Management of Cases and Contacts of COVID-19 in Ontario

May 6, 2021 (version 12.0)

Ontario

Version 12.0 – Significant Updates

Page #	Description
7	Minor updates to Roles & Responsibilities (MOH, PHUs, PHO)
10	Updates to Table 1: Testing Reference documents
11	Updates to Management of Individuals Awaiting Testing Results (including preliminary positive results from point-of-care assays)
13	Minor updates: Management of Potential False Positive/False Negative/Indeterminate Results
15	New section: Variants of Concern
17	New section: Virtual Assistant
18	Minor Updates to Case Management section: Introduction, Initial Case Reporting, Case Exposure Assessment/Backward contact tracing, Case status monitoring, Case contact assessment, Case Isolation Period, Asymptomatic Cases, Case Recovery and Post-Clearance
24	Major updates to Case Management: Self-Isolation of previous positives with new high-risk exposures, Testing of previously cleared cases, Management of previously cleared cases with new positive results (re-positive and re-infection), Enhanced case management for VOC screen positive cases
28	Minor updates to Contact Management: Introduction, Initial Contact
29	Major updates to Contact Management: Testing of Asymptomatic High-Risk Contacts, Subsequent Follow-Up, Household Members of High-Risk Exposure Contacts (new)
32	Table 3: Minor updates
35	Table 4: updates to contact management based on exposure setting and type (including footnotes)
41	Table 5: Minor updates
45	Updates for travellers and federal quarantine program
General	Formatting update: addition of numbered sections

Ministry of Health. Health System Emergency Management Branch
1075 Bay Street, Suite 810. Toronto, Ontario. Canada, M5S 2B1
416-212-8022 (local); 1-866-212-2272 (long distance).
Emergencymanagement.moh@ontario.ca

Table of Contents

List of Tables

Management of Cases and Contacts of COVID-19 in Ontario

Version 12.0 – May 6, 2021

This guidance document is not intended to take the place of medical advice, diagnosis or treatment. Where the document includes references to legal requirements, it is not to be construed as legal advice.

In the event of any conflict between this guidance document and any orders or directives issued by the Minister of Health or the Chief Medical Officer of Health (CMOH), the order or directive prevails.

- Please check the Ministry of Health (MOH) COVID-19 website regularly for updates to this document, mental health resources, and other information,
- Please check the Directives, Memorandums and Other Resources page regularly for the most up to date directives.

This document provides information for public health management of cases and contacts in Ontario. The MOH has developed this document with contributions from Public Health Ontario (PHO) based on currently available scientific evidence and expert opinion. This document is subject to change as the situation with COVID-19 continues to evolve and as new tools/strategies to support public health management of cases and contacts are developed. This document is intended to provide broad guidelines only and cannot cover every scenario that may be encountered; therefore, local public health unit (PHU) decision-making is required.

Nothing in this document is intended to restrict or affect the discretion of local medical officers of health to exercise their statutory powers under the *Health Protection and Promotion Act*. It is expected that all parties supporting case and contact management in Ontario will follow this guidance.

This document replaces 'Public Health Management of Cases and Contacts of COVID-19 in Ontario V 11.0' (January 12, 2021) and the COVID-19 Variant of Concern: Case, Contact and Outbreak Management Interim Guidance (February 26, 2021).

Sector-specific guidance documents also provide additional information about outbreaks in different settings (e.g., acute care, long-term care homes/retirement

homes, workplaces, schools, congregate living settings). These documents are available on the Ministry's website.

As part of the ongoing assessment and adjustment of public health measures in the province, and the spread of Variants of Concern (VOC)s, it is critical that chains of transmission are broken early and effectively through strong and timely case and contact management activities. The MOH has also released guidance on a COVID-19 surge support model to help augment PHU capacity during a period of sustained high case counts, VOC spread, and COVID-19 vaccination rollout All efforts should be made to conduct full case and contact management programs, including through the use of provincial resources to augment local capacity. Issues with PHU capacity to complete all recommended case and contact activities in this guidance should be discussed with the Ministry of Health for assistance and/or prioritization.

1 Case and Contact Management Responsibilities

Ministry of Health (MOH):

- Coordinate the provincial response to COVID-19.
- Support the coordination of complex case, contact, and outbreak management activities, including coordinating access to specialized workforce for case and contact management.
- Set provincial case definition.
- Set provincial standards for case and contact management.
- Share information with the public.
- Report case details to the Public Health Agency of Canada (PHAC) as appropriate.
- Coordinate follow-up activities from the Canadian Border Services Agency.

All Public Health Units (PHUs):

- Review the case and contact management guidance in this document.
- Review the surge support model guidance; engage additional workforce resources and implement modifications as needed.
- Follow requirements of the *Health Protection and Promotion Act*, as well as related regulations.
- Conduct COVID-19 case management for confirmed cases (and probable cases where feasible) as described in this document including: initial contact

with cases, monitoring of cases until cleared from self-isolation, and updating case status as required. For hospitalized cases, the PHU is responsible for the initial interview but ongoing monitoring is the responsibility of the hospital while the patient remains in hospital.

- Conduct COVID-19 contact management as described in this document, including:
    - ensuring that all contacts with high-risk exposures are notified once identified
    - ensuring that there is appropriate follow-up and management for all contacts that are followed by the PHU with high-risk exposures by:
        - Communicating with high-risk contacts over the course of their self-isolation
        - Verifying that high-risk contacts are compliant with self-isolation, and
        - Communicating MOH testing guidance to all high-risk contacts
    - ensuring that all contacts with low-risk exposures are followed up as appropriate as per Table 6
- Track and report on own performance management indicators for case and contact management as described by the MOH.
- Ensure timely and complete data entry and reporting of case, contact and outbreak information.
- Identify to the MOH any capacity gaps (real or anticipated) and other challenges to meeting program standards via the Ministry Emergency Operations Centre (MEOC) (eocoperations.moh@ontario.ca).

Public Health Ontario (PHO):

- Participate in the MEOC's response activities.
- Provide scientific and technical advice to stakeholders in areas such as laboratory testing, case and contact management, data entry requirements for reporting of cases, contacts and outbreaks, outbreak management recommendations, and advice on clinical management and infection prevention and control (IPAC) and occupational health and safety (OHS) measures.
- Provide instruction on data entry of cases, contacts and outbreaks, including but not limited to: updating and maintaining relevant data entry guidance documents and enhanced surveillance directives.
- Conduct and disseminate provincial epidemiological surveillance and analytic reports.

- Provide laboratory testing for COVID-19 and monitor the molecular evolution and epidemiology of the virus along with other laboratories in Ontario. Support interpretation of laboratory results, as needed.
- Support PHUs as needed with high-risk exposure, community contact follow-up through the case and contact management system (CCM).

Acute Care Settings:

- Acute care settings are responsible for monitoring close contacts who were exposed in the hospital and are **currently admitted** (i.e., inpatients), or were exposed in the community but are now admitted to hospital. This includes patients who were exposed in the emergency department and subsequently admitted. Acute care settings are also responsible for monitoring health care workers who were exposed at work.
- Acute care settings are not responsible for monitoring contacts of probable and confirmed cases who are currently in the community. This includes contacts who were exposed in an acute care setting or other health care setting (e.g., primary health care setting, urgent care clinic) but who are currently in the community and not hospitalized.
    - The responsibility for monitoring contacts that were exposed during their hospital admission (i.e., inpatients) and subsequently discharged prior to completing their monitoring period must be transferred from the acute care setting to the PHU.

Other Sectors:

- Other sectors also play a role in case and contact management including employers, congregate settings, primary care, assessment centres and education partners.
- Details around the role of these sectors can be found in existing guidance on the Ministry of Health website (outbreak guidance, sector-specific guidance, etc.).

2 Testing

PHUs must remain up to date on the latest provincial testing guidance. Table 1 outlines key documents/resources and their location. These documents are updated regularly.

Table 1: Testing Reference Documents

Document/Resource	Location	Notes
Case Definition	MOH Guidance for Health Sector - link	The case definition is for surveillance purposes only.
Provincial Testing Guidance	MOH Guidance for the Health Sector - link	This document outlines provincial testing guidance including considerations for specific settings/groups.
Quick Reference PH Guidance on Testing and Clearance	MOH Guidance for the Health Sector - link	This document can help guide decision making on clearing/testing contacts of cases or individuals suspected or confirmed to have COVID-19
Considerations for Antigen Point-of-Care Testing	MOH Guidance for the Health Sector - link	This document provides guidance for individuals or organizations conducting rapid antigen testing in Ontario.
COVID-19 Reference Document for Symptoms	MOH Guidance for the Health Sector - link	This document outlines symptoms associated with COVID-19
PHO COVID-19 PCR Test Information Sheet	PHO Website - link	This document outlines PCR-based test information and specimen collection guidelines for COVID-19
PHO COVID-19 Serology Test Information Sheet	PHO Website – link	These documents outlines serology based test information and specimen collection guidelines for COVID-19
PHO COVID-19 Variant of Concern Surveillance Test Information Sheet	PHO Website – link	These documents outline variant of concern surveillance testing guidelines for COVID-19
Appendix 8: Cases with Positive Serology Results and Management of Cases of MIS-C	MOH Guidance for the Health Sector - link	This document provides guidance on both serology testing and MIS-C in children.
Appendix 9: Management of Individuals with Point-of-Care Results	MOH Guidance for the Health Sector - link	This document provides guidance on how to manage individuals with results obtained from point-of-care testing technologies

Document/Resource	Location	Notes
Managing Health Care Workers with Symptoms within 48 Hours of Receiving COVID-19 Vaccine	MOH COVID-19 Vaccine-Relevant Information - link	This document provides guidance on recommendations for health care workers with symptoms after COVID-19 vaccination including testing considerations.

Individuals who are tested and have a valid Ontario health card are able to access their results online through the Ministry of Health online lab results viewer. Once the individual learns of their testing result, the portal also informs the individual about next steps.

2.1 Management of individuals awaiting testing results

2.1.1 Preliminary positive results

- "Preliminary positive" results from a point-of-care (POC) assay should be considered sufficient laboratory evidence to initiate case and contact management as appropriate as a probable case, while awaiting confirmatory parallel testing.
- Assays that have been approved to provide final results will report results as "positive" if positive.
- For interpretation of POC testing results, see the Provincial Testing Guidance, and Appendix 9: Management of Individuals with Point-of-Care Results.

2.1.2 Symptomatic individuals

- PHUs may initiate public health case and contact management of symptomatic individuals with high-risk exposures who are awaiting test results, depending on the context of the symptoms, exposures, and exposure settings.
- For surveillance purposes, symptomatic individuals awaiting test results are not considered probable cases and will not need to be entered into CCM. Test results should be obtained before determining case classification.
- Symptomatic individuals should self-isolate while their test results are pending.
- Household members and other close contacts of a symptomatic individual should follow self-isolation guidance on the Ontario COVID-19 Self-Assessment site, the COVID-19 School Screening Tool, or the Workplace

Screening tool, as applicable while the symptomatic individual is waiting for their test result. However, local PHUs may provide additional guidance within their region regarding self-isolation of household members, based on the local epidemiology and risk.

- All household members of symptomatic individuals are required to quarantine until the symptomatic individual receives a negative COVID-19 test result or is provided an alternative diagnosis by a healthcare professional.
- If the symptomatic individual does not seek COVID-19 testing, all household members should self-isolate for 14 days (period of incubation) from break in contact with that symptomatic individual. If there is no break in contact, this would start at the end of the symptomatic individual's isolation period (i.e., 10 days from symptom onset).
    - Household members do NOT include those living in separate units in congregate living settings (for example: those who live in a separate unit within the same retirement home, or a separate self-contained basement suite in a house). PHUs should apply the specific congregate living advice guidance to individuals in self-isolation in those settings.
- Local PHUs may provide additional guidance regarding self-isolation of household members of a symptomatic individual, based on the local epidemiology and risk.

2.1.3 Asymptomatic individuals

- For surveillance purposes, asymptomatic individuals awaiting test results are **not** considered probable cases and should not be entered into CCM. Test results should be obtained before determining case classification.
- Asymptomatic individuals with high-risk exposure to a confirmed or probable case should self-isolate while test results are pending, and complete their full 14-day self-isolation in the event of negative test result(s). A positive result would require self-isolation until cleared.
- Asymptomatic individuals participating in approved screening/surveillance testing (as per the Provincial Testing Guidance) and who did not have a high-risk exposure do not need to self-isolate while their test results are pending.
    - Household members of asymptomatic individuals participating in screening/surveillance testing who do not have a high-risk exposure

do not need to self-isolate while the asymptomatic individual is awaiting test results.

2.2 Management of Potential False Positive/False Negative/Indeterminate Results

If there is concern about the accuracy of a test result (e.g., false negative, false positive), recollect a specimen from the individual for REPEAT TESTING as soon as possible. If repeat testing is not possible, use the original test result as part of the overall public health decision-making.

False Positives: A positive test should prompt the appropriate public health actions, even if being investigated as a potential false positive. If the test is thought to be a false positive due to concerns about the test validity or low pre-test probability, recollect a specimen for **repeat testing**. Additional information about the test (e.g., cycle threshold (Ct) value) is **not required** for public health decision-making.

Where true laboratory issues have been identified with previously issued positive results leading to an amended test result, follow PHO guidance on updating case status. See section 4 on Case Management for further detailed guidance on the management of asymptomatic positive results with low pre-test probability.

False Negatives: A false negative test may occur in an infected individual tested too early in their incubation period, or in an infected individual at any time due to the sensitivity of the test. Actions should not be made solely on the basis of a negative test result. False reassurance from a negative test is a concern. **Where the clinical index of suspicion is high (e.g., based on clinical presentation and/or epidemiological context), a negative test does not rule out disease.** For individuals with worsening/progressing symptoms, consider **repeat testing**. Consideration should also be given to obtaining a lower respiratory sample (e.g., sputum or bronchoalveolar lavage in hospitalized patients). Individuals with a high-risk exposure to a case (e.g., exposure to a known case and/or outbreak) and test negative in their incubation period should continue with their full 14-day self-isolation or self-monitoring period.

Investigations of Potential False Positive/False Negative Results: Where there is concern of a false positive or false negative result based on an unexpected test result relative to the clinical and epidemiological information of the case, it is advised to **recollect a specimen for repeat testing as soon as possible**.

- Individuals should be managed using their initial specimen result until further information is available. If no additional testing information becomes available, the initial specimen result should be used for the overall public health assessment of the case.
- The repeat test on a subsequently collected specimen is not considered more accurate than the initial test; however, the combination of the two results provides additional context for interpreting the initial result.
- A second test on a recollected specimen that yields the same result as the first specimen is reassuring of the validity of the first result.
- A discordant second test needs to be interpreted in the context of clinical and epidemiological information to guide public health decision-making. Although this may represent a false positive initial test, it is known that testing of repeat specimen collections are often negative when an initial test is a true positive. This occurs when there is a low viral load in the initial specimen, which is close to the limit of detection of an assay, and will often not be reproducibly detectable from the repeat specimen.
- Repeat specimens should be collected as soon as possible after the first result to best inform public health management of the individual.
    - The shorter the interval between the first and second test, the quicker management decisions can be made for the case.
- There is no specific timeframe of when the repeat specimen should be collected; however, there is a diminishing return on the value of a repeat specimen collected several days after the initial specimen (the longer the interval between the initial and repeat test, the more likely the test will go from positive to negative).
- Interpretation of the repeat specimen should be within the overall context of the case, the implications for public health management, and the re-testing interval.
- In situations where a false positive laboratory result cannot be confirmed based on the laboratory investigation, but there is clinical and epidemiological evidence that the individual is unlikely to be currently infectious (e.g., high Ct value, asymptomatic, no known exposures, and immediately re-tests negative), public health case and contact management may be discontinued.

Further information on laboratory results and their interpretation is available on the PHO website. PHUs may consult PHO and/or the testing laboratory for further information on the results in question to support the investigation of discordant

results where there is concern of a potential false positive; however, timely public health case/contact management decision-making should not rely on this process.

Indeterminate Results: This may be due to low viral target quantity or may represent a false signal. Of note, not all assays have an indeterminate range.

- For public health follow-up purposes, an indeterminate result in an individual with symptoms compatible with COVID-19 is sufficient laboratory criteria for a probable case, and associated case and contact management practices.
- For clinical and public health purposes, asymptomatic individuals with indeterminate results do not meet the probable case definition. **Repeat the test as soon as possible.**

Table 2: Managing Repeat Test Results for Asymptomatic Individuals with Initial Indeterminate Results

Repeat Test Result	Public Health Management
Positive	Manage as a confirmed case. The most cautious approach to public health management is to extend the period of communicability for contact tracing to 48 hours prior to specimen collection of the indeterminate result and specimen collection of the positive result for determining clearance.
Indeterminate/Negative	Does not meet case definition
Not available	Does not meet case definition – the individual should be recommended to retest as soon as possible, but if no retest is obtained, public health management is at the discretion of the PHU based on likelihood of individual being an actual case

2.3 Variants of Concern (VOC)

- VOCs are variants of the SARS-CoV-2 virus that have significant mutations that confer different properties or characteristics to the virus, such as increased transmissibility, increased severity, risk of reinfection, or risk of escaping protection by current COVID-19 vaccines. In addition to VOCs, some variants may also contain 'mutations of interest' that individually may not constitute a VOC but are identified to further understand the clinical and public health impacts of

specific mutations. As more is known about mutations and mutation patterns, variants with those mutations become a VOC.

- The overall goal is to stop/slow the spread of VOCs to the greatest extent possible to mitigate impacts on hospitals and the broader health system, and to mitigate the impacts on settings and communities where people are likely to be disproportionately affected. This includes containment to the greatest extent possible in regions of Ontario where VOC community transmission has yet to be detected, and mitigation where VOC community transmission is occurring.
- Information on VOCs, and testing for VOCs can be found on the PHO Laboratory website.
- Screening for VOCs occurs after a positive PCR result for SARS-CoV-2 and looks for markers that a VOC may be present. A selection of screen positive specimens are then sent for sequencing to identify mutations present. Screening and sequencing require sufficient viral material, and therefore not all positive results may be screened or sequenced. While screening results may be available sooner after the positive result, confirmation by sequencing of results can take longer (1-2 weeks), and is not available for every VOC screen positive specimen. Therefore, VOC results may not be timely enough or complete enough to inform case and contact management, and guidance has been updated to enhance case and contact management for all cases in light of emerging prevalence of VOCs. Any updates to VOC-related guidance will be communicated directly to PHUs by the MOH.
- PHUs identifying cases or outbreaks that warrant targeted testing for VOCs (where screening has not already been conducted), should follow instructions from the Public Health Ontario COVID-19 Variants of Concern Test Information Sheet.
- Request for VOC screening (if not already conducted) should also be considered for:
    - Positive PCR results in a case that is >14 days after their second dose of COVID-19 vaccine (or last dose if a single-dose vaccine series).
    - Suspected cases of re-infection. Regardless of the availability of the first specimen for sequencing to compare first infection to second infection, VOC screening is recommended for the recent (suspected re-infection) specimen, as per the Case Definition.

3 Case and Contact Management

The identification of a probable or confirmed COVID-19 case triggers an investigation by the PHU to assess potential exposures within the 14 days prior to symptom onset and to evaluate potential transmission among close contacts.

Public health system capacity is an important criterion in decision making about other pandemic response activities (e.g., modification of public health measures to reduce cases and contacts). As outlined in the surge support model, resources are available to support PHUs with case and contact management, including a centralized workforce trained to conduct contact monitoring and the virtual assistant tool. PHUs who are or who anticipate they will experience capacity challenges in meeting case and contact management indicators must contact the MEOC at (eocoperations.moh@ontario.ca).

3.1 Virtual Assistant

The Virtual Assistant (VA) is a case and contact management tool embedded in the CCM software. The VA helps to support rapid case notification, contact identification and monitoring, through text messaging. Cases receive a text message asking if they will complete the online tool, which provides information on COVID-19, self-isolation and a portal for contact identification that feeds into CCM. The VA can effectively support case investigators by reducing the CCM data entry requirements by the case investigator, supporting the initial case phone call by priming the case in advance and providing automated support throughout the self-isolation period. VA can be used by PHUs to send rapid notification and important information to identify close contacts to support further prioritization and outreach. Virtual Assistant can also be used throughout the observation period to provide automated support. All contacts who are monitored by the VA will be managed as high-risk. The VA should be used by PHUs wherever possible and should be integrated into existing workflows.

3.2 Case and Contact Management Indicators

The MOH is working with local PHUs to enhance the provincial case and contact management program and has set certain indicators to ensure a full understanding of capacity issues/challenges and performance/success. Indicators are subject to change as the program evolves and are applicable to cases detected by assays with direct feed into the Ontario Laboratories Information System.

Case Management Indicators:

- % of cases are reached within 24 & 48 hours from when the PHU was notified of the case.

Currently the performance target for this indicator is that 90% of all cases are reached within 24 hours

Contact Management Indicators:

- Number of newly identified high-risk exposure **contacts** that are successfully reached within 24 & 48 hours
    - Note: initial contact within 24 & 48 hours with high-risk exposure contacts in large group settings (e.g., workplaces, schools) may be satisfied by mass notification through email/VA or other communication means, with individual follow-up phone call afterwards.

4 Case Management

With the recent availability of COVID-19 vaccines, PHUs must capture vaccination history against COVID-19 for each case (e.g dose number, vaccine product, date of vaccination, as an interim measure until there is a direct linkage to the provincial COVID-19 vaccine registry (COVAX).

Guidance on case management based on vaccination status is rapidly evolving. Any interim changes to the guidance will be communicated directly to PHUs from the Ministry of Health as they occur and will be posted on the Ministry of Health website.

Instructions to manage a **probable or confirmed case**, including those identified through point-of-care testing (POCT) are outlined below. Case management instructions also apply to asymptomatic cases who test positive. For information on testing and diagnosis of asymptomatic individuals, PHUs should follow the guidance in the COVID-19 Quick Reference Public Health Guidance on Testing and Clearance document.

Where there is a high index of suspicion that an individual may be a COVID-19 case with a possible false-negative test result, re-testing is advised, and initiation of case

management may be appropriate based on the health unit's risk assessment (see Management of Potential False Positive/False Negative/Indeterminate Results for details).

For information on management of cases confirmed by positive serology results, and for reports of multisystem inflammatory syndrome in children (MIS-C) in confirmed or probable cases of COVID-19, see Appendix 8 for guidance.

The PHU interviews the case and/or household members/family members (i.e. if the case is too ill to be interviewed, has died, or is a child) as soon as possible to collect the information for case data entry and identify contacts with high risk exposures.

- As per data entry guidance, the PHU will complete the "investigation start date" as well as the case "reported date" which is the date the case was reported to the PHU by the laboratory. This information will be used for ministry reporting on the timeliness of case investigation initiation. The investigation start date is defined as the date the PHU first had contact with the case or proxy. Making contact with the case involves talking with the case/proxy and providing information to the case as appropriate.

Most PHU investigators conduct these interviews by telephone. However, for interviews conducted in person, the investigator should follow recommended IPAC measures when entering the case's environment (see Guidance for Health Care Workers and Health Sector Employers for further information on OHS and IPAC measures).

For cases who are hospitalized or living in settings outside of an individual/family home, the PHU can provide advice and guidance from setting-specific guidance documents found on the MOH Guidance for the Health Sector website.

PHUs must follow 4 general steps as part of case management which are detailed below: initial case reporting, case exposure assessment, case status monitoring, and case contact assessment.

4.1 Initial Case Reporting

Only **Probable and Confirmed** cases are reportable to PHAC and to the World Health Organization. Within 24 hours of the identification of a **confirmed** case (and probable case as capacity allows) in Ontario, the MOH will report the case to PHAC

as part of the national notifiable disease reporting requirements, as well as in accordance with the International Health Regulations.

To meet this timeline, the PHU must enter the case into CCM within 24 hours. The initial contact to a confirmed case (by phone, or through VA) is to ensure the case is isolating and to gather information for entry into CCM. PHUs need to enter a minimum data set as dictated by the most recent Enhanced Surveillance Directive for each confirmed case (and probable cases where feasible). Virtual Assistant may be deployed as initial contact with a case, prior to the case investigator phone call, to prime the case for management; cases will be sent a text message to complete an online tool which provides information on COVID-19, self-isolation and includes a portal for contact identification, feeding into CCM .

*Note: PHUs are no longer required to complete and submit the SARI case report form to PHO; however, this tool (Appendix 1: Ontario's Severe Acute Respiratory Infection Case Report Form) may still be used to guide data collection and data entry.

4.2 Case Exposure Assessment/Backward Contact Tracing

PHUs must assess for the most relevant acquisition exposure(s) in the 14 days prior to symptom onset or 14 days prior to positive specimen collection date if never symptomatic (see Appendix 2 for a sample template). Ascertainment of exposures enables identification of locations/settings where transmission may be occurring, particularly if additional cases are associated with that location/setting and may also identify unrecognized chains of transmission and lead to more case finding through backward contact tracing. The most relevant acquisition exposures (after household members) for entry are settings where the case spent the most time outside of the house, and where acquisition is most likely to have occurred based on the "3 C's" (close contact where physical distancing cannot be maintained, crowded spaces, and closed environments with poor ventilation). The most likely exposure setting(s) of acquisition that should be included (where applicable):

- workplace with in-person attendance and co-worker/client interactions,
- school, child care centre, camp, before and after care, and/or post-secondary institution,
- congregate living setting (including long-term care, retirement home, shelter, group home, rooming house, hostel),
- social events, gatherings and/or places of worship, or

- other settings where the case may have had close, prolonged, unprotected contact where transmission may have occurred.

Case exposure assessment should be completed for travel history out of the province, and history of close contact with someone who travelled out of the province.

Data entry of exposures should follow data entry guidance by PHO. Virtual Assistant can be used to support rapid case exposure assessment. Where a case is identified as having a VOC or mutation of interest, health units should follow PHO Data Entry Guidance and Enhance Surveillance Directives for VOCs.

4.3 Case Status Monitoring

Cases should be monitored for assessment of the illness, to ensure the ability to comply with self-isolation, and to determine when they can be cleared from self-isolation (see Appendix 3 and Appendix 4 for a sample template). At a minimum, cases must be called on the phone where feasible (or through VA) within 24 hours from when the PHU was notified of the case and should be contacted on day 5 and day 10 of the isolation period. In situations where a case is required to isolate for 20 days (as per the Quick Reference Public Health Guidance on Testing and Clearance), follow-up contact is required (e.g., day 5, day 10, day 15, and day 20) provided the case is discharged from hospital. All initial case contact must be done by phone call or VA, and methods of contact on the other days of self-isolation can include texts, emails, VA or phone calls. The determination of how to make contact on these days can be based on both PHU discretion/capacity and the preference of the case. **PHUs should provide support for case isolation**, including consideration of:

- Use of isolation facilities
- Use of community supports and agencies
- Psychosocial supports
- Courier, delivery supports for food and necessities
- Emergency financial supports through the provincial government
- Provincial unpaid job-protected infectious disease emergency leave and federal government financial supports including employment insurance.
- Additional resources available to support isolation through the High Priority Communities strategy

4.4 Case Contact Assessment

PHUs must conduct forward contact tracing activities (see Contact Management) to identify close contacts of probable or confirmed cases with high-risk exposures while the case was likely infectious (see Appendix 5 for a sample worksheet to conduct close contact tracing activities). In addition, PHUs should ask about any identifiable groups of low-risk contacts to inform consideration of targeted group communication as outlined in Table 6. PHUs should ask the case about any other prompts they have received to initiate the process of contact tracing (such as VA), any information received at an Assessment Centre, or from another care provider. PHUs must assess contacts based on exposure setting and risk of exposure based on the interaction with the case. Contacts identified by the case through the use of VA will be directly inserted into CCM for review by the case investigator. All contacts who are monitored by the VA are managed as high-risk.

4.5 Case Isolation Period

Guidance for recommendations on isolation measures for probable and confirmed cases of COVID-19 is detailed in Appendix 7. Detailed guidance on clearance from isolation is found in the COVID-19 Quick Reference Public Health Guidance on Testing and Clearance document.

- For cases who are **symptomatic at/around the time of their positive result**, the start of their isolation period is based on their symptom onset date.
- For cases who are **asymptomatic at the time of their positive result**, the start date of their isolation period is their positive specimen collection date.

4.6 Asymptomatic Cases

- Asymptomatic individuals with positive test results and tested as a **high-risk of exposure contact** or as part of an **outbreak investigation** are **Confirmed Cases**, and do not require repeat testing.
- Asymptomatic individuals with positive test results and tested as part of other groups described in the Provincial Testing Guidance should generally be managed as a **confirmed case**.
- **Immediate repeat testing may be required** if there is an **asymptomatic individual with an initial positive result with low pre-test probability** of being a currently infectious case. Low pre-test probability is based on the PHU's assessment of risk from community exposure AND confirmation that they are not part of an outbreak and had no known close contact with a

probable or confirmed case. Individuals from PHUs where there are high levels of community transmission are generally not considered 'low pre-test probability.'

- Isolate the case, but do not initiate contact management (or outbreak management) while repeat test is pending.
- If repeat specimen is **positive/indeterminate**, continue to manage as a confirmed case, and initiate contact management.
- If no repeat specimen is available, continue to manage as a confirmed case, and initiate contact management.
- If repeat specimen is **negative** and individual remains asymptomatic, there is sufficient evidence that the case is *not currently infectious and can discontinue case management.*
    - In most situations, PHUs should update the case classification to '**Does not meet**' case definition. See PHO data entry guidance on entry of asymptomatic low pre-test probability cases.
    - Due to the wide availability of testing, the likelihood of a 'remote positive' is lower now than in the first wave of the pandemic. However, if a case has a history of COVID-19 compatible symptoms and/or history of high-risk exposure but was not tested at the time or subsequently until now, the PHU may determine that the current positive result is a 'remote positive' (i.e., was likely to have previously been infected and is no longer infectious). There is no specific evidence required for the PHU to make this assessment other than clinical history. PHUs should enter as a confirmed case and flag as a 'remote positive'. See PHO data entry guidance on entry of remote positives.

- **"Detected (low level)" Results:** The Public Health Ontario Laboratory has begun adding this qualifier to positive PCR results where the cycle threshold (Ct) value is ≥35 but not in the 'indeterminate' range (as applicable). This result is still a POSITIVE result and should be interpreted in the clinical and epidemiological context of the case. Some other laboratories may also report 'low level positive' results.
    - For symptomatic individuals or asymptomatic contacts with a high-risk exposure to a case/outbreak, no further testing is recommended if they have a "detected (low level)" result, and they should be managed as a case.
    - For an asymptomatic individual testing for screening/surveillance purposes, repeat testing as soon as possible is recommended while

the individual is managed as a case. If repeat testing is negative, case and contact management may be discontinued if the health unit determines the case is unlikely to be currently infectious. The case should be counselled that they should continue public health measures as if they were never infected, including participating in surveillance/screening testing.

4.7 Case Recovery and Post-Clearance

Guidance for management of cases is detailed in Appendix 7.

Once a case is **cleared from isolation** based on the COVID-19 Quick Reference Public Health Guidance on Testing and Clearance document, **self-isolation, and other droplet and contact measures where applicable, can be discontinued.**

All recovered cases should resume usual public health measures to prevent exposure and the potential for re-infection.

4.8 Self-Isolation of previous positives with new high-risk exposures

- There is still emerging evidence regarding varying levels of immunity derived by natural infection in terms of:
  - Immune factors (e.g., cellular vs humoral) associated with protection from re-infection
  - Duration of immunity
  - Factors associated with the development of immunity after infection (e.g., asymptomatic infections may be less likely to mount an antibody response)
  - Impact of VOCs
- Due to uncertainty of these factors, 14-day self-isolation (quarantine) of a previous positive case is recommended after a **new** high-risk exposure to a case unrelated to the previous exposure.
  - This does not apply to post-clearance exposures to related cases, such as cases within the same household or cases within an outbreak scenario. For example, in a long-term care home outbreak, if a cleared resident is exposed to a case within the same outbreak, they do not need to re-isolate.

4.9 Testing of previously cleared cases

- It is known that confirmed cases may continue to test positive with PCR, even after clearance from isolation and/or after receiving negative results, for several weeks to months after infection. Persistent detection >4 months from initial positive result has been reported in Ontario. See the MOH's Quick Reference Public Health Guidance on Clearance, which includes information on when test-based clearance for work is and is not appropriate.
- Re-testing after clearance should be based on clinical indications for testing (e.g., in the context of new symptoms compatible with COVID-19), OR as directed in the context of new high-risk exposures or outbreak investigations.
- Individuals who have previously been diagnosed with and cleared of COVID-19 infection should resume asymptomatic surveillance testing after 90 days from their COVID-19 infection (based on the date of their positive result). If there is uncertainty about the validity of the COVID-19 infection (e.g., asymptomatic infection with high cycle threshold value result), resume asymptomatic surveillance testing immediately.
- Individuals who were previously a probable case or other situations where it is uncertain if the individual was a 'true' case **should continue to participate** in asymptomatic surveillance/screening testing
- Asymptomatic testing as a contact with high-risk exposure to a case or as part of an outbreak investigation may generate ongoing repeat positive results that may need to be investigated and/or repeated.

4.10 Management of Previously Cleared Cases with New Positive Results

- New positive results after clearance may represent:
    - Ongoing positive from initial infection ("Re-positive"); OR
    - Re-infection/potential re-infection ("Reinfection")
- Try to obtain the Ct value (where available) for the initial and new positive result.
    - If sufficient Ct value (generally <30, but varies depending on the assay and limit of detection), ensure the new positive result is submitted for VOC screening (if not already screened).
- If there is uncertainty as to whether a new positive after clearance represents a re-positive or a re-infection, **repeat testing as soon as possible.** Manage the

case (including contact management) as currently infectious if re-infection is suspected.

4.10.1 Re-positive

If there is evidence that the new positive result is likely to be ongoing persistent detection from the first infection, then no further public health case and contact management is required. Supporting evidence of a re-positive case includes: repeat testing is negative, both specimen(s) are close to limit of detection (e.g., cycle threshold >35 if tested at PHO laboratory).

4.10.2 Re-infection

There is now emerging evidence of cases of true re-infection as demonstrated by genetic sequencing showing strain differences between the initial and subsequent infections.

- Emerging information on immunity after infection suggests not all infected individuals mount the same immune response, and that the immune response may wane over time. Some studies suggest antibodies may persist for as long as four to eight months after infection. The effect of cell mediated immunity and memory B cells on the duration of protection is unknown. Information on the duration of protection will increase as more experience and evidence emerge.
- With the emergence of the VOCs, there is an increased risk of reinfection from some VOCs. The Ontario Case Definition has been updated to account for re-infection, and for re-infection from VOCs.
- Cases that do NOT meet the case definition for re-infection, but where re-infection is suspected should still be managed as a currently infectious.
- See PHO Data Entry Guidance for entry of new positive results in previously cleared individuals. Do NOT enter a new case entry for suspected reinfection that do not meet the case definition.
- PHO is available for consultation of concern of true re-infection cases via epir@oahpp.ca
- PHUs can request additional information from the testing laboratory on specimens from individuals suspected of re-infection (e.g., cycle threshold values, gene targets detected) to further inform interpretation of the results

4.11 Enhanced Case Management for VOC Screen Positive Cases

- To support provincial surveillance and to inform broad public health measures, prioritize obtaining and reporting case details for VOC cases, particularly travel history, other potential sources of acquisition, association with outbreaks, contacts, outcomes and medical risk factors.
- Prioritize case entry as per Public Health Ontario's Data Entry Guidance.
- If potential source cases for the VOC case are identified, attempt to submit their positive specimen for further testing by following COVID-19 Variants of Concern Test Information Sheet.
- Case and contact follow-up should be prioritized where the case is identified as VOC screen positive and there is an opportunity to interrupt transmission into a community. Additional considerations:
    - Results of VOC screening must be available within the contact follow-up period to be actionable for the health unit.
    - Ensuring completeness of case and contact management is warranted for regions with lower overall COVID-19 prevalence, and/or in regions where existing community transmission of VOCs is less likely
    - Ensuring completeness of case and contact management is also warranted for high risk settings for transmission, in all other regions within Ontario, where feasible.

- In outbreak settings, ensure that VOC screening has been completed on at least 1-3 positive specimens from each new outbreak declared. Once a VOC has been identified in an outbreak, additional confirmation for VOCs of the other outbreak cases is not generally recommended. Additional testing may be requested if it will inform outbreak management.
- Appendix 10: Case and Contact management COVID-19 Surge Support Model enumerates **High Priority Risk Settings for Transmission (Table 3)** that should be prioritized for health unit follow-up for all cases and their contacts, and particularly if an outbreak in those settings is associated with or strongly suspected to be caused by a VOC.

5 Contact Management

With the recent availability of COVID-19 vaccines, it is recommended that PHUs capture vaccination history against COVID-19 for each contact with a high-risk exposure where possible (e.g., dose number, vaccine product, date of vaccination) as an interim measure until there is a direct linkage to the provincial COVID-19 vaccine registry (COVAX)

Guidance on contact management and exposure risk level based on vaccination status is rapidly evolving. Any interim changes to the guidance will be communicated directly to PHUs from the Ministry of Health as they occur and will be posted on the Ministry of Health website.

The PHU should consult Table 4 to determine the exposure risk level of each contact of a COVID-19 case and Table 5 to determine the follow-up public health actions.

- A close contact is defined as **an individual with a high-risk exposure to a confirmed or probable case.**
- In the context of VOC emergence, **enhanced contact management is being adopted**. This means having a **lower threshold for classifying contacts as high risk of exposure** and requiring self-isolation, based on the risk assessment of exposure that considers duration, mask use, ventilation, etc.

PHUs must follow the guidance below when making initial contact, as well as for subsequent follow-up with high-risk exposure contacts, and low-risk exposure contacts, as appropriate.

5.1 Initial Contact

The PHU provides an introduction and informs the contact of the complete confidentiality of the interview process. In addition, the PHU provides information on resources available to support self-isolation or self-monitoring activities. The PHU must enter contact details into CCM within 24 hours. All contact information generated through VA should be reviewed and verified for completeness.

The PHU must recommend testing and ensure access to testing for:

- all high-risk exposure contacts regardless of symptoms (see 'Testing of Asymptomatic High-Risk Contacts for timing of testing), and

- all symptomatic contacts with a low-risk exposure.

All high-risk exposure contacts, and low-risk exposure contacts, where possible, must be informed of how to contact the PHU if they develop symptoms or have other questions. The PHU must advise contacts to call 911 if they require emergency care and that they should inform the paramedic services or health care provider(s) that they are a contact of a COVID-19 case.

5.2 Testing of Asymptomatic High-Risk Contacts

Asymptomatic high-risk contacts should be tested within their self-isolation period (as per the Provincial Testing Guidance).

- In the context of an outbreak, or if there has been ongoing exposure to a case over their period of communicability (e.g., household member), or if the contact had similar acquisition exposures as the case, high-risk exposure contacts are recommended to test immediately.
    - For contacts that test negative initially, they are recommended to test again on or after day 10 of self-isolation.
    - If the initial test was collected on or after day 7 of self-isolation, repeat testing on or after day 10 is not required.
    - Repeat testing is recommended if the contact becomes symptomatic.
- If there has been a discrete exposure to a case (i.e., specific time(s) when the contact was exposed, such as during a visit), the contact should be advised to test on or after day 7 of self-isolation. Repeat testing is not required if the specimen was collected on or after day 7. However, repeat testing on or after day 10 of self-isolation is recommended if the initial specimen was collect on day 0-6 of self-isolation. Repeat testing is recommended if the contact becomes symptomatic.
- PHUs are generally not required to ensure contacts are tested or follow up on results of testing with contacts (unless necessary for outbreak management). While contacts should be encouraged to seek testing for COVID-19 at the times recommended above, completion of the test is not required prior to exit from self-isolation.

Close contacts with high risk exposures must be advised that negative results within their 14 day incubation period **do not change** their self-isolation requirements, as they may still be incubating. Contacts who test positive should be managed as confirmed cases.

All high-risk exposure contacts, and low-risk exposure contacts where possible, must be informed of how to contact the PHU if they develop symptoms or have other questions. Only the individual who had a high-risk exposure to a confirmed case should be tested –their contacts (i.e., contacts of the high-risk exposure contact) should NOT be tested if they remain asymptomatic.

5.3 Subsequent Follow-Up

The PHU may use the ***Close Contact Daily Clinical Update Form*** in Appendix 6 to monitor high risk contacts. The PHU must follow-up twice in the monitoring period (e.g., initial call, then day 7 and 14 after last known unprotected exposure) and where resources allow, PHUs can consider providing more frequent communication to the asymptomatic high-risk exposure contact (e.g. via VA/email/text/phone). The PHUs should determine the frequency of communication to the asymptomatic, high-risk exposure contact based on a risk assessment and available staffing resources. If PHU staffing resources are limited, see Modified CCM Surge Support Model for details on workforce supports available.

As part of the follow-up phone call and any additional contact assessments for high-risk exposure contacts the PHU must assess:

- Onset of symptoms since last assessment;
- Reported compliance with self-isolation;
- Needs in order to comply with self-isolation, referring supports as required to help to enable successful isolation.

PHUs should provide support for contacts with self-isolation measures, including consideration of:

- Use of isolation facilities
- Use of community supports and agencies
- Psychosocial supports
- Courier, delivery supports for food and necessities
- Emergency financial supports through the provincial government
- Provincial unpaid job-protected infectious disease emergency leave and federal government financial supports including employment insurance.

Should a contact develop symptoms, the PHU or contact tracer supports should actively monitor (daily) the contact while awaiting test results. High-risk exposure contacts that **develop symptoms should be managed as probable cases** and have contact tracing initiated prior to testing results being available. Further contact

management may be discontinued if the probable case subsequently tests negative. Health units should follow PHO data entry guidance, and not enter these contacts as probable cases if test results are pending.

5.4 Household Members of High-Risk Exposure Contacts

PHUs should counsel all contacts with high risk of exposure to a case to tell their household members that they are required to **stay home** except for essential reasons for the duration of the contact's isolation period.

Essential reasons include: attending school/child care/work and essential errands such as, obtaining groceries, attending medical appointments or picking up prescriptions.

This messaging is recommended to alert the household members that they are at increased risk of exposure based on sharing a household with a self-isolating individual and reinforce adherence to strict public health prevention measures.

- Public health units are not expected to collect individual level information on the household members of the quarantining contact.
- Household members should not be entered as contacts.
- Public health units are not expected to provide individual level advice to the household members or assess their individual situation and ability to comply with their stay at home requirement.
- Household members include those living with, or having similar interactions with the contact (e.g., caregivers).
- Household members do NOT include those living congregate living settings. Public health units should apply the specific congregate living advice guidance to individuals in self-isolation in those settings.
- Household members are NOT recommended to be tested for COVID-19 unless the high-risk of exposure contact tests positive or if the household members develops symptoms.

5.5 Period of Communicability for Contact Follow-Up

Contact tracing for cases who were **symptomatic** at/around the time of positive specimen collection extends from 48 hours prior to symptom onset to when the case began self-isolating (or was cleared from isolation if never self-isolated).

For cases who were **asymptomatic** at the time of positive specimen collection date, Table 3 below can be referenced.

Table 3: Contact Follow-up when Case is Asymptomatic at Time of Positive Specimen Collection

Symptom Onset	Contact Tracing Period	Notes
Case had no symptoms at/around time of testing and no known high-risk exposure in 14 days prior to positive specimen collection	Extends from 48 hours prior to positive specimen collection to date to when case began self isolating.	
Case had no symptoms at/around time of testing AND has a known high-risk exposure to a confirmed case in 14 days prior to positive specimen collection	Extends from 48 hours (minimum incubation period) after initial high-risk exposure to date when case began self isolating	Example: Case 1 is symptomatic January 1 and exposes Case 2 on January 2. Case 2 is asymptomatic with specimen collection date on Jan 7. Case 2's period of communicability should start from Jan 4 (48 hours after exposure to Case 1), instead of Jan 5 (48 hours prior to positive specimen collection). Only high-risk exposures to known confirmed cases should extend the period of communicability of the asymptomatic case.
Case's symptoms resolved prior to specimen collection date and case has a known high-risk exposure in 14 days prior to symptom onset	Extends from 48 hours prior to symptom onset to when case began self-isolating (or was cleared from isolation if never self-isolated).	For symptoms that occurred >4 weeks prior to specimen collection date, or where there is uncertainty about the relatedness of prior symptoms to the current positive test result, extending contact follow-up period to 48 hours prior to symptom onset date is at the discretion of the PHU.

Symptom Onset	Contact Tracing Period	Notes
Symptoms develop after positive specimen collection date	Extends from 48 hours prior to positive specimen collection date to when case began self-isolating (or was cleared from isolation if never self-isolated).	

5.6 Self-Isolation/Self-Monitoring for Contacts

While the isolation of asymptomatic contacts is technically termed "quarantine", the common use of "self-isolation" is used to refer to both symptomatic/infected and exposed individuals. Therefore, we have adopted the language of "self-isolation" for asymptomatic close contacts who are COVID-19 negative or not tested for ease of understanding, in addition to those who are symptomatic and/or infected.

The purpose of self-isolation is to prevent the risk of spread in the event a contact becomes infected prior to recognizing they are infectious. Due to varying degrees of risk posed by different exposures, contacts can be categorized into two levels of risk exposure with corresponding requirements for self-isolation: high-risk, and low-risk contacts. **Only individuals with high-risk exposures are considered close contacts.**

- **Table 4** details contacts by their exposure setting and exposure type.
- **Table 5** details description of required PHU follow-up.

Details of the risk assessment approach to determining whether a contact had a high or low risk exposure to a case are available in the Focus On: Risk Assessment Approach for COVID-19 Contact Tracing. This background resource provides an overview of the factors related to the case, contact and nature of the exposure that must be integrated to determine the overall level of risk for the contact.

The period of self-isolation or self-monitoring for the contact of a case is 14 days (maximum incubation period) following the last known unprotected exposure to an infectious case.

Household, or similar, contacts with ongoing exposure to the case:

- Cases should self-isolate as much as possible within the household, and the case should wear a mask (medical mask, if available) if tolerated when in the same room as others. Their close household contacts should also be encouraged to wear a mask when in the same room indoors, particularly when physical distancing from the case is not possible in the home, or when <2 m apart outdoors (e.g., on property).
- Vulnerable contacts in the household should consider options to reduce risk of exposure as much as possible (e.g., staying elsewhere)
- Where self-isolation is not possible within the household, consider alternate living arrangements for the case or contacts to reduce risk of transmission
- Where alternate living arrangements are not available or practical, and self-isolation is reasonably maintained, last date of exposure to the case should be based on when the case started to self-isolate. Reasonable self-isolation includes consistent masking by the case and household members when in the same room, physical distancing as much as possible, frequent hand hygiene, and appropriate environmental cleaning (e.g., high touch surfaces)
- Household members **who cannot effectively self-isolate** from the case (e.g., due to care needs, interactions with/between young children) should continue to self-isolate for 14 days from last exposure to the case while the case was infectious. If **additional members of the household become cases**, duration of isolation for remaining asymptomatic household members would require a repeat assessment of exposure as above. If there has been significant ongoing exposure to the subsequent case, the asymptomatic household member may need to continue their self-isolation period based on their last exposure to the new case while that case was infectious or until effective self-isolation occurred (which ever is soonest).
- In **households with ongoing transmission**, and prolongation of self-isolation for asymptomatic household members, repeat testing among asymptomatic household members may be considered to ensure no undetected asymptomatic transmission and inform duration of quarantine.

Table 4: Contact Management Based on Exposure Setting and Type

Exposure Setting	Exposure Type	Exposure Risk Level
Household (includes other congregate settings)	• Anyone living in the same household, while the case **was infectious[1].** o This may include members of an extended family, roommates, boarders, 'couch surfers' etc. o This may include people who provided care for the case (e.g., bathing, toileting, dressing, feeding etc.) o This may include congregate settings (e.g., dormitories, shelters, group homes, detention centres, child/daycare centres) where direct contact (<2 meters) is occurring in shared rooms/living spaces. (Follow Ministry of Health guidance for outbreak management in congregate living settings; if an outbreak is declared, outbreak measures should guide contact management). o This EXCLUDES individuals who live in a completely separate area/unit (e.g. self-contained basement apartment).	High risk exposure - self-isolate
Community/ Workplaces/ Schools	• Contact with a case within 2 metres for a cumulative duration of 15 minutes, regardless of whether case and/or contact are masked o lower intervals of time that are more than transient interactions may be used at health unit discretion, particularly if case and/or contact was not masked • Had direct contact with infectious body fluids of the case (e.g., coughed on or sneezed on) • Had other close[2], prolonged[3] unprotected[4] contact. • See Table 5 for management of mass exposures where individual level contact follow-up is not feasible (e.g. bus/train exposures)	High risk exposure – self-isolate

Exposure Setting	Exposure Type	Exposure Risk Level
Community/ Workplaces/ Schools	• Contact had consistent and appropriate protected4 contact (i.e., PPE with surgical/procedure mask and eye protection) for the duration of interaction and without other factors that would increase the overall risk of exposure (e.g., very prolonged duration of exposure, See Risk Assessment Approach for COVID-19 Contact Tracing for details) • Had close prolonged contact while separated by an appropriate barrier[4] and appropriate air ventilation	Low risk exposure – self-monitor
	• Only transient interactions (e.g., walking by the case or being briefly in the same room, grocery clerk passes bag and hands touch)	Notification not required
Healthcare (including all locations where health care is provided, e.g., community, acute care, long-term care)	**Patient is the case:** • HCW and/or support staff who provided direct care for the case, or who had other similar close physical contact (i.e., < 2 metres from patient for any duration of time) **without** consistent and appropriate use of personal protective equipment4 (PPE) o Other patients in the same semi-private/ward room o Other patients/visitors who had close[2], prolonged[3] contact with the patient case	High risk exposure – self-isolate
	HCW is the case: • All patients who had close[2] prolonged[3] contact to the HCW.[5] • All co-workers who had unprotected[4] close[2] and/or prolonged[3] contact with the HCW (e.g., within 2 metres in an enclosed common area)	High risk exposure – self-isolate

Exposure Setting	Exposure Type	Exposure Risk Level
Healthcare (including all locations where health care is provided, e.g., community, acute care, long-term care)	**Patient is the case:** • Healthcare worker and/or support staff who provided direct care for the case, or who had other similar close physical contact (i.e., < 2 metres from patient for any duration of time) **with** consistent and appropriate use of PPE (medical mask and eye protection if non-AGMP)[4]	Low risk exposure- self-monitor
	HCW is the case: • All patients exposed to the HCW but where contact was neither close[2] nor prolonged[3], and the HCW appropriately wore a mask for source control for the entire duration[4],[5] (e.g., dropping a food tray in a room) • All co-workers with consistent and appropriate PPE use during close[2] or prolonged[3] contact with the HCW (e.g., within 2 metres in an enclosed common area)	Low risk exposure – self-monitor
	Patient or HCW is the case: • Only transient interactions (e.g., walking by the case or being briefly in the same room)	Notification not required
	• Laboratory worker processing COVID-19 specimens from case **without** appropriate PPE (including accidental exposures where appropriate PPE was breached).[4]	High risk exposure – self-isolate
	• Laboratory worker processing COVID-19 specimens from case **with** appropriate PPE.[4]	Low risk exposure – self-monitor

Exposure Setting	Exposure Type	Exposure Risk Level
Air Conveyance	• Passengers or crew seated within 2 meters of the case (approximately two seats in all directions, depending on type of aircraft/conveyance and seating).[6] • Other passengers/crew with close prolonged[3] contact or direct contact with infectious body fluids. • Consideration may be given to determining all passengers and crew of the flight at high-risk of exposure based on risk of contact in terminal, and during boarding/off-loading procedures, and particularly if the case is determined to have a more transmissible VOC infection	High risk exposure – self-isolate
	• Crew members who do not meet criteria above.	Low risk exposure – self-monitor
	• Other passengers seated elsewhere in cabin/car as case who do not meet above criteria.	Low risk exposure – self-monitor
Travel to affected area	• Traveled outside of Canada in past 14 days.[7]	High risk exposure – self-isolate

For further details see: Focus On: Risk Assessment Approach for COVID-19 Contact Tracing

[1] **Household Members:** Household members have the highest risk of transmission and should almost always be considered high risk of exposure. Individuals who live in a self-contained separate unit (e.g. basement suite) may be considered low risk exposure.

[2] **Close Contact:** Maintenance of physical distancing measures (> 2 metres) for the entire duration of exposure decreases the risk of transmission. However, **physical distancing of 2 metres does not eliminate the risk of transmission,** particularly in confined indoor and poorly ventilated spaces and during exercise, talking loudly, yelling or singing activities.

[3] **Prolonged Contact:** As part of the individual risk assessment, consider the cumulative duration and nature of the contact's exposure (e.g., a longer exposure time/cumulative time of exposures likely increases the risk, an outdoor only exposure likely decreases the risk, whereas exposure in a small, closed, or poorly

ventilated space may increase the risk), the case's symptoms (coughing or severe illness likely increases exposure risk), physical interaction (e.g., hugging, kissing), and whether personal protective equipment (e.g., surgical/procedure mask and eye protection by the contact) or a mask for source control by the case was used. To aid contact follow-up prioritization, prolonged exposure duration may be defined as lasting cumulatively more than **15 minutes**; **however**, data are insufficient to precisely define the duration of time that constitutes a prolonged exposure, and exposures of <15 minutes may still be considered high risk exposures depending on the context of the contact/exposure.

[4] **PPE, Barriers and Source Control Use:**

Use of PPE, (in most circumstances, this includes surgical/procedure mask and eye protection), if worn consistently and appropriately for the entire duration of exposure, is generally considered a lower risk exposure for the contact. However, this should be assessed in the context of the interactions with the case and other factors that may increase risk of exposure (e.g., physical touching, prolonged duration, confined space with poor ventilation, Focus On: Risk Assessment Approach for COVID-19 Contact Tracing). Fit-tested N95 respirators, instead of medical masks, are required for PPE for aerosol-generating procedures. Non-medical masks are NOT considered PPE.

In non-health care settings where PPE is used, assessment of quality of training on PPE, quality of PPE, and monitored use of PPE should be considered when assessing the appropriateness of use.

Other appropriate barriers, such as plexiglass barriers may also lower the risk if provide sufficient and consistent coverage between the case and contact.

In health care settings (and other similar settings), where there is universal medical masking of staff (as well as training on use of PPE), staff-to-staff interactions can be assessed on a case by case basis. In general, Universal masking (and eye protection for the contact) is the standard to determine that a contact is low risk, however this should be assessed in the context of the interactions with the case and other factors that may **increase** (e.g. prolonged duration, confined space with poor ventilation, non-transient physical interactions such as hugging or touching hands) or **decrease** (e.g. medical staff <2 metres apart with universal masking briefly charting at a nursing station) the risk of exposure.

[5] **Patient/Resident Exposures from HCW cases:** universal medical masking by HCWs is expected to reduce the risk of exposure to their patients/residents if the

HCW becomes a case. However, in circumstances of close, prolonged contact, source control masking (with or without the addition of eye protection as PPE) by the case does not eliminate risk of exposure and follow-up of exposed patients/residents and co-workers as contacts with high risk of exposure is warranted. This is especially important to reduce the risk of ongoing nosocomial transmission when patients/residents remain within health care/congregate living settings.

[6] **Air Travel:** Medical or non-medical masks are required on all air travel and most other public conveyances. Due to increased transmissibility of emerging VOCs, use of masks in community settings are no longer included in the contact risk assessment.

[7] **Federal Quarantine:** Assessment is made by the Canadian Border Services Agency for quarantine exemptions for international travelers. PHU follow-up is not required for airplane/conveyance contacts already under federal quarantine.

5.7 COVID Alert Exposure Notification App

Ontario has launched the exposure notification app, COVID Alert. This app is meant to support and augment public health's existing contact tracing efforts by quickly identifying new contacts that may not have been easily identified through traditional case and contact management methods. Exposure notifications are not a substitute for traditional contact tracing, but the app can expand reach and rapidly notify unknown contacts and augment information available to contact tracers.

In the event a PHU is contacted by an individual who has received an exposure notification alert, they should be directed to seek testing and self-isolate pending test results. If the individual tests positive, manage as a case.

If the individual receives a negative test result they should self-monitor for 14 days from when they received the notification and should seek re-testing if symptoms develop. If this same individual is later identified through traditional case and contact tracing, they must follow the advice of the public health authority which may include self-isolation and re-testing depending on the assessment of public health.

More information on COVID Alert can be found at the Ontario COVID Alert website.

Table 5: Contact Self-Isolation and Self-Monitoring by Risk Level

Note: If an outbreak is declared (e.g., in a workplace, congregate living setting, long-term care home, acute care, child care), relevant Ministry of Health guidance on outbreak measures apply and should guide management of contacts and may exceed recommendations for low-risk contacts of non-outbreak cases listed here.

Actions for the Individual	Public Health Monitoring / Activities
High risk exposure	
Self-Isolate: • Do not attend school or work • Avoid close contact with others, including those within your home, as much as possible, and particularly those vulnerable to severe infection • Follow advice in self-isolation fact sheet • Have a supply of procedure/surgical or non-medical masks available should close contact with others be unavoidable • Postpone elective health care until the end of monitoring period • Use a private vehicle if need to attend a medical appointment. Where a personal private vehicle is not available, private hired vehicle (e.g., taxi) may be used while wearing a procedure/surgical mask and sitting in the rear passenger seat with the window open (weather permitting). Do not take public transportation. • Remain reachable for monitoring by local PHU • Discuss any travel plans with local PHU. The PHU can seek consultation with the MEOC for inter-provincial travel plans as required	Initial contact (e.g., by phone) is required to provide information on self-isolation and who to call if become symptomatic. Note: initial contact within 24 & 48 hours with high-risk exposure contacts in large group settings (e.g., workplaces, schools) may be satisfied by mass notification through email/other communication means, with individual follow-up phone call afterwards. Follow-up at the middle and end of the self-isolation period (e.g., days 7 and 14) are required. More frequent monitoring should be considered, as resources allow and where more frequent follow-up is warranted, and can be via VA/email/text/phone at discretion of PHU and based on preference of contact. Consider providing a thermometer or assessing other needs/supports to facilitate self-isolation and monitoring of symptoms Provide handout on Self-isolation Ensure contact is advised of recommendation for asymptomatic testing within their self-isolation period (including re-testing on or after day 10 of quarantine if initially tested on day 0-6 of quarantine)

Actions for the Individual	Public Health Monitoring / Activities
High risk exposure	
If symptoms develop, ensure self-isolation immediately, and seek testing	Ensure contact is advised of recommendation for re-testing if contact reports symptoms, and manage as a probable case if testing is refused/cannot be performed Counsel contacts to tell their household members to stay home except for essential reasons (household members can attend child care/school/work, medical appointments, obtain groceries/medications), while the contact is quarantining. For high-risk exposures in settings where individual level follow-up is not feasible due to the inability to identify and directly communicate with potential contacts (e.g., exposures on public transit), PHUs may rely on/utilize other mechanisms for contact notification (e.g., the COVID Alert App, transparently post transit routes/times).

Actions for the Individual	Public Health Monitoring / Activities
Low risk exposure	
Follow guidance on core public health measures recommended for everyone at all times including: • Self-monitoring for symptoms of COVID-19, • Seeking assessment and testing if symptomatic, and • Self-isolating and seek testing if symptoms develop, as per provincial guidance.	Where individuals self-identify to the PHU with information that indicates a possible high-risk exposure, the PHU must conduct an individual-level risk assessment. Communications to low risk individuals/groups should include information about symptoms, self-monitoring, how to self-isolate if symptoms develop and how to contact the local PHU. This should include: • Information on Self-monitoring, • Emphasizing need to be able to self-isolate immediately and seek testing if symptoms develop. • Advising HCWs to inform their employer/institution of their exposure. Where identifiable individuals/groups with low-risk contact are known to the PHU, the PHU should consider providing targeted and timely communication to low risk contacts, with supports from MOH if needed, and proportionate to the risk of exposure. Options for contacting low-risk contacts may include: • working with schools/institutions to send a letter • working with employers to send a letter to co-workers/clients in the same area in the workplace; • working with community/ religious leaders to inform other attendees of community activities/services; • use of public service announcements • public lists of exposure locations • initial phone calls/text blasts/Robo calls Notification of contacts with a very low risk of exposure is generally not recommended (e.g., stores/service locations where the case only had brief interactions with other customers/staff).

Table 6: Managing Testing Results in Contacts

Exposure Type	Testing Result	Instructions for PHU
High-Risk	Positive	Manage as a confirmed case
	Negative	Continue managing as high-risk exposure contact, including advising continued self-isolation until 14 days from last exposure. Facilitate re-testing if initially tested on day 0-6 of quarantine or if symptoms develop or worsen.
	Never Tested (i.e., refused testing)	Manage as a high-risk exposure contact and ensure completion of self-isolation until 14 days from last exposure. If symptomatic, manage as a probable case where feasible including case and contact management.
Low-Risk	Positive	Manage as a confirmed case.
	Negative	While asymptomatic contacts with low-risk exposures are not advised to test unless they become symptomatic (as per MOH testing guidance for the general public), if they happen to test negative in their incubation period, they should be advised by the testing facility to continue to follow guidance on core public health measures recommended for everyone at all times, including: • Self-monitoring for symptoms of COVID-19, • Self-isolating if symptoms develop; and • Seeking assessment and testing If the PHU happens to be aware of these individuals, they may reinforce messaging. Advise re-testing if symptoms develop, or worsen.
	Never Tested	Not applicable, as no individual follow up, and PHU unlikely to be aware of this situation. If the PHU happens to be aware of these individuals, they must reinforce that symptomatic individuals should be tested.

6 Travellers from Outside of Canada

On February 21, 2021, the Government of Canada put emergency measures in place that require a mandatory 14-day self-isolation (or quarantine period) and pre-entry, arrival, and mid-quarantine (day 10) tests for travellers from outside of Canada.

Travellers arriving by air, must quarantine in a federal government-authorized hotel until the results from the arrival test are available. If the test is negative and the traveller's quarantine plan is suitable, they can then relocate to a suitable place of quarantine (e.g., their home). If the test is positive, or the traveller's quarantine plan is unsuitable, they will be relocated to a designated quarantine facility operated by the federal government.

Travellers arriving by land are not required to quarantine in a federal government approved accommodation (e.g. hotel) while waiting for the results of their arrival test. After taking the arrival test, these travellers may proceed to a suitable place of quarantine (e.g., their home). If travellers quarantine plan is unsuitable or they have symptoms, they will be relocated to a federal designated quarantine facility

Ontario recommends that non-essential travelers should tell their household members to stay home except for essential reasons (household members can attend child care/school/work, medical appointments, obtain groceries/medications)while the return traveler is quarantining.

All individuals permitted to enter Canada are subject to these requirements, but certain classes of persons are exempt under the Federal Emergency Orders. Those exempt have masking requirements in the Federal Emergency Orders and should follow public health rules, self-monitor for symptoms and immediately self-isolate should symptoms develop. Some travellers entering Canada may also be approved for a limited release from mandatory quarantine restrictions for compassionate reasons.

HCWs are not required by the Federal Emergency Orders to self-isolate after travel but unless an exemption is given by the Chief Public Health Officer of Canada, they cannot directly care for patients aged 65 and older during the 14 day period that begins on the day they enter Canada. These individuals are also expected to abide by public health and occupational health and safety requirements to minimize risk to others.

Ontario strongly recommends that HCW's quarantine (self-isolate) for 14 days after international travel, whenever it is possible. If a HCW is required to work within 14 days of returning from travel, they may do so with specific precautions. Refer to the How to Self-isolate while Working fact sheet . HCWs should contact their employer's department for occupational health and safety for specific advice.

All incoming travellers, at point of entry, are required to provide their contact information and where they are staying. They also must inform the officer if they have symptoms.

Compliance with the orders is managed by the Public Health Agency of Canada (PHAC) with support from other agencies, including the Canada Border Services Agency (CBSA), local police, the OPP, and the Royal Canadian Mounted Police (RCMP). In addition, in some regions private security have been contracted to assist with in-person follow-up. Local PHUs do not have a direct role in enforcement of the Quarantine Orders but are able to provide support and information (e.g., requirements of self-isolation) and, if required, refer cases to the local police.

Should an individual require essential health care during the 14-day quarantine period, these individuals should be managed as having a high risk exposure requiring isolation. They should be managed in consultation with the local PHU and local health care providers, including IPAC.

Travellers who develop symptoms or are exposed to another person under Federal Quarantine Orders who develop signs and symptoms during the 14-day quarantine period are required to extend their quarantine period for an additional 14 days from symptom onset date.

Travellers who develop symptoms may leave self-isolation in order to be tested. In doing so, they should take appropriate precautions including wearing a well-fitting, well constructed non-medical mask and avoiding public transportation. If they test negative, they should continue to self-isolate since COVID-19 may develop later. If travellers test positive, they should seek advice from a health care provider regarding the next steps.

Travellers who are asymptomatic should not leave isolation for testing unless personally advised by their local public health unit (e.g., as part of contact tracing) or their health care provider. Asymptomatic travellers must follow testing requirements including arrival and mid quarantine (day 10) tests) Please note, the

day 10 test is self-administered and does not require the traveller to leave quarantine (self-isolation).

If an asymptomatic traveller presents for testing at an assessment centre, the traveller should be tested. If the assessment centre becomes aware that the asymptomatic traveller broke self-isolation to seek testing without being referred by a public health unit or their health care practitioner (e.g., for contact tracing), the centre should inform the PHU. PHUs should contact the traveller to reinforce messaging around self-isolation.

NOTE: The Emergency Orders regarding travel are updated regularly. For the latest information regarding self-isolation requirements, see the Mandatory Isolation Order, along with other federal orders, found on the Government of Canada website.

Table 7: Assessment and Management of Asymptomatic Travelers

Travel outside of Canada in the past 14 days	Consider as 'High risk exposure'. Follow Table 6 – 'High risk exposure'.
Travel within Canada	Individuals who have travelled within Canada are not required to self-isolate, but should self-monitor for symptoms for 14 days from their return. If any individuals have COVID-19 exposure concerns and self-identify to their PHU as having travelled within Canada, the PHU should assess the individual's exposure history to determine whether they should be managed as a high or low risk exposure contact. as per Table 5.

6.1 Contact tracing for airplane passengers

The most timely way to share information about potential exposures on conveyances is through public posting of flight/conveyance information, and notification to the airline for informing crew members. This applies to both international and domestic flights.

PHUs should send the following information to PHO via **secure fax** (647-260-7603) or **via CCM** (instructions in iPHIS notice #633) if they identify a flight/cruise with a confirmed case, using the Ontario COVID-19 Air Travel Notification Form (distributed in iPHIS notice #633):

- Client name (see note below)
- Airline, flight number, date, departure location, arrival location, relevant rows
- Cruise line, dates of travel, departure port, arrival port
- Symptom onset date, or positive specimen date if case is asymptomatic

In addition to information for public posting of flight/conveyance information, PHUs may be required to provide further information regarding international travel for PHAC to process the International Jurisdiction Notification, e.g., whether or not the case is a Canadian national; detailed travel information while abroad (i.e., accommodation information, potential exposures).

PHO will provide reported flight exposure information to PHAC who will then post the details on the "Coronavirus disease (COVID-19): Locations where you may have been exposed to COVID-19" webpage. PHAC will also directly notify the air carrier of this exposure.

As per Table 4, PHU follow-up for international flights where travelers are under federal quarantine is not required.

Direct notification travelers on domestic flights by the public health unit is generally not recommended due to the incomplete and insufficiently timely information from the flight manifest. If a PHU would like to request a flight manifest, the PHU should request it at the time of reporting a flight exposure to EPIR@oahpp.ca.

Note: The airline requires the case's name to validate that the case was on the flight and confirm the seat/row they occupied. PHO does not have the authority to look up case's name in CCM or may not have access to this information. Please provide client name using the updated Ontario COVID-19 Air Travel Notification Form.

7 Tools

PHUs may use the following tools to conduct case and contact management activities. Additional resources and appendices may be added to support case and contact management activities, and updated documents can be found on the Ministry of Health website.

- Appendix 1: Ontario's Severe Acute Respiratory Infection (SARI) Case Report Form – PHUs may use this form to help guide their case interview and collection of information from probable and confirmed cases or their proxies. PHUs must enter all cases and contacts in CCM.

- Appendix 2: Routine Activities Prompt Worksheet for Cases – PHUs may use this sample worksheet (or a similar tool) to identify potential exposures that may have led to disease acquisition in a case. Along with the SARI Case Report Form in Appendix 1, this worksheet can also be used to interview the case or their proxy to collect detailed information and to investigate potential exposures in the 14 days before onset of symptoms.
- Appendix 3: Daily Clinical Update Form for a Case Managed in an Acute Care Setting and Appendix 4: Daily Clinical Update Form for a Case Managed in a Household Setting – PHUs may use these sample forms (or a similar tool) to monitor the health status of a probable or confirmed case until they are cleared.
- Appendix 5: Close Contact Tracing Worksheet – PHUs may use this sample worksheet (or a similar tool) to identify close contacts of a probable or confirmed case.
- Appendix 6: Daily Contact Clinical Update Form – PHUs may use this sample form (or a similar tool) to follow-up and monitor contacts with high-risk exposures.
- Appendix 7: Self-Isolation for COVID-19 Cases or Other Individuals in the Household - This guidance can be used to support individuals undergoing testing (with symptoms or known contact to a confirmed or probable case), anyone being asked to self-isolate, and others in the household of a case.
- Appendix 8: Serology Testing and MIS-C - This can be used to provide guidance on cases with positive serology results as well as cases with multisystem inflammatory syndrome in children (MIS-C)
- Appendix 9: Management of Individuals with Point-of-Care Results - This document provides guidance on how to manage individuals with results obtained from point-of-care (rapid) testing technologies.
- Appendix 10: Surge Support Model – This document outlines supports available to PHUs for case and contact management and how/when to access them. It also provides a sample triage tool to assist with distributing cases/contacts across the operational response and provides several tables of modifications to case and contact management practice based on PHU caseload.

8 Additional Resources

- Public Health Ontario Public Resources
- Public Health Agency of Canada's Public Health Management of Cases and Contacts for COVID-19
- Public Health Agency of Canada's IPAC for COVID-19: Interim Guidance for Home Care Settings
- Public Health Agency of Canada's COVID-19: For Health Professionals website
- Centers for Disease Control and Prevention's COVID-19 website
- European Centre for Disease Prevention and Control's COVID-19 website
- Ministry of Health's COVID-19 website
- Provincial Infectious Diseases Advisory Committee's Tools for Preparedness: Triage, Screening and Patient Management of Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Infections in Acute Care Settings
- Government of Canada's COVID-19 Affected Areas list
- World Health Organization's Disease Outbreak News website, and COVID-19 website

9 Document History

Revision Date	Document Section	Description of Revisions
January 30 2020		Document was created.
February 5 2020	Contact Management – Public Health Advice	Language included to reflect policy change: self-isolation of 14 days for those returning from Hubei province and for close contacts of cases.
February 7, 2020	Throughout Document	Updates to reflect changes to case definition and self-isolation
February 12 2020	Case and Contact Management Travelers from Affected Areas	Updates to language around risk level and corresponding level of self isolation/ self monitoring Addition of Table 3
March 3 2020	Updates throughout document	Updates based on new case definition and evolving advice based on travel history of patient
March 25 2020	Updates throughout document	Change in Purpose section; guidance on testing, explanation on case definition, assessment and management of persons suspected of COVID-19, Information on pets
April 15 2020	Updates throughout document	Updates on case definition description, travelers from outside of Canada, link to other guidance (e.g. provincial testing), updates to streamline language throughout
June 23 2020	Updates throughout document	Major updates to most sections, addition of several reference tables, moved to 2 risk exposure levels: low and high risk, moved appendices to become separate documents.

Revision Date	Document Section	Description of Revisions
September 8 2020	Updates throughout document	Additional information on asymptomatic cases with low pre-test probability; new appendix 8; new table: Assessing Scenario Likelihood in Asymptomatic Cases with Low Pre-Test Probability; minor update to travel section; new information on COVID Alert
October 9 2020	Updates throughout document	Updates on frequency/nature of contact with low/high risk contacts Updated messaging to align with new guidance on case clearance timelines.
December 1 2020	Updates throughout document	New section on Re-Infection; updates to case isolation for asymptomatic cases; updates to contact follow-up; further detail on risk assessment for contact tracing; removal of Non-Medical Mask section; addition of Appendix 9; updated section on Travelers from Outside of Canada
January 12 2021	Updates throughout document	Specify collection of vaccine information, clarify that vaccination does not change case & contact management at this time, updates to informing PHO of flight notifications, updates to federal quarantine guidance, clarification to extension of POC of some asymptomatic cases, clarify guidance on PPE for HCW exposures, clarify guidance on patient exposures to HCW cases

Revision Date	Document Section	Description of Revisions
May 6 2021	Updates throughout document	New section on preliminary positive results from point-of-care assays; new section for testing of previously cleared cases (re-positive, re-infection) and self-isolation of previous positives with new high-risk exposures; new section on enhanced case management for VOC screen positive cases; new section on testing of asymptomatic high-risk contacts; updates to contact management in the context of VOC emergence (lower threshold for classifying contacts as HR exposure and requiring self-isolation); travellers from outside of Canada update.