

Dr. Ezekiel Emanuel: “Bottleneck” issues ahead for COVID-19 vaccine

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Everyone is eager to see a safe and effective SARS-CoV-2 vaccine developed, but getting approval from the Food and Drug Administration (FDA) will be only the first step in a long process to achieve herd immunity. Ezekiel J. Emanuel, MD, chair of the Department of Medical Ethics and Health Policy at the Perelman School of Medicine at the University of Pennsylvania, outlines what it will take to make this crucial phase of the public health response to the pandemic a success.

Following are highlights from a JAMA Network™ livestreamed conversation between Dr. Emanuel and Howard C. Bauchner, MD, editor-in-chief of *JAMA* and senior vice president of AMA scientific publications and multimedia applications.

The AMA and the Centers for Disease Control and Prevention are closely monitoring the COVID-19 global pandemic. Learn more at the [AMA COVID-19 resource center](#), the [JAMA COVID-19 resource center](#) and the [AMA Journal of Ethics® COVID-19 ethics resource center](#), and consult the [AMA’s physician guide to COVID-19](#).

Reasons to feel good

While the U.S. largely remains in crisis mode in responding to the spread of the virus—killing more than 1,000 people daily—no less than seven SARS-CoV-2 vaccines were in Phase 3 trials as of the middle of August.

“I think we have to be wildly impressed by the vaccine action,” Dr. Emanuel said. “You have to be wowed by the scientific prowess this represents.”

Stay informed about the latest in vaccine news, safety and regulations.

Reasons to be cautious

Still, rolling out a vaccine for some 300 million people will be fraught with challenges, the most immediate being a scarcity of doses early on.

“Even with the advance purchases, even with some of the vaccines being relatively easy to produce, you’re only going to have tens [of millions], and maybe under optimal circumstances, a hundred million doses ... before the end of the year,” Dr. Emanuel said. “A hundred million doses is still really good, but it still represents a third of the population of the United States. It’s not enough for herd immunity.”

At the same time, it’s likely that a vaccine will require two shots.

We might find a situation in which, “yes, we can produce the vaccines,” he said. “But guess what? Getting them into vials, shipped out ... and into people’s arms—each of those steps are prone to a bottleneck.”

Learn why Anthony Fauci, MD, believes 2021 may see up to 300 million doses of a SARS-CoV-2 immunization.

Lost time, lost opportunity

The most optimistic timelines for a SARS-CoV-2 vaccine, Dr. Emanuel noted, will come up against another challenge: flu season.

“Many of our usual sites of vaccination—the workplace, schools—are going to be absent. We’re not going to be able to vaccinate people through those mechanisms,” he said. “It is really worrisome.”

Flu shots are already available, he added, but the health care system is stuck in the old paradigm for distribution.

“We could have used, if we had thought about it, this moment—late summer, early fall—to try out a new vaccine strategy,” Dr. Emanuel said. “We haven’t done that, but we should begin doing that, because it’s going to be necessary.”

In particular, he suggested putting responsibility at the local level.

“Think about the mayor of a city. You bring in the heads of your health care system, you bring in your pharmacies, you carve up the city and you basically say, ‘All right, guys. You’re responsible for these blocks. We don’t really care whether they’re your patients or not,’” he said. “You create an electronic platform so everyone can report, and then you get the city covered by the infrastructure you have.”

Read the *JAMA* clinical update on influenza in the COVID-19 era.

More in-depth interviews

Drs. Emanuel and Bauchner also discussed reopening schools, ethical distribution of vaccines, development of COVID-19 therapeutics and public health communication around the pandemic.

Subscribe to the “Conversations with Dr. Bauchner” podcast. Each week, he interviews leading researchers and thinkers in health care. One recent episode featured an in-depth talk with FDA Commissioner Stephen M. Hahn, MD.