

ENVIRONMENTAL SCAN

(ARCHIVED) Type of Mask Required or Recommended for the Public to Control Transmission of SARS-CoV-2 with Consideration of Variants of Concern: Rapid Environmental Scan

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Key Points

- 3 of 14 jurisdictions reviewed changed the type of masks recommended for the public to wear in response to the identification of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) variants of concern (VOC).
 - Where changes have been made, these jurisdictions currently recommend medical masks or respirators rather than cloth masks.
- When a rationale for a change in type of mask was provided, it was based on minimum standards of filter efficiency and fit characteristics of medical masks and respirators compared to non-medical masks. No clinical or epidemiological evidence was identified from these jurisdictions to support their recommended changes.
- No rationale was reported for the 11 jurisdictions that have either not updated their guidance or recommended no changes.

Purpose and Scope

There is interest from the public, policy-makers and researchers regarding the use of masks by the public as it relates to the emergence of new variants (i.e., B.1.1.7, B.1.351, P.1) of SARS-CoV-2. In lieu of published evidence of whether non-medical masks are inferior for public use compared to medical masks or respirators, a rapid environmental scan of policies from areas significantly impacted by new variants of concern and regions beginning to experience spread or anticipating its arrival were reviewed.

Background

Ongoing review of data surrounding the exponential growth and distribution of the variant B.1.1.7 (also termed Variant of Concern [VOC] 202012/01 or 501Y.V1) throughout England indicates increased transmissibility, and new analyses suggest the variant strain may be associated with increased risk of death compared with non-variant strains.¹⁻³ Similarly, the variant B.1.351 (also termed 501Y.V2) emerged around the same time as VOC 202012/01, quickly displacing other circulating lineages in South Africa.⁴ Based on mathematical modelling and the current evidence that there is a higher viral load associated with B.1.351, it is estimated that this variant is 50% (95% CI: 20-113%) more transmissible than previous circulating strains in South Africa.⁵ Insufficient epidemiological data are available to determine effects of mutations in variant P.1 (also termed 501Y.V3), which emerged from Brazil, such as the shared N501Y mutation as in B.1.1.7 and B.1.351 which suggests increased transmissibility is plausible.⁶

The emergence of new variants of SARS-CoV-2 with increased transmissibility (mechanism of increased transmissibility not known) has raised questions about whether non-medical masks used in various jurisdictions are sufficient and if standardized medical masks or respirators should be recommended or required. At this time there is no clinical or epidemiological evidence for medical masks or respirators conferring an increased benefit in preventing transmission of COVID-19 in non-healthcare settings with respect to SARS-CoV-2 or the VOCs.⁷

The purpose of this report is to highlight the recommendations for types of masks to be used by the public in different regions where variants have emerged and select surrounding jurisdictions, as well as the North American jurisdictions. Where possible, any changes or lack of changes in masking recommendations for the public will be highlighted and the rationale summarized.

Methods

Masking policies in regions with significant VOC community transmission and select surrounding jurisdictions were reviewed on February 2 and 3, 2021. Additionally, Public Health Agency of Canada, World Health Organization and the United States' Centers for Disease Control and Prevention masking policies were reviewed. This review was limited to select jurisdictions and may not be a representative sample of public masking policies around the world.

Findings

Most jurisdictions (11 of 14) reviewed have not made changes to or updated guidance for the type of mask recommended or required in public masking policies since the emergence of VOC (Table 1), including England where the B.1.1.7 variant is the dominant circulating strain. Jurisdictions that have not made changes to the required or recommended types of masks have also not provided a rationale. Jurisdictions that had not made changes all advise non-medical masks for public use.

Three of 14 jurisdictions (Austria, France and Germany) that made changes to public masking policies are currently requiring or recommending a medical mask or equivalent. The reported rationale is based on filter efficiency and fitting characteristics of the recommended medical masks and respirators compared to non-medical masks (Table 1). Austria and Germany are providing medical grade masks to low income individuals at no cost. At the time of writing no clinical or epidemiological evaluation was reported.

Table 1. Summary of Public Masking Policies since the Identification of Variants of Concern in Select Regions and the Rationale for Change or Lack of Change

Region	Type(s) of masks required or recommended for the public	Broad overview of where masks are required or recommended*	Changes to mask recommendations and rationale
Austria ⁸⁻¹⁰	<p>Filtering face piece 2 (FFP2) respirators.</p> <p>FFP2 respirators will be provided at cost or for free to people with low income.</p> <p>Suggest to reprocess masks by hanging dry for a week or in an oven for 60 minutes at 80 degrees Celsius.</p>	<p>On public transport, in indoor spaces open to the public, in workplaces and when 2 metres physical distance cannot be maintained.</p>	<p>New recommendation Previously, cotton masks or scarves.</p> <p>Changed as of January 25, 2021 in response to theoretical added protection of FFP2 for VOC.</p>
France ¹¹⁻¹⁶	<p>Medical masks and fabric masks that meet category 1 standards (90% minimum filtration).</p> <p>FFP2 respirators meet category 1 standards and are an option but are not recommended due to difficulty wearing properly unless trained in their use.</p>	<p>On public transport, in indoor spaces open to the public, when 1 metre distance cannot be maintained.</p>	<p>New recommendation Previously, category 2 (70% minimum filtration such as home-made fabric masks that have not been tested for filtration capability).</p> <p>Change as of January 27, 2021.</p> <p>Rationale: Insufficient quality standards of category 2 non-medical masks to ensure protection from VOC.</p>
Germany ^{17,18}	<p>Medical masks or FFP2 respirators.</p> <p>Individuals on social welfare or basic income support were provided FFP2 respirators for free.</p>	<p>On public transport, in indoor spaces open to the public, in workplaces, when 1.5 metres distance cannot be maintained.</p>	<p>New Recommendation Previously, fabric masks, other face coverings including scarves and face visors.</p> <p>Change as of January 19, 2021.</p> <p>Rationale: Concerns regarding VOC.</p>
Belgium ^{19,20}	<p>Generic homemade masks that cover mouth and nose.</p>	<p>On public transport, in indoor spaces open to the public, and where 1.5</p>	<p>No change No rationale reported.</p>

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		metres physical distance cannot be maintained. Required in outdoor public spaces in Brussels-Capital Region.	
Denmark ^{21,22}	Medical mask (Type I) or non-medical fabric mask.	On public transport, in indoor spaces open to the public, in workplaces, when 2 meters distance cannot be maintained.	No change No rationale reported.
England ²³	Tight-fitting, breathable fabric mask of at least 2 layers.	On public transport, in indoor spaces open to the public, in workplaces, or where social distancing may be difficult.	No change No rationale reported.
Ireland ^{24,25}	Fabric face masks that cover the nose and mouth with no visible gaps.	On public transport, in indoor spaces open to the public, in workplaces, when 2 metres distance cannot be maintained.	No change No rationale reported.
Netherlands ^{26,27}	Tight-fitting non-medical mask.	On public transport, in indoor spaces open to the public, in workplaces, when 1.5 metres distance cannot be maintained.	No change No rationale reported.
Israel ²⁸⁻³¹	Tight-fitting, breathable, two-layer mask manufactured from approved fabric types.	On public transport, in indoor spaces open to the public, in workplaces, when 2 metres distance cannot be maintained.	No change No rationale reported.
South Africa ³²	Cloth face mask or homemade item that covers the nose and mouth.	On public transport, in any public place, in workplaces, when 1.5 metres distance cannot be maintained.	No change No rationale reported.
Brazil ³³⁻³⁵	A covering for the face and nose.	On public transport, in indoor spaces open to the public, in workplaces (varies by region).	No change No rationale reported.
Public Health Agency of Canada ³⁶	Tight-fitting, breathable, three-layer mask that covers the nose, mouth	On public transport, in indoor spaces open to the public, in workplaces,	No change No rationale reported.

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<p>United States Centers for Disease Control and Prevention^{37,38}</p>	<p>and chin without gaping wherein two outer layers are a tightly woven fabric, with an inner layer as a filter-type fabric.</p> <p>Tight-fitting, breathable, two or more layer mask that covers the nose and mouth without any exhalation valves, punctures or slits.</p> <p>Medical masks or N95 respirators are also acceptable, but N95 respirators are advised only for health care workers.</p>	<p>when 2 metres distance cannot be maintained.</p> <p>On public transport, in indoor spaces open to the public, in workplaces, when 2 metres distance cannot be maintained.</p>	<p>No change</p> <p>No rationale reported.</p>
<p>World Health Organization³⁹⁻⁴¹</p>	<p>Tight-fitting, breathable, three-layer non-medical, fabric masks that cover the nose, mouth and chin without any exhalation valves or vents.</p> <p>Inner layer should be an absorbent material, the middle layer a non-woven non-absorbent material, and the outer layer a non-absorbent material.</p>	<p>On public transport, in indoor spaces open to the public, in workplaces, when 1 metre distance cannot be maintained.</p>	<p>No change</p> <p>No rationale reported.</p>

*This category is broad in its summary of masking recommendations and requirements for brevity. National, state/provincial and municipal-level documentation have more specific conditions for mask use such as what is defined as public transport, whether workplaces must always require masking, and what are defined as public indoor spaces.

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