| **S3 Table Transitions of the SEIR transmission model.** |
| --- |
|  | Transition effects |  |
| Transition name | $$ΔS$$ | $$ΔE$$ | $$ΔI$$ | $$ΔR$$ | $ΔC$\* | Propensity |
| birth of $S$  | 1 | 0 | 0 | 0 | 0 | $$νN\_{0}$$ |
| death of $S$  | -1 | 0 | 0 | 0 | 0 | $$νS$$ |
| death of $E$  | 0 | -1 | 0 | 0 | 0 | $$νE$$ |
| death of $I$  | 0 | 0 | -1 | 0 | 0 | $$νI$$ |
| death of $R$  | 0 | 0 | 0 | -1 | 0 | $$νR$$ |
| importation  | -1 | 1 | 0 | 0 | 0 | $$ζS/N\_{0}$$ |
| transmission  | -1 | 1 | 0 | 0 | 0 | $$β(t)SI/N\_{0}$$ |
| $E$ to $I$ | 0 | -1 | 1 | 0 | 0 | $$σE$$ |
| recovery  | 0 | 0 | -1 | 1 | 1 | $$γI$$ |