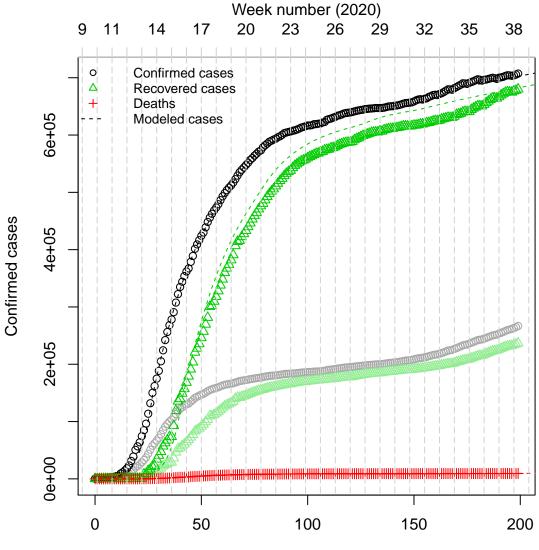
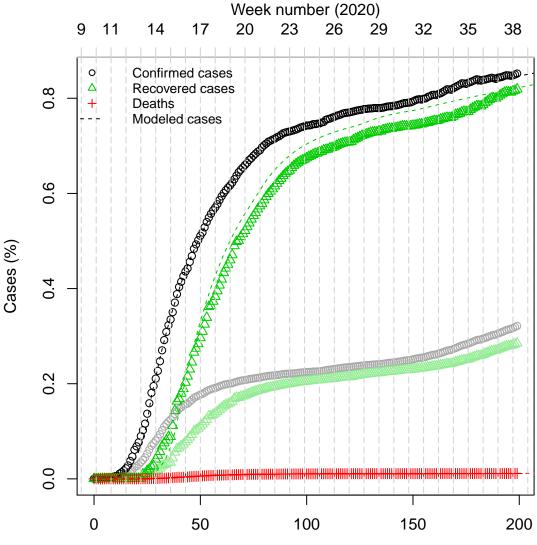
Situation vs Model COVID-19 in Germany

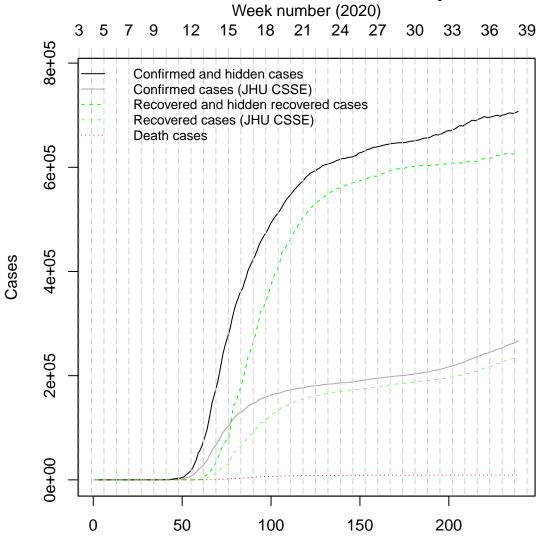


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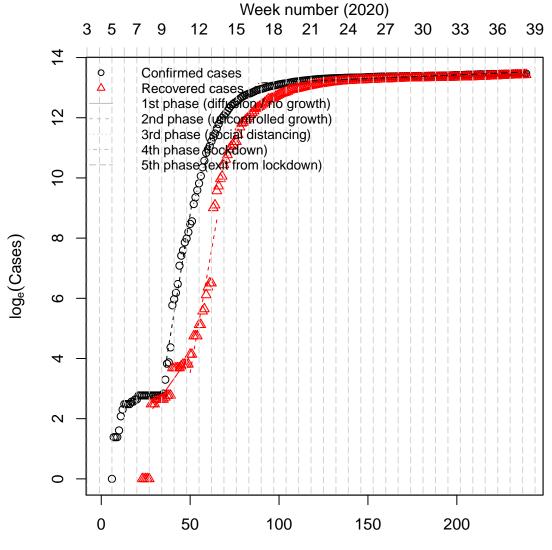
Situation vs Model COVID-19 in Germany



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Days after 1/22/20 Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de



Days after 1/22/20 Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de

Week number (2020) 21 23 25 15 19 31 33 35 37 9 Determined from a period of 3 days. Trend of Estimate Steady State 2 Basic Reproductive Number R0 α 100 50 150 200

Days after 2/5/20 Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de

Week number (2020) 21 23 25 15 19 31 33 35 37 Determined from a period of 3 days. Trend of Estimate Steady State

Growth Rate (D⁻¹)

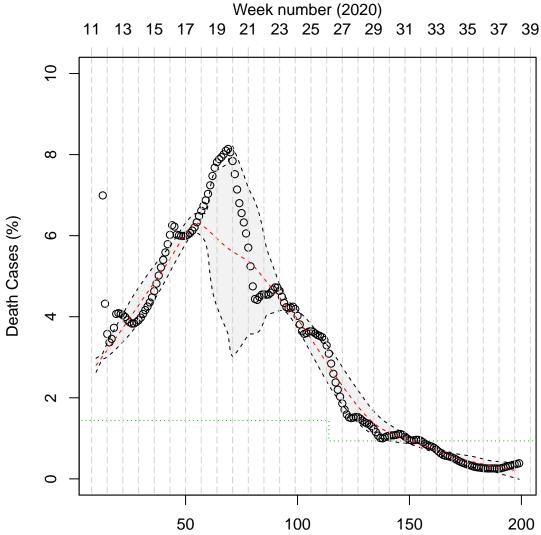
0.2

50

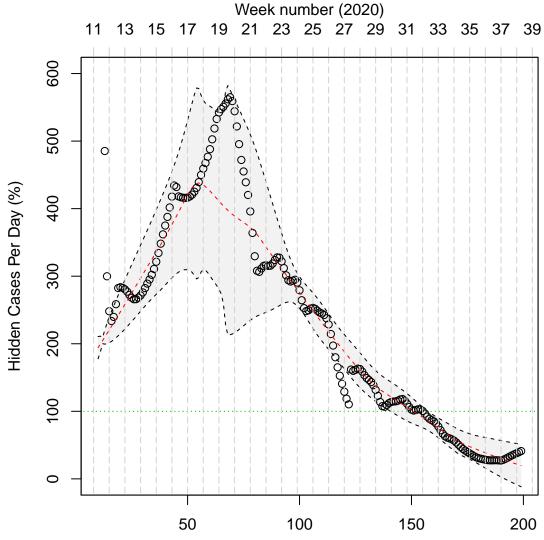
100

Days after 2/5/20 Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de

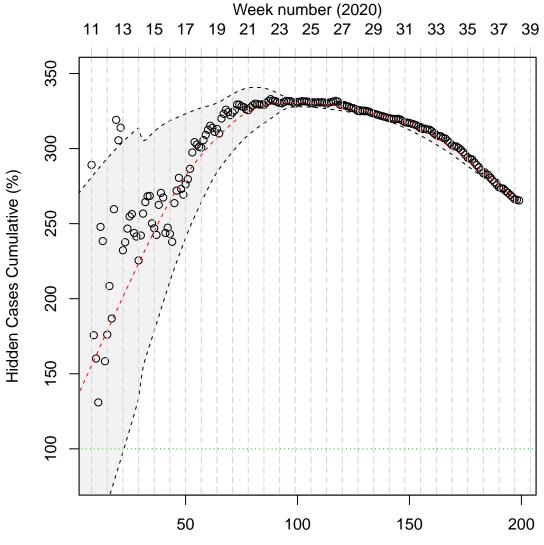
150



Days after 3/1/20 Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de

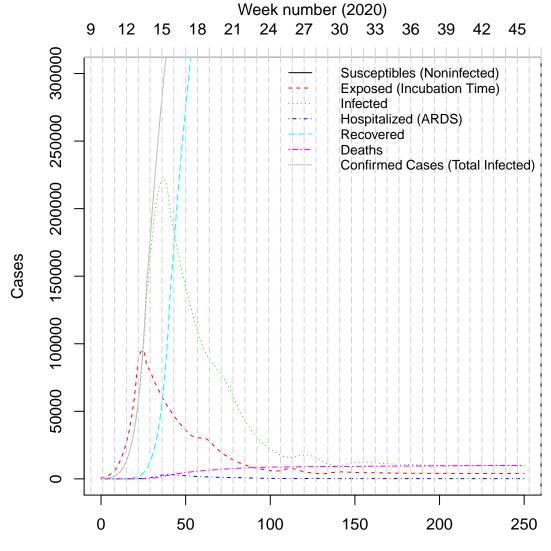


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Days after 3/1/20 Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de

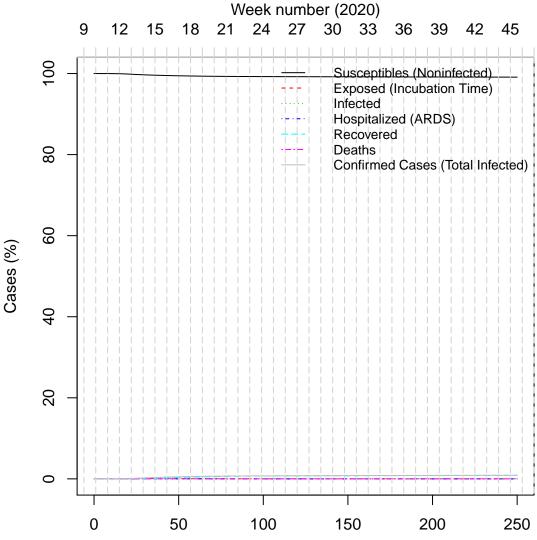
Forecast COVID-19 in Germany



Days after 3/1/20

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Forecast COVID-19 in Germany



Days after 3/1/20

Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de

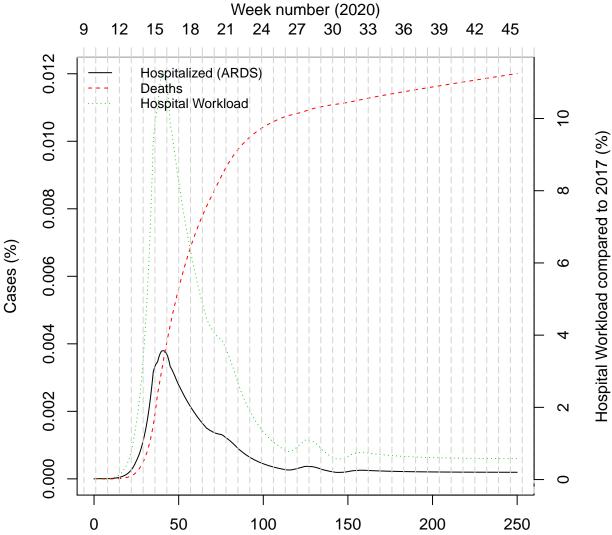
Forecast COVID-19 in Germany Week number (2020) Hospitalized (ARDS) Deaths Hospital Workload Hospital Workload compared to 2017 (%) ∞

Cases

Days after 3/1/20

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Forecast COVID-19 in Germany



Days after 3/1/20 Created by Sören Thiering (09/18/2020). 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 (09/18/2020). 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 (09/18/2020). Email: soeren.thiering@hs-anhalt.de

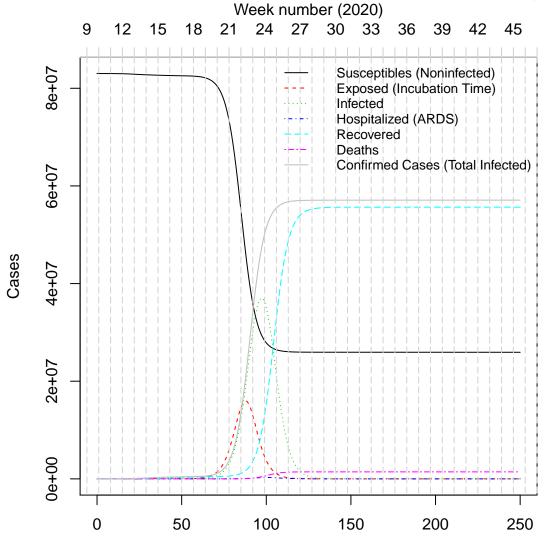
Scenario 1 no social distancing and no lockdown Week number (2020) Deaths Hospital Workload Hospital Workload compared to 2017 (%) Cases

Days after 3/1/20 Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 1 no social distancing and no lockdown Week number (2020) 45 12 15 18 36 Hospitalized (ARDS) 1000 Deaths Hospital Workload 1.5 Hospital Workload compared to 2017 (%) 009 Cases (%) 200 0.0 0 50 100 150 200 250

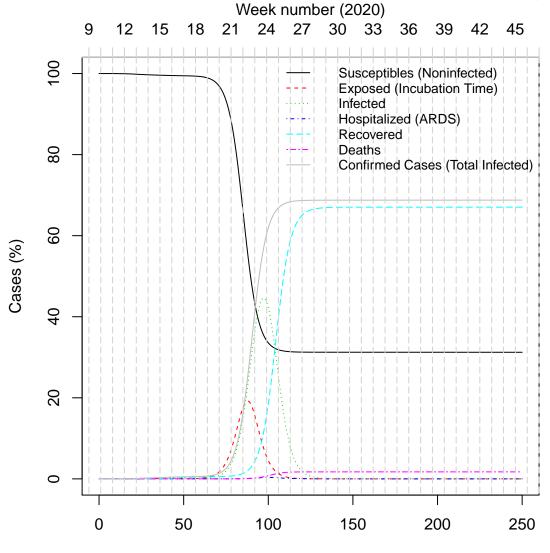
Days after 3/1/20 Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 2 exit after day 50 without social distancing



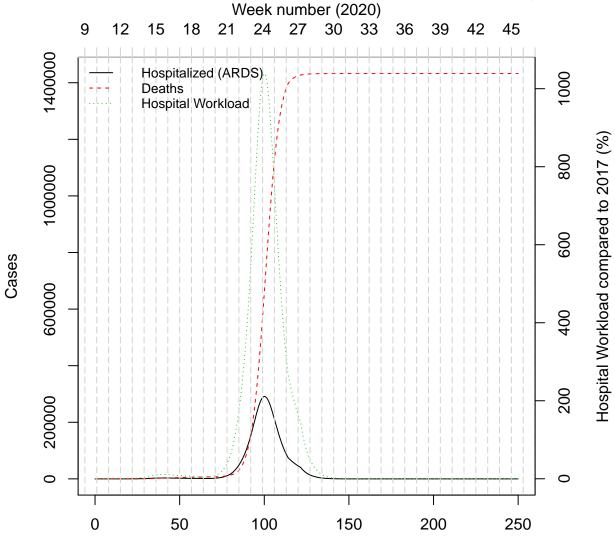
Days after 3/1/20 Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 2 exit after day 50 without social distancing



Days after 3/1/20 Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 2 exit after day 50 without social distancing



Days after 3/1/20 Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 2 exit after day 50 without social distancing Week number (2020) 9 45 12 15 18 36 39 Hospitalized (ARDS) 1000 Deaths Hospital Workload Hospital Workload compared to 2017 (%) 0.5 0.0

Cases (%)

0

50

Days after 3/1/20 Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de

150

200

250

Scenario 3 exit after day 50 with social distancing Week number (2020) 9 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 (09/18/2020). 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 (09/18/2020). Email: soeren.thiering@hs-anhalt.de

Scenario 3 exit after day 50 with social distancing Week number (2020) 45 12 15 18 36 700 Hospitalized (ARDS) Deaths Hospital Workload 009 Hospital Workload compared to 2017 (%) 500 400 300 200

1e+06

8e+05

6e+05

4e+05

2e+05

00+00

0

50

100

Cases

Days after 3/1/20 Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de

200

150

100

Scenario 3 exit after day 50 with social distancing Week number (2020) 45 12 15 18 36 39 700 Hospitalized (ARDS) Deaths Hospital Workload 009 Hospital Workload compared to 2017 (%) 500 400 300 200 100

1.2

0.8

9.0

0.2

0.0

0

50

Cases (%)

Days after 3/1/20 Created by Sören Thiering (09/18/2020). Email: soeren.thiering@hs-anhalt.de

150

200

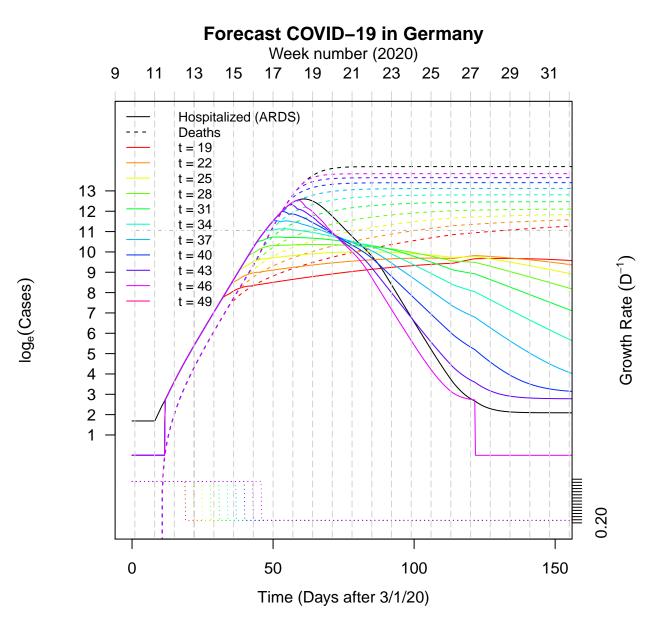
250

Forecast COVID-19 in Germany Week number (2020) 9 11 13 15 17 19 25 27 29 31 Hospitalized (ARDS) 1400000 Deaths R0 = 0.4R0 = 0.61200000 R0 = 0.8R0 = 1R0 = 1.21000000 R0 = 1.4R0 = 1.6R0 = 1.8Growth Rate (D⁻¹) 800000 R0 = 2R0 = 2.2Cases R0 = 2.4600000 400000 200000 0 0.32 0 50 100 150 Time (Days after 3/1/20)

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Forecast COVID-19 in Germany Week number (2020) 9 15 19 31 11 13 17 25 27 29 Hospitalized (ARDS) 1400000 Deaths t = 19 t = 22 1200000 t = 25t = 28t = 31 1000000 t = 34t = 37t = 40Growth Rate (D^{-1}) 800000 t = 43t = 46Cases t = 49600000 400000 200000 0 0.20 150 0 50 100 Time (Days after 3/1/20)

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