

"It would make me so happy to see an increase a demand, and this was the stumbling block that people have been saying was in the way of greater vaccination," he said.

The approval could also lead to vaccine uptake prompted by vaccine requirements from corporations, school boards and other organizations. Neuman said they now have a now have a freer hand to mandate vaccinations, at least in areas where not prohibited from doing so by governor's orders. In Texas, for example, Gov. Greg Abbott announced on Wednesday an executive order banning COVID-19 vaccine mandates regardless of whether they have full FDA approval.

What's the strategy behind booster shots?

U.S. health officials have announced plans to offer COVID-19 booster shots to vaccinated Americans to increase their protection. The doses are recommended eight months after people get their second shot of the Pfizer or Moderna vaccine. People who got the single-dose Johnson & Johnson vaccine will also likely need additional doses, officials say.

Neuman explains that many childhood vaccines, like those for polio, require as many as four doses. With the polio vaccine, a third dose provides 99 percent immunity, and a fourth dose provides immunity for life.

The COVID-19 mRNA vaccines appear to have a similar efficacy per dose, at least for the first two doses, he said.

"So I'm not really thinking of them as boosters—I'm thinking of them as completing the series of what's probably going to be three to five shots," Neuman said. "We're just not sure yet how many it's going to take. The indication is that immunity is a little more durable than we thought previously, which is good news, and that means we may actually be able

to get to a point where you are not just vaccinated for now, you're actually vaccinated for good."

While the 90 percent protection provided by two doses is still "really fantastic"—and on par with the most effective vaccines ever produced—Neuman said that still leaves a 10 percent risk for contracting the virus, which is significant considering the tens of millions of people who have been vaccinated, as well as the millions of unvaccinated individuals who are unprotected.

"There are people who are vaccinated who are getting infected, and this third and potentially fourth dose would go a long way toward cleaning up and eliminating that," Neuman said. "It's like a game of Risk we're playing, only it's with peoples' lungs. We're trying to take up as much territory with vaccine as possible so that the virus cannot operate there."

Do booster shots need to be from the same brand as the initial round of vaccines? What could the side effects be?

While it's too early to say with scientific certainty that mixing and matching vaccines is safe—since the data hasn't been gathered—Neuman said it likely won't matter if someone decides to switch brands for their booster shots.

"All of the vaccines that are available in the U.S. use three different ways to make exactly the same version of exactly the same spike protein," he said. "In terms of what your immune system sees, there's no difference. They all produce the same immunity."

In Israel, where third doses have been administered for a little over a month, the side effects have been about the same as those experienced

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