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Background

We explored variation in combination antiretroviral therapy (cART) initiation between all 26 acknowledged HIV treatment centres in the Netherlands.

Methods

We assessed the annual proportion of HIV-positive adults initiating cART within 6 and 12 months after newly entering care in all 26 HIV-treatment centres in the Netherlands, in 2012-2015.

We used logistic regression to assess the association between starting cART within 6 months and:

- Calendar year of entering care;
- CD4 cell count at entry into care; and
- HIV treatment centre size (categorized by means of the upper/middle/lower tertile of all HIV-positive adults in care, for each specific calendar year).

We adjusted for socio-demographic differences between patients at centres: sex, age at entry in care, HIV-transmission route, region of origin, socio-economic status (based on postal code).

Results

In 2012, 2013, 2014, and 2015, 1,017, 1,017, 868 and 838 HIV-positive adults, respectively, entered into HIV care and had ≥ 6 months follow-up in the Netherlands.

Participant characteristics are presented, by calendar years of entry in care and per site, in [table 1](#) and [figure 1](#).

Calendar year of entering care

Of the people who entered into care in 2012, 62% started cART within 6 months, increasing to 75% in 2013, 89% in 2014 and 92% in 2015 ([figure 2](#)).

Starting cART within 6 months was significantly more likely after entering in 2013, 2014 and 2015 compared to 2012: aOR 2.5 (95%CI: 2.0-3.2), aOR 7.7 (95%CI: 5.7-10.3), and aOR 13.5 (95%CI: 9.5-19.0), respectively.

CD4 cell count at entry in care

People with <350 CD4 cells/mm³ when entering into care initiated cART earlier, compared to those with ≥ 350 cells/mm³ ([figure 3](#)). This difference decreased in 2014 and 2015, although considerable variation between centres remained, particularly for patients with >500 CD4 cells/mm³.

Table 1. Patient characteristics at entry in care, by calendar year.

Year of entry in care	2012	2013	2014	2015	Total
N	1,017	1,017	868	838	3,740
Age at entry in care (years)	38.1 [29.2-47.2]	39.8 [30.2-49.0]	39.5 [30.3-48.9]	39.6 [30.6-49.4]	39.1 [30.1-48.7]
CD4 count at entry in care (cells/mm ³)	390 [200-570]	410 [218-600]	390 [200-580]	370 [160-570]	390 [200-580]
Sex (male)	866 (85.2)	881 (86.6)	748 (86.2)	711 (84.8)	3206 (85.7)
Transmission risk group					
MSM	691 (67.9)	722 (71.0)	599 (69.0)	543 (64.8)	2,555 (68.3)
Heterosexual	278 (27.2)	236 (23.2)	221 (25.5)	241 (28.8)	976 (26.1)
IDU	5 (0.5)	8 (0.8)	-	5 (0.6)	18 (0.5)
Other/unknown	43 (4.2)	51 (5.0)	48 (5.5)	49 (5.9)	191 (5.1)
Region of origin					
The Netherlands	628 (61.8)	667 (65.6)	572 (65.9)	514 (61.3)	2,381 (63.7)
Caribbean	45 (4.2)	40 (3.9)	32 (3.7)	44 (5.3)	161 (4.3)
Western-European	37 (3.6)	55 (5.4)	30 (3.5)	39 (4.7)	161 (4.3)
Latin America	81 (8.0)	64 (6.3)	53 (6.1)	54 (6.4)	252 (6.7)
sub-Saharan Africa	93 (9.1)	80 (7.9)	80 (9.2)	83 (9.9)	336 (9.0)
South-east Asia	44 (4.3)	38 (3.7)	20 (2.3)	22 (2.6)	124 (3.3)
Other	89 (8.8)	73 (7.2)	81 (9.3)	82 (9.8)	325 (8.7)
SES					
1 high	56 (5.5)	52 (5.1)	25 (2.9)	32 (3.8)	165 (4.4)
2	221 (21.7)	195 (19.2)	180 (20.7)	175 (20.9)	771 (20.6)
3 middle	307 (30.2)	311 (30.6)	269 (31.0)	266 (31.7)	1,153 (30.8)
4	243 (23.9)	244 (24.0)	212 (24.4)	190 (22.7)	889 (23.8)
5 low	172 (16.9)	191 (18.8)	165 (19.0)	163 (19.5)	691 (18.5)
Unknown	18 (1.8)	24 (2.4)	17 (2.0)	12 (1.4)	71 (1.9)

N (%) or median [IQR].

MSM=men who have sex with men; IDU=intravenous drug use; SES=socio-economic status.

Figure 1. Characteristics of population entering HIV care in 2012-2015, by HIV treatment centre.

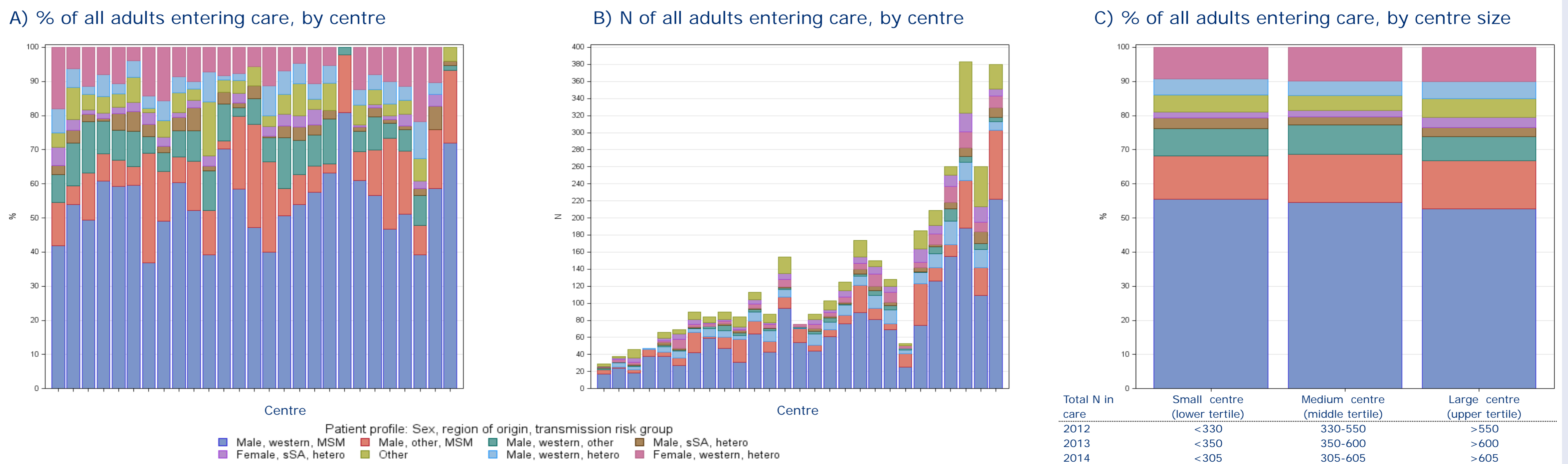


Figure 2. Proportion of people initiating cART within 6 and 12 months after entering care.

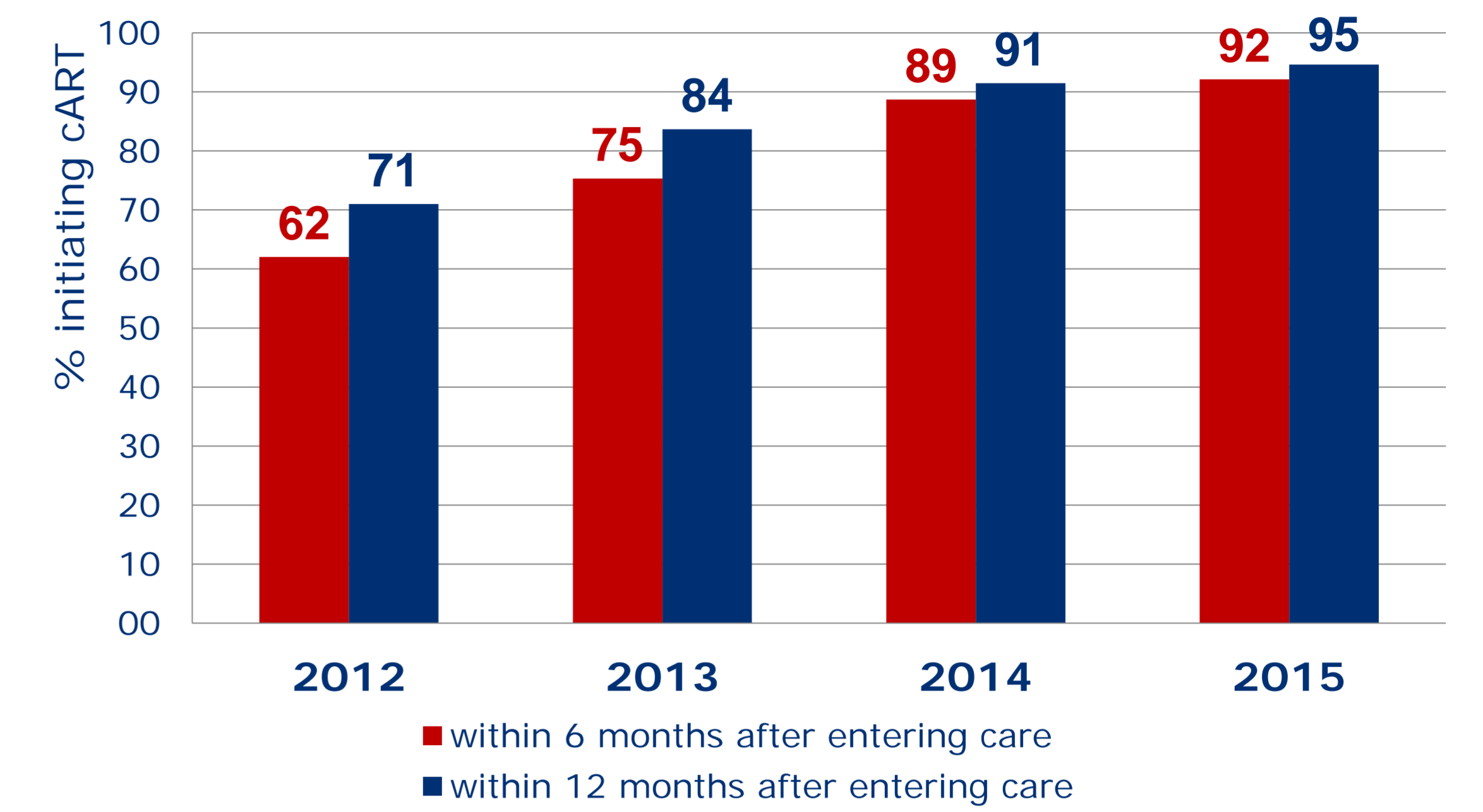
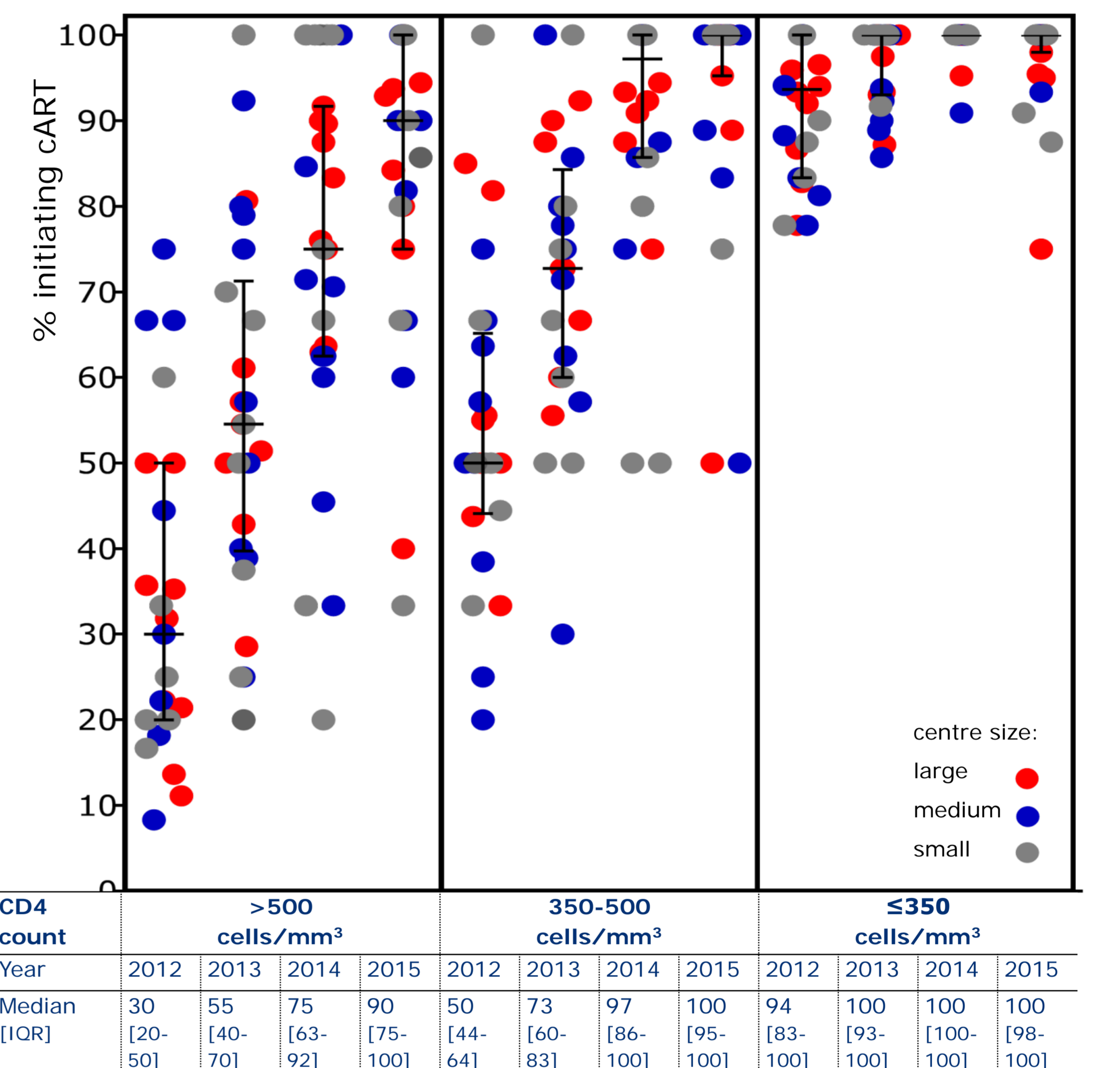


Figure 3. Proportion of people initiating cART within 6 months after entering care, by year of entry in care, CD4 count and centre size.



Results continued

HIV treatment centre size

People at small centres were less likely to initiate cART within 6 months compared to those at large centres, also after adjusting for CD4 count, socio-demographic differences and calendar year (aOR 0.70; 95%CI 0.53-0.92).

People with 350-500 and >500 CD4 cells/mm³ entering into care in small centres were less likely to initiate cART within 6 months, compared to those in large centres: aOR 0.58 (95%CI: 0.35-0.97) and aOR 0.67 (95%CI: 0.47-0.99), respectively ([figure 3](#)).

Conclusions

Following guideline recommendations, increasing numbers of HIV-positive people initiated cART within 6 months.

However, differences between centres of different size were continued to be observed.

Patients with 350-500 CD4 cells/mm³ entering care in small centres were less likely to start cART within 6 months compared to large centres, including in more recent years.