

EVIDENCE SYNTHESIS BRIEFING NOTE

TOPIC: BEST PRACTICES FOR LIMITING THE TRANSMISSION OF COVID-19 VARIANTS OF CONCERN

Information finalized as of February 24, 2021.^a

This Briefing Note was completed by the Research, Analysis, and Evaluation Branch (Ministry of Health).

Purpose: This briefing note provides a summary of best practices for limiting the transmission of COVID-19 variants of concern (VOCs).

Key Findings and Implications:

- **Preventing Transmission:** In addition to current public health measures, stricter measures are needed to reduce transmission of SARS-CoV-2 VOCs which may include: reducing non-essential travel and social activities; introducing a national lockdown; identifying people with an epidemiological link to cases with the new variant; and following up with reports of suspected cases of COVID-19 reinfection.
- **Aerosol Transmission:** Due to the higher viral load associated with the new VOCs, it is recommended that ventilation rates are adjusted to account for increased risk and transmissibility. While the application of ventilation controls vary in different settings, it is essential that all public and workplace spaces include ventilation as part of their COVID secure risk assessment.
- **Infection Prevention and Control (IPC) and Public Health Measures:**
 - **Personal Protective Equipment (PPE):** Wearing a face covering with a filtering face piece (FFP) that is electrospun with composite air filter membranes may improve protection against more transmissible VOCs. Due to their better filtration efficiency and the emergence of VOCs, respirators may be considered for community use.
 - **Physical Distancing:** The physical distancing rule of two meters (i.e., six feet) may need to be expanded given the rise in VOCs. In school settings, social mixing between school classes and adult staff should be minimized and mandating school closures should be considered where required.
 - **Multiprong IPC and Public Health Measures:** Using public health measures simultaneously may decrease the transmissibility of VOCs, which include: physical distancing, wearing a mask, keeping rooms well ventilated, avoiding crowds, hand hygiene, coughing into a bent elbow or tissue, delaying travel, contact tracing, testing, and screening.

Implications for Ontario: Despite the recent emergence of VOCs in Ontario, there have been no updated recommendations or changes to IPC and public health measures. VOCs and potential changes to measures should be closely monitored in the coming weeks.

- **Preventing Transmission:** Current public health measures (i.e., IPC [i.e., PPE, hand hygiene, physical distancing, disinfection], and contact tracing) should be reviewed, audited, and reinforced, particularly in high risk settings such as congregate living settings, childcare, and schools, where the transmissibility of VOCs may be greater.
- **IPC:**
 - **Physical Distancing:** Health care settings should have sufficient break space where health care workers can physically distance to limit noncosmical transmission of the new VOCs.
 - **Leadership, Education, and Training:** In health care settings, a safety coach is recommended in circumstances where staff practices are inconsistent in high risk areas of suspected or confirmed COVID-19 patients.
 - **Multiprong IPC and Public Health Measures:** In health care settings, basic measures should be implemented to prevent nosocomial COVID-19 such as universal masking, physical distancing, and hand hygiene.

Implementation Implications for Ontario:

- **IPC: PPE:** There is no recommended change in PPE practices related to the emergence of the B.1.1.7 VOC or other VOCs. **Disinfection and Hygiene:** No changes in environmental cleaning protocols are required specific to patients with infected with a VOC compared to patients with non-variant SARS-CoV-2.

^a This briefing note includes current available evidence as of the noted date. It is not intended to be an exhaustive analysis, and other relevant findings may have been reported since completion.

Context

According to a Public Health Ontario (PHO) report (Feb 15, 2021) on COVID-19 VOC in Ontario, there are three COVID-19 VOCs that have been identified in Ontario, including: PANGO lineage B.1.1.7: first detected in the United Kingdom (UK) in September, 2020; PANGO lineage B.1.351: first detected in South Africa in October, 2020; and PANGO lineage P.1: first detected in Brazil in January, 2021.^{1,b}

A European Centre for Disease Prevention and Control (ECDC) report (Feb 15, 2021) on the increased circulation of VOCs in the European Union (EU) notes that despite measures being in place in most countries, the circulation of variants has progressed in terms of the number and proportion of all cases. There is substantial uncertainty regarding severity estimates for VOC B.1.351 and P.1. Furthermore, if the variant B.1.351 or other variants are found to partially or fully evade available vaccines, this may prolong or worsen the impact, particularly for those most likely to suffer from severe outcomes.²

The ECDC report (Feb 15, 2021) further notes that modelling analysis shows that, unless non-pharmaceutical interventions (NPIs) continue or are strengthened in terms of compliance over the coming months, a significant increase in COVID-19-related cases and deaths is anticipated. Although vaccination may mitigate the effect of more transmissible variants, easing measures prematurely will lead to a rapid increase in incidence rates and mortality. In areas where new VOCs have emerged or are anticipated to be the dominant variant in circulation, stringent implementation of NPIs are necessary to reduce transmission and safeguard the functioning of health care systems. Higher transmissibility implies that the effectiveness of several individual NPIs (e.g., physical distancing or the use of face masks) may be reduced and that more intensive layering of NPIs will be needed to achieve similar results. Countries should continue or enhance application of NPIs at personal, environmental, and society levels. Such measures include:

- Encouraging physical distancing between individuals and limiting the size of public and private gatherings;
- Promoting hand hygiene and respiratory etiquette;
- Providing advice on use of face masks where necessary;
- Continuing with contact tracing, quarantine of contacts, and isolation of cases;
- Limiting transmission in workplaces by encouraging teleworking whenever possible;
- Recommending measures to maintain IPC in all health and social care settings, including long-term care facilities;
- Avoid non-essential travel; and
- Strengthening in-school mitigation measures and, as a last resort after other measures in society have already been applied, considering partial or complete school closures on a short-term basis.²

^b During the write-up process of this Evidence Synthesis BN, a new variant – B.1.526 – was identified in New York City, US. This variant has been found to be scattered in the Northeast of US, and may also be an antigenic challenge for current interventions ([Annavaiahala et al., 2021](#)).

Supporting Evidence

[Table 1](#) below summarizes scientific evidence and jurisdictional experiences on the best practices for limiting the transmission of COVID-19 VOCs. In terms of jurisdictional experience, information is presented on Canada (Ontario, Manitoba), Europe (UK), and the United States (US).

Additional details are provided in [Table 2](#) (best practices for limiting the transmission of COVID-19 VOCs) in the Appendix.

Table 1: Summary of Best Practices for Limiting the Transmission of COVID-19 VOCs

<p>Scientific Evidence</p>	<ul style="list-style-type: none"> ● Preventing Transmission: No information identified. ● Aerosol Transmission (HVAC): No information identified. ● IPC and Public Health Measures: <ul style="list-style-type: none"> ○ PPE: Face coverings are recommended in all indoor public spaces, schools, workplaces, and crowded outdoor spaces. Wearing a face covering with a filtering face piece (FFP) is of particular importance with respect to limiting the transmission of VOCs. Electrospun air filters are noted to contain composite air filter membranes which may improve protection against more transmissible VOCs.^{3,4} ○ Physical Distancing: Continued physical distancing used in conjunction with other public health measures is recommended with the new VOCs. Furthermore, it is suggested that the physical distancing rule of two meters (i.e., six feet) may need to be expanded given the rise in VOCs.⁵ ○ Multiprong IPC and Public Health Measures: The following IPC and public health measures can be used with VOCs where applicable: restrictions on high-risk and high-capacity settings, frequent hand washing, delaying travel, widespread diagnostic testing and screening to identify and isolate infectious individuals, particularly those who are asymptomatic, and quarantining of contacts.⁶
<p>International Scan</p>	<ul style="list-style-type: none"> ● Preventing Transmission: Continued personal, procedural, engineering, and societal mitigation measures may reduce transmission of SARS-CoV-2 and VOCs (EU, UK). The UK variant (B1.1.7) is significantly more transmissible than previously circulating variants, with an estimated potential to increase the reproductive number by 0.4 or greater with an estimated increased transmissibility of up to 70%.⁷ Therefore, in addition to current mitigation measures, stricter measures are needed, including: <ul style="list-style-type: none"> ○ Reducing non-essential travel and social activities (EU);⁸ ○ Implementing population level approaches such as changing the operations of schools/universities, travel restrictions between regions and internationally, and/or introducing a national lockdown (UK);⁹ ○ Communicating mitigation measures to the public with a focus on alerting the public and organizations that: 1) previous levels of adherence to preventative measures are unlikely to reduce transmission of the new variant, especially in winter; and 2) environmental and personal measures can still reduce transmission if applied more rigorously, including within the home environment (UK);⁹

	<ul style="list-style-type: none"> ○ Immediately identifying people with an epidemiological link to cases with the new variant and following up with reports of suspected cases of COVID-19 reinfection (EU);⁸ and ○ Developing standardized mechanisms, in partnership with global stakeholders, to investigate and assess newly emerging variants of SARS CoV-2 (EU).⁸ ● Aerosol Transmission (HVAC): At distances greater than two meters, exposure to the virus is determined by ventilation rates and airflow patterns rather than distance. Therefore, it is important to consider effective ventilation in the workplace, public settings, and in the home. Application of ventilation control currently vary in different settings, and it is essential to ensure that all public and workplace spaces include ventilation as part of their COVID secure risk assessment (UK).⁹ ● IPC and Public Health Measures: <ul style="list-style-type: none"> ○ <u>PPE:</u> Due to their better filtration efficiency, respirators have been considered for use in the community since the emergence of more transmissible new variants of SARS-CoV-2. Nonetheless, the difficulties to ensure their appropriate fitting and use in community settings as well as potential adverse effects related to lower breathability should be considered (EU).² ○ <u>Physical Distancing:</u> Mitigation measures that minimize social mixing between school classes and adult staff should be considered, such as school closures with increased community circulation of VOCs (EU).² ○ <u>Multiprong IPC and Public Health Measures:</u> The emergence of VOCs highlights the importance of continuing to comply with local and national public health and social measures simultaneously such as physical distancing, wearing a mask, keeping rooms well ventilated, avoiding crowds, hand hygiene, and coughing into a bent elbow or tissue (Global).¹⁰
Canadian Scan	<ul style="list-style-type: none"> ● Preventing Transmission: No information identified. ● Aerosol Transmission (HVAC): No information identified. ● IPC and Public Health Measures: <ul style="list-style-type: none"> ○ <u>PPE:</u> IPC protocols and appropriate and consistent use of PPE remain the most effective measures controlling the spread of COVID-19 and VOCs. If worn correctly and consistently, PPE is proven to be effective (Manitoba).¹¹ ○ <u>Contact Tracing:</u> The following contact tracing measures are recommended in public transportation settings: <ul style="list-style-type: none"> ▪ Public postings of transportation during periods of communicability should note if a VOC is identified. ▪ Flight manifests should be requested for contact tracing of those seated within three rows of an identified COVID-19 case in Economy, or two rows in the Business section. It may be expanded to all passengers if movement is noted or if other factors that increase risk of exposure are present. All contacts identified should be advised to quarantine and be tested. ▪ Lower thresholds for public notification of exposures on other conveyances (e.g., buses, taxis) should be considered if contacts cannot be identified (Manitoba).¹²
Ontario Scan	<ul style="list-style-type: none"> ● Preventing Transmission: Mitigation measures should be reinforced in high-risk settings such as long-term care homes, retirement homes, correction facilities, shelters, group homes and other congregate living settings, childcare centers, and

	<p>schools that remain open. Overall, facilities and settings should review, audit, and reinforce consistent implementation of IPC measures (i.e., screening staff and visitors, universal masking, PPE, hand hygiene, physical distancing and environmental cleaning) to reduce the transmission of COVID-19 and any variant (Toronto).¹³</p> <ul style="list-style-type: none"> • Aerosol Transmission (HVAC): No information identified. • IPC and Public Health Measures: <ul style="list-style-type: none"> ○ <u>PPE:</u> There is no recommended change in PPE practices related to the emergence of the B.1.1.7 VOC or other VOCs in Ontario.¹⁴ ○ <u>Physical Distancing:</u> Health care settings must ensure that all essential measures controlling the spread of non-variant SARS-CoV-2 (NVSC2) are in place or the risk of nosocomial transmission and outbreaks with VOCs may be substantial. Health care providers should have sufficient break space where they can safely eat and drink to avoid crowding and ensure appropriate physical distancing and masking in these areas.¹⁴ ○ <u>Disinfection and Hygiene:</u> Environmental cleaning in health care settings is important to reduce the risk of SARS-CoV-2 transmission although indirect contact transmission through contaminated surfaces and equipment is not considered the primary mode of SARS-CoV-2 transmission. SARS-CoV-2 does not survive for prolonged periods on most surfaces and is inactivated by hospital-grade disinfectants through routine cleaning processes. Health care settings should follow the Provincial Infectious Diseases Advisory Committee’s Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings. <ul style="list-style-type: none"> ▪ 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. ▪ No changes in environmental cleaning protocols are required specific to patients with known VOC infection as compared to patients with NVSC2.¹⁴ ○ <u>Leadership, Education, and Training:</u> In health care settings, it is recommended to use a safety coach where staff practices are inconsistent in high risk areas of suspected or confirmed COVID-19 patients. Education and training of staff on routine practices and additional precautions on COVID-19-specific policies and procedures is critical.¹⁴ ○ <u>Multiprong IPC and Public Health Measures:</u> In health care settings, basic measures should be implemented to prevent nosocomial COVID-19 including universal masking, physical distancing, and hand hygiene.¹⁴
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Methods

The COVID-19 Evidence Synthesis Network is comprised of groups specializing in evidence synthesis and knowledge translation. The group has committed to provide their expertise to provide high-quality, relevant, and timely synthesized research evidence about COVID-19 to inform decision makers as the pandemic continues.

For more information, please contact the [Research, Analysis and Evaluation Branch \(Ministry of Health\)](#).

Table 2: Best Practices for Limiting the Transmission of COVID-19 VOCs

Jurisdiction Source Document Setting	Description of Recommendation/Best Practice
Preventing Transmission of VOCs	
<p>Canada</p> <p>Toronto Public Health</p> <p>Congregate Living Facilities</p>	<ul style="list-style-type: none"> • A Toronto Public Health news release (Jan 25, 2021) recommends that all facilities, particularly long-term care homes, retirement homes, correction facilities, shelters, group homes and other congregate living settings, childcare centers, and schools that remain open should review, audit, and reinforce consistent implementation of their current IPC measures to reduce transmission of COVID-19 and any variant. Measures include: 1) passive and active screening for visitors and staff; 2) universal masking; 3) personal protective equipment; 4) proper hand hygiene; 5) physical distancing; and 6) environmental cleaning.¹³
<p>UK</p> <p>Government of UK</p> <p>General Community</p>	<ul style="list-style-type: none"> • A Government of UK report (Dec 23, 2020) on mitigations that may reduce transmission of the COVID-19 VOCs states that previously identified personal, procedural, engineering, and societal mitigations to reduce transmission of SARS-CoV-2 virus all continue to apply to the new variant, but are likely to require a step change the rigor of application given that the new variant is likely to represent a significantly increased transmission risk. Recommendations include: <ul style="list-style-type: none"> ○ Reinforcing the core principles of a hierarchy of controls measures to reduce physical transmission through the environment by all routes – close-range, airborne, and via surfaces, given the risks that transmission of the new variant may be higher for all these routes. ○ Focusing on primary actions to reduce transmission such as reducing social contacts, effective testing and tracing, robust outbreak identification and control, support to ensure effective isolation and quarantine, and population vaccination. ○ Population level approaches to further reduce contact between people such as changing the operations of schools/universities, travel restrictions between regions and internationally, and/or introducing a national lockdown. ○ Communicating mitigation measures to the public with a focus on alerting the public and organizations that: 1) previous levels of adherence to preventive measures are unlikely to sufficiently reduce transmission of the new variant, especially in winter; and 2) environmental and personal measures can still reduce transmission if applied more rigorously, including within the home environment.⁹
<p>Europe</p> <p>World Health Organization (WHO)</p> <p>General Community</p>	<ul style="list-style-type: none"> • A WHO news release (Dec 21, 2020) recommends that countries should assess their level of local transmission and apply appropriate prevention and control activities including adapting public health and social measures as per WHO guidance. The WHO states that it is important to remind communities and health workers of the basic principles to reduce the general risk of transmission of acute respiratory infections, such as: <ul style="list-style-type: none"> ○ Avoiding close contact with people suffering from acute respiratory infections; ○ Frequent handwashing, especially after direct contact with ill people or their environment; ○ People with symptoms of acute respiratory infections should practice cough etiquette (i.e., maintain distance, cover coughs, and sneezes with disposable tissues or clothing, and wash hands); ○ Within healthcare facilities, enhance standard IPC practices in hospitals, especially in emergency departments; and ○ Wearing masks where appropriate and ensuring good ventilation.¹⁵

Jurisdiction Source Document Setting	Description of Recommendation/Best Practice
<p>Europe</p> <p>European Centre for Disease Prevention and Control (ECDC)</p> <p>General Community</p>	<ul style="list-style-type: none"> • An ECDC report (Dec 20, 2020) on the rapid increase of a SARS-CoV-2 variant in the UK recommends: <ul style="list-style-type: none"> ○ Reducing non-essential travel and social activities; ○ Immediately identifying people with an epidemiological link to cases with the new variant or travel history to areas known to be affected in order to test, isolate, and follow up their contacts to stop the spread to the new variant; ○ Continuing to advise the population on the need for non-pharmaceutical interventions (NPIs) according to the national policies; ○ Continuing to monitor for abrupt changes in rates of transmission or disease severity as part of the process of identifying and assessing the impact of variants; ○ Following up on reports of suspected cases of COVID-19 reinfection and initiating sequence analysis of virus isolates from these cases; ○ Developing standardized mechanisms, in partnership with global stakeholders, including triggers to investigate and assess newly emerging variants of SARS CoV-2 in terms of animal reservoir, antigenic characteristics, transmissibility, infection severity, cross-protection, and also with regard to adapting vaccine strain recommendations; and ○ Establish systems for reassessing vaccine composition and strategy as needed.⁸
<p>Europe</p> <p>ECDC</p> <p>Travelers</p>	<ul style="list-style-type: none"> • A ECDC report (Feb 15, 2021) on increased circulation of VOCs noted that to slow down the (re)-introduction and spread of SARS-CoV-2 and/or of new SARS-CoV-2 VOCs, individuals with active infection and those who have had recent contact with COVID-19 cases should not travel. Furthermore, ECDC recommends that non-essential travel should be avoided and that a robust system should be in place for the testing and quarantining of travelers. Travel measures should be implemented in areas that continue to have a high level of community transmission, irrespective of the conveyance and the extent of community transmission at the destination. Such measures are particularly important if there is limited evidence (i.e., insufficient sequencing capacity) of the extent to which new virus variants are circulating in the area from which a traveler is arriving. Any measures implemented internal or external EU borders need to be non-discriminatory in terms of nationality, place of residence, and occupation and will need to consider the epidemiological situation in the country of departure and arrival. Escalated measures for travelers include: <ul style="list-style-type: none"> ○ Quarantining of travelers for 14 days (unless a test is performed during quarantine); ○ Testing prior to departure/on arrival and on days during quarantine, to be released from quarantine if tested negative; and ○ Enhanced contact tracing upon identification of a positive case. • Based on mathematical modelling studies, quarantining of travelers for 14 days appears to be the most effective measure for reducing the risk of transmission, although this creates logistical and socio-economic challenges. Assuming that contact information is collected from travelers to enable follow-up if required, the combination of testing prior to departure/on arrival, quarantine and a single test at around day five to seven after arrival appears to offer a reasonable balance of risks and benefits as an alternative to longer quarantine without testing. • ECDC further recommends the use of Passenger Locator Forms (PLFs), preferably in digitalized format, including during transit through other airports and/or travel hubs on the way to the final destination. These travel measures apply to international cross-border travel and travel within countries/geographical areas where there are high levels of SARS-CoV-2 community transmission at local or regional level. Depending on the epidemiological situation, national authorities should consider implementing similar travel measures at sub-national

Jurisdiction Source Document Setting	Description of Recommendation/Best Practice
	levels, to limit or delay the (re)-introduction and spread of the virus, including the new VOCs. This is particularly useful in hard-to-reach geographical areas. Any travel-related measure should apply to all travelers, irrespective of the means of transportation and/or their vaccination/immunization status, at all points of entry. ²
Aerosol Transmission (Heating, Ventilation, Air Conditioning [HVAC])	
<p align="center">UK</p> <p align="center">Government of UK</p> <p align="center">General Community</p>	<ul style="list-style-type: none"> The Government of UK report (Dec 23, 2020) on mitigations that may reduce transmission of the COVID-19 VOCs suggests that at distances greater than two meters, exposure to the virus in the air is largely determined by ventilation rates and airflow patterns rather than distance. The use of screens may potentially mitigate transmission through droplets and larger aerosols, but their impact on small aerosols is very limited (i.e., aerosols can go around a screen) and they are therefore not effective beyond two meters from the infected sources. Therefore, where it is essential for people to be less than two meters apart, the government of UK states that it is important that mitigations consider both aerosol and droplet exposure, and it is strongly recommended that face coverings be mandated. The government of UK states that transmission via the air is primarily mitigated by effective ventilation and is an important component to consider especially in the workplace, public settings where people interact, and in the home, especially if there are visitors from outside the household, or a household member that is positive for COVID-19. Where provision of adequate ventilation is difficult, the use of air cleaning devices may be a suitable alternative. Higher viral load associated with people who have the new variant could have significant implications for transmission via the air, as previous modelling suggests that viral load is a major determinant of airborne transmission risks. As a precautionary measure, it is recommended that ventilation rates are adjusted accordingly to account for the increased risk (potentially 1.5-1.7 times higher). Application of ventilation controls is currently very variable between different settings, and it is essential to ensure that all public and workplace spaces include ventilation as part of their COVID secure risk assessment, and adopt appropriate measures to ensure it is effective.⁹
Infection Prevention and Control and Public Health Measures	
<p align="center">Ontario, Canada</p> <p align="center">Public Health Ontario (PHO)</p> <p align="center">General Community</p>	<ul style="list-style-type: none"> A PHO report (Feb 2021) on IPC of SARS-CoV-2 VOCs in health care settings identified that there is evidence that B.1.1.7 is more transmissible than non-variant SARS-CoV-2 (NVSC). In response to the emergence of B.1.1.7, there has been no recommended change in PPE practices related to the emergence of the B.1.1.7 VOC or other VOCs in Ontario.¹⁴
<p align="center">Ontario, Canada</p> <p align="center">PHO</p> <p align="center">Health Care Settings</p>	<ul style="list-style-type: none"> The PHO report (Feb 2021) on IPC of SARS-CoV-2 VOCs in health care settings notes that health care settings must ensure that all essential measures to control the NVSC2 are in place immediately, or the risk of nosocomial transmission and outbreaks with VOCs may be substantial. Some IPC measures include: <ul style="list-style-type: none"> Basic measures to prevent nosocomial COVID-19 are in place including universal masking, physical distancing, and hand hygiene; Health care providers have sufficient break space where they can safely eat and drink and that protocols are in place to maintain physical distancing and masking in these areas; It is recommended to use a safety coach where staff practices are inconsistent in high risk areas of suspected or confirmed COVID-19

Jurisdiction Source Document Setting	Description of Recommendation/Best Practice
	<p>patients.</p> <ul style="list-style-type: none"> o Education and training of staff on routine practices and additional precautions on COVID-19–specific policies and procedures is critical.¹⁴
<p>Ontario, Canada</p> <p>PHO</p> <p>Health Care Setting</p>	<ul style="list-style-type: none"> • The PHO report (Feb 2021) on IPC of SARS-CoV-2 VOCs in health care settings noted environmental cleaning is important to reduce the risk of SARS-CoV-2 transmission although indirect contact transmission via contaminated surfaces and equipment is not considered the primary mode of SARS-CoV-2 transmission. SARS-CoV-2 does not survive for prolonged periods on most surfaces and is inactivated by hospital-grade disinfectants through routine cleaning processes. Health care settings should follow Provincial Infectious Diseases Advisory Committee (PIDAC) Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings. <ul style="list-style-type: none"> o 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. o No changes in environmental cleaning protocols are required specific to patients with known VOC infection as compared to patients with NVSC2.¹⁴
<p>Manitoba, Canada</p> <p>Shared Health Manitoba</p> <p>Health Care Setting</p>	<ul style="list-style-type: none"> • According to a Shared Health Manitoba report (Feb 16, 2021) on COVID-19 VOCs, IPC protocols and appropriate and consistent use of the available PPE remains the most effective measure controlling the spread of COVID-19 and VOCs. If worn correctly and consistently, PPE is proven to be effective.¹¹
<p>Manitoba, Canada</p> <p>Government of Manitoba</p> <p>Public Transportation</p>	<ul style="list-style-type: none"> • A Government of Manitoba report (Feb 18, 2021) on managing COVID-19 cases and community contacts suggests that public postings of transportation during period of communicability should include if a VOC was identified. Flight manifests will be requested where possible for contact tracing of those seated within three rows of the case in Economy, or two rows in the Business section. It could be expanded to all passengers if movement noted or other factors that increase risk of exposure. All contacts identified should be advised to quarantine and be tested according to above recommendations. Lower thresholds for public notification of exposures on other conveyances (e.g., buses, taxis) should be considered if contacts cannot be identified.¹²
<p>Europe</p> <p>ECDC</p> <p>School Setting</p>	<ul style="list-style-type: none"> • According to the ECDC report (Feb 15, 2021) on increased circulation of VOCs, younger children appear to be less susceptible to SARS-CoV-2 infection compared to older children or adults, which also seems to be the case for the variant B.1.1.7. Widespread transmission of SARS-CoV-2 in the community increases the likelihood of COVID-19 in school settings. This in turn creates the possibility of onward transmission in school and subsequently to household settings, particularly in the absence of appropriate in-school mitigation measures. Increased community circulation of SARS-CoV-2 VOCs may lead to school closures, either in response to school-specific outbreaks or to alleviate current or anticipated pressure on community transmission and the health care system. It is generally thought that school closures, if deemed necessary, should initially be arranged for children in older age groups. • An age-structured model from the Netherlands, based on the previous SARS-CoV-2 strains, concluded that the biggest impact on community transmission was achieved by reducing contacts in secondary schools. Modelling from Denmark assumed that children under

Jurisdiction Source Document Setting	Description of Recommendation/Best Practice
	<p>10 years of age were 50% less susceptible to SARS-CoV-2 infection than adults. The modelling study indicates that, all other measures being constant, opening only primary schools (kindergarten to grade four) in February 2021 would not lead to a substantial increase in new cases or hospitalizations, provided that the transmissibility of B.1.1.7 only increases by 40% against the previously circulating SARS-CoV-2 viruses. Prior to deciding whether to close schools, a review of NPIs in place should be conducted to reduce the risk of SARS-CoV-2 transmission in school settings such as minimizing social mixing between school classes and adult staff.²</p>
<p>Europe ECDC General Community</p>	<ul style="list-style-type: none"> • The ECDC report (Feb 15, 2021) on increased circulation of VOCs noted that while there is only low to moderate certainty for the use of medical face masks providing a small to moderate protective effect against COVID-19, face masks should be considered as an appropriate NPI in combination with other measures as part of efforts to control the COVID-19 pandemic. • Due to their better filtration efficiency, respirators have been considered for use in the community since the emergence of new transmissible variants of SARS-CoV-2. Limited scientific evidence regarding the use of respirators in the community does not support their mandatory use in place of other types of face masks in the community. Although respirators are not inferior to non-medical or medical face masks, the difficulties to ensure their appropriate fitting and use in community settings as well as potential adverse effects related to lower breathability should be considered.²
<p>UK British Medical Journal General Community</p>	<ul style="list-style-type: none"> • A British Medical Journal news analysis (Dec 23, 2020) on what is known about the new COVID-19 variant in the UK suggests that the government has made no mention of any difference with respect to the effectiveness of PPE and the new variant. The Doctors' Association UK has expressed concern to England's health and social care secretary concerning the lack of new PPE guidance in light of the increased transmissibility of the new variant.¹⁶
<p>UK Government of UK General Community</p>	<ul style="list-style-type: none"> • The Government of UK report (Dec 23, 2020) on mitigations that may reduce transmission of the COVID-19 VOCs states that enhancing mitigation measures such as: reconsidering the two meter rule and requiring a face covering be worn where regular interactions less than two meters are necessary; enhancing ventilation rates to account for possible higher viral loads; and reinforcing the importance of using face coverings, including in settings where they are not currently mandated (i.e., education, workplaces, and crowded outdoor spaces).⁹
<p>US Commentary General Community</p>	<ul style="list-style-type: none"> • A viewpoint editorial (Feb 17, 2021) on SARS-CoV-2 VOC in the US noted that public health response should address SARS-CoV-2 variants from other countries and monitor the evolution of domestic VOCs given the high levels of transmission using a multipronged public health response. The level of community transmission should decrease by widespread adoption of demonstrated effective prevention practices, specifically correct and consistent use of face masks, physical distancing, restrictions on high-risk and high-capacity settings, frequent hand washing, delaying travel, widespread diagnostic testing and screening to identify and isolate infectious individuals, particularly those who are asymptomatic, and quarantine contacts.⁶
<p>Global WHO</p>	<ul style="list-style-type: none"> • A WHO COVID-19 weekly epidemiological update (Jan 31, 2021) notes that the emergence of new variants has highlighted the importance for continued compliance with local and national public health and social measures, and to take simple precautions, such as

Jurisdiction Source Document Setting	Description of Recommendation/Best Practice
General Community	physical distancing, wearing a mask, keeping rooms well ventilated, avoiding crowds, hand washing, and coughing into a bent elbow or tissue. ¹⁰
Global Review Health Care Setting	<ul style="list-style-type: none"> • A review (Feb 9, 2021) of scientific articles on COVID-19 noted that although meta-analysis of various trials still conclude that there is insufficient evidence to favour one type of mask over another in health care settings, Belgian recommendations recently broadened the indications for the use of filtering facepiece (FFP) masks in view of rising concerns around more transmissible variants and wider availability of FFP masks.³
Global Peer Reviewed Review General Community	<ul style="list-style-type: none"> • A peer reviewed review (Jan 26, 2021) on NPIs preventing the transmission of SARS-CoV-2 VOCs noted that given greater transmissibility of SARS-CoV-2 variants, there is likely to be enhanced pressure on supply chain for PPE such as filtering face-piece respiratory (FFR) masks, and stricter adherence to NPIs. Face masks used in combination with other NPIs remains essential for countries in the Northern hemisphere that are entering the autumn/winter seasons due to greater viral circulation, along with addressing greater transmissibility of SARS-CoV-2 variants as emerging in the UK. In particular, electrospun air filters offer better properties; such as the composite air filter membranes generated by electrospinning a mixture of polyvinyl chloride and polyurethane polymer demonstrating good mechanical properties with tensile strength up to 9.9 MPa with excellent air permeability (706.84 nm s⁻¹), a high filtration efficiency (99.5%), and a low pressure drop (144 Pa). Moreover, composite membrane fabricated with Nylon 6 and PAN produce higher filtration efficiency (99.99%), which may offer improved protection against more transmissible SARS-CoV-2 variants.⁴
Global Commentary General Community	<ul style="list-style-type: none"> • A commentary (Jan 29, 2021) on public health actions to control new SARS-CoV-2 variants notes that as COVID-19 cases associated with variants rise in the community, the level of urgency and frequency of the messaging should increase, alongside bolstering of local control programs. Enhanced mitigation measures might be necessary, depending on the level of local community transmission. These enhanced mitigation measures may include the following: <ul style="list-style-type: none"> ○ Reinforcing the importance of using face coverings in all indoor public spaces, schools, workplaces, and crowded outdoor spaces; ○ Considering temporary closure of non-essential indoor spaces where face coverings cannot be worn; ○ Considering expanding the distance on the two meters (i.e., six feet) rule; ○ Enhancing indoor ventilation; ○ Addressing socioeconomic inequalities that are the main drivers of background community transmission in many countries; ○ Governments should implement or bolster sick leave entitlements to avoid undue pressure to work when sick, incentivize sectors to provide safer working environments, financially support temporary business closures where necessary, and provide accommodation for those living in crowded or shared housing.⁵

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