

AIDS 2010
XVIII International AIDS Conference
Vienna 18-23 July 2010



Thursday 22 July 2010



Expanding treatment has dramatic impact: but concern over future funding

There was encouraging news at the conference about the pace of the HIV epidemic amongst gay men in Denmark. But other research from Thailand and Brazil found a high HIV incidence in some groups of men who have sex with men (MSM), and low understanding of HIV risk.

Evidence from Denmark seems to support the use of HIV treatment as prevention.

The conference was told that the number of new infections amongst gay men has fallen. Researchers think that the most likely explanation is that people with HIV are less infectious because of treatment. The fall in new infections occurred within the context of increasing numbers of people living with the virus, and higher levels of unprotected sex.

About 80% of gay men in Denmark who know they are HIV-positive are taking HIV treatment. Most – 82% – have an undetectable viral load.

Investigators calculated that the proportion of gay men transmitting HIV each year has fallen steadily since 1995. They believe the most likely explanation for this decline is the increasing proportion of men on treatment with an undetectable viral load who therefore never, or very rarely, pass on HIV to others.

However, other research found 6% of young gay and other MSM in Thailand are becoming infected with HIV each year.

The study was conducted in Bangkok between 2006 and 2008 and involved approximately 1300 gay men. At the time the study started, 22% of men were HIV-positive, and during the course of the research, a further 135 men became infected. This provided an annual incidence rate of just below 6%.

The mean age at infection was 26 – this means that 50% of those acquiring HIV were in their teens or early 20s.

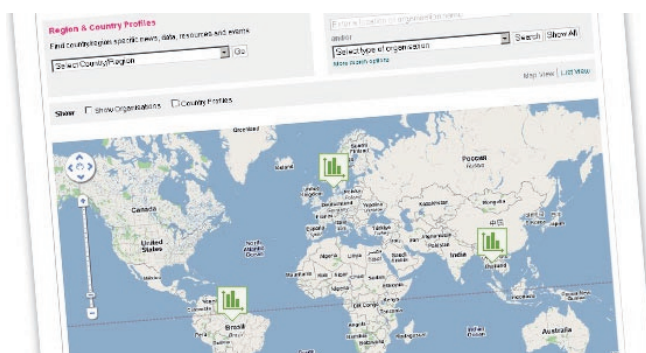


Image from NAM's new E-atlas, online at www.aidsmap.com/e-atlas

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More encouragingly, another study conducted in Thailand suggested that HIV prevalence amongst gay men seems to be falling. It peaked at 31% in 2007, but by 2009 had fallen back to 25%.

A fall in HIV prevalence was observed in those under 22, and the number of men reporting unprotected sex also fell.

A separate Brazilian study found that only 47% of gay men had a good understanding of HIV risks. Moreover, 75% of men regarded themselves as having a low risk of HIV, even though half had recently had unprotected sex with a casual partner.

Some speakers in the session highlighted diminishing stocks of anti-HIV drugs and called for increased, rather than retrenched funding.

Microbicides and circumcision

Mathematical models presented to the conference suggest that the use of microbicides and/or circumcision could slightly reduce the pace of the HIV epidemic in Africa.

Investigators from the London School of Hygiene and Tropical Medicine calculated that these two methods of prevention could cut the number of infections by 20% over 20 years.

Another model looked at the effectiveness of various other forms of prevention in couples where one partner is HIV-positive, based on a group of couples in a study in Uganda. In the complex model, 'condom use' meant condoms were used 57% of the time. Condom use at this level, combined with antiretroviral therapy, was calculated to have a big impact, potentially reducing transmissions by up to 82%.

The use of pre-exposure prophylaxis (PrEP) and HIV treatment together were calculated to have a similar impact on the epidemic.

Where next for microbicides?

The implications of the CAPRISA study were described as "really enormous" by US HIV research chief Anthony Fauci.

The study showed that a tenofovir-containing vaginal microbicide gel reduced the risk of infection with HIV by 39%.

Results from the VOICE study comparing a microbicide to PrEP are still eagerly awaited, and there's also hope that microbicides may prove effective when used rectally.

But it may be number of years before microbicides become available. "My concern is that when I get back to my office on Monday there will be emails from people demanding a microbicide. It's going to be very difficult to get across that this is just a proof of concept," said Yurgen Pillay of the South African Department of Health.



Director of the US National Institute of Allergies and Infectious Diseases, Anthony Fauci. ©IAS/Steve Forrest/Workers' Photos

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Safety of HIV treatment during pregnancy

Two decades of data show that HIV treatment during pregnancy does not increase the risk of birth abnormalities.

Investigators analysed 20 years of information on birth abnormalities gathered by the Antiretroviral Pregnancy Register. The rate of birth defects was identical to that seen in the general population (2.7%).

In addition, despite previous concerns, there was no evidence that treatment with efavirenz during pregnancy increased the risk of birth abnormalities.

However, there was some evidence suggesting that taking a protease inhibitor during pregnancy increased the risk of having a premature or low weight baby.

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ART in pregnancy: cost-effective and practical approaches being explored

Malawi's Ministry of Health is planning to provide combination therapy for all pregnant women with HIV, to both protect women's lives and reduce mother-to-child transmission as quickly as possible.

WHO's new treatment guidelines recommend that women who are diagnosed during pregnancy and have CD4 counts under 350 should start HIV treatment immediately and remain on it for life.

For women with CD4 counts above 350, WHO suggests two options for short-term treatment during pregnancy and after birth. Malawi has taken one of these options, but women will then stay on triple-drug antiretroviral therapy for life.

Malawi will need assistance from the Global Fund in order to implement this decision. But this regimen is considered easier to manage than others which involve changing treatment during different stages during and after pregnancy.

Other African countries are considering the best way to implement the WHO guidance for pregnant women in their local situations. Lack of access to CD4 monitoring and shortages in appropriately trained healthcare staff make implementation difficult.

Malawi was described as "the only country that appears to be pushing the envelope", and experts say that this is a major opportunity to see how well a 'universal test and treat' approach works.

Mathematical modelling is being used to look at the most cost-effective way of preventing mother-to-child transmission (PMTCT) in developing countries.

The US Centers for Disease Control Global AIDS Program found that while both WHO's options were equally effective in PMTCT (and were better than WHO's previously recommended protocol), one option - involving AZT/3TC treatment for the mother and nevirapine for the mother and baby - was more cost-effective.

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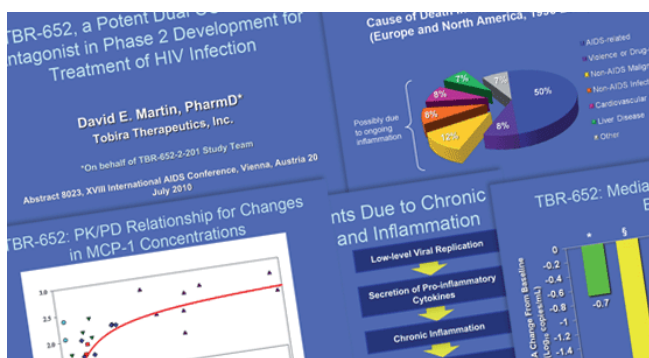
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New drug - effect on HIV and inflammation

TBR-652, an experimental anti-HIV drug, seems to have dual benefits – inhibiting HIV and reducing inflammation.

Delegates to the conference heard that this is because the drug blocks two receptors on the surface of cells: CCR5 – used by HIV; and CCR2 – used by a protein associated with inflammation.

There is a growing consensus that even a very low viral load can cause inflammation, and that this can help explain the higher rates of some cardiovascular disease and other serious illnesses seen in patients with HIV.



Images from presentation by David Martin, Tobira Therapeutics.

TBR-652 was studied as monotherapy in a phase 2, ten-day study involving 54 patients. Each participant received one of five varying doses of the drug. The 75mg per day dose had the biggest effect on viral load.

The drug appeared safe and well-tolerated, and none of the patients who took the 75mg dose reported any serious side-effects.

What's more, the drug also appeared to have an impact on inflammation. The investigators attributed this to TBR-652's ability to block CCR2.

But the benefits of this are still uncertain. There is some concern that blocking CCR2 may interfere with immune responses, and therefore increase the risk of infections.

Further studies into the drug are planned.

Switching to raltegravir

People who switched from a suppressive boosted protease inhibitor to the integrase inhibitor raltegravir (*Isentress*) generally maintained undetectable viral load with improvements in blood lipid levels, according to two studies presented at the conference.

Once-daily raltegravir, however, did not work as well as twice-daily dosing for people with pre-existing resistance to nucleoside/nucleotide reverse transcriptase inhibitors (NRTIs).

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New from NAM: HIV and the Criminal Law

"By helping us to understand the impact of criminal law on the spread of HIV, and on the lives of those living with the virus, this book establishes its importance and authority [...]."

The Hon. Michael Kirby AC CMG and Edwin Cameron, Justice of the Constitutional Court of South Africa

HIV & the Criminal Law is a new resource from NAM, providing a guide to the issues and impact of criminalisation of HIV transmission and exposure. A history of the global reach of laws and prosecutions, the book shows how such laws and prosecutions impact upon individuals and society.

The resource will be invaluable to people living with HIV and their advocates and advisers, policy and lawmakers, those working in the criminal justice system, and journalists.

Available to buy in print in the autumn, you can see it online now. For more information, contact NAM at info@nam.org.uk.



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