

## ENVIRONMENTAL SCAN

# (ARCHIVED) Public Health Measures Implemented to Manage the Spread of COVID-19 Variants of Concern (VOC)

Published: May 2021

Archived: February 2022

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### ARCHIVED DOCUMENT

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## Key Findings

- Three COVID-19 Variants of Concern (VOC), B.1.1.7 (202012/01 or 20I/501Y.V1), B.1.351 (VOC202012/02 or 20H/501.V2) and P.1 (B.1.1.28.1 or 20J/501Y.V3) were first detected in the United Kingdom, South Africa, and Brazil, respectively. These VOC continue to widen their geographical spread and constitute a source of global concern as countries report increasing numbers of cases.
- Multiple jurisdictions have implemented different public health measures to prevent the introduction of VOC, such as travel restrictions, and/or mitigate their spread through enhanced case and contact management specific to VOC cases and vaccine implementation among other measures.
- PH measures implemented across jurisdictions are context and epidemiology dependent which may result in different outcomes in respect to effectiveness, feasibility, and acceptability of interventions (e.g.; vaccine coverage, local capacity, access to resources, etc.)

## Objectives and Scope

The objective of this environmental scan is to identify public health measures taken in select jurisdictions to address VOC. Variants that are 'of interest' or 'under investigation' at the time of writing (April 12, 2021) are not in scope for this environmental scan. The identified public health measures included in this search are: travel restrictions which limit the spread and introduction of VOC, infection prevention and control (IPAC) practices related to VOC, case and contact management measures (e.g., contact tracing), and vaccination strategies.

## Background

COVID-19 VOC have been spreading globally since the fall of 2020.<sup>1,2</sup> B.1.1.7 is associated with increased transmissibility and disease severity, with higher risks of hospitalization and death.<sup>3-7</sup> Evidence has shown that B.1.351 is associated with increased transmissibility and possible immune evasion, raising concerns of increased risk of re-infection and vaccine effectiveness.<sup>4,5,8,9</sup> Similarly, P.1 is associated with an increased risk of re-infections and vaccine evasion.<sup>4,5,9,10</sup> Across many jurisdictions, VOC, and particularly B.1.1.7, are increasingly becoming the dominant strain among SARS-CoV-2 infections, which has resulted in jurisdictions implementing more rigorous public health responses including strengthening testing and sequencing capacities, intensive case and contact management strategies, and vaccination in addition to other broader public health measures.<sup>2,4,7</sup>

## Methods

This environmental scan was conducted between Apr 9 and Apr 12, 2021. Official government and public health agency websites (listed below) were searched via Google search engine for English language documents regarding public health measures applied in different jurisdictions to mitigate the spread of SARS-CoV-2 infections in the context of the identified VOC. Key search terms included, but were not limited to: B.1.1.7, B.1.351, P.1, Novel Coronavirus, SARS-CoV -2, COVID-19, variant of concerns, VOC, case management, contact management, travel-related measures, and public health measures. Vaccination strategies were systematically searched and included in this environmental scan in relation to public health measures in response to VOC.

Jurisdictions searched included:

- Germany, Hong-Kong, Ireland, Israel, United Kingdom (UK), Scotland, South Africa, United States (US), and Canada (i.e., Alberta, British Columbia, Quebec, Manitoba.)
  - At the time of the search, documents specific to VOC were not found for the following Canadian jurisdictions: British Columbia and Quebec.

Government and public health agency websites searched included: European Center for Disease Control (ECDC), World Health Organization (WHO), Centers for Disease Control and Prevention (CDC), Robert Koch Institute (RKI), Public Health England (PHE), and the Australian Health Protection Principal Committee (AHPPC).

## Results

The results are summarized in [Appendix A](#).

### Case and Contact Management Measures

#### CASE ISOLATION

In response to B.1.1.7 becoming the dominant strain in Germany, the Robert Koch Institute announced that Germany would be extending the duration of isolation for all confirmed cases of SARS-CoV-2 from ten to 14 days.<sup>11</sup> Australia and Ireland also requires that any confirmed cases infected with a SARS-CoV-2 VOC must undergo a 14 day isolation period.<sup>12,13</sup>

## CONTACT TRACING

The ECDC identifies contact follow up, including early identification of contacts and strengthened detection efforts, as a critical public health measure to combat and suppress the increased circulation of VOC.<sup>7,14</sup> Some Canadian provinces (i.e. Manitoba, Ontario) have lowered the threshold to identify high-risk contacts requiring self-isolation.<sup>15,16</sup> The ECDC also recommends backwards contact tracing to assist in the prompt identification of possible source contacts as a strategy to mitigate the spread of VOC.<sup>14</sup> Similarly, some jurisdictions, including Germany and Manitoba, have implemented backwards contact tracing as a means to reduce the likelihood of ongoing SARS-CoV-2 transmission, including VOC.<sup>11,15</sup> Since some VOC are observed to be more transmissible, strict management of contacts and their household members has been implemented within jurisdictions in Europe (i.e., Ireland) and Canada (i.e., Manitoba, Ontario, Alberta) as a means to mitigate the spread of VOC.<sup>13,15-18</sup>

## TESTING

In February 2021, the UK undertook extensive surveillance efforts, including testing of asymptomatic individuals in specific locations (using specific postal codes) where B.1.351 had been found.<sup>19</sup> This resulted in the identification of a small number of cases who were immediately placed into isolation in addition to robust contact tracing efforts to identify their contacts such that they could also be immediately instructed to isolate.<sup>19</sup> Extensive surveillance efforts continue to be employed in the UK in order to control the spread of VOC.<sup>20</sup>

## FULLY VACCINATED CONTACTS

The rollout of vaccination programs and the administration of vaccines allowed some jurisdictions to follow a less restrictive approach in management of fully immunized contacts of any cases infected with SARS-CoV-2, including those infected with a VOC. The province of Manitoba and the CDC are recommending that asymptomatic fully vaccinated individuals (with the exception of residents or inpatients in a health care or congregate setting, and those with immunocompromising conditions) who were exposed to any VOC case are not required to self-isolate, but rather, self-monitor for symptoms over the next 14 days following last exposure.<sup>15,21</sup>

## Travel-related Measures

The ECDC, CDC, Canada, and Germany recommend suspending non-essential travel as part of a broader suite of public health measures to avoid the introduction and spread of VOC to new geographical areas.<sup>22-25</sup> In addition, the ECDC indicates that there is evidence to support a dual approach (i.e., quarantine and pre-post departure testing) to combating the introduction and spread of VOC through travel.<sup>22</sup> Several jurisdictions including Canada, Ireland, UK, Australia, Scotland, US, Germany, Israel, Hong-Kong, and South Africa have implemented some form of travel-related measures, including pre- and post- departure testing and mandatory quarantine requirements.<sup>13,24,26-34</sup> Of the jurisdictions scanned, Hong-Kong imposes the most restrictive measures by banning travellers who have stayed in South Africa, Brazil, Ireland, and the UK for more than two hours in a 21 day period from boarding flights to Hong Kong.<sup>33</sup> Hong Kong has indicated a possibility of lifting travel restrictions for travellers from the UK, citing a decline in confirmed cases in the UK and satisfactory vaccination progress.<sup>33</sup> Some jurisdictions have mandated quarantine (for some or all of the quarantine period) at designated sites such as state-mandated hotels, including Canada, Scotland, Israel, Australia and Hong Kong.<sup>29,32,35-37</sup>

## FULLY VACCINATED TRAVELERS

Some jurisdictions (e.g., Israel, USA) have introduced more liberal measures for vaccinated populations, despite the emergence of VOC.<sup>38,39</sup> The Israeli Ministry of Health issued guidance indicating that fully vaccinated Israelis returning from international travel are still required to undergo COVID-19 testing upon arrival, but were exempt from self-isolation.<sup>38</sup> The US has taken a similar approach by exempting fully vaccinated international travellers from self-isolation on return from travel, with the recommendation that they still undergo COVID-19 testing three to five days after return.<sup>39</sup> Canada, Alberta, Scotland, Ireland and Australia, do not exempt vaccinated individuals from travel-related quarantine measures.<sup>13,18,29,35,36</sup> The ECDC recommends maintaining travel-related public health measures “until very high vaccination coverage of high-risk groups and healthcare workers has been achieved, and sufficient sequencing capacity is in place for Member States to rapidly detect VOC and take appropriate action to reduce the risk of their further spread”.<sup>22</sup>

## PUBLIC HEALTH MEASURES FOR FULLY VACCINATED INDIVIDUALS

Both the US and Ireland have published guidance on how fully vaccinated individuals can safely visit and spend time together under specific circumstances.<sup>40,41</sup>

## IPAC Measures Related to VOC

Multiple jurisdictions and national scientific bodies, including Ontario, South Africa, ECDC, Australian Health Protection Principal Committee (AHPPC) and the UK confirm that existing infection prevention and control (IPAC) measures used to control viral transmission since the beginning of the pandemic remain applicable in controlling SARS-CoV-2 variants.<sup>16,34,42-44</sup> Consequently, it is imperative that individuals maintain strict adherence to all IPAC measures as advised by public health officials.

## Discussion

Some jurisdictions have provided comprehensive guidance for managing VOC, including case and contact management, travel restrictions and measures (including for fully vaccinated individuals), and IPAC measures to control of VOC, while others have limited guidance. Most guidance is related to stricter measures for cases and contacts, as well as public health measures for VOC in order to limit their introduction into the region and further spread. Some jurisdictions have allowed exemptions for fully vaccinated individuals presuming protection against VOC, while other jurisdictions have been more cautious and still require fully vaccinated individuals to follow public health requirements for unvaccinated individuals due to concerns of vaccine escape for some VOC. As COVID-19 vaccination efforts continue to expand globally in the context of VOC emergence and spread, jurisdictions will need to continue monitoring the extent to which vaccinations can influence the loosening of public health measures.

## Implications for Public Health

The three VOC found to be circulating globally – B.1.1.7, B.1.351, P.1 – have also been detected in Ontario.<sup>16</sup> To manage the spread of VOC in Ontario, the province has implemented a 6-point plan, including more rigorous case and contact measures, increased testing and surveillance, and increased requirements for international travelers.<sup>45</sup> Knowledge regarding these VOC, as well as new and emerging variants, continue to emerge and expand. Additional precautionary measures adopted by other jurisdictions, such as extending the period of communicability from 10 to 14 days, have not been adopted in Ontario due to limited evidence at this time for supporting this change. Ontario has a robust

surveillance program for detecting circulating and emerging variants in the province and is working in close partnership with national and international partners.<sup>46</sup>

All additional measures for cases and contacts, as well as for the public health measures, in response to VOC have secondary impacts on individuals and communities, and need to be evaluated for their effectiveness, feasibility, opportunity costs, and their potential for unintended consequences.

## Limitations

This environmental scan was limited to English language guidance documents that were publicly accessible on select government and public health agency websites. Non-English websites and documents (where translated documents were unavailable) were excluded, and as such, applicable guidance may have been omitted. Furthermore, the impact of SARS-CoV-2 variants on COVID-19 vaccines was not addressed in significant detail as it is beyond the scope of this environmental scan.

# Appendix A: Summary of Public Health Measures to Address VOC by Jurisdiction

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## Canada

### Federal

#### Source:

- Public Health Agency of Canada<sup>24</sup>
- Government of Canada<sup>36</sup>

#### Travel-related Measures:

- General COVID-19 Travel Restrictions:
  - Non-essential travel is not recommended.
  - Enhanced testing measures.
  - Mandatory 14 day quarantine.

### Provincial – Alberta

Source: Government of Alberta<sup>17,18</sup>

#### Case and Contact Management:

- Cases: VOC cases encouraged to self - isolate in a different location (e.g., isolation hotel).
- Household contacts of VOC case (P.1 or B.135.1):
  - 14 day self-isolation if VOC case quarantines at a different location.
  - Up to 24 day self-isolation if VOC case quarantines at the same location as the case.
  - COVID-19 testing immediately on notification and at day 10 or later after exposure.
- Non-household contacts of VOC case:
  - 14 day self-isolation period.
  - COVID-19 testing immediately upon notification, and on day 10 or later after exposure.

### Provincial – Manitoba

Source: Manitoba Department of Health<sup>15</sup>

#### Case and Contact Management:

- Cases: VOC cases to be re-interviewed to ensure their close contacts are identified; low threshold used for identification of contacts.
- Household Contacts of VOC case:
  - 14 day self-isolation if VOC case quarantines at a different location.
  - Up to 24 day self-isolation if VOC case quarantines at the same location as the case.
  - All VOC cases strongly encouraged to use alternate facilities to minimize transmission risk.

## United States

Source: Centers for Disease Control<sup>23,30,39,47</sup>

### Travel-related Measures:

- General COVID-19 Travel Restrictions:
  - Avoid non-essential travel.
  - Travellers should continue to observe all COVID-19 public restrictions during travel, such as physical distancing and masking.
- International travel requirements for fully vaccinated individuals:
  - Exempt from post-travel quarantine.
  - COVID-19 testing between days 3 and 5 after travel.
  - Requires presentation of a negative COVID-19 test taken no more than three days prior.
- International travel recommendations for unvaccinated individuals:
  - COVID-19 testing 1 to 3 days prior to travel; present negative COVID-19 test taken no more than three days prior.
  - COVID-19 post-travel testing at 3 to 5 days after travel.
  - Post-travel quarantine for 7 days.
- Domestic travel requirements for fully vaccinated individuals:
  - Exempt from post-travel COVID-19 testing.
  - Exempt from post-travel quarantine.
- Measures Implemented to Address VOC: Requirement for proof of negative COVID-19 test or recovery from COVID-19 for all air passengers arriving in the US.

## Europe

**Source:** European Center for Disease Control<sup>14,22</sup>

### **Case and Contact Management:**

- **Contacts:**
  - Backward contact tracing recommended.
  - 14 day quarantine from last exposure to case.
- **Household Members of Quarantined High-risk Contacts:** Observe strict public health measures and immediately seek testing and self-isolate if symptoms develop.

### **Travel-related Measures:**

- **General COVID-19 Travel Restrictions:**
  - Reduce non-essential travel.
  - All public health measures, including travel restrictions, should remain in place until high vaccination rates have been reached in high-risk groups and health care workers.
  - Symptomatic people should avoid travel.
  - Completion of pre-post departure testing, combined with post-travel quarantine.
  - Travellers (vaccinated and unvaccinated) to adhere to all COVID-19 public health measures, such as physical distancing and masking.

## Germany

**Source:** Robert Koch Institute<sup>11,31</sup>

### **Case and Contact Management:**

- **Cases:** 14 day isolation period for all cases.

### **Travel-related Measures:**

- **Measures Implemented to Address VOC:**
  - Travelers who have stayed in VOC high- risk areas in the 10 days prior to travel should:
    - Provide proof that they are not infected with SARS-CoV-2 virus on arrival.
    - Test should be taken at least 48 hours prior to arrival.
    - Recommendation to avoid travel



## Ireland

**Source:** Ireland Health Protection Surveillance Centre<sup>13,41</sup>

### **Case and Contact Management:**

For COVID-19 laboratory confirmed cases who have travelled from S.A, Brazil, or any Category two countries as defined by the Department of Health [QR](#) have a house hold member or the case is in physical contact at work with people who have travelled to S.A, Brazil or Category two countries within the past 14 days:

- Undergo self-isolation for 14 days.
- Contacts must self-isolate for 14 days and undergo COVID-19 testing on day 0 and day 10.
- Contacts must continue to self-monitor for COVID-19 symptoms and adhere to strict infection control measures for 1 week after their 14 day self-isolation period.
- Household members of close contacts required to restrict their activities outside the home, but do not have to undergo COVID-19 testing.
- Contact tracing will be completed for any flight into Ireland that originated from S.A, Brazil, or any Category two country during their infectious period. The whole flight should be contact traced.

### **Travel-related Measures:**

- Measures Implemented to Address VOC:
  - Present proof of a negative RT-PCR test taken 72 hours prior to arrival.
  - Post-arrival testing on day 10 of the 14 day quarantine period.
  - Traveler's household members should restrict their activities outside of the home for 14 days from their last contact with the traveler.

## Scotland

**Source:** Scottish Government<sup>29,48</sup>

### **Travel-related Measures:**

- General COVID-19 Travel Restrictions
  - Traveler's to Scotland are required to:
    - Provide proof of a COVID-19 negative test taken at least 3 days prior to travel.
    - Quarantine at a hotel in Scotland for 10 days upon arrival.
- Measures Implemented to Address VOC: Undergo COVID-19 testing at day 2 and day 8 during the 10 day quarantine period.

## United Kingdom

Source: United Kingdom Government<sup>26,27</sup>

### Travel-related Measures:

- General COVID-19 Travel Restrictions
  - Travellers to the UK are required to:
    - Provide proof of a COVID-19 negative test taken at least 3 days prior to travel.
    - Quarantine can be completed at home or another location, like a hotel.
- Measures Implemented to Address VOC: Undergo COVID-19 test on or before day 2 for VOC surveillance, and a test on or after day 8.

## Hong Kong

Source: Government of Hong Kong<sup>33,49</sup>

### Travel-related Measures:

- General COVID-19 Travel Restrictions
  - Travellers who have not stayed in Brazil, Ireland, South Africa, and the United Kingdom the day of boarding/arrival to Hong Kong or for more than 2 hours during the 21 days before that day should:
    - Complete a 21 day quarantine in a designated motel.
    - Present proof of a negative nucleic acid test completed within 72 hours before the scheduled time of departure.
- Measures Implemented to Address VOC: Travellers who have stayed Brazil, Ireland, South Africa and the United Kingdom for more than 2 hours on the day of boarding or during the 21 days before that day are not permitted to board for Hong Kong.

## Israel

Source: Israeli Ministry of Health<sup>32,38</sup>

### Travel-related Measures:

- Measures Implemented to Address VOC
- Travellers who stayed in South Africa, Botswana, Zambia, Lesotho for 14 days prior to their arrival into Israel must:
  - Stay in a state-operated isolation motel for 10 days if they undergo two COVID-19 tests; OR
  - Complete 14 days of self-isolation if no COVID-19 test is taken.

# Australia

## Source:

- Communicable Disease Network Australia<sup>12</sup>
- Australian Government Department of Health<sup>28</sup>
- Government of Australia<sup>35</sup>

## Case and Contact Management:

- Case Isolation: 14 day quarantine period.

## Travel-related Measures:

- General COVID-19 Travel Restrictions: 14 day quarantine in designated facility at port of arrival.
- Measures Implemented to Address VOC:
  - Pre-flight testing at least 72 hours prior to travel.
  - Provide evidence of negative COVID-19 PCR or RT-PCR test (rapid antigen tests no acceptable).

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## Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Environmental scan: public health measures implemented to manage the spread of COVID-19 variants of concern (VOC). Toronto, ON: Queen's Printer for Ontario; 2021.

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