

Corona (Covid-19) Forecast - No Lockdown Scenario

United States of America

2020-05-18

For more details on the forecast assumptions click [here](#).

Methodology

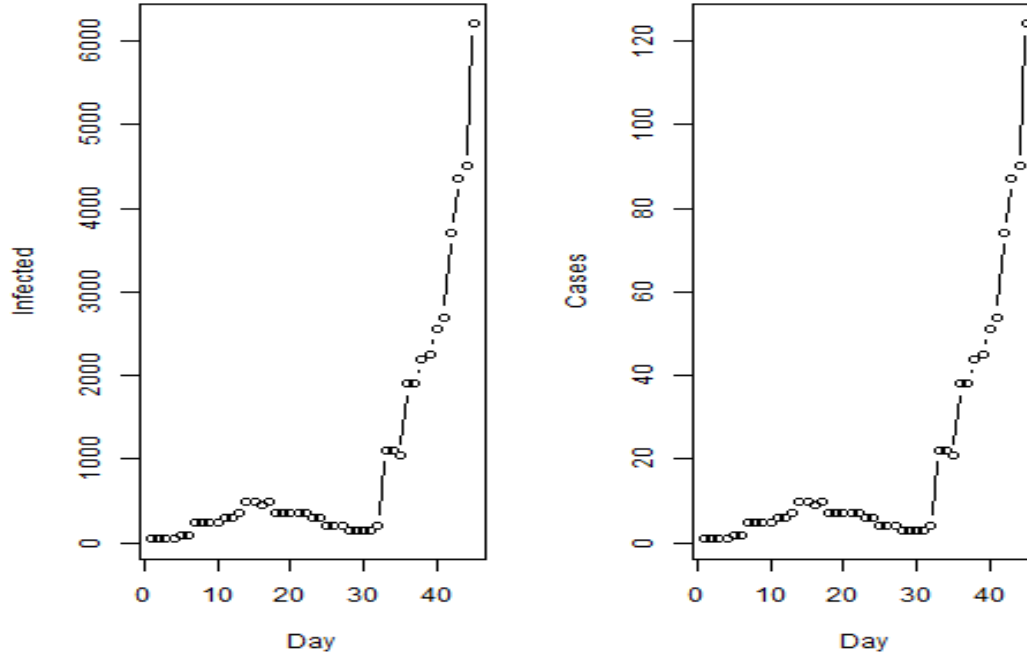
- The SIR epidemiological model is used to forecast active infections and cases. Forecast horizon is 365 days, counted from the date of the first case recorded in country.
- Only pre-lockdown data is used during model fit in order to forecast without the influence of a lockdown – the last 2 days prior to lockdown also being excluded.
- Automated pre-processing is conducted to estimate infections (and those in the infectious window) from official case data – this is informed by available sero survey data.
- Infection Fatality Rates (IFR) and Case Fatality Rates (CFR) are estimated from the latest data automatically – the denominator is adjusted for lag.

Assumptions

- High end fatality scenario: infection to case ratio of 12.5 to 1. Assumes: 50% symptomatic, of which 16% present as cases – meaning 8% of total infections present as cases (12.5 to 1).
- Low end fatality scenario: infection to case ratio of 50 to 1. Assumes: 50% symptomatic, of which 4% present as cases – meaning 2% of total infections present as cases (50 to 1).
- **WARNING:** Early sero-survey data used to estimate infections - however studies thus far have suffered from sampling and test kit issues. Sero-survey data may not be relevant to your country.
- The first case was on 19/01/2020. The USA had no clear start to national lockdown, with different states starting at different times. The majority had entered a lockdown by end March 2020. To avoid overlap with the lockdowns only data up until 45 days - counting from the day of the first case – (4 March 2020) is used to fit the model.
- For more details on the forecast assumptions click [here](#).

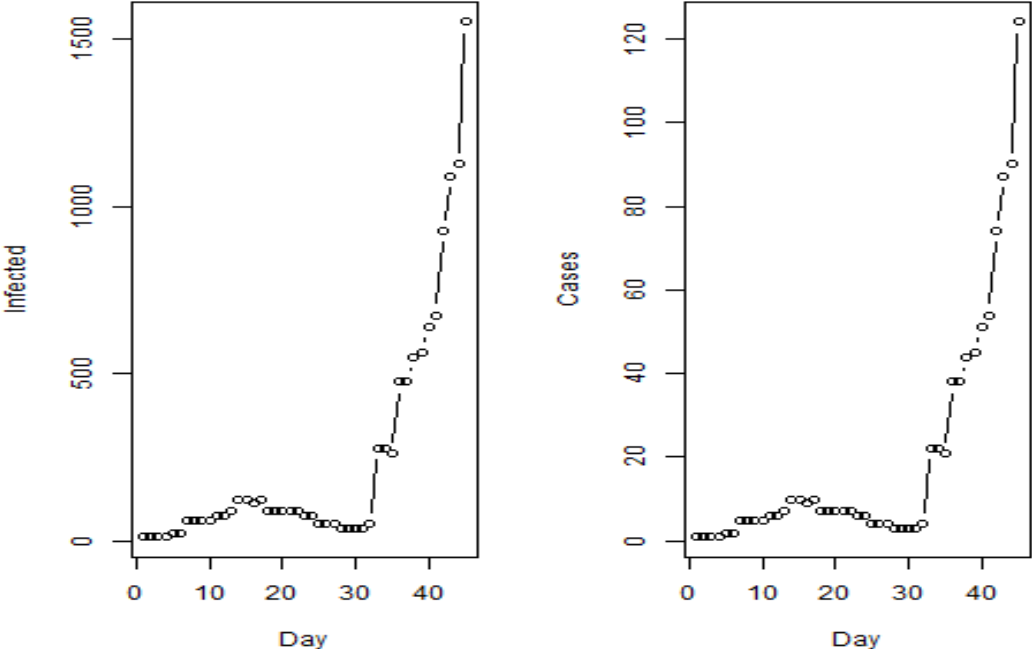
Past infections and reported cases (low end fatality)

Past infections and reported cases (lower scenario)



Past infections and reported cases (high end fatality)

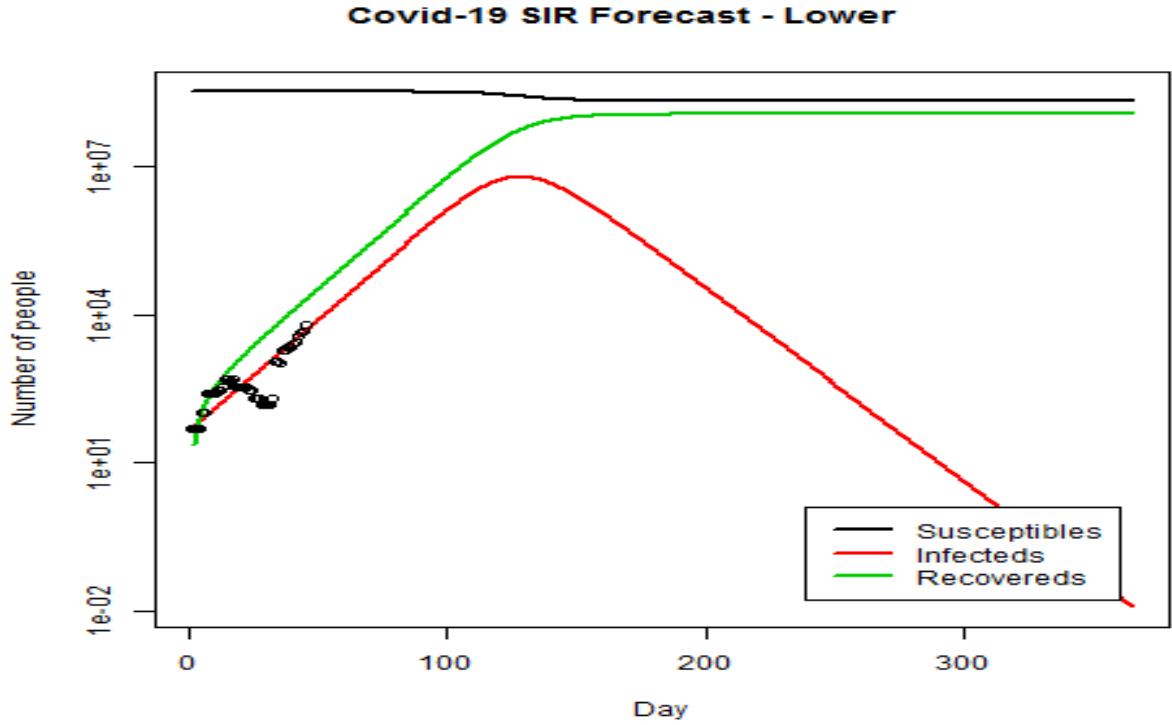
Past infections and reported cases (upper scenario)



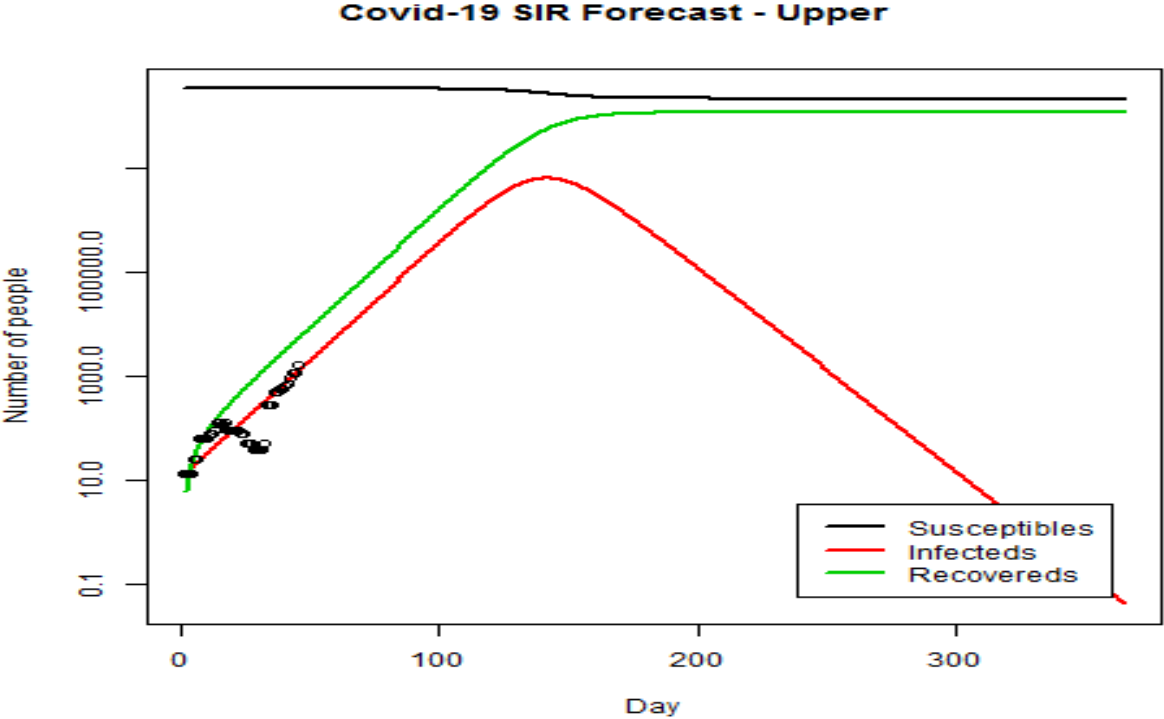
Forecast - 365 days*

Descriptors	Lower	Upper
Total cases	513,344	2,052,943
Single worst day (new cases peak)	12,417	49,625
Total infections	25,667,221	25,661,790
Total fatalities	39,177	156,673
IFR %	0.15	0.61
CFR %	7.6	7.6
Reproduction number	1.2	1.2
Infectious window	10	10
Fit period	45	45
IC	50	12.5
Beta	0.55	0.55
Gamma	0.45	0.45

Corona Forecast - 365 day - Lower Boundary (Log Scale)



Corona Forecast - 365 day - Upper Boundary (Log Scale)



Forecast – New Daily Case Milestones - Upper Boundary

Milestone	New
30th Day	2
60th Day	46
90th Day	1,032
120th Day	18,623
150th Day	42,206

Forecasts by country

To see forecast slide decks for other countries, click [here](#).

Disclaimer

- Use the information provided in this presentation at your own risk. Acentric Marketing Research (Pty) LTD makes no representation of warranty of any kind regarding the quality, accuracy or completeness of the information contained in this report. Acentric Marketing Research (Pty) LTD, its directors, employees and partners accept no liability whatsoever for losses or damages - whether direct or consequential - resulting from errors, inaccuracies or omissions.