Supplementary Information:
The SIR dynamic model of infectious disease transmission and its analogy with chemical kinetics

S1 Early exponential growth of $[\mathrm{I}](t)$

See Fig. S1 to see how the approximation of $[\mathrm{I}](t)$ in eqn. 9 fares.

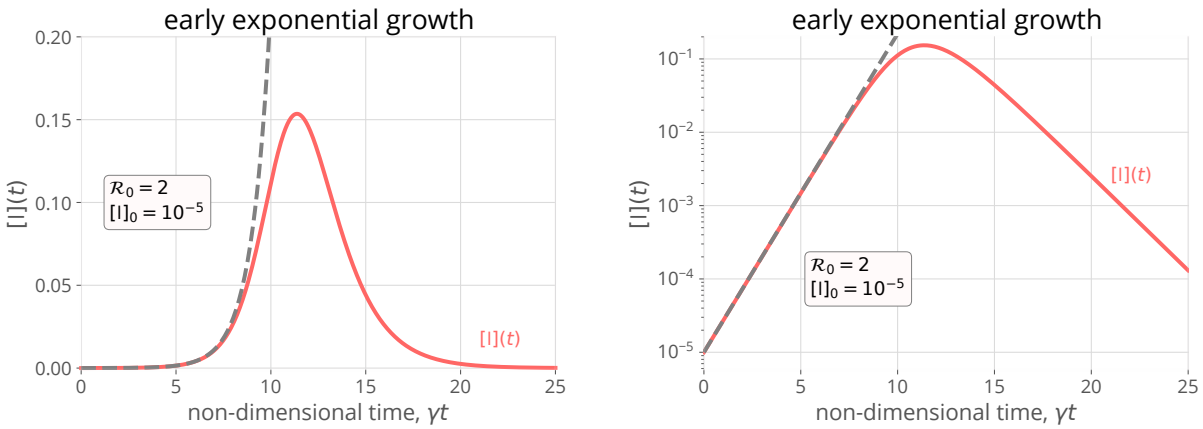

Figure S1: The $[\mathrm{I}](t)$ curve from Fig. 2 along with eqn. 9 (gray, dashed line) to show that $[\mathrm{I}](t)$ exhibits, approximately, exponential growth in the early stage of the epidemic. The fraction of the population that is infectious, $[\mathrm{I}](t)$, is shown on both a (a) linear and (b) log scale.

S2 An alternative visualization of SIR model dynamics

Fig. S2 presents an alternative visualization of SIR model dynamics that emphasizes $[\mathrm{S}](t) + [\mathrm{I}](t) + [\mathrm{R}](t) = 1$ for all $t > 0$.

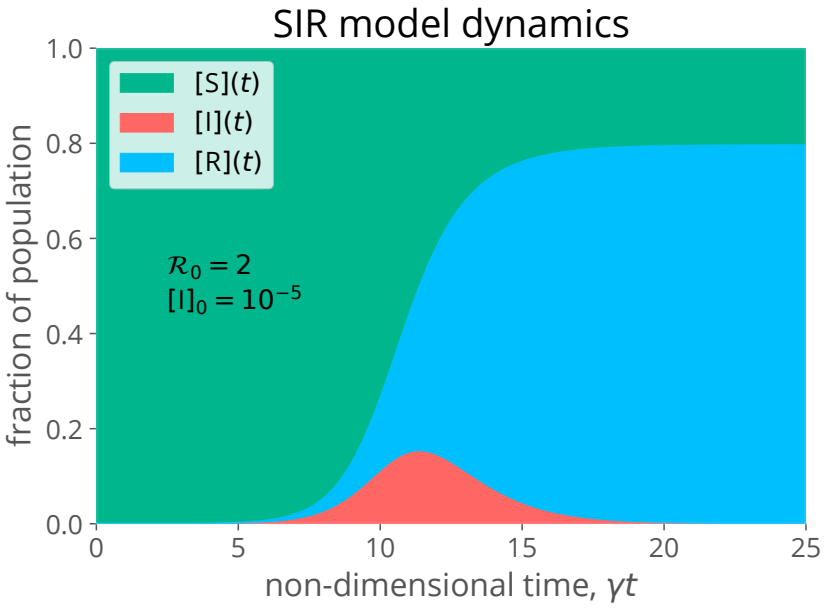

Figure S2: Numerical approximation of the solution to the SIR model in eqns. 1-3 and initial conditions in eqns 6-8. At any given time t, the proportion of the panel colored green, red, and blue, respectively, represents the fraction of the population in the susceptible, infectious, and removed compartment.