

3. Elimination Of Mother-To-Child Transmission (Emtct) Of Hiv and Syphilis – Science & Technology

The World Health Organisation has certified Denmark as the first European Union (EU) country to eliminate mother-to-child transmission (EMTCT) of HIV and syphilis through sustained maternal health interventions.

1. Recent Development

1. The World Health Organization (WHO) validated Denmark for eliminating mother-to-child transmission (MTCT) of HIV and syphilis as a public health threat.
2. The validation followed-
 1. Assessment by the WHO Regional Validation Committee in June 2025.
 2. Final review by the Global Validation Advisory Committee in August 2025.
3. The certification confirms that Denmark successfully met all global elimination targets during 2021–2024.
4. Denmark achieved-
 1. Very low transmission rates.
 2. High coverage of antenatal testing and treatment for pregnant women.
5. The country's success was supported by-
 1. Universal health coverage
 2. Strong antenatal care services
 3. Reliable laboratory systems
 4. Rights-based maternal health policies.

2. WHO Criteria for Elimination

According to WHO guidelines, elimination of mother-to-child transmission is achieved when countries meet the following indicators.

A. Health Service Coverage Targets

1. At least 95% of pregnant women must be tested for HIV and syphilis.
2. At least 95% of infected pregnant women must receive appropriate treatment.

B. Impact Targets

1. New infant infections must remain below 50 cases per 100,000 live births.
2. Transmission rates must fall below internationally defined thresholds.

3. Countries Validated by WHO

1. Denmark joins 22 countries and territories validated by WHO for eliminating or progressing toward elimination of mother-to-child transmission of HIV, syphilis, or hepatitis B.
2. Examples include-
 1. Cuba
 2. Brazil
 3. Thailand
 4. Malaysia
 5. Sri Lanka
 6. Oman
 7. Botswana

8. Namibia
 9. Maldives
 10. Belize
3. These countries have met WHO criteria demonstrating that mother-to-child transmission is no longer a major public health problem.

4. Triple Elimination Framework

1. Denmark is now working toward triple elimination, which includes-
 1. HIV
 2. Syphilis
 3. Hepatitis B virus (HBV).
2. The concept of triple elimination was introduced by WHO in 2021, expanding earlier EMTCT strategies.

Objective

1. To ensure no child is born with HIV, syphilis, or hepatitis B by preventing transmission during-
 1. Pregnancy
 2. Childbirth
 3. Breastfeeding.

5. Evolution of the EMTCT Global Programme

A. 2014 WHO Global Guidance

1. WHO released the Global Guidance on Criteria and Processes for Validation for eliminating MTCT of HIV and syphilis.

B. 2015 Global Validation Advisory Committee (GVAC)

1. The Global Validation Advisory Committee was created to assess country applications for elimination status.

C. 2021 Updated Guidelines

1. WHO expanded validation criteria to include hepatitis B.
2. This allowed countries to seek recognition for triple elimination.

6. Human Immunodeficiency Virus (HIV)

A. Nature of the Disease

1. Human immunodeficiency virus (HIV) attacks the immune system, particularly CD4+ T lymphocytes.
2. Progressive immune damage leads to acquired immunodeficiency syndrome (AIDS), the most advanced stage of infection.

B. Modes of Transmission

1. HIV spreads through infected body fluids such as-
 1. Blood
 2. Semen
 3. Vaginal secretions
 4. Breast milk.
2. It can also be transmitted from mother to child during pregnancy, childbirth, or breastfeeding.

C. non-transmission

1. HIV does not spread through casual contact such as-
 1. Hugging
 2. Handshakes

3. Sharing food.

D. Treatment

1. There is no cure, but antiretroviral therapy (ART) allows infected individuals to live long and healthy lives.
2. Early diagnosis through rapid diagnostic tests and confirmatory testing algorithms is essential.

7. Syphilis

A. Cause

1. *Treponema pallidum* is the bacterium responsible for syphilis.

B. Transmission

1. It spreads primarily through sexual contact, including-
 1. Vaginal sex
 2. Anal sex
 3. Oral sex.

C. Health Impacts

1. If untreated, syphilis can cause severe complications such as-
 1. Blindness
 2. Brain damage
 3. Cardiovascular disease
 4. Neurological disorders.

D. Treatment

1. Syphilis is effectively treatable with antibiotics.
2. Penicillin is particularly effective when the disease is detected early.

8. Hepatitis B

A. Nature of the Disease

1. Hepatitis B virus (HBV) infects the liver, causing inflammation and possible long-term liver damage.

B. Types of Infection

1. Acute infection – short-term illness.
2. Chronic infection – long-term disease that can lead to-
 1. Liver cirrhosis
 2. Liver cancer.

C. Transmission

1. HBV spreads through-
 1. Blood
 2. Saliva
 3. Semen
 4. Vaginal fluids
 5. Mother-to-child transmission during birth.

D. Prevention

1. Hepatitis B is preventable through vaccination.
2. Vaccination is typically administered-

1. At birth
2. Followed by booster doses.

9. Significance of EMTCT

A. Protection of Child Health

1. Prevents lifelong infections and reduces infant mortality.

B. Strengthening Maternal Health Systems

1. Promotes universal antenatal care and screening programmes.

C. Public Health Achievement

1. Demonstrates strong healthcare systems capable of integrated disease control.

D. Contribution to Global Health Goals

1. Supports the World Health Organization strategy to eliminate major infectious diseases as public health threats by 2030.

Source- <https://www.who.int/news/item/27-02-2026-denmark-becomes-first-country-in-the-european-union-to-eliminate-of-mother-to-child-transmission-of-hiv-and-syphilis>

