

# Current Trends in Children with HIV Diagnosed in the UK and Ireland

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## Background

- Incidence of mother-to-child HIV transmission has declined to <0.3% among diagnosed HIV-positive pregnant women delivering in the UK and Ireland (UK/I).
- An increasing proportion of children diagnosed with HIV in the UK/I were born abroad.

## Aims

- To describe trends in the characteristics of children at time of HIV diagnosis in the UK/I from 2000-2015.
- To project the number of patients entering/remaining in paediatric HIV care up to 2020 to inform future service needs.

## Methods

- All children (<16y) diagnosed with HIV in the UK/I (those born in UK/I and those born abroad arriving with known or unknown HIV status) are reported to the National Study of HIV in Pregnancy & Childhood (NSHPC) through an active surveillance system.
- Children receiving paediatric HIV care are followed up in the Collaborative HIV Paediatric Study (CHIPS). Datasets from the two studies were linked for this analysis.
- Among children with prior antiretroviral treatment (ART) at entry to the UK/Ireland, we describe the response to treatment at 1 year after entry.
- Projections of the size of the population in paediatric HIV care up to 2020 was based on current numbers/age distribution of children in follow-up in CHIPS. Age-specific probability of entry/exit paediatric care was based on historical averages (2011-14). Annual numbers of new entry to CHIPS were based on a proportion of the cohort size or a fixed constant number based on the 4-year historical average.

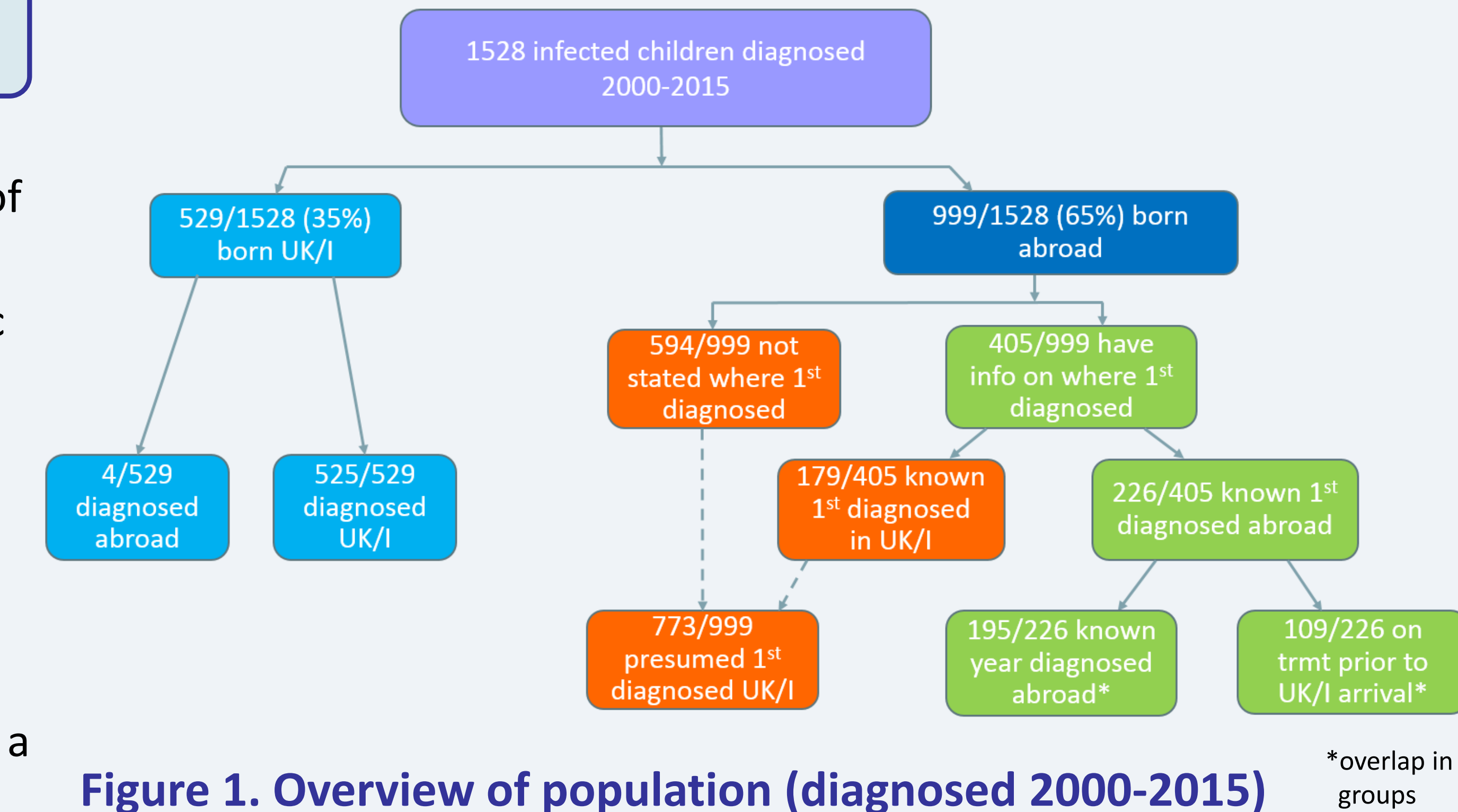


Figure 1. Overview of population (diagnosed 2000-2015)

## Results

- 1528 children were diagnosed as HIV-infected in UK/I from 2000-2015 (born 1984-2015), 65% were born abroad (Figure 1).
- Children born abroad were older at time of diagnosis (Table 1).
- Age at diagnosis declined over time, irrespective of place of birth
- Children born in UK/I:** median age declined from 9mth [IQR: 3mth, 3y] among those born 2000-05 to 6mth [2mth, 2y] in 2006-2010 and 3mth [0.5y, 1y] among those born ≥2010.
- Children born abroad:** median ages were 6y [3y, 9y], 4.7y [2y, 7y] and 3y [2y, 3y] respectively.
- Proportion of children with AIDS at diagnosis declined significantly from 26% in diagnoses 2000-03 to 2% in 2012-15. Proportion with CDC B symptoms also fell from 34% to 11% respectively ( $p<0.001$ ).

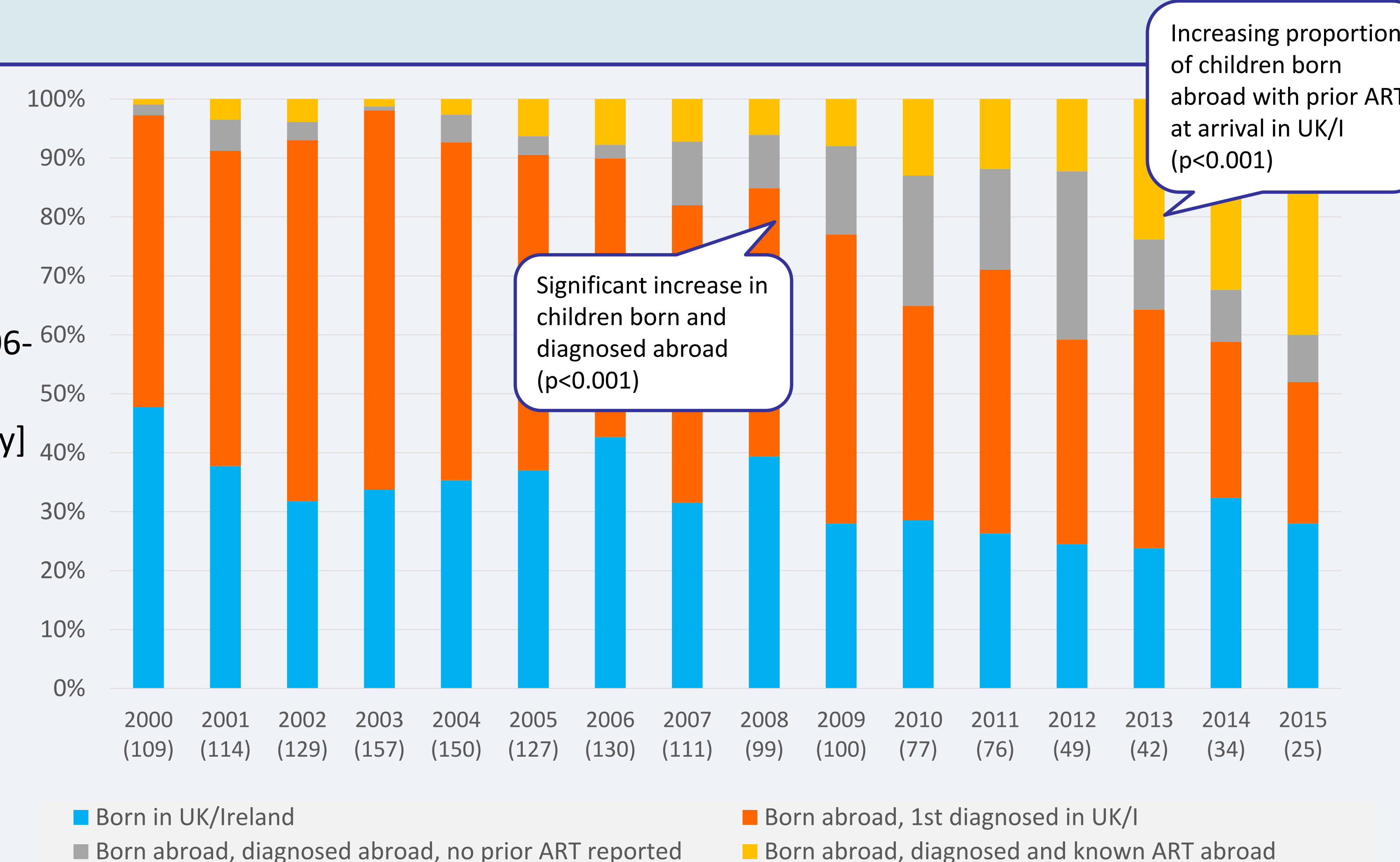


Figure 2: Trends in children diagnosed with HIV by place of birth & first diagnosis

### Treatment experience among children born abroad

- An increasing proportion of children born abroad had received ART abroad at time of entry to the UK/I over calendar time (Figure 2).
- Of children diagnosed abroad 49% were ART experienced by arrival, median age at ART start was 6y [IQR: 2y, 9y].
- Where ART regimen was reported, 76% initiated on a NNRTI and 14% on a boosted PI based regimen.
- Of patients linked in CHIPS with ART data after entry, 23% switched to a new regimen (change across drug/within PI class) within 1 year of arrival in UK/I

## Projections of paediatric HIV cohort

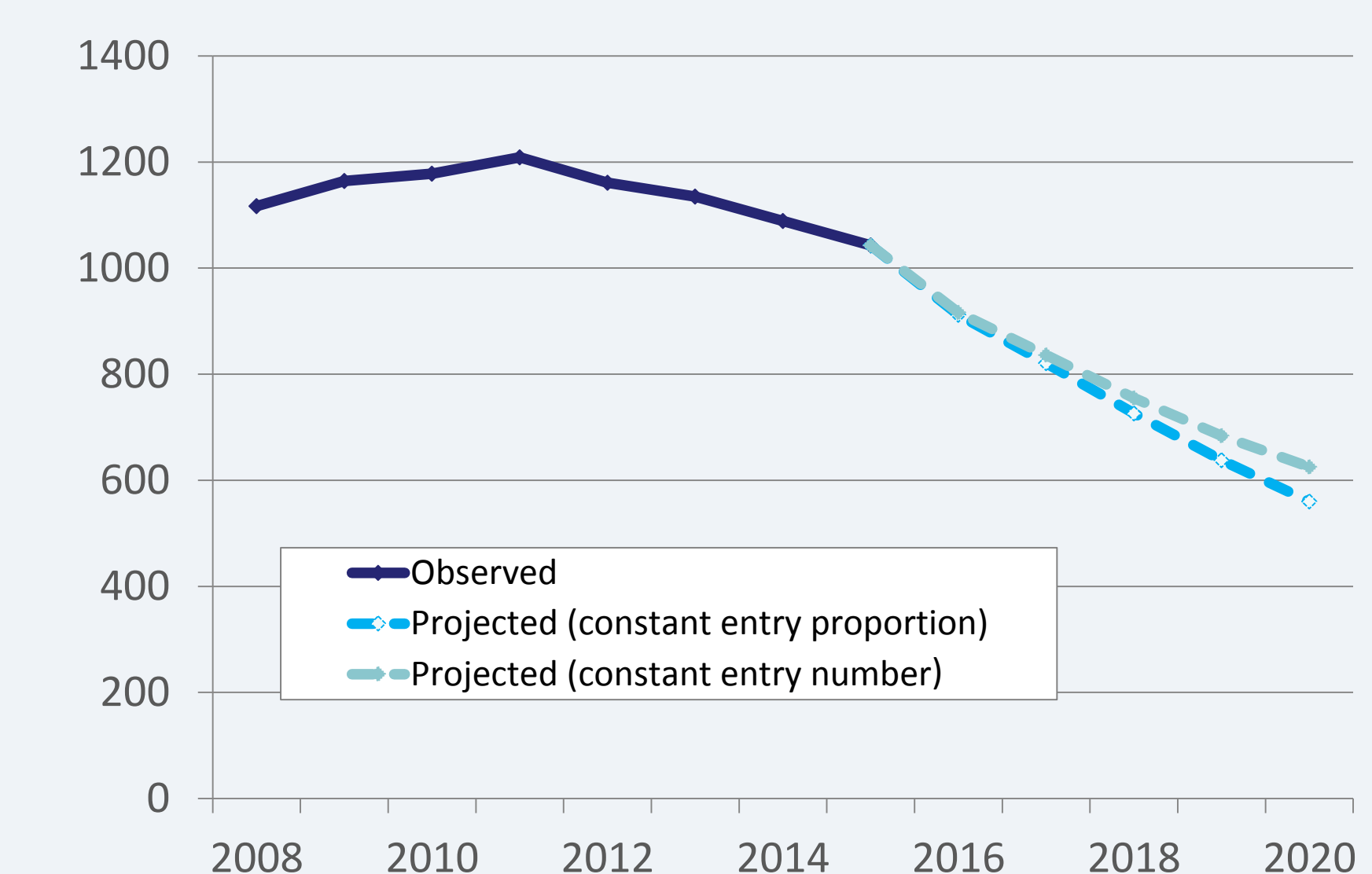


Figure 3: Observed & projected size of CHIPS cohort

- As the CHIPS cohort mature, an increasing proportion of patients are transferring to adult care.
- Assuming the numbers of new patients entering paediatric HIV care continue to decline or remain at a constant average, it is estimated that the cohort will halve in size by 2020.

## Conclusions

- Numbers of newly diagnosed children in the UK & Ireland continue to decline, with increasing proportions of children born abroad and treatment experienced at arrival.
- Median age at diagnosis has decreased significantly, although this remains higher for children born abroad. An encouraging trend is the declining proportion presenting with CDC B/C symptoms.
- As the cohort matures and children transition to adult care, the demand for paediatric HIV services is expected to reduce substantially in the next five years while need for adolescent-targeted HIV services will increase.

Table 1: Characteristics at time of diagnosis by place of birth

	Born UK/I (n=529)	Born abroad (n=999)	p-value
<b>Acquisition:</b> vertical	511 (98%)	858 (97%)	0.14
<b>Sex:</b> female	302 (57%)	502 (51%)	0.02
<b>Ethnicity:</b> Black African	375 (72%)	888 (90%)	<0.001
<b>Maternal diagnosis</b>	(n=497)	(n=824)	
- Before pregnancy	35 (7%)	12 (2%)	<0.001
- During pregnancy	69 (14%)	20 (3%)	
- After pregnancy	393 (79%)	792 (96%)	
<b>Reason for diagnosis</b>	(n=520)	(n=934)	
- Child symptomatic	202 (38%)	399 (40%)	<0.001
- Maternal screening	153 (29%)	84 (9%)	
- Other family member dx	165 (31%)	451 (46%)	
<b>Median age at diagnosis, years [IQR]</b>	1.4 [0.3,4.9]	8.5 [5.3,11.9]	<0.001
<b>AIDS at diagnosis</b>	128 (24%)	141 (14%)	<0.001

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