

National Study of HIV in  
**NSHPC**  
Pregnancy and Childhood

# Concurrent infections in pregnancies to women living with HIV in the UK and Ireland

**Helen Peters, Kate Francis, Claire Thorne**

UCL GOS Institute of Child Health, London

[www.ucl.ac.uk/nshpc](http://www.ucl.ac.uk/nshpc)

NHIVNA, Bristol 2017

# Background

- Sexually-acquired and blood-borne coinfections are frequent among people living with HIV
- In pregnancy such coinfections may place women and their infants at increased risk for adverse outcomes including vertical/congenital infection
- These have implications for management during pregnancy and beyond

# Background- screening guidelines

In the UK recommended that all pregnant women are screened for hepatitis B virus (HBV), and syphilis

## BHIVA guidelines:

- All HIV-positive women (**newly diagnosed or previously engaged in care**) are additionally screened for HCV and genital infections
- Comprehensive guidelines: management of any coinfections found in HIV-positive women (amendments to treatment regimen, increased testing in other depts, MDT approach)

## Aim

- To describe infant exposure to coinfections in pregnancy in HIV-diagnosed women in the UK and Ireland, together with infant outcomes



# 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%)

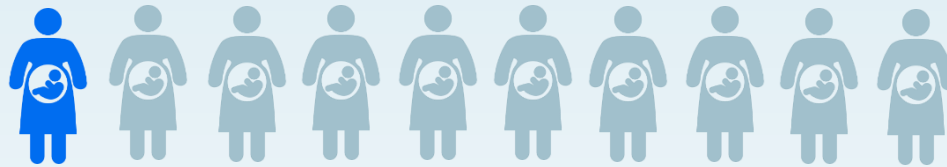
## Methods

- Since 2008 the NSHPC has actively collected data on infections routinely screened for in HIV-positive pregnancies (HBV, HCV and syphilis) as well as other co-infections
- Additionally collects details on infant exposure to and/or confirmed congenital infection

**Analysis:** describe exposure to co-infections and outcomes in 7758 livebirths to HIV-diagnosed women 2010-16, reported by the end of 2016

## Results

- Among infants born 2010-16, **10%** (764/7758) were reported to be exposed to a maternal co-infection



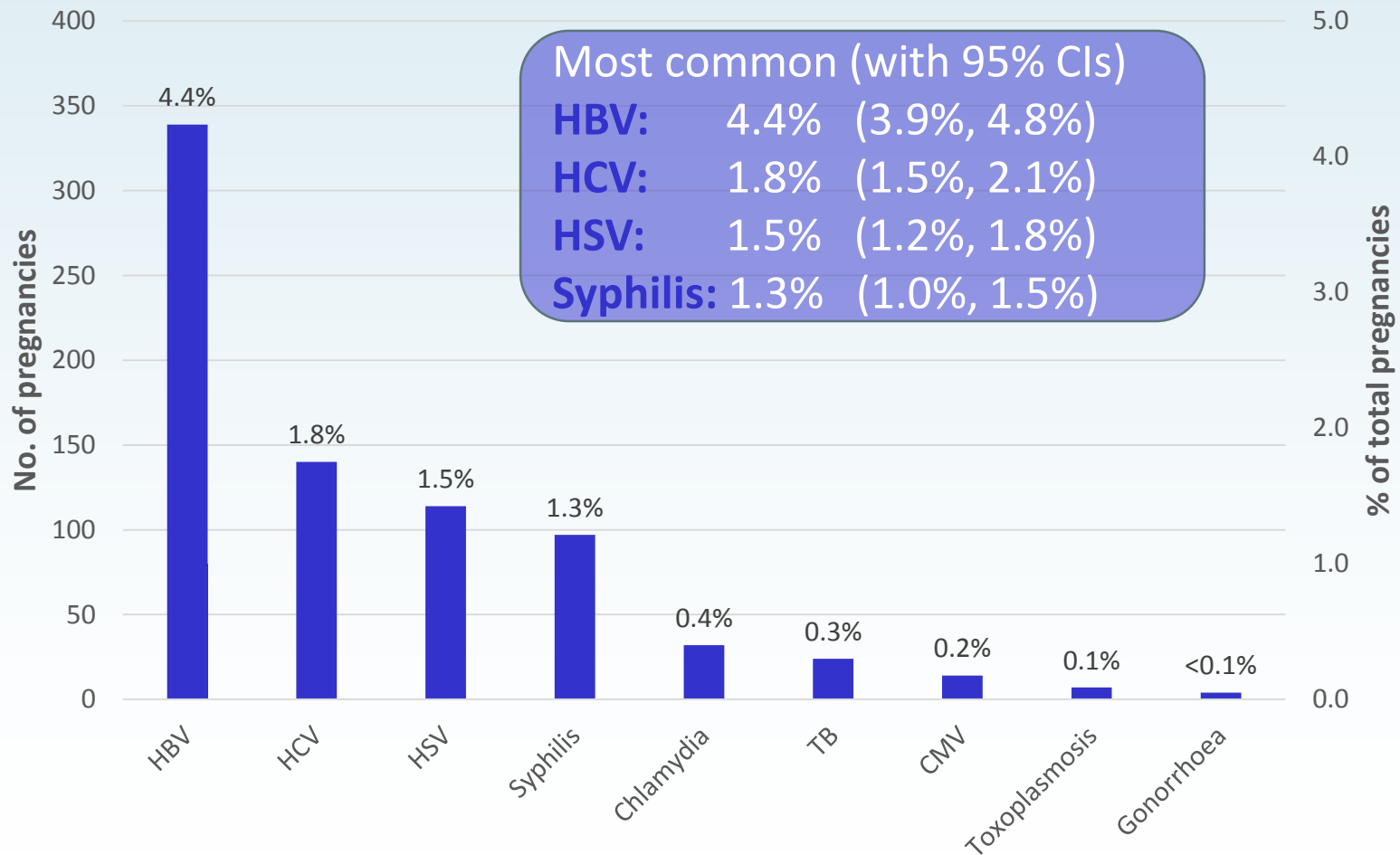
- Of these, **5%** (38/764) were exposed to **>1 concurrent infections**

Most common were:

- **HBV/HCV** (14/38)
- **HBV/syphilis** (8/38)

# Results

## Prevalence of reported coinfections among pregnancies to women with HIV





## Results – maternal demographics

	Co-infected (n=764)	None (n=6994)	p-value
Median age at EDD (95% CI)	33.4y (29.7, 36.9)	33.4y (29.6, 37.1)	>0.5
* HIV dx during pregnancy	154 (20%)	1126 (16%)	0.005
* Region of birth			
UK/Ireland	111 (15%)	1013 (15%)	<0.001
Other Europe	100 (14%)	338 (5%)	
Sub Saharan Africa	496 (67%)	4932 (74%)	
Other	30 (4%)	428 (6%)	
* Ethnic origin			
Black African	499 (68%)	4923 (75%)	<0.001
White	198 (27%)	1074 (16%)	
Other	40 (5%)	585 (9%)	
* Mode of HIV acquisition			
Heterosexual	593 (87%)	6034 (97%)	<0.001
IDU	68 (10%)	42 (<1%)	
Other	17 (3%)	155 (3%)	
Previous livebirths	584 (76%)	5448 (78%)	0.36

## Results – Hepatitis B

Factors associated with HBV coinfection:

- Older median age: 34yr vs 33yr ( $p<0.03$ )
- Born abroad: SSA 83% vs 72% ( $p<0.001$ )
- Non-white ethnicity: 88% vs 82% ( $p<0.005$ )

No difference in timing of diagnosis, mode of HIV acquisition and parity

## Results – Hepatitis C

Factors associated with HCV coinfection :

- Younger median age: 32yr vs 33yr ( $p=0.032$ )
- Region of birth: Eastern Europe ( $p<0.001$ ). EE accounted for 30% (44/148) of those with an HCV coinfection
- White ethnicity: 85% vs 16% ( $p<0.001$ )
- IDU: 47% vs 0.7% ( $p<0.001$ ). 57% of IDU had HCV
- First pregnancy ( $p=0.07$ )

No difference in timing of diagnosis

## Results – Syphilis

Factors associated with syphilis coinfection :

- Older median age: 35yr vs 33yr ( $p=0.09$ )
- Diagnosis in current pregnancy: 26% vs 16% ( $p<0.02$ )
- Born abroad: SSA 89% vs 71% ( $p<0.001$ )
- Black African ethnicity: 91% vs 74% ( $p<0.001$ )

No difference in parity or mode of HIV acquisition

# Results – Regional differences

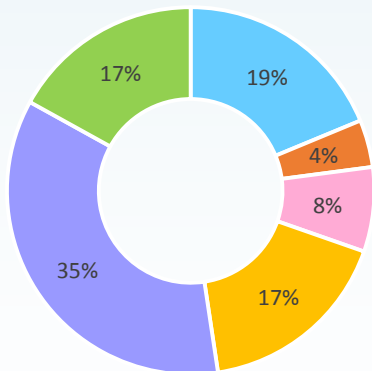
**London:** Nearly two-fifths of HIV reports vs quarter of HCV and HBV coinfections

**Ireland:** only 8% of HIV reports vs 29% of HCV coinfections and 17% of syphilis and HCV coinfections

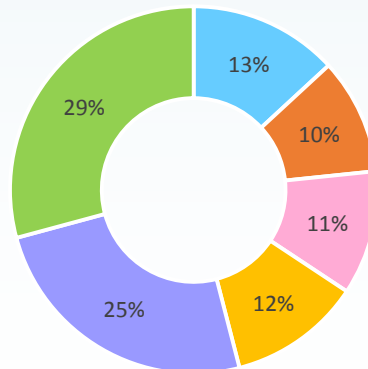
## Overall HIV reports

London	37%
Midlands	23%
North England	15%
South England	12%
Ireland	8%
NI, Scotland, Wales	5%

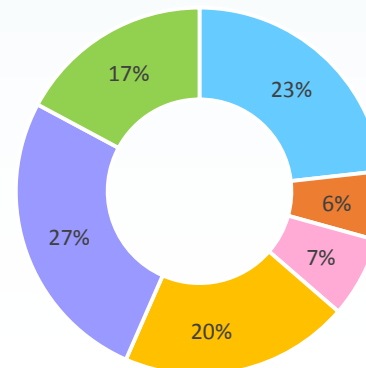
## Syphilis



## HCV



## HBV



## Results – Infant outcomes

- Of the infants exposed to co-infections **15% were born preterm** (<37wks) vs 10% in unexposed ( $p<0.001$ )
- A **confirmed congenital infection** was reported in **4%** of infants: CMV (12), syphilis (4), HBV (4), HCV (3), HSV (3), other (3) with one child having >1 congenital infection
- Of infants where HIV infection status was known, **0.8%** (5/624) were **found to have HIV** (1/5 had a congenital infection) vs 0.4% overall

# Conclusions

- One in ten infants born to women living with HIV in the UK/Ireland are exposed to coinfections
- Findings underscore the need to:
  - follow recommendations for screening for sexually transmitted and blood-borne infections in pregnant women with HIV
  - allow for appropriate management of mother and infant and to prevent congenital infection and/or other adverse pregnancy outcomes

# Acknowledgements

- All respondents to the NSHPC
- Royal College of Obstetricians and Gynaecologists
- British Paediatric Surveillance Unit

## Funding:

- Public Health England, Infectious Diseases Screening Programme

## NSHPC:

- **Principal Investigator:** Claire Thorne
- **Current Team:** Pat Tookey, Helen Peters, Kate Francis, Rebecca Sconza, Anna Horn, Icina Shakes
- **Additional support:** from departmental colleagues including Claire Townsend, Graziella Favarato, Mario Cortina-Borja, Heather Bailey

Any views expressed are those of the speaker and not necessarily those of the funders