Partnership Science

HIV advocates discuss how lessons from pandemic vaccine development can help fight COVID-19.

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Mark Feinbergn, Helen Rees and Mitchell WarrenCourtesy of subjects

Mark Feinberg and Helen Rees joined Mitchell Warren for a webinar titled “Pandemic Vaccine Development and Lessons for COVID-19” in April 2020. It is part of the COVID-19 and HIV webinar series hosted by AVAC, which focuses on global advocacy for HIV prevention.

Feinberg is president and CEO of the International AIDS Vaccine Initiative. Rees is executive director of the Wits Reproductive Health and HIV Institute at the University of the Witwatersrand in Johannesburg. Warren is executive director of AVAC. Feinberg holds an MD and a PhD. Rees has a medical degree and a master’s in social and political sciences. Warren has degrees in English and history and studied health policy. Below is an edited transcript of the webinar. Go to avac.org/covid for the full transcript and related resources.

Mitchell Warren: Mark, what might we expect for coronavirus vaccine development?

Mark Feinberg: There are many questions. How do we ensure that SARS-CoV-2 [the name of the new coronavirus that causes COVID-19] doesn’t become an endemic infection that plagues humanity for many years? HIV is the most vivid example.

What role can a vaccine play in controlling and potentially eradicating the COVID-19 pandemic?

What are the prospects for developing a safe and efficacious vaccine? When can we expect that one or more of them will be available?

To that end, how are different partners working together to accelerate vaccine development? What are the opportunities for that process to be even more effective? What more needs to be done to be successful in accelerating vaccine development efforts as quickly as possible?

In many ways, we are in a better position because of all of the innovation and investment that have gone into HIV vaccine development. The tools and insights are now being directly applied.

HIV put equitable global access front and center in the discussions of any development of any biomedical innovation. We need to think about how to expedite an efficacious vaccine, and we need to make sure that it's available to everyone who needs it.

Many people are hearing that a vaccine will be available in 12 to 18 months. Does that mean that we'll have efficacy data on one or more vaccine candidates? Or that adequate global supply of an efficacious vaccine will be available?

This is important since, unlike Ebola, where you may need a few hundred thousand doses, we may need billions of doses of a SARS-CoV-2 vaccine.

We're focusing on how fast the initial candidates, including RNA vaccines, have gone from recognition of the pathogen to entering the clinic, including these novel nucleic acid technologies. But is the most important criterion being fastest to the clinic or to global access?

It's better to be proactive than reactive. This is what stimulated the formation of the Coalition for Epidemic Preparedness Innovations (CEPI). Helen Rees is currently the chair of the CEPI Scientific Advisory Board. That is a role that I previously held.

MW: Helen, please tell us about CEPI as well as vaccine and treatment research.

Helen Rees: CEPI was established after the Ebola outbreak in West Africa. The aim was to accelerate the development of vaccines against emerging infectious diseases, but also to enable equitable access to these vaccines.

Broadly, the focus is on preparedness in thinking about what the priority pathogens are; starting to invest money in those candidates; accelerating research so that in the event of an outbreak you can move extremely quickly; and sustainability, looking for durable solutions.

CEPI is supporting the development of eight SARS-CoV-2 vaccines. They're at different stages, but we didn't start anything that was too far away from getting into clinics. We looked at things that we could rapidly adapt for COVID-19.

Other parties are also supporting vaccines. There are numerous candidate vaccines worldwide. The first clinical trials in humans have started, so we're all pushing as fast as can be. Most of those

candidates are not going to pass even the first post. If we can get two or three viable vaccines, then I think we would all be thrilled.

Not only do we have to look at what the vaccine is when choosing these candidates, but we also have to ask: How easy is this vaccine to manufacture? Are there manufacturing sites that are going to be easy to convert? How quick is it going to be to produce the doses that we're going to need? Who's going to invest that money now with no guarantees?

In many countries, not only is there a second wave of COVID-19, but we anticipate that in many places this might become endemic or even seasonal. This is going to be a nasty virus that we're going to have to deal with for years to come.

What other things do we need? Clearly and urgently, we need effective therapy. We have therapies that alleviate symptoms, such as paracetamol for mild symptoms and oxygen for respiratory distress. But at the moment, we have few therapies that have been shown definitively to change the course of the disease.

And, just like HIV, we also want to find drug interventions for treatment and prevention while we're looking for a vaccine to protect at-risk populations.

For example, people are extremely worried about health workers. If we cannot keep them at work, the outcome for patients is going to be much worse. There are big studies exploring whether it's possible with existing drugs to either prevent infection or change the course of disease and prevent deaths.

MW: Mark, what about partnerships?

MF: There's a science of innovation, which drives vaccine development. There's also a science of partnerships, which requires thoughtfulness and new strategies. We need to get better at that.

I hope that we'll be good enough to respond quickly to COVID-19. I know that this pandemic will force us to become increasingly good at it for the future.

MW: Helen, in a pandemic, how does community engagement happen?

HR: The lessons from HIV are extraordinary. Community is one of them. Avoiding stigma is another. Communication is yet another. An important part of that is sharing accurate information.

MW: Any last thoughts?

HR: If ever there has been something that has humbled us all, this particular pandemic is it. It respects nobody. This is therefore a leveler.

We speak so much about universal health coverage and sustainable development goals and equity. We're going to have to really look at all that. We must watch this issue around access.

If people close borders and say, “Mine first and mine second and mine last,” and we don’t mind about what happens elsewhere, then the world has lost an opportunity to do things fundamentally different in terms of global health.

MF: We all know that our efforts in HIV have been disrupted by the COVID-19 pandemic. That means that there is lost time and lost opportunity. Unfortunately, people are going to suffer as a result. Timelines are going to be delayed.

We need to figure out how to maintain the priority of the HIV response throughout the COVID-19 pandemic. Being an optimist, I hope that what we learn from the COVID-19 response may also be helpful in the future of the HIV response, just like the HIV response put us in a much better place to address COVID-19.

MW: What I hear loud and clear is, it’s about global health, not about any one disease over another. To move all of this work forward, let’s give new meaning to the science and the art of partnership.

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