

BACKGROUND

In the UK, successive guidelines have promoted earlier initiation of anti-retroviral therapy (ART) (table 1). Since 2015, starting ART at diagnosis is now also considered best practice for public health purposes regardless of CD4 count.

The proportion of people accessing HIV care receiving treatment rose from 84% in 2010 to 96% in 2015. The impact of Treatment as Prevention (TasP) will be maximised if ART begins promptly at diagnosis. We describe trends in ART initiation and focus on persons with a high CD4 count who are not on treatment one year after diagnosis.

Table 1: UK ART guidelines summary

Year	ART Start Criteria		
	CD4 criteria (cells/mm ³)	Clinical criteria	Other criteria
2015	All people with HIV	All people with HIV	All people with HIV
2012	CD4 <350	AIDS, primary HIV, HCV/HBV, HIV related co-morbidity	To prevent transmission, pregnant women
2008	ASAP when PLWH ready, CD4 200-350	AIDS, PHI, HCV/HBV, HIV related co-morbidity	Consider as prevention tool, pregnant women
2003	Between CD4 200-350	AIDS, HIV related co-morbidity	Pregnant women

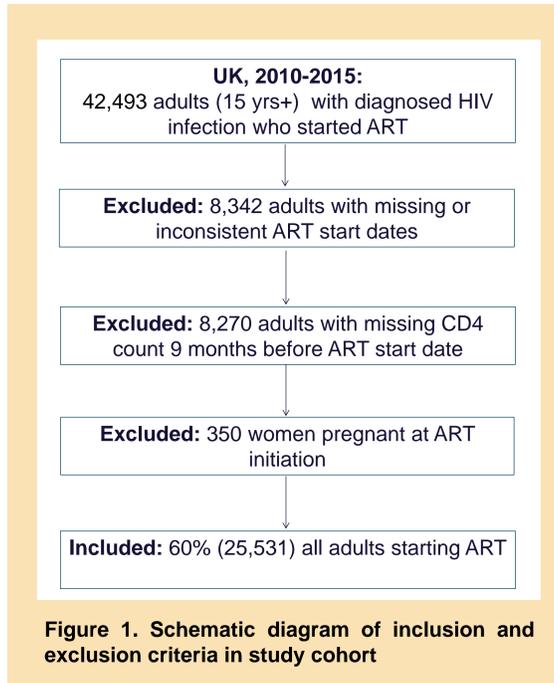


Figure 1. Schematic diagram of inclusion and exclusion criteria in study cohort

AIMS

- 1) Describe trends in ART initiation by CD4 count
- 2) Calculate the time between diagnosis and ART initiation among those with a CD4 >350 cells
- 3) Explore the characteristics of those that start treatment more than one year after diagnosis, among those with a CD4 >350 cells

METHODS

The UK has a comprehensive open cohort of people with HIV from the point of diagnosis, with annual updates from every clinic.

We used data on all persons starting ART between 2010-2015 where ART start dates and CD4 counts were available. Pregnant women at ART initiation were excluded (60%, Figure 1).

Where stated, data were adjusted to account for missing CD4 information. There were no significant differences in the demographic profiles of those with or without missing data.

RESULTS

Trends in ART initiation:

- The number of adults starting ART remained at around 5,400 per year between 2010-2014 but rose sharply to 6,950 in 2015 (data adjusted for missing ART information).
- The proportion and number of adults starting ART with a CD4 >350 increased from 34% in 2010 to 66% in 2015.
- Among gay/bisexual men, the proportion starting ART with a CD4 >350 reached 75% in 2015.
- While the number of heterosexuals starting ART declined overall, the adjusted number starting ART with a CD4 >350 rose slightly from 290 to 490 among men and from 460 to 620 among women, between 2010 and 2015 respectively.

Time from diagnosis to ART initiation among those with CD4>350 cells:

- Figure 3 shows a Kaplan Meier plot of time from HIV diagnosis to ART initiation among those with a CD4 >350, by risk group compared to all those with a CD4 <350 at treatment start.
- Table 2 shows the median time (days) from diagnosis to ART initiation by CD4 count at initiation and risk group.
- The median time from diagnosis to treatment declined in all groups. By 2015, the median time to treatment was almost 6 months and broadly in line with those starting ART with a CD4 <350.

Predictors for delayed ART initiation

- Figure 4 shows that 42% of those starting ART with a CD4 >350 had a delay of greater than one year from diagnosis to treatment during 2013-2015 (the period with TasP guidelines).
- A larger percentage of patients with a CD4 350-499 were likely to have a delay starting ART compared to CD4 >500 (47% vs 37%).
- Overall 24% of 15-24 year old had a delay starting treatment compared to 49% among 50-65 year olds.
- Patients attending small clinics (<500 patients) may be more likely to have a delay in starting ART compared to the larger clinics (>3,000 patients): 47% vs 38%.

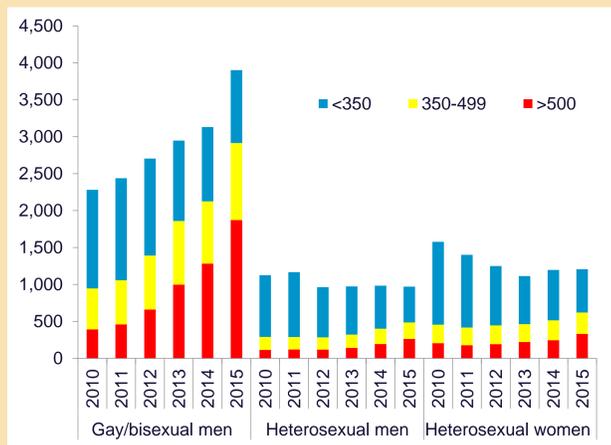


Figure 2: Adjusted number of HIV positive adults starting treatment by CD4 count at ART initiation and risk-group; UK, 2010-2015

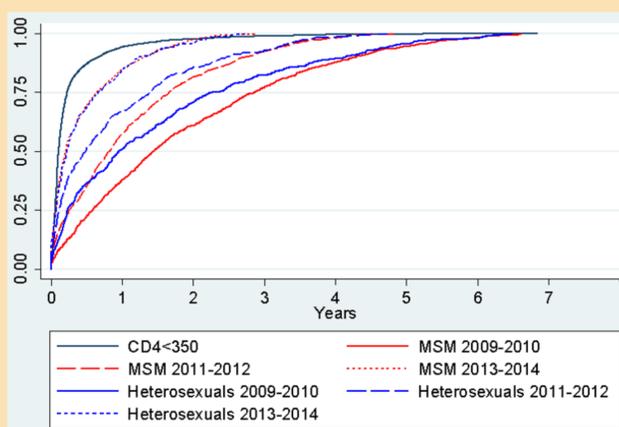


Figure 3: Kaplan Meier plot of time from diagnosis to ART initiation among those starting treatment with CD4 >350, by risk group; compared to all those starting treatment with a CD4 <350 UK, 2010-2015

CD4 at ART		2010	2015
<350	Overall	530	144
>350	Gay/bisexual men	594	158
	Heterosexual men	436	230
	Heterosexual women	431	194
	Overall	535	168

Table 2: Median time (days) from diagnosis to ART initiation by CD4 count at ART initiation and risk group, 2010 and 2015

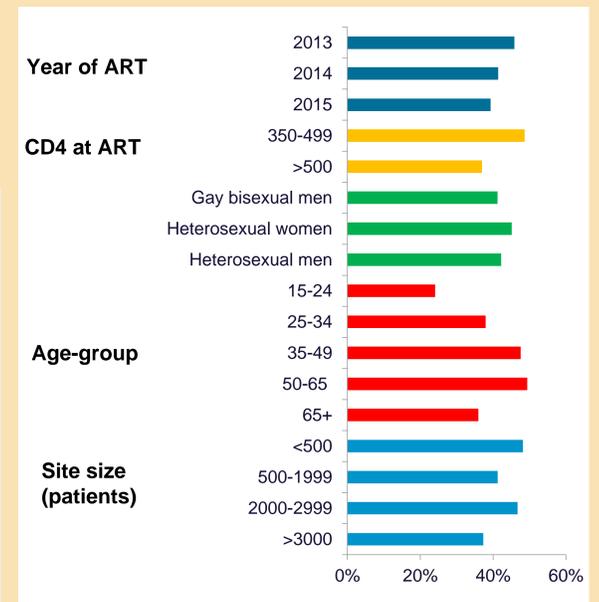


Figure 4: Proportion of patients starting ART with a CD4>350 with a delay of over one year from diagnosis to starting treatment, UK, 2013-15 combined.

LIMITATIONS

- Only 60% of patients starting ART were included in the analysis; however, there were no significant differences in the demographic profiles of those included and excluded.
- We cannot ascertain if people who started ART with a CD4>350 did so for clinical or prevention of transmission reasons.
- Furthermore, after 2012 it was good clinical practice to prescribe ART where CD4 counts approach 350, in anticipation of a drop below that threshold within the next 12 months.

CONCLUSIONS & DISCUSSION

Trends in CD4 at ART initiation reflect the evolution of national treatment guidelines. The higher proportion of MSM starting ART with a CD4>350 reflects elevated levels of late HIV diagnoses among heterosexuals.

While the time between diagnosis and ART initiation has decreased substantially for all groups, there is still considerable scope for improvement. Between 2013 and 2015 (the period for which TasP guidelines were available), two in five patients starting ART with a CD4>350 experienced a delay of over one year before starting treatment.

There are disparities in the promptness with which patients initiate treatment; these require further investigation to ensure that access to prompt TasP is equitable. The higher proportion of patients with a CD4 350-499 who experience a delay to ART initiation is concerning as this population is likely to have been living with HIV for a longer period.