Notation	Baseline value, unit	Description	Source
N_0	330 000	Initial population size	(1; 2)
$1/\mu$	45 years	Mean duration of sexual activity	(3; 4; 5)
μ	$1/45$ yr^{-1}	Rate of recruitment to sexually active population	(6)
ρ_k, $k = 1, 2, 3$	$\rho_1 = 1/0.271$ yr^{-1} $\rho_2 = 1/8.31$ yr^{-1} $\rho_3 = 1/1.184$ yr^{-1}	Rate of transition from stage k to stage $k+1$ for untreated individuals	(7; 8; 9; 10)
ρ_4	$\rho_4 = 1/1.316$ yr^{-1}	Disease related mortality for untreated individuals	
γ_k, $k = 1, 2, 3$	$\gamma_1 = 1/8.21$ yr^{-1} $\gamma_2 = 1/54.0$ yr^{-1} $\gamma_3 = 1/2.463$ yr^{-1}	Rate of transition from stage k to stage $k+1$ for treated individuals	(7; 9; 11)
γ_4	$\gamma_4 = 1/2.737$ yr^{-1}	Disease related mortality for treated individuals	
h_k, $k = 1, 2, 3, 4$	$h_1 = 2.76$ $h_2 = 0.106$ $h_3 = 0.642$ $h_4 = 0.0$	Infectivity of untreated individuals in stage k of infection	(7; 10)
ϵ	0.01	Infectivity of treated individuals	(7; 12)
q_l, $l = 1, \ldots, 6$	$q_1 = 0.451$ $q_2 = 0.353$ $q_3 = 0.125$ $q_4 = 0.06$ $q_5 = 0.01$ $q_6 = 0.001$	Initial population fractions in the 6 risk groups	(4; 5; 2)
c	2.54 yr^{-1}	Mean partner change rate	Estimated from WPF sexual behavior data

Notation	Baseline value, unit	Description	Source
c_l, $l = 1, \ldots, 6$	see S2 Table	Partner change rates in the 6 risk groups (yr^{-1})	Calculated from the
σ^2	see S2 Table	Variance of the partner change rate (yr^{-2})	Weibull distribution
λ	5%	Transmission probability per partnership	Corresponds to a plausible range of R_0 for MSM in Western countries (7)
τ^*	$[0\%, 100\%]$	Annual treatment percentage for homogeneous uptake	—
τ_l^*, $l = 1, \ldots, 6$	$[0\%, 100\%]$	Annual treatment percentage in group l for heterogenenous uptake	—
ϕ^*	5%	Annual dropout percentage	—
τ	$-\ln[1 - \tau^*/100\%]$ yr^{-1}	Annual treatment uptake rate for homogeneous uptake	—
τ_l, $l = 1, \ldots, 6$	$-\ln[1 - \tau_l^*/100\%]$ yr^{-1}	Annual treatment uptake rate by group l for heterogenenous uptake	—
ϕ	$-\ln[1 - 0.05]$ yr^{-1}	Annual dropout rate	—
ω	$[0, 1]$	Mixing parameter: fully assortative mixing ($\omega = 0$), fully proportionate mixing ($\omega = 1$)	—

Table 1: Description of the parameters of the model and their baseline values.

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