**Table S2:**

**Agent based model parameters and their values**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameter** | **Definition** | **Value** | **Source** |
| $$d\_{1}$$ | mean number of days in the latency stage | 2.7 day | Derived by finding the difference between incubation period and pre-symptomatic period. We take incubation period 5.1 day [7] |
| $$d\_{2}$$ | mean number of days in pre-symptomatic stage | 2.4 day | [2] |
| $$d\_{3}$$ | mean number of days in the asymptomatic stage | 5.4 day | Assumed to be the same duration as the total infectious period for symptomatic cases, including pre-symptomatic transmission [3] |
| $$s$$ | the ratio of symptomatic cases | 0.83 | [4] |
| $$d\_{4}$$ | average time of going to the hospital | 3 day | [5] |
| $$α$$ | Infection Probability constant | $$0.9841$$ | Derived (Fitted to COVID-19 $R\_{0}$ and SAR of household by sampling (see SI Fig. 2)) |
| $$β$$ | Infection Probability constant | 0.1672 | Derived (Fitted to COVID-19 $R\_{0}$ and SAR of household by sampling (see SI Fig. 2)) |
| $$μ\_{H}$$ | Transmission reduction fator for asymptomatic cases inside household | 0.696 | [6] |
| $$μ\_{O}$$ | Transmission reduction fator for asymptomatic cases outside household | 0.42 | [6] |
| $$g$$ | granularity | 192 | Derived by converting 1 day to 5 minutes intervals (16×12) |

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