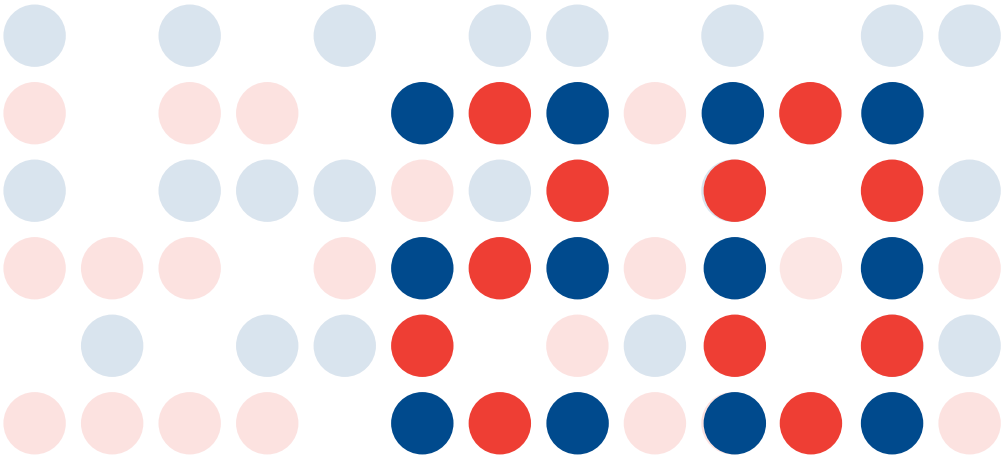
Human Immunodeficiency Virus (HIV)
Infection in the Netherlands

HIV Monitoring

HIV Monitoring Report 2020

Executive Summary

The Monitoring Report 2020 is now available online at www.hiv-monitoring.nl



About Stichting HIV Monitoring

Stichting HIV Monitoring (SHM), the Dutch HIV monitoring foundation, was founded in 2001 and appointed by the Dutch minister of Health, Welfare and Sport as the executive organisation for the registration and monitoring of HIV-positive individuals in the Netherlands.

SHM comprehensively maps the HIV epidemic and HIV treatment outcomes in the Netherlands, thereby contributing to the knowledge of HIV. In collaboration with the HIV treatment centres in the Netherlands, SHM has developed a framework for systematically collecting HIV data for the long-term follow up of all registered individuals. The Netherlands is the only country in the world to have such a framework, which enables healthcare professionals to aspire to the highest standard of HIV care.

In addition to national reports, healthcare professionals are provided with treatment centre-specific reports to enable them to monitor and optimise care provided in their centres. Moreover, upon request, SHM data are also made available for use in HIV-related research, both in the Netherlands and internationally. The outcome of SHM's research and international collaborations provides tangible input into policy guidelines and further improves HIV care in the Netherlands.

For further information about SHM or to sign up for our newsletter, please visit our website: **www.hiv-monitoring.nl** or send us an email: **hiv.monitoring@amc.uva.nl.**

HIV Monitoring

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Foreword

This Executive summary highlights the key trends over time in the HIV epidemic in the Netherlands and makes a number of important recommendations based on the findings published in the 2020 Monitoring Report on Human Immunodeficiency Virus (HIV) Infection in the Netherlands.

The full Monitoring Report and all accompanying figures are available online (www.hiv-monitoring.nl). The 19th Monitoring Report comprises a section on the HIV Monitoring Programme that provides an update on the number of newly-registered HIV diagnoses, the changes over time in the characteristics of the HIV-positive population at the time of diagnosis, the effects of combination antiretroviral therapy (cART), cART prescription trends, the development of resistance to antiretroviral drugs, and morbidity and mortality in the HIV-positive population. The report also contains information on specific populations, including those with viral hepatitis co-infections, HIV-1-positive children, and pregnant women living with HIV, along with a chapter on quality of care in the 24 HIV treatment centres. The Monitoring Report also includes a chapter on recent key findings from the Amsterdam Cohort Studies. Finally, in the Special Reports section we report on HIV in Curaçao.

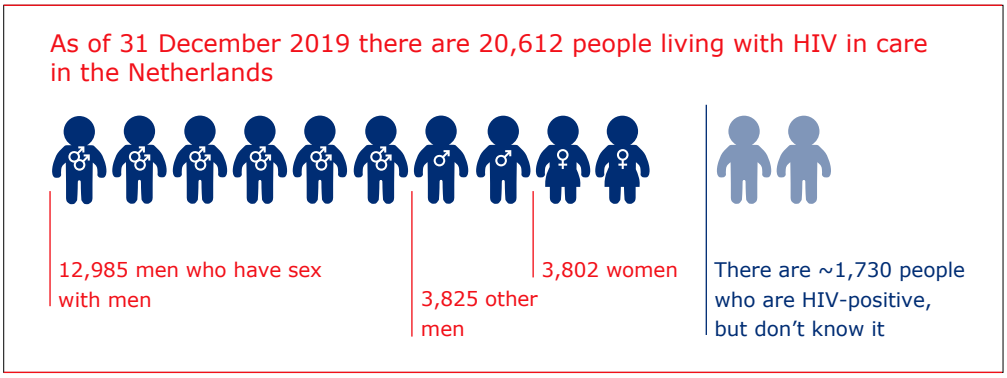
The Monitoring Report is the culmination of a great deal of hard work by many people both within and outside SHM. I would therefore like to thank the HIV treating physicians, HIV nurse consultants, and staff of the diagnostic laboratories, along with the data collecting and monitoring staff. Without their ongoing efforts, our work would not be possible. My thanks also go to our group of reviewers whose in-depth knowledge on relevant chapter topics has helped shape the content of this report. Their input is highly valuable and further improves the report's clinical and public health relevance. Finally, I extend my gratitude to the people living with HIV who generously agree to provide data to SHM. It is only through this partnership between both professionals and affected communities that we can further our insight into the many facets of HIV and HIV treatment, and thereby continue to not only improve the care for people living with HIV in the Netherlands, but also provide guidance for prevention.

Professor Peter Reiss, MD

Director, Stichting HIV Monitoring

The HIV epidemic in the Netherlands in 2019

Figure 1: Number of people living with HIV and in care in the Netherlands in 2019.



Number of people with HIV and in care

As of 31 December 2019, 23,700 people were estimated to be living with HIV in the Netherlands (*Figure 1*). Of those, 20,612 were in care in one of the 24 adult or 4 paediatric HIV treatment centres.

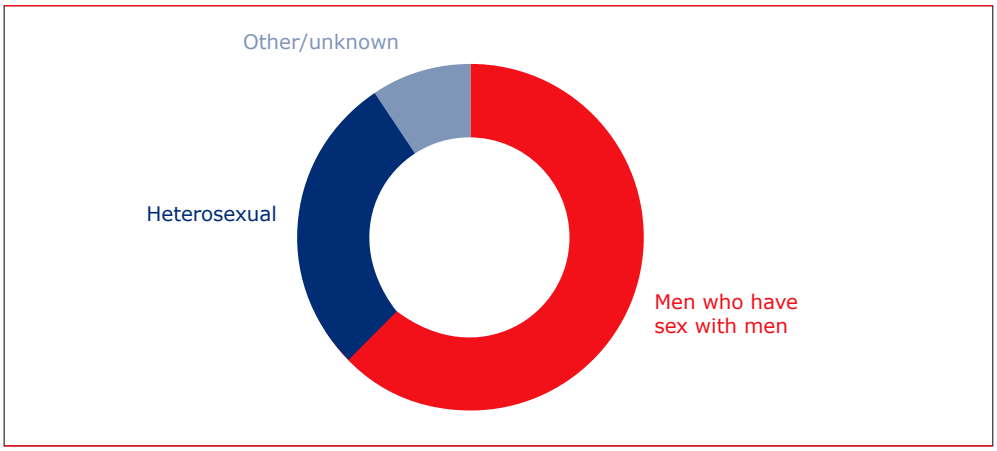
Trend of fewer new HIV diagnoses continued in 2019

Since 2008, the annual number of newly-diagnosed HIV infections has fallen steadily, and this trend continued in 2019. The projected number of new diagnoses for 2019 is 580, compared with 654 in 2018. This means the Netherlands is on track to meet its national hiv target to halve the number of new diagnoses in 2022, compared with 2015 (when there were 890). In addition, 217 HIV-positive individuals who were born abroad arrived in the Netherlands in 2019; they were diagnosed prior to arrival.

Majority of new HIV diagnoses continued to be among men who have sex with men

In 2019, the majority (61%) of newly-diagnosed infections were in men who acquired HIV through having sex with men (MSM), while 28% were acquired through heterosexual contact and 11% through other or unknown modes of transmission (*Figure 2*).

Figure 2: Mode of HIV acquisition for people living with HIV and in care in the Netherlands in 2019.



Most people newly diagnosed with HIV had rapid access to specialised care

The majority of people newly diagnosed with HIV in 2019 (96%), entered specialised HIV care within six weeks of their diagnosis. This rate remained similar, regardless of where the diagnosis was made (i.e., hospital, general practice, sexual health centre, or other test location)

HIV testing has become more common

Testing rates for HIV appear to be increasing in the Netherlands. This conclusion is based on a number of observations. Firstly, our data show that the proportion of individuals with a known, previously negative HIV test increased in 2019 (73% of MSM, 35% of other men, and 39% of women diagnosed). In addition, the proportion of individuals diagnosed relatively early in their infection (including during primary HIV infection) continued to increase, particularly among MSM. This is reflected in the fact that the CD4 count at diagnosis has gradually risen over time to a median of 361 cells/mm^3 in 2019.

Decline in number of newly-acquired infections continued in 2019

The estimated number of newly-acquired HIV infections has been declining, and reached 270 in 2019; a reduction of 72%, compared with the 2010 figure of 960. This downward trend confirmed that the Netherlands is on track to achieve the UNAIDS fast-track target for 2020 – a 75% reduction in annual, newly-acquired HIV infections since 2010. Among MSM, the number of newly-acquired HIV infections fell by 76%, from 690 in 2010 to 160 in 2019, surpassing the UNAIDS target.

Late presentation for care remains a problem that needs attention

Despite the observed earlier diagnosis in certain groups, many people still present late for care, in other words, with an already markedly-impaired immune system (CD4 count below 350 cells/mm^3) or even AIDS; in 2019, this was the case for 39% of MSM, 64% of other men and 62% of women. Although newly-diagnosed MSM had the lowest proportion of late-stage HIV infections, they accounted for 133 (50%) of all 267 individuals diagnosed with late-stage HIV in 2019.

Continuum of HIV care in 2019: 93-93-96 – the Netherlands is on course to meet targets

One of the key goals of HIV treatment is to achieve viral suppression. The steps that need to be achieved to reach viral suppression are illustrated in a continuum of HIV care. A continuum of care also gives a measure of progress towards achieving the UNAIDS 90-90-90 goals for HIV care by 2020.

The continuum of care for the Netherlands confirms that each of these goals have been reached (93-93-96 in 2019, *see Figure 3*):

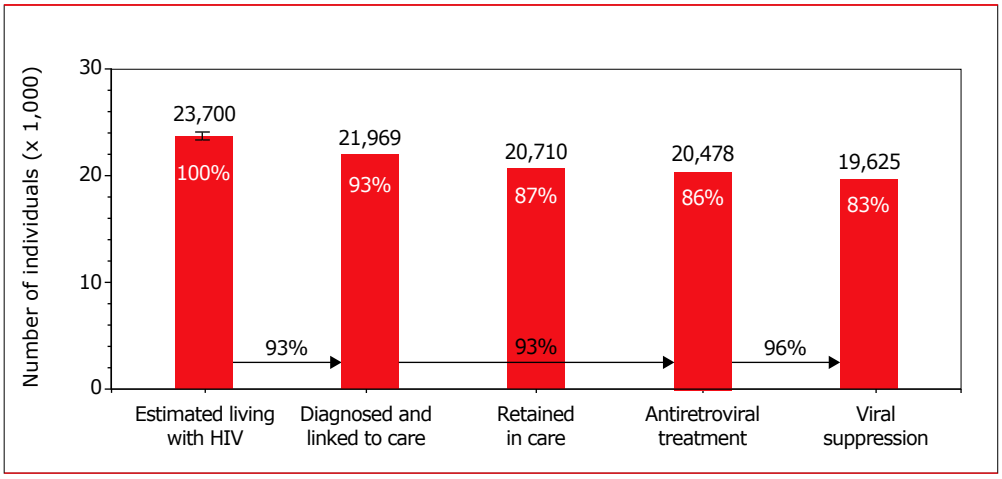
By the end of 2019, 23,700 individuals were estimated to be living with HIV, of whom an estimated 1,730 were still undiagnosed.

In total, 21,969 individuals (93% of the total number estimated to be living with HIV) had been diagnosed, linked to care, and registered by SHM.

Of the individuals who had been diagnosed, linked to care, and registered by SHM, the majority (20,478; 93%), had started antiretroviral treatment, and 19,625 of those (96%) had achieved viral suppression.

The Netherlands is therefore closing in on achieving the national hiv targets of 95-95-95 by 2022. Overall 83% of the total estimated population living with HIV, and 89% of those diagnosed and linked to care, had a suppressed viral load by the end of 2019.

Figure 3: Continuum of HIV care for the total estimated HIV-positive population in the Netherlands by the end of 2019, based on UNAIDS 90-90-90 goals for 2020: 93-93-96.



All STI surveillance regions reached the 90-90-90 targets

In 2019, all eight STI surveillance regions in the Netherlands reached or surpassed UNAIDS's 90-90-90 targets for 2020. The proportion of HIV-positive people with a suppressed viral

load, including those remainding undiagnosed, varied between 80% and 85%. More than half (54%) of all people estimated to be living with HIV were in Noord-Holland/Flevoland and in Zuid-Holland Zuid.

Many people with HIV live in the four largest cities

In total, 10,290 (43%) people with HIV were estimated to be living in the four largest cities (Amsterdam, Rotterdam, Den Haag and Utrecht) in 2019. Of these 10,290 individuals, 610 were estimated to be still undiagnosed.

The figures for the Netherlands are impressive compared with other parts of the world. Nonetheless, in 2019 there were 580 new diagnoses (compared with 654 in 2018, so a 13% reduction) and an estimated 1,730 people who remained undiagnosed. To achieve a significant further decline in these numbers, novel transdisciplinary strategies are needed to simultaneously reduce the likelihood of HIV transmission in key populations at risk (including by provision of pre-exposure prophylaxis or PrEP), identify individuals with HIV infection early, rapidly link all people living with HIV to care, and immediately offer them the possibility of starting combination antiretroviral therapy (cART).

Information on the prior use of pre-exposure prophylaxis (PrEP) is now being collected

SHM has started collecting PrEP-related data concerning individuals newly-diagnosed with HIV and first entering care from the electronic medical records (EMRs) since July 2019. Up until September 2020, data have been collected from 1,523 such individuals.

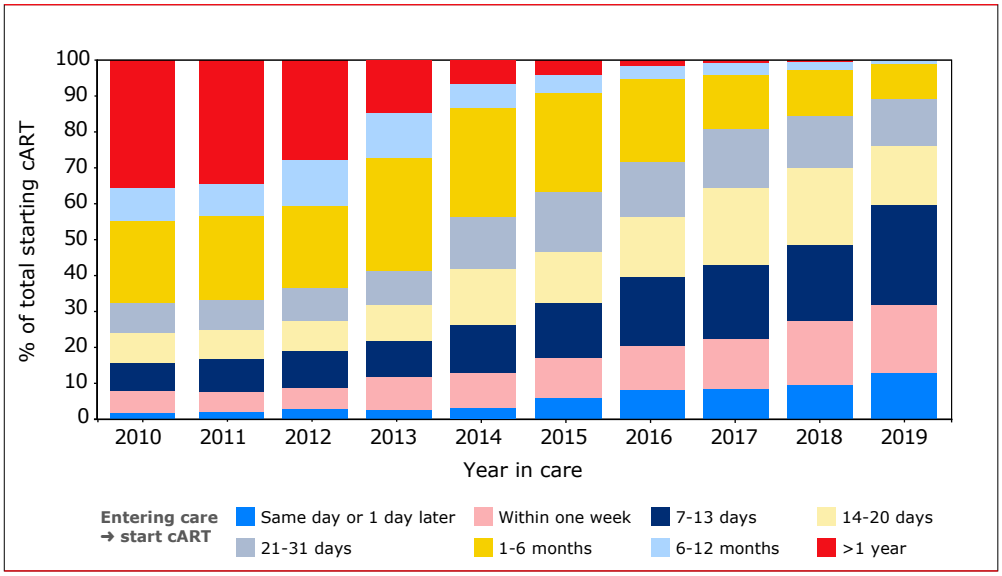
In 1,235 (81.1%) EMRs, no mention was made about prior use of PrEP, whereas in 288 (18.9%) EMRs, information was available on prior use of PrEP. Of the 288 individuals for whom information on prior use of PrEP was available, 38 men (13.2%) had reported prior use of PrEP, and 250 men and women (86.8%) had not. Of the 38 men who reported prior use of PrEP, the most likely route of HIV acquisition was through sexual contact with other men in 33 (86.8%) men. Of the 38 men who reported prior use of PrEP, 18 (47.4%) had obtained PrEP through a healthcare provider in the Netherlands, 9 (23.7%) through a buyers club / internet / store outside of the Netherlands, 3 (7.9%) through a healthcare provider outside of the Netherlands, 1 (2.6%) from an HIV-positive friend who donated some of his own medication, and for 7 men no information was available. Regular periodic medical checkups while using PrEP had been performed in 19 (50.0%) of these 38 men, no checkups were done in 6 (15.8%) and for 13 (34.2%) no information was available. For 25 (65.8%) of the 38 men it was reported that they had used PrEP after the last negative HIV test performed while using PrEP.

For 25 (65.8%) of the men who reported having used PrEP when first entering HIV care a genotypic resistance test was done. Resistance associated mutations possibly associated with the use of the antiretroviral agents that had been used as PrEP were detected in 7 of these 25 men (28%). Six of these seven men had obtained PrEP through a Dutch health care provider, and all seven men had reported that they had continued to use PrEP after their last negative HIV test performed while using PrEP. These data underscore the importance of access to formal PrEP services, including regular monitoring while on PrEP, for all those who need it. SHM will continue to work with the HIV treatment centers to collect information on prior use of PrEP in all individuals newly entering care.

Combination antiretroviral therapy in adults

People are increasingly starting combination antiretroviral therapy (cART) sooner after being diagnosed with HIV and entering care. In 2019, 90% of people started cART within one month of entry into care, and 98% did so within 6 months of entry into care. Importantly, this was the case irrespective of the CD4 cell count at entry into care. In addition, in 2019, 13% started cART on the same day or the day after entry into care.

Figure 4: Time between entry into care and starting combination antiretroviral therapy (cART) for those starting cART between 2008–2019.



Legend: cART=combination antiretroviral therapy.

Most common cART regimens in 2019

Initial regimen

Of the people who started cART in 2019, 81% received a regimen containing an integrase inhibitor; tenofovir alafenamide/emtricitabine/bictegravir and tenofovir disoproxil/emtricitabine/dolutegravir were the most frequently-prescribed.

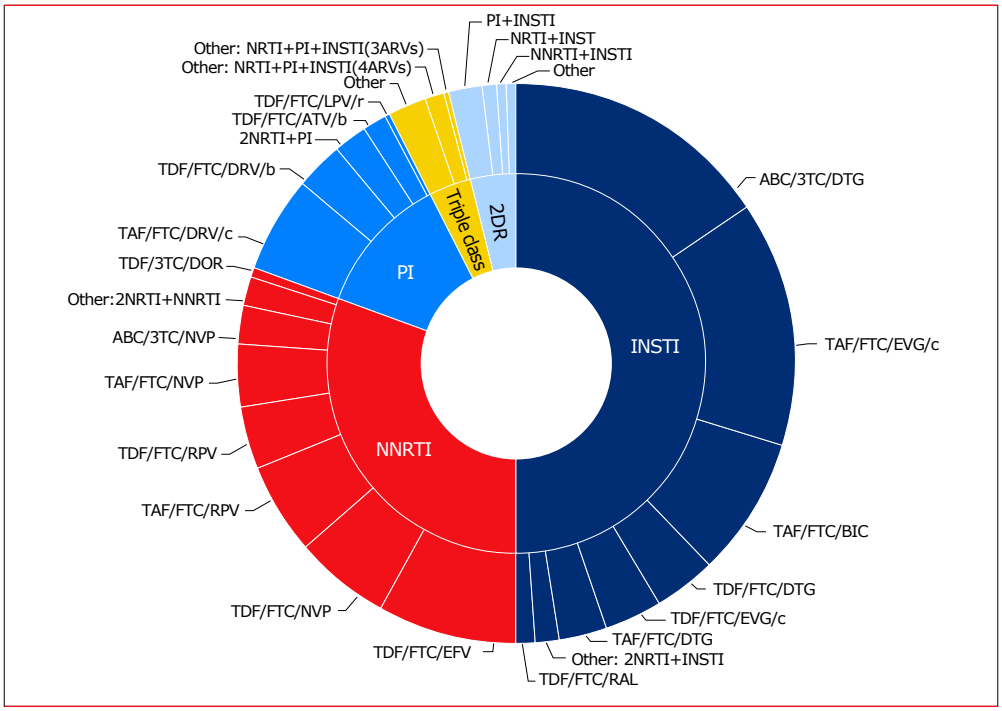
The likelihood of discontinuing or switching the initial regimen has been decreasing since 1996. As in previous years, toxicity continued to be one of the main reasons for discontinuing or switching the initial regimen during the first year of treatment. Toxicity-related discontinuations were often due to neuropsychiatric, gastro-intestinal, dermatological or renal problems. Other important reasons for discontinuation or regimen switch during the first year of treatment included regimen simplification or the availability of new drugs or regimens.

Use of integrase inhibitor-based cART is on the rise among all HIV-positive individuals

Integrase inhibitor-based cART continues to be further implemented on a large scale in the Netherlands: in 2019, 50% of all adults in care and on cART received an integrase inhibitor, compared with 39% in 2017 and 46% in 2018. 32% of the population on cART in 2019 received a backbone containing tenofovir disoproxil, new fixed-dose combinations have also led to an increase in the use of tenofovir alafenamide (42%) while the use of abacavir (21%) has decreased.

Among all HIV-positive individuals in care and on treatment in 2019, the majority (92.5%) received a cART regimen based on two nucleoside analogue reverse transcriptase inhibitors (NRTIs), combined with an integrase inhibitor (50.0%), a non-NRTI (NNRTI, 30.6%), or a protease inhibitor (11.9%) (Figure 5). The most commonly-prescribed regimens in 2019 were abacavir (ABC)/lamivudine (3TC)/dolutegravir (DTG) (15.6%), tenofovir alafenamide (TAF)/FTC/elvitegravir (EVG)/cobicistat (14.3%), and tenofovir disoproxil (TDF)/emtricitabine (FTC)/efavirenz (EFV) (8.0%), tenofovir alafenamide (TAF)/FTC/bictegravir (BIC) (8.0%). Dual regimens mostly consisting of one INSTI plus either one PI, one INSTI or one NNRTI were used by 3.6% all HIV-positive individuals in care and on treatment in 2019.

Figure 5: Combination antiretroviral therapy (cART) use in 2019.



Legend: *3TC=lamivudine; b=boosted (cobicistat or ritonavir); /r=ritonavir-boosted; /c=cobicistat-boosted; ABC=abacavir; ATV=atazanavir; BIC=bictegravir; DRV=darunavir; DTG=dolutegravir; EFV=efavirenz; EVG=elvitegravir; FTC=emtricitabine; INSTI=integrase inhibitor; LPV=lopinavir; NRTI=nucleoside analogue reverse transcriptase inhibitor; NNRTI=non-nucleoside reverse transcriptase inhibitor; NVP=nevirapine; PI=protease inhibitor; RAL=raltegravir; RPV=rilpivirine; TAF=tenofovir alafenamide; TDF=tenofovir disoproxil fumarate.*

Virological response is excellent, including in long-term survivors

Both short-term and long-term viral suppression rates remain high and continue to improve. Of all adults receiving cART for at least 12 months and in care in 2019, 98% had achieved viral suppression (viral load <200 copies/ml).

Changing cART landscape

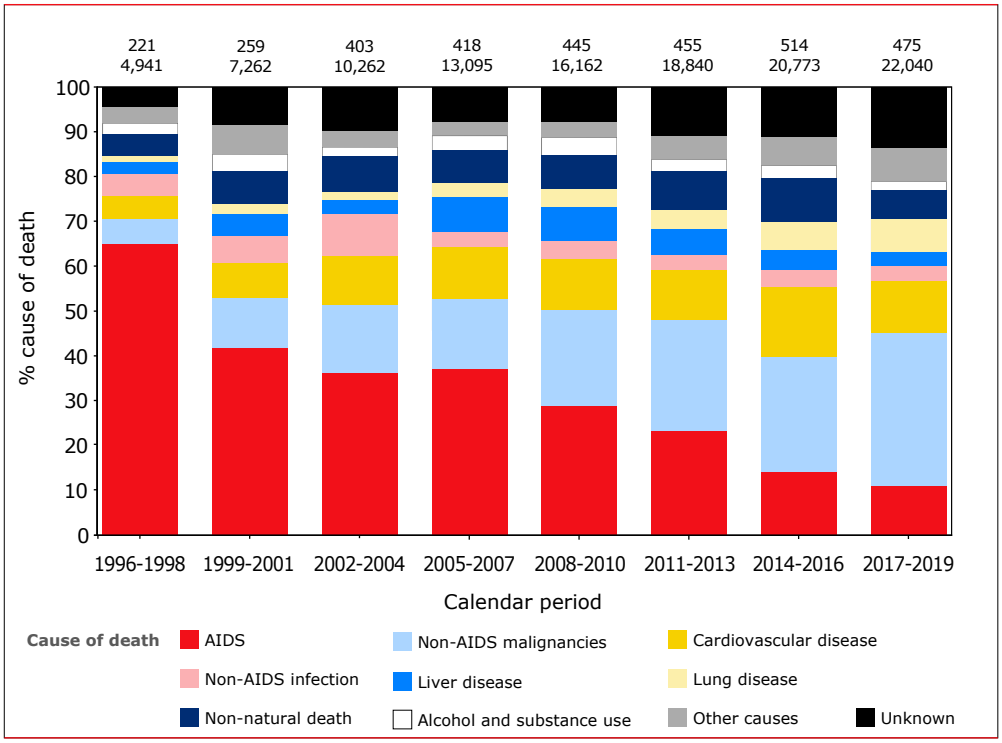
Following revised HIV treatment guidelines, prompt cART initiation has continued to become more common in 2019. In recent years, the introduction of new integrase inhibitor-based once-daily fixed-dose combinations has changed the landscape of cART use in the Netherlands. All currently-recommended regimens are durable.

Morbidity and mortality

The downward trend in AIDS-related deaths continued in 2019

Mortality remains low in HIV-positive individuals in care in the Netherlands. Since cART became available in the Netherlands in 1996, there has been a sustained decline in the risk of death from AIDS. Death is now increasingly likely to be caused by non-AIDS comorbidities, including non-AIDS-defining malignancies (NADM), cardiovascular disease (CVD) and chronic liver disease (*Figure 6*).

Figure 6: Relative changes in cause of death in different calendar periods since the introduction of combination antiretroviral therapy (cART) in the Netherlands. Numbers above each bar represent the number of people at risk during that calendar period.



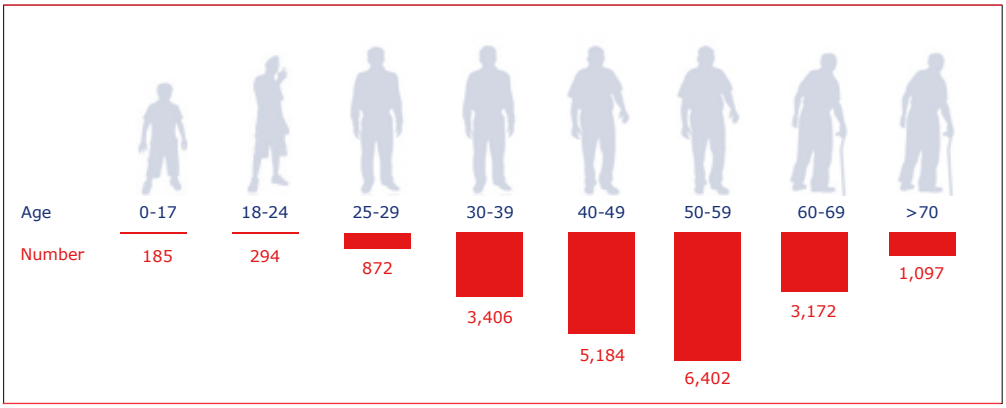
Legend: cART=combination antiretroviral therapy.

Ageing and comorbidities

The number of AIDS-related deaths reported have declined from 24 in 2016 to 18 in 2019. The cases of AIDS-related death that do occur are largely driven by late entry into care. This once again stresses the importance of identifying and linking individuals to care earlier in the course of the infection. Otherwise achieving the national HIV target of zero AIDS-related deaths by 2022 is unlikely to be achieved.

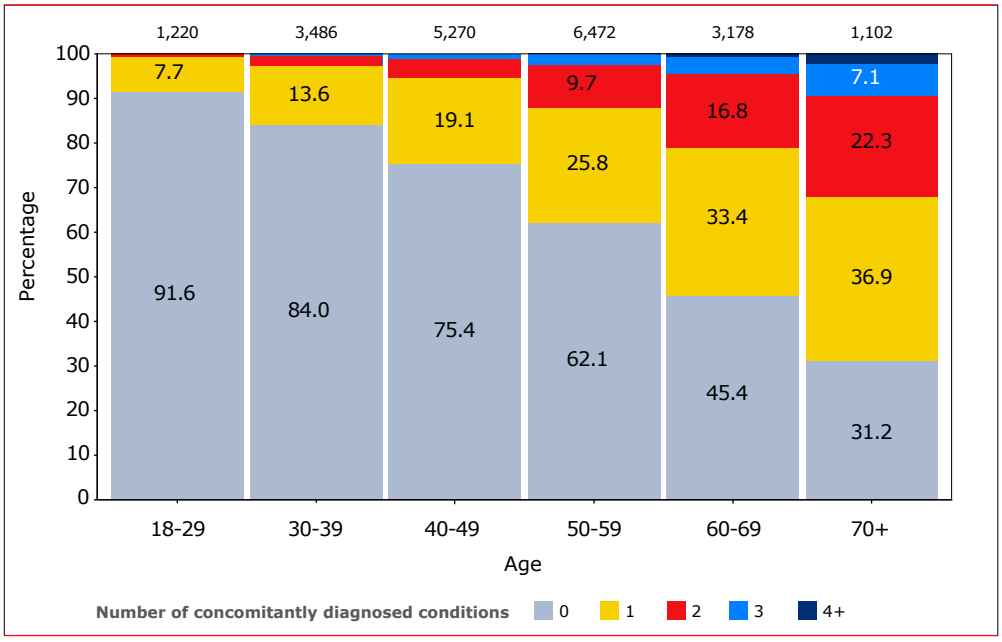
A substantial proportion of people who were newly-diagnosed with HIV and entered HIV care in 2019 were older individuals; 23% were 50 years or older. At the same time, the overall population of people with HIV in care in the Netherlands also continues to age, with 52% currently older than 50 years (*Figure 7*).

Figure 7: Age distribution of people living with HIV and in care in the Netherlands in 2019.



As in the general population, older age was an important risk factor for comorbidities such as cardiovascular disease and non-AIDS malignancies. Of particular concern is the increasing proportion of individuals with multiple comorbidities, the risk of which is known to be increased in those with HIV (*Figure 8*).

Figure 8: Prevalence of non-HIV/AIDS multimorbidity in adults in HIV care in 2019. Numbers on top of the bars represent the number of individuals contributing data to that age category.



The data show only a slight increase in cardiovascular risk

Despite the increasing age of the HIV-positive population, the proportion at high cardiovascular risk only increased slightly over the period 2000-2019. This suggests that cardiovascular risk management has improved over time. Nonetheless, there remains significant room for further improvement, given the suboptimal use of statin therapy, antihypertensive therapy and low-dose acetylsalicylic acid use as secondary prevention following a myocardial infarction or ischaemic stroke, as well as the low, albeit slowly improving, uptake of these medications in the prevention of primary cardiovascular disease.

Non-AIDS malignancies remained stable

The most common non-AIDS malignancies are lung, anal, and head and neck cancers, as well as Hodgkin's lymphoma. The incidence rate of non-AIDS malignancies in the Netherlands has remained stable over time. However, when the increasing age of the HIV-positive population is taken into account, we observe a decline in the age-adjusted risk of new non-AIDS malignancies in men, including anal cancer. This may be the result of a reduction in risk factors such as smoking, as well as expanded screening and treatment for early stages of anal cancer, together with a higher proportion of individuals living with higher CD4 cell counts in more recent years. Individuals who initiated ART within 12 months after their last HIV-negative test, had a lower risk of being diagnosed with a non-AIDS-defining malignancy, independent of their current CD4 cell count and other risk factors, suggesting an additional health benefit of early initiation of ART.

Improved awareness of risk factors may reduce comorbidity

Resilient ageing in people living with HIV and a lower comorbidity burden can be achieved by increasing awareness of the role of modifiable, lifestyle-related risk factors among both physicians and the people living with HIV themselves. This is particularly relevant for older individuals and those at increased risk of comorbidity.

Viral hepatitis co-infections

Hepatitis B and C virus screening is now universal

Hepatitis C (HCV) and hepatitis B (HBV) co-infections are far more prevalent in HIV-positive individuals than in the general population due to shared routes of transmission. Screening for HCV and HBV co-infection is part of the standard of HIV care in the Netherlands, and the presence or absence of these co-infections is now documented for almost all HIV-positive individuals.

Approximately 12% of all individuals monitored by SHM had evidence of ever having been exposed to HCV, with 5% having documented evidence of chronic infection and 3% having evidence of acute HCV infection at the time of the first diagnosis. Most individuals with HCV infection were male and from the Netherlands or other European countries.

The prevalence of chronic HBV infection has decreased over time as a result of increased HBV vaccination rates, together with the HBV-prophylactic effect of tenofovir and tenofovir alafenamide for the treatment of HIV. Six percent of individuals ever in care were found to have, or have had, chronic HBV infection.

HBV vaccination remains a priority

An estimated 34% of HIV-positive individuals overall had not been exposed to HBV and had not been successfully vaccinated. Of them, 20% were not taking a cART regimen including tenofovir or tenofovir alafenamide and thus remain at risk of acquiring HBV. Efforts to increase successful HBV vaccination rates, particularly in those who are not receiving tenofovir-containing cART, are essential for protecting individuals from HBV infection, as stated in the 2022 national HIV targets.

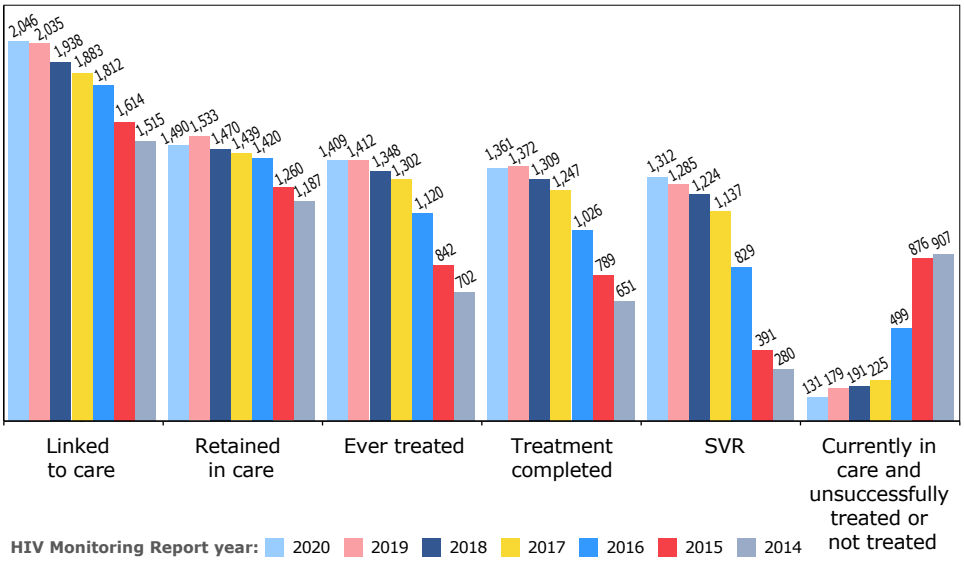
Risk of dying from HCV or HBV co-infection is decreasing

Overall, HIV-positive individuals with a chronic HCV or HBV co-infection remain at increased risk of liver-related morbidity and mortality. However, people diagnosed with chronic HCV or HBV have had a steadily decreasing risk of liver-related death since 2010. For those with chronic HBV infection, this is likely a result of increasingly effective HBV treatment through the use of tenofovir-containing cART that became more widespread in 2002.

Successful HCV treatment with direct-acting antivirals has progressed further

Our data clearly show that the large majority of HIV-positive individuals with HCV co-infection have now received effective treatment for HCV. By 31 December 2019, over 1000 individuals had received or were receiving treatment with novel direct-acting antiviral agents (DAAs). Of all people treated with DAAs, 97% achieved a sustained virological response and no longer had evidence of an active HCV infection. These developments have resulted in fewer HCV co-infected individuals remaining in need of treatment than in previous years (*Figure 9*). However, not all individuals in need of treatment have received treatment with DAAs yet; this underlines the need for additional efforts to reach these people.

Figure 9: Hepatitis C virus continuum of care in people with HIV/HCV co-infection.



Legend: SVR=sustained virological response.

Successful HCV treatment prevents HCV transmission

Successful treatment of HCV may also prevent onward HCV transmission, as suggested by the lower number of acute HCV infections observed in the past year, together with the rapid decline in prevalence of active HCV infections. In MSM the prevalence of active HCV infections has decreased to 0.5% in 2019. Although there has been a drop in the HCV re-infection rate in most recent years, re-infection following successful treatment continues to be reported, indicating that HCV transmission has not completely ceased.

Regular HCV screening among sexually-active MSM recommended

Effective HCV treatment will limit the impact of HCV co-infection on long-term liver-related morbidity and mortality; however, this effect should be monitored. To further reduce new HCV infections among the key affected population of sexually-active MSM, regular screening for HCV among successfully-treated individuals is recommended for early detection of HCV re-infections, in combination with interventions to reduce HCV risk behaviours. Such measures are key if we are to achieve the 2022 national HIV target of optimally protecting individuals at risk from becoming infected with HCV.

Hepatitis A virus testing and immunity

Fifty-four percent of HIV-positive individuals ever registered in the SHM database have been screened for HAV (hepatitis A). Of those screened, 68% had a positive anti-HAV antibody test result (i.e. protected against HAV through vaccination or from prior infection) and this percentage was comparable across transmission groups. Of note, for HIV-positive MSM under the age of 50, only half of those who had been screened had anti-HAV antibodies. Given the European-wide outbreak of HAV among sexually-active MSM in 2017, these individuals should be prioritized for HAV vaccination.

Pregnancies among women living with HIV in the Netherlands

In total, 387 pregnancies were documented in 303 women receiving HIV care in the Netherlands between 2016-2019. Of these women, 71% were born outside the Netherlands, mainly in sub-Saharan Africa (64%). The most common mode of HIV acquisition was heterosexual contact (92%).

Pregnant women may fail to have undetectable HIV RNA at the time of delivery

All women were treated with antiretroviral therapy during pregnancy. As a result, maternal HIV RNA levels were below 50 copies/ml (i.e., undetectable) in 94% of the deliveries, and between 50-500 copies/ml in a further 4% of deliveries. A number of women however had detectable HIV RNA levels around the time of delivery. Half of them had only been newly-diagnosed with HIV during the course of their pregnancy and therefore also started treatment later during pregnancy. This reinforces the importance of close monitoring of women newly-diagnosed with HIV during pregnancy.

Perinatal transmission of HIV is now very rare in the Netherlands

Due to the high rates of successful treatment in women living with HIV, perinatal transmission of HIV has become rare in the Netherlands, with only one reported case between 2016 and 2019. In the Netherlands, in women who receive treatment, the rate of vertical transmission is 0.42%.

Viral suppression rates during the post-partum period are suboptimal

Following the change in treatment guidelines in 2015 to recommend cART for all individuals regardless of CD4 count, it is now also recommended for all pregnant women to continue cART after delivery. Nonetheless, of the women who continued using antiretroviral therapy after delivery, 15% had at least one detectable HIV RNA measurement in the year following delivery. Half of these women even had more than one detectable HIV RNA measurement. This may reflect poorer treatment compliance during the post-partum period.

To achieve viral suppression during delivery and maintain treatment compliance in the post-partum period, women living with HIV who start cART during pregnancy require additional support, not only during pregnancy but also post-partum.

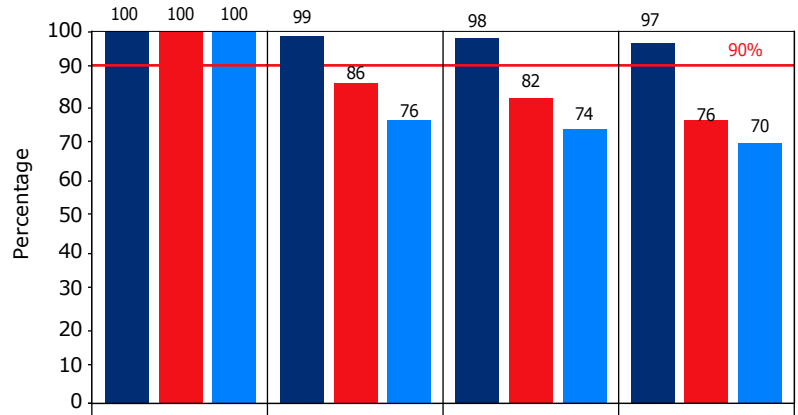
Children living with HIV

Of 511 children ever registered by SHM since 1998 and who entered into HIV care in the Netherlands, 412 (81%) remain in care and 199 remained under the age of 18 by the end of 2019. Of the children who are currently in care and under 18 years of age, 133 (67%) had been born outside the Netherlands and been adopted by Dutch parents.

Outcomes for HIV-positive children are generally favourable

There is a high retention-in-care rate among children currently under the age of 18. Outcomes for children who are receiving cART are generally favourable and have resulted in a low mortality rate and good long-term immunological responses (*Figure 10*).

Figure 10: *Cascade of care by age and mode of HIV acquisition in individuals who acquired HIV in childhood, as of 31 December 2019. The numbers on top of the bars indicate the proportion of individuals.*



	Linked to care	Retained in care	Antiretroviral treatment	Viral suppression
Current age <18 years	200	199	197	194
Current age ≥18 years vertical transmission	138	118	113	105
Current age ≥18 years non-vertical transmission	125	95	92	88

Poorer viral suppression around the time of transition to adult care

Of those individuals who were originally registered as a child, 81% were still in care in 2019, 52% of whom were older than 18 as of 31 December 2019. Of the children who had transitioned from paediatric to adult care, 17% did not have suppressed viraemia at the time of transition, suggesting challenges for these adolescents with respect to adherence to treatment.

Optimisation of long-term care for adolescents and young adults

The large proportion of adolescents who have inadequately-suppressed viraemia at the time of transitioning to adult care illustrates that long-term care for this particularly vulnerable and difficult-to-serve group of young individuals clearly needs to be further optimised.

Quality of care

Comparing indicators to the national average

The quality of care provided in Dutch adult HIV treatment centres was explored using indicators based on the national guidelines issued by the Dutch Association of HIV-Treating Physicians. We also compared each centre's indicator to the national average, in a manner that takes into account the diverse mix of patients' geographical origin and modes of HIV transmission that are found across centres.

In all centres the proportion of patients in care in 2019 who had initiated cART and had viral suppression were high and within the expected range of the national average. Overall, retention in care was also found to be high in most HIV treatment centres in the Netherlands.

Earlier start of cART and high rates of viral suppression

Across most centres, people are starting cART sooner after entering into care, confirming that most centres are following the guideline to offer cART to everyone with newly-diagnosed HIV regardless of CD4 count. In fact, a median of 96% and 98% of all patients who entered care in 2017 and 2018, respectively, and who were retained in care in 2019 had initiated cART, while across all centres, more than 95% of patients in care in 2019 were on cART.

Viral suppression rates in the first 6 months on cART, as well as during longer term use of treatment, were high across all centres, regardless of the number of people receiving care at a particular centre.

Amsterdam Cohort Studies

The Amsterdam Cohort Studies (ACS) on HIV infection and AIDS were initiated in 1984 shortly after the first cases of AIDS were diagnosed in the Netherlands. By enrolling men who have sex with men (MSM) in a prospective cohort study, the ACS aimed to investigate the prevalence and incidence of HIV-1 infection and AIDS, the associated risk factors, the natural history and pathogenesis of HIV-1 infection, and the effects of interventions. A second cohort involving people who use drugs (PWUD) was initiated in 1985. Follow up of PWUD ended in 2016.

As of 31 December 2019, 2,899 MSM had been included in the ACS, of whom 607 were HIV-positive when they entered the study and 263 seroconverted during follow up. In 2019, 708 HIV-negative and 53 HIV-positive MSM remained in active follow up at the GGD Amsterdam, with an additional 256 HIV-positive MSM being followed at the MC Jan van Goyen or the DC Klinieken Lairesse-Hiv Focus Centrum in Amsterdam. In 2019, 18 HIV-negative MSM were newly recruited into the ACS. The median age in this group was 29.6 years, while that of the total group of MSM in active follow up was 43.6 years at their last visit. The majority (83.3%) of the total group were born in the Netherlands and 87.9% were residents of Amsterdam. Finally, 77.0% of the participants had a college degree or higher. In 2019, two MSM participating in the ACS seroconverted for HIV. The observed HIV incidence among MSM has remained relatively stable and low in recent years and was 0.11 per 100 person years in 2019.

HIV in Curaçao in 2019

Over the years, an increasing proportion of individuals with HIV in care at the St Elisabeth Hospital in Willemstad in Curaçao have managed to achieve a suppressed viral load. However, although early start of treatment appears to be possible, data also suggest that long-term retention in care needs to be improved to optimise the sustained effect of treatment. In addition, the proportion of people entering care with late-stage HIV infection remains high, although the proportion with advanced HIV disease appears to be decreasing.