

# In a first, an AIDS vaccine shows some success

 AP Associated Press

By MARILYNN MARCHIONE, AP Medical Writer

1 hr 1 min ago

Scientists and government leaders have already started mapping out how to try to improve the world's first successful AIDS vaccine, which protected one in three people from getting HIV in a large study in Thailand.

That's not good enough for immediate use, researchers say. Yet it is a watershed event in the 26 years since the AIDS virus was discovered. Recent setbacks led many scientists to think a successful vaccine would never be possible.

The World Health Organization and the U.N. agency UNAIDS said the results "instilled new hope" in the field, even though it likely will be years before a vaccine might be widely available.

"This is truly a great moment for world medicine," said Lt. Gen. Eric Schoomaker, the U.S. Army Surgeon General. The Army helped sponsor the study, the world's largest of an AIDS vaccine.

It was the first time scientists tried preventing HIV the same way they treat it — with a combination approach. The study used two vaccines that work in different ways, and that may be one reason the strategy worked, even though neither vaccine did when tested individually in earlier trials, scientists say.

The combo cut the risk of becoming infected with HIV by more than 31 percent in the study of more than 16,000 volunteers in Thailand, researchers announced Thursday in Bangkok.

That benefit is modest, yet "it's the first evidence that we could have a safe and effective preventive vaccine," said Col. Jerome Kim, an Army doctor who helped lead the study.

The outcome "gives me cautious optimism about the possibility of improving this result" and developing a more effective AIDS vaccine, said Dr. Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases, which co-sponsored the study.

"It's an opening of a new gateway to a road that has brighter lights in it now and maybe some directions," he said. "We need to bring the best minds together and map the way forward."

That has already started. Dozens of researchers, vaccine makers and deep-pocket donors will meet next week in New York "to talk about where we go from here," said Dr. Alan Bernstein, executive director of the Global HIV Vaccine Enterprise, an alliance of government officials, AIDS scientists, funders such as the Bill & Melinda Gates Foundation, and the WHO. At the meeting will be researchers from the Thai trial, the Army and independent scientists.

Scientists around the world cheered the first taste of victory.

"Since the 1980s, we've been hearing we're going to have an AIDS vaccine in 10 years. For the first time in my lifetime, it feels as though we're actually getting on the right track," said Josh Ruxin, a Columbia University public health specialist who runs the Access Project, which helps health centers provide AIDS care in Rwanda.

The Thailand Ministry of Public Health conducted the study. The U.S. Army has long worked with the Thai government and others to develop and test vaccines and medicine to protect troops and the general public.

The study used strains of HIV common in Thailand. Whether such a vaccine would work against other strains in the U.S., Africa or elsewhere in the world is unknown, scientists stressed.

Even a marginally helpful vaccine could have a big impact. Every day, 7,500 people worldwide are newly infected with HIV; 2 million died of AIDS in 2007, UNAIDS estimates.

The study tested the two-vaccine combination in a "prime-boost" approach, in which the first one primes the immune system to attack HIV and the second one strengthens the response.

They are ALVAC, from Sanofi Pasteur, the vaccine division of French drugmaker Sanofi-Aventis; and AIDSVAX, originally developed by VaxGen Inc. and now held by Global Solutions for Infectious Diseases, a nonprofit founded by some former VaxGen employees.

ALVAC uses canarypox, a bird virus altered so it can't cause human disease, to ferry synthetic versions of three HIV genes into the body. AIDSVAX contains a genetically engineered version of a protein on HIV's surface. The vaccines are not made from whole virus — dead or alive — and cannot cause HIV.

The study tested the combo in HIV-negative Thai men and women aged 18-30 at average risk of becoming infected. Half received four "priming" doses of ALVAC and two "boost" doses of AIDSVAX over six months. The others received dummy shots. No one knew who got what until the study ended.

Participants volunteered for the study and were told about the potential risks associated with receiving the experimental vaccine before agreeing to participate.

All were given condoms, counseling and treatment for any sexually transmitted infections, and were tested every six months for HIV. Any who became infected were given free treatment with antiviral medicines. All participants continued to receive an HIV test every six months for three years after vaccinations ended.

The results: New infections occurred in 51 of the 8,197 given vaccine and in 74 of the 8,198 who received dummy shots. That worked out to a 31 percent lower risk of infection for the vaccine group. Two of the infected participants who received the placebo died.

Scientists don't know why the vaccine combo worked. It was the Army's idea to test the combination, said Dr. Donald Francis, a former government scientist who helped identify HIV as the cause of AIDS and now heads the nonprofit that holds the rights to AIDSVAX.

AIDSVAX is aimed at prompting antibodies to HIV. The Sanofi vaccine spurs cells to attack the virus directly. The combo strategy "bridges the two major arms of the immune system," Francis said.

Scientists need to look at blood samples from study participants to understand why some became infected and others were protected.

"With the limited amount of vaccine we have right now, we've got a small number of studies that we could do," Francis said.

Sanofi officials said the same. The company's Dr. Sanjay Gurunathan said a series of studies "that will take a few years" are planned to see if the vaccine can be improved for licensing, and whether new components should be considered to boost effectiveness.

Even AIDS advocates agreed more research was needed.

"We need to take a deep breath and look at all the available evidence from this trial" before urging that this vaccine be used now, said Julie Davids, a spokeswoman for the Community HIV/AIDS Mobilization Project, a New York-based prevention advocacy group.

The study was done in Thailand because U.S. Army scientists did pivotal research in that country when the AIDS epidemic emerged there, isolating virus strains and providing genetic information on them to vaccine makers. The Thai government also strongly supported the idea of doing the study.

Thailand had a burgeoning AIDS problem when the study began. Aggressive prevention efforts have dramatically cut the rates of new infections there, and only 125 infections occurred in the entire study of more than 16,000 people.

Scientists want to know how long the vaccine's protection will last, whether booster shots will be needed, and whether the vaccine helps prevent infection in gay men and injection drug users, since it was tested mostly in heterosexuals in the Thai trial.

The vaccine had no effect on HIV levels in the blood for those who did become infected. That had been another goal of the study — seeing whether the vaccine could limit damage to the immune system and help keep infected people from developing full-blown AIDS.

That is "one of the most important and intriguing findings of this trial," Fauci said. It suggests the signs scientists have been using to gauge whether a vaccine was actually giving protection may not be valid.

"It is conceivable that we haven't even identified yet" what really shows immunity, which is both "important and humbling" after decades of research, Fauci said.

---

On the Net:

Study information: <http://www.hivresearch.org/phase3/factsheet.html>

Vaccine coalition: <http://www.avac.org/>

Research umbrella group: <http://www.hivvaccineenterprise.org>

UNAIDS: <http://tinyurl.com/krq7kr>

Government AIDS info: <http://www3.niaid.nih.gov/topics/HIVAIDS/>

---

Copyright © 2009 Yahoo! Inc. All rights reserved. [Questions or Comments](#) [Privacy Policy](#) [Terms of Service](#) [Copyright/IP Policy](#)