

A cure for HIV is a 'major scientific priority,' says researcher

24 June 2014



Head of the Department of Infectious Diseases,
Professor Sharon Lewin

Huge advancements have taken place in HIV treatment and prevention over the past 10 years, but there is still no cure or vaccine.

The findings are part of a review into the global HIV epidemic published in *The Lancet*, co-authored by Monash University Professor Sharon Lewin.

The review shows that because of advancements in treatment, people with the virus are living longer. Overall, new infections have decreased from 3.3 million in 2002 to 2.3 million in 2012. Global AIDS-related deaths peaked at 2.3 million in 2005, decreasing to 1.6 million by 2012.

Professor Lewin, Head of the Department of Infectious Diseases at the University, said in the past decade there had been huge advancements in ways to prevent HIV that don't rely on changes in behaviour alone - for example clean needles and condom use.

"These 'biomedical prevention' strategies have had

a major impact in reducing the number of new infections," Professor Lewin said.

"One of the most important advances has been that treating an HIV-infected person with anti-HIV drugs dramatically reduces their infectiousness. Therefore, with more people on effective treatment, we are seeing less transmission."

While an effective vaccine still remains elusive, a number of new approaches are being undertaken to find one. Unlike most infections or diseases, when it comes to HIV many people create ineffective antibodies.

"However, a small number of people make very good antibody responses to HIV – what is called 'broadly neutralising antibodies'," Professor Lewin said.

"These 'broadly neutralising antibodies' are very effective at combating a wide range of strains of HIV. We now have very smart ways to make these antibodies using test tube models, which gives hope for new effective vaccines against HIV."

Professor Lewin said treatment against HIV was highly effective but needed to be life-long as there was no [cure](#) for the virus.

"A cure for HIV is now considered to be a major scientific priority," Professor Lewin said.

"We now have a very good understanding of why current treatments don't cure HIV. This is because the virus manages to get into a cell, become part of the patient's DNA and remain silent.

"There is a lot of work being done, including in the Department of Infectious Diseases at Monash, using new ways to 'wake up' the sleeping virus to make it visible to drugs and the immune system. This is one approach that one day might lead to a cure," Professor Lewin said.

More information: "HIV infection: epidemiology, pathogenesis, treatment, and prevention." Prof Gary Maartens MMed, Prof Connie Celum MD, Prof Sharon R Lewin PhD. *The Lancet* - 5 June 2014.
[DOI: 10.1016/S0140-6736\(14\)60164-1](https://doi.org/10.1016/S0140-6736(14)60164-1)

Provided by Monash University

APA citation: A cure for HIV is a 'major scientific priority,' says researcher (2014, June 24) retrieved 26 September 2022 from <https://medicalxpress.com/news/2014-06-hiv-major-scientific-priority.html>

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