

Delayed linkage to care in a third of HIV positive individuals in the Netherlands

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Background

- The HIV Cascade of Care can identify missed opportunities for HIV control. Early and frequent testing needs to be followed by rapid linkage to care to eventually achieve viral load suppression (fig 1).
- In the Netherlands, annually approx. 1000 HIV patients are newly registered in care in one of 24 HIV Treatment Centres. Longitudinal data on patients in care are registered in a national database coordinated by the HIV Monitoring Foundation.
- 1/3 of new HIV registrations come from one of 26 dedicated STI centres, which offer anonymous free-of-charge tests for high-risk groups. Data are collected in a national STI database coordinated by the RIVM.

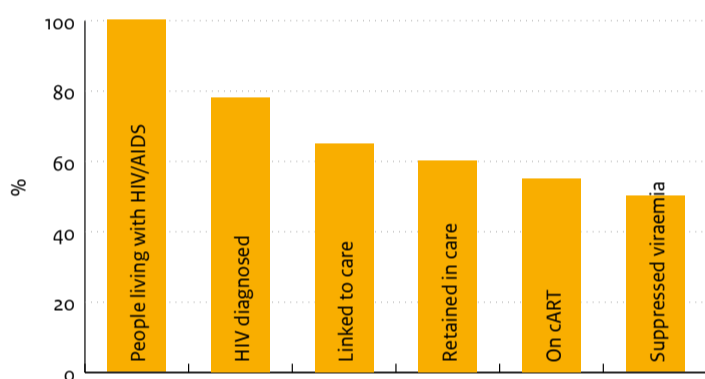


Figure 1. The 2012 Dutch cascade of care: estimated gaps in % of people living with HIV/AIDS (PLWHA) per step.

Results

- 310 (70%) participants included, 90% MSM (men who have sex with men).
- Median time to linkage was 9 days.
- 95 (31%) had delayed linkage to care: 44 linked late; 51 not linked at all (fig 2).
- Risk of delayed linkage increased with younger age and indirect referral.
- Other potential risk factors (NS) were lack of health insurance, lack of steady partner, lack of disclosure.
- Between diagnosis and linkage, a significant decline was observed in % reporting having a steady partner, inconsistent condom use with steady partners, and casual partners.
- CD4+ decline between diagnosis and linkage to care was confirmed for the total group who entered care. Those linked within one week had half of the CD4+ decline compared to those who were linked later.

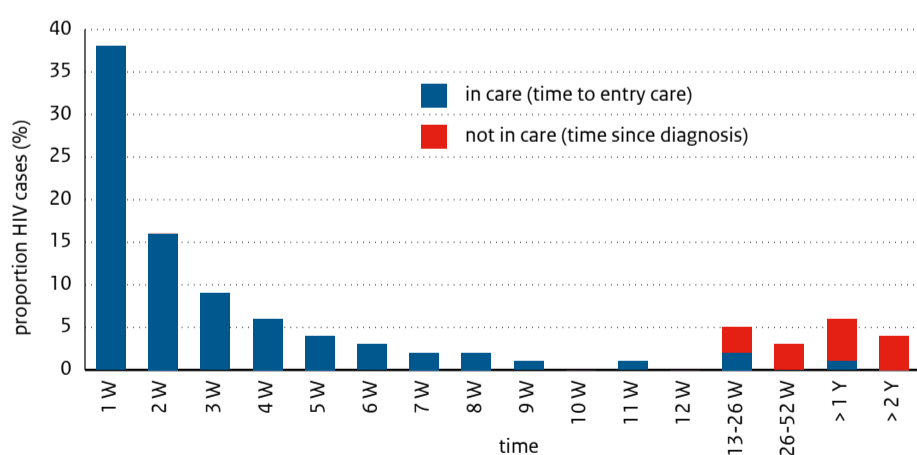


Figure 2. Time (in weeks) between diagnosis and linkage to care (blue) or, for people not linked to care, time between diagnosis and end of study (red).

Limitations

- Participation less among heterosexuals and non-Western patients: possibly different (risk factors for) delay.
- Only 33% of those linked to care completed the questionnaire at entry into care, limiting power to assess changes in risks in relation to delay.

Methods

- Patients newly diagnosed with HIV at an STI centre were given a unique identifier and were followed until linkage to care.
- At diagnosis and at linkage to care similar data were collected on demographics, risks, behaviour, CD4+ counts and viral load (VL).
- Delayed linkage to care was defined as >4 weeks between diagnosis and first consultation.
- Uni- and multivariable logistic regression was used to study risk factors for delayed linkage.

Table 1. Risk factors for delayed linkage to HIV care.

Risk Factor	Total 310	Delayed n (%)	Multivariable analysis aOR (95% CI)
Agegroup			
<=25	56	27 (48)	
26-40	160	44 (28)	0.4 (0.2-0.9)
>40	88	18 (21)	0.3 (0.1-0.6)
Ethnicity			
Western	169	42 (25)	
Non-Western	141	53 (38)	1.3 (0.6-2.3)
No health insurance	29	17 (59)	2.5 (0.9-6.9)
Steady partner	181	44 (24)	0.6 (0.3-1.1)
Disclosure	203	53 (26)	0.7 (0.4-1.5)
CD4+ >500 cells/ml	168	60 (36)	1.6 (0.9-2.3)
VL undetectable	10	7 (70)	2.4 (0.6-2.8)
Mode of referral			
direct	223	49 (22)	
indirect	61	31 (50)	3.9 (2.0-7.8)

Table 2. Change in risk factors between HIV diagnosis at STI centre and linkage to care.

	All participants At diagnosis	Participants who completed both questionnaires (at diagnosis and upon linkage to care)				
		Diagnosis (n=85)	Entry care (n=85)	p-value	Entry <4/52 (n=78)	Entry >4/52 (n=7)
Time to linkage to care in days (median, range)	9 (0-435)	8 (0-80)	8 (0-80)		7 (0-27)	35 (29-80)
Age in years (median, range)	34 (17-71)	35 (17-71)	35 (17-71)		35 (17-71)	37 (19-53)
Having a steady partner (n, %)	181 (58.4%)	58 (68.2%)	43 (50.6%)	0.02	44 (58.7%)	5 (71.4%)
Inconsistent condom use with steady partner (n, %)	105 (58.0%)	29 (50.0%)	15 (34.8%)	0.04	14 (31.8%)	1 (14.3%)
Having casual partners (n, %)	273 (88.1%)	75 (88.2%)	23 (27.1%)	<0.01	19 (25.3%)	4 (57.1%)
CD4+ count (median, IQR)	540 (380-720)	540 (380-720)	425 (285-593)	<0.01	430 (290-600)	390 (240-490)
CD4+ <350 cells/ml (n, %)	57 (18.4%)	12 (14.1%)	29 (37.0%)	<0.01	26 (33.3%)	3 (42.9%)

Conclusions

- >30% of newly diagnosed HIV patients were not linked to care within 4 weeks; half of them were not linked at all at end of study
- Delayed linkage to care was associated with more CD4+ decline and thus puts HIV-infected people at risk of poorer health outcomes, while enabling ongoing HIV transmission
- Young people were at greatest risk of delayed linkage to care after HIV diagnosis, as well as those not referred directly
- HCW need to be aware that increased access to testing is not enough to ensure HIV-infected people will be linked to care promptly upon testing