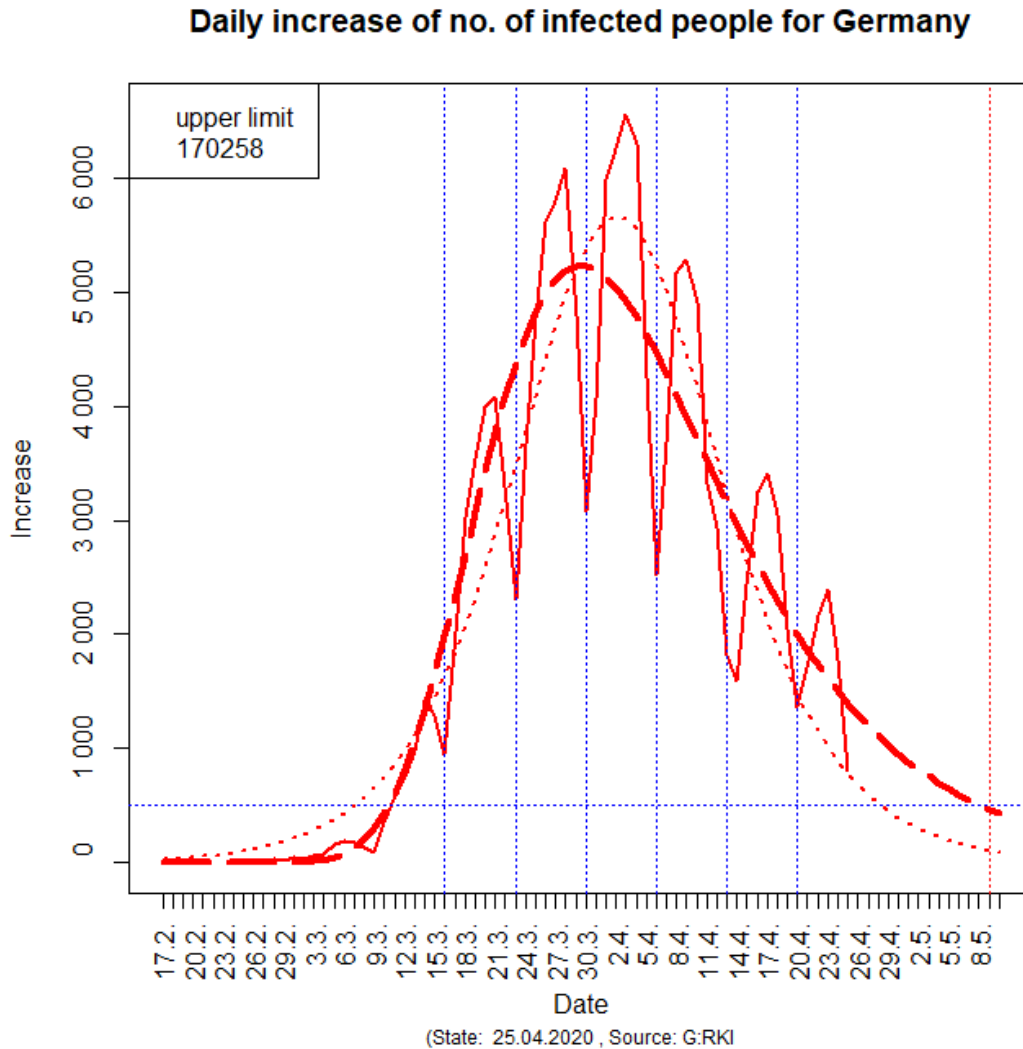


25.04.2020: COVID-19 Pandemic: Germany: By new more realistic model, stagnation predicted only for 9.5., and upper limit estimated around 170 000



The figure shows the daily real (solid line) and predicted (dotted and dashed lines) increases of COVID-19 infections for **Germany**, real increases as reported by the Robert-Koch-Institut (RKI, Berlin) at the 25.4. Predictions are generated by an optimally fitted **weighted logistic model** (dotted line) and an optimal (unweighted) **Gompertz model** (bold dashed line), respectively. Weights are higher on the 4 last observations. Vertical blue dotted lines indicate Mondays, the red vertical dotted line the start of **stagnation** of new infections (< 500) as predicted by the Gompertz model. The horizontal dotted line indicates an increase of 500.

The representation of increases shows that the numbers reported by the RKI follow waves related to weekdays. Obviously, numbers are relatively the lowest at Mondays (with the exception of the week after Easter where Monday is a public holiday). The public health authorities obviously do not report cases that much for weekends. We tried the **Gompertz model** as an asymmetric alternative to the logistic model since we observed a slower drop off than rise of increases. Comparing the models, the **Gompertz model appears to be much more realistic** than the logistic model in all time regions! With the Gompertz model, stagnation (< 500 new infections) we now predict only for the 9.5. for Germany (and for even later for Italy) and the estimated upper limit of the no. of infected people in the first wave of the pandemic is around 170000 for Germany (and around 220000 for Italy).