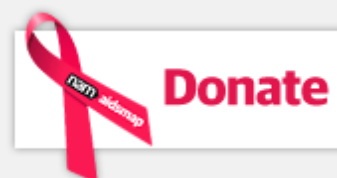




**Tuesday 22nd July 2014**

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## How do we progress towards a cure?



Towards A Cure Press Conference. Photo by Liz Highleyman, [hivandhepatitis.com](http://hivandhepatitis.com)

[Finding a cure for HIV is one of the major themes of the 20th International AIDS Conference \(AIDS 2014\). Various treatment strategies and avenues for future research have been discussed.](#)

But it's becoming clear that very early antiretroviral therapy doesn't achieve [a cure](#).

[Researchers were provided with an update about the so-called 'Mississippi baby'](#). The child was recently found still to have replicating HIV after having an undetectable viral load for two years without therapy.

However, researchers stressed that they have learnt a lot from the case, especially that better tests are needed to detect HIV in the body and that new strategies are needed to eliminate long-lived reservoirs of HIV-infected cells.

Information was also provided about the use of an anti-cancer drug as part of a "kick and kill" treatment strategy – stimulating latently infected cells which are then eliminated with antiretroviral therapy.



Ole Schmeltz Sogaard, of Aarhus University Hospital in Denmark, presenting at AIDS 2014. Photo: International AIDS Society/Steve Forrest

[Doctors in Denmark described how they had treated six people – taking long-term antiretroviral therapy – with the chemotherapy drug romidepsin.](#) The drug kicks dormant cells, including those

infected with HIV, out of their resting stage.

The strategy appears to have been partially successful, but researchers don't think that the treatment had a significant impact on the size of the viral reservoir. However, Professor Steven Deeks said that the study proved it was possible to locate the hidden reservoir and shock it into activity. This was "the single most important advance of this meeting and it will have a major impact in the future," he told a press conference.

So it doesn't seem that either very early HIV treatment or the stimulation of resting cells can achieve a 'functional cure' – control of HIV without the need for antiretroviral therapy.

**Two other approaches were also reported.** One Australian research group introduced artificial genes into human cells that caused them to generate antiviral entry inhibitors. The cells were less likely to become infected with HIV. Another Australian research group introduced artificial gene fragments to maintain latently infected cells in a locked-down state that resisted strong immune stimulation. This approach might keep the HIV reservoir under control without the need for antiretroviral drugs.

Where now? One expert predicted that cure research will focus on the development of therapeutic vaccines or immune-based therapies.

### Related links

[Read "Researchers discuss progress towards an HIV cure" on aidsmap.com](#)

[Read "Reappearance of HIV in 'Mississippi Baby' poses questions for early treatment" on aidsmap.com](#)

[Read "Romidepsin activates latent HIV, but does not decrease viral reservoir" on aidsmap.com](#)

[Read "Novel techniques probed in cure research" on aidsmap.com](#)

[Watch a video of the HIV cure progress press conference on the YouTube channel of HIVandhepatitis.com](#)

## PrEP: Study underlines importance of adherence



Robert Grant, iPrEx study principal researcher. ©IAS/Marcus Rose/Worker's Photos

The effectiveness of **pre-exposure prophylaxis (PrEP)** is strongly dependent on adherence, **results of an extension to the iPrEx study show.**

The open-label extension of the **iPrEx study** compared infection rates among individuals taking PrEP and individuals who chose not to take it. The open-label study was designed to assess the effectiveness of PrEP when participants knew they were taking it.

A total of 1225 men who have sex with men (MSM) and transgender women were recruited to the study, 847 of whom took PrEP.

Participants were followed for up to 72 weeks. Overall, taking PrEP reduced the risk of acquiring HIV by half.

However, the effectiveness of the treatment was related to adherence.

The treatment had no impact on the risk of infection for participants who took fewer than two doses a week. For participants who took two to three weekly doses, the treatment reduced the risk of acquiring HIV by 84%. No HIV infections were seen in the sub-group who took four or more doses a week. But only a third of participants managed such a high level of adherence.

Adherence was strongly associated with age: study participants in their 30s and 40s were two or three times more likely to have detectable levels of PrEP drugs in their blood compared to younger people.

The researchers also calculated that only 39% of participants at high risk of HIV at the start of the study were taking enough PrEP doses to protect them against HIV three months later.

Overall, the results show that PrEP can substantially reduce the risk of infection with HIV for people at high risk. However, adherence is key to the efficacy of the treatment and the study shows that some individuals with a substantial HIV risk are not motivated enough to take PrEP consistently.

A study of intermittent PrEP dosing in gay men in France and Quebec, Canada, also reported at the conference, showed approximately 75 to 80% of participants had taken PrEP on the last occasion they had sex. The results come from the IPERGAY study, which is testing taking a dose of PrEP in the day before sex and again 24 and 48 hours after sex. This PrEP strategy is designed to save money and reduce time spent taking PrEP unnecessarily. Intermittent dosing around the time of sex may prove more manageable for some people, but its efficacy in preventing HIV infection is unknown. The study will report on the efficacy of intermittent PrEP by the end of 2016.

In new guidance issued this month, the World Health Organization recommends that PrEP should be offered as an additional prevention option for all HIV-negative men who have sex with men who are at high risk of acquiring HIV. The guidance emphasises that PrEP should be provided within a "comprehensive prevention package" that also includes condoms and lubricants, sexually transmitted infection screening and treatment, HIV testing and counselling and interventions for harmful substance use. PrEP should also be offered to the HIV-negative partner in serodiscordant couples as an additional prevention measure.

### Related links

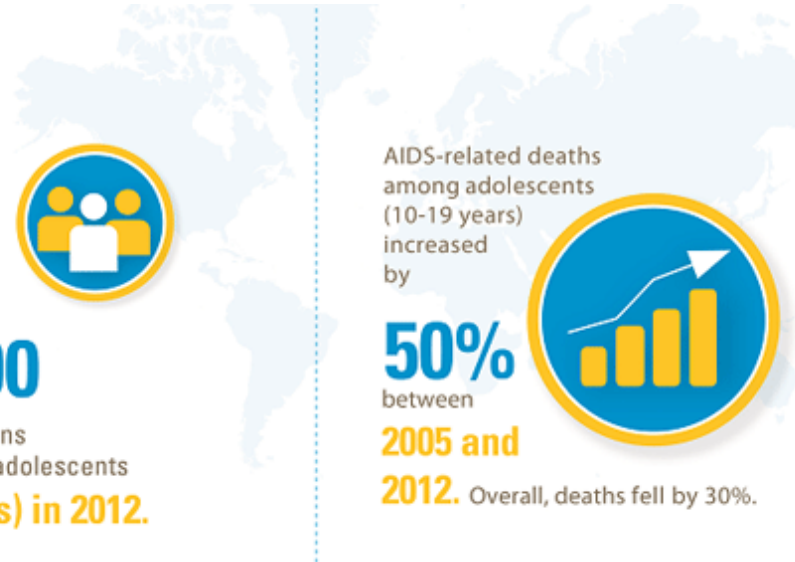
[Read about the iPrEx open-label extension on aidsmap.com](#)

[View the abstract on the conference website](#)

[Read about the intermittent PrEP study on aidsmap.com](#)

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## AIDS mortality rates in adolescents



About  
**300,000**  
new HIV infections  
occurred among adolescents  
(15–19 years) in 2012.

AIDS-related deaths  
among adolescents  
(10-19 years)  
increased by

**50%**  
between  
**2005 and  
2012.** Overall, deaths fell by 30%.

Image by UNICEF.

Rates of AIDS-related deaths are increasing among adolescents (15-19 year olds), especially among adolescent boys, according to data presented to the International AIDS Conference.

The roll-out of antiretroviral therapy (ART) has been accompanied by falls in rates of HIV-related illness and deaths. But an analysis of data from sub-Saharan Africa shows that, although outcomes are improving in younger and older patients, mortality rates are actually increasing among 15-19 year olds.

Between 2005 and 2012, AIDS-related deaths increased by 50% among adolescents. Adolescent boys had an especially high mortality risk. In the sub-Saharan region they were twice as likely to die compared to girls, and in South Africa their risk of death was three times higher.

These stark findings highlight the difficulties involved in transitioning from paediatric care to adult HIV services. The data also show that HIV and AIDS programmes need to prioritise the needs of adolescents.

#### Related links

[Read this news story in full on aidsmap.com](#)

[View the abstract on the conference website](#)

## Tackle poverty, reduce HIV risk for adolescents



Dr Lucie Cluver of the University of Oxford. Image via [www.novartisfoundation.org](http://www.novartisfoundation.org).

Research conducted in South Africa has shown that a range of interventions including cash grants, school feeding and psychosocial support can reduce HIV risk behaviour by half in adolescent boys and girls.

Previous research has shown that poverty is associated with increased HIV risk for adolescent boys and girls.

Researchers from the University of Oxford wanted to see if interventions to tackle such poverty were accompanied by reductions in HIV risk behaviour.

They designed a study involving 3515 boys and girls aged between 10 and 18 years. HIV prevalence in the areas where the study was conducted was very high – around 30%.

Information was gathered on HIV risk behaviours including **unprotected sex**, transactional sex, sex with older partners, multiple partners, teenage pregnancy and sex while using substances. The researchers also measured exposure to social protection measures such as cash grants, free school meals and transport, and psychosocial support.

Combining cash grants with other forms of support reduced HIV risk by approximately half in both boys and girls.

The researchers therefore believe that adolescent access to “cash plus care” may be an effective and important “real world” HIV prevention strategy in sub-Saharan Africa.

#### Related links

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Thank you.

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### For more details, please contact NAM:

tel: +44 (0)20 7837 6988

fax: +44 (0)20 7923 5949

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