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Where is the H.I.V. vaccine?

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On the eve of the XVIII International AIDS Conference in Vienna, it is time to face some difficult realities about the global response to H.I.V. and AIDS.

More than 2.7 million people worldwide are newly infected with H.I.V. every year. Current H.I.V. drugs are not cures. Every person infected with H.I.V. will require expensive and often complex antiretroviral treatment for life.

The U.S. government, the Clinton Foundation, the Global Fund to Fight H.I.V., Tuberculosis and Malaria and others are leading efforts to provide treatment to the ever-increasing millions of people in need. These efforts save lives and strengthen developing-world health systems, and they deserve strong and continued support.

The 5 million people now receiving H.I.V. drugs in developing countries, however, are still just one-third of the number in need. For each person who receives treatment, 2.5 more are infected. Simply put, we cannot treat ourselves out of this pandemic. This pandemic needs a vaccine.

Multiple approaches to stopping H.I.V., including condoms, circumcision and widespread promotion of monogamy and safer sex, along with new approaches in development, are all important to slowing this epidemic.

Historically, however, vaccines are the best tool to limit or stop the spread of a virus. Smallpox and polio are examples of global killers that have been completely or nearly eliminated with a vaccine.

So why don't we have an H.I.V. vaccine yet, and what can we do to get one?

The development of an H.I.V. vaccine is slowed by the complexity of the challenge — H.I.V. is the most elusive virus ever targeted for a vaccine — but also by inadequate support for research.

Consider that the global economic impact of AIDS is estimated between \$20 and \$50 billion every year. The cost of providing treatment to even the one-third of people who need it today is more than \$10 billion per year. But the amount spent on the entire global effort to develop and test H.I.V. vaccines was only about \$800 million last year — 10 percent less than 2007 funding. That's not enough to get the job done. Only four major trials of H.I.V. vaccine candidates have been conducted in 27 years of research — not nearly enough to gather critical scientific information.

Simply put, we cannot treat ourselves out of this pandemic. This pandemic needs a vaccine.

We are poised to take major steps forward in H.I.V. vaccine research if the effort receives the support it needs. Recently, a vaccine trial in Thailand reduced H.I.V. infection risk by 31 percent — a major advance and the first demonstration that a vaccine can prevent H.I.V. infection. While 31 percent protection is too low for a useable vaccine, it shows that a vaccine is possible.

In other advances, scientists have discovered a number of antibodies that neutralize different variations of H.I.V. found around the world. Combining two or more of these antibodies in the laboratory provides protection against most strains of H.I.V. Other innovative vaccine strategies aimed at controlling H.I.V. infection have tested well in animals. Work to translate these discoveries

into vaccine candidates needs support.

Stepping up the H.I.V. vaccine research effort requires more funding. It may sound unrealistic to advocate for more spending on AIDS vaccines in the midst of a global economic crisis — but insufficiently funding this effort makes no sense from either a humanitarian or economic standpoint.

The amounts needed to support a new era in AIDS vaccine research are small when compared to the enormous potential benefit — real and lasting control of this global epidemic.

One way to increase support is to make the search for an H.I.V. vaccine a truly global effort. Today, a handful of funders led by the U.S. government pay for the bulk of global H.I.V. vaccine research. But H.I.V./AIDS is a global problem, and it demands a global solution.

Current funders must continue their strong support, but other countries must also come to the table. This will help encourage the private sector — whose expertise and resources are needed to make an H.I.V. vaccine a reality, but which now plays only a minor role in H.I.V. vaccine research — to recommit itself to this essential global health goal.

It's time to focus again on what seemed so clear at the beginning of this pandemic — ending H.I.V./AIDS urgently requires a vaccine. The evidence that a safe and effective H.I.V. vaccine can be developed is stronger than ever.

Without a truly global effort to act on that promise, however, we may find ourselves asking the same question after 25 more years of this pandemic: Where is the H.I.V. vaccine?

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