COVID-19

Coronavirus disease 2019 (COVID-19) is a systemic disease caused by SARS-CoV-2, a novel coronavirus. The virus spreads predominately through respiratory droplets or aerosols, produced when a person sneezes, coughs, or talks. Symptoms appear 2-14 days after exposure and include cough, shortness of breath, sore throat, fever, chills, muscle pain, headache, and loss of taste or smell. However, many people with COVID-19 have no symptoms. Adults with certain underlying conditions (cancer, heart conditions, obesity, and others) are at increased risk of severe illness and death from the virus. Multisystem Inflammatory Syndrome is a rare but serious complication of COVID-19, especially for children. “Long COVID,” or experiencing COVID-19 symptoms for several weeks or months, occurs in 1 in 20 COVID-19 patients. COVID-19 disproportionately affects communities of color. Nationally, Black people are dying at 1.6 times the rate of white people. While there is currently no cure for COVID-19, scientists are working at record pace to develop COVID-19 treatments and vaccines. COVID-19 vaccination, along with protective measures (hand washing, physical distancing, wearing a mask), are the primary, research-tested ways to protect yourself and your community from getting and spreading COVID-19.

TODAY

As of February 8, 2021, more than 463,000 people have died from COVID-19 in the U.S.

COVID-19 patients with underlying conditions such as heart disease, diabetes, and chronic lung disease are 12 times more likely to die.

Approximately 20% of asymptomatic people who test positive for COVID-19 remain symptom-free.

Which statement is closest to your view?

Statement A: The COVID-19 pandemic is a disruptive event and requires urgent refocusing of America’s commitment to science.

Statement B: Things will get back to normal soon; we don’t need increased efforts in science.

Research Delivers Solutions

Widespread testing can help mitigate the spread of COVID-19. The gold standard COVID-19 diagnostic is polymerase chain reaction (PCR), a highly sensitive molecular test that can detect coronavirus genetic material using a small sample. Antigen tests are cheaper and generally faster; they are particularly useful for identifying those at or near peak infection and work by detecting viral proteins. Antibody tests are used to determine if someone was previously infected with COVID-19 — they are not considered diagnostic tests for identifying active infections. Following intensely vetted research, the FDA has approved vaccines, treatments, and therapeutics for emergency use (EUA) for COVID-19. Recently approved mRNA-based vaccines rely on a technology that is new but has been under development for many years. An injection of a small bit of the virus’s genetic code prompts a robust, specific immune reaction. Remdesivir, the first FDA authorized COVID-19 treatment, is an antiviral medication that can shorten recovery time for hospitalized COVID-19 patients and may reduce the need for respiratory support. Similarly, proning (positioning patients to lie face down) improves oxygenation and can minimize the need for ventilation. Laboratory engineered antibodies, or monoclonal antibodies (MABs), that mimic the immune system’s ability to fight infection may help patients with mild to moderate COVID-19 (EUAs have been granted for select MABs). Healthcare providers are also utilizing convalescent plasma (blood donated from recovered COVID-19 patients that contains disease fighting ABS) and dexamethasone (a steroid that reduces inflammation and limits the overreaction of the immune system). An EUA has been granted for convalescent plasma; its use is limited to treating hospitalized COVID-19 patients in the early stages of disease or those who are hospitalized and have impaired humoral immunity. As new data emerges, adjustments will be made to treatment strategies to ensure maximal efficacy.
Then. Now. Imagine.

THEN
At the onset of the pandemic, there were no known methods of preventing or treating COVID-19.

NOW
The FDA has granted emergency use authorization for several treatments and vaccines for COVID-19 and continues to evaluate emerging therapeutics.

IMAGINE
A world without COVID-19.

Sex Differences and COVID-19

Men tend to experience higher mortality rates and more severe symptoms from COVID-19. Women may mount a more adaptive and robust immune response than men, which could confer greater protection against the virus.27 Men may also be more likely to downplay the high risk of infection and less likely to implement protective measures.28 Leveraging research to inform intervention strategies is key to quelling COVID-19 gender disparities.

COVID-19 Death Rates per 100,000 people, February 2021

SOURCE: Statista U.S. COVID-19 death rate by state

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The Albert and Mary Lasker Foundation is a founding partner in this series of fact sheets. www.laskerfoundation.org

RIA2.21