**Table 1: List of selected simulation parameters.** STI, sexually transmitted infection; PrEP, pre-exposure prophylaxis for HIV.

|  |  |  |
| --- | --- | --- |
| Model Parameters | Value/[Range][[1]](#footnote-1) | Reference |
| HIV disease state duration |  |  |
| Acute infection | [6, 9] weeks | 1S–3S |
| Chronic infection | [8, 10] years | 1S,4S |
| Late infection[[2]](#footnote-2) | [1, 3] years | 1S,2S,4S |
| Time from ART initiation to full viral suppression | [3, 6] months | 5S |
| Time from ART discontinuation to pre-ART CD4 nadir[[3]](#footnote-3) | [3, 9] months | 6S–9S |
| HIV mortality rate, acute and chronic HIV, no ART  Reduction in HIV mortality due to ART | 5 per 1000 person years  0.58 \* Mortality rate in chronic state | 10S–12S |
| Probability of ART discontinuation | (20%,50%,90%) by the end of (1st,2nd, 8th) year, 50% per year afterward [[4]](#footnote-4) | 13S |
| Average viral load (log­10 copies/mL)  Acute, no ART  Chronic, no ART  Late, no ART  On ART, partially suppressed  On ART, fully suppressed | 6.5  4.5  5  3.5  1.5 |  |
| Infectiousness per sexual contact | 2.45(log(VL)-4.5) | 1S |
| Annual number STI clinic visits among MSM | 966 | 1S |
| PrEP reassessment period | 3 months | 14S |
| PrEP uptake | 60% [0-100%] |  |
| PrEP adherence[[5]](#footnote-5) | 60% [0-100%] |  |

1. Values generated via uniform distributions over the specified range unless stated otherwise [↑](#footnote-ref-1)
2. Duration reflects the mortality rate due to late HIV disease [↑](#footnote-ref-2)
3. Infectiousness assumed equal to that of the chronic state [↑](#footnote-ref-3)
4. Values adjusted via a simulation coefficient (p=0.7) for calibration to Baltimore data [↑](#footnote-ref-4)
5. PrEP is 100% effective if adhered to [↑](#footnote-ref-5)