Characteristics of children diagnosed with HIV in the UK 2000-2015

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Background

- The mother-to-child transmission rate of HIV in the UK continues to decline from 2.1% in 2000-01 to around 0.5% in 2010-11 amongst diagnosed women.

- Since 2000, 1511 children have been diagnosed as HIV infected in the UK & Ireland and reported to the National Study of HIV in Pregnancy and Childhood (NSHPC).
Aim

To explore recent trends in the diagnosis and characteristics of HIV-infected children, born in the UK and abroad.
National Study of HIV in Pregnancy and Childhood

Comprehensive observational surveillance in UK and Ireland since 1990

Complementary reporting schemes

- Paediatric reports, clinics and BPSU orange card
- Obstetric reports, RCOG approved scheme

No interventions, no enrolment, surveillance only

Substantial feedback to clinicians and HIV networks maximises coverage and case ascertainment (>95%)
National Study of HIV in Pregnancy and Childhood

**NSHPC**
All children diagnosed with HIV born or living in the UK are reported

**CHIPS**
Followed up annually for collection of detailed clinical data

Infected children

Surveillance data

Clinical updates

Dataset for analysis
Methods

- Analysis of 1511 children diagnosed 2000-2015, reported by the end of 2015:
  1. Children born and diagnosed in the UK (n=524)
  2. Children born abroad and diagnosed in UK (n=803)
  3. Children born abroad and diagnosed abroad (n=184)

- Data collected on infected children includes:
  - Date and country of birth
  - Timing and reason for diagnosis
  - Clinical status
## Results

1511 infected children (born between 1984 and 2015)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>$n$</th>
<th>Summary statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode of acquisition</td>
<td>1471</td>
<td>97% vertically infected</td>
</tr>
<tr>
<td>Sex</td>
<td>1511</td>
<td>52% female</td>
</tr>
<tr>
<td>Country of birth</td>
<td>1511</td>
<td>65% born abroad</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>1511</td>
<td>83% Black African</td>
</tr>
<tr>
<td>When mother diagnosed</td>
<td>1302</td>
<td>90% after pregnancy, 6% during</td>
</tr>
</tbody>
</table>
# Results: Children born abroad

987/1511 children born abroad

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Diagnosed in UK (n=803)</th>
<th>Diagnosed abroad (n=184)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis yr: 2000-04</td>
<td>403 (50%)</td>
<td>17 (9%)</td>
</tr>
<tr>
<td>2005-09</td>
<td>290 (36%)</td>
<td>74 (40%)</td>
</tr>
<tr>
<td>2010-15</td>
<td>110 (14%)</td>
<td>93 (51%)</td>
</tr>
<tr>
<td>Age at diagnosis (median)</td>
<td>9yr (IQR: 6 - 12)</td>
<td>8yr (IQR: 5 - 11)</td>
</tr>
<tr>
<td>CDC C symp. at diagnosis</td>
<td>53 (7%)</td>
<td>9 (5%)</td>
</tr>
<tr>
<td>Lag between UK arrival &amp; diagnosis</td>
<td>60% (60/565) within 12mth</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>19% (107/565) &gt;3yr</td>
<td>-</td>
</tr>
<tr>
<td>Treatment experienced on arrival</td>
<td>-</td>
<td>14/56 (23%)*</td>
</tr>
</tbody>
</table>

* Data only collected from 2012
Results

Annual paediatric diagnoses have declined over time after peaking in 2003-04, <50 diagnoses per year since 2012 (p<0.001)

*Children reported to NSHPC by end December 2015, some delay in reporting for recent years*
Results

Proportion of infected children born abroad remains higher

*Children reported to NSHPC by end December 2015, some delay in reporting for recent years*
Results: Region of report

- **2000-05**
  - London: 65%
  - North: 10%
  - Midlands: 5%
  - NI, Wales, Scotland: 5%
  - South: 10%
  - Ireland: 10%

- **2006-15**
  - London: 45%
  - South: 20%
  - Midlands: 14%
  - NI, Wales, Scotland: 9%
  - Ireland: 6%
Results: Reason for diagnosis

Children born UK

- Child symptomatic
- Antenatal/Maternal Screening
- Other family members found positive
Results: Reason for diagnosis

Children born abroad and diagnosed in UK

- Child symptomatic
- Antental/Maternal Screening
- Other family member found positive

Year of diagnosis

No.
Results: Age at diagnosis

Median age of diagnosis has decreased for children born in UK and abroad

<table>
<thead>
<tr>
<th>Year of birth</th>
<th>Born UK</th>
<th>Born Abroad</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-04</td>
<td>10 months (IQR 0.3-3y)</td>
<td>5.5 years (IQR 3-8y)</td>
</tr>
<tr>
<td>2005-09</td>
<td>7 months (IQR 0.2-2y)</td>
<td>4.0 years (IQR 1-6y)</td>
</tr>
<tr>
<td>2010-15*</td>
<td>3 months (IQR 0-0.8y)</td>
<td>2.5 years (IQR 0.3-3y)</td>
</tr>
</tbody>
</table>

NB: restricted to children born 2000 onwards

*Some children born in this period may still be undiagnosed/reported later
Results: CDC C Symptoms

- **11%** (170/1514) had symptoms at presentation

- Proportion of children with CDC C symptoms at presentation declined from **18%** of those diagnosed 2000-03 to **0%** since 2012 (*p*<0.001)

- **18%** (30/170) of those with symptoms at presentation have died to date
Conclusions

- Annual paediatric diagnoses peaked in 2003-04, with subsequent decline over time
  - Currently 30-50 new diagnoses per year (since 2012)

- Most new diagnoses are now in children born abroad
  - Majority of these were diagnosed in UK 2000-2004; since 2010 almost half are diagnosed abroad

- Median age at diagnosis decreased significantly
  - Remains higher for children born abroad

- Declining proportion of children presenting with CDC C symptoms through the period
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