

COVID-19 Vaccines

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Lynda Dee

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There are so many COVID-19 (COVID) vaccine candidates and different demographics of people in the United States (US). Where do we start? Let's begin with who gets COVID. Because I have a great deal of information to impart, much of this article will provide data in bullet form for easier reading.

There are currently over 700,000 COVID deaths in the US. What communities make up these very tragic numbers of real people?

1 in 390 Native Americans (or 256.0 deaths per 100,000)

1 in 555 Black Americans (or 179.8 deaths per 100,000)

1 in 565 Pacific Islander (or 176.6 deaths per 100,000)

1 in 665 White Americans (or 150.2 deaths per 100,000)

1 in 680 Latino Americans (or 147.3 deaths per 100,000)

1 in 1,040 Asian Americans (or 96.0 deaths per 100,000)

People over 65 and people of color, except Asians, not only have more cases of COVID, but they also suffer worse COVID outcomes because they often also have other serious health issues, called co-morbidities such as:

Cancer

Cerebrovascular disease

Chronic kidney disease

Chronic lung diseases

COPD (chronic obstructive pulmonary disease)

Chronic liver diseases

Diabetes mellitus, type 1 and type 2

Heart conditions (such as heart failure, coronary artery disease, or cardiomyopathies)

Mental health disorders

Obesity (BMI ≥ 30 kg/m²)

Pregnancy and recent pregnancy

Smoking, current and former

Tuberculosis

We know that a number of COVID vaccinations are widely available in the US and are very effective. So, who gets vaccinated?

Adults with at least one vaccine dose:

72% of all US adults

71% of Whites

70% of Blacks

73% of Hispanics

What do we know about current vaccines?

The Pfizer vaccine was studied in over 44,000 people

It received FDA Emergency Use Authorization (EUA) on December 20, 2021

EUA is not full FDA approval.

The Pfizer vaccine consists of two doses, given three weeks apart, and requires extreme cold storage accessibility mostly available at hospital type venues

Efficacy in clinical trials was 97% efficacy in people with symptomatic COVID

In the real world efficacy is 90% two weeks after a second dose

It is also effective against asymptomatic COVID and prevents transmissibility

The most common side effects are injection site reactions (ISRs), fatigue, headache, muscle pain, and nausea; chills, fever and joint pain are less common; anaphylactic shock is the least common, but the most serious.

All side effects worse after second dose, especially in people 64 and younger

Non-serious side effects are a sign that a vaccine is actually doing its job

The Moderna vaccine was studied in 30,000 people. Studies were conducted in NIH sponsored trial networks and paid for by taxpayers.

FDA EUA was received on December 17, 2021

The Moderna vaccine consists of two doses, four weeks apart, and requires cold storage

Moderna efficacy is 96% in people under 65, and 86% in people over 65 two weeks after the second dose

It is also effective against asymptomatic COVID-19 and transmissibility

Similar to the Pfizer vaccine, most common are injection site reactions (ISRs), fatigue, headache, muscle pain, and nausea; chills, fever and joint pain are less common; anaphylactic shock is the least common, but the most serious.

All side effects worse after second dose, especially in people 64 and younger

The Johnson & Johnson (J&J) vaccine has been studied in 45,000 people

FDA EUA was received on February 2, 2021

The J&J vaccine consists of one dose, and has no cold storage or transportation issues

Trials were conducted in US, Argentina, Brazil, Chile, Colombia, Mexico, Peru and South Africa

It had 72% efficacy in US, 66% in Latin America, 57% in South Africa, with overall efficacy of 66%

There were no hospitalizations or deaths in any country

The side effects of this vaccine are similar to the Pfizer and Moderna vaccines, but there are some important additional side effects

The most common side effects are ISRs, fatigue, headache; muscle pain most common, fever, joint pain and diarrhea are less common; rash and swollen lymph nodes are least common; blood clots which occurred mostly in women caused a brief EUA pause and have severely dampened trust in this vaccine.

The Novavax has been studied in 15,000 people

An EUA has been filed, but not yet received as the FDA required more data

This vaccine consists of two doses, but has no cold storage or transportation issues

Trials were conducted in the US, the United Kingdom (UK), Australia, South Africa, and Mexico

The efficacy was 90% in wild type virus with no variants and 85.6% in the face of the UK variant (Boosters and variants will be fully discussed in my next article.)

The current list of reported side effects are incomplete; the most common reported side effects are ISRs, fever, headache; joint pain and fatigue are less common

The AstraZeneca(AZ) vaccine is being studied primarily in the UK at Oxford University

AZ has not filed for an EUA; the FDA has not yet received any AZ data

AZ has filed for an EUA in many European countries where it will be leading vaccine option

This vaccine has been mired in controversies with temporary clinical trial holds in many countries

First there was a mistake in the dosage given, half a dose was given rather than the full dose required; AZ claims the ½ dose works better

Transverse myelitis which is a rare inflammation of the spinal cord which may be a precursor to MS, occurred in one young woman

Blood clots were definitively determined to be caused by the AZ vaccine

A number of different efficacy rates were reported, including 79% or 76%, and 82% with vaccine given at 12 weeks apart

AZ failed to cooperate with the NIH; AZ's own safety monitoring board publicly criticized AZ with respect to the efficacy discrepancies

These numerous issues have caused serious credibility issues for the AZ vaccine

Vaccines for Children – Updated as of January 11, 2021

CDC recommends everyone ages 5 years and older get a COVID vaccine

Only Pfizer has a COVID vaccine for children and teens

The previous Pfizer EUA for children ages 12-17 was amended to now include children 5-11.

Efficacy in children is approximately 91%

The side effects are the same in children as adults, except in younger males there may be more myocarditis and pericarditis, an inflammation of the heart muscle or heart muscle lining

Please be advised that this information changes very frequently as new data from ongoing clinical trials develops almost daily. Stay tuned for more data as it develops. Variants which may compromise the effectiveness of our current vaccines and boosters will be covered in my next article.

Be sure to get vaccinated and boosted as soon as possible. Be sure to also mask up. All these prevention strategies are your best protection against serious COVID. The life you save may be your own or that of someone you love. Don't forget to get your second vaccine and booster when indicated. Here are links to vaccine sites in Baltimore City and Maryland:

[Where To Get Tested For COVID-19 In Baltimore](#) [Where To Get Tested For COVID-19 In Maryland](#)

Watch for COVID Symptoms

According to the CDC, “people with COVID-19 have had a wide range of symptoms reported – ranging from mild symptoms to severe illness. Symptoms may appear 2-14 days after exposure to the virus. Anyone can have mild to severe symptoms. People with these symptoms may have COVID-19:

Fever or chills

Cough

Shortness of breath or difficulty breathing

Fatigue

Muscle or body aches

Headache

New loss of taste or smell

Sore throat

Congestion or runny nose

Nausea or vomiting

Diarrhea

This list does not include all possible symptoms. CDC will continue to update this list as we learn more about COVID-19. Older adults and people who have severe underlying medical conditions like heart or lung disease or diabetes seem to be at higher risk for developing more serious complications from COVID-19 illness.”

You can find testing sites in Baltimore City and Maryland, using the following links:

[Where To Get Tested For COVID-19 In Baltimore](#) [Where To Get Tested For COVID-19 In Maryland](#)

Good luck and be safe!