Wednesday 13 March 2019

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U=U is a human rights issue

Dr Carrie Foote told the Conference on Retroviruses and Opportunistic Infections (CROI 2019) last week, “All people living with HIV have a right to accurate information about their social, sexual and reproductive health.”

Foote has been living with HIV since 1988 and is one of the founding members of the U=U

campaign, launched in 2016. U=U stands for Undetectable = Untransmittable and the campaign works with community partners in nearly 100 countries. It aims to communicate the finding from a series of studies that HIV-positive individuals on successful treatment cannot pass on HIV to their sexual partners.

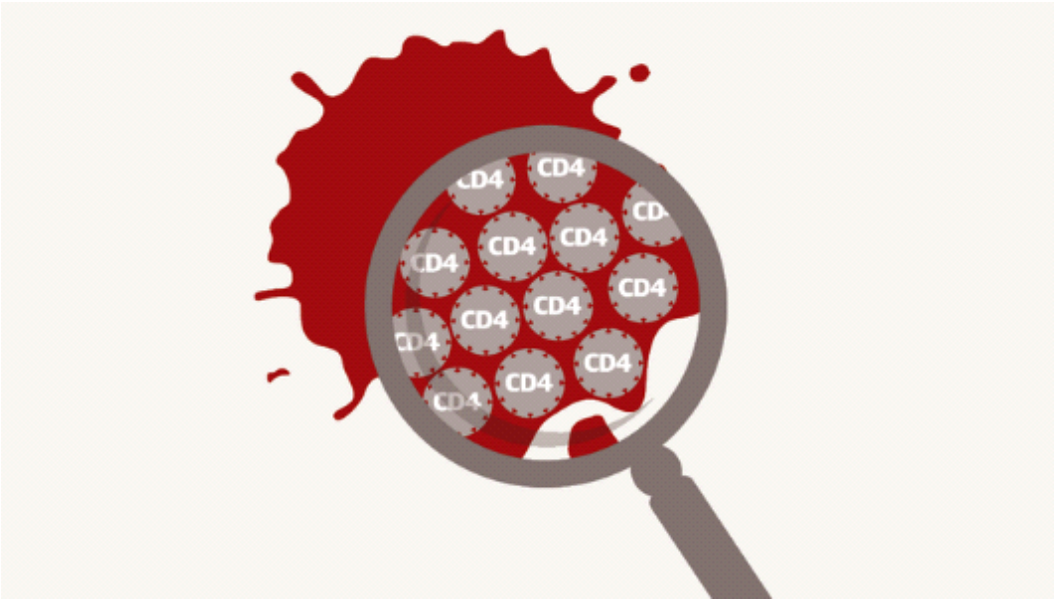
For people living with HIV, U=U has the potential to transform their social, sexual and reproductive lives while also working to dismantle stigma. “Stigma is killing us,” Foote added. “HIV stigma is a public health emergency and U=U is an immediate and effective response to begin to dismantle stigma.”

A symposium at the conference highlighted issues relating to U=U such as the language used around undetectability, inequalities which affect treatment access and adherence, clinical questions around risk, and the importance of access to viral load testing in resource-limited settings.

Related links

- Read this news story in full on aidsmap.com
- Read our factsheet on U=U on aidsmap.com
- View the abstract on the CROI 2019 website
- View a webcast of this presentation on the CROI 2019 website
- Visit our conference news pages for all our CROI 2019 coverage

Are CD4 counts still useful in the 'treat all' era?



Two studies presented at CROI 2019 found that performing CD4 cell counts before starting HIV treatment is still important, even in today’s ‘treat all’ era.

CD4 cell counts measure the health of the immune system and the degree of damage caused by HIV. A CD4 count below 200 cells/mm^3 indicates a high risk of opportunistic infections. In the past, many countries restricted treatment to people with CD4 counts below 500 or 350, so CD4 cell counts were routine.

Treatment guidelines in most countries now recommend that everyone diagnosed with HIV should start treatment as soon as possible, regardless of CD4 cell count. Data from six countries in southern Africa, presented to the conference, show that the number of CD4 cell counts being carried out is falling. This worries some researchers, who say that testing is still needed to identify people with a very low CD4 cell count, who need closer monitoring and prophylaxis against opportunistic infections. However, where resources are limited, some people think that the expansion of viral load testing should be the priority.

Researchers from Zambia looked at the relationship between CD4 testing and mortality between 2013 and 2015 in people receiving HIV treatment in four provinces. The findings showed that the absence of a pre-treatment CD4 cell count was associated with an increased risk of death, likely due to undiagnosed opportunistic infections.

A study in Botswana found that a quarter of people still present to care with a CD4 count below 200. Looking into changes in CD4 counts in people starting treatment above this threshold, only a very small proportion of people experienced a drop in CD4 count below 200 after their initial CD4 count, and for the majority the next CD4 count was above 200. The researchers concluded that there is very limited benefit to ongoing CD4 monitoring if people have CD4 counts above 200 at the time they start treatment, but that baseline testing is essential to identify people with low CD4 cell counts.

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View a webcast of the Zambia presentation on the CROI 2019 website

View a webcast of the Botswana presentation on the CROI 2019 website

One in six people living with HIV in South Africa have drug-resistant HIV before starting treatment

Sizulu Moyo presenting at CROI 2019. Photo by Roger Pebody.

A large household survey conducted in South Africa found that one in six people living with HIV who are not on treatment already had drug-resistant HIV and more than half of those on treatment had resistance to at least one drug.

The survey involved dried blood spot testing of a cross-section of the South African population. In those taking antiretroviral drugs, 55.7% had at least one drug resistance mutation, most commonly to the non-nucleoside reverse transcriptase inhibitor (NNRTI) and the nucleoside/nucleotide reverse transcriptase inhibitor (NRTI) classes. Among people who had never taken antiretrovirals, 15.3% had drug resistance, all to NNRTIs.

The sobering assessment of the extent of antiretroviral drug resistance led researchers to call for prioritisation of integrase inhibitor use in first-line regimens and the stepping up of adherence support for people on antiretroviral treatment. Earlier switches from failing regimens are also needed to prevent the development of further drug resistance.

More encouragingly, separate research presented at the conference found that virological response rates were excellent among people receiving second-line antiretroviral therapy based on dolutegravir, even when regimens included an NRTI to which there was pre-existing resistance.

Related links

Read the news story on HIV drug resistance in South Africa on aidsmap.com

View the abstract on the CROI 2019 website

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Read the news story on dolutegravir as second-line therapy on aidsmap.com

HIV capsid inhibitor may offer long-term viral suppression

Jennifer Sager presenting at CROI 2019. Photo by Liz Highleyman.

An experimental HIV capsid inhibitor appears safe and may be suitable for dosing once every three months or less, according to results from an early clinical trial presented at CROI 2019.

The capsid inhibitor is a new class of antiretroviral drug, which interferes with the assembly and disassembly of the HIV capsid, the shell which encloses the genetic blueprint of the virus.

Findings were presented from a phase I study evaluating the safety and pharmacokinetics of the new drug – currently known as GS-6207 – in 40 HIV-negative volunteers. Taken as a subcutaneous injection, higher doses of the drug appear to stay in the body long enough that there would be potential for three-monthly injections. The drug appeared to be well tolerated.

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People with HIV may benefit from earlier lung cancer screening

Subhashini Sellers at CROI 2019. Photo by Liz Highleyman.

People living with HIV, especially women, may develop lung cancer at an earlier age and with a less extensive smoking history than people in the general population, according to a study presented at CROI 2019. HIV-positive people are more likely to smoke, but immune system impairment and other HIV-related factors may also contribute to this disparity.

Researchers evaluated whether the criteria used in the US National Lung Screening Trial identify lung cancer in men and women living with HIV. In the US, annual screening is recommended for people age 55 to 80 with a smoking history of at least 30 'pack-years' (a pack-year is defined as smoking 20 cigarettes a day for a year), who either still smoke or have quit within the past 15 years. However, in two large cohorts of people living with HIV only 16% of women and 24% of men diagnosed with lung cancer met the screening criteria. The researchers concluded that to better identify people living with HIV who should be screened for lung cancer, the age and smoking history thresholds should be lowered.

A separate study investigated risk factors for liver cancer in HIV-positive participants of the Veterans Aging Cohort Study. The analysis included 2497 people with advanced fibrosis or cirrhosis and 29,836 people with mild, moderate or no fibrosis. During follow-up, 278 people were diagnosed with liver cancer and 43% of those did not have advanced fibrosis or cirrhosis. Co-infection with hepatitis B or C was associated with a higher likelihood of developing liver

cancer at any fibrosis level. Among those without extensive fibrosis, having a higher viral load or a CD4 count below 200 was associated with a greater risk of developing liver cancer.

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Read the news story on lung cancer on aidsmap.com

View the abstract on the CROI 2019 website

View a webcast of this presentation on the CROI 2019 website

Read the news story on liver cancer on aidsmap.com

Increased rate of HIV infection in infants born to mothers with HIV and high hepatitis B viral load

A study presented to CROI 2019 found that women with HIV and hepatitis B co-infection who had a high hepatitis B viral load had a much higher risk of having infants with HIV compared to women with HIV alone or with low hepatitis B viral load.

The analysis was based on data from a trial which took place in sub-Saharan Africa, between 2007 and 2010, and included 2016 mothers with 2041 infants.

After adjusting for maternal CD4 cell count, age and maternal HIV treatment, infants born to mothers with high hepatitis B viral load were more likely to acquire HIV (20%) compared to infants born to mothers with HIV alone (4%) or low levels of hepatitis B viral load (0%).

It also found that high hepatitis B viral load increased the risk of having infants with poor outcomes including low birth weight.

Dr Debika Bhattarcharya, presenting, concluded that reducing maternal hepatitis B viral load has benefits beyond prevention of perinatal hepatitis B transmission.

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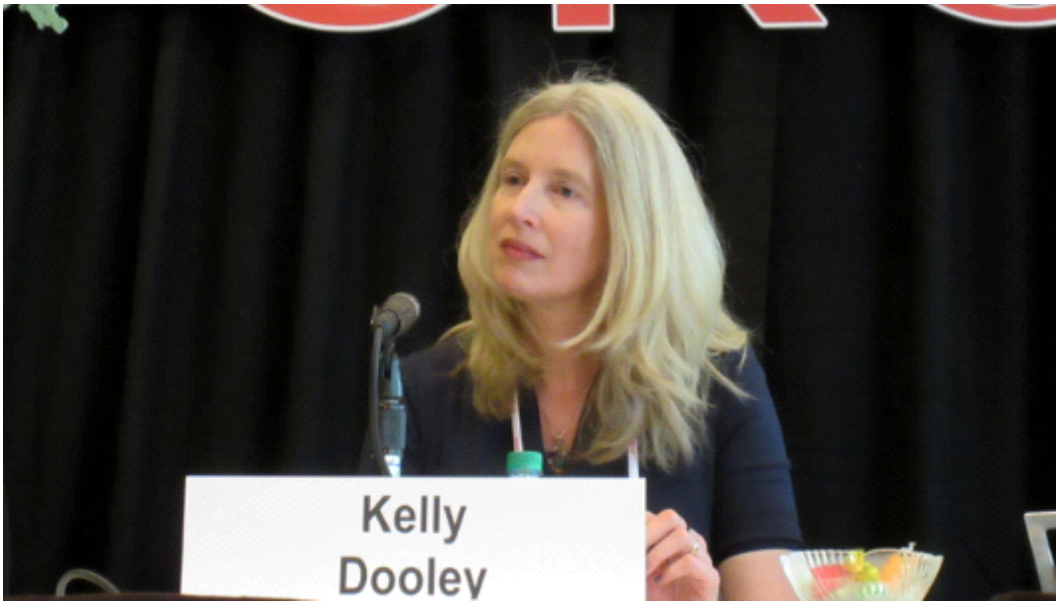
Dolutegravir-based HIV treatment in combination with 3HP preventative TB treatment is well tolerated



Kelly Dooley at CROI 2019. Photo by Liz Highleyman

Research presented at CROI 2019 showed that combining dolutegravir-based antiretroviral therapy and a short course of rifapentine and isoniazid (3HP) as preventative treatment for latent tuberculosis (TB) was well tolerated with no adverse reactions.

The World Health Organization (WHO) recommends dolutegravir for people starting HIV treatment for the first time. WHO also recommends preventative therapy for people with latent TB infection with 12 weekly doses of 3HP in countries with high TB incidence. However, drug interactions with antiretrovirals could make this combination problematic for people with HIV and this research set out to investigate whether the two treatments could be taken together safely.

Sixty people living with HIV took part in the study, taking dolutegravir (50mg once a day) with tenofovir and emtricitabine (*Truvada*) plus a weekly dose of 3HP (900mg rifapentine and 900mg isoniazid) for 12 weeks. Pharmacokinetic analysis of blood samples looked at the effect of 3HP on dolutegravir levels.

The study found that levels of dolutegravir were reduced, but the median lowest levels were still above the target value and all participants maintained an undetectable viral load.

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‘Gentler cure’ technique produces delay in viral rebound in some people taken off HIV therapy

Pablo Tebas presenting at CROI 2019. Photo by Liz Highleyman.

The most widely reported news story from CROI 2019 was that a second person may have been cured of HIV, following a bone marrow transplant. But the procedure is very risky and would not be attempted in a patient who did not have cancer.

The procedure worked by replacing the patients' T-cells with ones from donors with a genetic mutation called CCR5-delta 32. The mutation means their cells don't have the CCR5 receptor molecule on their surface that most strains of HIV need to attach to before they can infect a cell.

In a study also presented at CROI, researchers reproduced the genetic change using a safer and repeatable technique. They cultured T-cells taken from 15 people with HIV with a gene-editing enzyme called a zinc finger nuclease, which had the same effect.

The cells were infused back into the study participants and eight weeks later they stopped taking antiretroviral therapy for a planned 16-week period. In all participants, HIV viral load reappeared and the proportion of T-cells that were CCR5-negative slowly declined.

Some people have one copy of the CCR5-delta-32 gene naturally and this was the case for five of the study participants. The study found that the viral load in this group reappeared more slowly than for other participants. Two participants did not restart HIV treatment until 20 and 32 weeks after their treatment interruption.

While this experiment did not produce long-term remission, this is a demonstration of a safer, more repeatable and non-toxic way of creating a population of HIV-resistant T-cells that can be infused back into the body and which can to some extent delay HIV viral rebound.

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Other news from CROI

Images from Duncan MacKellar's presentation at CROI 2019 on test and treat approaches in Chokwe district, Mozambique.

Self-testing helps the partners of people with HIV to test, but not to link to care. Read this news story in full >>

People stay on PrEP for 14 months on average in the US. Read this news story in full >>

Thailand's achievements in HIV are not all widely implemented. Read this news story in full >>

Multiple benefits to scaling up universal test and treat in Africa. Read this news story in full >>

TAF: Quick-dissolve combination PrEP insert is effective against HIV infections in monkeys; intermittent solo pill less so. Read this news story in full >>

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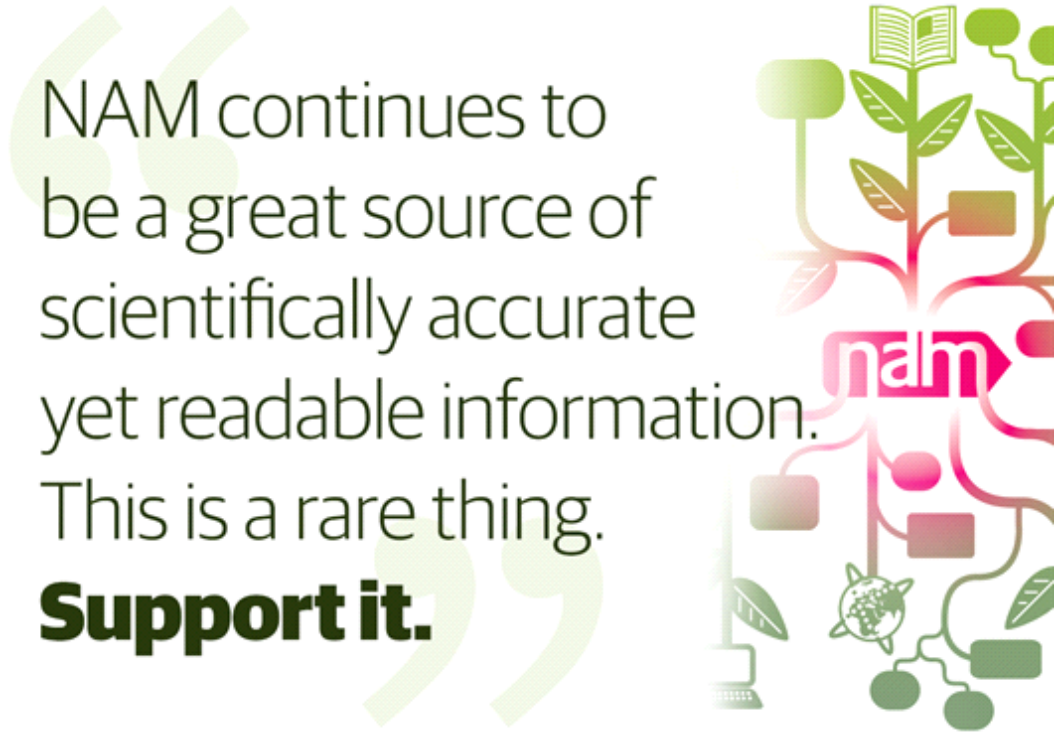

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