

## U=U taking off in 2017

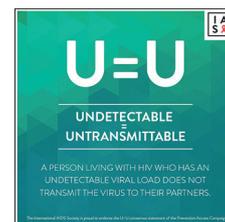
The fact that people infected with HIV who are virally suppressed cannot sexually transmit the virus to others is now accepted in the HIV/AIDS community as a result of accumulating evidence since the early 2000s. In early 2016, the Undetectable=Untransmissible (U=U) slogan was launched by the Prevention Access Campaign to promote the finding. The campaign has been rapidly gathering momentum, having been endorsed by more than 400 organisations from 60 different countries since its launch. Last month, the US Centers for Disease Control and Prevention (CDC) joined the movement by endorsing the science in a letter released on National Gay Men's HIV/AIDS Awareness Day.

The evidence to support the effectiveness of viral suppression in blocking transmission is clear. In addition to some smaller studies done since 2000, three larger studies of sexual HIV transmission in thousands of serodiscordant couples including thousands of acts of sex were done between 2007 and 2016, with, strikingly, not a single case of sexual transmission of HIV from a virally suppressed HIV-positive person to their HIV-negative partner reported. The HPTN 052 trial, the largest study to date, studied 1763 serodiscordant couples (both homosexual and heterosexual) from nine different countries and randomly assigned HIV-positive participants to either early or delayed antiretroviral treatment (ART). Interim results published in 2011 showed that 39 HIV-negative partners had become HIV positive so far, of which 28 were phylogenetically linked (ie, 28 people acquired their infection from their partner). Of these 28, only one occurred in the early ART group. After this analysis, ART was then offered to all patients with HIV and all patients continued to be followed up to 2015, with the final results published in September last year. Over the entire course of the study, 78 infections were observed, of which phylogenetic linkage was established in 72. Of these infections, 46 were linked to the HIV-positive partner, eight of which occurred after the partner commenced antiretroviral therapy. Of these final eight, four occurred before viral suppression and the other four occurred when ART failed to achieve viral suppression. In other words, not one virally suppressed HIV-positive patient transmitted their infection to their partner during the entire study. The PARTNER study, published in July last year, was an observational study of

1166 HIV-serodiscordant couples (also both homosexual and heterosexual) from 14 countries across Europe with more than 58 000 instances of unprotected sex reported. Although 11 HIV-negative partners became HIV positive, none of these transmissions were linked. Finally, results of the most recent study, the Opposites Attract study, were presented this July at the 9th International AIDS Society Conference on HIV Science in Paris. This cohort study followed up 358 homosexual men with HIV from three different countries with about 17 000 acts of sex taking place. Three new cases of HIV infection were observed but, as expected, none of these infections were linked either.

The fact that HIV treatment has advanced to the point that people infected with HIV can live full-length, healthy lives with zero chance of sexually transmitting the virus to others as long as they are on effective ART is a huge success. Although evidence for this fact has been growing since 2000, it has been slow to influence public perception. However, the U=U campaign, launched just under 2 years ago now, has been directly tasked with tackling this unfortunate public ignorance, and to flying success in its fairly short lifespan to date. The slogan embodies the idea of treatment as prevention. This idea has been around since at least 2010, but since the easy-to-grasp U=U slogan has been established, the concept has been firmly pushed into the public sphere and has been a major talking point in the HIV/AIDS community this year. The CDC officially backing the science behind the campaign is another key step towards U=U being the most important message of 2017 in the fight against HIV.

U=U is a simple but hugely important campaign based on a solid foundation of scientific evidence. It has already been successful in influencing public opinion, causing more people with HIV (and their friends and families) to comprehend that they can live long, healthy lives, have children, and never have to worry about passing on their infection to others. The clarity of the message will make it easier to promote the undeniable benefits of treatment, which will encourage more and more people with HIV to seek treatment, bringing the HIV community one step closer to achievement of the UNAIDS' 90-90-90 target by 2020 and to complete elimination of the entirely unfair and outdated stigma still faced by many people living with HIV today. ■ *The Lancet HIV*



For more on U=U see <https://www.preventionaccess.org/undetectable>

For the **letter from the CDC** see [https://docs.wixstatic.com/ugd/de0404\\_1f9f737da1674cdda5a42f7857cd4fa6.pdf](https://docs.wixstatic.com/ugd/de0404_1f9f737da1674cdda5a42f7857cd4fa6.pdf)

For the **HPTN 052 trial interim analysis results** see <http://www.nejm.org/doi/full/10.1056/NEJMoa1105243#t=article>

For the **HPTN 052 trial final results** see <http://www.nejm.org/doi/full/10.1056/NEJMoa1600693#t=article>

For the **PARTNER study** see <https://jamanetwork.com/journals/jama/fullarticle/2533066>

For the **Opposites Attract study** see <http://programme.ias2017.org/Abstract/Abstract/5469>