided extensive support regarding gender mainstreaming. Additional contributors were from global and regional UNICEF, WHO and UNAIDS offices, as well as members of the Global and Regional Validation Advisory Committee for Triple EMTCT, who diligently reviewed and provided detailed written inputs throughout the drafting process. Shaffiq Essajee (UNICEF HQs Senior HIV/AIDS Specialist) and Chibwe Lwamba (UNICEF HQs Statistics and Monitoring Specialist) provided technical guidance. Kulanuch Rungnophkunsri (UNICEF EAPRO Research Associate) supported the process including the planning, editorial and design.

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Elizabeth cradles her 20-month-old daughter, Hermina Novian, inside their home in Wair Koja Village near the north-eastern port town of Maumere on Flores Island in East Nusa Tenggara Province, Indonesia.

EXECUTIVE SUMMARY

The vision, driven by the Sustainable Development Goals (SDGs), to eliminate mother-to-child transmission of HIV, syphilis and hepatitis B by 2030 creates a remarkable opportunity for countries in the Asia-Pacific. Achieving this ambition requires all people to have timely access to the World Health Organization (WHO) recommended elimination of mother-to-child transmission (EMTCT) service delivery package, including:

- Universal antenatal screening of women and their partners for HIV, hepatitis B and syphilis.
- Prompt access for women and their partners to treatment and care if tested positive (including lifelong treatment for HIV) to prevent future mother-to-child-transmission.
- Access to safe delivery and infant feeding options.
- Appropriate infant access to hepatitis B vaccination and immunoglobulins, syphilis treatment and HIV prophylaxis.

While these interventions are accessible to a varying degree across all countries, their effective implementation relies on collaboration and integration between the reproductive, maternal, newborn, child and adolescent health (RMNCAH) services, immunization and disease-specific programmes. This synergy is crucial to maximize the efficient use of resources, eliminate redundancy in services, and establish a sustainable healthcare response to protect the health and well-being of pregnant women and their newborns. Additionally, this approach emphasizes the importance of community engagement, gender responsiveness and the strengthening of primary healthcare.

This progress report and roadmap aims to achieve two objectives:

- (1) Assess the progress of 21 countries in the Asia-Pacific region towards triple EMTCT and compare this progress with the 2018 triple EMTCT baseline report (see Appendix B for the list of focus countries).
- (2) Introduce a regional triple EMTCT roadmap and operational guidance for the Asia-Pacific region.

OBJECTIVE 1: Progress assessment

Assessment of country progress was based on a desk review of available validation indicator data, a triple EMTCT country survey, and six in-depth country case studies. The progress of 21 countries presented in this report has been informed by the three pillars in the 2018–2030 Regional Framework for Triple EMTCT in Asia and the Pacific. These pillars relate to policy development (Pillar 1), service delivery (Pillar 2) and monitoring and evaluation (Pillar 3) (see Table 3). Data presented in this report has been endorsed by the respective country stakeholders and governments.

Some countries, including Bhutan, Cambodia, China, Malaysia, Maldives, Mongolia, Sri Lanka and Thailand, are making noteworthy progress and are either 'on track' or close to being on track to achieving 2030 EMTCT goals (either for single, dual, or triple EMTCT). Thailand, Malaysia, Sri Lanka, and the Maldives have already achieved dual EMTCT of HIV and syphilis and are now preparing for the validation of EMTCT of hepatitis B.

Other countries, while demonstrating commitment, still face significant challenges and require additional support from global and regional health stakeholders to expedite their progress. Some milestones, which were expected to be achieved by 2020, remain unmet in several settings across the region. These include the creation of formal national or subnational EMTCT policies or roadmaps, standardization of indicators, and the establishment of functional national/sub-national EMTCT coordination bodies. Many countries also face significant financing gaps, particularly for hepatitis B and syphilis services, while others have limited social protection mechanisms in place for EMTCT.

Other factors commonly hindering progress towards triple elimination targets include the development and implementation of human rights protection policies, especially for people living with HIV, limited access to contraception, sub-optimal antenatal care (ANC) coverage (often as a symptom of a weak primary health care system), inadequate investment in point-of-care testing, non-universal testing in ANC, the absence or weak implementation of policies regarding re-testing and partner testing within the ANC population, limited engagement with the private health sector, fragmented triple EMTCT data monitoring, collection and analysis mechanisms that result in heavy reliance on modelled data, and poorly understood local epidemiology of HIV, syphilis and hepatitis B.

OBJECTIVE 2: Development of a regional triple EMTCT roadmap

Based on the progress assessment and global and regional strategic frameworks for primary healthcare, sexual and reproductive health, and triple elimination, a regional triple EMTCT roadmap and operational guidance for the Asia and Pacific region was collaboratively developed. The roadmap and operational guidance ('the roadmap') are designed as an empowering reference document to support countries to develop their own national or subnational triple EMTCT strategies and roadmaps that align with their specific circumstances and challenges. It should not replace existing health system strengthening guidelines but instead should align with the United Nation's commitment to multisectoral policies and integrated health services while being integrated within broader health system strengthening frameworks at the country level.

The roadmap comprises seven distinct strategic priority areas that are supplemented by recommendations relating to the overarching principles of universal health coverage (UHC), health system strengthening, the protection of human rights, health equity, gender responsiveness and strong regional partnerships.

Strategic priority	Regional Framework for Triple EMTCT reference
Strategic Priority 1: Strong leadership and policy commitment at regional, national, subnational and district levels.	Pillar 1
Strategic Priority 2: Universal and equitable access to triple EMTCT services across the RMNCAH platform.	Pillars 1 and 2
Strategic Priority 3: Contextualizing integration of EMTCT into RMNCAH systems.	Pillar 2
Strategic Priority 4: Data-driven and context-specific decision-making, monitoring and evaluation of EMTCT programmes.	Pillar 3
Strategic Priority 5: Community engagement and social accountability.	Pillar 2
Strategic Priority 6: Populations with higher prevalence of MTCT of HIV, hepatitis B and/or syphilis.	Pillars 1 and 2
Strategic Priority 7: Mainstreaming triple EMTCT services and data capture in the private health sector.	Pillars 2 and 3

Each strategic priority area includes operational guidance for adoption and implementation in various stages of progress and settings. The operational guidance is designed to support government departments, organizations, individuals and leaders engaged in triple EMTCT efforts, while acknowledging that institutions and stakeholders responsible for implementing the roadmap will have structures, functions and mandates that vary across contexts. Within each national setting, key in-country stakeholders may include United Nations agencies, private sector entities, NGOs and special interest groups.

Each strategic priority area encompasses key actions grouped under 'immediate' (for implementation in the next year), 'medium-term' (for implementation in the next one to three years) and long-term and sustained actions (for implementation and continuance in the next three to seven years) towards 2030. Cutting across the strategic priority areas is a focus on strengthening health systems in the pursuit of UHC.

Strategic Priority 1 reflects the importance of political support for EMTCT activities and appropriate policy and governance structures at national and subnational levels. Key enabling actions advocated for are the establishment of triple EMTCT coordination bodies at national and subnational levels with wide representation from all key stakeholders, with relevant government departments taking an active leadership role. Under the guidance of the national coordination body, the development of EMTCT policy/strategy, guidelines, a costed national roadmap, and communication and advocacy strategies should be early priorities, with liaison between national and subnational committees as a critical mid-term focus for the national body.

Strategic Priority 2 emphasizes universal access to services across the full EMTCT cascade.

Significant progress has been made in the region on access to some key services, particularly ANC, and antenatal HIV testing. However, in many countries these services are consistently inaccessible to certain marginalized populations, and coverage for other interventions across the cascade is lower still. Advocated initial activities include urgent (in the next year) training on EMTCT service delivery across frontline clinical and laboratory services, with an emphasis on quality, gender-responsive care, the development of EMTCT monitoring processes and frameworks, and an integrated and costed capacity-building plan up to 2030. Medium-term actions include developing a resource mobilization strategy, including where possible an investment case for regional, national and subnational actors, the introduction of technologies (in particular dual HIV/syphilis rapid test kits and early infant diagnosis) to subnational regions where they are not yet available, and beginning the scale-up of disease treatments and infant prophylaxis. Longer-term actions focus on health worker incentives to improve staff retention and quality coverage of underserved populations and propose the adoption of community-based strategies and new technologies which may become more widely available by then.

Strategic Priority 3 sets out the process for developing a tailored integration model within each country or subnational region, with scope for transitional integration arrangements on the path to more complete integration. The strategy calls for an urgent multi-stakeholder review, led by the government, of all current EMTCT services, to develop a phased integration strategy. While ‘integration’ in EMTCT is primarily understood to refer to integration between disease-specific activities and health sectors/services providing various services, this review of integration should also consider the EMTCT cascade and life course integration, focusing on continuum of care and patient tracking, integration between primary health care (PHC) and other health system levels, and integration between private- and public-sector systems and services. While the development of national operational guidance is an advocated medium-term strategy, the achievement of integration goals will likely occur beyond 2030 and, therefore, the longer-term integration strategy should include the development of plans that surpass this date while ensuring progress is sufficient to support the achievement of triple EMTCT by 2030.

Strategic Priority 4 focuses on data-driven decision making. The immediate establishment of a national validation committee within the national EMTCT coordination body (if not already established) is the recommended vehicle for developing integrated EMTCT monitoring systems. The standardization of national and subnational EMTCT indicators to meet global and regional guidance should be the first priority for this body, with the integration of these indicators into existing monitoring systems and the initiation of unique identifier code systems for maternal-newborn tracking. As part of national and subnational roadmap development, interim targets based on these indicators should be established in consultation with key stakeholders, with immediate capacity-building action for validation and monitoring teams. In the medium-term, subnational monitoring and feedback mechanisms should be strengthened, and once indicators are standardized, appropriate digital management information systems (MIS) technologies should be rolled out to support timely integrated data collection and feedback. Long-term, countries should aim to further integrate EMTCT indicators into routine national surveys such as DHS, incorporate all three diseases into routine sentinel surveillance, develop modelling on Spectrum and other platforms to identify missed opportunities and service gaps, and work towards integrated private-public health information systems (HMIS) for EMTCT data.

Strategic Priority 5 sets out an agenda for community engagement, social accountability and gender responsiveness within national EMTCT plans and services. It initially proposes the development of a costed community engagement plan that strengthens the capacities of community health workers to conduct effective social mobilization and awareness campaigns and facilitates timely referrals. Partnering, particularly with community-led/based organizations serving women or girls at risk for or affected by HIV, hepatitis B or STIs, and stakeholders/representatives of commonly excluded and at-risk groups in each context, is also advocated to ensure representation of underserved groups in national and subnational EMTCT coordination bodies, involve them in programme design and quality improvement, and plan community awareness campaigns. Gender sensitization and gender-responsiveness capacity building that is integrated within all EMTCT capacity building initiatives is proposed. A suite of medium-term actions is proposed that aims to stimulate and enable community involvement in EMTCT action. This includes drafting of legislation to further protect access to EMTCT services and remove stigma and discrimination, integrating social accountability mechanisms within the service monitoring framework with a focus on gender-transformative action, establishing local communities of practice in partnership with academia and health professional organizations, integrating EMTCT information into RMNCAH/HIV helplines, and introducing or strengthening community nutrition support programmes for affected mothers and newborns. The maintenance of these programmes is the long-term priority, with the introduction or expansion of economic empowerment and support programmes for affected communities.

Strategic Priority 6, the most urgent priority, is the mapping of high risk/prevalence populations by the EMTCT coordination body, particularly for those populations or diseases where recent mapping has not been conducted, with stakeholder mapping in these communities to identify key partners in planning and implementation. These populations should be prioritized for the scaling up of EMTCT services in the early/medium term, in partnership with community organizations wherever possible. As high- and medium-risk/prevalence populations have their needs met, long-term strategy should move to mainstreaming practices in low-prevalence areas.

Strategic Priority 7 focuses on private sector integration of EMTCT services, standards and monitoring into national and subnational public systems. Priority actions under this strategy include engaging private sector representatives (both service provider organizations and health professional representatives) as part of national and subnational EMTCT coordination bodies, mandating the inclusion of the private sector in all EMTCT planning, and exploring the capacity of existing private-public partnerships to expand to cover EMTCT services, particularly in maternity care and diagnostics. In the medium term, a joint review of private-sector EMTCT services and harmonization of these with national and subnational standards should be accompanied by the development of regulatory policies for the private sector in relation to EMTCT services and reporting, the development of cross-learning workshops between private- and public-sector health professionals, and the development of strategies to minimize out-of-pocket expenditure for private-sector EMTCT services. Long-term actions should include an evaluation of private-public collaborative actions in EMTCT and the development of a centralized HMIS for EMTCT data, for use by both private and public sectors.

The regional roadmap and operational guidance conclude with recommendations on how regional partners (many of which also have national presence) can support the regional roadmap strategies and recommended actions. The key recommendations are:

- While WHO, UNICEF and UNAIDS may continue to lead in the key health and development technical areas, other agencies – including UNFPA, UN Women, UNDP and the World Bank – should be invited to contribute to planning and technical support and have relevant support to offer given the broad scope of EMTCT as outlined in global strategic guidance.
- The regional validation committee should seek as broad a representation as possible from regional representatives, including organizations with expertise in hepatitis programmes and policy, and organizations representing affected communities. Focus will be on supporting countries to develop their own validation processes focusing on standardizing indicators and MIS related to EMTCT.
- Regional health professional organizations can support international capacity building in triple EMTCT by cataloguing training and training resources and providing knowledge-sharing opportunities at regional and national conferences. Specialist bodies can provide technical support to countries seeking to develop their own community engagement strategies and social accountability mechanisms, provide technical support in legislative reform to protect human rights and access to EMTCT services, and build national capacity in providing safe and acceptable services to marginalized and vulnerable populations.
- A coordinated approach to donor financing for EMTCT actions is needed. There are opportunities for donors to coordinate their investments in EMTCT, consider offering EMTCT-specific financing rounds or grants, and (where some funds are limited to service for a single disease) consider expanding to cover triple EMTCT services. Investment strategies should be aligned with regional and national EMTCT roadmaps, and reporting requirements should likewise be aligned to global and regional standard indicator sets for EMTCT.
- Academic institutions can provide technical support and directly generate evidence to support financing, policies and clinical services in partnership with governments and affected communities.



A woman carries her baby on one arm and a bar of soap in the other, at Barrack Bakoy, a temporary camp for people displaced by the tsunami, on the outskirts of Banda Aceh, capital of Aceh Province, Indonesia.

1

Triple elimination of mother-to child-transmission of HIV, syphilis and hepatitis B: A goal of global and regional public health significance

1.1 Background

The Sustainable Development Goals (SDGs) serve as the primary guiding framework for global and regional efforts to address issues such as poverty, ill health, inequalities and environmental sustainability. The SDG agenda is a *call to action* to ensure that all people enjoy health, justice and prosperity; it further advocates for gender responsive¹ and equitable access, emphasising that 'no one is left behind'.¹ Of the 17 SDGs, SDG3 aims at good health and well-being for all, at all ages, and Target 3.3 refers to ending the epidemic of HIV and combating hepatitis and other communicable diseases by 2030. SDG3 targets 3.1, 3.2, 3.7, 3.B and 3.C aim to end preventable maternal and child deaths and ensure access to sexual and reproductive health (SRH) through safe, quality and affordable healthcare services, medicines and vaccines, and a trained workforce.¹ A fundamental principle underlying SDG3 is Target 3.8 calling for universal health coverage (UHC), which means that everyone has access to essential health care without financial hardship. Achieving these targets requires countries to invest in strengthening their primary health care (PHC) systems. As the foundational pillar of a resilient health system, primary health care ensures that everyone has access to essential health care services, which is central to the efforts to improve health for all and meet the SDG targets.²

The SDG vision, particularly outlined in SDG3, emphasizes communicable diseases and maternal, newborn and child health, and aims to give every child an optimal opportunity to start life free from preventable communicable diseases. This strong focus within the SDG agenda has revitalized the global commitment to eliminating mother-to-child transmission (MTCT) of HIV, syphilis and hepatitis B. Recent pharmacological advances and lessons from good practice models in many countries, combined with an unprecedented global commitment to ending HIV, syphilis and hepatitis B as a public health threat by 2030, make this decade the best opportunity to realize this goal, which once was considered a distant reality.

¹ The extent to which programmes and policies are gender-responsive can be assessed by applying WHO's 5-Level Gender Responsive Assessment Scale (Annex A). Countries are encouraged to apply this scale to assess the level of gender responsiveness in their EMTCT initiatives and make necessary improvements.

1.2 From PMTCT of HIV to EMTCT of HIV, syphilis and hepatitis B: How the vision evolved

Since the early attempts to prevent mother-to-child transmission (MTCT) of HIV in the 1990s through the introduction of a short course of zidovudine during pregnancy, advancements in testing technologies and the availability of highly efficacious antiretroviral drugs have resulted in a reduction in the risk of MTCT of HIV from 30–45 per cent to <2–5 per cent, making the elimination of mother-to-child transmission (EMTCT) of HIV technically possible.^{3,4} Recognizing the potential for elimination, the first global plan for EMTCT of HIV was published in 2011 by the Joint United Nations Programme on HIV/AIDS (UNAIDS), World Health Organization (WHO) and other partners.⁵ Earlier, in 2007, WHO had published the global strategy for the elimination of congenital syphilis.⁶ It was soon realized that a collaborative approach to test and treat pregnant women for both HIV and syphilis could prove to be a cost-effective and efficient strategy to prevent transmission to newborns. Consequently, the global health community, led by WHO, began advocating for the dual elimination of MTCT of HIV and syphilis as a priority.⁷

In line with the global guidance, the United Nations' Prevention of Parent-to-Child Transmission of HIV (PPTCT)^{II} task force in Asia-Pacific developed the 'Elimination of Parent-to-Child Transmission of HIV and Syphilis Framework' in 2011, followed by a 'Dual EMTCT roadmap for HIV and syphilis' in 2015.^{4,8,9} This roadmap emphasized an integrated approach through reproductive, maternal, newborn, child and adolescent health (RMNCAH) platforms to reach and treat women and their newborns for HIV and syphilis, aiming to attain a generation free of HIV and syphilis.⁸ In June 2016, Thailand became the first country in Asia and the Pacific to eliminate mother-to-child transmission of HIV and syphilis, followed by Malaysia, Maldives and Sri Lanka, all which achieved validation of EMTCT of HIV and syphilis during 2018 and 2019.¹⁰

Building on the successes of the dual elimination target in lower- and middle-income countries (LMICs) at the 69th World Health Assembly (WHA) session in May 2016, the member states endorsed three interlinked global health sector strategies on HIV, viral hepatitis and sexually transmitted infections (STIs) for 2016–2021.¹¹ These strategies espoused an accelerated health sector response to progress towards the EMTCT of hepatitis B in addition to HIV and syphilis by 2030 – a goal closely linked to SDG3.¹² The 2022–2030 global health sector strategies on the three infections further call for a people-centred approach, with an emphasis on universal health coverage and addressing inequities to achieve EMTCT of HIV, syphilis and hepatitis B.¹³

In addition, the Global AIDS Strategy 2021–2026 emphasizes tailored, integrated and differentiated services to eliminate vertical transmission of HIV.^{III} In June 2021, the United Nations member states adopted a political declaration on HIV and AIDS, committing to eliminate vertical transmission and end paediatric AIDS.^{IV} Subsequently, the Global Alliance to End AIDS in Children was formed in 2022 through the united efforts of networks of people living with HIV, UNICEF, WHO and UNAIDS, together with technical partners PEPFAR and the Global Fund. The vision of the Global Alliance is to end AIDS in children, achieved through a strong, strategic and action-oriented alliance of multisectoral stakeholders at country, regional and global levels that works with women, children and adolescents living with HIV, national governments and partners to mobilize leadership, funding and action to end AIDS in children by 2030.^V The focus of the Global Alliance is on four pillars of work that, if addressed together, can achieve the end of AIDS among children:

II PMTCT (Prevention of Mother-to-Child Transmission) is often also referred to as PPTCT (Prevention of Parent-to-Child Transmission) in some parts of the world to emphasize the role of the father in both the transmission of infection and the management of the infected mother and newborn.

III <https://www.unaids.org/en/Global-AIDS-Strategy-2021-2026>

IV https://www.unaids.org/en/resources/documents/2021/2021_political-declaration-on-hiv-and-aids

1. Early testing and optimized comprehensive, high-quality treatment and care for infants, children and adolescents living with HIV to achieve universal coverage of (antiretroviral therapy: ART) and viral suppression.
2. Closing the treatment gap for pregnant and breastfeeding women living with HIV and optimizing continuity of treatment towards the goal of elimination of vertical transmission.
3. Preventing new HIV infections among pregnant and breastfeeding adolescents and women.
4. Addressing rights, gender equality and social/structural barriers that hinder access.

1.3 Triple EMTCT: A unified goal to eliminate HIV, syphilis and hepatitis B

HIV, syphilis and hepatitis B can all be transmitted from women to their newborns during pregnancy and childbirth, and breastfeeding (in the case of HIV only). These infections can lead to adverse pregnancy outcomes and potential long-term consequences for both mother and child. Without interventions, the mother-to-child transmission rate for HIV can be up to 45 per cent, leading to high morbidity and mortality among HIV-exposed infants (HEI). According to WHO, mother-to-child transmission is the most common route by which children become infected with HIV, accounting for >90 per cent of paediatric AIDS cases.¹⁴ Similarly, 70 to 90 per cent of infants born to women positive for HBsAg and HbeAg may become chronically infected with hepatitis B if not vaccinated and treated promptly. Syphilis during pregnancy can result in congenital anomalies, a high risk of stillbirth, premature births, low birth weight and early infant deaths.

Mother-to-child transmission of these infections can be effectively averted by a set of similar interventions with proven efficacy and cost-effectiveness. These interventions include the prevention of unintended pregnancies among infected pregnant mothers, antenatal screening and treatment of women and their partners, and prophylaxis and vaccination for exposed newborns.¹⁵⁻¹⁷ Strong and well-organized RMNCAH programmes, working in collaboration with disease-specific programmes, are key to ensuring timely access to these interventions by women, their partners and newborns.¹² By integrating and aligning these efforts, countries can optimize resource utilization, address service duplication and ensure sustainable health service delivery to safeguard the health and well-being of women and their newborns.

In late 2023, a global framework for triple EMTCT was published by WHO, incorporating a major revision of the 'four prong' HIV EMTCT strategy from 2002. This framework characterizes four service domains:¹⁸

1. Primary prevention of infection and vertical transmission.
2. Sexual and reproductive health (SRH) linkages and integration.
3. Essential maternal EMTCT services.
4. Infant, child and partner services.

Underpinning these areas of focus are four crosscutting implementation considerations: health system strengthening, strategic information gathering and analysis; leadership, community engagement and cross-programmatic considerations, and processes to identify and address barriers.

V <https://www.childrenandaids.org/global-alliance>

1.4 Core interventions to achieve triple EMTCT of HIV, syphilis and hepatitis B

In 2017, WHO recommended a service delivery package for triple EMTCT.¹⁹ This was developed to support countries in eliminating MTCT of HIV, syphilis and hepatitis B and provided comprehensive interventions that could be integrated into existing RMNCAH services. The package emphasizes the importance of community engagement, gender responsiveness and health system strengthening for effective implementation. It also stresses that the services must not be coercive and should respect the human rights of women, their families and their children. The WHO recommended essential service delivery package to achieve triple elimination includes:²⁰

- Universal antenatal screening of women and their partners for HIV, syphilis and hepatitis B.
- Prompt access of women and their partners to treatment if tested positive.
- Access to safe delivery and infant feeding options following the acceptable, feasible, affordable, sustainable and safe (AFASS) principles.
- Appropriate infant vaccination (hepatitis B) and prophylaxis (HIV).
- Lifelong treatment and care for mothers living with HIV or those eligible for treatment for hepatitis B and syphilis to prevent mother-to-child transmission in future pregnancies and access to family planning services as per individual needs.

Antenatal screening serves as the gateway for women and their partners to access this service delivery package. It was historically provided in the form of either targeted or universal antenatal testing.^{21, 22} Targeted antenatal testing based on risk factors or local prevalence has remained a favoured approach in many healthcare settings due to its perceived cost-effectiveness and efficiency.²³ However, there is substantial evidence that despite the initial expense, universal testing for HIV and syphilis among pregnant women is more cost-effective in the long term compared to targeted testing, even in low disease-burden countries and in both high- and low-income settings.^{24, 25} Universal testing can avert more infections among newborns, thereby eliminating the cost of lifelong treatment and care for HIV and congenital syphilis (such as blindness and bone deformities). Keeping mothers alive and well through access to appropriate obstetric care and treatment further contributes to children's well-being and their right to a healthy start in life. Universal hepatitis B screening is also encouraged for the same benefits described for HIV and syphilis.^{24, 26}

1.5 Regional Framework for Triple EMTCT in Asia-Pacific 2018–2030

The Regional Framework for the Triple Elimination of Mother-to-Child Transmission of HIV, syphilis and hepatitis B in Asia and the Pacific, 2018–2030, endorsed by all member states in the Asia-Pacific region, is an outcome of a collaborative process involving partner organizations, health departments, civil society and consumers of healthcare services – all united in their pledge to bring an end to MTCT of HIV, syphilis and hepatitis B. The framework outlines a clear vision, goal, guiding principles and priority actions.¹² The triple EMTCT roadmap presented in this document aligns with this framework's vision, goal and guiding principles. It involves a comprehensive strategy and a detailed activity plan, developed in collaboration with regional United Nations teams and focus countries. The aim is to harmonize efforts at both the national and sub-national levels towards achieving the triple elimination goal by 2030.

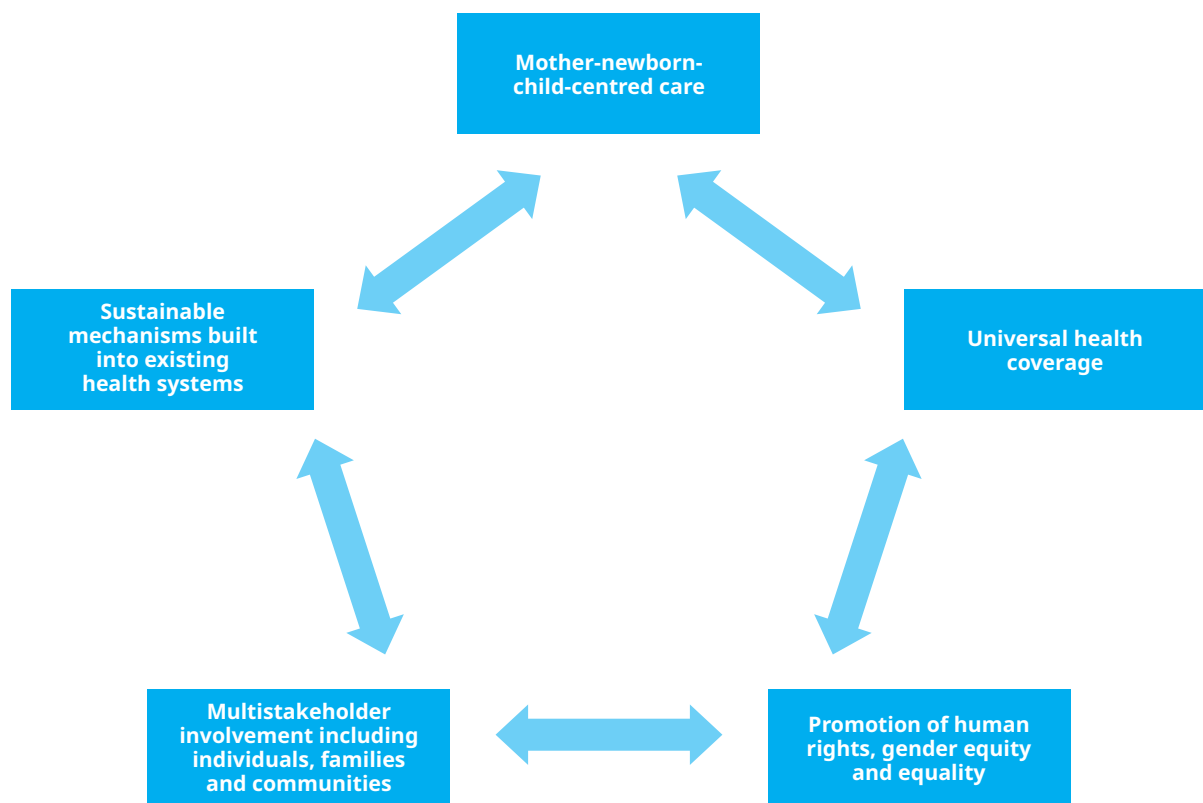
1.6 Reaching triple EMTCT by 2030: Regional vision, goal and principles

Vision: Every infant^{VI} free of HIV, syphilis and hepatitis B

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

Guiding principles: All member states unanimously agreed to adhere to the five guiding principles in all actions to achieve the triple EMTCT vision by 2030. These principles include mother-, newborn- and child-centred care; universal health coverage; promotion of human rights, gender equity and equality; multistakeholder involvement including individuals, families and communities; and sustainable mechanisms building into existing health systems (see Figure 1).

FIGURE 1 Guiding principles to achieve triple EMTCT by 2023



VI Defined as <1 year of age.

1.7 Triple EMTCT indicators and targets: Catalysing progress towards the SDGs

The regional triple EMTCT framework identified a list of indicators, categorized into process and impact indicators, along with their respective targets, to measure progress to be made by countries. These indicators and their targets, as outlined in the regional EMTCT framework,¹⁵ are presented in Table 1.

TABLE 1 Triple EMTCT impact and process indicators and targets by 2030

Impact indicators	Target by 2030 (%)
Case rate of new paediatric HIV infections due to MTCT of HIV and MTCT rate of HIV	≤50 new paediatric infections per 100,000 live births <5 in breastfeeding populations OR <2 in non-breastfeeding populations
HbsAg prevalence among children	≤0.1 HbsAg prevalence among children
Case rate of congenital syphilis infections	≤50 cases of congenital syphilis per 100 000 live births
Process indicators	Target by 2030 (%)
Percentage of pregnant women attending antenatal care at least once (ANC1)	≥95
Percentage of pregnant women attending antenatal care at least four times (ANC4)	≥95
Proportion of births attended by skilled health personnel	≥95
Stillbirth rate (per 1,000 total births)	<12
Percentage of pregnant women with known HIV status (includes newly tested and those with known status)	≥95
Percentage of antenatal care (ANC) attendees tested for HbsAg	≥95
Percentage of women accessing ANC who were tested for syphilis	≥95
Percentage of pregnant women living with HIV who received antiretroviral therapy (ART)	≥95
Percentage of pregnant women with positive syphilis serology who were treated adequately	≥95
Percentage of infants receiving a birth dose of hepatitis B vaccine (HepB-BD)	≥95
Coverage of hepatitis B vaccine third dose (HepB3) among infants	≥95

In 2018, WHO published the Baseline Report 2018 Triple Elimination of Mother-to-Child Transmission of HIV, hepatitis B and syphilis in Asia and the Pacific²⁷ and introduced two supplementary process indicators to examine countries' progress towards triple EMTCT.

Supplementary process indicators	Target (%) (no year mentioned)
Percentage of (all) women whose demand for family planning is satisfied with a modern method of contraception	≥80
Percentage of pregnant women attending ANC who had a blood sample taken	No target provided

In the '2021 Global guidance on criteria and processes for validation: elimination of mother-to-child transmission of HIV, syphilis and hepatitis B virus',²⁸ WHO added two additional process indicators.

Additional process indicators	Target by 2030 (%)
Coverage of HIV testing of pregnant women	≥95
Coverage with antivirals for eligible HbsAg-positive pregnant women	≥90

To ensure a comprehensive comparison of countries' progress, all four supplementary process indicators have been included in analyses for this progress report.

1.8 Links between triple EMTCT and SDGs for improved maternal and newborn health outcomes

The vision of triple EMTCT, which aims to ensure that 'Every infant is free of HIV, hepatitis B and syphilis', aligns with the central theme of the SDGs, which is 'No one is left behind.' The guiding principles of triple EMTCT, such as equity, universal health coverage, human rights promotion and health system sustainability, are also fundamental pillars of the SDG agenda. The triple EMTCT initiative additionally emphasizes affordable access to essential health care as a fundamental human right, and advocates for the expansion of social protection mechanisms, reduced inequalities (SDG10), and promotes justice and empowering communities to take a central role in the response (SDG16).

By ensuring timely access to quality EMTCT services, women and their partners can maintain good health and improve their capacity to generate income, thereby supporting their households and ensuring schooling for their children. This, in turn, indirectly contributes to SDG1 (No Poverty), SDG2 (Food Security), and SDG4 (Quality Education). In the global context, improved access to HIV testing and treatment, as well as hepatitis B birth dose vaccination, has significantly reduced morbidity and mortality among women, their partners and children affected by these infections. The shared targets and indicators between triple EMTCT and the SDGs highlight the importance of collective efforts and an integrated programme approach to achieving sustainable progress in the health and well-being of women, children and families.

Among all the SDGs, EMTCT services make the most direct contribution towards SDG3. Many SDG3 targets and indicators benefit directly from robust EMTCT services in a country (*see Table 2*).

TABLE 2 Links between EMTCT and SDG3 targets

SDG3: Ensure healthy lives and promote well-being for all at all ages		Triple EMTCT: Every infant free of HIV, hepatitis B and syphilis	
Indicators	Target by 2030	Indicators	Target by 2030 (%)
3.1.1 Maternal mortality ratio. 3.1.2 Proportion of births attended by skilled health personnel.	3.1. Reduce the global maternal mortality ratio to <70 per 100,000 live births.	1. Percentage of pregnant women attending antenatal care (ANC) at least once. 2. Percentage of pregnant women attending ANC at least four times. 3. Proportion of births attended by skilled health personnel.	≥95
3.3.1 Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations. 3.3.4 Hepatitis B incidence per 100,000 population.	3.3. End the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases, and combat hepatitis, water-borne diseases and other communicable diseases.	1. Percentage of pregnant women with known HIV status (includes both newly tested and those with known status). 2. Coverage of HIV testing of pregnant women. 3. Percentage of pregnant women living with HIV who received antiretroviral therapy (ART). 4. Percentage of ANC attendees tested for HbsAg. 5. Coverage with antivirals for eligible HbsAg-positive pregnant women. 6. Percentage of women accessing ANC who were tested for syphilis. 7. Percentage of pregnant women with positive syphilis serology who were treated adequately.	≥95 (≥90 for indicator 5)
3.7.1 Proportion of women of reproductive age who have their need for family planning satisfied with modern methods. 3.7.2 Adolescent birth rate.	3.7. Ensure universal access to sexual and reproductive healthcare services, including family planning, information and education, and the integration of reproductive health into national strategies and programmes.	Percentage of women whose demand for family planning is satisfied with a modern method of contraception.	≥80
3.8.1 Coverage of essential health services (reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases, and service capacity and access) among the general and the most disadvantaged populations.	3.8. Achieve universal health coverage, including financial risk protection, access to quality essential health care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.	1. Percentage of infants receiving a birth dose of hepatitis B vaccine (HepB-BD). 2. Coverage of hepatitis B vaccine third dose (HepB3) among infants.	≥95

1.9 The Asia-Pacific landscape

The Asia and Pacific region, home to more than half of the world's population, includes countries with highly diverse demographic, economic and health system characteristics. The region constitutes high-income countries such as Australia, New Zealand, Singapore and Japan, with robust economies and significant per capita income in addition to strong health infrastructure and social welfare systems. These countries are already on track to achieve most SDGs, including for HIV and other communicable diseases. On the other hand, the region also constitutes countries with struggling economies, widespread poverty, inadequate infrastructure and limited access to basic services. Amid this spectrum, there is a category of upper – (e.g., China and Fiji) and lower-middle-income countries (e.g., Indonesia and India).²⁹ These countries have made notable progress in economic development, including the enhancement of their healthcare systems, but continue to face various challenges and disparities to stay on track for attaining the SDGs.

Overall, the region has seen a significant improvement in neonatal mortality rates since 2000, with the average rate dropping to 15.8 deaths per 1,000 live births in 2020 – half the rate observed in 2000. Despite this progress, the figure is still higher than the SDG target of ≤ 12 deaths per 1,000 live births by 2030. In 2019, the maternal mortality ratio in the region averaged 140 deaths per 100,000 live births, which is twice the SDG target of < 70 deaths per 100,000 live births by 2030. Across all countries in the region, there has been an increase in the share of public spending on health from 2010 to 2019. Nonetheless, the rise remains modest in low- and low-middle income countries, where out-of-pocket expenditures constituted 49 per cent of the total health expenditure as of 2019.²⁹

Despite their diverse economic progress and responses to the SDGs, all countries in the region have been affected by the common challenge of economic downturn due to the COVID-19 disruption since the regional EMTCT framework was put in place. Health systems faced particular disruption due to lockdowns and the diversion of resources to pandemic preparedness and response. The recovery of essential service functions has been slow. In addition to service delivery, there is some evidence that health policy development in areas other than pandemic response has also been disrupted due to attention and resources being diverted to the pandemic response.³⁰ A further challenge, evolving on a global scale as well as in the Asia and Pacific region, is an epidemiological transition which involves a shift in the disease and mortality burden from communicable diseases and maternal, newborn and child health (MNCH) issues to non-communicable diseases (NCDs). Consequently, the health policy focus in almost every country has shifted from RMNCAH to prioritizing NCDs.³¹

1.10 The state of HIV, syphilis and hepatitis B in the Asia-Pacific region

The reported prevalence of HIV among the general population (aged 15-49 years) in Asia-Pacific countries ranges from < 0.1 per cent to 1.1 per cent.²⁹ Although the prevalence is relatively low, the large population in the region results in a high burden of disease in terms of absolute numbers. In 2022, there were approximately 6.5 million (5.3–7.8 million) people living with HIV in the region. Of them, 2.4 million were women > 15 years of age.³² According to 2022 UNAIDS estimates, there were 300,000 (220,000–400,000) new HIV infections in the region, marking a 14 per cent decrease since 2010, and 150,000 (110,000–220,000) AIDS-related deaths, a 51 per cent reduction since 2010. Despite this progress, the region still faces challenges in achieving the 95-95-95^{VII} UNAIDS target by 2025.^{33, 34}

VII In 2020, the Joint United Nations Programme on HIV/AIDS (UNAIDS) launched the 95-95-95 targets. The aim was to diagnose 95 per cent of all HIV-positive individuals, provide antiretroviral therapy (ART) for 95 per cent of those diagnosed and achieve viral suppression for 95 per cent of those treated by 2025.

The restricted access to healthcare during COVID-19 lockdowns may also have contributed to increases in HIV transmission rates, jeopardizing the progress achieved in previous years.^{35, 36}

As of 2022, 78 per cent of people living with HIV in the region knew their status, 65 per cent were on ART and 62 per cent achieved viral suppression.³² The HIV epidemic among key populations in the region, such as sex workers, people who inject drugs and men who have sex with men, remains consistently high compared to the general population. Among these key populations, the prevalence is even higher for the younger cohort (aged 15–24 years) and their sex partners.³²

According to a WHO 2023 report,³⁷ two thirds of the estimated global burden of undiagnosed and untreated hepatitis B-infected population occurs in the Western Pacific and South-East Asia WHO regions.³⁷ The prevalence of chronic hepatitis B among the general population in the Western Pacific region is one of the highest in the world. In 2019, an estimated 5.92 per cent of the adult population in this region was infected with hepatitis B – an estimated 116 million people chronically infected – with an estimated 470,000 deaths.^{29, 38} In the South-East Asia region, there were an estimated 260,000 hepatitis B cases in 2019, with 180,000 deaths.³⁹

Vaccination for hepatitis B is considered effective in preventing infection and the chronic consequences of the disease, such as cirrhosis and liver cancer. In most high- and upper-middle-income Asia-Pacific countries, almost all children aged one year had received the recommended hepatitis B vaccination in 2021, meeting the WHO minimum threshold of 95 per cent to avoid vaccine-preventable disease outbreaks.²⁹ In contrast, the average vaccination rate in lower-middle and low-income Asia-Pacific countries for vaccine-preventable diseases was around 75 per cent, which is insufficient to ensure the interruption of disease transmission and protection of the population.²⁹

The overall availability and quality of STI data remain weak in both the Western Pacific and Southeast Asia regions. According to the available estimates, the number of incidents of syphilis cases was 1,100,000 in the Western Pacific and 350,000 in the Southeast Asia region in 2020.³⁹

The national prevalence data for HIV, hepatitis B and syphilis in the general population and in ANC for individual countries in the Asia and Pacific region is presented in Section 3 of this report.



A woman health worker consults with a woman and her son at a local health clinic in the Trobriand Islands in Milne Bay Province, Papua New Guinea.
© UNICEF/UNI42611/Pirozzi

2 Rationale and scope of this report

2.1 Purpose and significance

This report was developed in consultation with the UNICEF Regional Office South Asia (ROSA) and UNICEF East Asia and Pacific Regional Office (EAPRO), WHO South-East Asia Regional Office (SEARO) and Western Pacific Regional Office (WPRO), UNAIDS technical teams, members of the Global Validation Advisory Committee for Triple EMTCT, member state governments and civil society stakeholders. It aims to achieve two key purposes. First to present a comprehensive analysis of the progress of the 21 focus countries in the Asia and Pacific region towards triple EMTCT. Progress is compared with the Asia-Pacific triple EMTCT baseline report published in 2018.²⁷ Second, to present a tailored triple EMTCT regional roadmap for the Asia and Pacific region based on this progress review, feedback from global and regional United Nations colleagues, input from the countries involved, recent technological advances, and best practice models applicable to the region.

The analysis of progress towards triple EMTCT has been guided by the Three Pillars Framework pertaining to Pillar 1: Policy development; Pillar 2: Service delivery and Pillar 3: Monitoring and evaluation, presented in the Regional Framework for Triple EMTCT in Asia and the Pacific, 2018–2030 (see Table 3). Section 3 provides a detailed description of each pillar before presenting countries' progress across the three pillars.

The focus countries in this report have been classified into upper-middle, lower-middle, and low-income based on their gross national income (GNI) per capita and World Bank classification (Annex A). The roadmap presented in Section 4 is primarily derived from the data analyses of the 21 countries. In addition, this roadmap aims to facilitate knowledge sharing and collaborative learning in the Global South. It will serve as a guide for countries to adapt their national strategies and operational plans according to their local context to attain their EMTCT targets.

TABLE 3 Regional triple EMTCT framework

Vision	Every infant free of HIV, hepatitis B and syphilis.		
Goal	Achieve and sustain the 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.		
Pillars	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 (M&E): Coordinated monitoring and evaluation of elimination.
2020 milestones	Coordination mechanism for EMTCT of HIV, hepatitis B and syphilis established.	Coordinated EMTCT service delivery plan developed.	EMTCT indicators included in national health information system.
2030 targets	National RMNCAH policy includes EMTCT of HIV, hepatitis B and syphilis as a standard component.	Universal access to core EMTCT services available.	Coordinated monitoring through interlinked system.

Source: World Health Organization Regional Office for the Western Pacific. Regional framework for the triple elimination of mother-to-child transmission of HIV, hepatitis B and syphilis in Asia and the Pacific, 2018–2030. Licence: CC BY-NC-SA 3.0 IGO. 2018.12

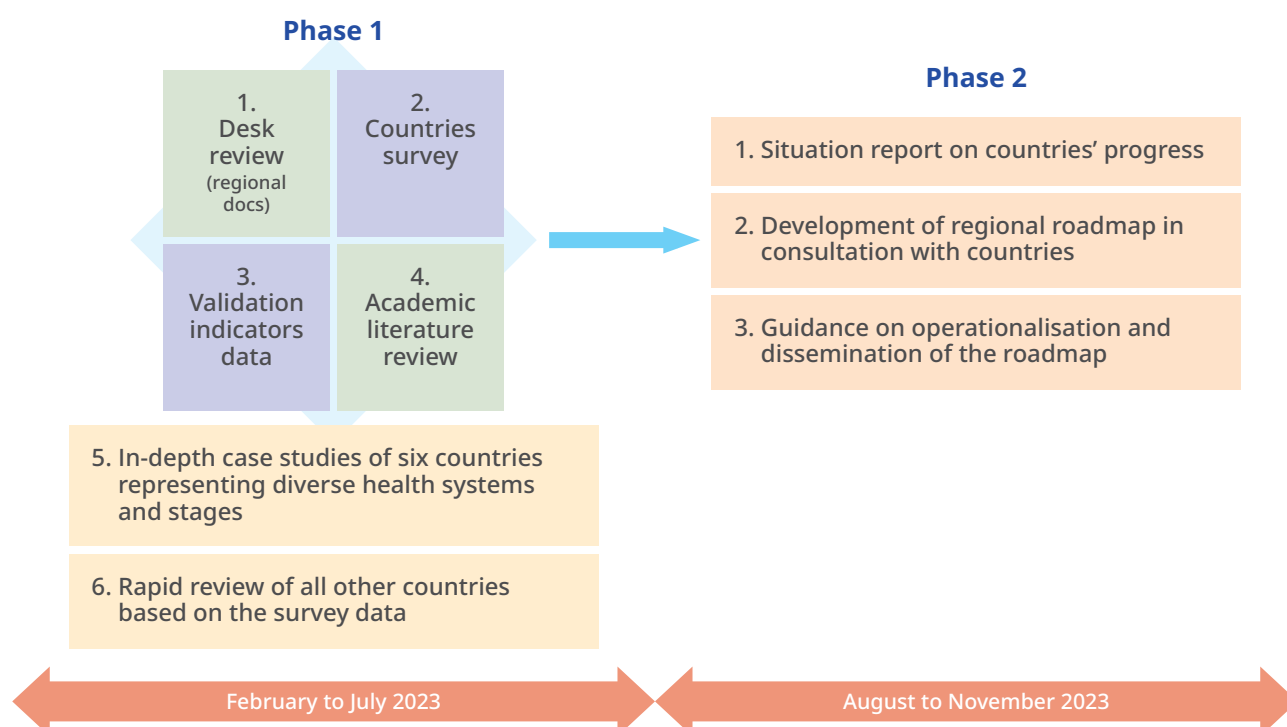
More specifically, the objectives of this regional roadmap include:

1. Provide an update on progress of EMTCT programme implementation in the Asia and Pacific region, including an analysis of potential programme bottlenecks and roadblocks.
2. Project EMTCT process indicator updates for 21 countries against the 2018 baseline.
3. Provide a regional roadmap template for countries to adopt, with a menu of recommended strategic priorities and interventions to accelerate EMTCT.
4. Share operational guidance for country adoption of the regional roadmap template, based on country triple epidemic profile and context.

The intended audience for this document includes ministries of health, and national and sub-national working groups within national health programmes that are responsible for developing and updating MNCH, HIV and STI policies and plans. It is also intended to inform and guide donors, implementing partners, programme managers, clinicians, networks of people living with HIV or hepatitis, researchers and other civil society groups.

2.2 Methodology

To help achieve the targets outlined in the regional EMTCT framework and to develop the roadmap, the following activity plan was developed and approved by the Asia and Pacific regional United Nations teams (UNICEF, WHO and UNAIDS). The activities were divided into two broad phases (*see Figures 2*), with a list of activities for each phase.

FIGURE 2 Activity plan for roadmap development

Phase 1

Phase 1 consisted of six activities aimed at gathering comprehensive information on the progress towards triple EMTCT in the Asia-Pacific region.

Activity 1 involved a desk review of global and regional EMTCT strategies to capture and catalogue regional priorities and policy directions on triple EMTCT. The key themes and concepts extracted from this review served as a guide to designing a survey tool to assess each country's progress towards EMTCT. The list of regional documents reviewed is provided in Annex C.

Activity 2 involved collecting data on a survey that was completed by EMTCT focal persons in each country, in collaboration with their government counterparts. The survey aimed to gain insights into countries' progress towards triple EMTCT and stakeholders' perspectives on specific bottlenecks and opportunities for a coordinated approach to stay on track for EMTCT. The survey also generated updated information regarding the demand-side financial costs of access to triple EMTCT activities and care reported in the 2018 baseline report.

Activity 3 reviewed the academic literature on triple EMTCT to find best practice models to achieve triple EMTCT targets. Three databases, Medline Ovid, Global Health, and Web of Science were used to identify relevant literature. The search was limited to articles published in English within the last 10 years. The search terms employed included HIV, hepatitis B, and syphilis, which were combined using the Boolean operator 'OR'. The results of these searches were further combined with the term 'eliminate' using the Boolean operator 'AND'. This combination of search terms yielded 519 studies which were imported into Endnote and subsequently into Covidence software for the purpose of abstract review, full-text screening, and data extraction (PRISMA diagram Annex D). Studies that did not clearly articulate a comprehensive programme approach and focused on single interventions were excluded, which resulted in 26 studies undergoing data extraction. Data was analysed under five primary themes, presented in Section 5 of this report.

Activity 4 focused on the analysis of country-specific data on validation indicators to assess their trends from ANC coverage to their progress towards EMTCT-specific indicators through a comparison with data presented in the 2018 baseline report on triple EMTCT for Asia-Pacific. The aim was to assess country progress towards triple EMTCT by 2030 using the process and impact indicators reported in the 2018 baseline report and updated in the '2021 WHO Global Guidance on Criteria and Processes for Validation'.^{27, 28}

The latest available data were sourced from publicly available global databases and compared with those reported in the 2018 baseline report, as agreed in consultation with the United Nations regional team and the members of the triple EMTCT validation team (a formal regional validation secretariat is currently being established). The latest data against the indicators and those reported in the 2018 baseline report appear in Section 3, in Pillar 2. Reflections on data absences and sources appear in sub-section 3.4. A full list and the rationale for the data sources is in Annex B.

Activity 5 covers six countries: Pakistan, India, Sri Lanka, Papua New Guinea, Cambodia, and the Philippines. These countries were selected, in consultation with the regional United Nations offices, as case studies to highlight regionally relevant learning regarding their response to triple EMTCT, the challenges they faced in achieving this target, the lessons learned from their experiences and the potential for a way forward.

To begin this activity, a comprehensive desk review of the documents provided by the country offices was conducted. This review helped to develop the key informant interview guides. Key country stakeholder interviews were conducted with the United Nations EMTCT focal persons (representing WHO, UNAIDS and UNICEF) and relevant government officials in each of the selected countries. The insights from these interviews were used to enhance and refine the country summaries presented in Section 2 of this report.

Activity 6 constituted a rapid review of all 21 countries' progress towards EMTCT based on the survey and validation indicators data and a review of the key documents from each country.

Phase 2

Phase 2 consolidated the findings from Phase 1 to develop a comprehensive progress report of the 21 countries involved. The draft report was shared with global and regional United Nations partners and stakeholders in the focus countries, and the feedback was incorporated. Subsequently, the findings of this progress report were presented in a regional online workshop conducted on 16 October 2023 that was attended by EMTCT focal persons from global and regional UNICEF, WHO and UNAIDS offices, country teams and government counterparts. The feedback received during the workshop and insights from the progress report formed the foundation for this current triple EMTCT roadmap and operational guidance.

3 Regional progress towards the triple EMTCT goal

3.1 Introduction

This section presents the most current data, provided through a survey of 21 countries in the Asia and Pacific region. Additionally, data on the validation indicators are sourced from key United Nations databases. Initially, there was an assumption that the latest data would be available from data repositories hosted by UNICEF and UNAIDS. While this was the case in some instances, there were challenges in accessing data or updated data for several indicators and for many countries from those reported in the 2018 baseline report.²⁷

In consultation with members of the regional validation team, publicly available data were sourced from additional locations and supplemented by modelled data deemed appropriate for the task by the regional United Nations team. While in some instances more up-to-date data may be available and in use at the country level, our task was to access publicly available data submitted to international repositories. It is also important to note that the threshold for data inclusion in this assessment was not the same as the threshold for the actual validation criteria and processes for countries aiming to achieve their elimination goals.²⁸

Overall, when compared to the 2018 baseline report,²⁷ we have observed considerable improvements in countries' reporting. However, several gaps remain. In particular, this includes data related to syphilis and hepatitis B. Many countries have not recently updated their data, and the definitions of indicators and methodologies used by countries for data collection are not consistently standardized, making country comparisons challenging.

3.2 Burden of HIV, syphilis and hepatitis B in the 21 surveyed countries

The general population prevalence of the three diseases and, more specifically, their prevalence among pregnant women and girls are key indicators of successful actions in the first domain of the global EMTCT framework, which focuses on primary prevention of infection – the beginning of the EMTCT cascade. While some countries with high or moderate general population prevalence have achieved validation for elimination, most countries achieving elimination so far have successfully limited transmission in the general population, which in turn has reduced pressure on resources for treatment, allowing further focus on prevention activities.

Table 4 presents updated information on the prevalence of HIV, hepatitis B and syphilis in the general population and pregnant women in the 21 surveyed countries. This table also includes a comparison with the data published in the 2018 baseline report.

HIV-related trends

The overall regional HIV prevalence is low, and is either declining or stable in most countries, with only Thailand reporting a general population prevalence over 1 per cent. For the nine countries that provided both baseline and updated ANC HIV prevalence data, four reported a decline in prevalence since baseline. However, several of these results were Spectrum modelled estimates which may reflect broader improvements in maternal health indicators, or other changes in modelling parameters, over confirmed shifts in HIV prevalence. Of the 16 countries reporting both general population HIV prevalence and ANC prevalence, 10 countries reported an ANC prevalence that was equal to or lower than that in the general population. Reported ANC prevalence for HIV ranged from 0 to 0.57 per cent. No country reported an increase in the number of women living with HIV who need ART to prevent mother-to-child transmission, and several countries reported decreases in this number. Overall, this may indicate an impact of strategies which aim to reduce HIV prevalence among women of reproductive age, including primary prevention of HIV in women, and improved family planning coverage. However, observed progress in these areas has been slow (*see Pillar 2*) so these figures may also partly reflect changes in modelled estimates.

Hepatitis-B-related trends

While general population hepatitis B prevalence was calculated (partly based on modelling) for most countries in the 2018 baseline report, only nine countries provided updated estimates for the current report, and only five of these were from 2020 or later, indicating the paucity of regular hepatitis B modelling in the region. This is especially concerning considering the high or intermediate prevalence in many countries in the region, including some of the world's highest prevalence countries, where routine surveillance and reporting will be essential to control the epidemic. There was no clear trend in hepatitis B prevalence in the general population for the region as a whole, with five countries reporting higher prevalence and three reporting lower prevalence compared to the baseline. Due to changes in measurement and reporting methods, these apparent shifts are difficult to confirm.

In the 2018 baseline survey, only two of the focus countries were able to report ANC prevalence data for hepatitis B. In 2023, this was reported by nine countries in the region, reflecting an increased focus on reporting of this measure, a positive sign of the impact that the triple EMTCT guidance is already having in the region. ANC hepatitis B prevalence ranged from 0 to 5.5 per cent through the region, with no trend over time discernible due to the lack of baseline data. For most countries where ANC prevalence data were available for all three diseases, hepatitis B was the most prevalent infection, with rates sometimes several times greater than either HIV or syphilis, indicating the pressing importance of integrating hepatitis B strategies into EMTCT programmes and policies.

Syphilis-related trends

Only six countries reported adult case rates for syphilis in the 2023 survey, and 13 countries reported updated ANC case rates. No clear regional trend in ANC syphilis prevalence was observed, with three countries reporting lower ANC prevalence since 2018, two countries with apparent increases, and several with sustained low prevalence (mostly those that have achieved EMTCT validation).^{VIII} ANC syphilis prevalence reported in the region ranged from 0.03 per cent in India to 1.7 per cent in Timor-Leste. Overall, data on syphilis and hepatitis B prevalence reported in the 2023 country survey was far scarcer than for HIV and included several countries where data had not been updated since the 2018 baseline.

TABLE 4 Trends in reported burden of HIV, syphilis and hepatitis B in selected Asia-Pacific countries, from baseline (2018) to most current data

Country	HIV prevalence in the general population (adults aged 15–49 years)		HIV prevalence among pregnant women (%)		Number of pregnant women living with HIV needing ARV to prevent MTCT		Adult case rate of syphilis (number of cases per 100,000 adults)		ANC attendees positive for syphilis (%)		Hepatitis B prevalence in the general population (%)		Hepatitis B prevalence among pregnant women (%)	
	2017	2020–2023*	2015	2020–2023*	2017	2020–2023*	2014	2020–2023*	2017	2019–2022*	2018	2020–2023*	2017	2021–2023*
Afghanistan	NA	NA	<0.1	NA	NA	31	135.6	NA	0.3	NA	1.6	NA	NA	NA
Bangladesh	<0.1	<0.10	0.2	0.10	<200	122	NA	NA	0	NA	3.1	5.5	NA	5.50
Bhutan	NA	0.18	NA	11 cases	NA	11	NA	864 cases	NA	0.67	5.8	2.0 (2017)	NA	0.63
Cambodia	0.5	0.56	0.3	0.13	<1,000	528	NA	NA	0	0.80	3.0	3.0 (2017)	NA	2.71
China	NA	0.10	NA	0.05	NA	13,474	39.4	NA	0.2 (2014)	0.20	6.3	6.3 (2015)	6	4.90
Fiji	NA	NA	0.1	NA	NA	NA	NA	NA	0.9 (2012)	NA	1.8	NA	NA	NA
India	0.2	0.21	0.1	0.22	23,000	20,612	NA	2.1 (2001)	0.1	0.03	1.5	4.0 (2019)	NA	1.60
Indonesia	0.4	0.30	0.7	0.30	12,000	7,153	4.8	46.0	3.2	0.50	1.9	7.1 (2013)	NA	1.50
Lao PDR	0.3	0.30	0.2	NA	<500	NA	NA	NA	NA	NA	8.7	6.0	NA	NA
Malaysia	0.4	0.30	0	0.04	<500	184	7.4	14.3	0	0.06	0.7	1.7	NA	0.49
Maldives	NA	<0.10	NA	0	NA	0	NA	NA	0.1 (2014)	<0.1%	1.4	NA	NA	NA
Mongolia	<0.1	0.01	NA	0.57	NA	0	323.6	12.1	2.4	1.40	10.6	8.1	5	NA
Myanmar	0.7	0.64	0.6	0.50	5,600	4,200	6	NA	0.2	0.40	3.4	NA	NA	NA
Nepal	0.2	0.11	0.1	35 cases	<500	199	NA	NA	NA	0.67	0.8	0.9 (2019)	NA	0.50 (2019)
Pakistan	0.1	<0.10	NA	<0.10	3,100	3,045	NA	NA	NA	NA	2.8	NA	NA	NA
Papua New Guinea	0.9	NA	0.6	NA	1,700	NA	88.2	NA	6.8	NA	14.6	NA	NA	NA
Philippines	0.1	0.10	NA	0.01	<500	112	NA	NA	0.9	NA	10.4	NA	NA	NA
Sri Lanka	<0.1	<0.10	0	0.03	NA	6	9.3	NA	0	0.02	2.5	<0.1	NA	0
Thailand	1.1	1.07	0.5	0.56	4,000	2,754	5.7	28.3	0.2	1.01	6.4	0.6 (2016)	NA	NA
Timor-Leste	NA	0.20	NA	0.11	NA	58	NA	NA	0.5 (2014)	1.70	2.0	6.5 (2019)	NA	NA
Viet Nam	0.3	NA	0.2	NA	2,700	NA	NA	NA	0.3 (2013)	NA	9.1	NA	NA	NA

NA: not available

* Data reported by each country is for one year within this range unless otherwise specified in brackets (for earlier years only).

^{VIII} As noted in the baseline report, there is significant variation in syphilis case definitions, testing methods and testing coverage, over time and between countries, which makes it difficult to confirm trends or draw comparisons between countries, especially as testing coverage and methods rapidly evolve.

3.3 Examining countries' progress towards triple EMTCT using the regional EMTCT framework: The Three Pillars approach

For an overview of the approach see Table 3.¹²

PILLAR 1 Coordinated national policies and strategies for triple EMTCT

As presented in the regional framework for triple EMTCT 2018–2030, Pillar 1 pertains to 'coordinated national policies and strategies for triple EMTCT.' The target for Pillar 1, to be achieved by 2020, was to establish an in-country coordination mechanism for planning, implementing and monitoring triple EMTCT. Following this, the 2030 target is to integrate triple EMTCT into RMNCAH policies as an essential component of quality care for women and children.

To realize these targets, priority actions include advocating for high-level political commitment, incorporating triple EMTCT into RMNCAH policies and guidelines, and establishing a coordinating body that includes affected communities to oversee EMTCT service implementation and monitoring. Additional priority action for this pillar involves ensuring sustainable financial and human resources to strengthen RMNCAH for the implementation of triple EMTCT. This includes integrating triple EMTCT interventions into essential service packages and ensuring public funding for these interventions. It also entails crafting policies that eliminate social and financial barriers to accessing triple EMTCT while upholding human rights.

Following, we present the progress made by countries in relation to the priority actions for Pillar 1.

Integrated EMTCT policy development

According to the 2023 EMTCT survey findings, there has been some progress in policy development among countries in the region since 2018, indicating an increasing level of political commitment to triple EMTCT (see Table 5). Over half (11) of the 21 countries have adopted formal EMTCT policies covering all three diseases – nine of these within an integrated triple EMTCT policy – while two countries have policies separated by disease (see Figure 3). A further six countries have formalized dual EMTCT (HIV and syphilis) policies but have yet to incorporate hepatitis B into a formal EMTCT policy, while three countries either have no EMTCT policy or one that only covers HIV EMTCT.

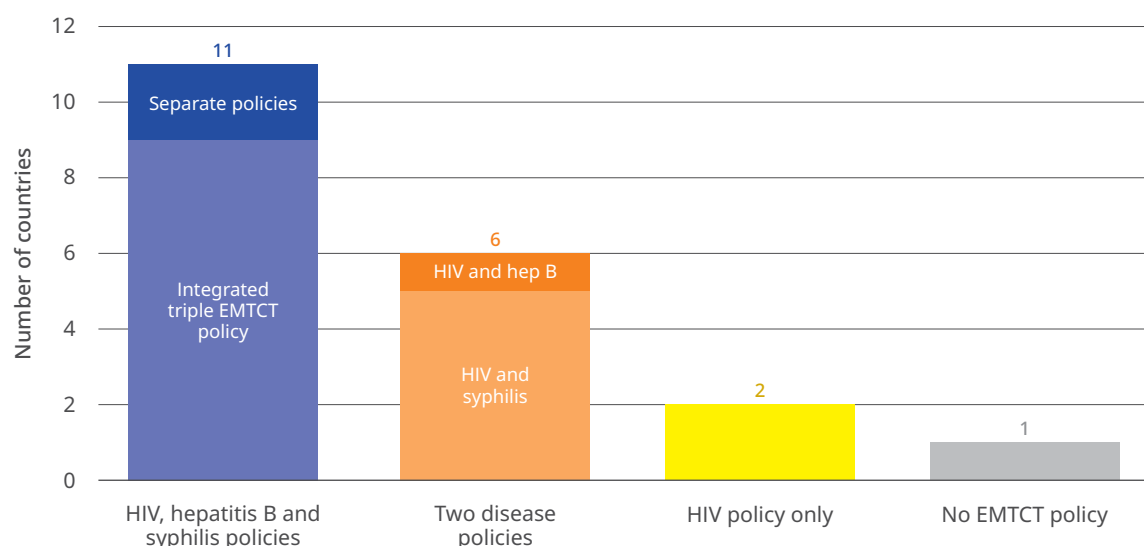
Interestingly, the three countries in the region that have achieved dual (HIV and syphilis) EMTCT do not yet have formal triple EMTCT policies in place, although they are providing some level of coverage of hepatitis B services and are aiming to achieve validation of hepatitis B EMTCT. National EMTCT policies may be developed by vertical programmes but not endorsed by or adopted in RMNCAH guidelines or policy. Nearly half of the countries reported this to be the case, while nine countries reported that MNCH guidelines endorsed or adopted the EMTCT policies. Policy adoption within MNCH policies and guidelines was more common among those countries that are close to or have achieved validation (see Table 5).

National roadmap development

Six countries reported that they had not yet developed an EMTCT national roadmap as part of their policy development. Five countries had developed a dual (HIV and syphilis) EMTCT roadmap, while seven had developed a triple EMTCT roadmap (see Table 5). Most countries that have yet to achieve validation have set 2030 as the target year (Appendix E), but several countries have set earlier target years for at least one disease. These include Malaysia and Thailand (2024), Bhutan, Cambodia,

China, and Myanmar (2025), and India, Nepal, and Timor-Leste (2026). Several countries with high or intermediate hepatitis B prevalence in the general population have not yet developed an EMTCT roadmap for hepatitis B, although most have adopted the elimination target date of 2030 (Appendix E).

FIGURE 3 National EMTCT policy adoption in 20 Asia-Pacific countries



Policy implementation and oversight

The creation of a coordinating body to oversee the implementation of EMTCT policies is a critical step to ensuring coordinated and integrated action, and was set as the key milestone for countries in the region to establish by 2020.¹² In the region, 17 out of 21 countries reported that they had established such a body at the national level (often called a national EMTCT technical working group or coordination committee). However, only 10 countries have made this body responsible for EMTCT for all three diseases, three countries have separate oversight bodies for each disease, and three countries with dual EMTCT policies have coordinating committees focused on dual EMTCT only (see Table 5).

Ten countries reported that they also have equivalent coordination/oversight committees at state or provincial level. Of these, four countries had similar bodies established at district level. This sub-national coordinating mechanism was present in all countries that have achieved validation or are on track for validation (see Table 5). Almost all countries with sub-national coordinating bodies had also nominated an individual 'focal person' among government health management staff in each state, province, or district, with specific responsibility for EMTCT oversight. These focal points were frequently facilitators or convenors of the technical working group or oversight committee in that region.

TABLE 5 Regional EMCT policy adoption and operationalization

Country	Current EMCT policy	Integrated into MNCH policy or guidelines	National EMCT roadmap status	National technical working group or coordination committee	Sub-national technical working group or coordination committee
Afghanistan	No policy	NA	No roadmap	No	No
Bangladesh	Dual (HIV/ syphilis) policy plus hepatitis B policy	No	No roadmap	Yes – all three diseases	No
Bhutan	Standalone policies for all three diseases	No	No roadmap	Separate oversight for each disease	No
Cambodia	Triple policy	No	Dual EMCT roadmap (HIV and syphilis)	Yes – all three diseases	No
China	Triple policy	Yes	Triple EMCT roadmap	Yes – all three diseases	State/provincial and district levels
Fiji	HIV and hepatitis B standalone policies	No	Standalone HIV and hepatitis B roadmaps	No	No
India	Dual (HIV and syphilis) policy	Yes	Dual EMCT roadmap (HIV and syphilis)	Separate oversight for each disease	State/provincial and district levels
Indonesia	Triple policy	Yes	Triple EMCT roadmap	Separate oversight for each disease	No
Lao PDR	Triple policy	Yes	No roadmap	Yes – all three diseases	State/provincial and district levels
Malaysia	Dual (HIV and syphilis) policy	Yes	Dual EMCT roadmap (HIV and syphilis)	Yes, for dual EMCT (HIV and syphilis)	State/provincial level only
Maldives	Dual (HIV and syphilis) policy	No	Triple EMCT roadmap	Yes – all three diseases	State/provincial level only
Mongolia	Triple policy	Unknown	Standalone roadmaps for all three	Yes – all three diseases	State/provincial level only
Myanmar	Dual (HIV and syphilis) policy	No	Dual EMCT roadmap (HIV and syphilis)	Yes, for dual EMCT (HIV and syphilis)	No
Nepal	HIV policy only	Yes	No roadmap	Yes – all three diseases	No
Pakistan	HIV policy only	No	No roadmap	Yes, HIV only	State/provincial level only
Philippines	Triple policy	Yes	Triple EMCT roadmap	Yes – all three diseases	State/provincial level only
Sri Lanka	Dual (HIV and syphilis) policy	Yes	Dual EMCT roadmap (HIV and syphilis)	Yes, for dual EMCT (HIV and syphilis)	State/provincial and district levels
Thailand	Triple policy	Yes	Triple EMCT roadmap	Yes – all three diseases	State/provincial level only
Timor-Leste	Triple policy	No	Triple EMCT roadmap	Yes – all three diseases	No
Viet Nam	Triple policy	No	Triple EMCT roadmap	No	No

Countries were not surveyed about the composition of these bodies, but as part of this priority action, it is recommended that representatives of key organizational and departmental stakeholders for all three diseases be included, as well as representatives of affected communities. In addition, where appropriate, representatives or liaisons for the private health sector should be included.¹² The formation of these groups is not useful without them meeting regularly and receiving systemic support for their functions.

Financing

Countries in the region were surveyed on the essential EMTCT services available free of charge through government health programmes, primarily focusing on ANC, testing and treatment (see Table 6). Most countries reported providing most services without user fees in the public sector, although out-of-pocket charges were more common for syphilis and hepatitis B services than HIV services, which were almost universally free in the public sector. The survey did not assess financing in the private sector. Several countries provided free testing but not free treatment for hepatitis B or syphilis. The most visible progress since the 2018 baseline report was that seven countries reported the introduction of free antenatal hepatitis B testing, two countries introduced free antenatal syphilis testing, and one added fee-free HIV testing in ANC.

These results should be interpreted in light of the reported coverage and availability of these services. Availability gaps, travel and opportunity costs, and other barriers may undermine progress regarding affordability and disproportionately impact marginalized populations, including rural and indigenous populations, migrants/non-citizens, those without health insurance, and stigmatized populations. It is notable that all countries that have achieved validation of dual elimination have included all key HIV/syphilis EMTCT services within their free essential services package, which highlights the importance of removing financial barriers to services to maximize reach.

The survey did not investigate the current sources of EMTCT financing in the region, but recent United Nations data indicates that there has been a decade-long trend towards increasing domestic financing of HIV services and programmes alongside declining bilateral government aid for HIV, although some multilateral and donor agencies have increased HIV funding.⁴⁰ Less is known about sources of funding for hepatitis B and syphilis programmes, particularly those within EMTCT, although in many countries in the region this has until recently been mostly derived from domestic sources either through direct government allocation or national health insurance schemes, due to the absence of significant international donors for these disease programmes.³⁹

The recent establishment of Global Fund grants focused on hepatitis B, and the potential for GAVI and other donors to expand funding for hepatitis B vaccination have been a positive developments since the triple EMTCT goals were established. However, significant funding shortfalls for all three diseases remain in many of the region's low- and low-middle income countries, and shifting to sustainable domestic financing approaches must be a priority for 2030 goals to be met.⁴¹ EMTCT services are well placed to be incorporated into domestic financing for essential SRH packages as part of overall service integration, and this will be a key strategy for the financial sustainability of EMTCT services.

Social protection mechanisms

Social protection for mothers and newborns who test positive for HIV or hepatitis B is critical to promoting equitable outcomes and ensuring equitable access to health services. Almost all countries reported having policies to provide free antiviral treatment for HIV, hepatitis B or both for mothers and newborns, but other mechanisms were less widely used (Appendix G). Seven countries provided mother-newborn support groups (either general population or specific to HIV/hepatitis B-positive women), while four countries offered legal assistance to all women who were HIV positive. Two countries each had programmes offering cash transfers, food or food vouchers, or travel vouchers or concessions for women who were HIV positive, while one offered employment and skills development schemes.

TABLE 6 Expenses at the point of care for key EMTCT services

Country	Routine ANC check-ups	ANC testing for HIV	ANC testing for syphilis	ANC testing for hepatitis B	ART for pregnant women	Syphilis treatment in pregnancy	Hepatitis B treatment of mother	Neonatal treatment for hepatitis B	Neonatal HIV prophylaxis	Neonatal syphilis treatment
Afghanistan	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Bangladesh	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Bhutan	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Cambodia	Out-of-pocket	Free	Free	Free	Free	Out-of-pocket	Out-of-pocket	Free	Free	Out-of-pocket
China	Free	Free	Free	Free	Free	Free	Out-of-pocket	Free	Free	Free
Fiji	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
India	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Indonesia	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Lao PDR	Out-of-pocket	Free	Out-of-pocket	Out-of-pocket	Free	Out-of-pocket	Not available	Not available	Free	Out-of-pocket
Malaysia	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Maldives	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Mongolia	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Myanmar	Free	Free	Free	Out-of-pocket	Free	Free	Not available	Not available	Free	Free
Nepal	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Pakistan	Free	Free	Not available	Free	Free	Out-of-pocket	Out-of-pocket	Out-of-pocket	Free	Not available
Philippines	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Sri Lanka	Free	Free	Free	No response	Free	Free	No response	No response	No response	No response
Thailand	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Timor-Leste	Free	Free	Free	Free	Free	Free	Free	Free	Free	Not available
Vietnam	Free	Out-of-pocket	Out-of-pocket	Out-of-pocket	Free	Out-of-pocket	Out-of-pocket	Free	Free	Out-of-pocket

NB: Countries that have already achieved validation of elimination of at least one disease are shaded light green.

TABLE 7 Number of countries with specific social protection mechanisms

Social protection mechanism	Number of countries
Free antiviral treatment for HIV	18
Mother/newborn support groups	7
Legal assistance	4
Cash transfers to HIV or hepatitis B-positive women	2
Food or food vouchers	2
Travel vouchers, concessions, or funding	2
Employment assistance or skills development	1

No countries reported other mechanisms, such as subsidized education or housing, for social support. While these social protection mechanisms may require more complex multisectoral action to establish, they are important interventions in supporting the human rights and equity agenda of the roadmap. Evidence across the region is relatively thin regarding how accessible the existing mechanisms are, and there appears to be wide variation within national populations in availability of social protection schemes. It is likely that some of the most vulnerable populations eligible for such schemes do not access them.⁴²

Human rights protection

Most (17) countries in the region reported having laws, regulations and/or policies guaranteeing equal and universal access to sexual and reproductive health services (including maternal health and family planning services) for women living with HIV and/or affected by HIV. It was not possible to assess the extent to which these laws or policies are operationalized. However, the most recent United Nations data from the region indicates substantial levels of discriminatory attitudes in the general population towards people living with HIV/AIDS, and although this is not routinely measured, some countries also reported significant levels of discrimination in health care settings. In addition, many countries maintain laws that criminalize sex work, require parental permission for adolescents to receive HIV tests or family planning, and impose mandatory HIV testing on certain groups. All of these may contribute to reluctance by women and girls to access sexual and reproductive health services, or to disclose high-risk behaviour or a positive test result to health professionals.⁴⁰

PILLAR 2 Service delivery for triple EMTCT

Pillar 2 focuses on achieving 'seamless quality care for women, newborns and children and their families'. The target for Pillar 2, which was to be achieved by 2020, was to establish a service delivery plan for triple EMTCT in collaboration with RMNCAH. Following this, the target for 2030 is to ensure universal access to core EMTCT services through RMNCAH platforms.

To achieve these targets, the proposed priority actions include assessing the existing triple EMTCT interventions in the country and identifying gaps and opportunities for coordination with RMNCAH services. The priority actions also involve developing guidelines and training programmes for RMNCAH staff that are inclusive of triple EMTCT, ensuring universal screening for the three diseases, establishing linkages with treatment services, and implementing hepatitis B vaccination for newborns through coordinated efforts. Finally, efforts should be made to engage the private sector in delivering triple EMTCT services and ensuring quality laboratory services, building on existing quality assurance mechanisms.

Actions under Pillar 2 are primarily tracked through triple EMTCT validation (process) indicators for RMNCAH, HIV, syphilis and hepatitis B (see *Table 1*) and supplemented by information from the country surveys that focused on the current extent of integration and coordination of EMTCT services. This section begins with presenting the results of the survey and then presents the process validation indicators for countries in the region.

Triple EMTCT service delivery progress based on 2023 country survey responses

Antenatal testing

Out of 21 countries surveyed, 17 reported having a universal testing policy for HIV in antenatal care, and two countries had an HIV testing policy focused only on high-risk women or key populations (Appendix I). Fewer countries had universal testing policies for syphilis (15) and hepatitis B (14). Countries that did not have universal testing for these diseases mostly did not have a testing policy or did not require any population to be routinely tested. Comparing process indicators, wide gaps in policy implementation and reporting are noted for many countries with regard to testing. ANC HIV testing coverage below 80 per cent was noted for 9 of 17 countries with a universal HIV testing policy, with no recent reported testing coverage for four countries with universal syphilis testing policies, and no country reporting HBsAg ANC testing data to global databases since the baseline report (see *Table 4*).

Most countries with routine universal antenatal testing offered testing services at the primary care/community level; 15 countries offered HIV testing at the PHC level, 14 offered it for syphilis and 12 countries for hepatitis B (Appendix I). There is potential for reducing accessibility barriers to testing for countries that are not yet providing testing within primary care settings. Rapid testing kits, which can be used at point of care, are a simple, cost-effective way to mitigate accessibility barriers, yet currently, only 16 countries are using HIV rapid testing in government services, and only nine countries reported using dual HIV and syphilis rapid test kits.

In the government (public) health system, countries reported varying testing strategies. Most conducted testing at an antenatal clinic or during an antenatal visit (14 countries did this for HIV and syphilis, 11 for hepatitis B). One country referred women to the relevant vertical programme clinics (e.g., an STI clinic) for HIV and hepatitis B testing. Three more countries used a mix of both strategies.

All 19 countries that had a testing policy for HIV in ANC also had a policy requiring testing of partners of women who tested HIV positive. Partner testing policies were much less common for syphilis (13 countries) and hepatitis B (8 countries).

About half of countries reported a formal retesting policy for 'high-risk' women (with varying national definitions of 'high risk'). This retesting typically covered HIV or, less commonly, HIV and syphilis, and only two countries reported a retesting policy for hepatitis B. Most retesting was carried out in the third trimester, with a small number of countries also retesting at delivery or postpartum for high-risk women.

Antenatal treatment

In most countries, pregnant women who tested positive had their treatment clinically managed by the vertical programme for that disease; 16 out of 21 countries managed (i.e., supplied ART to) newly diagnosed HIV-positive pregnant women through their HIV programme; 12 managed syphilis-positive pregnant women through their STI programme; and 10 managed hepatitis B-positive pregnant women through their hepatitis or STI programme (Appendix J). A smaller number of countries have integrated treatment for these diseases within their MNCH services: six countries managed HIV-positive pregnant women this way, nine countries treated syphilis in pregnant women this way, and eight treated hepatitis B-positive pregnant women within the MNCH service.

Infant testing and treatment

Infant testing services in most countries are funded or overseen by the vertical programme for that disease (for example, HIV/STI programme). Infant testing was managed by MNCH services in only five countries (Appendix J). Treatment and prophylaxis for infants were more commonly integrated into MNCH services for syphilis and hepatitis B, but ART for HIV was typically provided through the vertical HIV programme. There was no clear preference for either integrated or vertically managed testing and treatment strategies among countries that have achieved validation – both strategies have been used successfully.

Private sector engagement

The private health sector accounts for a significant proportion of antenatal care and deliveries in the Asia-Pacific region and plays a significant role in laboratory services. Countries reported varying proportions of deliveries within the private sector, from none up to 52 per cent of deliveries, with an average of 25 per cent of births in the private sector (Appendix H). Half of countries in the region were not able to confirm the proportion of deliveries in the private sector, which may indicate that this is not being closely monitored by policymakers. However, the substantial role that the private sector plays in many countries makes achieving the triple EMTCT goals impossible without their engagement. A large private sector is not a bar to elimination – both Malaysia (13.7 per cent of births occur in the private sector) and the Maldives (25.1 per cent) have validated elimination of MTCT for HIV and syphilis.

Although most countries in the region have universal antenatal testing policies in the government health system, fewer apply such policies to the private health sector. Only 13 of 17 countries with universal ANC testing for HIV in the public sector applied this policy to the private sector; likewise, 11 of 15 countries with ANC syphilis testing and 10 of 14 countries with ANC hepatitis B testing (Appendix H). Only 10 countries had policies requiring the private sector to report ANC HIV testing results into the national health information system, only eight countries required private sector reporting of ANC syphilis testing data, and only six countries required reporting of ANC hepatitis B tests. This low expectation of compliance is borne out by reported testing data. Only four countries were able to provide data on the proportion of private sector births where ANC HIV testing data was provided to the national HMIS; and among these four countries, reporting rates varied from 20.2 per cent up to 98.4 per cent. Several noted continuity of care concerns regarding the tracking of pregnant women between the private and public sectors, as for some countries it was more common for women to access public ANC but then access delivery services in the private sector.

Triple EMTCT service delivery progress based on the process indicators

Reproductive, maternal and neonatal health process indicators

Several countries have made progress towards RMNCAH targets associated with triple EMTCT. Table 8 presents a comparison between the latest available figures and those reported in the 2018 baseline. The most widespread gains have been in the percentage of women accessing ANC (one or more visits) and for childbirth attendance by a skilled health provider. Nine countries (Afghanistan, Bangladesh, Cambodia, India, Mongolia, Nepal, Papua New Guinea, the Philippines and Viet Nam) demonstrated improvements in coverage in both these indicators since the situation was assessed

in 2018. In addition, the coverage of skilled attendance at birth has also increased in Bhutan, Malaysia and Indonesia, and ANC1 coverage increased in China, Pakistan and Thailand. Only small reductions in the coverage of ANC were seen since the last recorded data in Fiji, however, targets of ≥ 95 per cent coverage for this indicator were still met. Based on the latest data available in 2023, 12 countries^{IX} are meeting EMTCT targets for coverage of one or more ANC visits, with the Philippines now meeting this target since the situation was assessed in 2018. Ten^X countries are meeting targets of ≥ 95 per cent coverage of skilled attendance at birth, with Bhutan, Cambodia and Viet Nam meeting this target since the 2018 assessment.

While significant progress has been made in the coverage of at least one ANC visit, there is room for further progress in the comprehensiveness of ANC for pregnant women. In a global database, only Malaysia reported reaching EMTCT targets of ≥ 95 per cent of pregnant women attending four or more ANC visits. There have been reductions in this indicator in five countries (Philippines, Thailand, Mongolia, Fiji and Papua New Guinea) since last the estimates were reported in 2018. Eight countries have achieved increases in coverage of four or more ANC visits, including large improvements in Afghanistan, Viet Nam and China, where coverage has increased by over 14 per cent.

Promisingly, there have been appreciable gains across the region in the provision of specific ANC services relevant to EMTCT. The percentage of women attending ANC who had a blood sample taken has increased since data reported in 2018 for 10 countries,^{XI} and five countries now report meeting EMTCT targets of ≥ 95 per cent coverage for this indicator: the Maldives, Malaysia, Thailand, Mongolia and Fiji. Sri Lanka has not reported its updated figures to global databases since achieving validation.

In some areas of RMNCAH, progress has stalled. According to the latest data available (2023), four countries (Fiji, Nepal, Mongolia, and Thailand) have seen a reduction in the proportion of women whose demand for family planning is being met by modern methods. Of these countries, Thailand, even with a slight reduction in coverage, still comfortably exceeds the target coverage figure of 80 per cent from the 2018 baseline report, as do China and Bhutan, albeit based on 2001 and 2010 data respectively (see Pillar 3 for a discussion of data access challenges). Notably, Indonesia and Myanmar have coverage of greater than 75 per cent, which meets suggested benchmark targets from the literature of 75 per cent of women having their demand for family planning met by modern methods.⁴³ Across the region, meeting demand for family planning with modern methods should remain a priority, as no countries have met this target since available data was assessed in 2018.

According to the latest estimates, 11 countries^{XII} are meeting EMTCT targets for stillbirth rates of ≤ 12 per 100,000 births. This is a decrease from 12 countries meeting this target in 2018, with Cambodia's rate increasing from 11.4 to 12.6 according to 2022 UNICEF data. Notably, estimated rates of stillbirth have risen since 2018 in almost all countries in the region, with the exception of Bhutan. Attention should be paid to maintaining and improving progress in this area.

IX Countries meeting EMTCT target for ANC1: Bhutan, Cambodia, China, Fiji, Indonesia, Malaysia, Maldives, Mongolia, the Philippines, Sri Lanka, Thailand and Viet Nam.

X Countries meeting EMTCT target for skilled birth attendance: Bhutan, Cambodia, China, Fiji, Malaysia, Maldives, Mongolia, Sri Lanka, Thailand and Viet Nam.

XI Countries with increased coverage in coverage of blood sample taken at ANC: Afghanistan, Bangladesh, Cambodia, India, Mongolia, Nepal, the Philippines, Thailand and Viet Nam.

XII Countries meeting target of ≤ 12 still births per 100,000 births: Bhutan, China, Fiji, Indonesia, Malaysia, Maldives, Mongolia, the Philippines, Sri Lanka, Thailand and Viet Nam.

TABLE 8 Reproductive, maternal, newborn and child health process indicators

Indicator	Women whose demand for family planning is satisfied with a modern method of contraception (%) ^A				Pregnant women attending ANC at least once (%) ^B				Pregnant women attending ANC at least four times (%) ^B				Pregnant women attending ANC who had blood sample taken (%) ^A				Births attended by skilled health personnel (%) ^D				Stillbirth rate (per 1,000 total births)			
Target	Coverage ≥80%				Coverage ≥95%				Coverage ≥95%				Coverage ≥95%				Coverage ≥95%				≤12 per 1,000 total births			
Data source (unless otherwise specified)	EMTCT baseline report 2018 ^B		UN Population Division (2022) ^C		EMTCT baseline report 2018 ^E		UNICEF ^F		EMTCT baseline report 2018 ^E		UNICEF ^F		EMTCT baseline report 2018 ^G		UN Population Division (2022) ^H		EMTCT baseline report 2018 ^I		UNICEF ^J		UNICEF ^K		UNICEF ^K	
	Baseline in 2018	Year of data	Current status	Year of data	Baseline in 2018	Year of data	Current status	Year of data	Baseline in 2018	Year of data	Current status	Year of data	Baseline in 2018	Year of data	Current status	Year of data	Baseline in 2018	Year of data	Current status	Year of data	Baseline in 2018	Year of data	Current status	Year of data
Afghanistan	42.1	2016	No new data		59.0	2015	76.4	2022	18	2015	33.4	2022	29.9	2015	41.2	2022	50.5	2018	67.5	2022	27.7	2018	25.7	2022
Bangladesh	72.5	2014	73.9	2022	64.0	2014	92.6	2022	31	2014	40.5	2022	54.6	2014	79.8	2022	49.8	2017	69.8	2022	25.5	2018	20.5	2022
Bhutan	84.6	2010	No new data		98.0	2012	No new data		85	2015	No new data		93.0	2010	No new data		89.0	2018	96.3	2019	9.7	2018	9.0	2022
Cambodia	56.4	2014	60.8	2022	95.0	2014	98.8	2021	76	2014	86.1	2021	77.1	2014	88.3	2021	89.0	2014	98.7	2021	12.6	2018	11.4	2022
China	96.6	2001	No new data		97.0	2015	99.6	2018	69	2013	92.9	2018	–	–	–	–	99.9	2016	No new data		6.1	2018	4.9	2022
Fiji	65.8	2017	51.3	2021	100.0	2008	97.7	2021	94	2013	88.7	2021	–	–	96.6	2021	99.9	2016	No new data		8.8	2018	9.1	2022
India	72.0	2016	74.2	2021	84.0	2016	85.1	2021	51	2016	58.4	2021	77.1	2014	94.3	2021	85.7	2016	89.4	2021	14.9	2018	12.2	2022
Indonesia	77.9	2017	No new data		98.0	2017	No new data		77	2017	No new data		48.0	2017	No new data		92.6	2018	94.7	2019	9.9	2018	9.1	2022
Lao PDR	71.1	2017	No new data		78.0	2017	No new data		62	2017	No new data		40.2	2017	No new data		64.4	2017	No new data		17.3	2018	16.1	2022
Malaysia	54.5	2017	No new data		97.0	2014	No new data		–	–	97.4	2016	99.4	2016	No new data		99.4	2016	99.6	2019	5.0	2018	6.0	2022
Maldives	29.8	2017	No new data		99.0	2017	No new data		82	2017	No new data		99.2	2017	No new data		95.6	2017	No new data		5.6	2018	4.8	2022
Mongolia	68.3	2013	63.9	2018	99.0	2013	99.1	2018	90	2013	88.5	2018	97.7	2014	98.6	2018	98.9	2013	99.3	2018	5.0	2018	4.4	2022
Myanmar	75.0	2016	No new data		81.0	2016	No new data		59	2016	No new data		61.0	2016	No new data		60.2	2016	No new data		15.5	2018	14.5	2022
Nepal	56.1	2017	54.7	2022	84.0	2016	94.3	2022	69	2016	80.2	2022	66.3	2016	86.1	2022	58.0	2016	80.1	2022	17.8	2018	15.7	2022
Pakistan	48.6	2017	48.6	2018	86.0	2017	91.2	2019	51	2017	52.4	2019	70.4	2018	No new data		69.0	2018	68.0	2020	33.1	2018	30.9	2022
Papua New Guinea	40.6	2007	48.7	2018	65.0	2011	76.1	2018	55	2006	49.0	2018	–	–	77.6	2017	53.0	2006	56.4	2018	15.4	2018	14.8	2022
Philippines	56.9	2017	59.1	2022	94.0	2017	96.5	2022	87	2017	82.9	2022	71.9	2017	86.5	2022	84.4	2017	89.6	2022	10.9	2018	10.2	2022
Sri Lanka	74.1	2016	No new data		99.0	2016	No new data		93	2007	No new data		91.1	2016	No new data		99.5	2017	No new data		6.0	2018	6.0	2022
Thailand	89.2	2012	87.6	2022	98.1	2016	98.8	2022	91	2016	88.3	2022	97.8	2016	98.5	2022	99.1	2016	99.1	2019	6.0	2018	5.5	2022
Timor-Leste	46.1	2016	No new data		86.0	2016	No new data		77	2016	No new data		56.2	2016	No new data		56.7	2016	No new data		14.6	2018	14.4	2022
Viet Nam	69.7	2014	72.1	2021	96.0	2016	97.0	2021	74	2014	88.2	2021	61.8	2014	78.9	2021	93.8	2014	96.1	2021	8.4	2018	8.0	2022

ANC: antenatal care.

Colour key: Family planning: green = ≥80% coverage; yellow = ≥60% coverage <80%; red = <60% coverage. Stillbirth rates: green = ≤12 (Every Newborn Action Plan target by 2030). All other indicators: green = coverage ≥95% (EMTCT target); yellow = ≥80% coverage <95%; red = coverage <80%. Improvements in indicators between 2018 and 2023: blue dashed borders. Blue dashed borders denote improvements in indicators between 2018 and 2023 assessments. Blue shading denotes countries which have been validated for dual EMTCT (HIV and syphilis). Lighter blue shading denotes countries which have been validated for single EMTCT (HIV).

A Women aged 15–49 years who are married or in union.

B Triple elimination of mother-to-child transmission of HIV, hepatitis B and syphilis in Asia and the Pacific baseline report 2018 (WHO, 2018) citing: United Nations DESA Population Division (2018). World contraceptive use 2018. (No longer available online) and Lao People's Democratic Republic: LSIS II 2017; Maldives: DHS 2016-17; Pakistan: DHS 2017-18; Philippines: DHS 2017.

C United Nations DESA Population Division (2022). World contraceptive use 2022. (Available from: <https://www.un.org/development/desa/pd/data/world-contraceptive-use>) and Bangladesh: DHS 2022; Cambodia: DHS 2021–2022; Fiji: MICS 2021; Nepal: DHS 2022; Philippines: DHS 2022; Thailand: MICS 2022.

D Women aged 15–49 years with a live birth in the last 2 or 5 years depending on the year and associated survey.

E Triple elimination of mother-to-child transmission of HIV, hepatitis B and syphilis in Asia and the Pacific baseline report 2018 (WHO, 2018) citing: UNICEF Data. Monitoring the situation of children and women: Antenatal care. (Available from: <https://data.unicef.org/topic/maternal-health/antenatal-care/#data>) and India: NFHS 2015-16; Indonesia DHS 2017; Lao People's Democratic Republic: LSIS II 2017; Maldives DHS 2016-17; Pakistan: DHS 2017-18; Philippines: DHS 2017; Sri Lanka: DHS 2016; Timor-Leste DHS 2016.F UNICEF Data. Monitoring the situation of children and women: Antenatal care. (Available from: <https://data.unicef.org/topic/maternal-health/antenatal-care/#data>) and Afghanistan: MICS 2022–2023; Cambodia: DHS 2021–2022; Nepal: DHS 2022; Philippines: DHS 2022; Thailand: MICS 2022.

G Triple elimination of mother-to-child transmission of HIV, hepatitis B and syphilis in Asia and the Pacific baseline report 2018 (WHO, 2018) citing: Afghanistan: DHS 2015; Bangladesh: DHS 2014; Bhutan: MICS 2010; Cambodia: DHS 2014; India: NFHS 2015–2016; Indonesia: DHS 2017; Lao People's Democratic Republic: LSIS II 2017; Malaysia: NHMS 2016; Maldives: DHS 2016–2017; Mongolia: MICS 2013–2014; Myanmar: DHS 2015–2016; Nepal: DHS 2016; Pakistan: DHS 2017–2018; Philippines: DHS 2017; Sri Lanka: DHS 2016; Thailand: MICS 2015–2016; Timor-Leste: DHS 2016; Viet Nam: MICS 2013–2014.

H Afghanistan: MICS 2022–2023; Bangladesh: DHS 2022; Cambodia: DHS 2021–2022; Fiji: MICS 2021; India: DHS 2019–2021; Mongolia: MICS 2018; Nepal: DHS 2022; Papua New Guinea: DHS 2016–2018; Philippines: DHS 2022; Thailand: MICS 2022; Viet Nam: MICS 2020–2021.

I Triple elimination of mother-to-child transmission of HIV, hepatitis B and syphilis in Asia and the Pacific baseline report 2018 (WHO, 2018) citing: WHO Global Health Observatory data repository. Births attended by skilled health personnel. (Available from: http://apps.who.int/gho/data/node.main.SKILLED_BIRTH_ATTENDANTS?lang=en)J UNICEF Data. Monitoring the situation of children and women: Delivery care. (Available from: <https://data.unicef.org/topic/maternal-health/delivery-care/#data>)K UNICEF Data. Monitoring the situation of children and women: Stillbirth. (Available from: <https://data.unicef.org/topic/child-survival/stillbirths/#data>)

TABLE 9 HIV-specific process indicators

Indicator	Pregnant women with known HIV status (%) ^A				Coverage of HIV testing of pregnant women (%)				Pregnant women living with HIV who received antiretroviral therapy (%)			
Target	Coverage ≥95%				Coverage ≥95%				Coverage ≥95%			
Data source (unless otherwise specified)	EMTCT baseline report 2018 ^B		UNICEF ^C		UNAIDS AIDSinfo ^E		UNAIDS AIDSinfo ^E		EMTCT baseline report 2018 ^B		UNAIDS AIDSinfo ^E	
	Baseline in 2018	Year of data	Current status	Year of data	Baseline in 2018	Year of data	Current status	Year of data	Baseline in 2018	Year of data	Current status	Year of data
Afghanistan	–	–	25.4	2021	–	–	25	2021	9.0 ^D	2018	15.0	2022
Bangladesh	1.0	2017	2.5	2022	–	–	3	2022	17.0	2017	4.0	2022
Bhutan	73.2	2015	93.6	2022	–	–	94	2022	–	–	–	–
Cambodia	82.0	2017	>95.0	2022	>98	2018	>98	2022	>95.0	2017	89.0	2022
China	–	–	–	–	88	2018	73	2020	–	–	–	–
Fiji	–	–	49.3	2022	39 ^D	2017	49	2022	70.0 ^D	–	36.0	2022
India	43.2	2015	–	–	84	2018	97	2019	60.0	2017	–	–
Indonesia	28.0	2017	63.4	2022	39	2018	63	2022	13.0	2017	18.0	2022
Lao PDR	1.0	2015	50.6	2022	28	2018	51	2022	24.0	2017	54.0	2022
Malaysia	93.0	2017	94.3	2022	>98	2018	94	2022	>95.0	2017	>98.0 ^F	2022
Maldives	64.9	2015	83.9	2022	–	–	84	2022	–	–	–	–
Mongolia	>95.0	2017	92.4	2022	>98	2018	92	2022	–	–	–	–
Myanmar	91.0	2017	61.9	2022	97	2018	62	2022	78.0	2017	43.0	2022
Nepal	69.0	2017	87.9	2022	78	2018	88	2022	63.0	2017	80.0	2022
Pakistan	–	–	–	–	–	–	–	–	6.0	2017	12.0	2022
Papua New Guinea	34.0	2015	20.6	2022	23	2018	21	2022	41.0	2017	51.0	2022
Philippines	–	–	–	–	–	–	–	–	11.0	2017	6.0	2022
Sri Lanka	>95.0	2017	>95.0	2021	96	2018	97	2021	–	–	–	–
Thailand	>95.0	2015	79.5	2022	97	2018	79	2022	>95.0	2017	97.0 ^F	2022
Timor-Leste	28.2	2015	70.8	2022	–	–	71	2022	–	–	–	–
Viet Nam	88.0	2017	59.8	2021	96	2018	60	2022	73.0	2017	77.0	2022

Colour key: green = coverage ≥95% (EMTCT target); yellow = ≥80% coverage <95%; red = coverage <80%; blue dashed borders denote improvements in indicators between 2018 and 2023 assessments; blue shading denotes countries which have been validated for dual EMTCT (HIV and syphilis). Lighter blue shading denotes countries which have been validated for single EMTCT (HIV). Lighter blue shading denotes countries which have been validated for single EMTCT (HIV)

A Includes women who were tested for HIV or already knew their HIV status at ANC.

B Triple elimination of mother-to-child transmission of HIV, Hepatitis B and syphilis in Asia and the Pacific baseline report 2018 (WHO, 2018) citing: UNAIDS. AIDSinfo. Available from: <http://aidsinfo.unaids.org/> and WHO Regional Office for South-East Asia. Cascade of HIV testing, care and treatment services, 2014 and 2015: country profiles. Available from: <http://www.searo.who.int/entity/hiv/documents/978-92-9022-541-6/en/> (55) for Bhutan, India, Maldives, and Timor-Leste.

C UNICEF Data. Monitoring the situation of children and women: Elimination of mother to child transmission. (Available from: <https://data.unicef.org/topic/hiv/aids/emtct/#data>).

D No data is reported in 2018 baseline report. However, data has been populated from UNAIDS. AIDSinfo. Available from: <http://aidsinfo.unaids.org/>

E UNAIDS. AIDSinfo. Available from: <http://aidsinfo.unaids.org/>

F Due to overlap in the bounds of reported data in 2018 and 2023 assessments, coverage is considered have neither decreased nor increased.

Progress in HIV screening and treatment

There has been much improvement in screening and treatment towards eliminating vertical transmission of HIV, with the latest available figures presented in Table 9. Since the 2018 baseline assessment, data available in 2023 suggests that nine countries in the region have increased the percentage of women attending ANC with known HIV status (this includes women who were newly tested and those who already knew their status). Countries where coverage in this area has increased are Bangladesh, Bhutan, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Maldives, Nepal and Timor-Leste. Since the last reported data in 2018, Cambodia has met EMTCT targets of ≥ 95 per cent coverage for this and, along with Sri Lanka, is one of two countries in the region that have met this target as of 2023. Concerningly, there has been a reduction in coverage of known HIV status at ANC in five countries: Mongolia, Myanmar, Papua New Guinea, Thailand and Viet Nam. Of note, coverage reductions in Thailand and Mongolia have meant that EMTCT targets for this indicator that are no longer being met (as they were in 2018).

Coverage of ARV treatment for HIV-positive pregnant women has improved in the region. Seven countries^{XIII} reported an increase in the percentage of HIV-positive women receiving ARV therapy. Thailand and Malaysia have met EMTCT targets of ≥ 95 per cent coverage, although due to an overlap in the bounds of reported data in the 2018 and 2023 assessments, it is not possible to determine whether coverage of ARV has decreased or increased since the 2018 assessment. Coverage of ARV therapy for pregnant women has declined in Bangladesh, Cambodia, Myanmar and the Philippines. Coverage is concerning low in several countries, including Afghanistan, Bangladesh, Fiji, Indonesia, Myanmar, Pakistan and the Philippines, all of which report coverage of < 50 per cent. For countries that also have low ANC HIV testing coverage, such as Afghanistan and Bangladesh, the subsequent low rates of ARV coverage among those who test positive means that only a small fraction of HIV-positive pregnant women in the overall population receive adequate treatment.

Progress towards screening and testing for syphilis

Compared to HIV, coverage of testing and treatment for syphilis in the region is progressing well against EMTCT targets (see Table 10). Seven countries reported meeting targets of ≥ 95 per cent coverage of pregnant women tested for syphilis. These countries are China, Sri Lanka, Malaysia, Thailand, Mongolia, Fiji and the Maldives, the latter of which met this target since reported estimates in 2018. Ten countries (Cambodia, China, India, Indonesia, Malaysia, Maldives, Mongolia, Myanmar, Sri Lanka and Thailand) also increased testing coverage since the situation was assessed in 2018. However, coverage of testing in pregnant women remains low (< 50 per cent) in Afghanistan, Bangladesh, Indonesia and Papua New Guinea.

EMTCT targets for the treatment of syphilis-positive pregnant women have been met in 10 countries,^{XIV} including Sri Lanka and Mongolia, where targets have been met since 2018 estimates. Eight countries (Cambodia, China, Indonesia, Mongolia, Myanmar, Papua New Guinea, Sri Lanka and Thailand) have also achieved an increase in treatment coverage since the last available estimates were reported in 2018. Concerningly, reported coverage of treatment for syphilis-positive pregnant women is well below 50 per cent in India, Nepal, Indonesia and Philippines.

^{XIII} Countries with an increase in coverage of HIV-positive pregnant women receiving ARV therapy: Afghanistan, Indonesia, Lao People's Democratic Republic, Nepal, Pakistan, Papua New Guinea and Viet Nam.

^{XIV} Countries where EMTCT targets for syphilis treatment of pregnant women have been met: Afghanistan, Bangladesh, Bhutan, China, Fiji, Malaysia, Maldives, Mongolia, Sri Lanka and Thailand.

TABLE 10 Syphilis-specific process indicators

Indicator	Women accessing ANC who were tested for syphilis (%)				Pregnant women with positive syphilis serology who were treated adequately (%)			
Target	Coverage ≥95%				Coverage ≥95%			
Data source (unless otherwise specified)	EMTCT baseline report 2018 ^A		WHO Global Health Observatory ^C		EMTCT baseline report 2018 ^A		WHO Global Health Observatory ^D	
	Baseline in 2018	Year of data	Current status	Year of data	Baseline in 2018	Year of data	Current status	Year of data
Afghanistan	14.3	2017	No new data		100.0	2017	No new data	
Bangladesh	72.3	2017	21.6	2021	100.0	2017	100.0	2018
Bhutan	97.3	2010	83.3	2022	–	–	100.0	2022
Cambodia	62.9	2017	91.7	2022	83.9	2017	91.1	2022
China	99.5 ^B	2014	99.9	2022	68.1 ^B	2014	95.6	2022
Fiji	100.0	2017	No new data		98.3	2017	No new data	
India	19.8	2017	58.3	2022	47.6	2017	34.2	2022
Indonesia	1.7	2017	28.5	2022	30.1	2016	39.8	2022
Lao PDR	0.0	2017	–	–	–	–	–	–
Malaysia	99.3	2017	99.4	2022	100.0	2017	95.1	2022
Maldives	66.0	2014	100.0	2022	100.0	2014	No new data	
Mongolia	97.4	2017	98.1	2022	89.3	2017	100.0	2022
Myanmar	31.2	2017	90.3	2022	71.4	2017	84.4	2022
Nepal	0.0	2017	–	–	16.7	2017	No new data	
Pakistan	–	–	–	–	–	–	–	–
Papua New Guinea	45.6	2017	33.6	2022	76.9	2017	87.8	2022
Philippines	–	–	–	–	43.3 ^B	2011	No new data	
Sri Lanka	95.8	2017	99.8	2021	93.2	2017	95.1	2021
Thailand	99.1	2017	99.6	2022	97.5	2017	98.0	2022
Timor-Leste	55.6	2014	No new data		–	–	–	–
Viet Nam	–	–	–	–	–	–	–	–

ANC: antenatal care.

Colour key: green = coverage ≥95% (EMTCT target); yellow = ≥80% coverage <95%; red = coverage <80%; blue dashed borders denote improvements in indicators between 2018 and 2023 assessments; blue shading denotes countries which have been validated for dual EMTCT (HIV and syphilis). Lighter blue shading denotes countries which have been validated for single EMTCT (HIV)

^A Triple elimination of mother-to-child transmission of HIV, hepatitis B and syphilis in Asia and the Pacific baseline report 2018 (WHO, 2018) citing: UNAIDS. Global AIDS Monitoring (GAM) online reporting tool. (Available from: <https://aidsreportingtool.unaids.org>)

^B No data is reported in 2018 baseline report. However, data has been populated from WHO Global Health Observatory as outlined below.

^C WHO Global Health Observatory. (Available from: [https://www.who.int/data/gho/data/indicators/indicator-details/GHO/women-accessing-antenatal-care-\(anc\)-services-who-were-tested-for-syphilis-\(-\)](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/women-accessing-antenatal-care-(anc)-services-who-were-tested-for-syphilis-(-)))

^D WHO Global Health Observatory. (Available from: [https://www.who.int/data/gho/data/indicators/indicator-details/GHO/antenatal-care-attendees-positive-for-syphilis-who-received-treatment-\(-\)](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/antenatal-care-attendees-positive-for-syphilis-who-received-treatment-(-)))

Progress towards screening and treatment for hepatitis B

Data on testing and treatment of pregnant women for hepatitis B surface antigen (HBsAg) is scarce and hinders the monitoring of progress towards the elimination of EMTCT of hepatitis B (see the discussion in Pillar 3 related to monitoring and evaluation). The latest figures, compared to those from the 2018 baseline report, appear in Table 11.

Data on the immunization of infants against hepatitis B is more widely available and suggests mixed progress in the region. The most significant improvements have been seen in coverage of the birth dose of the hepatitis B vaccine. Since the baseline assessment in 2018, 10 countries^{xv} have improved coverage based on this indicator, including Bhutan and Indonesia, which have met EMTCT targets of ≥ 90 per cent coverage since 2018. The addition of Bhutan and Indonesia to Fiji, Malaysia, Maldives, Thailand, Mongolia and China means that eight countries now meet targets for coverage of the birth dose of hepatitis B vaccine, according to latest data available in 2023.

Overall, coverage of the third hepatitis B vaccine dose is higher than the birth dose, with 13 countries^{xvi} meeting EMTCT targets of ≥ 90 per cent coverage. This includes India and Indonesia, which have met coverage targets since the latest available data were analysed for the 2018 baseline report. However, progress in this area has declined, with 10 countries (Cambodia, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Papua New Guinea, the Philippines, Sri Lanka, Thailand and Viet Nam) experiencing a reduction in reported coverage since the situation was previously assessed in 2018.



Fatima, 14, looks at materials presented by a peer educator on how to prevent HIV/AIDS and other sexually transmitted diseases, in Barangay Apelo, a slum area in Pasay City near Manila, the capital of the Philippines.

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^{xv} Countries with increased coverage of the birth dose of hepatitis B vaccine since 2018: Afghanistan, Bhutan, Fiji, India, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Thailand and Timor-Leste.

^{xvi} Countries meeting EMTCT targets for coverage of the third dose of hepatitis B vaccine: Bangladesh, Bhutan, China, Fiji, Indonesia, Lao People's Democratic Republic, Malaysia, Maldives, Mongolia, Nepal, Sri Lanka, Thailand and Viet Nam.

TABLE 11 Hepatitis B-specific process indicators

Indicator	Percentage of ANC attendees tested for HBsAg		Coverage with antivirals for eligible HBsAg-positive pregnant women		Percentage of infants receiving a birth dose of hepatitis B vaccine (%)				Coverage of hepatitis B vaccine third dose among infants (%)			
Target	Coverage ≥90%		Coverage ≥90%		Coverage ≥90%				Coverage ≥90%			
Data source (unless otherwise specified)	EMTCT baseline report 2018 ^A		No data publicly available		EMTCT baseline report 2018 ^B		UNICEF ^C		EMTCT baseline report 2018 ^B		UNICEF ^C	
	Baseline in 2018	Year of data	Baseline in 2018	Year of data	Baseline in 2018	Year of data	Current status	Year of data	Baseline in 2018	Year of data	Current status	Year of data
Afghanistan	-	-	-	-	18	2017	44.0	2022	65	2017	69.0	2022
Bangladesh	-	-	-	-	-	-	-	-	97	2017	98.0	2022
Bhutan	-	-	-	-	82	2017	94.0	2022	98	2017	98.0	2022
Cambodia	-	-	-	-	79	2017	78.0	2022	93	2017	85.0	2022
China	97.4	2013	-	-	96	2017	95.0	2022	99	2017	99.0	2022
Fiji	-	-	-	-	90	2017	98.0	2022	99	2017	99.0	2022
India	-	-	-	-	53	2018	63.0	2022	88	2017	93.0	2022
Indonesia	-	-	-	-	32	2017	95.3	2022	79	2017	99.0	2022
Lao PDR	-	-	-	-	55	2017	65.0	2022	85	2017	80.0	2022
Malaysia	-	-	-	-	90	2017	99.0	2022	98	2017	96.0	2022
Maldives	-	-	-	-	99	2019	99.0	2022	99	2017	99.0	2022
Mongolia	73.0	2016	-	-	98	2017	98.0	2022	99	2017	95.0	2022
Myanmar	-	-	-	-	0	2017	8.0	2022	89	2017	71.0	2022
Nepal	-	-	-	-	-	-	-	-	90	2017	90.0	2022
Pakistan	-	-	-	-	49	2016	49.0	2016	75	2017	85.0	2022
Papua New Guinea	-	-	-	-	33	2017	24.0	2022	56	2017	36.0	2022
Philippines	-	-	-	-	67	2017	53.0	2022	88	2017	72.0	2022
Sri Lanka	-	-	-	-	-	-	-	-	99	2017	98.0	2022
Thailand	>98.0	2016	-	-	96	2017	99.0	2022	99	2017	97.0	2022
Timor-Leste	-	-	-	-	47	2017	72.0	2022	76	2017	86.0	2022
Viet Nam	-	-	-	-	77	2017	77.0	2022	94	2017	91.0	2022

ANC: antenatal care; HBsAg: hepatitis B surface antigen.

Colour key: green = coverage ≥90% (EMTCT target); yellow = ≥80% coverage <90%; red = coverage <80%; blue dashed borders denote improvements in indicators between 2018 and 2023 assessments; blue shading denotes countries which have been validated for dual EMTCT (HIV and syphilis). Lighter blue shading denotes countries which have been validated for single EMTCT. (HIV)

^A Triple elimination of mother-to-child transmission of HIV, Hepatitis B and syphilis in Asia and the Pacific baseline report 2018 (WHO, 2018), no citation provided.

^B Triple elimination of mother-to-child transmission of HIV, Hepatitis B and syphilis in Asia and the Pacific baseline report 2018 (WHO, 2018) citing: World Health Organization. Data, statistics and graphics: official country reported coverage estimates time series. (Available from: http://www.who.int/immunization/monitoring_surveillance/data/en/)

^C UNICEF Data. Monitoring the situation of children and women: Immunization. (Available from: <https://data.unicef.org/topic/child-health/immunization/>)

PILLAR 3 | Monitoring and evaluation

Pillar 3 encompasses 'coordinated monitoring and evaluation of elimination'. The target for Pillar 3, which was to be achieved by 2020, was to ensure the integration of key triple EMTCT indicators into national health information systems. Following this, the target for 2030 is to establish robust and interlinked health information systems that collect and analyse data on RMNCAH, immunization, HIV, hepatitis B and syphilis.

To achieve these targets, the proposed priority actions for countries include developing standardized key national indicators based on regional guidance and set national/sub-national milestones and targets for EMTCT, and streamlining data collection processes within countries and linking the existing data collection mechanisms, including those in the private sector, to support evidence-based programming. Additional priority actions include regular monitoring of EMTCT indicators through a coordinating body to prepare and apply for EMTCT validation and for maintaining elimination status post-validation.

Findings from the survey data

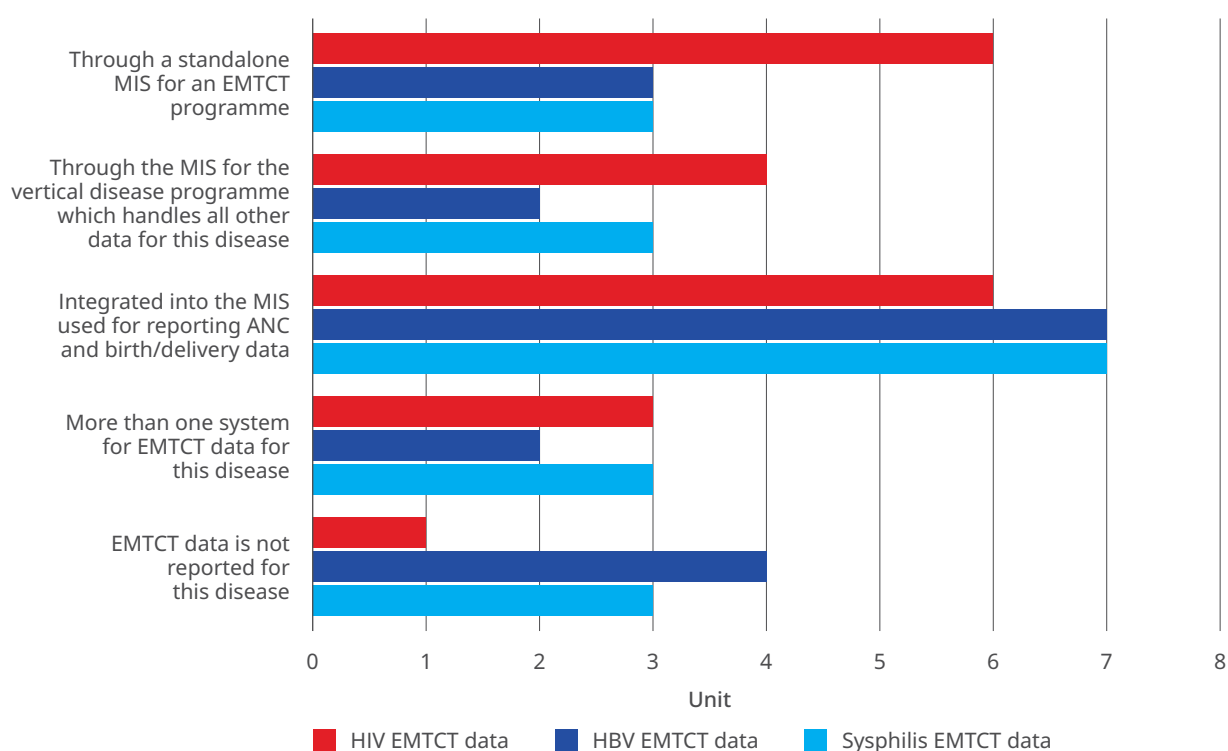
Indicator standardisation and adoption

Over half of countries that responded to the 2023 country survey had adopted the standardized indicator set for EMTCT outlined in the global guidance (*see Table 1*), a milestone set for 2020. There was more adoption of these standard indicators for HIV (15 countries) than syphilis (13) and hepatitis B (11) (see Appendix K). The remaining countries reported either not having a standardized indicator set for EMTCT or, less commonly, having non-compliant indicators. This represents a significant lag in preparation for validation for these countries, given that indicator adoption and standardization is a top-down process, with subsequent alignment of data collection tools and processes taking additional time. Validation of elimination requires at least two years of continuous, comprehensive data collection across standardised indicators. Countries that have achieved validation have relied heavily on sub-national data across these indicators to direct their strategy and identify system gaps and bottlenecks, so the early adoption and operationalization of these indicators is vital to stay on track for elimination.

As noted under Pillar 1, most countries had developed an EMTCT roadmap or roadmaps (Appendix E) with target years for achieving elimination, although they were not asked if there were different sub-national targets or milestones compared to the national ones.

Integration of management information systems

The integration of RMNCAH and EMTCT health data collection is essential to provide timely, actionable evidence across the EMTCT cascade. In the 2023 survey, countries reported a range of data collection systems that were being used for EMTCT data (Appendix L). Most commonly, EMTCT data was integrated into the MIS used for reporting ANC and delivery data (in seven countries for hepatitis B and syphilis, in six for HIV). HIV EMTCT data was more commonly collected through a standalone system for EMTCT, or the vertical HIV programme monitoring system, while it was more common that syphilis and hepatitis B did not have a formal data reporting system for EMTCT (in three and four countries respectively). Some countries reported using multiple reporting systems for EMTCT of a single disease (Appendix L).

FIGURE 4 Countries that reported EMCT data collection/monitoring through each management information system type, by disease

There did not appear to be a consistent relationship between the type(s) of systems used, their level of integration, and either progress towards elimination, or completeness of data. However, several countries noted that the integration of information systems (particularly between public and private sectors, and between hepatitis B data and that for HIV and syphilis) remained a barrier to being able to generate nationally representative indicators, including those being used for EMCT validation. Another frequently raised concern is managing testing duplication between facilities and data systems for countries without a robust unique identification system for system users.

As noted previously, some countries with substantial private sector presence have not yet been able to integrate the reporting of testing results into a national HMIS (Appendix H), which stands as a key barrier to progress towards validation.

A culture of data use is important to promote at all levels of health systems, and in the case of EMCT, the complex coordination challenges at primary and secondary care levels require regular reviews of programme performance by local management teams. Less than half of the countries reported that EMCT data was being routinely reported and published for planning purposes at district/county level, but most reported that at least state/provincial-level reporting and publication occurred on a routine basis. Reporting and review of EMCT data at lower levels of health systems was more common for HIV data than for hepatitis B or syphilis, indicating the need for these to be strengthened and/or integrated into HIV reporting mechanisms.

Findings from the EMCT impact indicators data

Table 12 presents the latest data against the triple EMCT impact indicators (*see Table 1*), alongside reported figures from the 2018 baseline report.

HIV

Indicators of impact towards EMTCT of HIV showed some positive trends, but areas for significant improvement remain. In the absence of publicly available surveillance data, rates of new paediatric HIV infections due to MTCT were estimated with a modelling approach using the Spectrum AIDS Impact Model. According to modelled data, almost all countries have met targets for EMTCT of HIV as indicated by <50 new paediatric infections per 100,000 births. Further, 13 of 17 countries^{XVII} with sufficient data to support modelling were estimated to show a decrease in rates of new paediatric infections between 2018 and 2022. However, rates were estimated to have greatly increased (i.e., by >30%) between 2018 and 2022 in Sri Lanka, the Philippines and Fiji, with small increases estimated for Mongolia (where rates are still <2 new infections per 100,000 births). Despite this, only Papua New Guinea is estimated to be failing to meet targets for this indicator. However, modelling suggests rates of new paediatric infections may be decreasing since 2018.

Despite these positive indicators of impact on population case rates of new paediatric infections, much progress is required in the region to achieve targets for case rates of MTCT of HIV (as measured by the ratio of children newly infected with HIV from MTCT among women living with HIV). Only Thailand and Malaysia are meeting targets of ≤5 per cent, and improvements in this indicator since 2018 estimates have only been seen in Lao People's Democratic Republic. Concerningly, 10 countries^{XVIII} have seen an increase in MTCT rates since the situation was assessed in 2018.

Syphilis

In the absence of publicly available data on defined impact indicators, assessing the impact toward EMTCT of syphilis is challenging. For the purposes of this report, the WHO Syphilis Modelling Tool was used to estimate rates of congenital syphilis per 100,000 live births. However, sufficient data to support modelling was only available for five countries (Bangladesh, India, Sri Lanka, Malaysia and Thailand). For those countries where modelling was possible, estimates should be used with caution given that data inputs to the model require further triangulation and validation by country teams. Modelled estimates suggest that congenital syphilis rates have worsened since data reported in the 2018 EMTCT baseline report for India, Malaysia and Thailand; however, EMTCT targets were still met in Malaysia in 2022. Improvements in modelled congenital syphilis rates have been seen in Sri Lanka.

Hepatitis B

Similar to the process indicators from hepatitis B explored under Pillar 2, indicators of impact for the elimination of vertical transmission of hepatitis B suggest more progress is required in the region. Only Malaysia is meeting EMTCT targets of ≤0.1 per cent prevalence of HBsAg among children, whereas data available in 2018 suggests these targets were met by Bangladesh, Bhutan and Fiji. However, there have been appreciable successes, with 15 countries^{XIX} achieving a reduction in prevalence compared to estimates available in 2018. Since 2018, prevalence has increased in Bangladesh, Bhutan, Maldives, Nepal, Mongolia and Fiji.

^{XVII} Countries with declining rates of new paediatric infections due to mother-to-child transmission of HIV: Afghanistan, Bangladesh, Cambodia, India, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Nepal, Pakistan, Papua New Guinea, Thailand and Viet Nam.

^{XVIII} Countries with an increase in case rates of mother-to-child transmission of HIV: Afghanistan, Bangladesh, Fiji, India, Indonesia, Myanmar, Nepal, Papua New Guinea, the Philippines and Thailand.

^{XIX} Countries where prevalence of HBsAg positivity in children has decreased since 2018: Afghanistan, Cambodia, China, India, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Pakistan, Papua New Guinea, the Philippines, Sri Lanka, Thailand, Timor-Leste and Viet Nam.

TABLE 12 Triple EMCT impact indicators

Indicator	Case rate of new paediatric infections due to MTCT of HIV				MTCT rate of HIV				Congenital syphilis case rate				HBsAg prevalence among children under 5 (%)			
Target	≤50 new paediatric infections per 100,000 live births				<5% in breastfeeding populations or <2% in non-breastfeeding populations				≤50 new congenital cases per 100,000 live births				≤0.1% prevalence			
Data source (unless otherwise specified)	Spectrum modelling ^A		Spectrum modelling ^A		EMTCT baseline report 2018 ^B		UNAIDS AIDSinfo ^C		EMTCT baseline report 2018 ^D		WHO Syphilis Estimation Tool ^E		EMTCT baseline report 2018 ^F		WHO ^G (NB: modelled except ^H)	
	Baseline in 2018	Year of data	Current status	Year of data	Baseline in 2018	Year of data	Current status	Year of data	Baseline in 2018	Year of data	Current status	Year of data	Baseline in 2018	Year of data	Current status	Year of data
Afghanistan	6.5	2018	6.3	2022	32.0	2015	46	2022	–	–	–	–	0.50	2015	0.39	2020
Bangladesh	2.1	2018	1.9	2022	35.0	2017	41	2022	–	–	9.1	2018	0.05	2011	0.51	2020
Bhutan	–	–	–	–	0/6	2015	–	–	–	–	–	–	0.00	2017	0.14	2020
Cambodia	30.5	2018	20.0	2022	10.0	2017	10	2022	3.0	2017	–	–	0.60	2017	0.19	2020
China	–	–	–	–	6.0	2016	–	–	40.7	2015	–	–	0.30	2014	0.22	2020
Fiji	23.3	2018	36.6	2022	15.0	2015	26	2022	33.0	2017	–	–	0.00	2008	0.13	2020
India	21.4	2018	18.4	2022	17.0	2015	20	2022	62.0	2017	102.2	2022	1.00	2015	0.16	2020
Indonesia	51.4	2018	45.9	2022	26.0	2017	30	2022	1.2	2016	–	–	1.80	2015	1.45 ^H	2022
Lao PDR	44.5	2018	23.1	2022	33.0	2016	30	2022	–	–	–	–	1.70	2012	0.68	2020
Malaysia	7.9	2018	6.7	2022	2.0	2017	2	2022	1.0	2017	6.4	2020	0.40	2009	0.06	2020
Maldives	–	–	–	–	0/1	2014	–	–	–	–	–	–	0.20	2015	0.21	2020
Mongolia	1.4	2018	1.5	2022	1/9	2017	–	–	319.0	2017	–	–	0.30	2009	0.47	2020
Myanmar	47.3	2018	41.1	2022	13.0	2017	24	2022	–	–	–	–	3.80	2015	1.11	2020
Nepal	9.4	2018	6.3	2022	22.0	2017	23	2022	0.3	2016	–	–	0.13	2012	0.16	2020
Pakistan	25.9	2018	23.7	2022	31.0	2017	–	–	–	–	–	–	2.80	2015	0.91	2020
Papua New Guinea	170.2	2018	132.3	2022	25.0	2017	34	2022	3359.0	2017	–	–	2.30	2013	1.36	2020
Philippines	6.1	2018	8.3	2022	28.0	2017	41	2022	–	–	–	–	0.87	2017	0.38	2020
Sri Lanka	5.4	2018	7.1	2022	0/9	2015	–	–	2.7	2016	0.9	2020	0.80	2015	0.34	2020
Thailand	15.6	2018	11.0	2022	1.8	2016	2	2022	47	2017	59.9	2022	0.30	2014	0.27	2020
Timor-Leste	–	–	–	–	–	na	–	–	–	–	–	–	2.70	2015	0.72	2020
Viet Nam	21.5	2018	17.0	2022	13.0	2014	13	2022	–	–	–	–	2.20	2011	0.64	2020

ANC: antenatal care; hepatitis B surface antigen; MTCT: mother-to-child transmission.

Colour key: green cells denote: Paediatric HIV and congenital syphilis case rates ≤50 per 100,000 live births; MTCT rate of HIV ≤5%; HBsAg prevalence ≤0.1%; blue dashed borders denote improvements in indicators between 2018 and 2023 assessments; blue shading denotes countries which have been validated for dual EMTCT (HIV and syphilis). Lighter blue shading denotes countries which have been validated for single EMTCT (HIV)

A Numerator: Number of new child infections due to mother-to-child transmission (AIM module)×100,000; Denominator: Number of total births. (DemProj Module)

B Triple elimination of mother-to-child transmission of HIV, hepatitis B and syphilis in Asia and the Pacific baseline report 2018 (WHO, 2018) citing: UNAIDS. AIDSinfo. Available from: <http://aidsinfo.unaids.org/>

C AIDSinfo. Available from: <http://aidsinfo.unaids.org/>

D Triple elimination of mother-to-child transmission of HIV, hepatitis B and syphilis in Asia and the Pacific baseline report 2018 (WHO, 2018) citing: UNAIDS. Global AIDS Monitoring (GAM) online reporting tool. (Available from: <https://aidsreportingtool.unaids.org>)

E WHO Syphilis Estimation Tool. Version 7.

F WHO Hepatitis B dashboard: HBV Country Profiles. Available from: <http://whoHBsAgdashboard.com/#>; WHO Regional Office for the Western Pacific. Hepatitis B control: country profiles 2017. Available from: <http://iris.wpro.who.int/handle/10665.1/14180>; Childs L, Roesel S, Tohme RA. Status and progress of hepatitis B control through vaccination in the South-East Asia Region, 1992–2015. Vaccine. 2018 Jan 2;36(1):6–14.; Bhutan: National serosurvey 2017 – unpublished; Philippines: Anna Lena Lopez, Michelle Ylade, Jeda Veronica Daag, Amado O. Tandoc III, Joseph Bonifacio, Patrick G. Sylim *et al.*, Hepatitis B seroprevalence among 5 to 6 years old children in the Philippines born prior to routine hepatitis B vaccination at birth, Human Vaccines and Immunotherapeutics, DOI: 10.1080/21645515.2018.1480278; Wiesen E, Diorditsa S, Li X. Progress towards hepatitis B prevention through vaccination in the Western Pacific, 1990–2014. Vaccine. 2016 May 27;34(25):2855–62.

G WHO Global Health Observatory. (Available from: [https://www.who.int/data/gho/data/indicators/indicator-details/GHO/hepatitis-b-surface-antigen-\(HBsAg\)-prevalence-among-children-under-5-years](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/hepatitis-b-surface-antigen-(HBsAg)-prevalence-among-children-under-5-years)). Although method of estimation is cited as seroprevalence survey, these data are most likely modelled estimates.

H 2023 country survey.

3.4 Challenges to making progress towards triple EMTCT

Observations from the 2023 country survey analysis

In the 2023 country survey, countries were asked to nominate their key perceived barriers to achieving the triple EMTCT targets (see *Table 13* and Appendix F). Common barriers were reported across the three pillars of the regional framework, and included delays in policy adoption of triple EMTCT, inflexible vertical funding for EMTCT, supply chain disruptions for tests and medications, and inadequate testing infrastructure.

The most commonly reported barriers related to resourcing, infrastructure and supply chains, underlining the challenges associated with universal testing and treatment (see *Table 13* for a complete list, and Appendix F for country responses). Lack of EMTCT policy adoption (9 countries) or publication of strategic/operational guidance (6 countries) were also commonly cited as barriers – and are indicative of missed milestones under the regional framework, which had aimed for these to be in place in all countries by 2020.

Several countries mentioned barriers specific to service integration, including the willingness and capacity of RMNCAH services to take up routine testing for mothers and infants, and difficulties with vertical programmes and funding being integrated into RMNCAH services. Several countries specifically noted concerns about integration of hepatitis B testing and treatment, as this was frequently managed by a separate hepatitis programme with no prior policy, funding or organizational linkages to HIV and syphilis programmes.

Broader barriers described included low ANC coverage or quality or inconsistency/inequity in coverage, and the quality of ANC, EMTCT and delivery services across the country.

The financing of testing services and commodities remains a barrier for some countries, particularly those transitioning from donor funding to government funding of these services.

System strengths that may support the achievement of triple EMTCT targets

Almost all countries in the region described their ANC services as a strength that could be capitalized upon for EMTCT, supporting the rationale of the integration approach in the global roadmap. Features of ANC services mentioned included high coverage, good accessibility/affordability, high quality of care and acceptability by pregnant women.

Several countries also described HIV testing and treatment services as being another strength of their health system, whether vertical or integrated with RMNCAH services. Syphilis and hepatitis B programmes were less commonly mentioned as strengths – but countries that had achieved substantial levels of testing coverage for all three diseases mentioned this as a useful asset.

Recognizing the centrality of integration to triple EMTCT success, several countries reported that strong government commitment and networking/collaboration between MNCH and other programmatic areas were key factors in their EMTCT progress.

TABLE 13 Common barriers to achieving triple EMCT

Barrier reported	Countries reporting
Supply chain disruptions for tests	12
Low numbers of early infant diagnosis (EID) centres	11
Supply chain disruptions for medications	11
There is vertical funding for HIV, syphilis or hepatitis B which is difficult to reallocate to RMNCAH	11
Triple EMCT is not yet formally adopted as policy	9
Inadequate laboratory capacity to facilitate the required levels of testing for HIV/hepatitis B/syphilis	9
Low numbers of ART centres	8
EMCT strategy/operational guidance is not yet published	6
The quality of ANC services is poor	5
RMNCAH workforce CAPACITY to integrate routine testing is low	4
RMNCAH workforce WILLINGNESS to integrate routine testing is low	4
RMNCAH infrastructure capacity to integrate routine testing is not available	4
There is low ANC coverage in the country	3
There is low acceptability of mainstream ANC services by key populations	3
Decentralisation of health systems makes it difficult to incorporate national EMCT policy into state/provincial/district services	3

3.5 Country progress towards validation: Summary of key gaps and the way forward

A summary of progress against key triple EMCT process and impact indicators for the 21 countries in the region is presented in Table 14.^{xx} These data suggest that progress is being made, as 18 of 21 countries have reported or are estimated to be making progress in half or more of the key indicators since the 2018 baseline assessment. Only Fiji, Mongolia and the Philippines reported progress on fewer than half of the indicators where data were available. Table 14 also shows where data gaps remain. Four countries – Bhutan, Maldives, Pakistan and Timor-Leste – had insufficient data for reporting on six or more indicators.

Considering the validation indicators and survey data, the regional picture is one of slow and patchy progress towards achieving EMCT goals. Few countries are on track to meet all EMCT targets, in part due to gaps in data reported to global databases. In the four years since the publication of the regional framework¹² and baseline report,²⁷ policies and guidelines have developed, but in many cases slowly, while countries have been particularly slow to integrate hepatitis policies and strategies into the EMCT agenda.

"18 of 21 countries have reported or are estimated to be making progress in half or more of the key indicators since the 2018 baseline assessment"

xx Please see p.24 for a description of where these data were sourced.

TABLE 14 Summary of country progress towards meeting EMTCT targets since the 2018 assessment

Country	Process indicators							Impact indicators				Totals				
	Pregnant women attending ANC at least once (%)	Pregnant women with known HIV status (%)	Pregnant women living with HIV who received ARVs (%)	Women accessing ANC who were tested for syphilis (%)	Pregnant women with positive syphilis serology who were treated (%)	Percentage of infants receiving a birth dose of hepatitis B vaccine (%)	Coverage of hepatitis B vaccine third dose among infants	Case rate of new paediatric infections due to MTCT of HIV	MTCT rate of HIV (%)	Congenital syphilis case rate	HBsAg prevalence among children under 5 (%)	↑	↓	-	Target is met	Target has been met since 2018 assessment
Afghanistan	↑	-	↑	-	-	↑	↑	↑	↓	-	↑	6	1	4	2	0
Bangladesh	↑	↑	↓	↓		-	↑	↑	↓	-	↓	4	4	2	4	0
Bhutan	-	↑	-	↓	-	↑		-	-	-	↓	2	2	6	3	1
Cambodia	↑	↑	↓	↑	↑	↓	↓	↑		-	↑	6	3	1	2	1
China	↑	-	-	↑	↑	↓		-	-	-	↑	4	1	5	5	0
Fiji	↓	-	↓	-	-	↑		↓	↓	-	↓	1	5	4	6	0
India	↑	-	-	↑	↓	↑	↑	↓	↓	↓	↑	6	3	2	1	1
Indonesia	-	↑	↑	↑	↑	↑	↑	↑	↓	-	↑	8	1	2	2	2
Lao PDR	-	↑	↑	-	-	↑	↓	↑	↑	-	↑	6	1	4	1	0
Malaysia	-	↑	*	↑	↓	↑	↓	↑		↓	↑	5	3	1	8	1
Maldives	-	↑	-	↑	-			-	-	-	↓	2	1	6	3	1
Mongolia	↑	↓	-	↑	↑		↓	↓	-	-	↓	3	4	3	4	1
Myanmar	-	↓	↓	↑	↑	↑	↓	↑	↓	-	↑	5	4	2	1	0
Nepal	↑	↑	↑	-	-	-		↑	↓	-	↓	4	2	4	2	0
Pakistan	↑	-	↑	-	-	-	↑	↑	-	-	↑	5	0	6	1	0
Papua New Guinea	↑	↓	↑	↓	↑	↓	↓	↑	↓	-	↑	5	5	1	0	0
Philippines	↑	-	↓	-	-	↓	↓	↓	↓	-	↑	2	5	4	1	1
Sri Lanka	-	↑	-	↑	↑	-	↓	↓	-	↑	↑	5	2	4	6	1
Thailand	↑	↓	*	↑	↑	↑	↓	↑	↓	↓	↑	6	4	0	8	0
Timor-Leste	-	↑	-	-	-	↑	↑	-	-	-	↑	4	0	7	0	0
Viet Nam	↑	↓	↑	-	-		↓	↑		-	↑	4	2	3	2	0

NB: Table includes the priority process and impact indicators highlighted in *Global guidance on criteria and processes for validation: elimination of mother-to-child transmission of HIV, syphilis and hepatitis B virus* (WHO, 2021). Due to data paucity, indicators relevant to countries with targeted timely hepatitis B immunization are not included.

↑ denotes indicator has come closer to target since 2018 assessment. ↓ indicator has come further from target since 2018 assessment.

- insufficient data to determine progress. Light green box: target is met. Darker green: target has been met since 2018 assessment.

Blue shading denotes countries that have been validated for dual EMTCT (HIV and syphilis). Lighter blue shading denotes countries which have been validated for single EMTCT (HIV). * Due to overlap in the bounds of reported data in the 2018 and 2023 assessments, coverage is considered to have neither decreased nor increased. - Indicates that, according to either baseline assessment or assessment in 2023, the target has been met but there is insufficient data to determine if progress has been made between the two assessments (i.e., data for one year is missing).

Indicates that the target has been met but data suggests coverage has neither increased nor decreased between assessments.

3.6 A 'traffic light' classification of countries based on their overall progress towards triple EMTCT

In Table 15, countries have been classified according to their overall progress towards triple EMTCT. This classification is based on the validation indicators data and the survey findings presented in the previous sections. Countries shaded green are considered 'on track' or close to being on track to achieving 2030 EMTCT goals. Those shaded orange may be on track for certain aspects of their EMTCT programme but have significant areas of concern that place their ability to achieve EMTCT targets in doubt, or have not established key milestones set out for 2020 in the 2018 framework document.

TABLE 15 'Traffic light' classification of countries

Bhutan	Fiji	Afghanistan
Cambodia	India	Bangladesh
China	Indonesia	LPDR
Malaysia	Myanmar	Pakistan
Maldives	Nepal	Papua New Guinea
Mongolia	Philippines	Timor-Leste
Sri Lanka	Viet Nam	
Thailand		

Colour key: green = on track or close to on track for achieving 2030 EMTCT goals; orange = may be on track partially, with significant areas of concern, including doubt of ability to achieve EMTCT goals for 2030 or have not reached 2020 milestones.

The purpose of the 'traffic light' classification is to signal areas for strategic focus and investment, as outlined below. For detailed triple EMTCT regional roadmaps and operational guidance, please refer to Section 4 of this report.

1. Nepal, Pakistan and Afghanistan have not developed a formal EMTCT policy that includes either syphilis or hepatitis B. Urgent policy development will be necessary to set in place the necessary programmes and resources to meet 2030 targets.
2. Afghanistan, Fiji, Pakistan and Viet Nam report that they do not yet have a national coordinating body (committee or technical working group), which was a 2020 milestone set in the regional framework. Although Fiji, in particular, has made good progress across a number of indicators and approved a dual elimination roadmap, the absence of this coordinating body may be an obstacle to efficient coordination of planned efforts.
3. Upstream interventions in the EMTCT cascade significantly impact the burden of the epidemic and coverage of downstream interventions. Hence, countries that have not made sufficient progress in controlling epidemics in the general population, not ensured women have access to family planning, and not reached universal coverage of ANC may not be able to stay on track for the triple EMTCT testing and treatment coverage targets.
4. The region is making good progress in maintaining a low prevalence of HIV in the general population, but progress is uncertain for syphilis and hepatitis B epidemics, with insufficient data to characterize epidemiology in several countries. Notably, some of the countries with known intermediate or high prevalence of hepatitis B are making progress in ANC testing and infant vaccination coverage, but there are several countries where hepatitis B epidemiology is poorly understood or is at intermediate prevalence, but without a strong national response.

5. High levels of an unmet need for contraception, with little progress across much of the region, will heavily impact the ability of countries to achieve EMTCT goals, particularly Afghanistan, Nepal, Pakistan, Papua New Guinea, the Philippines and Timor-Leste. This is especially relevant in settings where there is unmet need among women categorized as high risk or who are known to be HIV or hepatitis B positive.
6. Based on current trends in ANC1 coverage, Afghanistan, Papua New Guinea and possibly India are off-track to reach their EMTCT targets – although all three countries have shown the capacity to achieve rapid increases in ANC coverage at sub-national level. Substantial gains above current trends will be required in order to reach validation goals, particularly by the earlier target years (2026) in place for India for HIV/syphilis EMTCT. All countries that have so far achieved dual elimination goals have ANC1 coverage close to 99 per cent, indicating its importance as a bottleneck in the EMTCT cascade.
7. With the increasing adoption of point-of-care rapid tests in ANC, same-day referral for confirmatory testing and treatment is now possible at the first ANC visit; however, many countries continue to rely substantially on whole blood laboratory tests for screening. This increases the importance of repeated ANC visits as an avenue for follow-up and ongoing care, and risks leakage due to loss to follow-up or referral. In this context, the low ANC4 coverage of Pakistan, India and Bangladesh represents an increased risk of losing pregnant women with positive results for any of the three infections to follow-up and treatment. Expansion of point-of-care rapid tests, dual testing (HIV/syphilis), and improvements in referral and tracking may reduce the sole reliance on improvements in full ANC coverage to achieve triple EMTCT.
8. Few countries are meeting or maintaining sufficient HIV testing coverage levels among pregnant women. Notably, Afghanistan, Bangladesh, Fiji, Indonesia, Lao People's Democratic Republic, Myanmar, Papua New Guinea and Viet Nam all have HIV testing coverage below 70 per cent.
9. Bangladesh, India, Indonesia and Papua New Guinea all have low testing coverage for syphilis, while several other countries are not yet reporting these data. However, with the advent of rapid dual test kits, there is the potential to rapidly scale up testing and bring the testing coverage of the two diseases into alignment.
10. Many countries in the region report low treatment coverage, even in settings where testing is relatively on track. Afghanistan, Bangladesh, Fiji, Indonesia, Lao People's Democratic Republic, Myanmar, Pakistan and the Philippines all have ART coverage rates at or below 50 per cent for pregnant women who are HIV positive. Antiviral coverage data for hepatitis B-positive pregnant women has not been reported in global databases but is known to be low in most countries. Most countries have made better progress on treatment coverage for syphilis, and HepB3 vaccination coverage.

It should be noted that neither the validation indicators nor the survey obtained data on key areas such as family planning coverage among HIV-positive women, ART adherence and viral suppression among pregnant and breastfeeding women, or antiviral coverage for hepatitis B-positive pregnant women, all of which may be critical to accurately characterize progress for countries in the region.

3.7 Observations on global data quality

Gaps in data completeness and timeliness were observed across all process and impact indicators. Additionally, there were challenges related to limited access to accurate and timely data through validated United Nations sources. The following section outlines observations on triple EMTCT global data quality.

Timeliness of data

With regard to RMNCAH indicators, the timeliness of data is a considerable issue, particularly data on the demand for family planning being met by modern methods. There were no new estimates since those available in 2018 for 10 countries;^{xxi} and data for this indicator is now at least five years old for half the countries in the region. For China, the last data on this indicator published in United Nations databases was collected over 20 years ago. The issue of data timeliness is similar for ANC indicators, with eight countries^{xxii} not reporting any new data since 2018, which hinders efforts to use these indicators to assess progress towards EMTCT. Data on skilled attendance at birth is comparatively more recent, with data collected on average three years ago and at most, six years ago across countries in the region.

Data completeness

Data completeness is a challenge for monitoring progress towards eliminating vertical transmission of HIV. For six countries,^{xxiii} there is insufficient data available to monitor any change in HIV testing since the situation was assessed in 2018, while data to monitor changes in ARV coverage is missing for seven countries.^{xxiv} Similar challenges exist for monitoring progress towards elimination of vertical transmission of syphilis. There is insufficient data for eight countries with which to assess progress on testing coverage since 2018,^{xxv} and insufficient data for 10 countries^{xxvi} on treatment coverage (see also Tables 9–11).

The most significant issues of data completeness exist for monitoring maternal indicators of progress towards EMTCT of hepatitis B. Measuring the percentage of pregnant women tested and treated for HBsAg is an important process indicator for settings with a targeted strategy towards hepatitis B vaccination, or those without a policy of universal immunization for children under five. However, data on maternal testing and treatment for HBsAg is scarce across the region. In the 2018 baseline report, data were only reported for three countries (Thailand, Mongolia and China). Data on these indicators are not reported on the data portals of UNAIDS, WHO or UNICEF, which are common sources of data for understanding the progress of strategies towards EMTCT. This appears to be a recurrent challenge. In a systematic review of progress towards triple EMTCT in Pacific Island Countries, data on maternal testing for HBsAg was only found for Guam.⁴⁴

Heavy reliance on modelled data

Modelling tools are available to estimate data on some impact indicators and can circumvent some challenges associated with the limited availability of surveillance data. For example, monitoring HIV impact indicators relies on data from robust surveillance systems to detect new paediatric HIV infections due to vertical transmission. This requires detecting infections that arise not only during pregnancy, but also during the postpartum breastfeeding period, which can be a challenge in many countries. Further, population-level data is required, while many surveillance systems may miss women who do not engage with the formal health sector or those not captured in EMTCT programmes.

^{xxi} Countries with no new data on the percentage of women whose demand for family planning was met by modern methods: Afghanistan, Bhutan, China, Indonesia, Lao People's Democratic Republic, Malaysia, Maldives, Myanmar, Sri Lanka and Timor-Leste.

^{xxii} Countries with no new data on coverage of ANC (one or four visits) since 2018: Bhutan, Indonesia, Lao People's Democratic Republic, Malaysia, Maldives, Myanmar, Sri Lanka and Timor-Leste.

^{xxiii} Countries with insufficient data to monitor progress in women with known HIV status since 2018: Afghanistan, China, Fiji, India, Pakistan and the Philippines.

^{xxiv} Countries with insufficient data to monitor changes in coverage of ARV for pregnant women since 2018: Bhutan, China, India, Maldives, Mongolia, Sri Lanka and Timor-Leste.

^{xxv} Countries with insufficient data to monitor progress in coverage of testing for syphilis since 2018: Afghanistan, Fiji, Lao People's Democratic Republic, Nepal, Pakistan, the Philippines, Timor-Leste and Viet Nam.

^{xxvi} Countries with insufficient data to monitor progress in coverage of treatment for syphilis since 2018: Afghanistan, Bhutan, Fiji, Lao People's Democratic Republic, Maldives, Nepal, Pakistan, the Philippines, Timor-Leste and Viet Nam.

The Spectrum AIDS Impact Model (AIM) can be used to estimate the population-level transmission rate and case rate for HIV by drawing on a range of input data including demographic projections, coverage of testing and treatment, and breastfeeding rates. Input data to support the modelling of child outcomes is available for 170 countries. However, the use of these tools to estimate impact indicators is associated with limitations inherent to modelling. First, reliable outcome estimates are dependent on the availability of reliable and current input data. For the Spectrum AIDS Impact Model, input data on HIV incidence as well as vertical transmission data are drawn from UNAIDS sources up until 2020, but are then kept constant in the model for time horizons beyond that.²⁸ Thus, capturing changes in paediatric HIV infection rates post-2020 relies on having access to more recent country-level data, compiled and aggregated from a wide range of input data, much of which is not publicly available. Second, it should be recognized that modelled estimates are heavily dependent on the validity of the assumptions made in order to extrapolate outcome estimates from input data.

Similar challenges and limitations apply to the impact indicator for EMTCT of syphilis, which relies on the use of the WHO Syphilis Modelling tool to estimate rates of congenital syphilis. This model depends on yearly input data relating to ANC coverage, as well as syphilis testing and treatment for pregnant women. Thus, the ability to use the tool to derive outcome estimates is limited by the same data timeliness and completeness challenges previously outlined. Congenital syphilis rates for 16 countries could not be estimated using the tool because all input data were not available for all years.

Consistency of data

Data consistency issues arise where there is ambiguity or limitation in data and/or indicator definitions, and where multiple sources of data are available. This is particularly an issue for indicators relating to HIV testing in pregnant women. The 2018 report on triple EMTCT in the Asia and Pacific region describes this progress indicator as 'Percentage of pregnant women with known HIV status (includes both newly tested and those with known status)'. The inclusion of women with already known status at ANC aligns with the definition provided in the UNAIDS Indicator Registry, which was designed to standardize monitoring and reporting on HIV across countries and over time. However, more recent WHO guidance on monitoring triple EMTCT^{XXVII} describe this indicator as 'Coverage of HIV testing among pregnant women: ≥ 95 per cent (population-based data)', which creates ambiguity as to whether this indicator refers to women with known HIV status or only those who were tested at ANC. In line with guidance from UNICEF, both variants of this indicator are included in this report. UNICEF data has been drawn upon for the former, given that UNICEF's description of this data item makes explicit reference to women with known status, whereas UNAIDS data has been utilized for coverage of testing for HIV in pregnant women. However, it is proposed that these data are equivalent to each other.

In addition, varied data are available to describe the proportion of women whose demand for family planning is met by modern methods, with variations largely centring on the population in which it is measured. Some data relate to women who are married or in union, while others refer to all women (including those out of union). Further, different surveys have different criteria for the age of women for whom these data are collected (e.g., data are reported for women aged 15–49 years and those aged 20–49 years). Similarly, data related to ANC and skilled birth attendance is subject to small variations depending on the criteria of the survey tool used for collection. Some surveys include statistics for women with a live birth occurring in the previous five years, while others set limits of the last two years. Clear and specific definitions of all monitoring indicators are required to ensure that the data consulted to assess progress are consistent and appropriate.

XXVII 'Global guidance on criteria and processes for validation: elimination of mother-to-child transmission of HIV, syphilis and hepatitis B virus.' World Health Organization, 2021; and 'Key Considerations for Fast-Tracking the Elimination of Mother-to-Child Transmission of HIV in Lower-Prevalence Settings: Lessons from validated countries.' UNICEF and WHO, 2023.



In the 47-degree Celsius heat, a young child riding on a motorcycle with his father covers himself from the harsh sunlight with his father's head rag in Faisalabad, Punjab on 28 May 2024.

4 Literature review: Best practices for EMTCT of HIV, syphilis and hepatitis B

4.1 Introduction

This academic literature review aims to identify effective service models and practices for EMTCT of HIV, hepatitis B and syphilis. It explores strategies employed by countries to achieve single, dual, or triple elimination targets. The scope of this review is intentionally broad and not confined to the Asia and Pacific region in order to encompass all pertinent literature that may have relevance to the regional context while responding to the following research questions:

1. What successful best practices for EMTCT of HIV, hepatitis B and syphilis are documented in the literature, and what are their structure, processes and impacts?
2. What lessons can be drawn from these best practices that are of relevance to the Asia and Pacific region?

4.2 Summary findings

Out of the 26 studies analysed, 13 were from Sub-Saharan Africa, 5 from China, 4 from Cuba and Thailand, 3 from the Americas, and 1 from Cambodia. Notably, only two studies specifically addressed the triple elimination of HIV, hepatitis B and syphilis. Five studies focused on the dual elimination of HIV and syphilis, with the remaining studies primarily focusing on individual diseases, with HIV being the predominant subject. The findings from the studies are categorized into major themes described below.

1. Effective strategies in Cuba and Thailand to achieve validation for dual EMTCT

In 2015, Cuba became the first country that was validated for the dual elimination of HIV and syphilis, followed by Thailand in 2016. Both countries had well-established and robust health systems characterized by high ANC coverage and long-standing programmes of over 30 years to address congenital syphilis and conduct routine HIV testing in ANC.⁴⁵⁻⁴⁸ This strong foundation played a key role in enabling these two countries to respond effectively to the global call for the EMTCT of HIV and syphilis. In response to this call, both Cuba and Thailand demonstrated a high level of political commitment by proactively developing relevant EMTCT policies involving multiple stakeholders, including decision-makers at the sub-national level. These policies emphasized the principles of human rights and gender equity while ensuring that EMTCT services were accessible to all pregnant women.

The EMTCT interventions were seamlessly integrated into family planning and MNCH services. This integration encompassed the provision of universal and cost-free HIV and syphilis testing as part of an essential ANC package. It also included partner testing and the establishment of referral networks between different levels of health care delivery to monitor and provide ongoing support for mother-baby pairs, including facilitating early infant diagnosis (EID).⁴⁵⁻⁴⁸

In both countries, there is limited dependence on external funding, and out-of-pocket payment is <10 per cent. EMTCT services are accessible to individuals irrespective of citizenship or legal residence status. Both Cuba and Thailand prioritize ongoing capacity development initiatives, investing in the training and skill development of policymakers, managers, technical teams and community workers. Supporting these elimination efforts are robust data monitoring systems that facilitate a feedback loop for policy refinement. Additionally, both countries have an organized network of laboratories that play a pivotal role in providing reference tests, diagnostic guidelines, national standards, quality assurance training, and research to enhance the diagnosis and management of STIs and HIV.⁴⁵⁻⁴⁷

2. Policy and collaboration: China's path to EMTCT success

In China, ANC coverage and delivery by skilled birth attendants exceed 95 per cent. ANC services are subsidized, and a medical insurance system is in place for rural residents, ensuring their timely and free access to ANC. Consequently, in 2015, when the country rolled out universal screening for HIV, hepatitis B and syphilis during routine ANC visits, virtually all pregnant women and newborns were covered.⁴⁹⁻⁵² The hepatitis B birth dose (HepB-BD) and hepatitis B third dose (HepB3) coverage have consistently been reported as ≥95 per cent since 2013.^{xxviii} China's success in implementing triple EMTCT interventions can be attributed to strong collaboration between MNCH, the Society of Hepatology, the Society of Infectious Disease, the Expanded Programme on Immunization (EPI), and hospital services. Additionally, China has a robust and integrated national PMTCT information management system linked to provincial and county MCH hospitals to collect and analyse EMTCT data.⁵³ Moreover, the country has enacted laws to promote and protect women's and children's rights, health rights and gender equality.

The Chinese government's current focus is on EMTCT of HIV, hepatitis B and syphilis, and it is making significant progress. However, the prioritization of syphilis is relatively recent. A comparative analysis published in 2015 sheds light on why certain public health issues receive higher political priority than

XXVIII Hui Zheng. New progress towards elimination of mother-to-child transmission of hepatitis B virus in China. *Hepatology International*. 2022. Vol 16.

others.⁵² The high prioritization of EMTCT of HIV in China is attributed to a cohesive policy community comprising key government agencies, legislative bodies, academia, and community leaders. This unity led to effective policies, increased resource allocation and the successful integration of HIV into primary health care services, which resulted in a significant reduction in MTCT of HIV. Such collaboration was not as evident in the case of syphilis until 2010.

Examining the factors that contributed to this, the authors emphasized the crucial role of credible data and robust monitoring and evaluation (M&E) systems to capture the attention of decision-makers. They also highlighted the importance of local evidence to demonstrate that the issue can be addressed through proposed interventions that are cost effective and feasible. From 2010 onwards, China adopted a nuanced approach by leveraging existing mechanisms for EMTCT of HIV to tackle syphilis. This approach highlighted the interconnectedness of HIV and syphilis in terms of common underlying risks and vulnerabilities, and the feasibility of concurrent solutions. The authors concluded that framing the EMTCT agenda in a way that resonates with policymakers and the broader public is essential. They advocated for emphasizing the goal as 'saving the future generation' rather than focusing solely on behaviours like extramarital sex, commercial sex, men who have sex with men and drug use within a traditional moral framework. This shift in framing highlights the positive impact of EMTCT measures on the well-being of future generations, making it a more compelling argument for policymakers to support. This approach has been adopted in China for both infections.

3. Challenges and progress towards EMTCT in Latin America and the Caribbean

Two papers from Latin America and the Caribbean conducted comprehensive analyses across multiple countries in the region to assess progress towards EMTCT of syphilis. While all the countries had national plans in place to achieve EMTCT for both HIV and syphilis, the extent of integration into RMNCAH programmes varied. The ANC coverage fell short of optimal levels (≥ 95 per cent), with further limited screening and treatment coverage for syphilis. Laboratories, particularly at the sub-national level, faced capacity limitations for syphilis testing, including the availability of point-of-care syphilis tests.

The authors highlighted the lack of robust health information systems and had concerns regarding the quality of the existing data collection mechanisms, noting this as the key underlying barrier to the health system's ability to respond effectively to EMTCT of syphilis. The scarcity of local evidence posed challenges for targeted programming and effective advocacy efforts. The authors stressed that a high level of political commitment was crucial to integration of EMTCT interventions into RMNCAH programmes successfully and to enhance countries' capacities to collect, analyse and utilize high-quality data for decision-making purposes.^{54, 55}

Paraguay recently utilized the WHO congenital syphilis estimation tool to assess the prevalence of congenital syphilis. The tool revealed that the burden of this disease was approximately nine times higher than previously reported. This underscores congenital syphilis as a significant national public health concern and highlights inefficiencies in existing surveillance systems, which result in missed opportunities to diagnose and treat pregnant women and infants. In response, Paraguay has taken steps to strengthen its information systems, implement training programmes to enhance the diagnosis and reporting of congenital syphilis, and plans to expand the surveillance system with support from integrated HIV resources provided by the Global Fund.⁵⁶

4. EMTCT efforts in Sub-Saharan Africa: Barriers and successes

Sub-Saharan Africa has the highest number of HIV-positive pregnant women, and syphilis and hepatitis burdens are among the most substantial globally. There various barriers that hinder progress towards EMTCT,⁵⁷ including significant health infrastructure challenges, limited financial and human resources, sub-optimal ANC coverage and lack of readily available skilled birth attendants, along with limited capacity for data management, heavy reliance on external funding and an absence of health insurance schemes.⁵⁸⁻⁶⁰ Despite these challenges, many countries in Sub-Saharan Africa have made good progress towards the reduction of new paediatric HIV infections. This progress can serve as a foundation for an improved response to hepatitis B and syphilis, where political commitment lags behind that of HIV.⁵⁸

In response to a shortage of specialized healthcare professionals, Sub-Saharan African countries have invested in traditional birth attendants, with voluntary workers delegating certain responsibilities through task-shifting. Health care providers in remote areas who provide ANC to pregnant women have been connected with experienced EMTCT experts (including clinicians, pharmacists, laboratory scientists, and M&E officers) for ongoing support.^{60, 61} Other countries, such as Nigeria, adopted a date-driven 'smart expansion' approach, prioritizing areas with the highest HIV prevalence and widest PMTCT coverage gaps.⁶² In Malawi, the role of mentor mothers was expanded by providing formal training and structured supervision to enhance the uptake of services among pregnant women.⁶³ Other successful strategies included close collaboration among MNCH, family planning and EPI programmes to implement EMTCT services, active partner involvement, generating sub-national data and the engagement of sub-national staff in data analysis and programme planning.⁶⁴

South Africa faced challenges in achieving its HIV target related to EMTCT. These challenges included sub-optimal universal screening, data quality gaps, and a lack of understanding of key indicators by health care providers and stakeholders. To address these, a bottleneck analysis in 2011 led to critical actions: strengthening coordination, promoting universal screening in RMNCAH services, developing a simple M&E system, staff training and data-driven performance improvement.⁵⁸ Successful EMTCT programmes in Mozambique and a few other Sub-Saharan African countries involved free universal screening through RMNCAH platforms, capacity building, task shifting, quality-assured laboratories, robust electronic data systems and evidence-based strategy revisions.⁵⁹

Utilizing a cost evaluation tool, a study in Cambodia assessed the population-level impact and cost-effectiveness of the WHO integrated triple EMTCT approach.⁶⁵ The analysis showed that this approach, using ANC as the platform, is highly cost-effective and efficient. It reduced the time required for health care delivery to health care workers and pregnant women while improving screening coverage for HIV, hepatitis B and syphilis for pregnant women. However, it is important to note that the success of triple EMTCT interventions depends on the presence of functional MNCH platforms in a country.

5. The path to EMTCT validation: Lessons from diverse country experiences

Utilizing a cost evaluation tool, a study in Cambodia assessed the population-level impact and cost-effectiveness of the WHO integrated triple EMTCT approach.⁶⁵ The analysis showed that this approach, using ANC as the platform, is highly cost-effective and efficient. It reduced the time required for health care delivery to health care workers and pregnant women while improving screening coverage for HIV, hepatitis B and syphilis for pregnant women. However, it is important to note that the success of triple EMTCT interventions depends on the presence of functional MNCH platforms in a country.

In another paper, authors synthesized the characteristics of four countries (Cuba, Thailand, Armenia, and Belarus) that met the EMTCT validation criteria and compared them with 21 Sub-Saharan African countries, which, as mentioned, represent about 90 per cent of HIV-positive pregnant women and which have not achieved EMTCT validation.⁶⁴

The four countries in the study that achieved EMTCT had lower HIV prevalence and better health infrastructure compared to those that had not achieved validation. In the four countries, epidemics were still mostly concentrated in high-risk groups (except in Thailand) and thus, the number of HIV-positive pregnant women in need of EMTCT intervention was low. Leveraging these advantages, the validated countries promptly implemented cost-free universal testing integrated within RMNCAH services, partner testing, robust contact tracing mechanisms and community empowerment initiatives. Additionally, the EMTCT-validated countries experienced fewer challenges related to leadership, governance, infrastructure, human resources and service delivery compared to the countries that had not yet achieved EMTCT validation.

Countries in Sub-Saharan Africa have adopted universal screening and treatment for pregnant women as a standard practice. However, drawing from the characteristics of EMTCT-validated countries, it is clear that offering universal ART is one important step towards EMTCT validation.⁶⁴ Through a consultative workshop involving representatives from six Sub-Saharan African countries – and another study involving key informant interviews with representatives from these six countries that have made significant progress in the EMTCT of HIV – key success factors were identified.^{60, 66}

The findings emphasized that achieving success relies on committed political leadership, early adoption of evidence-based policies, integration of EMTCT within ANC, reduced treatment costs and strengthening national programmes for M&E. Furthermore, participants highlighted the significance of additional strategies, especially in the context of sub-optimal health infrastructure. These strategies included delegating certain responsibilities to health care workers with lesser qualifications through the practice of task shifting, decentralizing services, and establishing connections between health facilities and community support services.^{60, 66} Recent evidence-based, promising advances globally, such as self-test kits and pre-exposure prophylaxis (PrEP), must be properly tailored and adopted in local contexts to reduce perinatal infections.⁶⁷

"Achieving success relies on committed political leadership, early adoption of evidence-based policies, integration of EMTCT within ANC, reduced treatment costs and strengthening national programmes for M&E"

4.3 Discussion

Recent advancements in diagnostic tools and treatment options for HIV, hepatitis B and syphilis have made it possible to achieve the triple EMTCT goal, which was once considered a distant reality. Highly accurate, user-friendly and cost-effective point-of-care diagnostic tests are now available, including dual test kits and self-test kits.⁶⁸ In addition, the availability of treatment modalities with proven efficacy has substantially reduced the risk of MTCT to <2–5 per cent. There is ample evidence that strong leadership and political commitment can drive progress towards EMTCT, despite socioeconomic and health system challenges. Consequently, the global health community, under the leadership of WHO, declared the goal of EMTCT of HIV, hepatitis B and syphilis as a public health issue by the year 2030.

The findings of this academic literature review underscore that while the goal of elimination is attainable, it is not a straightforward task. Achieving this goal requires strong leadership within countries that possess a deep understanding of their local contexts and the readiness of their health systems. This local comprehension is the key to formulating a holistic approach, from the formulation of clear policies to effective implementation strategies, with an ongoing process of learning and gap identification supported by robust M&E mechanisms. Overlooking these critical factors can lead to ineffectiveness of even the most well-intentioned initiatives.

The universal screening of pregnant women is the first step in the pursuit of the EMTCT goal. Effective implementation depends on the presence of well-established health systems with high ANC coverage, a sustained supply of test kits and an efficient workforce capable of conducting these tests. Countries like Cuba and Thailand, with resilient health systems, universal ANC coverage and adequate resources, were able to swiftly implement these measures and achieve validation.

In contrast, regions like the Americas and Sub-Saharan Africa face persistent challenges to implement universal screening due to fragile health systems, inadequate ANC coverage, reliance on donor funding, capacity gaps and deficient M&E mechanisms. However, this does not imply that countries should refrain from planning for EMTCT until they have addressed their wider health care system deficiencies. There is compelling evidence to support this assertion, both from global evidence and within countries grappling with limited health care infrastructure.

A modelling analysis encompassing four country-specific scenarios (Namibia, Kenya, Haiti and Viet Nam) has demonstrated that despite the initial high cost, universal screening emerges as a cost-effective long-term intervention applicable to both low- and high-prevalence settings. This approach effectively reduces the incidence of new paediatric HIV infections, leading to decreased future treatment costs for children.⁶⁹ Given the context of limited resources and the need for optimized investment, integrating universal screening into ANC, and establishing coordination mechanisms among RMNCAH, EPI and HIV/STI programmes for joint programming and pooled funding appears to be the most promising way forward.

This inference is supported by studies from countries that have achieved validation as well as those that have made substantial progress toward this goal. Another readily achievable strategy for countries facing resource constraints to attain universal screening involves adopting a targeted approach for districts/regions with high prevalence as an interim solution, with subsequent scaling up as additional resources are identified through collaborative planning between RMNCAH and disease-specific programmes. Similarly, interventions such as deploying trained mentor mothers, implementing task-shifting, and connecting experienced EMTCT experts with health care providers in remote areas (via online platforms) have demonstrated their effectiveness in countries that experience health system challenges and should be systematically implemented on a broader scale.

The role of a robust M&E system in advancing towards EMTCT is indispensable and is noted in this review as a significant distinction between countries that have achieved validation for EMTCT and those that have not. To attain validation, countries must allocate resources to enhance their capacity to establish systems that collect local data and tailor their programmes accordingly. Considering the commitment of all countries to EMTCT, strong political will already exists. Coupled with technological advancements, this presents an opportune moment to advocate for investments in M&E systems that would not only benefit EMTCT, but also enhance all health system indicators.

The word cloud in Figure 5 visually depicts the strategies most commonly employed by countries in their efforts to achieve the EMTCT agenda. The size of word/phrase within the cloud corresponds to how often that specific strategy was identified as a key approach in the studies reviewed.

FIGURE 5 Visualizing best practices for triple EMTCT success

4.4 Conclusion

The triple EMTCT of HIV, hepatitis B and syphilis represents a significant global health goal that has become increasingly attainable in recent years. Central to achieving this ambitious goal is the presence of strong leadership and political commitment at country level. This commitment must be complemented with a realistic understanding of local contexts and health system readiness.

Effective coordination among relevant programmes and the integration of universal screening into ANC services are pivotal in driving progress toward the elimination goal. However, depending on a country's health system readiness, interim solutions, such as targeting high-prevalence districts for the screening of pregnant women and applying strategies that may include trained mentor mothers and task-shifting, can be instrumental in making progress, even in resource-constrained settings.

Ultimately, countries must prioritize M&E systems to generate local data and tailor programmes accordingly. In conclusion, the goal of eliminating MTCT of HIV, hepatitis B and syphilis is attainable, but is a multifaceted challenge that demands enduring commitment, leadership and adaptability.



Salitia, 13, comforts her younger sister Jessica, 7, at the Arawa Health Centre in Arawa, the former capital of Bougainville Province, Papua New Guinea.

5 Country case studies



Mother Afshan, 20 years old, stands with her 18-month-old child, Ali Shah, outside the RMNCH Health House in the serene surroundings of Old Wahadat, Union Council 2, Tehsil Qasimabad, Hyderabad, Sindh.

© UNICEF/UNI510617/Hasnain

Pakistan

Context

Pakistan, with a population of 241.49 million,⁷⁰ is administratively divided into four provinces and three federally administered territories.⁷¹ The health system constitutes public and private sectors. The public sector provides healthcare to 20 per cent of the population through a three-tiered health system and delivers healthcare at no cost or on a subsidized basis. The private

sector, which is generally expensive and a fee-for-service system, caters to approximately 70 per cent of the population.^{72, 73} Family planning, and maternal, newborn and child health services (except for PPTCT services) are available through a range of sources, including the public health system, Population Welfare Department, Lady Health Workers Programme, and several for-profit and not-for-profit private providers. In 2018, the Government of Pakistan passed a 'Family Planning and Reproductive Rights' bill, ensuring mandatory family planning/reproductive health service provision by all health care facilities in both the public and private sectors.⁷⁴

In 2011, health care was devolved to provinces, which impacted the structure and functioning of the vertically placed disease-specific programmes in Pakistan. Following devolution, the National AIDS Control Programme (NACP) was made part of the Central Management Unit under the Ministry of National Health Services, Regulations and Coordination. NACP now has a limited portfolio and staffing, and mainly oversees the management of the Global Fund grant, which is the primary funding source for HIV programming. The provincial AIDS programmes are overseen by the provincial health departments. AIDS control programmes are also responsible for STI response (including syphilis), but it is not prioritized. The national and provincial AIDS programmes function separately from the RMNCAH platforms in Pakistan. There is no national hepatitis programme, but there are four provincial hepatitis programmes that work under their respective provincial departments of health.

According to UNAIDS 2022 data, Pakistan has an estimated 270,000 people living with **HIV**, including approximately 49,000 women older than the age of 15 years, and 6,700 children younger than the age of 15 years.⁷⁵ HIV cases have been reported in all four provinces and the regional territories; however, Punjab and Sindh provinces are responsible for about 93 per cent of the total HIV cases in the country.⁷⁶ The HIV epidemic in Pakistan is concentrated among key populations, with less than 0.01 per cent prevalence in the general population. However, the national HIV data in 2022 indicated that 65 per cent of registered patients were from the general population. This finding is supported by the occurrence of HIV outbreaks in 2019 in Larkana (Sindh) and Sargodha (Punjab), which were among the general population.^{77, 78}

The prevalence of **hepatitis B** in Pakistan is 1.6 per cent, while it is 0.3 per cent among children young than 5 years of age (2019 data).⁷⁹ This translates into 2 million people living with HbsAg. The coverage of timely HepB-BD vaccine (within 24 hours) is 3 per cent, while the coverage of the third dose of HepB3 vaccine among infants is 74 per cent.⁷⁹ Derived from successive surveys conducted nationwide, both the hepatitis and AIDS control programmes maintain lists of high-burden districts for the two diseases.

No official national statistics are available for **syphilis**. However, a 2021 study from Punjab found a 3.9 per cent prevalence among blood donors.⁸⁰ Another study conducted in two hospitals in Faisalabad City reported a 29.5 per cent prevalence of syphilis among patients attending STI clinics.⁸¹

Strengths

Pakistan's HIV response has been effectively established with up-to-date PPTCT policies, strategic frameworks and clinical guidelines aligned with global guidance. Despite a lack of national consensus on universal vs. targeted testing, the health department of Khyber Pakhtunkhwa (KP) province has integrated HIV testing, while Punjab province has integrated both HIV and syphilis testing into routine ANC. Regarding hepatitis, Pakistan has adopted a universal hepatitis B virus (HBV) and hepatitis C virus (HCV) screening policy for pregnant women, and HBsAg testing is available free of charge in the public health sector.⁸² The 2020 'Essential Package of Health Services', endorsed by federal and national health ministries, includes provider-initiated counselling and testing for HIV, hepatitis B and STIs (including syphilis) in districts with high disease burden.⁸³ These high-burden districts have already been identified through successive surveys by respective programmes.

HIV treatment and prophylaxis, and EID are cost-free in Pakistan. There are 44 ART and 13 PPTCT centres, as of 2023, in selected districts, while tertiary hospitals provide specialized PPTCT care, including ART, safe delivery, counselling on infant feeding, newborn prophylaxis and referral to paediatric AIDS centres. Unlike for HIV, pregnant women who test positive for hepatitis B receive obstetric care through general ANC clinics. After delivery, women are referred to gastroenterology or infectious disease departments in nearby district/tertiary hospitals for long-term treatment. The treatment for hepatitis B is not cost-free in these public hospitals.⁸² The Expanded Programme on Immunization (EPI) covers free hepatitis B vaccinations at 6, 10 and 14 weeks of life.⁸² Provincial hepatitis programmes have recently taken steps to locally procure HepBD vaccines to bridge the gap between birth and six weeks.

In October 2022, a national HIV Technical Working Group was established and includes provincial AIDS programme's representatives. Its aim is to improve coordination and data sharing among provinces to strengthen the HIV response in Pakistan. In addition, since 2013, a technical advisory group for hepatitis has existed, and involves provincial hepatitis programme managers, WHO, Centers for Disease Control and Prevention (CDC) United States representatives, hepatologists from the public and private sectors, patient group representatives, and EPI and Drug Regulatory Authority Pakistan representatives.^{84, 85} These platforms are potential opportunities for further collaboration to advance the triple EMTCT agenda.

Challenges

Despite the notable progress and the establishment of the Technical Working Group, a key challenge for the country remains the absence of robust coordination mechanisms that bring all stakeholders together to advance the EMTCT agenda cohesively. The HIV and hepatitis programmes operate in silos, lacking communication, and, as a result, Pakistan has yet to develop national and provincial triple EMTCT policies. Developing an encompassing triple EMTCT policy is key to advocating for other essential sub-policies, such as partner testing, dual testing (for HIV and syphilis), re-testing of pregnant women for triple elimination, and policies to address stigma and discrimination, financial and social barriers, and behaviour change communication. These policies are key to linking affected women, families and children to available social protection schemes such as the *Benazir Income Support Programme*, *Sehat Sahulat Programme* and *Bait-ul-Maal*.

Pakistan has yet to build consensus on universal ANC testing. While the health departments in Sindh and Punjab recommend this, and the Lady Health Workers' (LHWs) Strategic Plan 2022–2028 also aims for standardized screening of HIV, hepatitis B and syphilis for all pregnant women,⁸⁶ the national and provincial AIDS strategies (2021–2025) recommend targeted HIV testing in ANC.^{87–92} A 2021 UNICEF study found that Sindh also promotes HIV testing among pregnant women based on risk screening.⁹³ The provincial AIDS control programmes have planned a pilot project in five high-HIV prevalence cities in Punjab and Sindh to assess the feasibility of universal HIV testing for pregnant women.^{89–91} The project will collaborate with the MNCH programme and inform policy decisions to recommend nationwide universal HIV testing. Importantly, hepatitis B and syphilis screening are not part of this pilot project. Similarly, while detailed guidelines exist for managing HIV-positive and hepatitis B-positive pregnant women, they are not integrated into MNCH guidelines.^{94, 95} There is a lack of local guidelines for managing syphilis during pregnancy.

Other constraints impeding the performance of the health system in Pakistan, particularly disease-specific programmes, include a lack of human resources and financial constraints. Except for HIV, treatment for hepatitis and syphilis is out-of-pocket, including for pregnant women. Compounding this, the primary funding source, the Global Fund, has, until recently, had its focus only on HIV, which further compromises the comprehensive triple disease approach of EMTCT. The laboratory network within the country is of varied quality and accessibility, often requiring people to pay out-of-pocket. The national reference laboratory for HIV is non-functional, and there is a high reliance on an accredited private laboratory (Aga Khan) for viral load testing.

Pakistan has yet to establish its EMTCT indicators and align them with the 2030 regional benchmarks. Presently, Pakistan collects data on only one indicator each for HIV^{XXIX} and hepatitis B^{XXX} pertinent to EMTCT. According to 2022 UNAIDS estimates, there are approximately 3,701 HIV-positive pregnant women in Pakistan. Between July 2021 and July 2022, a total of 333 pregnant women were registered and received ART, resulting in coverage of 8.9 per cent, which is below the expected national target of 47 per cent (2022). Based on WHO 2019 data, the prevalence of hepatitis B infection among children under 5 years of age was 0.3 per cent,⁷⁹ and there are currently no indicators available related to syphilis for pregnant women.

Finally, HMIS in Pakistan are fragmented and vertical, and primarily serve the programmes that created them^{76, 96} The use of a separate monitoring and information system for HIV, delinked from the hepatitis programme MIS and the district health information system (DHIS II), the main data source for national/subnational statistics, presents additional challenges to the development of evidence-based and joint programming for triple EMTCT. There are parallel monitoring systems run by NACP, Provincial AIDS Control Programmes (PACPs) and the non-governmental organization (NGO) sector, without interfaces to connect them, and little evidence that data is being used for real-time programme management.⁷⁶ The private health sector in Pakistan lacks integration with the HMIS, making it difficult to access private sector data or incorporate and monitor EMTCT services through this sector.

XXIX Percentage of HIV-positive women who received antiretroviral therapy (ART) during pregnancy and/or labour and delivery (Global Fund indicator).
XXX Prevalence of hepatitis B infection among children under 5 years of age.

Lessons learned

In Pakistan there are independent HIV, hepatitis, EPI and MNCAH programmes, each contributing to EMTCT service delivery to varying degrees. However, a critical barrier undermining the country's progress towards triple EMTCT is the absence of joint forums and coordination mechanisms to unite these programmes' individual efforts. Consequently, there is duplication of services, missed opportunities and a waste of resources resulting in slow progress to attain the EMTCT goal.

Way forward

To stay on track for triple EMTCT, Pakistan needs to:

- Establish a national coordination body/forum involving HIV, Hepatitis, EPI, MNCH programmes and representatives from affected communities to develop tailored national and sub-national triple EMTCT policies, a strategy to integrate PPTCT/EMTCT services through MNCH platforms, and set EMTCT indicators and targets at national, provincial and district levels.
- As Pakistan is currently (2023) revising its national AIDS strategy, this is an opportunity for the incorporation of the triple EMTCT agenda. This inclusion can serve as an advocacy tool to encourage provincial health departments and provincial AIDS programmes to integrate triple EMTCT into their respective strategies/initiatives.
- Build consensus on universal ANC testing for HIV, hepatitis B, and syphilis. In consultation with the MNCH programme, conduct a formal evaluation of KP and Punjab initiatives on universal testing to guide the development of a unified EMTCT testing policy.
- The HBV test is already included in the baseline screening tests for pregnant women. However, there is little emphasis on incorporating syphilis as a routine ANC test, possibly due to a lack of prevalence data. Introducing dual test kits for HIV and syphilis can enhance cost-effectiveness and facilitate integrated care.
- Explore relevant public-private partnership (PPP) models applicable to triple EMTCT to strengthen the integration of the triple EMTCT programme, activities and reporting mechanisms within the private sector. Drawing insights from the successful PPP models of the national TB programme in Pakistan could be a good starting point.
- Insufficient data generation and fragmented HMIS in Pakistan pose significant challenges in identifying gaps in health service delivery. Existing data collection models developed by the AIDS control programmes for at-risk populations can be replicated for the triple EMTCT initiative. Incorporating these models from the outset would contribute to the successful implementation of the EMTCT.
- Integrate and/or, as required, develop a national communication strategy for the triple EMTCT programme.
- Strengthen social protection services for pregnant mothers and newborns diagnosed with HIV, hepatitis B and syphilis.
- Strengthen health systems for triple EMTCT – testing and treatment logistics and supply chains, quality control, human resources; and capacity building, increased public financing for EMTCT, and strengthening of the EMTCT component of national surveys.



Tacloban, 10 March 2014 - A photograph of a girl inside a baby-friendly tent.

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Philippines

Context

With a population of 101 million, the Philippines is geographically divided into three main island groups. These island groups are further subdivided into 17 regions and 81 provinces. The country's health system encompasses the public and private sectors. The public sector caters to 70 per cent of the population, functioning through a three-tiered delivery system, whereas 30 per cent of the population receives health care from the private sector,

often involving fees. Family planning and RMNCAH services are available cost-free or at subsidized rates at all three tiers of the health system, collectively referred to as the service delivery network (SDN). Notably, family planning services are accessible to minors (younger than 15 years of age) either with or without parental/guardian consent.^{XXXI} In addition, there are community-based mobile health teams that provide health education to women and their families on safe parenthood and reproductive health.

The health system in the Philippines was recently restructured. This led to the integration of the HIV, hepatitis B, and syphilis response into various other programmes overseen by the Department of Health. Specifically, the Adult Health Division is responsible for programming for HIV and syphilis, while the Cancer Control Division manages the response to hepatitis B. These programmes are responsible for developing relevant policies, guidelines and implementation strategies for HIV and hepatitis B, and programming for PMTCT.

Strengths

The Philippines has effectively established a comprehensive response to HIV, including up-to-date national policies, strategic plans and guidelines. A key priority on the national health agenda is the elimination of MTCT of HIV by 2030, particularly focusing on high-risk areas. The national health insurance programme – PhilHealth – covers treatment and laboratory services for people living with HIV, including pregnant women, through its outpatient HIV/AIDS treatment (OHAT) component. The national RMNCAH guidelines recommend testing all pregnant women for HIV, hepatitis B and syphilis. To manage the demand of busy antenatal clinics, the Department of Health has endorsed group pre-test counselling, followed by individual post-test counselling for HIV-positive women; however, this approach does not extend to women who test positive for hepatitis B and syphilis. The national health policy recommends administering the first dose of the hepatitis B vaccine within 12–24 hours of the newborn's birth, followed by two to three doses according to the EPI schedule.

Recent government legislation prioritizes the provision of EMTCT services through RMNCAH platforms. Access to EMTCT services is also assured for pregnant women younger than 15 years old even without parental/guardian consent. There are laws to protect the rights of people living with HIV, including ensuring equitable employment opportunities and reducing disparities.

^{XXXI} As per Section 4.07 of the Responsible Parenthood Act, minors <15 can access family planning services with written consent from a parent or guardian. However, minors can access family planning services without their parent's or guardian's consent if they are already parents or have a history of miscarriage.

National indicators gauge the level of stigma and discrimination experienced by people living with HIV; and recently, consensus was reached to collect data on three core indicators^{xxxii} for HIV, hepatitis B and syphilis. The country has established a OneHealth Laboratory Network to enhance the quality, efficiency and accessibility of laboratory services, including those for HIV, hepatitis B and syphilis. There are two monitoring systems in the country that regularly collect data on various MNCH and HIV indicators, including the National HIV/AIDS and STI Surveillance System (NHSSS) and the Field Health Services Information System (FHSIS).

Challenges

The 'Essential Health Service Package' designed by the Department of Health to ensure universal health coverage for women and children lacks emphasis on incorporating triple EMTCT services within RMNCAH platforms. There are several implementation gaps for triple EMTCT interventions, including the lack of test kits in ANC clinics, financial and human resource constraints, and limited capacity among health workers to counsel and test women and organize appropriate referrals to higher-level facilities. Another key challenge is the absence of a comprehensive health information system in the country. Multiple disease registries and information systems, the manual submission of reports, poorly developed data governance guidelines and the lack of a central data repository all compromise the overall quality of data required for effective programming, including for HIV, hepatitis B and syphilis.

Lessons learned

The Philippines has established access of minors (aged younger than 15 years) to family planning and MNCH services to reduce the risk of MTCT of HIV through various legislation. This strategy offers valuable insights for other countries that are grappling with an HIV epidemic among young key populations such as people who inject drugs and sex workers. Another innovative approach is to offer group pre-test counselling, followed by one-on-one counselling only for women who test positive. This can be of particular benefit to countries with busy and resource-constrained antenatal settings. The Philippines has directed significant efforts towards combating MTCT of HIV, as evident from the appearance of this goal on the national health agenda, supportive legislation and comprehensive coverage through PhilHealth. The relative lack of emphasis on MTCT of hepatitis B and syphilis might impede the momentum required to achieve the more comprehensive target of triple EMTCT by 2030 – a global commitment made in 2016 at the World Health Assembly.

Way forward

- The Department Health is currently developing a multi-disease elimination plan which is an opportunity to incorporate triple EMTCT into the country's overall health strategy.
- Establishing a joint forum involving representatives from disease-specific, MNCH and EPI programmes and affected communities is essential for developing a triple EMTCT policy aligned with the overarching multi-disease elimination plan.
- The joint stakeholder forum can further advance the triple EMTCT agenda by advocating for the inclusion of hepatitis B and syphilis in existing legislation that protects the rights of people living with HIV. The forum can also pursue the inclusion of additional indicators for stigma assessment against hepatitis B and syphilis, and comprehensive treatment coverage for all three diseases through PhilHealth.
- Despite having strong legislation and robust policies for MTCT of HIV, there are still execution gaps. The formulation of a comprehensive triple EMTCT policy and the facilitation of dialogue among various programmes will optimize resources, prevent the duplication of services and keep the country on track to achieving triple EMTCT goals.

^{xxxii} Percentage of pregnant women tested for HIV, syphilis, and hepatitis B surface antigen at least once.
Percentage of pregnant women living with HIV diagnosed, percentage age on ART among diagnosed, per cent VL suppressed.
Percentage of HIV-exposed infants receives a virologic test, and parents are provided with the results by age 2 months.



Jacklyn with her daughters, ECD student, Estherlyn, six, (left) and elementary two student, Roberta, eight.

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Papua New Guinea

Context

Papua New Guinea is a lower-middle income Pacific Island nation with an estimated population of 9 to 11 million,^{xxxiii} with approximately 35 per cent of the population aged under the age of 15 years.⁹⁷ Administratively, the country has 22 provinces, including the National Capital District, which encompasses the capital city of Port Moresby. Each province has its own provincial government, headed by a

governor. Within each province, there are one or more districts, and each district contains one or more local level government (LLG) areas. The LLGs are subdivided into wards, which are the smallest administrative units. These wards typically consist of a few hundred to a few thousand individuals. As of 2018, Papua New Guinea had 89 districts, 326 LLGs and a total of 6,112 wards.⁹⁸

Health care services are provided by the government, churches and the private sector. In 2007, the government introduced the Provincial Health Authority (PHA) Act to grant more autonomy to the provinces to manage healthcare. According to this Act, the National Department of Health (NDoH) is responsible for developing policies, guidelines and service standards, and overseeing the National Referral Hospital in Port Moresby. Provincial health authorities are responsible for supervising health services through regional public hospitals, district hospitals, health centres and community health posts.⁹⁷ At the grassroots level, LLGs provide health care services through community health workers who collaborate with health facilities.⁹⁷ The national government provides direct funding to support the priority areas chosen by the provincial governments. Dual HIV and syphilis testing, and hepatitis B screening occurs at ANC clinics along with group counselling. The HepB-BD and follow up vaccination occurs in bigger ANC clinics, according to the NDoH.

Strengths

Notwithstanding staff and resourcing constraints, Papua New Guinea has the political will – and the political and governance structures in place – to develop and implement strategies for the achievement of triple EMTCT by 2030. These include:

- The National AIDS Council (NAC) which, through its administrative arm, the National HIV and AIDS Training Unit (NHATU),^{xxxiv} works in collaboration with NDoH and the Provincial Health Authority to coordinate and strengthen the national response to HIV and AIDS.
- The Reproductive Maternal Newborn Child Adolescent Health (RMNCAH) Technical Advisory Committee, which provides technical guidance and advice to the maternal and neonatal health (MNH) programme that operates under the guidance of NDoH and in collaboration with the Provincial Health Authority and LLGs, is comprised of experts and key stakeholders from government agencies, NGOs, academia and civil society organizations.⁹⁷

xxxiii <https://www.lowyinstitute.org/the-interpreter/png-needs-census-not-more-population-estimates> accessed 30.8.23.

xxxiv A multidisciplinary group of experts and stakeholders who provide technical advice and recommendations to the NAC, such as in reviewing and updating national HIV policies, guidelines, and strategies 99. National AIDS Council. *Papua New Guinea. National STI and HIV Strategy 2018-2022*. 2018.

Papua New Guinea has robust strategies and policies consistent with achieving the triple elimination goal outlined in the WHO regional framework for EMTCT (2018–2030).¹² NDoH reports that it has adapted the priority actions from this framework to suit the local context, with the National EMTCT Operational Plan (2021–2025) serving as the roadmap for implementation at national, provincial and LLG levels.⁹⁷ This plan emphasizes factors crucial for the success of the EMTCT programme in Papua New Guinea as coordination with the maternal and newborn health (MNH) programme, reliable supply of HIV and syphilis commodities, maintenance of a cold chain for hepatitis B vaccination, and a robust M&E system programme.⁹⁷

There is a growing recognition of the need to transition from vertical, disease-centric models of health care to a more interconnected and integrated approach. Papua New Guinea has two operational polymerase chain reaction (PCR) laboratories at the Central Public Health Laboratory in Port Moresby that cater to the entire nation's EID and viral load testing. The NDoH advises that results can be provided within hours.

Challenges

The implementation of the country's well-articulated plans and building on the political will to achieve the triple EMTCT goal is the key challenge. As one official from the NDoH stated, "The target for 2030 is for triple elimination; however, we are far from that." More specific challenges relate to:

- **Human resources for health:** There are insufficient numbers of workers, with those currently in posts reportedly ageing and lacking performance incentives. This challenge was exacerbated and highlighted by the COVID-19 pandemic. Despite this, the Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (ASHM) advised, based on World Bank data, that health workers are broadly trusted in Papua New Guinea.
- **Personnel are stretched at the provincial and district levels, and at NDoH:** Improved communication, coordination and capacity building at all levels, but especially between the provincial health authorities and NDoH, are an identified as needs/focus areas. Technical working groups for triple EMTCT were expected to have convened monthly at the national level and at designated PPTCT Centre of Excellence sites in provinces starting in 2022. However, NDoH confirmed that the implementation plan for the technical working groups is still to be finalized to be ready for endorsement by the Senior Executive Management of NDoH.
- **Access and incentives to attend health facilities:** With 87 per cent of Papua New Guinea's population living in rural areas and over two thirds of women estimated to have experienced some form of sexual or physical violence in their lifetime, accessing health facilities, particularly for women, remains a significant challenge.¹⁰⁰ When those in need do reach facilities, services and supplies are often lacking, with stockouts, including of testing kits, a common occurrence. A major deterrent to incentivizing testing is that there is not always somewhere to go if there is a positive result. Thus, while there are supply chain issues with testing access, as the UNICEF respondent notes, there are also system delivery issues (i.e., service availability) and related demand-side issues. As there are challenges with capacity at district and provincial levels, there is a need to ensure sufficient capacity at the provincial level.
- **The country faces a significant chronic disease burden,** with estimates of hepatitis B prevalence ranging from 6 to 12 per cent of a young population. Partners have concerns that the triple EMTCT strategy inadequately addresses this challenge. Typically, there is neither a family planning programme with access to contraception services provided as part of the comprehensive MNH response, nor a hepatitis programme in the country.⁹⁷ Instead, efforts to address hepatitis and STIs are integrated within the broader framework of HIV initiatives.⁹⁹
- **Unreliability of data:** The NDoH reports that it regularly monitors triple EMTCT indicators; that its testing database, treatment database and HIV patient database are all electronically linked; and that data is collected at ANC and reported monthly to the NDoH. However, gaps in data availability remain.

Lessons learned

Translating policy into implementation is challenging and requires improved, sustained coordination and collaboration at – and between – national, provincial and district levels during both the strategy design and implementation phases. Plans for triple EMTCT were reportedly not developed collaboratively with implementers and, therefore, lack contextual know-how and buy-in, which is exacerbated by a lack of funding.

The capacity to review policy implementation based on appropriate and reliable data has been challenging due to data quality issues, often inadequate infrastructure and, reportedly, no monitoring team at the national level to capture data related to progress towards triple EMTCT. This needs to be addressed for progress to be monitored and managed.

Way forward

To stay on track for triple EMTCT, Papua New Guinea needs to:

- Effectively utilize the existing, trusted healthcare workforce through appropriate retention and training, including the recently implemented updates to the nursing training curricular; and introduce incentivization programmes and replenish staff with appropriate recruitment, including the ongoing 'mentor mothers' programme – potentially with support from the next round of funding from the Global Fund. NDoH identified that the current workforce is overworked and demoralized due to an increased workload, and there is a need to 'capacity build health workers'.
- Ensure consistency in diagnosis and referral for target diseases, including quality of care upon referral, to improve demand-side trust in the process and adherence to testing, which declined during COVID-19.
- Increase the supply of tests for the detection of the three diseases, and work towards reliability of that supply to build demand-side trust and adherence.
- Ideally, work towards future-proofing funding for the health system and triple EMTCT strategy, and address the reliance on external funding so that: (i) strategies may be planned with greater belief in their credible sustainability; and (ii) greater autonomy in decision making is achieved, to meet local needs and priorities (e.g., targeting HIV strategies to vulnerable/at-risk groups).
- Recognize that many challenges relate to broader health systems issues and that representatives engaged in fora for systems reform need to advocate for triple EMTCT collaborative planning, implementation and M&E.



Ten Ngol village, Ya Yung commune, Borkeo district, Ratanakiri province, Cambodia. Mother Sev Kait, 30 years-old, has a child 16 months who received vaccination during integrated health outreach activities in Ten Ngol village.

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Cambodia

Context

Cambodia is a Southeast Asian country with a population of approximately 15.5 million. It is administratively divided into 25 provinces that are further subdivided into districts.¹⁰¹ Approximately 60.6 per cent of the population resides in rural areas; however, urbanization is rising, particularly in major cities.¹⁰¹ The median age in Cambodia is 25 years, with approximately 29 per cent of the

population in the age group of 0–14 years. The country has an overall adult literacy rate of 87.7 per cent. Cambodia's economy has grown rapidly, reaching a GDP of US\$24.5 billion in 2018,¹⁰² with 6.1 per cent of GDP allocated to health care.

The health system consists of both public and private sectors, including for and not-for-profit health organizations.¹⁰¹ The public sector provides the majority of preventive services and in-patient care, and is structured into three tiers: central, provincial, and operational district. The central tier consists of Ministry of Health departments, training institutions, national centres and nine national hospitals. At the provincial level, 25 referral hospitals operate under the provincial health departments. The provincial tier acts as an interface between the central and operational district tiers. The operational district is the most localized unit in the health system, comprising 68 district-based referral hospitals and approximately 1,300 health centres. The national hospitals and health centres provide both ANC and delivery. Most district and provincial hospitals provide only delivery services, as ANC is provided at a nearby, linked health centre.¹⁰³

Public facilities in Cambodia set their own user fees, subject to approval by special community committees. As a result, fees vary, but in poorer rural areas, fees tend to be lower. Nonetheless, women with a Health Equity Fund/ID Poor card, which identifies them as 'poor' (i.e., in the lowest income quintile), receive these services free of charge, regardless of the location.

The private health sector is small and limited to outpatient consultations, with around 8,500 private for-profit health centres mainly concentrated in urban and economically advantaged areas.¹⁰¹ In addition, there are approximately 180 local and international NGOs, most of which work at the district and community levels in collaboration with OD offices.

Strengths

Cambodia demonstrates strong political commitment to triple EMTCT. The PMTCT activities for HIV and syphilis have been in place for many years, guided by three sequential strategic plans (2018–2015, 2016–2020 and 2021–2025). Although the national dual EMTCT roadmap (HIV and syphilis) was developed in 2018, the PMTCT of hepatitis B features only in the 2021–2025 strategic plan. The National Maternal and Child Health Centre (NMCHC) and the National Center for HIV/AIDS, Dermatology and STDs (NCHADS) are the key stakeholders of the EMTCT initiative in Cambodia. They jointly plan, coordinate, implement and monitor EMTCT services that operate under the umbrella of the MoH, guided by The National AIDS Authority's^{XXXV} vision.¹⁰² Between June and September 2021, the MoH, in collaboration with NCHADS and NMCHC, conducted a 'mock review' to assess the country's response towards EMTCT of HIV and syphilis, based on the WHO EMTCT tools and validation indicators.¹⁰²

^{XXXV} The National AIDS Authority (NAA), established in 1999, is a multisectoral body of the Royal Government of Cambodia, consisting of members from 28 ministries, one state secretariat, and the Cambodian Red Cross at the national level, as well as representatives from the 23 provinces and Phnom Penh Municipality at the sub-national level.¹⁰² Ministry of Health Kingdom of Cambodia. *Technical Report on the Mock Review of Elimination of Mother-to-Child Transmission (eMTCT) of HIV and Syphilis in Cambodia*. Oct 2021. 2021.

A coordination mechanism, in the form of a Thematic Working Group for EMTCT and four sub-working groups, is in place at both the national (jointly chaired by the directors of NMCHC and NCHADS) and sub-national levels, led by the directors of provincial health departments. There are also four sub-working groups for each of the four priority areas of EMTCT: programme delivery, data quality/management, laboratory quality, and human rights, gender equality and civil society engagement.¹⁰⁴

Challenges

While PMTCT/EMTCT is integrated with MNCH at the national level, according to UNICEF, there are **limited funds** available for programme implementation from the national MNCH. Funding for the EMTCT programme in Cambodia relies heavily on international donors such as the Global Fund, with limited domestic funding. This hinders coordination and service delivery, laboratory services, M&E (particularly at the sub-national level) and makes it challenging to identify and address implementation gaps.

- Integration challenges continue with regard to:
 - **Harmonization and standardization of EMTCT/PMTCT indicators and components at the sub-national and service delivery levels:**¹⁰⁴ Significant inconsistencies in data and disconnects among various databases make it challenging to conduct meaningful analysis to identify programme gaps along the PMTCT service cascade. There is limited knowledge and implementation of data quality assurance measures at national, sub-national, and service delivery levels.^{102,104}
 - **Harmonizing strategies:** National strategies to address gender-based violence, for example, are not integrated into the PMTCT response. There is a lack of routine and systematic monitoring, documentation and reporting mechanisms for rights violations related to informed consent, confidentiality, privacy, voluntary HIV and SRHR services, stigma and discrimination, and cases of gender-based violence.¹⁰²
 - **Human resources:** There are ongoing challenges related to workload and incentives, work scope clarity, and the supervision and mentorship of staff. Performance issues include those related to data and financial management, stock monitoring, and the provision of specialized services for vulnerable groups.^{102,104}
 - **National to sub-national coordination, screening and treatment of all three diseases:** Coordinated systems for screening, testing, treatment and follow-up for syphilis, in particular for women and their newborns, are less established than those for HIV.
- In Cambodia, healthcare provided at health centres is known as the Minimum Package of Activity (MPA), while referral hospitals offer a more comprehensive package called the Complementary Package of Activity (CPA). Confirmatory tests and lifelong treatment for people living with HIV, including pregnant women, are also available at no cost.¹⁰⁴ However, women are typically required to cover expenses for confirmatory tests and treatment related to syphilis and hepatitis unless they possess an ID Poor card.¹⁰² UNICEF has suggested that potentially crippling costs related to living with HIV, in particular, compounded by stigmatization and related reluctance to seek appropriate care, should trigger **expanded qualification coverage for free healthcare**. UNICEF also suggests that access to and quality of free services (e.g., waiting times) may not match those of paid services, and that it is key to address incentives for providers and expand access to facilities.
- While healthcare is primarily delivered through the public sector in Cambodia, demand for private sector provision is growing. Despite this, **regulation of the private health sector is still in its early stages** with, for instance, no current requirement for private providers to conduct HIV, hepatitis B or syphilis testing, or refer clients to public health facilities for testing.

Lessons learned

The ongoing incorporation of hepatitis B strategies into the overall EMTCT approach needs to be maintained and scaled up. The mock review to assess the country's response towards EMTCT of HIV and syphilis identified several key lessons:

- Significant **inconsistencies in data and disconnects among various databases**, lack of current incorporation of private sector data and limited knowledge, and implementation of data quality assurance measures at the national, sub-national and service delivery levels all endure and need to be addressed. Increased numbers of adequately trained staff is a key focus.¹⁰⁴
- There is a **need to strengthen coordination** between NCHADS and NMNCH, and with provincial health departments, operational districts management and service providers at the sub-national level. It is critical to establish clear roles and responsibilities between these programmes to avoid resource duplication and enhance efficiency in achieving the elimination goal.
- There is a **need to establish high-quality integrated data systems** to support service provision at the site level, enable effective monitoring and programme management at both the sub-national and national levels, and provide the necessary data for reporting on impact, process and other crucial indicators to validate EMTCT efforts.
- **Increased collaboration and coordination with the private health sector** is critical for the effective implementation of best practices and triple EMTCT. For instance, urban women, who often have higher HIV prevalence, predominantly utilize private facilities for maternity care.
- There is a **need to establish a national validation committee** to guide the validation process for EMTCT and build on the recommendations of the mock review. It is yet to be established and will be important for progress.¹⁰²

Way forward

An apparent lack of clarity at the sub-national level regarding roles and responsibilities of staff to support triple EMTCT efforts – compounded by limited funding, data, communication and coordination challenges, and human resource constraints – need to be addressed. Improvements in the data system, interfaces and linkages between and within the point/s of care for EMTCT services are required. There is a need to strengthen the overall leadership of the triple EMTCT initiative, including improving coordination between NCHADS and NMCHC, and a broader inclusion of other sector partners such as key populations and the private sector. There also appears to be a need and opportunity for a more nuanced design and potential expansion of pro-poor and equity-focused access measures, such as the Health Equity Fund and the Minimum and Comprehensive packages of Health Service Delivery to adequately meet the needs of triple EMTCT. Community engagement appears key to this. Currently, community 'engagement' in PMTCT/EMTCT is limited, for the most part, to brief consultations during programme reviews, with no specific roles, opportunities, or funding made available to support their engagement.¹⁰²



The Kuruvita MOH plays a pivotal role in orchestrating and overseeing specific programmes at the MOH office, each meticulously tailored to meet the distinctive needs of new mothers, expectant mothers, and their precious infants.

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Sri Lanka

Context

Sri Lanka's decades of strong health system performance in primary health care, maternal and child health and infectious disease control have been well documented. With relatively low government health expenditure and development partner assistance in health, Sri Lanka has achieved health outcomes comparable to much wealthier states in the region, including a maternal mortality ratio of

29.5 per 100,000 live births in 2020, and a neonatal mortality rate of 7 per 1,000 live births in 2022.¹⁰⁵ Among other factors, this has been attributed to an emphasis on free public education; strong disease prevention programmes; strong community-based, primary care and hospital infrastructure; and a broad essential health services package with universal coverage.

While the health system is partially devolved to the provincial level, continued central oversight and a collaborative culture have facilitated the rollout of national programmes, including key quality improvements in MNCH services and the expansion of STI and HIV services.

Sri Lanka has a low prevalence of HIV (<0.1%) and syphilis (<10/100,000) in the general population, and, although slightly higher, it remains low among key populations (for example, HIV prevalence among commercial sex workers is 0.3%).¹⁰⁶ Longstanding prevention programmes in both general and key populations, led by the National STI/AIDS Control Programme (NSACP) under the Ministry of Health, with strong collaboration with the Family Health Bureau and key civil society organizations and NGOs, have contributed to excellent epidemic control. Sri Lanka was also an early adopter of HIV vertical transmission control, establishing its first programme in 2002. The country adopted a dual elimination strategy in 2013 and achieved validation of HIV/syphilis elimination in 2019.¹⁰⁷

Sri Lanka has a very low prevalence of hepatitis B, with sample surveys finding low prevalence even among high risk groups such as people living with HIV and prison inmates.^{108, 109} Immunization coverage is extremely high in infants, with HepB3 coverage reported at 98 per cent in 2022.¹¹⁰ A large nationwide serosurvey conducted in 2022 did not detect any hepatitis B cases among pregnant women or five-year-old children. Discussions are currently underway regarding taking up the validation of hepatitis B EMTCT in Sri Lanka.¹¹¹

Strengths

Among the many pre-existing systemic features which have favoured early EMTCT, the most important included:^{107, 112, 113}

- High family planning coverage, with only 6.1 per cent of women reporting an unmet need in 2017.¹¹⁴
- Early integration of family planning services within both general MNH services, and STI clinic services.
- Strong primary health care system with well-developed infrastructure and staffing.
- Very high ANC1+ coverage and institutional delivery rate, even at outset of elimination goal adoption (both over 99 per cent).¹¹⁴

- A relatively small, geographically accessible population, with relatively high literacy and health literacy.
- A small private sector for MNH services (5.4 per cent of deliveries in 2016,¹¹⁴ almost all based in a few cities, and a history of private sector collaboration with public-sector services.
- A low (and declining) burden of major causes of MNH morbidity and mortality, creating fiscal and political space for other priorities.
- A well-established network of specialist STI clinics and laboratories.
- A strong workforce of specialist cadres trained and recognized by government, including specialist venereologists (with dual public health and STI medical training) and medical officers of public health (specialist community medicine/public health training).
- A well-functioning system for monitoring STI and MCH services in the country.

Crucially, Sri Lanka has benefited from an early, strong response to STI epidemics, including HIV, such that HIV, syphilis and hepatitis B are all low prevalence in the general population, and most studies show a low or intermediate prevalence of these diseases among high-risk populations. Universal syphilis screening and management during antenatal care was introduced as policy in 1952, but testing coverage was not high in many provinces.¹¹² However, the EMTCT response capitalized on particular system strengths in developing a rapidly scalable strategy.

Chief among these has been the early adoption of an integrated dual elimination policy and programme, bringing HIV and syphilis EMTCT under a single coordinator and set of guidelines. Advocacy between NSACP and MNH at the outset of the dual elimination programme, and the formation of a national steering committee with wide stakeholder representation, including from NSACP, the Family Health Bureau, venereology, obstetrics, gynaecology, microbiology, public health and neonatology specialties, the private sector, civil society organizations, United Nations agencies, and representatives from key populations and women living with HIV/AIDS, helped to launch and then guide the programme towards validation. Vocal champions of EMTCT in both NSACP and the Family Health Bureau were important to build momentum and achieve the goal in a short period, and strong political commitment to EMTCT has sustained the programme in the face of subsequent challenges.

While Sri Lanka had relatively few geographic barriers to testing and treatment, both HIV and syphilis testing and treatment has been fully publicly funded with no user fee, ensuring affordability, and the strong network of STI clinics (one in each district) provides excellent community education and the education of health professionals to reduce barriers related to stigma and discrimination.

A systemic strength which predated dual EMTCT goals was the ANC testing pathway, whereby blood samples collected in antenatal clinics were sent to the closest STI clinic for the VDRL test (the screening test for syphilis). The strength of the STI laboratory network and the sample delivery system meant that once universal HIV antenatal testing was introduced, this was scaled up within the STI laboratory network.

Early infant diagnostic testing facilities for HIV were initially not available in Sri Lanka, so an agreement was established with laboratory services in the National AIDS Research Institute (NARI), India, to process infant samples. Subsequently, Sri Lanka introduced the service for infant diagnosis in 2018 by using Gene Xpert technology.

Venereologists and medical officers of public health played key roles in advocating for EMTCT and convening governance committees at the district level. The presence of these public health-trained medical doctors, and the increasing formalization of their roles and specialty recognition during the period EMTCT was introduced were key to maintaining momentum and ensuring good collaboration at the local level.

District-level EMTCT coordination committees were another key strength of Sri Lanka's EMTCT strategy. These had a broad membership, including representation by district authorities, regional and provincial directors, clinical leadership, venereologists, and obstetricians from hospital(s) in the district, representatives from the STI clinic, MCH services, nursing services, community physicians, microbiologists and lab technicians, and (where relevant) representatives from private hospitals and private venereologists and obstetricians/gynaecologists. The breadth of these committees ensured better collaboration of services at the district level. The convening power of district leadership and the venereologists ensured the committee met regularly, and this was reinforced by strong advocacy from national and provincial levels, including visits by national STI and MCH service leadership teams.

Challenges and lessons learned

The path to validation

Although Sri Lanka enjoyed significant epidemiological, contextual and systemic advantages when it adopted HIV and syphilis elimination targets, achieving elimination and navigating the validation process was complex and required substantial investment by a large team of stakeholders.

The challenges and strategies to overcome them are well documented in the *National Validation Report 2019*,¹¹² a recommended reference for other countries seeking validation. Some of the key strategies are discussed below, in addition to factors that have more recently become apparent.

Mobilizing a sufficient laboratory workforce to support routine antenatal testing was a significant challenge, particularly as universal testing was scaled up to 100 per cent within only four years. As the training of new cadres has significant lead times, this workforce challenge was initially overcome by advocacy at the provincial and district levels to train and motivate laboratory staff to take on this additional workload.

Sri Lanka's partially devolved health system places significant policy and governance power at the provincial and district levels. During the scale-up phase, representatives of NSACP and the Family Health Bureau travelled to all provinces and most districts to advocate for the EMTCT strategy, explain the validation process, and build staff capacity. NSACP and the Family Health Bureau have continued to advocate within the national Ministry of Health for the importance of EMTCT as a programme. The most effective points of advocacy have related to the cost-effectiveness of universal testing and treatment to keep the HIV and syphilis epidemics under control, and the contribution to reducing foetal wastage and child mortality.

From the outset, policymakers were concerned about overburdening ANC, maternity and post-natal care staff by adding more tasks related to the EMTCT programme. For this reason, Sri Lanka's dual EMTCT strategy entailed a strong collaborative approach between STI and MNCH services, rather than full integration, with NSACP continuing to provide laboratory services, treatment and care services, including the screening of spouse/partners and children.

Challenges in sustaining elimination

Since achieving validation, Sri Lanka faced twin crises in the SARS CoV-2 pandemic (2020–present, peaking in 2020–2021) and an economic crisis (2019–present, peaking in 2022). These have presented the greatest challenges to the sustainability of elimination, testing system capacity to maintain service coverage and political will to maintain focus on EMTCT. Pandemic lockdowns temporarily disrupted both outreach and facility-based MNCH services, with some decline noted in quality ANC coverage.¹⁰⁶ Despite pandemic restrictions, measures were taken to maintain these services, which included the use of telehealth, personal protective equipment (PPE) deployment, and task shifting of pandemic response work to allow health workers to maintain essential MNCH services.

Supply chain disruptions due the pandemic did not initially affect either testing supplies or treatment stocks, but the subsequent financial crisis did lead to stockouts of some laboratory supplies and test kits, particularly those procured from overseas suppliers. In response to this, external funding, which was provided, was sought to procure dual rapid test kits for HIV/syphilis. This reduced workloads and turnaround times for laboratory staff and avoided disrupting the existing system for antenatal testing. Fully transitioning to dual rapid test kits is being considered as a future system change.

In the maintenance phase, attention continues to shift towards the remaining at-risk populations, particularly adolescents, widows and female sex workers, who are more likely to miss services in early pregnancy.

Way forward

While Sri Lanka has achieved much of the EMTCT goal and is expected to achieve validation for elimination of hepatitis B, EMTCT stakeholders are still working to achieve some milestones. Full integration of private sector EMTCT data, and enhancement of tracking mechanisms of women and neonates who switch providers (either between private and public, or between different districts in the public sector) will be necessary to eliminate double counting and ensure that no one is left behind. This is especially critical given the cultural practice of women moving to their parents' home in the final stages of pregnancy, which often necessitates changing providers.

In the dual EMTCT maintenance phase, continuing targeted services (particularly through outreach) to at-risk populations including adolescents, widows, and outgoing and returning migrants will be important to ensure no one is left behind. To reduce stigma and create a more enabling environment, legal restrictions that currently impinge on the human rights of key populations, such as the Vagrants Ordinance (1841) and the Brothels Ordinance (1889), need to be addressed, along with introduction of legislation positively protecting the sexual and reproductive rights and health of women and adolescent girls, particularly those in marginalized groups.

Sri Lanka has not yet published a unified triple EMTCT policy. Although hepatitis B testing is available in both STI and hospital laboratories, universal testing is not conducted among pregnant women, and the hepatitis B elimination strategy focuses on longstanding universal child vaccination (meaning vaccination coverage among young women is now also high), along with targeted vaccination among high-risk adult populations. Sri Lanka will need to fully incorporate hepatitis B into its EMTCT policy, ideally through updating the existing dual policy so they are unified. Given systemic strengths in testing, it is reasonable to aim to adopt universal antenatal hepatitis B testing in the medium term (two to four years) to take steps to strengthen resilience and close the last coverage gaps in hepatitis B vaccination programmes.

While Sri Lanka has been transitioning away from donor funding for HIV, STI and hepatitis B services, the recent economic crisis required short-term funding to sustain EMTCT and other services. Sri Lanka has low government health expenditure both per capita and as a percentage of GDP compared to most other countries in the region.¹¹³ It has deployed this funding efficiently to achieve strong results, but for the sake of sustainability and quality of services, increasing public financing for health, including transitioning to fully public funding for EMTCT services, is an important aim in the medium term. This should include a transition to full public funding for civil society organizations working with and for key populations.



Budhe Majhi (doesn't know her age) and her 1.7 year old daughter Priyanka. She still breast feeds, and also feeds her child solid food with a spoon to try to keep infection through dirty hands at a minimum.

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India

Context

India's health system is notable for its scale (serving 1.4 billion people) and heterogeneity of contexts and outcomes. While many key health programmes are administered by the central government, a significant share of health services is funded and administered either fully or partly by individual states and union territories. Several of these individual states have populations larger

than most countries in the Asia and Pacific region, and there are notable differences between states in terms of health system structure and functions, population socioeconomic distribution, geography, infrastructure and disease prevalence.¹¹⁵

This scale and heterogeneity extend to vertical transmission of HIV, syphilis and hepatitis B; yet, although disease prevalence and transmission rates are not high overall, they represent a substantial proportion of the regional and global burden. India has a low prevalence of HIV in the general population (0.2 per cent in adults aged 15–49 years and among pregnant women),¹¹⁶ but a higher concentration in some states and districts, and among some key populations. In 2015, nearly 90 per cent of India's estimated MTCT burden was concentrated in just 15 states; within those states, 26 per cent of districts had 70 per cent of the MTCT burden. Likewise, both syphilis and hepatitis B are heterogenous in distribution, with much higher point prevalence in specific populations and states. India is likely to be low to intermediate prevalence for hepatitis B (estimates range from about 1 to 6 per cent), but it is thought that 10 to 15 per cent of all hepatitis B-positive people globally live in India, about 40 million people, and the prevalence in some populations ranges higher than 15 per cent.¹¹⁷ Prevalence of syphilis among pregnant women is 0.1 per cent and is also found to be low in the general population.¹¹⁸

The National AIDS and STD Control programme first adopted PPTCT strategies in 2002, and successive national plans have increased emphasis on PPTCT/EMTCT as a priority.¹¹⁸ Between 2017 and 2018, a sub-national EMTCT validation exercise was conducted in 19 states using the WHO EMTCT validation framework. While this exercise demonstrated significant progress in some states, it also highlighted systemic challenges and the need for capacity building both in service delivery and validation processes, on which substantial progress was made during the exercise itself. However, progress has been slower than expected, with EMTCT goals for HIV successively pushed from 2015 to 2020, and more recently, a dual syphilis/HIV EMTCT goal has been set for 2025.¹¹⁸ HIV and syphilis control is largely the domain of the National AIDS Control Organization (NACO), and the State AIDS Control Societies (SACS) in each state and union territory and has largely vertical divisions within the respective health departments. Hepatitis control is managed by the National Viral Hepatitis Control Programme, which is under the national Ministry of Health and Family Welfare. Most MNCH services, including the delivery of antenatal, maternity and post-natal care, are also under the Ministry of Health and Family Welfare. While good progress has been made in many EMTCT services, such as ANC testing coverage for HIV and for syphilis, which stand at 87 per cent and 85 per cent respectively, testing coverage for HBV remains low. The MTCT for HIV has significantly reduced from 20 per cent in 2020 to 11.75 per cent in 2023. However, further emphasis is needed for fast-tracking the reduction of the MTCT rate to below 5 per cent as per SDG Target 3.3.¹¹⁷⁻¹¹⁹

The private health sector plays a large role in health care in India, including dominant roles in pharmaceutical sales by formal and informal providers, and the increasing role of private hospitals and clinics in urban areas. Over 25 per cent of deliveries are conducted in the private sector but a smaller proportion of women access their ANC entirely through the private sector, with many accessing care through both.¹¹⁵

Strengths

Due to the scale and heterogeneity of the MTCT burden of HIV and syphilis, India has adopted a data-driven targeted strategy, with targeted pilot programmes in high-burden/high-risk districts in key states. This allows the bulk of the transmission burden (and, thus, the majority of gains) to be addressed early, while developing strategies and guidelines that can then be scaled nationally. The recent Elimination of Vertical Transmission of HIV and Syphilis (EVTHS) strategy and guidelines have targeted key districts within seven states, with piloting due to finish in 2023, whereupon these programmes will be more widely scaled in 2024.¹¹⁸

A central feature of these guidelines is the clear role delineation for all actors in the public system that play a role in EMTCT delivery. Detailed role descriptions and practice guidelines are included in the operational guidance, which cover both central and state/union territory staff responsibilities, including where these roles involve liaison with the private health sector. This has been an important feature in a complex intervention involving a large suite of actors across multiple parts of the health system.

Given India's scale, a key strategic question is whether EMTCT approaches (and validation itself) should be established at the national or sub-national scale. The current pilot programme sets out a national structure with some common elements and a set of evidence-based interventions but allows for substantial adaptation and localization at the state and district levels, and gives state and district staff more responsibility for achieving targets using localized strategies.

In 2022, the National Health Mission in the Ministry of Health and Family Welfare took over the direct financing, procurement and distribution of dual rapid test kits and rapid plasma reagin (RPR) test kits for antenatal and maternity services – a big step forward in EMTCT integration. NACO continues to oversee confirmatory testing, EID, and the procurement and administration of most HIV and STI therapies, as well as providing primary testing services for those who are not yet able to access them through general clinical services. These services are provided through a network of standalone clinics and laboratories, as well as clinics which are collocated with general health facilities.

The National Viral Hepatitis Control Programme continues to manage the procurement of rapid hepatitis B tests and oversee other testing and treatment services. Hepatitis B was adopted into the national immunization programme in 2011, but birth-dose coverage remains low compared to the institutional delivery rate, with studies suggesting weaknesses in clinical staff training, protocol adoption and vaccine supply chains as causative factors.^{117, 119} India's current antenatal testing policy for hepatitis B requires routine screening in districts with low rates of institutional delivery; and in other districts, for pregnant women with risk factors for hepatitis B infection, although integrating this policy into ANC service practice continues, and supply of hepatitis B tests to ANC settings continues to scale-up.¹¹⁹

India's response has benefited from a strong collaboration with the Federation of Obstetric and Gynaecological Societies of India (FOGSI), the professional association representing most obstetricians and gynaecologists in India, including those in the private sector. FOGSI has been formally included in EMTCT strategy development since 2014, and now has an EMTCT focal point in its governance structure who leads training development for its members. FOGSI has representation in the national EMTCT working groups, as well as in many state governance bodies, and has representatives in most government advisory and governance committees across key areas of sexual, reproductive, maternal, and neonatal health.

FOGSI has worked with government to develop guidelines around EMTCT for specialist and primary care doctors, nurse midwives and paramedical staff, and carries out regular professional development training in many states to support private and public sector practitioners in their adoption of the guidelines. Best practices and guidelines adoption are promoted through the FOGSI website, newsletter, online trainings delivered at state or local level, and via a training-of-trainers programme. FOGSI has also incorporated EMTCT content into specialist training curricula.

As a country with low-intermediate general prevalence of HIV, hepatitis B and syphilis, India has invested significantly in targeted programmes in most states for high-risk populations, with robust government programmes targeting sex workers, people who inject drugs and other key populations. These longstanding programmes, often with significant community engagement and partnerships, have helped address the significant challenge of MTCT among people who are already known to be positive or at high risk for transmission.

Challenges

A key obstacle to achieving triple EMTCT targets remains the under-resourcing of the public sector. While MNH services, HIV/STI services and hepatitis control all have relative priority as national programmes, general government health expenditure remains low for the region despite India's recent economic advances. This leads to, and is compounded by, workforce shortages and maldistribution of both staff and facilities. Recent pro-poor financing initiatives have increased expenditure, but India still lags behind countries in the region such as China, Pakistan, Nepal and Sri Lanka in general government health expenditure as a proportion of overall government expenditure.^{xxxvi} While public ANC and HIV services have, so far, largely retained coverage compared to some other services, the perception of the public sector services as being of poorer quality continues to drive patients to the private sector for many services. Achieving the 'last mile' of the final 10 per cent of ANC coverage, institutional deliveries and other EMTCT service delivery channels will require substantial additional resourcing at the state and national levels, with a particular emphasis on increased investment to strengthen primary care services.

^{xxxvi} In 2021, India's domestic government health expenditure was 3.62% of overall government expenditure, compared to Pakistan (4.57%), Nepal (6.48%), China (8.9%), Sri Lanka (9.49%) and Indonesia (12.11%) (WHO 2024. Global Health Expenditure Database. World Health Organization. <https://apps.who.int/nha/database/Select/Indicators/en>.)

A related challenge has been making progress on policy adoption of triple EMTCT, while a separate national viral hepatitis control programme has only recently been established and dual EMTCT operationalization is still in its early stages. Hepatitis B testing and treatment are currently being integrated into EMTCT guidelines; however, the oversight, funding, procurement and most service delivery for hepatitis B programmes currently remain within the remit of the vertical national hepatitis programme. While coordination and communication between the hepatitis programme, RMNCAH services and the national HIV/STI programme are improving as India moves towards a formal triple EMTCT set of policy documents – including regular coordination meetings and the presence of joint working groups at national level – there is currently less coordination and integration of these programmes at implementation level in some states. In states where this coordination is working better, this is often facilitated by the same nodal officer for EMTCT who is also managing the hepatitis programme. The combined absence of a triple EMTCT policy and guidelines, and the absence or infrequent meetings of EMTCT working groups in many states, make it difficult for national and state champions for EMTCT to generate political support for these goals, particularly in a low-prevalence context with many other pressing health priorities.

The private sector manages a growing share of deliveries and perinatal care, while the proportion of testing and treatment for HIV, hepatitis B and syphilis taking place in the private sector is difficult to estimate but likely to be significant. Stronger regulatory policy and better enforcement of regulation will be essential to ensure private sector services are following national EMTCT guidelines and are compliant with all standards of care. This will require close collaboration with national and state professional associations, health workforce training institutions, and regulatory and standards bodies to ensure that training, guidelines and professional support are available to private practitioners and facilities, that there is compliance with standards, and that simple and accessible mechanisms are in place for interaction with the public sector through reporting service delivery and handing over patients who move between private and public systems. At present, private providers mostly procure and purchase dual testing kits themselves, which may be limiting testing coverage in this sector.

While procurement of testing kits and treatments has improved and has been streamlined within the National Health Mission (NHM), NACO and SACS, there remains erratic supply leading to localized under-stocking of test kits and supplies, particularly at the primary care and community levels in some states. A related problem in some states is the inconsistent cold-chain capacity for the storage and transport of blood/serum test samples to laboratories from outreach and primary facility testing. More broadly, while the number of facilities designated as EID or ART centres continues to be expanded, geographical coverage and accessibility is still challenging in many rural areas.

Tracking and reporting patients and service delivery has posed a challenge across many states, with EMTCT data still reported through several different platforms and systems, with further systems currently under development. Key challenges include integrating hepatitis B data and private sector EMTCT data (mostly tracked separately), and tracking patients across providers through the care continuum, where unique IDs are not universally used. Ensuring deduplication of testing data across the private and public sectors is of particular concern, both for ensuring universal testing coverage and for achieving validation.

Lessons learned

A significant proportion of young Indian women are married before the age of 18 years (23.3 per cent in the most recent survey, with 6.8 per cent of girls aged 15–19 years having already had at least one pregnancy).¹²⁰ This means that programmes that target adolescents are essential. NACO and several SACS have developed HIV/STI education programmes targeting adolescents before they are sexually active, which have started to add in EMTCT messaging. A social media campaign on EMTCT targeting adolescents in Andhra Pradesh has proven successful and could be adapted for other settings.

Early testing in pregnancy is key to the swift referral of women for treatment, particularly since in many traditional South Asian communities, a woman may travel to her parents' community for delivery, and this makes follow-up difficult later. Pregnancy testing kits have been provided to community health workers (ASHAs) to enable earlier detection of pregnancy. In the newer pilot EMTCT programmes, this may be then linked to immediate referral to an auxiliary nurse midwife for dual rapid testing as part of an outreach/mobile ANC checkup.¹¹⁸

Tracking and reporting pregnancies, deliveries and EMTCT services in the private sector remains a challenge, but steady progress is being made in data systems to support this. HIV PULSE, a web- and mobile app-based reporting system, has been developed for the private sector under a Global Fund programme and is currently in use in higher prevalence states.¹²¹ However, uptake is reported to be mostly among large hospitals rather than smaller clinics or solo providers, and it does not include the reporting of hepatitis B services. Some states have also given access to the public HMIS portal for private providers to directly report some key indicators. However, while private providers are mandated to report deliveries to government, the reporting of testing results – unless notifiable positive cases – is not mandatory or enforced, and some data reporting portals for the private sector do not collect this information. Private sector reporting to government is mostly aggregated data, with individual-level reporting and tracking remaining a weak point, particularly for patients who move between providers, a common occurrence during pregnancy.

Way forward

Further investments in RMNCAH and the primary care sector more generally are needed to expand coverage of essential services to the 'last mile' and improve the quality and availability of public services. This should focus on bringing staff and facility population ratios in underserved areas up to national targets and in line with regional and global norms. Achieving universal ANC coverage and skilled birth attendance are pre-requisites for attaining elimination targets. This investment will also help to slow the trend towards seeking private sector RMNCAH services and provide opportunities for more continuity of care.

National and state policy adoption of triple EMTCT, with clear guidelines endorsed by key stakeholders, is an urgent priority in order to get on track for 2030 goals. Importantly, this must incorporate clear directions for establishing strong technical working groups at national and state levels with representatives from antenatal/maternal health services, HIV/STI services and the hepatitis and immunization programmes, as well as representation from key stakeholders external to the health departments including the private health sector, health professional organizations, NGOs and community-based organizations representing service users and key populations, and academic/technical advisors and partners.

India's pilot strategy, allowing for sub-national approaches to EMTCT within national standards and targets, is appropriate for the diverse set of contexts between and within states. Models piloted in the initial seven states should be rigorously evaluated, and flexibility should be given in the scale-up phase for other states to further adapt these models to suit the local context, particularly as these states may be epidemiologically and socially different to the higher burden states. A phased sub-national approach to validation could also be helpful, given that validation processes may need to be phased to allow national and international staff to support the process. However, it will be important that the achievement of validation in key states does not undermine the commitment to national validation, but rather, facilitates phased interstate learning regarding EMTCT and the validation process.

Expanding the piloted EMTCT models to all states in 2024 and beyond will require extensive and careful pre-service and in-service training of staff at all levels to ensure quality of service. States should address the managerial training needs of staff involved in management and coordination of EMTCT services, along with clinical/technical training needs, as has been successfully trialled in several model states.

Scaling up EMTCT services implies a significant additional burden in data collection and monitoring, often imposed on clinical or managerial staff without additional resourcing. As there are reports of staff who are overburdened with reporting requirements, it will be important that monitoring, evaluation, and coordination activities are well supported with additional human resources at national, state and even district levels to ensure quality data is being used to drive EMTCT strategy. India's national capacity in information technology, and its current wide use within the public and private health sectors should make the development and national adoption of comprehensive tracking and reporting platforms, covering all aspects of EMTCT in both private and public sectors, a possibility within the next three years.

Central and state governments should consider further funding to professional associations to increase pre-licensing and professional development training in EMTCT, particularly for the private sector, and extend public sector training opportunities to private providers where feasible. Direct system-strengthening programmes targeting the private sector, particularly in maternity and postnatal care, should be scaled up and accompanied by stronger regulatory and monitoring mechanisms to ensure quality of services.

Outreach and mobile services should continue to be resourced to target populations currently unable or unwilling to access facility-based services, particularly for the provision of antenatal testing and education, hepatitis B birth dose and EID for home births, family planning and breastfeeding education. Wherever possible, outreach services and primary facility-based services should be advised by (and work closely with) representatives of the most unreached groups within each community to ensure services are socio-culturally acceptable and accessible.

More generally, community mobilization and ownership of EMTCT initiatives will be central to shape national and sub-national strategies and respect user rights. In particular, the involvement of adolescents, young mothers, HIV-positive women, women from all castes, marginalized or vulnerable tribes and socioeconomic groups within governance and coordination structures will be critical to programme sustainability and acceptability.

6 Regional triple EMTCT roadmap and operational guidance

This section introduces a triple EMTCT of HIV, syphilis and hepatitis B (hereafter referred to as ‘triple EMTCT’) roadmap and operational guidance for the Asia and Pacific region. It draws on insights from an EMTCT survey of 21 countries, the latest EMTCT validation indicator data from the region, in-depth case studies in six countries in the region, a desk and academic literature review, and consultation with countries and regional partners during a regional triple EMTCT workshop held online on 16 October 2023.

Global and regional strategic frameworks for primary health care, sexual and reproductive health and triple elimination also informed the strategies and activities described in this roadmap and guidance for their implementation. These global regional frameworks include:

- Global guidance on criteria and processes for validation: elimination of mother-to-child transmission of HIV, syphilis and Hepatitis B virus, WHO 2021.
- Introducing a framework for implementing triple elimination of mother-to-child transmission of HIV, syphilis and Hepatitis B virus: policy brief. WHO; 2023. <https://www.who.int/publications/i/item/9789240086784>
- Elimination of parent to child transmission of HIV and syphilis in Asia and the Pacific in 2015 and beyond. Progress review and road map. UNICEF 2016.
- 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, WHO 2018.
- Interim guidance for country validation of viral hepatitis elimination, WHO 2021.
- Key considerations for fast-tracking the elimination of mother-to-child transmission of HIV in low prevalence settings: lessons from validated countries, UNICEF 2023.
- HIV prevention 2025. RoadMap. Getting on track to end AIDS as a public health threat by 2030, UNAIDS 2022.
- Key considerations for programming and prioritization. Going the ‘Last Mile’ to EMTCT: A road map for ending the HIV epidemic in children. UNAIDS, WHO and UNICEF 2020.
- Landscape of innovative tools and delivery strategies for eliminating vertical transmission of HIV, syphilis, Hepatitis B and Chagas in endemic areas. Unitaid 2022.

- Improving maternal and newborn health and survival and reducing stillbirth: progress report 2023. WHO 2023.
- Global AIDS Strategy 2021–2026 – End Inequalities. End AIDS. UNAIDS 2021.
- Regional framework for reaching the unreached in the Western Pacific (2022–2030); Manila. World Health Organization Regional Office for the Western Pacific, 2023.
- Global health sector strategies on, respectively, HIV, viral hepatitis and sexually transmitted infections for the period 2022–2030. WHO 2022
- Leveraging the Learning: Insights from HIV Programming for Pregnant and Parent Adolescent Girls. UNICEF 2023

The primary objective of this roadmap and operational guidance is to serve as a reference document for countries in the Asia and Pacific region to develop their national or sub-national triple EMTCT strategies and roadmaps appropriate to their contextually specific circumstances and challenges. It is meant to be implemented within the broader framework of health systems strengthening and is not a replication of any existing health systems strengthening guidelines, but rather a complementary tool. It aligns with UNICEF's focus on multisectoral policies and integrated health services, and emphasizes primary care, empowering communities^{xxxvii} and the key areas outlined in the WHO health system building blocks.^{xxxviii}

6.1 Strategic priorities

This triple EMTCT regional roadmap encompasses seven strategic priorities (see Table 16). Recognizing the importance of universal health coverage, health systems strengthening, and the protection and promotion of human rights and equity as principles that should underpin all health sector actions, these apply to all priority areas and are further discussed under specific headings. Finally, although this guidance primarily focuses on strategies for national and sub-national governments and other stakeholders within each country, specific actions that regional partners can take to support EMTCT in the region are also described.

The operational guidance is tailored to assist countries at various stages of implementation and progress towards triple EMTCT. The target audiences are disease-focused programmes, RMNCAH, ministries/departments of health, and key in-country stakeholders including United Nations agencies, the private sector, NGOs and special interest groups.

Table 16 presents the seven strategic priorities of the triple EMTCT roadmap in relation to the three pillars in the WHO Regional Framework.¹⁵ The subsequent section presents each strategic priority including a rationale and proposed short-, medium- and long-term actions, with expected outcomes and timelines needed to reach the triple elimination goal by 2030. Each priority area section finishes with operational guidance for its application in settings at different stages of progress.

xxxvii UNICEF emphasizes health systems strengthening in five key areas that are reflected across this roadmap and operational guidance: community health workforce, quality of care, strengthening supply chains, data and digital health, and national investment and governance. [Strengthening health systems \(UNICEF.org\)](#), accessed 27/11/23.

xxxviii WHO emphasizes leadership and governance, service delivery, health system financing, health workforce, medical products, vaccines and technologies, and health information systems, [Health system building blocks \(who.int\)](#), accessed 27/11/23.

TABLE 16 Strategic priorities of the triple EMTCT roadmap in relation to the three pillars in the WHO Regional Framework

Strategic priority	Relevance to the three pillars in the WHO regional EMTCT framework
Strategic Priority 1: Strong leadership and policy commitment at regional, national, sub-national and district levels.	Pillar 1
Strategic Priority 2: Universal and equitable access to triple EMTCT services across the RMNCAH platform.	Pillar 1 and 2
Strategic Priority 3: Contextualizing integration of EMTCT into RMNCAH systems.	Pillar 2
Strategic Priority 4: Data-driven and context-specific decision-making, monitoring and evaluation of EMTCT programmes.	Pillar 3
Strategic Priority 5: Community engagement and social accountability.	Pillar 2
Strategic Priority 6: Populations with higher prevalence of MTCT of HIV, hepatitis B and/or syphilis.	Pillar 1 and 2
Strategic Priority 7: Mainstreaming triple EMTCT services and data capture in the private health sector.	Pillar 2 and 3

STRATEGIC PRIORITY 1

Strong leadership and policy commitment at regional, national, sub-national and district levels

In low-resource countries, particularly where the prevalence of diseases such as HIV, syphilis or hepatitis B is either low or unknown, the elimination goal often becomes overshadowed by more immediate maternal and newborn health issues. Strong political commitment to EMTCT goals has been a key driver of successful elimination in countries that have already achieved it. Therefore, it is essential to establish or revitalize leadership commitment at regional, national and sub-national levels. Similarly, many countries in the Asia and Pacific region are facing a generalized hepatitis B epidemic. However, the EMTCT of hepatitis B was only added to the triple EMTCT goal in 2021.¹²²

Strong leadership and policy commitment are essential to accelerate progress on EMTCT of hepatitis B without losing focus on the goal of EMTCT of HIV and syphilis by 2030. Conversely, incorporating hepatitis B into the EMTCT vision in the Asia and Pacific region, where hepatitis B prevalence is generally high, can enhance the focus on addressing HIV and syphilis. This is especially important, as activating leadership for the latter two diseases may become challenging due to low or unknown prevalence.

The key to achieving triple elimination lies in articulating the significance of EMTCT as a public health issue to decision-makers at every level in the health system (from the national to sub-national levels) and demonstrating its feasibility through strategic planning that involves all stakeholders. Identifying the right and most effective stakeholders to drive strategic initiatives is key. Equally important is enlisting triple EMTCT ambassadors who can advocate for and lead triple EMTCT strategies. Operationalizing initiatives towards triple EMTCT is contingent upon the establishment and maintenance of such committed leadership across all levels of the health system.

Implementation strategies

Immediate actions (0–1 years)	
A	Functioning triple EMTCT coordination body/bodies
1	Identify a triple EMTCT coordination body at the national level, expanding this to sub-national levels (with a particular focus on identifying such coordination bodies in regions/districts where there is high prevalence of HIV, and/or hepatitis B and/or syphilis). - Determine the most robust programme within the government, whether it is the RMNCAH or HIV programme, to lead the triple EMTCT coordination body/bodies. - Ensure a diverse triple EMTCT coordination body membership, including (at a minimum) health ministries, ministries in charge of women/girls affairs/gender equality, district health focal points, family planning services, RMNCAH services, vertical programme for each disease, the private health sector, health professional associations or colleges, NGOs, civil society including women's and youth groups, donor agencies, community members, and representatives of affected populations such as people living with HIV organizations. Aim for gender parity in representation on this committee. - Establish terms of reference for effective coordination. - The national EMTCT coordination body will also serve as the de facto EMTCT national validation committee.
2	Where feasible or where they already exist, the triple EMTCT coordination body should be built upon or integrated in established forums and technical working groups.
3	Establish regular, reliable liaisons between the national EMTCT coordination body and the regional EMTCT validation committee by organizing regular meetings and jointly developing a clear country support strategy and plans for validation (discussed in more detail under Strategic Priority 4).
4	Identify/establish a national centre of excellence for triple EMTCT (not only for HIV) to provide technical support to the national triple EMTCT programme through implementation research, implementation of in-country EMTCT validation and EMTCT capacity building as required.
5	Identify model provinces/districts based on criteria agreed upon in advance (via national consultation) for triple EMTCT (not only HIV) to serve as models for other provinces and districts.
B	Key triple EMTCT documents developed under the leadership of EMTCT coordination body/bodies
1	Outline and strengthen a national triple EMTCT policy framework. - Build this on a dual (or a single disease) EMTCT framework, if available. - Align this policy framework with national RMNCAH policies. - As part of this framework, establish a clear accountability structure for HIV, syphilis, hepatitis B, RMNCAH programmes, focused ministry of health divisions and relevant stakeholders. - Engage relevant multisectoral partners for cross-sectoral coordination to ensure that all aspects of health and well-being for women and children are comprehensively covered in the triple EMTCT policy.
2	Following the national triple EMTCT policy guidance, develop a national, costed roadmap for triple EMTCT with annual and medium-term national and sub-national targets, implementation plans and a monitoring framework. Countries with large and diverse demographics may consider developing a framework for gradual data-driven sub-national EMTCT validation built into the national EMTCT roadmap.
3	Develop an EMTCT communication and advocacy strategy, with a focus on addressing prevailing stigma and discrimination associated with HIV, hepatitis B and syphilis, and an evidence-based and contextually relevant communication toolkit for triple EMTCT. - Engage with partners, such as associations of people living with HIV, associations of sex workers, and transgender people, women and adolescent support groups, media organizations, and health professional associations, among others, to expand the reach of these strategies. - Encourage meaningful involvement of young people from affected communities to lead the design, implementation, and monitoring of the communication and advocacy strategy, as well as overall programme delivery.
4	Develop national guidance on EMTCT cascade tracking systems from ANC to 18 months post-delivery, and continuum of care for infected mothers and children for all three infections.

Expected outcomes	
- National and sub-national triple EMTCT-inclusive coordination bodies (national EMTCT validation committee) established and convened. - Liaison with regional EMTCT validation committee established. - A triple EMTCT centre of excellence identified or established. - National triple EMTCT policy framework strengthened and aligned with national RMNCAH policies. - National triple EMTCT costed roadmap and implementation plan with clear national targets and timelines developed and endorsed by respective (relevant) divisions within the ministry of health. - National triple EMTCT communication and advocacy strategy and tool kit ready for dissemination. - National gender-responsive guidance on the EMTCT cascade tracking systems developed.	
Medium-term actions (1–3 years)	
1	Develop sub-national triple EMTCT policies, strategies and action plans under the leadership of sub-national triple EMTCT coordination bodies. - Align them with national triple EMTCT and RMNCAH policies and strategies. - As part of these policies, strategies and action plans, define specific roles for all stakeholders in the sub-national teams to attain triple EMTCT targets.
2	Identify men and women champions/ambassadors from within and outside the health sector for coordination between HIV, hepatitis B, syphilis and RMNCAH programmes, and engage them to promote EMTCT in national and sub-national forums and on the health agenda. Identify men and women champions/ambassadors from known and respected national personalities, and engage them to promote EMTCT at the national and sub-national levels.
3	Ensure regular meetings of the triple EMTCT coordination bodies at national and sub-national levels with a clear liaison mechanism for joint decision making.
4	Prioritize capacity-building programmes to equip local teams with the latest knowledge and tools for sustained triple EMTCT success.
5	Collaborate with the regional validation committee to build/expand national capacity on the WHO EMTCT validation process and reporting, and implement in-country EMTCT validation assessments, if not done already.
6	Forge partnerships with academia, research institutes, and women's and adolescents' organizations to support national and sub-national EMTCT initiatives through local research and evidence building.



Four countries are validated by WHO for HIV and syphilis EMTCT including Thailand (2016), Malaysia (2018), Maldives and Sri Lanka (2019)

Expected outcomes	
- Associated triple EMTCT sub-policies, strategies and action plans developed and endorsed by respective stakeholders including the ministry of health, RMNCAH and vertical programmes (HIV, syphilis and hepatitis B). - Women and men ambassadors for coordination identified and working closely with national and sub-national coordination bodies to promote the triple EMTCT agenda. - Triple EMTCT-inclusive coordination body meetings convened regularly at both national and sub-national levels to evaluate progress, ensuring triple EMTCT initiatives remain on track. - National in-country EMTCT validation assessment report developed, including national capacity- building on understanding the WHO EMTCT validation criteria and processes. - Partnerships with academia and women's and adolescents' organizations developed to define and implement a national triple EMTCT research agenda. - An on-going triple EMTCT gender-transformative capacity-building programme established and implemented.	
Long-term and sustained actions (3–7 years)	
1	Continuing triple EMTCT coordinating body meetings at national and sub-national levels, involving all stakeholders, including RMNCAH focal persons.
2	Analyse and incorporate validation assessment of local data and research findings (refer to Strategic Priority 4 for more details) when refining and adapting triple EMTCT strategies to ensure they remain locally effective, appropriate and responsive to evolving challenges, and work towards sustainability.
3	Strengthen feedback mechanisms to continuously engage with all EMTCT stakeholders, especially at district and sub-district levels, ensuring their input is considered in shaping strategies and future actions.
4	Continuing capacity-building programmes for ANC and postnatal care (PNC) teams for sustained triple EMTCT success.
5	Integrate gender-transformative social protection schemes for HIV/hepatitis B-positive mothers and exposed newborns within overall RMNCAH social protection schemes for mothers and newborns.
Expected outcomes	
- Sustainable local capacity is established, ensuring resilience and robustness of the health system, and enabling countries to maintain their progress towards triple EMTCT. - Country is equipped, ready and able to apply for formal triple EMTCT validation assessment through joint efforts of all stakeholders, including national and sub-national triple EMTCT coordination bodies, national validation teams and healthcare providers across all levels of the health system (also refer to Strategic Priority 4).	

Operational guidance for Strategic Priority 1 (i.e., adapting regional roadmap actions to the local context)	
A	For countries with little or no formalized triple EMTCT leadership and policy commitment
	• Determine which programme within government agencies is the most robust and suitable to lead the triple EMTCT initiative in the country. This could be the dual EMTCT leadership, RMNCAH or a disease-specific programme such as HIV or hepatitis. • Emphasize the founding of triple EMTCT coordination bodies and the quality of leadership in their establishment, coordination and oversight, with detailed terms of reference (ToR). • Understand who the triple EMTCT champions and ambassadors are at national and sub-national levels and who needs to be recruited to advocate for the country EMTCT agenda and validation. • Convene the first triple EMTCT coordination body meeting at the national level, ensuring representation of all key stakeholders, particularly the RMNCAH programme and community representatives. • The national triple EMTCT coordination body is to build costed plans for the achievement of short-, medium- and long-term priorities in the roadmap areas. This should include: • Strategic planning for establishing sub-national triple EMTCT coordination bodies. • Identifying and establishing a national EMTCT centre of excellence from among the leading academic centres that support HIV/AIDS in the country. • Supporting the documentation of EMTCT model districts/provinces for national-level advocacy. • Developing priority and gender-transformative national resources for triple EMTCT, namely the development of and consensus around the importance of: – a national strategy and policy framework for triple EMTCT; – a national roadmap for triple EMTCT; – a national communications and advocacy strategy for triple EMTCT; and – gender-responsive guidelines for triple EMTCT tracking systems. • Establishing communication channels with the regional validation committee to initiate key steps towards developing a country support strategy and planning for validation. • Organize gender-transformative capacity-strengthening workshops for key personnel, such as managers and service providers involved in the development and delivery of triple EMTCT strategies and services, including the national EMTCT validation teams.
B	For countries with emerging/developing triple EMTCT leadership and policy commitment
	• Emphasize monitoring, consolidating, and strengthening national and sub-national triple EMTCT coordination bodies with a focus on leveraging their reach to harmonise decision making, streamlining data flows and working towards a more robust and sustainable system. • Understand the priorities and operations of the different coordination bodies through knowledge-sharing and creating opportunities for aligned decision making. • Align meetings and the broad operations of coordination bodies with established structures for efficiency. • Leverage existing partnerships and relationships and seek to build new ones between domestic and international academia and triple EMTCT stakeholders and members of national and sub-national triple EMTCT bodies, with the aim of defining and implementing local research.

C	For countries with established triple EMTCT leadership and policy commitment
	• Emphasize sustaining and leveraging established triple EMTCT coordination bodies to maintain progress towards triple EMTCT. • Continue investing in gender-transformative, integrated and streamlined operational processes, data flows and support for service delivery. • Leverage partnerships between the public sector, private sector and academia to implement nationally relevant research agendas for system adaptation and improvement. • Analyse and incorporate local research data and validation assessment reports to refine and adapt triple EMTCT strategies to ensure they remain locally effective, appropriate and responsive to evolving challenges while working towards their sustainability (i.e., towards and beyond the validation process). • Collaborate with the regional validation committee through the national and sub-national validation committees to initiate in-country EMTCT validation assessments. • If validation is achieved for any of the three infections, continue to invest in local capacities to sustain this status.

STRATEGIC PRIORITY 2

Universal and equitable access to triple EMTCT services

Universal and equitable access to triple EMTCT services aligns with global efforts towards universal health coverage (UHC) as set out in the Sustainable Development Goals (SDGs). There is ample evidence confirming the long-term cost efficiency and effectiveness of universal HIV testing, despite a high initial cost, and therefore, this should therefore be prioritized.⁸ Integrating HIV testing into routine ANC also facilitates simultaneous syphilis testing through dual point-of-care test kits. Moreover, this integration can pave the way for including rapid testing for HbsAg in the standard ANC diagnostic package. An integrated testing approach also allows for comprehensive antenatal screenings in a single visit, optimizing the use of limited resources. To achieve the triple EMTCT goal by 2030, universal testing alone is not enough. It is critical to also ensure equitable access to treatments, safe delivery, infant hepatitis B vaccinations, HIV prophylaxis and lifelong care for mothers and partners with HIV or those eligible for hepatitis B and syphilis treatments.^{15, 123}

Achieving ≥ 95 per cent ANC coverage is a key triple EMTCT process indicator to ensure that every woman and child has access to diagnostic and treatment services for HIV, syphilis and hepatitis B. All countries that have received EMTCT validation have had universal ANC coverage above the ≥ 95 per cent threshold. Nevertheless, countries must not delay introducing triple EMTCT interventions until this indicator is achieved. Instead, concurrent efforts should be made to improve ANC coverage and make triple EMTCT services more accessible and gender responsive. Ensuring universal and equitable access to EMTCT services requires close collaboration between HIV/syphilis and hepatitis and the RMNCAH programmes. Therefore, all countries should advocate for integrated universal screening for HIV, syphilis and hepatitis B through joint platforms with RMNCAH, ensuring that triple EMTCT services are included in the essential ANC health service packages and are accessible and publicly funded with minimal to no out-of-pocket costs.

Disaggregating disease and service data to identify geographies and communities with high prevalence of triple infections is key to promote universal and equitable access to EMTCT services. It is also essential to integrate the delivery of EMTCT services within RMNCAH services as part of emergency and humanitarian response plans. This integration ensures that exposed mothers and newborns receive access to this essential service during any catastrophe.

Implementation strategies

Immediate actions (0–1 years)	
1	In alignment with the EMTCT policies and frameworks outlined in Strategic Priority 1, collaborate with the RMNCAH programmes to ensure that: • Voluntary, confidential counselling and testing (VCCT) is non-judgmental and adolescent-friendly confidential for HIV, syphilis and hepatitis B; and that this along with referral for treatment services are integrated within relevant RMNCAH services and referral frameworks (such as for ANC, skilled birth attendants and postnatal care at the facility level). • VCCT for HIV, syphilis and hepatitis B (as applicable) and referral services are integrated within primary and community health frameworks, and community health worker tasks and responsibilities and sustained supplies for testing are available.
2	In alignment with the EMTCT policies and frameworks outlined in Strategic Priority 1, collaborate with the RMNCAH programmes to integrate and strengthen: • EMTCT training into pre- and in-service training curricula for RMNCAH staff, social workers and other health cadres at national and sub-national levels. This integration also involves collaborating with medical education departments and university faculties to incorporate EMTCT into pre-service education programmes. • Relevant and gender-responsive EMTCT monitoring processes (e.g., for HIV, syphilis and hepatitis B testing among pregnant women, EID and newborn prophylaxis) within maternal and newborn health regular programme monitoring and supervision frameworks and data collection mechanisms. • Expand triple EMTCT testing opportunities to intrapartum and post-partum care so that mothers who missed HIV, syphilis and hepatitis B testing during ANC will be reached.
3	Formulate a unified and costed capacity-building plan in collaboration with the RMNCAH programme to: • Enhance the skills of ANC/PNC staff (especially at the primary care level) including community health workers, to offer quality ANC/PNC services inclusive of triple EMTCT testing, with referral of those who test positive for ongoing care. • Train laboratory staff on standard operating procedures (SOPs) for triple EMTCT testing, maintaining stocks, efficient laboratory data-sharing, and cascading data to district health units, and provincial and national data management teams.
Expected outcomes	
• Non-judgmental and adolescent-friendly VCCT for EMTCT are integrated within RMNCAH service frameworks for health facilities and within community health workers' tasks and responsibilities. • EMTCT training is integrated in pre-service and in-service training curricula for RMNCAH health staff, social workers and other health cadres. • Relevant and gender-responsive EMTCT indicators are integrated within RMNCAH regular programme monitoring, supportive supervision frameworks and data collection mechanisms. • A unified and costed capacity-building plan for ANC/PNC staff, community health workers and laboratory staff, in collaboration with RMNCAH, is prepared and ready for implementation. • Access to triple testing services is expanded to intrapartum and post-partum care.	

Medium-term actions (1–3 years)	
1	Build a resource mobilization strategy as an investment case for triple EMTCT, in coordination with RMNCAH, EPI and disease-specific programmes, with the support of regional partners. - Utilize the investment case in advocacy towards securing national and sub-national government commitment to public funding for triple EMTCT, and for funding applications to international donors such as PEPFAR and the Global Fund. - Advocate for the inclusion of EMTCT in the resource mobilization strategies for RMNCAH and PHC.
2	Use existing resources and funding secured through the above actions to: - Introduce and scale-up technologies such as dual HIV/syphilis testing across the health system, especially at the PHC level and through initiatives for community health workers. - Ensure women's and adolescent girls' access to this technology without being subject to partners' will. - Expand access to antiretroviral treatment (ART) for HIV, antiviral for hepatitis B and antibiotics for syphilis, along with EID and infant prophylaxis, and improve referral systems for mother and baby pairs for ongoing care. - Invest in partnerships with RMNCAH to establish, or where established, strengthening of mobile health teams, and in public-private partnerships (discussed in detail in Strategic Priority 7) to overcome geographical, financial, gender and social barriers and sub-optimal ANC coverage, including for triple EMTCT services.
3	Prioritize task shifting by investing in health workers with shorter training and fewer qualifications to efficiently utilize existing human resources and alleviate bottlenecks in service delivery (see WHO guidelines). Invest in grassroots workers (such as health assistants, nurses and midwives) to enhance their skills in testing and treatment, bridging gaps in EMTCT service delivery.
4	Coordinate with health professional associations (obstetrics, pharmacy, paediatrics, hepatitis societies, etc.) on advocacy and support to triple EMTCT services in the public and private sectors.
5	In line with the national EMTCT communication frameworks, coordinate awareness-raising campaigns on EMTCT through print, electronic and social media.
6	Streamline and coordinate EMTCT gender-responsive advocacy and non-judgemental counselling with RMNCAH awareness-raising programmes and tools, focusing on ANC, intrapartum and postnatal care counselling services, and mother and child information tools.
7	Prioritize national and sub-national capacity building on strengthening early EID laboratory systems across the country, in line with the mapping of testing and delivery services.
Expected outcomes	
- Triple EMTCT resource mobilisation strategy, such as investment case, is finalised. - Access to new technologies, maternal treatment, EID, and newborn prophylaxis services is expanded. - Investments are made in mobile health teams, PPP, and task shifting to expand ANC coverage, including access to EMTCT services. - EMTCT advocacy and programme support is integrated within the guidelines of health professional associations and national programme support frameworks. - EMTCT public awareness campaigns are developed and regularly conducted and integrated within RMNCAH advocacy services as much as possible. - National and sub-national systems for EID are strengthened and aligned with testing and delivery facilities.	

Long-term and sustained actions (3–7 years)	
1	To retain and motivate health staff in key districts, offer financial benefits like allowances and career opportunities, and non-financial incentives such as activities that promote community and health system recognition and trust-building.
2	Continue investing in PHC teams as part of the country's human resource strategy, mentor mothers (including adolescent/young mothers), peer support groups and new technologies.
Expected outcomes	
Sustainable linkages are established with RMNCAH programmes to better utilize local resources and enhance local health workforce capacity, thereby creating a more resilient health system to maintain the country's progress towards achieving triple EMTCT.	

Operational guidance for Strategic Priority 2: (i.e., adapting regional roadmap actions to the local context)	
A	For countries with little or stalled progress toward universal and equitable access to EMTCT services
	- In collaboration with the RMNCAH programme, prioritize the integration of VCCT for HIV, syphilis and hepatitis B within relevant RMNCAH services at facility and PHC levels, and through CHW programmes. This integration requires careful adaptation and sensitivity to contextual variations between and within national settings. Integration will present different challenges in urban and rural settings based on particular access and provision challenges faced. Understanding these nationally and sub-nationally is key. - Leverage existing or emerging leadership mechanisms (see Strategic Priority 1) to establish a context-specific understanding of facility-based and community-based access and provision challenges, and the facilitators and barriers to access in the community, especially those anchored in social and gender beliefs and norms. Particular focus should be on: - At the facility level, the availability, workload and task prioritization of ANC workers and their capacity and willingness to deliver additional tasks focused on triple EMTCT (at the minimum, pre- and post-test counselling and rapid testing), and referral for those who test positive. - At the community level, the type of community health workforce (from trained CHWs to lay workers), their workload and constraints in service delivery, and their willingness and capacity to deliver VCCT and provide appropriate referral. These factors are key to appraising the ability to integrate triple EMTCT services within current healthcare services. Building the capacity of this health workforce is a critical first step. - Development of a costed capacity-building plan to enhance the skills of ANC and laboratory staff for triple EMTCT services, inclusive of key components highlighted in the roadmap. Initiate dialogue with RMNCAH and national HMIS through the national EMTCT coordination body to integrate relevant EMTCT monitoring processes (e.g., for HIV, hepatitis B and syphilis testing) within RMNCAH data collection tools and systems.

B	For countries with moderate progress towards universal and equitable access to EMTCT services
	• Leverage understanding of context based on cultural facilitators and enablers of testing and service provision for triple EMTCT through RMNCAH platforms. Undertake strategic revisions to strengthen EMTCT response under the leadership of the national EMTCT coordination body. • Utilize the national EMTCT coordination body forum to convene RMNCAH, EPI and disease-specific programmes with the support of regional partners to build an investment case for public funding (national and sub-national) and, where appropriate, international funding to strengthen and expand RMNCAH services inclusive of triple EMTCT interventions. The development of the investment case should be mindful of context-specific enablers and barriers to EMTCT testing, and service provision feasibility and acceptability from supply and demand side, including: • Health worker and community health worker readiness and capacity to incorporate and prioritise EMTCT interventions. • Community norms (especially those anchored in gender inequality and unbalanced power in decisions about one's body and resources) around practices that inform demand for facility-based and CHW-delivered EMTCT services. • Leverage existing coordination mechanisms to assess the feasibility and plan for implementation of approaches funded through existing resources and from the investment case, specifically in the areas of scaled up technologies such as point-of-care rapid test kits, telehealth, strengthening of mobile health teams, and effectively shift tasks to address service gaps (all as described in the roadmap). • Plan for community awareness-raising campaigns to drive the acceptability of and demand for triple EMTCT testing and services, while remaining mindful of the specific social, cultural, economic, and geographic barriers and facilitators that are relevant to the context. Conduct formative research with target beneficiaries to establish which communication media and advocates are trusted and reliable. • Leverage the contacts of members of existing triple EMTCT leadership and coordination mechanisms to collaborate with health professional associations to align the language of triple EMTCT and collaborate towards establishing complementary objectives.
C	For countries with considerable progress towards universal and equitable access to EMTCT services
	• Sustain progress in triple EMTCT by continuing to invest in and strengthen the partnership with RMNCAH. Continue to motivate ANC staff with contextually specific incentives for health worker performance, such as professional development, progression schemes and supervision support. Additionally, enhance the communities' esteem for the value added by health workers, while being mindful of the potentially unintended consequences of selectively incentivizing some tasks among many health worker responsibilities. Explore a similar strategy for community health workers, taking into account feasibility differences, such as possibilities for career progression. • Advocate, through existing leadership and coordination mechanisms, for ongoing investment in the establishment, support, scaling and monitoring of triple EMTCT services through PHC teams, with a focus on the value of providers, such as lay workers and mentor mothers who work closely with communities.

STRATEGIC PRIORITY 3

Contextualizing the integration of EMTCT into RMNCAH systems

Integrating EMTCT interventions into national RMNCAH frameworks, guidelines, and services is a central strategy advocated within the Global Guidance, the Regional Framework, the Global Health Sector Strategy for HIV,¹³ viral hepatitis and STIs, and other key global and regional strategic documents that inform this roadmap. However, these documents do not specify the exact nature and extent of system integration, leaving this decision to individual countries. Integration across the spectrum of diagnostic and treatment services during antepartum, intrapartum and postnatal services may vary, ranging from minimal collaboration between disease-specific programmes and RMNCAH, to full integration within RMNCAH, depending on each country's unique priorities and context. The key for countries is to carefully assess the financing, governance, organizational capacity, supply chain, infrastructure and sustainability of current EMTCT services, and develop a clear investment and operational strategy that results in stronger integration and serves the best long-term interests of their health systems.

Countries that have been validated for EMTCT (either for single- or dual-disease elimination) have achieved their goals using diverse models of integration, from close collaboration between separate services to fully integrated financing, governance, guidelines, service delivery and infrastructure. Integration itself has the goals of improving system efficiency, quality, sustainability and equity, and reorientates the system to be more gender responsive, patient centred and holistic.¹²⁴ Therefore, any integration strategy must be evaluated for its ability to achieve these objectives, recognizing that there may be interim strategies within each domain that are a path to the ultimate goal of integration.

While working towards integration, countries should give due consideration to the specificities of the three disease programmes (HIV, syphilis and hepatitis B) and understand that the level of integration with the RMNCAH platform may vary across diseases in scope, approach and speed of integration.



A peer educator discusses how to prevent HIV/AIDS and other sexually transmitted diseases with a child and his mother in their home in a poor section of Tondo, a neighbourhood of Manila, the Philippines.

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Implementation strategies

Immediate actions (0–1 year)	
1	Under the leadership of the EMTCT national coordination body (where RMNCAH is a key stakeholder), conduct a joint review of EMTCT and RMNCAH services including financing, governance, data systems, essential health service packages, essential medicines and commodity list, supply chain, infrastructure, programmatic implications, gender responsiveness and health workforce. The aim is to explore the current and desired or appropriate level of integration of each of these components across RMNCAH services. The review should also consider the following dimensions of integration: • Between services across the EMTCT and RMNCAH cascade/life course, with a focus on integrated case tracking and ensuring continuum of care. • Between health system levels, noting that global and regional strategies promote decentralization of EMTCT services, and the provision of services through primary care, but require strong referral, coordination and supportive supervision across health system levels. • Between public and private sectors for each service (as part of private sector policies and roadmap), noting that many service users may move between public and private services for EMTCT. For larger countries or those with devolved health systems, this may need to be followed by, or performed in partnership with, sub-national EMTCT coordinating bodies.
Expected outcomes	
• Joint review for EMTCT and RMNCAH services completed, and findings disseminated. • A national RMNCAH and EMTCT integration and coordination framework developed.	
Medium-term actions (1–3 years)	
1	Develop comprehensive guidance on integration of triple EMTCT interventions within RMNCAH services, including detailed operational procedures covering antepartum, intrapartum and postnatal care for mothers and newborns. This should be done for both national and sub-national levels to ensure consistency and clarity in the integration of services.
2	Focus on enhancing the skills of programme staff to effectively track the progress and outcomes of service integration.
Expected outcomes	
• Guidance on triple EMTCT and RMNCAH service integration developed and endorsed by relevant ministries and departments of health. • Programme staff adequately trained on monitoring the progress and outcomes of service integration.	
Long-term and sustained actions (3–7 years)	
1	Development of integration plan beyond 2030 to enhance the sustainability, efficiency and quality of triple EMTCT services.
Expected outcomes	
• Sustainable mechanisms for service integration established, effectively utilizing the joint resources of RMNCAH and disease-specific vertical programmes, thereby creating a more resilient health system to maintain the country's progress towards achieving triple EMTCT.	

Operational guidance for Strategic Priority 3 (i.e., adapting regional roadmap actions to the local context)	
A	For countries making little or stalled progress towards integration of EMTCT within RMNCAH services - Establish shared understanding of integration opportunities for triple EMTCT in the operational context among coordinating bodies and their members (including sub-national triple EMTCT coordinating bodies). Pool existing knowledge and catalogue known structures and opportunities and known and unknown challenges to integration. Build consensus around the objectives, reach and design of a comprehensive review. - Secure resources for a comprehensive review to review multiple components of current triple EMTCT and RMNCAH service delivery to understand the current state of service integration and identify opportunities for further joint programming, especially at primary health care level. - Review and consider cultural and contextual opportunities and barriers (especially those anchored in gender beliefs and norms) to multiple dimensions of integration (i.e., across the life course, levels of the health system and between public and private sectors) and national and sub-national variations. - Particular focus should be on the health workforce, prioritising capacity-strengthening for nurses and midwives, and those involved directly with ANC, in order to integrate the testing and treatment for HIV, hepatitis B and syphilis into ANC and/or referrals, as needed. - Focus should also be on 'normalising' testing access and processes for both workforce colleagues and the community in contextually appropriate ways, while building confidence in the results and subsequent service steps where required.
B	For countries making moderate progress towards integration of EMTCT within MNCH services - Finalise implementation and secure funding and resources for analysis of the findings of the comprehensive review of triple EMTCT and RMNCAH services, with a focus on opportunities to address gaps and prioritise efficiencies nationally and sub-nationally, and the key benefits from investing in integrated triple EMTCT testing and service delivery. - Utilise national and sub-national triple EMTCT coordination bodies and partnerships to collaboratively develop guidance for context-appropriate and feasible service integration approaches, based on the findings of the comprehensive review and the shared understanding of integration opportunities previously established. Operational procedures to be developed, mindful of available resources and their sustainability, and with the input of all stakeholders involved and affected communities' representatives. - Collaborative development of guidance to incorporate appraisal of opportunities and feasibility of the proposed activities, and analysis of the feasibility to facilitate, incentivize and enable monitoring of the proposed integration activities by implementing programme teams.
C	For countries making considerable progress towards integration of EMTCT within MNCH services - Focus on the monitoring, quality control, improvement, and sustainability of current triple EMTCT testing and service integration approaches. Incorporate an ongoing review of effectiveness and opportunities for improvement based on context-based understanding of facilitators and barriers to progress. Where appropriate and feasible, draw on lessons from comparable settings. - Review the benefits and perceived value of integrated provision from the perspectives of RMNCAH and disease-specific programme leads within established national and sub-national coordination mechanisms.

STRATEGIC PRIORITY 4

Data-driven and context-specific decision-making, monitoring and evaluation of EMTCT programmes

Advocating, planning, establishing, monitoring and evaluating triple EMTCT activities and strategies rely heavily on evidence produced through local research and efficient data collection, flow and usage. It is crucial for countries to invest in implementation research and monitoring and evaluation infrastructure. This could be achieved by enhancing the capacities of local researchers and data teams, particularly at the sub-national levels, and by emphasising the value of accurate data and the risks associated with data gaps and inaccuracies. For EMTCT validation, sufficient quality and capacity of country teams is necessary for the collection, organisation, and analysis of granular data to ensure the reliability and validity of indicators. It is also important to establish these systems early in the validation process so that the required data can be consistently collected across multiple years.²⁸ Furthermore, given that denominators for key EMTCT indicators are derived from RMNCAH data (e.g., annual ANC users), better integration of EMTCT and RMNCAH data systems, from data collectors to national data capture and analysis, is also critical.

Similarly, while global guidelines offer important overarching policy direction, the nuanced understanding gained from local research is invaluable. This research, which should use contextualised approaches specific to the epidemic setting, identifies local challenges and opportunities. Such evidence can promote local insights and enhance local ownership and decision-making, leading to more relevant and contextually applied approaches, thereby increasing the likelihood of achieving the triple EMTCT goal.

Implementation strategies

Immediate actions (0–1 year)	
1	Set up a national validation committee within the national EMTCT coordination body to: - Standardize national and sub-national triple EMTCT indicators based on regional and global guidance¹²⁵ (if not done already). - Establish clear national short- and medium-term triple EMTCT targets to stay on track for the global triple elimination target by 2030. - Collaborate with the RMNCAH programme to integrate EMTCT data capture within community health and PHC frameworks. - Initiate an individual client-based EMTCT data capture system (unique identifier code) to strengthen maternal-newborn tracking among mothers who test positive for HIV, syphilis and/or hepatitis B. - Strengthen the linkages and coordination of the national validation committee with regional validation committees, as required. - National validation committee to set up a path to elimination framework, as required, for countries with large demographics.
2	Build the capacity of validation and monitoring teams to: - Monitor EMTCT data collection and analysis, and validate data quality and accuracy. - Ensure disaggregated data analysis for sub-national levels, and vulnerable communities and groups. - Strengthen data coordination between EMTCT and RMNCAH data capture systems to ensure the annual estimation of ANC denominator (number of pregnancies) is accurately estimated.

Expected outcomes	
• A national validation committee, as part of the national EMTCT coordination body, is established and functional. • Linkages and coordination of national validation committee, with regional validation committee established and functional. • As required, a path to elimination framework adopted by large demographic countries. • Triple EMTCT indicators standardized in accordance with regional and global guidance. • Clear, national short- and medium-term triple EMTCT targets formulated. • Linkages with RMNCAH programme established to jointly review and strengthen data coordination.	
Medium-term actions (1–3 years)	
1	Set up sub-national validation targets for sub-national EMTCT coordination bodies with activity portfolios aligned with the national validation committee.
2	Strengthen feedback mechanisms to ensure sub-national teams receive regular feedback on data quality and insights.
3	In addition to measuring validation indicators, enhance monitoring systems to routinely measure service access indicators disaggregated by gender, time, disability (where feasible) and socio-economic variables to track stigma, discrimination, gender sensitivity and disability inclusion in health facilities, particularly in primary care.
4	Invest in digital technologies with an evidence base of effectiveness to improve MIS in the country, such as electronic health records, mobile health applications and geographic information systems. • Actively track and maintain HIV-, syphilis-, hepatitis B-positive mothers and exposed newborns within the triple EMTCT cascade, from pregnancy to at least 18 months post-delivery. • Consider digital technologies and plan according to the local context, availability of infrastructure, and the digital literacy of national and sub-national data collection teams.
5	Identify country EMTCT research priorities and strengthen integration of EMTCT research within the overall national RMNCAH research agenda. • Conduct participatory research (involving local communities and affected populations) and periodic bottleneck analyses to identify good practices, key learning, and existing gaps. The aim is to generate strong evidence for relevant and resource-appropriate interventions, tailored to the local context.
6	Countries with exceptionally large demographics may consider instituting a stepwise sub-national validation process, where districts and provinces achieving the EMTCT targets are certified for country EMTCT validation achievement. • A proportion of EMTCT certified/validated districts and provinces may be used as an interim guide to EMTCT monitoring until national EMTCT validation is achieved by the country.

Expected outcomes	
• Sub-national validation mechanisms and activity portfolios are aligned, and the national validation committee is established. • Systematic feedback mechanisms between national and sub-national data collection teams are established and functioning. • Indicators related to stigma, gender sensitivity, disability and inclusion are developed, and advocacy efforts are in place to include these indicators in health management and information systems. • Digital technologies, which are aligned with local needs and capacity, to improve MIS have been identified and the implementation process is initiated. • National EMTCT research priorities are identified and integrated within the national RMNCAH research agenda.	
Long-term and sustained actions (3–7 years)	
1	When country-specific data quality is sufficient to support modelling, conduct a missed opportunities analysis using the Spectrum model and other guidance, with the support of regional partners.
2	Strengthen and utilize opportunities to integrate EMTCT data through national RMNCAH surveys (DHS, MICS, etc.).
3	Advocate for sentinel surveillance and biological and behavioural surveys inclusive of all three infections (HIV, hepatitis B and syphilis).
4	Advocate for an integrated HMIS, capturing data from both public and private health sectors, and make it available for unified programming and a comprehensive analysis of health system response in the country programme.
Expected outcomes	
• Successful completion of a detailed missed opportunities analysis, using the spectrum model and other relevant modelling techniques, enabled by high-quality country-specific data. • EMTCT data integrated within national RMNCAH surveys (such as DHS, MICS, etc.), leading to more robust and comprehensive data collection and analysis. • The need to include three infections in sentinel surveillance and biological and behavioural surveys for a holistic understanding of the epidemiological trends and effectiveness of EMTCT interventions is realized.	

Operational guidance for Strategic Priority 4: (i.e., adapting regional roadmap actions to the local context)	
A	For countries with little or stalled progress towards data-driven and context-specific decision-making
	• Work with and within the existing national coordination body and leadership structures to: • Establish a national validation committee to plan and monitor progress towards triple elimination targets. • Explore understanding and build consensus around the need to standardize national and sub-national triple EMTCT indicators for consistency with regional and global guidance. • Plan short-, medium- and long-term targets, aiming to achieve triple elimination by 2030. • National validation committee to develop a workplan for achieving triple elimination targets collaboratively, with national and sub-national stakeholders, including political leadership, health workforce representatives, academia and specialist digital data management personnel and includes: • Working in collaboration with RMNCAH for integrated triple EMTCT data monitoring, collection, analysis, and validation. • Implementing new data capture systems such as the proposed individual client-based EMTCT data capture system (unique identifier code) outlined in the roadmap. • Improving the integration of data flow and system checks across different levels of the health system, from community to facility, district, provincial, and national levels. The aim is to focus on how data can be aggregated effectively in a unified national HMIS and made available at sub-national levels to aid understanding of data importance and utility, thereby promoting system reform and improvement. • The workplan should also include a process for incorporating feedback from sub-national data teams regarding the feasibility of validation processes based on contextual barriers and facilitators. The national validation committee, in collaboration with national and sub-national coordination and leadership bodies, to determine which activities should be prioritized and represent the best value.
B	For countries with moderate progress towards data-driven and context-specific decision-making
	Strengthen the existing national and sub-national data collection mechanisms for validation under the leadership of national triple EMTCT coordination bodies and the national triple EMTCT validation committee. Continue to invest in developing in-country capacity for validation processes as a stepwise approach towards national validation. National and sub-national triple elimination coordination bodies and leadership structures to prioritize: • Resource identification and allocation for the capacity development of sub-national staff on data collection, analysis, and validation, including the support of two-way feedback on data capture and use. • Expanding indicators to assess service access and use by at-risk groups and thus work towards service inclusivity. • Review and test promising digital technology to assist HMIS improvement and case tracking that is appropriate to the context and capacity of data management personnel. • Prioritize domestic and international funding for, and collaboration between, domestic and international researchers and research institutions to support the development of the evidence base for domestic data management processes and digital tools within the triple EMTCT and RMNCAH research agendas.
C	For countries with considerable progress towards data-driven and context-specific decision-making
	National and sub-national triple elimination coordination and leadership bodies to prioritize: • Leveraging growing domestic research capacity and sub-national data management and analysis expertise, to plan for and implement a range of complex triple EMTCT modelling techniques to enable targeted service modification and development planning to accelerate the triple EMTCT agenda. • Resourcing and incentivizing modelling, and routine data collection and analysis for triple EMTCT indicators, as well as broader epidemiological indicators to understand trends that underpin the success or stalling of triple EMTCT approaches.

STRATEGIC PRIORITY 5

Community engagement and social accountability

Community engagement and leadership are critical in the planning, implementation and evaluation of triple EMTCT initiatives, as they directly contribute to the ownership, sustainability and effectiveness of these initiatives. Aligning strategic priorities with community needs and a positive values system ensures that approaches are culturally safe, person centred, gender responsive, locally relevant, and more likely to be sought, accepted and trusted by those who use them.¹²⁶ It is, therefore, recommended to facilitate EMTCT services through community health workers, community volunteers, community representatives including religious leaders, women's self-help groups, mother support groups, adolescent and youth groups, patient associations such as associations of people living with HIV, and established, trusted community-based organizations.

This approach differs significantly from simply informing communities or implementing strategies within them. Instead, it emphasizes co-creating programmes and fostering opportunities for engagement between national/sub-national programmes and local communities. Simultaneously, it establishes a reliable, real-time mechanisms for social accountability to monitor service quality.

Community involvement must not inadvertently reinforce gender barriers rooted in societal values, as these can expose women and girls to discrimination and potentially lead to a lack of access to care. Social accountability plays a vital role in this process. It improves service accountability and delivery and empowers communities, particularly the most vulnerable groups such as women and girls, including those with disability. By enabling these groups to actively participate/take the lead in shaping, evaluating and contributing to the improvement of the services they receive, this dual approach of community engagement and social accountability ensures that EMTCT initiatives are not only effective, but also respectful of and responsive to the communities they serve.

Implementation strategies

Immediate actions (0–1 year)	
1	Develop a costed triple EMTCT community engagement strategy, either standalone or integrated within the overall EMTCT strategy, identifying key community stakeholders and engagement processes.
2	Partner with community-led and community-based organizations working with women and/or girls at risk of or affected by HIV, STIs (syphilis) and hepatitis B to: • Ensure their representation in the national and sub-national EMTCT coordination bodies. • Involve them in EMTCT programme designs, reviews and quality improvement processes. • Plan community awareness campaigns with them, using print, electronic and social media to create demand for quality RMNCAH and triple EMTCT services.
3	In partnership with RMNCAH services, integrate EMTCT messages within community health-worker RMNCAH counselling tools and systems, ensuring equal focus on all three infections (HIV, syphilis and hepatitis B).
4	Organize awareness workshops on triple EMTCT and safe motherhood in public and private health institutions and other community gatherings as part of existing initiatives for RMNCAH. • Organize gender-sensitization workshops in public and private health institutions and other settings to address stigma and taboos linked to SRHR/STI and testing.
5	Integrate EMTCT messages and data recording within national maternal and child health handbooks.

Expected outcomes	
• A costed triple EMTCT communication strategy for community engagement is developed and endorsed by relevant stakeholders. • Adequate representation of affected and at-risk community members is ensured in the national and sub-national EMTCT coordination bodies. • Awareness campaigns and public events are planned and launched in priority needs districts at a minimum. • EMTCT messages, health education and data capture are integrated within national maternal and child health handbooks.	
Medium-term actions (1–3 years)	
1	Introduce/strengthen services such as trained mentor mothers, role modelling and testimonials from men, support groups for fathers and peer support groups for triple EMTCT (beyond only for HIV). • Offer training, with financial and/or non-financial incentives, to encourage community members to contribute to the EMTCT initiative. • Ensure that these incentives recognize their overall role, rather than focus on specific tasks, to value their comprehensive contribution.
2	Under the leadership of the triple EMTCT coordination body, draft and advocate for protective legislation and policies to ensure equitable access for all to the required treatment, care and support.
3	In collaboration with RMNCAH, integrate EMTCT social accountability systems within the RMNCAH social accountability frameworks (e.g., client exit interviews, quality surveys, etc.).
4	In coordination with academia and professional associations, establish a local or national EMTCT community of practice, utilizing the power of social media, to create a platform for knowledge- and experience-sharing.
5	Establish or integrate EMTCT information service into national RMNCAH/HIV/AIDS health helplines.
6	Strengthen the linkages of HIV-positive pregnant mothers and exposed newborns to community nutrition support programmes, as required.
7	Use gender-transformative and inclusive accountability tools, such as the Young Citizen Score Card (used by Plan International and CARE International), to assess the level of beneficiaries' satisfaction and community social accountability of triple EMTCT interventions.
8	Initiate youth engagement programmes (including for adolescents/young mothers) and community health volunteers' models, with a focus on districts with high prevalence of the three infections.
9	Strengthen advocacy on the triple EMTCT agenda through print, public and social media.
10	Strengthen advocacy on triple EMTCT through various policy advocacy forums, including parliamentary committees.

Expected outcomes	
- Trained mentor mothers¹²⁷ and mother/family support groups, fathers and peer support groups are established and operationalised in identified facilities in priority needs districts. - A specialised advocacy group within triple EMTCT coordination body has been formed and is actively collaborating with the national/sub-national legislative bodies to advocate for the integration of human rights protection laws pertaining to EMTCT for HIV, hepatitis B and syphilis. - An EMTCT social accountability system is developed and integrated within the national RMNCAH social accountability framework, and information drawn from the field contributes to improving programmes. - EMTCT community of practice established and active. - EMTCT national helpline is established or EMTCT is integrated within existing RMNCAH-HIV/AIDS health helplines. Triple EMTCT advocacy and messaging through print, public and social media is strengthened. Triple EMTCT is advocated through various policy advocacy forums, including parliamentary advocates.	
Long-term and sustained actions (3–7 years)	
1	Strengthen communities to lead decision-making as triple EMTCT programmes evolve.
2	Launch economic empowerment initiatives, such as micro-financing, for affected communities.
Expected outcomes	
Communities are actively engaged and play a vital role in realising the triple EMTCT goal by 2030.	

Operational guidance for Strategic Priority 5: (i.e., adapting regional roadmap actions to the local context)	
A	For countries with little or stalled community engagement and social accountability
	- Work with and within existing national and sub-national coordination bodies and leadership structures to develop community engagement guidelines for triple EMTCT. The guidelines should: - Offer strategies for engaging with community representatives (ensure the representation of people, especially women, affected by or infected with HIV, syphilis or hepatitis B) from initiation of the design to ongoing implementation of triple EMTCT activities. This includes involvement in programme reviews and quality improvement processes. - Aim to address the social and gender beliefs and norms that feed the stigma related to the three diseases, and co-design strategies to manage stigma within prevailing social norms and context. - Provide a framework for developing community awareness campaigns using media and advocates that are contextually and culturally appropriate and acceptable. - Equip communities with tools to assess their own accountability to their populations in all their diversity, and act for improvement. - In collaboration with the RMNCAH programme, engage community health workers to integrate triple EMTCT approaches effectively and acceptably within the existing community health worker and RMNCAH programme priorities. - Identify opportunities to partner with existing RMNCAH community-based campaigns, such as 'Mother-Child Week' and safe motherhood workshops, in public and private health institutions and community gatherings, to promote integrated triple EMTCT messages. - Invest in community-led initiatives such as mentor mothers, peer support groups and role modelling from men (beyond only for HIV).

B	For countries with moderate progress towards established community engagement and social accountability
	• Leverage the community consultations, articulated in the community engagement guidelines, to understand the barriers and facilitators to: • Community-led initiatives such as mother support group programmes, father and peer support groups, and other providers of triple EMTCT services that work close to communities. • The role of spouses/partners and their engagement in triple EMTCT testing and services – for themselves, their partners and their families. • Equitable access for all to required triple EMTCT screening, treatment, and ongoing care and support. • Draw on information gathered during community consultations and the guidance of the triple EMTCT coordination body to advocate for protective legislation and policy amendments to broaden access to triple EMTCT services and incorporate social accountability for services into their operations.
C	For countries with considerable progress towards established community engagement and social accountability
	• Continue to advocate for community engagement and social accountability mechanisms as an enshrined component of ongoing planning, implementation and monitoring of the RMNCAH and triple EMTCT strategies. • Demonstrate the utility of data from community engagement and social accountability processes by utilizing it in awareness campaigns and advocacy forums, highlighting how it is used to monitor and plan for improving the health and well-being of women and children, including those affected by HIV, syphilis and hepatitis B.

STRATEGIC PRIORITY 6

Populations with higher prevalence of MTCT of HIV, syphilis and/or hepatitis B

While universal testing and treatment, and mainstreaming of EMTCT services are key objectives of the triple EMTCT strategy, it is also essential to strengthen and expand specialized services targeting sub-populations at higher risk for at least one of the three infections. These include women who have already tested positive, have a history of STIs, are at risk of acquiring the diseases (such as partners of men who have sex with men and injecting drug users), live in high-prevalence districts/communities and/or experience barriers to accessing EMTCT services due to self-directed and/or external stigma and discrimination.

The likelihood of achieving targets for triple EMTCT is increased by purposively engaging with these communities, thereby reducing the risk of MTCT. In doing so, it is crucial to employ strategies that are both acceptable and feasible for high-risk populations. Understanding who these groups are, the nature of their susceptibility and the opportunities and barriers to reaching them are key to appropriately identifying and responding to their needs in a timely manner. Building trust is fundamental to such access, and the planning and effectiveness of approaches are likely to be promoted when collaborating with or engaging with trusted representatives. It is also important to regularly share insights and lessons learned in a transparent manner to foster trust in the system and those who are its custodians. Collecting and accessing data specific to these sub-populations assist with reaching the triple EMTCT goal.

Implementation strategies

Immediate actions (0–1 year)	
1	National coordination body to conduct a joint review with community representatives and epidemiologists to identify high-prevalence geographical areas/districts and sub-populations for MTCT of HIV, hepatitis B and syphilis, if not done already. (These sub-populations may include adolescents, young women, migrants, people with disability, tribal communities, refugees and displaced people, humanitarian and emergency settings, people who inject drugs, sex workers or prisoners.)
2	For identified geographical areas and sub-populations with a high-MTCT prevalence, conduct a mapping of stakeholders and community representatives who should be involved in the planning and management of EMTCT services to these areas and sub-populations.
Expected outcomes	
- Joint review conducted to identify geographical areas and sub-populations with a high-MTCT prevalence of the three infections. - Mapping of community representatives and key stakeholders for geographical areas and communities with a high-MTCT prevalence is completed, ensuring their strategic involvement in the planning and management of triple EMTCT services.	
Medium-term actions (1–3 years)	
1	Prioritize high- and medium-prevalence geographical areas for scaling up health systems for EMTCT, ideally, where possible, in partnership with community organizations that serve these populations.
2	Host cross-learning workshops where lessons learned from high-prevalence geographical areas can be incorporated into staff training and operational guidelines for mainstreamed EMTCT services to improve acceptability and safety for at-risk populations accessing these services.
3	Implement a sub-national certification process to gradually validate EMTCT in lower-prevalence and higher-prevalence sub-national geographies (such as districts) and focus on programme strengthening in districts and provinces with higher rates of MTCT.
4	Conduct a review of referral/follow-up gaps between standalone HIV/STI clinics that cater to at-risk sub-populations and mainstream RMNCAH services for women referred for EMTCT services.
5	Ensure triple EMTCT provisions are included in all humanitarian and emergency response plans.
Expected outcomes	
- Enhanced capacity and quality of triple EMTCT services in identified geographical areas is achieved through strategic scaling up of health systems in these areas. - Cross-learning workshop plan is developed, and implementation has started. - There is progression towards sub-national EMTCT certification and focused efforts to strengthen triple EMTCT initiatives in areas with high prevalence for the three infections. - A comprehensive review of referral and follow-up gaps between standalone HIV/STI clinics and mainstream RMNCAH is conducted. - Triple EMTCT provisions are in humanitarian and emergency response plans.	

Long-term and sustained actions (3–7 years)	
1	Continue strengthening triple EMTCT services in high and medium prevalence areas, and the sub-national certification/validation process, while progressively expanding them to low-prevalence areas to achieve nationwide coverage and maintain this progress to attain the triple elimination target by 2030.
Expected outcomes	
Enhanced coverage and quality of triple EMTCT services, supported by a robust sub-national certification process, ensuring high standards of care and prevention across the country.	

Operational guidance for Strategic Priority 6: (i.e., adapting regional roadmap actions to the local context)	
A	For countries with little or stalled progress targeting populations with higher prevalence of MTCT
	- Work with and within existing national and sub-national coordination bodies and leadership structures, community engagement guidelines and leverage partnerships with national and regional research institutes to: - Identify most at-risk/high-prevalence geographical areas/districts and communities for EMTCT of HIV, hepatitis B and syphilis. - Map stakeholders (and where feasible, community representatives) of high MTCT prevalence area/districts and sub-populations with high-MTCT prevalence and sensitively engage them in the strategic development of feasible and acceptable EMTCT strategies targeted to these areas and sub-populations. - Emphasize transparency of purpose, and the sharing of collected data and planning processes to build accountability and trust of sub-populations.
B	For countries with moderate progress targeting populations with higher prevalence of MTCT
	- Leverage national and sub-national triple EMTCT coordination bodies and leadership to engage communities and community leaders in high-prevalence geographical areas, and officials for RMNCAH and triple EMTCT screening, service delivery and to monitor strengthening. - Utilize community engagement guidelines (outlined in Strategic Priority 5) to develop community engagement processes and partnerships to host workshops in high-prevalence areas to gather lessons on successful strategies to engage sub-populations. This initiative will benefit facility-based and community health workers by developing their skills and enhancing the transparency of community engagement processes. - Utilize data disaggregated by high prevalence sub-populations to understand discrepancies in triple EMTCT service access.
C	For countries with considerable progress targeting populations with higher prevalence of MTCT
	- Leverage existing leadership and coordination mechanisms to collect targeted data leading to incremental triple EMTCT validation of sub-national areas identified at different levels of prevalence, ranging from high, medium to low prevalence for the three infections. - Utilize data and success stories from high-prevalence areas to demonstrate response to need and the effectiveness of targeted triple EMTCT strategies. To build trust in the health system and health workers, focus on responsiveness of services and health personnel to local needs.

STRATEGIC PRIORITY 7

Mainstreaming triple EMTCT services and data capture in the private health sector

In most South and East Asian countries, the private (for-profit) health sector is a key player in health care delivery, and there is a significant flow of clients between the public and private sectors for various reasons, including seeking better quality of care.^{29, 128} While the private sector's role is beneficial in bridging health care gaps, it often leads to significant out-of-pocket payments, rendering its services inaccessible to the economically disadvantaged. Further barriers to ensuring quality services and consistent reporting of data in the private sector include often weak or non-existent regulatory mechanisms, minimal policy direction, a lack of reporting obligations to national health information systems, and inconsistent and often limited involvement in public health sector planning.¹²⁹

In other countries, such as Pacific Island nations, the private for-profit sector is relatively small, with the gap in public health services predominantly filled by NGOs and faith-based organizations. These organizations typically provide health care at minimal to no cost. However, similar challenges remain, particularly concerning the quality of services, their oversight, and the nature or absence of organized systems for data collection and sharing with the government.

Given these scenarios and considering that the public health sector is often stretched, it is imperative for governments to devise strategies for accrediting and engaging the private health sector. This is necessary to strengthen overall health service delivery, including RMNCAH and EMTCT services, and ensure that health care is delivered with quality and accountability.¹³⁰

Implementation strategies

Immediate actions (0–1 year)	
1	Engage with health professional associations and private sector representatives through national and sub-national EMTCT coordination bodies, to develop a collaboration plan for triple EMTCT services based on an assessment of extent and the quality of EMTCT services rendered by the private sector.
2	Ensure private sector representation in the development of national EMTCT/RMNCAH policies, strategies and action plans.
3	Explore existing public-private partnerships in countries in the context of RMNCAH and other programmes such as EPI, and expand them for triple EMTCT services. - Engage the private sector in delivering agreed quality essential health care services for RMNCAH, including triple EMTCT. - Collaborate with private laboratories for diagnostics, such as viral load testing and EID, in areas with limited public sector reach.
Expected outcomes	
- Enhanced collaboration and integration between the public and private sectors. - Inclusion of private sector insights and resources in national EMTCT/RMNCAH strategies. - Expanded reach of EMTCT services through public-private partnerships.	

Medium-term actions (1–3 years)	
1	Conduct a joint review of private sector EMTCT policies, in collaboration with health professional associations and private sector representatives, to find where these are not identical to those used in the public sector.
2	Develop private sector regulatory and M&E policies for triple EMTCT services where no such policies exist.
3	Involve private providers in capacity-building workshops for triple EMTCT validation teams and data processing trainings.
4	Invest in strategies to minimize out-of-pocket expenses such as conditional cash transfers, and exemption schemes for women and newborns affected by HIV, syphilis or hepatitis B.
Expected outcomes	
• Harmonization of public- and private sector policies on EMTCT. • Enhanced M&E of triple EMTCT services involving both public and private sectors. • Reduced financial burden on affected families.	
Long-term actions (3–7 years)	
1	Conduct a comprehensive analysis to measure the impact of collaboration between the public and private sectors for triple EMTCTs
2	Continuously refine and update EMTCT policies based on data and impact assessments related to private sector contributions.
3	Identify and scale up for national reach successful public-private partnership models and practices from EMTCT within pilot projects.
4	Invest in establishing a centralized health information system, merging data from both the public and private sectors.
Expected outcomes	
• An understanding of agendas and strategic priorities is established between public and private triple EMTCT stakeholders. • The private sector contribution to ongoing policy evolution is relevant to triple EMTCT. • The health information system incorporates data from public and private providers.	

Operational guidance for Strategic Priority 7: (i.e., adapting regional roadmap actions to the local context)	
A	For countries with little or stalled progress in mainstreaming triple EMTCT services and data capture into the private health sector
	• Focus on understanding and exploring existing private sector capacity within national settings and strengthening the relationship between the public and private sectors. This encompasses leveraging collective knowledge and established relationships through the existing triple EMTCT national and sub-national coordination and leadership mechanisms. • Encourage the private sector (such as private providers associations) to join the membership of national and sub-national triple EMTCT coordination bodies. Ensure their active engagement in the development of national EMTCT policies, strategies and action plans. • Seek opportunities for collaboration with an emphasis on exploring existing private sector reach, capacity and operations. The aim is to expand the scope of triple EMTCT services, including diagnostic, treatment and referrals, by incorporating private sector resources and networks.
B	For countries with moderate progress in mainstreaming triple EMTCT services and data capture into the private health sector
	• Leverage relationships between public and private sector stakeholders involved in triple EMTCT service delivery on both the national and sub-national coordination and leadership bodies to: • Review harmonisation (i.e., whether consistent) of public and private policies related to triple EMTCT by involving policy makers and examining the current regulatory and M&E frameworks. • Develop and align policies for consistency and establish regulatory and M&E frameworks with a particular focus on expanding coverage and reducing out-of-pocket expenses if the review suggests a need or identifies gaps. • Ensure all stakeholders, including private providers, are invited to and participate in capacity-building opportunities such as training workshops relevant to gender-responsive triple EMTCT services and oversight (e.g., validation processes, data management and processing and M&E).
C	For countries with considerable progress in mainstreaming triple EMTCT services and data capture into the private health sector
	• Strengthen existing relationships between public and private sector stakeholders involved in triple EMTCT service delivery on both the national and sub-national coordination and leadership bodies to: • Enhance triple EMTCT policy, strategies and action plans based on private and public sector data available through health information systems (and work towards ensuring these data are incorporated if not already). • Review and leverage partnerships and resources to scale successful private sector initiatives relevant to triple EMTCT. • Analyse the impact and benefits of private-public collaboration for triple EMTCT towards validation and the EMTCT 2030 agenda.

6.2 EMTCT strategic priorities in the context of universal health coverage and health systems strengthening

In this section and the following sections, implementation strategies and operational guidance within the frameworks of universal health coverage, health systems strengthening, and the promotion of human rights and equity are outlined to advance the triple EMTCT agenda. The final section presents strategies for regional partners to assist countries in progressing their EMTCT programmes.

Universal health coverage (UHC) means that ‘all people have access to the full range of quality health services they need, when and where they need them, without financial hardship’.¹³¹ Achieving UHC requires health systems that are efficient, equitable, well-funded and embedded in the communities they serve. Although the overarching objective of UHC remains the same, i.e., health for all without risking financial catastrophe, every country has its own course towards UHC, tailored to the needs of its people and the available resources.

To attain UHC, the key is to adopt an integrated health systems strengthening approach while investing in primary health care (PHC) that promotes the health and well-being of all, including those affected by HIV, syphilis and hepatitis B.^{132, 133} The essential components of PHC, such as multisectoral policy and action, empowered people and communities, and access to integrated healthcare, are also the core components of the triple EMTCT response. A focus on triple EMTCT, therefore, provides an opportunity to strengthen the overall health system, including PHC, in each national setting.¹³⁴ Similarly, a focus on strengthened health systems and PHC provides the foundation for progress towards the triple EMTCT 2030 goal.

Implementation strategies

Immediate actions (0–1 year)	
1	Integrate triple EMTCT services within national comprehensive health system strengthening policies, strategies and action plans, contributing to a more unified and effective health system.
2	Build consensus and leadership momentum for health system strengthening review and investment in the key areas of the community health workforce , quality of care , strengthening supply chains , data and digital health , and national investment and governance .
3	Prioritize community health care, outreach services and primary health centres as key links to triple EMTCT counselling and service initiation linked to referral services.
4	Enhance the capacity of sub-national health teams, focusing on district health systems strengthening beyond triple EMTCT to make informed decisions based on available data, plan effectively and monitor progress.
5	Advocate for a comprehensive ‘essential health care package’ inclusive of diagnostics, treatment, and prophylaxis for HIV, syphilis and hepatitis B, ensuring the services are available to all without any catastrophic cost and that systems are in place to support their implementation.
6	Promote the integration of free triple VCCT service as a standard component of routine antenatal care, giving women and their families the opportunity to receive essential information and support, fostering informed choices in decisions concerning their health and well-being.
7	Develop a national EMTCT service landscape mapping to ensure availability of EMTCT continuum of care (testing, treatment, EID) in line with national minimum service package availability and accessibility guidelines, linked through referral systems that meet national service accessibility standards.

Expected outcomes	
• Opportunities for health system strengthening identified through robust leadership, comprehensive health system reviews and targeted investments. • Capacities of sub-national staff strengthened beyond triple EMTCT, leading to substantial improvement in overall health service delivery. • Essential health care packages inclusive of triple EMTCT services, including VCCT, are available, empowering communities and protecting them from catastrophic costs. • National EMTCT service landscape mapping finalized, identifying critical gaps in service accessibility as per national service access minimum standards.	
Medium-term actions (1–3 years)	
1	Continue to build consensus and leadership momentum for health system strengthening review and investment in the key areas of community health workforce , quality of care , strengthening supply chains , data and digital health , and national investment and governance . Ensure a key focus on translating review into investment case development.
2	Promote triple EMTCT as part of a national health agenda, where EMTCT diagnostics and antivirals are included in the essential diagnostic and drug lists in countries, to improve access, affordability and quality of overall health care services.
3	Implement a national EMTCT assessment validation exercise, including health systems availability for EMTCT services, and utilize insights from EMTCT validation assessment and local data to enhance overall health system response to the needs and well-being of women and children.
4	In collaboration with other stakeholders, focus on consolidating existing resources and developing joint resource mobilization that ensures equitable access, and foster an incentivized environment to enable high-quality care and services, and provide financial risk protection.
5	Assess and implement EMTCT system strengthening based on minimum criteria outlined in the WHO triple EMTCT validation guideline for the core areas of programme, data, laboratory services and human rights.
6	Consider task shifting of key EMTCT testing, treatment and EID services to providers at grassroots level and devolved facilities closer to PHC, adapted to the local context.
7	As required, consider integrating EMTCT counselling with other counselling services across RMNCAH and nutrition services.
8	Integrate EMTCT monitoring within regular RMNCAH programme's supportive supervision and monitoring mechanisms.
9	Integrate EMTCT advocacy within all national RMNCAH health helpline systems and other communication and advocacy activities.
Expected outcomes	
• Sustained leadership commitment is established to continuously enhance and build upon health system strengthening efforts. • Triple EMTCT becomes a standard component of the national health agenda, and EMTCT diagnostics, medications and other supplies are included in essential diagnostic and drug lists. • National EMTCT validation, including health systems readiness, is implemented, and insights from the EMTCT validation data are utilized to enhance health system strengthening. • Strengthened collaboration among stakeholders, leading to pooling of resources and joint resource mobilization to ensure UHC. • EMTCT service readiness assessment and system strengthening plan are implemented for the core areas of programme, data, laboratory services and human rights, as per the WHO triple elimination guideline and minimum standards for validation. • As appropriate, a task shifting strategy for EMTCT is designed and implemented to overcome temporary or long-term human resource challenges.	

• EMTCT counselling is integrated with RMNCAH and nutrition counselling services for maximum impact. • EMTCT programme monitoring is integrated within all national RMNCAH programme monitoring and supportive supervision mechanisms. • Advocacy messaging on EMTCT is integrated within all RMNCAH national health helplines and other communication and advocacy activities.	
Long-term and sustained actions (3–7 years)	
1	Monitor progress of investments in EMTCT system strengthening, per minimum EMTCT programme standards in the WHO validation guidelines, and review ongoing capacity needs with a focus on sustainability in the key areas of community health workforce, quality of care, strengthening supply chains, data and digital health, and national investment and governance .
2	Establish sustainable financing mechanisms for health care, including EMTCT, focusing on decreasing reliance on donor funds and enhancing local public funding mechanisms.
3	Link EMTCT services to national digital health infrastructures, including tele-medicine and mobile applications, to make EMTCT services more accessible.
4	Foster continuing professional development in health care through research and local evidence-building and apply this knowledge to accelerate the scale-up of successful strategies to strengthen EMTCT services through PHC-oriented systems.
5	Implement a unified HMIS and data collection framework, inclusive of the public and private sector, ensuring efficient data analysis and joint programming across various health services.
Expected outcomes	
• Robust leadership is established to consistently monitor investments in health system strengthening – from financing, investing in advanced digital health infrastructures and ongoing professional development, to a unified mechanism for data collection, reporting and analysis.	

Operational guidance	
A	For countries with little or stalled progress in triple EMTCT system investment towards UHC
	• Focus on building consensus for health system strengthening through triple EMTCT coordination and leadership mechanisms, emphasising inclusive stakeholder engagement. This aims to identify areas where the best return on investment can be achieved within national resource capacity. • Work towards leveraging established consensus for broad health system strengthening as a basis to review priority needs at national and sub-national level, and in high prevalence areas with a focus on the community health workforce, quality of care, strengthening supply chains, data and digital health and national investment and governance. • Solicit the views, perspectives, and priorities of communities regarding priority health system strengthening investment and actions. • Draw on broad stakeholder inputs including disease-specific programme leadership, community representatives, relevant government departments and national and sub-national health system leadership and coordination bodies, to develop costed plans for health system strengthening activities in targeted, high-need and opportunity areas. • Focus on coordination between national and sub-national triple EMTCT leadership and coordination bodies to: • Understand the needs and priorities at different levels of the health system, prioritise collection of evidence for needed reforms utilising national (and where feasible, international) and local research capacity, and build sub-national evidence generation, data analysis and planning capacity. • Advocate for the integration of triple EMTCT priority screening and services within current and strengthened health systems, with a focus on ANC. • Build priority integration of triple EMTCT screening and services into updated policies, with a focus on the UHC priorities of improved access and avoidance of catastrophic costs.

B	For countries with moderate progress in triple EMCT system investment towards UHC
	• Focus on building momentum for investment in health system strengthening and costed implementation plans, drawing on stakeholder groups and national and sub-national triple EMCT leadership and coordination bodies. • Continue to advocate for the integration of triple EMCT screening and services within the ongoing health system function, and reform activities and policy evolution. Leverage existing stakeholder understanding of this need and the opportunity for advocacy. • Leverage building communication capacity and understanding between national and sub-national triple EMCT leadership and coordination bodies to: • Monitor and review validation data for opportunities to improve health system response. • Normalize triple EMCT functions as essential components of a well-functioning and appropriate health system.
C	For countries with considerable progress in triple EMCT system investment towards UHC
	• Focus on monitoring progress and maintaining momentum of investment in health system strengthening in all key areas: community health workforce, quality of care, supply chains, data and digital health, and national investment and governance. • Share evidence for the effectiveness of investment in health system strengthening, with a focus on triple EMCT. • To maintain momentum for ongoing, sustainable health system strengthening investment, inclusive of triple EMCT, leverage consensus around priority elements of health system reform for triple EMCT and UHC across national and sub-national triple EMCT leadership and coordination bodies, stakeholders and community members. Place particular focus on: • The community health workforce, with a focus on professional development, and appropriate and sustainable incentives for performance in the context of integrated triple EMCT screening and services. • Quality of care, including a focus on maintaining this through task shifting with supportive supervision and understanding of workforce priorities. • Strengthening supply chains, to ensure that a focus on enhanced and effective screening leads to increased public trust that reliable and effective treatment and care, appropriate to diagnosis, can be delivered and maintained. • Implementing data and digital health systems and communicating these well, with initial and ongoing training for data management and analysis, storing, and two-way data flows to build awareness of the value of data collection. • National investment and governance to work towards sustainable financing, and monitoring and oversight of health system reforms to meet the UHC agenda and achieve triple EMCT targets.

6.3 Promotion of human rights and equity within EMTCT strategies

The United Nations identifies **human rights** as rights inherent to all individuals, irrespective of their nationality, sex, national or ethnic origin, colour, religion, language, or any other status. These rights range from the most fundamental, such as the right to life and access to food, to those that make life worth living, such as education, work, health and liberty.

Equity, on the other hand, is framed as the absence of unjust or avoidable disparities among different groups, whether those groups are defined socially, economically, demographically, geographically, or by other aspects of inequality such as sex, gender, ethnicity, disability, or sexual orientation.¹³⁵

Promoting human rights and equity is fundamental to achieving UHC and the triple EMTCT goal. It fosters trust among people and empowers them to take control of their own health, which is a basic human right. Equally important to achieving the triple EMTCT goal is ensuring that the promotion of human rights is inclusive of all – especially those already facing inequities in life, such as women, adolescent girls, people with disabilities, people with mental health issues, immigrants, people with varying religious beliefs, jail inmates, injecting drug users, sex workers and LGBTQIA+ communities, among others. Providing equitable healthcare access to everyone, regardless of their socioeconomic status, gender, beliefs, or identity, creates an inclusive and effective healthcare system.

In the context of triple EMTCT, upholding human rights and addressing inequities can break down barriers that prevent pregnant women and their infants from accessing RMNCAH care more broadly, particularly EMTCT services. Stigma and discrimination of HIV-positive mothers can pose a significant barrier to accessing and utilizing EMTCT services, as well as retention in the EMTCT cascade. The right to quality and respectful care is a fundamental health right. Gaps in quality and disrespectful or discriminatory care due to infection status can also pose a significant barriers.

Harmful social and gender norms, allow multi-partnering for men and create systemic barriers to knowledge of their serological status and/or to their seeking care, thus exposing women and girls to contamination risks. On the other hand, these same norms prevent women and girls from making decisions about their own bodies in terms of access to health care, including STI prevention methods and having control over economic resources, thus subjecting them to the will of their partners. Expanding service awareness and reach to partners and communities of care are important first steps. This approach not only fosters a more just society but also enables early diagnosis, prompt treatment and improved health outcomes for mothers and their newborns.

Implementation strategies

Immediate actions (0–1 year)	
1	Strengthen the voices of affected communities in EMTCT coordination bodies by actively involving them in the policy-making process, programme development, implementation, advocacy and service delivery.
2	Ensure a human rights-based approach is prioritized and that a commitment to reducing inequities is adequately reflected in all EMTCT policy documents and strategies.
3	Incorporate human rights and gender equality education into the training of EMTCT service providers (including, where feasible, community health workers), covering aspects such as respectful care regardless of diagnosis, the right to confidentiality, and access to health care without denying any services, or exposure to stigma and discrimination.
4	Establish that health care settings are people centred and respectful of privacy and confidentiality, and free from mandatory or coerced testing and treatment, forced and coerced abortion, contraception and/or sterilization, ensuring that all health-related decisions are made with the individual's informed consent.
5	Implement a feedback mechanism to allow communities to report on EMTCT service delivery, aimed at verifying the alignment of services with global, regional and national human rights standards.
6	Set up and strengthen supportive counselling and service systems for partner testing.
7	Ensure that EMTCT services are integrated within existing client complaint redressal systems at all levels.
8	Review and strengthen the human rights component of national EMTCT strategies and guidelines.
Expected outcomes	
• Representation of affected communities is strengthened in EMTCT coordination bodies. • Human rights-based approach is reflected in all EMTCT documents. • Health workers' training curricula is aligned with human rights and equity standards. • People-centred health care centres are established. • Feedback mechanisms for communities are in place and in practice. • System is supportive of partner testing. • EMTCT services are integrated within client complaint redressal systems at all levels. • The human rights component of national EMTCT strategies, guidelines and service standards is reviewed.	

Medium-term actions (1–3 years)	
1	Strengthen local evidence of a country's progress in overcoming inequities and human rights challenges in the context of EMTCT and use this evidence to make health care services more equitable for sub-populations struggling to access the necessary health care.
2	Collaborate with national/sub-national legislative bodies to advocate for decriminalization and the integration of human rights protection laws pertaining to triple EMTCT.
3	Engage in dialogue with departments or agencies that oversee social and financial protection mechanisms within the country or districts, focusing on removing socioeconomic barriers to accessing EMTCT services.
4	Utilize the triple EMTCT validation process as a key opportunity to strengthen accountability for human rights protection. This involves assessing EMTCT programmes against human rights norms and equity and ensuring the provision of quality services free from discrimination.
5	Ensure that EMTCT services are integrated within existing RMNCAH service rights charters.
6	Integrate the monitoring of human rights-related indicators within the national EMTCT management information system.
7	Strengthen the human rights component of the national EMTCT communication/social and behaviour change strategy.
Expected outcomes	
- Local evidence is available and used to inform and strengthen equitable health care. - Progress in advocacy with legislative bodies, leading to a more supportive legal framework for human rights protection in the context of EMTCT. - Progress in collaborations with agencies overseeing social and financial protections, resulting in reduced socioeconomic barriers to accessing EMTCT services. - EMTCT services are integrated within national RMNCAH service rights charters. - EMTCT human rights-related indicators are integrated and monitored within national EMTCT MIS. - There is enhanced visibility of human rights protection mechanisms in the triple EMTCT validation process. - Human rights component of the national EMTCT communication/social and behaviour change/advocacy strategy is strengthened.	
Long-term and sustained actions (3–7 years)	
1	Invest in equality and human rights indicators in national monitoring and evaluation mechanisms, for a comprehensive and all-inclusive health system response.
2	Foster ongoing partnerships between government, civil society and communities to support and sustain equitable health care, including for triple EMTCT.
Expected outcomes	
- A sustainable M&E system with a focus on equity and human rights is operational and capable of adapting to local health care needs and challenges. - Strong, enduring partnerships are established to ensure human rights-based and equitable access to triple EMTCT services.	

Operational guidance	
A	For countries with little or stalled progress in the promotion of human rights and equity
	- Focus on understanding gaps, needs and contextual resistance (e.g., political, ideological, structural) to the promotion of human rights and equity-based approaches in national and sub-national settings (mindful of nuanced variations across national settings), drawing on triple EMTCT coordination and leadership mechanisms. - Prioritize inclusive, respectful stakeholder engagement to identify human rights and equity promotion, and awareness activities with a focus on safeguarding stakeholder participation. - Step 1: Identification, through leadership and coordination mechanisms, of stakeholder representatives of potentially marginalized groups for engagement, - Step 2: Engagement with stakeholders to understand and prioritize needs and opportunities. - Promote the voices of communities as a priority, focusing on those previously missed or excluded, while safeguarding participation. - Utilize national and sub-national triple EMTCT leadership and coordination bodies to build understanding and consensus around priority activities, with a focus on: - Inclusion in policy of human rights and equity language and priorities. - Ensuring health worker training, refresher training and supportive supervision prioritises human rights and equity-based approaches. - Ensuring health centres/facilities are inclusive and welcoming and enshrine these principles within their operations. - Capturing and considering feedback from groups assessed as potentially excluded and marginalized, and considering this in planning.
B	For countries with moderate progress in the promotion of human rights and equity
	- Focus on building momentum for enshrining a human rights and equity focus in planning processes for triple EMTCT and health system strengthening within national and sub-national triple EMTCT coordination and leadership mechanisms. - Triple EMTCT leadership and coordination mechanisms at national and sub-national level to work to normalize ongoing partnerships for the sustainability of human rights and equity-focused initiatives in support of triple EMTCT, among government, civil society and communities. - Normalize the use of human rights and equity-focused data points as indicators of health system and triple EMTCT activity success as a barometer of health system performance towards the achievement of triple EMTCT 2030 goals. - Strengthen existing cross-sectoral relationships within national and sub-national triple EMTCT leadership and coordination bodies, and identify and foster the development of new ones with the aim of: - Streamlining processes for collating evidence of the country's progress in overcoming inequities and human rights challenges in the context of EMTCT. - Enhancing social and financial protection mechanisms and the integration of human rights protection laws. - Establish processes and monitor the progress of community feedback regarding inclusivity and the effectiveness of human rights and equity-focused triple EMTCT initiatives.
C	For countries with considerable progress in the promotion of human rights and equity
	- Focus on monitoring progress and maintaining the momentum of human rights and equity-focused initiatives and investments, with a view to ensuring their expansion and sustainability. - Normalize the use of human rights and equity-focused data points as indicators of health system and triple EMTCT activity success as a barometer of health system performance towards the achievement of triple EMTCT 2030 goals. - Work to normalize multi-sectoral partnerships (including among government, civil society and communities) to build awareness of the centrality of human rights and equity principles in the health system, PHC and triple EMTCT planning.

6.4 How regional partners can support the strategic priorities

The establishment of strategies for triple EMTCT relies on diverse approaches that must operate within existing regional, national and sub-national health system strengthening priorities. Although countries in the Asia-Pacific region have made varied progress toward this goal, there are enduring challenges ranging from structural gaps to financial constraints that necessitate strong regional leadership commitment and action. Guidance and collaboration with regional partners are essential to ensure that every country in the Asia-Pacific region is optimally positioned to achieve their triple EMTCT targets and ensure a healthier future for the coming generations.

Strategic guidance and support from global and regional levels can serve to signpost appropriate ways forward for countries, while flagging where strategies must be appropriately matched to national and sub-national health system strengthening needs. United Nations functions and organizational capacity can be usefully leveraged to meet this need. This can take the form of standardized processes and standard operating procedures (SOPs) but also, within countries, support the engagement and adaptation of policies and strategies, and the establishment of governance and leadership mechanisms. It can also assist in making the case for systems such as supply chain, information management and laboratory networks based on lessons from other applicable and related settings.

Maintaining momentum towards triple EMTCT requires consistent messaging that can assist in monitoring and highlighting issues, and potentially secure funding. Coordinating with other regional networks, such as the South Asian Association for Regional Cooperation (SAARC) and Association of Southeast Asian Nations (ASEAN), can offer additional platforms for joint programming and shared opportunities, facilitating the achievement of UHC including triple EMTCT targets. While transitioning to sustainable domestic financing of EMTCT services is within reach by 2030 for most countries in the region, external financial and material support by regional partners (multilateral and bilateral organizations, private philanthropies, corporate social responsibility programmes and others) will play an important role in the road to 2030.

Likewise, technical and in-kind support, for example through South-South bilateral knowledge-sharing, regional health professional associations and corporate bodies (for example, in diagnostics and pharmaceuticals), academic institutions, human rights organizations and regional community-based organizations, is essential for developing effective strategies in each country that meet best practice standards.

Operational guidance for this cross-cutting strategic priority area rests primarily with United Nations agencies and membership of the triple EMTCT validation committee/secretariat. It must necessarily involve ongoing collaboration with country teams and alignment with and ongoing review of the relevance and applicability of health systems, PHC, UHC and triple EMTCT regional frameworks and strategic directions.

Implementation strategies

Actions by regional United Nations secretariats (UNICEF, WHO, UNFPA, UN Women, UNDP, World Bank and UNAIDS)	
1	Promote integration of EMTCT agenda within the SAARC and ASEAN social and health policy framework as a key policy goal for the Asia-Pacific region.
2	Support countries in developing SOPs for EMTCT coordination bodies at national and sub-national levels.
3	Assist countries in developing and synchronizing policies, strategies and clinical guidelines for triple elimination in general RMNCAH policies and frameworks. For large or highly decentralized health systems, support the development of sub-national policies, strategies and guidelines.
4	Ensure that countries tailor their triple EMTCT implementation plan to the strengths of their health systems and contextual needs, while consistently prioritizing a human rights-based approach and addressing ethical implications when implementing interventions.
5	Support countries in advocating for consistent funding, leveraging resources from their national/sub-national health budgets, and exploring collaborative funding opportunities such as with the MNCH programme and joint funding for all three infections. Additionally, assist countries in developing investment cases to ensure the sustained execution of triple EMTCT interventions in the broader context of health system strengthening. ^{xxxix}
6	Prioritize investments in countries to enhance the coverage and quality of diagnostic and treatment services, including the supply chain. This investment should emphasize optimizing a steady supply of commodities, introducing newer technologies such as dual and self-test kits, quality assured drugs, and ensuring timely data collection and sharing for informed decision-making.
7	Support with research and advocacy the global adoption/endorsement of new interventions and technologies within the EMTCT cascade.
8	Ensure regular coordination mechanisms among the regional United Nations agencies for EMTCT.
9	Establish a regional EMTCT dashboard inclusive of key EMTCT service and validation indicators.
10	Compile a list of regional donor financing mechanisms and technical partner organizations that are available to support national and sub-national EMTCT strategies for regular circulation to national and sub-national EMTCT coordinating bodies.

^{xxxix} The recent establishment of Global Fund grants focused on hepatitis B, and the potential for GAVI and other donors to expand funding for hepatitis B vaccination represent a positive development since the triple EMTCT goals were established. Nonetheless, significant funding shortfalls for all three diseases persist in many countries in the region. Consequently, shifting to sustainable domestic financing approaches must be a priority for 2030 goals to be met.

Actions by the Regional EMTCT Validation Committee	
1	Ensure and strengthen regular coordination meetings of the Regional Validation Committee ensuring membership from UNFPA, UNICEF, WHO and UNAIDS representatives, in addition to regional hepatitis secretariat/task force members, and representatives from regional bodies representing affected communities.
2	Work with countries to standardize their triple EMTCT indicators based on regional guidance and invest in building the capacity of the local validation teams to monitor validation processes.
3	Prioritize investment in countries to strengthen their health management and data information systems for triple EMTCT. - Promote a gradual shift towards integrated data management systems. - Support countries in establishing regular communication channels between data collection teams at all levels of health system, ensuring data quality through regular feedback mechanisms.
4	Assist countries to build or expand national capacity on the WHO EMTCT validation process and reporting, and initiate in-country EMTCT validation assessment, if not done already.
Actions by other regional partners	
1	Regional health professional organizations can compile directories of people and resources available to build capacity in EMTCT and promote the inclusion of EMTCT-specific cross-learning meetings in regional and national conferences.
2	Regional bodies representing affected communities and human rights organizations can advocate for further social accountability by regional partners and provide technical support to country governments and their partners in developing social accountability and community engagement mechanisms, legislative reform around human rights and access to services, and capacity building for specialized and mainstreamed services to make them safe and acceptable to marginalized communities.
3	Donors active in RMNCAH sectors, HIV, syphilis and hepatitis B, and affected communities should consider offering EMTCT-specific funding rounds or grants. Those which currently have a single-disease focus (typically HIV) should explore opportunities to expand financing to triple-disease EMTCT initiatives or coordinate with other donor agencies where such financing is available.
4	Donors should align their EMTCT investment strategies to global, regional and national roadmaps, including this regional roadmap. Reporting requirements attached to financing should align goals and indicators with standard global and regional monitoring frameworks.
5	Donors should engage with regional peak organizations representing affected communities, as well as regional United Nations and technical partners, when developing structuring grants and calls for proposals to ensure these are targeted to regional priorities. Small seed grants and technical assistance to support national and regional groups in developing investment cases may be a useful strategy to consider.
6	Academic institutions can support research to develop effective EMTCT policies and interventions, ideally through partnership with government, community-based organizations and other key stakeholders. Research agendas should be developed in partnership with affected communities and national or sub-national government. Academic institutions in the region can also support the establishment of centres of excellence, practice guidelines and training for health professionals, in each case ideally seeking to work across countries to maximize knowledge-sharing.



Dani, 4, is held by her mother at Rumah Sakit Bethesda, a private hospital in Yogyakarta, capital of Yogyakarta Province, Indonesia.

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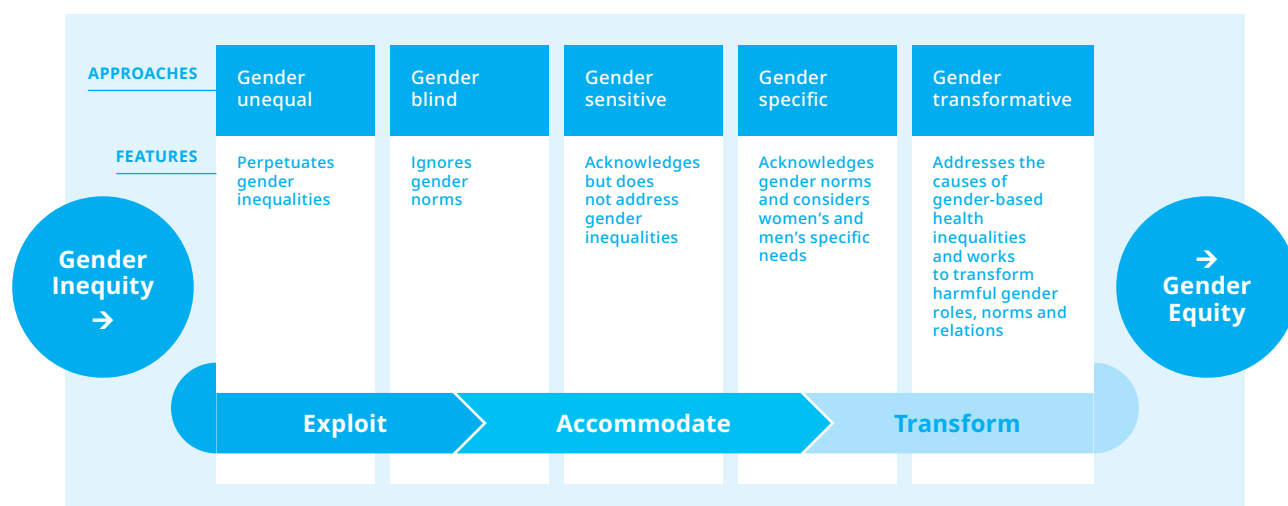
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APPENDIX A

WHO's Five-Level Gender-Responsive Assessment Scale



Credit: Aarin Palomares and Morgan Toth. Blog. Gender considerations for hygiene programming: Insights from the 2021 Handwashing Innovations Think Tank.

<https://globalhandwashing.org/gender-considerations-for-hygiene-programming-insights-from-the-2021-handwashing-innovations-think-tank/>

APPENDIX B

Focus countries for the Asia-Pacific triple EMTCT roadmap

Sub-region in Asia- Pacific	Country	Country classification (World Bank 2022-23)	GNI per capita in international US\$ (2020)
South Asia	Afghanistan	LIC	
	Bangladesh	LMIC	6,240
	Bhutan	LMIC	
	India	LMIC	6,440
	Maldives	UMIC	
	Nepal	LMIC	4,040
	Pakistan	LMIC	5,330
	Sri Lanka	LMIC	12,850
Southeast Asia	Cambodia	LMIC	4,250
	Indonesia	LMIC	11,750
	Laos PDR	LMIC	7,750
	Malaysia	UMIC	27,360
	Myanmar	LMIC	4,960
	Philippines	LMIC	9,030
	Timor-Leste	LIC	
	Thailand	UMIC	17,780
	Viet Nam	LMIC	10,410
Northeast Asia	Mongolia	LMIC	11,200
East Asia	China	UMIC	17,070
Pacific	Fiji	UMIC	11,420
	Papua New Guinea	LMIC	4,240

APPENDIX C

Data sources used to assess country progress towards triple EMTCT

TABLE C1 Data sources used to assess country progress towards triple EMTCT

Indicator	Data source	Notes
Impact indicators		
Case rate of new paediatric infections due to MTCT of HIV (cases per 100,000 live births).	Spectrum AIDS Impact Model.	In recognition of the challenges associated with developing national surveillance systems to detect population-level vertical transmission of HIV, WHO recommends the Spectrum AIDS Impact Model as a tool to estimate the rate and case rate of paediatric HIV infections. ^A The AIDS Impact Model has been used in line with this guidance, in addition to direct guidance from UNICEF as the funders of this work.
MTCT rate of HIV (%).	UNAIDS AIDSinfo (available at https://aidsinfo.unaids.org/).	UNAIDS is the leading source of data on HIV epidemiology and publishes the most authoritative and up-to-date information on the HIV epidemic, including data to understand vertical transmission of HIV. The Indicator Registry published by UNAIDS has standardized definitions of indicators and associated data, supporting consistent and harmonised monitoring of progress towards EMTCT of HIV over time and across countries.
Congenital syphilis (cases per 100,000 live births)	WHO Congenital Syphilis Estimation Tool (V7; provided directly by WHO representatives for the purposes of this work).	In recognition of the challenges associated with developing national surveillance systems to monitor syphilis epidemiology, WHO recommends use of the Congenital Syphilis Estimation Tool to estimate congenital syphilis rates as part of monitoring vertical transmission of syphilis. ^a The Congenital Syphilis Estimation Tool has been used in line with this guidance, in addition to direct guidance from UNICEF as the funders of this work. Post-analysis advice was received that this impact indicator can also be measured by: numerator = number of reported cases of congenital syphilis within a given calendar year, denominator = estimated number of live births within the same calendar year (WHO Data Assessment tool).
HBsAg prevalence among children under 5 (%)	WHO Global Health Observatory (available from: https://www.who.int/data/gho/data/indicators/indicator-details/GHO/hepatitis-b-surface-antigen-(HBsAg)-prevalence-among-children-under-5-years).	The WHO Global Health Observatory is an authoritative source of country-level statistics on a range of global health indicators and includes 2020 estimates of the prevalence of HBsAg among children under 5 years for many countries. This was the only data repository identified where data on this indicator was compiled for all countries of interest. Although method of estimation is cited by WHO as seroprevalence survey, these data are most likely modelled estimates.

NB: In line with guidance from UNICEF, we have drawn data from the UNAIDS AIDSinfo Database and the UNICEF Data Warehouse as a priority. Where data were unavailable from these sources, other sources that are internationally recognized as reputable have been consulted, as advised by UNICEF and the triple EMTCT validation team (such as the WHO Global Health Observatory and Demographic and Health Survey reports).

^A "Global guidance on criteria and processes for validation: elimination of mother-to-child transmission of HIV, syphilis and Hepatitis B virus" (WHO, 2021).

Indicator	Data source	Notes
Process indicators		
Percentage of women whose demand for family planning is satisfied with a modern method of contraception.	UN Population Division World Contraceptive Use 2022 (available at https://www.un.org/development/desa/pd/data/world-contraceptive-use).	The United Nations Population Division is the most authoritative source of world population data estimates and projections, and produces a comprehensive series of annual, model-based estimates of key family planning indicators. There is much variation in the definitions of indicators and availability of data used to monitor demand for family planning. Data available from the Population Division includes the proportion of demand for family planning which is met by modern methods for women aged 15 to 49 who are married or in union. This enables like-for-like comparison to data reported on this indicator in the EMTCT 2018 Baseline Report.
Percentage of pregnant women attending ANC at least once.	UNICEF Data. Monitoring the situation of children and women: Antenatal care. (available from: https://data.unicef.org/topic/maternal-health/antenatal-care/#data). Reports from 2022 DHS and MICS were also drawn upon for more recent data where available.	UNICEF is the world's leading source of data on reproductive, maternal and child health and maintains databases of hundreds of internationally validated and relevant indicators, including those applicable to monitoring EMTCT. The UNICEF Data Warehouse draws on a wealth of reliable sources of country-level statistics (such as reports of Demographic Health Surveys, Multiple Indicator Cluster Surveys and Family Health Surveys) to compile indicator data for multiple years and countries in one, publicly accessible site. For each country, DHS and MICS reports from 2022 were consulted to supplement UNICEF data (which is compiled up to 2021) with more recent estimates where these were available.
Percentage of pregnant women attending antenatal care at least four times.	UNICEF Data. Monitoring the situation of children and women: Antenatal care. (available from: https://data.unicef.org/topic/maternal-health/antenatal-care/#data). Reports from 2022 DHS and MICS were also drawn upon for more recent data where available.	UNICEF is the world's leading source of data on reproductive, maternal and child health and maintains databases of hundreds of internationally validated and relevant indicators, including those applicable to monitoring EMTCT. The UNICEF Data Warehouse draws on a wealth of reliable sources of country-level statistics (such as reports of Demographic Health Surveys, Multiple Indicator Cluster Surveys and Family Health Surveys) to compile indicator data for multiple years and countries in one, publicly accessible site. For each country, DHS and MICS reports were consulted to supplement UNICEF data with more recent estimates where these were available.
Percentage of pregnant women attending ANC who had a blood sample taken.	DHS STATCompiler (available from: https://www.statcompiler.com/en/). Reports from DHS and MICS were also drawn upon for more recent data where available.	Data on pregnant women who had a blood sample taken at ANC is usually collected as part of population surveys such as Demographic Health Surveys and Multiple Indicator Cluster Surveys. However, these data are not compiled and published in the UNICEF Data Warehouse or the WHO Global Health Observatory. Data for this indicator were therefore sourced from the DHS STATCompiler. For each country, DHS and MICS reports from 2022 were consulted to provide more recent estimates where these were available.
Percentage of births attended by skilled health personnel.	UNICEF Data. Monitoring the situation of children and women: Delivery care (available from: https://data.unicef.org/topic/maternal-health/delivery-care/#data). Reports from 2022 DHS and MICS were also drawn upon for more recent data where available.	UNICEF is the world's leading source of data on reproductive, maternal and child health and maintains databases of hundreds of internationally validated and relevant indicators, including those applicable to monitoring EMTCT. The UNICEF Data Warehouse draws on a wealth of reliable sources of country-level statistics (such as reports of Demographic Health Surveys, Multiple Indicator Cluster Surveys and Family Health Surveys) to compile indicator data for multiple years and countries in one, publicly accessible site. For each country, DHS and MICS reports from 2022 were consulted to supplement UNICEF data (which is compiled up to 2021), with more recent estimates where these were available.
Percentage of pregnant women with known HIV status (includes both newly tested and those with known status).	UNICEF Data. Monitoring the situation of children and women: Elimination of mother to child transmission (available from: https://data.unicef.org/topic/hiv/aids/emtct/#data).	See justification above. The UNICEF description of this data item is explicit in its inclusion of women who already knew their HIV status, in addition to those who were tested at ANC.

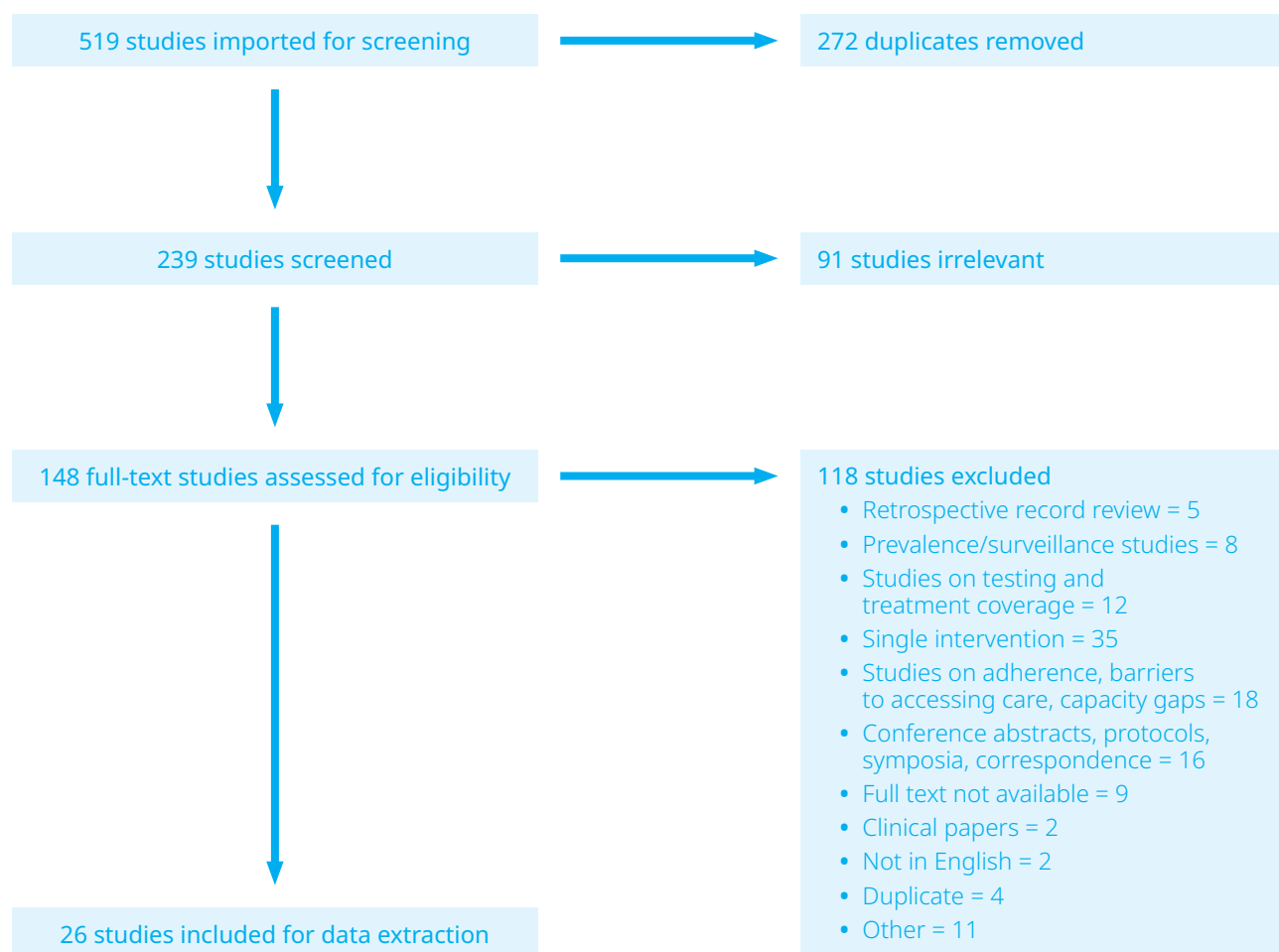
NB: In line with guidance from UNICEF, we have drawn data from the UNAIDS AIDSinfo Database and the UNICEF Data Warehouse as a priority. Where data were unavailable from these sources, other sources that are internationally recognized as reputable have been consulted, as advised by UNICEF and the triple EMTCT validation team (such as the WHO Global Health Observatory and Demographic and Health Survey reports).

Indicator	Data source	Notes
Percentage coverage of HIV testing of pregnant women.	UNAIDS AIDSinfo (https://aidsinfo.unaids.org/).	UNAIDS is the leading source of data on HIV epidemiology and publishes the most authoritative and up-to-date information on the HIV epidemic, including data to understand vertical transmission of HIV. The Indicator Registry published by UNAIDS has standardized definitions of indicators and associated data, supporting consistent and harmonised monitoring of progress towards EMTCT of HIV between and within countries over time.
Percentage of pregnant women living with HIV who received antiretroviral therapy (ART).	UNAIDS AIDSinfo (https://aidsinfo.unaids.org/).	
Percentage of women accessing ANC who were tested for syphilis.	WHO Global Health Observatory (available from: https://www.who.int/data/gho/data/indicators/indicator-details/GHO/women-accessing-antenatal-care-(anc)-services-who-were-tested-for-syphilis(-))	The WHO Global Health Observatory is an authoritative source of country-level statistic on a range of global health indicators including coverage of syphilis testing and treatment for pregnant women. The Global Health Observatory data draws on country reports to the Global AIDS Monitoring (GAM) process and thus is considered the most reliable and comprehensive source of data for these indicators.
Percentage of pregnant women with positive syphilis serology who were treated adequately.	WHO Global Health Observatory (available from: https://www.who.int/data/gho/data/indicators/indicator-details/GHO/antenatal-care-attendees-positive-for-syphilis-who-received-treatment(-))	
Percentage of antenatal care (ANC) attendees tested for HBsAg.	Data not publicly available.	Reliable, up-to-date, and comprehensive data to estimate progress and impact indicators relevant to EMTCT of hepatitis B is not widely publicly available. While the UNAIDS Indicator Registry provides standardized definitions for indicators relevant to testing and treating hepatitis B in pregnant women, data for these indicators are not published on the UNAIDS AIDSinfo data portal, the UNICEF Data Warehouse, or the WHO Global Health Observatory.
Coverage with antivirals for eligible HBsAg-positive pregnant women with high viral loads.	Data not publicly available.	
Stillbirth rate (per 1,000 total births).	UNICEF Data. Monitoring the situation of children and women: Stillbirth (available from: https://data.unicef.org/topic/child-survival/stillbirths/#data).	UNICEF is the world's leading source of data on child health and maintains databases of hundreds of internationally validated and relevant indicators. UNICEF stillbirth data represent the model-based estimates used by the United Nations Inter-agency Group for Child Mortality Estimation and its Core Stillbirth Estimation Group to obtain nationally representative stillbirth rate estimate for all United Nations countries. These estimates are therefore considered the to be internationally recognized as the most reliable, up-to-date, and comprehensive data on stillbirth rates.
Percentage of infants receiving a birth dose of hepatitis B vaccine (HepB-BD).	UNICEF Data. Monitoring the situation of children and women: Immunization (available from: https://data.unicef.org/topic/child-health/immunization/).	UNICEF is the world's leading source of data on child health and maintains databases of hundreds of internationally validated and relevant indicators, including those relating to immunization coverage. Immunization data in the UNICEF Data Warehouse draws on data officially reported to WHO and UNICEF by Member States, as well as data reported in the published and grey literature following measurement methods that have been endorsed by external advisory groups.
Coverage of hepatitis B vaccine third dose (HepB3) among infants		

NB: In line with guidance from UNICEF, we have drawn data from the UNAIDS AIDSinfo Database and the UNICEF Data Warehouse as a priority. Where data were unavailable from these sources, other sources that are internationally recognized as reputable have been consulted, as advised by UNICEF and the triple EMTCT validation team (such as the WHO Global Health Observatory and Demographic and Health Survey reports).

APPENDIX D

PRISMA diagram for academic literature review



APPENDIX E

Roadmap development and validation targets (EMTCT country survey, 2023)

Country	National roadmaps developed	EMTCT validation target years		
		HIV	Hepatitis B	Syphilis
Afghanistan	None	Not provided	Not provided	Not provided
Bangladesh	None	2030	2030	Not provided
Bhutan	None	2025	2025	2025
Cambodia	HIV and syphilis	2025	2030	2025
China	HIV, HBV and syphilis	2025	2026	2027
Fiji	HIV	2030	Not provided	Not provided
India	HIV and syphilis	2026	2030	2026
Indonesia	HIV, HBV and syphilis	2030	2030	2030
Lao PDR	None	Not provided	Not provided	Not provided
Malaysia	HIV and syphilis	Already achieved	Already achieved	Already achieved
Maldives	HIV, HBV and syphilis	Already achieved	2023	Already achieved
Mongolia	HIV	Not provided	Not provided	Not provided
Myanmar	HIV and syphilis	2025	Not provided	2025
Nepal	None	2026	2030	2026
Pakistan	None	Not provided	Not provided	Not provided
Philippines	HIV, HBV and syphilis	2030	2030	2030
Sri Lanka	HIV and syphilis	Already achieved	Not provided	Already achieved
Thailand	HIV, HBV and syphilis	Already achieved	2024	Already achieved
Timor-Leste	HIV, HBV and syphilis	2026	2026	2026
Vietnam	HIV, HBV and syphilis	2030	2030	2030

APPENDIX F

Barriers to integration of EMTCT services (EMTCT country survey, 2023)

Barriers to integration of EMTCT services	Afghanistan	Bangladesh	Bhutan	Cambodia	China	Fiji	India	Indonesia	Lao PDR	Malaysia	Maldives	Mongolia	Myanmar	Nepal	Pakistan	Philippines	Sri Lanka	Thailand	Timor-Leste	Vietnam
Triple EMTCT is not yet formally adopted as policy		•					•		•	•			•	•	•	•	•			
EMTCT strategy/operational guidance is not yet published		•				•			•					•	•	•				
RMNCAH workforce CAPACITY to integrate routine testing is low						•			•				•		•					
RMNCAH workforce WILLINGNESS to integrate routine testing is low		•							•							•				•
RMNCAH infrastructure capacity to integrate routine testing is poor						•		•	•											•
Inadequate laboratory capacity to facilitate the required levels of testing				•		•		•	•				•	•	•			•		•
There is low ANC coverage in the country		•														•			•	
The quality of ANC services is poor		•										•		•		•			•	
Low acceptability of mainstream ANC by key populations and their spouses	•										•				•					
There is reluctance of disease-specific programmes to hand over service functions to RMNCAH														•						
There is vertical funding for HIV, syphilis or HBV which is difficult to reallocate to RMNCAH	•	•		•			•	•					•	•	•	•		•	•	
Decentralization of health system makes it difficult to incorporate national EMTCT policy into state/provincial/district services														•	•	•				
Low numbers of ART centres	•	•	•	•		•		•	•			•								
Low numbers of early infant diagnosis (EID) centres	•	•	•	•		•		•	•			•	•	•		•				
Supply chain disruptions for tests	•	•	•	•		•		•	•			•	•	•		•			•	
Supply chain disruptions for medications	•	•		•		•	•	•	•			•		•		•			•	
Other		A	B	C	D	E	F													

A Limited workforce, B Inadequate funding for test kits and prophylaxis, C Geographical disparities across the country. Large number of pregnant women identified with HBV infection, and HBV-exposed infants, D Dual elimination of HIV and syphilis overseen by one body while elimination of hepatitis B is overseen by another body – integration is challenging. E Limited trained health professionals for EMTCT treatment protocols. Inconsistency in quality of ANC services, F Health insurance does not cover HIV.

APPENDIX G

Social protection mechanism in place (EMTCT country survey, 2023)

Country	Social protection mechanisms
Afghanistan	Cash transfers to HIV- or HBV-positive women, food or food vouchers, free antiviral treatment
Bangladesh	Free antiviral treatment
Bhutan	Free antiviral treatment
Cambodia	Cash transfers to HIV- or HBV-positive women, free antiviral treatment
China	Free antiviral treatment, mother/newborn support groups
Fiji	Free antiviral treatment
India	Travel vouchers, concessions or funding, free antiviral treatment, mother/newborn support groups, legal assistance
Indonesia	Free antiviral treatment, mother/newborn support groups, legal assistance
Lao PDR	Free antiviral treatment
Malaysia	Free antiviral treatment, mother/newborn support groups
Maldives	Free antiviral treatment, legal assistance
Mongolia	Free antiviral treatment, mother/newborn support groups, employment assistance or skills development
Myanmar	Free antiviral treatment, cash transfers to HIV- or HBV-positive women (in selected states only)
Nepal	Free antiviral treatment
Pakistan	Free antiviral treatment
Philippines	Free antiviral treatment, mother/newborn support groups, legal assistance
Sri Lanka	Travel vouchers, concessions or funding, free antiviral treatment
Thailand	Free antiviral treatment, mother/newborn support groups
Timor-Leste	Food or food vouchers
Vietnam	Free antiviral treatment

APPENDIX H

Tracking system and private sector testing (EMTCT country survey, 2023)

Country	Tracking system for HIV+ women and children	Diseases that private sector must report test results	Number or percentage of private sector births (annual)	Number or percentage of private sector births (annual) where HIV testing results were reported to government
Afghanistan	Yes	None	Not available	Not available
Bangladesh	No	None	45% (2022, BDHS)	Not available
Bhutan	Yes	None	Not available	Not available
Cambodia	Yes	None	20% (2021)	Unknown, as most private sector deliveries will have had ANC in public sector with testing reported there
China	Yes	HIV, HBV and Syphilis	Not available	Not available
Fiji	No	None	Not available	Not available
India	Yes	HIV, HBV and Syphilis	26.7% (2019–21, NFHS5)	20.2% as per NFHS 5 report 2019–21
Indonesia	No	HIV, HBV and Syphilis	52% (2018, Riskesdas/ National Survey)	Not available
Lao PDR	Don't know	None	Not available	Not available
Malaysia	Yes	HIV and Syphilis	13.7% (2021, Health Informatics Centre, MoH)	2022: 57,079 (source: Programmatic Data 2022)
Maldives	Yes	HIV, HBV and Syphilis	25.1% (2020)	98.4% (6,233/6,333) all service providers (national coverage including private sector)
Mongolia	Yes	HIV, HBV and Syphilis	2,291 (2022)	Not available
Myanmar	Yes	HIV	Not available	Not available
Nepal	Yes	HIV, HBV and Syphilis	17% (NDHS 2022)	Not available
Pakistan	No	None	Not available	Not available
Philippines	Yes	HIV	23% (2017, NDHS)	Approximately 40% (MoH estimate)
Sri Lanka	Yes	HIV and Syphilis	10,590 live births in 2020, about 3.5–5% of total births	94.4% in 2020 (Annual Report, Family Health Bureau, 2020)
Thailand	Yes	None	Not available	Not available
Timor-Leste	No	None	Not available	Not available
Vietnam	No	None	Not available	Not available

APPENDIX I

Testing policies (EMTCT country survey, 2023)

Country	Public services ANC testing policy			Private services ANC testing policy			Testing at PHC level?			Partner testing policy in ANC		
	HIV	Hep B	Syphilis	HIV	Hep B	Syphilis	HIV	Hep B	Syphilis	HIV	Hep B	Syphilis
Afghanistan	UN	None	None	UN	None	None	Yes	Yes	Yes	Yes	Yes	Yes
Bangladesh	None	None	None	None	None	None	No	No	No	Yes	No	No
Bhutan	UN	UN	UN	NA	NA	NA	Yes	Yes	Yes	Yes	Yes	Yes
Cambodia	UN	UN	UN	None	None	None	Yes	Yes	Yes	Yes	No	Yes
China	UN	UN	UN	UN	UN	UN	Yes	Yes	Yes	Yes	Yes	Yes
Fiji	UN	HR	None	UN	UN	None	No	No	No	Yes	UK	UK
India	UN	UN	UN	UN	UN	UN	Yes	Yes	Yes	Yes	Yes	Yes
Indonesia	UN	UN	UN	UN	UN	UN	Yes	Yes	Yes	Yes	Yes	Yes
Lao PDR	UN	UN	UN	None	None	None	No	No	No	Yes		
Malaysia	UN	UN	UN	UN	None	UN	Yes	Yes	Yes	Yes	Yes	Yes
Maldives	UN	UN	UN	UN	UN	UN	Yes	Yes	Yes	Yes	Yes	Yes
Mongolia	UN	UN	UN	UN	UN	UN	Yes	Yes	Yes	Yes	No	Yes
Myanmar	UN	UN	UN	UN	UN	UN	Yes	No	Yes	Yes	Yes	Yes
Nepal	UN	UN	UN	UN	UN	UN	Yes	No	No	Yes	No	No
Pakistan	None	None	None	None	None	None	No	No	No	No	No	No
Philippines	HR	HR	HR	HR	HR	HR	Yes	Yes	Yes	Yes	No	No
Sri Lanka	UN	NR	UN	UN	NR	UN	Yes	NR	Yes	Yes	NR	Yes
Thailand	UN	UN	UN	UN	UN	UN	Yes	Yes	Yes	Yes	No	Yes
Timor-Leste	UN	UN	UN	None	None	None	Yes	Yes	Yes	Yes	UK	UK
Vietnam	UN	UN	UN	UN	UN	UN	No	No	No	Yes	UK	Yes

UN = Universal. None = No policy, or no routine testing required by policy.
 NA = No private sector. HR = High risk only. UK = Unknown. NR = No response.

APPENDIX J

EMTCT service structure for selected services (EMTCT country survey, 2023)

Country	Programme(s) that oversee/fund infant diagnosis		
	HIV	HBV	Syphilis
Afghanistan	Vertical programme	Vertical programme	Vertical programme
Bangladesh	Vertical programme	Vertical programme	Vertical programme
Bhutan	Vertical programme	Vertical programme	Vertical programme
Cambodia	Vertical programme	No infant diagnosis available	Vertical programme
China	MNCH services	MNCH services	MNCH services
Fiji	Vertical programme	Vertical programme	Vertical programme
India	Vertical programme and MNCH services	Vertical programme and MNCH services	Vertical programme and MNCH services
Indonesia	Vertical programme	Vertical programme	Vertical programme
Lao PDR	Vertical programme	No response	No response
Malaysia	MNCH services	MNCH services	MNCH services
Maldives	Vertical programme	Vertical programme	Vertical programme
Mongolia	Vertical programme and MNCH services	MNCH services	MNCH services
Myanmar	Vertical programme	Unknown	Vertical programme
Nepal	Vertical programme	Vertical programme	Vertical programme
Pakistan	Vertical programme	Vertical programme	Vertical programme
Philippines	Vertical programme	Vertical programme	Vertical programme
Sri Lanka	Vertical programme	No response	Vertical programme
Thailand	MNCH services	MNCH services	MNCH services
Timor-Leste	Vertical programme	Vertical programme	Vertical programme
Vietnam	Vertical programme	No infant diagnosis available	No infant diagnosis available

'Vertical programme' refers to a vertical disease programme for HIV, STIs, hepatitis or syphilis. 'MNCH services' refers to public maternal, child and neonatal health services within the general medical services.

Country	Programme(s) that clinically manage treatment in ANC		
	HIV	HBV	Syphilis
Afghanistan	Vertical programme	Vertical programme	Vertical programme
Bangladesh	Vertical programme	Vertical programme	MNCH services
Bhutan	MNCH services	MNCH services	MNCH services
Cambodia	Vertical programme	MNCH services	Vertical programme and MNCH services
China	MNCH services	MNCH services	MNCH services
Fiji	Vertical programme	MNCH services	MNCH services
India	Vertical programme and MNCH services	Vertical programme and MNCH services	Vertical programme and MNCH services
Indonesia	Vertical programme	Vertical programme	Vertical programme
Lao PDR	Vertical programme	Hospital internal medicine services	Hospital and STI clinics
Malaysia	MNCH services	MNCH services	MNCH services
Maldives	Vertical programme	Vertical programme	Vertical programme
Mongolia	Vertical programme and MNCH services	Vertical programme and MNCH services	Vertical programme and MNCH services
Myanmar	Vertical programme and township level health facilities	No response	Vertical programme and township level health facilities
Nepal	Vertical programme	Vertical programme	Vertical programme
Pakistan	Vertical programme	Vertical programme	Vertical programme
Philippines	Vertical programme	Vertical programme	Vertical programme
Sri Lanka	Vertical programme	No response	Vertical programme
Thailand	MNCH services	MNCH services	MNCH services
Timor-Leste	Vertical programme	Vertical programme	Vertical programme
Vietnam	Vertical programme	Hospital services	Hospital services

'Vertical programme' refers to a vertical disease programme for HIV, STIs, hepatitis or syphilis. 'MNCH services' refers to public maternal, child and neonatal health services within the general medical services.

Country	Programme(s) that clinically manage prophylaxis/treatment for newborns		
	HIV	HBV	Syphilis
Afghanistan	Vertical programme	No response	No response
Bangladesh	Vertical programme	MNCH services	MNCH services
Bhutan	Vertical programme	MNCH services	MNCH services
Cambodia	Vertical programme and MNCH services	No response	MNCH services
China	MNCH services	MNCH services	MNCH services
Fiji	Vertical programme	MNCH services	MNCH services
India	Vertical programme and MNCH services	Vertical programme and MNCH services	Vertical programme and MNCH services
Indonesia	Vertical programme	Vertical programme	Vertical programme
Lao PDR	Vertical programme	MNCH services	No response
Malaysia	MNCH services	MNCH services	MNCH services
Maldives	Vertical programme	Vertical programme	Vertical programme
Mongolia	Vertical programme and MNCH services	Vertical programme and MNCH services	Vertical programme and MNCH services
Myanmar	Vertical programme and township level medical facilities	MNCH services (tertiary hospitals only)	Vertical programme
Nepal	Vertical programme	MNCH services	Vertical programme
Pakistan	Vertical programme	Vertical programme	Vertical programme
Philippines	Vertical programme	Vertical programme and MNCH services	Vertical programme
Sri Lanka	Vertical programme	No response	Vertical programme
Thailand	MNCH services	MNCH services	MNCH services
Timor-Leste	Vertical programme	Vertical programme	No response
Vietnam	Vertical programme	HBV vaccine provided through EPI	MNCH services

'Vertical programme' refers to a vertical disease programme for HIV, STIs, hepatitis or syphilis. 'MNCH services' refers to public maternal, child and neonatal health services within the general medical services.

APPENDIX K

National EMTCT indicator adoption and reporting status (EMTCT country survey, 2023)

Country	EMTCT indicator status			Level at which data on EMTCT is routinely reported/published for planning purposes		
	HIV	HBV	Syphilis	HIV	HBV	Syphilis
Afghanistan	No indicators	No indicators	No indicators	National level only	No response	No response
Bangladesh	No indicators	No indicators	No indicators	National and state/provincial level and district/county level	National and state/provincial level and district/county level	National and state/provincial level and district/county level
Bhutan	Compliant	Compliant	Compliant	No routine reporting/publishing mechanism	No routine reporting/publishing mechanism	No routine reporting/publishing mechanism
Cambodia	Compliant	Compliant	Compliant	National and state/provincial level	National and state/provincial level	National and state/provincial level
China	Compliant	Compliant	Compliant	National and state/provincial level	National and state/provincial level	National and state/provincial level
Fiji	Compliant	No indicators	No indicators	No routine reporting/publishing mechanism	No routine reporting/publishing mechanism	No routine reporting/publishing mechanism
India	Compliant	Compliant	Compliant	National and state/provincial level and district/county level	National level only	National and state/provincial level
Indonesia	Compliant	Compliant	Compliant	National and state/provincial level and district/county level	National and state/provincial level and district/county level	National and state/provincial level and district/county level
Lao PDR	No indicators	No indicators	No indicators	National and state/provincial level and district/county level	No routine reporting/publishing mechanism	No routine reporting/publishing mechanism
Malaysia	Compliant	Compliant	Compliant	National and state/provincial level and district/county level	National and state/provincial level and district/county level	National and state/provincial level and district/county level
Maldives	Compliant	Compliant	Compliant	National and state/provincial level and district/county level	National and state/provincial level and district/county level	National and state/provincial level and district/county level
Mongolia	Not compliant	Not compliant	Not compliant	National and state/provincial level	National and state/provincial level	National and state/provincial level
Myanmar	Compliant	No indicators	Compliant	National and state/provincial level and district/county level	National level but currently inconsistent	National and state/provincial level and district/county level
Nepal	Compliant	Compliant	Compliant	National and state/provincial level	National and state/provincial level	National and state/provincial level

'Compliant' = indicators in place at national level and are compliant with global EMTCT indicator set.

'Not compliant' = indicators are in place at national level but these are NOT completely compliant with the global EMTCT indicator set.

Country	EMTCT indicator status			Level at which data on EMTCT is routinely reported/published for planning purposes		
	HIV	HBV	Syphilis	HIV	HBV	Syphilis
Pakistan	Not compliant	No indicators	No indicators	No routine reporting/publishing mechanism	Don't know	Don't know
Philippines	Compliant	No indicators	No indicators	National and state/provincial level and district/county level	National and city level (maternal testing and HBV vaccination only)	National and city level (maternal testing only)
Sri Lanka	Compliant	No response	Compliant	National and state/provincial level	No response	National and state/provincial level
Thailand	Compliant	Compliant	Compliant	National and state/provincial level and district/county level	National and state/provincial level and district/county level	National and state/provincial level and district/county level
Timor-Leste	Compliant	Compliant	Compliant	National level only	National level only	National level only
Vietnam	Compliant	Compliant	Compliant	National (testing data only)	National (testing data only)	National (testing data only)

'Compliant' = indicators in place at national level and are compliant with global EMTCT indicator set.

'Not compliant' = indicators are in place at national level but these are NOT completely compliant with the global EMTCT indicator set.

APPENDIX L

Systems for reporting EMTCT data (EMTCT country survey, 2023)

Country	Management information system (MIS) used for reporting EMTCT data		
	HIV	HBV	Syphilis
Afghanistan	Through a standalone MIS for an EMTCT programme	No response	No response
Bangladesh	Integrated into the MIS used for reporting ANC and birth/delivery data	Integrated into the MIS used for reporting ANC and birth/delivery data	Integrated into the MIS used for reporting ANC and birth/delivery data
Bhutan	Through a standalone MIS for an EMTCT programme	Through a standalone MIS for an EMTCT programme	Through a standalone MIS for an EMTCT programme
Cambodia	Through a standalone MIS for an EMTCT programme	Through a standalone MIS for an EMTCT programme	Through a standalone MIS for an EMTCT programme
China	Through a standalone MIS for an EMTCT programme	More than one system for monitoring EMTCT data for this disease	More than one system for monitoring EMTCT data for this disease
Fiji	Through the MIS for the vertical disease programme which handles all other data for this disease	EMTCT data is not reported for this disease	EMTCT data is not reported for this disease
India	More than one system for monitoring EMTCT data for this disease	Through a standalone MIS for an EMTCT programme	More than one system for monitoring EMTCT data for this disease
Indonesia	Integrated into the MIS used for reporting ANC and birth/delivery data	Integrated into the MIS used for reporting ANC and birth/delivery data	Integrated into the MIS used for reporting ANC and birth/delivery data
Lao PDR	Through the MIS for the vertical disease programme which handles all other data for this disease	EMTCT data is not reported for this disease	EMTCT data is not reported for this disease
Malaysia	More than one system for monitoring EMTCT data for this disease	More than one system for monitoring EMTCT data for this disease	More than one system for monitoring EMTCT data for this disease
Maldives	Through the MIS for the vertical disease programme which handles all other data for this disease	Through the MIS for the vertical disease programme which handles all other data for this disease	Through the MIS for the vertical disease programme which handles all other data for this disease
Mongolia	Integrated into the MIS used for reporting ANC and birth/delivery data	Integrated into the MIS used for reporting ANC and birth/delivery data	Integrated into the MIS used for reporting ANC and birth/delivery data
Myanmar	Through the MIS for the vertical disease programme which handles all other data for this disease	EMTCT data is not reported for this disease	Through the MIS for the vertical disease programme which handles all other data for this disease
Nepal	Integrated into the MIS used for reporting ANC and birth/delivery data	Integrated into the MIS used for reporting ANC and birth/delivery data	Integrated into the MIS used for reporting ANC and birth/delivery data

Country	Management information system (MIS) used for reporting EMTCT data		
	HIV	HBV	Syphilis
Pakistan	EMTCT data is not reported for this disease	EMTCT data is not reported for this disease	EMTCT data is not reported for this disease
Philippines	Through a standalone MIS for an EMTCT programme	Through the MIS for the vertical disease programme which handles all other data for this disease	Through the MIS for the vertical disease programme which handles all other data for this disease
Sri Lanka	Through a standalone MIS for an EMTCT programme	No response	Through a standalone MIS for an EMTCT programme
Thailand	Integrated into the MIS used for reporting ANC and birth/delivery data	Integrated into the MIS used for reporting ANC and birth/delivery data	Integrated into the MIS used for reporting ANC and birth/delivery data
Timor-Leste	Integrated into the MIS used for reporting ANC and birth/delivery data	Integrated into the MIS used for reporting ANC and birth/delivery data	Integrated into the MIS used for reporting ANC and birth/delivery data
Vietnam	More than one system for monitoring EMTCT data for this disease	Integrated into the MIS used for reporting ANC and birth/delivery data	Integrated into the MIS used for reporting ANC and birth/delivery data



A toddler sits in her mother's arms at a community health clinic in the village of Semeureung on the outskirts of Banda Aceh, capital of Aceh Province, Indonesia.

