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| eqn | X(t)/ts |  | S\_neg | L\_neg | DSP\_neg | USP\_neg | DSN\_neg | USN\_neg |
| 1 | S\_neg | (1–lat)\*M(t) | –lam(t) –hivinc –mu\_neg |  |  |  |  |  |
| 2 | L\_neg | lat\*M(t) | +(1–pp\_neg)\*lam(t) | –er\_neg –hivinc –mu\_neg  –lr\_neg\*pp\_neg\*lam(t) | +dx\*tx\*sn\_smpos +cure | +cure | +dx\*tx\*sn\_smneg +cure | +cure |
| 3 | DSP\_neg |  | +fp\_neg\*acc\*pp\_neg\*lam(t) | +fp\_neg\*acc\*[er\_neg +lr\_neg\*pp\_neg\*lam(t)] | –hivinc –mu\_smpos\_neg  –dx\*tx\*sn\_smpos –cure |  |  |  |
| 4 | USP\_neg |  | +fp\_neg\*(1–acc)\*pp\_neg\* lam(t) | +fp\_neg\*(1–acc)\*[er\_neg +lr\_neg\*pp\_neg\*lam(t)] |  | –hivinc –mu\_smpos\_neg  –cure |  |  |
| 5 | DSN\_neg |  | +(1–fp\_neg)\*acc\*pp\_neg\* lam(t) | +(1–fp\_neg)\*acc\*[er\_neg +lr\_neg\*pp\_neg\*lam(t)] |  |  | –hivinc –mu\_smneg\_neg  –dx\*tx\*sn\_smneg –cure |  |
| 6 | USN\_neg |  | +(1–fp\_neg)\*(1–acc)\*pp\_neg\* lam(t) | +(1–fp\_neg)\*(1–acc)\*[er\_neg +lr\_neg\*pp\_neg\*lam(t)] |  |  |  | –hivinc –mu\_smneg\_neg  –cure |

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| eqn | X(t)/ts |  | S\_hiv | L\_hiv | DSP\_hiv | USP\_hiv | DSN\_hiv | USN\_hiv |
| 7 | S\_hiv | +hivinc\*S\_neg(t) | –lam(t) –hivprog –mu\_hiv |  |  |  |  |  |
| 8 | L\_hiv | +hivinc\*L\_neg(t) | +(1–pp\_hiv)\*lam(t) | –er\_hiv –hivprog –mu\_hiv  –lr\_hiv\*pp\_hiv\*lam(t) | +dx\*tx\*sn\_smpos |  | +dx\*tx\*sn\_smneg |  |
| 9 | DSP\_hiv | +hivinc\*DSP\_neg(t) | +fp\_hiv\*acc\*pp\_hiv\*lam(t) | +fp\_hiv\*acc\*[er\_hiv +lr\_hiv\*pp\_hiv\*lam(t)] | –hivprog –mu\_tb\_hiv  –dx\*tx\*sn\_smpos |  |  |  |
| 10 | USP\_hiv | +hivinc\*USP\_neg(t) | +fp\_hiv\*(1–acc)\*pp\_hiv\* lam(t) | +fp\_hiv\*(1–acc)\*[er\_hiv +lr\_hiv\*pp\_hiv\*lam(t)] |  | –hivprog –mu\_tb\_hiv |  |  |
| 11 | DSN\_hiv | +hivinc\*DSN\_neg(t) | +(1–fp\_hiv)\*acc\*pp\_hiv\* lam(t) | +(1–fp\_hiv)\*acc\*[er\_hiv +lr\_hiv\*pp\_hiv\*lam(t)] |  |  | –hivprog –mu\_tb\_hiv  –dx\*tx\*sn\_smneg |  |
| 12 | USN\_hiv | +hivinc\*USN\_neg(t) | +(1–fp\_hiv)\*(1–acc)\*pp\_hiv\* lam(t) | +(1–fp\_hiv)\*(1–acc)\*[er\_hiv +lr\_hiv\*pp\_hiv\*lam(t)] |  |  |  | –hivprog –mu\_tb\_hiv |

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| eqn | X(t)/ts |  | S\_aids | L\_aids | DSP\_aids | USP\_aids | DSN\_aids | USN\_aids |
| 13 | S\_aids | +hivprog\*S\_hiv(t) | –lam(t) –mu\_aids |  |  |  |  |  |
| 14 | L\_aids | +hivprog\*L\_hiv(t) | +(1–pp\_aids)\*lam(t) | –er\_aids –mu\_aids  –lr\_aids\*pp\_aids\*lam(t) | +dx\*tx\*sn\_smpos |  | +dx\*tx\*sn\_smneg |  |
| 15 | DSP\_aids | +hivprog\*DSP\_hiv(t) | +fp\_aids\*acc\*pp\_aids\*lam(t) | +fp\_aids\*acc\*[er\_aids +lr\_aids\*pp\_aids\*lam(t)] | –mu\_tb\_aids –dx\*tx\*sn\_smpos |  |  |  |
| 16 | USP\_aids | +hivprog\*USP\_hiv(t) | +fp\_aids\*(1–acc)\*pp\_aids\* lam(t) | +fp\_aids\*(1–acc)\*[er\_aids +lr\_aids\*pp\_aids\*lam(t)] |  | –mu\_tb\_aids |  |  |
| 17 | DSN\_aids | +hivprog\*DSN\_hiv(t) | +(1–fp\_aids)\*acc\*pp\_aids\* lam(t) | +(1–fp\_aids)\*acc\*[er\_aids +lr\_aids\*pp\_aids\*lam(t)] |  |  | –mu\_tb\_aids –dx\*tx\*sn\_smneg |  |
| 18 | USN\_aids | +hivprog\*USN\_hiv(t) | +(1–fp\_aids)\*(1–acc)\*pp\_aids\* lam(t) | +(1–fp\_aids)\*(1–acc)\*[er\_aids +lr\_aids\*pp\_aids\*lam(t)] |  |  |  | –mu\_tb\_aids |