Delta Variant Fact-Sheet
Updated July 13, 2021

VARIANT BACKGROUND

All viruses mutate and change naturally. When mutations fundamentally change the characteristics of a virus (its structure and/or behavior) we classify them as variants.

SARS CoV-2 – the virus that causes COVID-19 – is constantly mutating. A growing number of distinct variants have been identified to-date. Their genetic mutations have the potential to affect the trajectory of the pandemic. More variants are sure to emerge.

- Every time a virus is passed on to another person, mutations can occur that may make the virus more transmissible and/or deadly. As long as transmission is allowed to occur (e.g. within under-vaccinated communities) there is potential for new variants to emerge. Vaccination can prevent infection AND transmission, thereby stopping the ability of the virus to mutate uncontrollably.

THE DELTA VARIANT

The Delta variant is now the dominant COVID-19 strain in the US. It is currently responsible for more than half of new COVID-19 cases in the US.

- The Delta variant was first identified in 2020, but the first case in the US was identified in March 2021 and has grown from approximately 0.1% of cases in April to over 50% of cases in July.

The Delta variant is spreading rapidly in the US, especially in areas with low vaccination rates. The rapid spread of Delta has also been observed in India and the UK recently.

The Delta variant is more contagious than other COVID-19 variants, meaning it can spread more easily.

- The variant has mutations on the spike protein that make it easier to infect humans.

Though the impact of the Delta variant is still being studied, it appears to be more likely to lead to hospitalizations and deaths, especially among unvaccinated people.

- Research from Scotland suggests that unvaccinated people who are infected with Delta are twice as likely to be hospitalized as those infected with Alpha (an earlier variant first identified in the U.K.)

VACCINES AND THE DELTA VARIANT

Vaccination offers the best protection against the Delta variant.

- The bulk of current COVID-19 cases are in unvaccinated and partially vaccinated populations.

- Vaccination provides direct protection to individuals who are vaccinated, and vaccination also provides indirect protection by reducing transmission to those who are unvaccinated or who have less effective immune responses (like the elderly and immunocompromised).

- Prior COVID-19 infection may not be sufficient to protect individuals from the Delta variant. That’s why vaccination is recommended for all, regardless of prior infection status.

Studies across the world show that the vaccines available in the US are effective against the Delta variant.

- **PFIZER:** A recent study indicated that Pfizer is ~80% effective against preventing infection from Delta, 88% effective at preventing symptomatic disease and 96% effective at preventing hospitalizations caused by the virus (source). We are still collecting real-world data.
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Modern vaccine efficacy is still being studied, but efficacy is likely extremely similar to Pfizer as Moderna and Pfizer are the same vaccine type (mRNA).

J&J will also release more results soon, but early data suggests J&J also offers strong protection (~60% – against Delta ([source](#)).

**For two-dose vaccinations like Moderna and Pfizer, you must complete the full course of vaccination (both shots) to gain the protection needed to protect against Delta.** A study in the U.K. showed 1 dose of Pfizer is ~33% effective against preventing symptomatic disease vs. 2 doses are ~88% effective at preventing symptomatic disease ([source](#)).

- More studies are underway to clarify the impact of the vaccines on the Delta variant. We will know more soon if a "booster shot" will be needed in the fall.

There have been breakthrough cases of COVID-19 infection for those vaccinated, but they are rare, and likely to be mild. By preventing severe outcomes, the vaccines are working.

- Breakthrough infections are rare, and hospitalized or fatal breakthrough infections are even more rare.
  - The risk of being hospitalized or dying as a result of a breakthrough infection is minuscule (~ 0.003%).
    - As of July 6, 2021, more than 157M people in the US have been fully vaccinated. During this time period, the CDC received reports of 5,186 patients with COVID-19 vaccine breakthrough infection who were hospitalized or died ([source](#)).
    - However, those with comorbidities (diabetes, asthma, etc.) may be at increased risk of severe health outcomes if breakthrough infection occurs.

- Recent studies suggest that those who are annually vaccinated and have a breakthrough Delta infection are 94% less likely to be hospitalized ([source](#)).

**Bottom line:** there is a lot more to learn, but vaccines are still the best tool we have against COVID-19, and particularly against the COVID-19 Delta variant.

- We need to stick with public health recommendations.
- Core pandemic response strategies should not change: community mitigation, testing, case investigation and contact tracing, supported isolation, and vaccination.
- Variants may be more transmissible, infectious, and able to evade diagnostic, therapeutic and antibody responses; this reinforces the need for comprehensive strategies to prevent their spread. **Decreasing spread is key to preventing opportunities for new variants to develop.**