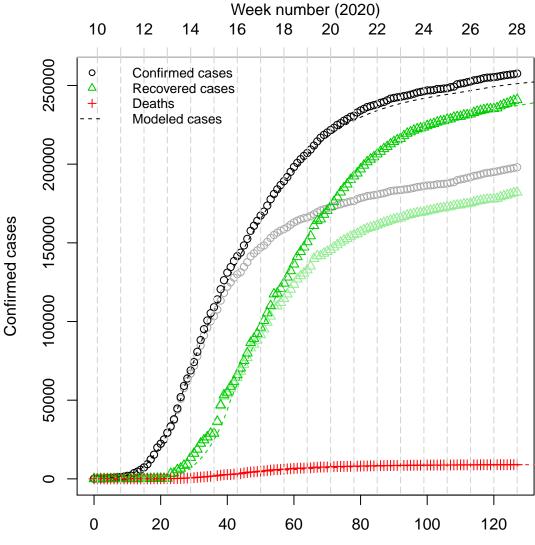
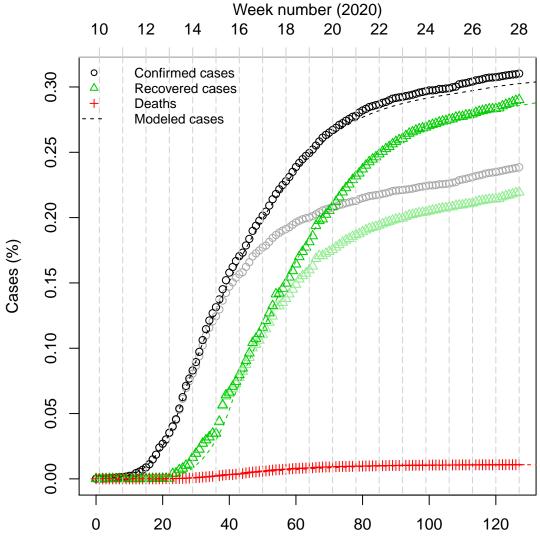
Situation vs Model COVID-19 in Germany

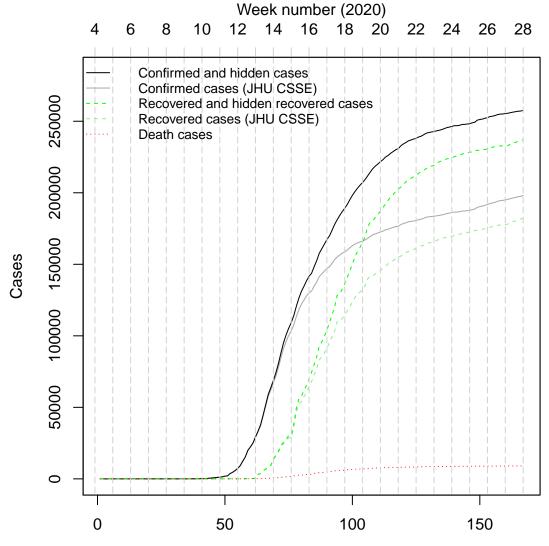


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Situation vs Model COVID-19 in Germany



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Days after 1/22/20

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Situation COVID-19 in Germany Week number (2020) 16 10 22 24 26 28 Confirmed cases 0 12 Recovered cases 1st phase (diffusion / now owth 2nd phase (uncontrolled growth) 3rd phase (social disancing) 4th phase (lockdown) 10 4th phase (lockdown) 5th phase (exit from lockdown) ∞ 9

log_e(Cases)

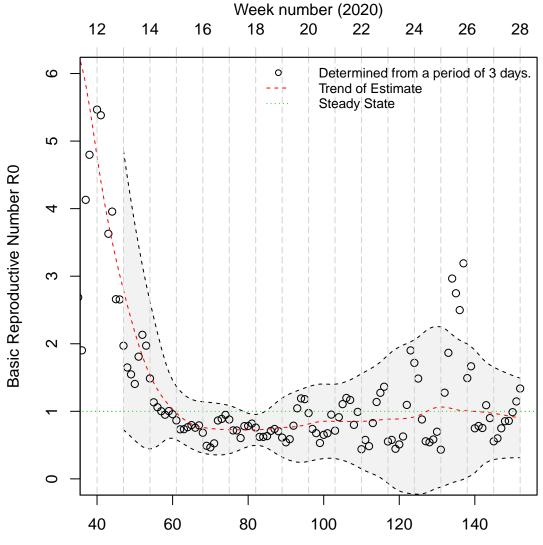
 α

0

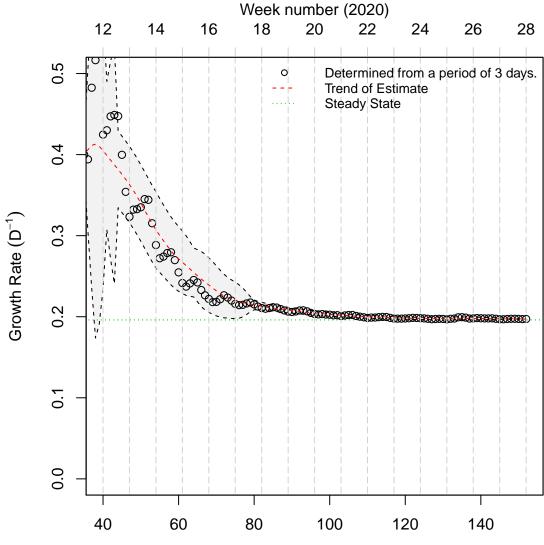
Days after 1/22/20 Created by Sören Thiering (07/07/2020). Email: soeren.thiering@hs-anhalt.de

100

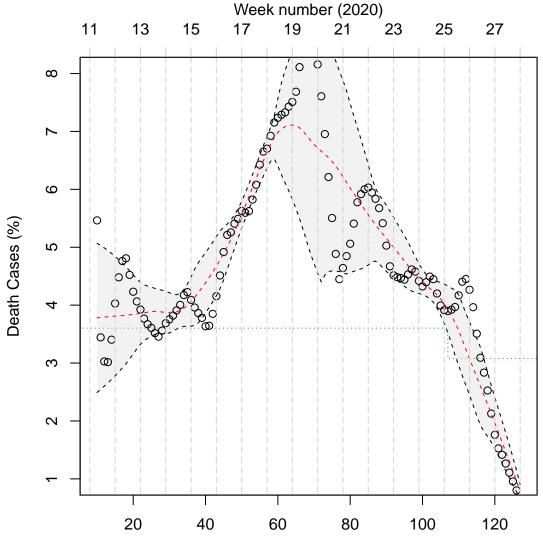
150



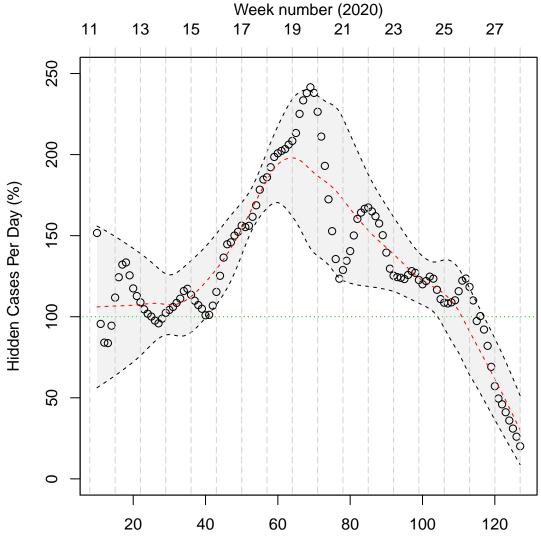
Days after 2/5/20 Created by Sören Thiering (07/07/2020). Email: soeren.thiering@hs-anhalt.de



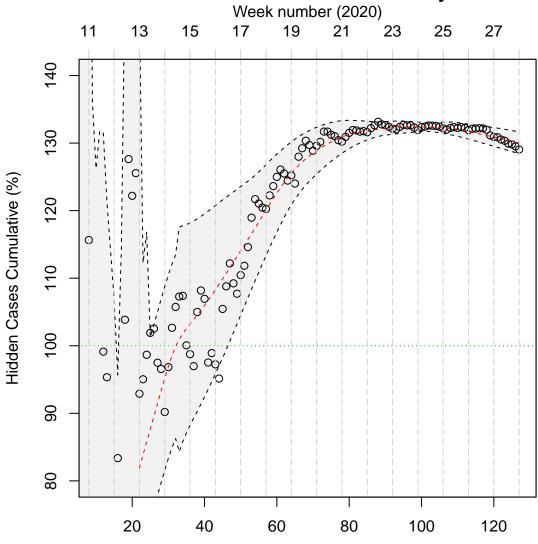
Days after 2/5/20 Created by Sören Thiering (07/07/2020). Email: soeren.thiering@hs-anhalt.de



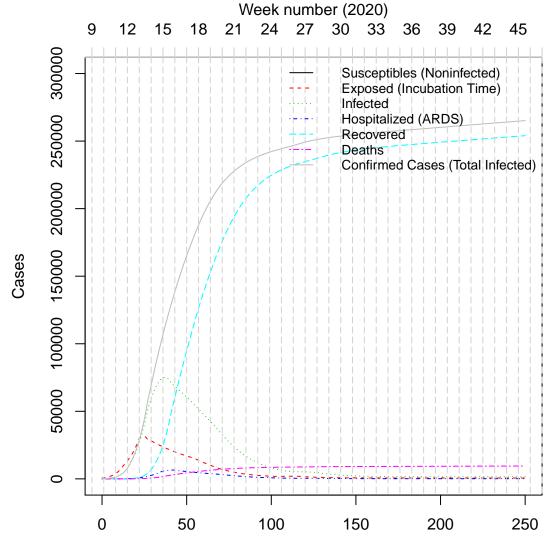
Days after 3/1/20 Created by Sören Thiering (07/07/2020). Email: soeren.thiering@hs-anhalt.de



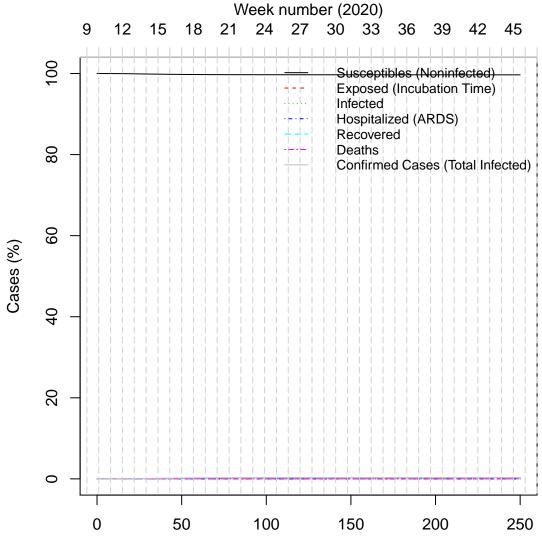
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Days after 3/1/20 Created by Sören Thiering (07/07/2020). Email: soeren.thiering@hs-anhalt.de

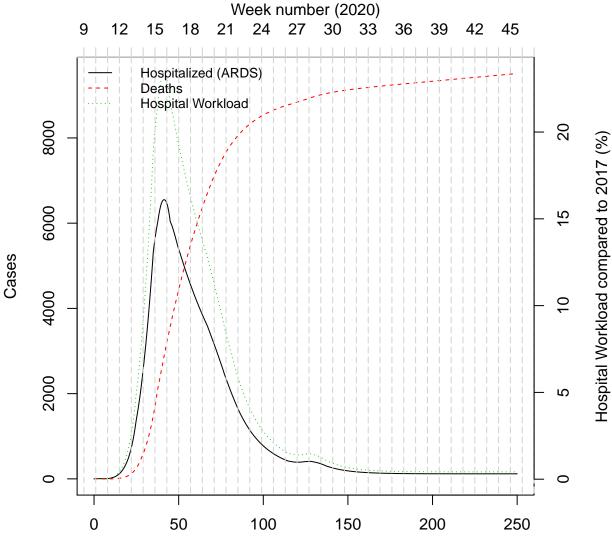


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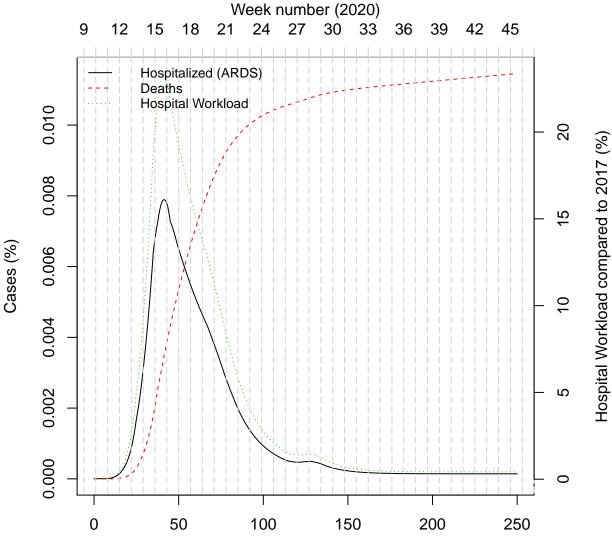


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Scenario 1 no social distancing and no lockdown Week number (2020) 24 45 12 15 18 21 36 39 8e+07 Susceptibles (Noninfected) Exposed (Incubation Time) Infected Hospitalized (ARDS) Recovered Deaths Confirmed Cases (Total Infected) 6e+07 Cases 4e+07 2e+07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

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

150

200

250

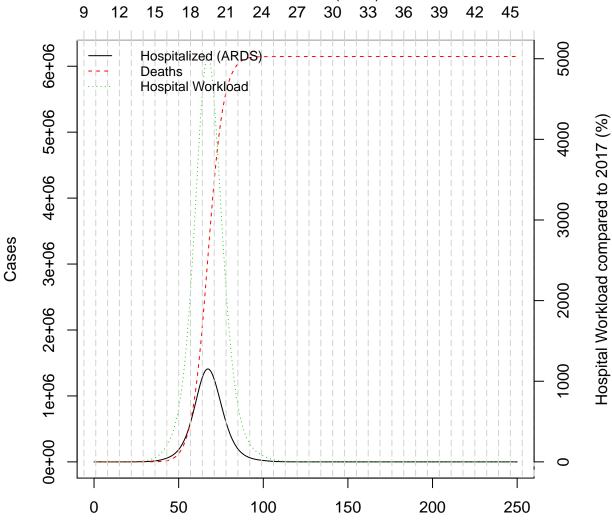
100

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 (07/07/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 1 no social distancing and no lockdown Week number (2020)

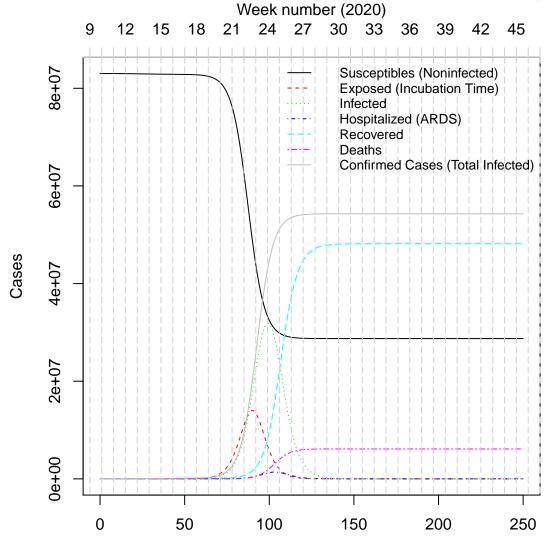


Days after 3/1/20 Created by Sören Thiering (07/07/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 1 no social distancing and no lockdown Week number (2020) Hospitalized (ARDS) Deaths Hospital Workload Hospital Workload compared to 2017 (%) Cases (%)

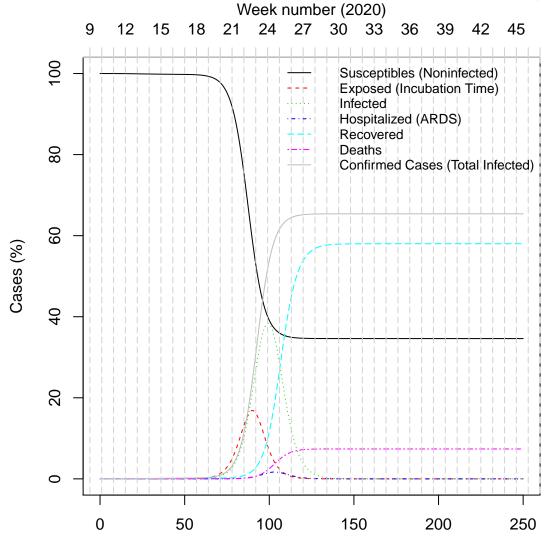
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Scenario 2 exit after day 50 without social distancing



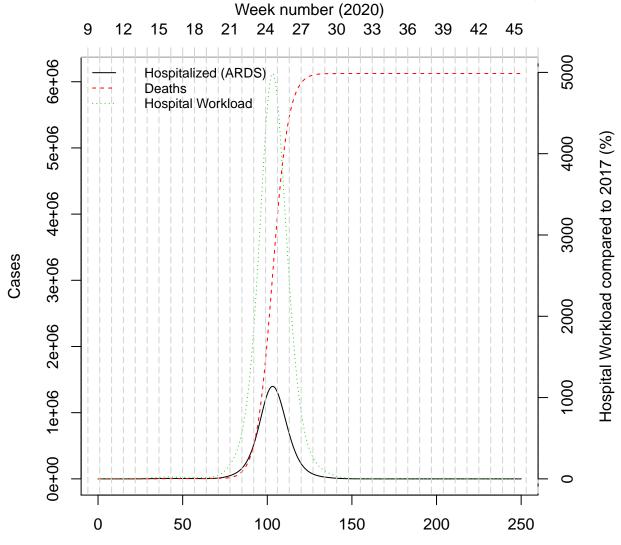
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Scenario 2 exit after day 50 without social distancing



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Scenario 2 exit after day 50 without social distancing



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Scenario 2 exit after day 50 without social distancing Week number (2020) 12 15 18 36 45 5000 Hospitalized (ARDS) Deaths Hospital Workload Hospital Workload compared to 2017 (%) 9 α

Cases (%)

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

150

200

250

100

50

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 (07/07/2020). 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 (07/07/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 3 exit after day 50 with social distancing Week number (2020) 45 12 15 18 36 39 4e+06 2000 Hospitalized (ARDS) Deaths Hospital Workload Hospital Workload compared to 2017 (%) 3e+06 1500 2e+06 Cases 1000 1e+06 500 00+00

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

150

200

100

0

50

Scenario 3 exit after day 50 with social distancing Week number (2020) 12 15 18 36 45 2000 Hospitalized (ARDS) Deaths Hospital Workload Hospital Workload compared to 2017 (%) 3 Cases (%) α 50 100 150 200 250 0

Days after 3/1/20 Created by Sören Thiering (07/07/2020). 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) 6000000 Deaths R0 = 0.45500000 R0 = 0.6R0 = 0.85000000 R0 = 14500000 R0 = 1.2R0 = 1.44000000 R0 = 1.6R0 = 1.83500000 Growth Rate (D^{-1}) R0 = 2R0 = 2.23000000 Cases R0 = 2.42500000 2000000 1500000 1000000 500000 0 0.32 0 50 100 150

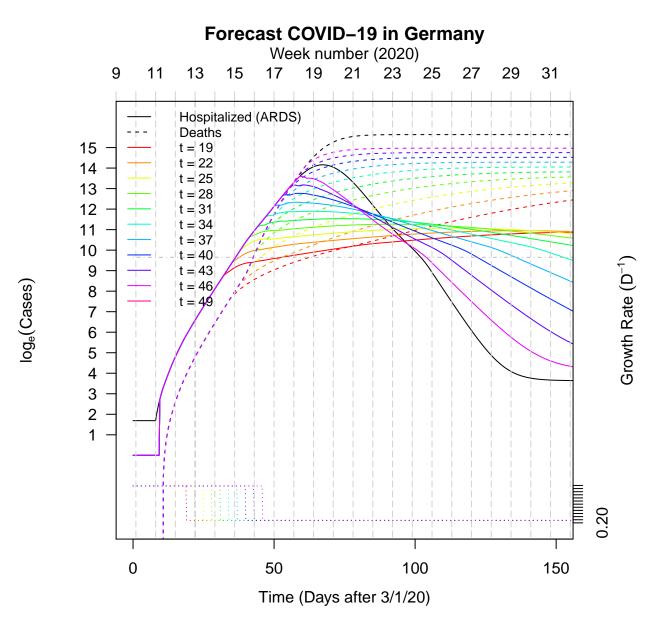
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Time (Days after 3/1/20)

Forecast COVID-19 in Germany Week number (2020) 9 11 13 15 17 19 25 27 29 31 Hospitalized (ARDS) 6000000 Deaths t = 195500000 t = 22 t = 255000000 t = 284500000 t = 31 t = 344000000 t = 37t = 403500000 Growth Rate (D^{-1}) t = 43t = 463000000 Cases t = 492500000 2000000 1500000 1000000 500000 0 0.20 0 50 100 150

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Time (Days after 3/1/20)



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