

Successes and emerging challenges in prevention of vertical HIV transmission in the UK and Ireland

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BACKGROUND

- In 2012-2014, the vertical HIV transmission rate (VTR) was 0.27% among diagnosed women living with HIV in the UK/Ireland
- The British HIV Association (BHIVA) currently recommends formula-feeding infants born to women living with HIV, eliminating postnatal transmission risk; however, BHIVA states that virologically suppressed treated women with good adherence to antiretroviral therapy (ART) who choose/plan to breastfeed may be clinically supported to do so
- Guidelines on diagnostics for breastfed infants and maternal viral load monitoring have been updated

MATERIALS & METHODS

- The National Study of HIV in Pregnancy & Childhood (NSHPC) conducts active surveillance of all pregnancies in women living with HIV in the UK/Ireland
- HIV-infected children <16yrs are reported through a parallel paediatric surveillance scheme
- The NSHPC also conducts enhanced data collection on reports of perinatal transmissions and planned/supported breastfeeding among diagnosed women
- We report maternal characteristics and vertical transmissions among singleton liveborn infants in 2015-16 with infection status reported by 31/03/18 and reports of planned and/or supported breastfeeding since 2012

RESULTS

- In 2015-16 there were **1914 singleton livebirths** to HIV diagnosed women
- Overall, 70% (1347/1909) of women were Black African (Table 1)
- 83% (1555/1881) of mothers were born outside the UK/Ireland
- 88%** (1691/1914) of women were **diagnosed prior to pregnancy**
- Median age at delivery was 34yr (IQR: 30,37)

Table 1: Maternal and pregnancy characteristics

Characteristic	N (%)
Ethnicity	<i>n</i> =1909
Black African	1347 (70%)
White	396 (21%)
Other	166 (9%)
Place of birth	<i>n</i> =1881
UK/Ireland	326 (17%)
Africa	1315 (70%)
Elsewhere	240 (13%)
Timing of diagnosis	<i>n</i> =1914
Before pregnancy	1691 (88%)
During pregnancy	223 (12%)
ART initiation	<i>n</i> =1861
at conception	1307 (70%)
during pregnancy	554 (30%)
Viral load (copies/ml) at delivery*	<i>n</i> =1231
<50	1141 (93%)
51-999	72 (6%)
≥1000	18 (1%)

*within 30 days of delivery

>99% deliveries to women on ART

70% of women were on ART at conception compared to 60% in 2012-14



Proportion of women with undetectable viral load at delivery increased to 93% in 2015-16 from 87% in 2012-14



VERTICAL TRANSMISSION RATE

- Infection status was confirmed for **75%** (1438/1914) of infants to date
- The overall **vertical transmission rate among diagnosed women has stabilised**- from 2.1% in 2000-01 to **0.28%** [95% CI: 0.08%, 0.71%] in 2015-16 (Figure 1)

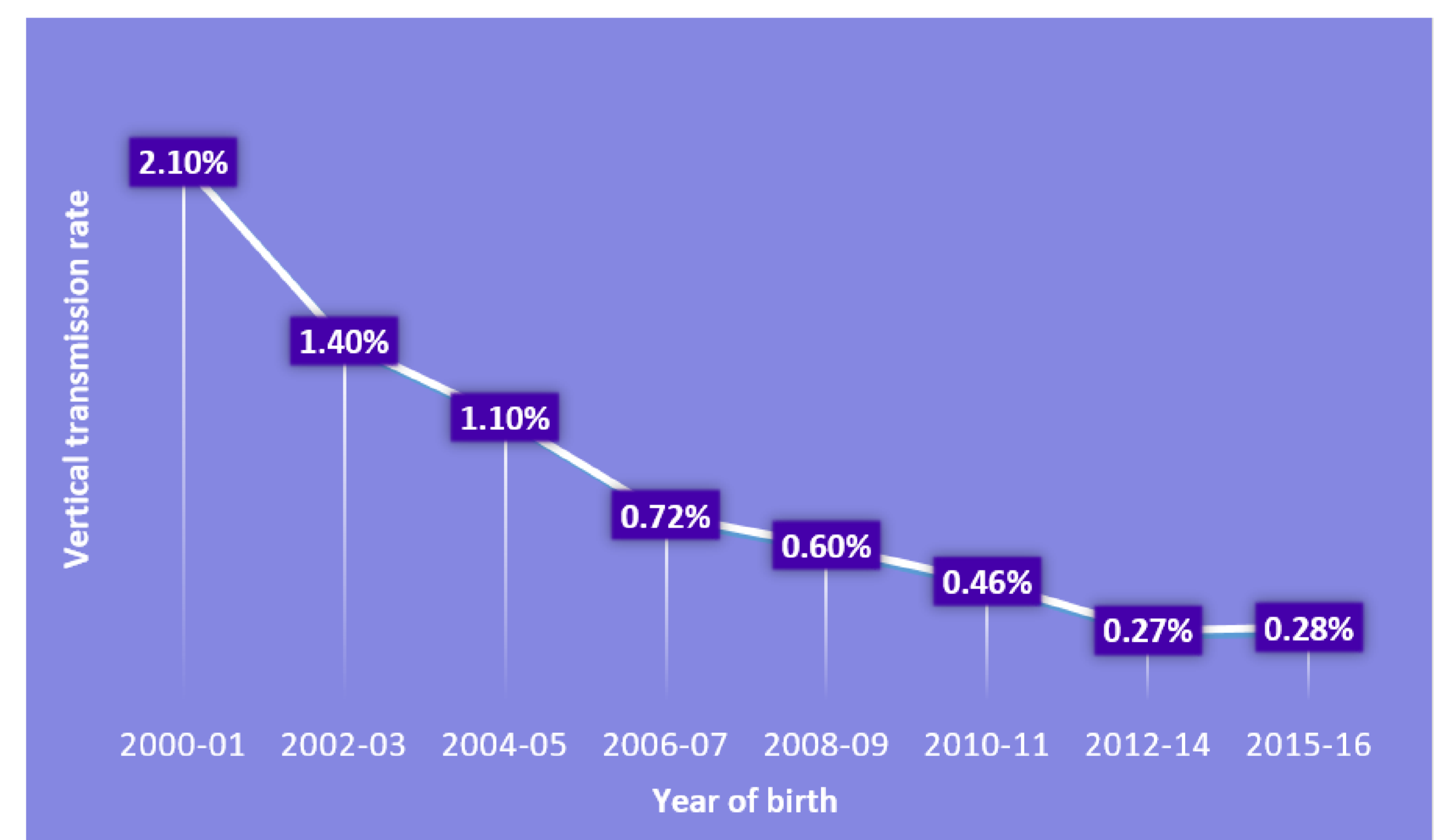


Figure 1: Vertical transmission rates of HIV among diagnosed women 2000-16

- The vertical transmission rate among **women diagnosed pre-pregnancy with undetectable VL throughout pregnancy** was **0.17%** ([0.01%, 0.92%] 1/586) in 2015-16

VERTICAL TRANSMISSIONS

Four transmissions among 1438 infants with known infection status:



- Two infants** whose **mothers were diagnosed after 20 weeks gestation** following late antenatal presentation, where transmission occurred *in utero* (positive PCR aged ≤3days)
- One infant** born to a **woman diagnosed pre-conception with detectable delivery VL** (*in utero* transmission)
- One infant** with **postnatal transmission probably via breastfeeding** (PCR negative at 6weeks, positive aged 18 months)

Note: The NSHPC's ongoing Perinatal Audit investigates antenatal screening and management of women whose infants acquire HIV perinatally

BREASTFEEDING

- Of note, for the likely case of **postnatal transmission** described, **breastfeeding was not communicated** to clinicians
- There have been **over 70 reports** of **planned and/or supported breastfeeding** among women on fully suppressive therapy since 2012 (duration varies from 1 day to 2 years/ongoing)
- Of these 70 infants, 36 were born 2015-16. **Infection status has not yet been confirmed in many cases** and monitoring is ongoing
- The NSHPC launched **enhanced data collection** of breastfeeding cases in August 2018, which includes seeking **all maternal and infant test results** during breastfeeding. This is the **first time this data has been collected in the UK**, and will provide valuable insights to inform future guidelines



CONCLUSIONS

- The vertical transmission rate among diagnosed women living with HIV in the UK/Ireland remains very low at 0.28%; the proportion of women achieving undetectable delivery VL has increased to 93%. This reflects sustained efforts to provide optimal treatment and care to women and infants
- The increased reports of breastfeeding in the UK and Ireland in this period are likely to be linked to guideline updates, the current 'U=U' era and continued strides towards normalisation of maternity experiences for women living with HIV
- However breastfeeding cases require careful monitoring, enabled by the NSHPC parallel paediatric surveillance scheme, to ensure identification of any late postnatal transmissions and appropriate adjustment of the vertical transmission rate if required

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