

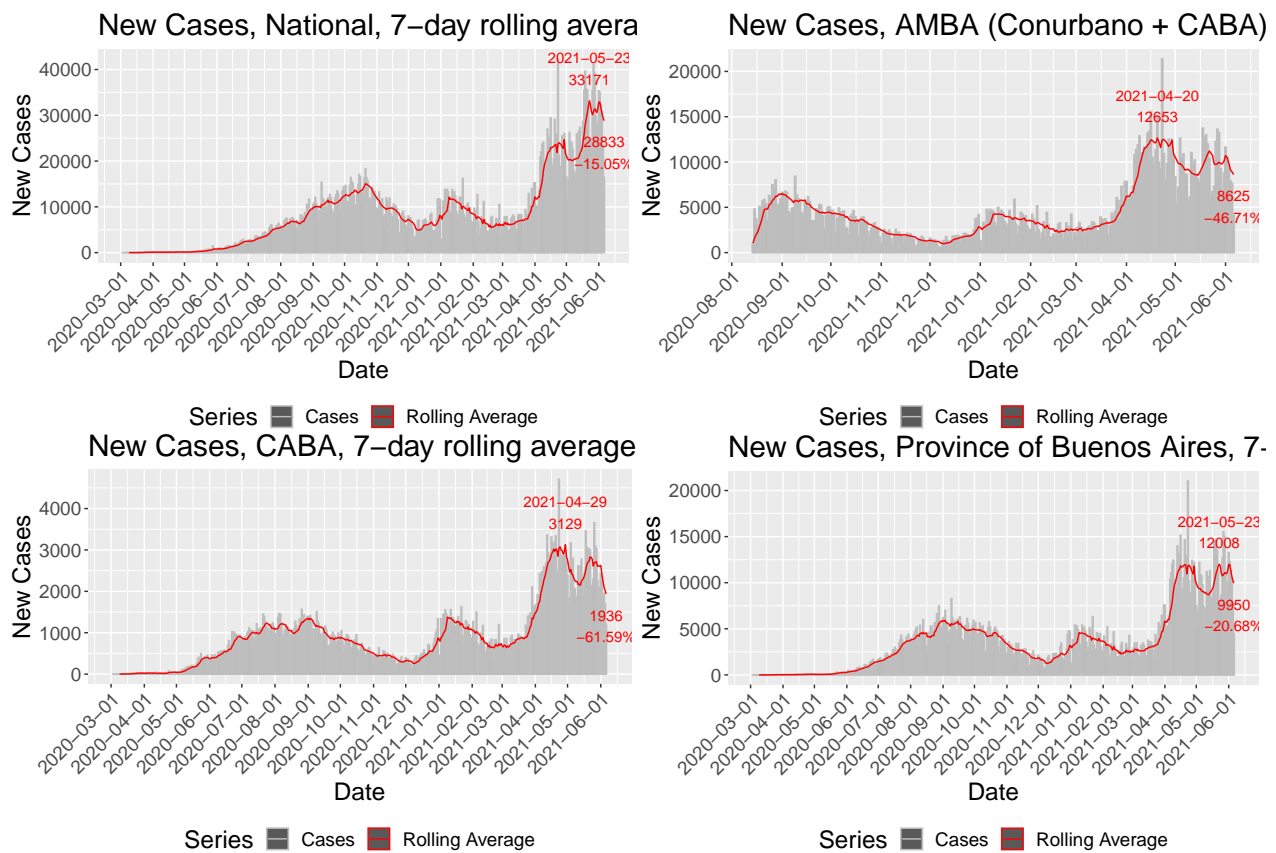
# DS Flags Report

andino

05/23/2021

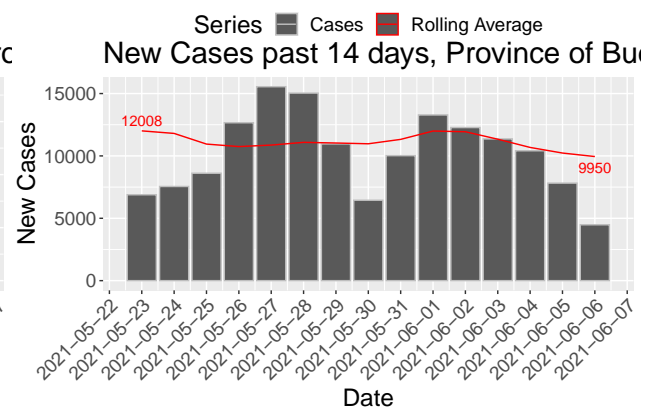
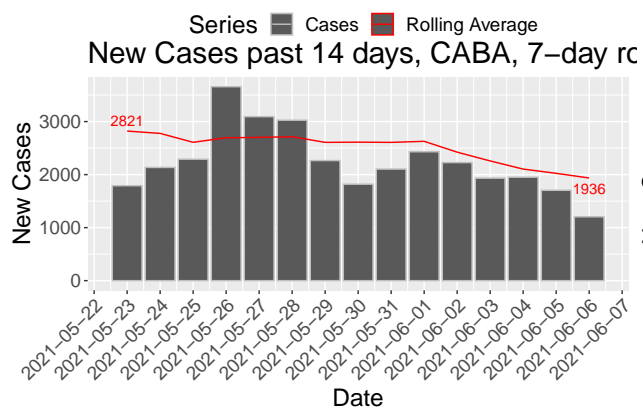
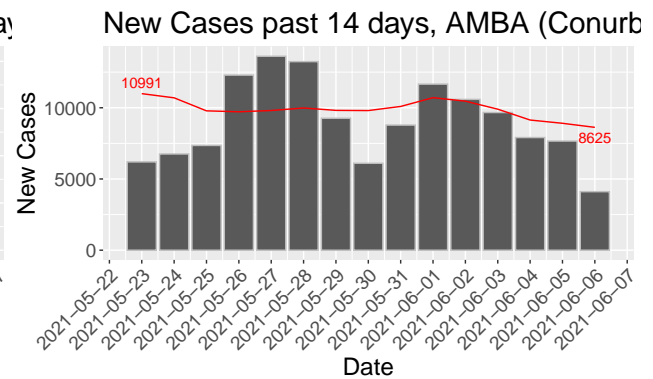
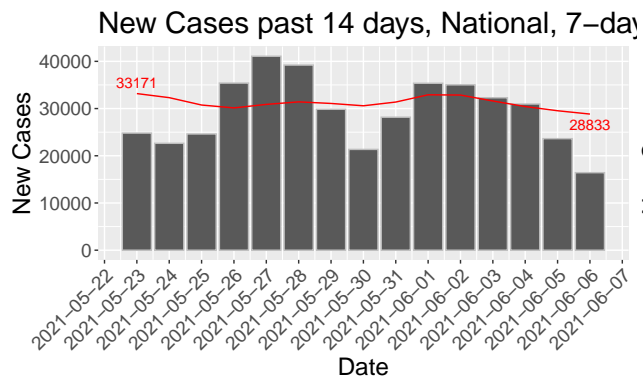
## New Cases

The following graphs show the overall epidemiological curves in the localities based on simple “new cases per day” as reported. Note that date of case report DOES NOT equal date of first symptoms or diagnosis, necessarily, as there are frequently reporting delays. Rather, this data is the change in cases from the previous day’s Ministry of Health report:



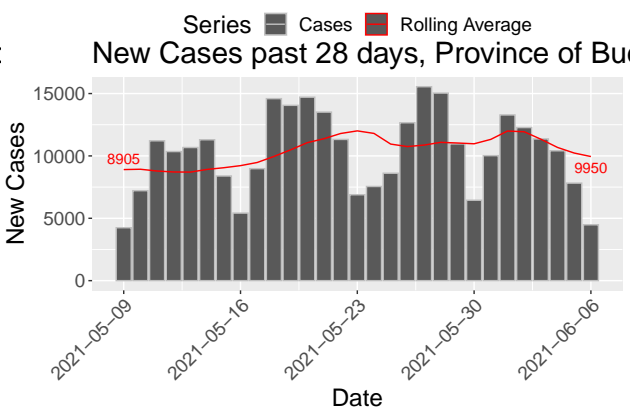
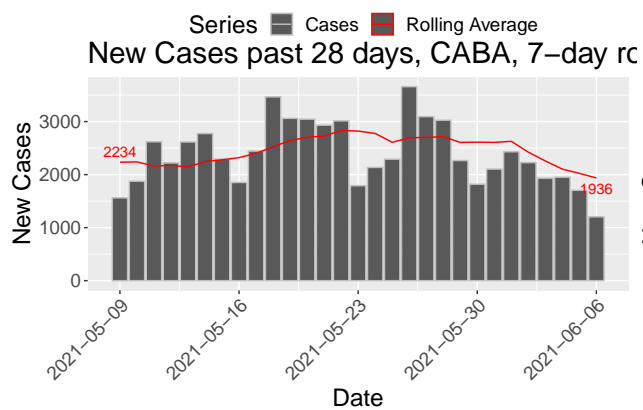
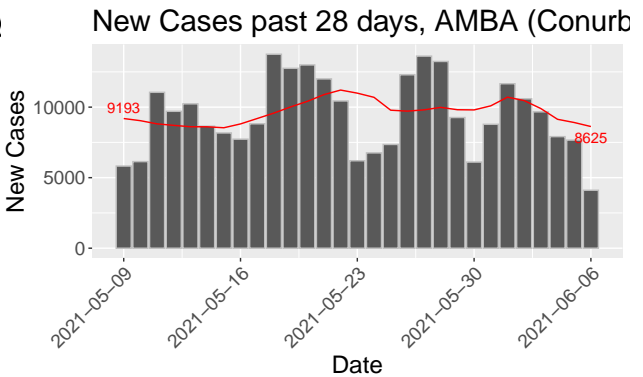
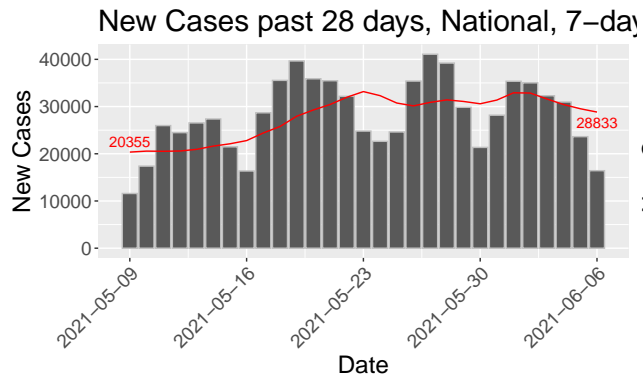
## 14-day trend

Phase 1: 14-day trend lines



## 28-day trend

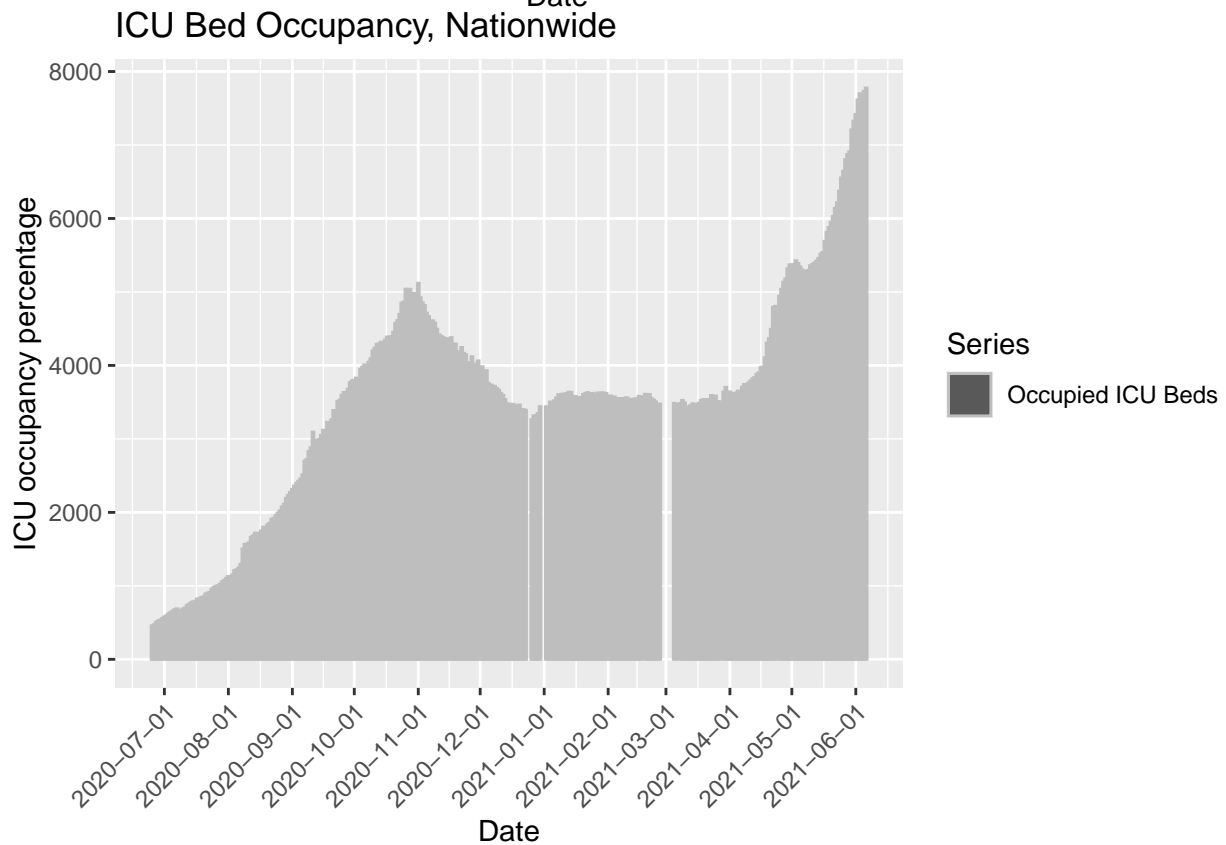
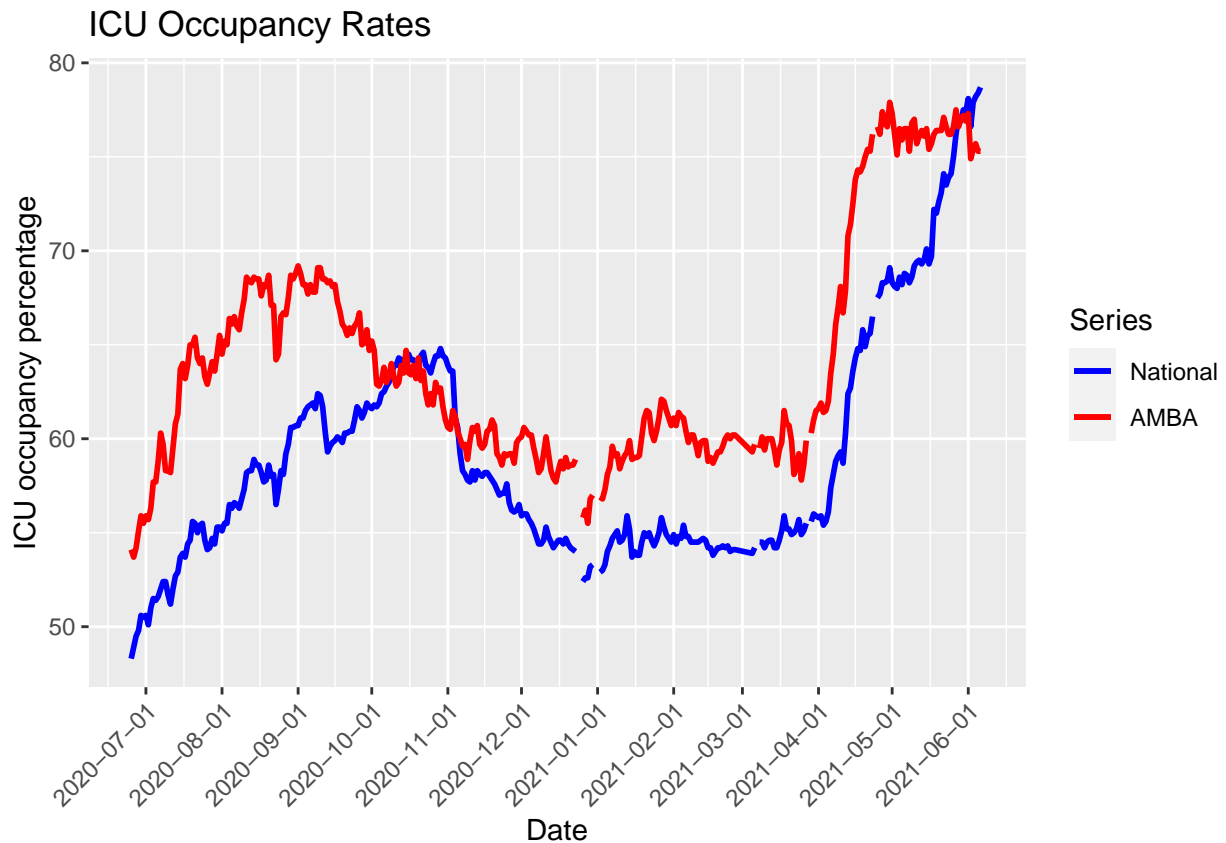
Phase 2: 28-day trend lines



Series: Cases (bars), Rolling Average (red line)

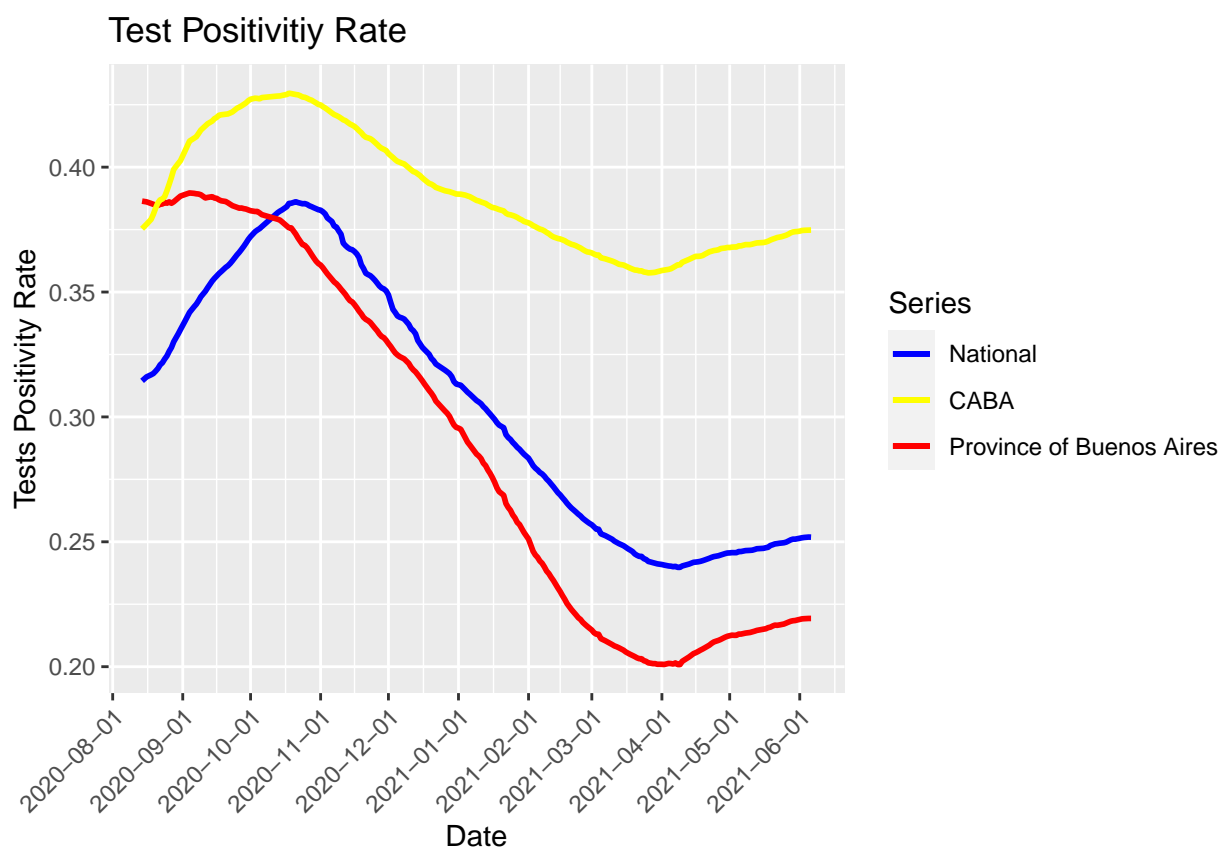
Series: Cases (bars), Rolling Average (red line)

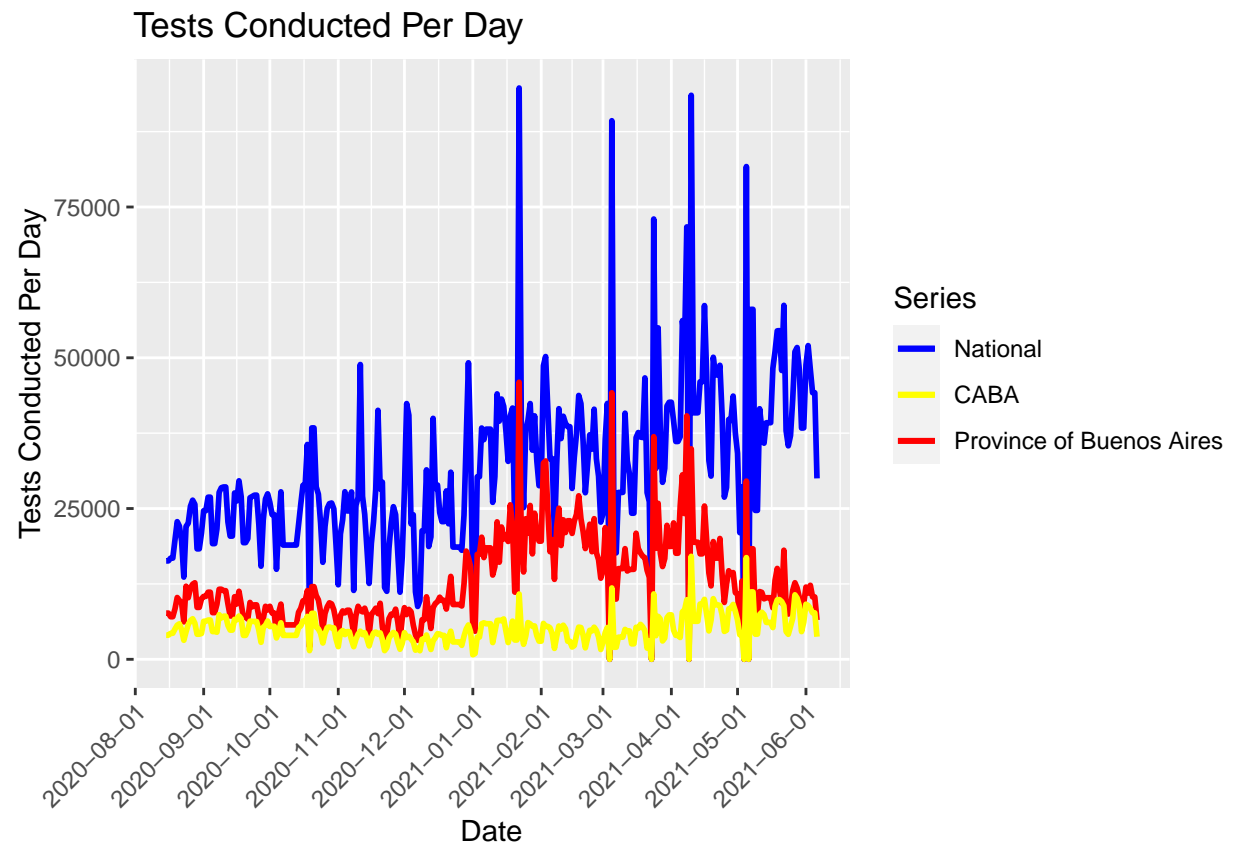
## ICU Capacity



## Testing status

Note: This data is drawn from the Ministry of Health's determinaciones.csv file. There are discrepancies in this data and the daily reports that MOH issues.





## Doubling times

The regression line is drawn using the R “lm()” function over the x values.

R0 is estimated from the slope of the regression line:

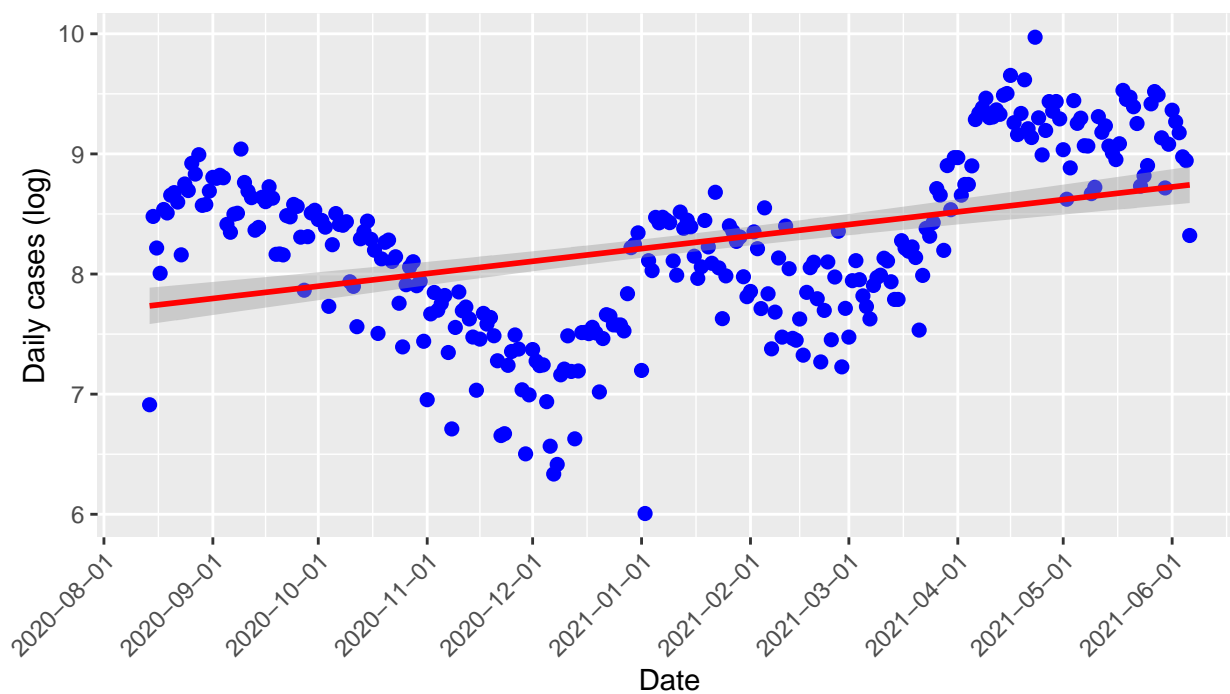
$$y = a + bx$$



$$dt = \log(2)/b$$

Doubling Time, National: 57.48 days

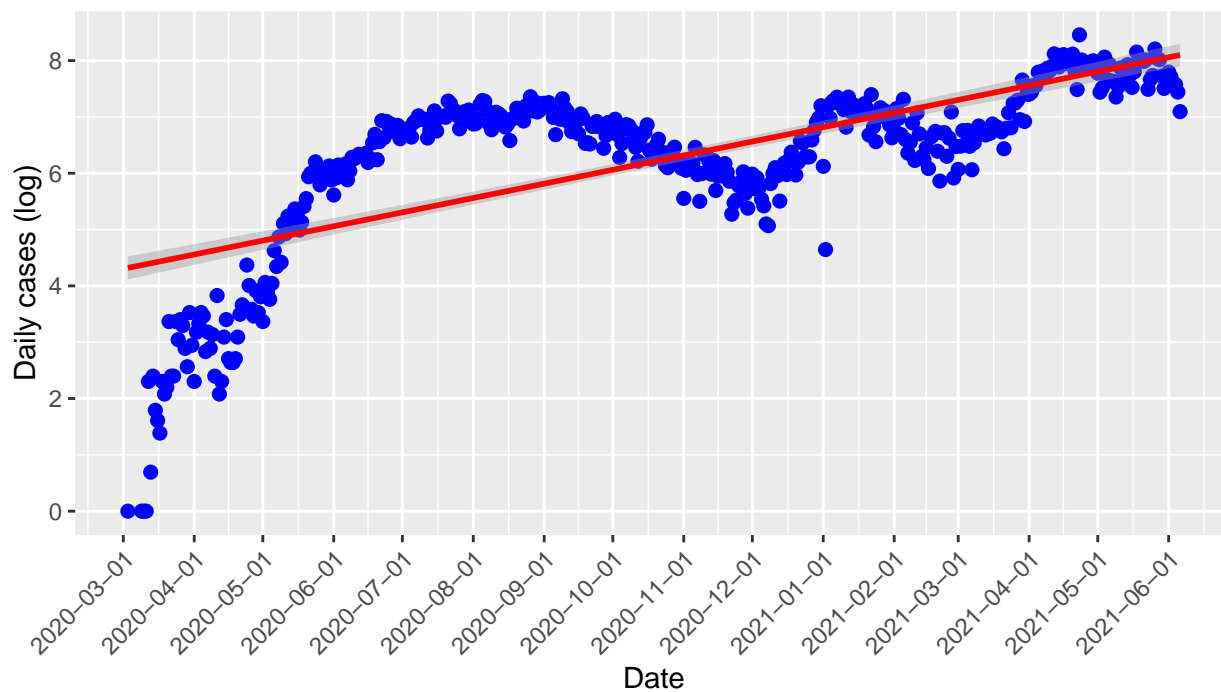




Doubling Time, AMBA (Conurbano + CABA): 203.76 days



Series  Cases shape  .

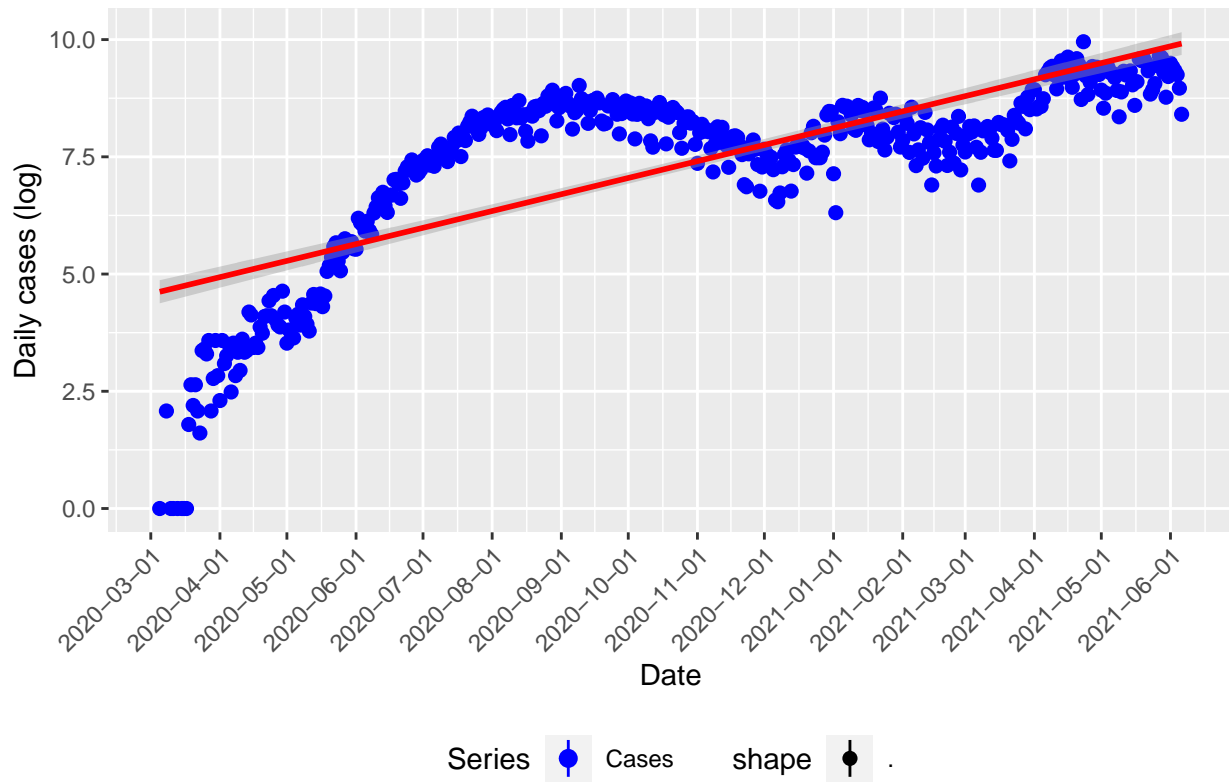
Doubling Time, CABA: 84.35 days



Series  Cases shape  .



Doubling Time, Province of Buenos Aires: 59.98 days



## ## Better R Estimate

This data is drawn from over 1 million epidemiological records, indexed by the date the case was registered with the Ministry of Health. Cases are often registered prior to a confirmed diagnosis; therefore, this data “lags”. The dates are taken based on the date a case was “opened,” rather than “confirmed” or “reported”.

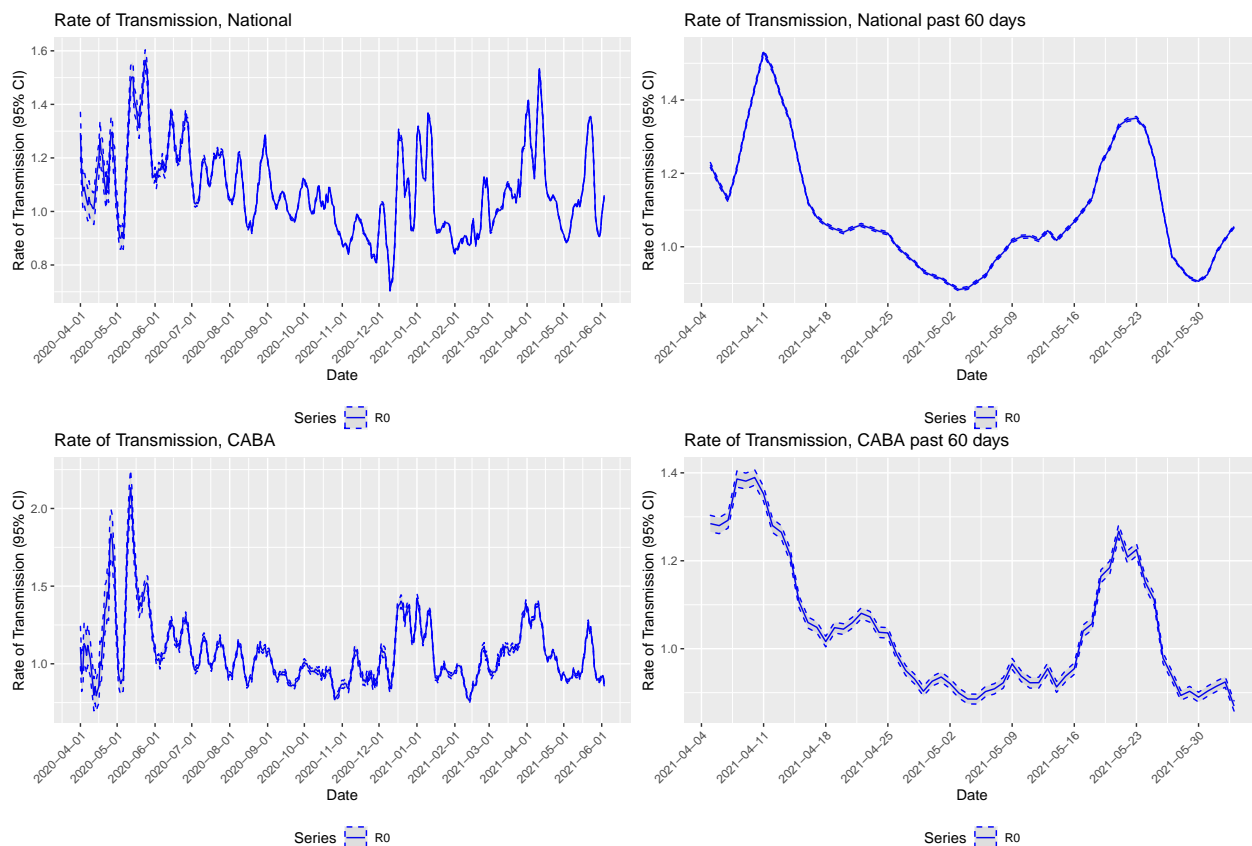
An incidence object is created using all confirmed cases in Argentina. The `estimate_R()` function from the `EpiEstim` package is used with the serial interval described below. While the `estimate_R()` function uses a rolling 7-day window, we also cut off the final five days of data due to reduce the confirmation lag.

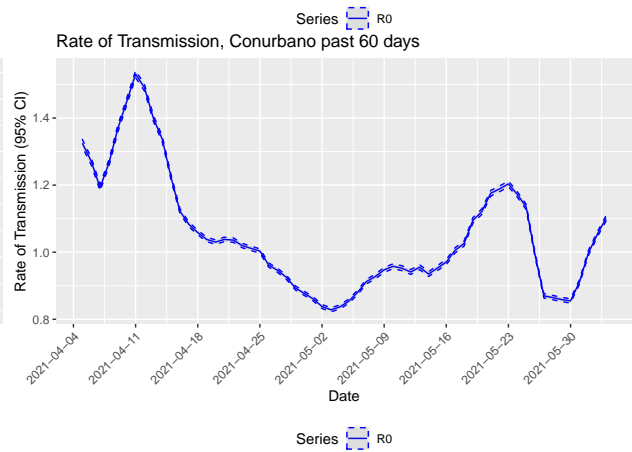
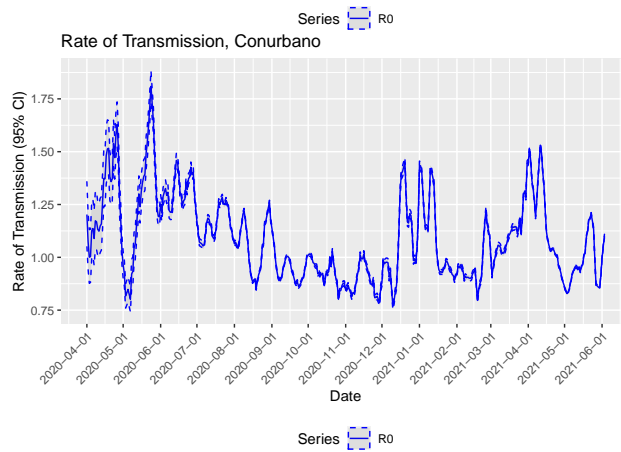
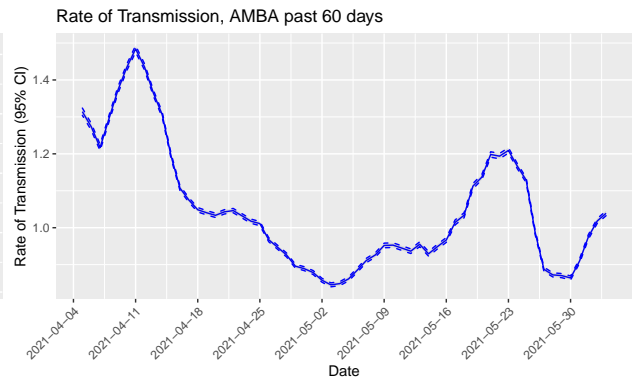
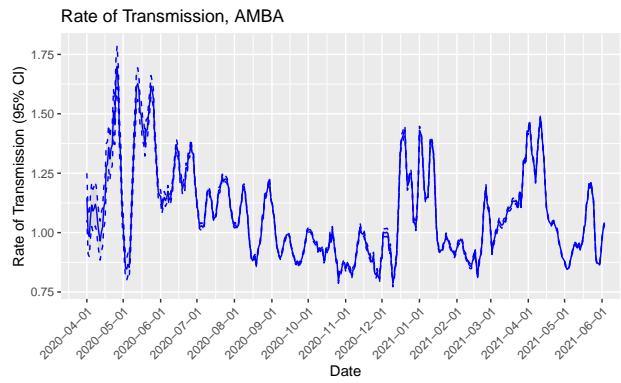
The following data on serial incidence are drawn from a meta analysis of COVID-19: <https://doi.org/10.1002/jmv.26041>

$$\mu = 5.08 \text{ days}$$

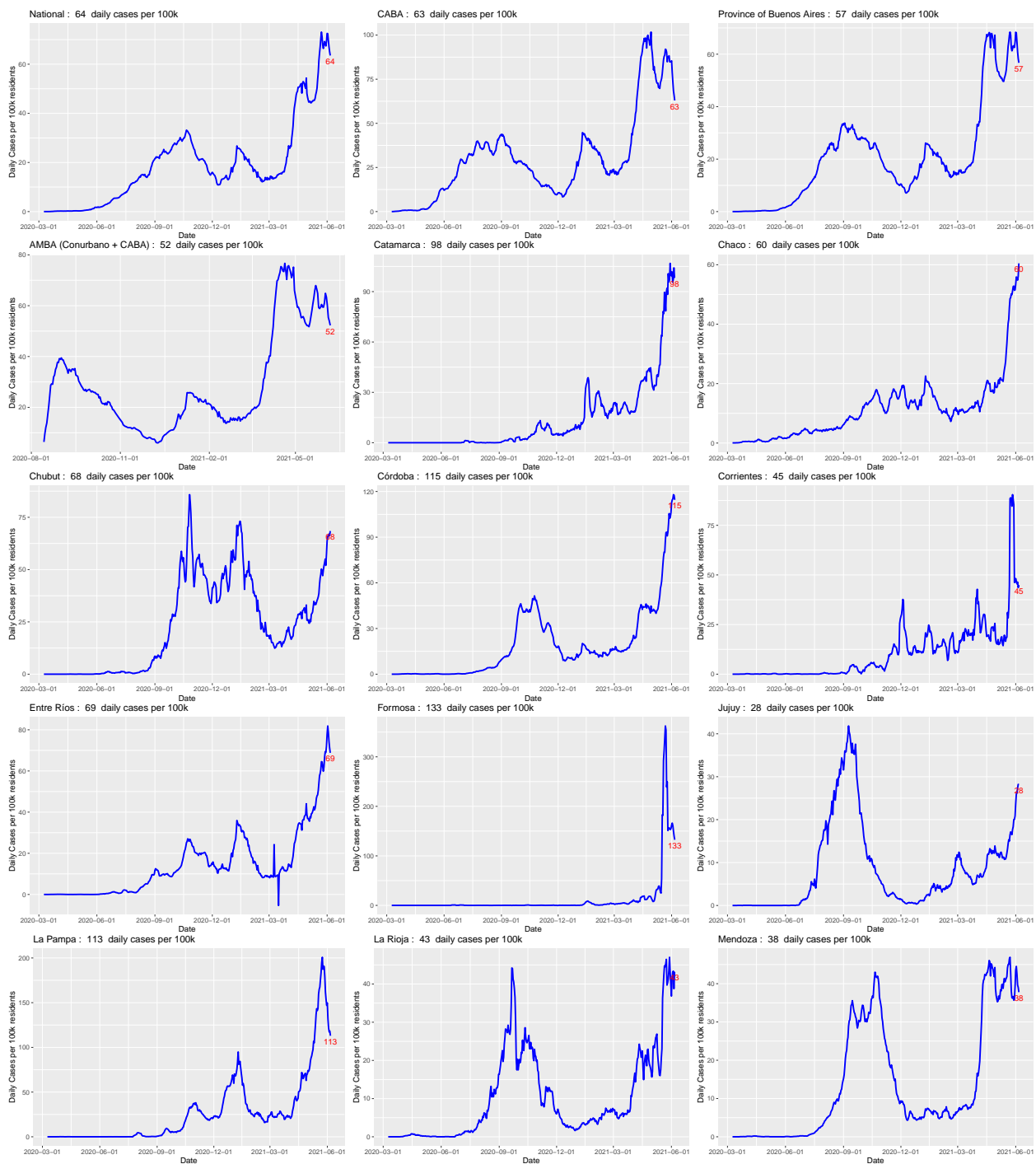
$$\sigma = .18$$

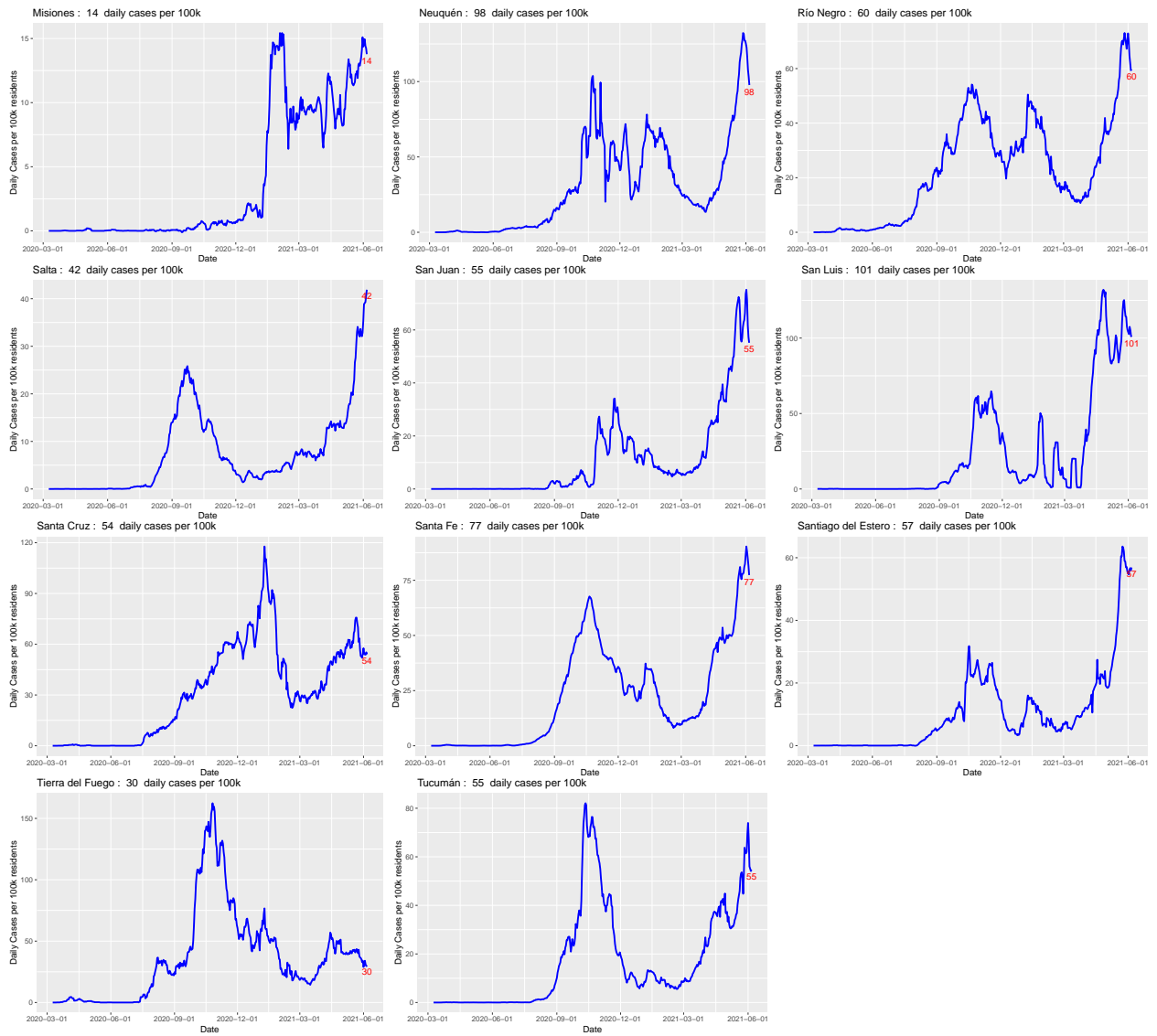
A gamma distribution is created programatically, and the `estimate_R` function is run against incidence objects containing the new cases reported each day.





## ## New Cases (per 100k)

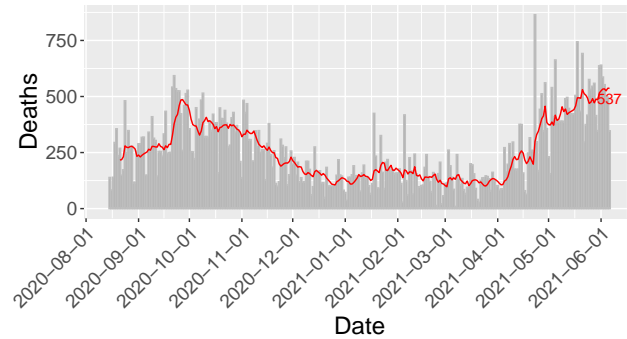




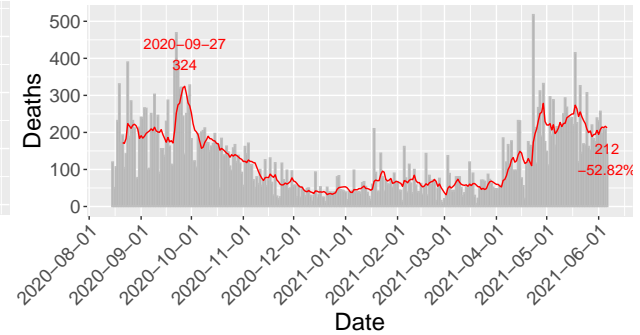
## Deaths

Note: On October 1, the government reported nearly 3,000 deaths that had actually occurred between May and September. The graphs below smooth the one-day anomaly by assigning those deaths proportionally over the 6 weeks running August 15-September 30.

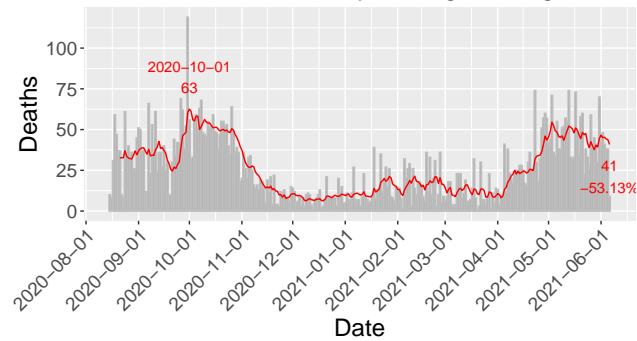
Deaths, National, 7-day rolling average



Deaths, AMBA (Conurbano + CABA), 7-day rolling average



Deaths, CABA, 7-day rolling average



Deaths, Province of Buenos Aires, 7-day rolling average

