Alberta

Public Health Disease Management Guidelines

Coronavirus – COVID-19

Alberta

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Coronavirus, Novel Public Health Disease Management Guideline
https://www.alberta.ca/notifiable-disease-guidelines.aspx

For further information on the use of this protocol contact:
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Case Definition

NOTE: Alberta Health will update this guideline as new information becomes available on the situation.

Confirmed Case

A person with confirmation of infection with the virus (SARS-CoV-2) that causes COVID-19 by:

- Detection of at least one specific gene target by a validated nucleic acid amplification tests (NAAT) (e.g. real-time PCR or nucleic acid sequencing) performed at a community, hospital or reference laboratory (NML or a provincial public health laboratory)

OR

- A positive result on a validated rapid/point-of-care (POC) NAAT-based assay or antigen test[(A)] that has been deemed acceptable to provide a final result (i.e. does not require confirmatory testing)

[(A)] The performance characteristics of commercial testing kits such as the Simplexa®, GeneXpert®, Aptima or BD Max™ NAT are similar to the COVID-19 lab-developed test being used at Alberta Precision Laboratories (APL) and additional confirmatory testing is not necessary. For more information refer to Rapid COVID-19 Tests. Positive results by the Abbott ID NOW COVID-19 molecular test or the Rapid Antigen tests such as the Abbott PanBio are considered valid and additional confirmatory testing is not required if administered through an Occupational Health and Safety program or by a trained regulated health care professional AND completed under the conditions outlined by Health Canada and in accordance with the manufacturer's instructions. (See Section 2: Testing Modality, Recommendations, Interpretation and Management)

Probable Case[(B)]

- A person (with NO laboratory testing done) with clinical illness[(C)] **who in the last 14 days** had close contact with a lab-confirmed COVID-19 case while the confirmed case was infectious

OR

- A person (with laboratory testing done) with clinical illness[(C)] who meets the COVID-19 exposure criteria

  AND

  - in whom laboratory diagnosis of COVID-19 is inconclusive[(D)]

Suspect Case[(E)]

A person with clinical illness[(C)] **AND**

- who meets the exposure criteria

OR

- who in the last 14 days had close contact with a probable case of COVID-19 while the probable case was infectious

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[(B)]All symptomatic contacts should be tested where feasible to confirm diagnosis. The probable case definition should only be used in the rare circumstances when the laboratory testing cannot be done or is inconclusive but clinical suspicion is high.
[(C)] Clinical illness: Any one or more of the following: fever (over 38 degrees Celsius), new onset/exacerbation of following symptoms: cough, shortness of breath (SOB)/difficulty breathing, sore throat, loss of taste and/or smell or runny nose. **NOTE:** Individuals may present with other symptoms that qualify them to be tested. Refer to Section 2: Testing Modality, Recommendations, Interpretation and Management and Table 2a: Symptom List for COVID-19 Testing for more information.
[(D)] Inconclusive is defined as an indeterminate test on a single or multiple real-time PCR target(s) without sequencing confirmation or a positive test with an assay that has limited performance data available. Ideally, individuals with an indeterminate result will be offered repeat testing and should be isolated at least until test results are available. For any questions or concerns regarding interpreting repeat test results, consult with the MOH/VOC.
[(E)] Suspect cases are NOT reportable and should be tested to confirm diagnosis. Suspect cases should complete the online COVID-19 self-assessment or call 811 to arrange for testing.

Exposure Criteria

In the 14 days[F] before onset of illness, a person who:

- Residing in or returning from a country/an area where COVID-19 is known to be circulating (including other areas of Canada or Alberta)

  OR

- Is a close contact of a person who had acute respiratory illness who resided in or returned from a country/an area where COVID-19 is known to be circulating (including other areas of Canada or Alberta) in the previous 14 days before they became sick

  OR

- Was involved in a COVID-19 outbreak or cluster

  OR

- Had laboratory exposure to biological material (e.g., primary clinical specimens, virus culture isolates) known to contain COVID-19

[F] The incubation period is up to 14 days between infection and the onset of clinical symptoms of the disease; therefore exposure history based on the previous 14 days is recommended.

Reporting Requirements

1. Physicians

Physicians shall notify the Medical Officer of Health (MOH) (or designate) of the zone, of all probable and confirmed cases by the Fastest Means Possible (FMP).

2. Laboratories

All laboratories shall report all positive laboratory results by FMP (e.g., secure electronic notification) to

- the MOH (or designate) of the zone and
- the Chief Medical Officer of Health (CMOH) (or designate).

3. Alberta Health Services (AHS) and First Nations Inuit Health Branch (FNIHB)

- The MOH (or designate) of the zone where the case currently resides shall forward the Public Health Agency of Canada's *Coronavirus Disease (COVID-19) Case Report Form* or use another mutually agreed upon reporting system, to report all probable and confirmed cases to the CMOH (or designate) within 24 hours of initial laboratory FMP notification.
- All out-of-province and out-of-country case and contact reports shall be forwarded to the CMOH (or designate) within 24 hours, using existing protocols i.e., AHS enters information into CDOM if investigation initiated in AB; FNIHB emails information to CD.Data@gov.ab.ca:
  - name,
  - date of birth,
  - out-of-province health care number,
  - out-of-province address and phone number,
  - positive laboratory report, and
  - other relevant clinical / epidemiological information.
- Any new **confirmed COVID-19 outbreaks** shall be reported to Alberta Health via email as soon as possible using HEALTH-AHSCOVIDReporting@gov.ab.ca. In addition, the Alberta Outbreak Report Form (AORF) is still required and should be submitted as soon as possible using existing processes (e.g., CDOM or fax) for reporting and surveillance purposes.

Epidemiology

Etiology

Human coronaviruses are enveloped, ribonucleic acid (RNA) viruses that are part of the *Coronaviridae* Family.[1] There are 7 known human coronaviruses at present:

- Four types that cause generally mild illness- 229E, OC43, NL63 and HKU; and
- Two types that can cause severe illness: Middle East respiratory syndrome coronavirus (MERS-CoV) and severe acute respiratory syndrome coronavirus (SARS-CoV).[1] Refer to the *Public Health Disease Management Guideline for Coronavirus – MERS/SARS* for more information.
- COVID-19 is an illness caused by a coronavirus (SARS-CoV-2) first identified in December 2019, in Wuhan, China as having caused an outbreak of respiratory infections, including pneumonia.[2,3]

Clinical Presentation

Individuals infected with the virus that causes COVID-19 may have few or no symptoms and symptoms may range from mild to severe. In Canada, symptoms that are more commonly reported include fever (44-91%), cough (57-74%), shortness of breath (31-63%), fatigue (31-70%), loss of appetite (39-84%) and loss of sense of smell and/or taste (54-88%).[4] For some of the other symptoms that can be associated with COVID-19 infection, refer to Table 2a: Symptom List for COVID-19 Testing. Complications include severe pneumonia, acute respiratory distress syndrome, sepsis, septic shock, multi-organ failure or death.[5]

Children infected with SARS-CoV-2 typically have mild or no symptoms and account for approximately 1-10% of reported cases.[6] Although rare, severe illness and death have been reported. Since April 2020, there have been reports of children presenting with acute illness with a hyper inflammatory syndrome, leading to shock and multiorgan failure. This has been termed Multi-System Inflammatory Syndrome in children (MIS-C). Some cases have been associated with COVID-19 (often several weeks following a SARS-CoV-2 infection), but a causal link with COVID-19 has not been definitively established. The risk factors associated with developing MIS-C are currently unknown.[7] Research to further understand MIS-C is ongoing.[8–10] For more information refer to the WHO Multisystem inflammatory syndrome in children and adolescents temporally related to COVID-19 and the MIS-C Public Health Disease Management Guideline.

Reservoir

COVID-19 is thought to have emerged from an animal source although this has not yet been confirmed.

Transmission

COVID-19 is transmitted person-to-person primarily via respiratory droplets that are generated when a person coughs, sneezes, talks, shouts or sings. The droplets range in size from large droplets (defined as >5-10 µm in diameter) that spread at close range (i.e., less than 2 metres) to smaller droplets (or aerosols) that in certain circumstances, have the potential to be infectious over longer distances and may be suspended for longer periods of time and can play a role in COVID-19 transmission. These circumstances include aerosol-generating medical procedures (AGMP) or specific settings such as indoor locations that may be poorly ventilated, crowded, where gatherings are taking place for prolonged periods or where heavy breathing or exertion is occurring. For more information refer to the Transmission of SARS CoV-2 and Considerations for aerosol transmission.

COVID-19 can also spread via direct physical contact with another person (e.g., hand shake) or by touching contaminated objects or surfaces and then touching one's own mouth, nose, or possibly eyes.[7] Infected individuals can transmit the virus 48 hours before symptom onset (i.e., presymptomatic) or even if they have an asymptomatic infection (i.e., never developed symptoms) or when their symptoms went unnoticed.[11,12]

Incubation Period

The incubation period ranges from 1-14 days with median estimates of 5-6 days between infection and the onset of clinical symptoms of the disease.[2]

Period of Communicability

The period of communicability may begin up to 48 hours before symptom onset and throughout the symptomatic period, even if symptoms are mild or very non-specific. Studies have shown that after day **eight** of illness/symptoms no live virus was recovered from patients with upper respiratory tract disease or limited lower respiratory tract disease. People with more severe disease are likely to be infectious for a few days longer.[13,14] NAAT positivity from respiratory samples can be prolonged to 3-4 weeks after symptom onset even when no viable virus was detected.[15] There have been case reports of persistent RT-PCR results for up to 82 days after symptom onset.[16,17] Experience from other respiratory viral infections suggests that immunocompromised patients with COVID-19 may shed detectable SARS-CoV-2 viral material and potentially infectious virus longer.[18]

Host Susceptibility

Susceptibility is assumed to be universal. Knowledge on COVID-19 disease continues to evolve and this includes evidence on individuals who are most susceptible to infection and severe outcomes.[7] To date, studies[7,12,19] have found the following:

- Older adults (>60 years) and people with existing chronic medical conditions (e.g., cardiovascular and liver disorders, lung disease, diabetes, high blood pressure, kidney disease, sickle cell disease, dementia or stroke) or immune compromising conditions are more vulnerable to severe COVID-19 illness. The list of chronic conditions above only includes those for which there is sufficient evidence available to conclude a higher level of risk.[7]
- Even though obesity is not well defined in the literature, individuals with a body mass index (BMI) ≥35 have a higher risk of ICU admission/intubation.
- There is no clear evidence on the role that race/ethnicity plays in outcomes of COVID-19 i.e., it is unclear whether any differences in outcomes are due to social determinants of health or biological factors.
- Male biological sex shows low-moderate association for severe outcomes of COVID-19.
- Pregnant women have a higher risk of severe illness compared to non-pregnant women and may also be at an increased for adverse pregnancy outcomes (e.g. preterm birth).
- Generally, children (under 18 years of age) are less susceptible to severe clinical disease than older people.[20] However, some children do have severe outcomes and those with underlying medical conditions are at increased risk for severe illness compared to children with no underlying medical conditions.[7]

Understanding of the immune response in COVID-19 disease is evolving. There are several case reports[21–26] from a few countries of individuals who were infected a second time after having recovered from a first infection. Ongoing COVID-19 studies around the world are working to help establish the frequency and severity of reinfection and who might be at higher risk.

Incidence

For cases reported in Alberta refer to the following link:
https://www.alberta.ca/covid-19-alberta-data.aspx

For cases reported in Canada refer to the following link:
https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html

World Health Organization provides daily updates on global case counts and situation reports:
www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports

Johns Hopkins COVID-19 Case Map
gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6

Public Health Management

NOTE: *This guidance is based on current available scientific evidence and expert opinion and is subject to change as new information on transmissibility and epidemiology becomes available.*[27]

Section 1: Diagnosis

A diagnosis of SARS-CoV-2 infection is based on testing. Acceptable specimen types for COVID-19 testing include Nasopharyngeal (NP) swab, throat swab, NP aspirate, endotracheal tube (ETT) suction/sputum, or bronchoalveolar lavage/bronchial wash (BAL/BW). NP and throat swabs are recommended over nasal swabs for COVID-19 testing. If unable to collect a NP swab or throat swab, a deep nasal swab can be collected instead. It is recommended that hospitalized patients with COVID-19 symptoms be tested with an NP swab. For patients who have a lower respiratory tract infection and are intubated, also submit an ETT suction or BAL/BW.[28] For more information, refer to the lab bulletins on Public Health Laboratories (ProvLab) website.

Section 2: Testing Modality, Recommendations, Interpretation and Management

Molecular, antigen and serology tests have been developed and continue to be developed and approved to test for COVID-19. This section will be updated as more information on tests are developed and approved for use in Canada and Alberta. Molecular tests detect the unique genetic sequence of the SARS-CoV-2 virus and antigen tests detect proteins of the virus. Both can be used to diagnose acute infection. See section on Rapid COVID-19 Tests for more information on molecular tests and rapid antigen tests available in Alberta.

Serology tests do not directly detect the virus but measure antibodies the body produces after infection with the virus. These antibodies can provide evidence of previous or current infection. Since it can take more than a week for antibodies to be produced following infection, serology tests are generally not recommended for use as a diagnostic tool to confirm acute infection.[29] Currently in Alberta, serology tests are mainly used for population serosurveys. Serology testing is available for clinical use for certain situations (e.g., to assist in the diagnosis of children with MIS-C) in consultation with Alberta Precision Labs (APL) microbiologists/virologists. Serology testing is not needed before receiving a COVID-19 vaccine to assess susceptibility to SARS-CoV-2 or after receiving the vaccination to assess immune response to the vaccine.

Testing Performance:

RT-PCR Tests

The overall performance of COVID-19 molecular tests to determine or rule out lab-confirmed COVID-19 cases depends on sensitivity/specificity of the test, stage of illness and the epidemiology of COVID-19 in the population.[30,31]

Based on estimates from the end of June 2020, false negative rate of molecular tests in those with symptoms varies depending on timing and methodology of sampling and is estimated to be approximately 20% (range 10-30%).[G] The following may lead to false negative results:

- insufficient virus at the site of specimen collection or
- insufficient virus at the time of specimen collection (i.e., early in the incubation period or later in the course of illness) or
- incorrect specimen collection.

False negative results pose a challenge in public health management of COVID-19 cases as an individual may still be infected and be infectious to others. If the clinical index of suspicion is high, a negative result should not rule out disease and the test should be repeated.[H]

Although considered extremely rare, false positive results can happen because of non-specific PCR reactions. The proportion of false positive results increases as the prevalence of COVID-19 in the population decreases.[31] If a test is thought to be a false positive, the test should be repeated. For more information refer to the COVID-19 Scientific Advisory Group Rapid Response Report.

[G] From NML/CPHLN Testing 101 Companion Brief document not yet posted

[H] While waiting for results of the repeat test, the suspect case should continue to isolate or if hospitalized, continue to be on droplet and contact precautions.

Serology Testing

Limitations of serology tests include the following:

- They are not useful in the diagnosis of acute COVID-19 infection (see above for more information).
- The relationship of various antibody types, amounts and timing of appearance to immunity is currently unknown.
- The sensitivity of serology testing in immunocompromised individuals or the elderly is currently not known.

Serological assays may be useful in targeted sampling studies in the population to model the spread of the virus and the immune response dynamics to inform the risk of further epidemic waves. They may also be used for retrospective case identification, diagnosing post-infectious complications, and to more accurately determine the prevalence of COVID-19 infection.[31]

Rapid COVID-19 Tests

COVID-19 rapid nucleic acid tests (NAT) such as Simplexa®, GeneXpert®, or BD Max™ are now available in Alberta and provide test results within six hours of receipt at the hospital laboratory. The performance characteristics of these rapid tests are similar to the COVID-19 lab-developed test being used at the APL and additional confirmatory testing is not necessary.[32]

Health Canada has approved a number of rapid tests including the ID NOW™, PanBio™ manufactured by Abbott which are available in certain sites in Alberta. The ID NOW™ is a molecular test which detects SARS-Co-V2 from throat swab specimens and approaches the sensitivity and specificity of lab-based molecular testing done by APL. The PanBio™ an antigen tests which has high specificity but reduced sensitivity (higher rate of false negative results) that detects SARS-Co-V2 from nasopharyngeal specimens. In situations where pre-test probability for COVID-19 infection is high, referral for RT-PCR testing at APL will be necessary to confirm negative results from antigen tests.[29,32,33]

The ID NOW™ and PanBio™ provide results in approximately 15 minutes. These tests are currently indicated for use in individuals who have been symptomatic for less than seven days and are not recommended for use in those who are asymptomatic or who have been symptomatic for more than seven days.[33,34]

Testing Recommendations

Testing is recommended for the diagnosis of individuals with COVID-19 compatible symptoms as listed in Table 2a: Symptom List for COVID-19 Testing. Individuals with these symptoms who are working in high risk settings, including HCWs as well as residents/clients in congregate settings, should always be offered testing to confirm the diagnosis. An individual with symptoms not listed in **Table 2a** such as "COVID toes" or altered mental status may also be considered for testing at the discretion of the individual's clinician.

Table 2a: Symptom List for COVID-19 Testing

Symptoms
- Fever - Cough (new cough or worsening chronic cough) - Shortness of breath/difficulty breathing (new or worsening) - Runny nose - Sore throat - Stuffy nose - Painful swallowing - Headache - Chills - Muscle/joint ache - Feeling unwell/fatigue/severe exhaustion - Nausea/Vomiting/Diarrhea/Unexplained loss of appetite - Loss of sense of smell or taste - Conjunctivitis

Testing in Alberta:

- In Alberta, testing is being done to confirm diagnosis and to track the spread of COVID-19 in the population.
- The following individuals are eligible for testing:
  - any person exhibiting symptoms listed in Table 2a: Symptom List for COVID-19 Testing**.**
  - close contacts of confirmed and probable COVID-19 cases
  - all workers and/or residents at specific outbreak sites including:
    - staff/residents in supportive living (including group homes and lodges), long-term care facilities (nursing homes and auxiliary hospital), hospices, shelters and correctional facilities when a NEW COVID-19 outbreak has been declared,
    - residents/staff in an existing COVID-19 outbreak if transmission appears to still be occurring.
  - New admissions to a congregate living facility e.g. supportive living (including lodges and group homes), long-term care (nursing homes and auxiliary hospital), hospices and correctional facilities. For more information refer to Testing Recommendations for Residents Admitted to a Facility.
  - **NOTE:** Albertans can access private testing for COVID-19 if they are asymptomatic and do not meet the eligibility criteria for testing in the public testing system.
- For more information on management refer to Table 2b: Management of Tested Individuals.

Table 2b: Management of Tested Individuals who are NOT Previous Cases[€]

Symptoms[**]	COVID-19 Test	Management
Symptomatic	Positive	- Manage as a lab-confirmed case.
	Negative	- With known exposure: Should quarantine for 14 days since the last exposure or isolate until symptoms resolve, whichever is longer
		- With no exposure: Strongly recommended to stay at home and limit contact with others until symptoms resolve. Retesting may be considered.
Asymptomatic	Positive	- Manage as a lab confirmed asymptomatic case.
	Negative	- With known exposure: Quarantine for 14 days since the last exposure and monitor for symptoms.
		- With no exposure: Continue with normal activities.

[**]See symptoms listed in Table 2a: Symptom List for COVID-19 Testing

[€]This also applies to resolved cases after 90 days of the initial positive test

Testing and Management of Resolved Cases [I]

- Studies have demonstrated prolonged detection of SARS-CoV-2 RNA in COVID-19 cases even after symptoms have resolved, however in most cases, prolonged RNA detection does not reflect infectious virus. The median range of viral shedding has been reported to be 3-4 weeks after symptom onset, with case reports of persistent RT-PCR results for up to 82 days after symptom onset.[16,17]
- Due to uncertainty regarding immunity after infection and the possible risk of re-infection,[4,35] resolved cases should be advised to take the same precautions to avoid exposure as anyone who has never had COVID-19, including wearing a mask, physical distancing, practicing proper hand hygiene and respiratory etiquette and if they are a HCW to follow IPC recommendations regarding PPE.[36]
- Generally, resolved cases should NOT be re-tested for COVID-19 within 90 days of the initial positive test result. However if the resolved case develops NEW COVID-19 symptoms within the 90 days, testing for other pathogens should be considered depending on symptoms and the setting, and management of these individuals is based on symptoms and diagnosis. For more information refer to Table 2c: Testing and Management of Resolved Cases.

[I] Resolved cases refers to previously lab-confirmed COVID-19 cases that have completed isolation – see Section 4: Management of Cases for more detail.

Table 2c: Testing and Management of Resolved Cases

Timing of test from previous positive result**	New onset of COVID-19 Symptoms¥	Testing Recommendations	Management Recommendations
Less than 90 days	Not applicable (Asymptomatic)	No testing recommended	If inadvertently tested for COVID-19 within 90 days & result positive: - No repeat isolation - No contact follow-up **Note:** positive test result generally indicates residual non-viable virus and this person is considered not infectious and NOT a new case
More than 90 days	Not applicable (Asymptomatic)	Testing indications are the same as for people who have never had COVID-19	- If tested for COVID-19 refer to Table 2b: Management of Tested Individuals and manage according to lab results and exposure. - Exceptions may be made to this management requirement in consultation with the local MOH and other specialists including microbiologists/virologists and infectious disease physicians.
Less than 90 days	Symptomatic	- Generally do not re-test - If re-testing is considered refer to the section on Indications to Re-Test Resolved Cases within 90 days	- Depending on symptoms & setting, consider testing for other pathogens - Manage according to symptoms and diagnosis - If concerned about the risk of re-infection, the individual should isolate while waiting for test results. - Further management is based on lab results and assessment.
More than 90 days	Symptomatic	- COVID-19 - With or without Respiratory Pathogen Panel (RPP)	- Isolate while laboratory and epidemiological investigation is being conducted. - If only COVID-19 is done, refer to Table 2b: Management of Tested Individuals and manage according to lab results and exposure. - Exceptions may be made to this management requirement in consultation with the local MOH and other specialists including microbiologists/virologists and infectious disease physicians.

***This is 90 days from test date which yielded the initial positive result. ¥ Refer to Table 2a: Symptom List for COVID-19 testing*
***NOTE:** It may be possible for a few individuals to shed detectable SARS-CoV-2 viral material longer than 90 days. If suspected to be the case, consultation with the local MOH and other specialists including microbiologists/virologists and infectious disease physicians can help with the management decision*

Indications to Re-Test Resolved Cases within 90 days

- Re-testing for COVID-19 within 90 days from a previous positive test can be considered if a clinician has concerns about the risk of re-infection (i.e., NEW COVID-19 symptoms develop after the person's isolation period) in the following situations:
  - new symptoms develop within 14 days after a NEW exposure (i.e., exposure to a COVID-19 case unrelated to their previous infection)
  - severe COVID-19-like illness or hospitalized
  - anyone with a high degree of interaction with populations who are at high risk of more severe disease or outbreaks (e.g., HCWs, staff and residents in LTC facilities, prisons, shelters, work camps)
  - immunocompromised person

Management of Resolved Cases with New Exposure

- There is growing evidence to support that resolved cases do not need to undergo repeat quarantine if they have a NEW exposure within 90 days of their initial diagnosis.
- Despite millions of COVID-19 cases worldwide, surveillance and investigations have only identified few confirmed cases of re-infection so far. Although currently, it is still unclear whether resolved cases are definitively immune to re-infection, available evidence suggests that most of these individuals would have a certain degree of immunity for at least 90 days after initial diagnosis of COVID-19.
- Therefore, if a resolved case is identified as a close contact (i.e., they have had a NEW exposure unrelated to their previous infection), no repeat quarantine is required if the exposure is within 90 days of their previous positive test result AND they are asymptomatic.[35] *Risks of potential transmission from asymptomatic resolved cases who have a new exposure are likely outweighed by the personal and societal benefits of avoiding repeat quarantine.* (CDC, 2020)
  - They should closely monitor for COVID-19 symptoms for 14 days after the last exposure
  - If any COVID-19 symptoms develop, they should isolate immediately and be re-tested for COVID-19. Refer to the section above for other testing and management recommendations.
- If a resolved case has a NEW exposure more than 90 days from their previous positive test result, manage as any other close contact and quarantine for 14 days from last exposure. Refer to Section 5: Management of Close Contacts.

Testing Recommendations for Residents Admitted to a Facility

- Testing is recommended for all new residents admitted to a congregate living facility e.g., licensed supportive living (including lodges and group homes), long-term care (nursing homes and auxiliary hospital) and hospices, regardless of symptoms upon admission.
- Residents who return to these settings post-hospitalization for non-COVID-19 illnesses are also recommended to be tested whether they have symptoms or not.
- Refer to **Table 2d** below for more information.

Table 2d: Testing Recommendations for Residents Admitted to a Facility

Previous COVID-19 Test Result	Previous Test done < or > 90 days	Testing Recommendations on Admission to Facility
Positive	Less than 90 days	NO
	More than 90 days	Yes
Negative	Less than 90 days	Yes
	More than 90 days	Yes

Section 3: Key Investigation

- Confirm the diagnosis and that individual meets case definition.
- Ensure appropriate clinical specimen(s) have been collected (see Diagnosis Section for more information on specimen collection).
- Obtain history of illness including date of onset of signs and symptoms. See Table 2a: Symptom List for COVID-19 Testing.
- Determine spectrum of illness and if case requires hospitalization or if they can be managed at home.
- Determine any underlying chronic or immunocompromising conditions.
- Determine possible source of infection:
  - Identify recent travel/residence history inside and outside Canada, or contact with a recent traveler outside Canada, including dates of travel, itineraries and mode of transportation (e.g., airplane, train, etc.);
  - Identify type of contact within health care settings with known COVID-19 cases (e.g., work, visiting patient, etc.), if applicable;
  - Recent contact with a known COVID-19 case or a person with COVID-19-like illness
  - Assess if other members in the household have similar symptoms or if there has been any contact with a known COVID-19 case/person with COVID-19 symptoms.
- Determine occupation (e.g., healthcare worker[J] or works with vulnerable individuals i.e., long-term care facilities/continuing care/group homes/shelters)
- Determine possible transmission settings (e.g., flight, household, healthcare setting, community setting, workplace, school, etc.).
- Identify close contacts that may have had exposure to the **confirmed/probable case** 48 hours prior to onset of symptoms in the confirmed/probable case or while the confirmed/probable case was symptomatic and not isolating. Refer to *Table 3a: Definition of Close Contacts.*
- Determine if a **laboratory confirmed case asymptomatic at testing** had two or more of the symptoms listed in clinical illness for at least 24 hours in the **seven** days prior to specimen collection date. (For more information refer to the Management of a Laboratory Confirmed Case Asymptomatic at Testing).
- For public health management of a **laboratory confirmed case asymptomatic at testing** not meeting the criteria of having two or more of the symptoms listed in clinical illness for at least 24 hours in the **seven** days prior to specimen collection, the period of communicability that may be used is 48 hours before laboratory specimen was collected to 10 days after the date of specimen collection. (**NOTE:** The period of communicability may be longer if they develop symptoms during the 10 days after lab specimen collection date).
- Identify close contacts that may have had exposure to a **laboratory confirmed case asymptomatic at testing**[K] between 48 hours before the laboratory specimen collection date and isolation date of that case. Refer to ***Table 3a: Definition of Close Contacts***.

[J] Health Care Workers (HCW) are individuals who provide service in a clinical care setting, including hospitals, clinics, continuing care facilities, licensed supportive living sites (including group homes), public health centers, community assessment centers, and any other settings where face-to-face patient care is provided (including fire fighters and EMS)

[K] Where feasible, contact tracing for asymptomatic cases should include close contacts that were exposed to the case 48 hours before the specimen collection date. If not feasible, the specimen collection date can be used as the starting point for contact tracing.

Table 3a: Definition of Close Contacts[37–40]

DEFINITION OF CLOSE CONTACTS
Individuals that: • provided direct care for the case, (including HCW[J], family members or other caregivers), or who had other similar close physical contact (e.g., intimate partner, hug, kiss, handshake) without consistent and appropriate use of personal protective equipment (PPE), OR • lived with or otherwise had close prolonged[L] contact which may be cumulative, i.e., multiple interactions for a total of 15 min or more over a 24-hour period and within two metres with a case without consistent and appropriate use of PPE and not isolating OR • had direct contact with infectious body fluids of a case (e.g., shared cigarettes, glasses/bottles, eating utensils) or was coughed or sneezed on while not wearing recommended PPE.

- For definition of close contacts in sports teams and schools, refer to the AHS website on Information for Close Contacts of a COVID-19 Case.

[L] As part of the individual risk assessment, consider the duration of the contact's exposure (e.g., a longer exposure time likely increases the risk), the case's symptoms (coughing or severe illness likely increases exposure risk) and whether exposure occurred in a health care setting.

Section 4: Management of Cases

Management of Hospitalized Cases

- Isolation precautions apply for hospitalized cases. Consult with hospital Infection Prevention and Control (IPC) for recommendations for lifting isolation.
- Provide information about disease transmission and measures to minimize transmission, including wearing a mask, practicing proper hand hygiene, physical distancing and respiratory etiquette.
- For information on infection prevention and control precautions refer to the following:
  - *AHS IPC Resources*
  - *Infection prevention and control for COVID-19: Second interim guidance for acute healthcare settings*

Discharge/Transfer of a Hospitalized Case[(M)]

- Hospitalized cases that are discharged to their own home before hospital isolation is complete should remain on home isolation for 10 days from onset of symptoms or until symptoms have improved AND they are afebrile for 24 hours, without the use of fever-reducing medications, whichever is longer, after arrival at home.
- Hospitalized cases being discharged/transferred to long-term care facilities/continuing care/group homes/shelters etc. before their isolation period is complete should remain on isolation for **14 days** from onset of symptoms or until symptoms have improved AND they are afebrile for 24 hours, without the use of fever-reducing medications, whichever is longer.
  - This additional length of time (four more days from the 10 days) is recommended as the case had severe disease (i.e., hospitalized) and will be re-entering a facility with other vulnerable persons (i.e., long-term care facilities/continuing care/group homes/shelters).

Management of Non-Hospitalized Case

- Provide information about disease transmission and measures to minimize transmission, including wearing a mask, physical distancing, practicing proper hand hygiene and respiratory etiquette.
- A non-test based approach to clearance for COVID-19 is recommended for cases with mild and moderate illness. Since NAAT positivity from respiratory samples can be prolonged and generally does not reflect infectious virus, a “test of cure” is often misleading.
- Symptomatic confirmed and probable cases are required to isolate for 10 days from onset of symptoms or until symptoms have improved AND they are afebrile for 24 hours, without the use of fever-reducing medications, whichever is longer.
  - Absence of cough is not required for those known to have chronic cough or who are experiencing reactive airways post-infection.
  - Symptoms such as loss of sense of taste/smell or fatigue may last longer than 10 days, but do not require a longer isolation period.
- Residents of licensed supportive living (including group homes and lodges), long-term care (nursing homes and auxiliary hospitals) and hospices should be isolated with contact and droplet precautions for a minimum 10 days or until symptoms improve AND they are afebrile for 24 hours without the use of fever reducing medications, whichever is longer. Isolation may be extended to 14 days at the discretion of the MOH/Site IPC.
- Active daily surveillance by Public Health is not required.
- **NOTE:** If a person is determined to be at high risk of clinical decompensation and without necessary supports (e.g., elderly with comorbidities who lives alone), their primary care physician should provide active daily surveillance if feasible, or the case should be encouraged to arrange for family/friends/community organizations to provide wellness checks.

[(M)] This refers to cases hospitalized due to COVID-19

- If the case requires non-urgent medical attention, advise to contact 811 for further direction on where to go for care, the appropriate mode of transportation to use, and IPC precautions to be followed. If they require urgent attention, advise them to call 911 and to let 911 know they have COVID-19 so that appropriate precautions can be taken to care for the case safely.
- **NOTE:** Non-hospitalized cases who were isolated for example in an isolation center and are returning to congregate settings (e.g., long-term care facilities/continuing care/group homes/shelters etc.) shall be in isolation for at least 10 days from onset of symptoms or until symptoms have improved AND they are afebrile for 24 hours, without the use of fever-reducing medications, whichever is longer.
- Due to the theoretical possibility that animals in the home could be affected by COVID-19, it is recommended that cases also refrain from contact with pets.
- COVID-19 virus RNA has been detected in the stool of some infected patients[41], so there may be a risk of spread through stool. For these reasons, the case should be instructed of the following:
  - effective infection prevention control such as hand hygiene.
  - safe food handling practices.
  - refrain from preparing foods for others in the household until isolation is lifted.

Management of Immunocompromised Case

- There is currently no information on viral shedding in confirmed COVID-19 cases who are immunocompromised.
  - However based on experience from other respiratory viruses, especially influenza virus, immunocompromised confirmed cases may shed SARS-CoV2 for a longer period of time.[18]
  - These cases should be isolated for 14 days from onset of symptoms or until symptoms have improved AND they are afebrile for 24 hours, without the use of fever-reducing medications, whichever is longer.
    - Absence of cough is not required for those known to have chronic cough or who are experiencing reactive airways post-infection.
    - For cases with prolonged symptoms such as loss of sense of taste/smell or fatigue may last longer than 14 days, but do not require a longer isolation period.
  - Duration of isolation for those hospitalized should be decided in consultation with hospital IPC.

Management of a Laboratory Confirmed Case Asymptomatic at Testing

- Provide information about disease transmission and measures to minimize transmission, including wearing a mask, physical distancing, practicing proper hand hygiene and respiratory etiquette.
- Determine if the case had two or more of the following symptoms that lasted at least 24 hours in the **seven** days before laboratory specimen collection date:
  - fever (over 38 degrees Celsius),
  - new onset/exacerbation of following symptoms: cough, shortness of breath (SOB)/difficulty breathing, sore throat or runny nose.
    - If the case had two or more symptoms as outlined above, the positive result may indicate that the symptoms were due to COVID-19 and that date of symptom onset should be used for public health investigation and management purposes.
    - However, it is possible that the previous symptoms were due to another respiratory pathogen, so the case should be instructed to monitor for COVID-19 symptoms for the 10 days following lab specimen collection date.
    - For a case that had two or more of the symptoms listed above, for at least 24 hours in the **seven** days prior to specimen collection date, the period of communicability is 48 hours prior to onset of symptoms to 10 days after symptom onset.
- A hospitalized asymptomatic case should be isolated and placed on contact and droplet precautions. Consult with hospital IPC for recommendations for lifting isolation/discharge.
- A non-hospitalized asymptomatic case should be isolated for at least 10 days from the laboratory specimen collection date.

- Instruct the case to monitor for symptoms in Table 2a: Symptoms for COVID-19 Testing and if symptoms develop during the isolation period, the (hospitalized/non-hospitalized) case must remain in isolation for 10 days after onset of symptoms, or until symptoms have improved AND they are afebrile for 24 hours, without the use of fever-reducing medications, whichever is longer.

Return to Work for Cases

- Proof of a negative COVID-19 test and/or a medical note is not required for cases to return to school/work/activities once the isolation period is complete.

Treatment of Cases

- There is no specific treatment and supportive treatment is recommended based on condition of the case.
- For more information refer to WHO guidance on the clinical management of severe acute respiratory infection when novel coronavirus infection is suspected and the PHAC guidance on Clinical Management of Patients with COVID-19.

Section 5: Management of Close Contacts

Management of Close Contact of Confirmed or Probable Case

- Determine the type of exposure, the setting, and the time since last exposure.[N]
- Provide information about COVID-19 disease including signs and symptoms.
- Close contacts of **confirmed cases require mandatory** quarantine for 14 days from last day of exposure and should be offered testing. Refer to Section 2: Testing Modality, Recommendations, Interpretation and Management. Quarantine must be maintained even if test is negative.
- Close contacts of **probable** cases should also be quarantined for 14 days**.**
- Close contacts of **laboratory confirmed cases asymptomatic at testing, require mandatory** quarantine for 14 days from last day of exposure and should be offered testing. Quarantine must be maintained even if test is negative.
- Refer to Section 2: Testing Modality, Recommendations, Interpretation and Management.
- For more information refer to Section 6: Isolation and Quarantine.
- **NOTE:** Where feasible, contact tracing for any tested individual (symptomatic or asymptomatic) should be initiated once lab results have been received and the person has been determined to be a confirmed/probable case.
  - For more information on contact tracing notification process refer to the AHS website.

Guidance on the Use of Masks

- Non-medical masks and face coverings used in the community may reduce the risk of transmission of COVID-19 on the individual and population level.
- However, non-medical masks and face coverings are not considered to be sufficient PPE in an exposure to a confirmed COVID-19 case when assessing whether an individual is a close contact (i.e., wearing a non-medical mask or face covering does not preclude the individual who was exposed from being considered a close contact. See rationale section).
  - This includes self-reporting of use of medical masks by non-HCW in situations where the case is asymptomatic/pre-symptomatic, and where both persons involved in the exposure event are masked.
- Continuous masking (medical/surgical masks) and proper hand hygiene is considered to offer sufficient protection for HCWs[J] who have cared for patients with presymptomatic/asymptomatic COVID-19 infection. This is NOT considered sufficient PPE for HCWs who work with symptomatic patients or confirmed/probable cases. For more information on appropriate PPE for HCW refer to the AHS COVID-19 Personal Protective Equipment website.

Rationale:

- HCWs have direct access to professional IPC/WHS support to ensure/evaluate appropriate practice standards. They are also trained in donning/doffing/using appropriate hand hygiene, are able to implement risk assessment practices, and are more aware of the types of interactions they are having with patients. For more information refer to Section 7: Management of Health Care Workers (HCW)
- In addition, mask quality specifications, fit and appropriate use are difficult to assess for members of the general public, and self-reports may not be accurate.

[N] For close contacts with on-going exposure, the last date of exposure is the date the case is determined to be non-infectious i.e., 10 days after onset of symptoms or until symptoms have improved AND afebrile for 24 hours, without the use of fever-reducing medications, whichever is longer.

Assessment of PPE in Workplaces

- In general, employers will be contacted by Public Health if there is a case of COVID-19 who is identified as having been at the worksite while infectious.
  - Public Health will work with the case, employer and their occupational health and safety (OH&S) practitioner (if available) to identify persons who may have been exposed at work (close contacts).
  - Public Health will ask employers to identify and notify workplace close contacts.
- Workplaces that meet specific criteria listed below may consider PPE use in their assessment of close contacts if all of the following applies:
  - There needs to be a formal OH&S or an IPC professional/practitioner[(O)] that has knowledge of what constitutes adequate PPE for that particular work setting in the context of COVID-19.
  - The professional/practitioner must provide oversight of PPE use and provide PPE training to workers in that work setting.
  - In the event of an exposure to COVID-19 in the work setting, the OH&S or IPC professional/practitioner should be able to conduct an assessment to determine if the exposed worker was wearing the appropriate PPE as per work site guidance and training.
  - This assessment should be documented and made available, if requested by AHS.
- If the assessment determines the worker was following all PPE guidance and there were no breaches, the worker would be considered protected and would NOT be considered a close contact and quarantine would not be required.
- If workplaces do not meet the criteria outlined above, workers exposed to COVID-19 will follow the same direction that applies to members of public (i.e. mask use is not considered in the close contacts assessment).

[(O)] OH&S or IPC team/program includes any one of the following:
- A certified Occupational Health and Safety (OH&S) professional/practitioner (as defined by the Canadian Society of Safety Engineering),
- A health professional certified in Infection Prevention and Control (by CHICA-Canada)
- An individual who holds a certificate or other credential in Occupational Health and Safety from a recognized post-secondary institution in Canada

Section 6: Isolation and Quarantine

Isolation is required for the following:

- Individuals with new onset of any of the following symptoms: fever (over 38 degrees Celsius) and/or new onset of (or exacerbation of chronic) cough, SOB/difficulty breathing, sore throat or runny nose must isolate for 10 days from onset of symptoms or until symptoms have improved AND afebrile for 24 hours, without the use of fever-reducing medications, whichever is longer.
    - **NOTE**: Exemption applies for children with runny nose or sore throat. For more information refer to section on Exemptions to Mandatory Isolation/Quarantine.
- Individuals with any of these symptoms and others listed in **Table 2a: Symptom List for COVID-19 Testing** should complete the online COVID-19 self-assessment or call 811 to arrange for testing.
    - Individuals with any of the symptoms in Table 2a should remain isolated until test results are available.
    - If person had NO **known** exposure to COVID-19 and if COVID-19 test result is **negative,** they are strongly recommended to stay at home and limit contact with others until symptoms resolve, whichever is longer.
    - If person had **known** exposure to COVID-19 and even if COVID-19 test result is negative, they still MUST complete the 14-day quarantine since their last exposure.
    - If COVID-19 test result is positive, manage as a confirmed case and continue isolation for 10 days from onset of symptoms or until symptoms have improved AND afebrile for 24 hours, without the use of fever-reducing medications, whichever is longer.
    - For more information on isolation requirements refer to the COVID-19 Alberta website.

Quarantine is required for the following:

- Returning international travelers must quarantine for 14 days after arrival in Canada (unless exempted by Federal/Provincial Government) and should monitor for symptoms. Refer to **Table 2a: Symptom List for COVID-19 Testing.**
    - If symptoms develop, they should complete the online COVID-19 self-assessment or call 811 to arrange testing for COVID-19:
        - If COVID-19 test result is negative, continue quarantine for full 14 days.
        - If COVID-19 test result is positive, isolation is required for 10 days from onset of symptoms or until symptoms have improved AND afebrile for 24 hours, without the use of fever-reducing medications, whichever is longer.
- Close contacts of **confirmed** cases **must** quarantine for 14 days since last exposure and should monitor for symptoms. Refer to **Table 2a: Symptom List for COVID-19 Testing.**
- Close contacts of **probable** cases **should** also be quarantined for 14 days since last exposure and monitor for symptoms**.**
- Close contacts of confirmed/probable cases should be offered testing and instructed to complete the online COVID-19 self-assessment or call 811 to arrange testing for COVID-19. For more information refer to **Table 2b: Management of Tested Individuals**.
- For more information on quarantine refer to difference between quarantine and isolation

Exemptions to Mandatory Isolation/Quarantine

Children under the Age of 18

- Runny nose and sore throat were removed from the core symptom list on the Alberta Health daily checklist for children and youth under the age of 18, as well as all students who attend kindergarten to grade 12, including high school students over 18, in October 2020.
- Any child with a single symptom of runny nose or sore throat but no fever, cough, SOB/difficulty breathing and who has **NO KNOWN EXPOSURE** is exempt from the 10 day isolation requirement outlined in CMOH Order 05-2020.
- For more information refer to the COVID-19 Alberta Health Daily Checklist (For Children Under 18) and the Alberta Health website on changes to the daily symptoms checklist for children under 18.

Immunized Individuals [P]

- Following the administration of a vaccine, an immunized person should be counseled about the risk of short-term self-limited side effects, including local reactions and systemic reactions.
- Because some side effects following immunization such as fever, fatigue, headache, muscle/joint ache, vomiting/diarrhea are similar to symptoms for COVID-19, if a vaccine recipient develops these symptoms after vaccination in the expected timeframe for that vaccine (for most vaccines: within 24 hours; for MMR, Varicella and MMRV, usually within **five** to 12 days), they should stay home and away from others.
- If the symptoms resolve within **two** days (48 hours), they can resume normal activities, unless they have been instructed to quarantine or isolate for other reasons.
- If the symptoms do not resolve within **two** days (48 hours) of symptom onset, they should continue to stay home and complete the online COVID-19 self-assessment or call 811 to arrange testing.
- If testing is not done, anyone 18 years of age and older should remain at home for 10 days after onset of symptoms if they exhibit any of the symptoms included in CMOH Order 05-2020 (fever, cough, runny nose, sore throat, shortness of breath) or until symptoms have improved AND afebrile for 24 hours, without the use of fever-reducing medications, whichever is longer. For information about children under 18 years old or about students who attend kindergarten to Grade 12, including high school students over 18, refer to the COVID-19 Alberta Health Daily Checklist (For Children under 18).
- Anyone (adult/child) with other symptoms on the expanded COVID-19 symptom list but not included in CMOH Order 05-2020 or exempted as outlined in the COVID-19 Alberta Health Daily Checklist (For Children under 18), should stay at home until symptoms resolve.

[P] Exemptions are outlined in Clarification of CMOH Order 05-2020 posted on the Alberta Health website August 27, 2020.

Section 7: Management of Health Care Workers (HCW)

Recommendations on Return to Work

- Refer to COVID-19 Return to Work Guide for AHS Healthcare Workers
- HCW[J] who may have been exposed to COVID-19 should refer to the COVID-19 Self-Assessment Tool for Healthcare Workers and the COVID-19 Testing / Online Booking for more information.
- The following applies for HCW[J] who tested positive for COVID-19:
  - They require mandatory isolation for 10 days from onset of symptoms or until symptoms have improved AND afebrile for 24 hours, without the use of fever-reducing medications, whichever is longer.
  - If symptoms such as a lingering cough, loss of sense of taste/smell or fatigue persist beyond 10 days, the HCW may return to work as long as other symptoms have improved and they are well enough to go back to work.
  - If they are asymptomatic and remain asymptomatic, the HCW may return to work 10 days after the lab specimen date.
  - If the HCW is immunocompromised or has other health conditions (e.g. cardiovascular and liver disorders, lung disease, diabetes, high blood pressure, kidney disease, sickle cell disease, dementia or stroke (see Host Susceptibility section for more information), they should consult with WHS/OHS/MOH/designate for further direction about returning to work.

Recommendations on Mask Use for HCWs

- A surgical/procedure mask and good hand hygiene is considered sufficient PPE for asymptomatic HCW working with asymptomatic patients including within the 48 hours prior to developing symptoms.
  - If HCW becomes symptomatic, all the patients who they cared for (or co-workers) in the ***48 hours prior to symptom onset*** in that HCW will **NOT** be considered close contacts if the HCW wore a surgical/procedure mask and practiced routine, frequent hand hygiene.
  - If a patient becomes symptomatic, all HCW that cared for the patient in the ***48 hours prior to symptom onset*** in that patient, would **NOT** be considered close contacts if they were wearing a surgical/procedure mask and practiced good hand hygiene i.e., sufficient PPE.
    - If the time of symptom onset for the patient cannot be reliably ascertained (e.g., patient with cognitive impairment), WHS/OHS/MOH/designate should be consulted regarding period of communicability and its relationship to appropriate PPE use.
- A surgical/procedure mask and good hand hygiene is **NOT** appropriate PPE for HCW caring for symptomatic patients or when identified as a close contact of a symptomatic co-worker.
- Appropriate PPE for HCW caring for symptomatic patients or confirmed/probable cases of COVID-19 includes: medical masks (or N95 respirators when AGMP is performed), eye protection (e.g., goggles, visor, and face shield), gloves and gown, which mean full contact and droplet precautions. For more information refer to the AHS COVID-19 Personal Protective Equipment website.

Additional PPE Recommendations for HCWs

- **NOTE**: Eye protection is now recommended as an additional layer of protection for all patient interactions within two metres in areas where there are ongoing high levels of community transmission.
  - If a HCW was wearing a surgical/procedure mask, eye protection and was practicing good hand hygiene and had brief/transient contact with a patient who had symptoms that were not recognized to be COVID-19 at the time (e.g. confusion) that HCW may not be considered a close contact, but this assessment would have to be done on a case by case basis by WHS/OHS/MOH/designate.

Regulated Health Professionals in Community Healthcare Settings

- In private community healthcare settings, some health professionals are accountable to their regulatory body/colleges and some may have received guidance and training on PPE. These professionals are accountable to their college/regulatory body to follow guidance on the appropriate PPE products to use in their practice settings.
- **NOTE:** All regulated health professionals will be assessed by the MOH/designate regarding their IPC practices to determine if those offered sufficient protection while caring for COVID-19 patients. Quarantine recommendations based on this assessment are at the discretion of the MOH.

Section 8: Management of Individuals Immunized Against COVID-19

- New vaccines against COVID-19 have been developed and approved for use in certain population groups. For more information refer to COVID-19 Vaccines and the Alberta Health website on Vaccine Distribution.
- While the vaccines being delivered have shown very high efficacy in clinical trials, to prevent symptomatic infection, vaccine effectiveness will need to be evaluated in real life as immunization programs become established.
- In addition, currently there is insufficient evidence on the duration of protection of COVID-19 vaccines and their effectiveness in preventing asymptomatic infection and reducing transmission of SARS-CoV-2. Therefore the following apply:
  - Individuals immunized against COVID-19 must adhere to all public health measures to minimize transmission, including staying home when sick, wearing a mask, physical distancing, practicing proper hand hygiene and respiratory etiquette.
  - Immunized HCWs are still required to adhere to existing PPE guidance. Refer to AHS Personal Protective Equipment (PPE) website.
- If an immunized individual is exposed to COVID-19 (e.g., unprotected close contact with a COVID-19 case, return to Alberta from international travel) they will still be required to quarantine for 14 days from last day of exposure and monitor for symptoms. Vaccination does not change quarantine requirements.

Section 9: Preventative Measures

- For more information on prevention of COVID-19 refer to the following websites:
  - Help prevent the spread
  - Information for Albertans
  - Measures to reduce COVID-19

Resources on COVID-19

- Alberta Health www.alberta.ca/coronavirus-info-for-albertans.aspx
- Alberta Health Services www.albertahealthservices.ca/topics/Page16944.aspx
- PHAC www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html
- WHO www.who.int/emergencies/diseases/novel-coronavirus-2019
- CDC www.cdc.gov/coronavirus/2019-ncov/index.html
- ECDC www.ecdc.europa.eu/en/novel-coronavirus-china

Annex A: Management of COVID-19 Outbreaks

Outbreak-related Definitions

- **Outbreak is defined as:** *"The occurrence of cases of disease in excess of what would normally be expected in a defined community, geographical area or season"* (World Health Organization, 2018). **NOTE**: A common source of infection or the identification of transmission between cases are not requirements for an outbreak. The epidemiologic features of an outbreak and subsequent public health actions are assessed through the outbreak investigation process.
- **Alert:** A warning sign that the situation may evolve into an outbreak. The threshold for triggering an alert is dependent on the specific setting. For more information, refer to Table A1: Outbreak Definitions of COVID-19.
- **Public Reporting:** The minimum number of cases marking the threshold for public reporting of COVID-19 outbreaks.

Management of Community Outbreaks

- A COVID-19 outbreak may be declared for community settings based on outbreak definitions listed in Table A1: Outbreak Definition of COVID-19. The *Alberta Outbreak Reporting Form (AORF)* ***must*** be completed and sent to Alberta Health when an outbreak is declared as described in Table A1.
- An outbreak in the community or workplace/work camp may be declared over 28 days (i.e., two incubation periods) from date of onset of symptoms in the last case.

Table A1: Outbreak Definitions of COVID-19

- **NOTE:** Different alert and outbreak definitions are developed for different settings according to the risk level of that specific setting.
- The risk level is based on the combination of vulnerability of the population to severe illness and ease of transmission within the setting. It is critical to take early action to investigate and institute control measures.

Type of Setting	Risk	Example	Alert	Outbreak**	Public Reporting
Congregate Settings	Very High Risk	Continuing Care, Long-term Care, DSL	1 symptomatic person (see Table A3)	1 confirmed case	2 confirmed cases
		Acute care	See AHS Acute Care Outbreak document	See AHS Acute Care Outbreak document	
	High Risk	Prisons/Correctional Facilities	1 symptomatic person (see Table A3)	1 confirmed case	5 confirmed cases
		Homeless Shelters or Temporary Housing	1 symptomatic person (see Table A3)	1 confirmed case	5 confirmed cases
		Child care setting: includes daycares, after school care, preschools, and day homes.	2 symptomatic individuals within 48 hours ***OR*** 1 confirmed case (see Table A4)	2 confirmed cases€	
	High Risk Workplaces	Work Camps	1 confirmed case¥	2 confirmed cases€	
		Food Processing Facilities, Warehouses, Distribution, and Manufacturing Facilities, other workplaces where individuals work in close proximity indoors for extended periods of time			
	Medium Risk	Schools			See Table A5: Management of COVID-19 Outbreaks in Schools (K-12)
Events	Medium Risk	*Including but not limited to weddings, funerals, religious gatherings, community events and small gatherings with more than one household*	N/A	5 confirmed cases*	10 confirmed cases associated with at least 3 households
Public Settings	Medium-Low Risk	*Including but not limited to hair salons, restaurants, retail spaces, indoor or outdoor recreation facilities, etc.*	N/A	5 confirmed cases*	5 confirmed cases
Other work places	Medium-Low Risk	*Workplaces that do not fit into the categories above (e.g. office buildings)*	N/A	5 confirmed cases*	10 confirmed cases

***Confirmed case/s needs to have been in the setting during their incubation period or infectious period*
¥ Work camps and other facilities: Consider involvement of Environmental Public Health to ensure knowledge of the worksite and workforce. For schools refer to the Resource Guide for COVID-19 Outbreaks in Schools.
€Case numbers within a 14 day period, OR cases with an epi link
**Case numbers within a 14 day period, OR cases with an epi link AND at least two or more households are involved.*

Management of COVID-19 Outbreaks in Facility/Other Congregate* Settings

Testing of Staff/Residents/Children

- Testing should be done for the following symptomatic individuals:
  - Residents/staff in facilities as per CMOH Order 32-2020 (i.e., licensed supportive living (including group homes and lodges), long-term care (nursing homes and auxiliary hospitals), and hospice services,
  - Residents/staff in other congregate settings* not covered by CMOH Order 32-2020 (e.g., corrections, shelters)
- Refer to **Table A2: Symptoms to Initiate Testing**.
- For more information on testing refer to Section 2: Testing Modality, Recommendations, Interpretation and Management.

*Congregate settings are defined as locations where individuals live, work or are cared for within close quarters in a communal environment.

Table A2: Symptoms to Initiate Testing

• **Staff in Facility** • **Staff/Resident in Other Congregate Setting** • **Staff/Children in Childcare Setting/School**	**Residents in Facility**
- Fever - Cough (new cough or worsening chronic cough) - Shortness of breath/difficulty breathing (new or worsening) - Runny nose - Sore throat New/unusual onset of any of the following: - Stuffy nose - Painful swallowing - Headache - Chills - Muscle/joint ache - Feeling unwell/fatigue/severe exhaustion - Nausea/Vomiting/Diarrhea/Unexplained loss of appetite - Loss of sense of smell or taste - Conjunctivitis	- Fever (37.8°C or higher) - Cough (new cough or worsening chronic cough) - Shortness of breath/difficulty breathing (new or worsening) - Runny nose - Sore throat NEW ONSET of any of the following: - Stuffy nose/Sneezing - Hoarse Voice/Difficulty or Painful swallowing - Headache - Chills - Muscle/joint ache - Feeling unwell/fatigue/severe exhaustion - Nausea/Vomiting/Diarrhea/Unexplained loss of appetite - Loss of sense of smell or taste - Conjunctivitis - Altered/change in mental status

- For recommendations on management of outbreaks in facilities and other congregate settings refer to **Table A3: Management of COVID-19 Outbreaks in Facility/Other Congregate Settings**

Table A3: Management of COVID-19 Outbreaks in Facility/Other Congregate Settings

Setting	Management of a Single Symptomatic Person	Definition of COVID-19 Outbreak	Management of Confirmed COVID-19 Outbreak
Facility (e.g., long term care facility) Other Congregate Setting (e.g., corrections, shelters)	• For any staff/resident with symptoms listed in Table A2 above, the following actions apply: - Resident must be isolated, placed on contact and droplet precautions and tested for COVID-19. - Any symptomatic staff MUST NOT work. They must self-isolate at home and arrange for COVID-19 testing on site or via the HCW screening online tool. • Determine any urgent issues for the site/facility e.g., access to testing, personal protective equipment (PPE) etc. • No reporting to Alberta Health (AH) required. • If test results are negative for COVID-19, usual influenza like-illness (ILI) or gastrointestinal illness (GI) outbreak protocols (e.g., daily line lists, enhanced IPC and other control measures) should be followed, as appropriate to the identified organism causing the outbreak and report to AH as per usual processes.	A COVID-19 Outbreak is defined as: - Any resident who is confirmed to have COVID-19 and/or - Any staff member who is confirmed to have COVID-19[Q]	- All confirmed outbreaks that meet the COVID-19 outbreak definition should be investigated and reported

[Q] This refers to staff in facilities as per CMOH Order 32-2020 and in other congregate settings who **worked** at the site/s during the incubation period or during the communicable period **WITHOUT** appropriate PPE. (See section on Management of HCW). This also includes any staff who may have been symptomatic even while continuous masking and practicing good hand hygiene.

- The communicable period is defined as 48 hours before symptom onset to isolation date in symptomatic cases, OR 48 hours before lab specimen collection date to isolation date in asymptomatic cases.
- Where feasible, contact tracing for asymptomatic cases should include close contacts that were exposed to the case 48 hours before the specimen collection date. If not feasible, the specimen collection date can be used as the starting point for contact tracing.
- **NOTE:** If staff worked at multiple sites in the 48 hours prior to symptom onset/lab test **WITHOUT** appropriate PPE, outbreak should be declared at those sites.

Other COVID-19 Outbreak Management Recommendations for Facilities

- For more information refer to the AHS Guidelines for COVID-19 Outbreak Prevention, Control and Management in Congregate Living Sites and the CMOH Order 32-2020.
- An outbreak in licensed supportive living (including group homes and lodges), long-term care (nursing home and auxiliary hospitals) and hospice services may be declared over after 28 days (two incubation periods) from date of onset of symptoms in the last case, with the following exceptions
  - If a staff member is the only confirmed case at the outbreak site, the outbreak can be declared over after 14 days from their last day of work.
    - **NOTE:** Asymptomatic staff and residents should NOT be retested during a site outbreak if they were a lab confirmed COVID-19 case within the past 90 days. For more information, refer to the Testing and Management of Resolved Cases section**.**

PPE Recommendations for Staff during a Confirmed Facility COVID-19 Outbreak

- Where there is evidence of transmission (defined as two or more lab-confirmed COVID-19 cases), continuous use of surgical/procedure mask and eye protection (e.g., goggles, visor, or face shield) is recommended for all staff providing direct face-to-face care of residents/patients.
- Full contact and droplet precautions should be applied when providing care to any symptomatic person (including any lab-confirmed case of COVID-19) until that person is determined by IPC (where available) or the MOH/designate to be non-infectious.
- **NOTE:** For PPE recommendations for all other patient care areas in AHS and community settings with NO COVID-19 outbreak, refer to the AHS website on Personal Protective Equipment (PPE)

Management of COVID-19 Outbreaks in Child Care Settings

- Child care settings includes daycares, after school care, preschools, and day homes.
- Parents/students should be instructed to complete the COVID-19 Alberta Daily Checklist (for Children under 18) before going to childcare and follow instructions as outlined in the checklist.
- Childcare staff should complete the COVID-19 Alberta Daily Checklist for adults before going to a childcare setting.
- For staff with COVID-19 symptoms listed in Table A2: Symptoms to Initiate Testing the following actions apply:
  - Any symptomatic staff MUST NOT work. They must isolate at home and arrange testing via the online COVID-19 self assessment or call 811.
  - Refer to Table A4: Management of COVID-19 Outbreaks in Child Care Setting for more information.
  - An outbreak in a child care setting can be declared over 28 days (two incubation periods) after date of onset of symptoms in the last case.
- **NOTE:** For any child with a rash illness, follow usual notification/management process as outlined by AHS.
- **NOTE:** Asymptomatic staff and children should NOT be retested during a childcare setting outbreak if they were a lab confirmed COVID-19 case within the past 90 days. For more information, refer to the Testing and Management of Resolved Cases section.

Table A4: Management of COVID-19 Outbreaks in Child Care Setting

Setting	COVID-19 Alert		COVID-19 Outbreak	Management of Confirmed COVID-19 Outbreak
	Two Symptomatic Individuals	One Confirmed Case		
Child Care Setting	• Two symptomatic individuals (child/staff) within 48 hours • The child care setting must call the Coordinated Early Identification and Response (CEIR) Team at 1-844-343-0971 to connect with public health who will: - advise on additional IPC measures, - recommend testing for symptomatic persons via the online COVID-19 self assessment tool or call 811 - refer to EPH or CDC if investigation determines symptoms may be due to another pathogen • No reporting to Alberta Health (AH) required. • If test results are negative for COVID-19, usual influenza like-illness (ILI) or gastrointestinal illness (GI) outbreak protocols (e.g., daily line lists, enhanced IPC and other control measures) should be followed, as appropriate to the identified organism causing the outbreak and report to AH as per usual processes.	When there is one confirmed case (staff/child) in a child care setting, actions include but not limited to the following: - Case investigation and contact follow-up - Engagement with the child care setting as appropriate to ensure measures are in place to prevent spread, identify additional cases early and communicate with parents in a timely manner - Report to AH	A COVID-19 Outbreak is defined as: - Two confirmed cases (staff/child) within 14 days (one incubation period) OR - Two confirmed cases (staff/child) that are epidemiologically linked	All confirmed outbreaks that meet the COVID-19 outbreak definition should be investigated and reported

Management of COVID-19 Outbreaks in Schools (K-12)

- Parents/students should be instructed to complete the COVID-19 Alberta Daily Checklist (for Children under 18) before going to school and follow instructions as outlined in the checklist.
- School staff/teachers should complete the COVID-19 Alberta Daily Checklist for adults before going to school.
- For one staff with COVID-19 symptoms listed in Table A2: Symptoms to Initiate Testing, the following actions apply:
  - Any symptomatic staff MUST NOT work. They must isolate at home and arrange testing via the online COVID-19 self assessment or call 811.
- Refer to Table A5: Management of COVID-19 Outbreaks in Schools for more information. For full guidance, please refer to the Resource Guide for COVID-19 Outbreaks in Schools.
- An outbreak in a school can be declared over 28 days (two incubation periods) after date of onset of symptoms in the last case.
- **NOTE:** Asymptomatic staff and children should NOT be retested or quarantined during a school outbreak if they were a lab confirmed COVID-19 case within the past 90 days. For more information, refer to the Testing and Management of Resolved Cases section**.**

Table A5: Management of COVID-19 Outbreaks in Schools (K-12)

Setting	COVID-19 Alert	COVID-19 Outbreak	Management of Confirmed COVID-19 Outbreak
School	• One confirmed case (i.e., staff, student and/or visitor) in the school setting who was present at the school while infectious and/or most likely became infected at the school. • Actions during an alert include but not limited to the following: - Engagement with the school as appropriate to ensure measures are in place to prevent further spread - Communication with parents/ school board - Report to AH	A COVID-19 Outbreak investigation will begin when: - Two confirmed cases (i.e., staff, student and/or visitor) within 14 days (one incubation period) who were present at the school while infectious and/or most likely became infected at the school OR - Two confirmed cases (staff, student and or visitor) that are epidemiologically linked who were present at the school while infectious and/or most likely became infected at the school. Outbreak investigations in schools will be publicly reported on the Alberta Health website as follows: - A school with 2-4 confirmed cases will be publicly reported as an “Alert (2-4 cases)” - A school with 5-9 confirmed cases will be publicly reported as an “Outbreak (5-9 cases)” - A school with 10+ confirmed cases will be publicly reported as an “Outbreak (10+ cases)”	- All confirmed outbreak investigations that meet the COVID-19 outbreak definition should be investigated and reported

Management of COVID-19 Outbreaks in Post-Secondary Institutions (PSI)

- PSI should follow recommendations as outlined in the Post-Secondary Institution Guidance document posted on the BizConnect website.
- Refer to Table A6: Management of COVID-19 Outbreaks in PSI for more information.
- An outbreak in PSI can be declared over 28 days (two incubation periods) after date of onset of symptoms in the last case.

Table A6: Management of COVID-19 Outbreaks in PSI

Setting	COVID-19 Alert	COVID-19 Outbreak	Management of Confirmed COVID-19 Outbreak
Class Setting or Other Program in which students/faculty are attending in person	N/A	A COVID-19 Outbreak is defined as: - Five confirmed cases (staff/student) within 14 days (one incubation period)	All confirmed outbreaks that meet the COVID-19 outbreak definition should be investigated and reported
Residence (operated/contracted by PSI to cater for PSI students in which students share dormitory rooms, bathrooms, food preparation/in residence food services)	Two confirmed cases (staff/student) in a PSI		
Restaurant/Cafeteria located on PSI	N/A		

Management of COVID-19 Outbreaks in a Workplace

- Any staff/client with COVID-19 symptoms listed in Table A2: Symptoms to Initiate Testing MUST NOT work and testing should be arranged by completing the online COVID-19 self assessment or calling 811.
- Refer to Table A1: Outbreak Definitions of COVID-19 for information on COVID-19 alerts and confirmed outbreaks.

Notifications of Public Exposures of COVID-19

- In instances where it is determined that a known COVID-19 positive case attended a public space/event while infectious, every effort should be made by public health to identify close contacts and notify them individually of their exposure.
- However, in the following circumstances, notification of public exposures using communication tools such as distribution of letters or a media announcement may be considered to notify potentially exposed individuals of their risk and actions they should take:
  - If there is a significant exposure risk (e.g., case attended the public space/event one day before and/or within 5 days of their symptom onset with respiratory symptoms, multiple exposures or prolonged close contact, i.e., cumulative for a total of 15 minutes or more over a 24-hour period and within two metres with a case, crowded setting, confined and enclosed spaces with poor ventilation) AND there is no ability to identify close contacts AND it has been a short time since exposure occurred,
  - Site/event organizer not willing or able to provide contact lists,
  - Vulnerability of individuals in that setting e.g., seniors' coffee space
  - Other situations as determined by the MOH.
- These tools should be utilized on the recommendation of the Zone MOH and in collaboration with public health teams, impacted stakeholders, and Alberta Health.

Annex B: Management of Travelers

- An official global travel advisory is in effect and non-essential travel is NOT recommended.
- Any returning travelers to Canada, must follow mandatory requirements as laid out in the *Federal Emergency Order* under the *Quarantine Act* and CMOH Order 05-2020.
- Some individuals may be exempt from travel restrictions (e.g., if they provide critical services and have no symptoms, or meet other exemption criteria). For more information refer to the PHAC website on Exemptions to travel restrictions.
- International travelers returning to Alberta may be able to participate in a pilot program that is safely exploring reduced quarantine periods. For more information on eligibility, refer to the Alberta International Border Testing Pilot Program.

National/International Flights

- At this time flight manifests are not being requested for domestic/international flights.
- Information for domestic/international flights with infectious cases are sent to PHAC by Alberta Health to be posted on the Government of Canada Coronavirus disease (COVID-19): Locations where you may have been exposed.
- Alberta Health must be notified of any cases that travelled by plane and meet the following criteria:
  - Cases who were symptomatic during travel, or
  - Cases with symptom onset/lab specimen collection date no more than 10 days BEFORE the date of travel, or
  - Cases with symptom onset no more than 48 hours AFTER the date of travel.
    NOTE: since pre-symptomatic/asymptomatic transmission of COVID-19 can occur, individuals do not have to have been symptomatic while on the flight in order to post flight information on the website.
- Notification is not required for flights that occurred more than 10 days ago.
- Please include the following information for all flight notifications to Alberta Health including those who reside outside Alberta (regardless of whether the case is being counted here):
  - ULI or CDOM DI#,
  - Name
  - Onset of illness date,
  - Dates of travel,
  - Airline(s),
  - Departure and arrival cities for each flight (include country if outside of Canada) and
  - Seat number(s) (if known).

Provincial Chartered Flights

- Flight manifests, especially those relating to work camps, are usually requested from the airline by the company's Occupation Health and Safety team as part of the case/contact investigation, and followed up as per guidance below. AHS should ensure that this has been completed and assist in the notification of out-of-province cases and contacts as per below.
  - Alberta Health should be notified by AHS of any cases that reside outside Alberta, and that travelled **while infectious,** regardless of whether or not Alberta is counting the case. The following information should be included:
    - ULI or CDOM DI#,
    - Contact information (address, phone #)
    - Onset date,
    - Dates of travel,
    - Airline(s), and
    - Seat number(s) (if known).
  - Alberta Health should be notified of any **close contacts that reside outside of Alberta** and that travelled on the same flight as a confirmed case that require notification.
    - ULI or CDOM DI# (if available)
    - Contact information (address, phone #)
    - Dates of travel,
    - Airline(s), and
    - Seat number(s) (if known).
- Contact tracing of travelers on a chartered airplane who may have been exposed to case of COVID-19 during a flight should be made on a case-by-case basis based on the following:
  - case's classification (e.g., confirmed),
  - the type and severity of symptoms of the case during the flight, and
  - Movement of case around the plane cabin.
- There is currently no evidence of transmission risk related to flight duration. The following recommendations apply regardless of length of flight.
- When a case(passenger) was symptomatic on the flight contact tracing should focus on the following:
  - passengers seated within two meters of the index case, AND
  - crew members serving the section of the aircraft where the index case was seated, AND
  - persons who had close contact with the index case, e.g., travel companions or persons providing care.
- Expanding the scope of contact tracing may be considered based on the severity of symptoms of the case (passenger) during the flight e.g., persistent coughing, sneezing, diarrhea or vomiting.
- If the case on the flight was a symptomatic crew member, contact tracing may also be considered for all passengers seated in the area where the crew member provided service and all other crew members.
- Refer to Management of Close Contacts of Confirmed/Probable Cases section for further management of these contacts.

Annex C: Revision History

- **NOTE:** Revision history from 2020-01-29 to 2020-05-20 available in the Public Health Disease Management Guidelines: Coronavirus – COVID-19 posted August 28, 2020.

Revision Date	Document Section	• Description of Revision
2020-08-25	Case definition	• Under footnote A added information on the performance characteristics of the Simplexa®, GeneXpert®, or BD Max™ NAT
	Clinical presentation	• Added information on Multi-system inflammatory Syndrome in Children (MIS-C)
	Diagnosis	• Added information on Simplexa®, GeneXpert®, and BD Max™ NAT test results are considered confirmatory
	Section 2: Testing Modality, Recommendations, Interpretation and Management	• Added information on COVID-19 testing performance for molecular tests and serology • Added new section on management of resolved cases
	Section 3: Key Investigation	• Expanded close contact definition
	Section 5: Management of Close Contacts	• Added information on Guidance on the use of masks
	Section 6: Mandatory Quarantine & Isolation	• Added new information regarding immunized individuals with COVID-19 symptoms post immunization
	Annex A- Management of Outbreaks	• Expanded section to include outbreak definitions, management of COVID-19 outbreaks in childcare settings, schools and workplaces • Added section on notification of COVID-19 in public exposures
	Annex B: Management of Travelers	• Updated section on national and international flights
2020-01-03	Case Definition	• Added rapid/POC NAAT and antigen tests to the confirmed case definition • Footnote A updated to include info on the ID NOW and PanBio tests from Abbott
	General	• Order 23-2020 has been updated to Order 32-2020
	Clinical presentation	• Updated information to include symptoms most frequently observed in Canada
	Transmission	• Updated to include information on aerosol/airborne transmission
	Host Susceptibility	• Updated with conditions/individuals most susceptible to COVID-19
	Section 1: Diagnosis	• Information on rapid nucleic acid tests moved to Section 2: Testing Modality, Recommendations, Interpretation and Management

	Section 2: Testing Modality, Recommendations, Interpretation and Management	• Updated information on individuals eligible for testing in AB • Added section on Rapid COVID-19 Tests • Reworded section on Testing and Management of Resolved Cases
	Section 5: Management of Close Contacts	• Updated section on Guidance on the use of Masks • Added new section on Assessment of PPE in Workplaces
	Section 6: Mandatory Isolation and Quarantine	• Added section on Exemptions to Isolation/Quarantine
	Section 7: Management of HCW	• Added information on when HCW who are cases can return to work • Added that eye protection is recommended during patient interactions in places where community transmission is high • Added section on recommendations for regulated HCW
	Section 9: Management of Individuals Immunized Against COVID-19	• New section added
	Section 9: Preventative Measures	• Updated to include links to AH, AHS, PHAC websites
	Annex A: Management of COVID-19 Outbreaks	• Updated Outbreaks in Schools section to align with the School Outbreak Resource Guide • Added section on Outbreaks in Post-Secondary Institutions • Updated section on Notifications of Public Exposures of COVID-19
	Annex C:	• Older revisions removed. Table only includes revisions from August 2020.

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