ModelReport

29 November, 2017

Dissemination of the pathogen adjusted for antibiotic resistance

For this task there was model running with modeling time 200 and current properties (*Table 1*).

Table 1: Input variable for simulation.

Character	Value
Decrease rate of antibiotic resistance	2.50e-02
Growth rate of antibiotic resistance	4.00e-02
Coefficient of infection ability of pathogen	1.34e-01
Pathogen susceptibility to receive antibiotic resistance	6.10e-01
Number of treated agents in hospital with current pathogen	1.00e+01
Maximal incubation period of pathogen (days)	4.00e+00
Population in town	1.00e+04
Probability to be infected by pathogen during hospitalization without current infection	1.00e-02
Permanent level of gut antibiotic resistance	0.00e+00
Probability to be hospitalized without current infection	2.00e-03
Probability to be hospitalized during incubation period	7.00e-02
Probability of wrong antibiotic treatment	2.10e-01

As a result you can see changes of agent classes size and transitions between them on following plots.

Figure 1: Agent states size in the model time.

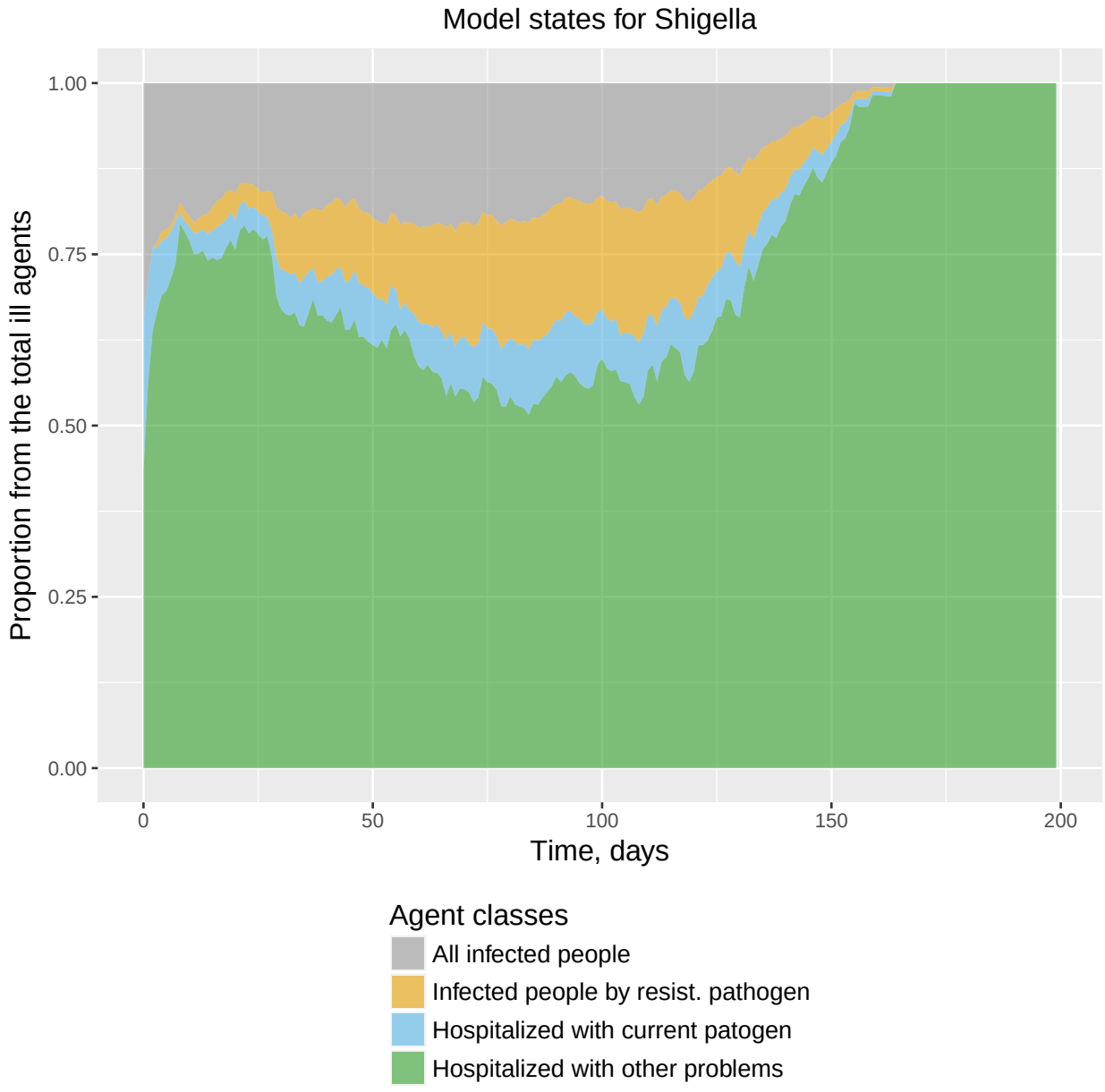

Figure 2: Agent states size in the model time. There are proportions values from total number per day.

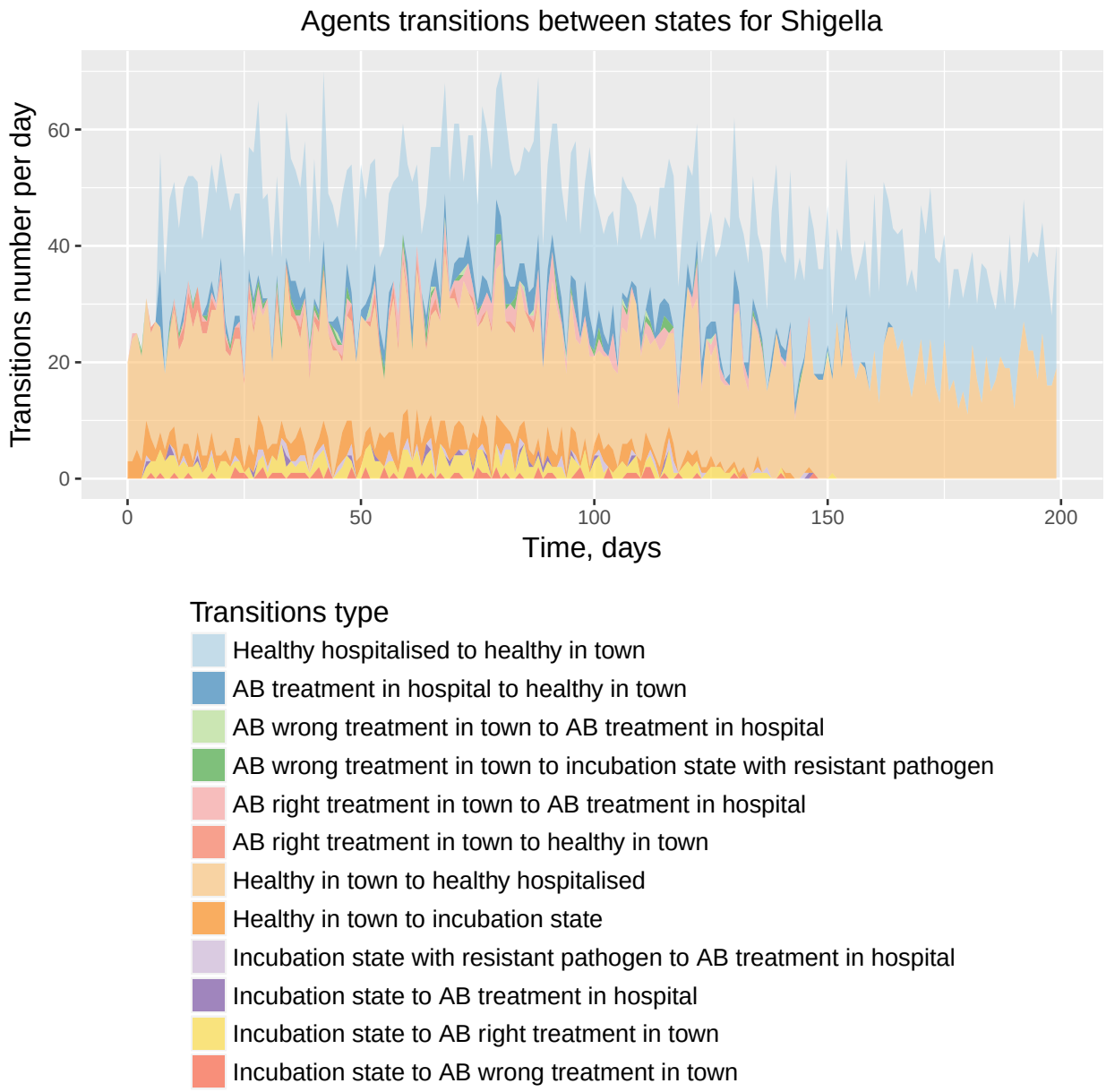

Figure 3: Transitions between states number in the model time.

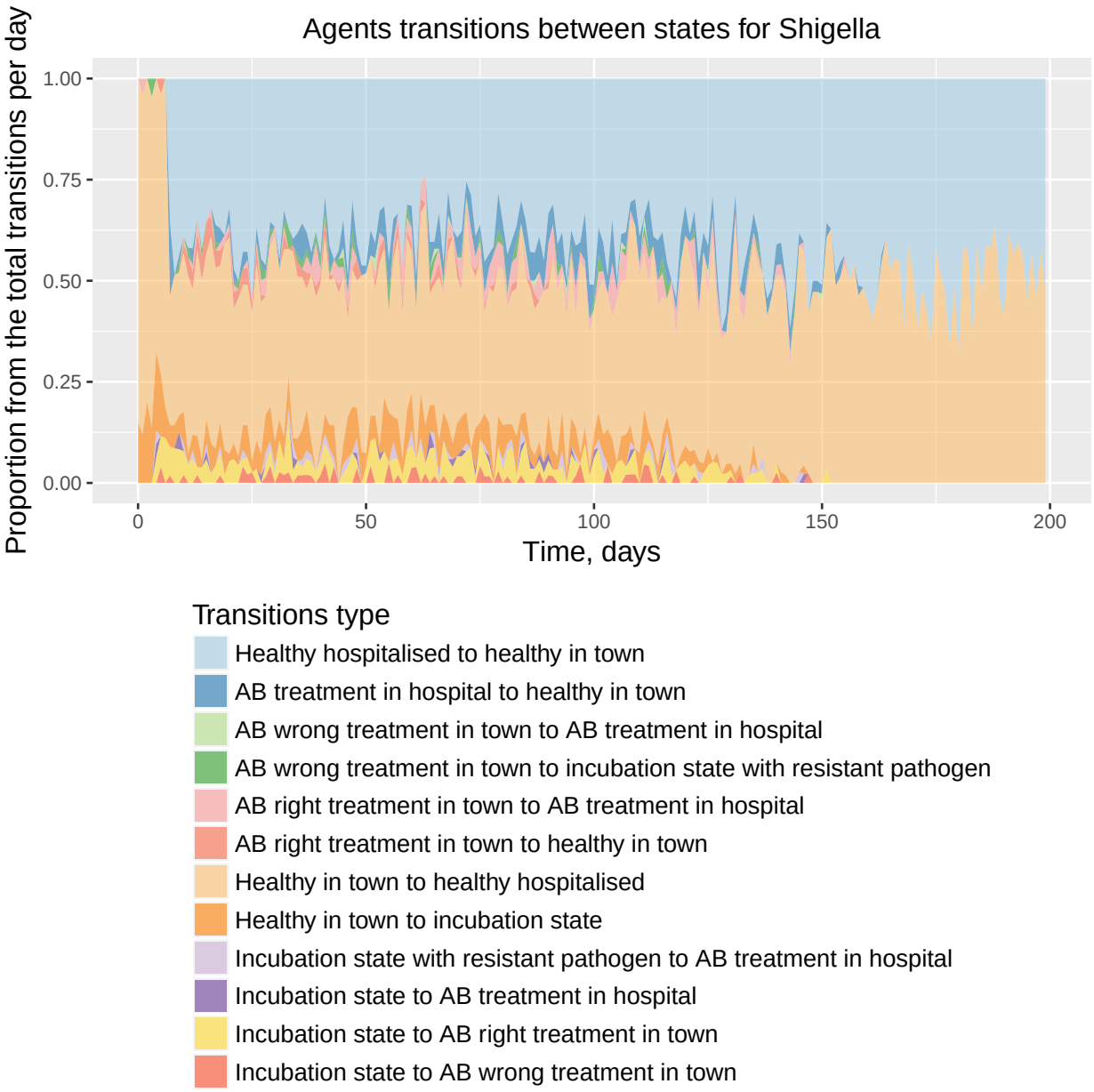

Figure 4: Transitions between states number in the model time. There are proportions values from total number per day.