S1 Table: Definition and values of model parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | Definition | Values/Priors\* | References |
| Fixed parameters | | | |
| B*V* | Pupal deposit rate | 0.0505 days-1 | [[17]](https://paperpile.com/c/bPz99N/lm1U) |
| *P* | Pupal maturation rate | 0.022 days-1 | [[61]](https://paperpile.com/c/bPz99N/OVPV) |
| *P* | Pupal death rate | 0.006 days-1 | [[61,62]](https://paperpile.com/c/bPz99N/OVPV+N0Ol) |
| *V* | Baseline tsetse mortality rate | 0.03 days-1 | [[29]](https://paperpile.com/c/bPz99N/uTF6) |
|  | Tsetse biting rate | 0.333 days-1 | [[29]](https://paperpile.com/c/bPz99N/uTF6) |
| *V* | Incubation rate in tsetse | 0.034 days-1 | [[63,64]](https://paperpile.com/c/bPz99N/u7iy+Bgu5) |
| *H* | Incubation rate in humans | 0.0833 days-1 | [[29]](https://paperpile.com/c/bPz99N/uTF6) |
| *H1* | Stage 1 progression rate | 1/526 days-1 | [[65]](https://paperpile.com/c/bPz99N/Uu1s) |
| *H2* | Stage 2 progression rate | 1/251 days-1 | [[65]](https://paperpile.com/c/bPz99N/Uu1s) |
|  | Treatment immunity loss rate | 0.1 days-1 | [[11]](https://paperpile.com/c/bPz99N/PraR) |
| *H* | Human natural death rate | 4.66x10-5 days-1 | [[66]](https://paperpile.com/c/bPz99N/PRL3) |
|  | Baseline screen and treat rate | 0.0014 days-1 | [[35,36]](https://paperpile.com/c/bPz99N/39gu+E6mx) |
|  | Efficacy of treatment | 0.95 | [[67,68]](https://paperpile.com/c/bPz99N/3QuP+cB9g) |
| *fH* | Proportion of bites on humans | 0.38 | [[15,69]](https://paperpile.com/c/bPz99N/ylyY+VpTv) |
|  | Tsetse migration rate | 0.0015 - 0.0255 days-1 | [[31,32]](https://paperpile.com/c/bPz99N/zR7y+0Tie) |
| *c* | Vector control induced mortality rate | 0.01 - 0.08 days-1 | [[41]](https://paperpile.com/c/bPz99N/FvQh) |
| Fitted parameters | | | |
| *HV* | Probability of tsetse infection per bite | U(0.01,0.14) | [[18,29,70]](https://paperpile.com/c/bPz99N/uTF6+urUk+oJhM) |
| *VH* | Probability of human infection per bite | U(0.05,0.62) | [[18,29,70,71]](https://paperpile.com/c/bPz99N/uTF6+urUk+oJhM+t5gA) |
| *nHV* | Relative density of vectors per host | U(0,10) |  |
| *Ph* | Proportion of population in high risk group | U(0,0.5) |  |
| *Pl* | Proportion of population in low risk group | 1-*Ph* |  |
| *ch* | Relative contact of tsetse with high risk group | U(1,5) |  |

\* U(a,b) - Uniform distribution