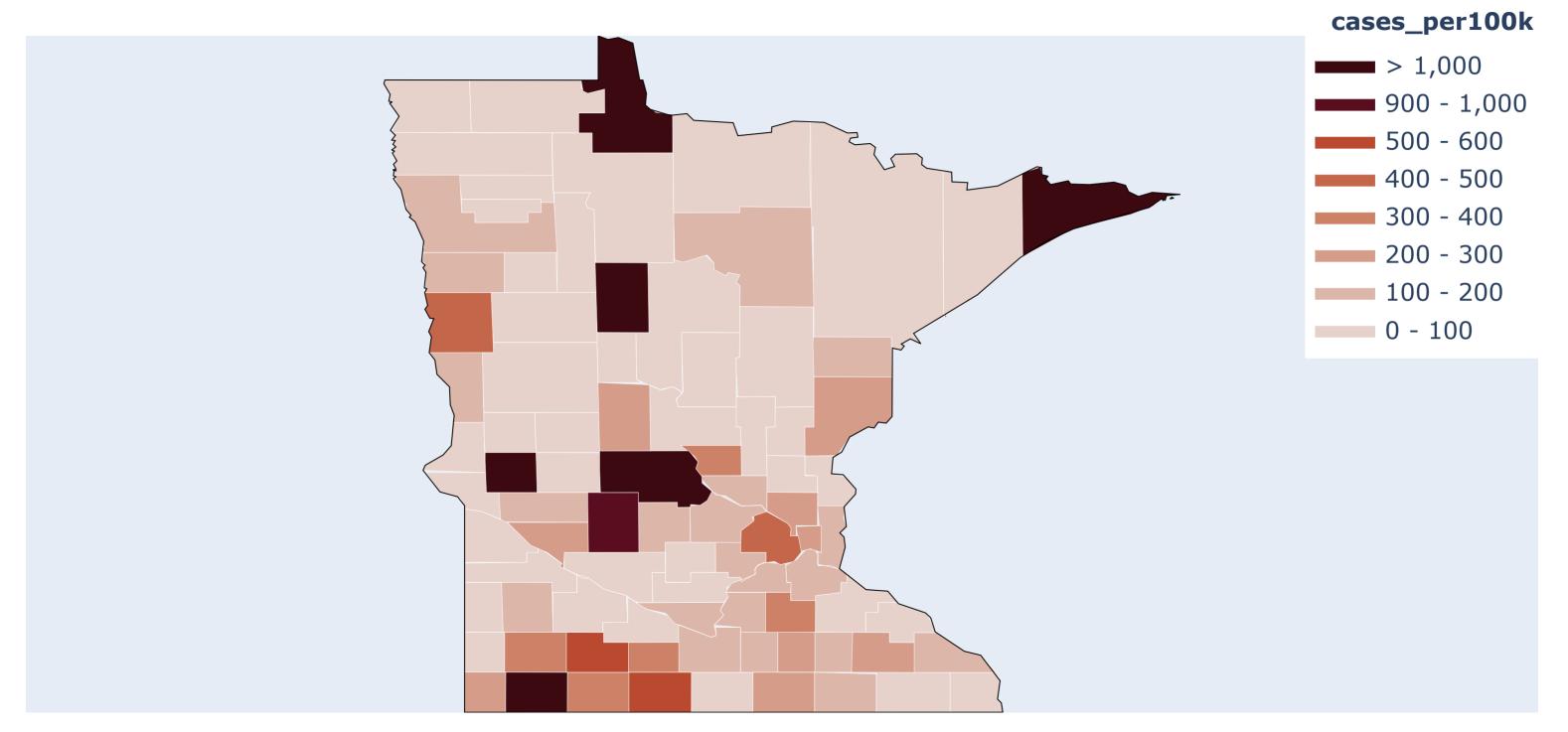
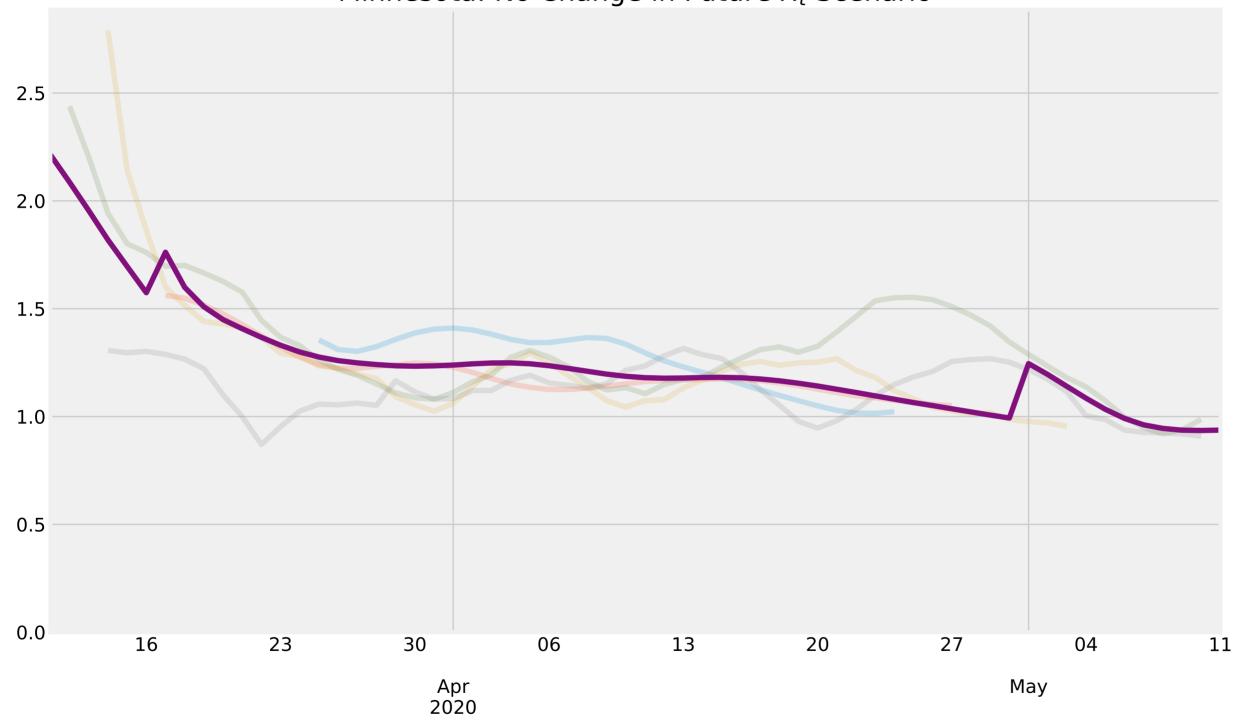
### Minnesota: COVID-19 Cases Per 100k Residents



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



rt\_deaths\_dailyrt\_hosp\_concurrt\_hosp\_admitsrt\_cases\_dailyrt\_pos\_test\_share\_daily

Parameters Used

rt\_joint\_est

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

 $D_{tohospital}:7.0$ 

 $D_{inhospital}: 11.0$  $D_{tildeath}: 17.0$ 

 $Rate_{Hospitalization}: 4.00\%$ 

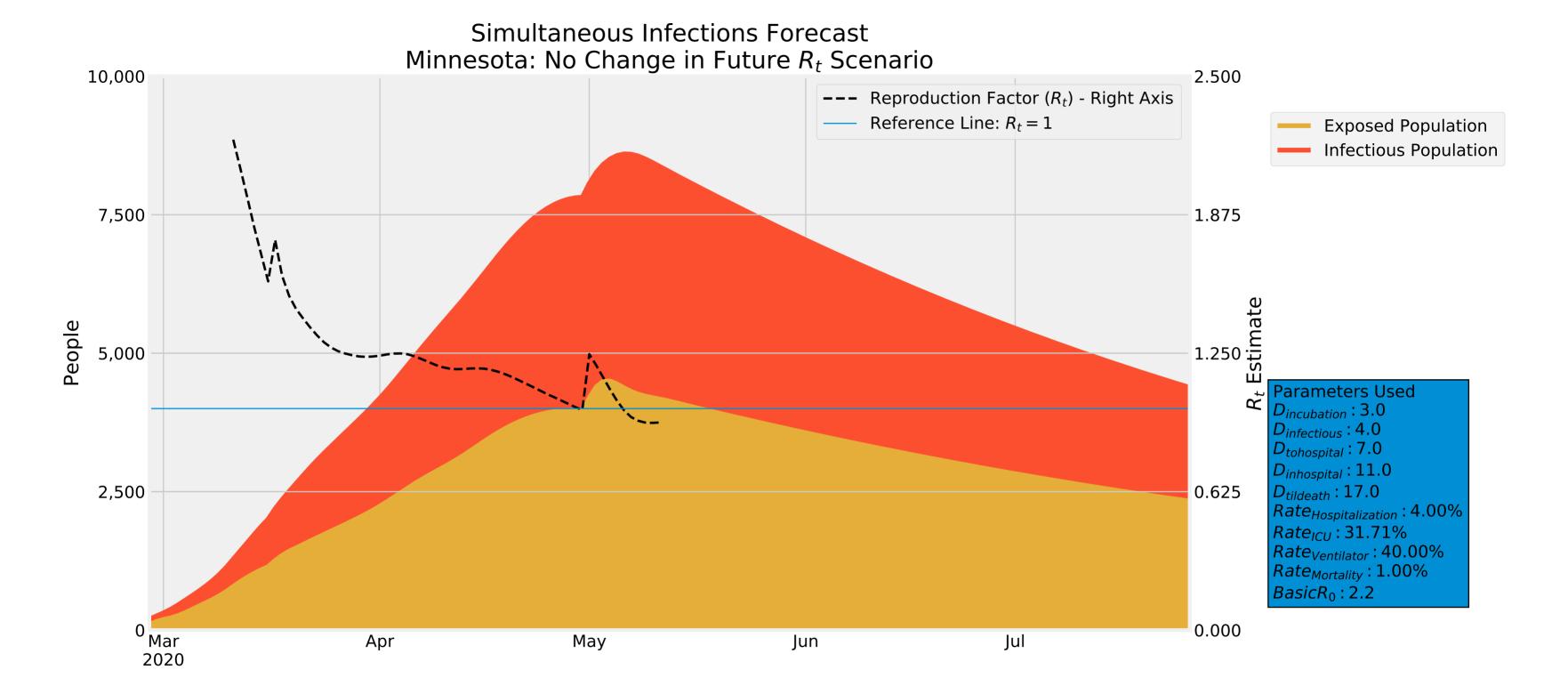
*Rate<sub>ICU</sub>*: 31.71%

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

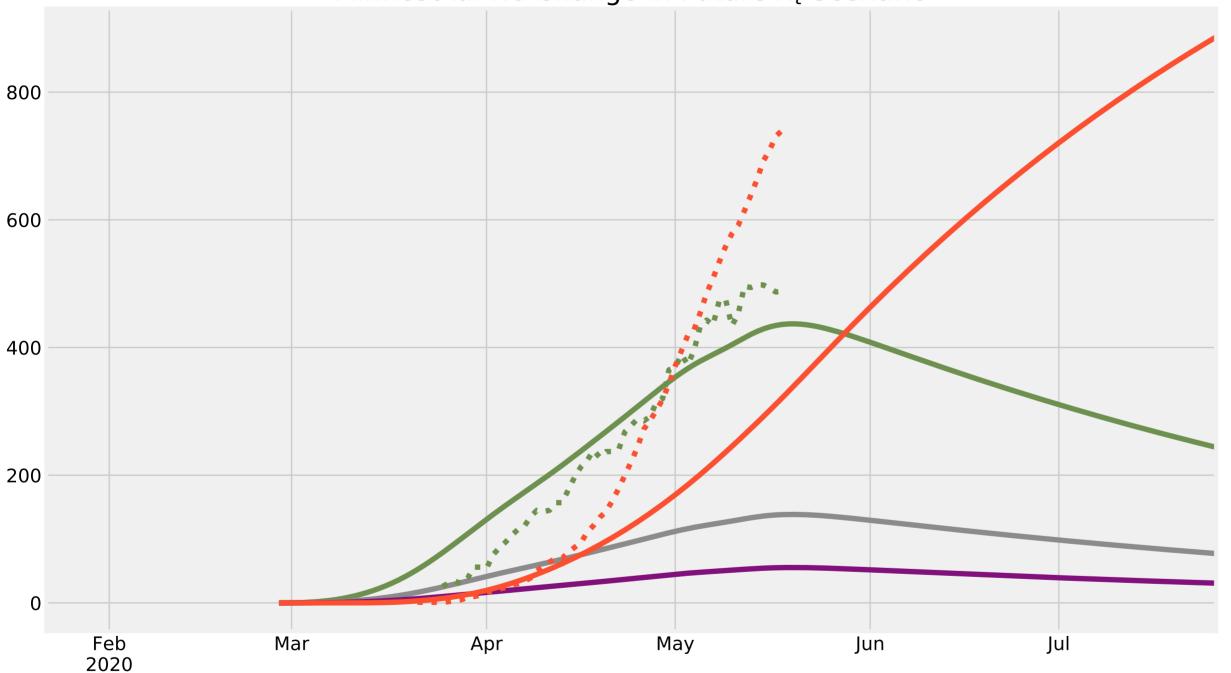
 $BasicR_0: 2.2$ 

Author: Michael Donnelly (twtr: @donnellymjd)

Chart created on 19 May 2020



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



Forecast Concurrent Hospitalizations

Forecast ICU Cases

Forecast Ventilations

Forecast Cumulative Deaths

Reported Concurrent Hospitalizations

Reported Total Deaths

#### Parameters Used

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

D<sub>inhospital</sub>: 11.0

D<sub>tildeath</sub>: 17.0

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

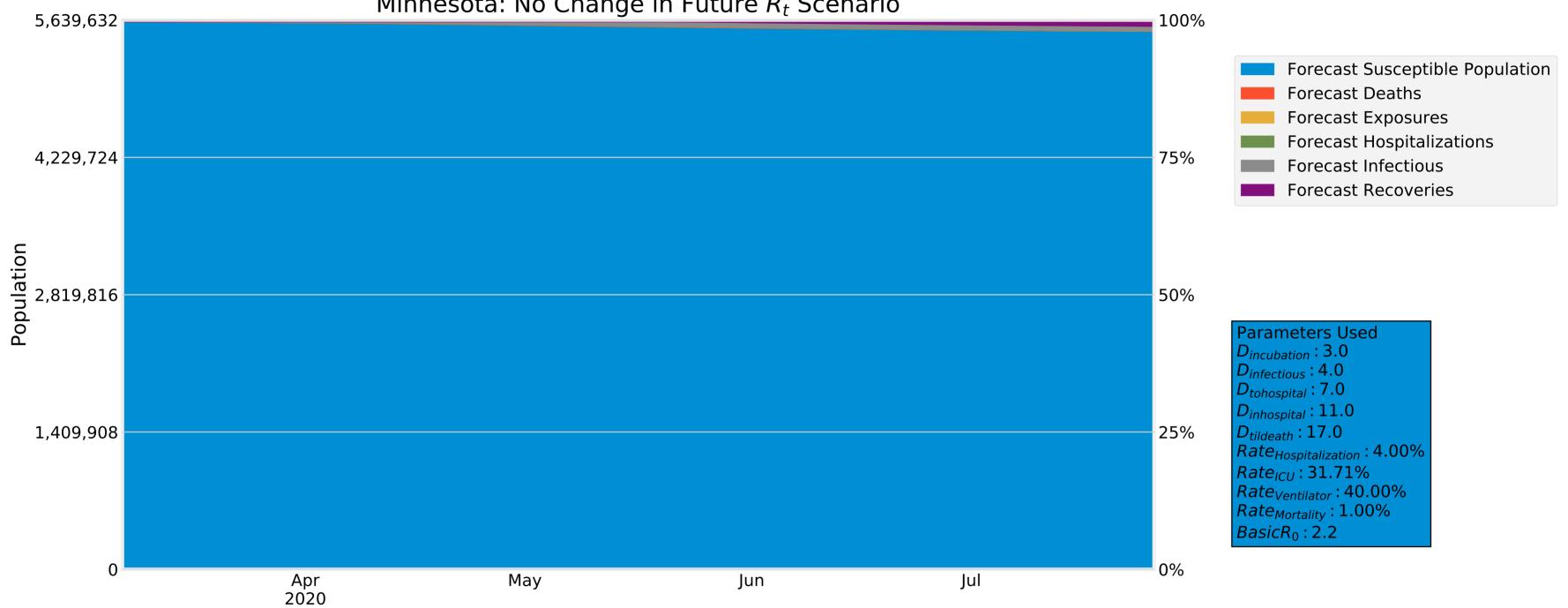
 $Rate_{ICU}$ : 31.71%  $Rate_{Ventilator}$ : 40.00%  $Rate_{Mortality}$ : 1.00%

 $BasicR_0: 2.2$ 

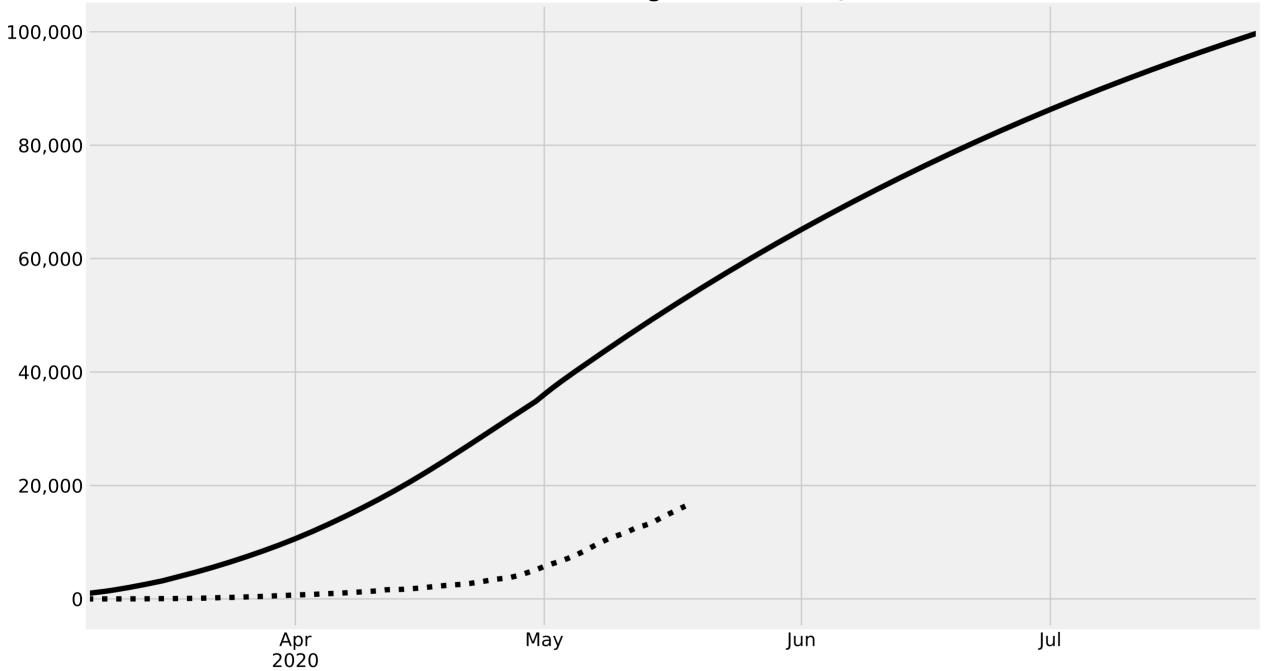
Author: Michael Donnelly (twtr: @donnellymjd)

Chart created on 19 May 2020

Population Overview Forecast Minnesota: No Change in Future  $R_t$  Scenario



### **Cumulative Infections Forecast** Minnesota: 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

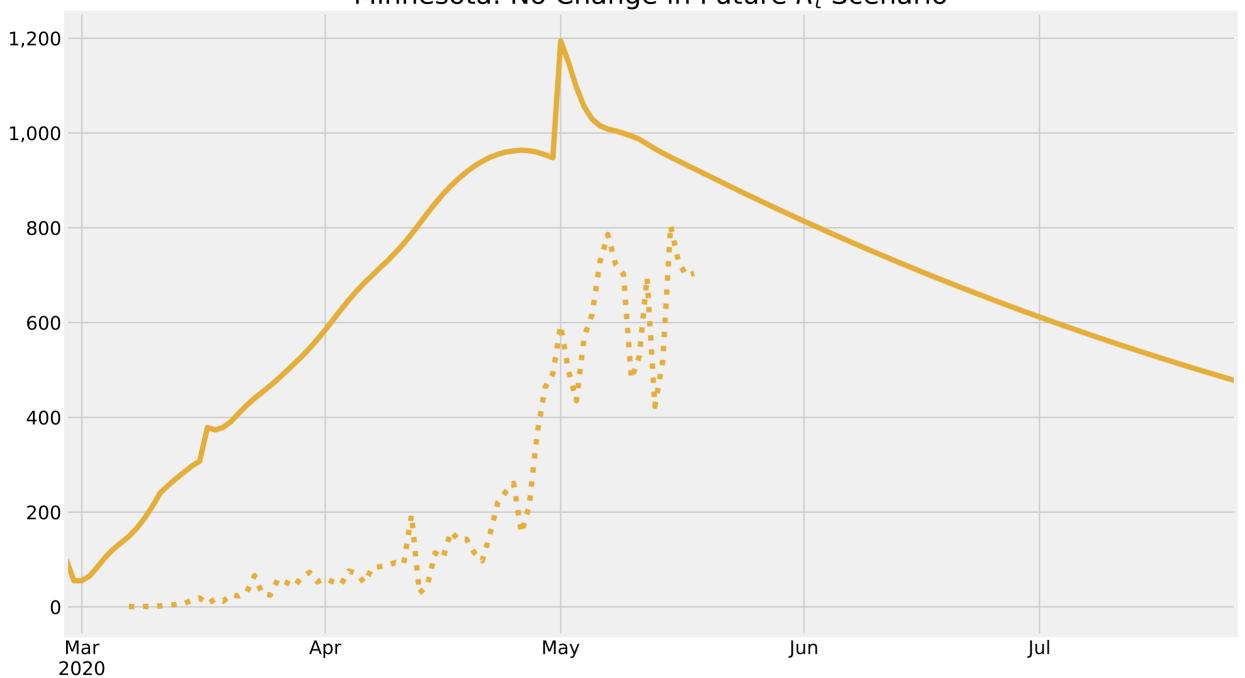
 $D_{tildeath}: 17.0$ 

 $Rate_{Hospitalization}: 4.00\%$ 

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

 $BasicR_0: 2.2$ 

# Daily Exposures Forecast Minnesota: 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

Dinhospital: 11.0

 $D_{tildeath}: 17.0$ 

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

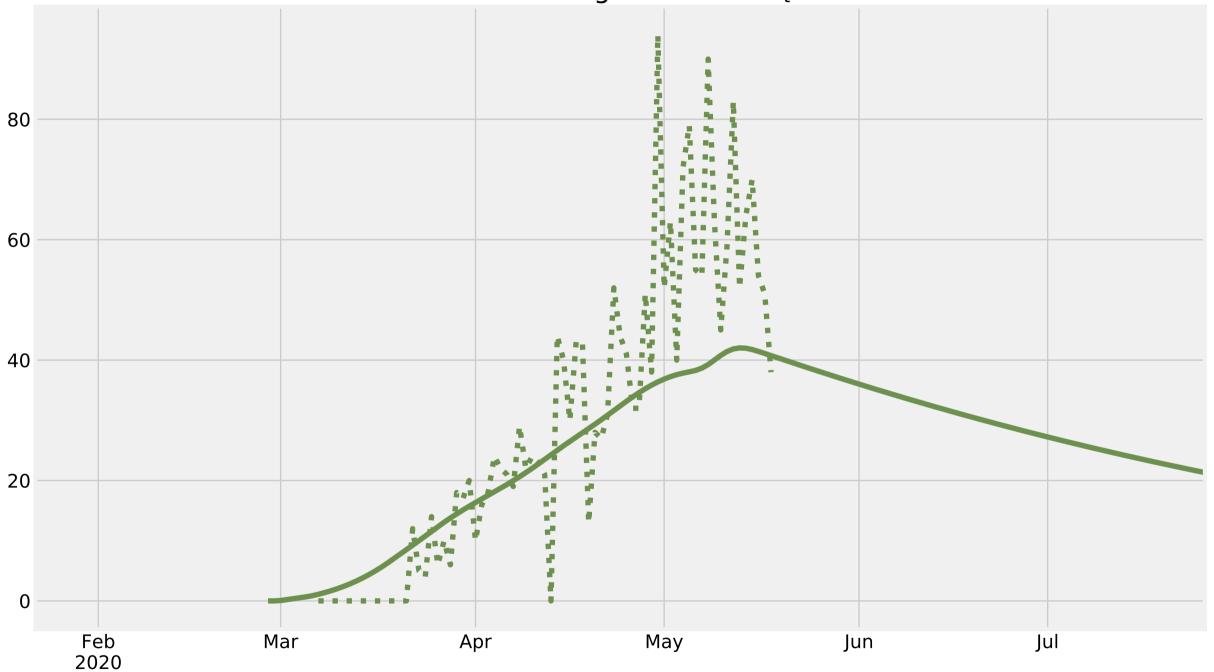
*Rate<sub>ICU</sub>*: 31.71%

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

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

 $BasicR_0: 2.2$ 

Daily Hospital Admissions Forecast Minnesota: 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

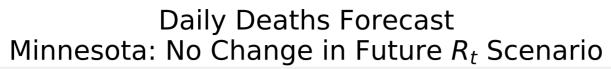
D<sub>inhospital</sub>: 11.0

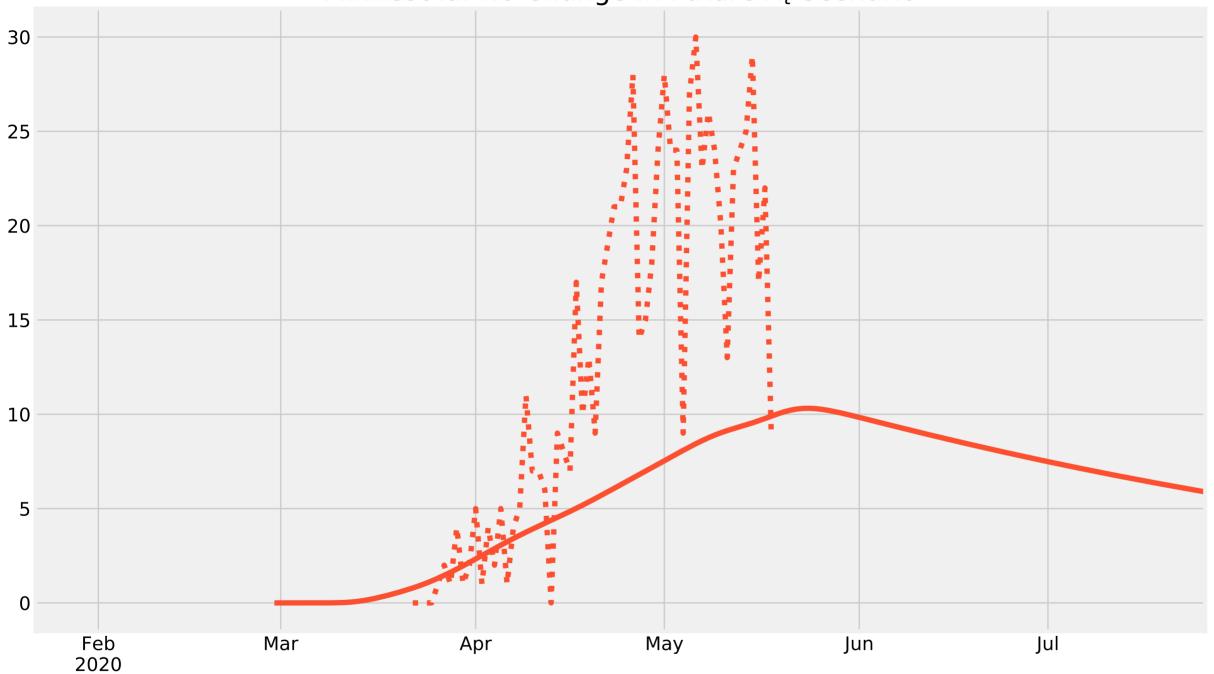
 $D_{tildeath}: 17.0$ 

 $Rate_{Hospitalization}: 4.00\%$ 

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

 $BasicR_0: 2.2$ 





Forecast Daily Deaths • • • Reported Daily Deaths

Parameters Used

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

 $D_{inhospital}: 11.0$ 

 $D_{tildeath}: 17.0$ 

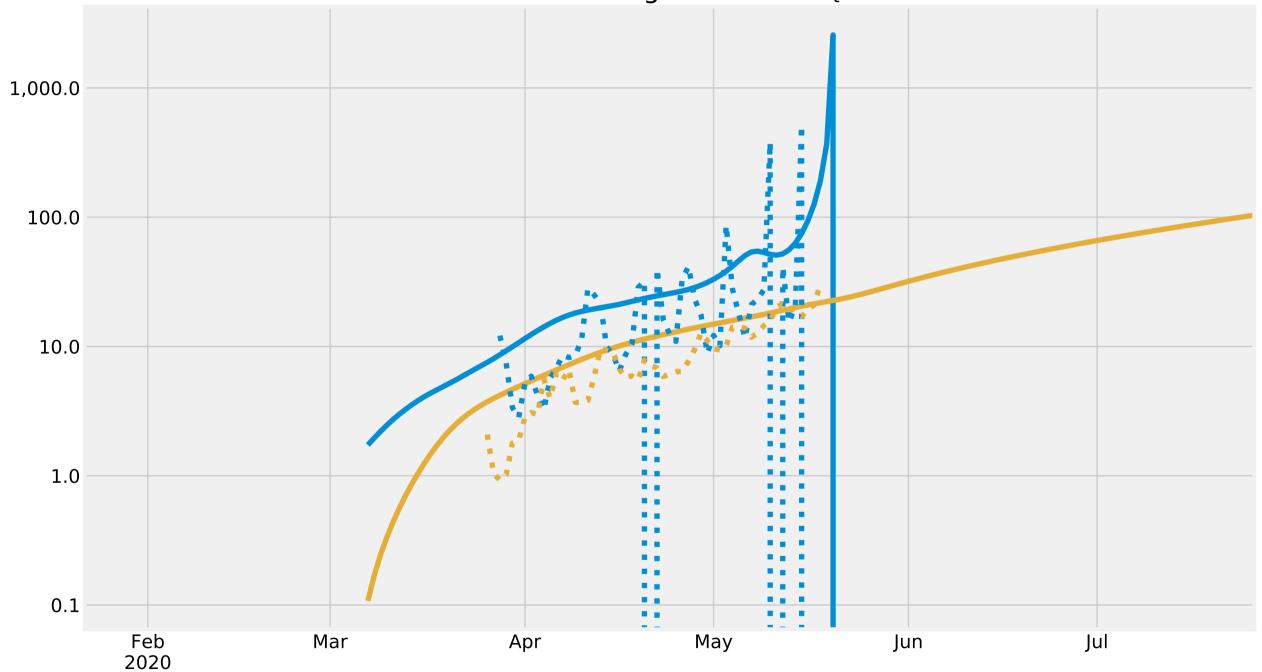
Rate<sub>Hospitalization</sub>: 4.00%

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

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

 $BasicR_0: 2.2$ 

# Doubling Rate Forecast Minnesota: No Change in Future $R_t$ Scenario



hospitalized

deaths

• • • Reported Concurrent Hospitalizations

Reported Total Deaths

### Parameters Used

D<sub>incubation</sub>: 3.0 D<sub>infectious</sub>: 4.0 D<sub>tohospital</sub>: 7.0  $D_{inhospital}: 11.0$  $D_{tildeath}: 17.0$ 

 $Rate_{Hospitalization}: 4.00\%$ 

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

 $BasicR_0: 2.2$ 

Author: Michael Donnelly (twtr: @donnellymjd)

Chart created on 19 May 2020