

The Vaccine News Continues to be Better than Many People Realize.

The New York Times | By David Leonhardt | 2/1/21



A nurse prepared a dose of the Moderna vaccine in the Bronx on Saturday. James Estrin/The New York Times

Infections aren't what matters

The news about the vaccines continues to be excellent — and the public discussion of it continues to be more negative than the facts warrant.

Here's the key fact: **All five vaccines with public results have eliminated Covid-19 deaths.** They have also drastically reduced hospitalizations. "They're all good trial results," Caitlin Rivers, an epidemiologist at Johns Hopkins University, told me. "It's great news."

Many people are instead focusing on relatively minor differences among the vaccine results and wrongly assuming that those differences mean that some vaccines won't prevent serious illnesses. It's still too early to be sure, because a few of the vaccine makers have released only a

small amount of data. But the available data is very encouraging — including about the vaccines' effect on the virus's variants.

“The vaccines are poised to deliver what people so desperately want: an end, however protracted, to this pandemic,” as Julia Marcus of Harvard Medical School recently wrote in *The Atlantic*.

Why is the public understanding more negative than it should be? Much of the confusion revolves around the meaning of the word “effective.”

What do we care about?

In the official language of research science, a vaccine is typically considered effective only if it prevents people from coming down with any degree of illness. With a disease that's always or usually horrible, like ebola or rabies, that definition is also the most meaningful one.

But it's not the most meaningful definition for most coronavirus infections.

Whether you realize it or not, you have almost certainly had a coronavirus. Coronaviruses have been circulating for decades if not centuries, and they're often mild. The common cold can be a coronavirus. The world isn't going to eliminate coronaviruses — or this particular one, known as SARS-CoV-2 — anytime soon.

Yet we don't need to eliminate it for life to return to normal. We instead need to downgrade it from a deadly pandemic to a normal virus. Once that happens, adults can go back to work, and children back to school. Grandparents can nuzzle their grandchildren, and you can meet your friends at a restaurant.

As Dr. Ashish Jha, the dean of the Brown University School of Public Health, told me this weekend: “I don't actually care about infections. I care about hospitalizations and deaths and long-term complications.”

The data

By those measures, all five of the vaccines — from Pfizer, Moderna, AstraZeneca, Novavax and Johnson & Johnson — look extremely good. Of the roughly 75,000 people who have received one of the five in a research trial, not a single person has died from Covid, and only a few people

appear to have been hospitalized. None have remained hospitalized 28 days after receiving a shot.

To put that in perspective, it helps to think about what Covid has done so far to a representative group of 75,000 American adults: It has killed roughly 150 of them and sent several hundred more to the hospital. The vaccines reduce those numbers to zero and nearly zero, based on the research trials.

Zero isn't even the most relevant benchmark. A typical U.S. flu season kills between five and 15 out of every 75,000 adults and hospitalizes more than 100 of them.

I assume you would agree that any vaccine that transforms Covid into something much milder than a typical flu deserves to be called effective. But that is not the scientific definition. When you read that the Johnson & Johnson vaccine was 66 percent effective or that the Novavax vaccine was 89 percent effective, those numbers are referring to the prevention of all illness. They count mild symptoms as a failure.

“In terms of the severe outcomes, which is what we really care about, the news is fantastic,” Dr. Aaron Richterman, an infectious-disease specialist at the University of Pennsylvania, said.

The variants

What about the highly contagious new virus variants that have emerged in Britain, Brazil and South Africa? The South African variant does appear to make the vaccines less effective at eliminating infections.

Fortunately, there is no evidence yet that it increases deaths among vaccinated people. Two of the five vaccines — from Johnson & Johnson and Novavax — have reported some results from South Africa, and none of the people there who received a vaccine died of Covid. “People are still not getting serious illness. They’re still not dying,” Dr. Rebecca Wurtz of the University of Minnesota School of Public Health told me.

The most likely reason, epidemiologists say, is that the vaccines still provide considerable protection against the variant, albeit not quite as much as against the original version. Some protection appears to be enough to turn this coronavirus into a fairly normal disease in the vast majority of cases.

“This variant is clearly making it a little tougher to get the most vigorous response that you would want to have,” Dr. Francis Collins, director of the National Institutes of Health, said. “But still, for severe disease, it’s looking really good.”



A vaccination site in North Charleston, S.C. Cameron Pollack for The New York Times

What would an expert do?

The biggest caveat is the possibility that future data will be less heartening. Johnson & Johnson and Novavax, for example, have issued press releases about their data, but no independent group has yet released an analysis. It will also be important to see much more data about how the vaccines interact with the variants.

But don’t confuse uncertainty with bad news. The available vaccine evidence is nearly as positive as it could conceivably be. And our overly negative interpretation of it is causing real problems.

Some people worry that schools cannot reopen even after teachers are vaccinated. Others are left with the mistaken impression that only the two vaccines with the highest official effectiveness rates — from Moderna and Pfizer — are worth getting.

In truth, so long as the data holds up, any of the five vaccines can save your life.

Last week, Dr. William Schaffner of Vanderbilt University told my colleague Denise Grady about a conversation he had with other experts. During it, they imagined that a close relative had to choose between getting the Johnson & Johnson vaccine now or waiting three weeks to get the Moderna or Pfizer vaccine. “All of us said, ‘Get the one tomorrow,’” Schaffner said. “The virus is bad. You’re risking three more weeks of exposure as opposed to getting protection tomorrow.”