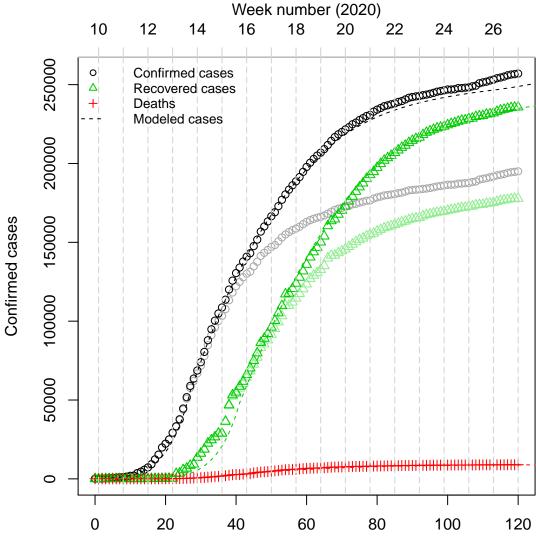
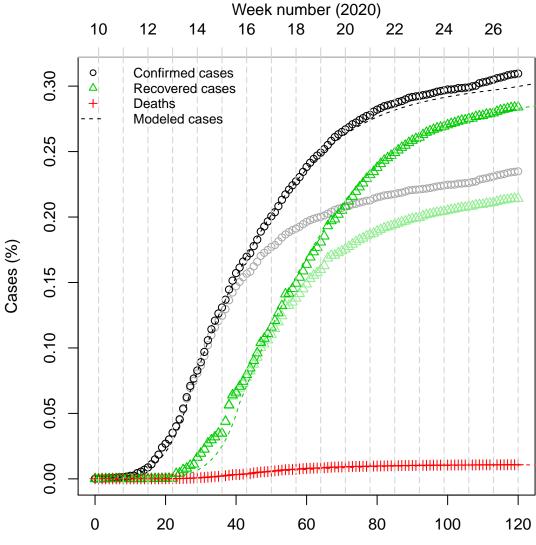
Situation vs Model COVID-19 in Germany

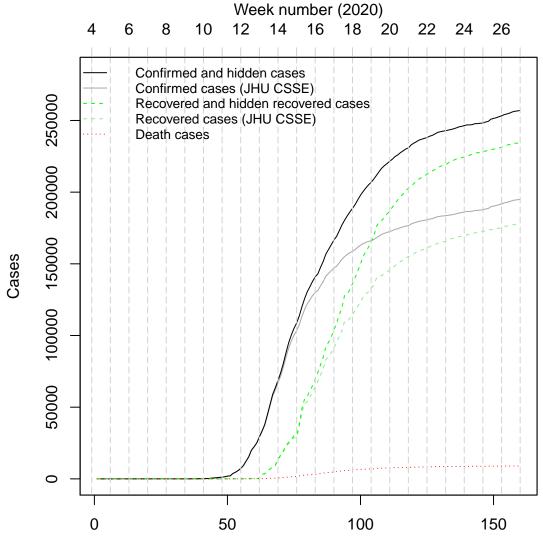


Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

Situation vs Model COVID-19 in Germany



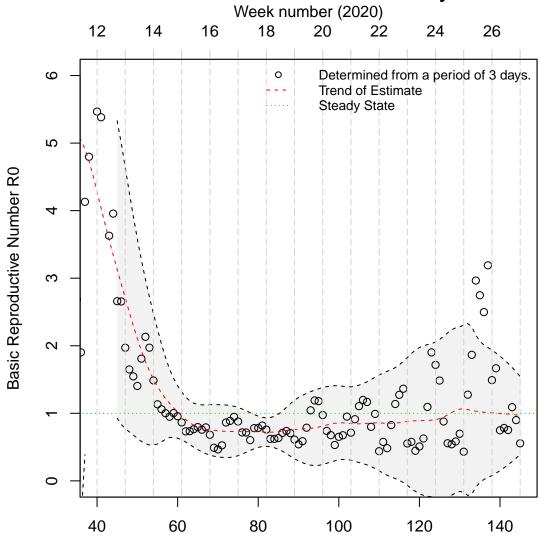
Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de



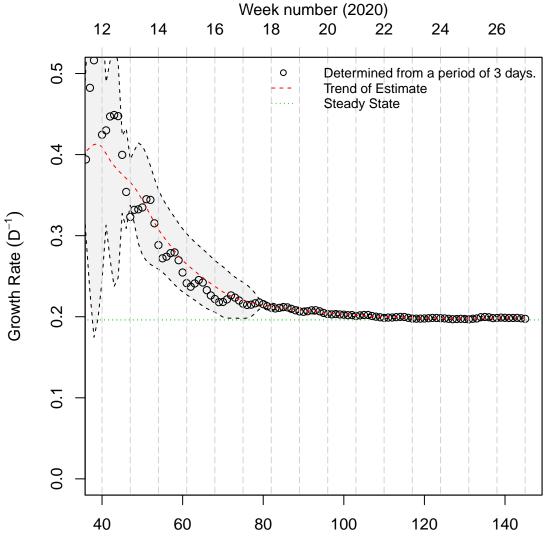
Days after 1/22/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

Situation COVID-19 in Germany Week number (2020) Confirmed cases Recovered cases 1st phase (diffusion / no with 2nd phase (uncontrolled growth) 3rd phase (social distancing) 4th phase (lockdows) 4th phase (lockdows) 5th phase (exit from lockeown) ∞

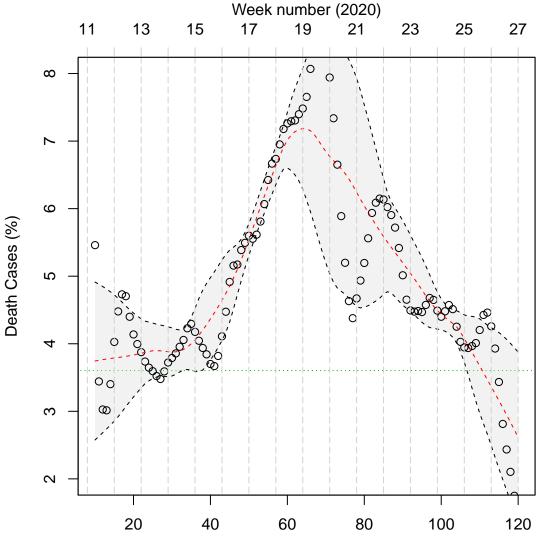
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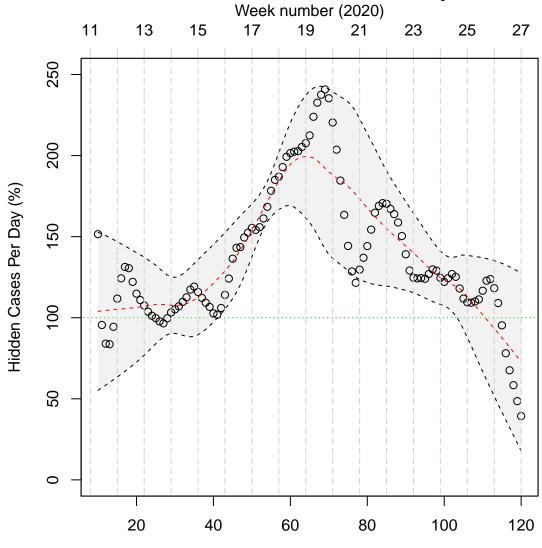
Days after 2/5/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de



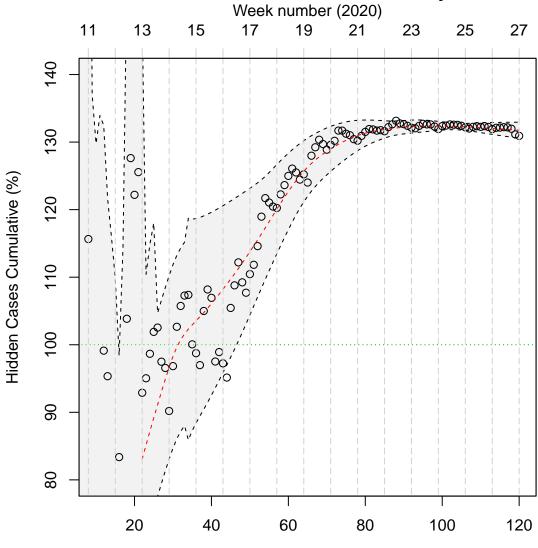
Days after 2/5/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de



Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

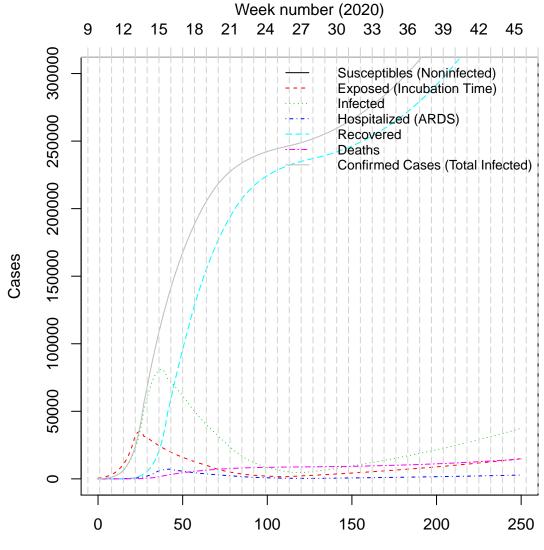


Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de



Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

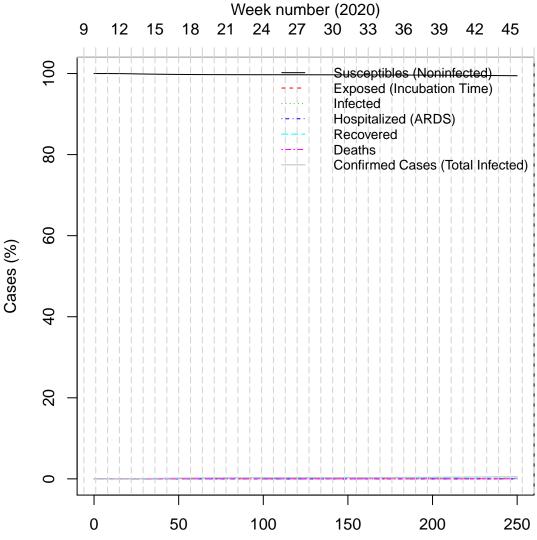
Forecast COVID-19 in Germany



Days after 3/1/20

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Forecast COVID-19 in Germany



Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

Forecast COVID-19 in Germany Week number (2020) Hospitalized (ARDS) Deaths Hospital Workload Hospital Workload compared to 2017 (%) Cases

Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

Forecast COVID-19 in Germany Week number (2020) 9 45 12 15 18 36 39 42 Hospitalized (ARDS) 25 Deaths Hospital Workload 0.015 Hospital Workload compared to 2017 (%) 0.010 15 Cases (%) 0.005 2 0.000

Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

150

200

250

100

0

Scenario 1 no social distancing and no lockdown Week number (2020) 24 45 12 15 18 21 36 39 42 8e+07 Susceptibles (Noninfected) Exposed (Incubation Time) Infected Hospitalized (ARDS) Recovered Deaths Confirmed Cases (Total Infected) 6e+07 Cases 4e+07 2e+07 00+00

Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

150

200

250

100

0

Scenario 1 no social distancing / no lockdown Week number (2020) Susceptibles (Noninfected) Exposed (Incubation Time) Infected Hospitalized (ARDS) Recovered Deaths Confirmed Cases (Total Infected) Cases (%)

Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 1 no social distancing and no lockdown Week number (2020) 45 12 15 18 36 4000 Hospitalized (ARDS) Deaths 5e+06 Hospital Workload Hospital Workload compared to 2017 (%) 4e+06 3e+06 Cases 2e+06 1e+06 00+00

Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

150

200

100

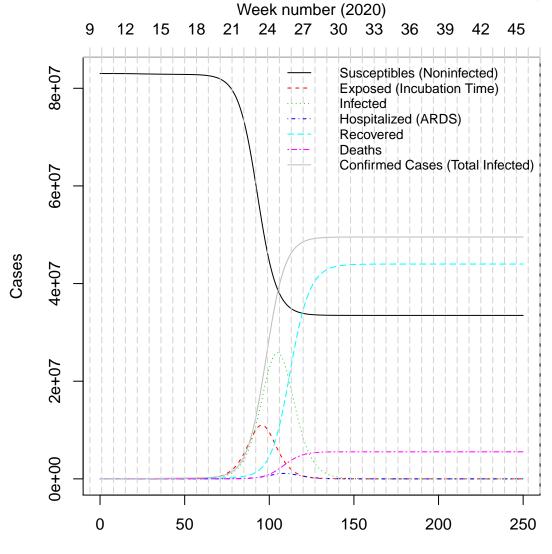
0

50

Scenario 1 no social distancing and no lockdown Week number (2020) 24 45 12 15 18 36 4000 Hospitalized (ARDS) Deaths Hospital Workload 9 Hospital Workload compared to 2017 (%) 2 Cases (%) က α 0 50 100 150 200 250

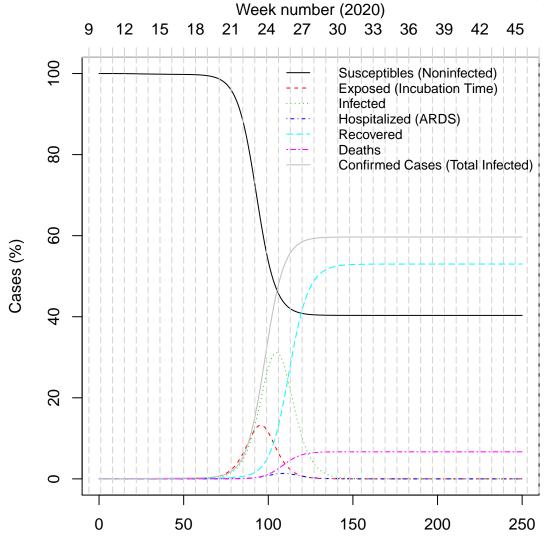
Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 2 exit after day 50 without social distancing



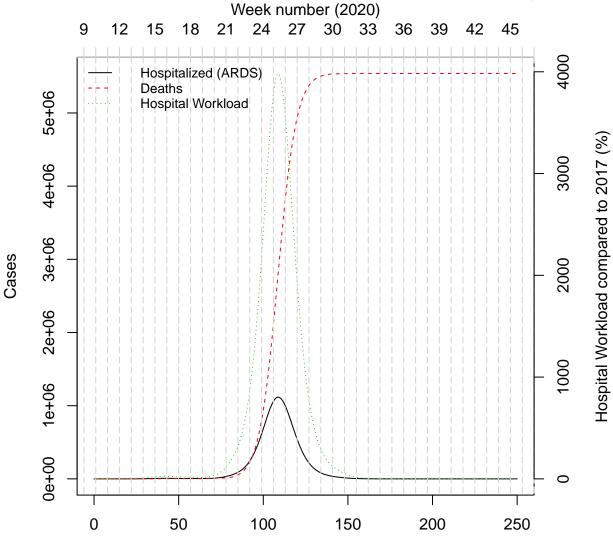
Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 2 exit after day 50 without social distancing



Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 2 exit after day 50 without social distancing



Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 2 exit after day 50 without social distancing Week number (2020) Hospitalized (ARDS) Deaths Hospital Workload Hospital Workload compared to 2017 (%) က

Cases (%)

Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 3 exit after day 50 with social distancing Week number (2020) 9 24 45 12 15 18 36 39 42 8e+07 Susceptibles (Noninfected) Exposed (Incubation Time) Infected Hospitalized (ARDS) Recovered Deaths Confirmed Cases (Total Infected) 6e+07 Cases 4e+07 2e+07 00+00

Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

150

200

250

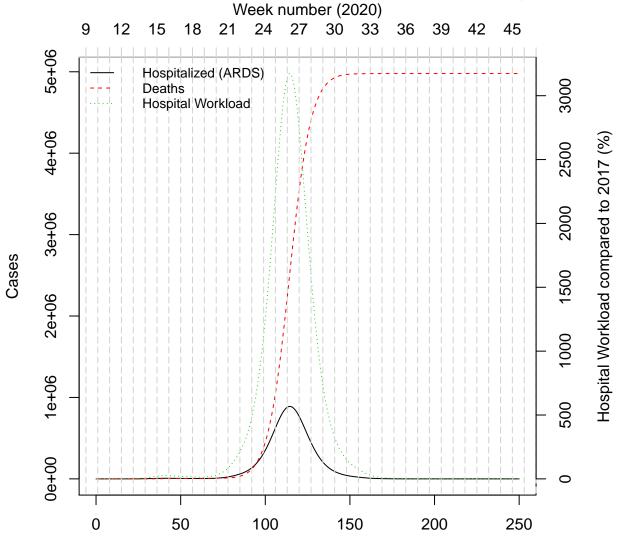
100

0

Scenario 3 exit after day 50 with social distancing Week number (2020) Susceptibles (Noninfected) Exposed (Incubation Time) Infected Hospitalized (ARDS) Recovered Deaths Confirmed Cases (Total Infected) Cases (%)

Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 3 exit after day 50 with social distancing



Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 3 exit after day 50 with social distancing Week number (2020) Hospitalized (ARDS) Deaths Hospital Workload Hospital Workload compared to 2017 (%) Cases (%) က

Days after 3/1/20 Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

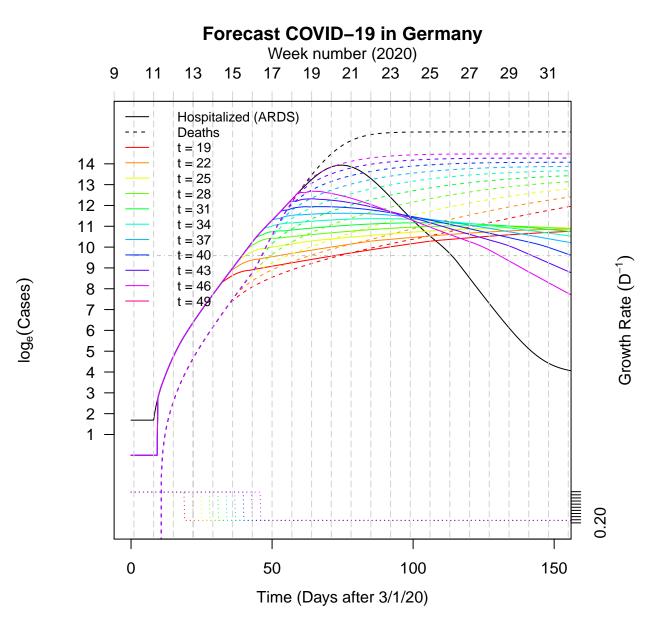
Forecast COVID-19 in Germany Week number (2020) 9 11 13 15 17 25 27 29 31 Hospitalized (ARDS) 5500000 Deaths R0 = 0.45000000 R0 = 0.6R0 = 0.84500000 R0 = 14000000 R0 = 1.2R0 = 1.43500000 R0 = 1.6R0 = 1.8Growth Rate (D⁻¹) R0 = 23000000 R0 = 2.2R0 = 2.42500000 2000000 1500000 1000000 500000 0 0 50 100 150 Time (Days after 3/1/20)

Created by Sören Thiering (07/01/2020). Email: soeren.thiering@hs-anhalt.de

Forecast COVID-19 in Germany Week number (2020) 9 11 13 15 17 25 27 29 31 Hospitalized (ARDS) 5500000 Deaths t = 195000000 t = 22t = 254500000 t = 284000000 t = 31 t = 343500000 t = 37 t = 40Growth Rate (D^{-1}) t = 433000000 t = 462500000 t = 492000000 1500000 1000000 500000 0 0.20 150 0 50 100

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Time (Days after 3/1/20)



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