## Figure 3—source data 2. Mechanisms examined in the simulations.

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| **Mechanism** | **Definition** | **Parameters** | **Note** |
| **Infection risk determinant** |
| Immunity-dependent protection | Lower risk of infection with higher HI titer to a circulating A(H3N2) strain. | $λ\_{t}$, $β$, $μ\_{50}$ | Equation 10 & 11 |
| Population-level circulation | Constant, random, or periodic fluctuation in population-level circulation of the viruses. | $$λ\_{t}$$ | Equation 11 |
| **Antibody responses** |  |  |  |
| Broad cross-reaction | Interaction of antibody responses to strains that were isolated distantly. | $μ\_{l}$, $μ\_{s}$, $σ\_{l}$, $σ\_{s}$, $ρ$ | Equation 4 |
| Narrow cross-reaction | Interaction of antibody responses to strains that are antigenically similar. | $μ\_{l}$, $μ\_{s}$, $σ\_{l}$, $σ\_{s}$, $ρ$ | Equation 5 |