Facing slow vaccine rollout, scientists weigh new tactics

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Pharmacist Colleen Teevan reconstitutes the Pfizer/BioNTech before having it administered to people at the Hartford Convention Center in Hartford, Connecticut

Should COVID-19 boosters be delayed? Could the dose levels be reduced, and would mixing and matching shots from different makers

work just as well?

These are questions now facing governments around the world as vaccine rollout falters and the coronavirus continues to rage, spurred on by new variants that are believed to be more contagious.

British health officials set the pace, announcing they will stretch out the second dose of vaccines authorized for use there up to three months, well beyond the three or four weeks recommended.

The idea is to scale up the number of people who can be reached quickly, even if the level of individual protection falls short of what is reached with the booster.

The World Health Organization on Tuesday effectively endorsed the UK position, saying that the second Pfizer-BioNTech COVID-19 vaccine dose could, in "exceptional circumstances," be delayed a few weeks.

Authorities in England have also granted permission to give people a second shot from a different vaccine maker if the kind they got the first time has run out.

The United States, meanwhile, has tacked a more cautious line.

On Monday night, Food and Drug Administration chief Stephen Hahn said that while these are "reasonable questions to consider and evaluate," the moves are "premature and not rooted solidly in available evidence."

The debate has exposed a division among experts, with respected scientists falling on both sides.

Ideally, policy decisions should rest solely on the parameters in which clinical trials were conducted. But with the virus threatening to spiral out

of control, some argue we're in far from an ideal situation.

"We didn't pick three weeks for Pfizer or four weeks for Moderna because we knew it to be perfect," Howard Forman, a public health expert at Yale University told AFP.

"It was the best guess for an optimal time for the booster dose to be given to augment immunity."

Forman added that much of medicine is based on imperfect data—such as how long a course of drugs should be taken, and physicians routinely prescribe medicine approved for one purpose for other conditions.

"So modest changes to what we've already recommended may make all the difference in getting a lot more bang for the vaccines that we have," he said.

Forman stressed that he's only suggesting delaying the second dose—seen as vital to ensuring longer term protection—and only in the case of under-65s and those who are less medically vulnerable.

Sluggish rollout

The US had set vaccinations for 20 million people as its target for December but as of January 4, it had only reached 4.5 million.

Both the US and UK have covered about 1.4 percent of their populations, Europe is far behind, while Israel is out front having covered some 13.5 percent.

The Pfizer and Moderna vaccines, based on mRNA technology, reach about 95 percent efficacy on second dose, which is reserved in storage for a person after their first.

The Moderna vaccine in particular has shown high levels of protection after the first shot—in the region of 90 percent—but the numbers should be treated cautiously as the sample size is small.

Saad Omer, a vaccine researcher and director of Yale's Institute for Global Health, told AFP that he saw only a need for changing strategy in countries where supply itself is short.

In the US, the rate at which vaccines are being sent to states is only a little behind schedule, and Omer believes addressing the bottleneck in administering them to people should be given priority.

As for mixing vaccines, noted Yale immunologist Akiko Iwasaki has said it should work in theory, but experts agree that it requires more study and should only be a last resort for now.

Confusing to public

Both Omer and Natalie Dean, a biostatistician at the University of Florida, argue that a path forward might lie in further data analysis to find biological markers, such as antibody levels, that correlate to protection against COVID-19.

This could be determined by combing through the results of existing trials to calculate a threshold value, then setting up small studies to determine what dose of vaccine gets you there.

National Institutes of Health scientist John Mascola told the New York Times on Tuesday that a study based on this process was underway to determine whether half-doses of the Moderna vaccine deliver equal protection.

Dean said she was worried that the discussion around changes could be

confusing to the public, "and I'm concerned about anything that could jeopardize trust."

People should therefore be assured that any changes in the US would go through the same transparent regulatory process that granted the vaccines their emergency authorization, she said.