

RESEARCH BRIEF

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

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Emerging Points of Interest

Most of the available evidence is related to the Alpha variant; however, evidence related to public health measures and Delta is emerging rapidly.

While several recent modelling studies recommend extending or targeting vaccine campaigns to adolescents and younger children to reach herd immunity faster, some studies also suggest vaccinating youth is only helpful if adults are vaccinated at sufficient levels.

In schools, universal masking plus other non-pharmaceutical interventions (NPIs) such as physical distancing or cohorting are more effective than masking alone.

There is evolving evidence regarding changes in vaccine scheduling related to inter-dose timing and need for third dose of vaccine. Several modelling studies point to prioritizing first dose while others suggest administering second dose as soon as possible for best results. Several studies suggest that a third dose would be beneficial under specific conditions.

Universal mask wearing is recommended, particularly indoors, and double masking has the potential to improve protection against VOC.

Some concerns exist around whether vaccinated individuals have lower engagement with NPIs, such as hand washing and physical distancing.

Some studies found that rapid and frequent testing may be an adequate substitute for quarantine of close contacts, while others recommended quicker and stricter quarantine measures.

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Objective

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

Background

Four variants of the original SARS-CoV-2 lineage (Alpha, Beta, Gamma, and Delta) 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

This living synthesis builds on previous evidence gathered up to May 11, 2021. Searches for this update were run on August 25, 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.