COVID-19

Summary

In December 2019, SARS-CoV-2, a novel coronavirus causing a severe acute respiratory syndrome, emerged from Wuhan, China. It causes the disease commonly known as COVID-19. By January 2020, cases were detected outside of China. The World Health Organization (WHO) declared a global pandemic on March 11, 2020. The COVID-19 global pandemic and the US national emergency health order ended in May 2023, and it is now considered endemic, or a commonly occurring disease.

COVID-19 first presented primarily as a respiratory illness. It is now known that this virus affects other body systems. Common symptoms include fever, chills, cough, shortness of breath or trouble breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion, runny nose, nausea or vomiting, and diarrhea. This is not a complete list of all possible symptoms. Symptoms may vary depending on severity of the illness, variant of the virus, and vaccination or treatment status. Most people experience acute respiratory symptoms that are present for a cold, flu, or pneumonia. Although most people who get sick from COVID-19 will have mild symptoms, others may become extremely ill and some will have persistent constitutional symptoms for many weeks to months.

COVID-19 presents the most risk for severe outcomes to people over 60 years of age (especially if 85 years or older) and people with underlying health conditions like cardiovascular disease, immunosuppression, diabetes, chronic respiratory conditions, and more. This is not a comprehensive list and other health conditions may exacerbate the severity of COVID-19. Extra precautions are advised to prevent and treat COVID-19 for individuals over 60 years of age or diagnosed with underlying health conditions.

Vaccination significantly decreases the risk of severe illness and hospitalization, especially in those 65 and older or with certain underlying health conditions.

This chapter will deal with acute COVID-19 illness. Long COVID or post-acute sequelae of COVID-19 (PASC) will not be discussed.

Agent

COVID-19 is a disease caused by a coronavirus named SARS-CoV-2. It is highly contagious and can easily spread from person to person. The family of coronaviruses includes different viruses that cause head and chest colds, like Severe Acute Respiratory Syndrome (SARS), and Middle East Respiratory Syndrome (MERS).

The word ‘corona’ translates to ‘crown’ from Spanish to English and refers to the appearance of coronaviruses, from the spike proteins that protrude from the viral membrane. These spike proteins attach to the membrane of the human cell and infect it. This allows the virus to release its genetic material into the cell, replicate once inside, and spread to other cells. Antibodies from prior infection or vaccination can offer some protection by recognizing and targeting these spike proteins to prevent infection.

Genetic changes, or mutations, naturally occur to viruses over time. These modified pathogens are known as variants. Variants of SARS-CoV-2 can have different attributes that affect how fast the virus spreads, severity of the illness, and effectiveness of available treatments and vaccines.

Current Guidance for Persons with Infection to Reduce Infecting Others

In March 2024 CDC released updated guidance and recommendations for people who test positive for COVID-19. Guidance was changed because of high levels of population wide vaccination, infection-induced immunity, and availability of treatment and prevention methods.

- After testing positive, stay home until symptoms are improving and no fever is present for at least 24 hours without the use of fever reducing medication.
- When returning to normal activities, such as work or being around others, it is recommended to wear a mask for the next five days to prevent possible spread of the disease.
- Stay up to date with the latest vaccine or booster, practice good hygiene by covering coughs and sneezes, washing hands and surfaces often, observe social distancing, and consult with a physician about available treatments.
- Enhanced precautions are necessary when around those most at risk for severe illness, such as persons over 65 years old or those with weakened immune systems.
- Vaccination is the recommended method for preventing COVID-19 illness.

Transmission

Mode of transmission:

COVID-19 spreads by droplets from an infected person when a person may be speaking, coughing, sneezing, or singing. These droplets will come into contact with another person's mucous membranes of the nose, mouth, and eyes. Epidemiological studies have shown that the greatest risk of transmission occurs in closed, poorly ventilated rooms where people are in close proximity for 10-15 minutes or longer.

Period of communicability (Infectious Period):

People are considered infectious 1-2 days before and up to 8-10 days after symptoms start.

Clinical Disease

Incubation period:

2-14 days, averaging approximately 5 days. The average incubation period may be impacted by the variant of the illness.

Illness:

The acute phase of COVID-19 can vary in severity depending on age, underlying conditions, vaccination status, and variant of the virus. The illness can range from asymptomatic, mild, severe, to critical. Symptoms can range from mild cold-like symptoms to very severe symptoms causing hospitalization and even death.

Common symptoms include fever, chills, cough, shortness of breath or trouble breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion, runny nose, nausea or vomiting, and diarrhea. This is not a complete list of all possible symptoms.

Laboratory Diagnosis

Testing is important for persons at high risk of severe disease so that early treatment can be initiated which can reduce the severity of illness. Testing is also important for people who have close contact with high risk individuals so that additional precautions can be taken to limit exposure while infectious. There are two main types of viral tests for SARS-CoV-2: nucleic acid amplification tests (NAATs) and antigen tests.

- **NAATs**, such as PCR-based tests, are most often performed in a laboratory. They are typically the most reliable tests for people with or without symptoms. These tests detect viral genetic material, which can stay in your body for up to 90 days after you test positive. Therefore, you should not use a NAAT if you have tested positive in the last 90 days.

- **Antigen tests** are rapid tests which produce results in 15-30 minutes. They are less reliable than NAATs, especially for people who do not have symptoms. A single, negative antigen test result does not rule out infection. To best detect infection, a negative antigen test should be repeated at least 48 hours apart (known as serial testing). Sometimes a follow-up NAAT may be recommended to confirm a negative antigen test result. Readily available at-home rapid tests are antigen tests.

Treatment

Available treatment options have changed as new variants of the virus have emerged and more treatment options become available. For a detailed and up to date review of symptom management and illness treatment, please refer to this CDC link: Clinical Course: Progression, Management, and Treatment | COVID-19 | CDC. After testing positive, consult with your physician to know which treatment options are recommended and available.

Surveillance

New Mexico currently conducts active surveillance only for hospitalized cases of COVID-19. A case is defined as a hospitalized patient with a laboratory-confirmed test within 14 days before or during hospitalization. Reporting is only required of hospital facilities and laboratories. If you are aware of an unusual cluster of COVID-19 cases, or illnesses involving a large number of people in the same geographic area (outbreaks), you can contact the New Mexico Department of Health for guidance through health hotline at 1-833-SWNURSE or 1-833-796-8773.

Management of COVID-19 in Long-term Care Facilities or other Institutional Settings

Please consult with the New Mexico Department of Health epidemiologist on call at 1-833-SWNURSE or 1-833-796-8773 to ask for recommendations for prevention and control of COVID-19-like illness at semi-enclosed institutional settings such as nursing homes, rehabilitation centers, or correctional institutions.

References

Coronavirus Disease 2019 (COVID-19) | COVID-19 | CDC

NMDOH - Coronavirus Updates | Coronavirus Updates in New Mexico

Preventing Spread of Respiratory Viruses When You're Sick | Respiratory Illnesses | CDC

Infection Control Guidance: SARS-CoV-2 | COVID-19 | CDC

Underlying Conditions and the Higher Risk for Severe COVID-19 | COVID-19 | CDC

Clinical Course: Progression, Management, and Treatment | COVID-19 | CDC