

Overview of the core of pure mass-action model

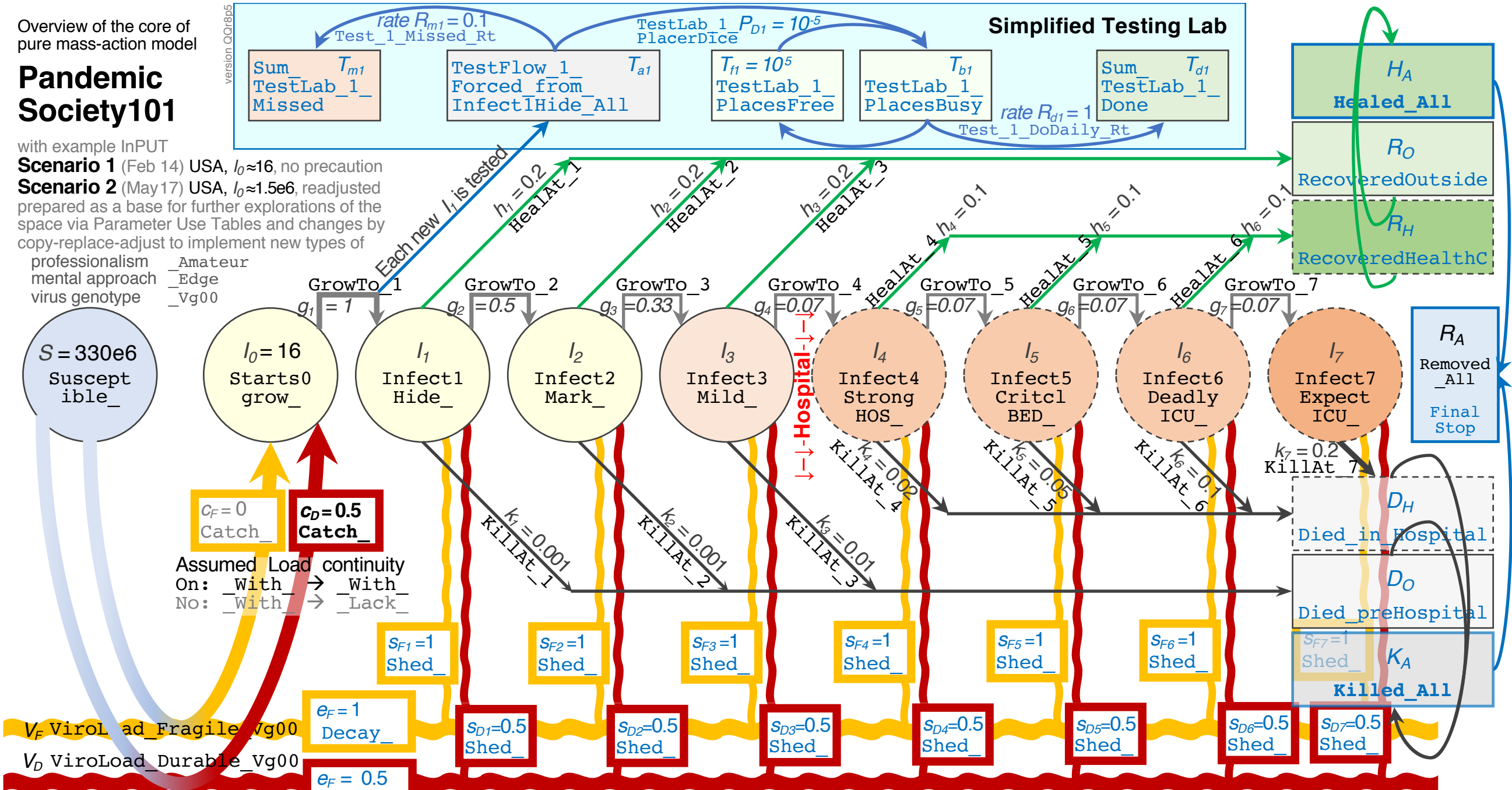
# Pandemic Society101

with example InPUT

**Scenario 1** (Feb 14) USA,  $I_0 \approx 16$ , no precaution

**Scenario 2** (May 17) USA,  $I_0 \approx 1.5e6$ , readjusted prepared as a base for further explorations of the space via Parameter Use Tables and changes by copy-replace-adjust to implement new types of

professionalism Amateur  
 mental approach Edge  
 virus genotype Vg00



**Details on ViroLoad rules** (see 'ASHA' code motif): In a new pandemic, like **Scenario 1**, set max size of load to  $S$  (here:  $V_{D,A}=S=330e6$ ,  $V_{D,D}=1/V_{D,A}$ ) and start empty ( $V_{D,W}=0$ ,  $V_{D,L}=S$ ,); do the same for  $V_F$ . To start later, as in **Scenario 2**, adjust  $I_0=1.5e6$  and  $S=328.5e6$ , yet use the original  $S$  as ViroLoad limit (here:  $V_{D,A}=330e6$ ,  $V_{D,D}=1/V_{D,A}=3.0303e-9$ ); then estimate the load at the new (re)start time by running Sce.1 and adjust load in Sce.2 accordingly, because no pandemic environment is free of virus load (here:  $V_{D,W}=0.5e6 \approx 1/3$  of  $I_0$ ,  $V_{D,L}=329.5e6$  since ASHAs require  $V_{D,A}=V_{D,W}+V_{D,L}$  at all times);  $V_F$  is identical to Scenario 1 and not used; other InPUT is as above or 0 if not specified. **InPUT above lets the pandemic run without precautions** (DT 4.7-4.9 days in Opt.A, Sce.1,2); **Scenario 2 tests Opt.B,C to end the pandemic without vaccines by cutting Shed and Catch rates in half** (without changes in Decay; Shed affects stages 1-7 through a shared base rate).

Shed_	Catch_	Decay_	Option	Scenario
0.5	0.5	0.5	A	1, 2
0.25	0.5	0.5	B <sub>1</sub>	2
0.5	0.25	0.5	B <sub>2</sub>	2
0.25	0.25	0.5	C	2