CORONAVIRUS-COVID-19

Manitoba
Public Health Branch

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Abbreviations

ADT	Admission, Discharge and Transmission
AGMPs	Aerosol-generating medical procedures
BAL	Broncho-alveolar lavage
CNPHI	Canadian Network for Public Health Intelligence
CPL	Cadham Provincial Laboratory
Ct	Cycle Threshold Value
E&S	Epidemiology and Surveillance Unit
EIA	Enzyme immunoassay
ETT	Endotracheal tube
FSVSG	Federal SARS-CoV-2 Variant Surveillance Group
HCW	Health Care Workers
HVAC	Heating, ventilation, and air conditioning
ILI	Influenza-like illness
IgG	Immunoglobulin G
IgM	Immunoglobulin M
IMPACT	Canada's Immunization Monitoring Program ACTive
IP&C	Infection Prevention and Control
LOD	Limit of detection
LTC	Long Term Care
MERS-CoV	Middle East Respiratory Syndrome coronavirus
MHSU	Manitoba Health Surveillance Unit
MIS-A	Multisystem inflammatory syndrome in adults
MIS-C	Multisystem inflammatory syndrome in children
NAAT	Nucleic acid amplification test
NP	Nasopharyngeal
OCME	Office of the Chief Medical Examiner
POC	Point of Care
PPE	Personal protective equipment
PRN	Plaque reduction neutralization

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RAT	Rapid Antigen Test
RSV	Respiratory syncytial virus
RTI	Respiratory tract infection
RT-PCR	Reverse transcription polymerase chain reaction
SARS-CoV	Severe Acute Respiratory Syndrome coronavirus
SARS-CoV-2	Severe Acute Respiratory Syndrome coronavirus 2
TB	Tuberculosis
VOC	Variant of Concern
VOI	Variant of Interest
VUM	Variant Under Monitoring
WHO	World Health Organization

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1. Summary of Updates

November 2023

Amendments included updates to the following sections:

- 3.1 – Variants – updated information.
- 5.5 – COVID-19 Outbreaks – update to include guidance for public health reporting of outbreaks in acute and long term care.
- 8.6 – Surveillance of Variants – update to examples of when PCR testing is recommended.
- 9.1 – Management of Cases – update to reflect current public health guidance and current COVID-19 landscape.
- 9.5 – Preventative Measures – update to reflect current public health guidance.
- 10.1 – Outbreak management – additional guidance to manage simultaneous COVID-19 and Influenza outbreaks
- 11 – Documentation Guidelines and Resources – update to public health documentation within PHIMS.

April 2023

Transition from the Interim Guidance - Public Health Measures - Managing Novel Coronavirus (COVID-19) Cases and Contacts in Community to the format of a communicable disease protocol. All sections reviewed and updated to reflect ongoing management of COVID-19 infections. Some sections removed to reflect changes in practice.

Amendments that may result in a change in practice:

- Positive Point of Care (POC) test results are no longer required to be reported to Manitoba Health by health care providers.
- Multi-inflammatory Syndrome in Children (MIS-C) surveillance continues to be monitored by Canada's Immunization Monitoring Program ACTive (IMPACT). Reporting of MIS-C cases by health care providers is no longer required.

2. Background

COVID-19 is an illness caused by a coronavirus (SARS-CoV-2) first identified in December 2019 in Wuhan, China. In March 2020, the World Health Organization (WHO) declared COVID-19 a global pandemic. On May 5, 2023, the WHO announced that COVID-19 was no longer a public health emergency of concern.

Public health measures implemented during the acute phase of the pandemic slowed the transmission of COVID-19, reduced associated severe outcomes, and helped to maintain capacity in the health care system, and had other significant impacts on society. Some of these impacts have been positive, but many have caused disruption and negative societal impacts. Removal of public health restrictions was possible due to the decreasing incidence of associated severe outcomes, high vaccination coverage,

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infection-acquired immunity, availability of treatments for individuals at high risk of severe outcomes, and the reduced virulence of circulating strains.

Manitoba removed public health orders related to COVID-19 on March 15, 2022, and transitioned from an acute response to a longer-term response to ongoing COVID-19 cases in the community. Since the COVID-19 situation continues to evolve, this document will continue to be updated as required.

3. Etiology

First identified in the 1960s, there are now seven known coronaviruses that can infect humans. Common types that generally cause mild illness are 229E, OC43, NL63 and HKU1. The types that can cause severe illness are: Middle East Respiratory Syndrome coronavirus (MERS-CoV), Severe Acute Respiratory Syndrome coronavirus (SARS-CoV) and more recently Severe Acute Respiratory Syndrome coronavirus 2 (SARS- CoV-2) which causes COVID-19 (1).

3.1 Variants

Viruses like SARS-CoV-2 constantly change through mutation, and new variants are expected to occur. Variants include different lineages and sublineages that share similar genetic mutations. There is also a possibility that variants can merge to form a hybrid or recombinant version. Genetic lineages of SARS-CoV-2 have been emerging and circulating around the world since the beginning of the COVID-19 pandemic.

A SARS-CoV-2 variant is a variant of interest (VOI) if it:

- has a genome with mutations associated with changes in epidemiology, antigenicity, or virulence, or changes that potentially have a negative impact on available diagnostics, vaccines, therapeutics, or public health measures; and
- is known to cause community transmission/multiple COVID-19 cases/clusters in Canada or has been detected in multiple countries; or
- is otherwise assessed to be a VOI by the WHO; or
- is otherwise assessed to be a VOI by the Federal SARS-CoV-2 Variant Surveillance Group (FSVSG) (2).

A SARS-CoV-2 variant is a variant of concern (VOC) if, through a comparative assessment, it has been demonstrated to be associated with one or more of the following:

- increased transmissibility or detrimental change in COVID-19 epidemiology;
- increased virulence or change in clinical disease presentation;
- decreased effectiveness of available diagnostics, vaccines, therapeutics, or public health measures; or
- is otherwise assessed to be a VOC by WHO; or
- is otherwise assessed to be a VOC by the FSVSG

A SARS-CoV-2 variant under monitoring (VUM) is classified as a VUM if it has genetic changes with potential to affect virus characteristics or has early signals of growth advantage relative to other circulating variants, but for which current evidence is limited or unclear requiring enhanced monitoring and reassessment pending new evidence.

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Lineages can be escalated from VUM to VOI to VOC but can also be de-escalated as new lineages emerge and replace currently circulating lineages. The first VOC, Alpha (B.1.1.7) originally identified in the United Kingdom, was detected in Canada in December 2020, and was more transmissible and caused more severe illness. Subsequent VOC's identified in Canada included Beta, Gamma, and Delta. These variants are no longer considered VOC's as they are no longer spreading widely and do not represent a significant risk. As of October 2023, no current circulating lineages are designated VOCs in Canada. The Omicron variant was identified in November 2021, and continues to evolve with sublineages. The Omicron sublineages XBB.1.5 and EG.5 and their descendant lineages were declared variants of interest in Canada in August 2023. A number of other Omicron sublineages are designated as variants under monitoring in 2023 (2).

Surveillance for new variants and their impact continues globally as part of the ongoing COVID-19 response.

4. Case Definitions

4.1 Lab Confirmed Case

A person with confirmation of infection with SARS-CoV-2 documented by:

- The detection of at least one specific gene target by a validated laboratory-based nucleic acid amplification test (NAAT) assay (e.g., real-time PCR or nucleic acid sequencing) performed at a community, hospital, or reference laboratory (the National Microbiology Laboratory or a provincial public health laboratory).

OR

- The detection of at least one specific gene target by a validated point-of-care (POC) NAAT, that has been deemed acceptable to provide a final result (i.e. does not require confirmatory testing).

OR

- Seroconversion or diagnostic rise (at least four-fold or greater from baseline) in viral specific antibody titre in serum or plasma using a validated laboratory-based serological assay for SARS-CoV-2 (note: serological assays are not routinely done for diagnostic purposes) (3).[1]

4.2 Probable Case

A person who:
1. Has clinical symptoms[2] compatible with COVID-19
AND

[1] A diagnostic rise in antibody titre can be established using paired acute and convalescent sera taken 2-4 weeks apart and tested using by an end-point enzyme immunoassay (EIA), quantitative EIA, or neutralizing antibody titres (e.g., plaque reduction neutralization (PRN)).
[2] Clinical symptoms: One or more of the following: fever/chills, new or worsening cough, shortness of breath, sore throat, loss or altered sense of taste/smell, runny nose/nasal congestion, fatigue (significant and unusual), muscle ache/joint pain, headache, nausea/diarrhea

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- Had a high-risk exposure with a confirmed COVID-19 case (i.e., close contact) OR was exposed to a known cluster or outbreak of COVID-19

AND

- Has not had a laboratory-based NAAT assay for SARS-CoV-2 completed or the result is inconclusive

OR

- Had SARS-CoV-2 antibodies detected in a single serum, plasma, or whole blood sample using a validated laboratory-based serological assay for SARS-CoV-2 collected within 4 weeks of symptom onset (note serological assays are not routinely done for diagnostic purposes)

OR

2. Had a POC NAAT or POC antigen test[3] for SARS-CoV-2 completed and the result is preliminary (presumptive) positive

OR

3. Had a validated POC antigen test[3] for SARS-CoV-2 completed and the result is positive

5. Reporting and Other Requirements

5.1 Laboratory

All positive laboratory results for SARS-CoV-2 are reportable to the Manitoba Health Surveillance Unit (MHSU) by secure fax (204-948-3044) or electronic transfer.

Self-administered Rapid Antigen Tests (RATs) are not reported to Manitoba Health. If confirmatory testing is completed and is positive, the result will be reported as above.

5.2 Health Care Professional

Health care providers should report COVID-19 associated deaths that occur OUTSIDE of hospitals, such as in community or long-term care facilities by completing the Clinical Notification of Reportable Diseases and Conditions form and faxing to MHSU (refer to section 5.4)

5.3 COVID-19 Associated Hospital and ICU Admissions

All laboratory-confirmed COVID-19 cases who were admitted to hospitals in Manitoba within 14 days before or after the specimen collection date for at least an overnight stay are defined by linking surveillance data to the system of Admission, Discharge and Transmission (ADT). Note that the reason for hospitalization and ICU admission does not have to be attributable to COVID-19. A positive laboratory test is sufficient for reporting. The provincial Epidemiology and Surveillance Unit (E&S) will conduct the data linkage.

[3] COVID-19 testing devices: Authorized medical devices - Canada.ca

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5.4 COVID-19 Associated Fatality

COVID-19 associated deaths are defined as all laboratory-confirmed COVID-19 cases who have died within 30 days[4] after the earliest specimen collection date in the most recent investigation. Note that the reason for death does not have to be attributable to COVID-19. A positive laboratory test is sufficient for reporting.

E&S will conduct data linkage and identify COVID-19 associated deaths that occurred in hospitals.

Health care providers are expected to report COVID-19 associated deaths that occur OUTSIDE of hospitals, such as in community or long-term care facilities, by completing a "*Clinical Notification of Reportable Diseases and Conditions"* report form and faxing to the MHSU who will document the death in PHIMS.

If regional public health is notified of a death (e.g. through the medical examiner) the death should be documented directly within PHIMS.

Refer to the following link for the: Clinical Notification of Reportable Diseases and Conditions (gov.mb.ca) report form.

5.5 COVID-19 Outbreaks

Outbreaks are reportable to Public Health. In general, only institutional outbreaks require management. COVID-19 outbreaks in the community are not monitored, except under exceptional circumstances.

Setting specific outbreak definitions and guidelines have been created and should be followed in outbreaks occurring in these settings. Please refer to:

- The COVID-19 Infection Prevention and Control Guidance for Personal Care Homes (covid-19-ipc-guidance-for-pch.pdf (sharedhealthmb.ca)).
- COVID-19 Infection Prevention and Control Guidance for Acute and Community Health-care settings (IPC-acute-care-manual-provincial.pdf (sharedhealthmb.ca)).

Acute and long term care IP&C should report outbreaks to public health by documenting outbreak information in the respiratory outbreak summary section of the Canadian Network for Public Health Intelligence (CNPHI). Regional public health will document these outbreaks in the PHIMS outbreak module.

If a community outbreak is being investigated the following definition can be used: a COVID-19 outbreak is defined as two or more lab-confirmed cases of COVID-19 epidemiologically linked to a specific setting and/or location. This definition excludes households, since household cases may not be declared or managed as an outbreak if the risk of transmission is contained. This definition also excludes cases that are geographically clustered (e.g., in a region, city, or town) but not epidemiologically linked, and cases attributed to community transmission.

[4] Note that for purposes of data validation, epidemiologic analysis in Manitoba only includes deaths occurring 10 days before or 30 days after the earliest specimen collection date, and thus may not include specimens collected more than 10 days post-mortem.

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NOTE: An epidemiological link is exposure at a common setting, presence at a gathering, or time spent in a common location or venue, where there is reasonable evidence that transmission could have occurred. Reasonable evidence of transmission at a setting can include:

- Close and prolonged contact with a known case who was communicable at the setting;
- Exposure to a setting where known cases were present within a reasonable time period, given the incubation period of COVID-19;
- The person has been located within a closed setting for ≥7days before symptom onset or collection of a diagnostic laboratory sample, based on estimates of a median incubation period of 4 days (interquartile range of 2-7 days) for hospitalized patients with COVID-19;
- No obvious source of exposure other than at the setting;
- Any other exposure scenarios, at the discretion of the Medical Officer of Health.

6. Epidemiology

6.1 Reservoir

No natural reservoir for SARS-CoV-2 has been identified. The original source of viral transmission to humans remains unclear.

6.2 Transmission

SARS-CoV-2 is transmitted from person to person through respiratory droplets and aerosols. The droplets vary in size, from large droplets that fall to the ground rapidly (within seconds or minutes) near the infected person (i.e., less than 2 metres), to smaller particles (aerosols), which suspend in the air for longer periods of time, especially in indoor spaces. The droplets or aerosols may come into direct contact with the mucous membranes of another person or they may be inhaled into their respiratory system (4).

The virus is most frequently transmitted when people are in close contact with others who are infected with the virus (symptomatic or asymptomatic). Activities that increase generation of respiratory droplets and aerosols may increase risk of transmission such as singing, shouting, or exercising.

The virus can remain suspended in the air for minutes to hours. The length of time the virus remains suspended and is infectious depends on numerous factors, including viral load in respiratory particles, disturbance of air and surfaces, ventilation, temperature, and humidity (5). Reports of outbreaks in settings with poor ventilation suggest that infectious aerosols were suspended in the air and that people inhaled the virus at distances beyond 2 metres. Such settings have included choir practice, fitness classes, and restaurants, as well as other settings. Transmission can be facilitated by certain environmental conditions, such as re-circulated air (4).

It is possible for people to be infected through contact with contaminated surfaces or fomites, but the risk is generally considered to be low.

Naturally acquired SARS-CoV-2 has been detected in a range of domestic and wild animal species. Transmission of the disease between humans and animals has mostly happened after close contact with people infected with the virus. Based on available information to date, animal-to-human transmission is likely very uncommon, and the risk to most people in Canada appears to be very low.

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However, there have been many reports of infected humans spreading SARS-CoV-2 to their dog or cat after a period of close contact. Precautions to avoid transmission to pets and other animals should be followed (6, 7). Refer to the provincial COVID-19 website for further information: Province of Manitoba | COVID-19 Information and Prevention (gov.mb.ca).

6.3 Immune Response to SARS-CoV-2 Infection and Vaccination

COVID-19 vaccines continue to be very effective at protecting against severe illness, hospitalization and death from SARS-CoV-2. Infections post-vaccination may occur, due to waning immunity and/or virus evolution. Individuals who have hybrid immunity (a combination of vaccine and infection induced immunity) have improved protection over that afforded by either immunization or natural infection alone.

6.4 Occurrence

For cases reported in Manitoba refer to the following link: Provincial Respiratory Surveillance Report | Health | Province of Manitoba (gov.mb.ca).

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.

6.5 Incubation Period

The incubation period ranges from 1 to 14 days and depends on the circulating variant. The median incubation period for non-variant SARS-CoV-2 was estimated to be 4 to 7 days. For Omicron, the median incubation period is 2 to 4 days (15).

6.6 Period of Communicability

The period of communicability begins from 48 hours prior to the development of overt symptoms in the case.

Infected individuals are more likely to be communicable in the earlier stages of illness when viral RNA levels from upper respiratory specimens are the highest. Contact tracing and household studies show that the transmission probability of SARS-CoV-2 usually peaks around symptom onset with large individual variations, and decreases gradually from day three (8).

The exact duration of when COVID-19 cases are infectious is unknown and is likely to vary between variants as well as between individuals. It is dependent on many factors including the individual's immune status and disease severity (9).

Transmissibility declines rapidly 2-3 days after symptom onset, and is estimated to be less than 3% after seven days from symptom onset. Communicability after 10 days of illness is unlikely for immunocompetent patients with non-severe infection in which the case is afebrile and improved clinically. Absence of cough should also not be required for those known to have chronic cough or for those who are experiencing reactive airways post infection (7, 8).

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Patients with severe COVID-19 disease or who are immunosuppressed can have prolonged shedding of infectious virus and thereby may have a longer period of communicability.

Asymptomatic cases can also have viral loads that are just as high as those of symptomatic cases, however, asymptomatic cases are estimated to be less infectious due to the absence of symptoms that promote transmission (9).

7. Clinical Presentation and Natural History

The clinical presentation of SARS-Cov-2 ranges from asymptomatic to severe and symptoms may change over the course of illness. The clinical features can also vary by age, vaccination status and variants. Severe disease occurs more often in older age and in those with underlying medical conditions, and the risk increases with the number of underlying medical conditions (9).

Symptomatic cases may experience one or more of the following common symptoms: fever or chills, cough, shortness of breath, sore throat, congestion or runny nose, fatigue, myalgia, headache, loss of taste or smell, nausea or vomiting, or diarrhea (10, 11).

Less common clinical manifestations include, but are not limited to are dermatological changes (i.e., rash) and ocular symptoms (i.e., conjunctivitis) (10, 11).

Multisystem inflammatory syndrome is a rare but severe post-infection complication of SARS-CoV-2 that can occur in children (MIS-C) and adults (MIS-A). It is a hyperinflammatory condition that can lead to multi-organ failure. Symptoms in children typically occur around 2-6 weeks; and adults around 2-12 weeks after the initial infection (9). Ongoing surveillance of MIS-C has been included in IMPACT, Canada's Immunization Monitoring Program ACTive, a pediatric hospital-based national active surveillance network for adverse events following immunization, vaccine failures and selected infectious diseases that are, or will be, vaccine preventable (14). Refer to the following link for more information on Multisystem inflammatory syndrome in children in Canada.

Post COVID-19 condition (i.e., long COVID) refers to a variety of physical and/or psychological symptoms that persist more than 12 weeks after the initial infection. Symptoms can vary in intensity and resolve or re-emerge. It can affect both children and adults. For more information: COVID-19 for health professionals: Post-COVID-19 condition (long COVID) - Canada.ca.

8. Diagnosis of COVID-19

Laboratory testing strategies have evolved over time, and will continue to evolve, including:

- Multiplex assays to test simultaneously for SARS-CoV-2 and other respiratory infections such as respiratory syncytial virus (RSV), and influenza.
- Genome sequencing for SARS-CoV-2 and its variants.
- Self-tests and emerging novel testing technologies, such as COVID-19 breathalyzer tests.

Testing for COVID-19 is only recommended for patients with compatible symptoms and who are at high risk for serious outcomes as they need to know if they have COVID-19 to receive early treatment options such as antivirals.

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In general, PCR testing is recommended where test results have an impact on client care: e.g., individuals who are eligible for treatment or hospitalized patients. Asymptomatic testing is not routinely recommended.

Individuals who are symptomatic and not eligible for PCR testing may use a self-administered rapid antigen test (refer to Section 8.4).

For further information on testing eligibility: Province of Manitoba | Testing Advice and Guidance (mbgov.ca).

8.1 Laboratory Based Tests

At present, a validated reverse transcription polymerase chain reaction (RT-PCR) test on a clinically appropriate sample collected by a trained health care provider is the gold standard for the diagnosis of SARS-CoV-2 infection.

Specimen selection is dependent on the specific test being used and how the test was validated and/or Health Canada authorization for different specimen types.

RT-PCR testing typically requires a nasopharyngeal (NP) swab placed in viral transport medium for conventional laboratory nucleic acid. If such a specimen is being collected for influenza-like illness (ILI) or presumed viral respiratory tract infection (RTI), then a second swab is not required.

Note: There may be some clinical indications for the use of an oropharyngeal swab instead of a NP swab, but when possible, a NP swab is the preferred specimen as it is more sensitive compared to other specimen types. Further information on specimen collection: http://www.gov.mb.ca/health/publichealth/cpl/docs/nasopharyngeal_collection.pdf.

More severely ill patients may also require deep lung specimens be submitted, such as sputum, endotracheal tube (ETT) secretions or broncho-alveolar lavage (BAL) specimens.

For samples being sent to Cadham Provincial Laboratory (CPL), include the following information on the *CPL General Requisition*: relevant symptoms, priority group/reason for test, outbreak code if applicable, and request for COVID-19. If reason to test is recent travel, indicate “travel” and the location of travel on the requisition (e.g. for genomic surveillance).

An inconclusive result on a real-time PCR assay is defined as an indeterminate result on a single or multiple real-time PCR target(s) without sequencing confirmation, or a positive result from an assay for which limited performance data are available.

An indeterminate result on a real-time PCR assay is defined as a late amplification signal in a real-time PCR reaction at a predetermined high cycle threshold value. This may be due to low viral target quantity in the clinical specimen approaching the limit of detection (LOD) of the assay, or may represent nonspecific reactivity (false signal) in the specimen. When clinically relevant, indeterminate samples should be investigated further in the laboratory (e.g., by testing for an alternate gene target using a validated RT-PCR or nucleic acid sequencing that is equally or more sensitive than the initial assay or method used) or by collection and testing of another sample from the patient.

The number of amplification cycles required to create enough copies of the viral RNA to be detected is called the cycle threshold (Ct) or Ct value. Ct values are not routinely reported by the laboratory, and in general, should not be used to guide client management or assessment of reinfection (13). PCR tests

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use a process where genetic material is amplified using a temperature cycling reaction that repeats up to 45 times, called amplification cycles. The amount of genetic material doubles after each cycle.

The more RNA that is present in the patient sample, the fewer cycles are required for the signal to reach the detection threshold (low Ct value). The less RNA present in the clinical sample, the more cycles are required. A low Ct value corresponds to a high viral load, while a high Ct value corresponds to a low viral load. However, it is not possible to directly translate a Ct value into degree or duration of infectiousness.

If Ct values are disclosed, caution must be exercised in the interpretation with the following taken into account:

- Ct values will depend on the stage of infection.
- Ct values are affected by the type and quality of the sample taken from the person.
- Ct values cannot be compared between different PCR tests. Not all NAAT tests have Ct values.
- The genetic fingerprint of the virus can be picked up long after the virus is no longer infectious - PCR can be positive for over 100 days or more after infection.

8.2 Serology Tests

Serology tests measure antibodies the body produces after infection with the virus. Of note, depending on the antibody that is being measured, it may also indicate immunization status. Serology tests are generally not recommended for use as a diagnostic tool to confirm acute infection, and are mainly used for population serosurveys. It is still unknown what antibody level correlates with protection against COVID-19.

A diagnostic rise in antibody titer can be established using paired acute and convalescent sera taken 2-4 weeks apart and tested by an end-point enzyme immunoassay (EIA), quantitative EIA, or neutralizing antibody titers (e.g., plaque reduction neutralization (PRN)); however, these assays are not widely available and are not currently recommended for routine diagnostic testing. Since an individual can have detectable antibody levels for many months, a single positive serology result (i.e., no documented seroconversion or diagnostic rise) may not reflect recent infection.

SARS-CoV-2 serology tests may be considered as an adjunct to SARS-CoV-2 NAAT in individuals with compatible symptoms who present late and therefore may test negative, and in the diagnosis of multisystem inflammatory syndrome in children (MIS-C) and multisystem inflammatory syndrome in adults (MIS-A).

8.3 Point-of-Care Tests

Point-of-care tests in which sample collection and testing is completed at the place of care and immediate results are provided, are widely available. Health Canada confirms that authorized COVID-19 tests are well supported by evidence that indicates they will provide accurate and reliable results. Some of the approved point of care tests require a different specimen type. The direction for the particular test should be followed as outlined in the testing kit. Only testing devices authorized by Health Canada can be imported or sold in Canada. Further information is available at Testing devices for COVID-19: Point-of-care and self-testing devices - Canada.ca.

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8.4 Self-administered Rapid Antigen Tests (RATs)

Rapid antigen tests are less sensitive than standard NAAT tests. They provide faster results and can be self-administered to allow for an increased number of individuals to be tested.

A positive rapid antigen test in a symptomatic individual does not require a confirmatory test. If clinically indicated, a negative rapid antigen test in a symptomatic individual should be repeated at least once after 24 to 48 hours.

Self-administered RATs are not reported to Manitoba Health.

For further information on RATs and testing, please refer to Province of Manitoba | Testing Advice and Guidance (gov.mb.ca).

8.5 Testing Individuals after Death

Collection of a post-mortem nasopharyngeal (NP) swab for COVID-19 testing should be considered if the death was preceded by influenza-like illness (ILI), upper or lower respiratory tract infection, or any symptoms compatible with COVID-19. If a previous swab was positive in the past 4 months, no further testing is routinely required.

For deaths occurring in a health care facility:

- If the death is reportable to the Office of the Chief Medical Examiner (OCME), the NP swab can be obtained without prior permission from the OCME, unless the death is a homicide or suspicious in nature with police involvement. It should be communicated to the OCME that the swab has been taken when the death is reported.
- If the death is not reportable to the OCME, follow facility processes for post-mortem procedures.

8.6 Surveillance of Variants

Knowledge and understanding of COVID-19 variants continue to evolve, and is a focus for ongoing surveillance. New variants have the potential to require a different response, particularly if there is a significant impact on virulence. As a result, ongoing monitoring and contingency planning is required.

Examples of situations where PCR testing is recommended for the ongoing surveillance of COVID-19 activity and variants in Manitoba include symptomatic people who:

- Are moderately or severely immunocompromised,
- Have traveled outside of Canada in the past 14 days, or
- Live in a congregate setting (e.g., personal care home or community residential home/facility) especially if there has been no known case in the facility or specific unit in last 14 days.

For more information including current VOCs in Canada refer to SARS-CoV-2 variants: National definitions, designations and public health actions - Canada.ca.

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9. Control

9.1 Management of Cases

Epidemiologic evidence suggests that the majority of people who develop COVID-19 will have mild illness and will not require care in a hospital. In addition, decreased virulence of current circulating COVID-19 viruses, immunity from both COVID-19 infections and vaccines, and the availability of treatments, has further reduced the severe impacts of COVID-19 compared to the beginning of the pandemic.

Reduced isolation periods in the community were adopted after the introduction of the Omicron variant to balance the need to manage COVID-19 cases and reduce transmission, with minimizing the impact on social, economic, and educational factors and encouraging adherence to recommendations.

Since then, the frequency of community testing has decreased, and is now only recommended for people who are at high risk for serious outcomes to inform receipt of early treatment options such as antivirals. In addition, other respiratory viruses have returned to circulate similar to pre-pandemic years. As a result, COVID-19 guidance has been integrated and aligned with approaches for all respiratory viruses in the 2023 fall season.

The following guidance is provided for management of individuals with respiratory symptoms in the community.

- People who are ill should stay home and avoid contact with others until symptoms have improved, they feel well enough to resume normal activities and are free of fever for around 24 hours without the use of fever-reducing medication.
- Avoid close contact with others, especially people at higher risk of severe illness or complications from a respiratory infection.
- Avoid non-essential visits to high risk settings (e.g. personal care homes, health care facilities).
- Clean your hands regularly – wash your hands with soap and water for at least 15 seconds or use alcohol-based hand sanitizer that contains at least 60% alcohol.
- Cover your coughs and sneezes.
- If appropriate, open windows to encourage airflow.
- If you cannot avoid close contact with others, take other prevention measures such as wearing a mask in indoor settings.
- Those with worsening or persistent symptoms should be clinically assessed (e.g., fever, increasing shortness of breath).

For residents in long term care and personal care homes, isolation requirements and precautions may differ. Refer to the following resources for further guidance: covid-19-ipc-guidance-for-pch.pdf (sharedhealthmb.ca).

In the acute care setting, seriously ill patients can have prolonged shedding of infectious virus and thereby may have a longer period of communicability. Decisions on discontinuing isolation should be made in conjunction with the case's health care provider and Infection Prevention and Control (IP&C), considering both the clinical and laboratory findings. Information on discontinuing precautions in

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hospitalized cases can be found in the COVID-19 Specific Disease Protocol (Provincial) – Acute and Community Settings - IPC-acute-care-manual-provincial.pdf (sharedhealthmb.ca).

Health Care Workers (HCWs): Those who work in health care settings may need to meet additional requirements before returning to their workplace. Further information is available here: Occupational Health Services - Shared Health (sharedhealthmb.ca).

9.2 Treatment of Cases

The health care provider will provide clinical management of the case as required. Treatment is available for clients at high risk of severe outcomes due to medical condition and/or age, including those who have been vaccinated. Individuals at high risk should be assessed for treatment and treatment prescribed if indicated. Depending on the type of treatment it must be started within 5-7 days of symptom onset for the treatment to be effective.

Treatments available for COVID-19 continue to evolve, and their effectiveness may vary with different variants of SARS-CoV-2.

Further information on treatment is available at Treatment Options for COVID-19 - Shared Health (sharedhealthmb.ca).

9.3 Re-infection

Following infection, more than 90% of individuals will develop Immunoglobulin M (IgM) and Immunoglobulin G (IgG) antibodies within weeks of symptom onset. The relationship between antibody levels and the level of protection against reinfection remains undetermined, as well as the role of cellular immunity in preventing reinfection (including cross-protective immunity following exposure to common coronaviruses).

Based on current evidence, individuals previously infected have a low risk for reinfection until around 4-6 months after initial infection. Reinfection can occur within 6 months of previous infection and may be more likely in certain populations, such as the elderly and immunocompromised (12). The risk and timeframe may also vary with different variants.

NAATs can continue to detect the virus six months or longer after the infection, therefore, a decision cannot be made on reinfection strictly based on time frame and repeat testing needs to be considered carefully.

Individuals who have recovered from COVID-19 and have a new positive rapid antigen test (RAT) result should consider themselves as having a new COVID-19 infection. RATs should not continue to be positive in individuals who have recovered from COVID-19. Ongoing use of RATs to determine end of communicability is not recommended as a positive RAT result is not directly related to infectiousness.

9.4 Management of Contacts

Individuals in the community are no longer required to self-isolate (quarantine) if they had close contact with a case.
With the emergence of the Omicron VOC, with shorter incubation periods and high transmissibility, contact tracing became less effective and is no longer recommended in the community setting. The

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majority of exposures will occur prior to case identification, as SARS-CoV-2 is most transmissible during the few days before and after the onset of symptoms. Whether notified of a COVID-19 exposure or not, everyone should routinely monitor symptoms of COVID-19 and stay home if unwell or symptomatic.

If a situation arises where close contacts are identified, the following definition would apply:

A close contact is a person who, within the period of communicability:

- provided care for the case, including HCWs, family members or other caregivers, or who had other similar close physical contact without consistent and appropriate use of personal protective equipment, OR
- who lived with or otherwise had close prolonged* contact (within 2 metres) with a probable or confirmed case while the case was infectious, OR
- had direct contact with infectious body fluids of a probable or confirmed case (e.g., was coughed or sneezed on) while not wearing recommended personal protective equipment.

**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. Prolonged exposure is defined as lasting for more than 10 minutes, cumulative over 24 hours.*

If self-monitoring or self-isolation (quarantine) is being recommended, close contacts should self-monitor for a period of 14 days from the last exposure to the case. A period of self-isolation may also be recommended, which may vary in duration based on the type of setting/risks.

Follow acute care and long-term care guidelines for management of patients/residents identified as close contacts in these facilities.

Workers in health care and congregate settings should also consult with occupational health or their workplace manager for further guidance.

9.5 Preventative Measures

Immunization
COVID-19 immunizations lower the risk of severe outcomes, such as hospitalizations and death, and are available for all people in Manitoba 6 months of age and older. For further information on recommendations and eligibility requirements refer to: Province of Manitoba | Vaccination and Eligibility (mbgov.ca).

Additional Preventative Measures:

- Monitor for symptoms and stay home/avoid others when sick.
- Practice respiratory etiquette (cover cough/sneeze) and good hand hygiene by washing hands with soap and water or using an alcohol-based hand sanitizer after contact with infected animals,

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people or contaminated materials or items. Clean and disinfect surfaces and objects frequently touched by many people.

- Wearing a mask is a personal choice and is no longer required by public health. Masks can be an additional layer of protection along with other measures. Mask use may be considered in particular when:
  - Individuals are sick and cannot avoid close contact with others in indoor spaces.
  - Individuals are at higher risk of severe illness, especially in crowded settings during periods when respiratory virus activity is high in the community.
  - In settings where there are many people who are at higher risk for severe disease (e.g. healthcare facilities, personal care homes).
  - Individuals are caring for someone who is sick.
- Improve ventilation. Poorly ventilated spaces, crowds, and large gatherings will increase the risk of exposure to a respiratory virus. Ventilation, whether through opening windows or the use of heating, ventilation, and air conditioning (HVAC) systems, can increase the amount of outside air brought inside. This will dilute the number of viral particles in the air, and help to reduce the risk of exposure. Ensure HVAC systems receive routine maintenance. Spending time outside may also be an alternative.

9.6 Infection Prevention and Control

Healthcare Workers

- Health care workers (HCWs) providing care for a case should follow relevant guidance developed for infection prevention and control including Routine Practices and Additional Precautions and COVID-19 specific infection prevention and control (IP&C) guidance. For further information on resources and current recommendations refer to https://sharedhealthmb.ca/covid19/providers/.
- Additional measures are recommended for aerosol-generating medical procedures (AGMPs): AGMPs are medical procedures that can generate aerosols as a result of artificial manipulation of a person's airway. There are several types of AGMPs which have been associated with a documented increased risk of tuberculosis (TB) or SARS transmission including intubation and related procedures. For further information see: See aerosol-generating-medical-procedures-AGMPs.pdf (sharedhealthmb.ca).

Additional provincial IP&C guidance documents are available at https://sharedhealthmb.ca/covid19/providers/ipc-resources/.

10. Key Investigation Components for Public Health Response

Due to the high transmissibility of the Omicron VOC and widespread community transmission, individual case, contact and outbreak management is no longer required for cases in low risk community settings. However, ongoing surveillance of COVID-19 activity, from a variety of sources, continues to occur.

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10.1 Outbreak Management

Long Term Care
Long Term Care (LTC) residents are vulnerable to infection with COVID-19 due to behavioral factors, shared spaces, and transit between other healthcare facilities. Older adults and those with pre-existing medical conditions are also at risk for more severe disease and have higher mortality when infected with COVID-19.

Outbreak management strategies and definitions are listed in COVID-19 Infection Prevention and Control Guidance for Personal Care Homes covid-19-ipc-guidance-for-pch.pdf (sharedhealthmb.ca).

Acute and Community Health-care Settings
Outbreak management strategies and definitions are listed in the COVID-19 Infection Prevention and Control Guidance for Acute and Community Health-care settings IPC-acute-care-manual-provincial.pdf (sharedhealthmb.ca).

Other High-Risk Settings
Vulnerable congregate settings based on populations at risk of severe outcomes (e.g., seniors housing) may implement measures, based on the situation and setting.

Other Community Settings
In community settings, case numbers will mirror the community rates, and management of settings with high transmission rates/high absenteeism should follow general advice on community measures to decrease transmission. Settings such as schools and daycares may connect with public health for guidance when absenteeism rates are higher than expected. Note that absenteeism rates have been influenced by the additional impact of COVID-19 on top of the typical pre-pandemic circulating respiratory viruses, along with recommendations to stay home when sick. As a result, there is not a specific threshold for concern about absenteeism, but rather a change in what has been observed.

Management of Simultaneous COVID-19 and Influenza Outbreaks
In facility outbreaks, more than one respiratory pathogen may be isolated, which may impact decisions on antiviral treatment for influenza or COVID-19, or antiviral prophylaxis for influenza. Consider the following guidance to assist with management of **symptomatic** individuals when **both** COVID-19 and influenza are identified during an outbreak:

- COVID-19 rapid antigen tests can assist with timely identification of COVID-19.
    - If positive, manage/treat for COVID-19, and continue influenza prophylaxis as indicated. Additionally send swab for PCR testing to rule out co-infection with influenza. If influenza positive, change influenza antivirals to treatment dosing as indicated.
    - If negative, begin influenza antiviral treatment dosing as indicated. Additionally send swab for PCR testing to identify cause of illness. Adjust antiviral regime as appropriate based on results (e.g. if influenza negative, adjust dosage to complete influenza prophylaxis.)

11. Documentation Guidelines and Resources

Individual case and contact documentation is no longer required.

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For surveillance purposes, Manitoba Health Surveillance Unit (MHSU) will enter COVID-19 probable or lab-confirmed reports and assign to service delivery organizations.

Upon declaration of an outbreak (e.g., in high risk community settings) regional Public Health is responsible to document the existence of a COVID-19 outbreak in PHIMS. For the process of assignment and documentation of outbreak and cluster codes, refer to ***Standard Operating Procedure. Regional Management of Outbreaks and Clusters in PHIMS:*** https://www.gov.mb.ca/health/publichealth/cdc/protocol/regional-management-outbreaks-clusters-phims.pdf.

COVID-19 associated deaths that occur OUTSIDE of hospitals, such as in community or long-term care facilities should be documented directly within PHIMS, or by completing a clinical notification form and fax to the MHSU who will document the death in PHIMS.

12. Additional Resources

Province of Manitoba | Resources for the Public (mbgov.ca)

Province of Manitoba | Resources for Health Care Providers (mbgov.ca)

COVID-19 IPC Guidance for Personal Care Homes - Shared Health

COVID-19 IPC Guidance for Acute Care - Shared Health

Routine Practices and Additional Precautions: Preventing the Transmission of Infection in Health Care (gov.mb.ca)

WHO Coronavirus (COVID-19) Dashboard | WHO Coronavirus (COVID-19) Dashboard With Vaccination Data

Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings - Canada.ca

Infection prevention and control for COVID-19: Interim guidance for acute healthcare settings - Canada.ca

Multisystem inflammatory syndrome in children (MIS-C) in Canada, CCDR 47(11) - Canada.ca

Understanding transmission of SARS-CoV-2 in the ongoing COVID-19 pandemic | National Collaborating Centre for Environmental Health | NCCEH - CCSNE

COVID-19 Variants of Concern (VOCs) | Public Health Ontario

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COVID-19 Guidelines for Indoor Ventilation - Canada.ca

COVID-19 mask use: Advice for community settings - Canada.ca

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12. Centers for Disease Control and Prevention. *Science Brief: SARS-CoV-19 Infection-induced and Vaccine-induced Immunity*. (October 29, 2021) [Science Brief: SARS-CoV-2 Infection-induced and Vaccine-induced Immunity | CDC]

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