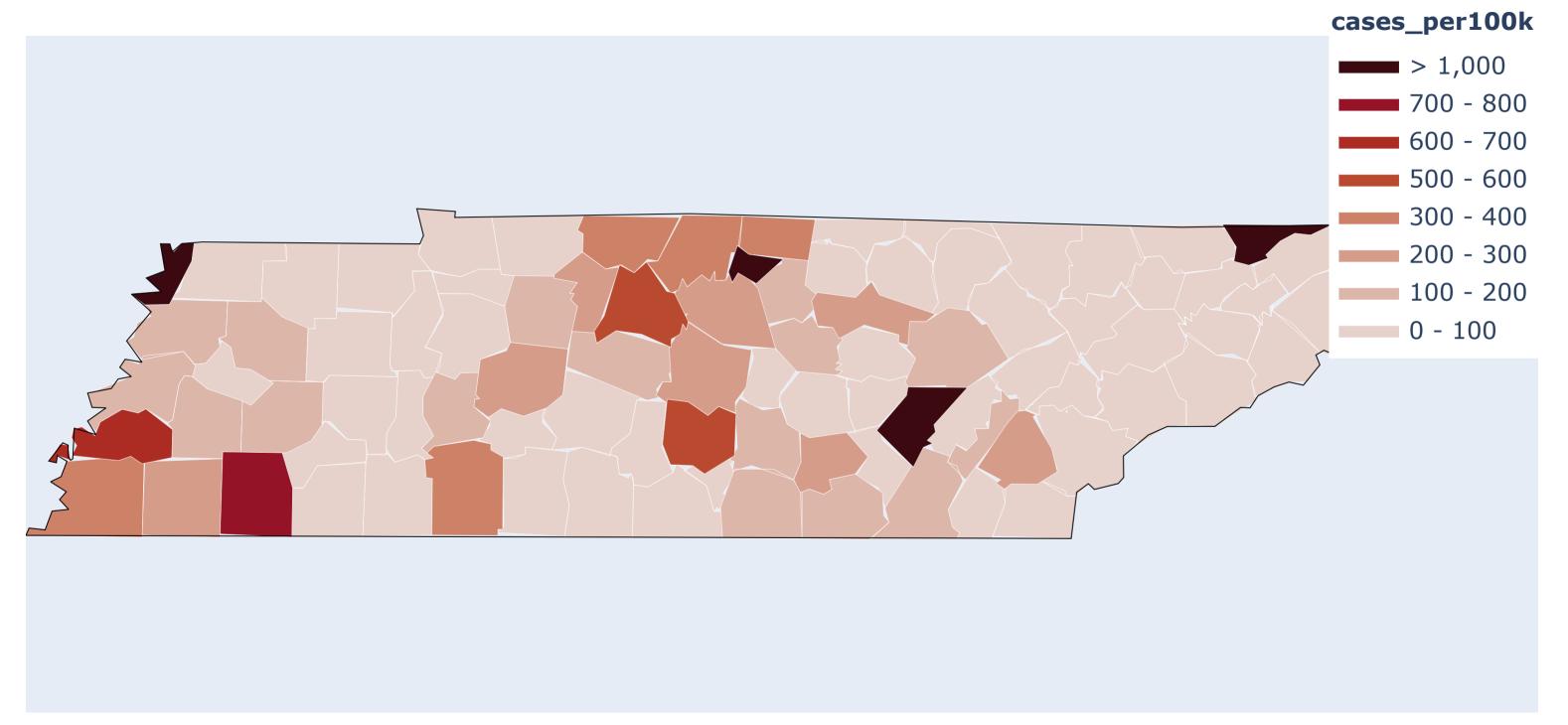
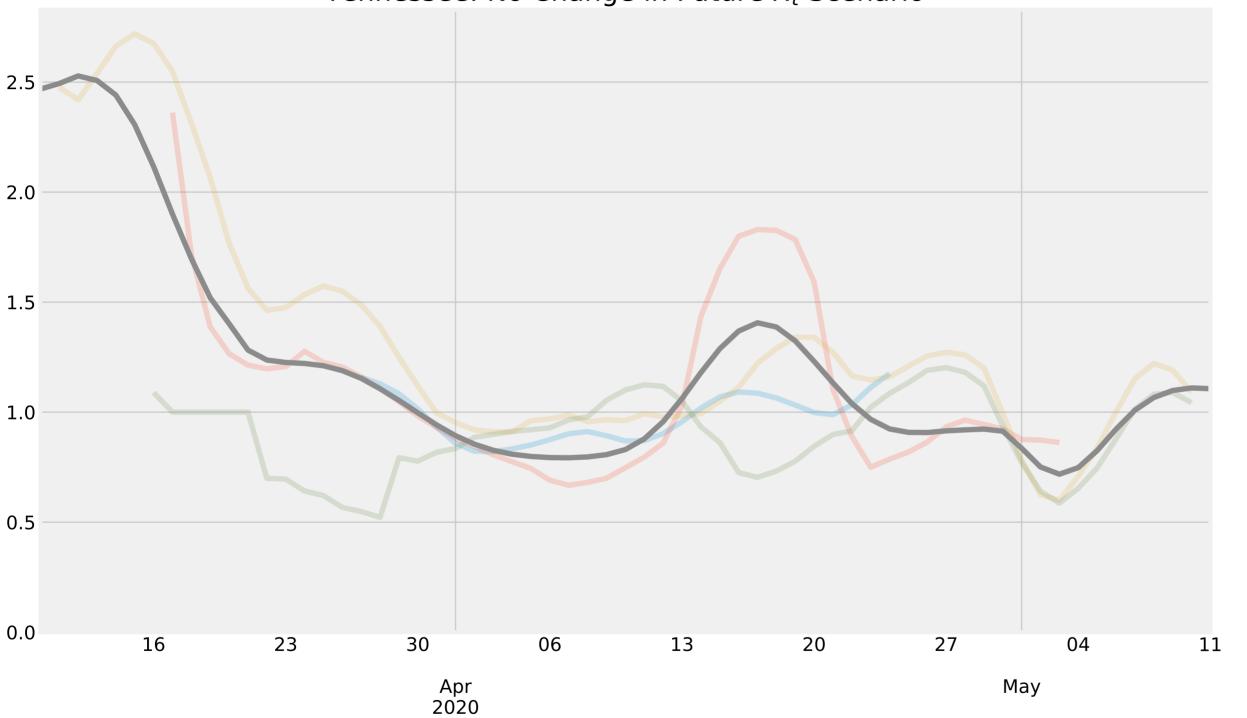
### Tennessee: COVID-19 Cases Per 100k Residents



### Reproduction Rate $(R_t)$ Estimates Tennessee: No Change in Future $R_t$ Scenario



rt\_deaths\_dailyrt\_hosp\_admitsrt\_cases\_dailyrt\_pos\_test\_share\_dailyrt\_joint\_est

Parameters Used

 $D_{incubation}: 3.0$   $D_{infectious}: 4.0$   $D_{tohospital}: 7.0$  $D_{inhospital}: 11.0$ 

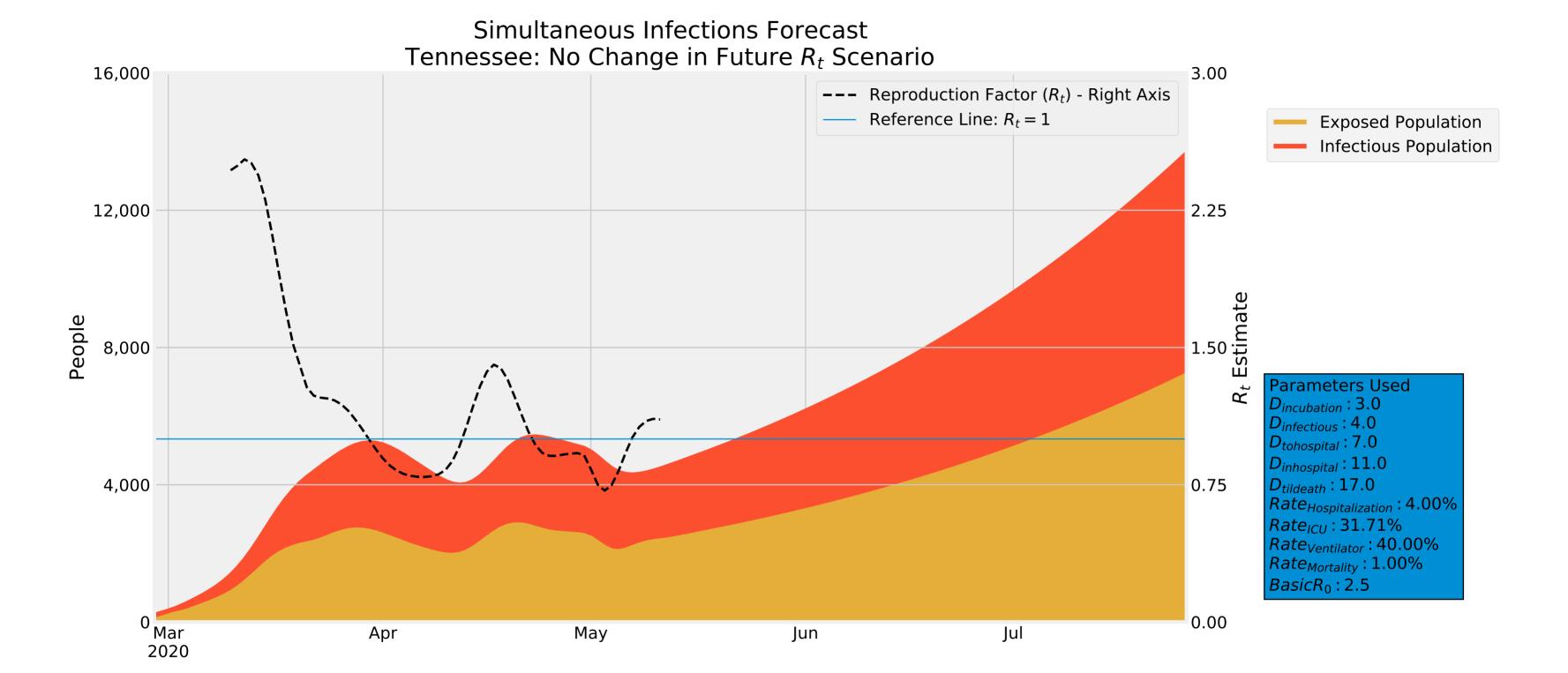
 $D_{tildeath}: 17.0$ 

 $Rate_{Hospitalization}: 4.00\%$ 

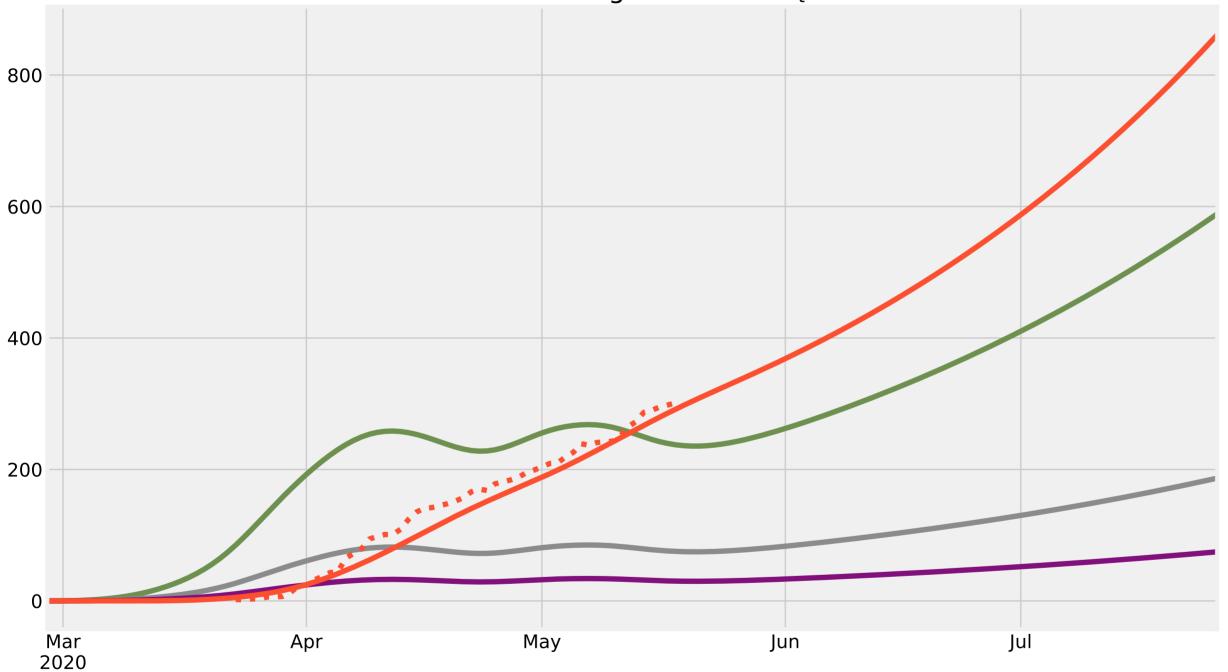
 $Rate_{ICU}$ : 31.71%  $Rate_{Ventilator}$ : 40.00%  $Rate_{Mortality}$ : 1.00%

 $BasicR_0:2.5$ 

Author: Michael Donnelly (twtr: @donnellymjd)



## Hospitalization and Deaths Forecast Tennessee: No Change in Future $R_t$ Scenario



Forecast Concurrent Hospitalizations

Forecast ICU Cases

Forecast Ventilations

Forecast Cumulative Deaths

• • Reported Total Deaths

#### Parameters Used

 $D_{incubation}$ : 3.0  $D_{infectious}$ : 4.0  $D_{tohospital}$ : 7.0

 $D_{tohospital}:7.0$  $D_{inhospital}:11.0$ 

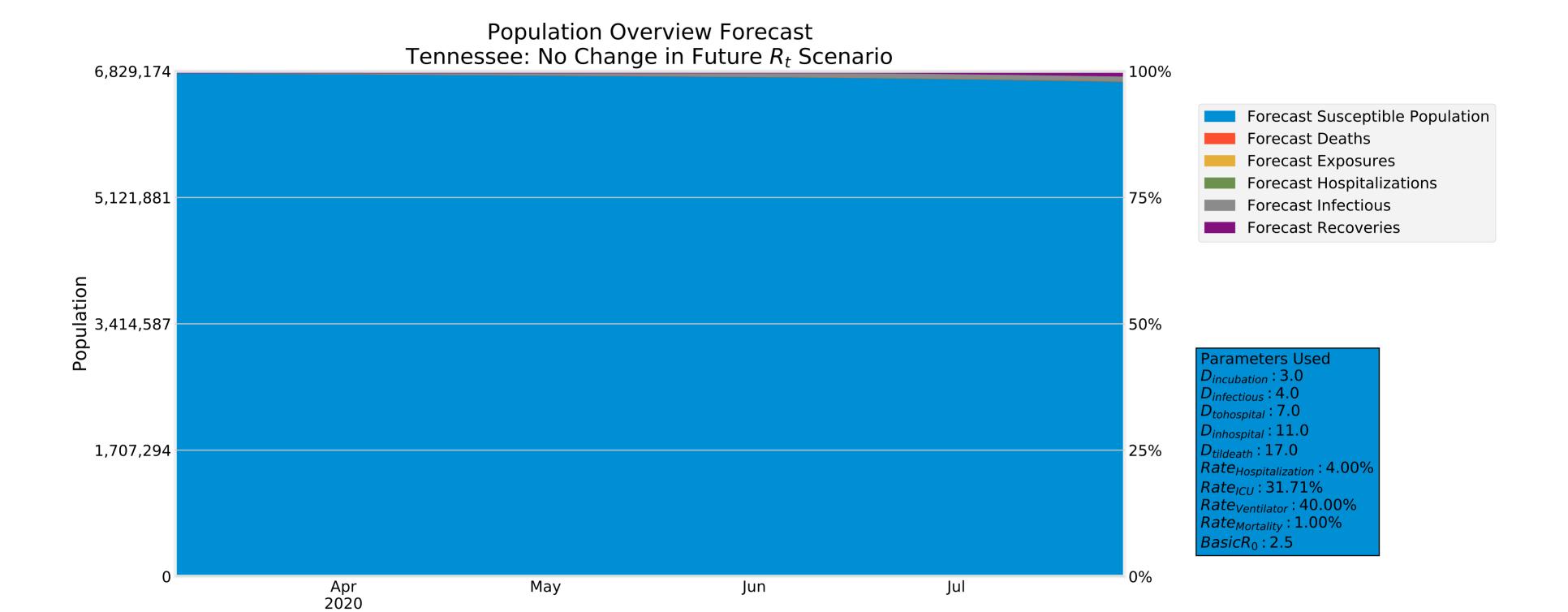
 $D_{tildeath}: 17.0$ 

Rate<sub>Hospitalization</sub>: 4.00%

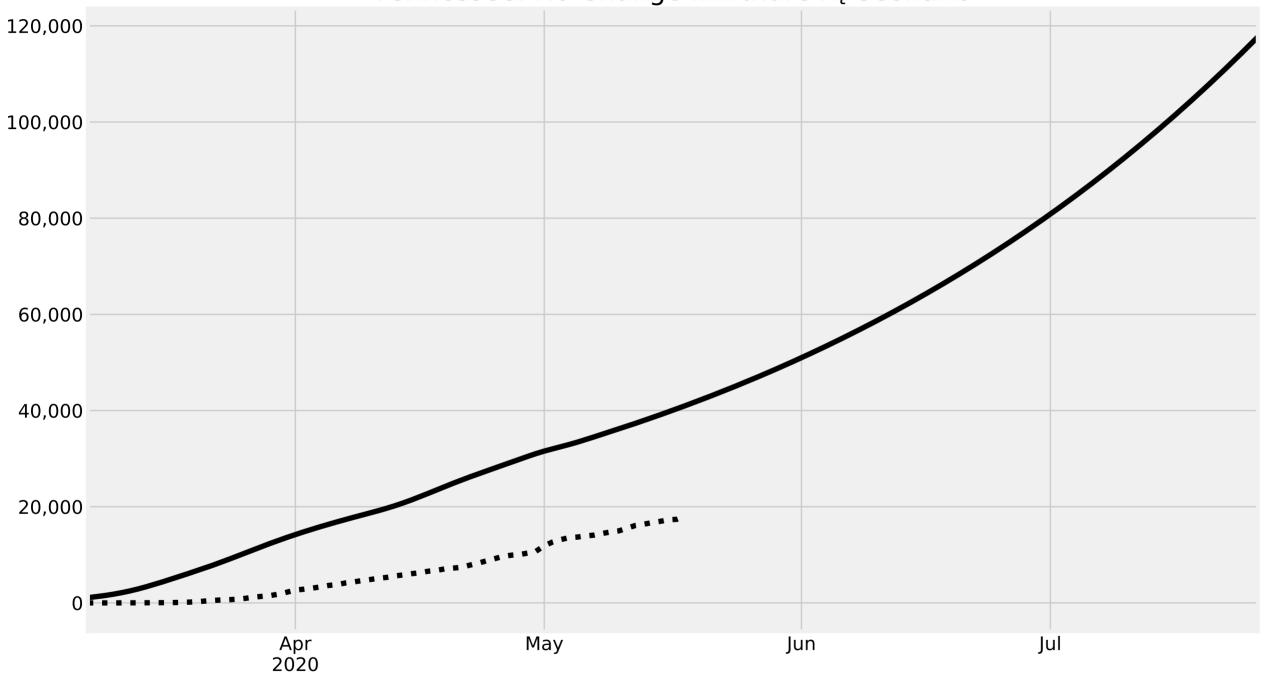
 $Rate_{ICU}$ : 31.71%  $Rate_{Ventilator}$ : 40.00%  $Rate_{Mortality}$ : 1.00%

 $BasicR_0: 2.5$ 

Author: Michael Donnelly (twtr: @donnellymjd)



### **Cumulative Infections Forecast** Tennessee: No Change in Future $R_t$ Scenario



Forecast Cumulative Infections

Reported Cumulative Infections

Parameters Used

 $D_{incubation}$ : 3.0  $D_{infectious}$ : 4.0  $D_{tohospital}$ : 7.0

D<sub>inhospital</sub>: 11.0

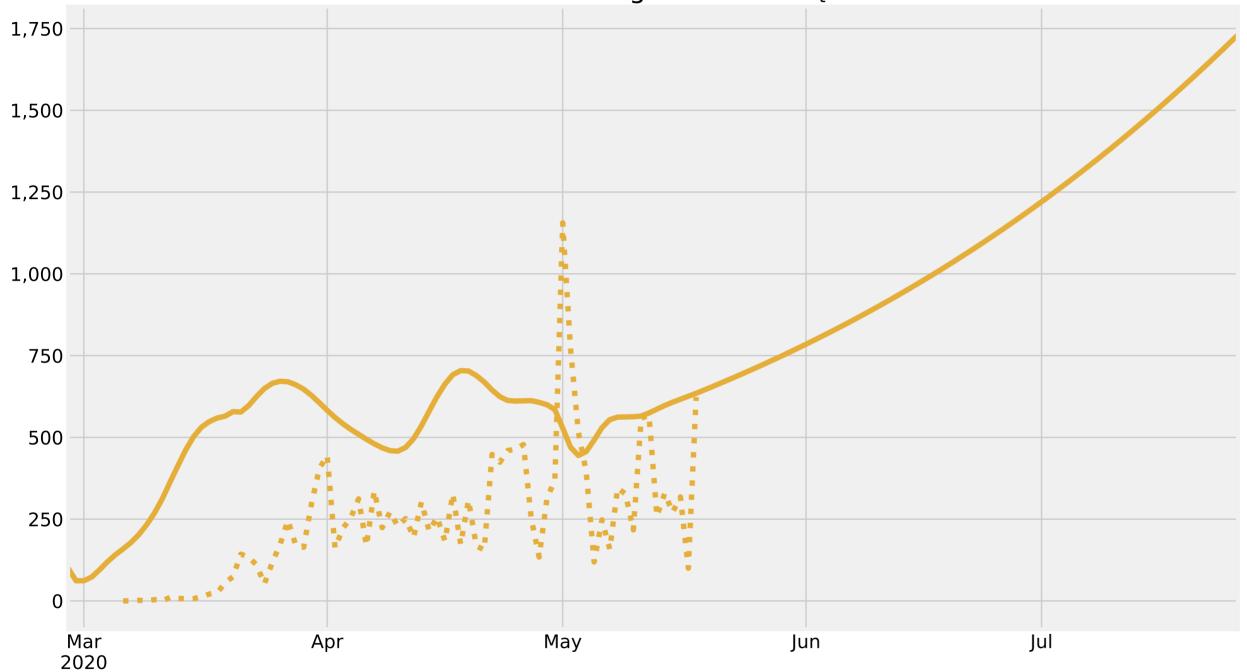
 $D_{tildeath}: 17.0$ 

 $Rate_{Hospitalization}: 4.00\%$ 

Rate<sub>ICU</sub>: 31.71% Rate<sub>Ventilator</sub>: 40.00% Rate<sub>Mortality</sub>: 1.00%

 $BasicR_0: 2.5$ 

# Daily Exposures Forecast Tennessee: No Change in Future $R_t$ Scenario



Forecast Daily New Infections (Exposed) Reported Daily New Infections (Exposed)

Parameters Used

 $D_{incubation}$ : 3.0  $D_{infectious}$ : 4.0  $D_{tohospital}$ : 7.0

D<sub>inhospital</sub>: 11.0  $D_{tildeath}: 17.0$ 

Rate<sub>Hospitalization</sub>: 4.00%

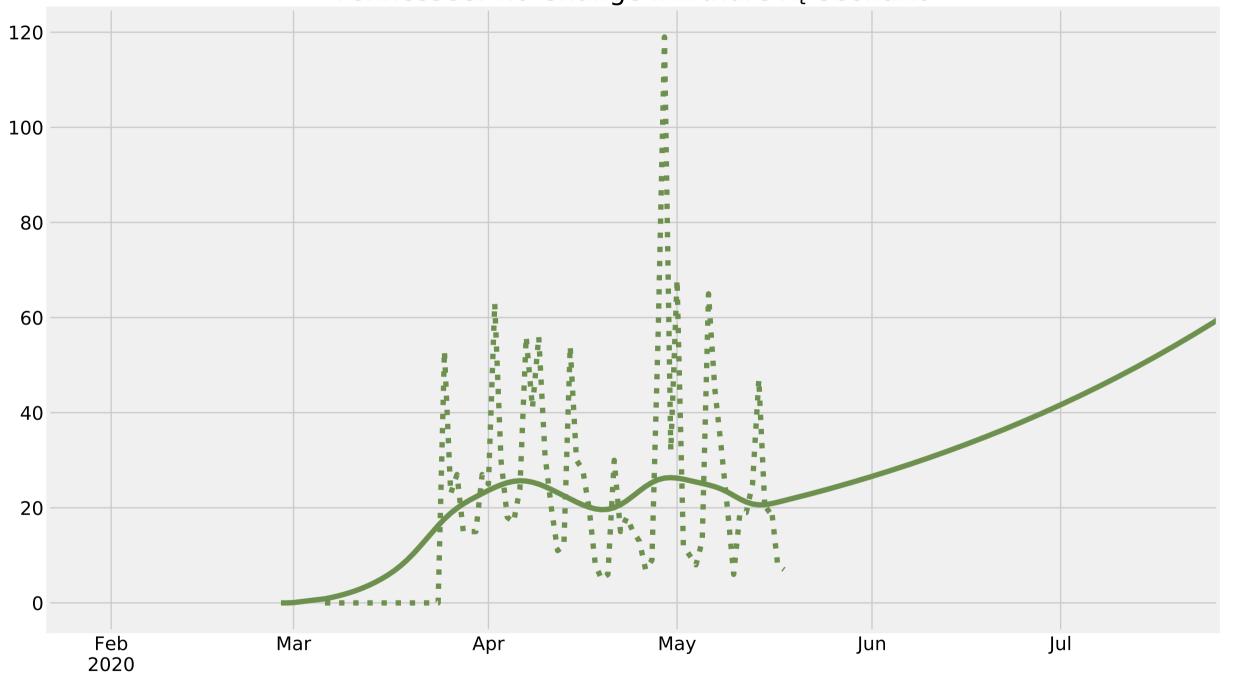
*Rate<sub>ICU</sub>*: 31.71%

Rate<sub>Ventilator</sub>: 40.00% Rate<sub>Mortality</sub>: 1.00%

 $BasicR_0: 2.5$ 

Author: Michael Donnelly (twtr: @donnellymjd)

## Daily Hospital Admissions Forecast Tennessee: No Change in Future $R_t$ Scenario



Forecast Hospital Admissions Reported Hospital Admissions

Parameters Used

 $D_{incubation}: 3.0$ 

 $D_{infectious}$ : 4.0  $D_{tohospital}$ : 7.0

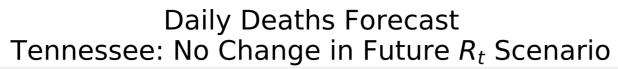
D<sub>inhospital</sub>: 11.0  $D_{tildeath}: 17.0$ 

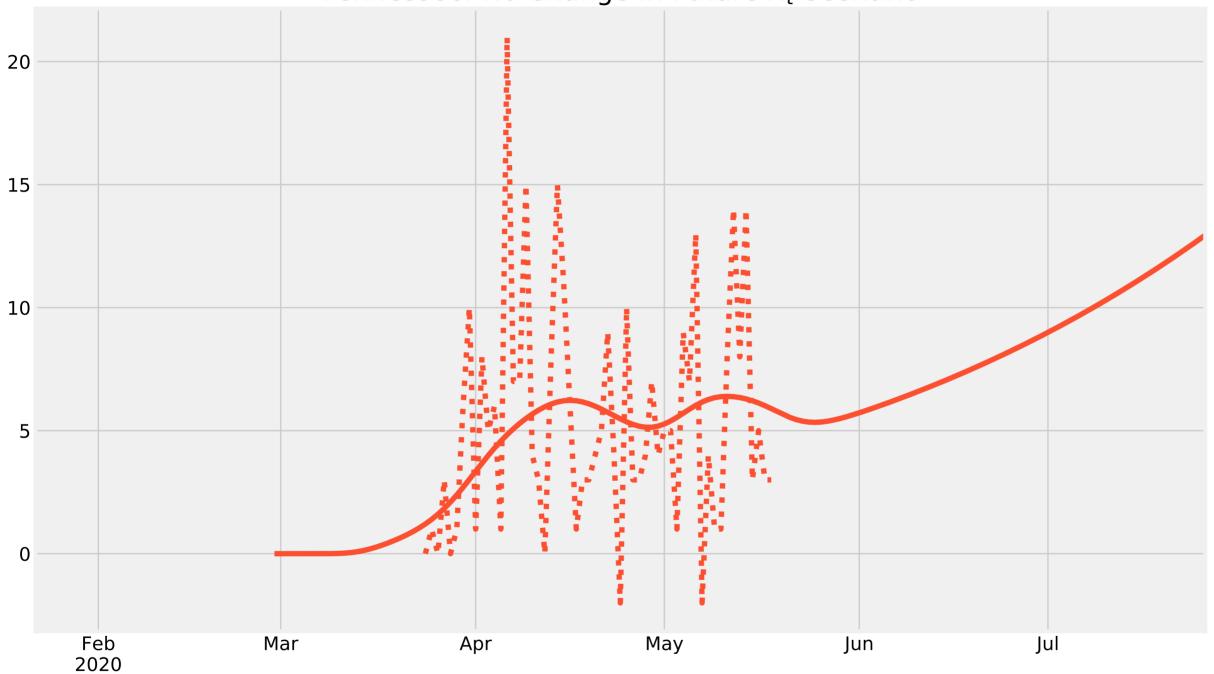
 $Rate_{Hospitalization}: 4.00\%$ 

Rate<sub>ICU</sub>: 31.71%

Rate<sub>Ventilator</sub>: 40.00% Rate<sub>Mortality</sub>: 1.00%

 $BasicR_0: 2.5$ 





Forecast Daily Deaths • • Reported Daily Deaths

Parameters Used

 $D_{incubation}: 3.0$ 

 $D_{infectious}$ : 4.0  $D_{tohospital}$ : 7.0

D<sub>inhospital</sub>: 11.0

 $D_{tildeath}$ : 17.0

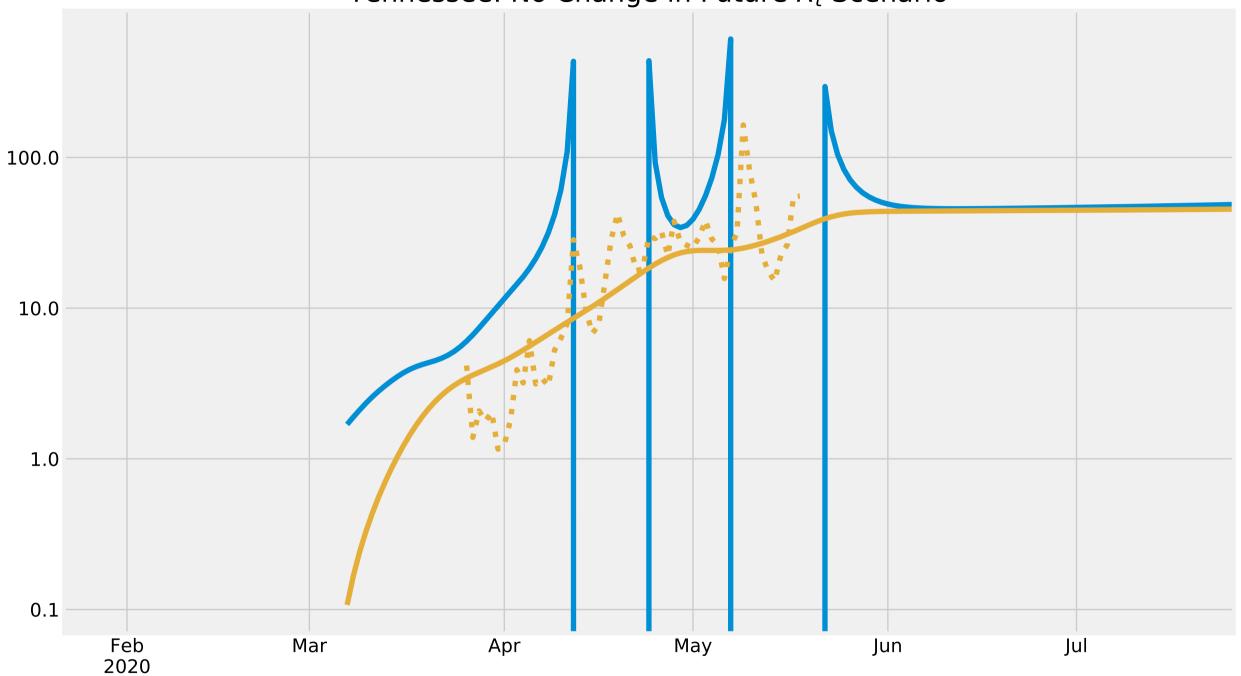
Rate<sub>Hospitalization</sub>: 4.00%

Rate<sub>ICU</sub>: 31.71%

Rate<sub>Ventilator</sub>: 40.00% Rate<sub>Mortality</sub>: 1.00%

 $BasicR_0: 2.5$ 





hospitalized deaths Reported Total Deaths

Parameters Used

 $D_{incubation}: 3.0$   $D_{infectious}: 4.0$   $D_{tohospital}: 7.0$   $D_{inhospital}: 11.0$   $D_{tildeath}: 17.0$ 

Rate<sub>Hospitalization</sub>: 4.00%

Rate<sub>ICU</sub>: 31.71%

Rate<sub>Ventilator</sub>: 40.00% Rate<sub>Mortality</sub>: 1.00%

 $BasicR_0: 2.5$ 

Author: Michael Donnelly (twtr: @donnellymjd)