

Study evaluates population-wide testing, early treatment for HIV prevention

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A study in South Africa and Zambia will assess whether house-to-house voluntary HIV testing and prompt treatment of HIV infection, along with other proven HIV prevention measures, can substantially reduce the number of new HIV infections across communities.

The trial, Population Effects of Antiretroviral Therapy to Reduce HIV Transmission (PopART), or HPTN 071, is sponsored and co-funded by the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health. The trial is funded primarily by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), administered by the Office of the Global AIDS Coordinator.

The PopART study will build on the results of the landmark, [NIAID-funded HPTN 052 trial](#), which found that HIV-infected individuals who start [treatment](#) early, when their immune systems are relatively healthy, dramatically reduce the risk of transmitting the virus to their heterosexual partners.

"Through this new study, we aim to learn whether the treatment of HIV-infected individuals as a form of HIV prevention, an approach previously tested in roughly 1,800 heterosexual couples where one partner was infected, will be just as effective when implemented across an entire adult population," said NIAID Director Anthony S. Fauci, M.D. "The study also will tell us whether this method of delivering population-wide HIV treatment as prevention is feasible and cost-effective."

The trial is being conducted in South Africa and Zambia because the HIV prevalence in those countries is among the highest in the world. An estimated 12.5 percent of adults in Zambia and 17.3 percent of adults in South Africa are infected.

Leading the study are Richard Hayes, D.Sc., professor of epidemiology and international health at the London School of Hygiene & Tropical Medicine, and Sarah J. Fidler, Ph.D., reader in the Department of Medicine at Imperial College London.

"Mathematical models indicate that if a high proportion of a population can be tested for HIV, and those found to be infected are offered treatment right away, then the rate of new HIV infections could decrease substantially over time," said Dr. Hayes. "The PopART study is assessing whether this approach works and whether the benefits outweigh the costs—information that could help guide public health policy."

The PopART study investigators have designed an HIV prevention package that includes

- Door-to-door, voluntary HIV testing offered at annual intervals
- Linkage of those who test positive for the virus to care at local health centers
- Promotion of voluntary medical circumcision to men who are not HIV-infected
- Promotion of steps to prevent mother-to-child HIV transmission
- Referral of individuals with other sexually transmitted infections to treatment
- Provision of condoms

The PopART trial will involve 21 communities in South Africa and Zambia with a total population of 1.2 million. The study team has randomly assigned each community to one of three groups. One group of

communities will receive the HIV prevention package along with the opportunity for HIV-infected individuals to begin treatment as soon as they test positive for the virus. The second group will receive the same HIV prevention package, and infected individuals will be offered treatment at the stage of infection recommended by their country's HIV treatment guidelines. The third group will serve as a control and will receive existing HIV prevention and testing services along with HIV care and treatment according to current national guidelines for their country.

The study team will measure the impact of the two HIV prevention packages by determining the number of new HIV infections among a representative sample of 52,500 adults drawn from the 21 study communities and followed for three years. The study is expected to end in 2019.

The study research is being conducted by investigators at the NIH-funded HIV Prevention Trials Network (HPTN), the London School of Hygiene & Tropical Medicine, Imperial College London, the Zambia AIDS-Related Tuberculosis Project and the Desmond Tutu TB Centre of South Africa. PEPFAR partners will provide HIV care and treatment to the study communities under the direction of the U.S. Agency for International Development and the U.S. Centers for Disease Control and Prevention.

In addition to PEPFAR and NIAID, study funders include the International Initiative for Impact Evaluation with support from the Bill & Melinda Gates Foundation, as well as the National Institute on Drug Abuse and the National Institute of Mental Health, both part of NIH.

More information:

www.niaid.nih.gov/news/QA/Pages/PopARTqa.aspx

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