**S2 Text. Parameter settings.** Parameter values for the fixed parameters are summarized in Table 2 in the main text. The percentage of infected people who never show the disease’s symptoms is extracted from the CDC’s current best estimate for this value [1]. The parameter \( \delta \) is obtained by averaging the lower and upper bounds of the estimates for this value from different sources:

\[
\delta = \frac{0.3 + 0.9}{2} = 0.6.
\]

We use data from the hospitalization surveillance network used by the CDC to estimate the median number of days an individual spends hospitalized due to the disease [2]. The numbers provided are specific to individuals admitted to the ICU and not admitted to the ICU divided into age groups; therefore, we perform a weighted average of those values considering the demographic composition of NYC. According to S1 Table, the average number of days of hospitalization for individuals aged 18-49 years is:

\[
3 \times (1 - 0.238) + 11 \times 0.238 = 4.904;
\]

average number of days of hospitalization for individuals aged 50-64 years:

\[
4 \times 0.639 + 14 \times 0.361 = 7.610;
\]

average number of days of hospitalization for individuals aged \( \geq 65 \) years:

\[
6 \times 0.647 + 12 \times 0.353 = 8.118.
\]

As a result, the total average number of days of hospitalization \( d_H \) for all age groups can be obtained in the following way:

\[
\frac{4.904 + 7.610 + 8.118}{3} \approx 6.9.
\]

**References**
