



RESEARCH BRIEF

Public Health Implications of SARS-CoV-2 Variants of Concern

December 3, 2021

Emerging Points of Interest

While evidence continues to show that boosters and/or additional doses of vaccine provide good protection against VOC, prioritizing primary dose series completion (1 or 2 doses as required) on a global scale should remain a focus.

Evidence continues to show that combined non-pharmaceutical interventions (NPIs) are more effective than single NPIs at containing outbreaks and should remain in place until very high vaccination rates (primary dose series) are achieved.

Further evidence shows that interval delay between doses (up to 16 weeks) demonstrates vaccine effectiveness at 5-8 months against VOC.

Further evidence supports following 1 or 2 doses of non-mRNA vaccine with a second or booster dose of mRNA vaccine.

Further evidence supports that COVID-19 is airborne, with studies showing increased risk of transmission the closer individuals are to an infected individual.

Frequent testing remains an important strategy for containing outbreaks, but modelled and observed approaches vary widely, with little consensus on optimal frequency or administration.

Recommendations for the ideal length of quarantine and isolation remain varied.

Authored by: Janet Curran, PhD (Dalhousie University); Leah Boulos, MLIS (Maritime SPOR SUPPORT Unit); Mari Somerville, PhD (Dalhousie); Justine Dol, PhD (Dalhousie), Julie Caruso, MLIS (Dalhousie); Catie Johnson (Dalhousie)

Objective

To provide a living synthesis of current evidence related to variants of concern (VOC) in the context of public health measures

Background

Five variants of the original SARS-CoV-2 lineage (Alpha, Beta, Gamma, Delta, and Omicron*) have been declared VOC by the WHO. VOC are defined by their increased potential for transmission, presence of genomic mutations, and rapid spread across countries or regions leading to possible decreased effectiveness of public health measures. The increased transmissibility of VOC has led to surges in COVID-19 incidence, hospitalizations and mortality.

Methods

Searches for this update were run on November 15, 2021, in several health sciences databases, including preprint servers. Screening, data extraction, and critical appraisal were conducted following established systematic and rapid review methodology. For more detail about methods, please refer to the full report.

***Note:** The evidence for this update was gathered before the WHO named Omicron as a new VOC.