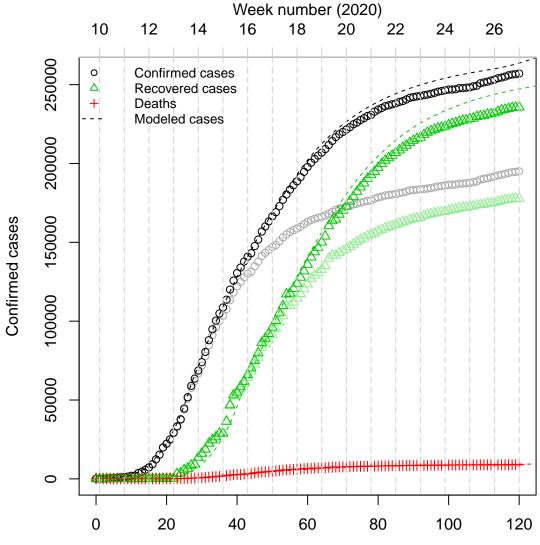
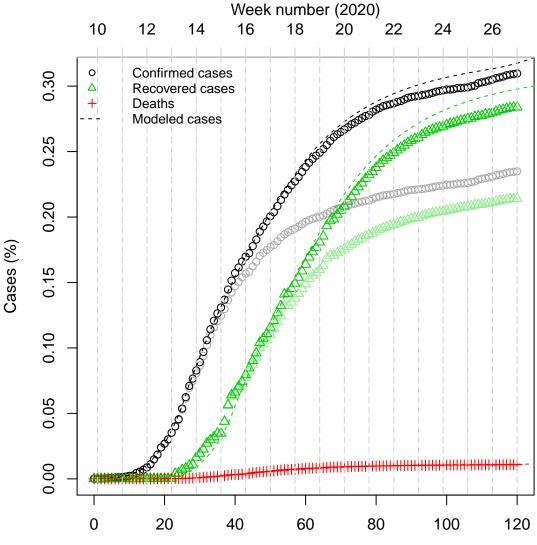
#### Situation vs Model COVID-19 in Germany

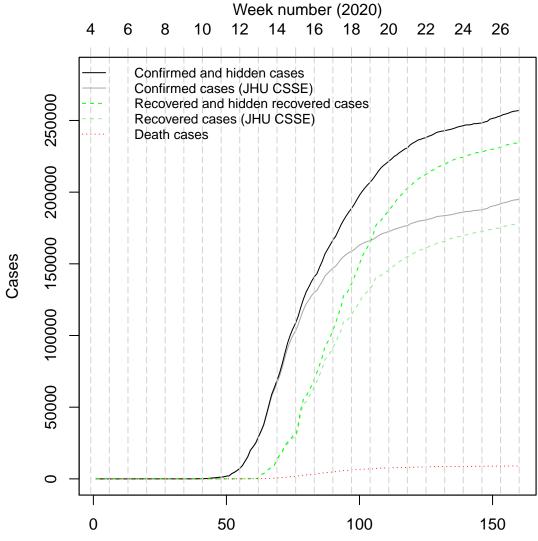


Days after 3/1/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

### Situation vs Model COVID-19 in Germany



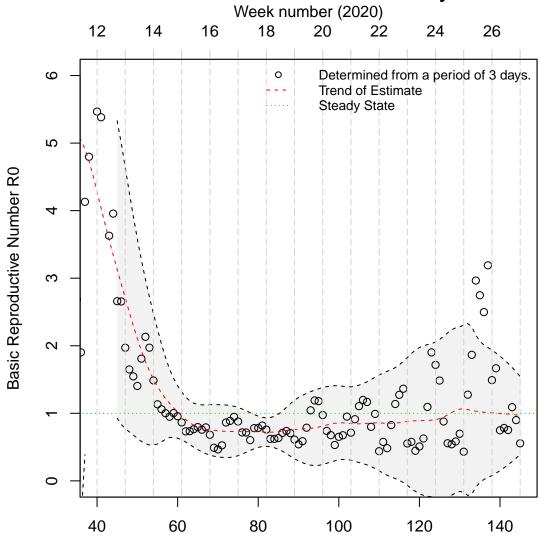
Days after 3/1/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de



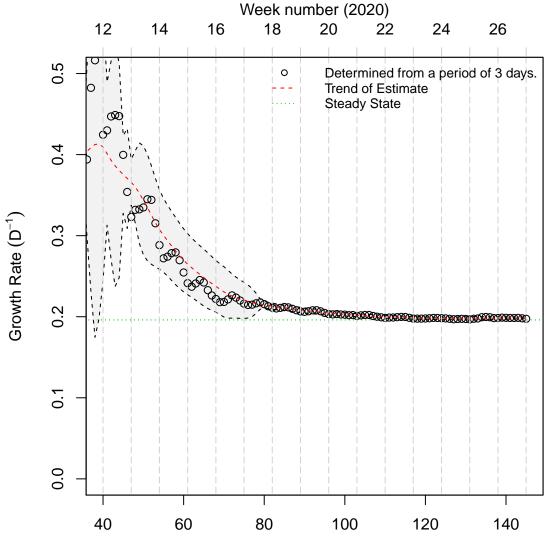
Days after 1/22/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

### Situation COVID-19 in Germany Week number (2020) Confirmed cases Recovered cases 1st phase (diffusion / no with 2nd phase (uncontrolled growth) 3rd phase (social distancing) 4th phase (lockdows) 4th phase (lockdows) 5th phase (exit from lockdown) $\infty$

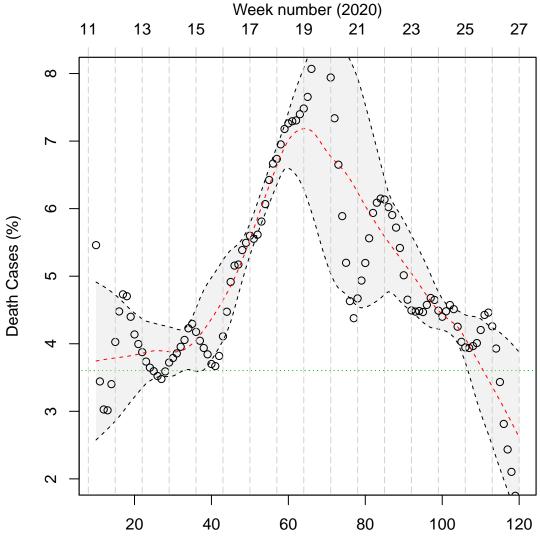
Days after 1/22/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de



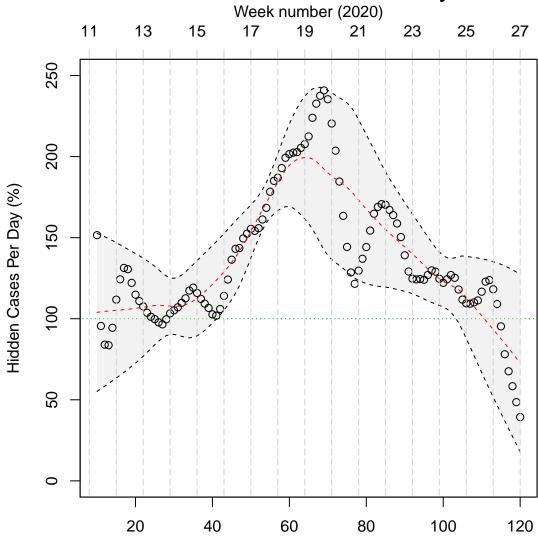
Days after 2/5/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de



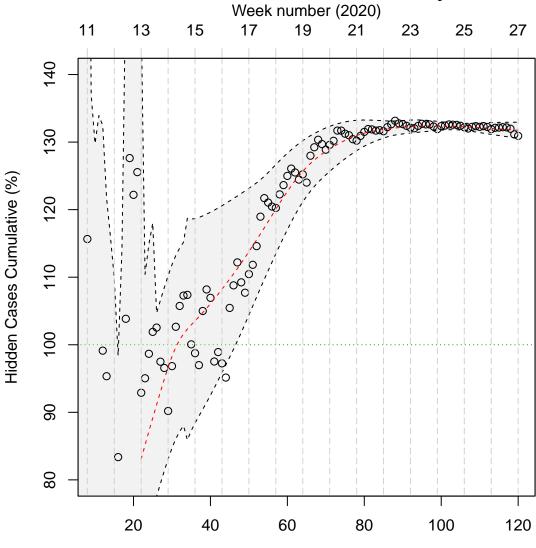
Days after 2/5/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de



Days after 3/1/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

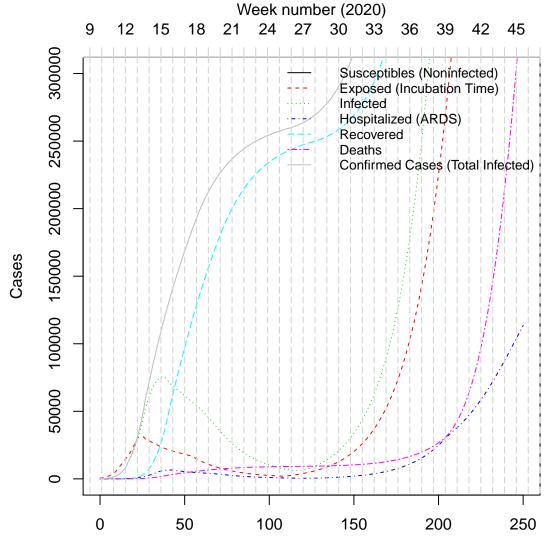


Days after 3/1/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de



Days after 3/1/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

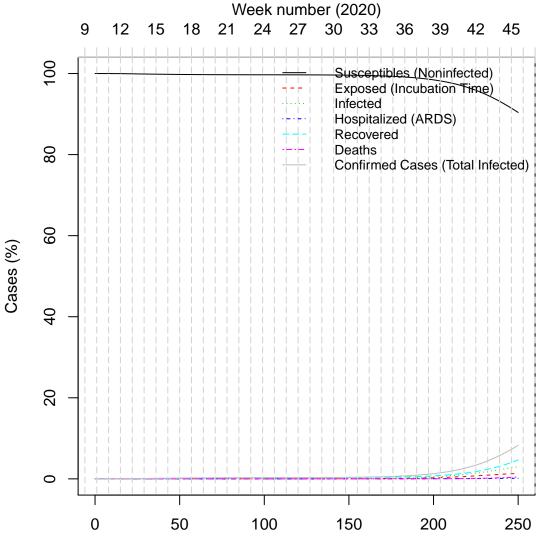
### Forecast COVID-19 in Germany



Days after 3/1/20

Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

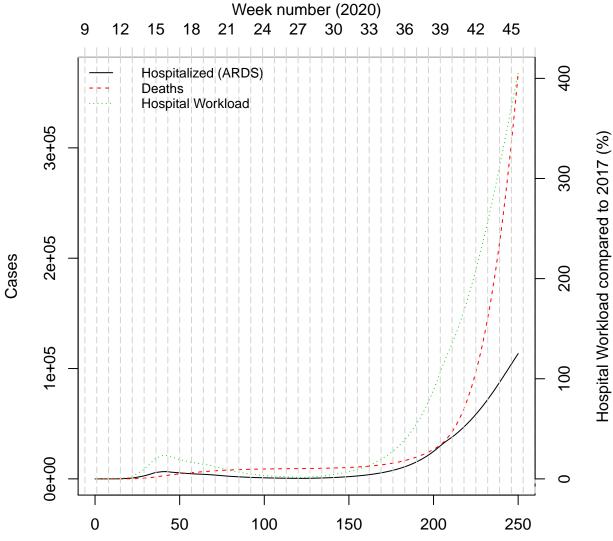
#### Forecast COVID-19 in Germany



Days after 3/1/20

Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

# Forecast COVID-19 in Germany Week number (2020)



Days after 3/1/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

# Forecast COVID-19 in Germany Week number (2020) 45 12 15 18 36 39 42 400 Hospitalized (ARDS) Deaths Hospital Workload 0.4 Hospital Workload compared to 2017 (%) 300 Cases (%) 0.0

Days after 3/1/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

150

200

100

0

50

### Scenario 1 no social distancing and no lockdown Week number (2020) 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 (06/30/2020). 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 (06/30/2020). 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 5000 Hospital Workload Hospital Workload compared to 2017 (%)

90+<del>9</del>9

5e+06

4e+06

3e+06

2e+06

1e+06

0e+00

0

50

Cases

Days after 3/1/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

150

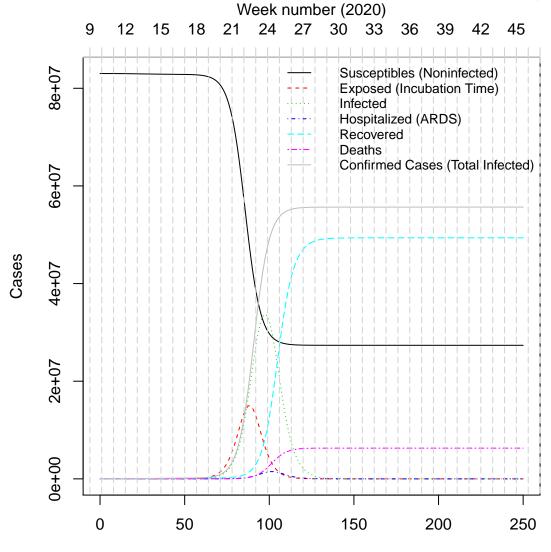
200

100

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

Days after 3/1/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

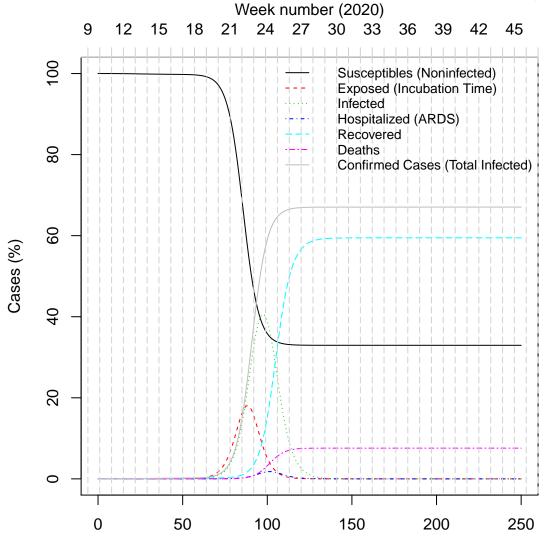
### Scenario 2 exit after day 50 without social distancing



Days after 3/1/20

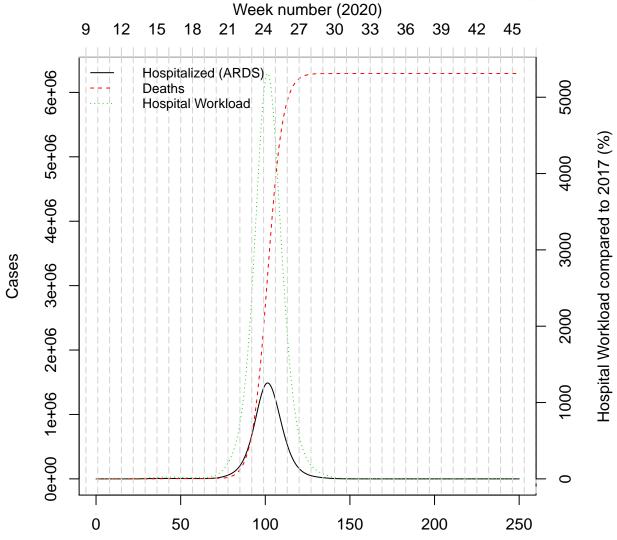
Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

## Scenario 2 exit after day 50 without social distancing



Days after 3/1/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

#### Scenario 2 exit after day 50 without social distancing



Days after 3/1/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

# Scenario 2 exit after day 50 without social distancing Week number (2020) Hospitalized (ARDS) Deaths Hospital Workload Hospital Workload compared to 2017 (%) Cases (%) $\alpha$

Days after 3/1/20 Created by Sören Thiering (06/30/2020). 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 (06/30/2020). Email: soeren.thiering@hs-anhalt.de

150

200

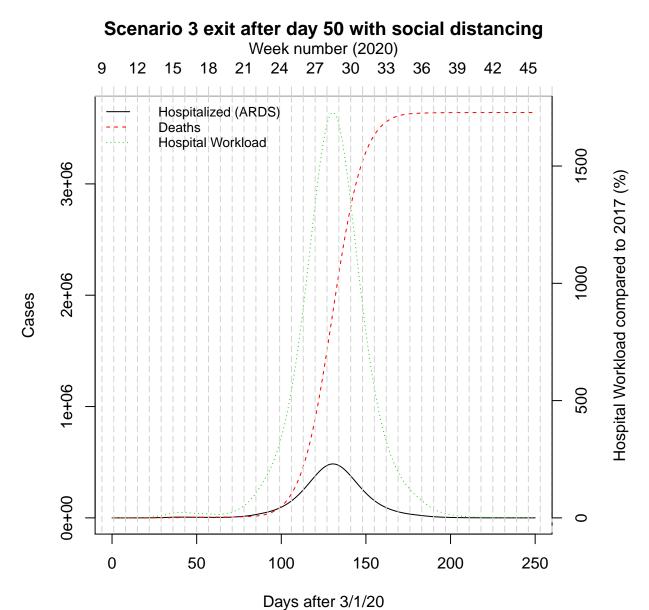
250

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 (06/30/2020). Email: soeren.thiering@hs-anhalt.de



Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

# Scenario 3 exit after day 50 with social distancing Week number (2020) 45 12 15 18 36 Hospitalized (ARDS) Deaths Hospital Workload 1500 Hospital Workload compared to 2017 (%) က Cases (%) $\alpha$ 50 100 150 200 250 0

Days after 3/1/20 Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

#### Forecast COVID-19 in Germany Week number (2020) 9 11 13 15 17 25 27 29 31 6500000 Hospitalized (ARDS) 6000000 Deaths R0 = 0.45500000 R0 = 0.6R0 = 0.85000000 R0 = 1R0 = 1.24500000 R0 = 1.44000000 R0 = 1.6R0 = 1.8Growth Rate $(\mathsf{D}^{-1})$ 3500000 R0 = 2R0 = 2.23000000 R0 = 2.42500000 2000000 1500000 1000000 500000 0 0.32 0 50 100 150

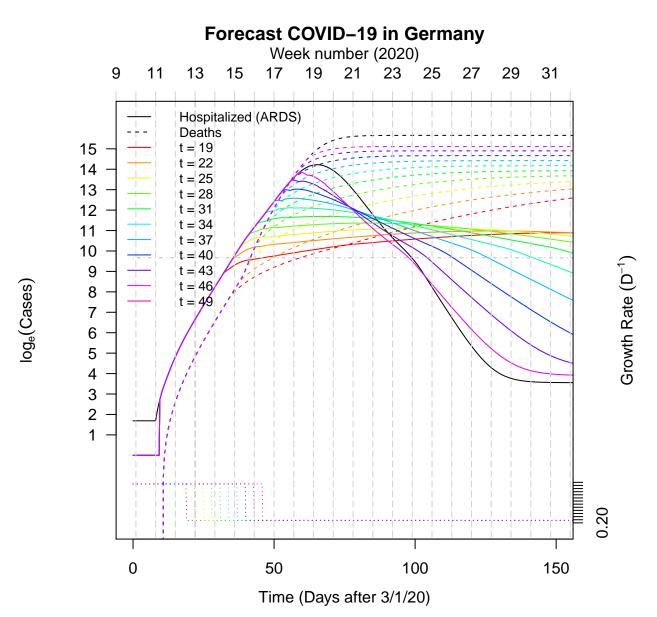
Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

Time (Days after 3/1/20)

#### Forecast COVID-19 in Germany Week number (2020) 9 11 13 15 17 19 25 27 29 31 6500000 Hospitalized (ARDS) 6000000 Deaths t = 195500000 t = 22 t = 255000000 t = 28t = 314500000 t = 344000000 t = 37t = 40Growth Rate $(\mathsf{D}^{-1})$ 3500000 t = 43t = 463000000 t = 492500000 2000000 1500000 1000000 500000 0 0.20 0 50 100 150

Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de

Time (Days after 3/1/20)



Created by Sören Thiering (06/30/2020). Email: soeren.thiering@hs-anhalt.de