

Most infections may soon be breakthroughs

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Omicron — the latest variant of SARS-CoV-2 — is steadily working its way through populations with high levels of immunity around the world. There are going to be many coronavirus cases in the coming days and weeks, with little to stop the spread, even if existing immunity can still prevent serious illness.

The United States, where Delta still reigns supreme for now, is reporting over 120,000 new daily coronavirus cases. In Britain, Omicron cases are surging.

In the United States, so-called breakthrough cases — infections among the vaccinated — were less common before Omicron, affecting just a small percentage of vaccinated people, by most counts. Now breakthrough cases among the vaccinated are fast becoming the status quo.

The highly contagious Omicron stands to make the notion of a surprise breakthrough infection “completely irrelevant,” said Ali Ellebedy, an associate professor of pathology and immunology at Washington University School of Medicine in St. Louis. This was always bound to happen: As more Americans get vaccinated and more variants circulate, more infections are expected among the vaccinated. But Omicron is speeding up the process.

So far, breakthrough cases have caused just a small fraction of the damage, compared to infections among the unvaccinated. “There are many flavours of infection,” said Marc Lipsitch, a professor of epidemiology at Harvard and the director of the Center for Communicable Disease Dynamics. There’s infection, which means the virus is replicating in one’s body, and there’s infectiousness, which means the virus is replicating in parts of the body in such a way that it could infect other people.

Initially, being fully vaccinated meant protection against most flavours of infection and their effects. In September 2021, cases of COVID in unvaccinated people were about six times as high as the vaccinated, according to Centers for Disease Control and Prevention data. Deaths from COVID among the unvaccinated were also around 12 times as high as deaths from COVID among the vaccinated. Serious illness and hospitalisations were also less common among the vaccinated. And even when they became infected, the vaccinated appeared less likely to spread the virus to others.

But with Omicron, being fully vaccinated does not appear to provide the same level of protection, in terms of infection and transmission. While the vaccinated still appear likely to avoid serious illness, there remains a risk they will experience symptoms. They may also pass the virus to someone else.

With the ability to spread widely and quickly, Omicron is poised to become the dominant variant. It’s unclear how severe or mild Omicron is for someone who has not been vaccinated and thus has no coronavirus immunity. In the United States data suggest that around 61 percent of Americans of all ages are fully vaccinated. There are millions of Americans who are not vaccinated.

Hospitals are already overburdened by Delta patients, and the consequences of many infections in a short period will be increasingly deadly. Even cases among the vaccinated can still lead to long COVID.

Fortunately, there’s mounting evidence that a third shot, which the Food and Drug Administration authorised in November for all adults, can increase people’s defenses. But only around 28 percent of Americans have received a booster.

While policymakers are still urging people to do what they can to avoid spreading or contracting the virus, the response to Omicron has largely been to re-emphasise the need for boosters in order to bolster immunity against an infection that will be hard to keep at bay. More measures will likely be needed to lessen the toll on the health system. Rapid tests for every American could help prevent transmission by identifying infections early, for example.

With the eradication of COVID-19 off the table, the hope has been that one variant — in the best-case scenario, an innocuous one — would finally push the United States toward endemicity, a consistent but relatively contained level of infection. But the world will need a lot more immunity to get there. Ideally, people would be both vaccin-

ated and regularly boosted so that they have protection against disease when they are exposed to any variant and at most feel they have a crummy cold and recover.

Annual shots, as with seasonal flu variants, and boosters, as with tetanus, have always been an accepted part of infectious disease prevention. And outside of the COVID pandemic, no one really speaks of breakthrough infections, though the term may still apply. In the future, getting COVID-19 boosters and breakthroughs will feel like the new normal, Dr. Ellebedy said.

While SARS-CoV-2 infections among the vaccinated may feel like a personal problem, they actually represent a societal and global one. In the United States, for example, the Delta variant has already pummelled health care infrastructure, putting strain on providers and making it more difficult for everyone from cancer patients to people experiencing appendicitis to seek care. “We will continue to have variants of concern emerging as long as we have large swaths of the human population that are unprotected,” said the bioethicist Nancy Jecker, a professor at the University of Washington School of Medicine.

Every wave of the pandemic has posed its challenges, but Omicron offers the vaccinated a preview of one of the more frustrating aspects of endemicity: regular breakthroughs.