1. DISEASE REPORTING

1.1 Purpose of Reporting and Surveillance

1. To identify persons with novel coronavirus infection, prevent transmission to others, improve health outcomes where possible, and better understand the epidemiology of this emerging disease.
2. To identify those with risk of exposure to novel coronavirus 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 COVID-19 cases to the local public health authority (LPHA) within 24 hours. They should immediately notify infection control personnel at their healthcare facility. 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 all hospitalizations and deaths, defined in §7, among persons with COVID-19 within 1 working day—whether or not the case was previously reported. 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 compatible with a presumptive case, follow the steps below.

Suspect COVID-19 cases

1. Suspect cases are automatically created from ELR or called in by providers reporting a symptomatic person without an epi-link.
2. For provider-reported cases, encourage the person to get tested.
3. Otherwise, there is no follow-up for suspect cases.

Presumptive and Confirmed COVID-19 cases

1. Begin investigation of confirmed and presumptive COVID-19 cases, as defined in §3 below, immediately.
2. Report all presumptive and confirmed cases immediately by entering them into Orpheus with disease “Coronavirus” and subtype “COVID-19.”
3. 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.
4. Educate and consult with local providers and facilities to promote compliance with isolation and infection-control procedures.
5. Educate confirmed and presumptive cases on how to protect their close contacts through self-isolation, and how to inform those contacts how to watch for symptoms and how to seek care safely.
6. Enter details of the investigation and contact follow-up into Orpheus.
8. Process electronic case reports (eCRs) in Orpheus, including updating test results and hospitalization status and recording deaths.

1.4 State Public Health Division Responsibilities

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 CDC or other states.
3. Process electronic case reports (eCRs) in Orpheus, including creating a case in Orpheus and approving testing for patients who meet testing criteria, adding hospitalization status, and recording deaths.
4. Assist LPHAs in processing Electronic Laboratory Reports of COVID-19 test results.
5. Forward confirmed case data to state Emergency Medical System (EMS) Program for identification of any potentially exposed EMS transports; and forward such information to LPHA for follow-up.
6. Develop and maintain information systems for case and contact surveillance and to ensure adequacy of response activities.
7. Identify close contacts from CDC DGMQ notifications as appropriate.
8. Advise LPHA, Tribal, and private-sector health professionals concerning:
   - Quarantine of asymptomatic exposed persons (close contacts);
   - Isolation of symptomatic persons;
   - Protection of healthcare personnel;
   - Diagnostic evaluation;
   - Required reporting and surveillance activities;
   - Contact identification and follow-up.
9. Coordinate interjurisdictional monitoring plans for close contacts who move out of county or state.
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 COVID-19 cases and deaths to CDC.
14. Assess recovery status of confirmed and presumptive cases.

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. Early cases were associated with a large seafood and live animal market. The market was closed January 1, 2020, and person-to-person spread has since been confirmed. 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 COVID-19 virus has been named “SARS-CoV-2.”

2.2 Description of Illness
Symptoms may include fever (defined throughout as a temperature of ≥100°F or 37.8°C), sore throat, dry cough, dyspnea, myalgias, and fatigue. Fever may not be present in the very young, very old, immunosuppressed, or people taking antipyretics. Gastrointestinal symptoms have been reported by some patients prior to developing fever and lower respiratory tract signs and symptoms—i.e., pneumonia, generally with patchy, multilobar infiltrates on chest X-ray. Published case series indicate that cases tend to have lymphopenia. Reported complications have included acute respiratory distress syndrome, cardiac events, and death.

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 the COVID-19 virus 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 is probably primarily via 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 the COVID-19 virus) suggest that coronaviruses may persist on surfaces for a few hours or up to several days. Experimental studies have also indicated that when intentionally aerosolized the virus may be detectable in aerosols for a prolonged period, but transmission through the airborne route by coughing patients is not thought to be a major route of transmission. The virus is commonly detectable in feces of infected persons; and the possibility of transmission from feces, blood, or other body fluids has not been ruled out.

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
Published data from 425 patients found a mean incubation period of 5 days with a 95th percentile of the distribution of 12 days. From this study and what we know of other coronaviruses, the typical incubation period is 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 many patients for a few weeks following resolution of symptoms. That said, transmission appears most likely when patients are coughing.

3. CASE DEFINITIONS, DIAGNOSIS, AND LABORATORY SERVICES

3.1 Close contact
A close contact is a person with an epidemiologic exposure to the COVID-19 virus. The exposure may be close contact (see §7 for details) with a confirmed case or with their infectious secretions or clinical specimens; or designation as a close contact by CDC. See §4.2 for guidance on classifying and monitoring close contacts.

3.2 Suspect Case
A suspect case is a person with:

- New onset of symptoms consistent with COVID-19, including:
  - Cough or shortness of breath or difficulty breathing
  - OR
  - At least two of: fever, chills, repeated shaking with chills, muscle pain, headache, sore throat, or new loss of taste or smell
  - AND
- No more likely diagnosis
  - AND
- No identified close contact (§7) with a case.
  - OR

- A negative or indeterminate nucleic acid amplification test (NAAT)* test result
  - AND
- No identified close contact (§7) with a case.

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 case with COVID-19 laboratory-confirmed by NAAT at any laboratory that has successfully verified the CDC testing panel; or by a Laboratory Developed Test under the FDA Emergency Use Authorization.

* e.g., a polymerase chain reaction (PCR) 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 that clearly identifies a positive lab result, the case will be considered confirmed.

Note: If the electronic case report does not clearly identify a lab result, consider the person a Suspect case with a Pending Test. See §4.3 for details.

For public health purposes, treat a person with an Indeterminate test result as if their specimen tested positive. See Appendix 3 for details on how to interpret test results.

Note: Indeterminate test results will not be included in case counts.

### 3.4 Presumptive Case

A presumptive case is a person without a positive COVID-19 test result,† with:
- An acute illness featuring at least two of the following: shortness of breath, cough, fever, new olfactory or taste disorder, 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, or had close contact (see §7) with a confirmed case.

If a presumptive case tests positive for COVID-19, update the case’s status to confirmed. If a presumptive case is tested for COVID-19 and tests negative, the case remains presumptive.

### 3.5 Laboratory Testing

**Testing Guidance for Local Health Departments**

Testing through the Oregon State Public Health Laboratory (OSPHL) must be approved by ACDP. Please call ACDP at 971-673-1111 for approval.

**Testing Guidance for Clinicians and Health Systems**

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 homepage](#).

**Testing at OSPHL**

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](#). Current guidance for specimen collection, handling, and transport is posted on OSPHL’s [Lab Test Menu](#) and in the [CDC guidance on specimen collection, storage, and handling](#).

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

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† 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.
respiratory specimens include combined NP and oropharyngeal (OP) swabs, OP swab alone, nasal mid-turbinate swab, anterior nares specimen, nasopharyngeal wash or nasal aspirate.

In consideration of its testing capacity and demand, OSPHL requests that only one specimen be submitted per patient. If several specimens from a single patient are submitted, OSPHL will test only the most preferred specimen.

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 case is identified, regardless of symptom onset date.

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.

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

- All specimens should be stored at 2–8°C pending transport and shipped on an ice pack for receipt at OSPHL as soon as possible. Specimens should be received at OSPHL within 72 hours of collection but may be refrigerated for up to 7 days.
- 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 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 biohazard bag. Do not put the form in the sealed portion of the bag with the specimen.
- 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.

Note: 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.
Guidance Regarding Serologic Tests
Serologic tests are still being evaluated. While they can usually be used to identify current or previous infections for other conditions, data about COVID-19 serologic tests are too few to make case determinations from them. As we learn more, we will update this guidance.

4. CASE INVESTIGATION

4.1 Data Access and Processing

Because of the importance of awareness and likelihood that contacts and cases might move, all counties will have “All View/All Edit” access to cases of Person Under Monitoring and Coronavirus in Orpheus.

If an LPHA processes an eCR that is a request for testing at OSPHL, create a To-do in Orpheus and assign it to an ACDP epidemiologist involved in the response.

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 new system, referred to here as the contact tracking system, for tracing contacts is being developed. Until it is fully operational, Orpheus will be used to track contacts.

4.2 LPHA Follow-Up with Close Contacts

1. Travel Notifications from CDC’s Division of Global Migration and Quarantine (DGMQ)

LPHAs are required to follow up only 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 the contact tracking tool and assigned to the LPHA for follow-up.

LPHAs are no longer required to monitor residents who return from “affected geographic regions.”

2. Persons Identified during Contact Investigations

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

Once you identify a close contact, enter the person into Orpheus using the Contact tab and create a Person Under Monitoring case for that contact. Use Orpheus for follow-up of contacts until the contact-tracking tool is fully operational. Provide a Contact Letter (Appendix 1) to the person.

Active monitoring is required for all close contacts. 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 tracking tool. If a close contact reports 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.

If a close contact develops symptoms consistent with COVID-19, they meet the presumptive case definition (see §3.4). This new presumptive case should be entered into Orpheus, and the case and contact investigations should be initiated. If the new presumptive case tests positive for COVID-19, they will become a confirmed case. If the close contact is tested for COVID-19 and tests negative, they will remain a presumptive case unless a more likely alternative diagnosis is made (e.g., influenza).

On the 14th day after their last exposure, the LPHA should confirm with the close contact that they have remained afebrile and asymptomatic. If they remained asymptomatic, tell them they have completed monitoring. If they developed symptoms, evaluate whether they meet the definition of a presumptive case (§3.4).

If a contact cannot be reached, mail a contact letter (Appendix 1) to the contact’s last known address.

4.3 LPHA Follow-Up with Suspect Cases

Suspect cases are persons as defined in §3.2 with compatible symptoms and without an epidemiologic link to a confirmed or presumptive case or a positive test for COVID-19; the test result may be pending or indeterminate.

If a provider calls about a patient with compatible symptoms who has not been tested for COVID-19, 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 tracking.

If the suspect case is created from an ELR for an indeterminate 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. If no additional testing is to be performed, a contact investigation should be initiated (§4.4.2).

1. Management in Orpheus
   For all suspect cases identified by an indeterminate test result, create a new case in Orpheus with the condition “Coronavirus,” subtype/state “COVID-19/Indeterminate,” status “Indeterminate.”

   For all suspect cases reported by providers, create a new case in Orpheus with the condition “Coronavirus,” subtype/stage “COVID-19/Pending test,” status “Suspect.” If test results are negative, update subtype/stage to “COVID-19/Negative test”; if positive, refer to §4.4. All suspect cases should remain isolated while hospitalized or until 72 hours after fever is gone and symptoms resolve, whichever is longer (see §5.1 for details).
2. High-Priority Individuals
These persons, as defined in §7, are high priority for investigation and, if symptomatic, for testing.

3. Testing
OSPHL testing is prioritized for symptomatic residents, staff, children, or others in congregate-care, child-care or correctional facilities, group living settings, migrant or seasonal farm worker camps, or schools; patients seen at tribal or other American Indian health centers; and in support of LPHA investigations. In some cases, testing may be approved for asymptomatic persons in these settings. 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 Orpheus case and create a manual laboratory report.

1. Interviewing
LPHAs should attempt to 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. LPHAs should also provide the Case Letter (Appendix 2) to confirmed cases.

If the confirmed or presumptive case has not already been entered as a suspect coronavirus case in Orpheus, create a new case in Orpheus with the condition “Coronavirus,” subtype “COVID-19,” status “Confirmed” or “Presumptive.” If a person who tested positive was already entered as a suspect case, first delete the “Pending Test,” then update the status to “Confirmed.” All symptomatic persons, including confirmed and presumptive cases, should remain isolated while hospitalized or until 72 hours after fever is gone and symptoms resolve, 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 to the time the case was placed in isolation.

These people should be entered into Orpheus as Contacts and should be further evaluated as suspect cases if at any time they develop symptoms compatible with COVID-19. Until the contact tracking system is fully operational, these contacts should be monitored in Orpheus.

3. Monitoring of Persons Identified in Contact Investigations
Guidance on monitoring and restrictions differs for healthcare workers 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, and this guidance is being archived.

Healthcare facilities should consider foregoing contact tracing for exposures in a healthcare setting in favor of universal source control for healthcare workers and screening for fever and symptoms of COVID-19 before every shift. Additional infection prevention and control recommendations, including more details about universal source control in healthcare settings are available.

Symptomatic healthcare workers must stay home from work until 72 hours after both fever and cough have resolved. Testing of the healthcare worker is the responsibility of the employer: it may be undertaken at employer discretion and expense.

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

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 a NAAT was also ordered.

4.6 Assessment of Recovery
ACDP will regularly contact confirmed cases to assess whether they have met the definition of “recovery” (§7). This status, as well as the first date without symptoms, will be updated as recovery is identified.
If a case has met the definition of recovery, and then they suffer a COVID-19-related death (§7), their recovery status will be marked “no.” If the death is reported to the LPHA, the LPHA should check that recovery status is “no.”

4.7 OPHD Reporting to CDC

ACDP 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 immediately at 770-488-7100 only if assistance or guidance is needed.

5. CONTROLLING FURTHER SPREAD

5.1 Isolation of Cases

1. Hospitalized Cases

Transmission of SARS-CoV-2 (the COVID-19 virus) is presumed to occur primarily via respiratory droplets. Patients with suspected COVID-19 should be placed under standard and contact precautions, and healthcare workers should also use eye protection. Any necessary aerosol-generating procedures (§7) should be undertaken in an airborne infection isolation room. For confirmed cases, unless negative COVID-19 test results are obtained on specimens collected at least 24 hours apart, this isolation should be continued for the duration of the patient’s hospitalization.

2. Cases not requiring hospitalization

COVID-19 cases who do not require hospitalization should isolate themselves at home except to receive medical care; and should follow the Interim Guidance for Implementing Home Care of People Not Requiring Hospitalization for 2019 Novel Coronavirus (2019-nCoV). When possible, COVID-19 cases should take care to not handle pets or other animals while sick. Refer to the Interim Guidance for Preventing the Spread of Coronavirus 2019 (COVID-19) in Homes and Residential Communities for comprehensive guidance.

3. Discontinuation of isolation

Suspect, presumptive, and confirmed COVID-19 cases should remain under home isolation for at least 10 days after illness onset and until 72 hours after fever is gone, without use of antipyretics, and COVID-19 symptoms (fever, 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. At this time, replication competent virus has not been successfully cultured >9 days after onset of illness. The statistically estimated likelihood of recovering replication competent approaches zero by 10 days.

Once a person meets the criteria for discontinuation of isolation, they will be considered “recovered.” The exception to this is asymptomatic healthcare workers. As described in §4.4.3.A, healthcare workers who are asymptomatic might return to work (i.e., end their isolation) before 10 days after the specimen that tested positive was collected. They will not be marked as “recovered” in Orpheus until 10 days have elapsed since their positive specimen was collected.
5.2 Quarantine and Monitoring of Contacts

Contacts of cases should be identified and entered in Orpheus as Contacts, as described in §4.2. Cases and contacts should be educated regarding basic preventive measures: social distancing (§7), cough etiquette, hand washing, sanitizing of frequently touched surfaces, and how to self-isolate if they develop symptoms. Active monitoring of close contacts is required (§4.2).

6. MANAGING SPECIAL SITUATIONS

6.1 Healthcare Facility Infection Control

Key considerations for infection control can be found in the Provisional Guidance: 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.

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 tracking 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 Orpheus to indicate whether a patient arrived at a healthcare facility “by ambulance.”

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

COVID-19-like illness (CLI) has been defined as with fever, along with cough, shortness of breath, or difficulty breathing. Because CLI and influenza-like illness (ILI: fever, along with cough or sore throat) are similar, it is a priority to investigate any CLI or ILI in LTCFs, prisons, jails, and other congregate settings because they may indicate an outbreak of either. 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.

To support early identification of outbreaks, response to even a single suspect case in these settings should include the following:

- entering the suspect COVID-19 case into Orpheus;
- verifying the absence of additional suspect cases that would warrant immediate “outbreak” designation; and
- providing the facility with appropriate infection control recommendations (see LTCF COVID-19 Response Toolkit at www.healthoregon.org/coronavirus).
If the suspect case tests positive for COVID-19, LPHA should strongly consider requesting an outbreak number from ACDP to facilitate tracking and linking to other suspect cases as they arise. Often, identification of a single case has led to the recognition of other cases and prompt institution of control measures. Outbreak numbers can easily be removed from ACDP’s “Outbreaks” database after 14 days if no other cases are identified.

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.

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)
- 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), also called high-flow nasal cannula
- Induction of sputum
- Medication administration via continuous nebulizer

**Close contact**:
- Being within 6 feet of a COVID-19 case for a prolonged period of time. CDC has not defined "prolonged," but 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. “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).

Note: “healthcare personnel exposure” is defined as the provision of patient care to or prolonged, close contact with a COVID-19 case without appropriate personal protective equipment. Be sure to follow up on any EMS contact with the case when notified by OHA.

**COVID-19-related death**:
- **For community**: 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; or someone with a COVID-19-specific ICD-10 code listed as a primary or contributing cause of death on a death certificate
• **For hospitalized:** 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.

**High-Priority Individuals**
Persons who warrant closer investigation. They include, but are not limited to:
- residents, inmates, or staff in long-term-care facilities, correctional facilities, and other high-risk congregate settings
- workers in critical infrastructure
- persons hospitalized with otherwise unexplained, apparently viral, pneumonia; and unattended deaths
- persons at risk for severe complications of COVID-19:
  - Persons ≥60 years of age
  - Persons with underlying medical conditions (e.g. those who have cardiac or respiratory conditions, are diabetic, have blood disorders, or are immunocompromised).
- pregnant women

**Recovery:** Recovery can be assessed two ways:
- **Symptom-based recovery:** Someone who was symptomatic is considered recovered when it has been 10 days from their symptom onset and they have been afebrile without use of antipyretics and improving cough, shortness of breath, or diarrhea for 72 hours. If the person was never symptomatic, they are considered recovered 10 days after the last specimen that tested positive was collected.
- **Test-based recovery:** Someone is considered recovered when they have been afebrile without use of antipyretics and their other symptoms have improved, and they have had two negative tests, collected at least 24 hours apart.

Note: If someone has a COVID-19-related death, they should not be considered recovered. See §4.6 for details.

**Physical distancing:** Remaining out of congregate settings, avoiding mass gatherings, and maintaining distance (approximately 6 feet) from others to the greatest extent possible. Social 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**
5. OHA Provisional Guidance: Clinical Care and Healthcare Infection Prevention and Control for COVID-19:

UPDATE LOG

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)


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)

January 2020. First draft. (Nicole West, Amanda Faulkner, Steve Rekant)
Appendices 1 & 2: Contact and Case Letters

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

Appendix 3: Table: Interpreting test results

<table>
<thead>
<tr>
<th>Test result</th>
<th>Orpheus Subtype/Result</th>
<th>Orpheus Status</th>
<th>Public health follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>COVID-19</td>
<td>Confirmed</td>
<td>Investigate to identify close contacts</td>
</tr>
<tr>
<td>Indeterminate (no epi-link)</td>
<td>COVID-19/Indeterminate test</td>
<td>Suspect</td>
<td>Investigate the case as if it were a positive.</td>
</tr>
<tr>
<td>Indeterminate (epi-linked)</td>
<td>COVID-19</td>
<td>Presumptive</td>
<td>Investigate to identify close contacts</td>
</tr>
<tr>
<td>Negative (no epi-link)</td>
<td>COVID-19/Negative test</td>
<td>Suspect</td>
<td>No investigation needed</td>
</tr>
<tr>
<td>Negative (epi-linked)</td>
<td>COVID-19</td>
<td>Presumptive</td>
<td>Investigate to identify close contacts</td>
</tr>
<tr>
<td>Pending test</td>
<td>COVID-19/Pending test</td>
<td>Suspect</td>
<td>No investigation needed</td>
</tr>
<tr>
<td>Unsatisfactory specimen</td>
<td>COVID-19/Testing not done</td>
<td>Suspect</td>
<td>No investigation needed</td>
</tr>
<tr>
<td>No test submitted</td>
<td>COVID-19</td>
<td>No case</td>
<td>No investigation needed</td>
</tr>
<tr>
<td>Positive serology (IgG, IgM, IgA)</td>
<td>COVID-19/Positive serology</td>
<td>Suspect</td>
<td>Inquire why testing was done and if NAAT was done, too.</td>
</tr>
</tbody>
</table>
Appendix 4: Flowchart: DGMQ notifications

- Notification from CDC DGMQ
  - Flight from an affected geographic area
  - Sitting within 6 ft. of a confirmed case on a flight
  - Taking a cruise where a confirmed case was aboard
  - We are no longer receiving these notifications
  - OHA makes a Contact and sends an unassigned note to the LPHA unless the LPHA has identified specific persons to assign notes to
Appendix 5: Flowchart: Processing eCR test requests

- eCR is submitted
  - The patient meets testing criteria
    - OHA creates a case (Suspect case, Pending test) and adds a note → Testing approved and email notification sent to OSPHL
  - The patient does not meet testing criteria
    - OHA creates a case (No case), and adds a note → Testing not approved at OSPHL*

* If LPHA reviews the details and wants to pursue testing at another laboratory, they should contact the submitter.
Appendix 6: Flowchart: Positive test results

A specimen tests positive

LPHA or OHA processes the ELR to create a Confirmed case

LPHA contacts the case for interview

LPHA identifies all close contacts of the case and creates contacts in the contact tracker

* The method of contact (phone call, fax, electronic report) varies by laboratory.
Appendix 7: Flowchart: Negative test results for people not identified in contact tracing

1. A specimen tests negative
2. The submitting provider is notified by ELR
3. LPHA or OHA processes the ELR to create a Suspect case, Negative test
4. No additional follow-up by LPHA is required
Appendix 8: Flowchart: Symptom checks for close contacts of Confirmed and Presumptive cases

Daily call for a symptom check

Symptomatic

At least two of: shortness of breath, cough, fever, new olfactory or taste disorder, radiographic evidence of viral pneumonia

Yes

This person becomes a presumptive case
Encourage testing and conduct a case interview

No

This person stays in the pool for daily calls until end of quarantine

Asymptomatic

Stays in the pool for daily calls until end of quarantine

Until quarantine has completed