2019 Novel Coronavirus (2019-nCoV)

REPORTING INFORMATION

- **Class A:** *Report immediately via telephone* the case or suspected case and/or a positive laboratory result to the local public health department where the patient resides. If patient residence is unknown, report immediately via telephone to the local public health department in which the reporting health care provider or laboratory is located.

- **Reporting Form(s) and/or Mechanism:**
  - *Immediately via telephone.*
  - The local health department should enter the case into the Ohio Disease Reporting System (ODRS) within 24 hours after the telephone report.
  - The Centers for Disease Control and Prevention (CDC) [2019-nCoV Patient Under Investigation Form](https://www.cdc.gov/coronavirus/2019-ncov/clinical-care/under-investigation-forms.html) is available for use to assist in local disease investigation. Information collected from the form should be entered into ODRS and sent to the Ohio Department of Health (ODH).

AGENT

2019-nCoV is a novel species of the *Coronaviridae* virus family, Beta-CoV lineage B.

CASE DEFINITION

**Patient under Investigation (PUI)**

Patients in the United States who meet the following criteria should be evaluated as a PUI in association with the outbreak of 2019-nCoV in Wuhan City, China.

1) **Fever AND symptoms of lower respiratory illness (e.g., cough, shortness of breath)** –and in the last 14 days before symptom onset,
   - History of travel from Wuhan City, China, OR
   - Close contact with a person who is under investigation for 2019-nCoV while that person was ill.

2) **Fever OR symptoms of lower respiratory illness (e.g., cough, shortness of breath)** –and in the last 14 days before symptom onset,
   - Close contact with an ill laboratory-confirmed 2019-nCoV patient.

The criteria are intended to serve as guidance for evaluation. Patients should be evaluated and discussed with public health departments on a case-by-case basis if their clinical presentation or exposure history is equivocal (e.g., uncertain travel or exposure).

<table>
<thead>
<tr>
<th>Clinical Features</th>
<th>&amp;</th>
<th>Epidemiologic Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever <strong>and</strong> symptoms of lower respiratory illness (e.g., cough, difficulty breathing)</td>
<td>and</td>
<td>In the last 14 days before symptom onset, a history of travel from Wuhan City, China. - or - In the last 14 days before symptom onset, close contact with a person who is under investigation for 2019-nCoV while that person was ill.</td>
</tr>
<tr>
<td>Fever <strong>or</strong> symptoms of lower respiratory illness (e.g., cough, difficulty breathing)</td>
<td>and</td>
<td>In the last 14 days, close contact with an ill laboratory-confirmed 2019-nCoV patient.</td>
</tr>
</tbody>
</table>
**Case Classification**

**Confirmed:** A confirmed case is a person with laboratory confirmation of 2019-nCoV infection.

**Probable:** A probable case is a PUI with absent or inconclusive laboratory results for 2019-nCoV infection who is a close contact of a laboratory-confirmed 2019-nCoV case.

Close contact is defined as a) being within approximately 6 feet (2 meters), or within the room or care area, of a confirmed 2019-nCoV case for a prolonged period of time (such as caring for, living with, visiting, or sharing a healthcare waiting area or room with, a confirmed 2019-nCoV case) while not wearing recommended personal protective equipment or PPE (e.g., gowns, gloves, NIOSH-certified disposable N95 respirator, eye protection); or b) having direct contact with infectious secretions of a confirmed 2019-nCoV case (e.g., being coughed on) while not wearing recommended personal protective equipment. Data to inform the definition of close contact are limited; considerations when assessing close contact include the duration of exposure (e.g., longer exposure time likely increases exposure risk) and the clinical symptoms of the person with 2019-nCoV (e.g., coughing likely increases exposure risk). Special consideration should be given to those exposed in healthcare settings. For detailed information regarding healthcare personnel (HCP) please review CDC [Interim Infection Prevention and Control Recommendations for Hospitalized Patients with 2019-nCoV](https://www.cdc.gov/coronavirus/2019-ncov/hcp/interim-infection-prevention-control-recommendations.html). Transient interactions, such as walking by a person with 2019-nCoV, are not thought to constitute an exposure; however, final determination should be made in consultation with public health authorities.

**Suspected:** a PUI with pending laboratory results.

**Not a Case:** a PUI with negative laboratory results.

**Laboratory Criteria for Diagnosis**

If infection with 2019-nCoV is suspected based on current clinical and epidemiological screening criteria recommended by public health authorities, healthcare providers should consider testing clinical specimens. The CDC Laboratory is currently the only laboratory testing for 2019-nCoV. All specimens should be shipped through ODH lab. ODH lab will facilitate sending the specimens to CDC.

Testing for other respiratory pathogens should not delay specimen shipping to CDC. If a PUI tests positive for another respiratory pathogen, after clinical evaluation and consultation with public health authorities, they may no longer be considered a PUI. This may evolve as more information becomes available on possible 2019-nCoV co-infections.

CDC recommends that clinicians collect three specimen types (lower respiratory, upper respiratory, and serum) for 2019-nCoV testing.

For biosafety reasons, it is not recommended to perform virus isolation in cell culture or initial characterization of viral agents recovered in cultures of specimens from a PUI for 2019-nCoV.

To increase the likelihood of detecting 2019-nCoV infection, CDC recommends collecting and testing multiple clinical specimens from different sites, including all three specimen types—lower respiratory, upper respiratory, and serum specimens. Additional specimen types (e.g., stool, urine) may be collected and stored. Specimens should be collected as
soon as possible once a PUI is identified regardless of time of symptom onset. Additional
guidance for collection, handling, and testing of clinical specimens is available at CDC
Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Patients
Under Investigation (PUIs) for 2019 Novel Coronavirus (2019-nCoV).

See also:

- Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens
  Associated with 2019 Novel Coronavirus (2019-nCoV)

SIGNS AND SYMPTOMS
2019-nCoV is an emerging infection and the full clinical spectrum of disease is unknown;
however, patients with confirmed 2019-nCoV infection have reportedly had mild to severe
respiratory illness with symptoms of fever, cough, and shortness of breath. Deaths have
been reported.

DIAGNOSIS
Patients who meet the criteria for a PUI should also be evaluated for common causes of
community-acquired pneumonia (e.g. influenza A and B viruses, respiratory syncytial virus,
Streptococcus pneumoniae, and Legionella pneumophila). This evaluation should be based
on clinical presentation and epidemiologic and surveillance information.

In the presence of person-to-person transmission of 2019-nCoV anywhere in the world,
healthcare providers should evaluate patients in the U.S. for 2019-nCoV infection if they
meet the PUI criteria.

If a patient meets the PUI criteria healthcare providers will need to:
  1. Institute standard, contact and airborne precautions
  2. Notify the local health department
  3. Consider 2019-nCoV testing

Epidemiology
Chinese health officials identified 2019-nCoV in Wuhan City, Hubei Province, China in
December 2019 based on testing of individuals with severe pneumonia. The new
coronavirus (2019-nCoV) has resulted in close to 4,500 confirmed human infections globally
with several deaths reported. Countries, including the United States, have been actively
screening incoming travelers from Wuhan and exported human infections with the novel
coronavirus have been confirmed in Thailand, Japan, and The Republic of Korea. On January
21, 2020, the United States announced its first infection with 2019-nCoV detected in a
traveler returning from Wuhan.

Source
In December 2019, many of the patients in the outbreak in Wuhan, China were linked to
a large seafood and animal market, suggesting animal-to-person spread. Since then, a
growing number of patients have not reported exposure to animal markets, suggesting
limited person-to-person spread is occurring, though it’s unclear how easily or
sustainably this virus is spreading between people.

Mode of Transmission
2019-nCoV, like other coronaviruses, is thought to spread from an infected person’s
respiratory secretions, such as through coughing. However, the precise ways the virus
spreads are not currently well understood.
**Period of Communicability**
Based on similar human coronaviruses, patients may be able to shed the virus after resolution of symptoms, but the duration of infectivity is unknown. Patients are not believed to be contagious during the incubation period.

**Incubation Period**
Based on similar human coronaviruses, incubation periods for 2019-nCoV is estimated to range from 2 to 14 days (median unknown).

**PUBLIC HEALTH MANAGEMENT**

**Case Investigation**
Healthcare providers/Local health departments should continue to routinely ask about travel history and healthcare facility exposure and consider a diagnosis of 2019-nCoV infection in persons who meet the criteria for a PUI.

**Treatment**
No vaccine or specific treatment for 2019-nCoV infection is available; care is supportive. See World Health Organization (WHO) [Clinical management of severe acute respiratory infection when novel coronavirus (nCoV) infection is suspected](https://www.who.int/docs/default-source/coronaviruse/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-infection-is-suspected.pdf).

**Isolation**
Although the transmission dynamics have yet to be determined, CDC currently recommends a cautious approach to patients under investigation for 2019-nCoV who require hospitalization for medical reasons. Such patients should be asked to wear a surgical mask as soon as they are identified and be evaluated in a private room with the door closed, ideally an airborne infection isolation room if available. Healthcare personnel entering the room should use standard precautions, contact precautions, airborne precautions, and use eye protection (e.g., goggles or a face shield). Guidance on healthcare isolation measures is available in CDC's [Interim Healthcare Infection Prevention and Control Recommendations for Patients Under Investigation for 2019 Novel Coronavirus](https://www.cdc.gov/coronavirus/2019-ncov/dailylife-coping/patient-care.html).

Ill people who are being evaluated for 2019-nCoV infection and do not require hospitalization for medical reasons may be cared for and isolated in their home. Isolation is defined as the separation or restriction of activities of an ill person with a contagious disease from those who are well. Guidance on home care and isolation measures is available at CDC [Interim Guidance for Implementing Home Care of People Not Requiring Hospitalization for 2019 Novel Coronavirus (2019-nCoV)](https://www.cdc.gov/coronavirus/2019-ncov/dailylife-coping/home-care.html).

The place of isolation (hospital or home) shall depend on the the patient’s condition, the healthcare system’s isolation bed capacity, the capacity to monitor an infected person daily outside a healthcare setting, and the conditions of the household and its occupants. See WHO [Clinical management of severe acute respiratory infection when novel coronavirus (nCoV) infection is suspected](https://www.who.int/docs/default-source/coronaviruse/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-infection-is-suspected.pdf) for additional information.
Contacts
Close contact is defined as: a) being within approximately 6 feet (2 meters), or within the room or care area, of a 2019-nCoV case for a prolonged period of time while not wearing recommended personal protective equipment or PPE (e.g., gowns, gloves, NIOSH-certified disposable N95 respirator, eye protection); close contact can include caring for, living with, visiting, or sharing a health care waiting area or room with a novel coronavirus case.– or – b) having direct contact with infectious secretions of a novel coronavirus case (e.g., being coughed on) while not wearing recommended personal protective equipment.

Investigation
As part of investigation of confirmed cases, in consultation with a state or local health department, a person who develops fever or symptoms of respiratory illness within 14 days following close contact with a confirmed case of 2019-nCoV while the case was ill should be evaluated for 2019-nCoV infection.

Evaluation and management of close contacts of a PUI should be discussed with state and local health departments. Close contacts of a PUI should monitor themselves for fever and respiratory illness and seek medical attention if they become ill within 14 days after contact; healthcare providers should consider the possibility of 2019-nCoV in these contacts.

CDC does not recommend the quarantine of asymptomatic individuals who have had exposure to 2019-nCoV; however, asymptomatic contacts are advised to monitor their health (i.e. measure temperature twice daily and respiratory symptoms) for at least 14 days after the last possible contact with an infected person. During this time, in the absence of both fever and respiratory symptoms, persons who may have been exposed to 2019-nCoV patients need not limit their activities outside the home and should not be excluded from work, school, out-of-home child care, church or other public areas. They should immediately seek medical attention if they develop symptoms such as fever, respiratory symptoms (including coughing and shortness of breath), or diarrhea.

Close contacts of a confirmed case who are ill and do not require hospitalization for medical reasons may, in consultation with the state and local health department, be cared for and isolated in their home while being evaluated for 2019-nCoV infection.

Additional Resources
Situation Summary
Interim Guidance for Healthcare Professionals
Interim Healthcare Infection Prevention and Control Recommendations for Patients Under Investigation for 2019 Novel Coronavirus
Interim Guidance for Implementing Home Care of People Not Requiring Hospitalization for 2019 Novel Coronavirus (2019-nCoV)
Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Patients Under Investigation (PUIs) for 2019 Novel Coronavirus (2019-nCoV)
Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with 2019 Novel Coronavirus (2019-nCoV)
What is 2019-nCoV?
2019-nCoV is a respiratory illness. It is caused by a virus called 2019 novel coronavirus. This virus was first reported in 2019 in Wuhan City, Hubei Province, China. It is different from any other coronaviruses that have been found in people before.

What is the source of 2019-nCoV?
2019-nCoV likely came from an animal because the first cases were linked to a large seafood and animal market, suggesting a possible zoonotic origin to the outbreak. However, more information is needed to figure out the possible role that animals may play in transmission of 2019-nCoV.

What are the symptoms and complications of 2019-nCoV?
Most people confirmed to have 2019-nCoV infection have had severe acute respiratory illness with symptoms of:
- Fever
- Cough
- Sore Throat
- Shortness of breath

How does the virus spread?
2019-nCoV, like other coronaviruses, is thought to spread from an infected person’s respiratory secretions, such as through coughing. However, the precise ways the virus spreads are not currently well understood. 2019-nCoV has spread from ill people to others through close contact, such as caring for or living with an infected person.

Have there been cases in the United States (U.S.)?
The first cases in the US was identified on January 21, 2020 in a patient who traveled to Wuhan City, China. For current case counts, click here.

Am I at risk for 2019-nCoV in the U.S.?
This outbreak began in early December 2019 and continues to expand in scope and magnitude. Surveillance is in the early stages and we expect more cases to be confirmed in China and beyond its borders. CDC is monitoring airports for travelers from China and continues to closely monitor the situation in China.

Can I still travel to China or countries where 2019-nCoV cases have occurred?
The CDC has issued a Watch Level 3 Travel Advisory for China. This means CDC recommends that travelers avoid all nonessential travel to China. Chinese officials have closed transport within and out of Wuhan and other cities in Hubei province, including buses, subways, trains, and the international airport. Preliminary information suggests that older adults and people with underlying health conditions may be at increased risk for severe disease from this virus. The situation is evolving. This notice will be updated as more information becomes available.
What if I recently traveled to Wuhan City, Hubei Province, China or other outbreak area and got sick?

If you traveled to Wuhan City, Hubei Province, China or other outbreak area and feel sick with fever, cough, or difficulty breathing, you should

- Seek medical care right away. Before you go to a doctor’s office or emergency room, call ahead and tell them about your recent travel and your symptoms.
- Avoid contact with others.
- Not travel while sick.
- Cover your mouth and nose with a tissue or your sleeve (not your hands) when coughing or sneezing.
- Wash hands often with soap and water for at least 20 seconds. Use an alcohol-based hand sanitizer if soap and water are not available.

Is there a vaccine?
There is currently no vaccine to protect against 2019-nCoV. The U.S. National Institutes of Health is exploring the possibility of developing one.

What are the treatments?
There is no specific antiviral treatment recommended for 2019-nCoV infection. Individuals with 2019-nCoV can seek medical care to help relieve symptoms. For severe cases, current treatment includes care to support vital organ functions.