

Trends in characteristics of children newly diagnosed with HIV in the UK and Ireland between 2000 and 2018

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BACKGROUND

- In recent years the UK & Ireland (UK/I) vertical HIV transmission rate (VTR) has declined to <0.3% among pregnant women diagnosed with HIV. An increasing proportion of children living with HIV are either born to women undiagnosed by delivery, or born abroad.
- We explore the changing characteristics of children diagnosed with HIV and seen for care in the UK/Ireland in 2000-2018 using two observational population-level surveillance datasets

RESULTS

- 1606 children were diagnosed between 2000-18**; annual number of new diagnoses peaked at 157 in 2003, declining to 20-50 since 2012-18 ($p < 0.001$), Figure. The proportion of children born abroad increased from 63% (2000-04) to 73% (2012-18) ($p < 0.01$).
- Median [IQR] diagnosis age declined** from 2.4y [0.3,4.9] <2005 to 0.3y [0.1,1.6] in ≥2010 among domestic-born, versus 9.2y [5.9, 12.3] and 3y [2.3, 4.5] in children born abroad, respectively.
- Proportion with children with CDC Stage C at diagnosis declined** from 32% (2000-04) to 12% (2015-18) among domestic-born, and 20% to 15% among children born abroad.

Table: Characteristics at time of UK/Ireland diagnosis by place of birth

	Born UK/I (n=549)	Born abroad (n=1057)	p-value
Acquisition: vertical	532 (98.2%)	920 (96.3%)	0.05
Ethnicity:			
Black African	388 (71.5%)	925 (88.3%)	
White	50 (9.2%)	28 (2.7%)	
Other	105 (19.3%)	(9.0%)	<0.001
Maternal HIV diagnosis:			
Before pregnancy	43 (8.1%)	12 (1.4%)	
During pregnancy	87 (16.3%)	20 (2.4%)	
After pregnancy	402 (75.6%)	813 (96.2%)	<0.001
Reason for child's diagnosis:			
Child symptomatic	205 (37.5%)	419 (41.2%)	
Mother diagnosed	169* (31.0%)	124** (12.2%)	
Other family member diagnosed	166 (30.4%)	443 (43.6%)	
Other	6 (1.1%)	30 (3.0%)	<0.001
Median age at diagnosis, years [IQR]	1.5 [0.3,4.9]	8.6 [5.3,12.0]	<0.001
CDC Stage C at diagnosis	144 (26.2%)	179 (16.9%)	<0.001

*143/169 UK/I born children diagnosed as a result of antenatal screening (from the pregnancy resulting in the positive child or a subsequent pregnancy)

** 9/124 of those born abroad were diagnosed in UK/I as result of antenatal screening in subsequent pregnancy

METHODS

- All children aged <16 years at HIV diagnosis are reported to the **Integrated Screening Outcomes Surveillance Service (ISOSS)**, part of Public Health England's Infectious Diseases in Pregnancy Screening Programme. Children are followed up longitudinally in the **Collaborative HIV Paediatric Study (CHIPS)** whilst in paediatric HIV care.
- Descriptive statistics summarise characteristics of children diagnosed with HIV between 2000-18 at first diagnosis in UK/Ireland by place of birth (domestic versus abroad) and calendar year of diagnosis. Age of diagnosis is described by year of birth.

ART INITIATION

UK/Ireland-born children: 90% (491/545) were ever on ART; the median time from HIV diagnosis to ART initiation was 0.7y [0.2, 3.2] overall and declined from 0.9y [0.2, 4.1] <2005 to 0.4y [0.06, 1.4] in children diagnosed ≥2015 ($p = 0.002$).

Children born abroad and diagnosed in the UK/I: 87% (674/779) were ever on ART; median time from diagnosis to ART initiation was 1.2y [0.3, 3.7] overall and declined from 1.3y [0.3, 4.1] in children diagnosed 2000-04 to 0.3y [0.1, 0.4] in children diagnosed ≥2015 ($p = 0.002$).

Children previously diagnosed abroad: Overall 26% (271/1057) of children born abroad were known to have been diagnosed abroad, increasing over time (Figure). 60% (162/271) started ART prior to entry to UK/I Median age at ART start in the country of origin of 5.4 [2.2, 8.4] years. In contrast, for children diagnosed but not treated abroad, median age at ART start was 10.9 [7.3, 4.0] years.

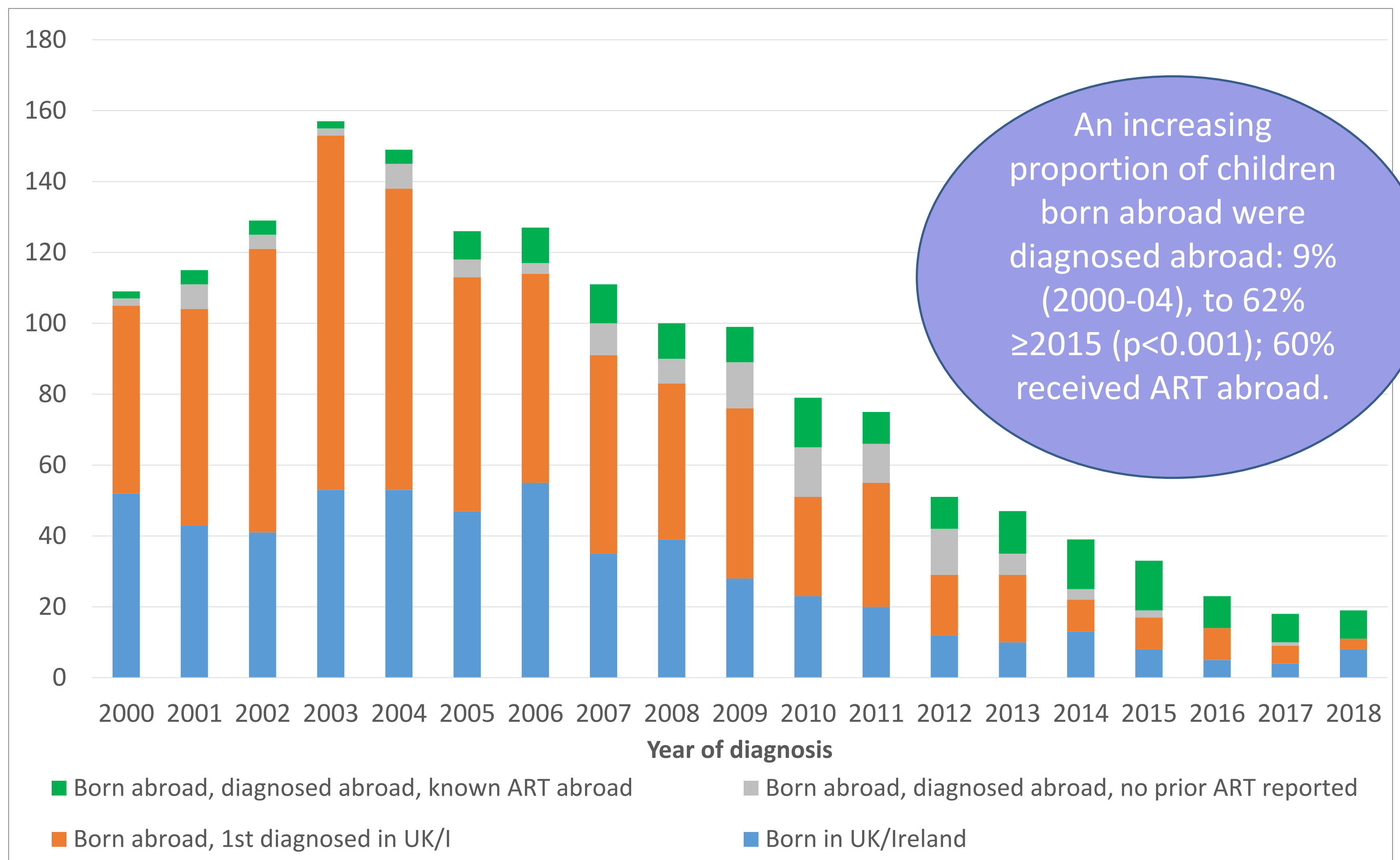


Figure: Number of children diagnosed with HIV in UK/Ireland by place of birth, diagnosis and treatment

CONCLUSIONS

- The decline in new paediatric HIV diagnoses reflect the success of prevention of VT domestically and globally. **An increasing proportion of children born abroad are now arriving already diagnosed and treated.** In later calendar years children were diagnosed at younger ages with less advanced disease stage, irrespective of place of birth.
- Initiatives to increase ascertainment of HIV status in children have included the 'Don't forget the children' campaign (2009). The antenatal screening programme offers a further opportunity for sibling testing both for children born in the UK/I and abroad.
- Paediatric HIV surveillance remains vital** to ensure this vulnerable population receives high quality specialist care and optimal health outcomes.

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