**Table S1.** Model parameters and values

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter** | | **Description** | **Value** | | **Justification/ Notes** | | |
| к | | Rate of daily contacts possibly resulting in transmission | 7 | | Assumption for the model, based on R0 (к=R0γ/q) | | |
| q | | Proportion of contacts resulting in transmission | 0.09 | | Assumption based on [1] | | |
| σ | | Rate at which individuals leave exposed group | 1 | | 1-2 days [1], 2.62 days [2], and 1-5 days [3] between infection and symptom onset | | |
| δ | | Rate at which individuals leave asymptomatic group | 1/0.4 | | 1 day [2-3], and 0-2 days [3] infectious before symptom onset | | |
| τ | | Rate cases get detected | 2 | | Assumption for the model | | |
| pκ | Proportion of contacts reduced during contact reduction period (when prevalence of symptomatic cases > 0.5%) | | | 0.1 | | | Assumption for the model | |
| pqh | | Proportion of hospital transmissions reduced (e.g. due to isolation) | 0.7 | | Assumption for the model | | |
| pa | | Proportion of cases that are asymptomatic | 0.3 | | values range from 30 to 50% [1,4-6] | | |
| pm | | Proportion of cases that are mild | 0.698 | | pm=1-pa-pc | | |
| pc | | proportion of cases that are critical (require hospitalisation) | 0.002 | | 0.16% [7] and 0.45% [8] of symptomatic cases hospitalised | | |
| pv | | Proportion of hospitalised cases needing ventilation | 0.2 | | 21% of hospitalised cases needing intensive care treatment [9], 18% of hospitalised cases needing ventilation [10-11], 0.002 to 0.035% of symptomatic cases need ICU treatment | | |
| γa | | Rate at which asymptomatic cases leave infectious group | 2 | | 1.9 days [12], 3.38 days [2], 4-10 days [3] mean duration of infectivity | | |
| γm | | Rate at which mild cases leave infectious group | 1/1.5 | | See above [2-3,12] | | |
| γc | | Rate at which severe cases leave infected group | 1/3.5 | | See above [2-3,12] | | |
| γma  γca | | Rate at which mild and critical cases under AV treatment leave infectious groups | 2  1/2.5 | | Infectious period under AV treatment reduced by 1 day [4] | | |
| γh | | Rate at which cases leave hospital group | 1/12 | | Length of ICU stay 13.5 days [13] | | |
| γv | | Rate at which cases leave ventilated group | 1/13 | | 12 days [14], 15 days [13] | | |
| dc | | Proportion of critical outpatients without AV treatment that die | 0.25 | | Proportions of deaths are extrapolated from the following data: 40% of ICU cases died [13], 14.3% of ICU cases died [14], 11% of hospitalised cases died [11], 7 % of hospitalised cases died [15], 0.007% of symptomatic cases died [7] | | |
| dca | | Proportion of critical outpatients under AV treatment that die | 0.15 | | Based on dca = dc(1-πa) | | |
| dh | | Proportion of hospitalised cases without AV treatment that die | 0.10 | | Based on dh = dc(1-πh) | | |
| dha | | Proportion of hospitalised cases under AV treatment that die | 0.06 | | Based on dha = dc(1-πa)(1-πh) | | |
| dv | | Proportion of ventilated cases that die | 0.25 | | Based on dv = (1- πv) | | |
| πa | | Effectiveness of antiviral treatment at reducing death rate in critical cases | 0.4 | | Assumption based on [7,13-14], Odds Ratio for reduction in influenza mortality in hospitalised cases: 0.21 (95% confidence interval 0.06-0.80) [16], patients who died were less likely to have received AV therapy within 48 hours after symptom onset [15]. (Varied between 0.2-0.8 in uncertainty analysis.) | | |
| πh | | Effectiveness of hospitalised care (without AV treatment) at reducing death rate in critical cases | 0.6 | | Assumption based on [7,13-14]. (Varied between 0.2-0.8 in uncertainty analysis.) | | |
| πv | | Effectiveness of ventilators at preventing death in cases needing ventilation | 0.75 | | Assumption based on [7,13-14], 45% of ventilated cases died [15]. (Varied between 0.2-0.8 in uncertainty analysis.) | | |
| pma | | Proportion of mild cases treated with oseltamivir | 0 | | In this scenario we assumed only critical cases are treated with oseltamivir. (Varied between 0 - 0.05 in uncertainty analysis) | | |
| **Parameters describing resource availability:** | | | | | | | |
| ε | | Availability of oseltamivir drugs: | | | |  | |
| φ | | Availability of hospital beds: | | | |  | |
| ω | | Availability of medical ventilators: | | | |  | |

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