

Supporting Information S2: dynamics of transmission and virulence This section presents alternate versions of the figures from the main text showing time dynamics and summary statistics in terms of \log_{10} SPVL and per-year transmission probability rather than expected progression time to AIDS.

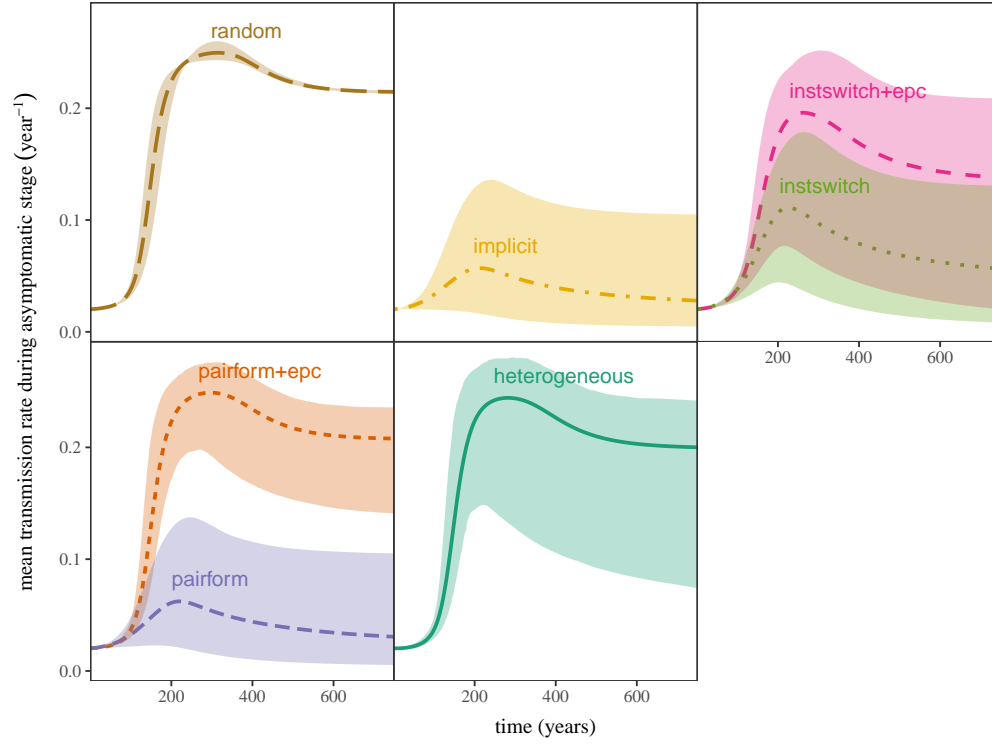


Fig S1. Envelopes of transmission trajectories under all models. This figure matches Fig 3 in main text, but displays the envelope of population-mean transmission probabilities rather than mean \log_{10} SPVL over time for each model.

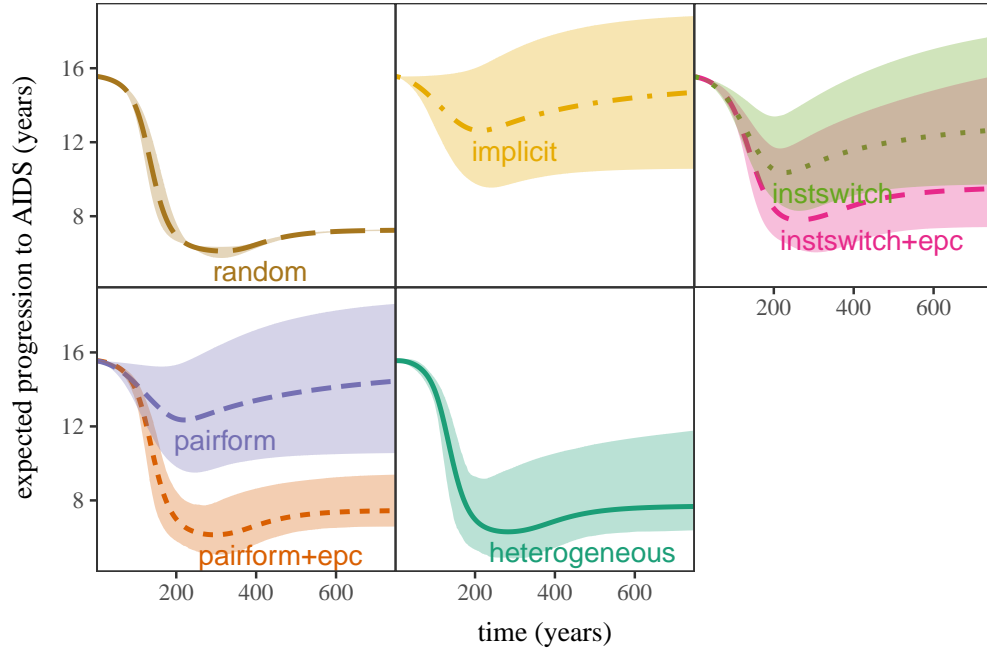


Fig S2. Envelopes of expected progression time to AIDS trajectories under all models. This figure matches Fig 3 in main text, but displays the envelope of expected progression time to AIDS rather than mean \log_{10} SPVL over time for each model.

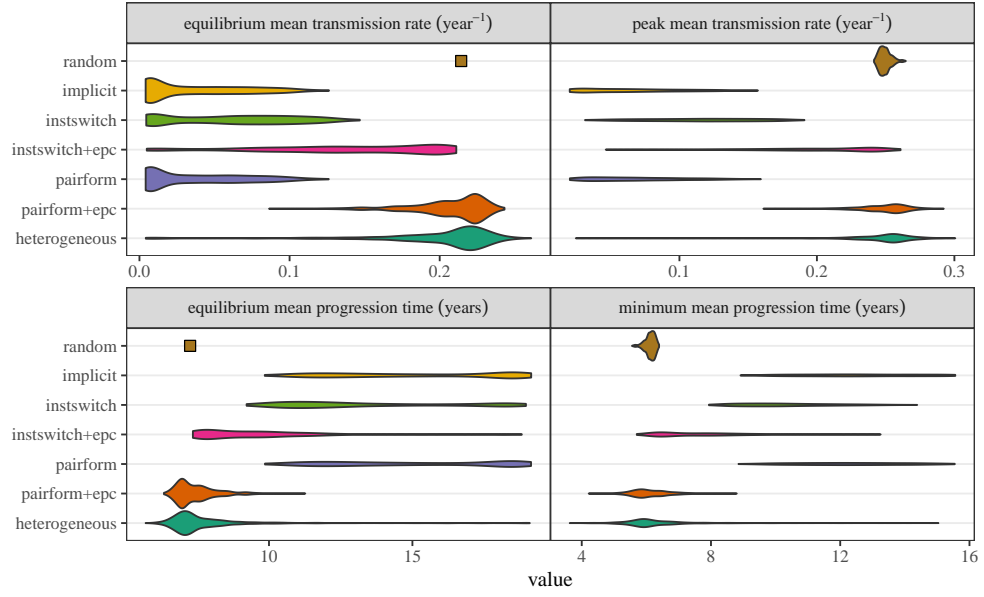


Fig S3. Univariate distributions of transmission probabilities and expected progression time to AIDS. This figure matches Fig 4 in main text, but displays the univariate distributions for the transmission probability and expected progression time to AIDS time at the virulence peak and at the epidemiological equilibrium, rather than the distributions of \log_{10} SPVL.

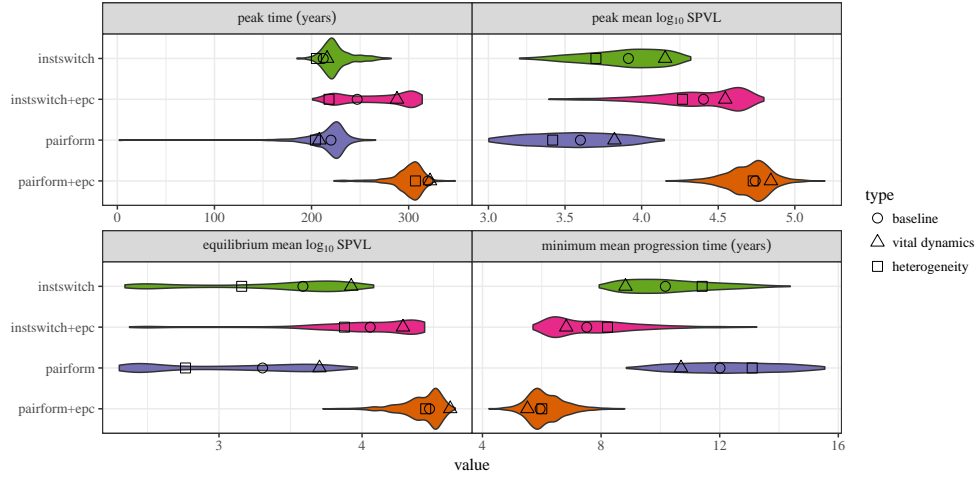


Fig S4. Effects of contact heterogeneity and vital dynamics. This figure matches Fig 4 in main text, but adds results for model variants with contact heterogeneity and vital dynamics. The violin plots, copied from Fig 4 in the main text, show the distribution of outcomes across the Latin hypercube sample for SIS model without contact heterogeneity. The points show the outcome of various models using the baseline parameters from Table 1: (*circle*) unmodified models (SIS, homogeneous); (*triangle*) models with vital dynamics; (*square*) models with contact heterogeneity.