Postnatal prophylaxis among infants born to women living with HIV in England, 2018-2022

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BACKGROUND

- British HIV Association (BHIVA) guidelines recommend a risk-stratification approach for infant postnatal prophylaxis (PNP).
- Vertical transmission risk level (very low/low/high) is determined based on duration of maternal ART, viral load (VL) throughout pregnancy/at delivery, with consideration of gestational age, ART adherence, and resistance.
- We describe clinical practice around PNP use and alignment with BHIVA guidelines risk levels since the 2018 update.

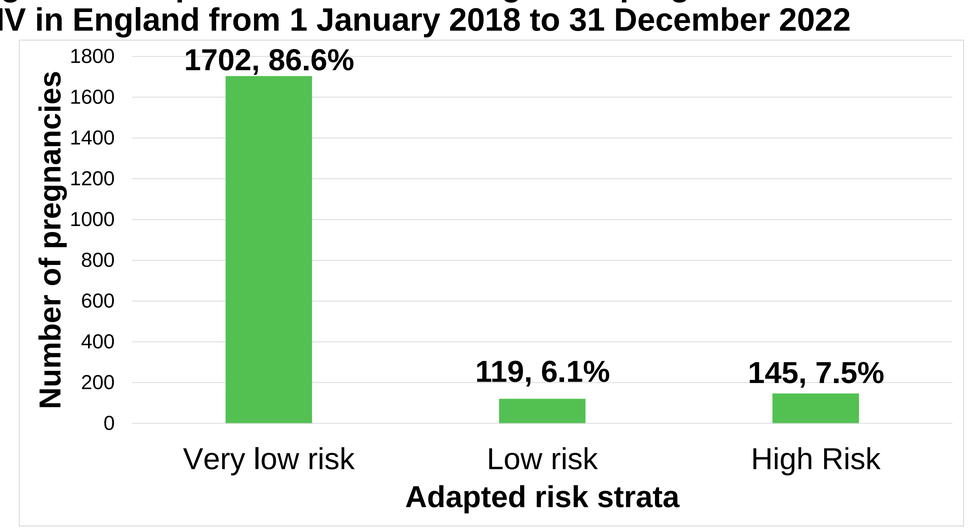
METHODS

- The **Integrated Screening Outcomes Surveillance Service (ISOSS)**, part of the NHS Infectious Diseases in Pregnancy Screening Programme, conducts comprehensive, population-based surveillance of pregnancies in (and infants of) women living with HIV in England and their infants.
- Data collection includes infant PNP type and duration. We analysed data on all mother-infant pairs born from 01-Jan-2018 to 31-Dec-2022 (reported by 31-Mar-2024).
- We applied adapted risk-strata for this analysis (Table 1), reflecting ISOSS data availability.

RESULTS

- There were 2,015 live-born infants from 1,966 pregnancies. The proportion of pregnancies fulfilling each of the adapted risk strata are shown in Table 1). Median maternal delivery VL in the ‘high risk’ group was 102 copies/mL (range:51-1,083,193, IQR: 70.5-378).

Figure 1. Adapted risk strata among 1.966 pregnancies to women living with HIV in England from 1 January 2018 to 31 December 2022



- Overall, 1862 (92.4%) infants received ZDV alone, 142 (7.0%) received a 3-drug combination, and 3 (0.1%) received no PNP.
- Among infants in the adapted ‘very low risk’ and ‘low risk’ strata (Figure 2), 1687 of 1729 (97.6%) and 114 of 134 (85.1%) received ZDV alone, respectively.
- Among 152 infants in the adapted ‘high risk’ strata,88 (57.9%) received 3-drug combinations. Of 61 infants in this stratum who received ZDV alone, delivery maternal VL was >50 but <200 copies/mL in 50 (82.0%).
- Overall, 4/2,015 infants acquired HIV; 2 ‘very low risk’ received ZDV (1) or a 3-drug combination (1) and of 2 ‘high risk’ (both in utero infections), 1 received a three-drug combination, and 1 ZDV/Lamivudine/Nevirapine/Raltegravir. (*included in ‘Other’ , Fig 2)*

Table 1. BHIVA pregnancy guidelines (2018) for infant PNP and ISOSS-adapted risk-strata for analysis

BHIVA RISK STRATA	RECOMMEDED POSTNATAL PROPHYLAXIS	ADAPTED RISK-STRATA FOR ISOSS ANALYSIS
VERY LOW RISK		
Woman on cART for >10 weeks; AND **Two documented maternal VL <50 copies/mL during pregnancy at least 4 weeks apart;** AND **Maternal VL <50 copies/mL at or after 36 weeks**	2 weeks of ZDV monotherapy	**Woman on cART for >10 weeks** AND **Maternal VL <50 copies/mL at delivery***
LOW RISK		
Criteria for ‘very low risk’ are not all fulfilled but maternal VL is <50 copies/mL at or after 36 weeks; OR **Infant is born prematurely (<34 weeks) but most recent maternal VL is <50 copies/mL**	4 weeks of ZDV monotherapy	• **Adapted criteria for ‘very low risk’ are not all fulfilled, but maternal VL is <50 copies/mL at delivery*;** • **If the infant is born prematurely (<34 weeks), but delivery VL is <50 copies/mL**
HIGH RISK		
Maternal birth VL is known to be or likely to be >50 copies/mL on day of birth, if uncertainty about recent maternal adherence or if VL is not known	4 weeks of 3-drug combination therapy (usually ZDV+3TC+NVP)	**Delivery VL* is >50 HIV RNA copies/mL**

**within 30 days prior or 7 days after delivery; cART: combination antiretroviral therapy; VL: viral load; ZDV: zidovudine; 3TC: lamuvidine; NVP: nevirapine*

Figure 2. PNP among 2,015 infants by ISOSS-adapted risk strata

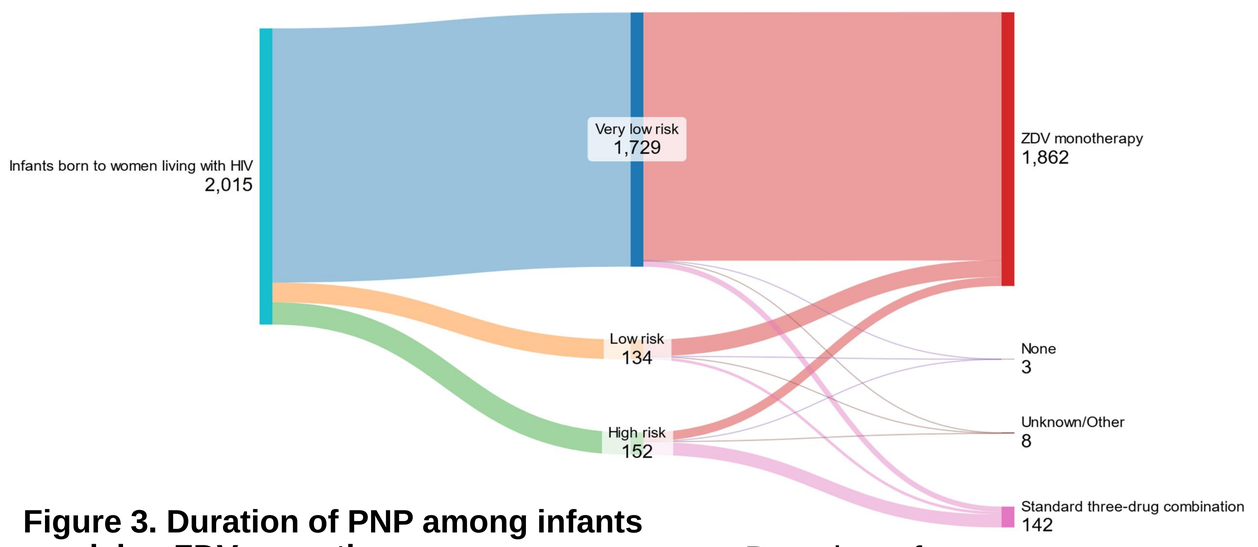
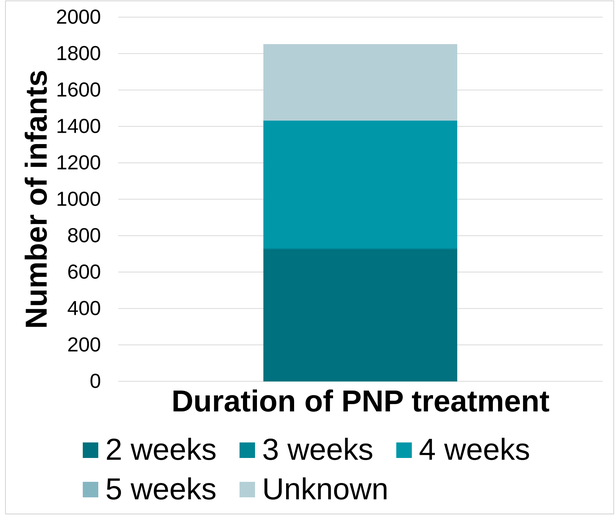


Figure 3. Duration of PNP among infants receiving ZDV monotherapy



**Duration of treatment has been compulsory in ISOSS data collection since 2021, thus a large proportion of infants in this sample have “unknown” duration prior to this year*

- Duration of treatment among infants receiving ZDV monotherapy is shown in Figure 3. Among 142 infants receiving a three-drug combination, 100 (70.4%) were on treatment for 4 weeks, 7 (4.9%) for 2 weeks, 3 (2.1%) for 5-6 weeks, and the remainder had unknown duration of treatment (32, 22.5%).

CONCUSIONS

Although caution is required due to limitations of currently-available surveillance data in determining risk strata, these data provide the first partial evidence for good clinical adherence to current policies on risk strata and PNP, as well as the possible power to monitor practice using observational data. Potential modifications to ISOSS data collection tailored to pending BHIVA guideline update for 2024 would ensure any limitations are minimised.

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