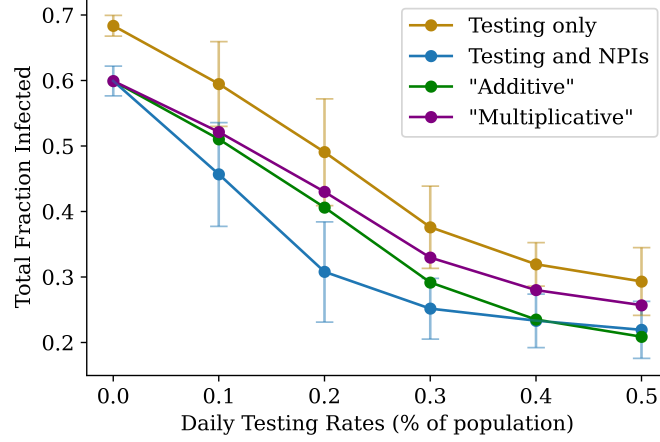


S7 Appendix: Synergy between testing and non-pharmaceutical interventions



S7.1 Fig: Demonstrating the synergy between testing and NPIs. The effects of NPIs such as masking on testing is found to be lower than if it had been purely additive or multiplicative.

As shown in the main text, there exists a synergy between testing and NPIs. In S7.1 Fig, we compare the effect that NPIs such as masking would have had if the effect had been purely additive or multiplicative. For a given daily testing rate of r , let the function $f(r)$ describe the effect of testing (without NPIs), and $g(r)$ describe the effect of testing and NPIs combined. We further define $\Delta N = f(0) - g(0)$ to be the effect of the population purely using NPIs. Then, by an additive effect we mean that:

$$h_{\text{add}}(r) = f(r) - \Delta N,$$

and by a multiplicative effect we mean that

$$h_{\text{mult}}(r) = f(r) \times \left(\frac{g(0)}{f(0)} \right).$$

All four functions $f(r)$, $g(r)$, $h_{\text{add}}(r)$, and $h_{\text{mult}}(r)$ are shown in S7.1 Fig.