Time unit = months

System(population, infected, number of people vaccinated, birth rate, death rate<sans influenza>, infection rate, disease death rate<flu effectiveness>)

State( pop, infected people, vaccinated people)

Vaccinated people = read in percentage data and apply to population

Pop = pop\*birthrate –pop \*death rate <sans influenza>

Without Vaccine Situation

Infected [t+1] = infected[t] + infected \* infection rate

Killed by flu = Infected\* Disease Death rate

With Vaccine situation

Vaccinated = read in data

Infected [t+1] = infected[t] + infected \* infection rate

Killed by Flu = Infected \* (population – vaccinated people) \* Disease Death rate.