COVID19_PH : Epidemiological models of COVID-19 in the Philippines

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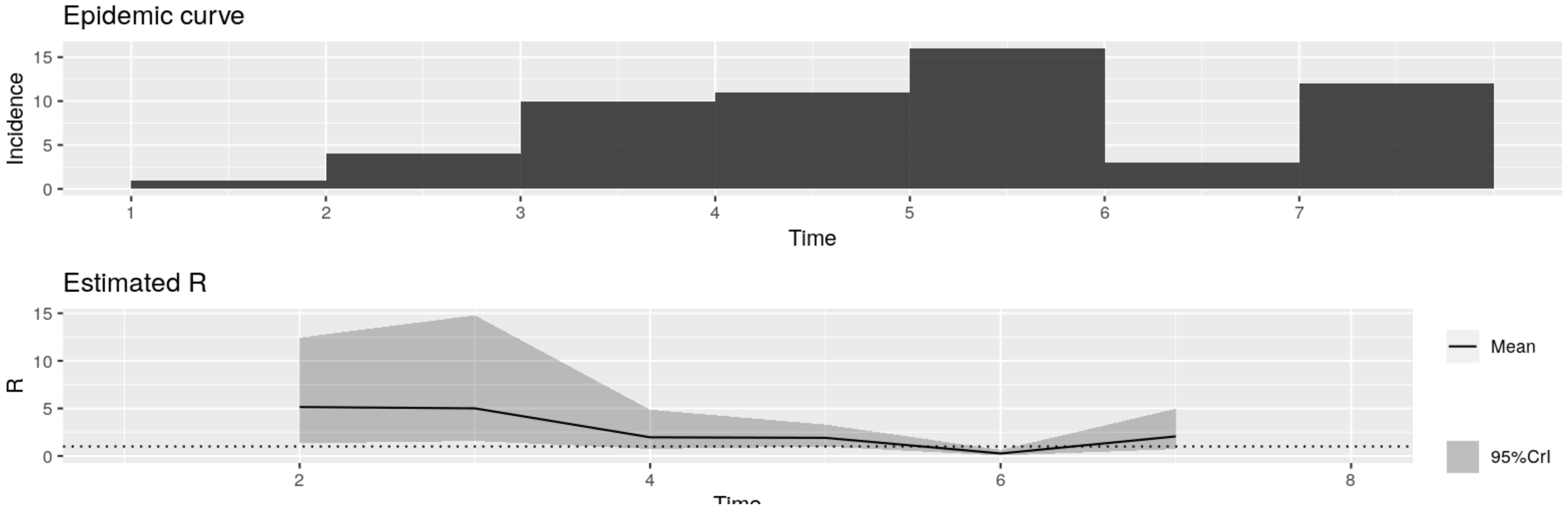
COVID-19 reproductive number for Philippines (March 13, 2020):

2.7 (CI 95% .8- 4.8)



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What is **reproductive number**?

Reproductive number (R) is an epidemiological metric of **contagiousness or transmissibility of infectious agents.**

How do we interpret R?

R value of >1 means the disease will spread

R value of <1 means disease will not propagate

Epidemiological model of COVID19 outbreak in the Philippines

1.) Determine when is the **peak** of the outbreak

2.) Calculate projected number of cases of COVID-19 in the Philippines

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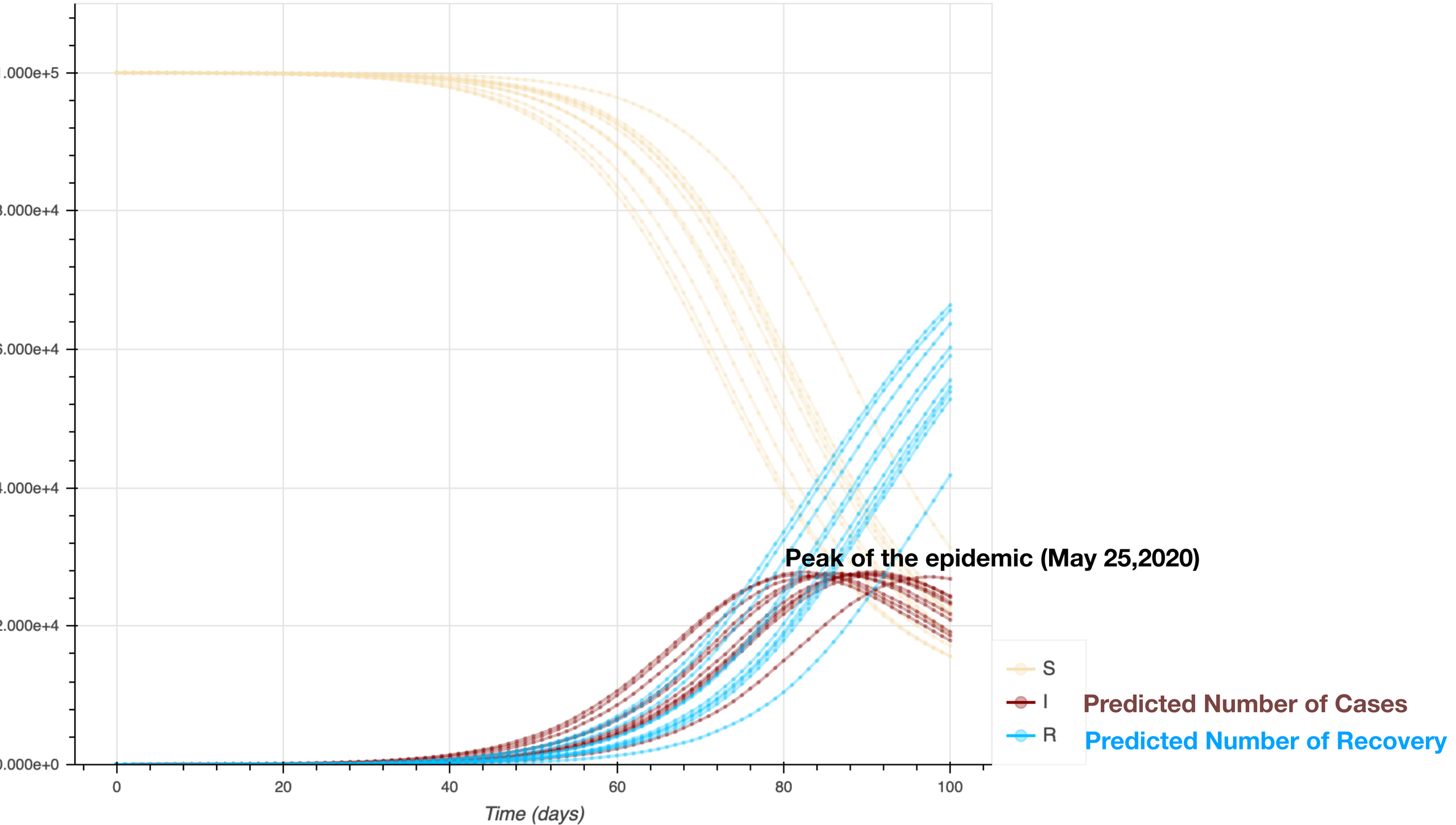
Epidemiological Model parameters:

```
  initial_population_size:
    desc: 'initial number of individuals in the population'
    value: 100000
  initial_infected:
    desc: 'initial number of infectious individuals in the population'
    value: 10
  transmission_I:
    desc: 'transmission rate from infectious individuals (/day)'
    value: 0.189
  recovery:
    desc: 'recovery rate (/day)'
    value: 0.07
```


1.000e+5
8.000e+4
6.000e+4
4.000e+4
2.000e+4
0.000e+0
0
20
40
60
80
100
Time (days)
Peak of the epidemic (May 25,2020)
S
I
R
Predicted Number of Cases
Predicted Number of Recovery

Prediction of the Number of COVID-19 cases in the Philippines

	1_month	2_month	3_month
Predicted Number of CASES	2306	64263	625798

	1_month	2_month	3_month
Predicted # Hospitalization at 10%	**231**	**6426**	**62579**

Predicted Peak of Epidemic: 4th Week of May-1st Week of June