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OPINIONLIFE SCIENCE

The Deceptive Campaign for Bivalent Covid Boosters

Studies show they fail to live up to their promise, but vaccine makers and experts keep pushing them.

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Joe Biden receives a Covid-19 booster in Washington, Oct. 25, 2022.

PHOTO: EVAN VUCCI/ASSOCIATED PRESS

You might have heard a radio advertisement warning that if you've had Covid, you could get it again and experience even worse symptoms. The message, sponsored by the Health and Human Services Department, claims that updated bivalent vaccines will improve your protection.

This is deceptive advertising. But the public-health establishment's praise for the bivalent shots shouldn't come as a surprise. Federal agencies took the unprecedented step of ordering vaccine makers to produce them and recommending them without data supporting their safety or efficacy.

The idea of updating mRNA Covid shots every season originally held promise. One advantage of mRNA technology is that manufacturers can tweak the genetic sequence and rapidly

produce new vaccines targeting new variants. Hence the bivalent boosters targeting the BA.4 and BA.5 Omicron variants along with the original Wuhan strain.

But three scientific problems have arisen. First, the virus is evolving much faster than the vaccines can be updated. Second, vaccines have hard-wired our immune systems to respond to the original Wuhan strain, so we churn out fewer antibodies that neutralize variants targeted by updated vaccines. Third, antibodies rapidly wane after a few months.

Two studies in the New England Journal of Medicine this month showed that bivalent boosters increase neutralizing antibodies against the BA.4 and BA.5 variants, but not significantly more than the original boosters. In one study, antibody levels after the bivalent boosters were 11 times as high against the Wuhan variant as BA.5.

The authors posit that immune imprinting “may pose a greater challenge than is currently appreciated for inducing robust immunity against SARS-CoV-2 variants.” This isn’t unique to Covid or mRNA vaccines, though boosters may amplify the effect. Our first exposure as children to the flu—whether by infection or vaccination—affects our future response to different strains.

The original Covid vaccines and boosters trained our memory B-cells to produce antibodies against the Wuhan variant. As the University of Pennsylvania’s Paul Offit explains in a New England Journal of Medicine article, previously vaccinated people who received the bivalent booster were “primed” to respond to the Wuhan strain and mounted an inferior antibody response to other variants.

The studies’ findings contradict November press releases from Pfizer and Moderna asserting that their bivalents produced a response to the BA.4 and BA.5 variants four to six times that of the original boosters. These claims are misleading. Neither vaccine maker conducted a randomized trial. They tested the original boosters last winter, long before the BA.5 surge and 4½ to six months after trial participants had received their third shots. The bivalents, by contrast, were tested after BA.5 began to surge, 9½ to 11 months after recipients had received their third shots.

A longer interval between shots would increase the antibody boost to the BA.5 variant. So would a prior infection with the BA.5 variant. In other words, people who received the bivalent boosters in August would have been primed to produce more antibodies in response to BA.5.

The vaccine makers designed their studies to get the results they wanted. Public-health authorities didn't raise an eyebrow, but why would they? They have a vested interest in promoting the bivalents.

The Food and Drug Administration ordered the vaccine makers in June to update the boosters against BA.4 and BA.5 and rushed in late August to authorize the bivalents before clinical data were available. The Centers for Disease Control and Prevention recommended the bivalents for all adults without any evidence that they were effective or needed.

Vaccine makers could have performed small randomized trials last summer and early fall that tested the bivalents against the original boosters and a placebo group. Results could have been available by the end of September. But the public-health authorities didn't want to wait—and now we know why.

The CDC published a study in November that estimated the bivalents were only 22% to 43% effective against infection during the BA.5 wave—their peak efficacy. As antibodies waned and new variants took over later in the fall, their protection against infection probably dropped to zero.

Another CDC study, in December, reported that seniors who received bivalents were 84% less likely to be hospitalized than the unvaccinated, and 73% less likely than those who had received two or more doses of the original vaccine. But neither study controlled for important confounding factors—for one, that the small minority who got bivalents were probably also more likely than those who hadn't to follow other Covid precautions or seek out treatments such as Paxlovid.

FDA Commissioner Robert Califf tweeted on Jan. 11 that “COVID-19 vaccines have been *associated* with a significant reduction in hospitalization and death” (my emphasis). He should know that correlation doesn't prove causation. A study found the unvaccinated were significantly more likely to get into car accidents, but that doesn't mean vaccines prevent crashes.

Many of the same experts who trashed observational studies supporting hydroxychloroquine and ivermectin now flog intrinsically flawed studies on bivalent boosters. After zealously promoting the bivalents, they may be seeking vindication. But science isn't about vindication.

Covid vaccines mitigated severe illness while most Americans gained immunity through natural infection, which substantially boosts protection. There's a growing consensus that we

need better vaccines and treatments to protect those still at risk. But we also need honest public-health leaders.

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