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Cc: [Mee, Caroline M](#); [CarolineMMee@gmail.com](#); [Agaran, Tina K](#); [Takenaka, Gavin K](#)
Subject: UPDATE Coronavirus AKA COVID-19
Date: Friday, February 14, 2020 5:33:33 PM
Attachments: [COVID 19 - Feb 14, 2020 Update.pdf](#)

The State has confirmed reports that a Japanese tourist who was sick during a visit to Hawaii was found to have Coronavirus upon his return to Japan. As I expect this may raise new concerns about the virus, not officially named COVID-19, I wanted to send you an update.

As the Director already noted, the very measures which we take against the flu (which has already sickened 31 million Americans and killed about 12,000 people between 10/1/19 and 2/1/20), are the same measures we need to follow against COVID-19. The Department of Public Safety already has a protocol to deal with possible flu cases that will work equally well in the unlikely event we have someone who may have been exposed to COVID-19. The only difference is that, if they meet the CDC criteria for Patient Under Investigation (see attached), you should isolate them (as you would for the flu) and report them immediately to the Hawaii Department of Health (HDOH) who can give you additional guidance about testing, etc.

For your convenience, I am attaching a copy of the information on the HDOH's website specifically for health care providers. As this is a changing situation, you can always check there for updates. To locate the site, just google Hawaii State Department of Health Coronavirus and look at the bottom of the page where there is a link to "Information for Clinicians".

Caroline Mee, MD
Medical Director
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State of Hawaii Department of Health

Disease Outbreak Control Division

[Issues & Advisories](#) [For Providers](#) [About Us](#) [Contact Us](#)

For Healthcare Providers

Updates and resources for providers

News & Updates

The Disease Outbreak Control Division provides a number of resources for healthcare providers, from updates and advisories, to resources on influenza, vaccinations, antimicrobial resistance, disease information, and other important topics. Healthcare providers can use the DOCD website to report illnesses, obtain information about programs such as Stop Flu at School, and learn about other issues of importance to healthcare providers in Hawaii.

UPDATES

Novel Coronavirus 2019 in Wuhan, China (2019-nCoV)

Updated February 3, 2020

An outbreak of pneumonia of unknown etiology in Wuhan City was initially reported to WHO on December 31, 2019 and subsequently identified when Chinese authorities released the genetic sequence on January 12, 2020.

No vaccine or specific treatment for 2019-nCoV infection is available; care is supportive.

To assist in identifying and assessing patients for possible 2019-nCoV infection, clinicians should ask:

- Does the person have fever or symptoms of lower respiratory infection, such as cough or shortness of breath?
AND
- Has the patient traveled to mainland China within 14 days of symptom onset?
OR
- Has the patient had close contact with a person confirmed with 2019-nCoV infection?

If both exposure and illness are present:

- Place a facemask on the patient and isolate in a private room
- Assess clinical status
- Inform your facility's infection control personnel
- If person meets Patients Under Investigation (PUI) criteria, **inform the Hawaii Department of Health immediately and collect two (2) nasopharyngeal (NP) specimens as soon as possible**
 - Send one (1) specimen for respiratory viral panel testing at your clinical lab, or to SLD if timely testing is not available at your clinical laboratory
 - Send one (1) specimen to SLD to be tested for 2019-nCoV

[Hawaii PUI Form \(nCoV-2019\).\[PDF\]](#)

CDC recommends a cautious approach to interacting with patients under investigation.

- Ask patients under investigation to wear a surgical mask as soon as they are identified.
- Conduct their evaluation in a private room with the door closed, ideally an airborne infection isolation room, if available.
- Personnel entering the room should use standard precautions, contact precautions, and airborne precautions and use eye protection (goggles or a face shield).
- For additional infection control guidance, visit [CDC's Infection Control](#) webpage.

Providers should recommend to patients that the best way to prevent transmission of *any* respiratory illness (including flu) is to follow everyday preventive actions:

- Get your flu shot.
- Wash your hands often with soap and water for at least 20 seconds, especially after going to the bathroom; before eating; and after blowing your nose, coughing, or sneezing.

- If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 60% alcohol. Always wash hands with soap and water if hands are visibly dirty.
- Avoid touching your eyes, nose, and mouth with unwashed hands.
- Avoid close contact with people who are sick.
- Stay home when you are sick.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- Clean and disinfect frequently touched objects and surfaces using a regular household cleaning spray or wipe.

Resources:

(Note: If the "updated date" on a loaded PDF does not match the date on the links below, try refreshing the PDF [by pressing Ctrl+F5, or clicking the refresh button while holding the Ctrl key])

- [Medical Advisory – Update and Interim Guidance on Outbreak of 2019 Novel Coronavirus \(2019-NCoV\) in Wuhan, China \(HDOH\)](#)
- [2019-nCoV Healthcare Worker FAQ \(HDOH\) \[PDF\] \(Updated February 13, 2020\)](#)
- [Update and Interim Guidance on Outbreak of 2019 Novel Coronavirus \(2019-nCoV\) \(CDC\)](#)
- [Interim Guidance for Healthcare Professionals \(CDC\)](#)
- [Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with 2019 Novel Coronavirus \(2019-nCoV\) \(CDC\)](#)
- [Interim Guidance for Emergency Medical Services \(EMS\) Systems and 911 Public Safety Answering Points \(PSAPs\) for 2019-nCoV in the United States \(CDC\)](#)
- [Flowchart to Identify and Assess 2019 Novel Coronavirus](#)
- [Hawaii PUI Form \(nCoV-2019\) \[PDF\]](#)

Severe Respiratory Illness Associated with E-cig/Vaping

November 13, 2019

The Centers for Disease Control and Prevention (CDC) and health departments across the nation, including Hawai'i, are investigating lung and stomach injuries associated with the use of e-cigarettes and vaping products (also referred to as "vaping devices").



STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

January 21, 2020

**MEDICAL ADVISORY: UPDATE AND INTERIM GUIDANCE ON
OUTBREAK OF 2019 NOVEL CORONAVIRUS (2019-nCoV) IN
WUHAN, CHINA**

Dear Healthcare Provider:

An outbreak of a 2019 novel coronavirus (2019-nCoV) in Wuhan City, Hubei Province, China has been developing since December 2019. This outbreak now includes over 300 confirmed infections and several deaths in China with confirmed cases also in Thailand, Japan, the Republic of Korea, and the United States (one case in Washington State). While human-to-human transmission appears limited and the severity of illness appears less than SARS, the situation continues to evolve, and the Hawaii Department of Health (HDOH) is monitoring closely. There are *no direct flights from Wuhan, China to Hawaii*; however, residents/visitors from China may still enter our state from other U.S. or international ports of entry. The following recommendations are provided to facilitate management of such persons who may be ill:

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

Please obtain a detailed travel history for all patients. Anyone meeting the following CDC criteria¹ should be reported immediately to HDOH by phone (number listed below).

Clinical Features	&	Epidemiologic Risk
Fever and symptoms of lower respiratory illness (e.g., cough, difficulty breathing)	and	In the last 14 days before symptom onset, history of travel from Wuhan City, China. – or – In the last 14 days before symptom onset, close contact ² with a person under investigation for 2019-nCoV while that person was ill.
Fever or symptoms of lower respiratory illness (e.g., cough, difficulty breathing)	and	In the last 14 days, close contact ² with an ill laboratory-confirmed 2019-nCoV patient.

Reporting, Testing, and Specimen Collection

Please collect multiple clinical specimens from different sites:

¹ <https://www.cdc.gov/coronavirus/2019-nCoV/clinical-criteria.html>

²Close contact is defined as—

a) 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.
– 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.

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- Lower respiratory (at least sputum)
- Upper respiratory (two [2] nasopharyngeal [NP] specimens)
- Serum

Specimens should be collected as soon as possible once a PUI is identified regardless of time of symptom onset and sent directly to the State Laboratories Division (SLD). At this time, diagnostic testing for 2019-nCoV can be conducted *only* at CDC. A positive result on commercially available respiratory virus panels is NOT indicative of suspected 2019-nCoV infection.

Interim Healthcare Infection Control Recommendations

Although the transmission dynamics have yet to be determined, per CDC recommendations:

- Place surgical mask on all PUI patients and place in a private room with 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).

For additional infection control practice resources, see CDC's Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (<https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html>).

Providers should notify infection control personnel and HDOH's Disease Outbreak Control Division immediately if any patients meet PUI criteria for 2019-nCoV.

If you have any questions or need to report a PUI, please contact HDOH at one of the numbers below.

- Oahu (Disease Reporting Line)..... (808) 586-4586
- Maui District Health Office..... (808) 984-8213
- Kauai District Health Office..... (808) 241-3563
- Big Island District Health Office (Hilo)..... (808) 933-0912
- Big Island District Health Office (Kona)..... (808) 322-4877
- After hours on Oahu..... (808) 600-3625
- After hours on neighbor islands.....(800) 360-2575 (toll free)

We will continue to keep you apprised and provide updated guidelines as needed and as this situation evolves. Thank you for your help in protecting our community.

Sincerely,



Sarah Y. Park, MD, FAAP
State Epidemiologist

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COVID-19 (formerly 2019-nCoV pneumonia) Frequently Asked Questions for Healthcare Workers



Created February 4, 2020
Last Updated February 13, 2020

These FAQs are for Healthcare Workers. For general FAQs, please read [2019-nCoV FAQ](#).

Acronyms and abbreviations used in this document:

- **COVID-19:** name for the disease caused by the novel coronavirus
- **SARS-CoV-2:** name of the virus causing COVID-19 disease
- **AIIR:** Airborne Infection Isolation Room
- **CDC:** US Centers for Disease Control & Prevention
- **HDOH:** State of Hawaii Department of Health
- **PUI:** Patient Under Investigation
- **RVP:** Respiratory Viral Panel

OVERVIEW

What are the current criteria for a patient to be evaluated as a Patient Under Investigation (PUI)?

Please adhere to [CDC's criteria](#).

What should I do if I think my patient meets PUI criteria?

Please refer to the CDC Flowchart to Identify and Assess 2019 Novel Coronavirus.

If you believe your patient meets PUI criteria, immediately notify your hospital's infection control personnel (if applicable) and HDOH's Disease Outbreak Control Division.

Oahu (Disease Reporting Line)..... (808) 586-4586
Maui District Health Office..... (808) 984-8213
Kauai District Health Office..... (808) 241-3563
Big Island District Health Office (Hilo)..... (808) 933-0912
Big Island District Health Office (Kona)..... (808) 322-4877
After hours on Oahu..... (808) 600-3625
After hours on neighbor islands.....(800) 360-2575 (toll free)

Ask the PUI to wear a surgical mask and place them in an Airborne Infection Isolation Room (AIIR room) if available. If unavailable, place them in a private room with the door closed. Ensure all healthcare personnel entering the patient's room wear, at minimum, a surgical mask, eye protection, gown, and gloves (standard, contact, and droplet precautions). N95 respirators should be used for NP swab collection and for aerosol-generating and invasive procedures.

Do not delay specimen collection. Prioritize obtaining two nasopharyngeal (NP) swabs as well as any other specimens needed to adequately manage the patient.

Are we required to report to HDOH any patients that recently returned from China, if they are not experiencing signs and symptoms consistent with COVID-19 (formerly 2019-nCoV pneumonia)?

- You are required to report people who meet the current [CDC PUI criteria](#).
- Additionally, if you encounter a patient who traveled from mainland China within the last 14 days and has fever or respiratory symptoms that DO NOT meet PUI criteria, contact HDOH (contact info above) to discuss whether SARS-CoV-2 (formerly 2019-nCoV) testing, isolation, and public health monitoring are warranted.
- You are not required to report to HDOH patients who traveled to mainland China and are NOT experiencing any signs or symptoms.

What is the name of the virus and disease?

The *virus* has been determined to be a sister virus of SARS-CoV and has been named SARS-CoV-2. The *disease* that this virus causes has been named COVID-19. HDOH is updating our materials with the new nomenclature. For more information about the name, please see our [2019-nCoV FAQ](#) for the general public.

INFECTION CONTROL

Should healthcare workers wear surgical masks or N95 respirators when treating patients with suspected SARS-CoV-2 (formerly 2019-nCoV) infection?

N95 masks should be worn for NP swab collection and aerosol-generating procedures. For initial patient evaluation (e.g., history taking and exam), surgical masks could be sufficient if a surgical mask is placed on the patient, and if used in full adherence with appropriate standard, contact, and droplet precautions including eye protection.

Are negative pressure rooms necessary to care for a patient?

If possible, PUIs should be placed in negative pressure (“AIIR”) rooms. If none are available, the PUI should be placed in a private room with the door shut. The absence of a negative pressure room does not preclude initial evaluation and treatment of a PUI. If the PUI requires a higher level of care or any aerosol-generating procedures, they should be moved to a facility where they can be cared for in a negative pressure room.

Do healthcare workers who were recently in China need to be excluded from work?

Per [CDC guidance for Healthcare Personnel](#), healthcare workers who were in China (excluding Hong Kong, Macau, or Taiwan) and returned to Hawaii on or after February 3, 2020 are considered “medium risk” or “high risk” depending on where they were in China, and *should not* return to work until 14 days after departing China. During those 14 days, they will be asked to self-monitor for symptom development under public health supervision.

SPECIMEN COLLECTION AND TESTING

How many NP swabs do we need to collect?

For patients meeting PUI criteria, collect at least two NP swabs. One is to be shipped to the State Laboratories Division (SLD) to be tested for SARS-CoV-2 either at SLD once the test is available locally, or at CDC. The other is for performing a Respiratory Pathogen Panel (RPP) to evaluate for other viral and bacterial pathogens. RPP testing should be performed at clinical laboratories. If there is concern that RPP testing cannot be performed in a timely manner by a clinical laboratory, please contact the Disease Outbreak Control Division (see contact info above).

For patients with history of travel from mainland China (not including Hong Kong, Macau, or Taiwan) within 14 days of symptom onset, but not requiring hospitalization, HDOH also recommends RPP testing.

For patients who have fever and respiratory symptoms that do not meet PUI criteria and have no history of travel to China, consider influenza testing by PCR to rule out influenza.

Is the sputum and blood no longer needed? For any PUI, NP swabs are the priority. If the patient has a productive cough, then sputum should also be collected. Induction of sputum for collection is not indicated. Additional specimens (e.g., oropharyngeal swab, serum, urine) may be requested after consultation with HDOH, depending on the clinical setting and presentation (these specimens are more likely to be requested if patient is hospitalized).

Can any laboratory in Hawaii test for SARS-CoV-2 (formerly 2019-nCoV)? When will SLD be able to test for it?

Both SLD and Tripler Army Medical Center (TAMC) will have testing capacity once the required verification process is complete at both laboratories. However, testing at TAMC is reserved only for Department of Defense purposes. During the validation process, state public health labs across the country reported inconclusive results. To address this, CDC will be sending all public health laboratories replacements in the next week. Until then, CDC will continue to be the only laboratory capable of testing for SARS-CoV-2 in the United States. All testing must be cleared through a discussion with a healthcare provider who then provides the specimen to HDOH.

Is there specific guidance for laboratory personnel regarding handling of specimens and packing, shipping and transport?

Yes, please refer to CDC's [2019-nCoV Laboratory Biosafety Guidelines](#).

HEALTHCARE WORKER EXPOSURE RISK AND MONITORING

What if I think I have been exposed to someone I suspect may have COVID-19 (formerly 2019-nCoV pneumonia)?

Please refer to CDC's interim guidance for [Healthcare Personnel with Potential Exposure to 2019-nCoV](#), released February 8, 2020 and updated regularly. For providers in healthcare

facilities or healthcare system settings, immediately notify infection control personnel. Hospital infection control personnel should coordinate with HDOH's Disease Outbreak Control Division (contact information above) for monitoring of any healthcare workers with potential exposure to a person with suspected or confirmed SARS-CoV-2 infection. Otherwise, HDOH will work directly with the healthcare provider and staff to address any issues, including monitoring.

Where can I find more information?

For more information about COVID-19 and SARS-CoV-2, visit the Centers for Disease Control and Prevention (CDC) website at www.cdc.gov/coronavirus/novel-coronavirus-2019.html. You can also visit the HDOH website at health.hawaii.gov/docd/advisories/novel-coronavirus-2019.

You can also call Aloha United Way at **211** from anywhere in Hawaii for information and referral services.



Emergency Preparedness and Response

Update and Interim Guidance on Outbreak of 2019 Novel Coronavirus (2019-nCoV)



Distributed via the CDC Health Alert Network
February 1, 2020, 0900 ET (9:00 AM ET)
CDCHAN-00427

Summary

The Centers for Disease Control and Prevention (CDC) continues to closely monitor an outbreak of respiratory illness caused by a novel coronavirus (2019-nCoV) that was initially detected in Wuhan City, Hubei Province, China in December 2019.

This CDC Health Alert Network (HAN) Update provides a situational update and interim guidance to state and local health departments that supersedes guidance in CDC's HAN 426 distributed on January 17, 2020. It also adds

- **guidance for clinicians caring for patients with 2019-nCoV** (<https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>),
- **and for public health officials on the evaluation and testing of patients under investigation (PUIs) for 2019-nCoV** (<https://www.cdc.gov/coronavirus/2019-nCoV/hcp/clinical-criteria.html>), and
- **updated infection prevention and control guidance specific to 2019-nCoV** (<https://www.cdc.gov/coronavirus/2019-nCoV/hcp/infection-control.html>).

Early in the outbreak, many of the patients with respiratory illness caused by 2019-nCoV in China had exposure to a large seafood and live animal market, suggesting animal-to-human transmission. More recently, cases have been confirmed with no exposure to animal markets, indicating that person-to-person spread of the virus has occurred. Chinese officials report that sustained person-to-person spread in the community is occurring in China.

The first US case-patient was identified on January 21, 2020, and had recently traveled from Wuhan, China. Since that time, six additional cases have been confirmed in the United States, four among persons who traveled from Wuhan, and one a close contact of a confirmed case. Globally, reported illnesses in people with 2019-nCoV have ranged from mild (no or few signs and symptoms), to severe, including death. These findings are consistent with other coronaviruses, including Severe Acute Respiratory Syndrome (SARS) (<https://www.cdc.gov/sars/>) and Middle East Respiratory Syndrome (MERS) (<https://www.cdc.gov/coronavirus/mers/index.html>). Additional information about 2019-nCoV is needed to better understand transmission, disease severity, and risk to the general population. The goal of the ongoing US public health response is to identify and contain this outbreak and prevent sustained spread of 2019-nCoV in the United States.

Recommendations for Screening of Patients for 2019-nCoV in Healthcare Facilities

Recommendations for screening of patients for possible 2019-nCoV infection are based on (1) current knowledge of the characteristics of clinical illness observed in early cases, and (2) the geographic distribution of current cases. They reflect the current public health goal of rapidly containing and preventing transmission of 2019-nCoV illness.

Patients presenting to healthcare facilities should be assessed for exposures associated with risk of 2019-nCoV infections (e.g., travel to China or close contact with a confirmed case) and for symptoms consistent with 2019-nCoV infection (<https://www.cdc.gov/coronavirus/2019-nCoV/hcp/clinical-criteria.html>). The assessment is intended to allow healthcare providers to make decisions about appropriate infection control and management of patients. Note that the signs and symptoms of 2019-nCoV overlap with those associated with other viral respiratory tract infections. Given the time of year, common respiratory illnesses, including influenza, should also be considered in patients who are screened. (Figure 1)

Clinicians should ask:

- Does the person have fever or symptoms of lower respiratory infection, such as cough or shortness of breath?

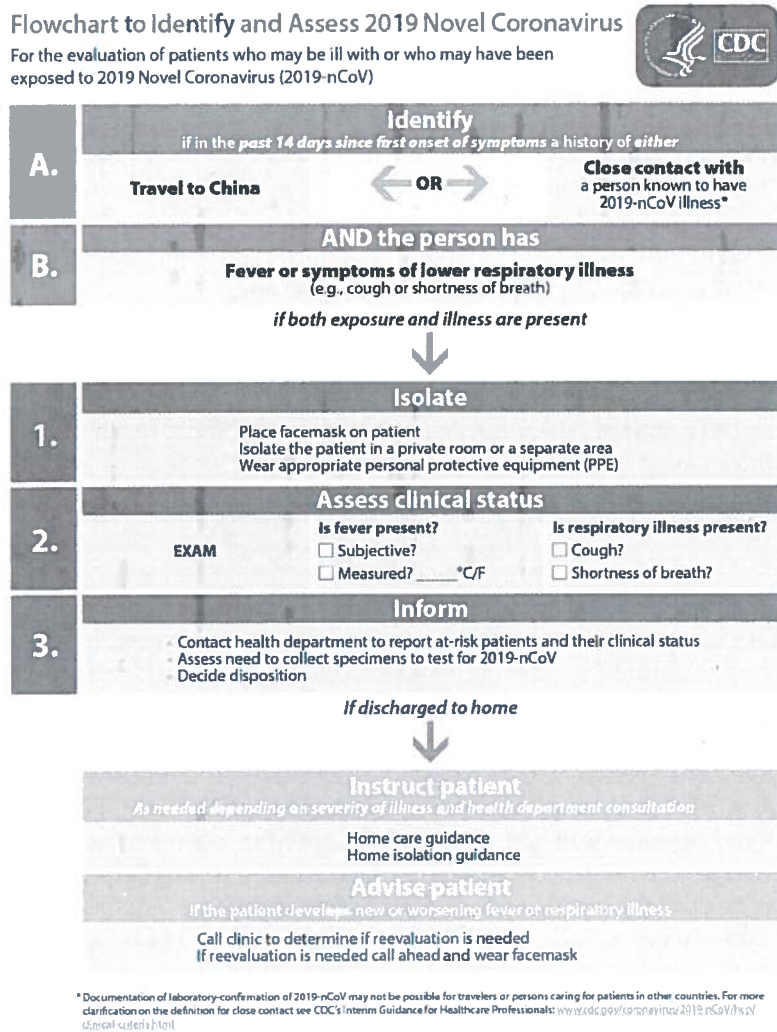
AND

- Has the patient traveled to mainland China within 14 days of symptom onset?

OR

- Has the patient had close contact¹ with a person confirmed with 2019-nCoV infection?

Figure 1.



If a patient meets these criteria:

- To minimize the risk that other people will be exposed to individuals who may have 2019-nCoV, patients who report having these symptoms should be asked to wear a surgical mask as soon as they are identified and directed to a separate area, if possible, with at least 6 feet (2 meters) separation from other persons. Patients should be evaluated in a private room with the door closed, ideally an airborne infection isolation room (AIIR), 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). For more information about this, see CDC's *Interim Infection Prevention and Control Recommendations for Patients with Known or Patients Under Investigation for 2019 Novel Coronavirus (2019-nCoV) in a Healthcare Setting* (<https://www.cdc.gov/coronavirus/2019-nCoV/hcp/infection-control.html>).

Clinicians should immediately notify the healthcare facility's infection control personnel and local health department. The health department will determine if this patient needs to be considered a PUI for 2019-nCoV and be tested for infection.

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

Local health departments, in consultation with clinicians, should determine whether a patient is a PUI for 2019-nCoV. The CDC clinical criteria for 2019-nCoV PUIs have been developed based on available information about this novel virus, as well as what is known about SARS and MERS. These criteria are subject to change as additional information becomes available.

Clinical Features	AND	Epidemiologic Risk
Fever ² or signs/symptoms of lower respiratory illness (e.g. cough or shortness of breath)	AND	Any person, including health care workers, who has had close contact ¹ with a laboratory-confirmed ³ 2019-nCoV patient within 14 days of symptom onset
Fever ² and signs/symptoms of a lower respiratory illness (e.g., cough or shortness of breath)	AND	A history of travel from Hubei Province, China within 14 days of symptom onset
Fever ² and signs/symptoms of a lower respiratory illness (e.g., cough or shortness of breath) requiring hospitalization ⁴	AND	A history of travel from mainland China within 14 days of symptom onset

These criteria are intended to serve as guidance for evaluation and testing. Patients should be evaluated and discussed with public health departments on a case-by-case basis for possible 2019-nCoV infection. Testing decisions might be further informed by the clinical presentation or exposure history (e.g., uncertain travel or exposure), and the presence of an alternative diagnosis that explains their clinical presentation.

Recommendations for Reporting, Testing, and Specimen Collection

Healthcare providers should immediately notify infection control personnel at their healthcare facility if a patient is classified a PUI for 2019-nCoV. State health departments that have identified a PUI should immediately contact CDC's Emergency Operations Center (EOC) at 770-488-7100 and complete a 2019-nCoV PUI case investigation form (<https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-criteria.html#reporting-testing-specimen-collection>). CDC's EOC will assist local and state health departments with obtaining, storing, and shipping appropriate specimens to CDC, including afterhours or on weekends or holidays. Currently, diagnostic testing for 2019-nCoV can be done only at CDC. Testing for other respiratory pathogens should not delay specimen shipping to CDC.

For initial diagnostic testing for 2019-nCoV, CDC recommends collecting and testing upper respiratory (nasopharyngeal AND oropharyngeal swabs), and lower respiratory (sputum, if possible) for those patients with productive coughs. Induction of sputum is not indicated. Specimens should be collected as soon as possible once a PUI is identified, regardless of the time of symptom onset. See *Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Patients Under Investigation (PUIs) for 2019 Novel Coronavirus (2019-nCoV)* (<https://www.cdc.gov/coronavirus/2019-ncov/lab/guidelines-clinical-specimens.html>).

Recommendations for Healthcare Providers

No vaccine or specific treatment for 2019-nCoV infection is available. At present, medical care for patients with 2019-nCoV is supportive.

Persons with confirmed or suspected 2019-nCoV infection who are hospitalized should be evaluated and cared for in a private room with the door closed, ideally an airborne infection isolation room, if available. For more information, see *Interim Infection Prevention and Control Recommendations for Patients with Known or Patients Under Investigation for 2019 Novel Coronavirus (2019-nCoV) in a Healthcare Setting* (<https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control.html>).

Home care and isolation may be an option, based on clinical and public health assessment, for some persons. Please see *Interim Guidance for Preventing the Spread of 2019 Novel Coronavirus (2019-nCoV) in Homes and Communities* (<https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-prevent-spread.html>).

Those isolated at home should be monitored by public health officials to the extent possible. Refer to *Interim Guidance for Implementing Home Care of People Not Requiring Hospitalization for 2019 Novel Coronavirus (2019-nCoV)* (<https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-home-care.html>) for more information.

Notes

¹Close 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 2019-nCoV case

– or –

b) having direct contact with infectious secretions of a 2019-nCoV case (e.g., being coughed on) while not wearing recommended personal protective equipment.

²Fever may be subjective or confirmed

See CDC's updated *Interim Infection Prevention and Control Recommendations for Patients with Known or Patients Under Investigation for 2019 Novel Coronavirus (2019-nCoV) in a Healthcare Setting* (<https://www.cdc.gov/coronavirus/2019-ncov/infection-control.html>).

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 as does exposure to a severely ill patient). Special consideration should be given to those exposed in health care settings.

³ Documentation of laboratory-confirmation of 2019-nCoV may not be possible for travelers or persons caring for patients in other countries.

⁴ Category also includes any member of a cluster of patients with severe acute lower respiratory illness (e.g., pneumonia, ARDS) of unknown etiology in which 2019-nCoV is being considered that requires hospitalization. Such persons should be evaluated in consultation with state and local health departments regardless of travel history.

For More Information

More information is available at the 2019 Novel Coronavirus website (<https://www.cdc.gov/coronavirus/2019-ncov/index.html>) or by

calling 800-CDC-INFO | (800-232-4636) | TTY: (888) 232-6348

The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national and international organizations.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

HAN Message Types

- Health Alert: Conveys the highest level of importance; warrants immediate action or attention.
- Health Advisory: Provides important information for a specific incident or situation; may not require immediate action.
- Health Update: Provides updated information regarding an incident or situation; unlikely to require immediate action.
- Info Service: Provides general information that is not necessarily considered to be of an emergent nature.

###

This message was distributed to state and local health officers, state and local epidemiologists, state and local laboratory directors, public information officers, HAN coordinators, and clinician organizations.

###

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Additional Resources

- HAN Archive By Year
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Coronavirus Disease 2019 (COVID-19)



On February 11, 2020 the World Health Organization announced an official name for the disease that is causing the current outbreak of coronavirus disease, COVID-19. CDC will be updating our website and other CDC materials to reflect the updated name.

Evaluating and Reporting Persons Under Investigation (PUI)

Summary of Recent Changes

Revisions were made on February 12, 2020, to reflect the following:

- Information updated in the “Criteria to Guide Evaluation of Persons Under Investigation (PUI) for 2019-nCoV” section.
- For any patient meeting criteria for evaluation for COVID-19, clinicians are encouraged to contact and collaborate with their state or local health department.
- For patients that are severely ill, evaluation for COVID-19 may be considered even if a known source of exposure has not been identified.

Updated February 13, 2020

Limited information is available to characterize the spectrum of clinical illness associated with 2019-nCoV. No vaccine or specific treatment for 2019-nCoV infection is available; care is supportive.

The CDC clinical criteria for a 2019-nCoV person under investigation (PUI) have been developed based on what is known about MERS-CoV and SARS-CoV and are subject to change as additional information becomes available.

Health care providers should obtain a detailed travel history for patients being evaluated with fever and acute respiratory illness. CDC guidance for evaluating and reporting a PUI for MERS-CoV remains unchanged.

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

For any patient meeting criteria for evaluation for COVID-19, clinicians are encouraged to contact and collaborate with their state or local health department. For patients that are severely ill, evaluation for COVID-19 may be considered even if a known source of exposure has not been identified.

Clinical Features

&

Epidemiologic Risk



Flowchart to Identify and Assess 2019 Novel Coronavirus

Printable resource for healthcare professionals for the evaluation of patients who may be ill with or who may have been exposed to 2019 Novel Coronavirus (2019-nCoV).

[Learn more](#)



Contact your local or state health department

Healthcare providers should immediately notify their [local](#) or [state](#) health department in the event of a PUI for 2019-nCoV.

Clinical Features	&	Epidemiologic Risk
Fever ¹ or signs/symptoms of lower respiratory illness (e.g. cough or shortness of breath)	AND	Any person, including health care workers, who has had close contact ² with a laboratory-confirmed ^{3,4} 2019-nCoV patient within 14 days of symptom onset
Fever ¹ and signs/symptoms of a lower respiratory illness (e.g., cough or shortness of breath)	AND	A history of travel from Hubei Province, China ⁵ within 14 days of symptom onset
Fever ¹ and signs/symptoms of a lower respiratory illness (e.g., cough or shortness of breath) requiring hospitalization ⁴	AND	A history of travel from mainland China ⁵ within 14 days of symptom onset

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. For severely ill individuals, testing can be considered when exposure history is equivocal (e.g., uncertain travel or exposure, or no known exposure) and another etiology has not been identified.

Recommendations for Reporting, Testing, and Specimen Collection

Updated February 3, 2020

Healthcare providers should immediately notify both infection control personnel at their healthcare facility and their local or state health department in the event of a PUI for 2019-nCoV. State health departments that have identified a PUI should immediately contact CDC's Emergency Operations Center (EOC) at 770-488-7100 and complete a 2019-nCoV PUI case investigation form available below.

- Download fillable PDF form  [PDF - 211 KB]
- Download Microsoft Word form  [DOC - 90 KB]

CDC's EOC will assist local/state health departments to collect, store, and ship specimens appropriately to CDC, including during afterhours or on weekends/holidays. 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 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.

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 two specimen types—lower respiratory and upper respiratory. 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.

Interim Healthcare Infection Prevention and Control Recommendations for Persons Under Investigation for 2019-nCoV

- Interim Health Care Infection Prevention and Control Recommendations for Persons Under Investigation for 2019 Novel Coronavirus
- Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Health Care Settings
- CDC Health Alert Network Advisory Update and Interim Guidance on Outbreak of 2019 Novel Coronavirus (2019-nCoV)

Footnotes

¹Fever may be subjective or confirmed

²Close contact is defined as—

a) being within approximately 6 feet (2 meters) of a 2019-nCoV case for a prolonged period of time; close contact can occur while caring for, living with, visiting, or sharing a health care waiting area or room with a 2019-nCoV case

– or –

b) having direct contact with infectious secretions of a 2019-nCoV case (e.g., being coughed on)

If such contact occurs while not wearing recommended personal protective equipment or PPE (e.g., gowns, gloves, NIOSH-certified disposable N95 respirator, eye protection), criteria for PUI consideration are met⁴

See CDC's updated Interim Healthcare Infection Prevention and Control Recommendations for Persons Under Investigation for 2019 Novel Coronavirus.

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 as does exposure to a severely ill patient). Special consideration should be given to those exposed in health care settings.

³Documentation of laboratory-confirmation of 2019-nCoV may not be possible for travelers or persons caring for patients in other countries.

⁴Category also includes any member of a cluster of patients with severe acute lower respiratory illness (e.g., pneumonia, ARDS) of unknown etiology in which 2019-nCoV is being considered that requires hospitalization. Such persons should be evaluated in consultation with state and local health departments regardless of travel history.

⁵For persons with travel to China within 14 days that are being regularly monitored by local health departments or referred for evaluation from border screening, testing for nCoV can be considered at the discretion of the health officials for all persons with illnesses with fever and lower respiratory symptoms (those hospitalized and those not hospitalized).

Additional Resources:

- State health department after-hours contact list [☞](#)
- Directory of Local Health Departments [☞](#)
- World Health Organization (WHO) Coronavirus [☞](#)
- WHO guidance on clinical management of severe acute respiratory infection when novel coronavirus (nCoV) infection is suspected [☞](#)

Page last reviewed: February 13, 2020

Coronavirus Disease 2019 (COVID-19)



On February 11, 2020 the World Health Organization announced an official name for the disease that is causing the current outbreak of coronavirus disease, COVID-19. CDC will be updating our website and other CDC materials to reflect the updated name.

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

Summary of Recent Changes

Revisions were made on February 10, 2020, to reflect the following:

- The term “certified” was added to clarify that a certified Class II Biological Safety Cabinet (BSC) should be used for any laboratory procedure with the potential to generate aerosols or droplets.
- Additional details were provided for any laboratory procedures that are performed outside of a BSC.
- Additional details were provided about the use of EPA-registered hospital disinfectants.
- Additional details were provided for handling 2019-nCoV laboratory waste.
- The need for both site- and activity-specific risk assessments was added to determine if additional laboratory biosafety control measures are necessary.

February 10, 2020

Until more information becomes available, precautions should be taken in collecting and handling specimens that may contain 2019-nCoV. Timely communication between clinical and laboratory staff is essential to minimize the risk incurred in handling specimens from patients with possible 2019-nCoV infection. Such specimens should be labeled accordingly, and the laboratory should be alerted to ensure proper specimen handling. General and specific biosafety guidelines for handling 2019-nCoV specimens are provided below.

For additional detailed instructions please refer to the following:

- Biosafety in Microbiological and Biomedical Laboratories (BMBL) – Fifth Edition
- Laboratory Biosafety Manual – Third Edition [external icon](#)

General Guidelines (for working with potentially infectious materials)

Laboratory workers should wear appropriate personal protective equipment (PPE) which includes disposable gloves, laboratory coat/gown and eye protection when handling potentially infectious specimens.

Any procedure with the potential to generate aerosols or droplets (e.g., vortexing) should be performed in a certified Class II Biological Safety Cabinet (BSC). Appropriate physical containment devices (e.g., centrifuge safety buckets; sealed rotors) should be used for centrifugation. Ideally, rotors and buckets should be loaded and unloaded in a BSC. For any procedures outside of a BSC, eye and face protection (e.g. goggles, mask, face shield) or other physical barriers (e.g. splash shield) should be used to minimize the risk of exposure to laboratory staff.

After specimens are processed, decontaminate work surfaces and equipment with appropriate disinfectants. Use EPA-registered hospital disinfectants with label claims to be effective against other respiratory pathogens, such as seasonal influenza and other human coronaviruses. Follow manufacturer's recommendations for use – dilution (i.e., concentration), contact time, and care in handling.

For 2019-nCoV laboratory waste, follow standard procedures associated with other respiratory pathogens, such as seasonal influenza and other human coronaviruses.

Specific Guidelines

Virus isolation in cell culture and initial characterization of viral agents recovered in cultures of 2019-nCoV specimens are NOT recommended at this time, except in a BSL3 laboratory using BSL3 work practices.

The following activities may be performed in BSL-2 facilities using standard BSL-2 work practices:

- Pathologic examination and processing of formalin-fixed or otherwise inactivated tissues
- Molecular analysis of extracted nucleic acid preparations
- Electron microscopic studies with glutaraldehyde-fixed grids
- Routine examination of bacterial and mycotic cultures
- Routine staining and microscopic analysis of fixed smears
- Final packaging of specimens for transport to diagnostic laboratories for additional testing. Specimens should already be in a sealed, decontaminated primary container.
- Inactivated specimens (e.g., specimens in nucleic acid extraction buffer)

The following activities involving manipulation of potentially infected specimens should be, at a minimum, performed as above and in a certified Class II BSC in a BSL-2 facility. Site- and activity-specific risk assessments should be performed to determine if enhanced biosafety precautions are warranted based on situational needs (e.g. high testing volumes):

- Aliquoting and/or diluting specimens
- Inoculating bacterial or mycological culture media
- Performing diagnostic tests that do not involve propagation of viral agents in vitro or in vivo
- Nucleic acid extraction procedures involving potentially infected specimens
- Preparation and chemical- or heat-fixing of smears for microscopic analysis

Clinical Laboratory Testing

Clinical laboratories performing routine hematology, urinalysis, and clinical chemistry studies, and microbiology laboratories performing diagnostic tests on serum, blood, or urine specimens should follow standard laboratory practices, including Standard Precautions, when handling potential 2019-nCoV specimens. For additional information, see [Biosafety in Microbiological and Biomedical Laboratories \(BMBL\) – Fifth Edition \(page 225\)](#).

Packing, Shipping and Transport

Packaging, shipping, and transport of specimens from suspect cases or PUI's of 2019-nCoV infection must follow the current edition of the [International Air Transport Association \(IATA\) Dangerous Goods Regulations](#) .

Follow shipping regulations for UN 3373 Biological Substance, Category B when sending potential 2019-nCoV specimens.

Resources

- Packaging Checklist, see Category B Saf-T-Pak ■
- Packing Instructions 650 for UN 3373 [☞](#)
 - Click on “Infectious substances” and there is an option to download the packing instructions.
- Labels for UN 3373
 - When using cold pack ■ – Include the name and telephone number of the person who will be available during normal business hours who knows the content of the shipment (can be someone at CDC). Place the label on one side of the box and cover the label completely with clear tape (do not tape just the edges of the label).
 - When using dry ice ■ – Include the name and telephone number of the person who will be available during normal business hours who knows the content of the shipment (can be someone at CDC). Place the label on one side of the box and cover the label completely with clear tape (do not tape just the edges of the label).
- Schematic for packaging, UN 3373 Category B ■

Page last reviewed: February 10, 2020

Coronavirus Disease 2019 (COVID-19)



On February 11, 2020 the World Health Organization announced an official name for the disease that is causing the current outbreak of coronavirus disease, COVID-19. CDC will be updating our website and other CDC materials to reflect the updated name.

Interim Guidance for Emergency Medical Services (EMS) Systems and 911 Public Safety Answering Points (PSAPs) for 2019-nCoV in the United States

Emergency medical services (EMS) play a vital role in responding to requests for assistance, triaging patients, and providing emergency medical treatment and transport for ill persons. However, unlike patient care in the controlled environment of a healthcare facility, care and transports by EMS present unique challenges because of the nature of the setting, enclosed space during transport, frequent need for rapid medical decision-making, interventions with limited information, and a varying range of patient acuity and jurisdictional healthcare resources.

When preparing for and responding to patients with confirmed or possible 2019-Novel Coronavirus (2019-nCoV) infection, close coordination and effective communications are important among 911 Public Safety Answering Points (PSAPs)—commonly known as 911 call centers, the EMS system, healthcare facilities, and the public health system. Each PSAP and EMS system should seek the involvement of an EMS medical director to provide appropriate medical oversight. For the purposes of this guidance, “EMS clinician” means prehospital EMS and medical first responders. When 2019-nCoV is suspected in a patient needing emergency transport, prehospital care providers and healthcare facilities should be notified in advance that they may be caring for, transporting, or receiving a patient who may have 2019-nCoV infection.

Updated information about 2019-nCoV may be accessed at <https://www.cdc.gov/coronavirus/2019-ncov/index.html>. Infection prevention and control recommendations can be found here: <https://www.cdc.gov/coronavirus/2019-nCoV/hcp/infection-control.html>. Additional information for healthcare personnel can be found at <https://www.cdc.gov/coronavirus/2019-nCoV/guidance-hcp.html>.

Case Definition for 2019-nCoV

CDC’s most current case definition for a person under investigation (PUI) for 2019-nCoV may be accessed at <https://www.cdc.gov/coronavirus/2019-nCoV/clinical-criteria.html>.

Recommendations for 911 PSAPs

Municipalities and local EMS authorities should coordinate with state and local public health, PSAPs, and other emergency call centers to determine need for modified caller queries about 2019-nCoV, outlined below.

Development of these modified caller queries should be closely coordinated with an EMS medical director and informed by local, state, and federal public health authorities, including the city or county health department(s), state health department(s), and CDC.

Modified Caller Queries

PSAPs or Emergency Medical Dispatch (EMD) centers (as appropriate) should question callers and determine the possibility that this call concerns a person who may have signs or symptoms and risk factors for 2019-nCoV. The query process should never supersede the provision of pre-arrival instructions to the caller when immediate lifesaving interventions (e.g., CPR or the Heimlich maneuver) are indicated. Patients in the United States who meet the appropriate criteria should be evaluated and transported as a PUI. Information on 2019-nCoV will be updated as the public health response proceeds. PSAPs and medical directors can access CDC’s PUI definitions [here](#).

Information on a possible PUI should be communicated immediately to EMS clinicians before arrival on scene in order to allow use of appropriate personal protective equipment (PPE). PSAPs should utilize medical dispatch procedures that are coordinated with their EMS medical director and with the local or state public health department.

PSAPs and EMS units that respond to ill travelers at US international airports or other ports of entry to the United States (maritime ports or border crossings) should be in contact with the CDC quarantine station of jurisdiction for the port of entry (see: CDC Quarantine Station Contact List) for planning guidance. They should notify the quarantine station when responding to that location if a communicable disease is suspected in a traveler. CDC has provided job aids for this purpose to EMS units operating routinely at US ports of entry. The PSAP or EMS unit can also call CDC's Emergency Operations Center at (770)488-7100 to be connected with the appropriate CDC quarantine station.

Recommendations for EMS Clinicians and Medical First Responders

EMS clinician practices should be based on the most up-to-date 2019-nCoV clinical recommendations and information from appropriate public health authorities and EMS medical direction.

State and local EMS authorities may direct EMS clinicians to modify their practices as described below.

Patient assessment

- If PSAP call takers advise that the patient is suspected of having 2019-nCoV, EMS clinicians should put on appropriate PPE before entering the scene. EMS clinicians should consider the signs, symptoms, and risk factors of 2019-nCoV (<https://www.cdc.gov/coronavirus/2019-nCoV/clinical-criteria.html>).
- If information about potential for 2019-nCoV has not been provided by the PSAP, EMS clinicians should exercise appropriate precautions when responding to any patient with signs or symptoms of a respiratory infection. Initial assessment should begin from a distance of at least 6 feet from the patient, if possible. Patient contact should be minimized to the extent possible until a facemask is on the patient. If 2019-nCoV infection is suspected, all PPE as described below should be used. If 2019-nCoV infection is not suspected, EMS clinicians should follow standard procedures and use appropriate PPE for evaluating a patient with a potential respiratory infection.
- A facemask should be worn by the patient for source control. If a nasal cannula is in place, a facemask should be worn over the nasal cannula. Alternatively, an oxygen mask can be used if clinically indicated. If the patient requires intubation, see below for additional precautions for aerosol-generating procedures.
- During transport, limit the number of providers in the patient compartment to essential personnel to minimize possible exposures.

Recommended Personal Protective Equipment (PPE)

- EMS clinicians who will directly care for a patient with possible 2019-nCoV infection or who will be in the compartment with the patient should follow Standard, Contact, and Airborne Precautions, including the use of eye protection. Recommended PPE includes:
 - A single pair of disposable patient examination gloves. Change gloves if they become torn or heavily contaminated,
 - Disposable isolation gown,
 - Respiratory protection (i.e., N-95 or higher-level respirator), and
 - Eye protection (i.e., goggles or disposable face shield that fully covers the front and sides of the face).
- Drivers, if they provide direct patient care (e.g., moving patients onto stretchers), should wear all recommended PPE. After completing patient care and before entering an isolated driver's compartment, the driver should remove and dispose of PPE and perform hand hygiene to avoid soiling the compartment.
 - If the transport vehicle does not have an isolated driver's compartment, the driver should remove the face shield or goggles, gown and gloves and perform hand hygiene. A respirator should continue to be used during transport.
- All personnel should avoid touching their face while working.
- On arrival, after the patient is released to the facility, EMS clinicians should remove and discard PPE and perform hand hygiene. Used PPE should be discarded in accordance with routine procedures.

hygiene. Used PPE should be discarded in accordance with routine procedures.

- Other required aspects of Standard Precautions (e.g., injection safety, hand hygiene) are not emphasized in this document but can be found in the guideline titled [Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings](#).

Precautions for Aerosol-Generating Procedures

- If possible, consult with medical control before performing aerosol-generating procedures for specific guidance.
- In addition to the PPE described above, EMS clinicians should exercise caution if an aerosol-generating procedure (e.g., bag valve mask (BVM) ventilation, oropharyngeal suctioning, endotracheal intubation, nebulizer treatment, continuous positive airway pressure (CPAP), bi-phasic positive airway pressure (biPAP), or resuscitation involving emergency intubation or cardiopulmonary resuscitation (CPR)) is necessary.
 - BVMs, and other ventilatory equipment, should be equipped with HEPA filtration to filter expired air.
 - EMS organizations should consult their ventilator equipment manufacturer to confirm appropriate filtration capability and the effect of filtration on positive-pressure ventilation.
- If possible, the rear doors of the transport vehicle should be opened and the HVAC system should be activated during aerosol-generating procedures. This should be done away from pedestrian traffic.

EMS Transport of a PUI or Patient with Confirmed 2019-nCoV to a Healthcare Facility (including interfacility transport)

If a patient with an exposure history and signs and symptoms suggestive of 2019-nCoV infection requires transport to a healthcare facility for further evaluation and management (subject to EMS medical direction), the following actions should occur during transport:

- EMS clinicians should notify the receiving healthcare facility that the patient has an exposure history and signs and symptoms suggestive of 2019-nCoV infection so that appropriate infection control precautions may be taken prior to patient arrival.
- Keep the patient separated from other people as much as possible.
- Family members and other contacts of patients with possible 2019-nCoV infection should not ride in the transport vehicle, if possible. If riding in the transport vehicle, they should wear a facemask.
- Isolate the ambulance driver from the patient compartment and keep pass-through doors and windows tightly shut.
- When possible, use vehicles that have isolated driver and patient compartments that can provide separate ventilation to each area.
 - Close the door/window between these compartments before bringing the patient on board.
 - During transport, vehicle ventilation in both compartments should be on non-recirculated mode to maximize air changes that reduce potentially infectious particles in the vehicle.
 - If the vehicle has a rear exhaust fan, use it to draw air away from the cab, toward the patient-care area, and out the back end of the vehicle.
 - Some vehicles are equipped with a supplemental recirculating ventilation unit that passes air through HEPA filters before returning it to the vehicle. Such a unit can be used to increase the number of air changes per hour (ACH) (<https://www.cdc.gov/niosh/hhe/reports/pdfs/1995-0031-2601.pdf>).
- If a vehicle without an isolated driver compartment and ventilation must be used, open the outside air vents in the driver area and turn on the rear exhaust ventilation fans to the highest setting. This will create a negative pressure gradient in the patient area.
- Follow routine procedures for a transfer of the patient to the receiving healthcare facility (e.g., wheel the patient directly into an Airborne Infection Isolation Room).

Documentation of patient care

- Documentation of patient care should be done after EMS clinicians have completed transport, removed their PPE, and performed hand hygiene.
 - Any written documentation should match the verbal communication given to the emergency department providers at the time patient care was transferred.

- EMS documentation should include a listing of EMS clinicians and public safety providers involved in the response and level of contact with the patient (for example, no contact with patient, provided direct patient care). This documentation may need to be shared with local public health authorities.

Cleaning EMS Transport Vehicles after Transporting a PUI or Patient with Confirmed 2019-nCoV

The following are general guidelines for cleaning or maintaining EMS transport vehicles and equipment after transporting a PUI:

- After transporting the patient, leave the rear doors of the transport vehicle open to allow for sufficient air changes to remove potentially infectious particles.
 - The time to complete transfer of the patient to the receiving facility and complete all documentation should provide sufficient air changes.
- When cleaning the vehicle, EMS clinicians should wear a disposable gown and gloves. A face shield or facemask and goggles should also be worn if splashes or sprays during cleaning are anticipated.
- Ensure that environmental cleaning and disinfection procedures are followed consistently and correctly, to include the provision of adequate ventilation when chemicals are in use. Doors should remain open when cleaning the vehicle.
- Routine cleaning and disinfection procedures (e.g., using cleaners and water to pre-clean surfaces prior to applying an EPA-registered, hospital-grade disinfectant to frequently touched surfaces or objects for appropriate contact times as indicated on the product's label) are appropriate for 2019-nCoV in healthcare settings, including those patient-care areas in which aerosol-generating procedures are performed.
- Products with EPA-approved emerging viral pathogens claims are recommended for use against 2019-nCoV. These products can be identified by the following claim:
 - "[Product name] has demonstrated effectiveness against viruses similar to 2019-nCoV on hard non-porous surfaces. Therefore, this product can be used against 2019-nCoV when used in accordance with the directions for use against [name of supporting virus] on hard, non-porous surfaces."
 - This claim or a similar claim, will be made only through the following communications outlets: technical literature distributed exclusively to health care facilities, physicians, nurses and public health officials, "1-800" consumer information services, social media sites and company websites (non-label related). Specific claims for "2019-nCoV" will not appear on the product or master label.
 - See additional information about EPA-approved emerging viral pathogens claims [\[link\]](#).
- If there are no available EPA-registered products that have an approved emerging viral pathogen claim, products with label claims against human coronaviruses should be used according to label instructions.
- Clean and disinfect the vehicle in accordance with standard operating procedures. All surfaces that may have come in contact with the patient or materials contaminated during patient care (e.g., stretcher, rails, control panels, floors, walls, work surfaces) should be thoroughly cleaned and disinfected using an EPA-registered hospital grade disinfectant in accordance with the product label.
- Clean and disinfect reusable patient-care equipment before use on another patient, according to manufacturer's instructions.
- Follow standard operating procedures for the containment and disposal of used PPE and regulated medical waste.
- Follow standard operating procedures for containing and laundering used linen. Avoid shaking the linen.


Follow-up and/or Reporting Measures by EMS Clinicians After Caring for a PUI or Patient with Confirmed 2019-nCoV

EMS clinicians should be aware of the follow-up and/or reporting measures they should take after caring for a PUI or patient with confirmed 2019-nCoV:



- State or local public health authorities should be notified about the patient so appropriate follow-up monitoring can occur.
- EMS agencies should develop policies for assessing exposure risk and management of EMS personnel potentially exposed to 2019-nCoV in coordination with state or local public health authorities. Decisions for monitoring, excluding from work, or other public health actions for HCP with potential exposure to 2019-nCoV should be made in consultation with state or local public health authorities. Refer to the Interim U.S. Guidance for Risk Assessment and Public Health Management of Healthcare Personnel with Potential Exposure in a Healthcare Setting to Patients with 2019 Novel Coronavirus (2019-nCoV) for additional information.
- EMS agencies should develop sick-leave policies for EMS personnel that are nonpunitive, flexible, and consistent with public health guidance. Ensure all EMS personnel, including staff who are not directly employed by the healthcare facility but provide essential daily services, are aware of the sick-leave policies.
- EMS personnel who have been exposed to a patient with suspected or confirmed 2019-nCoV should notify their chain of command to ensure appropriate follow-up.
 - Any unprotected exposure (e.g., not wearing recommended PPE) should be reported to occupational health services, a supervisor, or a designated infection control officer for evaluation.
 - EMS clinicians should be alert for fever or respiratory symptoms (e.g., cough, shortness of breath, sore throat). If symptoms develop, they should self-isolate and notify occupational health services and/or their public health authority to arrange for appropriate evaluation.

EMS Employer Responsibilities

The responsibilities described in this section are not specific for the care and transport of PUIs or patients with confirmed 2019-nCoV. However, this interim guidance presents an opportunity to assess current practices and verify that training and procedures are up-to-date.

- EMS units should have infection control policies and procedures in place, including describing a recommended sequence for safely donning and doffing PPE.
- Provide all EMS clinicians with job- or task-specific education and training on preventing transmission of infectious agents, including refresher training.
- Ensure that EMS clinicians are educated, trained, and have practiced the appropriate use of PPE prior to caring for a patient, including attention to correct use of PPE and prevention of contamination of clothing, skin, and environment during the process of removing such equipment.
- Ensure EMS clinicians are medically cleared, trained, and fit tested for respiratory protection device use (e.g., N95 filtering facepiece respirators), or medically cleared and trained in the use of an alternative respiratory protection device (e.g., Powered Air-Purifying Respirator, PAPR) whenever respirators are required. OSHA has a number of [respiratory training videos](#) .
- EMS units should have an adequate supply of PPE.
- Ensure an adequate supply of or access to EPA-registered hospital grade disinfectants (see above for more information) for adequate decontamination of EMS transport vehicles and their contents.
- Ensure that EMS clinicians and biohazard cleaners contracted by the EMS employer tasked to the decontamination process are educated, trained, and have practiced the process according to the manufacturer's recommendations or the EMS agency's standard operating procedures.

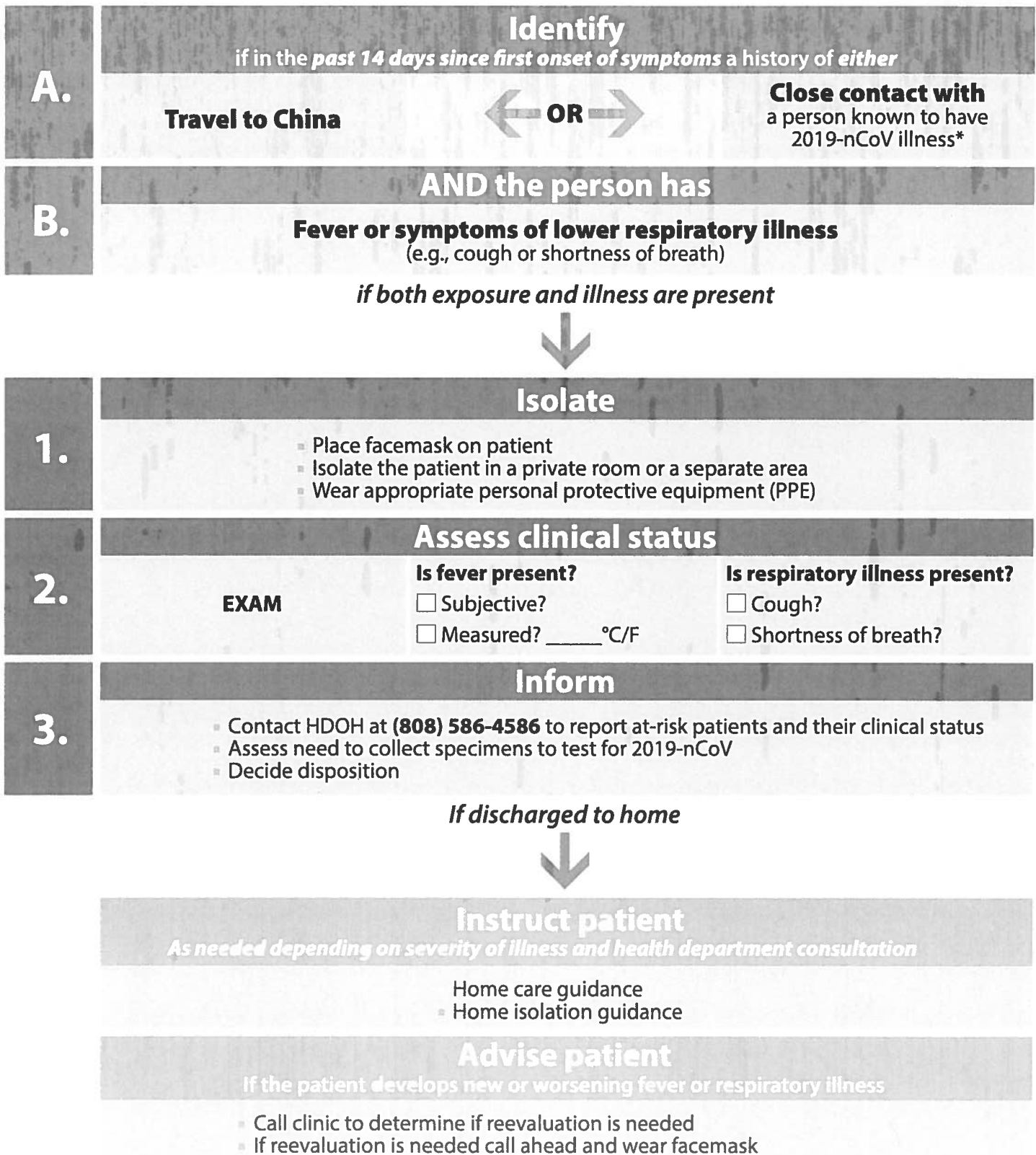
Additional Resources

The EMS Infectious Disease Playbook, published by the Office of the Assistant Secretary for Preparedness and Response's Technical Resources, Assistance Center, Information Exchange (TRACIE) is a resource available to planners at <https://www.ems.gov/pdf/ASPR-EMS-Infectious-Disease-Playbook-June-2017.pdf>  .

Page last reviewed: February 12, 2020

Flowchart to Identify and Assess 2019 Novel Coronavirus

For the evaluation of patients who may be ill with or who may have been exposed to 2019 Novel Coronavirus (2019-nCoV)



* Documentation of laboratory-confirmation of 2019-nCoV may not be possible for travelers or persons caring for patients in other countries. For more clarification on the definition for close contact see CDC's Interim Guidance for Healthcare Professionals: www.cdc.gov/coronavirus/2019-nCoV/hcp/clinical-criteria.html



Interim 2019 Novel Coronavirus (2019-nCoV) Patient Under Investigation (PUI) Form

Hawaii MAVEN ID _____
CDC nCoV ID _____

Notify hospital infection preventionist and implement contact, droplet, and airborne precautions immediately. As soon as possible send completed form to Hawaii Department of Health, Disease Outbreak Control Division by fax (808)586-4595 or secure/encrypted email at doh.epi1@doh.hawaii.gov. Call to notify and confirm receipt of fax at (808)586-4586.

Today's date _____ State HI County _____ NNDSS local record ID/Case ID¹ _____

Interviewer's name _____ Phone _____ Email _____

Physician's name _____ Phone _____ Pager or Email _____

Sex M F Age _____ yr mo Residency US resident Non-US resident, country _____

PUI Criteria

Date of symptom onset _____

Does the patient have the following signs and symptoms (check all that apply)?

Fever² Cough Sore throat Shortness of breath

In the 14 days before symptom onset, did the patient:

Spend time in Wuhan City, China? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Unknown
Does the patient live in Wuhan City? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Unknown
Date traveled to Wuhan City _____ Date traveled from Wuhan City _____ Date arrived in US _____
Have close contact ³ with a person who is under investigation for 2019-nCoV while that person was ill? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Unknown
Have close contact ³ with a laboratory-confirmed 2019-nCoV case while that case was ill? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Unknown

Additional Patient Information

Is the patient a health care worker? Y N Unknown

Have history of being in a healthcare facility (as a patient, worker, or visitor) in Wuhan City, China? Y N Unknown

Is patient a member of a cluster of patients with severe acute respiratory illness (e.g., fever and pneumonia requiring hospitalization) of unknown etiology in which nCoV is being evaluated? Y N Unknown

Does the patient have these additional signs and symptoms (check all that apply)?

Chills Headache Muscle aches Vomiting Abdominal pain Diarrhea Other, Specify _____

Diagnosis (select all that apply): Pneumonia (clinical or radiologic) Y N Acute respiratory distress syndrome Y N

Comorbid conditions (check all that apply): None Unknown Pregnancy Diabetes Cardiac disease Hypertension

Chronic pulmonary disease Chronic kidney disease Chronic liver disease Immunocompromised Other, specify _____

Is/was the patient: Hospitalized? Y, admit date _____ N Admitted to ICU? Y N

Intubated? Y N On ECMO? Y N Patient died? Y N

Does the patient have another diagnosis/etiology for their respiratory illness? Y, Specify _____ N Unknown

Respiratory diagnostic results

Test	Pos	Neg	Pending	Not done
Influenza rapid Ag <input type="checkbox"/> A <input type="checkbox"/> B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Influenza PCR <input type="checkbox"/> A <input type="checkbox"/> B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RSV	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. metapneumovirus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parainfluenza (1-4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adenovirus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Test	Pos	Neg	Pending	Not done
Rhinovirus/enterovirus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coronavirus (OC43, 229E, HKU1, NL63)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M. pneumoniae	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. pneumoniae	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, Specify _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Specimens for 2019-nCoV testing

Specimen type	Specimen ID	Date collected	Sent to CDC?
NP swab			<input type="checkbox"/>
OP swab			<input type="checkbox"/>
Sputum			<input type="checkbox"/>
BAL fluid			<input type="checkbox"/>
Tracheal aspirate			<input type="checkbox"/>

Specimen type	Specimen ID	Date collected	Sent to CDC?
Stool			<input type="checkbox"/>
Urine			<input type="checkbox"/>
Serum			<input type="checkbox"/>
Other, specify _____			<input type="checkbox"/>
Other, specify _____			<input type="checkbox"/>

¹ For NNDSS reporters, use GenV2 or NETSS patient identifier.

² Fever may not be present in some patients, such as those who are very young, elderly, immunosuppressed, or taking certain medications. Clinical judgement should be used to guide testing of patients in such situations

³ Close contact is defined as: a) being within approximately 6 feet (2 meters) or within the room or care area for a prolonged period of time (e.g., healthcare personnel, household members) while not wearing recommended personal protective equipment (i.e., gowns, gloves, respirator, eye protection); or b) having direct contact with infectious secretions (e.g., being coughed on) while not wearing recommended personal protective equipment. Data to inform the definition of close contact are limited. At this time, brief interactions, such as walking by a person, are considered low risk and do not constitute close contact.