NIH-Supported Trial Reduces HIV Incidence by 70% in Rural Populations in Africa

Study used technology to extend reach of existing infrastructure, linking people to care.

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A study funded by the National Institutes of Health (NIH) reduced new HIV cases by 70% in rural Kenya and Uganda by pairing digital tools with tailored HIV services delivered by community health workers and clinicians. This successful strategic implementation of existing healthcare infrastructure and available HIV prevention and treatment options could become a model for reducing HIV incidence in other countries, including the United States. The findings were presented today at the 33rd Conference on Retroviruses and Opportunistic Infections (CROI 2026) in Denver.

“The findings from this innovative study underscore the critical value of conducting implementation research that tests HIV prevention and treatment strategies in real world settings,” said Jeffrey K. Taubenberger, MD, PhD, acting director of NIH’s National Institute of Allergy and Infectious Diseases (NIAID). NIAID co-funded the study along with NIH’s National Heart, Lung, and Blood Institute; National Institute of Mental Health; and National Institute on Alcohol Abuse and Alcoholism.

Despite the availability of safe and highly effective medications to prevent and treat HIV, an estimated 30,000 people in the United States and 1.3 million people globally newly acquire HIV each year. This gap exists largely because healthcare and other systems struggle to reach, engage and retain people who need HIV prevention and care.

To respond to this challenge, the longstanding Sustainable East Africa Research in Community Health (SEARCH) consortium has been testing population-level interventions designed to end the HIV epidemic and improve overall community health. Their latest trial involved a tailored approach to HIV testing, prevention and treatment implemented by existing health workers and clinicians using medications, tests and digital technology available in-country.

The trial involved 16 remote, rural communities, eight within each country. After pairing communities with similar characteristics, the study team randomly assigned one community in

each pair to receive a three-part intervention designed to reduce HIV incidence, and the other community to receive standard HIV prevention and care.

The intervention had three components, which were delivered during a two-year period beginning in 2023 to people aged 15 years and older, considered adults in their communities. First, trained community health workers employed by the government visited each home to offer adults HIV testing. The workers referred adults who tested HIV-positive to their local health center for HIV treatment and referred adults who tested HIV-negative but said they were at risk for the virus to HIV prevention products and services. Second, healthcare providers at local health centers were trained to deliver personalized HIV prevention and care in a manner that was sensitive and responsive to the choices and preferences of their clients. Finally, enhanced use of a ministry of health-compatible app on handheld devices linked health workers in the communities with clinicians, medical records and services in health centers, facilitating follow-up with clients and community-based delivery of prevention medications.

Two years after the intervention began, the study team measured HIV incidence among adults in the 16 participating communities. Seven of about 42,000 people in the intervention communities and 22 of about 42,000 people in the control communities had acquired HIV in recent months, indicating that the intervention strategy reduced HIV incidence by 70%. This finding was consistent across age, sex and country.

To better understand what drove this decrease, the investigators measured the percentage of adults without HIV who had used a form of biomedical HIV prevention—either pre-exposure prophylaxis (PrEP) or post-exposure prophylaxis (PEP)—in the past six months. They found that 0.41% of adults in the control communities and 1.67% in the intervention communities had recently used PrEP or PEP, meaning the intervention strategy drove a four-fold increase in prevention uptake. This was true in both countries among men and women, regardless of age.

In addition, the investigators measured the percentage of people with HIV who knew their status, the percentage diagnosed with HIV who were taking antiretroviral therapy (ART), and the percentage taking ART who were virally suppressed. The study team found high levels of HIV treatment and viral suppression in both the intervention and control groups, suggesting that prevention uptake in the setting of high levels of effective treatment drove the decrease in HIV incidence.

Most community health workers, health care providers and study participants reported finding the intervention easy to implement, even though very few community health workers had experience using a smartphone or delivering HIV services before the study took place.

Reference: The impact of SEARCH Community Precision Health on HIV incidence in rural Kenya and Uganda.” Presented by Gabriel Chamie, M.D., at the 33rd Conference on Retroviruses and Opportunistic Infections (CROI 2026) in Denver, Colorado on Feb. 24, 2026.

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