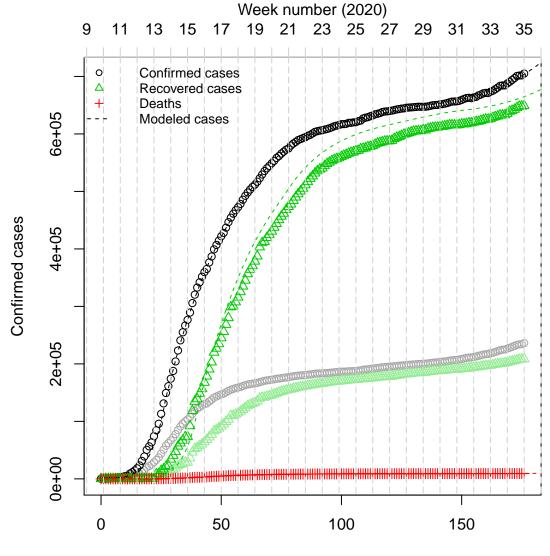
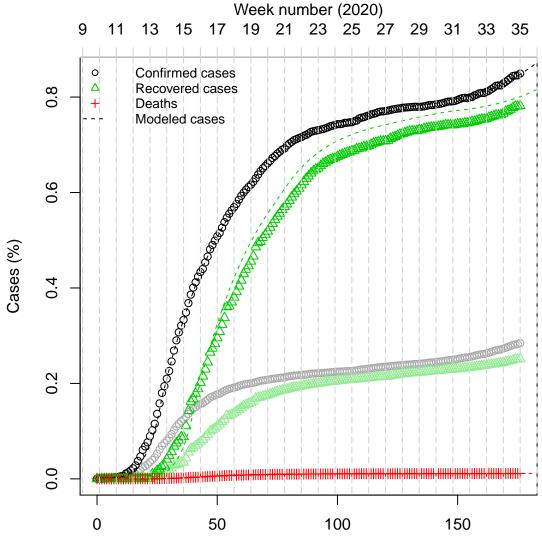
### Situation vs Model COVID-19 in Germany

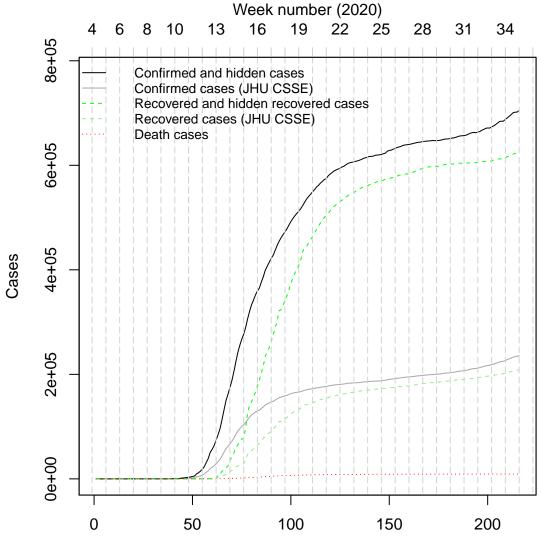


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### Situation vs Model COVID-19 in Germany



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Days after 1/22/20

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# Situation COVID-19 in Germany Week number (2020) 16 34 8 10 13 28 31 Confirmed cases þ Recovered cases 1st phase (diffusion / no growth) 2nd phase (uncontrolled growth) 3rd phase (social distancing) 4th phase (lockdown) 12 5th phase (Kit from lockdown) 19 $\infty$ log<sub>e</sub>(Cases) 9 $\alpha$

0

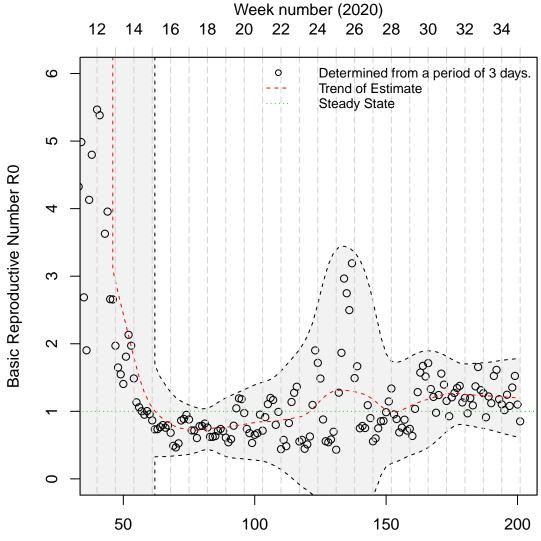
0

50

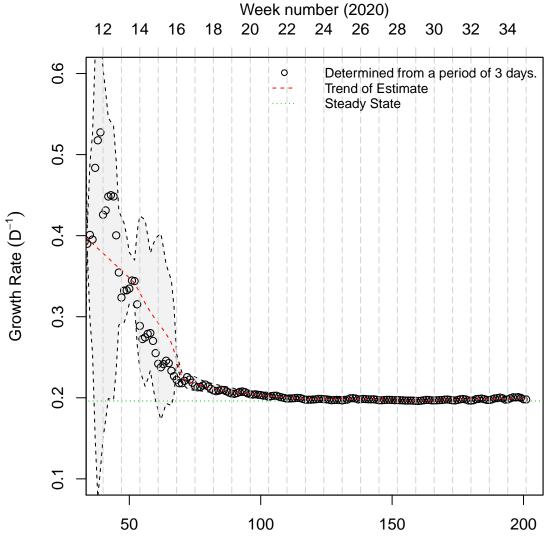
Days after 1/22/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

150

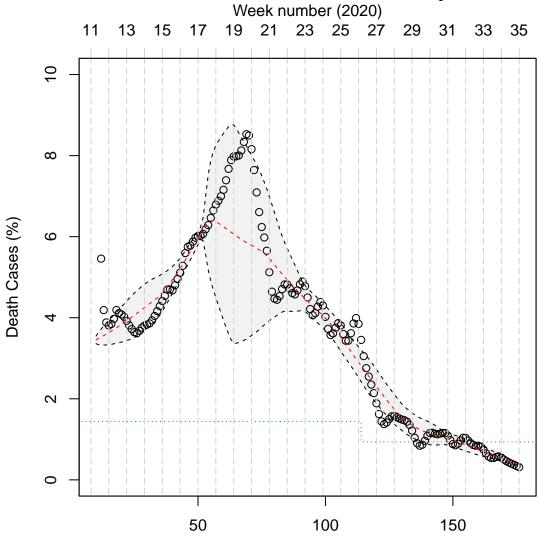
200



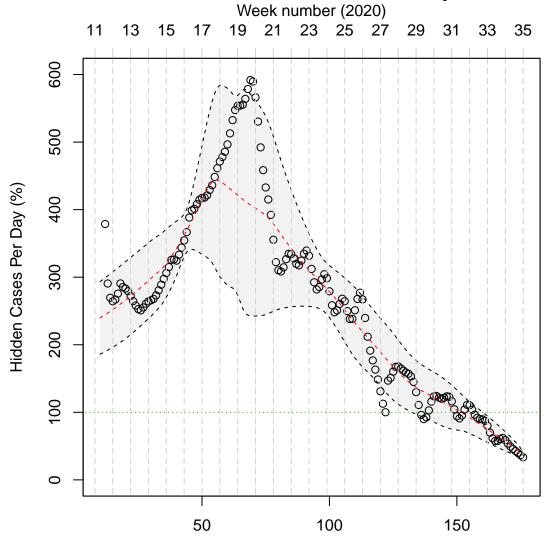
Days after 2/5/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de



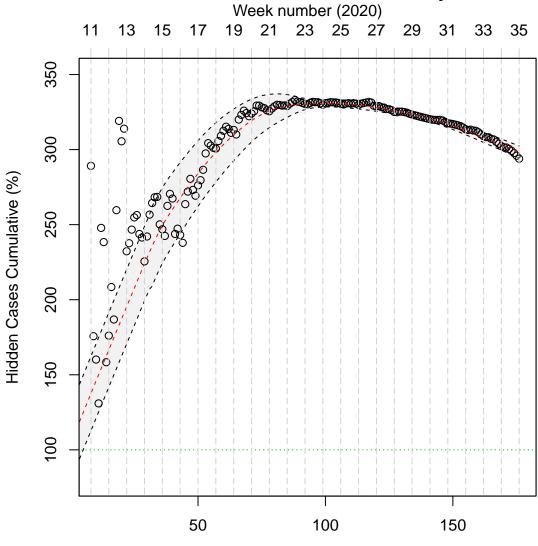
Days after 2/5/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de



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

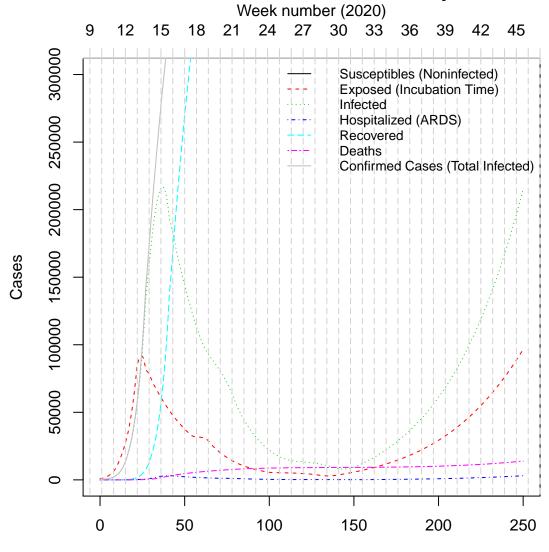


Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de



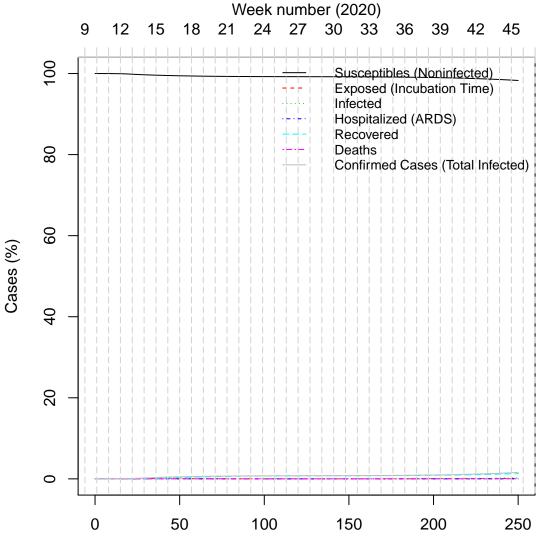
Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

### Forecast COVID-19 in Germany



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

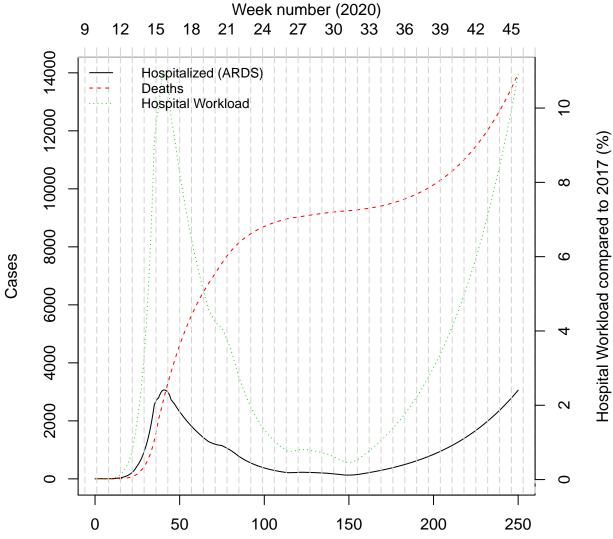
#### Forecast COVID-19 in Germany



Days after 3/1/20

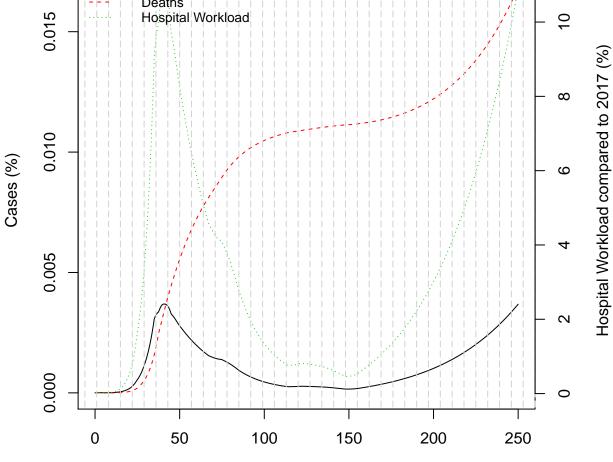
Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

### Forecast COVID-19 in Germany



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# Forecast COVID-19 in Germany Week number (2020) 45 15 18 36 39 42 Hospitalized (ARDS) Deaths $\infty$ 9



9

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) 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) Deaths Hospital Workload Hospital Workload compared to 2017 (%)

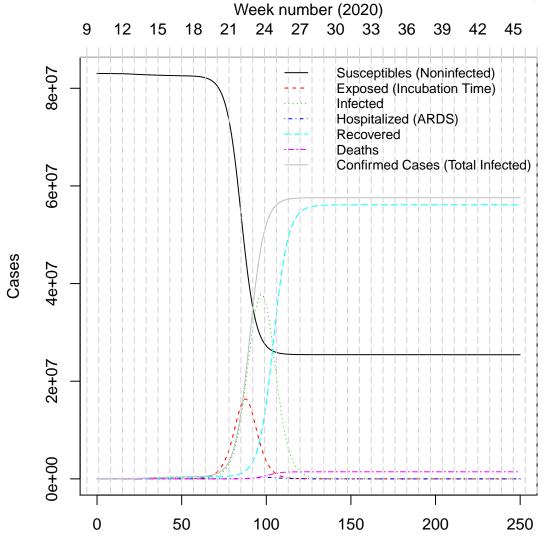
Cases

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) 45 12 15 18 36 Hospitalized (ARDS) Deaths 1000 Hospital Workload 1.5 Hospital Workload compared to 2017 (%) Cases (%) 009 0.5 0.0 0 50 100 150 200 250

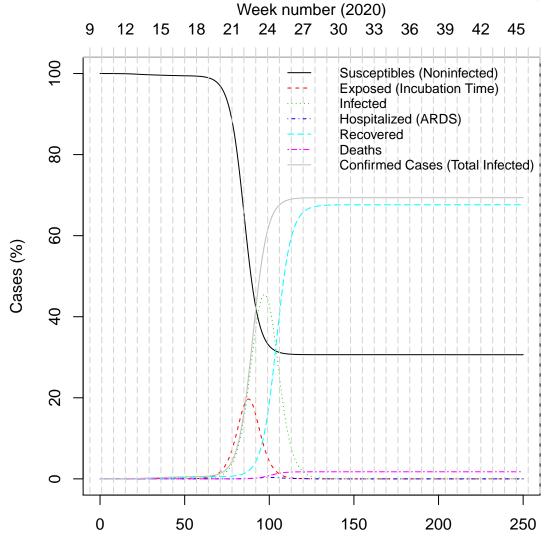
Days after 3/1/20 Created by Sören Thiering (08/26/2020). Email: soeren.thiering@hs-anhalt.de

# Scenario 2 exit after day 50 without social distancing



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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) Hospitalized (ARDS) Deaths Hospital Workload Hospital Workload compared to 2017 (%)

Cases

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) 9 45 12 15 18 36 39 Hospitalized (ARDS) 1000 Deaths Hospital Workload 1.5 Hospital Workload compared to 2017 (%) 009 0.5 200 0.0

Cases (%)

0

50

Days after 3/1/20 Created by Sören Thiering (08/26/2020). 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 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 1e+06 Hospitalized (ARDS) Deaths Hospital Workload 8e+05 009 Hospital Workload compared to 2017 (%) 6e+05 4e+05 2e+05 00+<del>0</del>0

Cases

0

50

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

150

200

250

# Scenario 3 exit after day 50 with social distancing Week number (2020) 12 24 45 15 18 36 39 Hospitalized (ARDS) Deaths Hospital Workload 900 Hospital Workload compared to 2017 (%) 0.8 Cases (%) 9.0 0.2 0.0

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

150

200

100

0

50

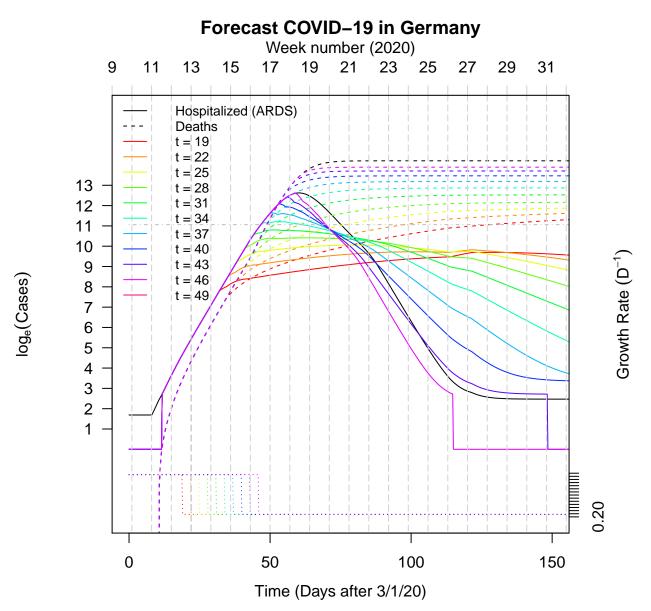
#### Forecast COVID-19 in Germany Week number (2020) 9 11 13 15 17 25 27 29 31 Hospitalized (ARDS) Deaths 1400000 R0 = 0.4R0 = 0.6R0 = 0.81200000 R0 = 1R0 = 1.21000000 R0 = 1.4R0 = 1.6R0 = 1.8Growth Rate $(\mathsf{D}^{-1})$ 800000 R0 = 2R0 = 2.2Cases R0 = 2.4600000 400000 200000 0 0.32 0 50 100 150 Time (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) Deaths 1400000 t = 19 t = 22 t = 251200000 t = 28t = 31 1000000 t = 34t = 37t = 40Growth Rate (D<sup>-1</sup>) 800000 t = 43t = 46Cases t = 49600000 400000 200000 0 0.20 150 0 50 100

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Time (Days after 3/1/20)



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