|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter** | **Min** | **2.5th percentile** | **Mean** | **97.5th percentile** | **Max** | **Source/Justification** | **Assumed Distribution** |
| ***During wound healing*** | | | | | | | |
| Relative chance of HIV *acquisition* per act during wound healing (vs not circumcised). | - | 0.32 | 2.99 | 13.6 | - | Pooled analysis of three RCTs [1]. | Log-normal (mean=1.09; sd=0.89) |
| Relative chance of HIV *transmission* per act during wound healing (vs not circumcised). | - | 1.14 | 3.50 | 10.76 | - | Empirical estimate of rate ratio of HIV transmission over six months, from men who were circumcised in the intervention and resumed sex early versus controls (i.e. men who were not circumcised) [2]. \* | Log-normal (mean=1.25; sd=0.57) |
| Mean duration of wound healing period (days) | 9 | - | 14 | - | 21 | Exponential waiting-time distribution fitted to empirical observation from Rakai trial [3]. (95% healed within 6 weeks). Range chosen arbitrarily to support durations 5 days longer or shorter.\* | Uniform(10,30) |
| Fraction of males that have sex during the wound healing period. | 0.03 | 0.04 | 0.13 | 0.22 | 0.23 | Pooled analysis of three RCTs [1]. | Uniform(0.03,0.23) |
| ***After wound healing*** | | | | | | | |
| Relative chance of HIV *acquisition* per act for circumcised men (vs not circumcised). | - | 0.24 | 0.35 | 0.54 | - | As-treated meta-analysis of three trials give mean and 95% confidence interval of effect of 0.35 (0.24-0.54) [4] . Functional distribution of prior has this mean and ~95% of values lie inside the 95% confidence interval. \* | Log-normal (mean=-1.04; sd=0.20) |
| Relative chance of HIV *transmission* per act for circumcised men (vs not circumcised). (From two years after operation). | - | 0.31 | 0.54 | 0.96 | - | Meta-analysis of Partners in Prevention [5] and Rakai observational data [6] (see text for details).\* | Log-normal (mean=-0.62; sd=0.29) |

**Table S1: Parameter values used in the model to specify the effect of circumcision.**

\*Distributions were derived for the uncertainty analysis and were fitted to match the point estimate of the observation and so that 95% of the distribution coincided with the 95% confidence interval of the estimate.

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