

Pregnancy characteristics and outcomes among migrant women living with HIV recently arrived in the UK

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Background

- The current rate of **vertical transmission of HIV in the UK is <0.3%**, reflecting the huge success of antenatal screening and antiretroviral therapy (ART). Most women are aware of their HIV status and conceive on ART, and >90% deliver with an undetectable viral load
- In 2015-18 over 80% of pregnancies in the UK to women living with HIV (WLWH) were to women born abroad, primarily from sub-Saharan Africa
- Women arriving during or shortly before pregnancy may face **intersectional challenges** in achieving optimal birth outcomes
- We use **UK population-level data** to describe this group of women and their pregnancy outcomes for the first time

Methods

- The **Integrated Screening Outcomes Surveillance Service (ISOSS)***, collects data on all pregnancies in diagnosed women living with HIV in the UK, their infants and any children diagnosed with HIV. ISOSS carries out this work on behalf of the NHS Infectious Diseases in Pregnancy Screening Programme.
- Inclusion criteria: WLWH arriving in the UK **during pregnancy or in the 12 months prior** to conception ('recent migrants') with an estimated delivery date (EDD) between 01/01/2009 and 31/12/2019. **Maternal characteristics and birth outcomes are described and stratification by time of arrival (pre-pregnancy vs during pregnancy)**
- Adverse birth outcomes were defined as follows: preterm delivery (<37 weeks gestation); low birth weight (LBW) (<2500g); extended perinatal mortality (EPM) (stillbirth and neonatal death). A composite variable combined all 3 of the above ("any adverse birth outcome").
- Among 12,570 pregnancies reported to ISOSS with EDD 2009-2019, 84% (10414/12352) were to women born outside of the UK. Among those with date of arrival available, **9.0% (635/7079) were pregnancies to 'recent migrants'**.
- Analyses were conducted in STATA (v15.1, StataCorp LLC)

Results

- From 2009-2019, 379 WLWH arrived in the year before pregnancy and 256 arrived during pregnancy (Table)

Maternal Characteristics

- Timing of **antenatal booking varied significantly** according to whether the mother arrived before or during pregnancy (Table)
- Mothers arriving before pregnancy were more likely to be **diagnosed with HIV before conception** than those arriving during (p=0.021).
- 602/635 (95.0%) were on ART at some point during pregnancy, with 199/583 (31.4%) **on treatment at conception** (Table)
- Of the 384/585 (65.9%) women starting ART in pregnancy where timing was known, **21 (5.4%), 264 (68.8%) and 99 (25.8%) started in the 1st, 2nd and 3rd trimester respectively**

Birth Outcomes

- 560 pregnancies** resulted in a registrable birth (live or stillborn >24 weeks gestation), with 10 twin pregnancies (570 newborns)
- 86 (15.1%) newborns had ≥1 adverse outcome: 18.2% in those whose mothers arrived during pregnancy vs 12.8% in those whose mothers arrived before (**8.9% preterm, 12.0% LBW & EPM 16 per 1000**)
- Delivery with a **detectable viral load was more common for women arriving in pregnancy** than pre-pregnancy (Table)
- Vertical transmission of HIV occurred in 6/490 (1.2%) infants** where outcomes are known, vs 0.3%-0.6% in the same period among all UK deliveries in WLWH

Table: Maternal characteristics by timing of UK arrival n(%)

	Before pregnancy n=379	During pregnancy n=256	Total n=635	P-value (χ ²)
Parity n=483				
Nulliparous	155 (53.3)	110 (57.3)	265 (54.9)	
One previous birth	82 (28.2)	40 (20.8)	122 (25.3)	
≥2 previous births	54 (18.6)	42 (21.9)	96 (19.9)	0.178
Antenatal booking n=592				
≤ 12 completed weeks	208 (58.8)	34 (14.3)	242 (40.9)	
13-23 completed weeks	116 (32.8)	70 (29.4)	186 (31.4)	
≥24 completed weeks	30 (8.5)	134 (56.3)	164 (27.7)	0.000
Antenatal ART n=634				
Started pre-conception	128 (33.8)	71 (27.8)	199 (31.4)	
Started during pregnancy	232 (61.2)	171 (67.1)	403 (63.6)	
None	19 (5.0)	13 (5.1)	32 (5.1)	0.282
First CD4 count n=586				
>350 cells/mm ³	207 (58.1)	138 (60.0)	345 (58.9)	
200 – 349 cells/mm ³	92 (25.9)	70 (30.4)	162 (27.7)	
<200 cells/mm ³	57 (16.0)	22 (9.6)	79 (13.5)	0.065
Delivery viral load* n=412				
Undetectable	192 (85.0)	138 (74.2)	330 (80.1)	
Detectable	34 (15.0)	48 (24.8)	82 (19.9)	0.006

*restricted to live & still births only (n=560)

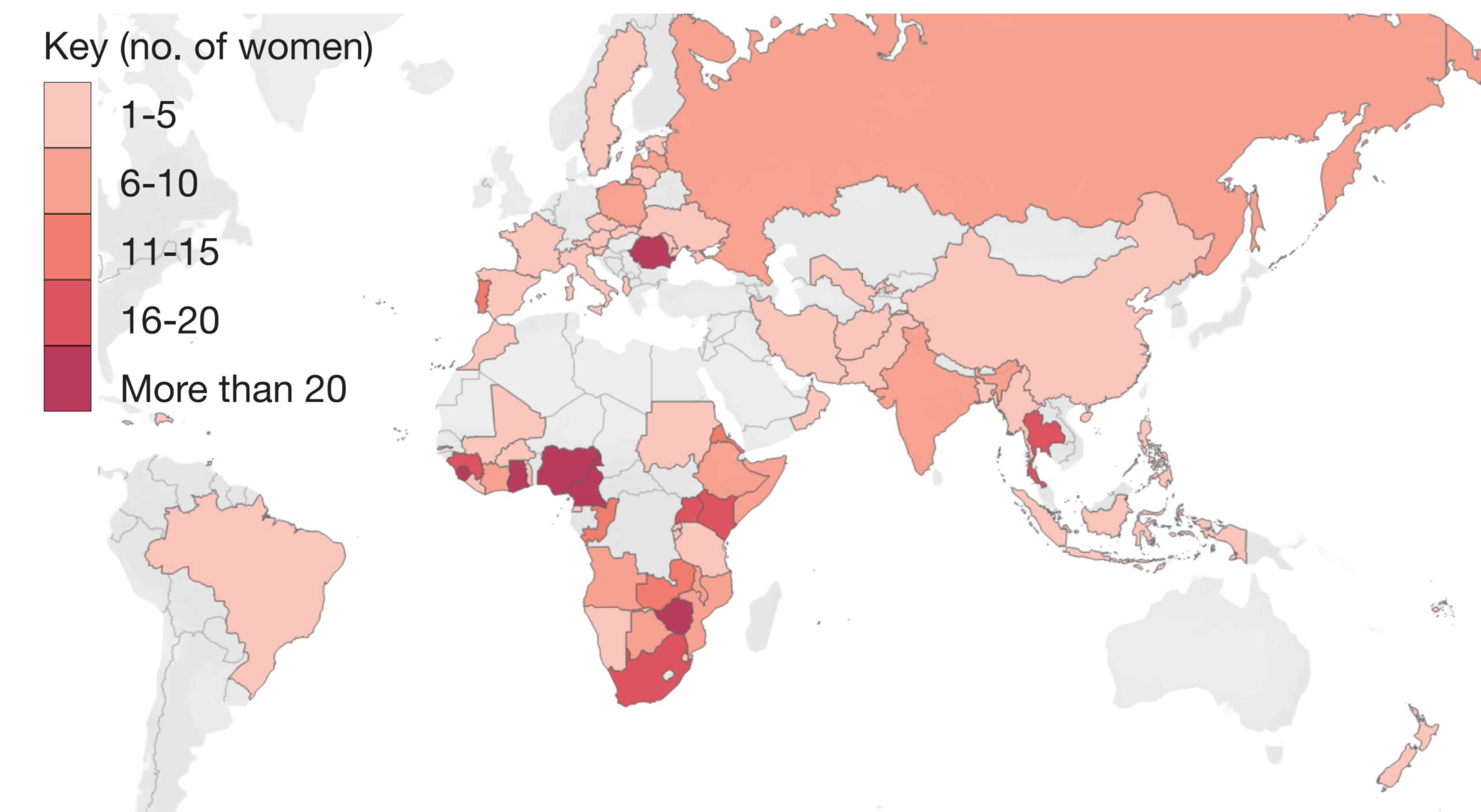


Figure: heat map showing the distribution of maternal origin among 568 WLWH with known country of origin. **78.3% originated from sub-Saharan Africa**, with 41.3% of recent arrivals overall from Nigeria (n=152) followed by Ghana (n=46) and Zimbabwe (n=42). Outside Africa, the most common countries of birth were Romania (n=22), Thailand (n=20) and Portugal (n=14).

Conclusions

Findings highlight the vulnerabilities of 'recent migrant' women and their babies, particularly those arriving during pregnancy.

While further research is needed, structural and political barriers that may be experienced by recent migrants should be considered to optimise their antenatal care and allow them to safely deliver healthy babies. This research supports ongoing efforts within PHE's Inequities and Migrant Health strategies

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