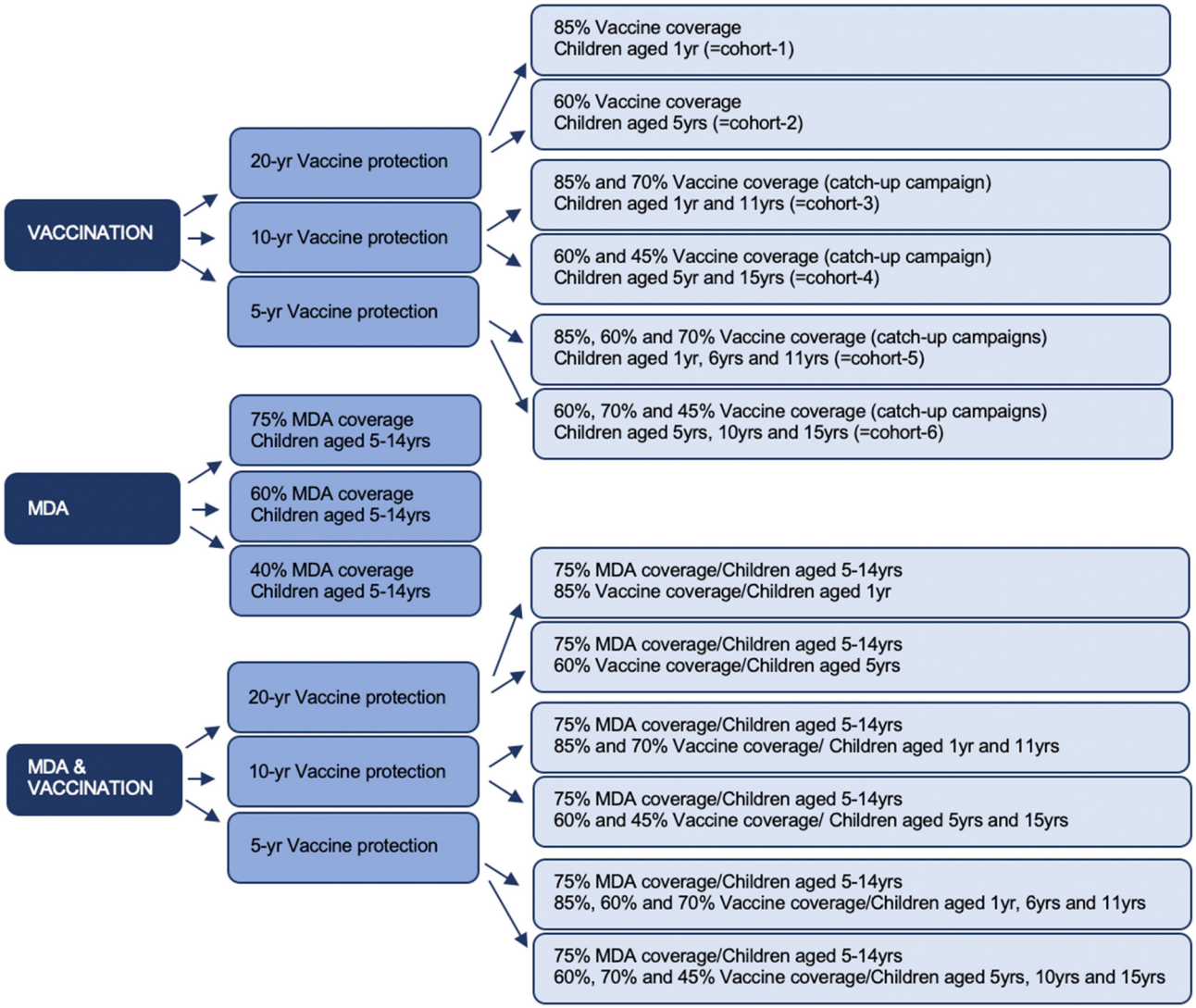

N(a, t)	Total host population
$N_V(a, t)$	Vaccinated population
$N_U(a, t)$	Unvaccinated population
a	Host age [year]
t	Time [year]
i	Parasite establishment within host
$\mu(a)$	Host mortality rate
q(a, t)	Population fraction vaccinated
ω	Vaccine decacy rate as 1/duration of protection
β(a)	Effective contact rate leading to parasite survival and growth or *per capita* rate between two subjects per unit time • 0.032 age-specific contact rate or infection rate in hosts aged ≤4yrs • 0.162 age-specific contact rate or infection rate in hosts aged 5-9yrs • 1.000 age-specific contact rate or infection rate in hosts aged 10-15yrs • 0.006 age-specific contact rate or infection rate in hosts aged ≥16yrs
σ	4-6 yrs (5.7 yrs) adult worm life expectancy within host impacting egg production
λ	0.14 fecundity or rate of egg production per female per fecal sample assuming monogamous reproduction and density-dependent fecundity
v1	Worm death rate of 0-1; impact of vaccine on worm death rate of 1
v2	EPG feces rate of 0-1; impact of vaccine on EPG of 0
v3	Age-specific contact rate of 0-1; impact of vaccine on contact rates of 0
M(a,t)	Mean total worm burden in vaccinated and unvaccinated population
M_u	Mean worm burden in unvaccinated population
M_v	Mean worm burden in vaccinated population
Prevalence	School-aged children % egg count threshold >0
Heavy prevalence	School-aged children % egg count threshold >16
L	Environmental concentration of infectious material
ψ	Flow of infectious material into environment/reservoir
F(M(a,t); λ)	Egg output in dependence of female fecundity and the mean total worm burden in vaccinated and unvaccinated populations
ρ(a)	• 0.032 environmental relative contribution of infectious stages in hosts aged ≤4yrs • 0.162 environmental relative contribution of infectious stages in hosts aged 5-9yrs • 1.000 environmental relative contribution of infectious stages in hosts aged 10-15yrs • 0.006 environmental relative contribution of infectious stages in hosts aged ≥16yrs
k	Aggregation parameter (non-fixed depending on fluctuations in mean worm burden over time) • 0.04 negative binomial host worm aggregation parameter low-risk setting • 0.24 negative binomial host worm aggregation parameter moderate- and high-risk settings
R_0	Average number of viable reproductive female offspring per female worm (parasite); secondary infectious subjects from infectious subject introduced in totally susceptible population (host) • 1.7 basic reproductive number in low-risk setting with <10% prevalence • 1.8 basic reproductive number in moderate-risk setting with 10-50% prevalence • 3.2-5.0 basic reproductive number in high-risk setting with >50% prevalence
Drug efficacy	86.3% *S. mansoni*; 95% *S. japonicum*; 94.1% *S. haematobium* (Anderson *et al.*, 2015)
Vaccine efficacy	100%

Figure S1 Supplementary Material. Simplified structure of the *Schistosoma mansoni* individual-based stochastic model illustrating interventions including coverage among targeted age categories

Model based on Kura *et al.* (2015) [130] applying mass drug administration, vaccination, and vaccination combined with mass drug administration (left). Model parameters (right) assuming 300 simulations over 15-year model duration among a presumed human host population ***N(a, t)*** of 500 with constant numbers of births and deaths consisting of $\boldsymbol{N_V(a, t)}$ vaccinated population and $\boldsymbol{N_U(a, t)}$ unvaccinated population.

Abbreviations: MDA=mass drug administration; yr=year; yrs=years; EPG=eggs per gram; *S.*=*Schistosoma*