

# Coinfections in pregnancy in hepatitis B virus (HBV) screen-positive women in England

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## BACKGROUND

- People living with HBV infections have higher risk of coinfections, reflecting shared transmission routes and risk factors across infections.
- In pregnancy, coinfections require careful management to optimise maternal health as well as pregnancy and infant outcomes, given potential risk of vertical transmission.
- We aimed to describe the prevalence of coinfections among pregnant women with HBV infection in England as well as treatment received.



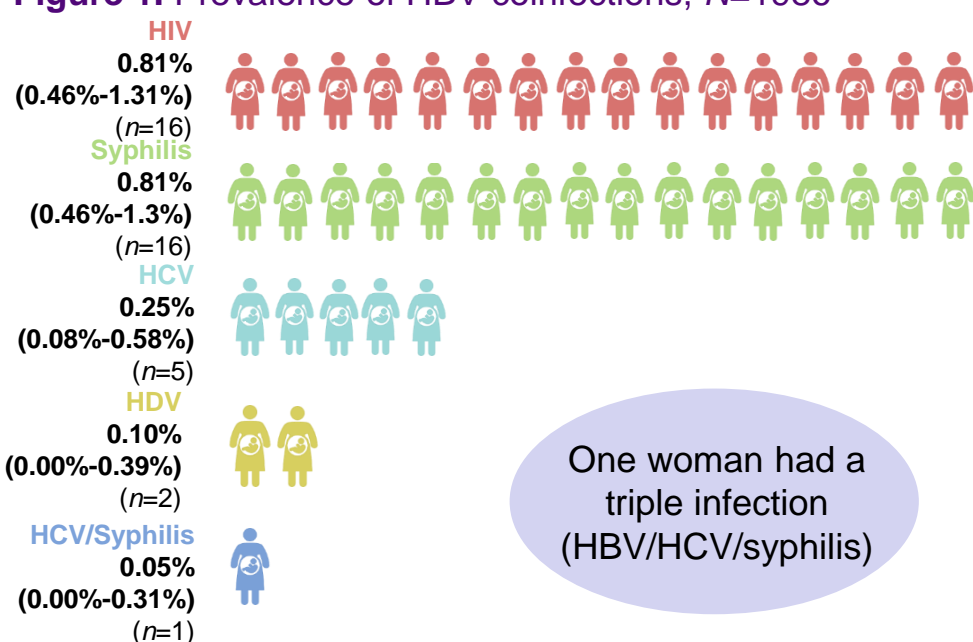
## METHODS

- The **Integrated Screening Outcomes Surveillance Service (ISOSS)** conducts comprehensive, population-based surveillance of pregnant women with syphilis, HIV and HBV in England on behalf of the NHS Infectious Diseases in Pregnancy Screening Programme.
- ISOSS collects data on demographics, pregnancy management, clinical information, including coinfection in pregnancy.
- Analyses included pregnancies in **HBV screen-positive women booking** for antenatal care in England from **1 April 2021 to 31 March 2022**, reported to ISOSS by 31 December 2022.
- Analysis focused on coinfections with **HIV**, **syphilis**, **hepatitis C virus (HCV)**, and **hepatitis Delta virus (HDV)**.

## RESULTS

- Characteristics of all 1988 HBV screen-positive pregnancies are shown in the Table.
- **Coinfections were reported in 38 of 1986 (1.9%, 95% CI: 1.4%-2.6%) HBV screen-positive pregnancies** with available coinfection data.
- Coinfection prevalences (based on pregnancies) are presented in Figure 1.
- Two women with coinfections had two pregnancies reported - miscarriage followed by live birth in both cases (HBV/HIV and HBV/syphilis coinfections).
- Restricting to 36 first pregnancies with coinfection, 28 (77.8%) women had a prior HBV diagnosis before conception.

Figure 1. Prevalence of HBV coinfections, N=1986



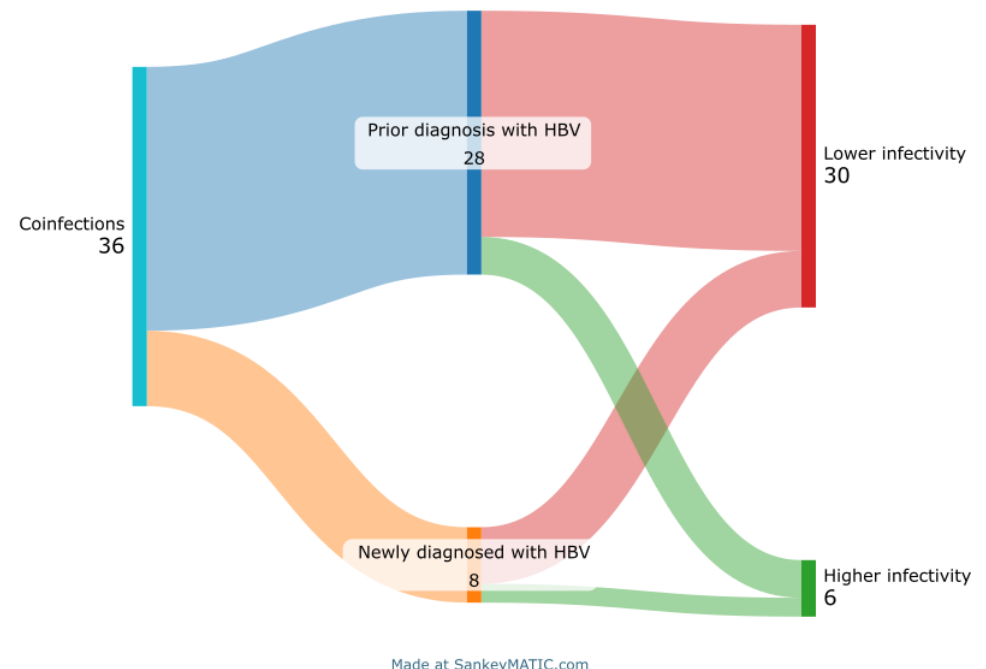
## CONCLUSIONS

- Whilst few HBV screen-positive pregnancies in England are complicated by HIV, syphilis, HCV or HDV coinfections, this group has a **greater proportion of women with higher infectivity markers** than HBV mono-infected women, though reassuringly
- Of those women coinfecting with HIV or syphilis, most were **receiving appropriate management and treatment** for those infections.
- ISOSS is uniquely able to monitor this population that requires careful clinical management across services.

Table. Demographics of all HBV screen-positive pregnancies

Higher infectivity	7.2% (144/1987)
New HBV diagnosis in pregnancy	20.3% (502/1988)
Higher infectivity among the newly diagnosed	10.2% (41/402)
Higher infectivity among previously diagnosed	6.5% (103/1585)
Median age at delivery, years	30.9 (IQR 29.8-37.0)
Antenatal care in London	37.0% (735/1988)
Born outside the UK	95.3% (1837/1927)
<i>Africa</i>	37.5% (722/1927)
<i>Asia</i>	25.8% (497/1927)
<i>Eastern Europe</i>	23.8% (459/1927)

Figure 2. Timing of HBV diagnosis and infectivity status among 36 first pregnancies with coinfections to HBV screen-positive women



- Timing of HBV diagnosis and HBV infectivity markers among those with coinfections are shown in Figure 2.
- Higher infectivity markers were reported for 14.3% (4/28) and 25.0% (2/8) of women with prior and new HBV diagnoses, respectively, compared to 6.4% (1554) and 9.9% (39/393) of pregnancies in mono-infected HBV screen-positive women.

### Among those with HBV/HIV:

- **All 16 had prior HIV diagnoses** and conceived on antiretroviral therapy (ART); 2 were newly diagnosed with HBV.
- **All received appropriate ART regimens** for management of HIV/HBV coinfections in pregnancy according to BHIVA guidelines.

### Among those with HBV/syphilis:

- **4 had a new syphilis diagnosis**, 2 of whom had a new HBV diagnosis.
- All 4 with new syphilis diagnosis received appropriate treatment.

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