COVID-19

Also known as
Severe Acute Respiratory Syndrome Coronavirus 2 or SARS-CoV-2

Investigation Guidance for New Jersey Local Health Departments

March 20, 2023

1. THE DISEASE AND ITS EPIDEMIOLOGY

A. Etiologic Agent

Coronavirus disease 2019, or COVID-19, first discovered in December 2019 in Wuhan, China, is an infectious disease caused by a virus known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Coronaviruses are a large family of viruses which may cause illness in animals or humans. In humans, several coronaviruses are known to cause respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS).

B. Clinical Description

Acute illness: The clinical presentation of COVID-19 varies widely, ranging from asymptomatic infection to critical illness. Symptoms may vary during the course of one's illness and based on the circulation of different SARS-CoV-2 variants. Symptoms may appear up to 14 days after exposure to the virus, and the median incubation period may be different depending on the variant (e.g., Delta variant median incubation period 4.3 days, Omicron variant median incubation period 3-4 days, etc.). Infections occur in patients who never develop symptoms (asymptomatic) and in patients not yet symptomatic (pre-symptomatic). The percentage of individuals progressing from asymptomatic infection to clinical disease (pre-symptomatic presentation) is uncertain. Since asymptomatic persons may not be routinely tested, the prevalence of asymptomatic infection and detection of pre-symptomatic infection may be more prevalent than previously expected.

Signs & Symptoms: Over the course of illness many people with COVID-19 will experience the following: fever, chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, nasal congestion or rhinorrhea, nausea, vomiting or diarrhea, and skin rashes. Some patients with COVID-19 progress to dyspnea and severe disease about one week after symptom onset, and could require hospitalization, supplemental oxygen, intensive care unit admission, and mechanical ventilation.

Atypical presentations of COVID-19 occur often, and older adults and people with medical comorbidities may experience fever and respiratory symptoms later during the course of illness. Older adults also may experience delirium, falls, reduced mobility, generalized weakness, and changes in blood glucose with COVID-19. Fatigue, headache, and muscle aches (myalgia) are among the most commonly reported symptoms in people who are not hospitalized, and sore throat and nasal congestion or runny nose (rhinorrhea) also may be prominent symptoms. Many people with COVID-19 experience gastrointestinal symptoms such as nausea, vomiting or diarrhea, sometimes prior to having fever and lower respiratory tract signs and symptoms. Loss of smell (anosmia) or change in taste (dysgeusia) have been commonly reported (in a third of patients in one study), especially among women and younger or middle-aged patients. Some recent studies have reported ocular symptoms (redness, tearing, dry eye or foreign body sensation, discharge or increased secretions, and eye itching or pain) and dermatologic

manifestations associated with COVID-19 infection, with the latter possibly associated with increased disease severity.

Reference: Clinical Presentation | Clinical Care Considerations | CDC.

Disease Severity: The National Institutes of Health (NIH) has grouped SARS-CoV-2 infection into five categories based on severity of illness:

Asymptomatic or Pre-symptomatic infection	People who test positive for SARS-CoV-2 using a virologic test (i.e., a nucleic acid amplification test [NAAT] or an antigen test) but who have no symptoms that are consistent with COVID-19.
Mild Illness	People who may have any of the various signs and symptoms of COVID-19 (e.g., fever, cough, sore throat, malaise, headache, muscle pain, nausea, vomiting, diarrhea, loss of taste and smell) but who do not have shortness of breath, dyspnea, or abnormal chest imaging.
Moderate Illness	People who have evidence of lower respiratory disease during clinical assessment or imaging and who have an oxygen saturation (SpO2) ≥94% on room air at sea level.
Severe Illness	People who have oxygen saturation <94% on room air at sea level, a ratio of arterial partial pressure of oxygen to fraction of inspired oxygen (PaO2/FiO2) <300 mm Hg, a respiratory rate >30 breaths/min, or lung infiltrates >50%
Critical Illness	People who have respiratory failure, septic shock, and/or multiple organ dysfunction

Reference: Clinical Spectrum | COVID-19 Treatment Guidelines (nih.gov)

Risk Factors for Severe Illness: Research continues into risk factors for severe COVID-19 outcomes, but the strongest risk factor identified continues to be age: As of July 1, 2022, compared with 18–29-year-olds, the rate of U.S. COVID-19 deaths was 25 times higher in persons 50-64 years, 60 times higher in persons 65-74 years, 140 times higher in persons 75-84 years, and 350 times for persons 85 years and older.

Estimates of COVID-19 deaths in the U.S. show that people from racial and ethnic minority groups are dying from COVID-19 disproportionately, and studies have identified racial and ethnic differences in at-home COVID-19 test use, vaccination coverage, and access to outpatient therapeutics. Once infected, people from racial and ethnic minority groups are more likely to be hospitalized, be admitted to the ICU, and die from COVID-19 at younger ages compared to non-Hispanic white persons.

Additionally, being unvaccinated or not being up to date with COVID-19 booster(s) increases risk for severe disease, as does immunocompromise/immunosuppression.

Other risk factors for severe outcomes of COVID-19 include, but are not limited to:

Asthma	HIV
Cancer	Obesity
Cerebrovascular disease	Primary immunodeficiencies
Chronic kidney disease	Pregnancy & recent pregnancy
Certain chronic lung diseases	Physical inactivity
Certain chronic liver diseases	Smoking (current & former)
Cystic Fibrosis	Solid organ or blood stem cell transplantation
Diabetes mellitus Types 1 & 2	Tuberculosis
Dementia	Corticosteroids & other immunosuppressive medications
Certain Heart Conditions	Certain mental health conditions

In addition, some disabilities that are risk factors for severe illness from COVID-19 include:

- Attention-Deficit Hyperactivity Disorder
- Cerebral Palsy
- Chromosomal disorders
- Cognitive impairment
- Congenital malformations (birth defects)
- Deafness/hearing loss
- Limitations with self-care or activities of daily living
- Intellectual and developmental disabilities
- Learning disabilities
- Neuromuscular disorders
- Spinal cord injuries
- Visual impairment/blindness
- Wheelchair use

References: Risk for COVID-19 Infection, Hospitalization, and Death By Age Group | CDC, Underlying Medical Conditions Associated with Higher Risk for Severe COVID-19: Information for Healthcare Professionals | CDC
See also: People with Certain Medical Conditions | CDC

Multisystem Inflammatory Syndrome (MIS): Multiorgan system effects of COVID-19 have been documented in most, if not all, body systems including cardiovascular, pulmonary, renal, dermatologic, neurologic, and psychiatric. Autoimmune conditions can also occur after COVID-19. MIS is a rare but serious condition associated with COVID-19 in which different body parts become inflamed, including the heart, lungs, kidneys, brain, skin, eyes, or gastrointestinal organs. It can affect both children (MIS-C) and adults (MIS-A). MIS can lead to longer term symptoms due to unresolved complications from the illness. Research continues into why some children and adolescents develop MIS-C after having COVID-19 or contact with someone with COVID-19, while others do not.

Reference: Post-COVID Conditions: Information for Healthcare Providers (cdc.gov)
See also: Multisystem Inflammatory Syndrome (MIS) | NJDOH

Persistent Symptoms: Some patients who have been infected with SARS-CoV-2, the virus that causes COVID-19, have new, recurring, or ongoing symptoms and clinical findings four or more weeks after infection, sometimes after initial symptom recovery. Post-COVID conditions can occur in patients who have had varying degrees of illness during acute infection, including those who had mild or asymptomatic infections. Medical and research communities are still learning about these post-acute symptoms and clinical findings. Post-COVID conditions are being referred to by a wide range of names, including long COVID, post-acute COVID-19, long-term effects of COVID, post-acute COVID syndrome, chronic COVID, long-haul COVID, late sequelae, and post-acute sequalae of SARS-COV-2 infection (PASC). Post-COVID conditions might also include development of new or recurrent symptoms that occur after the symptoms of acute illness have resolved, as well revealing pre-existing or new conditions that occur after the symptoms of acute COVID-19 illness have resolved.

Commonly reported new or ongoing symptoms include:

Dyspnea or increased respiratory effort	Abdominal pain
Fatigue	Diarrhea
Post-exertional malaise and/or poor endurance	Insomnia and other sleep difficulties
"Brain fog" or cognitive impairment	Fever
Cough	Lightheadedness
Chest pain	Impaired daily function and mobility
Headache	Pain
Palpitations and/or tachycardia	Rash (i.e., urticaria)
Arthralgia	Mood changes
Myalgia	Alterations in taste (dysgeusia)
Paresthesia	Partial or complete loss of smell (anosmia)
Menstrual cycle irregularities	Erectile dysfunction

Reference: Post-COVID Conditions: Information for Healthcare Providers (cdc.gov)
See also: Long COVID or Post-COVID Conditions | CDC

Treatment: Most patients with COVID-19 experience asymptomatic or mild illness that does not warrant medical intervention, or mild to moderate illness that can be managed in the outpatient setting. These patients can benefit from supportive care and symptomatic treatment, including antipyretics, analgesics, and antitussives.

For those who test positive for COVID-19 and are more at risk for severe illness, treatments are available that can reduce chances of hospitalization and death. Medications to treat COVID-19 must be prescribed by a healthcare provider and started as soon as possible after diagnosis to be effective.

The Food and Drug Administration (FDA) has authorized certain treatments for COVID-19 for non-hospitalized persons that are at high risk of severe illness as well as for those who are hospitalized. As the virus mutates, some treatments may no longer be effective.

- **Antiviral treatments** target specific parts of the virus to stop it from multiplying in the body, helping to prevent severe illness and death. Antivirals currently authorized for outpatient use include oral Paxlovid (nirmatrelvir and ritonavir), Veklury (remdesivir) via intravenous infusion x 3 days, and oral Lagevrio (molnupiravir).

- **Monoclonal antibodies** can help the immune system recognize and respond more effectively to the virus. However, many monoclonal antibodies are no longer effective as the SARS-CoV-2 virus has mutated and may not be recommended for use depending on currently circulating variants.

    - The FDA had issued Emergency Use Authorization (EUA) for Evusheld, a combination of 2 monoclonal antibodies (tixagevimab and cilgavimab) for pre-exposure prevention of COVID-19 in certain individuals with moderately to severely compromised immune systems, or in persons with history of severe adverse reactions to a COVID-19 vaccine and/or component(s) of those vaccines. **However, as of January 2023, the EUA was revoked due to resistance of SARS-CoV-2 subvariants at that time.**

Hospitalized patients with COVID-19 may be given antivirals, monoclonal antibodies, and other types of treatments, depending on illness severity. These could include medications to treat the virus, reduce an overactive immune response, or treat COVID-19 complications.

The National Institutes of Health (NIH) has published guidelines on prophylaxis use, testing, treatment, and management of patients with COVID-19. The recommendations are based on scientific evidence and expert opinion and are regularly updated as more data become available. Clinicians should refer to NIH COVID-19 Treatment Guidelines for up-to-date recommendations regarding eligibility, effectiveness of therapeutics, rationale for treatment of sub-populations, specific drug classes, general management, and therapeutic management.

References: Clinical Course: Progression, Management, and Treatment | CDC), COVID-19 Treatments and Medications | CDC

C. Reservoirs

The SARS-CoV-2 virus is a betacoronavirus, like MERS-CoV and SARS-CoV and is thought to have originated in bats. The risk of animals spreading SARS-CoV-2 to humans is considered low, but the virus can spread from people to animals during close contact. People with suspected or confirmed COVID-19 should avoid contact with animals, including pets, livestock, and wildlife. More studies and surveillance are needed to track variants and mutations and to understand how SARS-CoV-2 spreads between people and animals.

Reference: Animals and COVID-19 | CDC

D. Mode of Transmission

The principal mode by which people are infected with SARS-CoV-2 (the virus that causes COVID-19) is through exposure to respiratory fluids carrying infectious virus. Infectious exposures to respiratory fluids carrying SARS-CoV-2 occur in three principal ways (not mutually exclusive):

1. Inhalation of air carrying small droplets and aerosol particles that contain the SARS-CoV-2 virus. Risk of transmission is greatest within three to six feet of an infectious source where the concentration of droplets and particles is greatest.

2. Deposition of SARS-CoV-2 virus droplets and particles onto exposed mucous membranes of the eyes, nose, or mouth (i.e., "splashes and sprays", such as being coughed on). The risk of transmission is greatest close to an infectious source where the concentration of these exhaled droplets and particles is greatest.

3. Touching the eyes, nose, or mouth with hands that have SARS-CoV-2 virus particles on them or from touching inanimate surfaces contaminated with virus.

Once infectious droplets and particles are exhaled, they move outward from the source. The risk for infection decreases with increasing distance from the source and increasing time after exhalation. Although infections through inhalation at distances greater than six feet from an infectious source are less likely than at closer distances, the phenomenon has been repeatedly documented under certain preventable circumstances. These transmission events have involved the presence of an infectious person exhaling virus indoors for an extended time (more than 15 minutes and in some cases hours) leading to virus concentrations in the air space sufficient to transmit infections to people more than 6 feet away, and in some cases to people who have passed through that space soon after the infectious person left. Per published reports, factors that increase the risk of SARS-CoV-2 infection under these circumstances include enclosed spaces with inadequate ventilation or air handling within which the concentration of exhaled respiratory fluids, especially very fine droplets and aerosol particles, can build-up in the air space; increased exhalation of respiratory fluids if the infectious person is engaged in physical exertion or raises their voice (e.g., exercising, shouting, singing); and prolonged exposure to these conditions, typically more than 15 minutes.

Although animal studies and epidemiologic investigations indicate that inhalation of virus can cause infection, the relative contributions of inhalation of virus and deposition of virus on mucous membranes remain unquantified and will be difficult to establish.

Close Contact: COVID-19 is thought to spread mainly through close contact from person to person, including between people who are physically near each other (within about 6 feet). For determining exposure, close contact is defined as:

a) Someone who was within 6 feet of an infected person for a cumulative total of 15 minutes or more over a 24-hour period (for example, three individual 5-minute exposures for a total of 15 minutes). An infected person can spread SARS-CoV-2 starting from 2 days before they have any symptoms (or, for asymptomatic patients, 2 days before the positive specimen collection date), until they meet criteria for discontinuing

home isolation. People who are exposed to someone with COVID-19 after they completed at least 5 days of isolation are not considered close contacts[1].

OR

b) Direct contact with infectious secretions from a patient with COVID-19. Infectious secretions may include sputum, serum, blood, and respiratory droplets (e.g., being coughed or sneezed on).

Notes:

- Classification of an individual as a close contact is based on many factors and should be assessed on a case-by-case basis. Factors to consider when defining close contact include proximity (closer distance likely increases exposure risk), the duration of exposure (longer exposure time likely increases exposure risk), whether the infected individual has symptoms (the period around onset of symptoms is associated with the highest levels of viral shedding), if the infected person was likely to generate respiratory aerosols (e.g., was coughing, singing, shouting), and other environmental factors (crowding, adequacy of ventilation, whether exposure was indoors or outdoors).

Surfaces: Current evidence strongly suggests transmission from contaminated surfaces does not contribute substantially to new infections. Transmission through soiled hands and surfaces can be prevented by practicing good hand hygiene and by environmental cleaning.

Animals: At this time, the risk of COVID-19 spreading from animals to people is considered to be low. It appears that the virus that causes COVID-19 can spread from people to animals in some situations. A small number of pets worldwide, including cats and dogs, have been reported to be infected with the virus that causes COVID-19, mostly after close contact with people with COVID-19. People are more likely to get COVID-19 from other people rather than animals.

Reference: Scientific Brief: SARS-CoV-2 Transmission | CDC

E. Incubation Period

The estimated incubation period is generally 2–14 days with a median of 5 days. Data suggest that incubation periods may differ by variant of the SARS-CoV-2 virus.

F. Period of Communicability or Infectious Period

According to CDC, data from multiple studies indicate that most SARS-CoV-2 transmission occurs early in the course of infection, with infectiousness peaking around one day before symptom onset and declining within a week of symptoms starting, with an average period of infectiousness and risk of transmission between 2-3 days before and 8 days after symptom

[1] Persons are considered most infectious during the first 5 days of illness and should avoid being around people who are at risk for severe illness until at least day 11. Some individuals based on illness severity or immune status are recommended to isolate for longer periods of time, and should consult with their healthcare provider (HCP).

onset. Persons who test positive for COVID-19 continue to likely be most infectious during the first 5 days after their positive test.

Reference: Isolation and Precautions for People with COVID-19 | CDC

Available data indicate that most persons with mild to moderate COVID-19 remain infectious no longer than 10 days after symptom onset. Persons with more severe to critical illness or who are severely immunocompromised likely remain infectious no longer than 20 days after symptom onset. Recovered persons can continue to shed detectable SARS-CoV-2 RNA in upper respiratory specimens for up to 3 months after illness onset, although at concentrations considerably lower than during illness, in ranges where replication-competent virus has not been reliably recovered and infectiousness is unlikely. Studies have not found evidence that clinically recovered persons with persistence of viral RNA have transmitted SARS-CoV-2 to others.

Reference: Ending Isolation and Precautions for People with COVID-19: Interim Guidance (cdc.gov)

G. Epidemiology

The COVID-19 pandemic has increased tremendously since cases were first reported in Wuhan, China in December 2019. After more than 118,000 cases in 114 countries and 4,291 deaths, the World Health Organization (WHO) declares COVID-19 a pandemic on March 11, 2020. As of February 24, 2023, over 757 million cases of COVID-19 have been reported globally, including more than 6.8 million deaths.

Demographics & Risk Factors: All ages are at risk for SARS-CoV-2 infection and severe disease, but the probability of serious COVID-19 disease is higher in people aged ≥60 years, those living in a nursing home or long-term care facility, and those with chronic medical conditions. In an analysis of more than 1.3 million laboratory-confirmed cases of COVID-19 that were reported in the U.S. between January and May 2020, 14% of patients required hospitalization, 2% were admitted to the intensive care unit, and 5% died. The percentage of patients who died was 12 times higher among those with reported medical conditions (19.5%) than among those without medical conditions (1.6%), and the percentage of patients who were hospitalized was 6 times higher among those with reported medical conditions (45.4%) than among those without medical conditions (7.6%). Mortality was highest in patients aged >70 years, regardless of the presence of chronic medical conditions. Data on comorbid health conditions among patients with COVID-19 indicate that 32% had cardiovascular disease, 30% had diabetes, and 18% had chronic lung disease. Other conditions that may lead to a high risk for severe COVID-19 include cancer, kidney disease, liver disease (especially in patients with cirrhosis), obesity, sickle cell disease, and other immunocompromising conditions (see Risk Factors for Severe Illness in Clinical Description section above). Transplant recipients and pregnant people are also at a higher risk of severe COVID-19.

U.S. data suggest that racial and ethnic minorities experience higher rates of COVID-19, subsequent hospitalization, and death, but surveillance data that include race and ethnicity are not available for most reported cases of COVID-19 in the United States. Factors that contribute to the increased burden of COVID-19 in these populations may include over-representation in work

environments that have higher risks of exposure to COVID-19, economic inequality (which limits people's ability to protect themselves against COVID-19 exposure), neighborhood disadvantage, and a lack of access to health care. Structural inequalities in society contribute to health disparities for racial and ethnic minority groups, including higher rates of comorbid conditions (such as cardiac disease, diabetes, hypertension, obesity, pulmonary diseases), which further increase the risk of developing severe COVID-19.

Reference: Overview of COVID-19 | COVID-19 Treatment Guidelines (nih.gov).

Variants: COVID-19 cases in New Jersey initially peaked in early to mid-April 2020 and then declined and plateaued over the summer 2020. A second wave of COVID-19 cases caused by the Alpha variant began in November 2020 and continued into April 2021. A third wave began in autumn of 2021 (Delta variant) and was quickly overtaken by the Omicron variant, which peaked in early 2022, with over 50,000 confirmed new COVID-19 cases reported daily in early January. New Jersey COVID-19 data is posted online at Department of Health | Communicable Disease Service | COVID-19 Weekly Surveillance Reports (state.nj.us)

Viruses constantly change through mutation, and new variants of a virus are expected to occur over time. Sometimes new variants emerge and disappear. Other times, new variants emerge and persist. Multiple variants of the virus that causes COVID-19 have been documented in the United States and globally during this pandemic. CDC characterizes variants as variants of interest (VOI), variants of concern (VOC), variants of high consequence (VOHC), and variants being monitored (VBM) (Reference: SARS-CoV-2 Variant Classifications and Definitions (cdc.gov). Data is available to show the current proportion of variant strains circulating nationally (CDC COVID Data Tracker: Variant Proportions) and in New Jersey (Department of Health | Communicable Disease Service | COVID-19 Weekly Surveillance Reports (state.nj.us).

Some variants spread more easily and quickly than other variants, which may lead to more cases of COVID-19. Even if a variant causes less severe disease in general, an increase in the overall number of cases could cause an increase in hospitalizations, put more strain on healthcare resources and potentially lead to more deaths. Some variants may also result in increased illness severity or be resistant to therapeutics or vaccines. Slowing the spread of the virus, by protecting yourself and others, can help slow the emergence of new variants (see What You Need to Know About Variants | CDC).).

2. CASE DEFINITION^

^Adapted from CSTE updated case definition: August 2022

INDIVIDUAL CASES

A. Clinical Criteria

As of January 2023, the updated case definition of a COVID-19 case does not contain clinical criteria.

B. Laboratory Criteria

Laboratory evidence using a method approved or authorized by the FDA or designated authority:

Confirmatory laboratory evidence:*

- Detection of SARS-CoV-2 RNA in a clinical or post-mortem specimen using a diagnostic molecular amplification test performed by a Clinical Laboratory Improvement Amendments (CLIA)-certified provider**, OR
- Detection of SARS-CoV-2 RNA in a clinical or post-mortem specimen by genomic sequencing***.

Presumptive laboratory evidence:*

- Detection of SARS-CoV-2 specific antigen in a clinical or post-mortem specimen using a diagnostic test performed by a CLIA-certified provider**.

Supportive laboratory evidence:*

- Detection of SARS-CoV-2 specific antigen by immunocytochemistry, OR
- Detection of SARS-CoV-2 RNA or specific antigen using a test performed without CLIA oversight.

**The terms confirmatory, presumptive, and supportive are categorical labels used here to standardize case classifications for public health surveillance, not to be used to interpret the utility or validity of any laboratory test methodology.*

***Includes those tests performed under a CLIA certificate waiver.*

****Some genomic sequencing tests that have been authorized for emergency use by FDA do not require an initial PCR result to be generated. Cases with only genomic test results and no accompanying PCR result meet criteria for confirmatory laboratory evidence.*

C. Epidemiologic Linkage

As of January 2023, the updated case definition of a COVID-19 case does not contain epidemiologic linkage criteria.

- *NOTE: For outbreak situations, refer to "Outbreak Definitions by Setting" in Section H: OUTBREAKS below.*

D. Vital Records Criteria

A death certificate that lists COVID-19 disease or SARS-CoV-2 or an equivalent term as an underlying cause of death or a significant condition contributing to death.

E. Case Classification

Confirmed:

- Meets confirmatory laboratory evidence.

Probable:

- Meets presumptive laboratory evidence.

Possible:

- Meets supportive laboratory evidence,† OR
- Meets vital records criteria with no confirmatory or presumptive laboratory evidence for SARS-CoV-2.

† P*ossible cases may be tracked for epidemiological analysis or to be investigated, however, they will not be included in reported case counts.*

Not a case:

- Any case that has a negative (or invalid) laboratory result for COVID-19 (*without another positive result*).
- Any case with a positive serology test result (IgM, IgG, etc.,) without another positive viral test result.

NOTE: *For indeterminate, inconclusive, or equivocal test results: If repeat testing is provided on the same specimen or on a new specimen collected within 2 days of initial specimen collection date and is negative, treat as NAC; otherwise, treat cases as confirmed for the purposes of public health follow-up (isolation, post-exposure recommendations etc.), but keep case status as POSSIBLE.*

F. Criteria to distinguish a New Case from an Existing Case

The following criteria are used to distinguish a new COVID-19 case:

- A person was most recently classified as a confirmed or probable case with an illness onset date (if available) or first positive specimen collection date (CDRSS Date for Report[2,3]) for that classification >90 days after the prior COVID-19 case, OR

- A person with SARS-CoV-2 sequencing results from a new positive specimen and a positive specimen from the most recent previous case showing a different genetic lineage, OR

- A person previously reported but not classified as a confirmed or probable case (i.e., possible)‡, but now meets the criteria for a confirmed or probable case.

‡ *Repeat possible cases should not be counted.*

G. Vaccine Breakthrough Case:

An individual who has SARS-CoV-2 RNA or antigen detected on a respiratory specimen collected ≥14 days after completing the primary series of an FDA-authorized COVID-19 vaccine. Refer to the Cases by Vaccination Status dashboard under the Case and Mortality Summaries tab of the NJ COVID-19 Information Hub for vaccine breakthrough case data.

H. Outbreaks

Outbreak Surveillance and Reporting

All cases of COVID-19 should be reported electronically via CDRSS to Local Health Departments (LHD). If a COVID-19 outbreak is suspected, healthcare facilities, congregate care, schools and other settings should alert their LHD of the case(s) by phone (see Definitions by Setting). Thresholds to report cases and suspected outbreaks to LHD/NJDOH for healthcare settings can be found at: COVID-19-HC-Outbreak-Definition-Guidance-8-10-22.pdf (corha.org).

Outbreak Definitions by Setting:

COMMUNITY

COMMUNITY CLUSTERS (NON-HOUSEHOLD)

- ≥3 laboratory-confirmed who are epidemiologically linked to each other with onset of illness within a 7-day period, but who do not share a common residence. This would include individuals who attended a common event or place and for whom disease occurrence is plausible (i.e., occurs within appropriate incubation period).

[2] Effective August 13, 2021, new cases are created in CDRSS using the 90-day timeframe to align with the updated CSTE surveillance case definition for COVID-19. Prior to August 13 2021, cases were created after 180 days.
[3] Some individuals, e.g., severely immunocompromised persons, can shed SARS-CoV-2 detected by molecular amplification tests >90 days after infection.

CONGREGATE SETTINGS (E.G., CORRECTIONS, SHELTERS, GROUP HOMES)

- ≥2 laboratory-confirmed (RT-PCR or antigen) COVID-19 cases among residents who are epidemiologically linked (e.g., overlap on the same unit or ward, or cared for by same HCP) within a 7-day period or 1 laboratory-confirmed case and other epidemiologically linked symptomatic individuals.

- ≥3 laboratory-confirmed (RT-PCR or antigen) COVID-19 cases among staff with onsets occurring within a 7-day period who are epidemiologically linked, who do not share a household, are not listed as a close contact of each other outside of the workplace during standard case investigation or contact tracing, and who do not have another more likely source of exposure outside of the workplace.

WORKPLACE SETTINGS (NON-RESIDENTIAL, NON-HEALTHCARE)

- ≥3 laboratory-confirmed (RT-PCR or antigen) COVID-19 cases among workers at a facility with onset of illness within the same 7-day period, who are epidemiologically linked within the workplace, do not share a household, are not listed as a close contact of each other outside of the workplace during standard case investigation or contact tracing, and do not have a more likely source of exposure outside of the workplace.

    - *Note: Confirmed and probable cases among workers should be classified as outbreak-associated. This includes cases resulting from secondary transmission from an outbreak associated case among workers who live in shared housing facilities (e.g., migrant labor camps, man camps) or use shared transportation services for work commute provided by the employer. Individual cases resulting from secondary transmission from an outbreak-associated case (e.g., a family member of a worker), who is not employed by the business/employer should not be included in the outbreak case count.*

EDUCATIONAL SETTINGS[4]

- ≥3 laboratory-confirmed (RT-PCR or antigen) COVID-19 cases among students or staff with illness onsets within a 7-day period, who are epidemiologically linked, do not share a household, and were not identified as close contacts of each other in another setting during standard case investigation or contact tracing

    - *Note: Confirmed and probable secondary cases among students or staff in the educational setting should be classified as outbreak-associated. Individual cases outside of the educational setting that resulted from secondary transmission from an outbreak-associated case (e.g., a family member of a student or staff) should not be included in the outbreak case count.*

[4] Educational settings are broadly defined and include but are not limited to youth camps, youth programs, childcare centers, preschools, primary through secondary schools, vocational schools, colleges, and universities.

HEALTHCARE

When new confirmed or suspected cases of COVID-19 are detected among HCP but do not meet surveillance criteria for an outbreak, facilities should work quickly to notify their LHD, conduct a risk assessment and perform contact tracing, test close contacts, and notify potentially-exposed individuals of their exposure. Staff should be sent home to isolate until meeting criteria for ending isolation. Facilities with newly-identified COVID-19 cases should perform enhanced surveillance.

ACUTE CARE HOSPITALS[5]

- ≥2 cases of laboratory-confirmed (RT-PCR or antigen) COVID-19 cases in patients occurring 4 or more days after admission for a non-COVID condition, who are epidemiologically linked (e.g., overlap on the same unit or ward, or cared for by same HCP) within a 7-day time period[6]

- ≥3 cases of laboratory-confirmed (RT-PCR or antigen) or suspect (detection of SARS-CoV-2 specific antigen by immunocytochemistry OR detection of SARS-CoV-2 RNA or specific antigen using a test performed without CLIA oversight) COVID-19 cases in HCP who are epidemiologically linked (e.g., having the potential to have been within 6 ft for 15 minutes or longer while working in the facility during the 7 days prior to the onset of symptoms and/or specimen collection date) AND no other likely source of exposure is identified for at least 2 of the cases.

LONG-TERM CARE FACILITIES (LTCF)[7] AND LONG-TERM ACUTE CARE HOSPITALS (LTACH)

- ≥1 facility-onset COVID-19 case in a patient/resident

    - Facility-onset COVID-19 infection in a patient/resident is defined as a laboratory-confirmed diagnosis that originated in the facility. Does not apply to patients/residents who were positive for COVID-19 on admission to the facility and were placed into appropriate Transmission-Based Precautions (TBP) OR patients/residents who were placed into TBP on admission and developed SARS-CoV-2 infection (unless there is confirmation of possible transmission or exposure through a breach in PPE).

        - *Note: In scenarios where a patient/resident has probable exposure to COVID-19 at 2 or more separate healthcare facilities, a public health investigation may be initiated at both locations (including enhanced surveillance for additional cases, contact tracing, and testing and/or quarantine of*

[5] Includes general acute care hospitals, comprehensive rehab hospitals, psychiatric hospitals, other specialty hospitals

[6] Healthcare Personnel (HCP) defined by CDC include, but are not limited to, emergency medical service personnel, nurses, nursing assistants, physicians, physician assistants, technicians, therapists, phlebotomists, pharmacists, students and trainees, contractual staff not employed by the healthcare facility, and persons not directly involved in patient care, but who could be exposed to infectious agents that can be transmitted in the healthcare setting (e.g., clerical, dietary, environmental services, laundry, security, engineering and facilities management, administrative, billing, and volunteer personnel)

[7] Includes long-term care facilities, assisted living residences, dementia care homes, residential healthcare facilities and comprehensive personal care homes

susceptible contacts).

- ≥3 cases in HCP of laboratory-confirmed (RT-PCR or antigen) or suspect (detection of SARS-CoV-2 specific antigen by immunocytochemistry OR detection of SARS-CoV-2 RNA or specific antigen using a test performed without CLIA oversight) COVID-19 cases who are epidemiologically linked (e.g., having the potential to have been within 6 ft for 15 minutes or longer while working in the facility during the 7 days prior to the onset of symptoms) AND no other likely source of exposure is identified for at least 1 of the cases.

OUTPATIENT SETTINGS (AMBULATORY SPECIALITY SETTINGS[8], EMERGENCY DEPARTMENT, URGENT CARE, PRIMARY CARE)

- ≥3 cases of laboratory-confirmed (RT-PCR or antigen) COVID-19 cases in patients with epi linkage (e.g., overlap on the same unit or ward or having the potential to have been cared for by common HCP within a 7-day time period of each other) AND no other more likely sources of exposure for at least 2 of the cases.

- ≥3 cases of laboratory-confirmed (RT-PCR or antigen) or suspect (detection of SARS-CoV-2 specific antigen by immunocytochemistry OR detection of SARS-CoV-2 RNA or specific antigen using a test performed without CLIA oversight) COVID-19 cases in HCP with epi linkage (e.g., having the potential to have been within 6 ft for 15 minutes or longer while working in the facility during the 7 days prior to prior to the onset of symptoms), AND no other more likely sources of exposure for at least 2 of the cases.

Outbreak Conclusion:

Outbreaks are considered concluded when there are no new symptomatic/asymptomatic probable or confirmed COVID-19 outbreak-associated cases after 28 days (2 incubation periods) have passed since the last case's onset date or specimen collection date (whichever is later).

https://www.state.nj.us/health/cd/topics/covid2019_healthcare.shtml

[8] Ambulatory specialty settings include dialysis, endoscopy, ambulatory surgery , infusion , dental, ENT and ophthalmology centers.

3. LABORATORY AND HOME-BASED TESTING

Viral tests are recommended to diagnose acute COVID-19 infection. Authorized assays for viral testing include those that detect SARS-CoV-2 nucleic acid or antigen. Viral tests are acceptable for the purpose of case detection and public health action. A list of FDA Emergency Use Authorizations (EUA) for diagnostic tests is available at https://www.fda.gov/medical-devices/emergency-situations-medical-devices/emergency-use-authorizations#covid19ivd.

Generally, viral testing for SARS-CoV-2 is considered diagnostic when conducted among individuals with symptoms consistent with COVID-19 or among asymptomatic individuals with known or suspected recent exposure to SARS-CoV-2 to control transmission, or to determine resolution of infection. Viral testing is screening when conducted among asymptomatic individuals without known or suspected exposure to SARS-CoV-2 for early identification, and surveillance when conducted among asymptomatic individuals to detect transmission hot spots or characterize disease trends.

Viral testing for COVID-19 should be considered for:

- Individuals with signs or symptoms consistent with COVID-19
- Asymptomatic individuals with recent known or suspected exposure to SARS-CoV-2 to control transmission
- Asymptomatic individuals without known or suspected exposure to SARS-CoV-2 for early identification in special settings
- Individuals being tested to determine resolution of infection (i.e., test-based strategy for Discontinuation of Transmission-based Precautions – limited recommendation)
- Individuals being tested for purposes of public health surveillance for SARS-CoV-2
- Individuals who are concerned about possible COVID-19 exposure due to higher risk activities (e.g., attending a large gathering where face coverings were not worn and social distancing was not implemented)

Molecular tests (NAAT, RT-PCR) that detect the genetic material of the virus are considered to be the gold standard to detect active COVID-19 infections. These tests have varied sensitivity and specificity and turnaround times. If there are discordant molecular test results, regardless of whether they are performed as point-of-care or in a laboratory, any positive result should be considered a confirmed case for the purpose of public health action unless there is a reported laboratory error.

Rapid antigen tests are less sensitive than PCR tests, and therefore may return a negative result, while a more sensitive test, such as RT-PCR, may return a positive result. The specificity of rapid antigen tests is generally as high as RT-PCR, which means that false positive results are unlikely.

Rapid antigen tests are particularly helpful if the person is tested in the early days of symptoms with SARS-CoV-2 when viral load is generally highest. They also may be informative in diagnostic testing situations in which the person has a known exposure to someone with COVID-19. Rapid antigen tests may be used for screening testing in high-risk congregate settings in which repeat testing could quickly identify persons with a SARS-CoV-2 infection to inform infection prevention and control measures, thus preventing transmission throughout the congregate setting. In this case, there may be value in providing immediate results with antigen tests even though they may have lower sensitivity than RT-PCR tests, especially in settings where a rapid turnaround time is required.

Testing persons who have recently tested positive, and recovered from COVID-19: If someone has had exposure to someone with COVID-19 and is asymptomatic, but has had COVID-19 within the past 30 days,* testing to identify a new infection is generally not recommended. If someone has become newly symptomatic after having had COVID-19 within the past 30 days,* antigen tests should be used to identify a new infection. If they test negative, the antigen test should be repeated per FDA Recommendations (see At-Home COVID-19 Antigen Tests-Take Steps to Reduce Your Risk of False Negative Results: FDA Safety Communication).

If someone had exposure to another person with COVID-19, but the exposed individual has had COVID-19 within the past 30-90 days,* consider using antigen tests (rather than an NAAT, such as a PCR test) to identify a new infection. They should not test until at least 5 days after their exposure. Whether they are symptomatic or asymptomatic, if they test negative with an antigen test, they should repeat the antigen test as recommended by FDA guidance.

*The clock starts from the day of your first positive test result or your original onset of symptoms, whichever came first.

Reference: Overview of Testing for SARS-CoV-2, the virus that causes COVID-19 | CDC

Discordant PCR and antigen test results: In most cases, negative antigen diagnostic test results are considered presumptive. CDC recommends confirming negative antigen test results with an RT-PCR test when the pretest probability is relatively high, especially if the patient is symptomatic or has a known exposure to a person with COVID-19. Similarly, while confirmatory testing is not generally recommended for positive antigen test results, if the pre-test probability is low (patient is asymptomatic, no known exposure to someone with COVID-19), a clinician may choose to order a confirmatory RT-PCR test. Outside of long-term care settings, when confirming an antigen test result with a RT-PCR test, it is important that the time interval between the two sample collections is less than two days, and there have not been any opportunities for new exposures between the two tests. If more than two days separates the two tests, or there have been opportunities for new exposures between the two tests, the nucleic acid test should be considered a separate test – not a confirmatory test.

Reference: https://www.cdc.gov/coronavirus/2019-ncov/lab/resources/antigen-tests-guidelines.html

If an antigen test is positive, public health action should not be delayed while confirmatory RT-PCR testing is in process. If a negative RT-PCR test result (collected within 48 hours after an antigen test) is received, public health measures can be stopped.

In long-term and post-acute care settings, asymptomatic staff and residents who test antigen positive should be excluded from work (staff) or isolated and placed on transmission-based precautions (TBP, resident) and have a confirmatory RT-PCR test performed within 48 hours of the positive antigen test. If the RT-PCR test is negative, staff can return to work and residents can be cared for using standard precautions and any applicable TBP. Symptomatic staff and residents who test antigen negative should be excluded from work (staff) or isolated and placed on TBP (resident) and have a confirmatory RT-PCR test performed within 48 hours of the negative antigen test. If the RT-PCR test is negative, discontinuation of TBP and return to work criteria for symptomatic individuals should be based on the alternate diagnosis, if available, and existing policies and procedures. For full guidance on testing in long-term and post-acute care facilities please see: https://www.state.nj.us/health/cd/topics/covid2019_healthcare.shtml.

Serology (antibody) testing (generally IgG) for COVID-19 may be used to identify people who were previously infected with COVID-19 but should not replace virologic testing to establish the presence or absence of acute SARS-CoV-2 infection. Persons with COVID-19 illness typically begin to develop measurable antibody 7-14 days after illness onset and by 3 weeks most persons will test positive for antibody. IgM and IgG antibodies arise nearly simultaneously so detection of IgM without IgG is uncommon. How long anti-SARS-CoV-2 antibodies persist after infection remains unknown, although IgG antibodies, including IgG against the S and N proteins, persist for at least several months in most persons. Some studies have found that approximately 5-10% do not develop detectable IgG antibodies following infection. Although the immune correlates of protection are not fully understood, evidence indicates that antibody development following infection likely confers some degree of immunity from subsequent infection for at least 6 months. However, it is not known to what extent emerging viral variants may impact immunity from subsequent infection.

Serology testing should not be used to diagnose current COVID-19 infection since antibody responses to infection may take days to weeks to be detectable; a negative serologic test does not rule out active infection; and a positive serologic test may reflect prior infection with a human coronavirus other than SARS-CoV-2. Serological testing should currently not be used for case detection or to make decisions about grouping persons residing in or being admitted to congregate settings, such as schools, dormitories, or correctional facilities. There should be no change in clinical practice or use of personal protective equipment (PPE) by health care workers and first responders who test positive for SARS-CoV-2 antibody. Antibody testing should not be used to assess for immunity to SARS-CoV-2 following COVID-19 vaccination, to assess the need for vaccination in an unvaccinated person, or to determine the need to follow post-exposure recommendations after close contact with someone who has COVID-19.

Natural SARS-CoV-2 infection results in antibody development against the N as S viral proteins, including the RBD of the S protein. Vaccine induced antibody development has implications for serologic testing. The first vaccines distributed in the United States induce antibodies to S protein. Thus, presence of antibodies to N protein indicates previous natural infection regardless of vaccination status, while presence of antibodies to S protein indicates either previous natural infection or vaccination. Presence of antibodies to S protein and absence of antibodies to N protein

in the same specimen indicates vaccination in a person never naturally infected or could signal prior natural infection in a person whose antibodies to N protein have waned. Although an antibody test may employ a specific antigen(s), antibodies developed in response to different proteins may cross-react (i.e., the antigen(s) may detect antibodies it is not intended to detect), and therefore, may not provide sufficient information on the presence of antigen specific antibodies.

References: Interim Guidelines for COVID-19 Antibody Testing | CDC

https://www.state.nj.us/health/cd/documents/topics/NCOV/COVID19_serology_overview.pdfallows scientists to monitor how SARS-CoV-2 changes over time into new variants, understand how these changes affect the characteristics of the virus, and use this information to predict how it might impact health. Viruses are constantly changing, including SARS-CoV-2. Genetic variations occurring over time can lead to the emergence of new variants that may have different characteristics. While a certain amount of genetic variation is expected to occur as SARS-CoV-2 spreads, it's important to monitor circulating viruses for key mutation(s) that happen in important regions of the genome. Routine analysis of genetic sequence data enables public health partners to identify and characterize variant viruses, to investigate how variants impact COVID-19 disease severity, and how variants impact the effectiveness of vaccines and therapeutics. WGS is performed at specialized public health, clinical, and research laboratories including NJDOH's Public Health and Environmental Laboratory (PHEL).

LHDs should discuss requests for WGS with their CDS Epidemiologist. Specimens that might be considered for sequencing include travel to a location with novel variants of concern; cases associated with a cluster or outbreak; or vaccine breakthrough cases. Whole genome sequencing conducted at PHEL is done for epidemiological purposes and results will not be reported to submitters.

Specimens: For viral tests, CDC recommends collecting and testing an upper respiratory specimen, although other specimens may be acceptable and vary by test kit.
Clinicians should contact their reference lab to find out what specimen types are acceptable and if testing supplies are available. Alternately, clinicians can order testing supplies from their contracted medical supplier.

Testing availability: Testing for SARS-CoV-2 is available at many commercial laboratories, pharmacies, healthcare providers, county-sponsored clinics, and at PHEL. For a list of sites where testing is available (many without a doctor's order) see https://covid19.nj.gov/pages/testing.

PHEL Testing Criteria: Public health testing at PHEL is prioritized for vulnerable populations at greatest risk for adverse outcomes, those in high-risk professions, and testing associated with public health investigations, specifically:

- Hospitalized patients with COVID-compatible illness
- Persons with COVID-compatible illness who work, attend, or are patients/residents of healthcare facilities (acute care, outpatient, long-term care), or other congregate settings (school or daycare facilities, homeless shelters, correctional facilities, etc.).

- Persons with COVID-compatible illness who are associated with clusters or outbreaks as identified by state/local health agencies.

Requesting Testing at PHEL: For patients meeting public health testing criteria, providers and facilities requesting testing at PHEL should enter cases into CDRSS:

- Select disease subgroup 2019 NCOV;
- Enter medical facility (date of admission, if in ICU, or on ventilator) and treating provider information;
- Enter signs and symptoms and complete ADDITIONAL REQUIREMENTS section;
- In the LABORATORY AND DIAGNOSTIC TEST INFORMATION section add the test "SARS CORONAVIRUS 2 RNA BY PCR" and add "NJPHEL" to the lab name;
- Include the CDRSS Case ID# as the "CDRSS Number" on the PHEL SRD-1 form (*one SRD-1 form is required for each specimen*).
- Email the Virology group at Virology.PHEL@doh.nj.gov with the CDRSS CASE ID# and the estimated delivery time of the specimens.

Providers and facilities not having access to CDRSS should contact their local health department, who should enter the case into CDRSS and issue the SRD-1 form to the provider/facility. Additional information on laboratory testing including detailed shipping instructions for specimens can be found in the NJ PHEL Supplemental Technical Bulletin: Testing for SARS-CoV-2.

PHEL Testing Results: Results should be available 24-48 hours after PHEL receives the specimen(s) and are provided via fax to the submitting laboratory and reported electronically in CDRSS. If it has been > 4 days since the specimen was received at PHEL, contact the NJ Public Health and Environmental Laboratory-Virology Program at 609-530-8516 or virology.PHEL@doh.nj.gov.

Guidance on laboratory testing:

- New Jersey COVID-19 Testing Guidelines: https://nj.gov/health/cd/topics/covid2019_professionals.shtml

- New Jersey PHEL Technical Bulletin for COVID-19: https://www.nj.gov/health/phel/documents/Bulletins/Supplemental%20Bulletin%2020.1.4%20SARS-CoV-2%20Testing%20at%20PHEL.pdf

- CDC: https://www.cdc.gov/coronavirus/2019-nCoV/lab/guidelines-clinical-specimens.html

- FDA: https://www.fda.gov/medical-devices/emergency-situations-medical-devices/emergency-use-authorizations#covid19ivd

Home-Based Tests: A variety of home-based COVID-19 tests are widely available. While all involve self-collection of specimens, some test kits require a prescription and others are over-the-counter (OTC). Some collections/testing are observed by a telehealth provider, some involve self-collection but are sent to a laboratory for processing, and others use self-collection and self-testing without any involvement of a healthcare provider. Some home-based tests have been authorized by FDA for screening purposes, others for diagnostic testing. At-home antigen tests have not been

authorized by the FDA for use in children under 2 years of age. Information on home-based testing is available at: https://www.state.nj.us/health/cd/documents/topics/NCOV/COVID_home_tests.pdf.

Testing for COVID-19 with a self-test when symptomatic can provide quick results that allow for timely isolation and contact notification. Self-tests, like all antigen tests, are less sensitive than PCR tests and self-tests are additionally subject to potential sample collection and testing errors. Currently, all at-home COVID-19 antigen tests are FDA-authorized for repeat, or serial use. This means people should use multiple tests over a certain time period, such as 2-3 days, especially when the people using the tests don't have COVID-19 symptoms.

If a self-test is positive, individuals should follow isolation recommendations.

If a self-test result is negative:

- Symptomatic persons should re-test 48 hours after the first negative test, for a total of at least two tests.

- Asymptomatic persons who may have been exposed to COVID-19 should re-test 48 hours after the first negative test, then 48 hours after the second negative test, for a total of at least three tests.

Persons who test positive for COVID-19 on a self-test should notify their healthcare provider (or LHD if they don't have a healthcare provider) if they are concerned about their health or have questions on what they should do to protect those around them. Most importantly, they should immediately isolate away from others, notify their close contacts and if applicable, notify their worksite, school, or daycare so that precautions can be taken.

4. PURPOSE OF SURVEILLANCE AND REPORTING

- To ensure that COVID-19 cases are quickly identified, appropriately isolated to prevent further disease transmission, and advised to notify their close contacts.
- To identify and manage contacts in high-concern settings, and that care for vulnerable populations, including in healthcare, long-term care, schools and daycare facilities, correctional facilities, and other congregate settings.
- To identify risk factors for exposure, severity, and outcomes to target prevention messaging for at-risk groups.
- To characterize clinical presentation and severe outcomes, so healthcare partners can plan for appropriate patient care.
- To provide epidemiological information to stakeholders and the public.

5. REPORTING PROCEDURES

A. COVID-19 Test Results

NJDOH continues to require that all healthcare providers, laboratories, and facilities performing testing for COVID-19 electronically report:

- POSITIVE point of care (POC) antigen test results
- POSITIVE and NEGATIVE results for all molecular (e.g., RT-PCR) AND antibody tests.

All reported cases must contain complete contact information for the patient and healthcare provider.

As of April 4, 2022, the following is no longer required:

- NEGATIVE POC antigen test results

Notes:

- While reporting NEGATIVE POC antigen laboratory test results to NJDOH is no longer required, they can continue to be reported to NJODH (it may be easier for some electronic laboratory reporting systems to report all POC test results).
- Self-tests are not CLIA-waived tests and are authorized for self-collection, self-testing, and self-reading of test results. Individuals are not required to report the results of at -home-self tests to public health authorities. Refer to Public Health Considerations for COVID-19 Home-Based /Self-Tests for additional information on when it would be beneficial to report self-test results.
- Although reporting negative antigen results to NJDOH is no longer required, organizations or businesses performing screening or other testing for covered entities consistent with Executive Order Nos. 252, 253, and 264 and Executive Directive No. 21-011 may require them, including those from home-based tests.

How to Report SARS-CoV-2 Test Results: Tests that are performed in a laboratory must be reported into the Communicable Disease Reporting and Surveillance System (CDRSS), POC tests may either be reported through SimpleReport (https://simplereport.gov/) or CDRSS. Those who are not currently using CDRSS will likely find that SimpleReport is an easier, more user-friendly alternative for POC reporting.

SimpleReport Reporting Option: SimpleReport was developed by the Centers for Disease Control and Prevention (CDC) as a fast, free, and easy way for COVID-19 (SARS-CoV-2) testing facilities to report POC test results to public health departments. It works with any COVID-19 rapid POC test and maintains HIPAA standards. NJDOH and local health departments will automatically receive test results for New Jersey residents and for persons tested at New Jersey facilities that are entered into SimpleReport.

To get started, testing providers should go to https://simplereport.gov/, click on Getting Started, and then Onboard your Organization. Online training resources are available, including

a user guide and videos. SimpleReport is managed and coordinated by CDC who provides support for users having problems logging in or who have other questions about using SimpleReport.

Onboarding with SimpleReport should take about one week. Until that process is complete, testing providers must continue to report COVID-19 test results, either through CDRSS or by reporting to the local health department.

CDRSS Reporting Option: It may be preferable for test administrators having electronic laboratory reporting capabilities (HL7 messaging) to report into CDRSS and test results can also be manually entered. For new users, select the Quick Start Option for COVID-19 Training on the CDRSS home page (available at: https://cdrs.doh.state.nj.us/cdrss/login/loginPage/). Questions about reporting into CDRSS should be sent to cdrs.admin@doh.nj.gov.

Home-Based Tests: Positive test results from home-based tests that involve healthcare oversight or that are sent for testing in a laboratory must be reported to public health authorities. Self-tests are not CLIA-waived tests and are authorized for self-collection, self-testing, and self-reading of test results. Individuals are not required to report the results of at-home self-tests to public health authorities.

Healthcare providers and organizations administering screening programs should notify the LHD of positive self-test results if there are concerns about exposures in high-risk settings or if a case may be associated with a possible cluster or outbreak so that public health action can be taken. At the LHD's discretion, self-test results can be entered into CDRSS selecting "COVID-19 HOME BASED TEST" under Test Name and classifying the case as POSSIBLE. Self-tests will not be counted in official COVID-19 statistics.

Additional Reporting Considerations:
Per NJ Executive Directive 21-012 (Revised), long-term care facilities performing point-of-care tests (not performed in a central laboratory) should report results through the NHSN antigen module. NJHA may be able to assist facilities with NHSN onboarding, but that may take time. In the interim, results should be reported to LHDs.

Persons with pending COVID-19 test results do not need to be entered in CDRSS. LHDs should provide instructions for obtaining access to CDRSS to healthcare providers and laboratories they are aware of who aren't in compliance with reporting requirements. If non-compliance continues, LHD should notify OLPH, their CDS COVID Epidemiologist and cdrs.admin@doh.nj.gov.

B. COVID-associated Deaths

Hospital administrators should report COVID-19 associated deaths occurring within their facility electronically through CDRSS and include date of admission and date of discharge (date of death), reason for hospitalization (COVID-19 associated or not), if patient had pre-existing medical conditions (specify), if patient was in ICU, if on mechanical ventilation, date of death, and if the patient was associated with a long-term care facility or other known outbreak.

Documentation in CDRSS serves as public health notification; phone calls are not needed. If reporting staff don't have timely access to CDRSS, administrators should ensure information is entered into CDRSS as soon as is feasible.

Long-term care administrators, outpatient providers, and administrators of other facilities are asked to report COVID-19 associated deaths to their LHD by telephone. Reports should include deaths associated with a suspect or confirmed COVID-19 outbreak, even if the resident that died was not tested for COVID-19.

LHDs should immediately update CDRSS with all COVID-positive deaths, including date of death; if the patient had pre-existing medical conditions (specify); name of medical facility (if hospitalized); dates of admission and discharge (date of death), if patient was in ICU, if on mechanical ventilation, if patient was a resident of a long-term care facility (LTCF) or other communal living facility (specify name); and if this case is associated with a known outbreak (enter E#). Phone calls to NJDOH are not needed if the information is provided in CDRSS. For deaths associated with an outbreak, if the person meets the POSSIBLE case definition, LHDs should enter these cases in CDRSS, even in the absence of laboratory confirmation and enter the appropriate outbreak E-number.

C. Suspect or Confirmed COVID-19 Outbreaks

LHDs should continue to report suspected or confirmed outbreaks of COVID-19 by telephone to NJDOH following standard reporting procedures.

6. CASE INVESTIGATION

A. Investigation

Public health agencies are primarily monitoring incident COVID-19 cases through laboratory and healthcare reporting and are no longer reliant on universal case investigation and contract tracing for identifying cases. Case investigation strategies have changed over time and may continue to change due to possible waves of increased SARS-CoV-2 transmission as protection from vaccines and prior infection wanes and the virus evolves, resulting in new variants. The NJDOH Communicable Disease Service (CDS) will communicate any changes in recommendations to case investigation strategies.

NJDOH is transitioning from individual case investigation and is prioritizing the monitoring of severe outcomes associated with COVID-19 in vulnerable populations, particularly in residents of long-term care and pediatric populations.

- **NJDOH has requested that healthcare providers and infection preventionists be particularly diligent about the reporting of severe pediatric COVID-19 cases and deaths.** Information obtained will allow for the timely implementation of preventative measures in pediatric populations.
    - Healthcare providers and infection preventionists should be diligent about the timely reporting of severe outcomes in pediatric COVID-19 cases defined as pediatric hospitalizations requiring intensive care and pediatric deaths.
        - Pediatric COVID-19 hospitalizations should be entered into CDRSS with a Case Status of 'REPORT UNDER INVESTIGATION (RUI)' and a Report Status of 'PENDING' to allow for LHD follow-up. Information should be entered into the following CDRSS Screens:
            - Disease Information
            - Patient Personal Information
            - Clinical Status, including information on pre-existing conditions
            - Medical Facility and Provider Information, including ventilator usage
            - Risk Factors
            - Signs and Symptoms
        - Pediatric COVID-19 deaths not associated with a hospitalization should be entered into CDRSS and/or reported to the LHD.

Effective May 5, 2023, local health departments should:

- Investigate pediatric cases hospitalized for COVID-19 and admitted to an intensive care unit and pediatric deaths.
    - LHDs should investigate severe pediatric hospitalizations needing intensive care as reported by providers and infection preventionists as cases entered into CDRSS

with a Case Status of 'REPORT UNDER INVESTIGATION (RUI)' and a Report Status of 'PENDING'. Information regarding possible exposures and exposure settings should be documented
    - LHDs should investigate pediatric deaths reported by providers into CDRSS as cases with a PENDING Report Status or cases assigned a PENDING Report Status by CDS to indicate needed follow-up. If LHDs are notified of a pediatric death by phone, a case should be created in CDRSS.

- Investigate cases associated with outbreaks and prioritize investigation for cases associated with outbreaks in high-risk congregate care settings for the purpose of preventing large-scale transmission and severe health outcomes. These settings include post-acute care and other healthcare settings, correctional facilities, and homeless shelters. When conducting case investigation, the following CDRSS sections should be completed:
    - Outbreak Information, including linking of cases with a known outbreak E#
    - Clinical Status, including information on pre-existing conditions
    - Medical Facility and Provider Information
    - Risk Factors
    - Signs and Symptoms

- Investigate cases with severe outcomes or immune escape associated with a novel variant.
    - LHDs will receive guidance regarding cases associated with novel variants that need follow-up and scrutinized investigation.
    - CDS will update the Report Status of these cases in CDRSS to PENDING to indicate that follow-up is needed. Cases needing investigation will populate the PENDING screen of CDRSS.

LHDs should ensure that cases are aware of and know how to access supportive services, including vaccines and treatment options. All cases at a high-risk for severe illness should be advised to consult a healthcare provider to discuss antiviral medications or monoclonal antibody treatment options.

When speaking with a COVID-19 case, the investigator should:

- Assist the individual in identifying who their close contacts were in the past 5 days;
- Advise the individual that they should notify those close contacts right away (within 5 days of last contact) and provide recommendations on post-exposure guidelines;
- Advise the individual that they may need to notify their employer, school, or other organized activity and that the LHD may also follow up with those organizations;
- Solicit the case's mobile phone number (if not provided) and an email address. After the call, send a link (text or email) to the CDC COVID-19 Isolation and Exposure Calculator. This page will reinforce the prevention steps the case should take and should be shared by the individual with their close contacts.

High-Risk Settings

LHDs already have well-established reporting and communication mechanisms with many high-risk settings. NJDOH recommends that LHDs work with their NJDOH regional epidemiologist to identify any other high-risk settings in their jurisdiction and develop a communication strategy with those settings that may include active surveillance. LHDs should ensure they have accurate contact information for these settings and share LHD contact information (including how to reach the LHD after-hours) with these groups.

Active surveillance within post-acute care settings is ongoing. These facilities (primarily nursing homes and assisted living facilities) report the presence or absence of new COVID-19 cases in residents and staff to NJDOH/LHDs daily via online survey. LHDs should continue to review these submissions daily and work closely with these facilities on outbreak prevention and control following NJDOH guidance for long-term care facilities.

LHDs should maintain regular communications with other high-risk settings to quickly detect new cases and potential outbreaks, ensure COVID-19 prevention and control measures are understood and are being implemented, and to assist with provision or linkages for testing, treatment, and vaccine resources.

Other Priority Settings & Scenarios

LHDs may designate additional priority settings and scenarios based on local context and resources. Other settings and scenarios that should be prioritized for investigation and public health follow-up include:

- Unusual clusters of cases, especially if the transmission dynamics, disease course, and severity are concerning and not fully understood or if transmission is not curtailed through the use of established mitigation strategies
- Scenarios that pose significant risk of widespread disease transmission

Communications and Education

In the absence of universal contact tracing and if case investigation is incomplete or supplemented with automated technology, persons who test positive for COVID-19 or who find out they have been in close contact with someone with COVID-19 may need additional information. The NJPIES hotline continues to serve as a resource for persons with questions about COVID-19, but LHDs are also an important source of credible information for residents in their jurisdictions. Public health education should include information on:

- COVID-19 activity levels (e.g., local data/trends);
- Masking and other personal prevention measures;
- Isolation and post-exposure recommendations;
- Identifying and notifying close contacts;
- Travel recommendations;

- Testing locations and test result interpretation/actions to take;
- Vaccination locations and intervals/recommendations for vaccination; and
- Treatment options and linkages to healthcare resources.

Repeat testing within 90 days after initial positive COVID-19 test

A positive test result within 90 days of the date of positive specimen collection more likely represents persistent shedding of viral RNA than reinfection. CDC guidance on Choosing a COVID-19 Test should be referenced when deciding which test type should be used for those who tested positive for COVID-19 in the last 90 days.

Repeat testing >90 days after initial positive COVID-19 test

Persons who have a positive viral test >90 days after the positive specimen collection date should be treated as a new case unless further review from an Infectious Disease Specialist and public health authorities determine that the repeat positive test is not a new COVID-19 infection and that the person is not infectious. In the absence of such determination, appropriate isolation precautions and management of close contacts should be reinstituted. Individuals identified as close contacts should be notified of post-exposure recommendations.

Repeat Testing and CDRSS: If repeat testing is performed within 90 days after the first viral test, the new test result will append to the existing case in CDRSS. Document the new investigation findings in CDRSS and add note in comments: "possible reinfection or persistent/intermittent viral shedding, public health actions reinstituted."

If repeat testing is performed >90 days after the first viral test, a new case will be created in CDRSS. Document the investigation findings and note the previous case ID# in comments. Do not merge the new CDRSS case with the previous case.

B. Case Ascertainment and CDRSS Documentation

LHDs should investigate prioritized positive viral test results (molecular or antigen), implement timely control measures, and classify cases according to the case definition.

- LHDs should classify cases as PROBABLE only if they meet presumptive laboratory criteria.

LHDs should classify cases meeting vital statistics criteria only (no confirmatory or presumptive laboratory evidence) as POSSIBLE. If COVID-19 test results are received post-mortem, the case status should be changed to CONFIRMED if tests are positive or changed to NOT A CASE if tests are negative (depending on timing of testing in relation to illness onset).

- LHDs should link all COVID-19 cases (and deaths) associated with an outbreak to the outbreak E#. COVID-19 outbreak-associated cases without laboratory test results should be manually entered into CDRSS with a Case Status of POSSIBLE and linked using the Outbreak E#.

- LHDs should NOT investigate positive serology (antibody) reports. If an existing case is in CDRSS, a new laboratory report should append to the case without changing the case or report status. Disregard serology results and investigate/classify the case as per case definition (review type of laboratory test). If a new case is created with a positive serological laboratory test result only (no viral test result), the report will be E-SORTED/E-CLOSED. If results from serology tests are received by fax (e.g., out-of-state laboratory), the LHD should enter positive results into CDRSS and classify as NOT A CASE/LHD CLOSED. Negative serology results do not need to be entered manually into CDRSS by LHDs.

C. Key CDRSS Fields Needed for COVID-19 Cases

CDRSS Screen	Required Information
Patient Info	For COVID-positive cases, select subgroup 2019 NCOV
Patient Personal Information	Race and ethnicity are important to understand how novel diseases are impacting New Jersey residents
Addresses	Include out-of-jurisdiction (within NJ) close contacts (or facilities) as an Additional Address to grant access to the case to the LHD where the close contact resides. Notify that LHD and provide the CDRSS Case ID#.
Clinical Status	• Illness onset date • Was patient hospitalized (complete for both YES and NO answers) • Reason for hospitalization (select COVID-related or NON COVID-related) • Pre-existing conditions (select NONE if applicable) • Patient died (complete for YES and NO answers); if YES, add in date of death • Patient died during investigation (check YES if the cause of death is due to COVID-19 or the case died within 30 days of the first positive specimen collection date. This variable should be left unchecked if the reported death does not have a COVID-19 cause of death or the date of death occurred greater than 30 days since the first positive specimen collection date.
Medical Facility and Provider Information	Patient Status For admitted patients (patient status = INPATIENT): • Date of admission AND discharge (if died, date of discharge = date of death) • Was patient in ICU • Was patient on ventilator
Pregnancy Information	Is patient pregnant
Immunization Information	Enter dates for COVID-19 vaccine doses, including manufacturer, if known
Risk Factors	Complete all

CDRSS Screen	Required Information
Signs and Symptoms	• Enter responses for all default symptoms (YES and NO answers) • SENSORY DEFICIT – write "taste" and/or "smell" in attribute field if applicable • Add additional symptoms as needed • Enter ASYMPTOMATIC if applicable
Outbreak Information	Link cases associated with a known outbreak (E-Number)
Contact Tracing **(*If feasible given disease burden and resources*)**	For high-risk / high-concern settings: Did the patient have close contact with a laboratory-confirmed (RT-PCR or antigen) case, or an ill person epidemiologically linked to a lab-confirmed case, prior to the onset of symptom(s)? (If yes, add contacts – by case ID) Has this case come in close contact with others during the infectious period? (If yes, add contacts – by name; include contact info, last exposure date, and HH/non-HH contact type)
Additional Requirements	Complete all – these questions document high-concern exposures/contacts
Industry and Occupation Information	Complete, at the minimum, fields marked as required.
PUI – CDS Use Only	This section is for CDS use only. No LHD entry needed.

7. CONTROLLING FURTHER SPREAD

A. Isolation for Community Settings (Non-Healthcare settings)

Isolation is used to separate people with confirmed or suspected COVID-19 from those without COVID-19. The majority of SARS-CoV-2 transmission occurs early in the course of illness, generally in the 1-2 days prior to onset of symptoms and the 2-3 days after. Persons who have COVID-19 symptoms should be tested for COVID-19 with a viral test. Everyone who tests positive for COVID-19 infection or who has symptoms of COVID-19 (including those waiting for test results or who have not been tested), regardless of vaccination status, should isolate for at least 5 full days and take additional precautions during and after isolation. Persons at high risk of severe illness should consult with a healthcare provider right away to determine if treatment is warranted.

Isolation recommendations for COVID-positive cases (both with and without symptoms), persons with COVID-19 symptoms who were not tested, and those who are waiting for test results:

- **ISOLATE AT HOME:** Stay away from people and pets for at least 5 full days (day 0 is the first day of symptoms, or if no symptoms, day 0 is the date the test was taken), AND wear a well-fitting, high-quality mask or respirator if you must be around others (whether at home or in public) from start of isolation through day 10.

- **NOTIFY CLOSE CONTACTS:** Tell your close contacts they may have been exposed so they can take steps to care for themselves and their families.

- **IF ASYMPTOMATIC, MONITOR FOR SYMPTOMS OF COVID-19:** If symptoms develop and you are at high risk of severe illness, consult with a healthcare provider right away. If symptoms develop within 10 days of when you were tested, restart the isolation clock with 0 being the day of symptom onset.

- **POSTPONE TRAVEL:** Avoid travel for a full 5 days after your first day of symptoms, or if asymptomatic, after the date of the positive test. Avoid public transportation, ride-sharing or taxis if possible.

Ending Isolation: Most people can end isolation after 5 full days (i.e., on Day 6) if asymptomatic, or if fever-free for 24 hours without the use of fever-reducing medication and other symptoms are improving. Loss of taste and smell may persist for weeks or months and need not delay the end of isolation. If symptoms persist (fever or if other symptoms have not improved), continue to isolate until fever-free without the use of fever-reducing medication for 24 hours and other symptoms have improved.

Persons with moderate or severe illness and those who have weakened immune systems should isolate for a longer period of time. These persons should consult with their healthcare provider to determine the appropriate duration of isolation.

After Ending Isolation (i.e., Day 6-10)

- **MASK**: Wear a well-fitted mask or respirator when around others at home and in public through day 10. For those ending isolation on day 5, this would be during days 6 through 10. Do not go places where you are unable to wear a mask until you are able to discontinue masking (i.e., on day 11). This may include restaurants, some gyms, and public transportation settings. Avoid eating around others at home and at work for a full 10 days.

  After the 5-day isolation period (or longer if symptoms persist), one may discontinue wearing a mask sooner than day 11 with two sequential negative antigen tests taken at least 48 hours apart. The first of the two antigen tests should be taken no sooner than day 6. If an antigen test result is positive, one may still be infectious and should continue wearing a mask and wait at least 48 hours before testing again. Continue taking antigen tests at least 48 hours apart until there are two sequential negative results (there may be a need to continue wearing a mask and testing beyond day 10).

- **AVOID OTHERS AT HIGH-RISK FOR SEVERE ILLNESS:** Regardless of when you end isolation, avoid being around people who are immunocompromised or at high risk for severe disease, including those at nursing homes and other high-risk settings until at least day 11.

- **POSTPONE TRAVEL**: Postpone travel for a full 10 days if possible. If travel is *necessary* on days 6-10, wear a well-fitting mask when around others for the entire duration of travel. Persons unable to wear a mask should not travel during the 10 days.

Persons who develop COVID-19 compatible symptoms after vaccination:

For many people it is common to have some redness, swelling and tenderness at the site of vaccine administration. Systemic signs and symptoms such as fever, fatigue, headache, chills, nausea, myalgia, and arthralgias are relatively common within the first several days of vaccination with SARS-CoV-2 vaccines. These symptoms are more common among younger individuals (<55 years of age), typically resolve within 1-2 days of onset, and can be more frequent and severe after the second dose. There may be some overlap between the signs and symptoms associated with the post-vaccination period and those associated with COVID-19; however, cough, shortness of breath, rhinorrhea, sore throat, and loss of taste or smell are NOT consistent with post-vaccination symptoms and should prompt evaluation for COVID-19 or another infection.

Persons with pending COVID test results:

Persons who are symptomatic should follow home isolation guidance until their test results are available. If NEGATIVE for COVID-19, persons should stay home and practice social distancing until 24 hours after resolution of fever and symptom improvement. Home isolation should be based on the alternate diagnosis, if available.

Persons with COVID-19 compatible symptoms who are not tested:

Persons should be advised to stay on home isolation and follow the same guidance as those who test positive.

References:
COVID-19 Isolation and Post-Exposure Recommendations for Community Settings (NJDOH),
Summary of Guidance for Minimizing the Impact of COVID-19 on Individual Persons, Communities, and Health Care Systems — United States, August 2022 | MMWR (cdc.gov)

Healthcare Settings:

Healthcare workers with COVID-19 should follow the return-to-work guidance provided to them by their occupational health team and their employer. Please refer to Ending Isolation and Precautions for People with COVID-19: Interim Guidance (cdc.gov)

See Section C: Managing Special Situations below for additional guidance and references regarding return-to-work and managing healthcare personnel. Refer to current CDC and NJDOH guidance for information on discontinuation of isolation precautions, special precautions for healthcare workers, and additional information:

Interim Guidance for Managing Healthcare Personnel with SARS-CoV-2 Infection or Exposure to SARS-CoV-2 (CDC)

B. Post-Exposure Recommendations

1. **A close contact is defined as:**

   a) Being within 6 feet of an infected person for a cumulative total of 15 minutes or more over a 24-hour period. An infected person can spread SARS-CoV-2 starting from 2 days before symptom onset or, for asymptomatic patients, 2 days prior to the positive specimen collection date; OR

   b) Having direct contact with infectious secretions of a COVID-19 case (e.g., being coughed or sneezed on).

The determination of close contact should be made irrespective of whether the person with SARS-CoV-2 infection or the contact was wearing a cloth or disposable mask; or if they were wearing a surgical face mask or respirator outside of a healthcare setting.

2. **Timing for identifying close contacts:**

   - Contact with a symptomatic confirmed or probable COVID-19 case (laboratory-confirmed RT-PCR or antigen) starting from 48 hours before symptom onset until the case meets criteria for discontinuing home isolation, OR

   - Contact with an asymptomatic confirmed or probable COVID-19 case (laboratory-confirmed RT-PCR or antigen) starting from 2 days prior to the date of specimen collection until the case meets criteria for discontinuing home isolation.

3. **Post-Exposure Recommendations for Community Settings (non-healthcare settings)**

   Regardless of vaccination status or a previous infection, if a person has been in close contact with someone with COVID-19, they would be considered exposed and should follow post-exposure guidance. Close contacts should be advised to:

   - **MASK**: Immediately wear a well-fitting mask or respirator when around others at home or in indoor public settings as soon as you find out you were exposed to someone with COVID-19. The date of the last exposure is considered day 0 and a mask should be worn for 10 full days. Do not go to places where you are unable to mask such as restaurants and some gyms and avoid eating around others at home and at work until a full 10 days has elapsed since last contact.

   - **MONITOR FOR SYMPTOMS**: Watch for a fever (100.4◦F or greater), cough, shortness of breath, or other COVID-19 symptoms. If symptoms develop, isolate immediately, get tested, and stay home until test results are known. If you are at high risk of severe illness, consult with a healthcare provider right away.

- **TAKE PRECAUTIONS AROUND PERSONS AT HIGH-RISK FOR SEVERE ILLNESS**: Take extra precautions when around persons who are immunocompromised or at high risk for severe illness, including those you live with or who are at nursing homes and other high-risk settings until at least day 11.

- **TAKE PRECAUTIONS WHEN TRAVELING**: Persons unable to wear a mask should not travel during the 10 days after exposure to COVID-19.

- **TEST**: Get tested on day 6, even if symptoms don't develop. If you test positive, isolate immediately. If you test negative, continue to take precautions, including wearing a mask when around others at home and in public through Day 10. Individuals who already had COVID within the past 90 days should follow specific testing recommendations found at CDC's guidance on Choosing a COVID-19 Test.

For additional information, including isolation and post-exposure recommendations for household and high-risk congregate settings, refer to COVID-19 Isolation and Post-Exposure Recommendations posted at Department of Health | Communicable Disease Service | COVID-19: Information for Public Health Professionals (state.nj.us).

Healthcare settings: Please refer to guidelines for Healthcare Workers below in the section titled Managing Special Situations.

C. Managing Special Situations

Healthcare Workers

Healthcare workers with COVID-19 should follow guidance provided to them by their occupational health team and their employer. Refer to current CDC and NJDOH guidance for information on discontinuation of isolation precautions, special precautions for healthcare workers, and additional information:
Interim Guidance for Managing Healthcare Personnel with SARS-CoV-2 Infection or Exposure to SARS-CoV-2 (CDC) and Guidance for COVID-19 Diagnosed and/or Exposed Healthcare Personnel (with COVID-19 Case Risk Algorithm (NJDOH).

Current information on COVID-19 activity is updated weekly at Department of Health | Communicable Disease Service | COVID-19 Weekly Surveillance Reports (state.nj.us).

Healthcare facilities should use CDC Community Transmission Levels for assessing risk and to guide implementation of prevention strategies, infection control interventions, and public health action in healthcare settings. See Department of Health | Communicable Disease Service | COVID-19 Weekly Surveillance Reports (state.nj.us) and the CDC COVID Data Tracker for updated COVID-19 community transmission levels.

Additional information on minimizing the impact of COVID-19 on individuals, communities, and health care systems can be found at Summary of Guidance for Minimizing the Impact of COVID-

19 on Individual Persons, Communities, and Health Care Systems — United States, August 2022 | MMWR (cdc.gov)

NJDOH has online tools that healthcare facilities can use to assess exposure risk and implement employee isolation or quarantine policies: COVID-19: Information for Healthcare Professionals (NJDOH)

Group Homes

There are a variety of group homes that provide services for a variety of persons, including youth, persons with physical or mental health disabilities, needing substance use treatment, etc. Refer to CDC's recommendations for Multifamily Housing Including Populations at Increased Risk for Complications from COVID-19 (such as group homes) for guidance to prevent spread in these settings: Additional Information for Community Congregate Living Settings | CDC. These recommendations do not address infection prevention and control in healthcare settings. If a facility offers healthcare services, please consult CDC Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19) in Healthcare Settings.

Long-Term Care and Other Post-Acute Care Facilities

COVID-19 can quickly spread in congregate settings and nursing homes serve a particularly vulnerable population. LTCFs should report COVID-19 positive cases and respiratory outbreaks (COVID-19 confirmed or not) to the LHD. The LHD should report outbreaks to CDS and provide updated outbreak information as directed by CDS. Facilities should review, implement, and reinforce an infection control plan for preventing communicable disease among residents, visitors, and healthcare personnel. CDC is currently reviewing and updating guidance for nursing homes and LTCFs: Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic. Additional useful information can be found at: https://www.state.nj.us/health/cd/topics/covid2019_healthcare.shtml.

The plan should include:

- Use of standard and transmission-based precautions which includes appropriate use of personal protective equipment;
- Implementation of universal source control (i.e., use of barrier to cover the nose and mouth) for all persons entering the facility. All patients/residents, whether they have COVID-19 symptoms or not, should cover their nose and mouth (i.e., source control) when around others, as tolerated. Source control may be provided with tissue, facemasks, or cloth face coverings. Cloth face coverings are not appropriate substitutes for facemasks or respirators in workplaces where masks or respirators are recommended or required and available.
- Respiratory etiquette and hand hygiene programs;

- Patient placement, including cohorting of residents, staff, and equipment; this may involve dedicating certain wings or areas of the facility for separation of groups.

- Restricted movement of residents and staff, no communal dining/activities, and limitations on who can enter the facility;

- COVID-19 and other respiratory virus testing;

- Active surveillance/screening and risk assessment for residents and staff; being aware of atypical presentations in older adults.

PPE Shortages: LTC facilities are to report their PPE inventory on a daily basis, in accordance with EO 111, to https://report.covid19.nj.gov. Facilities in need of PPE can receive PPE based on the information included in this daily reporting and working with their county OEM.

Staffing Shortages: Facilities should try to handle staffing internally (e.g., extra shifts, extra pay, contact staffing agencies); reach out to sister facilities if owner has more than one LTC facility; and contact county or local OEM for Medical Reserve Corps or other possible resources. If all staffing solutions fail, the facility or LHD should contact NJDOH/Licensing (see Healthcare Facility Complaints) to determine operational capacity and compliance of the facility.

CDC and NJDOH have detailed infection control guidance and recommendations for LTCFs:

- CDC: Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic

- NJ: https://nj.gov/health/cd/topics/covid2019_healthcare.shtml

Healthcare facility complaints

Filing a complaint can be done online at https://www.nj.gov/health/healthfacilities/file_complaint.shtml or by calling the Complaint Hotline: 1-800-792-9770 seven days a week. Patients, health care facility employees and other members of the public may file complaints about hospitals, ambulatory surgery centers, home health agencies, nursing homes, assisted living facilities, comprehensive personal care homes, adult medical day care, pediatric medical day facilities, and many other licensed acute- and long-term care facilities.

New Jersey Substance Abuse Treatment Facilities

To register a complaint regarding any substance use treatment facility in New Jersey, call 1-877-712-1868 during business hours and speak with the county coordinator. After hours, call the same number and leave a message and your call will be returned the next business day.

Schools and Daycare Facilities

CDS guidance and public health recommendations for K-12 schools and childcare settings is posted at https://www.state.nj.us/health/cd/topics/covid2019_schools.shtml. CDC's updated

guidance for K-12 schools and Early Care and Education (ECE) Programs is located at Operational Guidance for K-12 Schools and Early Care and Education Programs to Support Safe In-Person Learning | CDC.The decision to close a school is made at the local level and is made jointly between the school district and the local health department. The Department of Health does not have authority to mandate closure of private daycares. Daycare facilities should contact New Jersey Department of Children and Families (DCF) for guidance. Questions concerning NJDOE guidance for schools should be addressed to each county's office of education: https://www.nj.gov/education/about/counties/.

Institutes of Higher Education

CDS guidance for Institutes of Higher Education is posted online at https://www.state.nj.us/health/cd/topics/covid2019_schools.shtml.

Homeless Service Sites or other Shelters

For COVID-19 cases or contacts who live in shelters or who are experiencing homelessness, LHDs should consult with their county department of human services for assistance. For additional assistance, LHDs can contact the NJ Department of Human Services 609-292-3717 or call 211.

CDC guidance on managing COVID-19 in homeless service sites has been updated and combined with guidance for correctional and detention facilities. More information can be found below and at: Guidance on Management of COVID-19 in Homeless Service Sites and in Correctional and Detention Facilities | CDC.

Correctional and Detention Facilities

Correctional and detention facilities, as well as homeless service sites, have a higher risk of COVID-19 transmission due to congregate living arrangements, as well as due to a higher prevalence of medical conditions linked to severe COVID-19. It is recommended that these facilities use a combination of COVID-19 Community Levels and risks specific to the facility to guide decisions about when to apply specific COVID-19 prevention measures. CDC guidance for correctional and detention facilities, as well as homeless service sites, are available at: Guidance on Management of COVID-19 in Homeless Service Sites and in Correctional and Detention Facilities | CDC.

Personal Protective Equipment Use/Supply

Facilities needing PPE should submit their inventory at https://report.covid19.nj.gov/. Facilities are also encouraged to share supply needs with their county OEM. CDC has guidance on the appropriate use of PPE and strategies to optimize PPE and equipment: https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/

Post-mortem Guidance

Guidance on post-mortem specimens is available at https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-postmortem-specimens.html. Additional questions on post-mortem care

and disposition should be referred to the regional medical examiner's office: NJ Office of the Chief State Medical Examiner.

D. Preventive Measures

Individual-Level Actions

The following individual-level preventative measures are recommended at **all** COVID-19 Community Levels:

- Staying Up to Date with COVID-19 Vaccines
  - COVID-19 vaccines help your body develop protection from the virus that causes COVID-19. Although vaccinated people sometimes get infected with the virus that causes COVID-19, staying up to date on COVID-19 vaccines significantly lowers the risk of getting very sick, being hospitalized, or dying from COVID-19. CDC recommends that everyone who is eligible get a booster and stay up to date on their COVID-19 vaccines, especially people with weakened immune systems.

- Improving Ventilation and Spending Time Outdoors
  - Improving ventilation (moving air into, out of, or within a room) and filtration (trapping particles on a filter to remove them from the air) can help prevent virus particles from accumulating in indoor air. Improving ventilation and filtration can help protect against infection with and spreading the virus that causes COVID-19.
  - Spending time outside instead of inside can also help: viral particles spread between people more readily indoors than outdoors. You are less likely to be infected with COVID-19 during outdoor activities because virus particles do not build up in the air outdoors as much as they do indoors. As the COVID-19 Community Level rises, consider increasing the number of group activities you move outside.

- Getting tested for COVID-19 if needed
  - Get tested if you have COVID-19 symptoms.

- Following recommendations for what to do when exposed
  - Close contacts should follow post-exposure recommendations including wearing a high-quality mask when indoors around others (including inside your home) for 10 days, testing, and monitoring yourself for symptoms.

- Staying home if you have suspected or confirmed COVID-19
  - If you have COVID-19, you can spread it to others, even if you do not have symptoms. If you have symptoms, get tested and stay home until you have your results. If you have tested positive (even without symptoms), follow isolation recommendations.

- Seeking treatment if you have COVID-19 and are at high risk of getting very sick

- Avoiding contact with people who have suspected or confirmed COVID-19
- Performing proper hand hygiene and respiratory hygiene/cough etiquette.
- Cleaning and disinfecting
    - Routine cleaning and disinfection are important prevention measures. Refer to List N on the EPA website for EPA-registered disinfectants that have qualified under EPA's emerging viral pathogens program for use against SARS-CoV-2 https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2

The following additional individual-level preventative measures are recommended at **Medium** or **High** COVID-19 Community Levels.

- Wearing Masks or Respirators

  Masks may slow the spread of the virus and help people who may have the virus and do not know it from transmitting it to others. It is important to wear a mask or respirator when you are sick or caring for someone who is sick with COVID-19. When caring for someone who is sick with COVID-19, a respirator will provide you the best level of protection. Those at high risk for severe illness from COVID-19 are recommended to wear a high-quality mask or respirator when indoors in public.

- Increasing Space and Physical Distance
    - Small particles that people breathe out can contain virus particles. The closer you are to a greater number of people, the more likely you are to be exposed to the virus that causes COVID-19. To avoid this possible exposure, avoid crowded areas, or keep distance between yourself and others. These actions also protect people who are at high risk for getting very sick from COVID-19 in settings where there are multiple risks for exposure.

Community-Level Actions

The following community-level preventative measures are recommended at **all** COVID-19 Community Levels:

- Promote equitable access to COVID-19 vaccines, testing, treatment, masks, outreach, and support services, particularly for those at high risk of severe illness and vulnerable populations. Contact your local health department for information.
- Ensure isolation and post-exposure recommendations are followed.
- Maintain good indoor ventilation and airflow.
- Teach and reinforce importance of proper hand hygiene and respiratory etiquette.
- Ensure routine cleaning and disinfecting of buildings and facilities.

- Maintain screening testing infrastructure to allow for easier scale up when COVID-19 community levels are medium or high.

Th following additional community-level preventative measures are recommended at **Medium** COVID-19 Community Levels.

- Implement screening testing or other testing strategies for people exposed to COVID-19 in high-risk settings. Schools and daycares serving students at risk for severe illness from COVID-19 should consider implementing screening testing.
- High-risk congregate settings (such as homeless service sites and correctional/detention facilities) should use a combination of COVID-19 community levels and facility-specific risks to determine when to apply specific prevention actions (see Guidance on Management of COVID-19 in Homeless Service Sites and in Correctional and Detention Facilities | CDC).

The following additional community-level preventative measures are recommended at **High** COVID-19 Community Levels.

- Implement indoor masking policies.
- High-risk congregate settings, like shelters, homeless service sites, and correctional & detention facilities, should implement enhanced prevention measures to prevent transmission while maximizing access to in-person visitation where possible.
- High-risk congregate settings should consult with their LHD about implementing facility-wide screening testing.
- School and childcare settings may consider implementing screening testing for high-risk activities (e.g., close contact sports, band, choir, theater), before and after large events, and when returning from breaks.

NJDOH has resources on prevention available at: https://nj.gov/health/cd/topics/covid2019_community.shtml.

Vaccination

COVID-19 vaccines are considered safe and effective, and can be obtained free of charge. CDC recommends COVID-19 primary series vaccines for everyone ages 6 months and older, and COVID-19 boosters for everyone eligible ages 5 years and older. Being fully vaccinated and staying up to date with vaccine boosters (if applicable) helps prevent people from getting seriously ill, being hospitalized, and dying.

Fully Vaccinated: Persons are considered fully vaccinated 14 days after completion of their primary COVID-19 vaccine series. The number of vaccinations to complete the primary series depends on which vaccine is used, as well as immune status (e.g., immunocompromised persons likely need three vaccinations for their primary series to be considered fully vaccinated, whereas persons with no immunocompromise may need 1-2 injections to complete their primary series and be considered fully vaccinated, depending on which vaccine is used).

Up to Date: Persons are considered up to date with COVID-19 vaccines when they have received all doses in the primary series and all recommended boosters, when eligible.
Vaccine recommendations are based on age, the vaccine first received, and time since last dose. People who are moderately or severely immunocompromised have different recommendations for COVID-19 vaccines.

For more information on COVID-19 vaccines, boosters, and staying up to date with vaccination, visit: Stay Up to Date with COVID-19 Vaccines Including Boosters | CDC

Vaccine Resources: Several COVID-19 vaccines are available for use. NJDOH is working to distribute vaccine throughout NJ and has a vaccine hotline and many online resources for healthcare providers, LHDs, and the public:

- Vaccine Hotline: 855-568-0545
- NJDOH Communicable Disease Service COVID-19 Vaccine Information website

Reporting of COVID-19 Vaccine Adverse Events: CDC and FDA encourage anyone who experiences an adverse event after receiving a vaccination to submit a report to the Vaccine Adverse Events Reporting System (VAERS). An adverse event is any health problem or "side effect" following vaccination. VAERS cannot determine if a vaccine caused an adverse event but can determine if further investigation is needed. Anyone can submit a report to VAERS, including patients, family members, vaccine manufacturers and the general public.

Healthcare providers are required to report certain clinically significant events, and encouraged to report any events, that occur in a patient following vaccination even if they are unsure whether the vaccine caused the event. Specific to COVID-19 vaccination, providers are required to report the following adverse events to VAERS:

- Vaccine administration errors (whether associated with an adverse event or not)
- Serious adverse events (irrespective of attribution to vaccination)
  - Defined as: death; a life-threatening adverse event; inpatient hospitalization or prolongation of existing hospitalization; a persistent or significant incapacity or substantial disruption of the ability to conduct normal life functions; a congenital anomaly/birth defect; and any important medical event that based on appropriate medical judgement may jeopardize the individual and may require medical or surgical intervention to prevent one of the outcomes listed above
- Cases of multisystem inflammatory syndrome (MIS) in adults and children
- Cases of COVID-19 that result in hospitalization or death after the recipient has received COVID-19 vaccine

When conducting case investigations, if serious adverse events, hospitalization, death, or MIS are reported in vaccinated individuals, investigators should confirm that the vaccination provider submitted a report to VAERS.

References:
NJDOH COVID-19 Vaccination
NJDOH VAERS

Travel Information

COVID-19 still poses a risk for travelers. It is recommended that everyone follow steps to protect themselves and others during travel. It is still recommended that everyone aged 2 years or older including passengers and workers properly wear a well-fitting mask or respirator over the nose and mouth in indoor areas of public transportation (such as airplanes, trains, buses, ferries) and transportation hubs (such as airports, stations, and seaports). Be sure to stay up to date on travel related information by regularly visiting the Traveler's Health page.

International Travel

- It is recommended to delay international travel until you are up to date on your COVID-19 vaccines. If you have proof of vaccination, bring it with you as some destinations may require this to enter.
- Before travel: It is recommended to get tested up to 3 days prior to travel (both ways) with a viral test and check for recommendations and requirements in place in the country you are traveling to.
- After travel: Everyone should get tested 3-5 days after travel with a PCR or antigen test and self-monitor for symptoms. If symptoms develop, begin to isolate immediately and get tested if you have not already done so.

Domestic Travel

- It is recommended to delay domestic travel until you are up to date on your COVID-19 vaccines. Be sure to use the domestic travel checker prior to departure to help you follow all state, local, and tribal recommendations and requirements.
- For those traveling to New Jersey, domestic travel is defined as lasting 24 hours or longer to states or US territories other than those connected to New Jersey, such as Pennsylvania, New York, and Delaware.
- Get tested with a viral test after travel if you were in situations with greater risk of exposure such as being in crowded places without a high-quality mask.
- Monitor for symptoms after travel. If symptoms develop, isolate immediately and get tested.

Reference: CDC COVID-19 Travel

ADDITIONAL INFORMATION

NJDOH: https://nj.gov/health/cd/topics/ncov.shtml

CDC: https://www.cdc.gov/coronavirus/2019-ncov/index.html