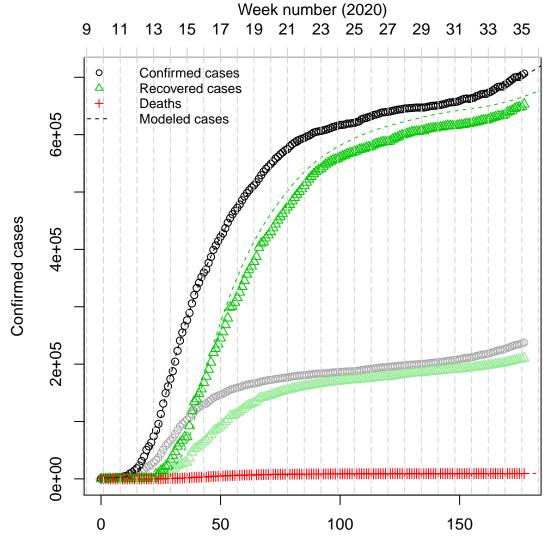
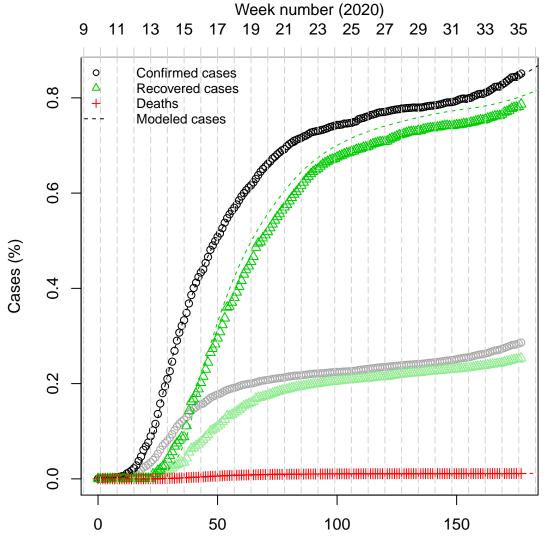
# Situation vs Model COVID-19 in Germany

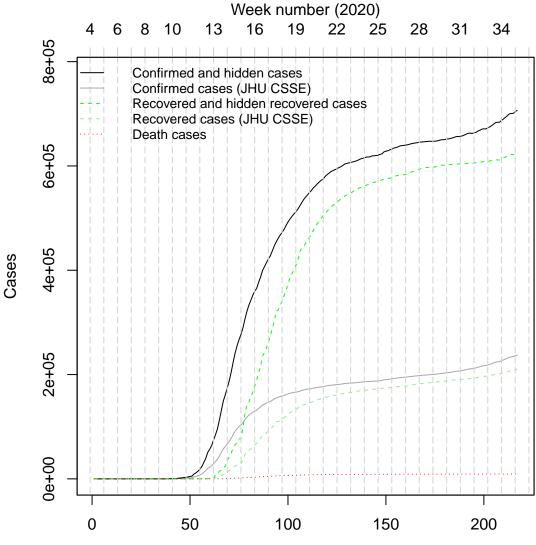


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## Situation vs Model COVID-19 in Germany



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Days after 1/22/20

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# Situation COVID-19 in Germany Week number (2020) 8 10 13 16 19 28 31 34 Confirmed cases Recovered cases 1st phase (diffusion / pegrowth) 2nd phase (uncontrolled growth) 3rd phase (social distancing) 4th phase (lockdown) 5th phase (kit from lockdown)

þ

12

19

 $\infty$ 

9

 $\alpha$ 

0

0

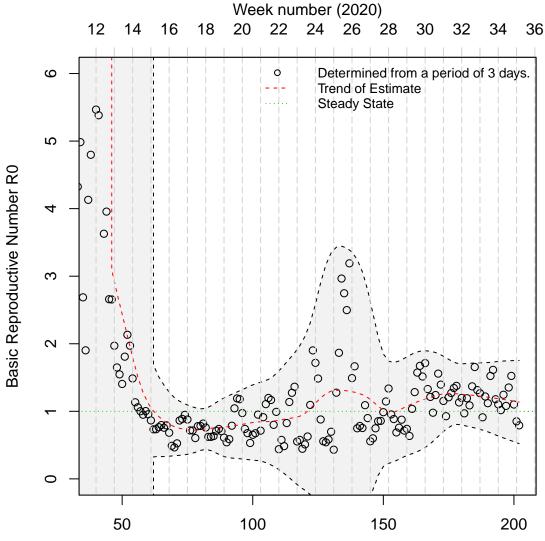
log<sub>e</sub>(Cases)

50 100 150 200

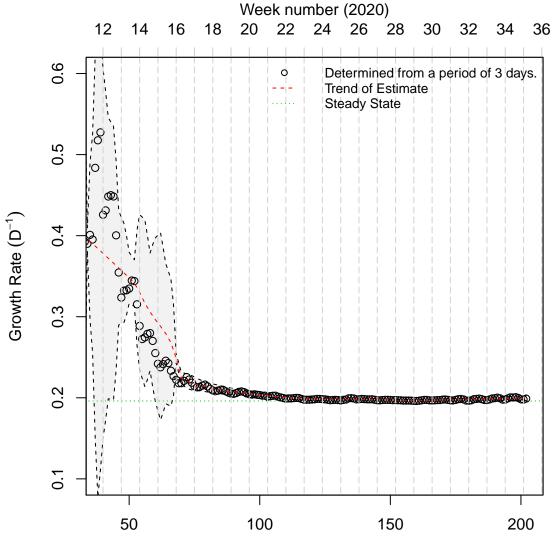
Days after 1/22/20

highing (09/26/2020) Email: coored thioring@bs. aph

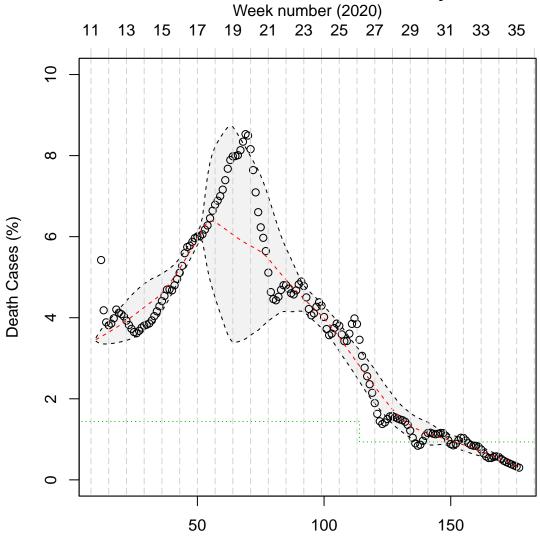
Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de



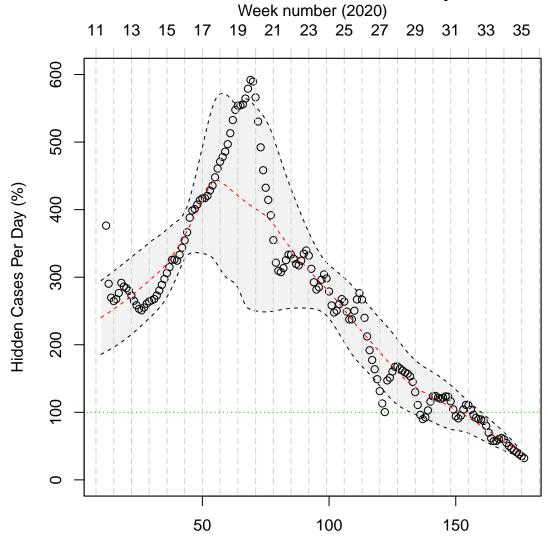
Days after 2/5/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de



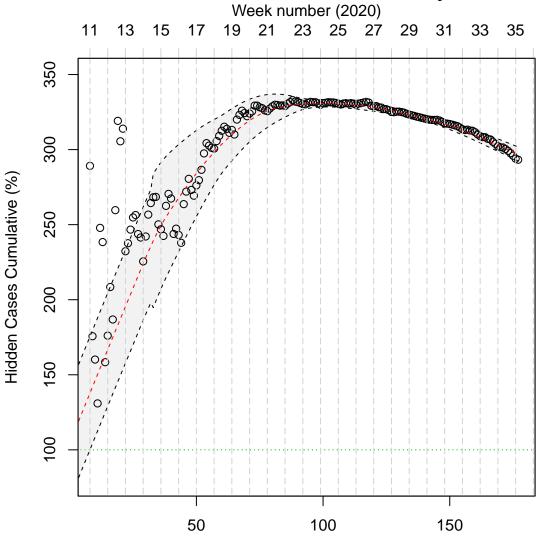
Days after 2/5/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de



Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

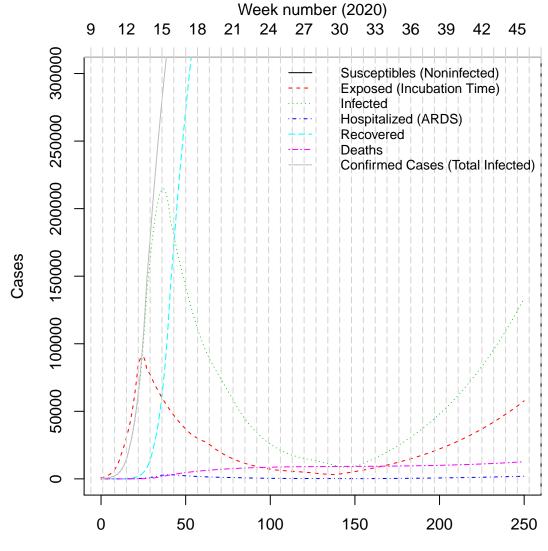


Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de



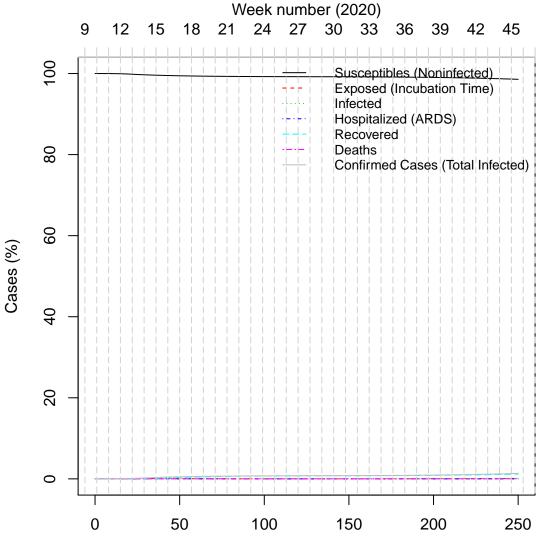
Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

## Forecast COVID-19 in Germany



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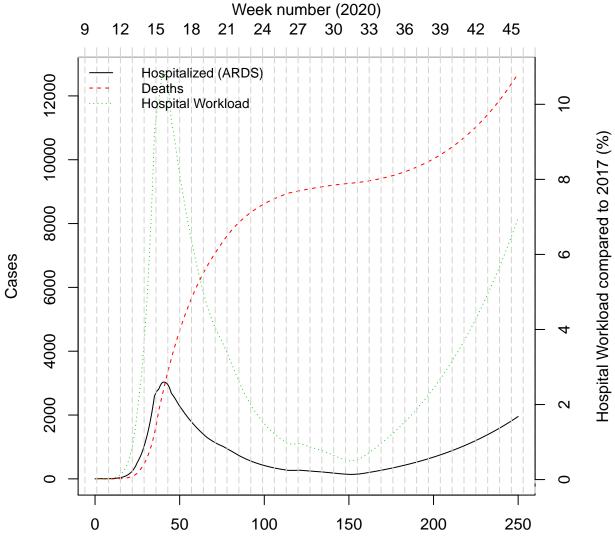
## Forecast COVID-19 in Germany



Days after 3/1/20

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## Forecast COVID-19 in Germany



Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

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

Days after 3/1/20 Created by Sören Thiering (08/26/2020). 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 8e+07 Susceptibles (Noninfected) Exposed (Incubation Time) Infected Hospitalized (ARDS) Recovered Deaths Confirmed Cases (Total Infected) 6e+07 Cases 4e+07 2e+07 00+<del>0</del>0

Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

150

200

250

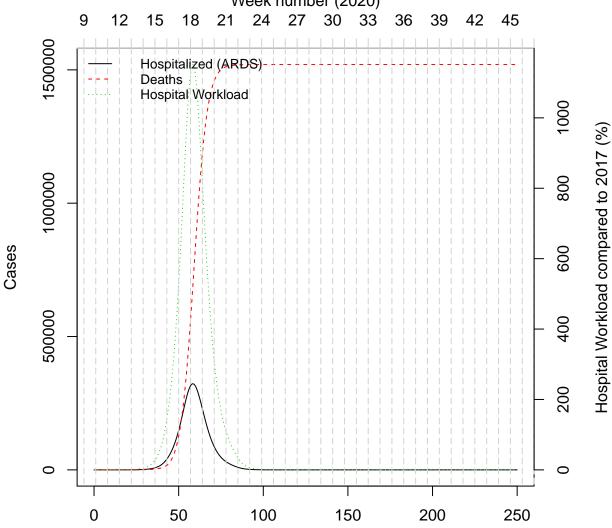
100

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 (08/26/2020). Email: soeren.thiering@hs-anhalt.de

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

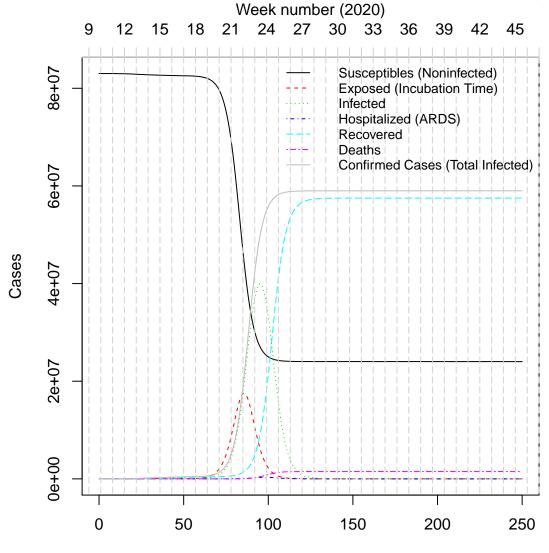


Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

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

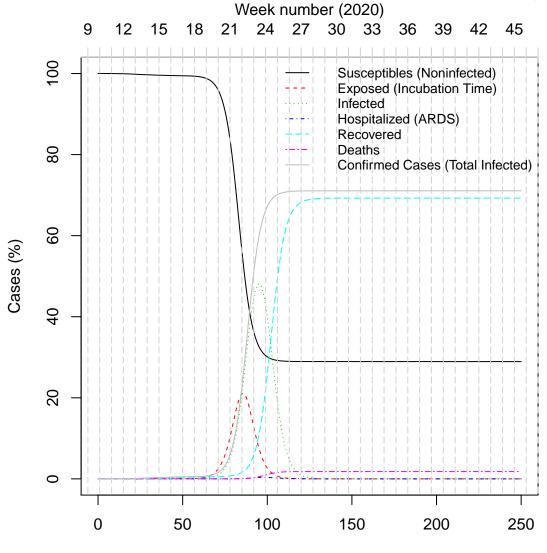
Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

# Scenario 2 exit after day 50 without social distancing



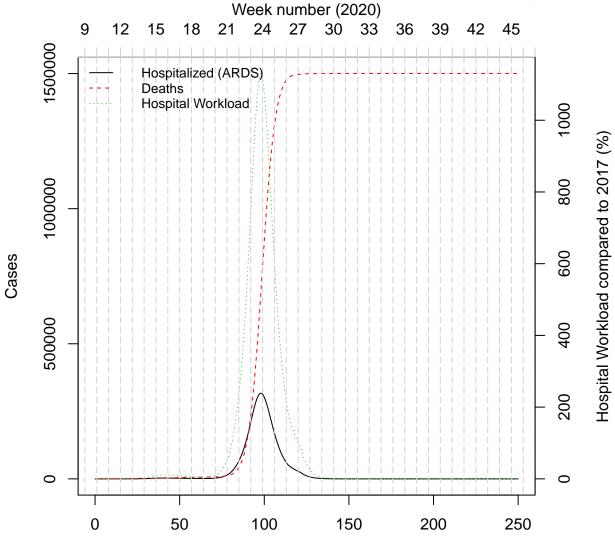
Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

# Scenario 2 exit after day 50 without social distancing



Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

# Scenario 2 exit after day 50 without social distancing



Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

# Scenario 2 exit after day 50 without social distancing Week number (2020) Hospitalized (ARDS) Deaths Hospital Workload 1.5 Hospital Workload compared to 2017 (%) 0.5 0.0

Cases (%)

Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

# Scenario 3 exit after day 50 with social distancing Week number (2020) 9 24 45 12 15 18 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+<del>0</del>0

Days after 3/1/20 Created by Sören Thiering (08/26/2020). 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 (08/26/2020). Email: soeren.thiering@hs-anhalt.de

# Scenario 3 exit after day 50 with social distancing Week number (2020) 45 12 15 18 36 39 800 Hospitalized (ARDS) 8e+05 Deaths Hospital Workload Hospital Workload compared to 2017 (%) 009 6e+05 Cases 4e+05 2e+05 00+<del>0</del>0

Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

150

200

100

0

50

# Scenario 3 exit after day 50 with social distancing Week number (2020) 45 12 15 18 36 39 800 Hospitalized (ARDS) Deaths Hospital Workload Hospital Workload compared to 2017 (%) 0.8 9.0 Cases (%) 0.4 0.2 0.0

Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

150

200

250

100

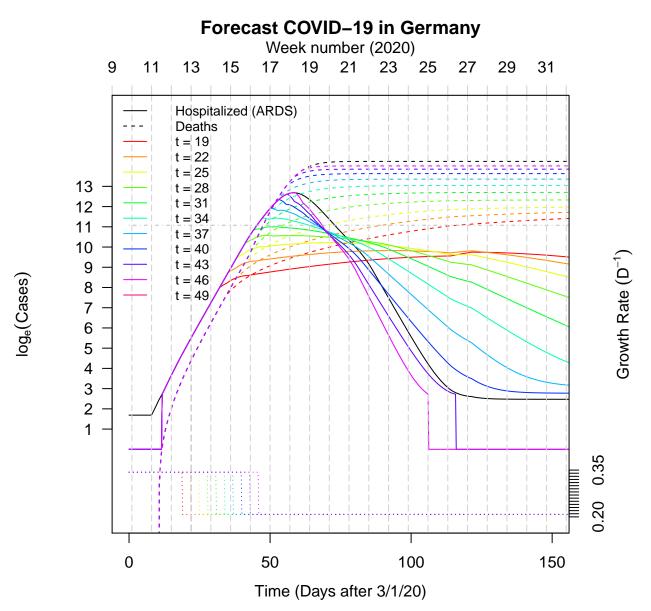
0

#### Forecast COVID-19 in Germany Week number (2020) 9 11 13 15 17 25 27 29 31 Hospitalized (ARDS) Deaths 1400000 R0 = 0.4R0 = 0.6R0 = 0.81200000 R0 = 1R0 = 1.2R0 = 1.41000000 R0 = 1.6R0 = 1.8Growth Rate $(\mathsf{D}^{-1})$ R0 = 2000008 R0 = 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 11 13 15 17 19 25 27 29 31 Hospitalized (ARDS) Deaths 1400000 t = 19 t = 22 t = 251200000 t = 28t = 31 t = 341000000 t = 37t = 40Growth Rate $(\mathsf{D}^{-1})$ t = 43000008 t = 46Cases t = 49600000 400000 200000 0 0.35 0.20 150 0 50 100 Time (Days after 3/1/20)

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