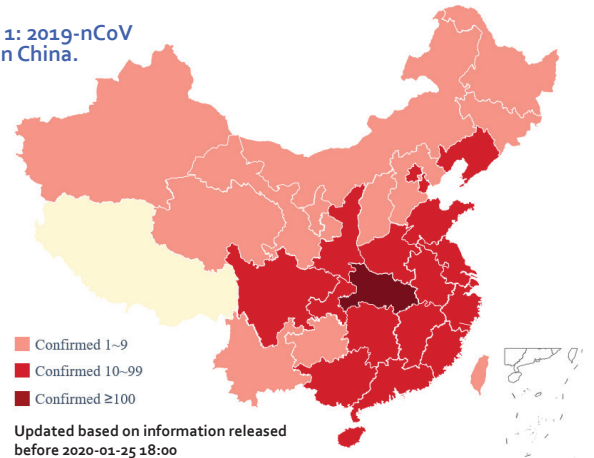


Novel Wuhan (2019-nCoV) Coronavirus

As of February 7, 2020, 31,000 human infections with a novel coronavirus (2019-nCoV) have been confirmed in China with at least 630 reported deaths (Figure 1) and reports continue to increase. Additional cases have been confirmed in multiple countries including the United States.

Figure 1: 2019-nCoV cases in China.



Initially, most infected people reported exposure to a large seafood and wet animal market in Wuhan City, Hubei Province suggesting a potential zoonotic origin. However, person-to-person transmission is now recognized given cases within families and among people who had not been to the Wuhan market. Person-to-person spread occurs via droplets from coughing or sneezing or direct contact. Prevention and control measures to help prevent further spread are being implemented in China and a growing number of countries including the US. Travel screenings are being done at ports of entry particularly for people coming from China.

Public health officials and healthcare providers should consider 2019-nCoV infection as a potential etiology among travelers returning from Wuhan City, China who present with an acute fever and respiratory illness, particularly if there was any close contact with a suspected or laboratory-confirmed 2019-nCoV sick patient.

Figure 2: Criteria from the Centers for Disease Control and Prevention (CDC) to evaluate patients with suspected 2019-nCoV.

Clinical Features	&	Epidemiologic Risk
Fever ¹ <i>and</i> symptoms of lower respiratory illness (e.g., cough, difficulty breathing)	<i>and</i>	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 ² with a person who is under investigation for 2019-nCoV while that person was ill
Fever ¹ <i>or</i> symptoms of lower respiratory illness (e.g., cough, difficulty breathing)	<i>and</i>	In the last 14 days, close contact ² with an ill laboratory confirmed 2019-nCoV patient.

Clinical Presentation

Coronaviruses are distributed among humans, other mammals and birds and have been implicated to cause respiratory, hepatic, gastrointestinal and neurological infections. Six coronavirus species are known to cause human infection, four of which typically cause cold symptoms in immunocompetent individuals, while the other two namely SARS-CoV (severe acute respiratory syndrome coronavirus) and MERS-CoV (Middle East respiratory syndrome coronavirus) both zoonotic in origin were implicated in 2002 and 2003 outbreaks in Guangdong, China and 2012 outbreaks in the Middle East and can cause severe respiratory illness and fatalities.

Patients with confirmed 2019-nCoV infection have reported respiratory illness with fever, cough, and shortness of breath. Incubation period appears to range between two days to up to two weeks following exposure. To date the severity of illness has tended to be mild, however deaths have been reported. There is concern that patients with mild symptoms may more easily spread the virus due to not seeking medical attention. No vaccine exists to prevent infection; therefore, early identification and prevention of transmission is of paramount importance.

Healthcare professionals' education is imperative as a majority of SARS-CoV and MERS-CoV cases were associated with healthcare-associated transmission. Based on experience with previous such outbreaks, those with advancing age and co-morbidities such as diabetes and heart disease can be at high risk for adverse outcomes.

Prevention of Infection, Exposure and Spread

- Handwashing with soap and water for at least 20 seconds. If soap and water are not available, use an alcohol-based hand sanitizer.
- Avoid touching eyes, nose, and mouth with unwashed hands.
- Avoid close contact with people who are sick.
- Cover cough or sneeze with a tissue, then discard the tissue in a contained trash.
- Clean and disinfect frequently touched objects and surfaces.
- Seek medical attention if you believe you have been exposed and have symptoms.

Reporting, Testing, and Specimen Collection

Local infection control personnel as well as health departments should be notified as soon as a potential patient is identified. Health departments should contact the CDC's Emergency Operations Center at 770-488-7100 and complete a case investigation. <https://www.cdc.gov/coronavirus/2019-ncov/downloads/pui-form.pdf>. Specimens can only be tested for 2019-nCoV at the CDC at this time. For safety reasons, it is NOT recommended to perform virus isolation in cell culture or initial characterization of viral agents recovered in cultures of specimens from suspected cases. Respiratory specimen storage and transport instructions are available from the CDC at <https://www.cdc.gov/coronavirus/2019-nCoV/guidelines-clinical-specimens.html>

Treatment

No specific antiviral treatment is recommended for the 2019-nCoV infection. Symptomatic and supportive care are recommended along with respiratory and contact isolation for infected individuals.

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R_x Action Steps

In addition to reporting suspected cases to the CDC, we encourage providers to:

- ✓ Screen all patients with clinical symptoms of 2019-nCoV infection for recent travel from Wuhan, China or exposure to close contact with a laboratory-confirmed 2019-nCoV patient
- ✓ Patients should be given a mask to wear and placed in an isolation room
- ✓ Patients should be cared for using Airborne and Contact Precautions with personal protective equipment (e.g., gowns, gloves, NIOSH-certified disposable N95 respirator, eye protection)
- ✓ Inform infection control and local health department of suspected cases
- ✓ Isolate respiratory specimens and send to CDC per protocol for suspected 2019-nCoV infections
- ✓ Encourage preventative measures including handwashing, early identification and isolation

Healthcare Provider's Contact Number:

References**1. CDC 2019 Novel Coronavirus**

- <https://www.cdc.gov/coronavirus/2019-ncov/about/index.html>

2. Red Book Online

- https://redbook.solutions.aap.org/selfserve/ssPage.aspx?SelfServeContentId=rbo_outbreaks_page_3

Additional Resources

- Zhu N et al. A Novel Coronavirus from Patients with Pneumonia in China, 2019. *N Engl J Med.* 2020 Jan 24. doi: 10.1056/NEJMoa2001017
- Munster et al. A Novel Coronavirus Emerging in China - Key Questions for Impact Assessment. *N Engl J Med.* 2020 Jan 24. Doi: 10.1056/NEJMp2000929
- Huang et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet.* Published Online January 24, 2020 [https://doi.org/10.1016/S0140-6736\(20\)30183-5](https://doi.org/10.1016/S0140-6736(20)30183-5)

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