



Interim Guidance for Infection Prevention and Control of SARS-CoV-2 Variants of Concern for Health Care Settings

2nd revision: August 2021

Public Health Ontario

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NOTES: This document is intended to provide best practices only.

Health care settings are encouraged to work towards these best practices in an effort to improve quality of care.

Provincial Infectious Diseases Advisory Committee (PIDAC)

Tel: 647-260-7100 Email: pidac@oahpp.ca

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This document is current to June 2021 with the following listed revisions.

Summary of Major Revisions:

Revision Number	Date of Implementation	Description of Major Changes	Page
2	Jun-21	Added to the Glossary terms of Variant of Concern and Variant of Interest	3
2	Jun-21	Updated background information on the variants of concern, including the addition of Delta (B.1.617.2, first identified in India).	5
2	Jun-21	Clarification on inter-facility transfer of patients with variants of concern	7
2	Jun-21	Updated recommendations on placement of patients with COVID-19 regardless of variant status when single rooms are not available	8
2	Jun-21	Added recommendation on COVID-19 vaccination for patients and health care providers	9, 11
2	Jun-21	Updated recommendations on testing vaccinated patients and staff, and the use of whole genome sequencing, for outbreak investigation	13
1	Mar-21	Additional information on patient mask use	10

Authors/Contributors

Public Health Ontario would like to acknowledge the contribution and expertise of the following individuals who participated in the development of this document.

PIDAC-IPC Members:

Dr. Matthew Muller, Chair

Medical Director, Infection Prevention and Control, St. Michael's Hospital, Toronto

Maria Louise Azzara

Infection Prevention and Control Specialist, York Region Community and Health Services, Richmond Hill

Natalie Bruce

Manager, Infection Prevention and Control, The Ottawa Hospital, Ottawa

Dr. William Ciccotelli

Infectious Disease and Medical Microbiology, Grand River Hospital, Kitchener

Zahir Hirji

Manager, Privacy & Risk Management, Scarborough Health Network, Toronto

Dr. Susy Hota

Medical Director, Infection Prevention and Control, University Health Network, Toronto

Dr. Dominik Mertz

Associate Professor, Medical Director, Infection Control, Hamilton Health Sciences, Hamilton

Vydia Nankoosingh

Manager, Infection Prevention and Control, Scarborough Health Network, Toronto

Dariusz Pajak (up to February 2021)

Infection Control Coordinator, Sunnybrook Health Sciences Centre, Toronto

Dr. Herveen Sachdeva

Associate Medical Officer of Health, Toronto Public Health, Toronto

Laurie Streitenberger

Senior Manager, Infection Prevention and Control, The Hospital for Sick Children, Toronto

Ex-officio Members:

Sandra Callery

Senior Advisor, Health Protection, Science and Public Health, PHO

Melissa Helferty

Manager, Infectious Diseases Policy and Programs, Ministry of Health

Dr. Samir Patel

Clinical Microbiologist and Deputy Chief, Laboratory Research, PHO

Dr. Nikhil Rajaram

Provincial Physician, Occupational Health and Safety Branch, Ministry of Labour, Training and Skills Development

Dr. Michelle Science

Infection Prevention and Control Physician, PHO

Expert Advisors:**Dr. Jennie Johnstone**

Medical Director, Infection Prevention and Control, Sinai Health, Toronto

Dr. Kevin Katz

Medical Director, Infection Prevention and Control, North York General Hospital, Toronto

PHO Staff:**Dr. Maureen Cividino** (up to April 2021)

Infection Prevention and Control Physician

Dr. Jennifer Robertson

Manager, Research, Evaluation and CQI Support

Mabel Lim

Program Infection Prevention and Control Specialist

Jeff Smith

Research Coordinator

Dr. Jeya Nadarajah

Infection Prevention and Control Physician

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Abbreviations

AGMP	aerosol-generating medical procedure
COVID-19	coronavirus disease 2019
HCP	health care provider
HVAC	heating, ventilation and air conditioning
IPAC	infection prevention and control
NVSC2	non-variant SARS-CoV-2
PPE	personal protective equipment
SARS-CoV-2	severe acute respiratory syndrome coronavirus 2
VOC	variant of concern
VOI	variant of interest

Glossary of Terms

Aerosol: Small droplet of moisture that may carry microorganisms. Aerosols may be light enough to remain suspended in the air for short periods of time, allowing inhalation of the microorganism.

Audit: A systematic and independent examination to determine whether quality activities and related results comply with planned arrangements, are implemented effectively and are suitable to achieve objectives.

Backward contact tracing: The process of retrospectively identifying the source of infection of the case under investigation in order to identify further cases and contacts. Backwards contact tracing involves searching for the source of the exposure to the case under investigation. Exposure of the case to any known COVID-19 case or symptomatic individual and a travel history over the previous 14 days should be sought. If a potential source case is identified, forward tracing from the newly identified source case may identify other positive cases. Backwards contact tracing for inpatients requires collaboration between infection prevention and control, occupational health and public health (to identify exposures prior to hospitalization). See also Forward contact tracing.

Cleaning: The physical removal of foreign material (e.g., dust, soil) and organic material (e.g., blood, secretions, excretions, microorganisms). Cleaning physically removes rather than kills microorganisms. It is accomplished with water, detergents and mechanical action.

Cohorting: The sharing of a room or ward by two or more clients/patients/residents who are either colonized or infected with the same microorganism; or the sharing of a room or ward by colonized or infected clients/patients/residents who have been assessed and found to be at low risk of dissemination, with roommates who are considered to be at low risk for acquisition.

Contact Precautions: Precautions used in addition to Routine Practices to reduce the risk of transmitting infectious agents via contact with an infectious person.

Disinfection: The inactivation of disease-producing microorganisms. Disinfection does not destroy bacterial spores. Medical equipment/devices must be cleaned thoroughly before effective disinfection can take place.

Droplet transmission: Transmission that occurs when the droplets that contain microorganisms are propelled a short distance (within 2 metres) through the air and are deposited on the mucous membranes of another person, leading to infection of the susceptible host. Droplets can also contaminate surfaces and contribute to Contact transmission.

Forward contact tracing: The process of identifying and quarantining contacts who were exposed to the case under investigation, in order to stop further transmission. Forward contact tracing involves identifying individuals with unprotected exposure to a case during the case's infectious period. See also Backward contact tracing.

Hand hygiene: A general term referring to any action of hand cleaning. Hand hygiene relates to the removal of visible soil and removal or killing of transient microorganisms from the hands. Hand hygiene may be accomplished using an alcohol-based hand rub or soap and running water. Hand hygiene includes surgical hand antisepsis.

Health care provider (HCP): Any person delivering care to a patient. This includes, but is not limited to, the following: emergency service workers, physicians, dentists, nurses, respiratory therapists and other health professionals, personal support workers, clinical instructors, students and home health care workers. In some non-acute settings, volunteers might provide care and would be included as HCPs. See also Staff.

Health care setting: Any location where health care is provided, including settings where emergency care is provided, hospitals, complex continuing care, rehabilitation hospitals, long-term care homes, mental health facilities, outpatient clinics, community health centres and clinics, physician offices, dental offices, offices of other health professionals and home health care.

Personal protective equipment (PPE): Clothing or equipment worn for protection against hazards.

Staff: Anyone conducting activities in settings where health care is provided, including but not limited to, health care providers.

Variant of concern (VOC): A variant is a variant of concern if, through a comparative assessment, it has been demonstrated to be associated with one or more of the following: (i) increased transmissibility or detrimental change in COVID-19 epidemiology; increased virulence or change in clinical disease presentation; or decreased effectiveness of available diagnostics, vaccines, therapeutics or public health measures; OR (ii) is otherwise assessed to be a VOC by World Health Organization (WHO); OR (iii) is otherwise assessed to be a VOC by the Canadian SARS-CoV-2 Variants Expert Working Group.¹

Variant of interest (VOI): A SARS-CoV-2 variant is a variant of interest if it: (i) has a genome with mutations associated with changes in epidemiology, antigenicity, or virulence, or changes that potentially have a negative impact on available diagnostics, vaccines, therapeutics, or public health measures; AND (ii) is known to cause community transmission/multiple COVID-19 cases/clusters in Canada or has been detected in multiple countries; OR (iii) is otherwise assessed to be a VOI by World Health Organization (WHO); OR (iv) is otherwise assessed to be a VOI by the Canadian SARS-CoV-2 Variants Expert Working Group.¹

Preamble

This document provides interim guidance for how infection prevention and control (IPAC) practices in Ontario health care settings should be modified in light of the continued emergence of new SARS-CoV-2 variants of concern (VOC) in Ontario. The IPAC approaches to coronavirus disease 2019 (COVID-19) in Ontario health care settings are based on implementation of a hierarchy of control measures as well as the use of Routine Practices and Additional Precautions.² However, the way that these measures have been operationalized varies widely depending on the specific setting (e.g., acute care hospitals, complex continuing care and rehabilitation hospitals, long-term care homes, and outpatient settings), and by the incidence of COVID-19 in different regions, with wide variation in disease burden³ across the province. As such it is outside the scope of this document to review all IPAC measures used to reduce risk. Instead we address if any of these measures need to be altered or enhanced based on our current understanding of these new VOCs. Information is emerging rapidly and this guidance may change as new information becomes available.

This document assumes that all health care settings have IPAC support and resources appropriate to the type of setting. It is also assumed that all health care settings have already implemented IPAC policies and procedures sufficient to effectively prevent the transmission of non-variant severe acute respiratory syndrome coronavirus 2 (NVSC2).

COVID-19 is a community-acquired disease and health care outbreaks occur following introduction of COVID-19 from the community. However, this document does not address public health measures aimed at controlling the new variant. **It is clear that the implementation of effective public health measures to control the transmission of COVID-19 in the community is the single most important step that can be taken to protect health care settings from COVID-19, including COVID-19 due to new and emerging variants.**

1. Background

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a coronavirus that emerged from China in December 2019 and causes COVID-19. Mutations in the genetic code of the SARS-CoV-2 virus are an expected finding as some degree of genetic change is common in most viruses but are not necessarily associated with increased transmissibility or disease severity.⁴ As we have learned from previous pandemics of zoonotic diseases such as influenza, it is anticipated that viral adaptation to the human host will occur, with ongoing mutation and changes in transmissibility and increases or decreases in disease severity.

SARS-CoV-2 variants of concern (VOCs) associated with increased transmissibility have emerged and disseminated globally.^{5,6} Currently these VOCs include Alpha (B.1.1.7, first identified in the United Kingdom [UK]), Beta (B.1.351, first identified in South Africa), Gamma (P.1, first identified in Brazil), and Delta (B.1.617.2, first identified in India).^{1,7} and other variants of interest (VOIs) are under investigation and could be designated as VOC in the future.^{8,9}

Alpha has disseminated globally,¹⁰ and is now the predominant cause of COVID-19 in Ontario.¹¹

Beta and Gamma have also disseminated globally¹⁰ and both are circulating in Ontario.¹¹ At the present time these VOCs represent <10% of COVID-19 in Ontario and do not appear to be replacing Alpha as the dominant SARS-CoV-2 VOC.¹² Outbreaks of VOCs associated with reduced vaccine efficacy have occurred in LTCH (including Ontario) despite high vaccine coverage of residents and staff.¹³⁻¹⁶

Delta was first identified in India, has disseminated globally, and has replaced Alpha as the predominant strain in India and the UK. Based on mutation profiles (negative for N501Y and E484K, which includes Delta), Delta is estimated to be associated with the majority of COVID-19 cases in Ontario as of late June, 2021.^{17,18} Note that there are other variants related to Delta such as B.1.617.1. However, while Delta is considered a VOC by the World Health Organization as of May 11, 2021, B.1.617.1 has been reclassified from a VOC to a VOI as of May 31, 2021.

As the pandemic continues and surveillance for VOC increases, additional VOCs will be detected in Ontario and it is likely that new variants will continue to replace older variants over time. Up-to-date information of VOCs identified in Ontario can be found at PHO's [COVID-19 Variants of Concern](#) page.

PIDAC has identified the following as key questions that must be answered to understand the potential impact of any new VOC:

- For each VOC, is the VOC associated with increased transmissibility compared with NVSC2?
- Do current diagnostic tests have sensitivity for detection of each of the VOC equivalent to that for NVSC2?
- Does infection with each of the VOC result in increased disease severity and higher case fatality as compared to infection with NVSC2?
- Does natural or vaccine-induced immunity to NVSC2 protect against infection and severe disease due to each VOC?

The current status of our knowledge with respect to each of these questions is summarized in PHO's [*Comparing SARS-CoV-2 variants of concern \(VOCs\)*](#) but this evidence continues to evolve rapidly, and new variants will continue to emerge.

Alpha is associated with increased transmissibility and an increased secondary attack rate with estimates that Alpha is 36% to 75% more transmissible than NVSC2.^{10,19} In the UK it took only a few months for Alpha to rise from <5% of all COVID-19 cases to become the predominant variant accounting for >70% of cases.²⁰ The emergence of Alpha in many countries has been associated with rapid increases of community COVID-19 prevalence and rapid replacement of NVSC2 with Alpha.²¹⁻²⁵ However, the re-introduction of public health interventions in response to the emergence of Alpha has been effective at reducing transmission at the population level in the UK, Ontario and in other jurisdictions.^{26,27}

Alpha is associated with an increased risk of disease severity, hospitalization and mortality.²⁸ There is no evidence at present that either re-infection or vaccine failure are more common due to Alpha.^{21,27,29-31}

Beta is associated with increased transmissibility and its emergence resulted in a COVID-19 surge in South Africa and replacement of NVSC2 in South Africa. There is also a possible increased in in-hospital mortality.^{32,33} There is concern about the level of neutralizing antibody titres targeting Beta generated by natural immunity following infection with NVSC2 or vaccination with currently available vaccines.³⁴⁻⁴³ Reports from vaccine trials suggest a reduction in vaccine efficacy in South Africa following the emergence of Beta for the AstraZeneca and Janssen vaccines.^{29,37,43-48} Additionally, some of these vaccine trials suggest that re-infection with Beta may occur in individuals previously infected with NVSC2.⁴⁹

Similar to Beta, the emergence of Gamma in Brazil was associated with a surge in COVID-19 cases and replacement of NVSC2 indicating increased transmissibility.^{19,50} It may also be associated with increased hospitalization compared with NVSC2.⁵¹ Gamma, like Beta, has also been associated with reduced antibody neutralization, re-infection, and reduced vaccine efficacy.^{49,52}

Delta is associated with increased transmissibility and resulted in a major COVID-19 surge following its emergence in India and may also be associated with increased hospitalization risk, although data are preliminary.⁵³⁻⁵⁶ It appears to have increased transmissibility, not only compared to NVSC2 but also compared to Alpha.^{55,57-59} Data with respect to immune escape, re-infection and vaccine efficacy with B.1.617 are preliminary. It may be associated with a modest reduction⁶⁰⁻⁶⁶ in antibody neutralization with vaccine data suggesting that both Pfizer and AstraZeneca are protective for fully vaccinated individuals, but with significant reduced protection following a single dose.^{67,68}

Although all VOCs are likely associated with increased transmissibility, the mechanism for this increase is not known.^{20,69,70} Mutations in the viral spike protein are seen in all three VOCs. The spike protein is responsible for binding to the ACE-2 receptor on human cells and for viral cell membrane fusion. Potential explanations for increased transmissibility include a higher viral load,^{71,72} or a shorter incubation period compared to NVSC2.^{71,72} There is no evidence that there is any difference in the mode(s) of transmission of these VOC different from what is seen for NVSC2.

2. IPAC Recommendations Related to SARS-CoV-2 Variants of Concern

In formulating this guidance, it is important to note that the initial management decisions for patients with suspected or confirmed COVID-19 will need to be made without knowledge of which specific VOC is involved. In most cases, it will not be possible, or effective, to target initial IPAC measures to specific VOC.

2.1 Testing for COVID-19

Currently, Delta has become the predominant cause of COVID-19 in Ontario, replacing Alpha.⁷³ Beta and Gamma are also both circulating in Ontario. NVSC2 is now rare.

As long as the pandemic continues additional VOCs are likely to emerge, especially in areas where COVID-19 incidence is high. For these reasons, a travel history remains an important part of the assessment of patients with COVID-19 (although local emergence of a novel VOC is also possible). Ongoing sequencing of specimens both related and unrelated to travel will be required for early detection of new and emerging VOCs.

All recognized VOCs have multiple mutations in the spike protein although only Alpha is associated with spike protein target failure. However, current test methodologies used to detect COVID-19 are able to detect SARS-CoV2 regardless of the specific VOC. The accuracy of PCR-based tests will need to be reassessed as new VOCs emerge.

Routine diagnostic PCR tests (and rapid antigen tests) for SARS-CoV-2 do not determine the specific VOC involved. Definitive VOC identification involves whole genome sequencing although screening PCR tests can be used to provide initial identification of the probable VOC type. Currently it is not feasible to obtain rapid results from whole genome sequencing in most circumstances.

Recommendations

- 1. Currently used PCR-based tests for COVID-19 can continue to be used for diagnosis despite the emergence of multiple VOCs in Ontario.** [updated]

2.2 Inter-Facility Transfer of Patients with VOC

COVID-19 is a pandemic resulting from widespread transmission of SARS-CoV-2 in community settings and new SARS-CoV-2 variants with increased transmissibility will spread predominantly within community settings. Identification of any specific VOC in a hospitalized patient requiring transfer is not a reason to delay or defer any medically necessary transfer. Additional Precautions should be used at all times during the care and transfer for patients with COVID-19 to prevent the transmission of all VOCs.

Recommendations

- 2. Medically necessary transfers of patients or transfers required to assist hospitals overwhelmed with COVID-19 should continue to occur for patients regardless of whether their VOC status is known or unknown and regardless of which VOC is identified.** [updated]

2.3 Patient Placement

Some VOCs may be associated with immune escape and therefore may result in re-infection or disease in vaccinated individuals. While re-infection and vaccine failure occurs, transmission of one VOC to an individual that already has active COVID-19 has not been described. Furthermore, re-infection is also not well characterized early during recovery from COVID-19. Therefore, initial cohorting of active COVID-19 cases with unknown VOC status during COVID-19 surges likely does not confer a significant risk of early re-infection with a different VOC.

While different VOCs have different levels of transmissibility, and all are more transmissible than NVSC2, there is no evidence or rationale to believe that the potential mechanisms of transmission are different from NVSC2 or for different VOCs. For this reason, no change of practice is required with respect to Routine Practices and Additional Precautions as they have been adapted for COVID-19.

Recommendations

- 3. Whenever possible, patients with suspected or confirmed COVID-19 should be cared for in single rooms with access to their own toileting facility.** [new]
- 4. During COVID-19 surges, where sufficient single rooms are not available, patients with confirmed COVID-19 can be cohorted regardless of VOC status. Patients with suspected COVID-19 must not be cohorted.** [new]
- 5. Routine Practices and Additional Precautions, as used for COVID-19, are the same regardless of the specific VOC causes COVID-19.** [new]

2.4 Personal Protective Equipment

All VOCs are more transmissible than NVSC2 and some VOCs may be more transmissible than others.^{20,59,70,74-77} It has been suggested that this may be due to a higher viral load in COVID-19 due to VOC but results are conflicting.^{71,72,78} However, there is no evidence suggesting, and no anticipated change in, the mode(s) of transmission of COVID-19 caused by Alpha or any other VOC. In the UK and in Ontario, the incidence of Alpha in both community and health care settings was reduced through the use of the same public health and IPAC measures used to control NVSC2 even prior to widespread vaccine administration.

Recommendation

6. **There is no recommended change in PPE practices related to the emergence of any VOCs in Ontario.** [updated]

2.5 Duration of Precautions

Currently available epidemiological and virological data suggest that the infective period for patients with mild or moderate COVID-19 and without severe immunocompromise is less than 10 days in almost all cases. The recommendation to isolate patients with COVID-19 for 10 days provides an appropriate margin of safety and transmission after removal of precautions has not been reported. There are no data suggesting that the duration of infectivity for VOCs is longer than for NVSC2.

Recommendations

7. **Outpatients and hospitalized patients with mild or moderate COVID-19 AND no severe immune compromise can be removed from Droplet and Contact Precautions 10 days from the onset of symptoms (or from their initial test positive date if asymptomatic), as long as fever has resolved and other symptoms are improving for at least 24 hours.**⁷⁹ [unchanged]
8. **Patients with severe COVID-19 requiring treatment in an intensive care unit or patients with severe immunocompromise can be removed from Droplet and Contact Precautions 20 days from the onset of symptoms (or from their initial test positive date if asymptomatic and immunocompromised) as long as fever has resolved and their clinical status is improving for at least 24 hours.**⁷⁹ [unchanged]

2.6 Other IPAC Measures

Health care settings must ensure that all essential measures to control COVID-19 are in place to prevent the transmission of COVID-19, regardless of VOC type.

Vaccination of both health care providers (HCPs) and patients is critical as it will protect HCPs and patients and limit introduction of COVID-19 into health care facilities. All Health Canada-approved vaccines have significant benefits in preventing disease and reducing transmission of recognized variants, although there may be some reduction in efficacy for specific vaccine-variant combinations. Health care facilities should educate HCPs with respect to the safety and efficacy of COVID-19 vaccines as well as the importance of receiving all required doses,⁶⁷ should promote HCP vaccination, facilitate access to vaccines for HCP, and should track HCP vaccination rates. Health care facilities and HCPs should also educate and promote vaccination for their patients.

In addition to vaccination, education of staff on Routine Practices and Additional Precautions and on COVID-19–specific policies and procedures remains critical.

The following suggestions represent IPAC interventions that are important to reduce nosocomial transmission of COVID-19 but are often incompletely implemented. Attention to these areas is important to prevent nosocomial transmission, and is even more important given the emergence of VOCs.

Commonly overlooked areas associated with substantial transmission risk include break rooms and other spaces where staff congregate to eat and drink. Careful attention should be paid to ensure staff have sufficient break areas to allow physical distancing of at least 2 metres and to make sure that staff remain distanced during breaks, particularly when removing their masks to eat or drink. Masks should be removed for the minimum amount of time required and should be worn even in break rooms when not eating or drinking. Additionally, disposable face shields should be discarded prior to entering break spaces; reusable face shields should be appropriately cleaned, disinfected and safely stored prior to eating and drinking and not placed on surfaces where food and drink are also located.

Due to the duration of the pandemic and the workload in health care, pandemic fatigue can occur. A simultaneous decline in case burden across Ontario, combined with the emergence of VOCs, create a risky period in which relaxation of IPAC practices could allow nosocomial COVID-19 transmission. Continuous education and periodic audits can be helpful to maintain best practices. Where staff practices in areas where patients with COVID-19 are commonly treated (e.g., ICU or ED in acute care hospitals; COVID-19 wards in acute care hospitals or rehabilitation/complex continuing care hospitals; or any facility experiencing an outbreak) are consistently poor, the use of a safety coach (i.e., individual trained by IPAC to observed IPAC practices including PPE selection and use including consistent masking, correct PPE donning and doffing, hand hygiene, and physical distancing) can improve practices substantially.

One important intervention that has been effective for prevention of nosocomial NVSC2 transmission in the health care setting is universal masking. While all health care facilities in Ontario require universal masking by staff, there may be wider variation in practice with respect to patient masking. Patient masking, where feasible, may be a useful risk reduction strategy to implement to prevent the transmission of SARS-CoV-2. Recognizing that in specific patient populations masking may be challenging (e.g., patients with dementia, some psychiatric conditions, moderate to severe hypoxia, paediatric patients), patient care should not be refused based on an inability of the patient to mask.

As part of universal masking, HCPs and patients should wear an appropriately sized mask that covers both their nose, mouth and chin without gaps, and which remains in position without the need for repeated re-positioning.

Health care facilities and HCPs should provide patients with a medical mask if the patient does not have their own mask. As it may not be clear whether cloth masks worn by patients meet recommendations for acceptable mask design,⁸⁰ some health care facilities and providers may choose to provide patients with medical masks to replace their own personal masks.

Although all of these measures are important, evidence suggests that the biggest impact of COVID-19 incidence, transmission and severe outcomes will be obtained through high vaccine uptake among both HCPs and patients.

Vaccination of health care providers is essential to reduce the nosocomial transmission of all COVID-19 variants.

Recommendations

- 9. Ensure that all HCPs and patients have access to all required doses of COVID-19 vaccine and understand the benefits of being fully vaccinated. [new]**
- 10. Health care settings must ensure that all essential measures to prevent nosocomial COVID-19 are in place including universal masking, physical distancing, and hand hygiene. [updated]**
- 11. Ensure that HCPs have sufficient break space where they can safely eat and drink and that protocols are in place to avoid crowding and ensure appropriate physical distancing and masking in these areas. [unchanged]**
- 12. In high-risk areas where patients with COVID-19 routinely receive care, use of a safety coach should be considered where staff practices are inconsistent. [updated]**
- 13. Health care settings should ensure that patients are masked (unless there is a contraindication to masking or the patient is unable to mask) in all of the following situations except when the mask must be removed briefly for clinical purposes (e.g., for an oral exam or nasopharyngeal swab): [unchanged]**
 - a. When visiting a client in their home.**
 - b. In all areas of an outpatient health care facility including the exam room.**
 - c. In all areas of an acute care hospital except within the patient room (see below).**
- 14. Inpatient settings in acute care hospitals should also consider: [unchanged]**
 - a. Having patients mask within their rooms when HCPs are in the room, or within 2 metres of the patient.**
 - b. Having patients mask in multi-bed rooms if they are ambulatory and may come within 2 metres of another patient.**
- 15. Resident masking may not be feasible for residents in many long term care homes. However, resident masking when outside the room should be supported when requested by the resident and where the resident is interested in, and able to, appropriately mask. [unchanged]**
- 16. Visitors to health care settings should be reduced as per provincial and facility policies.⁸¹ Essential visitors should be masked at all times when in the health care setting, including inside the patient's room.^{82,83} [unchanged]**
- 17. Where health care settings expect patients to be masked, the health care setting should provide the patient with a medical mask. [unchanged]**

2.7 Environmental Cleaning

While most COVID-19 transmission likely occurs by the respiratory route, it is likely that some transmission continues to occur due to contaminated hands, equipment and environmental surfaces. SARS-CoV-2 does not survive for prolonged periods on most surfaces and is inactivated by hospital-grade disinfectants through routine cleaning processes. Although some VOCs may be associated with increased transmission through a higher viral load, standard cleaning and disinfection processes should be adequate for VOCs when applied appropriately.

Thus, although special cleaning products or methods, or increased cleaning frequency is not required for the control of SARS-CoV-2 VOCs, meticulous attention to hand hygiene, disinfection of shared equipment and environmental cleaning remain essential to minimize any risk of SARS-CoV2 transmission. Health care settings should follow PIDAC's [*Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings*](#).⁸⁴

Recommendations

- 18. Health care facilities should have sufficient environmental cleaning resources to ensure a safe and clean environment and should have protocols in place for both routine cleaning and disinfection, and cleaning and disinfection for patients with COVID-19.** [unchanged]
- 19. No changes in [environmental cleaning protocols](#) are required for patients with COVID-19 due to any known VOCs.**⁸⁵ [updated]

2.8 Heating, Ventilation and Air Conditioning

SARS-CoV-2 transmission occurs predominantly through unprotected exposure of mucous membranes to respiratory droplets. Transmission, and transmission through small particle respiratory droplets or aerosols is possible under some conditions including during aerosol-generating medical procedures (AGMP) or via prolonged exposure in poorly ventilated spaces.⁸⁶

Recommendation

- 20. All health care facilities should review their HVAC systems and ensure they are in compliance with CSA Z317.2:19 or other regulations related to their facility type.**⁸⁷ [unchanged]

2.9 Outbreak Management for VOCs

The principles of outbreak management are similar for all VOCs with some caveats. In particular, the frequency of point prevalence testing should be increased for VOCs due to the potentially explosive nature of VOC outbreaks, particularly in settings with poor vaccine uptake. Additionally, as outbreaks of VOCs associated with vaccine failure continue to be reported even in highly-vaccinated settings,^{13,14,16} aggressive testing and control measures in outbreaks due to Gamma, Beta or other VOCs associated

with vaccine failure remain important. Further details can be found in the PIDAC document [*Best Practices for Managing COVID-19 Outbreaks in Acute Care Settings*](#).

Recommendations

21. **A single nosocomial case or cluster of COVID-19 should trigger immediate testing of all unvaccinated patients or staff; vaccinated patients and staff should also be tested if the case is due to a VOC associated with vaccine failure, for patient populations where vaccine efficacy is reduced, or if the epidemiological features of the cluster are concerning (e.g., cases in vaccinated individuals, larger clusters).** [updated]
22. **As soon as a COVID-19 outbreak within a health care facility is identified, whole genome sequencing of at least one to three COVID-19-positive cases is recommended to identify the VOC involved.** [updated]
23. **For VOC outbreaks, point prevalence testing of patients and HCPs should be conducted frequently (e.g., every 3 to 5 days) and tests should be prioritized to ensure a rapid turn-around time to guide outbreak management.** [updated]
24. **Timely forward and backwards contact tracing is essential for all COVID-19 outbreaks and must be performed rapidly in collaboration with IPAC, occupational health and safety, and public health (where facilities have these resources) and by public health at facilities that do not have adequate IPAC or occupational health and safety support.** [unchanged]
25. **Closing outbreak units to new admissions, avoiding non-essential transfers from outbreak units and restricting staff to outbreak units is recommended for respiratory virus outbreaks including COVID-19, but is particularly important for new and emerging VOCs.** [unchanged]

Appendix A: Summary of Recommendations

1. Currently used PCR-based tests for COVID-19 can continue to be used for diagnosis despite the emergence of multiple VOCs in Ontario. [updated]
2. Medically necessary transfers of patients or transfers required to assist hospitals overwhelmed with COVID-19 should continue to occur for patients regardless of whether their VOC status is known or unknown and regardless of which VOC is identified. [updated]
3. Whenever possible, patients with suspected or confirmed COVID-19 should be cared for in single rooms with access to their own toileting facility. [new]
4. During COVID-19 surges, where sufficient single rooms are not available, patients with confirmed COVID-19 can be cohorted regardless of VOC status. Patients with suspected COVID-19 must not be cohorted. [new]
5. Routine Practices and Additional Precautions, as used for COVID-19, are the same regardless of the specific VOC causes COVID-19. [new]
6. There is no recommended change in PPE practices related to the emergence of any VOCs in Ontario. [updated]
7. Outpatients and hospitalized patients with mild or moderate COVID-19 AND no severe immune compromise can be removed from Droplet and Contact Precautions 10 days from the onset of symptoms (or from their initial test positive date if asymptomatic), as long as fever has resolved and other symptoms are improving for at least 24 hours.⁷⁹[unchanged]
8. Patients with severe COVID-19 requiring treatment in an intensive care unit or patients with severe immunocompromise can be removed from Droplet and Contact Precautions 20 days from the onset of symptoms (or from their initial test positive date if asymptomatic and immunocompromised) as long as fever has resolved and their clinical status is improving for at least 24 hours.⁷⁹[unchanged]
9. Ensure that all HCPs and patients have access to all required doses of COVID-19 vaccine and understand the benefits of being fully vaccinated. [new]
10. Health care settings must ensure that all essential measures to prevent nosocomial COVID-19 are in place including universal masking, physical distancing, and hand hygiene. [updated]
11. Ensure that HCPs have sufficient break space where they can safely eat and drink and that protocols are in place to avoid crowding and ensure appropriate physical distancing and masking in these areas. [unchanged]
12. In high-risk areas where patients with COVID-19 routinely receive care, use of a safety coach should be considered where staff practices are inconsistent. [updated]
13. Health care settings should ensure that patients are masked (unless there is a contraindication to masking or the patient is unable to mask) in all of the following situations except when the mask must be removed briefly for clinical purposes (e.g., for an oral exam or nasopharyngeal swab): [unchanged]
 - a. When visiting a client in their home.
 - b. In all areas of an outpatient health care facility including the exam room.
 - c. In all areas of an acute care hospital except within the patient room (see below).

14. Inpatient settings in acute care hospitals should also consider: [unchanged]
 - a. Having patients mask within their rooms when HCPs are in the room, or within 2 metres of the patient.
 - b. Having patients mask in multi-bed rooms if they are ambulatory and may come within 2 metres of another patient.
15. Resident masking may not be feasible for residents in many long term care homes. However, resident masking when outside the room should be supported when requested by the resident and where the resident is interested in, and able to, appropriately mask. [unchanged]
16. Visitors to health care settings should be reduced as per provincial and facility policies.⁸¹ Essential visitors should be masked at all times when in the health care setting, including inside the patient's room.^{82,83}[unchanged]
17. Where health care settings expect patients to be masked, the health care setting should provide the patient with a medical mask. [unchanged]
18. Health care facilities should have sufficient environmental cleaning resources to ensure a safe and clean environment and should have protocols in place for both routine cleaning and disinfection, and cleaning and disinfection for patients with COVID-19. [unchanged]
19. No changes in [environmental cleaning protocols](#) are required for patients with COVID-19 due to any known VOCs.⁸⁵[updated]
20. All health care facilities should review their HVAC systems and ensure they are in compliance with CSA Z317.2:19 or other regulations related to their facility type.⁸⁷[unchanged]
21. A single nosocomial case or cluster of COVID-19 should trigger immediate testing of all unvaccinated patients or staff; vaccinated patients and staff should also be tested if the case is due to a VOC associated with vaccine failure, for patient populations where vaccine efficacy is reduced, or if the epidemiological features of the cluster are concerning (e.g., cases in vaccinated individuals, larger clusters). [updated]
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24. Timely forward and backwards contact tracing is essential for all COVID-19 outbreaks and must be performed rapidly in collaboration with IPAC, occupational health and safety, and public health (where facilities have these resources) and by public health at facilities that do not have adequate IPAC or occupational health and safety support. [unchanged]
25. Closing outbreak units to new admissions, avoiding non-essential transfers from outbreak units and restricting staff to outbreak units is recommended for respiratory virus outbreaks including COVID-19, but is particularly important for new and emerging VOCs. [unchanged]

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Public Health Ontario

480 University Avenue, Suite 300
Toronto, Ontario
M5G 1V2

647.260.7100

pidac@oahpp.ca

www.publichealthontario.ca

