Supplemental information

Population impact of SARS-CoV-2 variants

with enhanced transmissibility

and/or partial immune escape

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Table S1. Simulations under default model configuration; related to STAR Methods. Variants are abbreviated V0, V1, etc.

Set	Strain(s)	Start of vaccine rollout (τ_{vax})	Duration of vaccine rollout ($\frac{1}{v}$)	Variant transmission advantage (λ)	Cross-reactivity (ϕ)
1	W + V0	NA	NA	0	1
2	W + V1	NA	NA	0.6	1
3	W + V2	NA	NA	0	0.6
4	W + V3	NA	NA	0.6	0.6
5	W + V0	9-18 mos	3-12 mos	0	1
6	W + V1	9-18 mos	3-12 mos	0.6	1
7	W + V2	9-18 mos	3-12 mos	0	0.6
8	W + V3	9-18 mos	3-12 mos	0.6	0.6

Table S2. Alternative scenarios with weakened control measures; related to STAR Methods.

Description	NPIs relaxed	Vaccine coverage (c)	Vaccine efficacy (ω)
Lifting NPIs	At 50% vaccine coverage	100%	95%
Reduced coverage	No	50%	95%
Reduced efficacy	No	100%	70%
Combination	At 50% vaccine coverage	50%	70%