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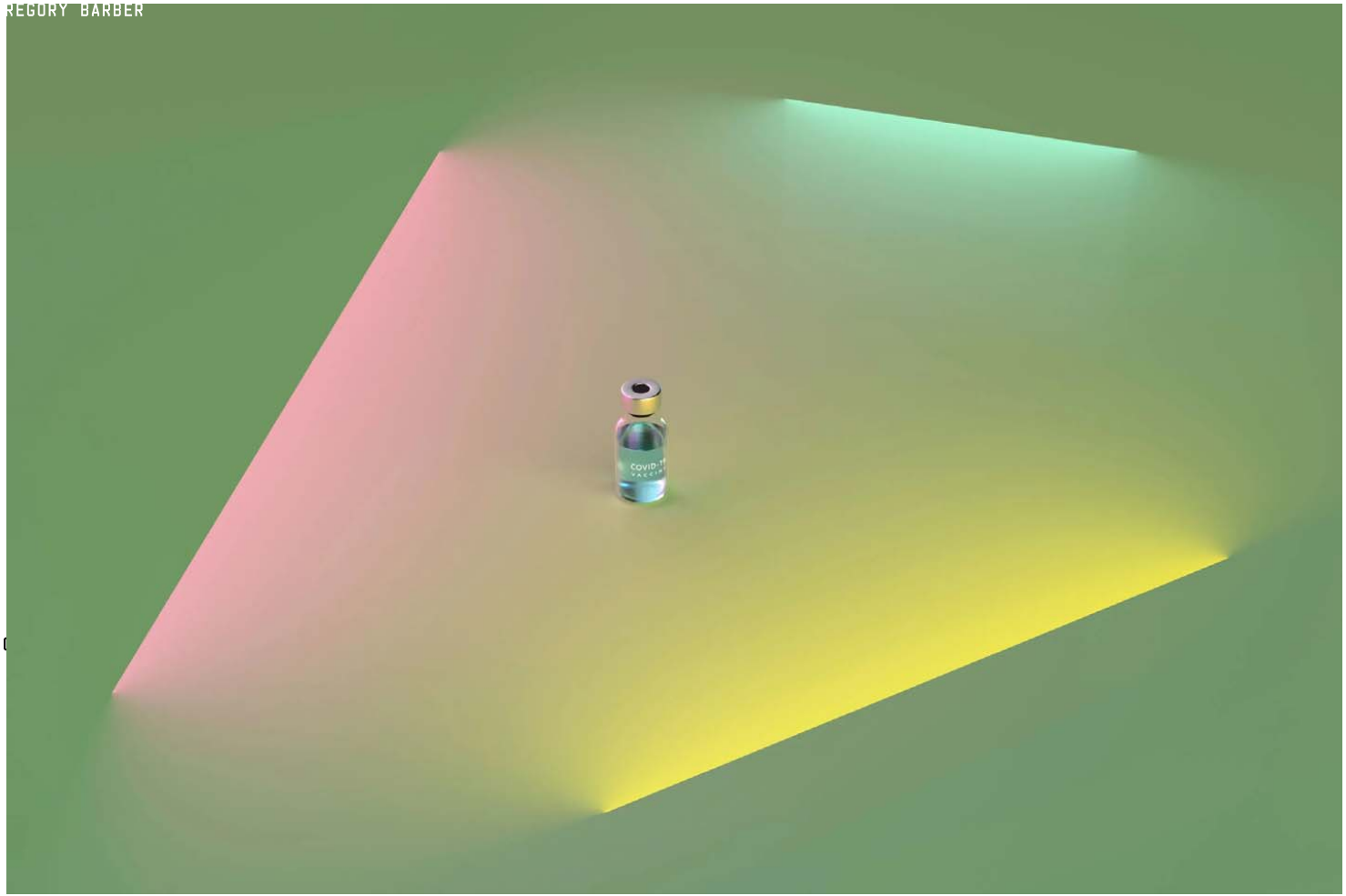
More Covid Vaccine Choices Mean New Equity Challenges



PHOTO

SINCE DECEMBER, WHEN the process began, the approach to Covid-19 vaccinations could be described with a simple mantra: a shot is a shot. The two authorized vaccines in the US—made by Moderna and Pfizer—are remarkably similar and remarkably successful. Both involve mRNA, which are snippets of genetic code that serve as warning signals for the immune system to rev up. The mild side effects caused by that revving are much the same, and so are the benefits: a roughly 95 percent effectiveness at preventing illness caused by SARS-CoV-2. Sure, the vaccines each cause a unique set of headaches for the people tasked with delivering them, from manufacturing snafus to the super-cold logistics of transport. But for those awaiting their turn, that's all background noise. The only hints of a difference are the stickers on the immunization cards and the reminder to come back for a boost in either three weeks or four.

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BY EVE SNEIDER

Soon, however, the picture will get a bit more complicated. On Thursday, Johnson & Johnson requested emergency use authorization for its Covid-19 vaccine from the Food and Drug Administration, which it will almost certainly get. The company's initial data on the shot, released last week, was widely heralded as good news: a 72 percent effectiveness at preventing moderate and serious illness in the US arm of its trial, and not a single death. It also comes with a major benefit: It's easy to use. The vaccine can be stored for three months in a normal refrigerator, not a special freezer kept at minus 70 degrees Celsius, and it is delivered in a single dose, not two. That's a big win for getting more people fully vaccinated quickly. Add another excellent shot to the roster.

But different is different, and people have a way of seeing the daylight between even perfectly nice things. To be sure, 72 percent is not 95 percent, and people may ask: Why do I get this one when the other is better? State officials, too, will be mulling that question, based on the vaccines' differing characteristics—whether it's appropriate to send one to the more at-risk and another to the hardest-to-reach, perhaps. But if a less effective vaccine ends up going to a particular group

or location, that daylight would expand to become an issue of fairness and equity. So far in the vaccination campaign, the moral and strategic question for allocators has been which people should get vaccinated first. Now there's a new wrinkle: w*hich* vaccine should those people be getting?

The somewhat evasive answer to that question, at least for now, is that a shot *is* still a shot. As Anthony Fauci, the White House's chief Covid-19 adviser, put it this week, it's helpful to think of Covid-19 vaccines as commodities. In the midst of a crisis, a dose of any vaccine is better than no vaccine at all. The number of vulnerable people is far too high and the number of doses far too low to be picky, especially when all of the vaccines do their jobs very well. That's all the more true with the race against new variants that could reduce the effectiveness of all the vaccines, Fauci noted. And besides, the Johnson & Johnson vaccine prevented 85 percent of severe illness across all the regions in its trial—perfectly suitable for dousing a raging pandemic.

"What we need to do to end this pandemic is not to wipe the virus off the face of the earth," says Jason Schwartz, a professor of public health at Yale University who also advises Connecticut's vaccine distribution effort. "We need to dramatically reduce the hospitalizations and deaths." In that respect, all of the vaccines do the trick, he notes. And that's also great news for the people getting the vaccine, he adds—even if our preferences are a bit skewed by those dazzling results for the two mRNA vaccines. As his Yale colleague David Paltiel puts it: "It's not as if you're giving one guy a Lamborghini and the other a Yugo." It's necessary to think about what gaps a new vaccine will fill, which logistical pressures it eases—and to realize they all get us from point A to point B. Perhaps the first two vaccines are exotic race cars, but the new one has four-wheel drive and navigates well in snow.

This fall, Schwartz and Paltiel, along with Rochelle Walensky, who's now the head of the Centers for Disease Control and Prevention, looked more closely at the question of which would save more lives: a highly effective two-dose vaccine, like those from Moderna and

Pfizer, or one that's less effective but easier to get into people's arms, like J&J's. Effectiveness versus efficiency. They designed a simple model that projected the number of potential deaths and hospitalizations into the spring, based on the pandemic's dire state, and compared how well various theoretical shots would prevent them. For the most effective two-dose vaccine, they started with an efficacy of 75 percent. "We thought that was the best we could possibly hope for," Schwartz says. (When the Pfizer and Moderna results arrived, the team had to quickly rerun their numbers.)

Even with the two-dose vaccine bumped up to 95 percent efficacy, their model suggested that efficiency remained key. A 55 percent effective single-shot vaccine could prevent just as many deaths, they found, as long as a lot of people could get that shot quickly. Hence the team's excitement over adding the J&J results, Schwartz says. It requires half as many doses—which means half the shipments, the sign-ups, the staff time, the headaches—to get the same number of people protected. And, unlike in his team's simulation, the US is getting both kinds of vaccines, not just one or the other, meaning more deaths can be avoided.

Still—and here we'll stop evading the question—having all those options means states will need to decide *where* doses of each go. There are no guidelines yet for where vaccines will be sent, and Schwartz thinks many states will opt to keep it that way: The feds will send a batch of vaccines out, and they'll go to whichever provider—whether that's a pharmacy or doctor's office or mass clinic—needs them. In other words, distribution will be first-come, first-serve and fairly random. But other states may see an opportunity to prioritize certain vaccines for certain people. They could try to reserve the mRNA vaccines for the people most at risk from severe illness, given the slight boost in protection. Or they might choose to nudge the J&J vaccine to certain areas—say, rural communities with less medical infrastructure—because of its logistical ease.

Yet Ann Lewandowski, a program manager at the Rural Wisconsin Health Cooperative, says that doesn't square with the challenges of the vaccine distribution effort so far. The logistical snafus particular to the mRNA vaccines, like freezer space, have been far less an issue than ensuring an adequate and predictable supply—enough for their patients, but not so much in one batch that they're overwhelmed. (One way J&J could help is by sending out smaller, more flexible orders appropriate for small clinics, Lewandowski says. The company didn't respond to an inquiry asking about its expected minimum order size.) In any case, she agrees with Fauci: The biggest need is delivering more shots.

There are some situations where she could see a single-shot vaccine being particularly useful. One might be for instances in which second

doses are particularly hard to arrange: for example, at a pop-up clinic that serves unhoused people. Lewandowski has a relative without a permanent address or doctor, and she knows how difficult it can be to get people in those situations back for a second dose. “I’m a realist,” she says. “My personal experience is with somebody who is hard to track down.” But when she floated the idea in a Facebook group where health workers were discussing the J&J results, she got pushback. Another health official argued that giving a less effective vaccine to vulnerable people was akin to “giving up” on finding them again for second doses, relegating them to an inferior product.

Lewandowski understood the sentiment. Enshrining a state policy that a particular vaccine should go to a certain population based on logistics would be a mistake, she adds. “It would be distressing in those communities and slow things down,” she says. One solution could be to leave it up to providers to request a specific vaccine. They know their patients best: what preferences they have and what’s actually feasible. That’s already the situation in Wisconsin, she points out, where providers request either Moderna or Pfizer vaccines from the state.

More questions about priority are likely as the distribution effort matures, says Julie Swann, a vaccine supply chain expert at North Carolina State University. Soon, there should be more than three vaccines—shots from AstraZeneca and Novavax are likely next—and each will come with pros and cons. Even if shots are eventually targeted for one group or another, transparency will be key, she notes. “You can tell people that one is less effective but you wouldn’t have to come back, and the other is more effective but you need a second dose,” she says. Some people may have preferences between one or the other. Maybe some will seek out a different shot elsewhere. Maybe some will wait. But most, she hopes, will see little choice in the range of good options. In the middle of a crisis, a shot is a shot.