

## 2019 Novel Coronavirus

# Interim US Guidance for Risk Assessment and Public Health Management of Persons with Potential 2019 Novel Coronavirus (2019-nCoV) Exposure in Travel-associated or Community Settings

**This interim guidance is effective as of February 3, 2020, and does not apply retrospectively to people who have been in China during the previous 14 days and are already in the United States, or those being managed as part of a contact investigation.**

**CDC will provide separate guidance for healthcare settings.**

## Background

CDC is closely monitoring an outbreak of respiratory illness caused by a novel (new) coronavirus (named by the World Health Organization as “2019-nCoV”) that was first detected in Wuhan, Hubei Province, China and which continues to expand. Chinese health officials have reported thousands of infections with 2019-nCoV in China, with the virus reported spreading from person-to-person in many parts of that country. Infections with 2019-nCoV, most of them associated with travel from Wuhan, also are being reported in a growing number of [international locations](#), including the [United States](#). The [first confirmed instance of person-to-person spread](#) of 2019-nCoV in the United States with this virus was reported on January 30, 2020.

Much is unknown about how 2019-nCoV, a new coronavirus, spreads. Current knowledge is largely based on what is known about similar coronaviruses. Coronaviruses are a large family of viruses that are common in many different species of animals, including camels, cattle, cats, and bats. Rarely, animal coronaviruses can infect people and then spread between people such as with [SARS](#), MERS, and now with 2019-nCoV.

Most often, spread from person-to-person happens during close exposure to a person infected with 2019-nCoV. Person-to-person spread is thought to occur mainly via respiratory droplets produced when an infected person coughs, similar to how influenza viruses and other respiratory pathogens spread. These droplets can land in the mouths, noses, or eyes of people who are nearby or possibly be inhaled into the lungs. It is currently unclear if a person can get 2019-nCoV by touching a surface or object that has the virus on it and then touching their own mouth, nose, or possibly their eyes.

## Purpose

CDC created this interim guidance to provide US public health authorities and other partners with a framework for assessing and managing risk of potential exposures to 2019-nCoV and implementing public health actions based on a person’s risk level and clinical presentation. Public health actions may include active monitoring or supervision of self-

monitoring by public health authorities, or the application of movement restrictions, including isolation and quarantine when needed to prevent the possible spread of 2019-nCoV in US communities. The recommendations in this guidance apply to US-bound travelers and people located in the United States who may have been exposed to 2019-nCoV. CDC acknowledges that state and local jurisdictions may make risk management decisions that differ from those recommended here. However, a harmonized national approach will facilitate smooth coordination and minimize confusion. The guidance may be updated based on the evolving circumstances of the outbreak.

## Definitions Used in this Guidance

**Symptoms compatible with 2019-nCoV infection**, for the purpose of these recommendations, include subjective fever, measured fever, cough, or difficulty breathing.

**Self-observation** means people should remain alert for subjective fever, cough, or difficulty breathing. If they feel feverish or develop cough or difficulty breathing during the self-observation period, they should take their temperature, limit contact with others, and seek health advice by telephone from a healthcare provider or their local health department to determine whether medical evaluation is needed.

**Self-monitoring** means people should monitor themselves for fever by taking their temperatures twice a day and remain alert for cough or difficulty breathing. Anyone on self-monitoring should be provided a plan for whom to contact if they develop fever, cough, or difficulty breathing during the self-monitoring period to determine whether medical evaluation is needed.

**Self-monitoring with delegated supervision** means, for certain occupational groups (e.g., some healthcare or laboratory personnel, airline crew members), self-monitoring with oversight by the appropriate occupational health or infection control program in coordination with the health department of jurisdiction. The occupational health or infection control personnel for the employing organization should establish points of contact between the organization, the self-monitoring personnel, and the local or state health departments with jurisdiction for the location where self-monitoring personnel will be during the self-monitoring period. This communication should result in agreement on a plan for medical evaluation of personnel who develop fever, cough, or difficulty breathing during the self-monitoring period. The plan should include instructions for notifying occupational health and the local public health authority, and transportation arrangements to a pre-designated hospital, if medically necessary, with advance notice if fever, cough, or difficulty breathing occur.

**Self-monitoring with public health supervision** means public health authorities assume the responsibility for oversight of self-monitoring for certain groups of people. CDC recommends that health departments establish initial communication with these people, provide a plan for self-monitoring and clear instructions for notifying the health department before the person seeks health care if they develop fever, cough, or difficulty breathing, and as resources allow, check in intermittently with these people over the course of the self-monitoring period. If travelers for whom public health supervision is recommended are identified at a US port of entry, CDC will notify state and territorial health departments with jurisdiction for the travelers' final destinations.

**Active monitoring** means that the state or local public health authority assumes responsibility for establishing regular communication with potentially exposed people to assess for the presence of fever, cough, or difficulty breathing. For people with high-risk exposures, CDC recommends this communication occurs at least once each day. The mode of communication can be determined by the state or local public health authority and may include telephone calls or an electronic or internet-based means of communication.

**Close contact** is defined as in CDC's [Interim Guidance for Healthcare Professionals](#).

**Public health orders** are legally enforceable directives issued under the authority of a relevant federal, state, or local entity that, when applied to a person or group, may place restrictions on the activities undertaken by that person or group, potentially including movement restrictions or a requirement for monitoring by a public health authority, for the purposes of protecting the public's health. Federal, state, or local public health orders may be issued to enforce isolation, quarantine or conditional release. The list of [quarantinable communicable diseases](#) for which federal public health orders are authorized is defined by Executive Order and includes "severe acute respiratory syndromes." 2019-nCoV meets the definition for "severe acute respiratory syndromes" as set forth in Executive Order 13295, as amended by Executive Orders 13375 and 13674, and, therefore, is a federally quarantinable communicable disease.

**Isolation** means the separation of a person or group of people known or reasonably believed to be *infected with a communicable disease and potentially infectious* from those who are not infected to prevent spread of the communicable disease. Isolation for public health purposes may be voluntary or compelled by federal, state, or local public health order.

**Quarantine** in general means the separation of a person or group of people reasonably believed to have been *exposed to a communicable disease but not yet symptomatic*, from others who have not been so exposed, to prevent the possible spread of the communicable disease.

**Conditional release** defines a set of legally enforceable conditions under which a person may be released from more stringent public health movement restrictions, such as quarantine in a secure facility. These conditions may include public health supervision through in-person visits by a health official or designee, telephone, or any electronic or internet-based means of communication as determined by the CDC Director or state or local health authority. A conditional release order may also place limits on travel or require that a person self-quarantine at home.

**Controlled travel** involves exclusion from long-distance commercial conveyances (e.g., aircraft, ship, train, bus). For people subject to active monitoring, any long-distance travel should be coordinated with public health authorities to ensure uninterrupted monitoring. Air travel is not allowed by commercial flight but may occur via approved noncommercial air transport. CDC may use public health orders or [federal public health travel restrictions](#) to enforce controlled travel. CDC also has the authority to issue travel permits to define the conditions of interstate travel within the United States for people under certain public health orders or if other conditions are met.

**Social distancing** means remaining out of public places where close contact with others may occur (e.g., shopping centers, movie theaters, stadiums), workplaces (unless the person works in an office space that allows distancing from others), schools and other classroom settings, and local public conveyances (e.g., bus, subway, taxi, ride share) for the duration of the potential incubation period unless presence in such locations is approved by the state or local health department.

## Exposure Risk Categories

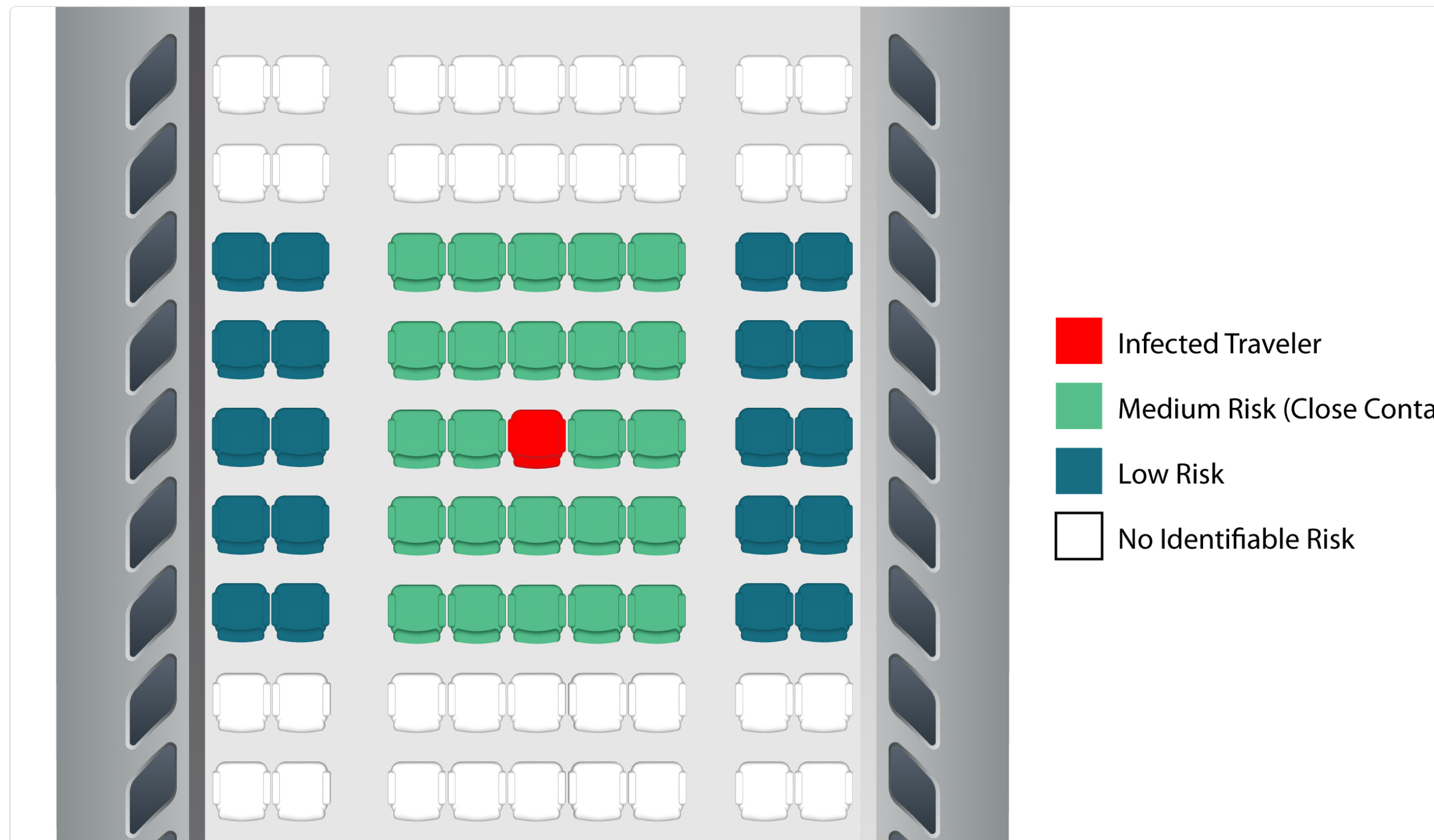
**These categories should be considered interim and subject to change.**



CDC has established the following exposure risk categories to help guide optimal public health management of people following potential 2019-nCoV exposure. These categories may not cover all potential exposure scenarios and should not replace an individual assessment of risk for the purpose of clinical decision making or individualized public health management. Any public health decisions that place restrictions on a person's or group's movements or impose specific monitoring requirements should be based on an assessment of risk for the person or group.

These risk levels apply to travel-associated and community settings. CDC will provide separate guidance for healthcare settings.

All exposures apply to the 14 days prior to assessment and recommendations apply until 14 days after the exposure event.



Sample seating chart for a 2019-nCoV aircraft contact investigation showing risk levels based on distance from the infected traveler.

## High Risk

- Living in the same household as, being an intimate partner of, or providing care in a nonhealthcare setting (such as a home) for a person with symptomatic laboratory-confirmed 2019-nCoV infection **without using recommended precautions** for [home care](#) and [home isolation](#)
  - The same risk assessment applies for the above-listed exposures to a person diagnosed clinically with 2019-nCoV infection outside of the United States who did not have laboratory testing.
- Travel from Hubei Province, China

## Medium Risk

- Close contact with a person with symptomatic laboratory-confirmed 2019-nCoV infection, and not having any exposures that meet a high-risk definition.
  - The same risk assessment applies for close contact with a person diagnosed clinically with 2019-nCoV infection outside of the United States who did not have laboratory testing.
  - On an aircraft, being seated within 6 feet (two meters) of a traveler with symptomatic laboratory-confirmed 2019-nCoV infection; this distance correlates approximately with 2 seats in each direction ([refer to graphic above](#))
- Living in the same household as, an intimate partner of, or caring for a person in a nonhealthcare setting (such as a home) to a person with symptomatic laboratory-confirmed 2019-nCoV infection **while consistently using recommended precautions** for [home care](#) and [home isolation](#)
- Travel from mainland China outside Hubei Province AND not having any exposures that meet a high-risk definition

## Low Risk

- Being in the same indoor environment (e.g., a classroom, a hospital waiting room) as a person with symptomatic laboratory-confirmed 2019-nCoV infection for a prolonged period of time but not meeting the definition of close contact
- On an aircraft, being seated within two rows of a traveler with symptomatic laboratory-confirmed 2019-nCoV infection but not within 6 feet (2 meters) ([refer to graphic above](#)) AND not having any exposures that meet a medium- or a high-risk definition ([refer to graphic above](#))

## No Identifiable Risk

- Interactions with a person with symptomatic laboratory-confirmed 2019-nCoV infection that do not meet any of the high-, medium- or low-risk conditions above, such as walking by the person or being briefly in the same room

# Recommendations for Exposure Risk Management

State and local authorities have primary jurisdiction for isolation and other public health orders within their respective jurisdictions. Federal public health authority primarily extends to international arrivals at ports of entry and to preventing interstate communicable disease threats.

CDC recognizes that decisions and criteria to use such public health measures may differ by jurisdiction. Consistent with principles of federalism, state and local jurisdictions may choose to make decisions about isolation, other public health orders, and monitoring that provide a greater level of public health protection than recommended in federal guidance.

The issuance of a public health order should be considered in the context of other less restrictive means that could accomplish the same public health goals. People under public health orders must be treated with respect, fairness, and compassion, and public health authorities should take steps to reduce the potential for stigma (e.g., through outreach to affected communities, public education campaigns). Considerable, thoughtful planning by public health authorities is

needed to implement public health orders properly. Specifically, measures must be in place to provide shelter, food, water, and other necessities for people whose movement is restricted under public health orders, and to protect their dignity and privacy.

CDC's recommendations for management of people with potential exposure to 2019-nCoV, including monitoring and application of travel or movement restrictions, are summarized in the [Table below](#).

Additional recommendations in specific groups or settings are provided below.

## Travelers from China

Travelers who have been in Hubei Province in the previous 14 days are reasonably believed to have a high risk of exposure to 2019-nCoV based on the scope and magnitude of the epidemic in those areas. These travelers should be managed as having high-risk exposure.

For most travelers from areas of mainland China outside Hubei province, the exposure risk is unknown but believed lower than those from Hubei Province. Travelers with known exposures to a laboratory-confirmed case of 2019-nCoV should be managed according to the risk level as defined above. CDC has assigned a medium-risk level to travelers from mainland China outside Hubei Province who have no known high-risk exposures, with recommendations for public health management as provided in the [Table below](#).

In general, these geographic exposures do not apply to travelers who only transited through an airport.

## Airline Crew

Crew members who are based in the United States and who have been on layovers in mainland China outside Hubei Province within the previous 14 days, and who have no known exposure to persons with 2019-nCoV, are assessed as low risk. These crew members should self-monitor under the supervision of the airline's occupational health program in coordination with the health department of jurisdiction for the crew member's residence in the United States. These crew members have no movement restrictions while in the United States and may continue to work on commercial flights as long as they remain asymptomatic. This recommendation is based on US-based airline crew having limited interaction with the local population in China during a typical layover. If they develop fever, cough, or difficulty breathing, crew members should self-isolate and be excluded from work on commercial flights immediately until cleared by public health authorities. Airlines have the authority to choose to adopt occupational health policies for their own employees that exceed CDC recommendations.

Crew members who are based in mainland China outside Hubei Province and who are in the United States for layovers are assessed as medium risk. These crew members should self-monitor under the supervision of the airline's occupational health program. These crew members are also recommended to remain in their hotels, limit activities in public, practice social distancing, and avoid congregate settings while in the United States. The airline should coordinate with the health department of jurisdiction for the airport to establish a plan for managing crew members identified as symptomatic while in the United States. If they develop fever, cough, or difficulty breathing, crew members should self-isolate and be excluded from work on commercial flights immediately until cleared by public health authorities. Airlines have the authority to adopt occupational health policies that exceed CDC recommendations for their own employees.

Crew members who are based in countries other than the United States or mainland China are assessed as low risk. These crew members should be managed as for US-based crew members. In this circumstance, the US health department responsible for the airport has jurisdiction.



# People with confirmed 2019-nCoV infection and symptomatic Patients Under Investigation for 2019-nCoV infection

People with confirmed 2019-nCoV infection should remain in isolation, either at home or in a healthcare facility as determined by clinical status, until they are determined by state or local public health authorities in coordination with CDC to be no longer infectious. The location of isolation will be determined by public health authorities and isolation will be compelled by public health order, if necessary. Local or long-distance travel is permitted only by medical transport (e.g., ambulance or air medical transport) or private vehicle. Isolation and travel restrictions are removed upon determination by public health authorities that the person is no longer considered to be infectious. Symptomatic people who meet CDC’s definition of [Patients Under Investigation](#) (PUI) should be evaluated by healthcare providers in conjunction with local health authorities. PUIs awaiting results of [rRT-PCR testing](#) for 2019-nCoV should remain in isolation at home or in a healthcare facility until their test results are known. Depending on the clinical suspicion of 2019-nCoV infection, PUIs for whom an initial rRT-PCR test is negative may be candidates for removal of any isolation and travel restrictions specific to symptomatic people, but any restrictions for asymptomatic people according to the associated risk level should still apply. Management decisions of PUIs who are not tested should be made on a case-by-case basis using available epidemiologic and clinical information, in conjunction with guidance in this document.

## Table: Summary of CDC Recommendations for Management of Persons with Potential 2019-nCoV Exposure by Risk Level and Symptoms

The public health actions recommended below apply to people who have been determined to have at least some risk of 2019-nCoV infection. If people who are being managed as asymptomatic exposed people develop signs or symptoms compatible with 2019-nCoV infection, they should be moved immediately into the symptomatic category and be managed according to the recommendations for symptomatic people in the applicable risk level.

**Note:** These risk levels apply to travel-associated and community settings. CDC will provide separate guidance for healthcare settings.

For recommendations for airline crew, see section above.

### SYMPTOMATIC<sup>1</sup>

Risk Category	Movement Restrictions and Public Activities	Medical Evaluation	Travel
High risk	Immediate isolation.	Medical evaluation is recommended; diagnostic testing for 2019-nCoV should be guided by CDC’s <a href="#">PUI definition</a> but is recommended for symptomatic people with a known high-risk exposure. If medical evaluation is needed, it should occur with pre-notification to the receiving HCF and EMS, if EMS transport indicated, and with all recommended <a href="#">infection control precautions</a> in place.	Controlled; air travel only via air medical transport. Local travel is only allowed by medical transport (e.g., ambulance) or private vehicle while symptomatic person is wearing a face mask.

Medium risk	Immediate isolation.	Medical evaluation and care should be guided by clinical presentation; diagnostic testing for 2019-nCoV should be guided by CDC's <a href="#">PUI definition</a> . If medical evaluation is needed, it should occur with pre-notification to the receiving HCF and EMS, if EMS transport indicated, and with all recommended <a href="#">infection control precautions</a> in place.	Controlled; air travel only via approved air medical transport. Local travel is only allowed by medical transport (e.g., ambulance) or private vehicle while symptomatic person is wearing a face mask.
Low risk	Recommendation to avoid contact with others and public activities while symptomatic	Person should seek health advice to determine if medical evaluation is needed. If sought, medical evaluation and care should be guided by clinical presentation; diagnostic testing for 2019-nCoV should be guided by CDC's <a href="#">PUI definition</a>	Recommendation to not travel on long-distance commercial conveyances or local public transport while symptomatic
No known risk <sup>2</sup>	No restriction	Routine medical care	No restriction

## ASYMPTOMATIC

Risk Category	Movement Restrictions and Public Activities	Monitoring	Travel
High risk	Remain quarantined (voluntary or under public health orders on a case-by-case basis) in a location to be determined by public health authorities. No public activities.	Daily active monitoring	Controlled
Medium risk	To the extent possible, remain at home or in a comparable setting. Avoid congregate settings, limit public activities, and practice social distancing.	<b>Travelers from mainland China outside Hubei Province with no known high-risk exposure:</b> Self-monitoring with public health supervision <b>All others in this category:</b> Active monitoring	Recommendation to postpone additional long-distance travel after they reach their final destination. People who intend to travel should be advised that they might not be able to return if they become symptomatic during travel.
Low risk	No restriction	Self-observation	No restriction



No known risk	No restriction	None	No restriction
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EMS = Emergency medical services

HCF = healthcare facility

PUI = Patient Under Investigation for 2019-nCoV

<sup>1</sup>For the purpose of this document: subjective or measured fever, cough, or difficulty breathing.

<sup>2</sup>No restrictions on travel, movement, or activities due to 2019-nCoV concerns; however, restrictions might be recommended if the person is known or reasonably believed to have another communicable disease that poses a public health threat if others are exposed in community or travel settings.