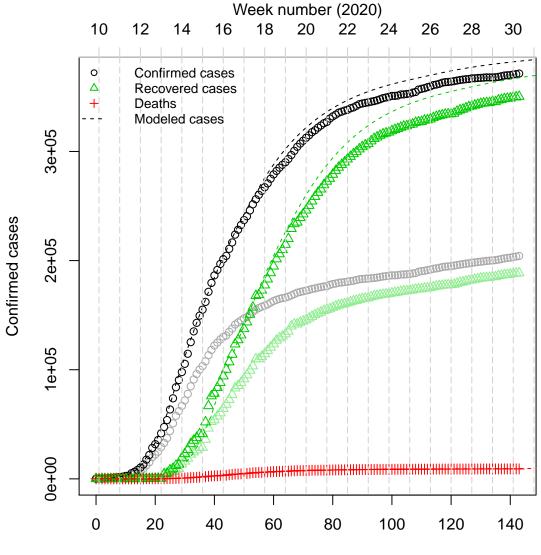
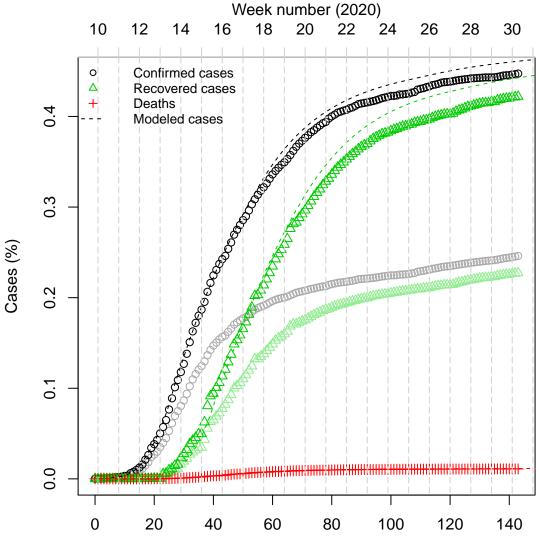
#### Situation vs Model COVID-19 in Germany



Days after 3/1/20 Created by Sören Thiering (07/23/2020). Email: soeren.thiering@hs-anhalt.de

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



Days after 3/1/20 Created by Sören Thiering (07/23/2020). Email: soeren.thiering@hs-anhalt.de

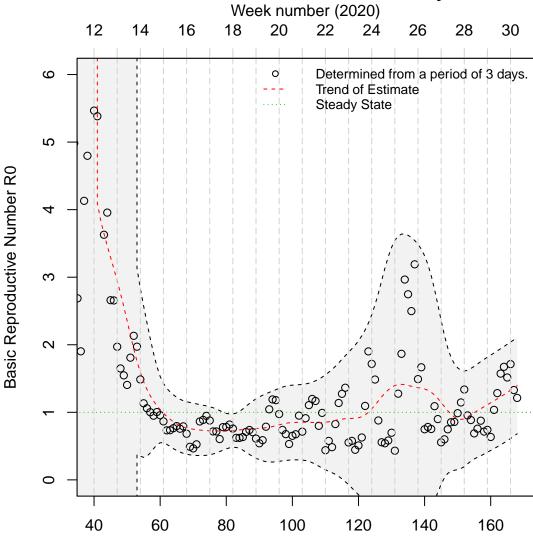
Week number (2020) 18 20 22 14 16 24 26 30 10 12 28 6 4e+05 Confirmed and hidden cases Confirmed cases (JHU CSSE) Recovered and hidden recovered cases Recovered cases (JHU CSSE) Death cases 3e+05 2e+05 1e+05 00+<del>0</del>0 0 50 100 150

Cases

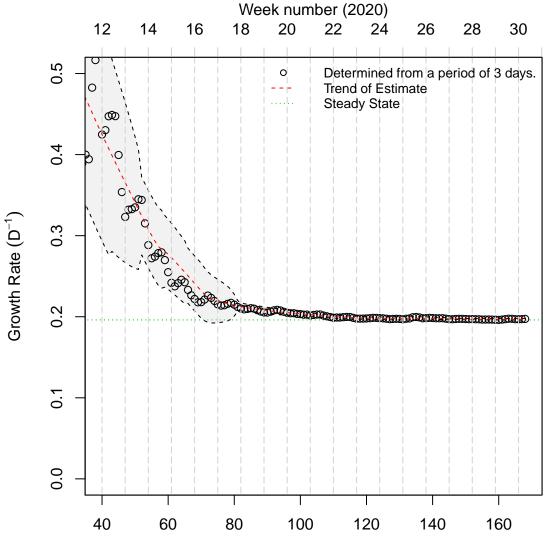
Days after 1/22/20

Week number (2020) 14 16 12 24 26 28 30 Confirmed cases Recovered cases 12 1st phase (diffusion / grawn) 2nd phase (uncontailed growth) 3rd phase (social sistancing) 4th phase (lockaswn) 19 5th phase (exit@om/fockdown)  $\infty$ 9  $\alpha$ 0 50 100 150

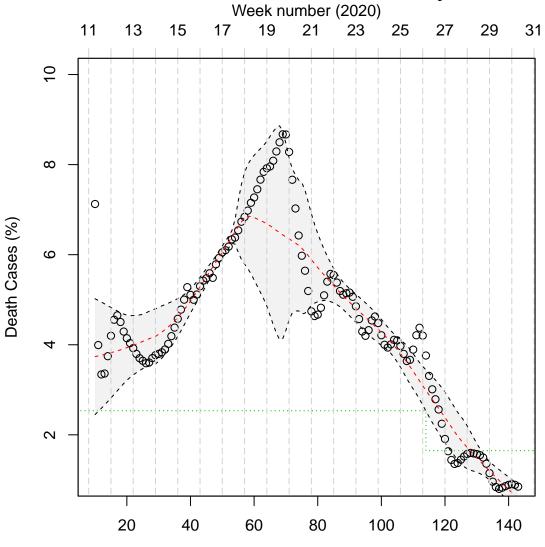
Days after 1/22/20



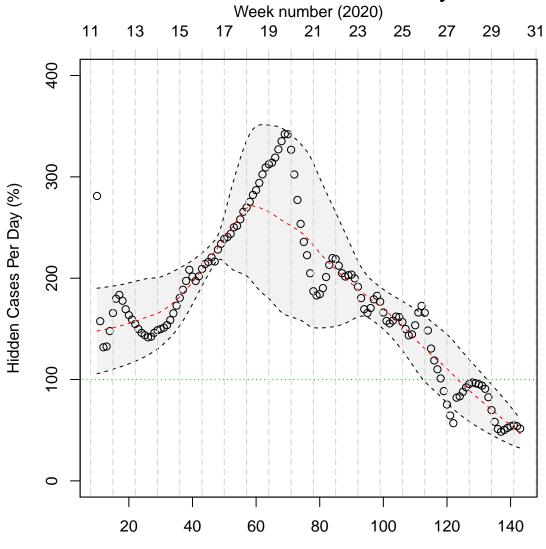
Days after 2/5/20



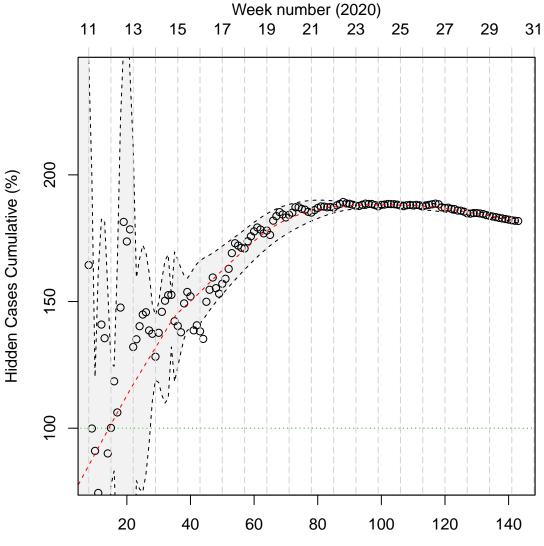
Days after 2/5/20 Created by Sören Thiering (07/23/2020). Email: soeren.thiering@hs-anhalt.de



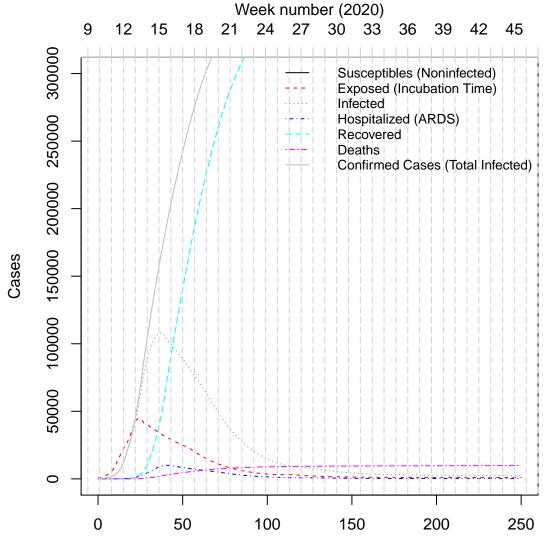
Days after 3/1/20 Created by Sören Thiering (07/23/2020). Email: soeren.thiering@hs-anhalt.de



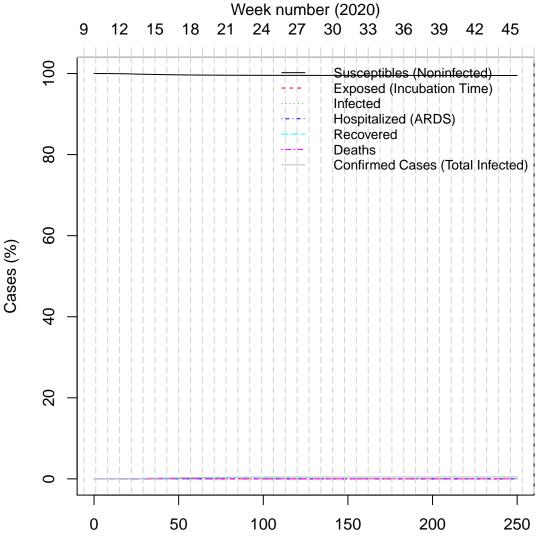
Days after 3/1/20 Created by Sören Thiering (07/23/2020). Email: soeren.thiering@hs-anhalt.de



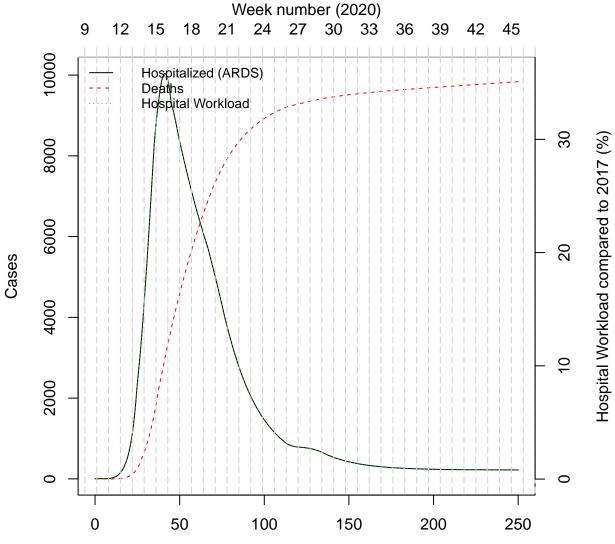
Days after 3/1/20 Created by Sören Thiering (07/23/2020). Email: soeren.thiering@hs-anhalt.de



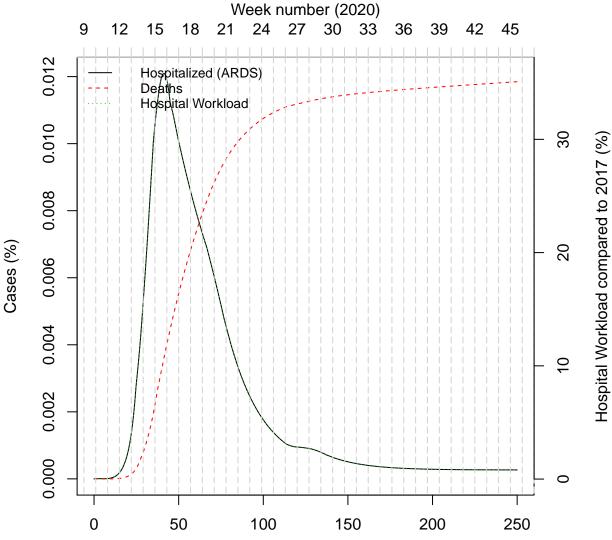
Days after 3/1/20



Days after 3/1/20 Created by Sören Thiering (07/23/2020). Email: soeren.thiering@hs-anhalt.de



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Days after 3/1/20 Created by Sören Thiering (07/23/2020). 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 (07/23/2020). 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 (07/23/2020). Email: soeren.thiering@hs-anhalt.de

# Scenario 1 no social distancing and no lockdown Week number (2020) 45 12 15 18 36 Hospitalized (ARDS) 0009 Deaths Hospital Workload Hospital Workload compared to 2017 (%) 5000 2000

90+99

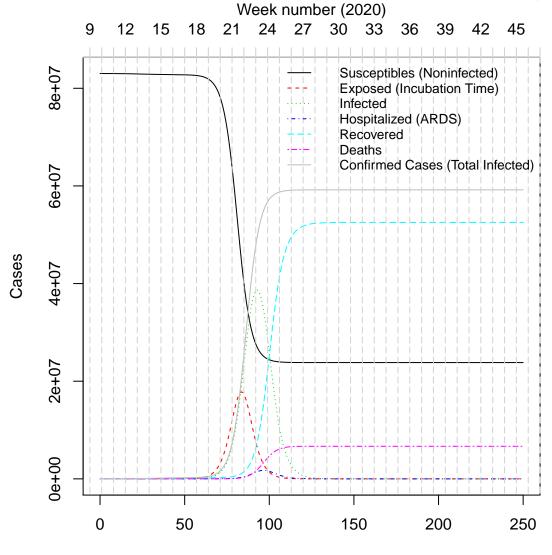
5e+06

4e+06 3e+06 2e+06 1e+06 0e+00 0 50 100 150 200 250 Days after 3/1/20

### Scenario 1 no social distancing and no lockdown Week number (2020) 12 15 18 36 45 Hospitalized (ARDS) $\infty$ 0009 Deaths Hospital Workload Hospital Workload compared to 2017 (%) 9 Cases (%) $\alpha$ 50 100 150 200 250 0

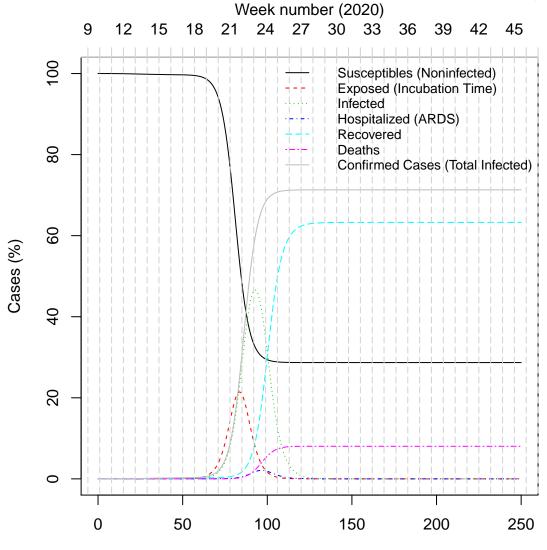
Days after 3/1/20 Created by Sören Thiering (07/23/2020). Email: soeren.thiering@hs-anhalt.de

## Scenario 2 exit after day 50 without social distancing



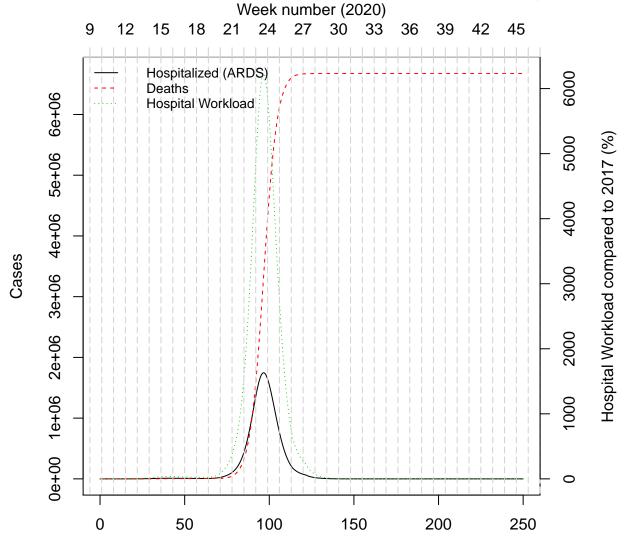
Days after 3/1/20 Created by Sören Thiering (07/23/2020). Email: soeren.thiering@hs-anhalt.de

## Scenario 2 exit after day 50 without social distancing



Days after 3/1/20 Created by Sören Thiering (07/23/2020). Email: soeren.thiering@hs-anhalt.de

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



Days after 3/1/20 Created by Sören Thiering (07/23/2020). Email: soeren.thiering@hs-anhalt.de

# Scenario 2 exit after day 50 without social distancing Week number (2020) 12 15 18 36 45 Hospitalized (ARDS) 0009 Deaths Hospital Workload Hospital Workload compared to 2017 (%) 4000 2000

 $\infty$ 

9

 $\alpha$ 

0

Cases (%)

Days after 3/1/20 Created by Sören Thiering (07/23/2020). Email: soeren.thiering@hs-anhalt.de

150

200

250

100

#### Scenario 3 exit after day 50 with social distancing Week number (2020) 9 12 24 45 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 (07/23/2020). 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 (07/23/2020). Email: soeren.thiering@hs-anhalt.de

# Scenario 3 exit after day 50 with 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 (07/23/2020). Email: soeren.thiering@hs-anhalt.de

# Scenario 3 exit after day 50 with social distancing Week number (2020) 45 12 15 18 36 39 Hospitalized (ARDS) Deaths Hospital Workload 2000 2.5 Hospital Workload compared to 2017 (%) 2.0 Cases (%) 1.5 0.5 0.0

Days after 3/1/20 Created by Sören Thiering (07/23/2020). Email: soeren.thiering@hs-anhalt.de

150

200

100

0

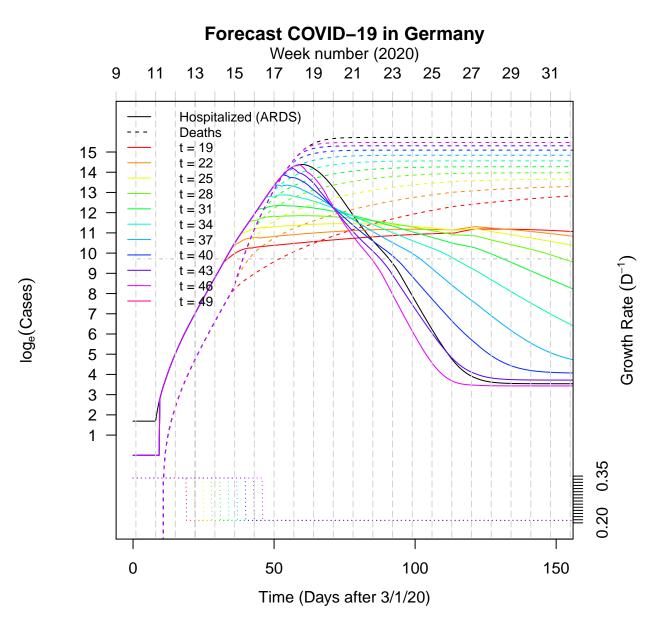
50

#### Forecast COVID-19 in Germany Week number (2020) 9 11 13 15 17 25 27 29 31 7000000 Hospitalized (ARDS) 6500000 Deaths R0 = 0.46000000 R0 = 0.65500000 R0 = 0.8R0 = 15000000 R0 = 1.2R0 = 1.44500000 R0 = 1.64000000 R0 = 1.8Growth Rate $(\mathsf{D}^{-1})$ R0 = 23500000 R0 = 2.2R0 = 2.43000000 2500000 2000000 1500000 1000000 500000 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 25 27 29 31 7000000 Hospitalized (ARDS) 6500000 Deaths t = 196000000 t = 22 5500000 t = 25t = 285000000 t = 31 t = 344500000 t = 374000000 t = 40Growth Rate $(\mathsf{D}^{-1})$ t = 433500000 t = 46Cases t = 493000000 2500000 2000000 1500000 1000000 500000 0 0.35 0.20 0 50 100 150 Time (Days after 3/1/20)

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