**Supplementary Table S1.** Biological and behavioral parameters of the HIV/HSV-2 model used in this study.[1]

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Value** | **Source** |
| Probability of HSV-2 transmission per coital act per HSV-2 stage |  |  |
|  *Primary infection* | 0.0189 | Published evidence[2] |
|  *Latent infection* | 0.0 | Published evidence[2] |
|  *Reactivation* | 0.0189 | Published evidence[2] |
| Shedding frequency of HSV-2  | 14% | Published evidence[2 3] |
| HSV-2 stage duration |  |  |
|  *Primary infection* | 20.0 days | Published evidence[2] |
|  *Latent infection* | 78.5 days | Published evidence[2] |
|  *Reactivation* | 12.8 days | Published evidence[2] |
| Probability of HIV transmission per coital act per HIV stage |  |  |
|  *Acute* | 0.0360 | Published evidence[4-6] |
|  *Chronic* | 0.0008 | Published evidence[4 7] |
|  *Advanced* | 0.0042 | Published evidence[4 7] |
| HIV stage duration |  |  |
|  *Acute* | 49 days | Published evidence[4 5 7] |
|  *Chronic* | 9.0 years | Published evidence[7-9] |
|  *Advanced* | 2.0 years | Published evidence[4 7] |
| Frequency of coital acts per HSV-2 stage  |  |  |
|  *All stages* | 11.0 per month | Published evidence[4] |
| Frequency of coital acts per HIV stage |  |  |
|  *Acute* | 10.6 per month | Published evidence[4] |
|  *Latent* | 11.0 per month | Published evidence[4] |
|  *Late* | 10.6 per month | Published evidence[4] |
| Marital partnership mean duration  | 20 years | Representative value informed by DHS data[10] |
| Marriage rate | 0.12 | Estimated from Kenya’s 2008-2009 DHS data[10] |
| Non-marital (casual) sexual partnership mean duration | 6 months | Informed by previous work and Representative value[11 12] |
| Number of premarital sex partners among unmarried individuals over the last year |  | Derived based on DHS data[13] |
|  *Mean* | 0.32 and a range of 0.0-1.0 |
|  *Variance* | 0.0087 and a range of 0.0-2.0 |
| Number of extramarital sex partners among married individuals over the last year |  | Derived based on DHS data[13] |
|  *Mean* | 0.0088 and a range of 0.0-0.5 |
|  *Variance* | 0.0 with a range of 0.0-1.0 |
| DHS: Demographic and Health Survey |  |  |

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