

# COVID-19 VARIANT BRIEFING

Updated on November 22, 2022

## Are there new variants circulating in the U.S. now? What is coming down the pipeline this winter—should we be concerned?

As is expected, viruses mutate and change over time—COVID-19 is no exception. [The CDC Nowcast](#) estimates, which are updated weekly, offer insight into the variant mix. Currently, a “variant soup” of Omicron sublineages is circulating in the U.S., making exact predictions for dominance and impact on daily life this upcoming winter difficult. There is no indication that these sublineages represent a major divergence that would substantially change the way the virus behaves in terms of symptoms or disease severity as the Delta or Omicron variants did when they were initially identified. However, this is a constantly changing landscape that deserves attention, as [some experts predict](#) a winter surge with consequential levels of reinfection.

For the week ending Nov 19, BQ.1 accounted for 25.5% of all cases in the U.S., while BQ1.1 (24.2%), BA.5 (24%), BF.7 (7.8%), BN.1 (5.1%), and BA4.6 (4.4%) were all circulating, among other Omicron subvariants. The lineage makeup in recent weeks saw a rise in BQ subvariants, which may have a meaningful impact by [evading existing immunity](#) and [limiting treatment options](#), specifically monoclonal antibody therapeutics (see below).

Additionally, [XBB is a new strain descended from an Omicron subvariant](#) that currently accounts for approximately 1% of U.S. cases. This was initially identified in Singapore but has been circulating at low levels in the U.S. since at least mid-September and is [likely extremely immune evasive](#), meaning that it might be able to infect people who were protected against other variants via infection or vaccination. While this could become a more dominant strain and should be closely observed, waves of XBB elsewhere in the world appear to have dissipated quickly.

## Are there new recommendations or mask mandates in preparation for emerging variants? Any new standards for benchmarking responses?

In spite of changing subvariant mixes, recommendations remain the same: [vaccination and boosting](#) still offer the best protection; those who are high-risk or who may be around high-risk individuals should consider masking or avoiding crowded gatherings. Given the recent changes in the landscape of variants, [some jurisdictions](#) have elevated warning levels, recommending—but not mandating—masks in areas with “high” [COVID community levels](#), though this recommendation is not widespread.

This season has already seen [alarmingly high levels of flu and R.S.V.](#), straining hospitals and posing special danger to young children. The expected rise of respiratory illnesses including COVID-19 as the weather becomes colder and people gather for holidays would exacerbate this situation, potentially overloading the health system. As such, vaccination, boosting, masking, handwashing, and other precautions should be widely encouraged for those eligible.

## What do we know about how much the bivalent booster protects against the new variants?

While it specifically targets the original and BA.1 Omicron variants, the bivalent booster [is able to work against](#) other previous strains of COVID-19 variants as well as the BA.5 Omicron variant, which has been the dominant subvariant for many months in 2022. There is not yet enough data to know how well antibodies from the bivalent shot may work against newer subvariants, including BQ subvariants. However, while it may not prevent infection, T cell protection (a type of durable immune response that target cells infected by COVID-19 regardless of variant type) likely will provide meaningful immunity against severe illness if a person becomes infected with a new subvariant. This type of protection wanes over time, so this may be a further argument in favor of getting an updated booster.

The [CDC reports](#) that as of 11/19/22, only 11.3% of people 5+ in the U.S. have received an updated booster dose—this is potentially problematic going into the winter season. This lackluster rate must also be understood in the context of already [low rates of primary vaccination against COVID-19](#): just 72.8% of people 5+ have completed the primary series. In some areas of the country and among some populations, this number is much lower.

### **What about clinical treatment options and oral antivirals? Do they remain effective against new variants?**

Monoclonal antibody treatments tend to be variant-dependent, meaning their effectiveness has high potential to be undermined by new variants. This has [already happened previously](#), and the danger is that the remaining monoclonal antibody treatments in use could become obsolete, rendering the most vulnerable people among us at risk. Generally, monoclonal antibody treatments are used in people who are at high risk of progression to severe disease and who are not eligible for antivirals (including nirmatrelvir/ritonavir, or Paxlovid) due to drug interactions, allergies, access, or other reasons.

Early data indicate that while antiviral drugs (e.g. nirmatrelvir/ritonavir, or Paxlovid) will likely remain effective against the currently emerging variants for now (though [this may change](#)), there may be consequences for antibody therapies. In particular, with new variants affecting immune evasion, the two remaining treatment options (bebtelovimb and tixagevimab plus cilgavimab, commercially known as Evusheld) may become obsolete, yielding an absence of active therapy options for patients who may be unable to take antivirals.

The [NIH released a statement on 11/10/22](#) noting that subvariants BQ.1 and BQ.1.1 are likely to be resistant to bebtelovimab, and the subvariants BA.4.6, BA.2.75.2, BA.5.2.6, BF.7, BQ.1, and BQ.1.1 are likely to be resistant to Evusheld. Additionally, [preprint data out of China](#) (10/4/22) found potentially limited effectiveness of remaining treatment options against BQ.1 or BQ1.1. This is something that should be closely followed.

*The ideas presented in this document reflect the latest public health thinking and scientific evidence as of November 2022. You are advised that the COVID-19 vaccine landscape remains highly fluid, and it is your responsibility to ensure that decisions are made based on the most up-to-date information available. Partners In Health does not provide medical advice, diagnosis or treatment in the United States. Always seek the advice of a physician or other qualified health care provider with any questions regarding a medical condition. The information, including but not limited to, text, graphics, images and other material contained in this document, are intended for informational purposes only.*