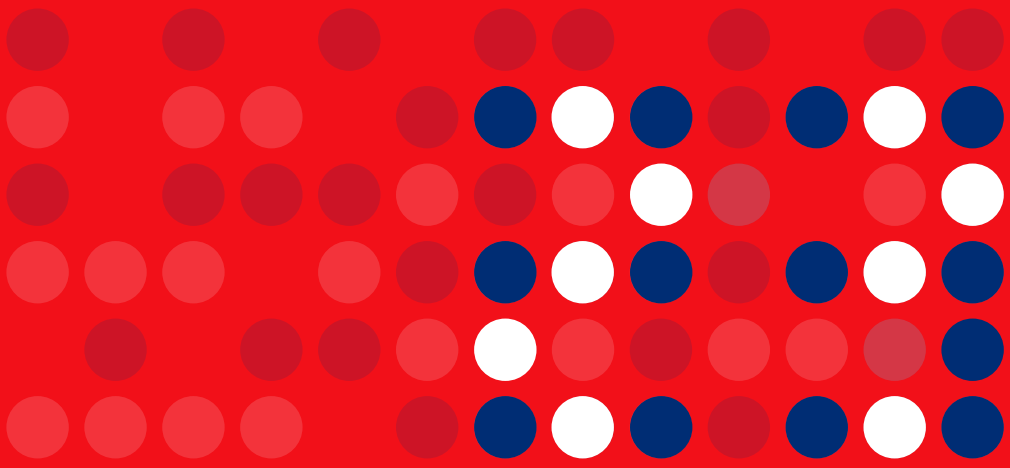
Human Immunodeficiency Virus (HIV)
Infection in the Netherlands

HIV Monitoring

HIV Monitoring Report 2023

Special report 1.1:
Prior use of pre-exposure prophylaxis



Special reports

1.1 Prior use of pre-exposure prophylaxis

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Summary

The number and proportion of MSM and transgender persons who report prior use of PrEP continued to increase: 6.8% in 2021 and 12.0% in 2022 of MSM and transgender persons newly diagnosed with HIV in the Netherlands reported prior use of PrEP.

Of the individuals who reported prior use of PrEP and who received a genotypic resistance test prior to initiation of ART, 20% were diagnosed with HIV strains that harbour resistance mutations that are associated with the use of PrEP. Reassuringly, the virological treatment response after initiation of ART appears to be unaffected by the prior use of PrEP, also in those individuals where resistance mutations had been detected.

A substantial proportion (40.1%) of MSM and transgender people who reported they did not use PrEP, had indicated they would have wanted to do so, but either had no access to PrEP (21.7%), were on a PrEP waiting list when they seroconverted (1.3%), or tested HIV positive while being screened for HIV before initiating PrEP (17.1%).

Aims

Pre-exposure prophylaxis (PrEP) is the use of antiretroviral drugs by people without HIV, to prevent HIV acquisition. In the Netherlands, individuals at high risk of HIV acquisition are eligible for the national PrEP programme at the Sexual Health Centres (SHC) of the municipal Public Health Services (GGD), which was launched in September 2019. The primary target groups of this programme are men who have sex with men (MSM) and transgender persons. Prior to this programme, PrEP use prescribed by other healthcare providers (mainly general practitioners) or accessed via informal buyers' clubs, was monitored through demonstration programmes such as the AMPrEP study in Amsterdam.

In this section we describe time trends in the proportion of people newly diagnosed with HIV since 2018 who reported prior use of PrEP at the moment they enter into HIV care in the Netherlands. The primary population of interest consisted of MSM and transgender persons, who constitute the main target populations for PrEP in the Netherlands. We compared demographic and other characteristics of MSM and transgender persons who reported prior use of PrEP with those who did not.

In the group of MSM and transgender persons who did not report prior use of PrEP, we investigated their reasons and barriers for not having used PrEP.

In the group of MSM and transgender persons who did report prior use of PrEP, we evaluated if the acquisition of HIV took place while using PrEP or after discontinuation of PrEP. Furthermore, we report on acquired HIV drug resistance as a potential consequence of acquiring HIV while still using PrEP, and investigate possible impairment of the initial treatment response after start of first-line ART in this group.

Data collection

SHM collects data on prior use of PrEP in all people diagnosed with HIV from 1 January 2018 onwards who are entering care in one of the 24 Dutch HIV treatment centers. SHM has prospectively collected PrEP-related data from the electronic medical records (EMRs) of individuals with HIV first entering care, since July 2019. This is carried out in consultation and collaboration with the Dutch Association of HIV-Treating Physicians (*Nederlandse Vereniging van HIV Behandelaren*, NVHB), and the Dutch Nurses Association's HIV/AIDS nurse consultants unit ('*Verpleegkundigen & Verzorgenden Nederland – Verpleegkundig Consulenten Hiv*', V&VN VCH). Additionally, SHM retrospectively gathered information from the EMRs on prior use of PrEP by individuals who first entered into care between January 2018 and June 2019.

The population of interest for this report consists of the primary target groups for PrEP in the Netherlands: MSM and transgender men and women. In this report, cisgender men were classified as MSM when the recorded mode of HIV acquisition was 'sexual contact with other men' or 'sexual contact with men and women'. Whenever a cisgender man had another or unknown mode of HIV acquisition recorded but that man was known to have male sex partners, the individual was also grouped among the MSM.

A substantial proportion of individuals who enter into HIV care in the Netherlands, have not been born in the Netherlands, and some of them were already diagnosed with HIV before migrating to the Netherlands. Furthermore, some of the migrants had used PrEP before migrating to the Netherlands, while others used PrEP while living in the Netherlands. When appropriate, the analyses take these factors into account.

Of note, SHM does not record data about a person's race / ethnicity, nor can we identify second or third generation migrants. In our analyses, we make a distinction between those who are born in the Netherlands versus those who were born in another country, irrespective of race / ethnicity and migrant status of their (grand) parents.

Population of interest

Data on prior use of PrEP had been collected for all 2,926 adults who entered into HIV care in one of the 24 Dutch HIV treatment centers and had been newly diagnosed with HIV between 1 January 2018 and 31 December 2022. In the EMR of 992 (33.9%) individuals, information was recorded on prior use of PrEP. The proportion of individuals for whom this information was available in the EMR increased from 15.1% in 2018, to 31.8% in 2019, 38.8% in 2020, 49.7% in 2021, and 50.5% in 2022 (Figure 1, blue bars).

Of the 2,926 individuals diagnosed with HIV between 2018 and 2022, 1,819 were from the primary target groups of the Dutch PrEP programme: 1,737 cisgender MSM and 82 transgender persons (73 transgender women, and 9 transgender men). In the PrEP target groups of MSM and transgender persons, 687 (37.8%) out of 1,819 individuals had information about prior PrEP use available in the EMR: 16.3% in 2018, 35.3% in 2019, 45.5% in 2020, 57.6% in 2021, and 58.5% in 2022 (Figure 1, red bars).

The proportion of individuals newly entering in HIV care in the Netherlands, who were not born in the Netherlands, has been increasing over time. Of the 2,926 individuals, 1,370 (46.8%) were born in the Netherlands, and the remaining 1,556 (53.2%) individuals were migrants. Of these 1,556 migrants, 418 (26.9%) individuals were already diagnosed with HIV before migrating to the Netherlands, and 298 (19.2%) individuals had a negative HIV-test after they migrated to the Netherlands and hence are considered to have acquired HIV in the Netherlands. For the remaining 840 (54.0%) migrants, we could not ascertain the country were they acquired HIV, because although these individuals first tested HIV positive in the Netherlands, they had no documented negative HIV test in the Netherlands.

The demographic characteristics of the group for whom EMR information on prior PrEP use was available were largely similar to those for whom it was not (see *Table 1*). Information on prior PrEP use for MSM was slightly more likely to be available than it was for heterosexuals and other HIV acquisition categories. For transgender women however, this information was less likely to be available.

Of the 992 individuals for whom information on prior use of PrEP was available, the majority (886, or 89.3%) reported no such use, whereas 106 (or 10.7%) reported prior PrEP use (*Table 2*). In terms of breakdown by gender:

- 103 of the 823 cisgender men reported prior PrEP use;
- one of the six transgender men reported prior PrEP use;
- one of the 134 cisgender women reported prior PrEP use; and
- one of the 29 transgender women reported prior PrEP use

Of the 103 cisgender males, 97 likely acquired HIV through sexual contact with other men, 2 men through heterosexual contact, 2 men through other routes (both through sexual contact, but without information about the sex of their partners), and for 2 men the HIV acquisition route was unknown. The one cisgender female, the one transgender female, and the one transgender male, all acquired HIV through sexual contact with males. In total, 99 of the 106 individuals who reported prior use of PrEP belonged to the primary target groups for PrEP in the Netherlands.

The 106 individuals who reported prior use of PrEP were younger, and had higher CD4 counts at diagnosis compared to those who did not use PrEP.

PrEP awareness and uptake

For 299 (50.9%) of the 588 MSM and transgender individuals who reported no prior PrEP use, information was available on why they had not done so. 'Presumed to be at low risk for HIV' (27.4%), 'Wanted to use PrEP but had no access' (21.7%), and 'Not knowing PrEP existed' (21.1%) were the most commonly reported reasons. Of the 65 individuals who indicated that they had wanted to use PrEP but had no access, 29 were born in the Netherlands, 36 were migrants of whom 17 were already diagnosed with HIV before they came to the Netherlands. In total, 51 (17.1%) individuals had wanted to start using PrEP but tested HIV-positive at screening before entry into a PrEP programme. Four individuals (1.3%, all born in the Netherlands) reported that they seroconverted while on a PrEP programme waiting list.

Figure 2 shows time trends in the reported reasons for not having used PrEP in MSM and transgender persons.

We used the data from Statistics Netherlands (CBS) to further characterize the MSM and transgender people who had a recorded reason for not using PrEP. Those who indicated they had a knowledge gap about PrEP (either they did not know PrEP, or they did not perceive themselves at high risk for HIV, or they did not want to use PrEP) were compared to those who indicated they could not obtain PrEP in

time (they knew about PrEP and were willing to use it but did not have access to PrEP, or tested positive while on a PrEP waiting list or during PrEP intake). Of those who indicated they had a knowledge gap, 108 individuals could be successfully matched with datasets from Statistics Netherlands. Of those who indicated they could not obtain PrEP in time, 71 individuals could be successfully matched with datasets from Statistics Netherlands. Table 3 shows the main findings expressed as column percentages. Because of the low number of individuals, these analyses are exploratory and should not be overinterpreted.

Older individuals, and those with lower scholarly attainment, were more likely to have a PrEP knowledge gap. Place of residency (4 biggest cities vs. other) showed no associations with PrEP knowledge and access. Those with a low income, those who did not live in the country's 4 largest cities, and individuals with a non-Western migrant background were not more likely to report a PrEP knowledge gap.

Prior use of PrEP

We calculated percentages of prior PrEP use of all 1,819 MSM and transgender people who were diagnosed with HIV between 2018 and 2022 for which SHM collected data on prior PrEP use. We conservatively assumed that when no explicit mention was made in the EMR about prior use of PrEP, the individuals had not used it. The percentage of MSM and transgender people for which prior PrEP use was recorded has increased since 2019 (P_{trend}=0.0007, see Figure 3, blue bars), with:

- 1.6%, or 9 out of 553 individuals, in 2018;
- 4.6%, or 20 out of 433 individuals, in 2019;
- 7.0%, or 22 out of 314 individuals, in 2020;
- 6.8%, or 19 out of 278 individuals, in 2021;
- 12.0%, or 29 out of 241 individuals, in 2022.

When limiting the population by excluding those individuals who were diagnosed with HIV prior to migrating to the Netherlands, the proportions were similar: 2.0% in 2018, 4.7% in 2019, 6.8% in 2020, 6.6% in 2021, and 11.9% in 2022 (see Figure 3, red bars).

The characteristics of the 106 individuals who reported prior use of PrEP are shown in *Table 4*, with a stratification by those who used PrEP in the Netherlands and those who used it while living abroad, with migrants who initiated PrEP before they migrated to the Netherlands but who continued using PrEP after they migrated to the Netherlands being included into the former group.

Access to PrEP and usage patterns

Of the 106 individuals who reported prior PrEP use, 17 (16.0%) were migrants who had used PrEP before moving to the Netherlands. There were 89 individuals who had used PrEP in the Netherlands, 3 of these had started PrEP before migrating to the Netherlands but continued using it until after they migrated to the Netherlands. In the remainder of this chapter we will report on these 89 individuals.

Of the 89 individuals who had used PrEP, 53 (59.6%) obtained it from a healthcare provider in the Netherlands (see Table 4), comprising the Municipal Health Service (25), family practitioner (22), and HIV treatment centre (4). There was no further detailed information available for 2 individuals. The remaining individuals for whom this information was recorded, obtained their PrEP:

- from a buyers' club/internet/store outside of the Netherlands (14);
- from a healthcare provider outside of the Netherlands (2); or
- from a friend living with HIV who had donated some of their own medication (2).

There was no information available about the PrEP provider for the remaining 18 individuals.

For 49 of the 89 individuals who reported using PrEP, did so in the form of co-formulated tenofovir disoproxil fumarate / emtricitabine. For the remaining 40 individuals there was no further information available on the specific antiretrovirals used, but most likely they too used co-formulated tenofovir disoproxil fumarate / emtricitabine.

Dosage schedule information was available for 52 individuals:

- 22 individuals (24.7%) reported on-demand use
- 21 individuals (23.6%) reported daily use
- 6 individuals (6.7%) reported intermittent use (i.e. a fixed schedule but not seven days a week)
- 3 individuals (3.4%) reported having used PrEP less than a week

For the remaining 39 individuals (42.9%), no dosage schedule information was available.

Of the 89 individuals who reported prior PrEP use, 27 (30.3%) had regular medical check-ups by the Public Health Service during that period. 5 individuals (5.6%) attended an HIV treatment centre, 11 (12.4%) were seen by a family practitioner,

and 1 individual (1.1%) was checked by a medical specialist other than HIV treatment centre staff. Thirteen individuals (14.6%) reported that they did not have any medical check-ups, and there was no information available for the remaining 32 individuals (36.0%).

Of the 17 individuals who had used PrEP before migrating to the Netherlands, 2 were known to have seroconverted in the Netherlands (in an earlier HIV test performed after migration they had tested negative). Eight of those 17 individuals had already tested HIV positive before migrating to the Netherlands, and for 7 individuals it is uncertain if they seroconverted before or after migrating to the Netherlands.

The median (IQR) number of days between the last dose of PrEP and testing HIV-positive was calculated only for those individuals for which the relevant dates were known with sufficient precision (to within a month) and was 17 (0-113) days. A total of 26 (28.6%) individuals tested HIV-positive while still using PrEP. Of the 65 individuals who did not test HIV-positive while taking PrEP, 25 reported having tested HIV-seronegative after their last use of PrEP, while 25 did not have an HIV-test shortly after discontinuing the use of PrEP. There was no information available for 15 individuals.

PrEP and possible drug resistance

Genotypic resistance test results were available for 65 (73.0%) of the 89 individuals who reported having used PrEP when first entering HIV care. Reverse transcriptase (RT) resistance-associated mutations (RAM)[a], associated with the use of PrEP, were detected in 13 individuals (20.0%). All 13 individuals harboured an M184VI RT RAM (which decreases susceptibility to lamivudine and emtricitabine), and 2 of these also harboured a K65R RT RAM (which is selected for by tenofovir and decreases susceptibility to tenofovir, abacavir, lamivudine and emtricitabine).

All 13 individuals in whom M184VI RT RAM (with or without K65R RT RAM) had been detected, were still using PrEP at the moment they tested HIV positive, or they had last used PrEP only a few weeks before testing positive.

Prior use of PrEP and antiretroviral therapy (ART)

Data on the first-line ART and subsequent virological treatment response was available for 105 of all 106 individuals who reported prior use of PrEP. This includes the 13 individuals with M184V/I (with or without K65R RT RAM), all of whom started a regimen containing an integrase inhibitor. Eight of these combined the

a All RT RAMs mentioned in this chapter start and end with capital letters; i.e. M184VI ends in the capital letter 'i' and should not be confused with the number 1.

integrase inhibitor together with a protease inhibitor with or without additional nucleoside-analogue RT inhibitors (NRTIs). The remaining five individuals combined an integrase inhibitor with two NRTIs.

Of the remaining 92 individuals with either no baseline resistance test results, or whose test showed no evidence of the M184VI or K65R RT RAM, 64 initiated a first-line regimen consisting of:

- an integrase inhibitor plus two NRTIs (n=59)
- a protease inhibitor plus two NRTIs (n=4)
- an integrase inhibitor plus a protease inhibitor, with or without additional NRTIs (n=24)
- a non-nucleoside RT inhibitor plus two NRTIs (n=2)
- lamivudine / dolutegravir (n=3)

The 13 individuals with an M184V (but without K65R) RT RAM had a median follow-up time of 84.0 (IQR 39.4-184.3) weeks after initiating ART. In one of these 13 individuals the first-line regimen was discontinued due to a persistent suboptimal virological efficacy. This individual's plasma viral load had initially become undetectable three months after starting on tenofovir alafenamide / emtricitabine / bictegravir. However, in the following two-year period all eight recorded viral load measurements showed detectable viremia. The highest recorded value was 253 copies/ml. Eventually, ART was switched to a triple-class regimen consisting of 2 NRTI plus an INSTI plus a boosted protease inhibitor, after which the viral load durably became undetectable. Later, the regimen was simplified to a two-class single-tablet regimen.
In another individual with M184V (but without K65R) RT RAM the plasma viral load quickly dropped to below 100 copies/mL, but remained detectable on all measurements up to 1.5 years after initiating cART (range 61-97 copies/mL).
The remaining 11 individuals with M184V (two of them also had a K65R) all had an optimal treatment response with successfully sustained viral suppression after initiating cART.

For the 92 individuals with no evidence of M184VI (with or without K65R RT RAM) in the baseline resistance test or for whom no test data was available, all individuals with viral load measurements available at least four months after the initiation of ART showed an adequate initial virological treatment response (defined as a decrease to below 200 copies/ml). The median follow-up time was 77.5 (IQR 27.9-145.6) weeks. In six individuals a viral rebound (defined as having a viral load measurement above 200 copies/ml following an initial treatment response) was

recorded. In five of these six individuals the viral rebound occurred because they temporarily interrupted the use of ART. Four of these five individuals re-suppressed after restarting the same or another ART regimen, except for one individual who developed virological failure after restarting the same NNRTI-based triple regimen, and was subsequently switched to a second line regimen containing a protease inhibitor plus integrase inhibitor after which the viral load durably re-suppressed. The three individuals who initiated ART with dolutegravir / lamivudine all quickly became undetectable and experienced no viral breakthrough.

Conclusions

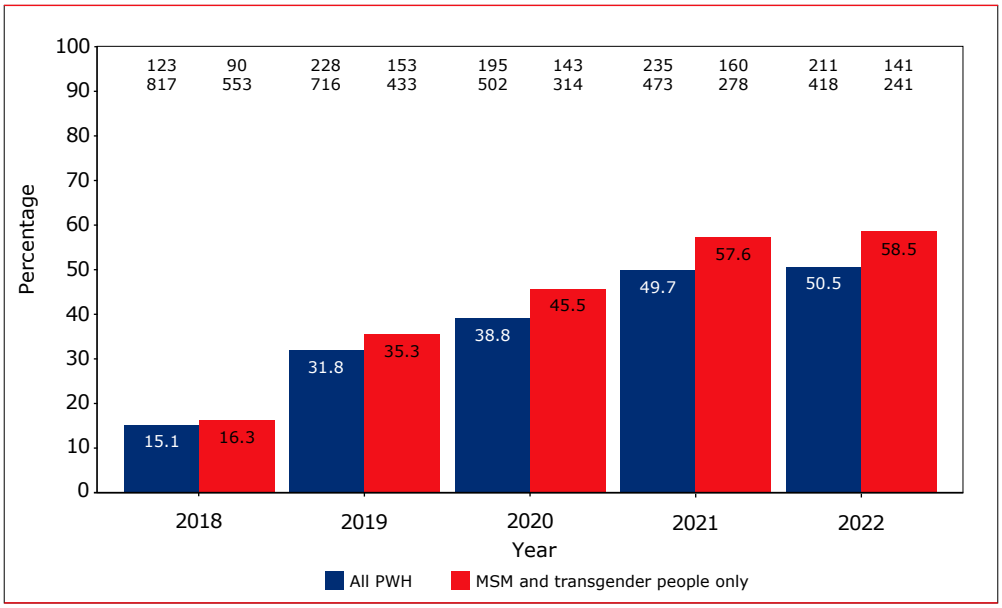
The number and proportion of newly diagnosed MSM and transgender individuals entering HIV care who reported prior use of PrEP continued to increase. In 2022, 12.0% (n=29) of newly diagnosed MSM and transgender people reported prior use of PrEP. However, this is probably a conservative estimate because in this analysis individuals for whom no explicit information about prior PrEP use was recorded in their EMR were considered not to have used PrEP. The observed increase over time cannot be completely explained by health care providers being more aware of and hence better documenting prior PrEP use.

The individuals who indicated they had used PrEP are a very heterogeneous group. 56 (52.8%) of them were migrants, 17 (16.0%) of whom had already stopped using PrEP before they migrated to the Netherlands. Of those individuals who had used PrEP in the Netherlands, 53 (59.6%) had obtained PrEP through a Dutch health care provider. A few individuals who had used PrEP did not belong to one of the target groups for PrEP in the Netherlands, these were either migrants who used PrEP before migrating to the Netherlands, or they were individuals who had obtained PrEP through informal means.

Of those individuals who had used PrEP in the Netherlands, 26 (28.6%) were diagnosed with HIV while still using PrEP. Of the 65 individuals who reported prior use of PrEP and who received a genotypic resistance test prior to initiation of ART, 13 (20%) were found to harbour resistance mutations that were probably associated with the continued use of PrEP after seroconversion. Reassuringly, the virological treatment response after initiation of ART appeared to be unaffected by the prior use of PrEP, also in those individuals where resistance mutations had been detected.

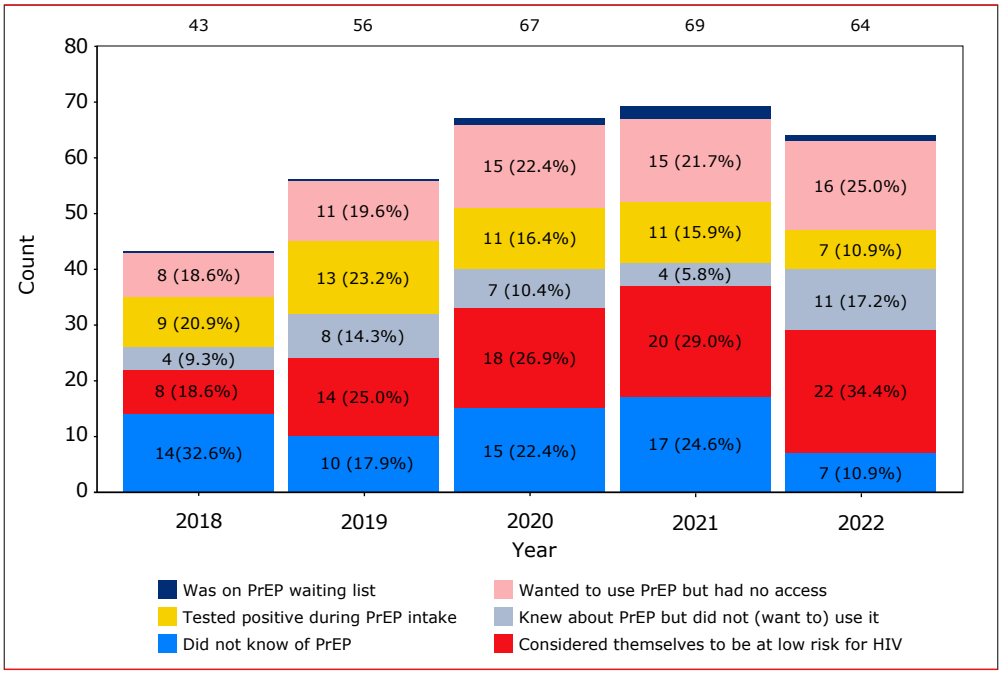
A substantial proportion (40.1%) of MSM and transgender people who reported they did not use PrEP, had indicated they would have wanted to do so, but either had no access to PrEP (21.7%), were on a PrEP waiting list when they seroconverted (1.3%), or tested HIV positive while being screened for HIV before initiating PrEP (17.1%).

Figure 1: *Number and proportion of individuals diagnosed with HIV per calendar year for whom information on prior use of PrEP is available.*



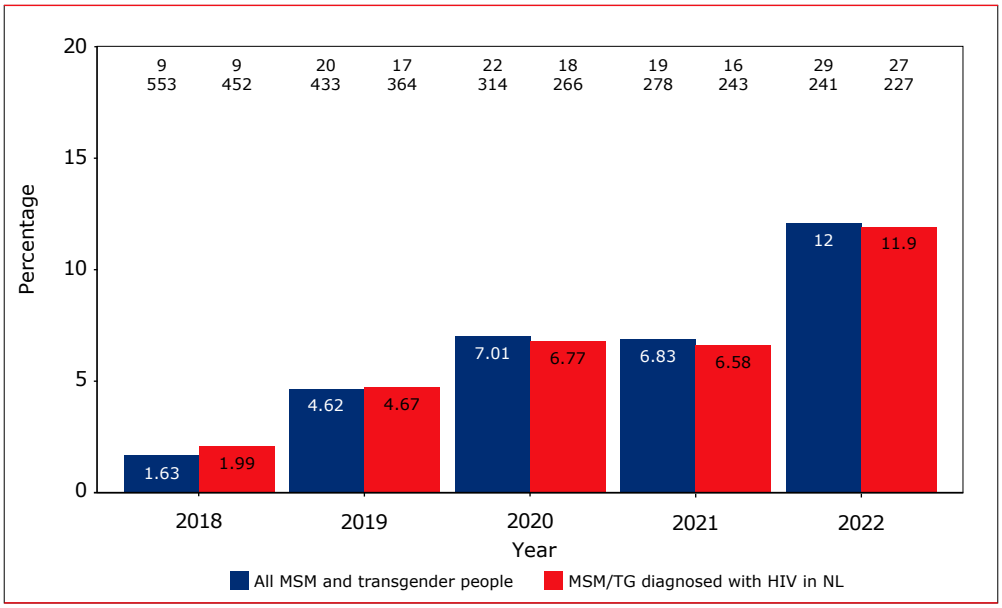
Legend: *The numbers in the top line are the number of individuals for whom information on prior use of PrEP is available in their electronic medical records. The second line is the total cohort size of each calendar year.*

Figure 2: Time trends in the reported reasons for not having used PrEP in MSM and transgender persons.



Legend: The numbers in the top line are the total number of MSM and transgender persons per calendar year for whom the reason was known why they had not used PrEP.

Figure 3: *Time trends in the number and proportion of MSM and transgender people newly diagnosed with HIV who reported prior use of PrEP.*



Legend: *The numbers in the top line are the number of people who reported prior use of PrEP. The numbers in the second line are the cohort size of that calendar year.*

Figure 4: *Time trends in the number and proportion of individuals newly diagnosed with HIV reporting prior use of PrEP, stratified by PrEP provider.*

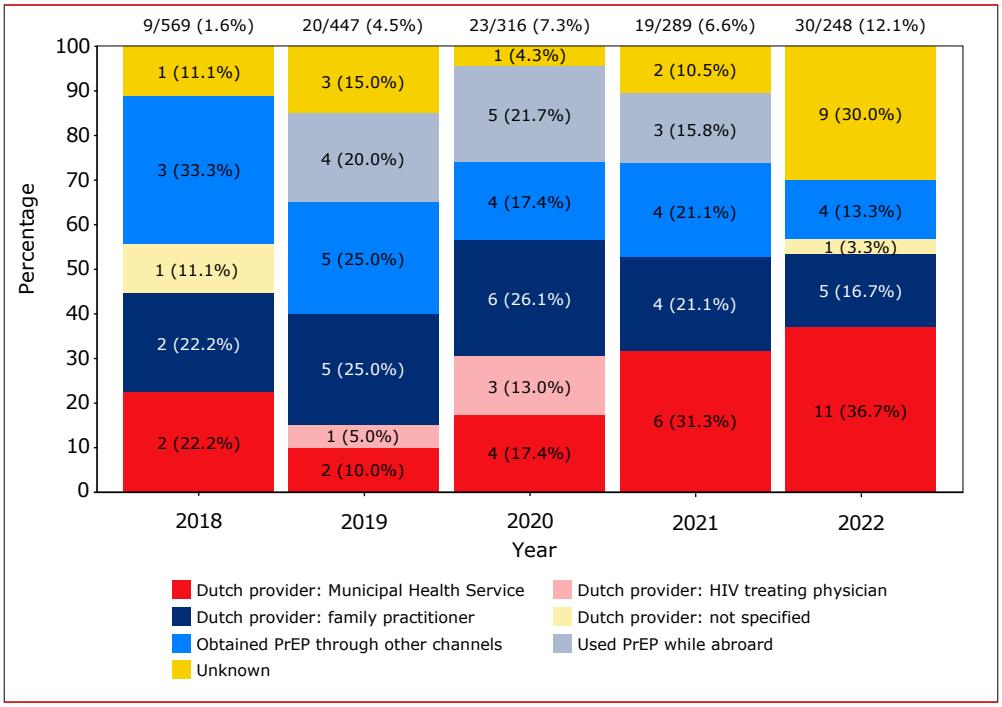


Table 1: Characteristics of individuals with and without available information on prior PrEP use.

	Info on PrEP available	No info available	p-value
Number of subjects	992 (33.9%)	1934 (66.1%)	
Age	37 (29.1-48.8)	38 (28.9-49.5)	0.367
Gender			0.004
Cisgender male	823 (83.0%)	1545 (79.9%)	
Cisgender female	134 (13.5%)	342 (17.7%)	
Transgender male	6 (0.6%)	3 (0.2%)	
Transgender female	29 (2.9%)	44 (2.3%)	
Region of birth			1.000
Born in the Netherlands	464 (46.8%)	906 (46.8%)	
Migrant	528 (53.2%)	1028 (53.2%)	
Documented seroconversion in NL or before migration *			0.109
In the Netherlands	125 (23.7%)	173 (16.8%)	
Before migration to the Netherlands	126 (23.9%)	292 (28.4%)	
Unknown / uncertain	277 (52.5%)	563 (54.8%)	
HIV acquisition category			<.001
MSM	676 (68.1%)	1124 (58.1%)	
Heterosexual acquisition	229 (23.1%)	519 (26.8%)	
Other acquisition categories	40 (4.0%)	104 (5.4%)	
Unknow acquisition route	55 (5.5%)	205 (10.6%)	
Recent HIV acquisition			
Tested pos. <365 days after last neg. test	263 (26.5%)	305 (15.8%)	<.001
Tested pos. <180 days after last neg. test	158 (15.9%)	145 (7.5%)	<.001
CD4 at HIV diagnosis	410 (209-630)	360 (154-570)	<.001

***Legend:** * Calculated for migrants only.*

***Table 2:** Comparison of individuals with and without prior use of PrEP.*

	Prior use of PrEP	No prior use, target group	No prior use, other groups	p-value
Number of subjects	106 (10.7%)	588 (59.3%)	298 (30.0%)	
Age	31.4 (26.9-40.9)	35 (28.4-47.8)	42.4 (33.3-52.1)	<.001
Gender				<.001
Cisgender male	103 (97.2%)	555 (94.4%)	165 (55.4%)	
Cisgender female	1 (0.9%)	0 (0.0%)	133 (44.6%)	
Transgender male	1 (0.9%)	5 (0.9%)	0 (0.0%)	
Transgender female	1 (0.9%)	28 (4.8%)	0 (0.0%)	
Region of birth				0.068
Born in the Netherlands	50 (47.2%)	291 (49.5%)	123 (41.3%)	
Migrant	56 (52.8%)	297 (50.5%)	175 (58.7%)	
Documented seroconversion in NL or before migration*				<.001
In the Netherlands	28 (50.0%)	70 (23.6%)	27 (15.4%)	
Before migration to the Netherlands	8 (14.3%)	99 (33.3%)	19 (10.9%)	
Unknown / uncertain	20 (35.7%)	128 (43.1%)	129 (73.7%)	
HIV acquisition category				<.001
MSM	97 (91.5%)	579 (98.5%)	0 (0.0%)	
Heterosexual acquisition	4 (3.8%)	5 (0.9%)	220 (73.8%)	
Other acquisition categories	3 (2.8%)	3 (0.5%)	34 (11.4%)	
Unknown acquisition route	2 (1.9%)	9 (1.5%)	44 (14.8%)	
Recent HIV acquisition				
Tested pos. <365 days after last neg. test	81 (76.4%)	165 (28.1%)	17 (5.7%)	<.001
Tested pos. <180 days after last neg. test	53 (50.0%)	99 (16.8%)	6 (2.0%)	<.001
CD4 at HIV diagnosis	570 (360-720)	440 (255-640)	257 (100-540)	<.001
Late presenter (CD4<350)	25 (23.8%)	221 (37.8%)	176 (59.1%)	<.001
Very late presenter (CD4<200 or AIDS)	8 (7.5%)	111 (18.9%)	121 (40.6%)	<.001
Reason known for not having used PrEP	106 (100%)	299 (50.9%)	119 (39.9%)	<.001
Reasons for not having used PrEP				
Did not know of PrEP	n.a.	63 (21.1%)	77 (64.7%)	
Presumed to be at low risk for HIV	n.a.	82 (27.4%)	33 (27.7%)	
Knew PrEP but did not want to use it	n.a.	34 (11.4%)	3 (2.5%)	
Tested positive at PrEP intake	n.a.	51 (17.1%)	0 (0.0%)	
Wanted PrEP but had no access	n.a.	65 (21.7%)	6 (5.0%)	
Was on PrEP waiting list	n.a.	4 (1.3%)	0 (0.0%)	

***Legend:** target group = MSM and transgender people; n.a. = not applicable; * Calculated for migrants only.*

Table 3: socio-economic characteristics of those MSM and transgender persons with a known reason for not having used PrEP.

	Knowledge gap	Lack of access
Total group size	108	71
Age		
< 30 years	9.3%	19.7%
30 – 49 years	53.7%	54.9%
≥ 50 years	37.0%	25.4%
Scholarly attainment		
Higher / middle	44.4%	63.4%
Lower	19.4%	11.3%
Unknown	10.2%	18.3%
Income class		
≥ 140% of social minimum	71.3%	59.2%
< 140% of social minimum	18.5%	18.3%
unknown / institutionalized	10.2%	22.5%
Place of residence		
Amsterdam	33.3%	31.0%
Rotterdam / Utrecht / the Hague	10.2%	14.1%
Other	56.5%	54.9%
Ethnicity		
Dutch	64.8%	53.5%
Migrant, Western	25.9%	22.5%
Migrant, non-Western	10.2%	23.9%

Table 4: characteristics of individuals who reported use of PrEP.

	PrEP used in the Netherlands	PrEP used abroad	p-value
Number of subjects	89 (84.0%)	17 (16.0%)	
Age	32.1 (27- 43)	29.8 (25.7-33.6)	0.113
Gender			0.004
Cisgender male	89 (100%)	14 (82.4%)	
Cisgender female	0 (0.0%)	1 (5.9%)	
Transgender male	0 (0.0%)	1 (5.9%)	
Transgender female	0 (0.0%)	1 (5.9%)	
Region of birth			<.001
Born in the Netherlands	50 (56.2%)	0 (0.0%)	
Migrant	39 (43.8%)	17 (100%)	
Acquisition category			<.001
MSM	87 (97.8%)	10 (58.8%)	
Heterosexual acquisition	0 (0.0%)	4 (23.5%)	
Other acquisition categories	1 (1.1%)	2 (11.8%)	
Unknow acquisition route	1 (1.1%)	1 (5.9%)	
STD diagnosed at entry into care			
HBV (HBs antigen positive	1 (1.2%)	1 (6.7%)	0.169
HCV (positive antibodies)	3 (3.6%)	0 (0.0%)	0.455
Syphilis (positive RPR/VDRL)	22 (26.5%)	6 (40.0%)	0.287
PrEP started before migrating to the Netherlands	3 (3.4%)	17 (100%)	
PrEP provider			<.001
Provider in the Netherlands	53 (59.6%)	0 (0.0%)	
- Public Health Service	25 (28.1%)	0 (0.0%)	
- HIV treatment center	4 (4.5%)	0 (0.0%)	
- Family practitioner	22 (24.7%)	0 (0.0%)	
- No info	2 (2.2%)	0 (0.0%)	
Provider outside of the Netherlands	2 (2.2%)	7 (41.2%)	
Buyers club/internet/store outside of the Netherlands	14 (15.7%)	3 (17.6%)	
From friend living with HIV	2 (2.2%)	1 (5.9%)	
No info	18 (20.2%)	6 (35.3%)	
Seroconversion during PrEP use			
Tested HIV-positive while on PrEP	26 (29.2%)	2 (11.8%)	
HIV-negative test performed after last dose of PrEP	25 (39.7%)	2 (13.3%)	
No HIV-negative test performed after last dose of PrEP	24 (38.1%)	12 (80.0%)	
Unknown if HIV test was performed after last dose of PrEP	14 (22.2%)	1 (6.7%)	
Seroconverted in the Netherlands or before migration			<.001
In the Netherlands	76 (85.4%)	2 (11.8%)	
Before migration to the Netherlands	0 (0.0%)	8 (47.1%)	
Unknown / uncertain	13 (14.6%)	7 (41.2%)	

*Legend: *Calculated for migrants only; ** Zero days means person was diagnosed with HIV during PrEP use.*