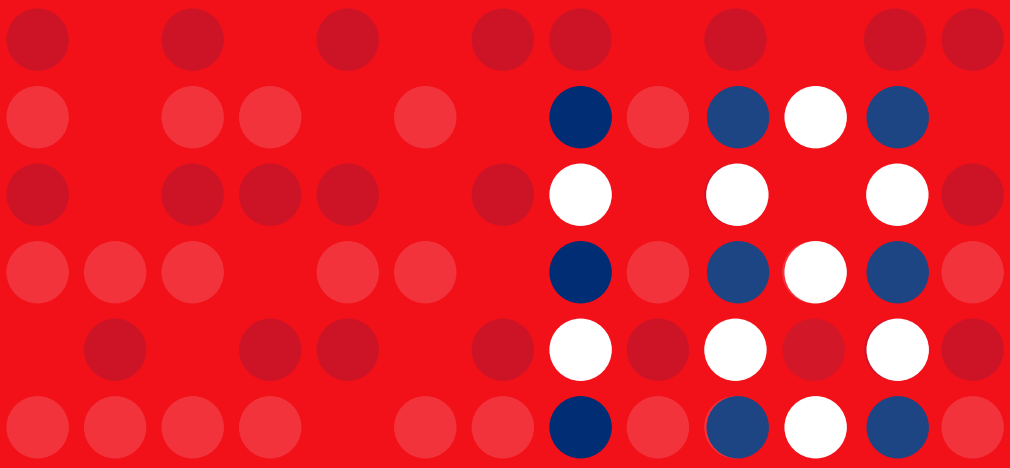
Human Immunodeficiency Virus (HIV)
infection in the Netherlands

HIV Monitoring Report 2018

Chapter 9: Curaçao



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.

Our mission

To further the knowledge and understanding of all relevant aspects of HIV infection, including comorbidities and co-infections (such as viral hepatitis), in HIV-positive persons in care in the Netherlands.

HIV Monitoring

Monitoring Report 2018

Human Immunodeficiency Virus (HIV) Infection in the Netherlands

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9. Curaçao

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Introduction

For more than a decade, Stichting HIV Monitoring (SHM) has assisted in collecting demographic and clinical data about HIV-positive individuals in clinical care at the St. Elisabeth Hospital in Willemstad in Curaçao. As a result of this registration and monitoring, an extensive database has been established, which is unique for the region and gives a clear picture of the HIV-positive population, the effectiveness of HIV care, and the challenges that exist in this relatively small Caribbean setting. This special report endeavours to present a concise overview of the current state of HIV treatment in Curaçao.

Population

In total, 1,105 HIV-positive individuals ever registered by SHM have been followed in the St. Elisabeth Hospital in Curaçao. Of these people, the majority were diagnosed with HIV-1 (1,079; 98%), while 2 individuals were diagnosed with HIV-2, and 11 had antibodies against both HIV-1 and HIV-2. For 13 individuals, serological results on HIV type were not available in the SHM database. In total, 1,064 of the people with HIV-1 had a recorded date of diagnosis.

People in clinical care

In total, 650 (60%) of the 1,079 registered HIV-1-positive individuals were known to be in clinical care by the end of 2017. People were considered to be in clinical care if they visited their treating physician in 2017 or had a CD4 count or HIV RNA measurement in that year and were still living in Curaçao. Of the 429 individuals who were no longer in clinical care, 176 (41%) were known to have died and 10 (2%) to have moved abroad, while 8 people only entered HIV care in 2018 or were diagnosed with HIV in 2018. Thus, 235 patients, or 22% of all registered HIV-1-positive individuals, were considered lost to care. Among individuals entering care between 2007 and 2016, the probability of being lost to care five years after enrolment was lower for people originating from the former Dutch Antilles (25%) than for those originating from Haiti or the Dominican Republic (35%) or from elsewhere (31%).

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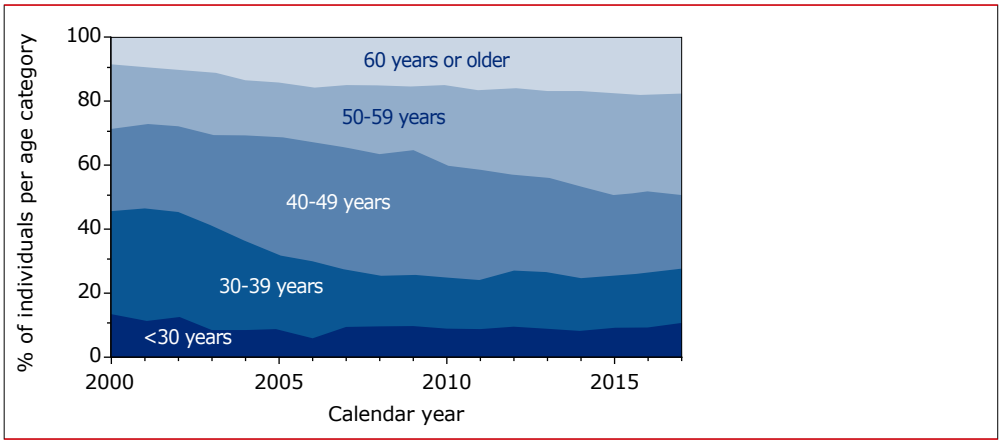
Ageing population

The median age of the population in clinical care by the end of 2017 was 50 years (interquartile range [IQR] 39-57) and has been increasing since 2005 (*Figure 9.1*). This increase in age is mainly a result of the improved life expectancy of HIV-positive individuals after the introduction of combination antiretroviral treatment (cART). As a result, almost half of all people currently in care (49%) are 50 years or older, including 49% of men and 50% of women; 17% of the individuals are 60 years or older. In contrast, the median age at diagnosis was 39 (IQR 33-49) years between 2000 and 2005 and decreased to 34 (26-46) years in individuals diagnosed in 2015 or later.

Figure 9.1: *Increasing age of the HIV-1-positive population in clinical care in Curaçao over calendar time. In 2000, 13% of the people in care were younger than 30 years of age, whereas 29% were 50 years or older. In 2017, these proportions were 11% and 49%, respectively, while 17% of people in care were 60 years of age or older. The proportion of people in clinical care as of 31 December of each calendar year is shown according to those who were <30 years of age, 30 to 39 years, 40 to 49 years, 50 to 59 years, and 60 years or older.*



Duration of infection

People in clinical care by the end of 2017 had been diagnosed with HIV a median of 8.6 (IQR 4.2-14.9) years previously. Thus, a large group (44%) of those in care had been living with HIV for more than 10 years, while 12% had done so for more than 20 years (*Table 9.1*). The median time since diagnosis was 7.2 years for men who have sex with men (MSM), 8.5 years for other men, and 9.5 years for women.

Table 9.1: Characteristics of the 650 HIV-1-positive individuals in clinical care in Curaçao by the end of 2017.

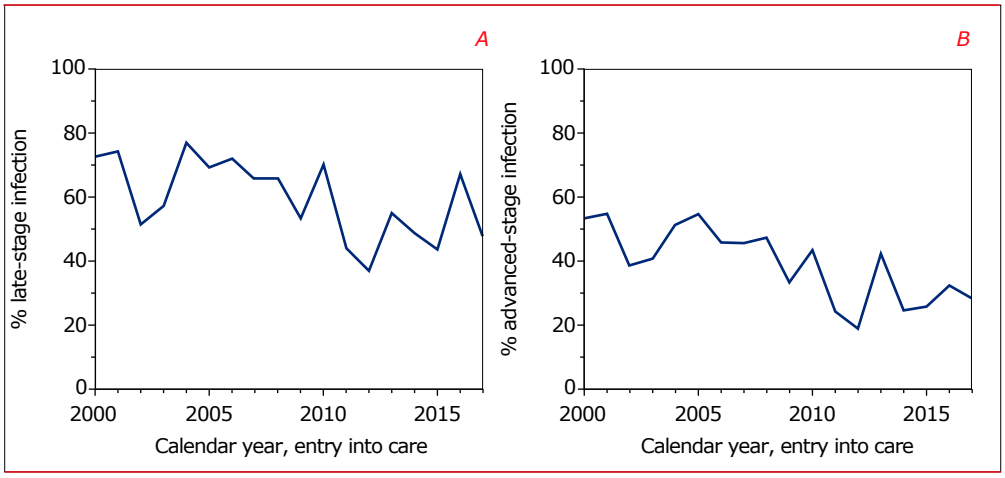
	Men (n=400, 62%)		Women (n=250, 38%)		Total (n=650)	
	n	%	n	%	n	%
Transmission						
MSM	164	41	-	-	164	25
Heterosexual	178	45	233	93	411	63
Other/unknown	58	15	17	7	75	12
Current age (years)						
0-12	0	0	0	0	0	0
13-17	0	0	0	0	0	0
18-24	18	5	8	3	26	4
25-34	64	16	32	13	96	15
35-44	82	21	42	17	124	19
45-54	116	29	90	36	206	32
55-64	81	20	51	20	132	20
65-74	32	8	18	7	50	8
≥75	7	2	9	4	16	2
Country of origin						
Former Netherlands Antilles	331	83	161	64	492	76
Dominican Republic	7	2	40	16	47	7
Haiti	20	5	30	12	50	8
The Netherlands	12	3	0	0	12	2
Other	30	8	19	8	49	8
Years aware of HIV infection						
<1	22	6	10	4	32	5
1-2	59	15	24	10	83	13
3-4	52	13	28	11	80	12
5-10	96	24	69	28	165	25
10-20	127	32	83	33	210	32
>20	41	10	35	14	76	12
Unknown	3	1	1	0	4	1

Legend: *MSM=men who have sex with men.*

Late presentation and start of treatment

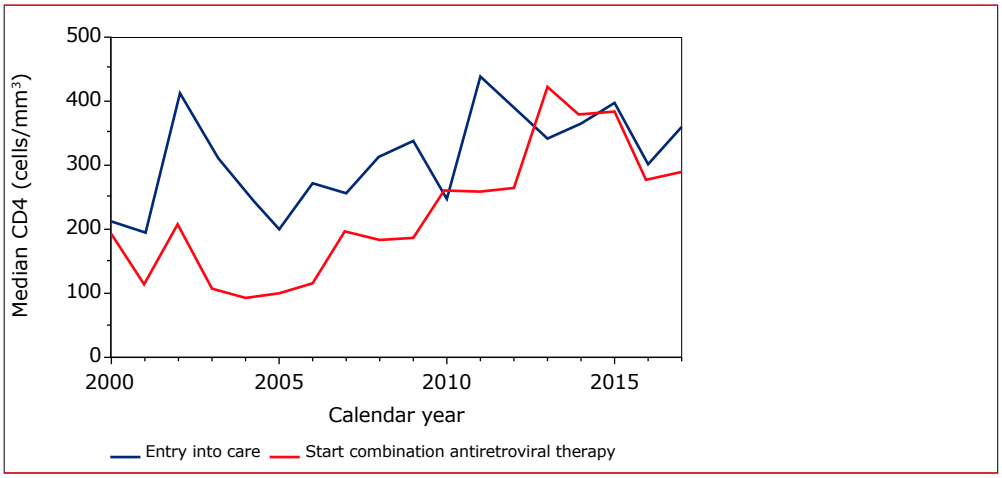
Overall, 59% of the 896 people who have entered care since 2000 were late presenters, i.e., individuals either presenting for care with a CD4 count below 350 cells/mm^3 or presenting with an AIDS-defining event regardless of CD4 count[1]. The proportion of late presenters has gradually decreased over time such that 55% of individuals entering care in 2015 or later were late presenters (*Figure 9.2*). In addition, the proportion of people presenting for care with advanced HIV disease, i.e., with a CD4 count less than 200 cells/mm^3 or AIDS, has also decreased over time and has been at an average of 32% since 2015. Altogether, 12% of the individuals who entered care since 2000 presented with an AIDS-defining disease.

Figure 9.2: *Proportion of people classified as presenting with (A) late-stage or (B) advanced-stage HIV infection at the time of entry into care. From 2000 (2015) onwards, 59% (55%) presented with late HIV disease while 39% (32%) were advanced-stage presenters. Late-stage HIV infection: CD4 counts below 350 cells/mm^3 or having AIDS, regardless of CD4 count. Advanced-stage HIV infection: CD4 counts below 200 cells/mm^3 or having AIDS.*



In recent years, there has been an increase in CD4 cell counts at the start of cART (*Figure 9.3*). Between 2015 and 2017, 30% of those for whom a CD4 count was available at the start of cART had less than 200 CD4 cells/mm^3, 23% had CD4 counts between 200 and 349 cells/mm^3, 21% had CD4 counts between 350 and 499 cells/mm^3, and 25% had CD4 counts of 500 cells/mm^3 or higher. During the same period, 94% of the people entering care received treatment within six months, irrespective of their CD4 count.

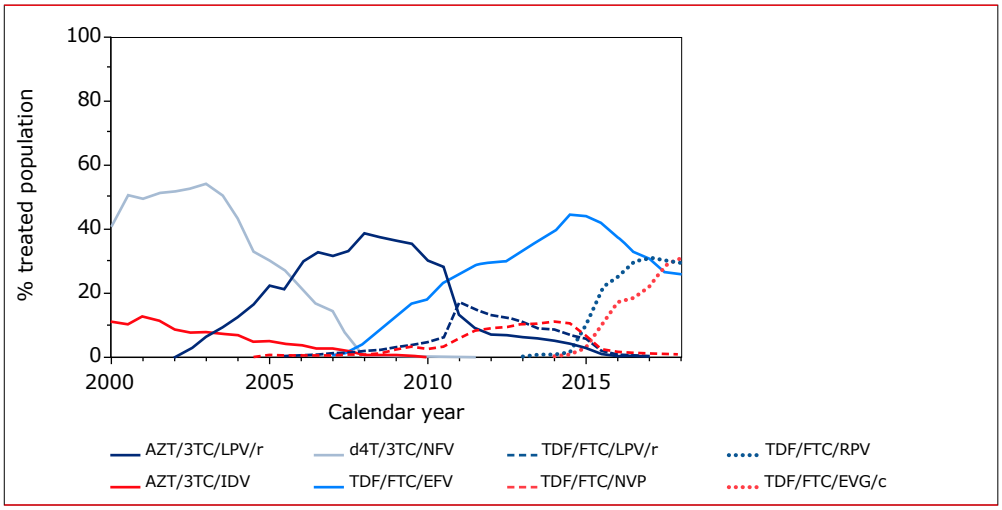
Figure 9.3: Changes over calendar time in median CD4 counts at entry into care and at the start of combination antiretroviral therapy (cART). Between 2000 and 2017, the median CD4 count at the time of entry into care increased from 214 cells/mm³ (interquartile range [IQR], 105–407) to 360 (189–459) cells/mm³. During the same period, CD4 counts at start of cART increased from 195 cells/mm³ (69–336) to 292 (138–477) cells/mm³.



Combination treatment

In total, 946 (88%) of the 1,079 registered HIV-1-positive individuals started cART (*Appendix Table 9.1*). Over time, there have been clear shifts in the treatment regimens prescribed in Curaçao (*Figure 9.4*). Around 2008, a combination of zidovudine/lamivudine and ritonavir-boosted lopinavir was mainly prescribed. At the end of 2017, the most commonly prescribed regimens were a combination of tenofovir/emtricitabine with either rilpivirine, efavirenz, or cobicistat-boosted elvitegravir. Of the people who started cART and were still in care by the end of 2017, 31% were being treated with tenofovir/emtricitabine/cobicistat-boosted elvitegravir, 30% with tenofovir/emtricitabine/rilpivirine, and 26% with tenofovir/emtricitabine/efavirenz. The majority (96%) used a once-daily regimen, while 88% were treated with a fixed-dose drug combination.

Figure 9.4: Percentage of individuals treated with combination antiretroviral therapy (cART) by specific regimens over calendar time. At the end of 2017, 31% of the people were receiving TDF/FTC/EVG/c, 30% RPV/TDF/FTC, and 26% TDF/FTC/EFV.

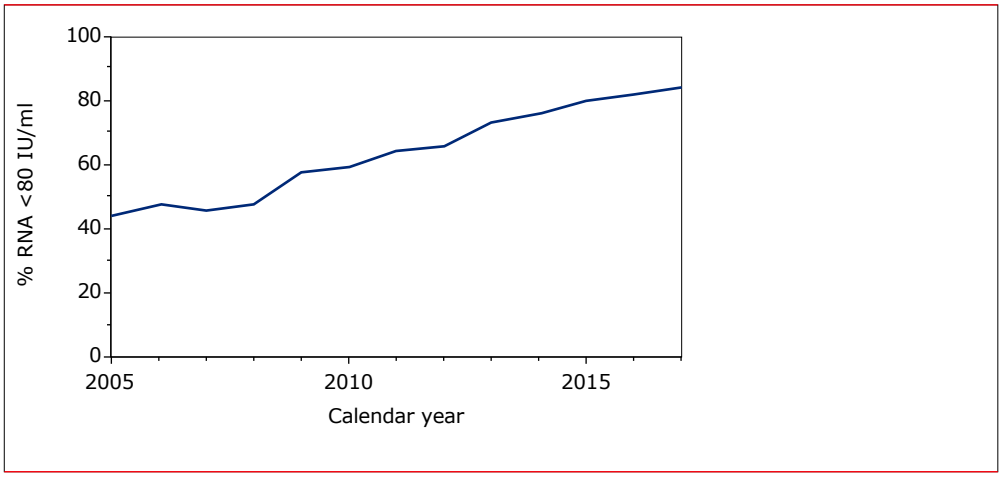


Legend: AZT=zidovudine; 3TC=lamivudine; LPV/r=ritonavir-boosted lopinavir; d4T=stavudine; NFV=nelfinavir; TDF=tenofovir disoproxil fumarate; FTC=emtricitabine; RPV=rilpivirine; IDV=indinavir; EFV=efavirenz; NVP=nevirapine; EVG/c=cobicistat-boosted elvitegravir.

Treatment outcome

In the total population still in care, the median current CD4 count was 500 (IQR 361-679) cells/mm^3. CD4 counts were similar between MSM (536 [IQR 404-702] cells/mm^3) and women (532 [413-741] cells/mm^3), but men who acquired their infection via other or unknown modes of transmission had lower CD4 counts (433 [298-607] cells/mm^3). Among individuals with a viral load measurement, the proportion with viral suppression, i.e., HIV RNA levels less than 80 IU/ml increased from 44% in 2005 to 84% in 2017 (*Figure 9.5*).

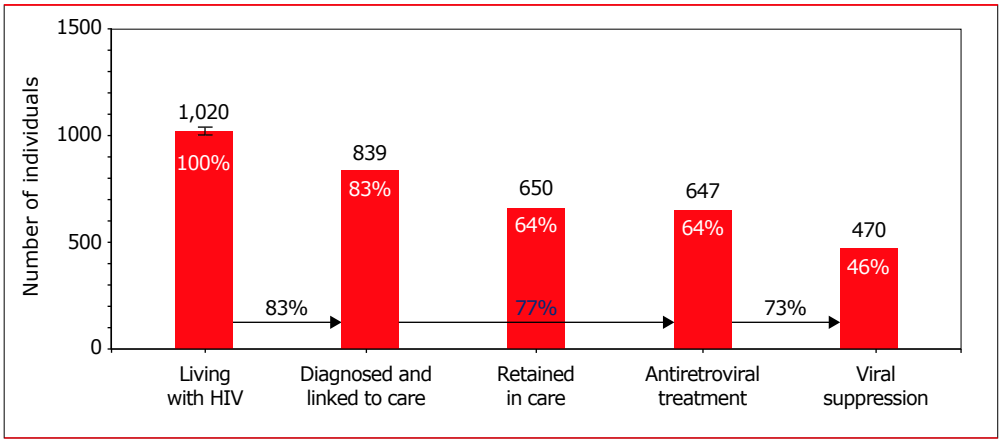
Figure 9.5: Proportion of people in care with HIV RNA <80 IU/ml at their last viral load measurement in each calendar year.



Continuum of HIV care

The total number of people living with HIV by the end of 2017, including those not yet diagnosed, was estimated at 1,020 (95% confidence interval [CI] 980-1,080), of whom 180 (140-240) were still undiagnosed (*Figure 9.6*)[2]. These 1,020 people did not include individuals who were known to have died or moved abroad or who were lost to care before the end of 2007, i.e., more than 10 years ago. In addition, this number did not include people who had an HIV diagnosis but had not yet been linked to care and registered by SHM. In total, 839 individuals, or 83% of the total number estimated to be living with HIV, had been diagnosed, linked to care, and registered by SHM, and were not recorded in the SHM database as having died or moved abroad. Altogether, 650 (64%) people were still in care, i.e., they had had at least one HIV RNA or CD4 count measurement or a clinic visit in 2017. The majority of these individuals (647, or 77% of those diagnosed and linked to care) had started antiretroviral treatment. In total, 561 individuals, or 86% of those in care, had an HIV RNA measurement available in 2017 and 470 (84%, or 73% of those treated) had a most recent HIV RNA below 80 IU/ml. Overall, 46% of the total estimated population living with HIV and 56% of those diagnosed and ever linked to care had a suppressed viral load. In terms of the Joint United Nations Programme on HIV/AIDS (UNAIDS) 90-90-90 target for 2020, the current estimate for Curaçao stands at 83-77-73, or 83-77-84 when taking into account that data on HIV RNA measurements for 2017 may not yet be complete in the database[3].

Figure 9.6: Continuum of HIV care for the total estimated HIV-1-positive population estimated to be living with HIV in Curaçao by the end of 2017. Percentages at the top of the bars are calculated relative to the number living with HIV, while percentages at the bottom correspond to UNAIDS' 90-90-90 targets.



Conclusion

In recent years, HIV-positive individuals in Curaçao appear to be diagnosed increasingly earlier in their infection, as the proportion of people entering care at a late or advanced stage of their infection is decreasing. As a consequence, cART can be started earlier and, thus, in a more timely manner. The quality of treatment offered to HIV-positive individuals in Curaçao has improved considerably over the years, although adherence to treatment is still suboptimal, as illustrated by the relatively low proportion of individuals with a suppressed viral load. Finally, the high proportion lost to care is concerning and may affect underreporting of death and/or emigration.

Recommendations

Curaçao is in a unique position in the Caribbean, in that data from HIV-positive individuals in care are regularly collected and monitored. However, it is important that the quality of these data is maintained. Currently, no data are regularly collected for HIV-positive children. As a result, the data available on children living with HIV in Curaçao cannot be used for strategic planning of HIV care for this specific population. Earlier this year a new SHM data collection system was implemented, which is expected to further increase the quality of the collected data items once it is fully operational.

Early start of cART in people living with HIV in Curaçao appears possible, but long-term continuous follow up should be guaranteed to optimise the effect of cART. The continuum of care for Curaçao illustrates, for example, that while almost everyone who is still in care has started antiretroviral treatment, too many individuals are lost to care. In part, this may be explained by people who, unknown to SHM, no longer live in Curaçao. To address this issue, efforts have recently been stepped up to trace people who miss their scheduled appointment in the hospital. As a result, retention in care is expected to improve in the near future. In addition, the proportion of people in care for whom at least one viral load measurement in 2017 is available in the SHM database is relatively low. A more timely registration of HIV RNA measurements is needed to better monitor the progress towards achieving the UNAIDS' 90-90-90 goals for 2020. Finally, a relatively large, albeit decreasing, proportion of individuals enter care late in the course of their infection. More efforts should therefore be invested in upscaling HIV screening and ensuring that people who test positive are quickly linked to care.

References

1. Antinori, A. *et al.* Late presentation of HIV infection: a consensus definition. *HIV Med.* **12,** 61–4 (2011).
2. *ECDC HIV modelling tool [software application]. Version 1.3.0.* (European Centre for Disease Prevention and Control, 2017).
3. Joint United Nations Programme on HIV/AIDS (UNAIDS). *90-90-90 An ambitious treatment target to help end the AIDS epidemic.* (2014).

Appendix: supplementary table

Appendix Table 9.1: Annual number of new HIV diagnoses, number of individuals entering care, and number of individuals starting combination antiretroviral treatment (cART). Note: Data collection for 2016 and 2017 had not yet been finalised at the time of writing.

Calendar year	Diagnosis	Entry into care	Start cART
≤1999	232	171	84
2000	40	41	31
2001	34	41	38
2002	47	42	20
2003	55	53	22
2004	46	47	37
2005	43	55	44
2006	47	58	41
2007	38	42	43
2008	46	50	46
2009	49	55	50
2010	43	48	56
2011	53	53	46
2012	56	63	59
2013	65	56	75
2014	39	47	72
2015	43	45	48
2016	48	59	60
2017	36	45	52
2018	4	8	10
Unknown	15	–	12
Total	**1,079**	**1,079**	**946**

Legend: cART=combination antiretroviral therapy.

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