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Norway is on the verge of ending the HIV epidemic

KRONIKK

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One of the targets of the UN Sustainable Development Goals is to end the HIV/AIDS epidemic by 2030. The first milestone, the '90–90–90 treatment targets', is supposed to be achieved this year. We believe Norway has reached these targets.

Illustration: Eivind Gulliksen / desillustrert

Nearly 40 years have passed since the HIV/AIDS epidemic became a leading cause of disease and premature death around the world. Nonetheless, HIV remains a major threat to global public health. It is estimated that 38 million people were living with HIV in 2018, and the number of AIDS-related deaths was close to 800 000 (1). Effective antiretroviral therapy has gradually reduced morbidity and mortality in people with HIV (2, 3) and has prevented onward transmission (4). This is the backdrop for the international goal to end the HIV/AIDS epidemic by 2030 (5). The 90–90–90 treatment targets are a crucial milestone. This refers to a continuum of care in which all countries by 2020 will have diagnosed at least 90 % of people living with HIV, 90 % of those diagnosed will be receiving sustained treatment, and 90 % of those being treated will have viral suppression (5).

90–target no. 1

The first 90–target deals with finding the number of undiagnosed people living with HIV. This cannot be calculated with observed data, but back-calculation models based on national surveillance data for the number of annual HIV and AIDS diagnoses can be used instead to estimate the time from infection to diagnosis, the trend in incidence over time, and thus the number of undiagnosed cases (6, 7).

The Norwegian Institute of Public Health has estimated the number of undiagnosed people with HIV who are 15 years of age or more in Norway at the end of 2018 using data from the Norwegian Surveillance System for Communicable Diseases (MSIS). Using two different modelling approaches, it is estimated that around 5 000 people in Norway are living with HIV and that 7–10 % of them do not know their HIV status (355–520 undiagnosed infections). The model estimated that there have been fewer new infections than new diagnoses each year since 2008. Therefore, the number of undiagnosed HIV infections has been declining in the last decade (8).

However, results are only as reliable as the raw data entered into the model. Until March 2019, HIV infections in Norway were reported anonymously to MSIS. In practice, this has made it impossible to link MSIS data with data from other health registries so that reported HIV cases in people who have died or emigrated can be excluded. Moreover, immigrants infected before arriving in Norway comprise a significant proportion of all HIV diagnoses reported to MSIS (Figure 1) (9).

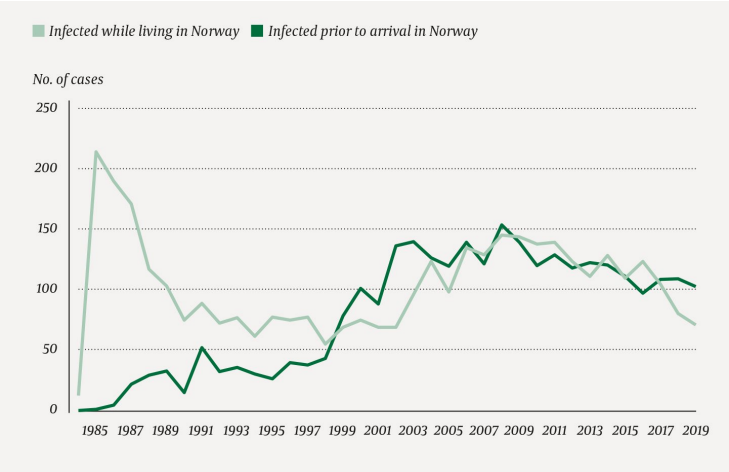

Figure 1 *Number of HIV infections in Norway reported to the Norwegian Surveillance System for Communicable Diseases (MSIS) in the period 1984–2019, by year of diagnosis and whether those with HIV were living in Norway at the time of infection (9).*

The most commonly used back-calculation models do not take the time of immigration into account, which means that the estimated trend in incidence, and thus the number of undiagnosed infections, may include HIV-positive individuals who are not living in Norway. As a result of these limitations, the number of people living with HIV in Norway will be overestimated, as will the number of undiagnosed cases. A comparison of the number of HIV patients under follow-up (n = 4 091, see next paragraph) clearly shows this overestimation, since few people are presumed to be living with a diagnosed HIV infection in Norway who are not under follow-up.

90–targets no. 2 and 3

All patients with recently diagnosed HIV infection in Norway are recommended to begin antiretroviral therapy as quickly as possible, regardless of their CD4 count (10). Due to the current lack of a national quality registry for HIV treatment, Norway does not have a systematic method of collecting national data on the treatment status of people living with HIV. In late 2019/early 2020, the Norwegian Institute of Public Health conducted a survey of infectious disease departments that follow up HIV patients to ascertain the number of HIV patients under follow-up, the number receiving treatment and the number with viral suppression in Norway. Twenty-four departments reported having a total of 4 091 HIV patients under follow-up, of which 98 % were receiving HIV treatment and 96 % of those had full viral suppression (< 50 copies/ml) at their last check-up (9). This is an excellent outcome. Norway is not only within the second and third 90–targets for 2020, but also meets the corresponding 95–95–95 targets set for 2030 (11).

It is estimated that 7–10 % of people living with HIV in Norway do not know their HIV status

Assuming that 93 % of people living with HIV have been diagnosed (8), 98 % of those are receiving treatment and 96 % of those are virally suppressed (9), this means that about 87 % of people living with HIV in Norway have achieved viral suppression. This is one of the highest proportions among the roughly 20 countries that are considered to have achieved the targets (12, 13).

Beginning of the end of HIV in Norway

Significant progress has been made in the fight against HIV in recent years. The strategy requires measures to increase testing, early diagnosis, and quick referrals to and follow-up by an HIV specialist following diagnosis (linkage to care), as well as primary preventive measures such as increased use of condoms and use of pre-exposure prophylaxis (PrEP) by those most at risk.

People who have been at risk of contracting HIV should always be offered an HIV test. In

addition, separate HIV testing has been established specifically for men who have sex with men. Immigrants who come from countries with a high prevalence of HIV and/or who belong to traditionally high-risk groups should be offered HIV testing within three months of their arrival (14).

A variety of national measures to increase the frequency of testing in high-risk groups has been implemented, in part by expanding the availability of a low-threshold service and rapid HIV testing. For instance, services such as the drop-in testing programme Sjekkpunkt Norway have been shown to be successful in reaching men who have sex with men, a group that would otherwise be difficult to reach (15). Data from the Olafia Clinic at Oslo University Hospital show more frequent testing for sexually transmitted infections among men who have sex with men (16), and national surveys of this group indicate an increase in testing for HIV and a generally high level of knowledge about how HIV is transmitted (17). However, the most recent national survey in 2017 shows that there is the potential to increase testing activity further among men who have sex with men (17). There is insufficient data about testing for other high-risk groups, such as asylum seekers, immigrants and heterosexual men at risk of infection while on holiday in Southeast Asia.

The number of undiagnosed HIV infections has been declining in the last decade

The good results for the second and third 90–targets reflect the HIV treatment services in Norway. HIV treatment is free and entails close, specialised follow-up with free check-ups for everyone living in the country. Moreover, amended national clinical guidelines with implementation of a test-and-treat system regardless of the patient's CD4 count have contributed to quick commencement of treatment (17, 18). Through close cooperation, the various rapid testing services can also put people with positive test results in contact with the specialist health service for immediate follow-up.

A quality registry for HIV patients has now been approved and is being established at Oslo University Hospital, Ullevål. This will make it possible to collect data on the treatment status of HIV-positive individuals beyond the efforts related to the second and third 90–targets. One example is the Swedish quality registry known as InfCareHIV in which work is being done on a fourth 90–target focusing on a better quality of life for people living with HIV (19). Furthermore, a national quality registry for HIV patients, in addition to nominative reporting to MSIS, will enable the use of more advanced modelling methods and make for a more accurate estimate of undiagnosed HIV infections (8).

Condom use remains one of the most important primary preventive measures. The most recent national survey of men who have sex with men, which is most representative of gay-identified and sexually active men who have sex with men, indicates that high-risk sex with casual partners is still quite common within this group (17).

Condom use remains one of the most important primary preventive measures

Men who have sex with men are among those in Norway who can easily make use of targeted services that provide free condoms and lubricant. Use of pre-exposure prophylaxis (PrEP) is another important means of preventing HIV among people with high-risk behaviour. PrEP was made available at no cost to users in Norway in January 2017 and can effectively reduce the risk of becoming infected with HIV before actually being exposed to the virus (20). According to figures from the Norwegian Prescription Database from June 2020, 1 633 people received a prescription for PrEP at least once in 2018 and 2019. The largest number of PrEP users comes from the Olafia Clinic and are mostly sexually active men who have sex with men (21). Other important factors for preventing HIV infection include greater awareness about the risk of infection and symptoms of the disease among high-risk groups, and open communication about HIV status and PrEP use when engaging in sex with casual partners.

We are pleased that Norway has achieved the 90–90–90 treatment targets. Now we must intensify our efforts to reach the ultimate goal: No one in Norway will be infected with HIV,

and everyone living with HIV in Norway will be able to live a relatively normal life.

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