

# Evaluating progress towards triple elimination of mother-to-child transmission of HIV, syphilis and hepatitis B in the Netherlands, 2012-2015

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## Background

- In 2014, the World Health Organisation (WHO) established validation criteria for elimination of mother-to-child transmission (EMTCT) of HIV and syphilis.
- Additional targets related to EMTCT of hepatitis B (HBV) were set by the WHO in the Global Health Sector Strategy on Viral Hepatitis 2016-2021.

## Objective

To evaluate to what extent the Netherlands has achieved the global minimum required WHO criteria for EMTCT of HIV and syphilis, and the targets related to EMTCT for HBV.

## Methods

- We collected data of HIV, syphilis and HBV infections among pregnant women and children for 2012-2015, and data required to validate the WHO criteria for 2014-2015.
- Data sources include the antenatal screening registry, the Stichting HIV Monitoring database, the neonatal registration of congenital syphilis diagnoses, congenital syphilis reference laboratory data, national vaccination data and HBV notification data.

Published by  
**National Institute for Public Health and the Environment**  
P.O. Box 1 | 3720 BA Bilthoven  
The Netherlands  
www.rivm.nl/en



### Conclusions

- In the Netherlands, the antenatal screening programme has a high coverage and the prevalence of both maternal and congenital HIV, syphilis and HBV is very low.
- The global minimum WHO criteria for validation of EMTCT are met for HIV and HBV, but for syphilis more data are needed to prove elimination.

## Results

- Prevalence rates of HIV, syphilis and HBV were stably low among pregnant women and children. In 2015, the estimated prevalence rates of HIV, syphilis and HBV among pregnant women were 0.06%, 0.06%, and 0.29%, respectively. There were 0 children reported to be born with HIV or HBV, and 1 child with congenital syphilis (Table 1).
- For HIV, all global minimum required WHO criteria were met for the years 2014 and 2015. For HBV, all targets were accomplished as well (Table 2).
- For syphilis, data were lacking to validate the ≥95% treatment coverage of syphilis-seropositive pregnant women. Data on congenital syphilis were partly lacking and only included live born children, but the WHO goal of ≤50 cases/100,000 live births is not expected to be exceeded (Table 2).

**Table 1.** Estimated prevalence for HIV, syphilis and hepatitis B among pregnant women and case rates among children in the Netherlands, 2012-2015.

	HIV		Syphilis		Hepatitis B	
	Estimated prevalence among pregnant women <sup>a</sup>	Case rate per 100,000 live births among children <sup>b</sup>	Estimated prevalence among pregnant women <sup>a</sup>	Case rate per 100,000 live births among children <sup>b</sup>	Estimated prevalence among pregnant women <sup>a</sup>	Case rate per 100,000 live births among children <sup>d</sup>
	(n screened positive)	(n infections)	(n screened positive)	(n infections)	(n screened positive)	(n infections)
2012	0.07% (113)	0.57 (1)	0.06% (101)	1.14 (2)	0.31% (536)	0.57 (1)
2013	0.06% (99)	0.58 (1)	0.08% (135)	1.75 (3)	0.30% (529)	0.00 (0)
2014	0.06% (100)	0.57 (1)	0.06% (97)	1.14 (2)	0.32% (559)	0.00 (0)
2015	0.06% (105)	0.00 (0)	0.06% (98)	0.59 (1)	0.29% (506)	0.00 (0)

**Sources:**  
a) Antenatal screening registry, RIVM; PSIE process monitor (TNO/RIVM) b) Stichting HIV Monitoring  
c) Paediatrician data on diagnoses of congenital syphilis; Perined d) National notification data; OSIRIS (RIVM)

**Table 2.** Minimum required WHO indicator criteria for validation of EMTCT of HIV and syphilis, and additional criteria for hepatitis B.

WHO criteria		2014	2015	Criterion met?
Shared indicators HIV and syphilis				
ANC coverage (at least one visit) of ≥95% <sup>a</sup>		99.2%	99.7%	Yes
HIV indicators				
Coverage of pregnant women who know their HIV status of ≥95% <sup>a</sup>		99.2%	99.7%	Yes
Antiretroviral (ARV) coverage of HIV-positive pregnant women of ≥90% (and % of women with suppressed viral load at delivery)		96% (84%)	100% (97%)	Yes
Case rate of new paediatric HIV infection due to mother-to-child transmission (MTCT) of HIV of ≤50 cases per 100,000 live births		0.57	0.00	Yes
MTCT rate of HIV of <5% in breastfeeding population OR MTCT rate of <2% in non-breastfeeding populations		0.75% <sup>b</sup>		Yes
Syphilis indicators				
Coverage of syphilis testing of pregnant women of ≥95% <sup>a</sup>		99.2%	99.7%	Yes
Treatment of syphilis-seropositive pregnant women ≥95% (% registered referred to care)		72.6%	70.5%	Unknown
Case rate of congenital syphilis ≤50 cases per 100,000 live births		1.14	0.59	Presumably
Hepatitis B indicators				
HBV vaccination: childhood vaccine coverage (third dose coverage) ≥90%		93.1%	92.2%	Yes
HBV birth-dose vaccination coverage or other approach to prevent MTCT ≥90%	Birth-dose vaccination	99.4%	99.4%	Yes
	HBIG admission at birth	99.8%	99.8%	Yes
HBsAg prevalence among children ≤0.1%		0.0%	0.0%	Yes

a) Coverage is estimated by dividing the number of women screened by the number of children born in the Netherlands half a year later, correcting the numerator for double registration of the same pregnancy and for screening of women living abroad, and correcting the denominator for loss of pregnancies and multiple births. b) Calculated for 2014 and 2015 combined due to low numbers, as advised by the WHO.