On World AIDS Day, December 1st, the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health, reflects on encouraging milestones from the past year in HIV/AIDS research that are advancing us toward controlling and ultimately ending the pandemic."

- Pre-exposure prophylaxis (PrEP) proves effective at reducing the risk of HIV acquisition among men who have sex with men: New England Journal of Medicine online, the NIAID-sponsored study known as iPrEx found that a daily dose of an oral antiretroviral drug approved to treat HIV infection reduced the risk of HIV acquisition among men who have sex with men by 44 percent. Even higher rates of effectiveness, up to 73 percent, were found among study participants who adhered most closely to the daily drug regimen. NIAID and The Gates Foundation co-funded the iPrEx study. Additional and continued research is needed to determine whether PrEP will be similarly effective at preventing HIV infection in other populations.

- Vaginal microbicide prevents HIV infection: For the first time in nearly 15 years of research, scientists discovered a vaginal microbicide gel that gives women a level of protection against HIV infection. The CAPRISA 004 study, conducted by the Centre for the AIDS Programme of Research in South Africa (CAPRISA), found that the use of a microbicide gel containing a 1 percent concentration of the antiretroviral drug tenofovir resulted in 39 percent fewer HIV infections compared with a placebo gel. NIAID was among the organizations that provided substantial support and resources to establish the infrastructure and training for CAPRISA. Ongoing and future clinical trials will build on these study results with the goal of bringing a safe and effective microbicide to the general public.

- Antibody discoveries propel HIV vaccine research: In the past year, researchers have discovered at least eight antibodies that can stop a wide range of HIV strains from infecting human cells in the laboratory. For instance, a team led by NIAID scientists discovered two human antibodies that neutralized 99 percent of known global HIV strains from infecting human cells, and demonstrated how one of these disease-fighting proteins accomplishes this feat. Learning the structure of the new antibodies and where they bind to the virus is helping equip scientists with the tools to design a vaccine that could stimulate healthy people to make some of the antibodies as protection against HIV infection.

- New hope for people co-infected with HIV and tuberculosis (TB): The Cambodia-based study known as CAMELIA untreated, HIV-infected adults with very weak immune systems and newly diagnosed TB can be prolonged by starting antiretroviral therapy two weeks after beginning TB treatment, rather than waiting eight weeks, as had been standard. This finding is valuable because beginning TB treatment for HIV in some highly immunocompromised individuals paradoxically can worsen the symptoms of co-infections such as TB, yet waiting too long to start antiretroviral therapy can lead to death. TB accounted for nearly a quarter of the 2 million HIV-related deaths worldwide in 2008. NIAID and the French National Agency for Research on AIDS and Viral Hepatitis co-funded the CAMELIA study.
WHO:
Anthony S. Fauci, M.D., NIAID director; Carl Dieffenbach, Ph.D., director of the NIAID Division of AIDS; and Gary J. Nabel, Research Center, are available for comment.

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NIAID conducts and supports research—at NIH, throughout the United States, and worldwide—to study the causes of infection develop better means of preventing, diagnosing and treating these illnesses. News releases, fact sheets and other NIAID-related materials are available on the website.

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Last Updated November 29, 2010
Last Reviewed November 23, 2010