

Novel Coronavirus Disease 2019 (COVID-19)

Interim Investigative Guidelines

September 18, 2020

1. DISEASE REPORTING

1.1 Purpose of Reporting and Surveillance

1. To identify persons with COVID-19, prevent transmission to others, improve health outcomes and better understand the epidemiology of this disease.
2. To identify those with significant exposure to COVID-19 as described in §3.1 and §3.2, below, and to monitor them for signs of infection.

1.2 Laboratory and Physician Reporting Requirements

Healthcare providers and laboratories are required to report test results indicative of and specific for COVID-19 to the local public health authority ([LPHA](#)) within 24 hours. Laboratories are required to report negative results of COVID-19 testing within one local public health working day.

Healthcare providers are additionally required to report within 1 working day:

- All hospitalizations, **defined in §7**, among persons with COVID-19, whether or not the case was previously reported
- All deaths, defined in §7, among persons with COVID-19, whether or not the case was previously reported
- All cases of Multiorgan Inflammatory Syndrome in Children (**MIS-C**) (§3.7)
- Administrations of remdesivir acquired through state distribution

All of this reporting must be done through an “Online Morbidity Report,” which can be found at www.healthoregon.org/howtoreport.

1.3 Local Public Health Authority Reporting and Follow-Up Responsibilities

Close contacts

1. Follow guidance on monitoring and movement control as described in §4 below, including active monitoring for all identified close contacts.
2. Educate and consult with local providers and facilities to promote compliance with quarantine, isolation, and infection-control procedures.
3. If a close contact develops symptoms **consistent with the presumptive case definition (§3.4), follow up appropriately (§4.4)**. See “Suspect COVID-19 cases” (§4.3) regarding **close contacts who develop symptoms that do not meet the presumptive case definition**.

Suspect COVID-19 cases

1. Suspect cases are created one of three ways:
 - a. **When negative** electronic laboratory reports (ELRs) **are processed in Opera**;
 - b. When contact tracing identifies a symptomatic contact who does not meet the presumptive case definition;
 - c. **When a symptomatic person who does not meet the confirmed or presumptive case definition is identified**.
2. Encourage symptomatic persons who have not been tested to get tested.
3. Otherwise, there is no follow-up for suspect cases.

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Confirmed and Presumptive COVID-19 cases

1. Begin investigation of confirmed and presumptive COVID-19 cases, as defined in §3 below, immediately. **All confirmed and presumptive cases require an interview (except for those incarcerated at the time of report).**
2. Report all confirmed and presumptive cases immediately by entering them into Opera with disease “Coronavirus” and subtype “COVID-19.”
3. **Submit all case data electronically. Complete all elements in the Opera tabs: Labs, Clinical, Treatment, Risks, Followup, Epilinks, and Contacts.**
4. Investigate outbreaks of COVID-19 among residents and in settings within their jurisdiction; **see Appendix 1 for a list of required data elements.**
5. Consult with ACDP as needed about patient isolation and protection of contacts, including healthcare personnel, and about strategies for public-health response, testing, and contact investigation.
6. Educate and consult with local **healthcare** providers and facilities to promote compliance with isolation and infection-control procedures.
7. Educate confirmed and presumptive cases on **best practices to prevent disease spread, including self-isolating to limit their additional close contacts, and to inform their close contacts about monitoring symptoms and seeking care when appropriate.**
8. Process ELRs of COVID-19 test results.
9. Process electronic case reports (eCRs) in Opera. **Make sure to manually update test results, hospitalization status, death status, and administrations of remdesivir (in the treatment tab).**

1.4 State Public Health Division Responsibilities

OHA has established the COVID Response and Recovery Unit (CRRU). Much of the COVID-19 work previously managed by ACDP is now managed by CRRU.

1. Update LPHAs on changes to criteria for investigation (e.g., through HAN, multijurisdictional conference calls, etc.).
2. Relay to LPHAs information on suspect, presumptive, and confirmed cases and close contacts received from Oregon Department of Corrections, CDC, or other states.
3. **Assist LPHAs in processing** eCRs in Opera, including creating cases and approving testing for patients who meet testing criteria, adding hospitalization status, and recording deaths and administrations of remdesivir.
4. Support investigation of outbreaks of COVID-19.
5. Assist LPHAs in processing ELRs of COVID-19 test results.
6. Develop and maintain information systems for case and contact surveillance and to ensure adequacy of response activities.
7. Identify close contacts from CDC Division of Global Migration and Quarantine (DGMQ) notifications as appropriate.
8. Advise LPHA, Tribal, and private-sector health professionals concerning:
 - Quarantine of asymptomatic exposed persons (close contacts);
 - Isolation of cases and symptomatic persons;
 - Protection of healthcare personnel;
 - Diagnostic evaluation;
 - Required reporting and surveillance activities;

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- Contact identification and follow-up.
9. Coordinate interjurisdictional monitoring plans for close contacts who move out of county or state.
 10. Coordinate multi-jurisdictional responses.
 11. As resources allow, provide surge capacity for contact and case investigation if the scope of response overwhelms LPHA resources.
 12. Arrange consultation with infectious disease specialists and CDC as needed.
 13. Report confirmed **and presumptive** COVID-19 cases and deaths to CDC.

2. THE DISEASE AND ITS EPIDEMIOLOGY

2.1 Etiologic Agent

Coronaviruses are enveloped, single-stranded RNA viruses. With the notable exceptions of SARS-CoV and MERS-CoV, most human coronaviruses typically cause mild upper respiratory illness. The coronavirus causing COVID-19 was first identified in Wuhan, China in December 2019 among patients with severe respiratory illness and pneumonia and has since spread around the globe through person-to-person transmission. Genetic sequencing of isolates demonstrates that the COVID-19 virus is a *betacoronavirus* with roughly 80% genome identity with SARS-CoV and 50% with MERS-CoV. The virus that causes COVID-19 has been named “SARS-CoV-2.”

2.2 Description of Illness

Symptoms may include fever (defined throughout as a temperature of $\geq 100.4^{\circ}\text{F}$ or 38.0°C), sore throat, dry cough, dyspnea, myalgias, fatigue, and loss of smell (anosmia) or taste (ageusia). Fever may not be present in the very young, very old, immunosuppressed, or people taking antipyretics. Pneumonia generally presents with patchy, multilobar infiltrates on chest X-ray. Gastrointestinal symptoms are not uncommon and may include nausea, vomiting and diarrhea. Cases tend to have lymphopenia. Reported complications have included acute respiratory distress syndrome, cardiac events, and death.

Cases of a COVID-19-associated “multisystem inflammatory syndrome in children” (MIS-C), which may resemble Kawasaki Disease, have been reported in children from several jurisdictions. In addition to a positive COVID-19 test, the syndrome includes fever, multisystem involvement (cardiac, renal, respiratory, hematologic, gastrointestinal, dermatologic or neurologic), and laboratory evidence of inflammation.

2.3 Reservoirs

Members of the coronavirus family are common in many different species of animals, including camels, cattle, cats, and bats. Rarely, animal coronaviruses can infect people and then spread from person to person, as occurred with MERS-CoV and SARS-CoV. The frequency with which the COVID-19 virus is transmitted from its original animal reservoir(s) to humans is unknown, but such transmission is probably rare. The prevalence of animal infection with **SARS-CoV-2** is unknown.

2.4 Sources and Routes of Transmission

This virus probably originated from an animal source—bats are currently suspected—but extensive person-to-person spread ensued. Person-to-person transmission likely **occurs** respiratory droplets produced when an infected person coughs or sneezes, as is the case with influenza and pertussis. Other coronaviruses (e.g., MERS and SARS) have spread between close contacts. It is possible that a person can get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or eyes, but this is not thought to be the main route of transmission. Studies (including preliminary studies of **SARS-CoV-2**) suggest that coronaviruses may persist on surfaces for up to several days. The degree of airborne transmission is currently unknown. **Viral sequence** is commonly detectable in feces of infected persons, **but the virus has not been cultured from feces**. Transmission from feces, blood, or other body fluids has not been **identified**.

Healthcare personnel caring for COVID-19 patients or any patient with undiagnosed respiratory infection should observe standard, contact, and droplet precautions, with facemask and eye protection (face shield or goggles). During aerosol-generating procedures (see §7) on such patients, airborne precautions should be observed.

2.5 Incubation Period

Typically 4–6 (range, 2–14) days.

2.6 Period of Communicability

Our understanding is still developing. Some cases are acquired from infected asymptomatic persons, and virus is detectable in some patients for weeks following resolution of symptoms. That said, transmission appears most likely when patients are febrile or coughing. Studies are being conducted and the information is changing quickly. At this time, replication-competent virus is unlikely in many patients more than 9 days after onset of illness. Patients with more severe illness—i.e., hospitalized—have shed replication-competent virus for longer periods of time; they could be contagious for up to 20 days after symptom onset.

2.7 Treatment, Prevention, and Limitation of Spread

There are currently no FDA-approved treatments for COVID-19, though remdesivir has been shown in a clinical trial to reduce the duration of illness and has an Emergency Use Authorization. There is **currently** no vaccine **for COVID-19, though multiple candidate vaccines are in development and undergoing trials**. Especially without a vaccine, nonpharmaceutical methods such as staying home, physical distancing (see §7), and using a mask, face shield, or face covering when physical distancing cannot be maintained are recommended for all people to limit the spread of disease. People are encouraged to practice good hand hygiene and to disinfect high-touch surfaces regularly.

3. CASE DEFINITIONS, DIAGNOSIS, AND LABORATORY SERVICES

See Figure 1 for visual representation of case definitions and Appendix 2 for a grid that explains how to interpret test results.

3.1 Close Contact

A close contact is a person with an epidemiologic exposure to **a person with confirmed or presumptive COVID-19**. The exposure may be close contact (see §7 for details) with a confirmed or presumptive case—in short, being within 6 feet of a COVID-19 case for **≥15 minutes***—or contact with their infectious secretions or clinical specimens; a close contact (e.g., aboard an airline flight) might also be reported to us by CDC.

See §4.2 for guidance on classifying and monitoring close contacts.

This definition only applies to persons who have close contact with a confirmed or presumptive case. Persons who have an epidemiologic exposure to a close contact do not meet this definition.

3.2 Suspect Case

A suspect case is a person with:

- New onset of symptoms consistent with COVID-19, including fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, or diarrhea
AND
- No more likely alternative diagnosis
Note: This includes people who had close contact with a presumptive[†] case and have an acute illness featuring at least two of the following: shortness of breath, cough, fever, new loss of smell or taste, radiographic evidence of viral pneumonia.

OR

- A test result that, in combination with their symptoms, does not meet the definition of a confirmed or presumptive case, including:
 - A negative or indeterminate reverse transcriptase polymerase chain reaction (RT-PCR), nucleic acid amplification test (NAAT),[‡] or antigen result;
 - A serologic test—any result—as their only laboratory test; and
 - A close contact who is getting tested

These criteria are for epidemiologic classification and are not meant to direct clinician testing. Healthcare providers can identify individuals they suspect to have COVID-19 and test these patients at clinical laboratories.

3.3 Confirmed Case

A confirmed case is someone who tests positive **using** an FDA Emergency Use Authorized (EUA) diagnostic test. Any positive result **from** an RT-PCR, NAAT, or antigen platform

* This time is cumulative over the period of contagiousness and does not have to be consecutive.

† If a contact of a presumptive case has symptoms consistent with COVID-19 but neither the contact nor the case has tested positive, the contact remains a suspect case.

‡ e.g., a polymerase chain reaction (PCR) test.

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developed under an FDA EUA, even if conducted as asymptomatic screening, is considered a positive result. A follow-up test which is negative does not negate the first positive test.*[‡]

If a lab report has not been received, but a positive lab result has been reported verbally by a healthcare provider or by an electronic case report (eCR) that clearly identifies a positive lab result, the case will be considered confirmed.

Note: If the eCR does not clearly identify a lab result, consider the person a suspect case with a pending test. See §4.3 for details.

If a person is diagnosed with MIS-C (see §3.7), create a confirmed Coronavirus case in addition to their MIS-C case. If their only diagnostic test was serology, they are still a confirmed case, but do not initiate contact tracing; testing will be offered to household members.

3.4 Presumptive Case

A presumptive case is a person without a positive COVID-19 RT-PCR, NAAT, or antigen test result,[†] with:

- An acute illness featuring at least two of the following: shortness of breath, cough, fever,[‡] new loss of smell or taste, radiographic evidence of viral pneumonia;
AND
- No more likely alternative diagnosis;
AND
- Within the 14 days before illness onset, lived in the same household or congregate setting, had close contact (see §7) with a confirmed case, or is identified as having been exposed in an outbreak.

OR

- A COVID-19-specific ICD-10 code listed as a primary or contributing cause of death on a death certificate.

If a presumptive case tests positive for COVID-19 by an RT-PCR, NAAT, or antigen test, update the case's status to confirmed. If a presumptive case tests negative for COVID-19 by an RT-PCR, NAAT, or antigen test, the case remains presumptive.

3.5 Laboratory Testing

1. Testing Guidance for Local Health Departments

Testing through the Oregon State Public Health Laboratory (OSPHL) must be approved by **the CRRU testing branch or the CRRU epidemiologist supporting the outbreak.**

2. Testing Guidance for Clinicians and Health Systems

* Note: Even if the specimen that tests positive is not covered in the FDA EUA (e.g., saliva or stool), the case is considered confirmed based on the testing platform.

† Even with a negative test, a person with an identified epi-link, compatible symptoms, and no more likely diagnosis is still considered a presumptive case.

‡ Fever can be objective ($\geq 100.4^{\circ}\text{F}$) or subjective.

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Guidance has been established to provide criteria for testing in commercial laboratories versus at OSPHL. Current guidance and the electronic report form to gain approval for testing at OSPHL can be found at [OHA COVID-19 Healthcare Partner Resources](#).

3. *Testing at the Oregon State Public Health Laboratory*

Guidance for specimen collection, handling, and transport is changing often and may have changed since publication of this guideline. As of this publishing, here is the [Guidance for Providers Regarding COVID-19 Testing](#) and the [Criteria for COVID-19 Testing at OSPHL](#). OSPHL offers two tests for SARS-CoV-2, the CDC Real-Time RT-PCR Diagnostic Panel, and the Hologic Aptima SARS-CoV-2 Assay. Current guidance for specimen collection, handling, and transport is posted on OSPHL's [Lab Test Menu](#).

In consideration of its testing capacity and demand, OSPHL requests that only one specimen be submitted per patient unless otherwise approved by CRRU. If several specimens from a single patient are submitted **without approval**, OSPHL will test only the most preferred specimen.

For the [CDC PCR assay](#), specimens from the lower respiratory tract (e.g., bronchial lavage, endotracheal aspirate, sputum) are preferred. Upper respiratory tract specimens are also acceptable for testing. A nasopharyngeal (NP) swab is the preferred upper respiratory specimen. Other acceptable respiratory specimens include combined NP and oropharyngeal (OP) swabs, OP swab alone, nasal mid-turbinate swab, anterior nares specimen, nasopharyngeal wash or nasal aspirate. This platform is best used for hospitalized patients, small-volume specimen collections, and surveillance testing.

For the [Hologic Aptima \(NAAT\)](#) assay, nasal or oropharyngeal (throat) swabs are accepted. This platform is best used for large-group specimen collection events, such as a large-scale contact investigation or in congregate-living settings.

Choice of specimen collection may rely upon where the specimen is collected and any clinical considerations. Specimens should be collected as soon as possible after a presumptive or suspect case is identified, regardless of symptom onset date.

Please share the following information with the facility or laboratory that is packing and shipping the specimens for testing at OSPHL:

- Heed the specimen storage and transport temperatures required for the specimen being collected. All requirements are posted at www.healthoregon.org/labtests.
- Ensure the cap of the specimen container is properly threaded and sealed.
- Label each specimen container with two unique patient identifiers (e.g., full name, date of birth, medical record number), unique specimen ID (e.g., laboratory requisition number), specimen type (e.g., NP, OP) and the date the sample was collected.
- Submit one [OSPHL Virology/Immunology Test Request Form](#) or [COVID-19 Test Request Form](#) per specimen. In the Other/Molecular section, check the "Other" box and write or type in "COVID-19."
- Place the Test Request Form in the outer pocket of the specimen transport bag. Do not put the form in the sealed portion of the bag with the specimen.

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- Transport specimens and required forms to OSPHL as soon as possible.

Whenever possible, existing courier systems (e.g., hospital system couriers) or shipping options (e.g., FedEx) should be used for specimen transport. If other transport systems are not available, contact OSPHL (503-693-4100) for help with specimen transport on the next available courier route.

4. Collecting Specimens

Specimens should be collected while using proper PPE:

- For non-aerosol-generating procedures: gowns, gloves, regular mask, and eye protection
- For aerosol-generating procedures (§7): gowns, gloves, N95 or powered air-purifying respirator (PAPR), and eye protection; and conducted in the proper room.
- Using an airborne infection isolation room (AIIR) during aerosol-generating procedures is ideal, but if one is not available, use a private room and keep the door closed. Mask the patient with a regular facemask during any movement within clinic or facility. See [OHA guidance on infection prevention and control for COVID-19](#).

Many common respiratory infections present with symptoms similar to those of COVID-19. Encourage clinicians to perform in-house diagnostic testing for these more common pathogens as clinically indicated. If a person tests positive for a common respiratory pathogen, it still might be indicated to test for COVID-19. See §4.3 for additional information.

3.6 Guidance Regarding Serologic Tests

Serologic tests are still being evaluated. As we learn more, we will update this guidance. OSPHL also performs serology (IgG) testing. Availability of this test is currently limited to surveillance. Serologic test results do not currently alter case classifications.

Except where specifically identified, all references in this guide to a “test” or “testing” refer to RT-PCR, NAAT, or antigen tests and not serology.

3.7 Multisystem Inflammatory Syndrome in Children

Multisystem Inflammatory Syndrome in Children (MIS-C) is defined as:

- An individual aged <21 years presenting with fever,^{*} laboratory evidence of inflammation,[†] and evidence of clinically severe illness requiring hospitalization, with involvement of at least 2 of the following organ systems: cardiac, renal, respiratory, hematologic, gastrointestinal, dermatologic, or neurological;
AND
- No alternative more likely diagnosis;
AND

^{*} Fever can be objective (> 100.4°F) or subjective.

[†] Including, but not limited to, one or more of the following: an elevated C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), fibrinogen, procalcitonin, D-dimer, ferritin, lactic acid dehydrogenase (LDH), or interleukin 6 (IL-6), elevated neutrophils, reduced lymphocytes and low albumin

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- Evidence for current or recent SARS-CoV-2 infection by RT-PCR, NAAT, serology, or antigen testing; or COVID-19 exposure within the 28 days prior to the onset of symptoms.

Some individuals may fulfill full or partial criteria for Kawasaki disease but should be reported if they meet the case definition for MIS-C. Consider MIS-C in any pediatric death with evidence of SARS-CoV-2 infection.

All MIS-C cases entered in Opera should be classified as confirmed.

4. CASE INVESTIGATION

4.1 Data Access and Processing

Because of the likelihood that contacts and cases will move or have connections across counties, all counties will have “All View/All Edit” access to cases of Person Under Monitoring and Coronavirus in Opera.

Unless someone meets the criteria for a truly separate case (see §5.2), they should only have one Coronavirus case created for them. For example, if someone was a suspect case and then tests positive by PCR, do not create a separate confirmed case. Update the status of the existing case to the most accurate status.

If an LPHA processes an eCR that is a test result, manually create a laboratory result with the information on the Labs tab for the case. Do not wait for the ELR to arrive.

A web-based platform, known as ARIAS, has been created to support contact tracing. All counties have been onboarded to ARIAS, so all contact tracing must be recorded in that system. Contacts and Persons Under Monitoring should not be tracked in Opera. Training to support contact tracing, including ARIAS training, is available at the [Contact Tracing Resources](#) page. For questions regarding ARIAS, contact ARIAS.support@dhsosha.state.or.us; or consult the ARIAS guidance documents.

4.2 LPHA Follow-Up with Close Contacts

Persons Under Monitoring and contacts of cases will be exported from Opera to ARIAS once daily. Contact tracing must be recorded in ARIAS.

As a reminder, this only applies to persons who have close contact with a confirmed or presumptive case. It does not apply to persons whose only contact is with a contact or a suspect case without an indeterminate test result.

1. Notifications from CDC's Division of Global Migration and Quarantine (DGMQ) and other Federal and State Partners

LPHAs are required to follow up with individuals who are reported by DGMQ as close contacts (e.g. seated within 6 feet) of a confirmed COVID-19 case on a flight, or of passengers on a cruise ship with identified cases. These contacts will be entered into

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Opera and assigned to the LPHA for follow-up. See Figure 2 for a visual representation of this workflow.

LPHAs are no longer required to monitor residents who return from “affected geographic regions,” however CDC does recommend that passengers returning from international travel quarantine for 14 days upon arrival.

As contacts are identified through investigations in other jurisdictions—for example, if an Oregon resident has close contact with a case in a neighboring state—OHA will create a Person Under Monitoring record for those contacts.

2. *Persons Identified During Contact Investigations*

LPHA resources should be focused on identifying and monitoring all close contacts of COVID-19 cases (see §7).

Once you identify a close contact, enter the person into Opera using the Contacts tab. If you find that a contact lives in another jurisdiction, update the contact’s address and promptly transfer the contact to that jurisdiction in Opera. When transferring a Person Under Monitoring between jurisdictions, the receiving LHD must update the name in the “LHD Epi” field to that of any Opera user in their jurisdiction. If your jurisdiction has activated ARIAS, those contacts will be exported to ARIAS once per day, and all follow-up will occur in that system. Refer to ARIAS workflow documents for guidance on how to manage those contacts.

Active monitoring is required for all close contacts—“Persons Under Monitoring” in Opera or “Contacts” in ARIAS. Provide a Contact Letter (Appendix 3) to the person. LPHAs should coordinate with close contacts to identify a communication plan for daily check-ins. Phone, email, and text are all acceptable methods of communication. Close contacts should measure their temperature twice daily and monitor themselves for symptoms during the 14-day monitoring period. The LPHA should record temperature and symptom information in the contact tracing tool. If close contacts report that they have developed fever or other symptoms consistent with COVID-19, they should coordinate with the LPHA to determine a plan to seek care safely and access COVID-19 testing. See Figure 3 for a visual representation of this workflow.

On the 14th day after their last exposure, the LPHA should confirm with close contacts that they have remained afebrile and asymptomatic. If they remained asymptomatic, they have completed monitoring. If they developed symptoms at any point during their quarantine, evaluate whether they meet the definition of a presumptive case (§3.4) and consider referring them for testing.

If a contact cannot be reached, mail a contact letter (Appendix 3) to the contact’s last known address.

3. *When a Close Contact Becomes Symptomatic*

If a close contact who was exposed to a confirmed case develops symptoms consistent with COVID-19, that person may meet the presumptive case definition (see §3.4). This new

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presumptive case should be entered into Opera, and the case and contact investigations should be initiated. Do not simply change the condition from Person Under Monitoring to Coronavirus; create a new Coronavirus case for that person. Presumptive cases who test positive for COVID-19 will become a confirmed case. Presumptive cases who test negative will remain a presumptive case unless a more likely alternative diagnosis is made (e.g., influenza).

If a close contact who was exposed to a presumptive case develops symptoms consistent with COVID-19, that person meets the suspect case definition (see §3.2). This new suspect case should be entered into Opera. We do not recommend a full case and contact investigation for suspect cases (see §4.3), but we do recommend that this new suspect case and their source presumptive case be tested for COVID-19.

4. *Monitoring of Persons Identified in Contact Investigations*

Guidance on monitoring and restrictions of contacts differs for healthcare workers (HCW) and non-healthcare workers.

A. Healthcare Workers Identified as Contacts

Given the ongoing transmission of COVID-19 in communities across the United States and the role that asymptomatic and pre-symptomatic individuals with COVID-19 play in transmission, the feasibility and benefits of formal contact tracing for exposures in healthcare settings are **likely** limited.

Healthcare facilities should consider forgoing contact tracing for exposures in a healthcare setting in favor of universal source control for asymptomatic HCW and screening for fever and symptoms of COVID-19 before every shift; facilities should also consider exit screening when feasible. Additional infection prevention and control recommendations, including more details about universal source control in healthcare settings, are [available](#) from the CDC.

Asymptomatic HCW identified as contacts who have not tested positive for COVID-19 may, in consultation with their occupational health program, work during their quarantine period. The decision to work during quarantine should consider the risk of the identified exposure. They should otherwise observe quarantine outside of work.

Testing of the HCW is the responsibility of the employer: it may be undertaken at employer discretion and expense. All symptomatic HCW identified as contacts should follow CDC's [Criteria for Return to Work](#). If a symptomatic HCW is identified as a presumptive case, they should follow guidance for isolation of presumptive cases, including staying home from work for a minimum of 10 days from symptom onset (§4.5). If an alternative more likely diagnosis is identified as the cause of the HCW's symptoms, they should isolate until 24 hours after symptoms have resolved.

B. Non-Healthcare Workers Identified as Contacts

Non-healthcare workers who are identified as contacts are advised to quarantine themselves for 14 days after their last contact with a confirmed or presumptive case.

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These persons should be encouraged to seek testing should symptoms develop. See §4.2.2 for details.

Consistent with [OAR 333-019-0014](#), worksite, child care, and school restrictions can be removed by statement of the local public health administrator that the disease is no longer communicable to others or that adequate precautions have been taken to minimize the risk of transmission. That is, if in the judgment of the local public health administrator,* an asymptomatic non-healthcare worker's job is essential and the workplace situation provides adequate protections against disease transmission, that worker may, in consultation with their occupational health program or their employer, work during their quarantine period. The worker should still observe quarantine outside of work.

Symptomatic contacts, regardless of their employment, must stay home from work until 24 hours after fever and other symptoms have resolved.

Consult §6.5 and 6.6 for guidance on recommendations for contacts identified during investigation of a workplace outbreak.

4.3 LPHA Follow-Up with Suspect Cases

Suspect cases are persons as defined in §3.2. Broadly, these are persons who do not meet the presumptive case definition and do not have a positive test for COVID-19; it might be negative, pending, or indeterminate. Serology might be the only documented test; except in the case of MIS-C, a positive serologic result is not case-defining (see §3.6).

If a provider calls about a patient with compatible symptoms who has not been tested for COVID-19 or if a close contact is symptomatic but does not meet the presumptive case definition, encourage them to pursue testing.

If the suspect case is created from an ELR for a negative result, no follow-up is required. We expect to identify and follow contacts through contact tracing. See Figure 4 for a visual representation of this workflow.

1. Management in Opera

For all suspect cases identified by an indeterminate test result, create a new case in Opera with the condition "Coronavirus," subtype/result "COVID-19/Indeterminate," status "Suspect."

For all suspect cases reported by providers, create a new case in Opera with the condition "Coronavirus," subtype/result "COVID-19/Pending test," status "Suspect." If test results are negative, update subtype/result to "COVID-19/Negative test"; if positive, refer to §4.4. All suspect cases should remain isolated while hospitalized or until 24 hours after fever is gone and symptoms are improving, whichever is longer (see §5.1 for details).

2. Following Up Specific Test Results

* It is understood that the local public health administrator may and often will delegate this function.
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Indeterminate or inconclusive RT-PCR, NAAT, or antigen results require LPHA follow-up.

If the case is created from an indeterminate or inconclusive result, it will be counted a suspect case. LPHAs should investigate to determine why the result was indeterminate and whether a follow-up test will be performed. Indeterminate or inconclusive results can suggest the presence of SARS-CoV2 RNA in quantities insufficient for the RT-PCR, NAAT, or antigen test to be positive. If possible, it is recommended to collect a new specimen and test that on an RT-PCR or NAAT platform. If no additional testing is to be performed or the results are still indeterminate or inconclusive, a contact investigation should be initiated (§4.4.2), though suspect cases **with** indeterminate test results will not be included in counts of confirmed and presumptive cases. Contact with a suspect, indeterminate case is not enough of an epi-link for a symptomatic person to be considered a presumptive case.

3. Testing Suspect Cases

OSPHL testing is prioritized for high-priority individuals, defined in §7, and in support of outbreak investigations. Testing is generally reserved for symptomatic persons, but testing may be approved for asymptomatic persons in support of outbreak investigations. See [Guidance for providers regarding COVID-19 testing](#) for details.

We expect that healthcare facilities and other employers will take responsibility for any testing needed by their own staff.

LPHAs should call OHA for pre-approval for any specimens being sent to OSPHL from patients who do not meet prioritization criteria. Testing at clinical laboratories may be ordered by clinicians at their discretion and does not require OHA approval.

4.4 LPHA Follow-Up with Confirmed and Presumptive Cases

Presumptive cases who have not been tested should be encouraged to seek testing.

When following up with confirmed cases that do not have an associated lab report (i.e., they have verbal or eCR report of a positive case), LPHAs should endeavor to find the lab report as soon as possible. If a paper or .pdf version is obtained, please attach it to the Opera case and create a manual laboratory report. See Figure 5 for a visual representation of this workflow.

For confirmed MIS-C cases whose only positive test is serology, do not pursue contact tracing. Offer testing to household contacts.

1. Interviewing

LPHAs **shall** interview all confirmed and presumptive cases to ascertain clinical and epidemiologic details, to try to ascertain source of the infection, and to identify any close contacts. **An interview is required for all cases except those incarcerated at the time of report. This can be of the patient, an authorized family member, or the patient's healthcare provider.** LPHAs should also provide the Case Letter (Appendix 4) to confirmed cases.

If the confirmed or presumptive case has not already been entered as a suspect coronavirus case in Opera, create a new case in Opera with the condition "Coronavirus," subtype "COVID-19," status "Confirmed" or "Presumptive." If a person who tested positive

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was already entered as a suspect case, first delete the result field (i.e., negative test, pending test, indeterminate test, etc.) then update the status to “Confirmed.” All confirmed and presumptive cases, regardless of symptoms, should remain isolated while hospitalized or until meeting criteria for discontinuation of isolation, whichever is longer (see §5.1 for details).

2. Contact Investigations

Obtain the name, address, and telephone number of all persons who have had close contact to the confirmed or presumptive COVID-19 case from 48 hours prior to a case’s symptom onset, or for asymptomatic cases prior to the collection of the first specimen that tested positive, to the time the case was placed in isolation. **If a healthcare exposure is identified, including one occurring during medical transportation, notify the employer to ensure that all healthcare contacts are identified and notified.**

Enter **all contacts** into Opera as Contacts. See §4.2.2 for information on how to manage these contacts.

3. Isolation of Confirmed and Presumptive Cases

All confirmed and presumptive cases, including asymptomatic cases, should be isolated until they meet criteria for discontinuation of isolation (see §5.1.2 and 5.1.3). In short, cases should avoid contact with other people until at least 10 days since their symptom onset or first positive test have passed, and they have been afebrile without the use of antipyretics with other symptoms resolving for at least 24 hours.

For **those with severe to critical illness—including** those who were hospitalized for their **COVID-19** illness—or who are severely immunocompromised, the **minimum** period of isolation is 20 days. That is, these cases should isolate until at least 20 days since symptom onset or first positive test, whichever is earlier, and they have been afebrile without the use of antipyretics with other symptoms resolving for at least 24 hours.

Except in rare situations, a test-based strategy for discontinuation of isolation is not recommended. Many confirmed cases in Oregon and elsewhere have tested persistently positive **by NAAT** for many weeks after their first positive test, but they are highly unlikely to be contagious. To meet the criteria for test-based discontinuation of isolation, a confirmed case must have two negative RT-PCR or NAAT results at least 24 hours apart, after the case has become afebrile without the use of antipyretics, and other symptoms have improved.

4.5 LPHA Follow-Up on Positive Serologic Tests

No follow-up is required in response to a positive serology. If a positive serology report is received, it might be worthwhile to contact the provider to determine why the serology was ordered and whether an RT-PCR, NAAT, or antigen test was also ordered.

4.6 Assessment of Recovery

ACDP has contacted confirmed cases identified before May 1, 2020, to assess whether they met the definition of recovery that applied to them (being afebrile without the use of antipyretics and having resolution of cough, shortness of breath, and diarrhea for at least 72 hours). This

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status, as well as the recovery date, was updated as recovery was identified. If a case had met the definition of recovery, and then suffered a COVID-19-related death (§7), recovery status was marked “no.” **These data are available in OHA COVID-19 Weekly Reports.**

As recovery does not inform public health follow-up, recovery status will no longer be assessed.

4.7 OHA Reporting to CDC

OHA will electronically report all known COVID-19 cases and deaths to CDC through the National Notifiable Diseases Surveillance System (NNDSS). CDC’s Emergency Operations Center (EOC) will be notified at 770-488-7100 only if assistance or guidance is needed.

5. CONTROLLING FURTHER SPREAD

Below is a description of how to manage isolation of cases and quarantine of contacts. Testing above and beyond this guidance is neither recommended by public health nor should it be required. That is, once a case has met criteria for discontinuation of isolation, or a contact has completed their quarantine period, they should not be required to test negative before return to school or work.

Given that viral nucleic acid or antigen is not reliably detectable throughout the course of SARS-CoV-2 infection, it is difficult to glean actionable information from negative test results. As such, negative test results do not influence case definitions or duration of isolation or quarantine.

5.1 Isolation of Cases

1. Hospitalized Cases

Transmission of SARS-CoV-2 is presumed to occur primarily via respiratory droplets. Patients with suspected COVID-19 should be placed under standard, contact, and droplet precautions, and HCW should also use eye protection. Performing or assisting with an aerosol-generating procedure warrants airborne precautions, including an N95 or higher - level respiratory protection. Any necessary aerosol-generating procedures (§7) should be undertaken in an airborne infection isolation room, if available. Additional PPE considerations are provided in [Clinical Care and Healthcare Infection Prevention and Control for COVID-19](#). Transmission-based precautions should continue to be followed until discontinuation of isolation criteria are met.

2. Cases not requiring hospitalization

COVID-19 cases who do not require hospitalization should isolate themselves at home except to receive medical care; **this means that, during their period of isolation, workers should not report to work, and students should not attend in-person school.** Cases should follow the [Interim Guidance for Implementing Home Care of People Not Requiring Hospitalization for Coronavirus Disease 2019 \(COVID-19\)](#). When possible, COVID-19 cases should take care to not handle pets or other animals while sick. Refer to CDC’s guidance on what to do [If You Are Sick or Caring for Someone](#) for comprehensive guidance.

3. Discontinuation of isolation

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Confirmed and presumptive COVID-19 cases should remain under home isolation for at least 10 days after illness onset and until 24 hours after fever is gone, without use of antipyretics, and COVID-19 symptoms (cough, shortness of breath, and diarrhea) are improving. If a confirmed case is asymptomatic or only has symptoms other than fever, cough, shortness of breath, and diarrhea, they should be isolated for 10 days after the collection date of the specimen that tested positive. **Subsequent positive tests in the 90 days after the earlier of first positive test or symptom onset do not affect the recommended period of isolation.**

For cases with severe to critical illness – including cases hospitalized for their COVID-19 illness – or who are severely immunocompromised, the period of isolation is 20 days.

As described in the [CDC Decision Memo](#), an estimated 95% of severely or critically ill patients, including some who are severely immunocompromised, no longer had replication-competent virus 15 days after onset of symptoms; no patients had replication-competent virus more than 20 days after onset of symptoms.

Based on this research, it is recommended to use symptom-based release from isolation rather than the test-based strategy.

4. Rare Exemptions to Work During Isolation

There is no blanket exception for confirmed and presumptive cases who are HCW or other essential workers to work during their isolation period. When crisis-level staffing shortages are identified, asymptomatic cases or cases well enough to work may return to work, if willing, during their isolation period at the discretion of the local **public health administrator, consistent with OAR 333-019-0014**. **They should still isolate outside of work.** The following criteria must be met to implement this strategy:

1. Local and regional staffing options have been exhausted and there remain insufficient staff to provide safe patient care or essential services.
2. Cases will not have contact with or provide care or services to populations susceptible to COVID-19.
 - Facility or employer must have a plan to prevent contact between COVID-19 positive and negative individuals.
3. The facility or employer has informed staff about use of this strategy, the associated risks, and the steps being taken to reduce the risk.
4. The facility or employer has provided education to COVID-19 positive staff that they may transmit disease to others, even without symptoms, and that they should otherwise observe home-isolation instructions given by the LPHA.
 - This includes limiting contact while traveling to and from work.
5. All individuals should be masked while in the facility. Careful monitoring should be conducted to ensure that staff are appropriately wearing masks:
 - Masks should cover nose and mouth, and they should not be pulled down around the chin.
 - Staff should avoid touching the mask. If readjustment is necessary, they should immediately perform hand hygiene.

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- If mask needs to be removed (e.g. for meals), they should observe strict physical distancing and disinfect areas before leaving.

Once confirmed and presumptive cases meet the criteria for discontinuation of isolation, they may return to their regular lives. As discussed above, additional testing or isolation is not recommended.

5.2 Managing Cases After Discontinuation of Isolation

1. Quarantine within 90 days after their original case

If a confirmed or presumptive case achieves discontinuation of isolation and is later exposed to another case, we do not recommend **quarantine and** monitoring if the exposure happened within 90 days of symptom onset or first positive test, whichever is earlier, for their original case. If they develop symptoms during this period, they should **isolate** until they have been afebrile without the use of antipyretics and have improving cough, shortness of breath, or diarrhea for 24 hours.

2. Becoming a case after 90 days have passed since onset of the original case

If a previously confirmed or presumptive case meets **the confirmed or presumptive** case definition more than 90 days after symptom onset or first positive test for their original case, create a new, separate case for them in Opera. **Investigate this case, including isolating the case and tracing and quarantining contacts, as described in §4.4.**

5.3 Managing Outbreaks

When two or more confirmed or presumptive cases in different households are identified with an epi-link, **obtain an outbreak number**. Investigate the [Respiratory Disease Outbreak](#) including attaching the outbreak **number** to each confirmed **and** presumptive case in the Opera case record. If 28 days have elapsed since the last onset of a confirmed or presumptive case, the outbreak will be considered closed. **For the following situations, the threshold to obtain an outbreak number is lower:**

- One case who lives or works in a congregate setting
- One case who works in a food-processing or agricultural setting
- One case who attends, works at, or volunteers at a childcare facility
- One case who attends, works at, or volunteers at a school

Use the epi-link type for all cases, regardless of their proximity to an outbreak, to indicate the type of exposure. When linking cases to an outbreak, include the outbreak number for all first- and second-generation cases associated with the outbreak. **These terms describe a case's proximity to the place of exposure. First-generation cases are those that have the shared exposure; for example, these are workers at a worksite outbreak, or children and staff at a daycare that has an outbreak, even if those cases have onsets spread over time. Second-generation cases do not share the original exposure but have close contact to a first-generation case.** Cases beyond the second generation should not have the outbreak number added to their case.

LPHAs must disclose the identity of cases who are employees, contractors, or volunteers to employers when there is an outbreak, as they will have information necessary to assist in identifying individuals who may have been exposed. For purposes of this disclosure

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requirement, an outbreak includes one case **who lives or works** in a congregate setting, a workplace with two or more cases **in workers**, one case **who works** in a food-processing or agricultural setting, and one case **who attends, works at, or volunteers at** a childcare setting **or in a school**. When disclosing information to an employer it is a best practice to share the information with a person in the Human Resources or Employee or Occupational Health department or, if no such department exists, someone in management.

See §6 for how to manage outbreaks in special situations, including congregate residential facilities (§6.4), workplaces (§6.5), and agricultural production operations (§6.6).

5.4 Assessing the Potential for Worksite Outbreaks

Worksites have been a major setting of outbreaks. It is important to ask cases and contacts about their place of employment. Opera has fields for Industry and Occupation that can help guide this conversation. It is helpful to ask about factors like the density of workers and patrons, the frequency of handling shared items or equipment, whether masks are required, and how easily **and frequently** touched surfaces are decontaminated.

6. MANAGING SPECIAL SITUATIONS

6.1 Healthcare Facility Infection Control

Key considerations for infection control can be found in the OHA provisional guidance document: [Clinical Care and Healthcare Infection Prevention and Control for COVID-19](#).

6.2 Pregnant Persons

Information is currently insufficient to determine whether pregnant persons are more susceptible than others to COVID-19, nor is there information on how having COVID-19 might affect pregnancy outcomes. Pregnant persons should engage in usual preventive actions to avoid infections, including frequent hand washing and avoiding people who are sick.

Information about vertical transmission of COVID-19 is also limited. To our knowledge the virus has not been detected in amniotic fluid or the breast milk of persons with COVID-19. The virus could presumably be transmitted to a newborn via close contact. Testing is recommended for all neonates born to women with confirmed or presumptive COVID-19, regardless of whether there are signs of infection in the neonate. See the CDC guidance [Evaluation and Management Considerations for Neonates At Risk for COVID-19](#) for details.

6.3 Transportation by EMS

If a confirmed case is transported by EMS, LPHAs should inform the EMS agency about the case for the purpose of contact tracing and risk assessment by the agency. Additionally, LPHAs should inform EMS agencies in their jurisdiction if a confirmed case is identified at a long-term health care facility such as a nursing home so that EMS may take appropriate precautions when responding to additional calls from these locations. Complete risk questions in Opera to indicate whether a patient arrived at a healthcare facility “by ambulance.”

6.4 Investigating Outbreaks of COVID-19-like Illness in Congregate Settings

COVID-19 can present with a broad range of symptoms (see §3.2), making identification of outbreaks difficult. You should have a low threshold for investigation when there is a cluster of illnesses in a congregate setting. Because COVID-19 and influenza-like illness (ILI: fever,

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along with cough or sore throat) are similar, it is a priority to investigate any CLI or ILI in LTCFs and other congregate settings because they may indicate an outbreak of either; see §6.7 for guidance specific to outbreaks in correctional facilities. Respiratory specimens should be collected from all ill persons in such outbreaks to be tested for COVID-19; and, during influenza season, for influenza; and perhaps for other pathogens.

When a case is identified in a resident or staff member of a congregate setting, provide the facility with appropriate infection control recommendations (see LTCF COVID-19 Response Toolkit at the [COVID-19 Healthcare Partners](#) page).

1. Identifying outbreaks

If the confirmed or presumptive case is identified in a resident or staff member of a congregate setting, LPHA should **create an outbreak in the Opera Outbreaks database** to facilitate tracking and linking to other residents or staff who become symptomatic or get tested. Often, identification of a single case has led to the recognition of other cases and prompt institution of control measures. If no more cases are identified within 14 days of the single case, the outbreak will be closed.

LPHAs are encouraged to establish relationships with their Community Developmental Disabilities Programs to support investigations in congregate settings of people with intellectual and developmental disabilities.

Please remember that while influenza itself is not reportable, ILI outbreaks are reportable. If an ILI outbreak is identified, call the regular ACDP line (971-673-1111) to report the outbreak.

2. Testing guidance

Please be aware of [Oregon Administrative Rules, Chapter 411, Division 60](#) regarding COVID-19 testing in licensed assisted living facilities, nursing facilities, and residential care facilities. Copying from the rule:

[A] Facility must implement COVID-19 testing of all Residents, Facility Staff and Associated Staff within 72 hours of identification of a new case of COVID-19 in either a Resident, Facility Staff or Associated Staff. A testing strategy should be developed with the Facility's Local Public Health Authority as new cases are identified.

As resources allow, facilities should conduct weekly serial testing on all residents and staff who have previously tested negative until two consecutive weeks with no new positive cases in either staff or residents.

3. Discontinuation of isolation

Confirmed and presumptive COVID-19 cases should remain under home isolation for at least 10 days after illness onset and until 24 hours after fever is gone, without use of antipyretics, and COVID-19 symptoms (cough, shortness of breath, and diarrhea) are improving. If a confirmed case is asymptomatic or only has symptoms other than fever, cough, shortness of breath, and diarrhea, they should be isolated for 10 days after the collection date of the specimen that tested positive. Subsequent positive tests do not affect the recommended period of isolation.

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For cases with severe to critical illness—including cases hospitalized for their COVID-19 illness—or who are severely immunocompromised, the period of isolation is 20 days. If a case lives in a congregate setting but does not have severe to critical illness or is not severely immunocompromised, the recommended period of isolation is 10 days.

Based on current research, it is recommended to use symptom-based release from isolation rather than the test-based strategy.

6.5 Workplace Outbreak Recommendations for COVID-19 Testing

In general, workplace outbreaks of two or more people are situations that may warrant testing of some of the employees who work in the affected facility. Each situation is different, and this decision should be made in collaboration between the affected facility and the LPHA. The facility and the LPHA should coordinate on logistics of collecting and shipping the specimens. Initial testing should focus on high-risk workers, including those with respiratory symptoms and coworkers potentially exposed to known cases.

6.6 Investigating Outbreaks of COVID-19-like illness in food-processing or agricultural settings

It is a priority to investigate any cases of COVID-19 in these settings, because the identification of a single case has often led to the recognition of many other cases and represents an opportunity to enact control measures promptly. CRRU will coordinate communication with other state agencies and inform regulatory partners, including ODA and OR-OSHA as appropriate. Consult the [Playbook for Joint Timely Response Protocol for COVID-19 Outbreak in Food Processing Establishments](#) for details of interagency coordination.

To support early identification and investigation of outbreaks, response to a single confirmed or presumptive case in these settings should include the following:

- **Creating** an outbreak in the **Opera Outbreaks database** to facilitate tracking. (If a single case is used to initiate an investigation, and no other cases are identified after 14 days, the outbreak will be closed.)
- Excluding cases **and contacts** of COVID-19 from work until they have been released from isolation. As appropriate, the LPHA may contact employers to facilitate the exclusion of cases **and contacts**.
- Collecting respiratory specimens from all ill persons to be tested for COVID-19.
- Providing the facility with appropriate infection-control recommendations.

6.7 Managing cases associated with the Oregon Department of Corrections

When there is a case of COVID-19 in an Oregon Department of Corrections (ODOC) facility, ODOC will perform a contact investigation within the facility, including a preliminary case interview to identify basic information about the case and contact tracing. Upon release, LPHAs can use this information to support their efforts (§6.7.2 below). **While the case is incarcerated, set the institution of residence to the ODOC facility.**

When ODOC knows that a case or contact will be released soon, they will contact **CRRU** with the pertinent information. ODOC will also contact Community Corrections with contact information and the person's status. LPHAs are encouraged to establish relationships with their **local** Community Corrections **office**.

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If a case is identified in a local correctional facility not under ODOC jurisdiction, the LPHA should work with Community Corrections to investigate the case.

1. *Counting and reporting of cases in Corrections*

Cases are counted in the county in which they are diagnosed. ODOC might move adults in custody between ODOC facilities for case management purposes, but these cases do not transfer jurisdictions for reporting purposes.

2. *Managing and investigating cases and contacts*

CRRU will create confirmed and presumptive cases based on ODOC information. If any close contacts are going to be released during their quarantine period, CRRU will create a Person Under Monitoring case in Opera. Consult ARIAS workflow documents for guidance on how to ensure that Persons Under Monitoring are properly exported from Opera on the appropriate date.

LPHAs are encouraged to coordinate with Community Corrections ahead of the release of a case or contact from the ODOC facility to establish a plan to connect with the case or contact upon release.

Upon release, LPHAs should establish contact with cases and contacts and follow the relevant guidance in §4. Any close contacts the case encounters during their isolation period should be added to Opera as Contacts, and they will be actively monitored in Opera or ARIAS like any other contact.

6.8 Cases who fly or travel across state lines

If a confirmed or presumptive case is determined to have flown during their transmissible period (see §7), collect details about the travel, including the dates and times of the flight or flights, departure and arrival airports, the airlines, the flight numbers, and the case's seat numbers. Include all of this in the Travel section of the Risks tab in Opera. Create a to-do in the Notes section for that case and assign it to Steven Rekant who will relay the information to CDC's DGMQ.

Similarly, if a confirmed or presumptive case travels to another state, create a to-do in the Notes section for that case with the details of the case's travel and assign it to Steven Rekant.

7. GLOSSARY OF TERMS

Aerosol-generating procedures:

Include, but are not limited to:

- Intubation, extubation, and related procedures such as manual ventilation and open suctioning
- Cardiopulmonary resuscitation
- Tracheotomy and tracheostomy procedures (insertion, open suctioning, removal)
- Bronchoscopy
- Surgery and post-mortem procedures involving high-speed devices
- Some dental procedures (such as high-speed drilling)

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- Non-invasive ventilation (NIV) such as bi-level positive airway pressure (BiPAP) and continuous positive airway pressure ventilation (CPAP)
- High-frequency oscillating ventilation (HFOV)
- High-flow nasal oxygen (HFNO), i.e., oxygen delivered through high-flow nasal cannula (HFNC)
- Induction of sputum
- Medication administration via continuous nebulizer

Close contact:

- Being within 6 feet of a COVID-19 case during their period of transmissibility (see below) for a prolonged period of time. For purposes of LPHA investigation we are arbitrarily drawing the line at ≥ 15 minutes; persons exposed for shorter periods may be considered “close contacts” at LPHA discretion. **This time is cumulative over the period of contagiousness and does not have to be consecutive.** Close contact can include caring for, living with, visiting, or sitting within 6 feet of a confirmed COVID-19 patient; or
- Having direct contact with infectious secretions of a COVID-19 case (e.g., being coughed on).

COVID-19-related death: A death is considered to be related to COVID-19 in any of the following circumstances:

- death of a confirmed or probable COVID-19 case within 60 days of the earliest available date among exposure to a confirmed case, onset of symptoms, or date of specimen collection for the first positive test;
- death from any cause in a hospitalized person during admission or in the 60 days following discharge AND a COVID-19-positive laboratory diagnostic test at any time since 14 days prior to hospitalization; or
- **death of someone with a COVID-19-specific ICD-10 code listed as a primary or contributing cause of death on a death certificate, regardless of the dates of diagnosis or death.**

COVID-19-related hospitalization: If the patient is admitted to an acute care facility following an ER or outpatient visit, then the patient has been hospitalized. A case would not be considered hospitalized if admitted for a <24-hour observation period only. A case would be considered hospitalized if admitted for ≥ 24 hours in an observation unit or ER. A COVID-19-related hospitalization is defined as:

- Any confirmed case hospitalized within 14 days of any positive test or who tests positive during their hospitalization; or
- Any presumptive case hospitalized within 14 days of their illness onset.

Discontinuation of isolation: Discontinuation of isolation can be assessed in two ways:

Symptom-based discontinuation of isolation: Someone who was symptomatic is considered no longer contagious when it has been 10 days from their symptom onset, and they have been afebrile without use of antipyretics and have had improving cough, shortness of breath, or diarrhea for 24 hours. If the person was never symptomatic, they are released from isolation 10 days after the first specimen that tested positive was collected. **For those with severe to critical illness—including those who were**

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hospitalized for their COVID-19 illness—or who are severely immunocompromised, the recommended period of isolation is 20 days.

Test-based discontinuation of isolation: Someone is considered no longer contagious when they have been afebrile without use of antipyretics, their other symptoms have improved, and they have had two consecutive RT-PCR or NAAT results with specimens collected at least 24 hours apart. This is not recommended for use in the general public and should be reserved for hospital and long-term care facility settings to inform infection prevention practices.

Note: Except in rare situations, the test-based discontinuation of isolation is not recommended.

Health care worker (HCW): Any paid or unpaid person serving in a healthcare setting who has the potential for direct or indirect exposure to patients or infectious materials, including body substances (e.g., blood, tissue, and specific body fluids); contaminated medical supplies, devices, and equipment; or contaminated environmental surfaces. HCWs may include, but are not limited to, emergency medical service personnel, nurses, nursing assistants, physicians, technicians, therapists, personal support workers, home care workers, phlebotomists, pharmacists, students and trainees, veterinarians, dentists, contractual staff not employed by the health care facility, and persons (e.g., clerical, dietary, environmental services, laundry, security, maintenance, engineering and facilities management, administrative, billing, and volunteer personnel) not directly involved in patient care but potentially exposed to infectious agents that can be transmitted between HCWs and patients.

High-Priority Individuals

People with symptoms in the groups listed below should be prioritized for testing.

- Healthcare workers and first responders (EMS, public safety workers)
- Residents, staff, children, or other people in a congregate setting (e.g., healthcare facility, residential care facility, school, agricultural workers, food-packing plants, childcare, corrections, shelters, etc.)
- Workers who provide direct care or service in multiple group facilities or who provide in-home services (e.g. hospice care workers, physical or occupational therapists, in-home personal care workers, etc.)
- Essential front-line service workers who have regular contact with large numbers of people (e.g., those working in grocery stores, pharmacies, food service, transportation, delivery, and other critical infrastructure services)
- People 65 years of age or older
- People with underlying medical conditions, including, but not limited to hypertension, diabetes, cardiovascular disease, lung disease, and immunocompromising conditions
- People who identify as Black, African-American, Latino, Latina, Latinx, American Indian/Alaska Native, Asian, Asian-American, or Pacific Islander
- People who identify as having a disability
- People whose first language is not English
- Pregnant women
- People whose condition requires hospitalization

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- People who within 14 days of their symptom onset had close contact with a person with laboratory-confirmed COVID-19 or a person determined by a public health authority to be a presumptive case

Period of transmissibility: This is the time when cases can transmit disease to others. For symptomatic cases, this begins 48 hours prior to symptom onset. For asymptomatic cases, this begins 48 hours prior to the collection of the first specimen that tested positive. The period of transmissibility extends until the case has met criteria for discontinuation of isolation.

Physical distancing: Remaining out of congregate settings, avoiding mass gatherings, and maintaining distance (approximately 6 feet) from others to the greatest extent possible. Physical distancing measures reduce opportunities for person-to-person virus transmission and can help slow the spread of the disease, as well as save lives.

REFERENCES

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2. CDC main page for COVID-19: www.cdc.gov/coronavirus/2019-ncov/index.html
3. COVID-19 Resource Centre at *The Lancet*: www.thelancet.com/coronavirus
4. 2019 Novel Coronavirus (COVID-19) at the *New England Journal of Medicine*: www.nejm.org/coronavirus
5. ODE and OHA, Planning for COVID-19 Scenarios in Schools: www.oregon.gov/ode/students-and-family/healthsafety/Documents/Planning%20and%20Responding%20to%20COVID-19%20Scenarios%20in%20Schools%20August%202020.pdf
6. ODE and OHA, Ready Schools, Safe Learners: www.oregon.gov/ode/students-and-family/healthsafety/documents/ready%20schools%20safe%20learners%202020-21%20guidance.pdf

UPDATE LOG

September 18, 2020. Clarified the recommended isolation period for cases who live in congregate settings, updated language to reflect that all jurisdictions are on ARIAS, defined first- and second-generation in the context of linking cases to outbreaks, added required data elements for outbreak reporting, added the definition of COVID-19-related hospitalization, sundry edits (Steve Rekant)

July 23, 2020. Changed all mentions of Orpheus to Opera, updated discontinuation of isolation criteria for symptoms from 72 hours to 24 hours, deemphasized test-based discontinuation of isolation and added the longer minimum period for specific groups, included new testing rules and guidance, added positive antigen tests to the confirmed case definition and added language about any test developed under an FDA EUA, added description of criteria for possible work exemptions for quarantine and isolation, sundry edits (Steve Rekant)

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- July 2, 2020. Clarified language around using test-based discontinuation of isolation in LTCFs, added requirement for LPHAs to share information with employers (Steve Rekant)
- June 24, 2020. Added details about investigating outbreaks, added references to ARIAS, clarified definition of suspect and presumptive cases including information about antigen testing, added MIS-C, disentangled discontinuation of isolation and assessment of recovery, harmonized language across sections, sundry edits (Steve Rekant)
- May 1, 2020. Added presumptive case definition and revised recommended follow-up with contacts, defined recovery and clarified release from isolation, defined COVID-19-related deaths, clarified language around testing, added required follow-up for close contacts. (Steve Rekant, Kelly Cogswell)
- April 1, 2020. Added language for emergency rule regarding reporting deaths and hospitalizations; reduced expectations for follow-up of potentially exposed persons; clarified language regarding testing in clusters; removed negative influenza test as a requirement for automatic testing approval at OSPHL; modified exposure period per new CDC guidance; added revised flowcharts. (Steve Rekant, Madeline LeVasseur, Amanda Faulkner, Rebecca Pierce)
- March 23, 2020. Changed requirements for LPHA follow-up and investigation of PUMs, suspect cases, and confirmed cases. Updated guidance on monitoring and restrictions of exposed persons. Updated criteria for testing at OSPHL and overall testing prioritization recommendations. Changed language from PUI to suspect case and changed suspect and confirmed case definitions (Madeline LeVasseur, Steve Rekant, Amanda Faulkner, Orion McCotter)
- March 12, 2020. Added information about other laboratories. Sundry edits. (Steve Rekant)
- March 8, 2020. Edited testing criteria, PUM, PUI definitions. Updated guidance for discontinuation of isolation. Sundry edits. (Kelly Cogswell, Alexia Zhang)
- March 3, 2020. Clarified contact tracing requirements. Added case classification table. Added definition of a presumptive case. Sundry edits. (Tasha Poissant, Madeline LeVasseur)
- February 28, 2020. Updated PUI case definition and testing criteria. Updated testing availability at the OSPHL. Added current list of geographic areas with widespread or sustained community transmission. (Tasha Poissant, Madeline LeVasseur)
- February 20, 2020. Provided guidance on discontinuation of isolation for PUIs or COVID-19 cases and pregnant persons, and revised figures. (Alexia Zhang, Madeline LeVasseur, Steve Rekant)
- February 12, 2020. Clarified expectations of LPHAs regarding contacting PUMs, provided guidance on interpreting testing, and revised figures. (Amanda Faulkner, Steve Rekant, Alexia Zhang)
- February 7, 2020. Provided minor clarifications to date of PUM guidance implementation, DGMQ PUM forms, and Figures. (Amanda Faulkner, Steve Rekant)

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February 6, 2020. Modification of PUM criteria, monitoring, and self-quarantine guidance.
Updated §2.5 *Incubation Period*. Minor edits for clarity. (Amanda Faulkner, Steve
Rekant, Alexia Zhang)

January 2020. First draft. (Nicole West, Amanda Faulkner, Steve Rekant)

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Appendix 1: Required outbreak reporting elements

- Basics tab
 - Etiology
 - Case counts
 - First and last onset date
 - Location details
 - Exposure locations (i.e., location of outbreak)
 - Residence locations (i.e., location of exposed people)
 - Contact information for outbreak site
 - Number of employees or persons in a facility
 - Exposure sites (i.e., type of location)
 - Brief overview
- Etiology tab
 - Etiology = Coronavirus
 - Type of testing performed
 - Any comments
- Cases tab
 - All the Opera cases linked with the outbreak number
 - If used, a case log should also be completed
 - Confirmed and presumptive case counts
 - Age
 - Sex
 - Deaths
- Methods tab
 - Check all that apply
 - Be sure to identify if a HAI investigation was performed
 - Note by whom: facility, LPHA, OHA HAI
- Documentation tab
 - Provide a basic timeline of the outbreak and investigative communications or pertinent notes. The more information provided in this field, the better as we are trying to be as thorough as possible with documentation.
 - Attach any relevant records such as provider notifications, press releases
 - Attach external investigation documents like epi curves and inspection reports

Appendix 2 Revised: Interpreting test results

Test type	Result	Epi-link to a confirmed case	Clinical signs	Opera Subtype/Result	Opera Status	Investigate	Isolate
RT-PCR or NAAT*	Positive	n/a	n/a	COVID-19	Confirmed	YES	YES
RT-PCR or NAAT	Indeterminate or Inconclusive	n/a	n/a	COVID-19/Indeterminate	Suspect	YES	YES
RT-PCR or NAAT	Negative	n/a	n/a	COVID-19/Negative	Suspect	NO	NO
Antigen	Positive	n/a	n/a	COVID-19	Confirmed	YES	YES
Antigen	Indeterminate or Inconclusive	n/a	n/a	COVID-19/Indeterminate	Suspect	YES	YES
Antigen	Negative	n/a	n/a	COVID-19/Negative	Suspect	NO	NO
n/a	n/a	YES	At least two of: shortness of breath, cough, fever, new loss of smell or taste, radiographic evidence of viral pneumonia	COVID-19	Presumptive	YES	YES
Serology	Positive	n/a	n/a	COVID-19/Positive serology	Suspect	NO	NO
Serology	Equivocal	n/a	n/a	COVID-19/Testing not done [†]	Suspect	NO	NO
Serology	Negative	n/a	n/a	COVID-19/Testing not done	Suspect	NO	NO

Notes:

- This assumes the patient does not meet the presumptive case definition with symptoms and epi-link (§3.4).
- Any person with any COVID-19 symptoms, regardless of test results should remain isolated until 24 hours after fever is gone and symptoms are resolving. If they are a confirmed or presumptive case, see §5.1.3.

Appendices 3 & 4: Contact and Case Letters

Letter templates are available on our [COVID-19 Healthcare Partner page](http://healthoregon.org/coronavirushcp) (<http://healthoregon.org/coronavirushcp>) in the section for Local Public Health Authorities and Tribes.

* e.g., a polymerase chain reaction (PCR) test.

† This status refers to RT-PCR, NAAT, or antigen testing.

Figure 1: Case Definitions














 Confirmed case	 Presumptive case	 Suspect case <p>Someone who does not meet the confirmed or presumptive case definition who has any of the following:</p>
<div data-bbox="168 641 451 885" style="border: 1px solid black; padding: 5px; text-align: center;">  Positive RT-PCR or NAAT test </div> <p style="text-align: center;">OR</p> <div data-bbox="210 1047 409 1258" style="border: 1px solid black; padding: 5px; text-align: center;">  Positive antigen test </div> <p style="text-align: center;">OR</p> <p style="text-align: center;">Diagnosis of MIS-C</p>	<div data-bbox="630 706 829 966" style="border: 1px solid black; padding: 5px; text-align: center;">  <u>Specific</u> COVID-19 symptoms </div> <p style="text-align: center;">AND</p> <div data-bbox="619 1144 840 1356" style="border: 1px solid black; padding: 5px; text-align: center;">  Epi-linked to confirmed case </div> <p style="text-align: center; color: red;">September 2020</p>	<div data-bbox="1018 698 1207 958" style="border: 1px solid black; padding: 5px; text-align: center;">  <u>Any</u> COVID-19 symptoms </div> <p style="text-align: center;">AND</p> <div data-bbox="1386 706 1554 917" style="border: 1px solid black; padding: 5px; text-align: center;">  No test </div> <div style="display: flex; align-items: center; justify-content: center; margin: 10px 0;"> <div style="border-left: 1px solid gray; height: 80px; width: 2px;"></div> </div> <div data-bbox="1722 706 1942 982" style="border: 1px solid black; padding: 5px; text-align: center;">  Negative or indeterminate NAAT or antigen test </div> <hr style="border: 1px solid gray; margin: 10px 0;"/> <div data-bbox="1018 1144 1218 1356" style="border: 1px solid black; padding: 5px; text-align: center;">  Any antibody test </div> <div style="display: flex; align-items: center; justify-content: center; margin: 10px 0;"> <div style="border-left: 1px solid gray; height: 80px; width: 2px;"></div> </div> <div data-bbox="1375 1136 1596 1429" style="border: 1px solid black; padding: 5px; text-align: center;">  Epi-linked to confirmed or presumptive case </div> <p style="text-align: center;">AND</p> <div data-bbox="1753 1144 1921 1380" style="border: 1px solid black; padding: 5px; text-align: center;">  Test is pending </div>

Figure 2: Flowchart: DGMQ notifications

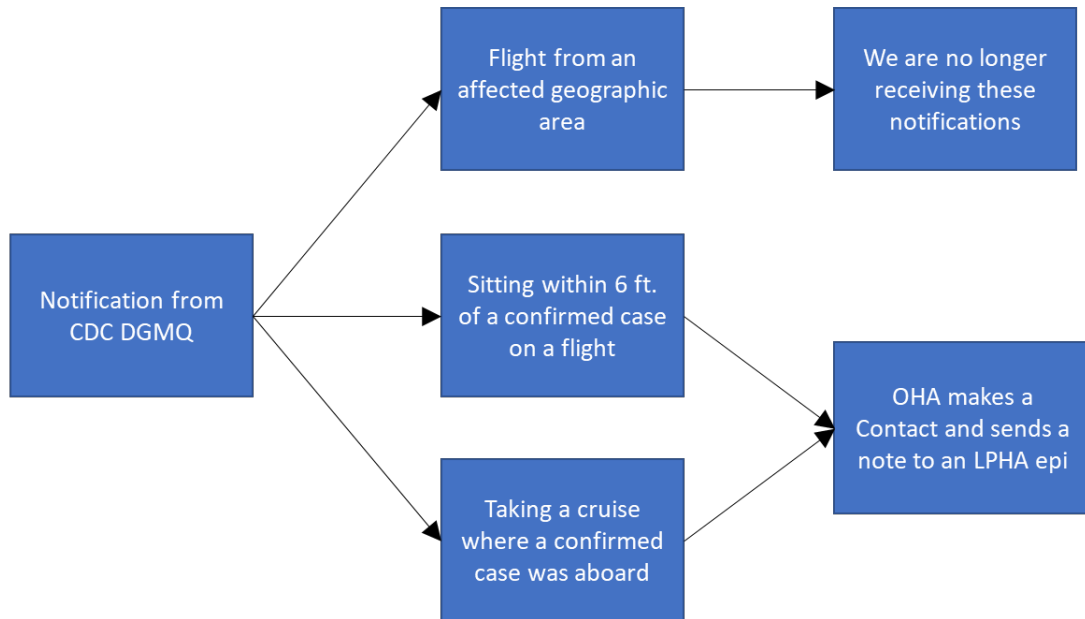


Figure 3: Flowchart: Symptom checks for close contacts of Confirmed and Presumptive cases

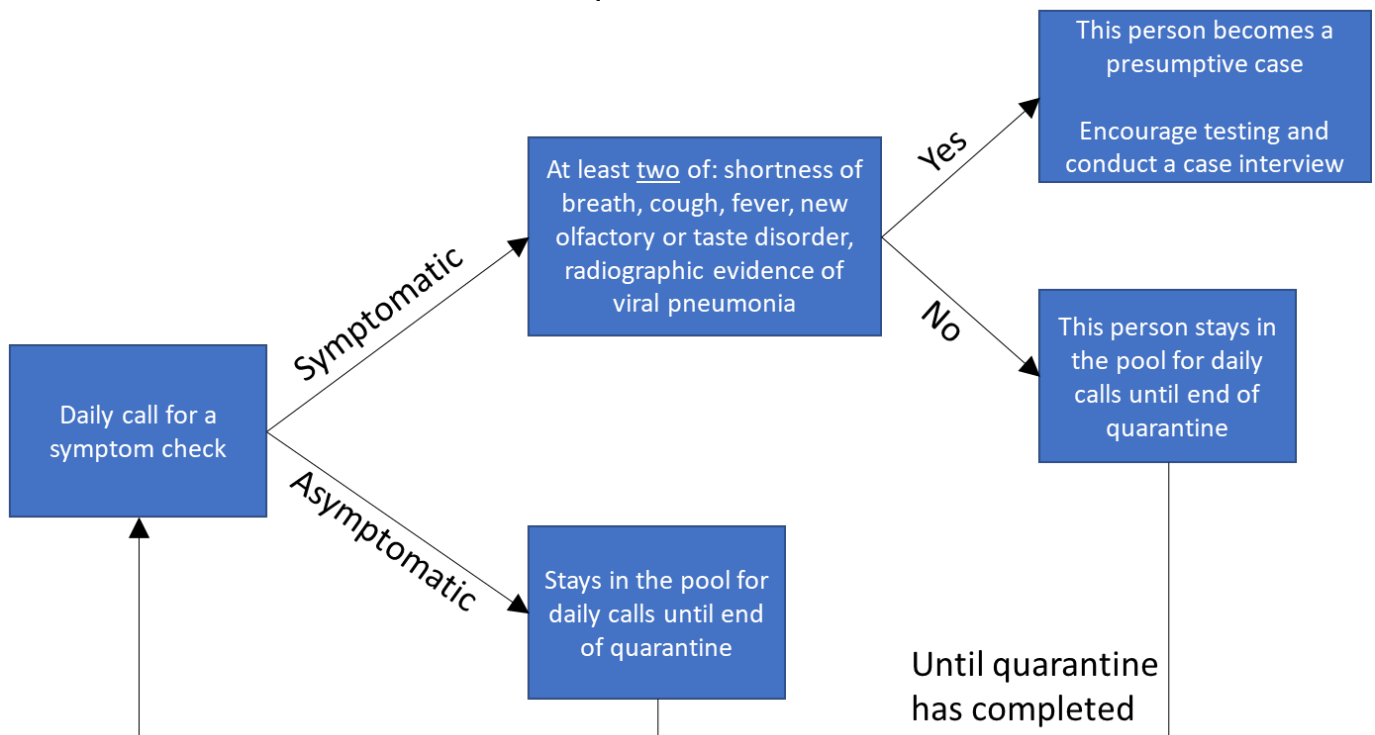


Figure 4: Flowchart: Negative test results for people not identified in contact tracing

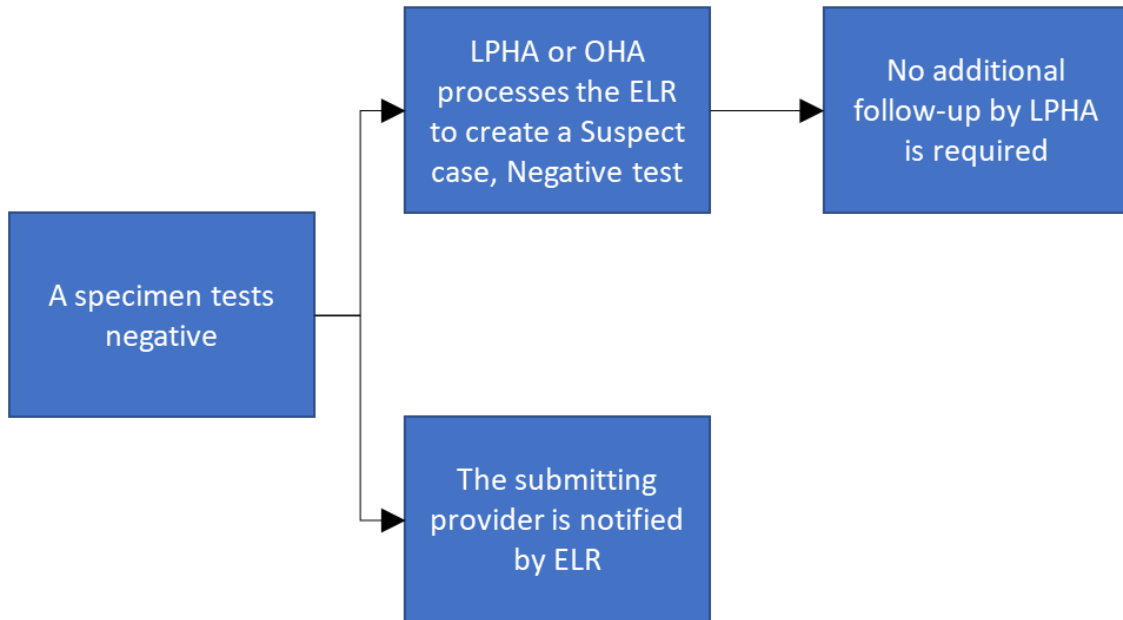
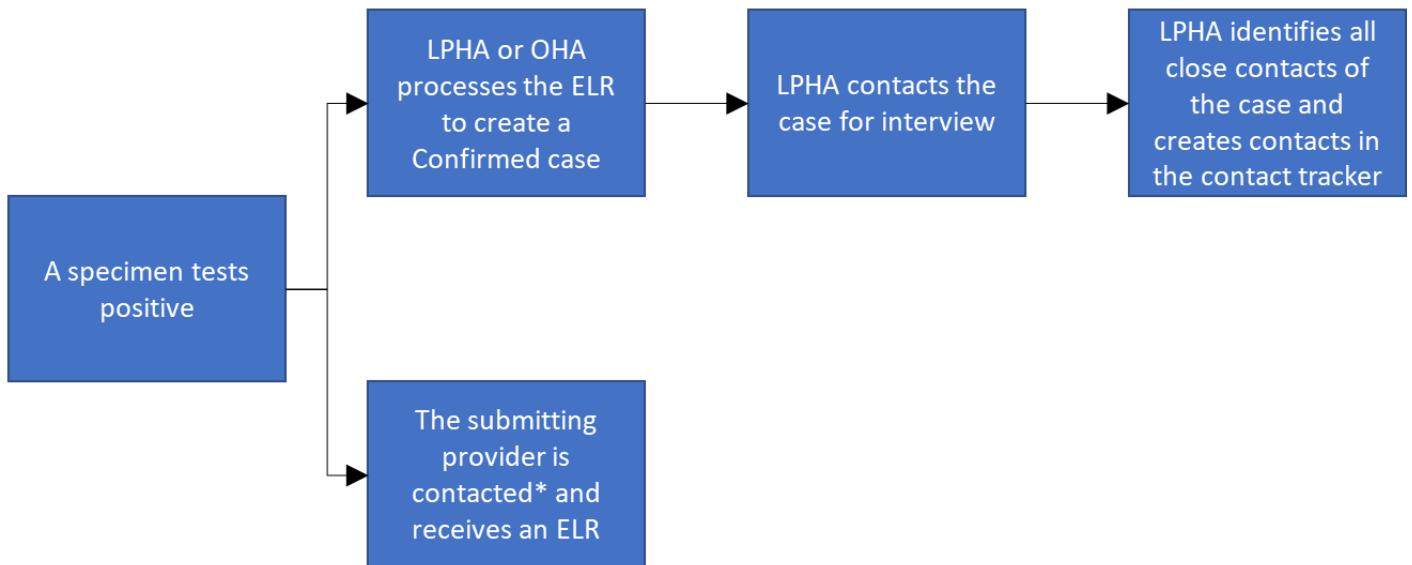


Figure 5: Flowchart: Positive test results



* The method of contact (phone call, fax, electronic report) varies by laboratory.