



Public Health
England

Invasive pneumococcal disease in people living with HIV

England, 1999 - 2017

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Public Health
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Disclosure

PHE has received project grants from Gilead and ViiV Healthcare



Overview

- Background
- Data linkage and estimation of HIV seroconversion date
- Results:
 - Population demographics
 - Incidence rate
 - Reduction in missed diagnoses
- Conclusions

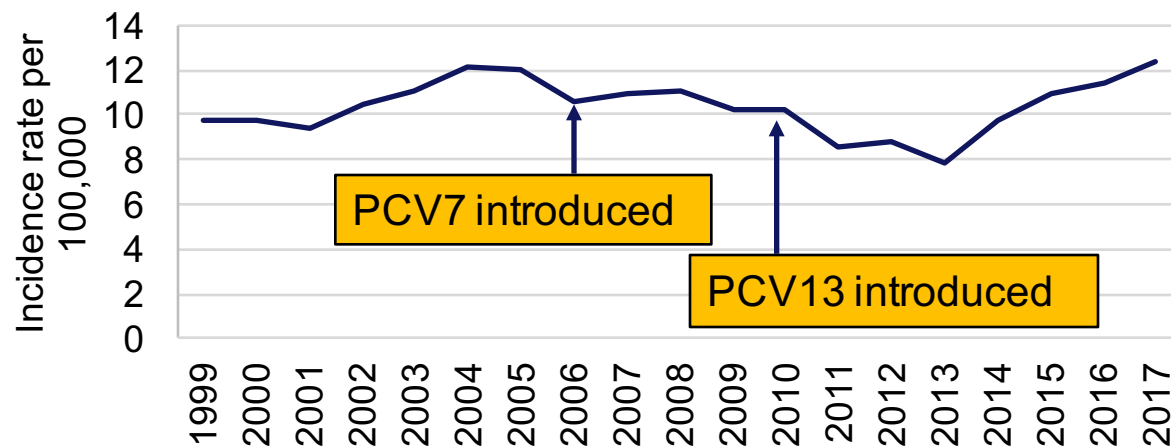


Background

- Invasive pneumococcal disease (IPD) is a major cause of morbidity and mortality
- At-risk adults, including those with HIV, are recommended to receive an IPD vaccine



Adult IPD incidence rate, 1999-2017



PCV 7



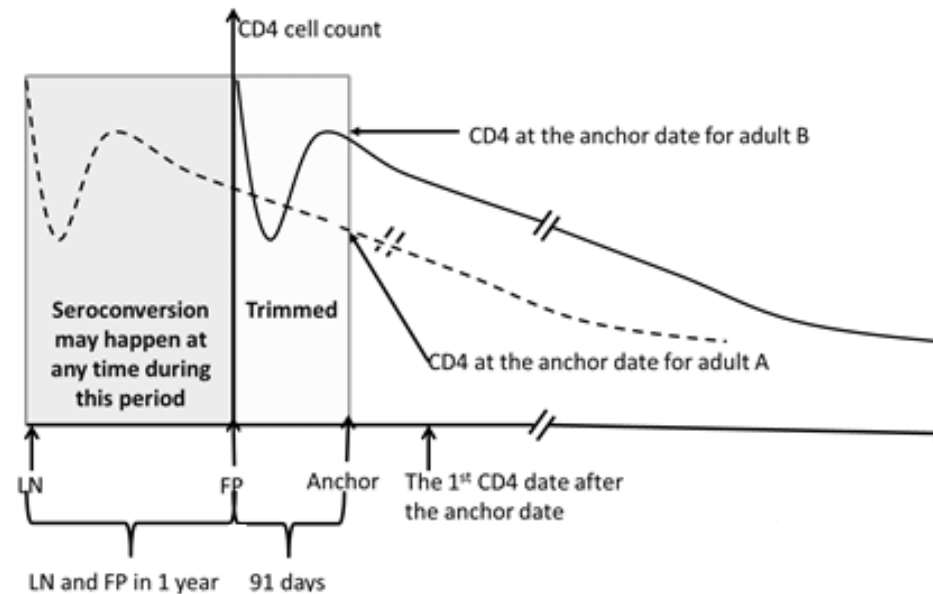
PCV 13





Data linkage and estimation of HIV seroconversion date

- Data from two surveillance systems in England were linked, between 1999-2017
- We used a CD4 slope decline algorithm to estimate probable date of HIV seroconversion for each individual




Yin et al. (in press)

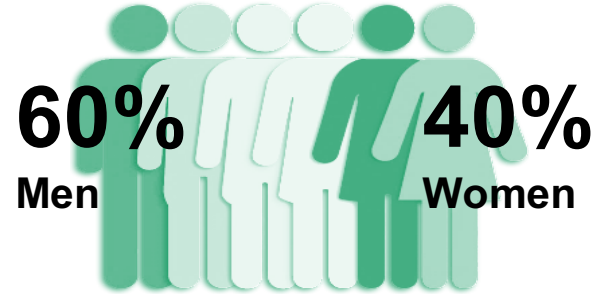


Population demographics

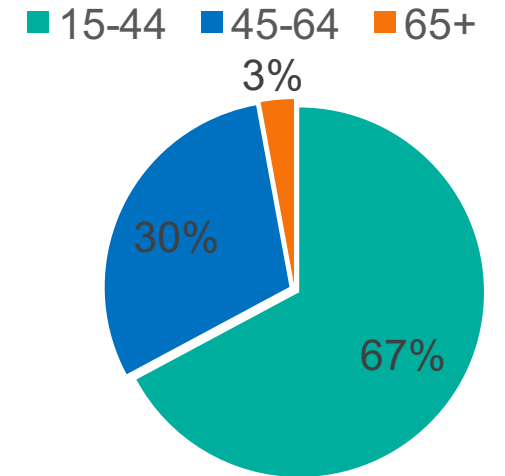
Between 1999-2017:

 **1,450**

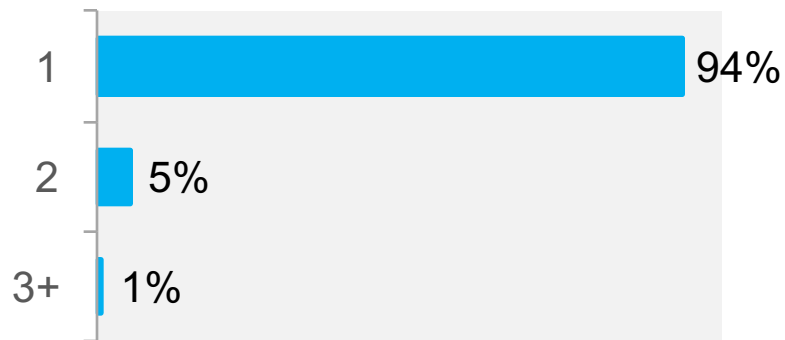
Adults with HIV
developed IPD



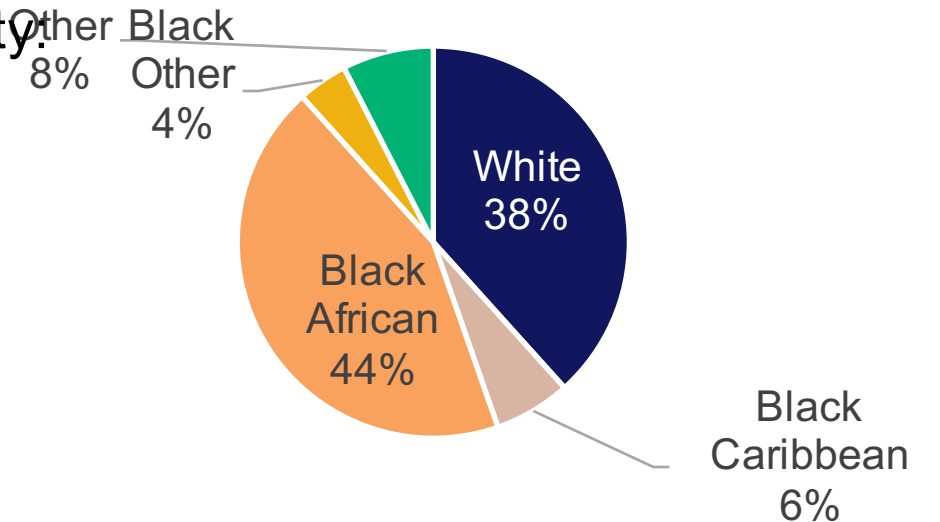
Age at IPD
diagnosis:



Number of IPD
episodes:

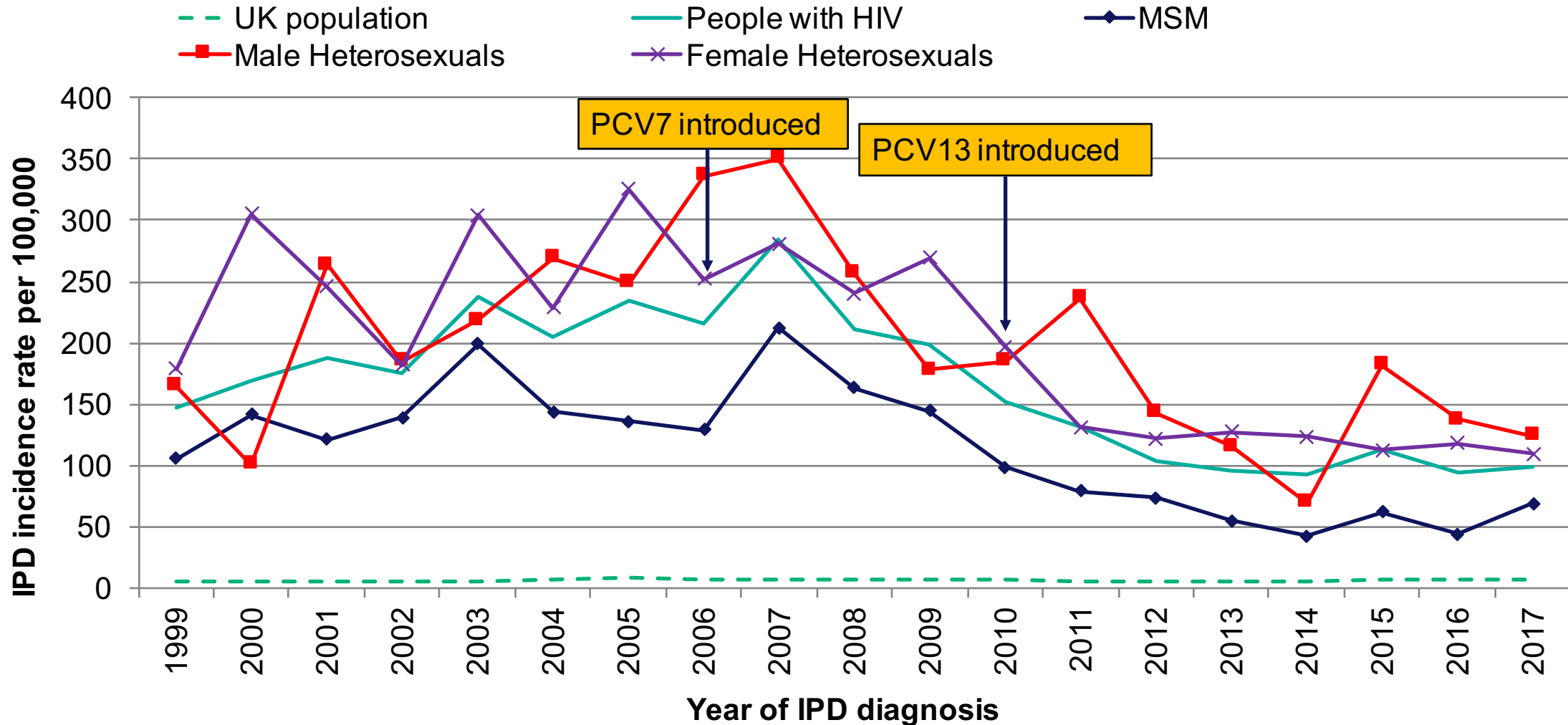


Ethnicity:





Annual IPD incidence rate, 1999-2017





Time delay between HIV and IPD



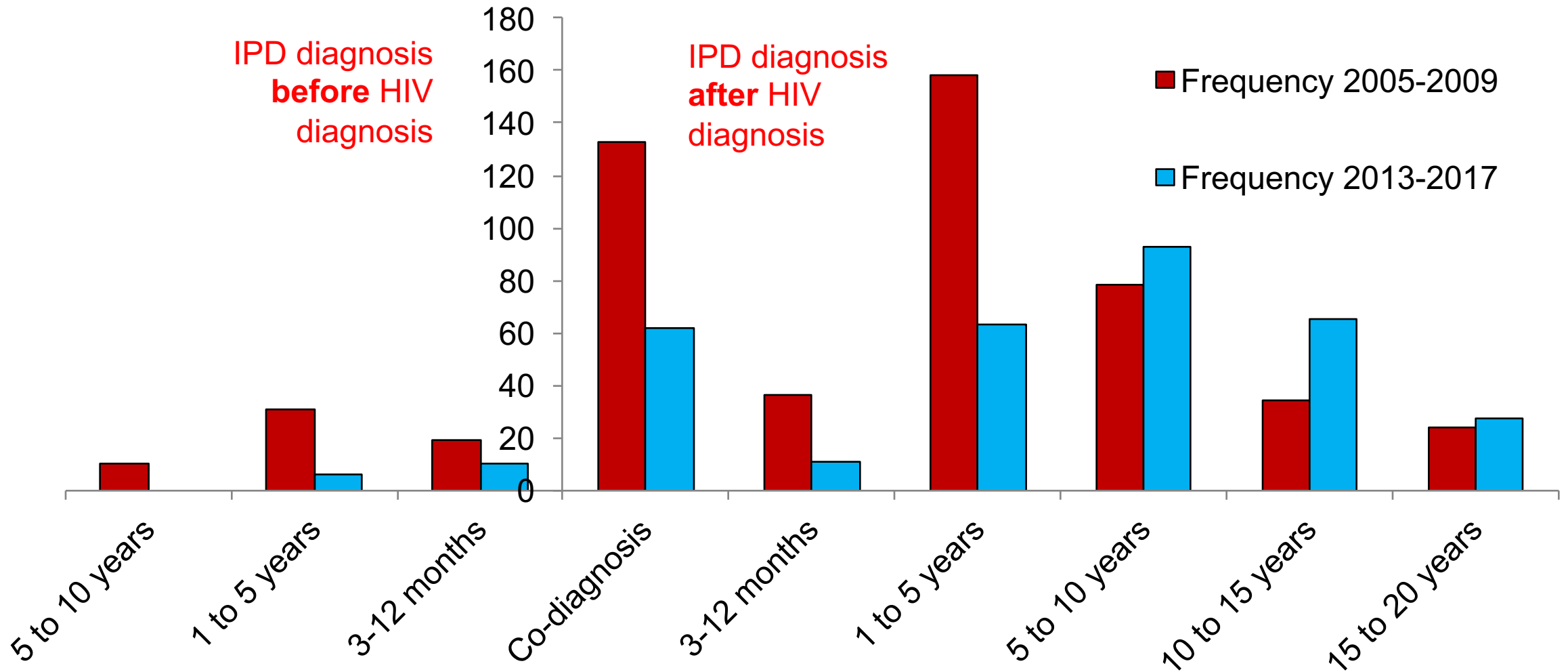
89 missed opportunities for earlier HIV diagnosis

54% were of black African ethnicity

People outside of London were twice as likely to be missed diagnoses



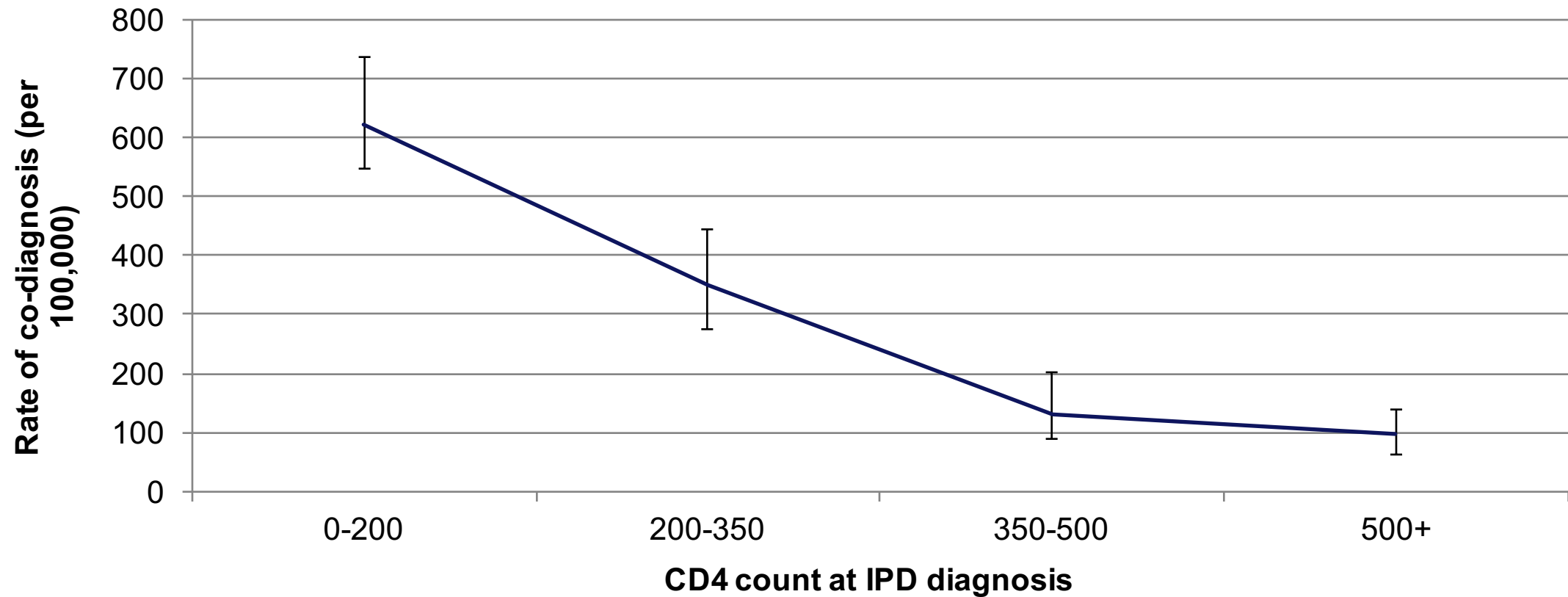
Time between IPD and HIV diagnosis





HIV-IPD co-diagnoses, by CD4 count

Late (CD4<350) and very late (CD4<200) HIV diagnosis associated with higher rates of IPD





Strengths & limitations



- Comprehensive national datasets
- Seroconversion date algorithm was only able to be calculated for 67% of HIV cohort
- Pseudo-anonymised data matching
- No service-specific data on vaccine uptake



Conclusions

- IPD incidence among people with HIV reduced after the introduction of PCV7 and PCV13
- Adults presenting with IPD should continue to be routinely tested for underlying HIV
- Adults with HIV and other adults at risk should continue to be offered an IPD vaccine





Thank you

We gratefully acknowledge the continuing collaboration of people living with HIV, as well as clinicians, microbiologists, immunologists, public health practitioners, occupational health doctors, nurses and other colleagues who contribute to the surveillance of HIV and STIs in the UK.

Questions?