

# HIV vertical transmission in England: Current challenges

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## Background

- The UK has met 90-90-90 targets since 2017 and a major success is the low vertical HIV transmission rate (VTR)
- This reflects high uptake of HIV antenatal screening (currently 99.8%) and the impact of the NHS Infectious Diseases in Pregnancy Screening programme (IDPS) and HIV treatment and care services
- A small number of vertical transmissions (VT) still occur in England, and it remains important to understand the factors driving these
- Building on previous work (ISOSS 2021 Annual Report<sup>1</sup>), we present an update to the VTR (infants born 2018-2019), and describe 13 VTs reported to ISOSS between 01/06/2020-31/12/2021

## Methods

- The Integrated Screening Outcomes Surveillance Service (ISOSS) is part of the NHS IDPS programme commissioned by NHS England
- ISOSS reports cover all pregnancies to women living with HIV in England<sup>1</sup>, their infants and any children diagnosed with HIV
- ISOSS carries out additional data collection of VTs occurring in children born since 2006, including those where the mother was not diagnosed until after delivery. ISOSS interviews paediatric, maternity and HIV clinicians involved in each case
- The IDPS Clinical Expert Review Panel (CERP) reviews circumstances around transmissions, including complicating issues, and establishes any contributing factors

<sup>1</sup> as of 2020 ISOSS is an England only service

## Results

### Overall reports of vertical transmissions (births 2006-21)

In total there were 156 children with vertically-acquired HIV reported: 108 were reported by 2014, 35 reported between 2014 and 2020, and 13 reported between 2020-2021 (Figure 1).

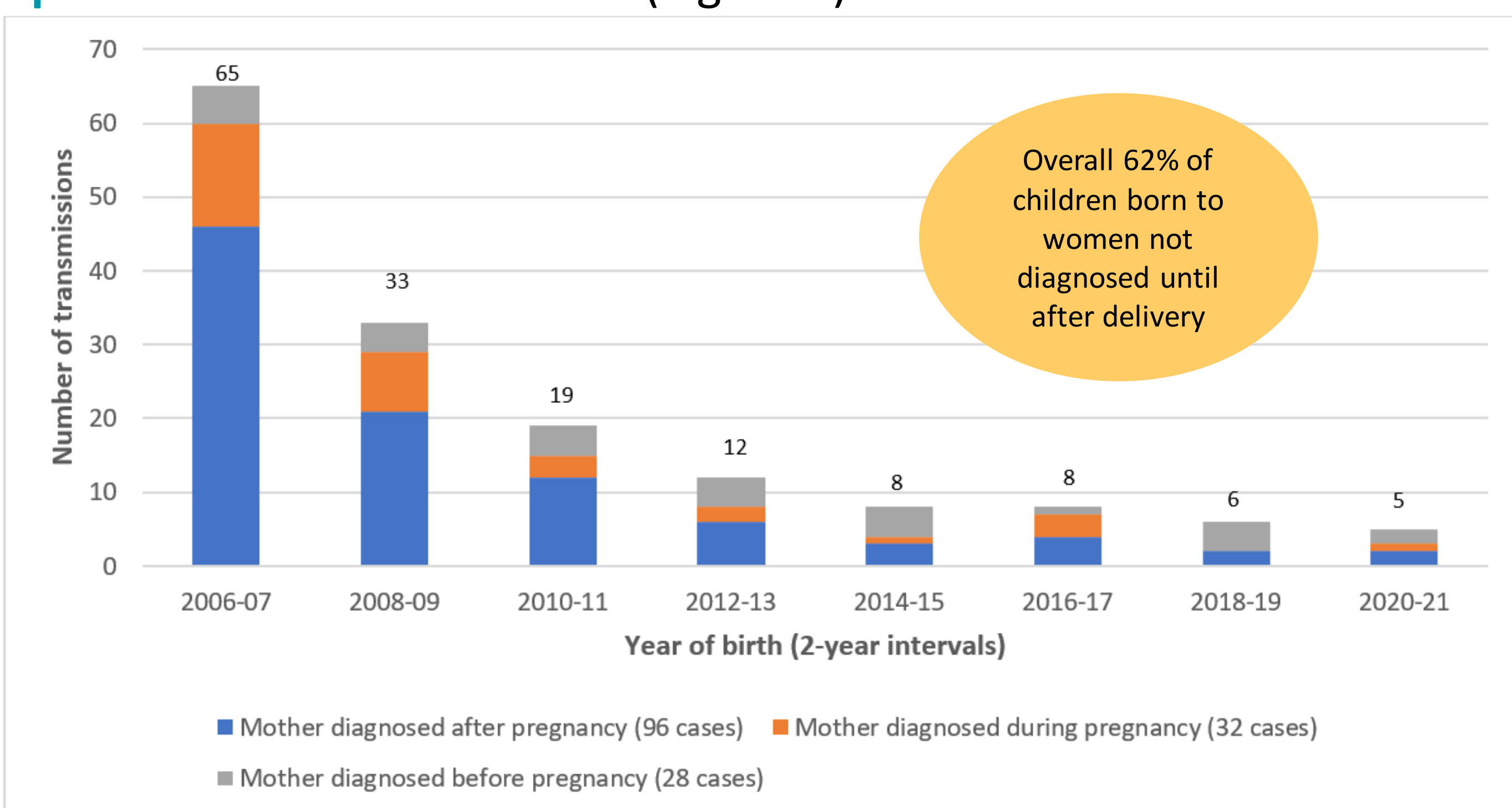


Figure 1: All reported vertical transmissions (2006 to 2021) by timing of maternal diagnosis and year of birth (n=156)

### Vertical transmissions reported, England 2020-21 (n=13)

- Children's age at diagnosis ranged from birth to 7 years
- Region of child's birth was: London (6), Midlands (2), East of England (2), North East/Yorkshire & Humber (2) and South West (1)
- 6 children were born to women diagnosed pre-pregnancy, 1 to a woman diagnosed antenatally, and 6 to women diagnosed postnatally
- Most (12/13) children were born to women born outside the UK, with 9 from sub-Saharan Africa and 3 from Eastern Europe. Median maternal age at delivery was 34 years (Q1: 31, Q3: 39)

### COMPLICATING ISSUES (VTs reported 2020-21)

Over half of women (7 of 13) were reported to have experienced adverse social circumstances at the time of pregnancy.

#### Complicating issues identified\*

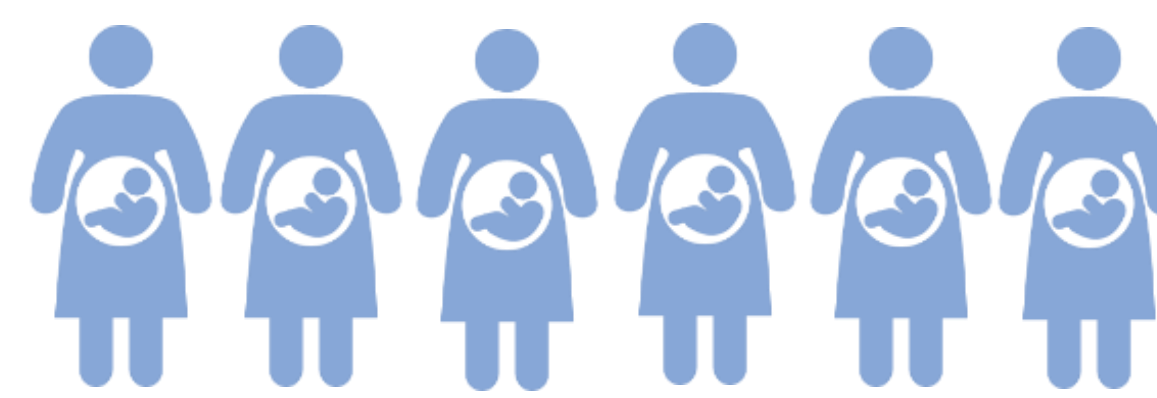
Safeguarding (4) Translation required (2)  
 Mental health issues (3) Uncertain immigration status (2)  
 Housing issues (3) \* Overlap in issues in 4 transmissions

## Conclusions

The sustained low VTR reflects ongoing successes of the screening programme and clinical management. Issues identified by the CERP support previous findings; seroconversion remains a common factor, highlighting the importance of sexual health awareness in pregnancy. Increasing complexities seen in the small number of VTs still occurring in England, mean that ongoing monitoring by ISOSS and the insights provided by the CERP remain vital.

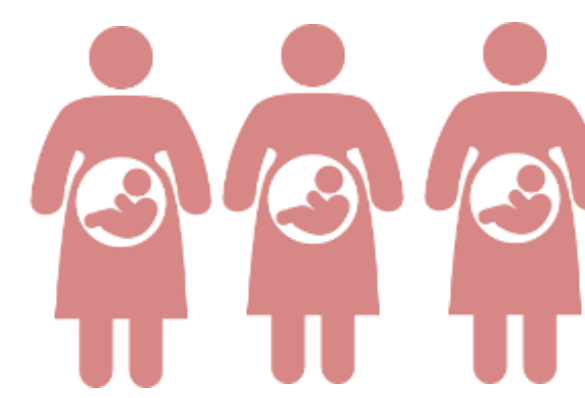
### CONTRIBUTING FACTORS (VTs reported 2020-21)

The CERP identified and agreed on the main factors contributing to the 13 transmissions reported 2020-21 (shown below). In some cases there were overlapping and/or multiple factors identified.



6 women screened negative in pregnancy (with confirmed negative test), seroconverting at some point during pregnancy or breastfeeding.

Among these: 1 woman retested later in pregnancy following partner's diagnosis; 5 women tested positive after delivery, 3 following child's diagnosis and 2 following their partner's diagnosis.



3 women had issues with adherence to ART and engagement with healthcare services in pregnancy.

All 3 women were diagnosed before pregnancy: 1 declined treatment, 1 had issues tolerating ART and 1 had issues remembering to take ART. All had diagnosed mental health issues and involvement from social services. Viral loads at delivery ranged from 13,000 to 395,000 copies/ml.



One woman had received no antenatal care and was screened in labour with the result available after delivery and post-initiation of breastfeeding.

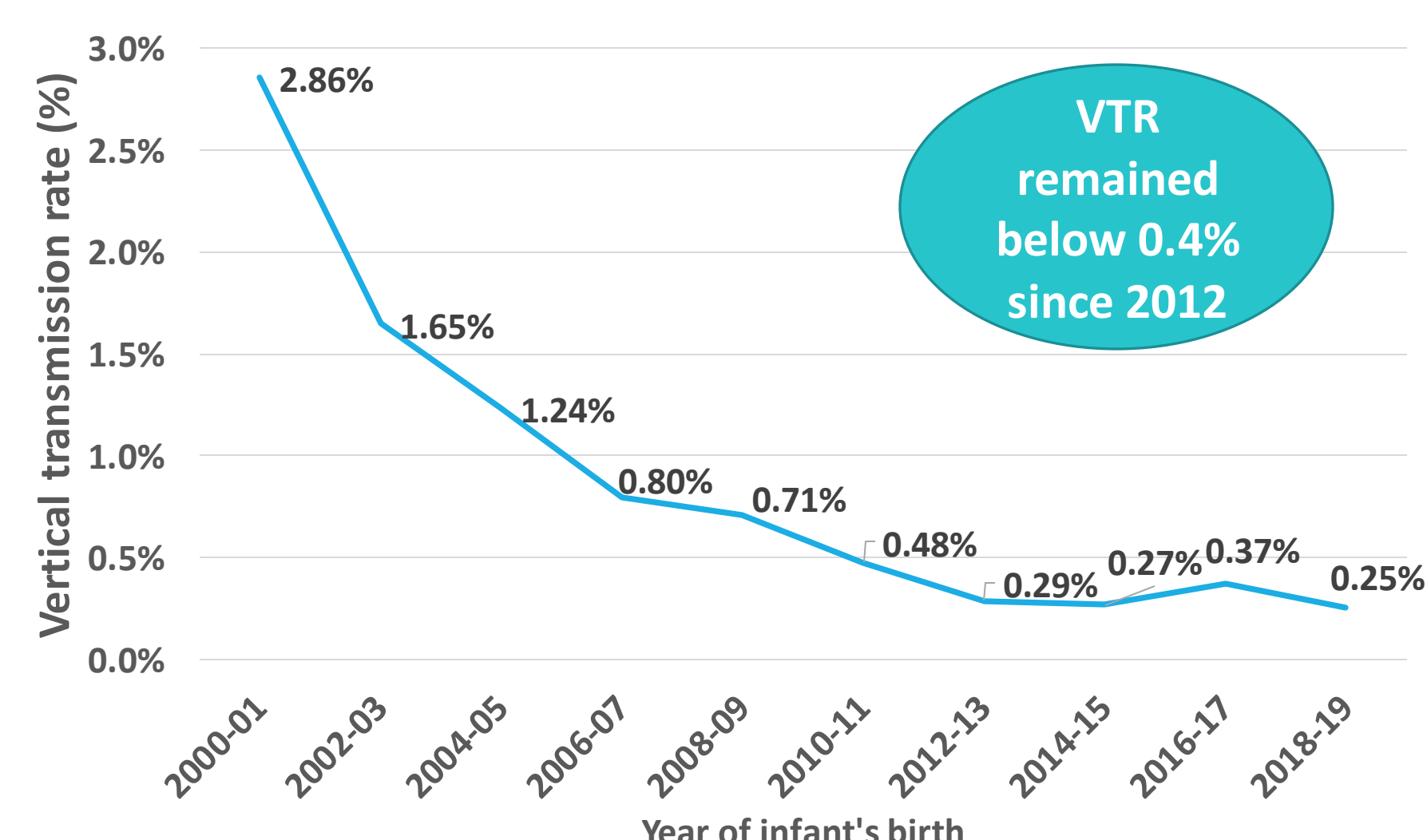


One transmission was postnatal likely due to non-disclosed breastfeeding. This woman had been supported to breastfeed in a previous pregnancy but was advised against breastfeeding in this pregnancy due to detectable viral load and issues with engagement with healthcare services.

In two transmissions no contributing factors were identified

### Vertical transmission rate, 2018-19

- There were 3 VTs among 1205 infants with known infection status born in 2018-2019 to women diagnosed by delivery
- Maternal disengagement with healthcare services and late antenatal booking ( $\geq 20$  weeks gestation) were identified as contributing factors



VTR for 2018-19: 0.25% (95% CI 0.05, 0.73)

\*includes multiple births

#### Funding and governance

UCL are the commissioned data processors for NHS England's IDPS Programme who are the data controllers and owners. Patient data is collected under legal permissions granted under Regulation 3 of the Health Service (Control of Patient Information) Regulations 2002

#### Acknowledgements

Many thanks to everyone who reports to ISOSS, the ISOSS team, the CERP members and the IDPS team. Full list of CERP membership on: [www.ucl.ac.uk/isoss](http://www.ucl.ac.uk/isoss)  
 The ISOSS Annual Report is available on gov.uk

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