Update: 2019 Novel Coronavirus, Wuhan, China
Background

• An outbreak of pneumonia of unknown etiology in Wuhan City was initially reported to WHO on December 31, 2019. Reportedly, most patients had epidemiological links to a large seafood and animal market.
  • The market was closed on January 1, 2020.
• CDC issued a [Travel Notice on January 6](#)
• CDC issued a [Health Alert on January 8](#)
• On January 13, 2020 public health officials in Thailand confirmed detection of a human infection with 2019-nCoV in a traveler from Wuhan, China. This was the first confirmed case of 2019-nCoV documented outside China.
Background

• On January 17, CDC issued a second Health Alert with updated and interim guidance and began screening travelers on direct and indirect flights from Wuhan to John F. Kennedy International Airport (JFK). Screening at San Francisco International Airport and Los Angeles International Airport followed on January 18.

• On January 21, CDC announced the first U.S. case. The patient is a male in his 30s from Snohomish County, Washington, who experienced symptoms after returning from a trip to the region around Wuhan. He was hospitalized with pneumonia last week, and infection with the coronavirus was confirmed on January 20.
Background

• On January 23, CDC upgraded its Travel Notice for Wuhan, China to Warning Level 3, Avoid Nonessential Travel
• NYSDOH is working closely with the New York City Department of Health and Mental Hygiene, Port Authority of New York and New Jersey and other public health partners to support CDC’s efforts at JFK.
Novel Coronavirus in Wuhan, China
December 30, 2019 – January 24, 2020

12/31/2019 - WHO alerted by Chinese authorities of cluster of pneumonia cases in Wuhan, China
01/01/2020 - Huanan Seafood Wholesale Market in Wuhan closed
Background

• Limited information is available to characterize the spectrum of clinical illness and impact associated with 2019-nCoV.
• No vaccine or specific treatment for 2019-nCoV infection is available; care is supportive.
• Healthcare providers should obtain a detailed travel history for patients being evaluated with fever and acute respiratory illness.
• In accordance with the current requirements and expectations from the 2014 Commissioner’s Order, healthcare providers and facilities are required to collect a travel history for patients presenting with febrile illness and remain aware of current outbreaks overseas.
## Background

<table>
<thead>
<tr>
<th>Country</th>
<th>First Reported</th>
<th>Confirmed Cases</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>31 December 2019</td>
<td>830</td>
<td>26</td>
</tr>
<tr>
<td>Thailand</td>
<td>13 January 2020</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>South Korea</td>
<td>20 January 2020</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Japan</td>
<td>15 January 2020</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>United States</td>
<td>21 January 2020</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Taiwan</td>
<td>21 January 2020</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Data as of 24 January 2020, 10AM Eastern

Criteria to Guide Evaluation of Patients Under Investigation (PUI) for 2019-nCoV

• PUI 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).
Criteria to Guide Evaluation of Patients Under Investigation (PUI) for 2019-nCoV

<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>&amp;</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>&amp;</td>
<td>In the last 14 days, close contact with an ill laboratory-confirmed 2019-nCoV patient.</td>
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</tbody>
</table>
Criteria to Guide Evaluation of Patients Under Investigation (PUI) for 2019-nCoV

• Fever may not be present in some patients, such as those who are very young, elderly, immunosuppressed, or taking certain fever-lowering medications. Clinical judgment should be used to guide testing of patients in such situations.

• Close contact is defined as
  • Being within approximately 6 feet (2 meters), or within the room or care area, of a novel coronavirus 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 healthcare waiting area or room with a novel coronavirus case.
  • Having direct contact with infectious secretions of a novel coronavirus case (e.g., being coughed on) while not wearing recommended personal protective equipment.
Recommendations for Reporting, Testing, and Specimen Collection

- Healthcare providers should immediately notify both infection control personnel at their healthcare facility and the local health department where the patient resides.
  - Notification is required under the New York State Sanitary Code (10NYCRR 2.10).
  - Providers who are unable to reach the LHD can contact the NYSDOH Bureau of Communicable Disease Control at 518-473-4439 during business hours or the NYSDOH Public Health Duty Officer at 1-866-881-2809 evenings, weekends, and holidays.
- NYSDOH will assist providers in determining and accessing appropriate laboratory testing for respiratory pathogens and if indicated, 2019-nCoV. Specimen collection and shipping instructions will also be provided.
Recommendations for Reporting, Testing, and Specimen Collection

• At this time, diagnostic testing for 2019-nCoV can be conducted only at CDC. Testing for other respiratory pathogens should not delay specimen shipping to NYSDOH’s Wadsworth Center, who may perform testing in addition to that conducted at CDC.

• If a PUI tests positive for another respiratory pathogen, after clinical evaluation and consultation with public health, they may no longer be considered a PUI.

• This approach is likely to evolve as more epidemiological information becomes available and as testing for 2019-nCoV is made available to public health laboratories.
General Guidelines: Specimens

- To increase the likelihood of detecting infection, collection of three specimen types, lower respiratory, upper respiratory and serum for testing is recommended.
- Specimens should be collected as soon as possible once a PUI is identified regardless of symptom onset.
- Maintain proper infection control when collecting specimens.
- Store specimens at 2-8°C and ship overnight on ice packs. Label each specimen container with the patient’s name, ID number (will be provided by NYSDOH), unique specimen ID (e.g., laboratory requisition number), specimen type (e.g., serum) and the date the sample was collected.
General Guidelines: Specimens

- For specimens to be tested at CDC, complete a **CDC Form 50.34** for each specimen submitted.
  - In the upper left box of the form, 1) for test requested select “Respiratory virus molecular detection (non-influenza) CDC-10401” and 2) for At CDC, bring to the attention of enter “Stephen Lindstrom: 2019-nCoV PUI”.

- For specimens to be tested at Wadsworth
  - Complete an **Infectious Diseases Requisition (IDR) Form (DOH-4463)**.
  - Request a respiratory virus panel
Lower Respiratory Tract Specimens

- **Bronchoalveolar lavage, tracheal aspirate**
  - Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. Refrigerate specimen at 2-8°C and ship overnight on ice packs.

- **Sputum**
  - Have the patient rinse the mouth with water and then expectorate deep cough sputum directly into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. Refrigerate specimen at 2-8°C and ship overnight on ice packs.
Upper Respiratory Tract Specimens

- Nasopharyngeal swab AND oropharyngeal swab (NP/OP swab)
  - Use only synthetic fiber swabs with plastic shafts. Do not use calcium alginate swabs or swabs with wooden shafts, as they may contain substances that inactivate some viruses and inhibit PCR testing.
  - Place swabs immediately into sterile tubes containing 2-3 ml of viral transport media. NP and OP specimens should be kept in separate vials. Refrigerate specimen at 2-8°C and ship overnight on ice packs.
    - Nasopharyngeal swab: Insert a swab into the nostril parallel to the palate. Leave the swab in place for a few seconds to absorb secretions. Swab both nasopharyngeal areas with the same swab.
    - Oropharyngeal swab (e.g., throat swab): Swab the posterior pharynx, avoiding the tongue.
Upper Respiratory Tract Specimens

- Nasopharyngeal wash/aspirate or nasal aspirate
  - Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container.
  - Refrigerate specimen at 2-8°C and ship overnight on ice packs.
Serum

- **Children and adults**: Collect 1 tube (5-10 mL) of whole blood in a serum separator tube.
- **Infants**: A minimum of 1 mL of whole blood is needed for testing pediatric patients. If possible, collect 1 mL in a serum separator tube.
- Serum separator tubes should be stored upright for at least 30 minutes, and then centrifuged at 1000–1300 relative centrifugal force (RCF) for 10 minutes before removing the serum and placing it in a separate sterile tube for shipping (such as a cryovial).
- Refrigerate the serum specimen at 2-8°C and ship overnight on ice-packs.
Shipping

• Specimens must be packaged, shipped, and transported according to the current edition of the International Air Transport Association (IATA) Dangerous Goods Regulations.
• Store specimens at 2-8°C and ship overnight on ice packs. If a specimen is frozen at -70°C ship overnight on dry ice.
• Additional useful and detailed information on packing, shipping, and transporting specimens can be found at Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with 2019 Novel Coronavirus (2019-nCoV).
Infection Control

• Current CDC recommendations are interim recommendations. Watch for updates.
Infection Control: Screening

- Wide spectrum of illness
- Screening protocols to identify people of concern
  - Clinics, urgent care, emergency departments
  - Ask about travel
  - Post signage
Infection Control: Precautions

• Patients of concern should be asked to wear a surgical mask as soon as they are identified.

• Evaluate in:
  – ideally, an airborne infection isolation room (AIIR, aka negative pressure room)
  or, if no AIIR available
  – a private room with the door closed
Infection Control: Precautions

• PPE
  – Standard precautions
  – Contact precautions (gown, gloves)
  – Airborne precautions (N95 or PAPR or better)
  – Eye protection (goggles or face shield)

• Minimize number of providers and keep a log of those entering room
Infection Control: Notify

• Immediately notify your infection control personnel and/or clinic director and local health department
Infection Control: Environment

• Routine (careful, thorough) environmental cleaning and disinfection with your usual EPA-registered, hospital-grade disinfectant

• Routine treatment of waste, linens, food service items
Infection Control: Visitors

• No CDC recommendations for visitors yet; no formal visitor restrictions
• WHO recommends Contact and Droplet precautions for visitors (gown, gloves, mask)
• Use common sense and minimize unnecessary visitors
  – Previous exposure, co-morbidities, etc.
• Include visitors on log
Infection Control: Transfer

• If to be evaluated in emergency department or otherwise transferred:
  – Coordinate with local health department
  – Plan for transportation (private vehicle? EMS?)
  – Ensure EMS and emergency department are aware of precautions
  – Coordinate with local health department
Infection Control: Discharge

• Develop a plan for safe release, monitoring, and (if needed) re-evaluation

• Do not release patient without approval from public health
Infection Control: Discharge

• Plan for transportation home (private vehicle? EMS?)

• Appropriate residence
  – Home with family
  – Private room with bathroom, food access, etc.
  – Plan ahead and know the options at your school in advance
  – Discuss with the local health department
Infection Control at Home

• CDC interim recommendations
Infection Control at Home

- CDC interim recommendations
Infection Control at Home

• Local health department will monitor

• Stay home except for medical care
  – No public transportation or taxis
  – Call ahead if seeking medical care

• Facemask when in a room with others

• Respiratory etiquette
Infection Control at Home

• Wash hands well and frequently
• Do not share household items such as dishes, glasses, utensils, towels, bedding
• Only others in the home should be those essential to care of ill person
  – Restrict visitors
  – Elderly, immunocompromised, people with chronic medical conditions should stay away
Infection Control at Home

- Caregivers should wear a facemask, gown, and gloves if they will have contact with patient’s bodily fluids.
- Clean/disinfect high-touch surfaces.
Infection Control: To do

• Review CDC interim recommendations
• Make sure you have handy the number and after-hours number for your local health department
• Know the options at your school for private rooms and transportation
Questions?

- Bureau of Communicable Disease Control
  - 518.473.4439 (Business Hours)
  - 866-881-2809 (Evenings, Weekends, Holidays: Public Health Duty Officer)
  - bcdc@health.ny.gov
- Bureau of Healthcare Associated Infections icp@health.ny.gov
- Wadsworth Center Laboratories wcid@health.ny.gov
- Local Health Department
  - https://www.health.ny.gov/contact/contact_information/