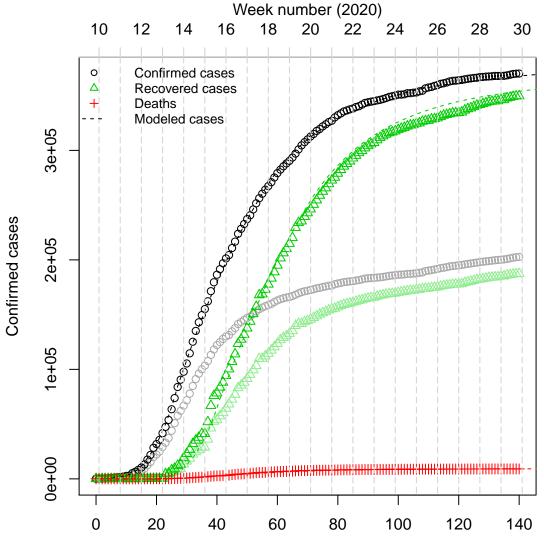
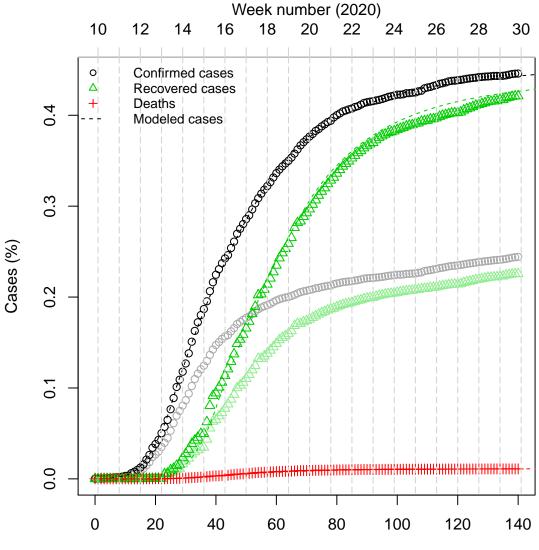
Situation vs Model COVID-19 in Germany

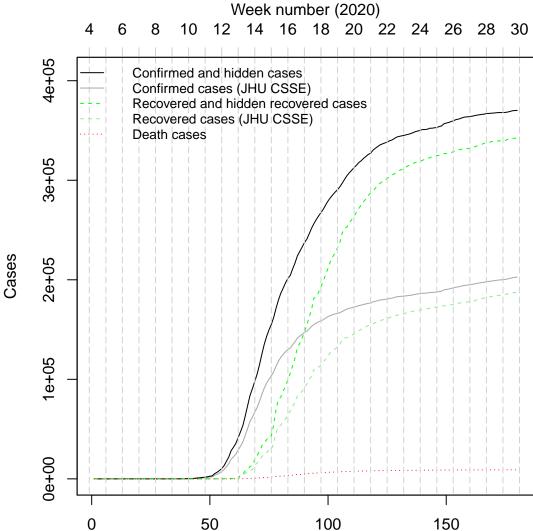


Days after 3/1/20 Created by Sören Thiering (07/20/2020). Email: soeren.thiering@hs-anhalt.de

Situation vs Model COVID-19 in Germany

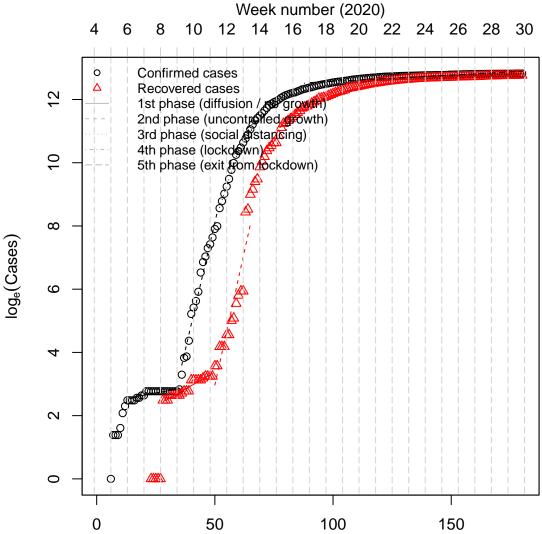


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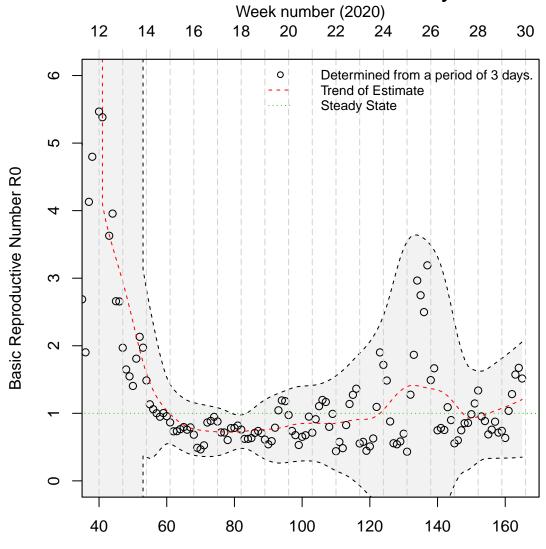


Days after 1/22/20

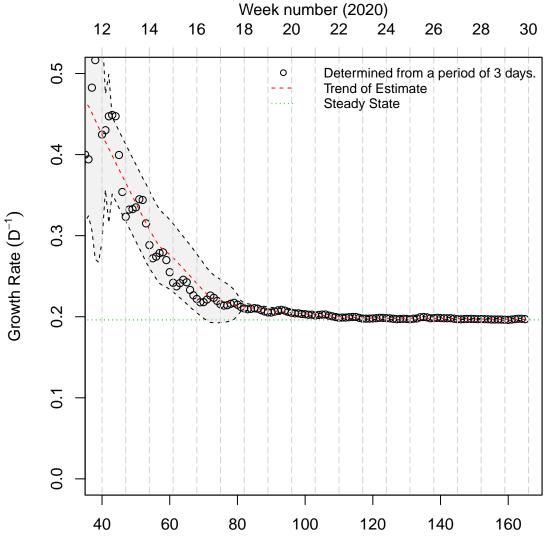
Created by Sören Thiering (07/20/2020). Email: soeren.thiering@hs-anhalt.de



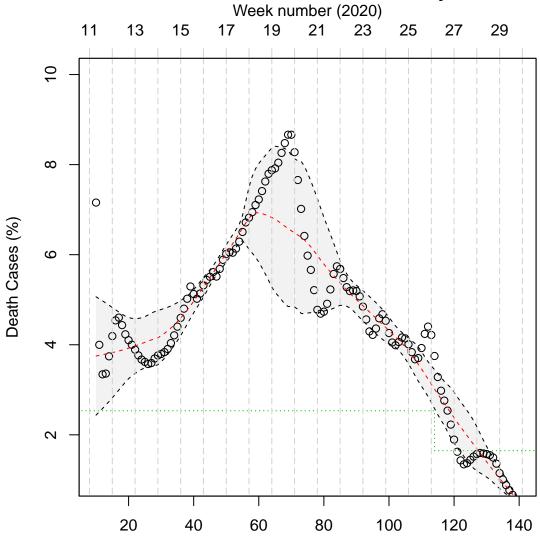
Days after 1/22/20 Created by Sören Thiering (07/20/2020). Email: soeren.thiering@hs-anhalt.de



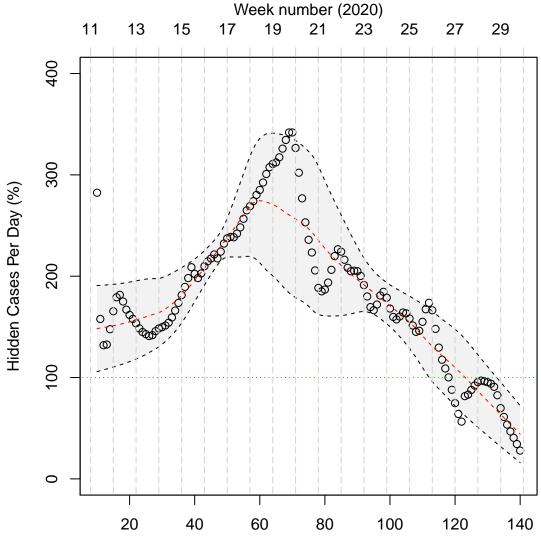
Days after 2/5/20 Created by Sören Thiering (07/20/2020). Email: soeren.thiering@hs-anhalt.de



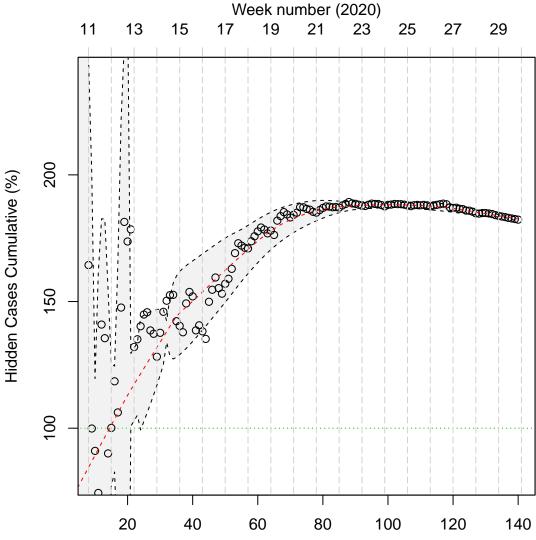
Days after 2/5/20 Created by Sören Thiering (07/20/2020). Email: soeren.thiering@hs-anhalt.de



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

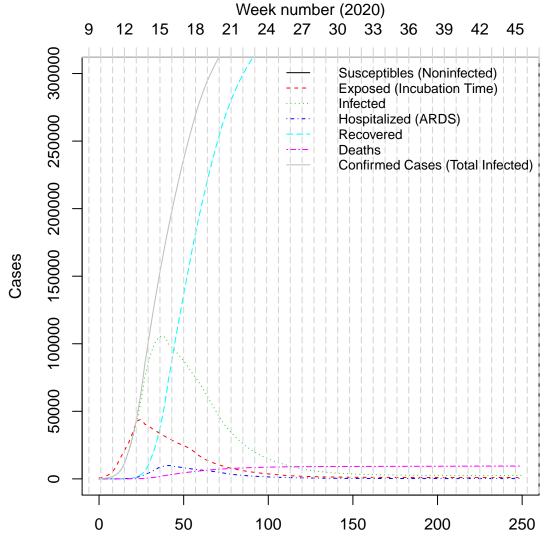


Days after 3/1/20 Created by Sören Thiering (07/20/2020). Email: soeren.thiering@hs-anhalt.de



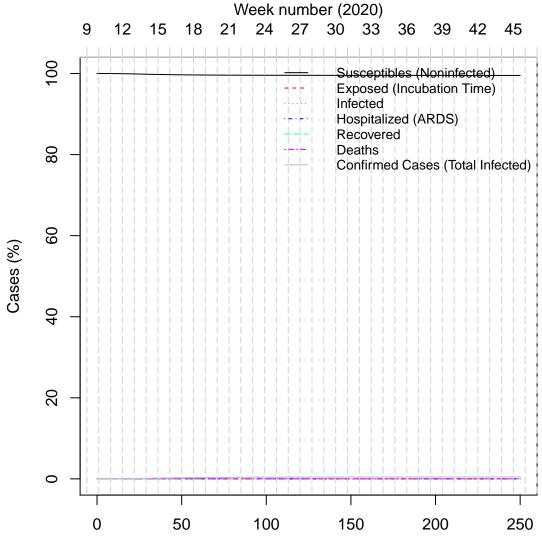
Days after 3/1/20 Created by Sören Thiering (07/20/2020). Email: soeren.thiering@hs-anhalt.de

Forecast COVID-19 in Germany



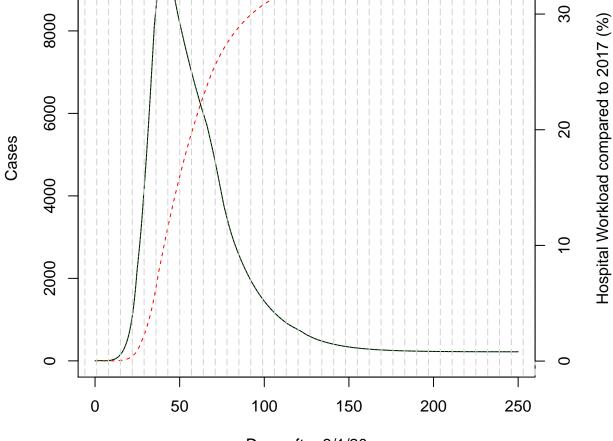
Days after 3/1/20 Created by Sören Thiering (07/20/2020). Email: soeren.thiering@hs-anhalt.de

Forecast COVID-19 in Germany



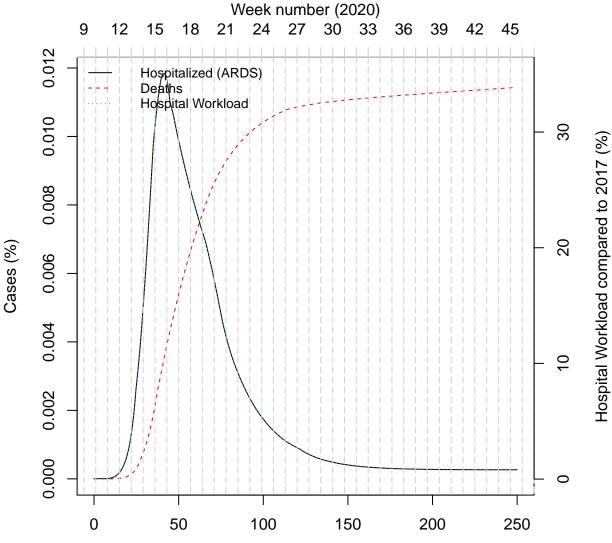
Days after 3/1/20 Created by Sören Thiering (07/20/2020). Email: soeren.thiering@hs-anhalt.de

Forecast COVID-19 in Germany Week number (2020) Hospitalized (ARDS) Deaths Hospital Workload



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

Forecast COVID-19 in Germany



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

Scenario 1 no social distancing and no lockdown Week number (2020) 24 45 12 15 18 21 36 39 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 (07/20/2020). 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 (07/20/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 1 no social distancing and no lockdown Week number (2020) 45 12 15 18 36 0009 Hospitalized (ARDS) Deaths Hospital Workload Hospital Workload compared to 2017 (%) 4000 3000

90+99

5e+06

4e+06

3e+06

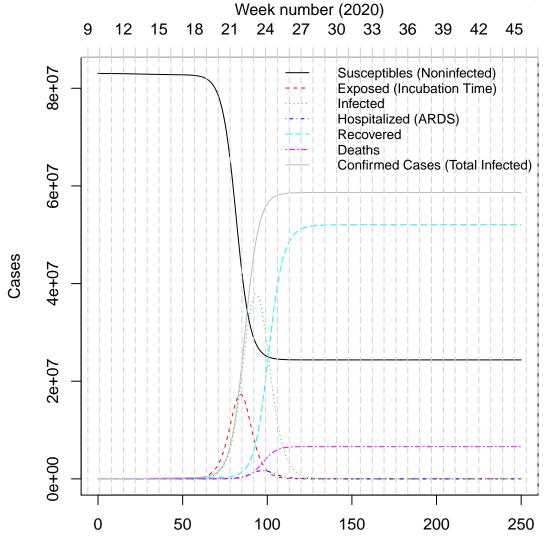
2e+06 1e+06 0e+00 0 50 100 150 200 250 Days after 3/1/20

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

Scenario 1 no social distancing and no lockdown Week number (2020) 12 15 18 36 45 0009 Hospitalized (ARDS) ∞ Deaths Hospital Workload Hospital Workload compared to 2017 (%) 9 4000 Cases (%) 3000 α 50 100 150 200 250 0

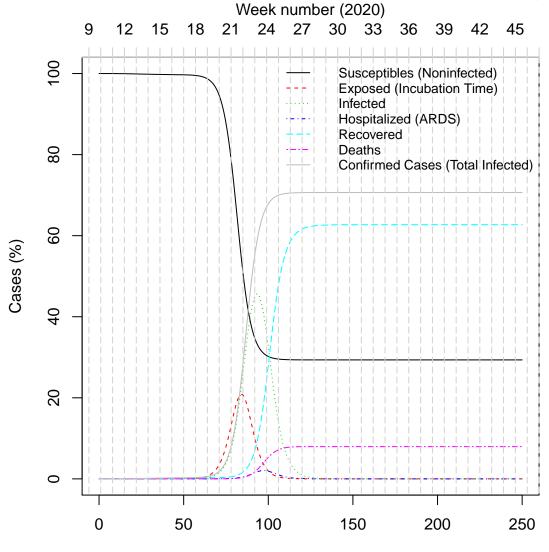
Days after 3/1/20 Created by Sören Thiering (07/20/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 2 exit after day 50 without social distancing



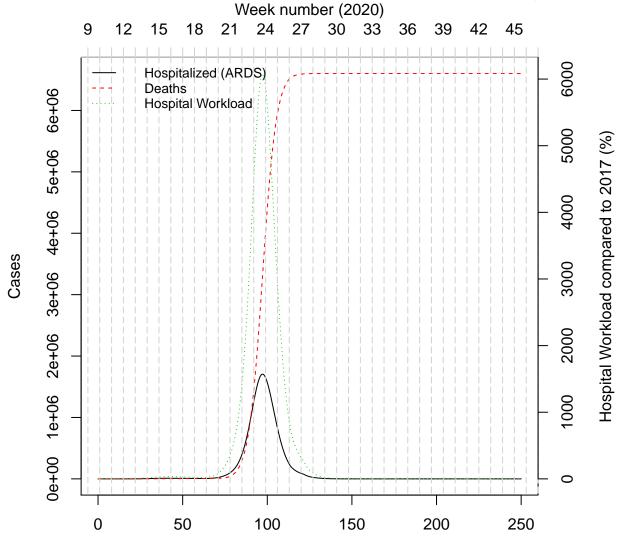
Days after 3/1/20 Created by Sören Thiering (07/20/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 2 exit after day 50 without social distancing



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

Scenario 2 exit after day 50 without social distancing



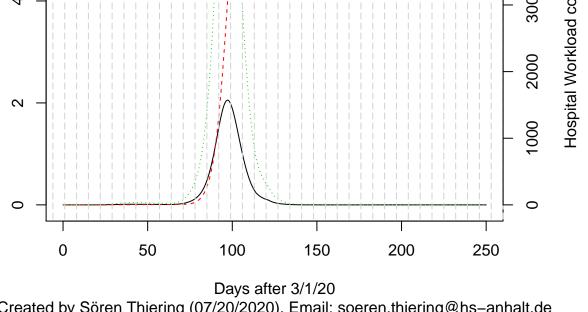
Days after 3/1/20 Created by Sören Thiering (07/20/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 2 exit after day 50 without social distancing Week number (2020) 12 15 18 36 45 0009 Hospitalized (ARDS) Deaths Hospital Workload Hospital Workload compared to 2017 (%)

 ∞

9

Cases (%)



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Scenario 3 exit after day 50 with social distancing Week number (2020) 12 24 45 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 (07/20/2020). 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 (07/20/2020). 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

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

Scenario 3 exit after day 50 with social distancing Week number (2020) 45 12 15 18 36 39 2500 Hospitalized (ARDS) Deaths Hospital Workload Hospital Workload compared to 2017 (%) 1000

2.5

2.0

1.5

0.5

0.0

0

50

Cases (%)

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

150

200

250

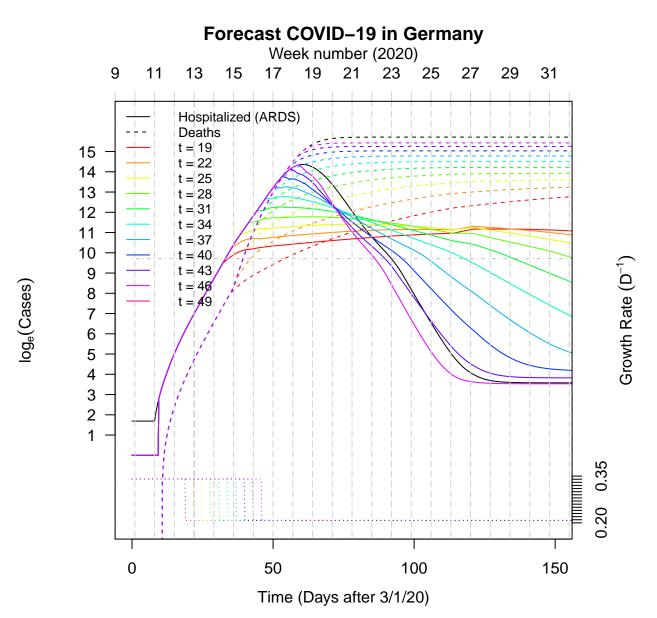
Forecast COVID-19 in Germany Week number (2020) 9 11 13 15 17 25 27 29 31 Hospitalized (ARDS) 6500000 Deaths R0 = 0.46000000 R0 = 0.65500000 R0 = 0.8R0 = 15000000 R0 = 1.2R0 = 1.44500000 R0 = 1.64000000 R0 = 1.8Growth Rate (D^{-1}) R0 = 23500000 R0 = 2.2R0 = 2.43000000 2500000 2000000 1500000 1000000 500000 0 0.32 0 50 100 150 Time (Days after 3/1/20)

Created by Sören Thiering (07/20/2020). 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) 6500000 Deaths t = 196000000 t = 225500000 t = 25t = 285000000 t = 31 4500000 t = 34t = 374000000 t = 40Growth Rate (D^{-1}) t = 433500000 t = 463000000 t = 492500000 2000000 1500000 1000000 500000 0 0.35 0.20 0 50 100 150

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Time (Days after 3/1/20)



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