

Place of diagnosis and CD4 count in pregnant HIV-positive women diagnosed before conception in the UK & Ireland: 2007-2012

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Background

- In the UK and Ireland antenatal screening for HIV is routinely offered to all women, with high uptake (in England >95% overall).
- HIV-positive pregnant women are increasingly likely to be aware of their diagnosis before conception, and 39% of pregnancies in diagnosed women in 2009 were a second or subsequent pregnancy after HIV diagnosis.
- UK adult HIV-testing guidelines recommend routine screening in areas where the prevalence of HIV exceeds 2 in 1000, and for indicator conditions in all areas.

Aims

- To examine setting of diagnosis in women already diagnosed with HIV prior to the reported pregnancy.
- To explore CD4 counts as a potential marker of suboptimal care before pregnancy.

Methods

- In the UK and Ireland, information is sought on all pregnancies in diagnosed HIV-positive women, through the National Study of HIV in Pregnancy and Childhood (NSHPC). Established in 1986, this is a comprehensive population-based surveillance study of paediatric and obstetric HIV, with high response rates.
- Data on all pregnancies with expected date of delivery (EDD) or date of delivery 2007-2012, and reported by June 2012, were analysed using Stata v12.
- 7898 pregnancies were reported with EDD or delivery 2007-2012 in 6417 women; analyses were restricted to pregnancies in which women had been diagnosed before conception.

Results

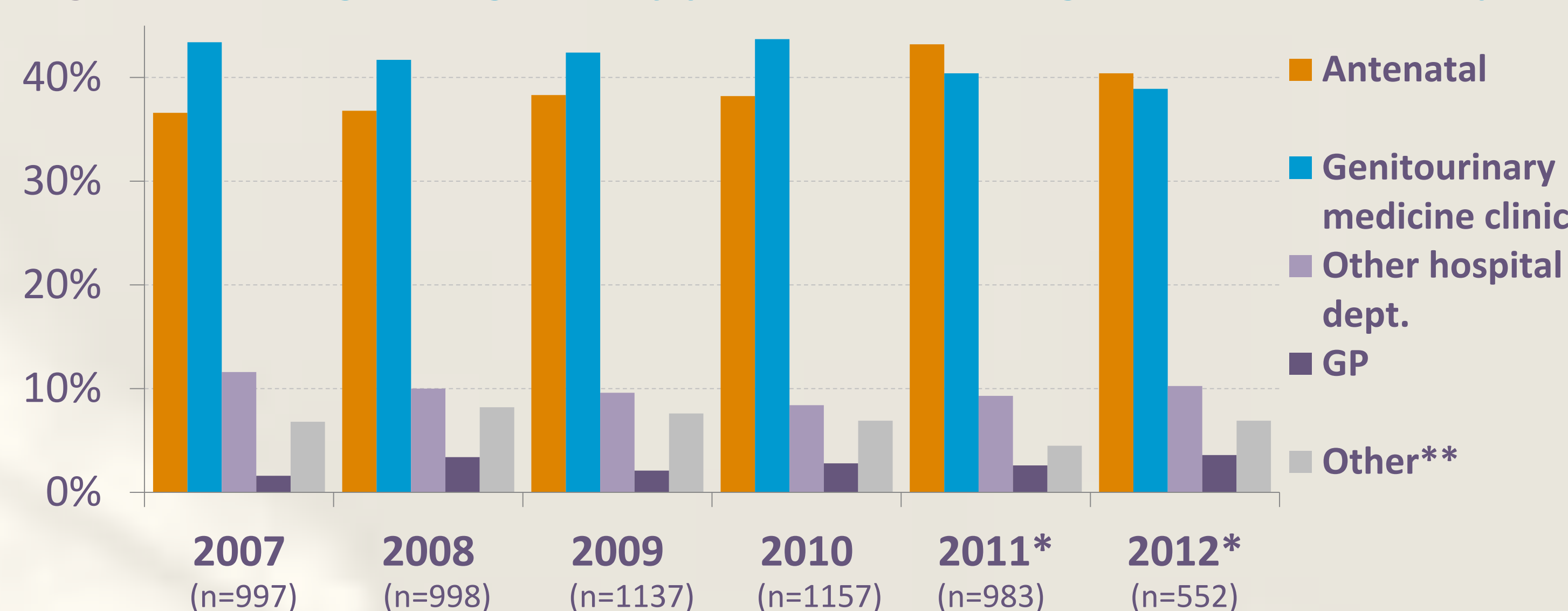
- Women were diagnosed prior to conception in 5824 pregnancies; the proportion diagnosed before conception increased from 64.8% in 2007 to 80.4% in 2011 (χ^2 test-for-trend $p < 0.001$).
- The proportion of pregnancies to parous women has increased from 77.3% in 2007 to 80.2% in 2011 (χ^2 test-for-trend $p = 0.02$).

- The proportion of pregnancies in which women had been previously diagnosed in an antenatal setting increased slightly from 2007 to 2012 (see Fig. 1) (χ^2 test-for-trend $p < 0.01$).

Table 1. Characteristics of pregnancies in women diagnosed before conception

Outcome of pregnancy (n=5824)	Livebirth	79.3%
	Misc., TOP, ectopic	9.9%
	Stillbirth	0.7%
	Continuing to term	8.1%
	Unknown	2.1%
Median age at EDD (IQR) (n=5762)		32.5 yrs (28.9, 36.5)
Black African ethnicity (n=5804)		77.0%
Not on ART at conception (n=5592)		41.2%
Nulliparous (n=5427)		21.3%

Figure 1. Setting of diagnosis by year in women diagnosed before conception

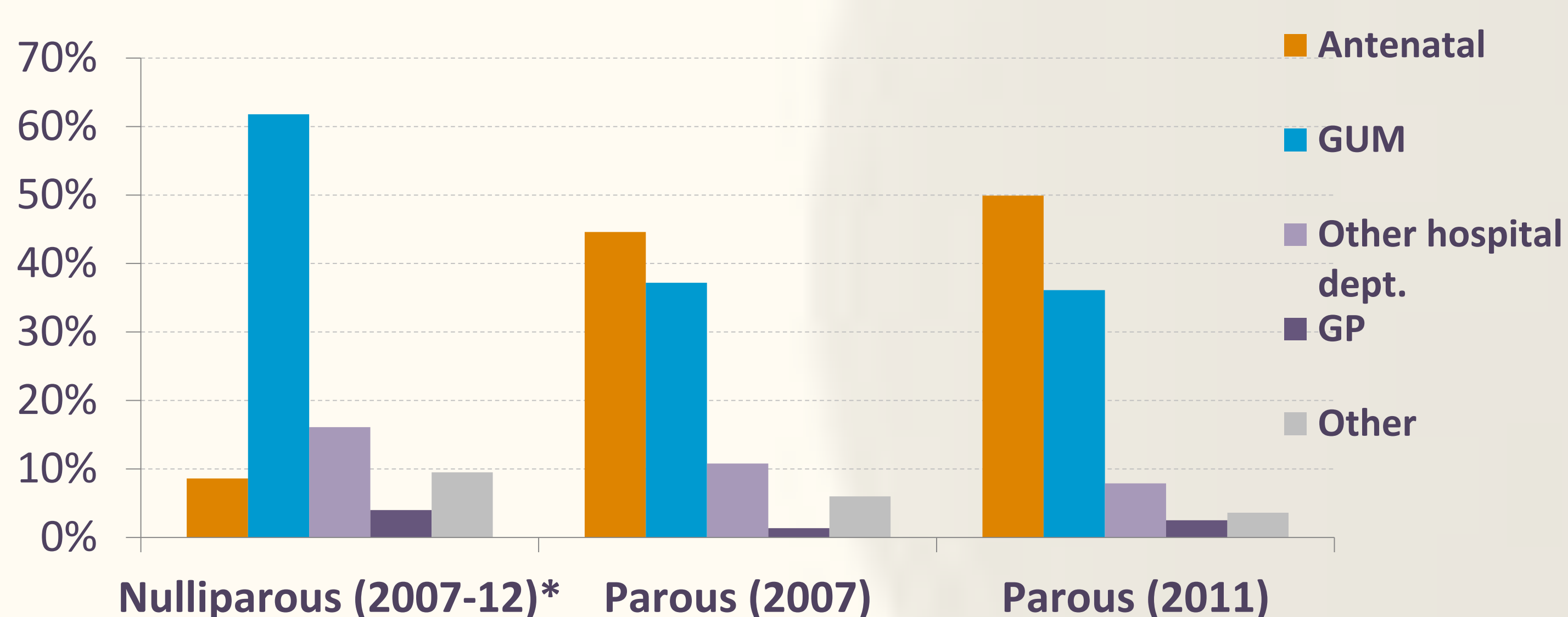


* Incomplete

** Other includes: Drug unit, private clinic, insurance purposes, asylum screening, tested abroad

- In 61.8% of pregnancies to nulliparous women, HIV diagnosis had been made in a genitourinary medicine (GUM) clinic (see Fig. 2).
- In parous women, there was some evidence for a trend by year (2007-2011) for increasing diagnosis in an antenatal setting (χ^2 test-for-trend $p = 0.06$).

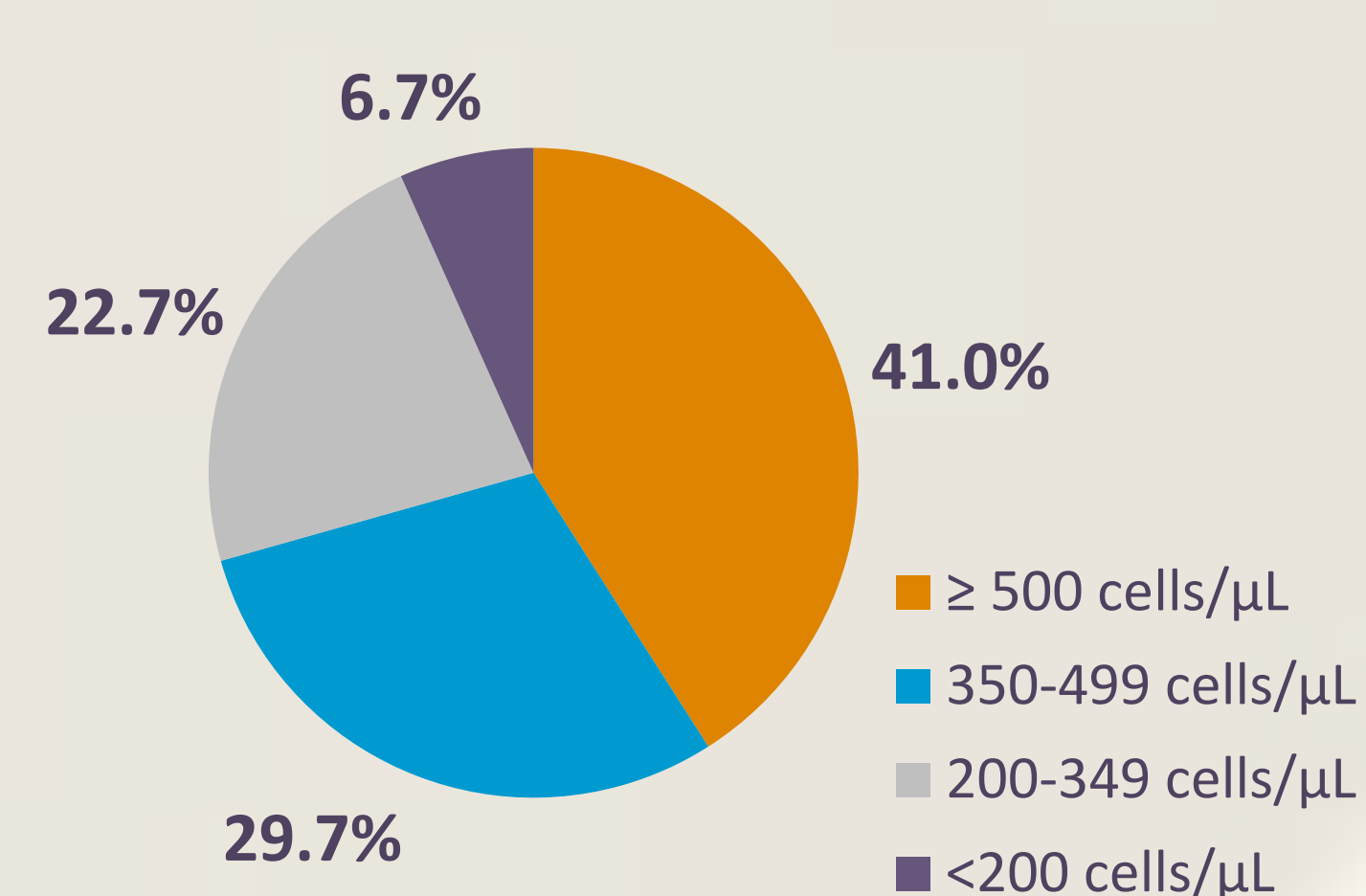
Figure 2. Setting of HIV diagnosis by parity and year



* 45% of nulliparous women had previous termination or miscarriage reported

- Women were not on ART at conception in 41.2% of pregnancies (2400/5824). CD4 count was available in 85% (2044/2400) and setting of diagnosis was available in 87% of these (1781/2044) (see Fig. 3).
- From 2007 to 2011, the proportion of pregnancies in which CD4 was <350 decreased in women diagnosed in non-antenatal settings (χ^2 test-for-trend $p = 0.01$), but there was no trend over time in women with a previous antenatal diagnosis ($p = 0.19$).

Figure 3. CD4 count in pregnancies to women not on ART at conception 2007-2012



- CD4 was <350 in 25.9% of pregnancies to women diagnosed in a previous pregnancy (210/811).
- CD4 was <350 in 31.7% of pregnancies to women diagnosed in non-antenatal setting (307/970) ($p < 0.01$).

Conclusions

- A similar proportion of diagnosed women were diagnosed in antenatal and GUM clinics, with relatively few diagnoses being made elsewhere. The proportion of women diagnosed in an antenatal setting is increasing; and this is likely to be due to the rising proportion of second or subsequent pregnancies.
- In 7% of pregnancies in diagnosed women not on ART at conception, women had CD4 count <200; a further 23% had CD4 between 200 and 350. This could reflect suboptimal care between diagnosis and reported pregnancy. The proportion of women with CD4 <350 was lower where women had been diagnosed in a previous pregnancy compared to non-antenatal settings, possibly reflecting diagnosis at an earlier stage in antenatal screening.
- In women diagnosed in non-antenatal settings, the proportion of pregnancies with CD4 <350 decreased from 2007 to 2011; this may reflect national efforts towards earlier diagnosis in GUM and other non-antenatal settings.