

# Experts debate destroying last smallpox viruses

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In this June 23, 1974 file photo a small Indian child displays the result of smallpox at Hakegora village in India. Smallpox, one of the world's deadliest diseases, eradicated three decades ago, is kept alive under tight security today in the United States and Russia. Many other countries say the world would be safer if those stockpiles of the virus were destroyed and now for the fifth time, at a World Health Organization meeting on May 16, 2011, they will push again for the virus' destruction but it seems their efforts will be futile as U.S. and Russian government officials say it is essential they keep some smallpox alive in case a future biological threat demands more tests with the virus. (AP Photo/Santosh Basak)

(AP) -- Smallpox, one of the world's deadliest diseases, eradicated three decades ago, is kept alive under tight security today in just two places - the United States and Russia.

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the virus were destroyed.

Now for the fifth time, at a [World Health Organization](#) meeting next week, they will push again for the virus' destruction. And again it seems likely their efforts will be futile.

U.S. and Russian government officials say it is essential they keep some smallpox alive in case a future [biological threat](#) demands more tests with the virus. They also say the virus samples are still needed to develop experimental vaccines and drugs.

It was in 1996 that WHO's member countries first agreed smallpox should be destroyed. But they have repeatedly delayed a demand for destruction so that scientists could develop safer smallpox vaccines and drugs. That's now been done: There are two vaccines, a third in the works, and there are drugs for treating it, but not curing it.

Yet even if most of WHO's member countries vote to set a new date for destruction, the agency doesn't have the power to enforce the decision.

The scientific community remains divided over whether the smallpox samples should be destroyed. The respected [journal Nature](#) editorialized against it earlier this year, arguing that scientists need the ability to do further research, and perhaps develop new vaccines and treatments in an era of possible biological attack. However, one of the most prominent figures in wiping out the deadly, disfiguring disease is in favor of destroying all remnants of it.

"It would be an excellent idea to destroy the smallpox viruses," said Dr. Donald A. Henderson, who led WHO's eradication effort in the 1970s. "This is an organism to be greatly feared."

He says possession of smallpox by those not authorized to have it should

be made a crime against humanity and that international authorities should prosecute any country found with it.

A report by independent researchers commissioned by WHO last year concluded there was no compelling scientific reason to hang onto the viruses. Yet other scientists contend the stockpiles could still provide valuable information in the future.

Smallpox is one of the most lethal diseases in history. For centuries, it killed about one-third of the people it infected, including Queen Mary II of England, and left most survivors with deep scars on their faces from the hideous pus-filled lesions. The last known case was in Britain in 1978 when a university photographer who worked above a lab handling smallpox died after being accidentally exposed to it from the building's air duct system.

Smallpox vaccines are made from vaccinia, a milder related virus. "We have many ways of looking at smallpox, including gene mapping, that means we don't need the actual (smallpox) virus," said Henderson, who is now with the Center for Biosecurity at the University of Pittsburgh Medical Center.

American and Russian officials disagree.

Dr. Nils Daulaire, director of the U.S. Department of Health and Human Services' Office of Global Affairs, said the U.S. will again ask WHO to postpone a decision calling for the stockpile's destruction. He said U.S. scientists need more time to finish research into how well new vaccines and drugs work against the virus. But he acknowledged U.S. officials also want their own supply in case terrorists unleash smallpox as a biological weapon and additional study is needed.

A scientist at the Russian laboratory where smallpox is kept, who spoke

anonymously because he was not authorized to speak to the press, said the virus should be kept in case similar ones pop up in the future and more studies are needed.

Meanwhile, officials from developing countries are anxious to close the last chapter on the disease.

"There is a consensus to destroy the viruses, so how come we're in this situation where we're pandering to the U.S. and Russia?" asked Lim Li Ching, a biosafety expert at Third World Network, a group that lobbies on behalf of developing countries.

Oyewale Tomori, a virology professor at Redeemer's University in Nigeria, said most African countries want smallpox destroyed. Tomori also sits on a WHO Advisory Committee on smallpox. "Africa is one part of the world where a biological attack with smallpox is likely to have a more devastating effect," he said.

Keiji Fukuda, WHO's assistant director-general for health security and the environment, said the agency remains concerned about the possibility of smallpox's return. "The chance of an outbreak is reasonably low, but not zero," he said. With the new vaccines and drugs, Fukuda was optimistic any smallpox outbreak would be stamped out relatively quickly though acknowledged any new cases might spark global alarm.

"If smallpox were to reappear, we would be in a much better situation than in the past, considering the vaccine supplies and strategies that have been demonstrated to work," he said. He guessed that stamping out a smallpox outbreak would be faster than the four months it took to mostly end the 2003 global outbreak of SARS, where doctors could only isolate patients and trace suspect cases. With smallpox, Fukuda said countries could quickly vaccinate people in surrounding areas and that drugs could be sent to treat patients.

Fukuda said many rich countries like the U.S. have their own smallpox vaccine stockpiles. WHO also has at least 30 million doses for poor countries in case the virus re-emerges, but that supply uses older vaccines that can trigger AIDS in people who have HIV.

David Evans, a smallpox expert at the University of Alberta, who was part of the WHO team that inspected the U.S. and Russian labs holding smallpox several years ago, says he doubts the virus could escape from either facility. The viruses are kept at the U.S. Centers for Disease Control and Prevention in Atlanta and the State Research Center of Virology and Biotechnology in Novosibirsk, Siberia.

Laboratories where smallpox is kept have the highest possible containment measures. Scientists who work with the virus use fingerprint or retinal scans to get inside, wear a full-body suit including gloves and goggles, and shower with strong disinfectant before leaving the lab and taking off the suit. The U.S. smallpox viruses, which include samples from Britain, Japan and the Netherlands, are stored in liquid nitrogen.

Rumors about stockpiles in countries like Iraq and North Korea have never been proven, and Evans said it would be too difficult to experiment with smallpox and keep it a secret. "The nations I would worry about, weird places run by odd dictators, they're just not capable of doing this stuff," he said.

Evans thinks it's unlikely terrorists would resort to [smallpox](#) in a biological attack. "If you want to disrupt countries, there are lots of easier ways to do it than to experiment with something so dangerous," he said.

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