

# UNDETECTABLE = UNTRANSMITTABLE

PUBLIC HEALTH AND  
HIV VIRAL LOAD SUPPRESSION

# UNDETECTABLE = UNTRANSMITTABLE

## KEY ACTIONS FOR PROGRAMME MANAGERS

- 1. Scale up comprehensive responses, including testing, access to quality treatment and retention in care.**
- 2. Increase efforts to ensure that accessible, affordable and stigma-free testing and treatment, including better access to viral load testing, is available to all people living with HIV.**
- 3. Address stigma, discrimination and unjust criminalization that violates human rights and deters people living with HIV from accessing HIV prevention, treatment and care services.**
- 4. Raise awareness and promote the knowledge that undetectable = untransmittable.**

Twenty years of evidence demonstrates that HIV treatment is highly effective in reducing the transmission of HIV. People living with HIV on antiretroviral therapy who have an undetectable level of HIV in their blood have a negligible risk of transmitting HIV sexually.

Three large studies of sexual HIV transmission among thousands of couples, one partner of which was living with HIV and the other was not, were undertaken between 2007 and 2016. In those studies, there was not a single case of sexual transmission of HIV from a virally suppressed person living with HIV to their HIV-negative partner (1–3). Hence, in addition to enabling people living with HIV to stay healthy and have a lifespan similar to people not living with HIV, antiretroviral medicines now provide an opportunity for people living with HIV who have an undetectable viral load to have sex without a condom with effectively no risk of passing HIV on to their partner. Globally, 47% [35–58%] of people living HIV are virally suppressed (4).

The primary purpose of antiretroviral therapy is to keep people living with HIV in good health. For most people living with HIV, antiretroviral medicines can reduce the amount of HIV in the blood to levels that are undetectable by standard laboratory tests. With the right choice of antiretroviral medicines, viral levels will decline over several months to undetectable levels and allow the immune system to begin to recover.

Access to antiretroviral therapy is transformative for people living with HIV. It enables people to regain their quality of life, return to work and enjoy a future with hope. For many people living with HIV, the news that they can no longer transmit HIV sexually is life-changing. In addition to being able to choose to have sex without a condom, many people

living with HIV who are virally suppressed feel liberated from the stigma associated with living with the virus. The awareness that they can no longer transmit HIV sexually can provide people living with HIV with a strong sense of being agents of prevention in their approach to new or existing relationships.

## UNDETECTABLE = UNTRANSMITTABLE PROGRAMME SUPPORT

There is no definitive answer as to how long a person needs to be taking antiretroviral medicines before they become virally suppressed and have essentially zero risk of transmitting HIV. To maintain an undetectable viral load, it is very important for a person living with HIV to stay on treatment and have regular viral load tests. Regular viral load testing helps people living with HIV and their health-care providers to monitor the success of a treatment regimen.

Efforts to reduce a person's viral load to undetectable levels, and prevent onward transmission of the virus, must be tailored to the individual, taking into account factors such as the duration of viral suppression, adherence to the antiretroviral medicines, the desire to stop using condoms and the desire to become pregnant.

Deciding on a strategy with a health-care provider also provides an opportunity to reinforce and support adherence to antiretroviral medicines, ensure regular returns for health checks and provide sexual and reproductive health advice.

One in three of the new HIV infections in the HPTN 052 study to see whether a person living with HIV with an undetectable viral load could transmit HIV to a partner (1, 2) were the result of an HIV-negative partner acquiring HIV from someone other than their own virally suppressed partner. HIV-negative partners

of people living with HIV who are virally suppressed should consider continuing to use condoms as well as pre-exposure prophylaxis (PrEP) if they have sex with people other than their partner.

## THE FUTURE

Approximately 1.6 million adults became newly infected with HIV in 2017 (4). Many of those new infections were transmitted by people who did not know their HIV status, were not on treatment or who had started antiretroviral therapy but had not yet become virally suppressed or had poor adherence to their treatment (5–8). In addition to their primary goal of keeping people living with HIV in good health, antiretroviral therapy and maintaining an undetectable viral load are important prevention tools within the combination prevention framework. Other prevention tools include male and female condoms, voluntary medical male circumcision, PrEP, post-exposure prophylaxis and harm reduction services for people who inject drugs, along with behaviour and structural changes.

As important as treatment and primary prevention, systemic changes are required to scale up essential health services for all and to retain people in care for life. Approximately 940 000 people died of AIDS-related illnesses in 2017 (4), some of whom will have started antiretroviral therapy but were unable to continue. Many of those deaths occurred among people who did not seek medical attention until they became very ill, and when they did seek medical attention the health system may have been unable to respond, owing to staff shortages, poor laboratory services or lack of medicines. Despite the remarkable scale-up of antiretroviral therapy, as many as one third of people living with HIV do not start treatment until they are so ill that they have a CD4 count of less than 200 cells/mm<sup>3</sup> and are considered to have AIDS (8).

## KEY MESSAGES

- 1.** UNAIDS endorses the concept of undetectable = untransmittable. There is a strong scientific consensus that people living with HIV who are taking effective antiretroviral therapy and whose level of HIV is suppressed to undetectable levels will not transmit HIV sexually.
- 2.** There is knowledge and recognition that undetectable = untransmittable can respond to stigma and motivate efforts to become virally suppressed and continue follow-up care.
- 3.** Globally, there needs to be better access to viral load assays at affordable prices, combined with effective laboratory systems and robust health services. Stronger efforts should be put in place to ensure that all people living with HIV have access to treatment as soon as they are diagnosed.
- 4.** The UNAIDS Fast-Track approach and the 2016 United Nations General Assembly Political Declaration on Ending AIDS lay out recommendations that address the primary prevention and structural changes required to reach everyone affected and to provide accessible and affordable treatment for all people living with HIV.
- 5.** Male and female condoms and other combination prevention strategies remain a key part of the HIV response as primary prevention tools. Stronger condom programming is essential to ensure sexual and reproductive health in general.

## VIRAL LOAD FACTS

- ▶ Viral load is the term used to describe the amount of HIV in a person's blood.
- ▶ The higher the viral load, the quicker a person's immune system will be damaged, increasing their chances of catching infections that the body would normally fight off very easily.
- ▶ When a person living with HIV is taking effective antiretroviral therapy, the viral load becomes so low that it is undetectable (less than 50 copies per millilitre of blood).
- ▶ A person with an undetectable viral load has no chance of passing on HIV.
- ▶ Viral load levels should be monitored regularly to be sure that the HIV medicines are working.

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