S1 File. Supplementary figures.

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(1) Varying $\alpha_i$ for the Truncated Gamma distribution considered the individual transmission probability.

(2) Varying $\alpha_c$ for the Gamma distribution considered for the individual contact factor.

**Fig A. Histograms of final sizes** for the different scenarios regarding infectiousness-related and contact-related heterogeneity, without interventions.
Fig B. Evolution of the number of new cases per day for different values of $\alpha_i$ for the Truncated Gamma distribution considered for the individual transmission probability, for the scenario without interventions.
Fig C. Evolution of the number of new cases per day for different values of $\alpha_c$ for the Gamma distribution considered for the individual contact factor, for the scenario without interventions.
Fig D. Evolution of the number of cumulative cases per day for different values of $\alpha_i$ for the Truncated Gamma distribution considered for the individual transmission probability, for the scenario without interventions.
Fig E. Evolution of the number of cumulative cases per day for different values of $\alpha_c$ for the Gamma distribution considered for the individual contact factor, for the scenario without interventions.
Fig F. Smoothed effective $R_t$ per day when varying heterogeneity in infectiousness, for the scenario without interventions. The green line indicates the mean $R_t$ per day, while the gray area represents the interval in which 95% of observations lie.
Fig G. Smoothed effective $R_t$ per day when varying heterogeneity in contact behavior, for the scenario without interventions. The blue line indicates the mean $R_t$ per day, while the gray area represents the interval in which 95% of observations lie.
(1) Varying $\alpha_i$ for the Truncated Gamma distribution considered for the individual transmission probability.

(2) Varying $\alpha_c$ for the Gamma distribution considered for the individual contact factor.

(3) Varying $\alpha_i$ for the Truncated Gamma distribution considered for the individual transmission probability. Runs with led to extinction ($<20$ cases) were excluded.

(4) Varying $\alpha_c$ for the Gamma distribution considered for the individual contact factor. Runs with led to extinction ($<20$ cases) were excluded.

Fig H. Violin plots for the day on which the herd immunity threshold is reached for the different scenarios without interventions, over all simulations runs (panel 1–2) and only for simulations runs that generate more than 20 cases (panel 3–4). Scenarios in which $\alpha_i$ is varied are displayed in green, while scenarios in which $\alpha_c$ is varied are displayed in blue. Orange dots represent the means of the simulated values.
Varying $\alpha_i$ for the Truncated Gamma distribution considered for the individual transmission probability. Runs with led to extinction (< 20 cases) were excluded.

Varying $\alpha_c$ for the Gamma distribution considered for the individual contact factor. Runs with led to extinction (< 20 cases) were excluded.

Fig I. Violin plots for the day on which the last transmission event is observed for the different scenarios without interventions, over all simulations runs (panel 1–2) and only for simulations runs that generate more than 20 cases (panel 3–4). Scenarios in which $\alpha_i$ is varied are displayed in green, while scenarios in which $\alpha_c$ is varied are displayed in blue. Orange dots represent the means of the simulated values.
Fig J. Proportion of transmissions per location type for different values of $\alpha_i$ for the Truncated Gamma distribution considered for the individual transmission probability, for the scenario without interventions.
Fig K. Proportion of transmissions per location type for different values of $\alpha_c$ for the Gamma distribution considered for the individual contact factor, for the scenario without interventions.
(1) Varying $\alpha_i$ for the Truncated Gamma distribution considered for the individual transmission probability.

(2) Varying $\alpha_c$ for the Gamma distribution considered for the individual contact factor.

Fig L. Histograms of the number of cases during the partial release phase for the different scenarios regarding infectiousness-related and contact-related heterogeneity, for the scenario with social distancing.

Fig M. Violin plots for the attack rate over 600 days for scenarios investigating the infectiousness-related heterogeneity (in green, panel 1) and contact-related heterogeneity (in blue, panel 2), with social distancing. The orange dots represent the mean attack rate across the simulation runs without extinction, i.e., simulation runs in which extinction occurs (< 20 cases) were excluded.
Fig N. Evolution of the number of new cases per day for different values of $\alpha_i$ for the Truncated Gamma distribution considered for the individual transmission probability, for the scenario with social distancing.
Fig O. Evolution of the number of new cases per day for different values of $\alpha_c$ for the Gamma distribution considered for the individual contact factor, for the scenario with social distancing.
Fig P. Evolution of the cumulative number of cases per day for different values of $\alpha_i$ for the Truncated Gamma distribution considered for the individual transmission probability, for the scenario with social distancing.
Fig Q. Evolution of the cumulative number of cases per day for different values of $\alpha_c$ for the Gamma distribution considered for the individual contact factor, for the scenario with social distancing.
Fig R. Smoothed effective $R_t$ per day when varying heterogeneity in infectiousness, for the scenario with social distancing. The green line indicates the mean $R_t$ per day, while the gray area represents the interval in which 95% of observations lie.
Fig S. Smoothed effective $R_t$ per day when varying heterogeneity in contact behavior, for the scenario with social distancing. The blue line indicates the mean $R_t$ per day, while the gray area represents the interval in which 95% of observations lie.
Fig T. Proportion of transmissions per location type for different values of $\alpha_i$ for the Truncated Gamma distribution considered for the individual transmission probability, for the scenario with social distancing.
Fig U. Proportion of transmissions per location type for different values of \( \alpha_c \) for the Gamma distribution considered for the individual contact factor, for the scenario with social distancing.