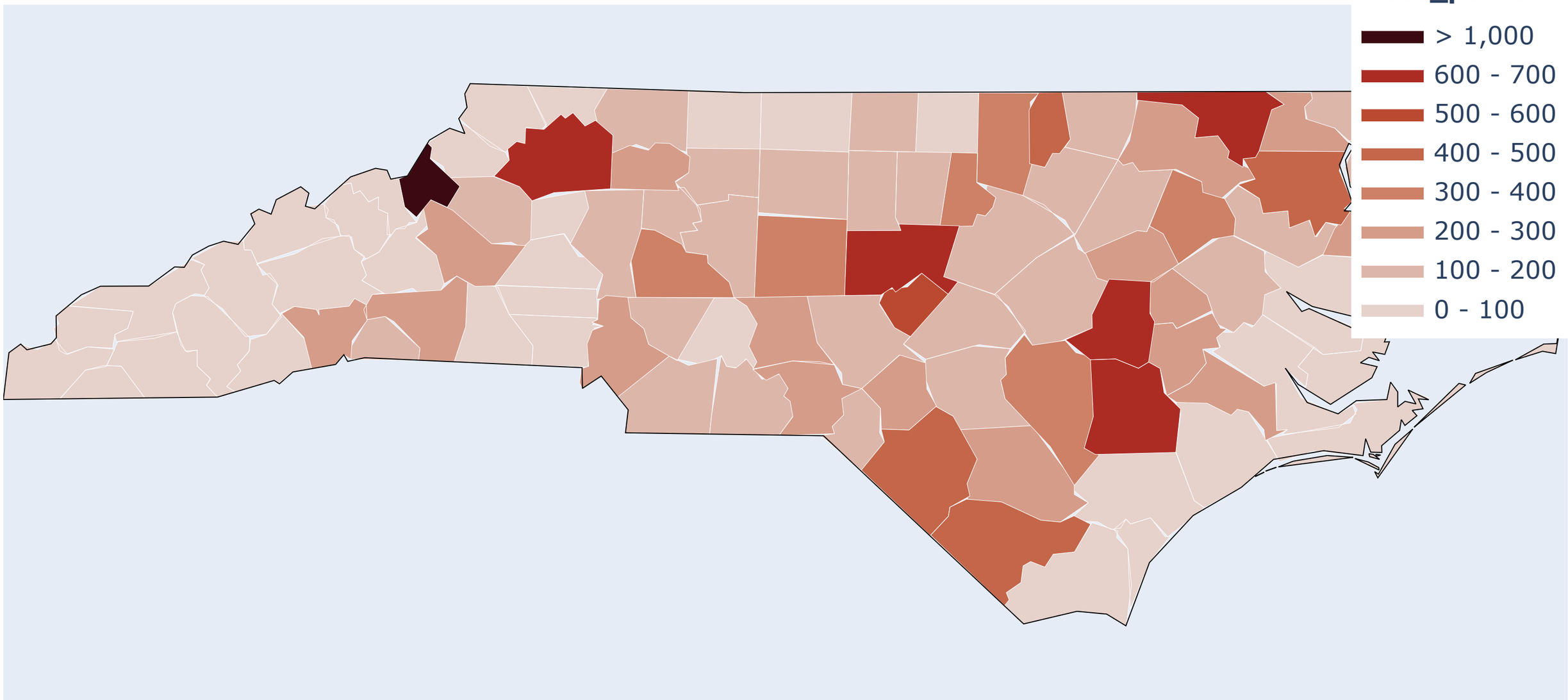
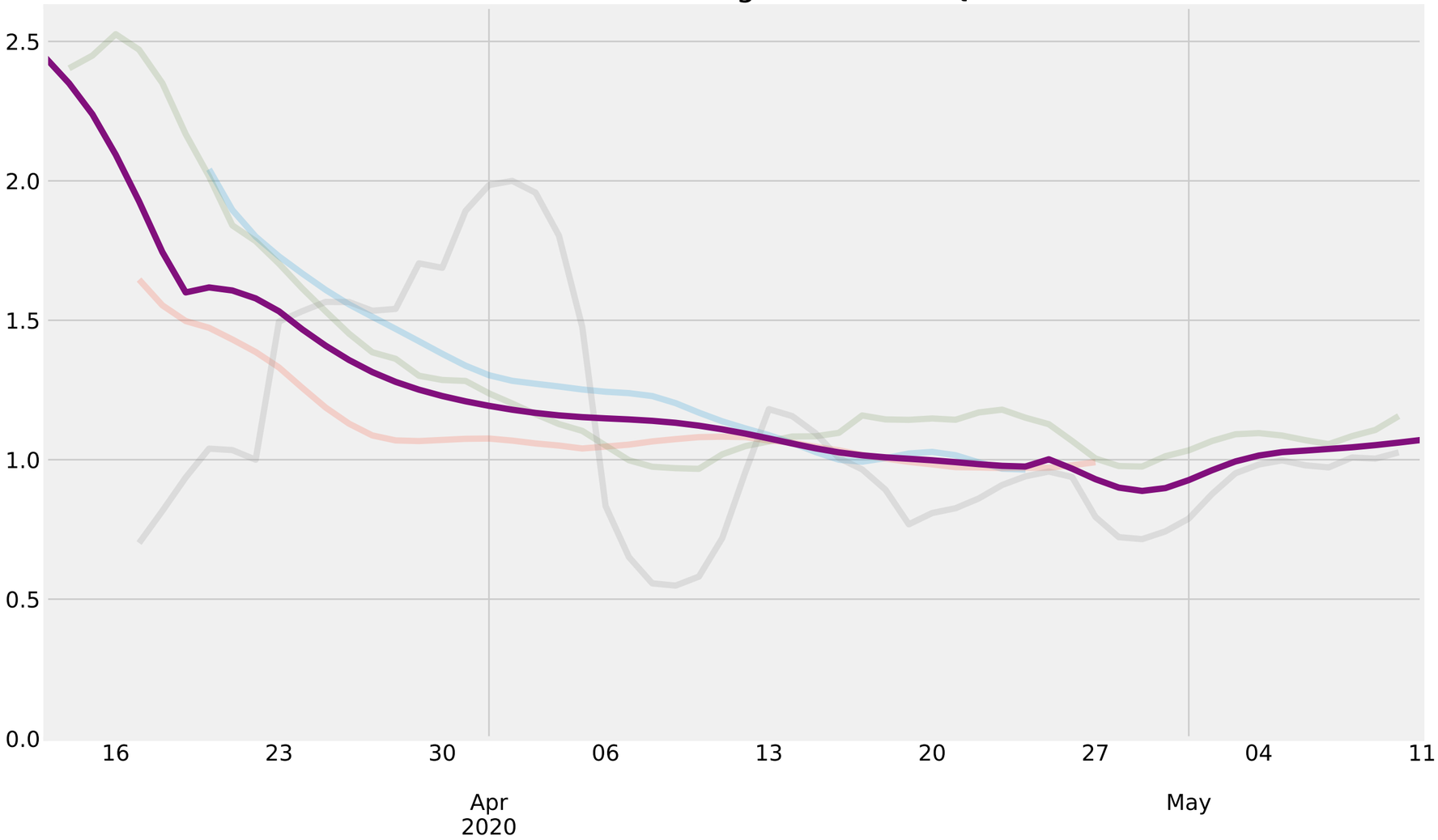
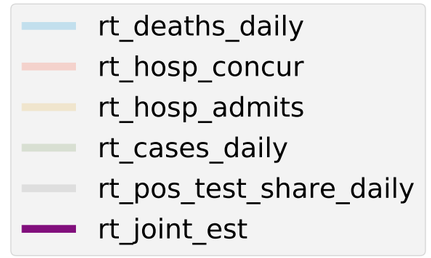
# North Carolina: COVID-19 Cases Per 100k Residents



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




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%
$BasicR_0$ : 2.4

Author: Michael Donnelly (twtr: @donnellymjd)
Chart created on 19 May 2020

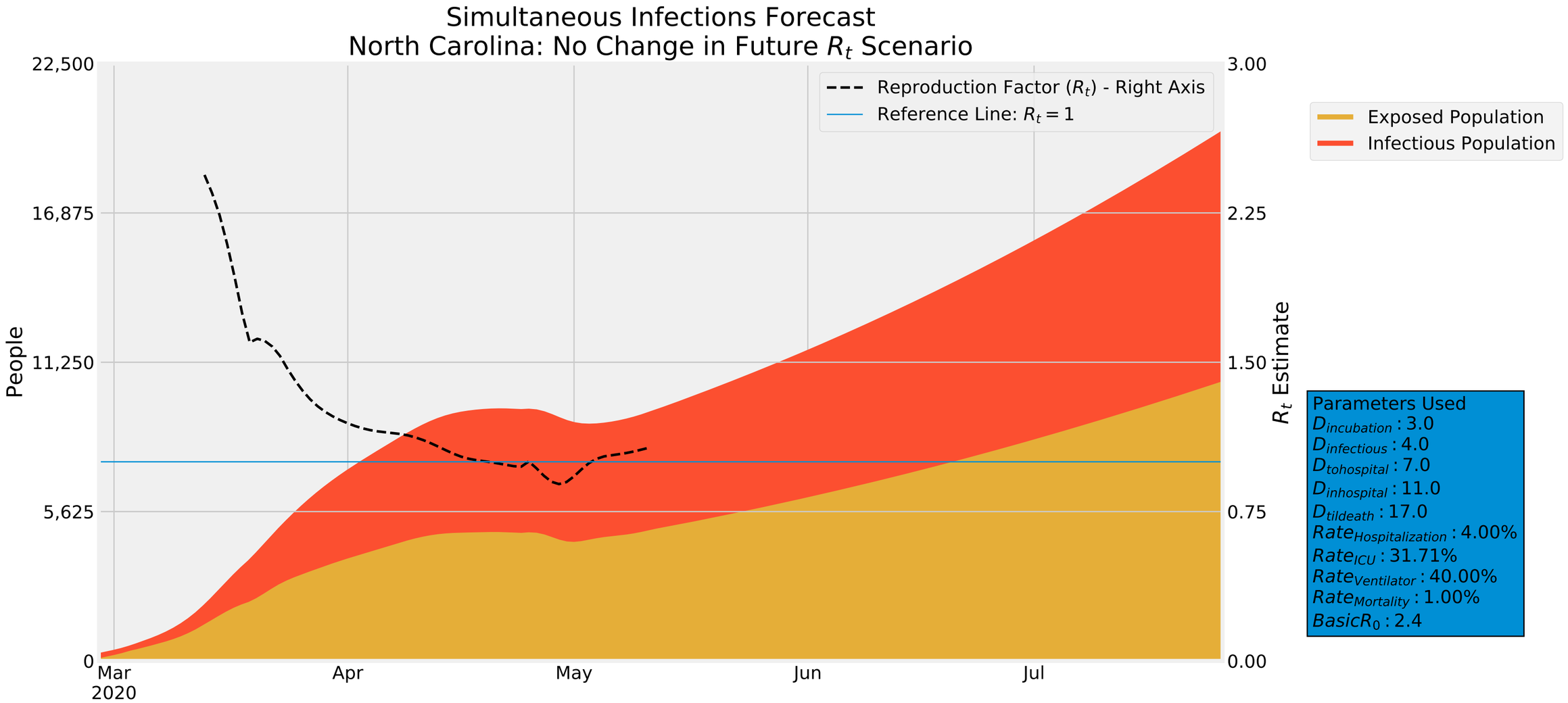



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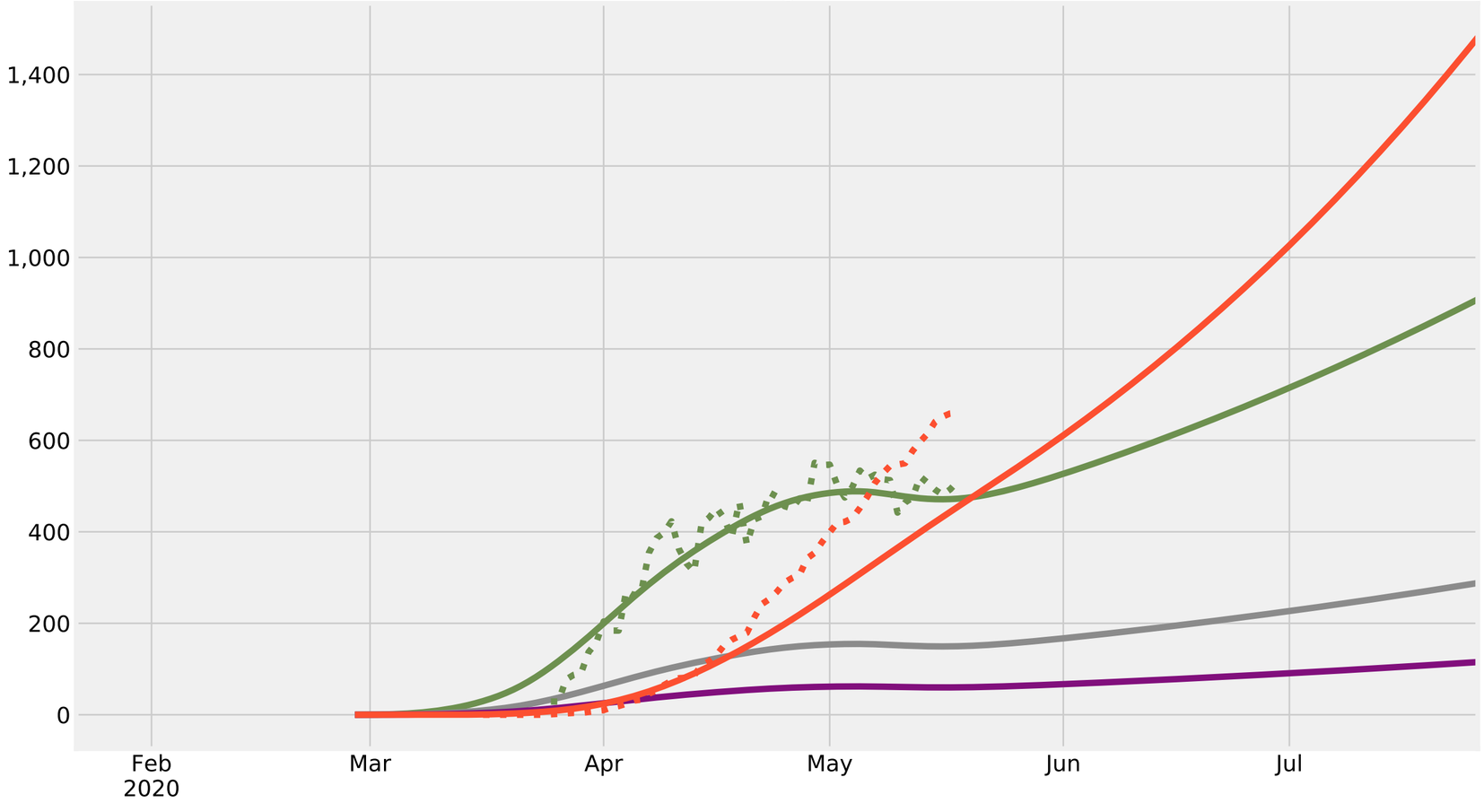
Chart created on 19 May 2020

# Hospitalization and Deaths Forecast
## North Carolina: 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
$D_{inhospital}$ : 11.0
$D_{tildeath}$ : 17.0
$Rate_{Hospitalization}$ : 4.00%
$Rate_{ICU}$ : 31.71%
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$Rate_{Mortality}$ : 1.00%
$BasicR_0$ : 2.4

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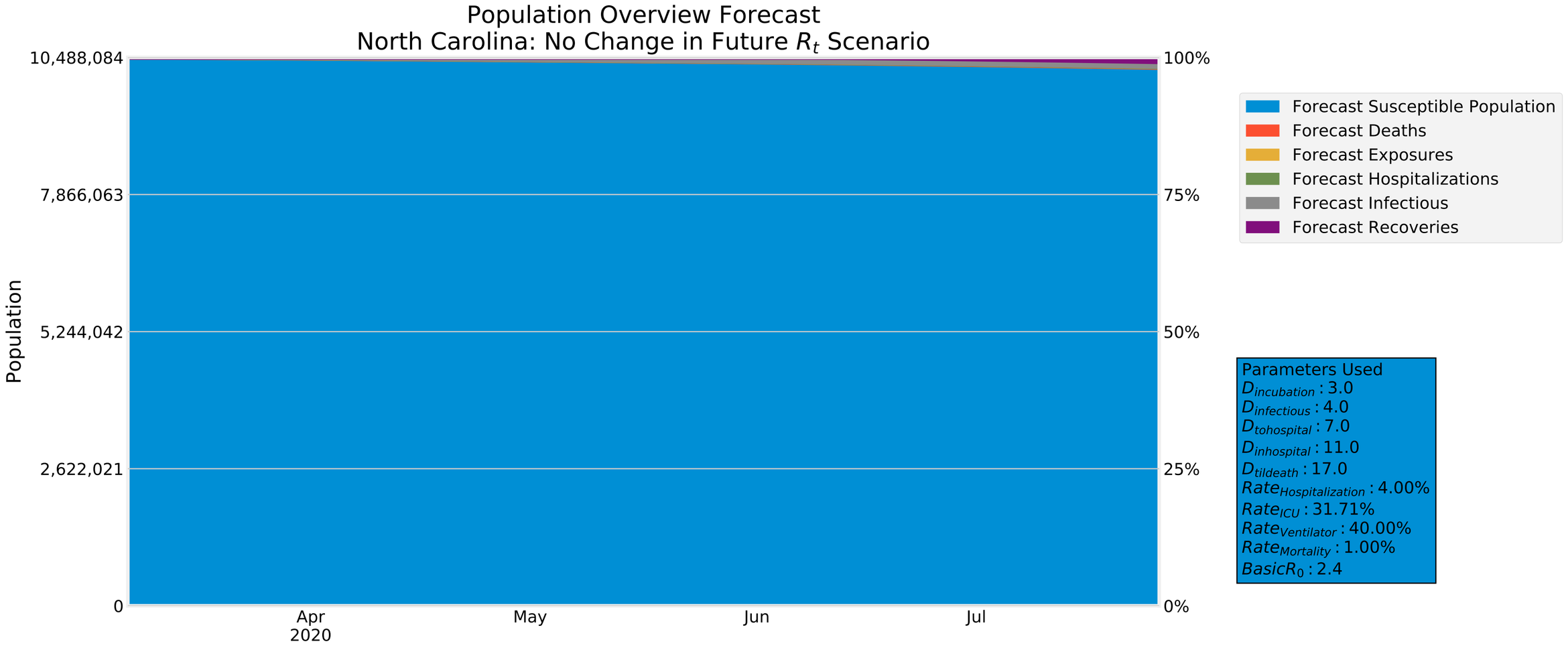
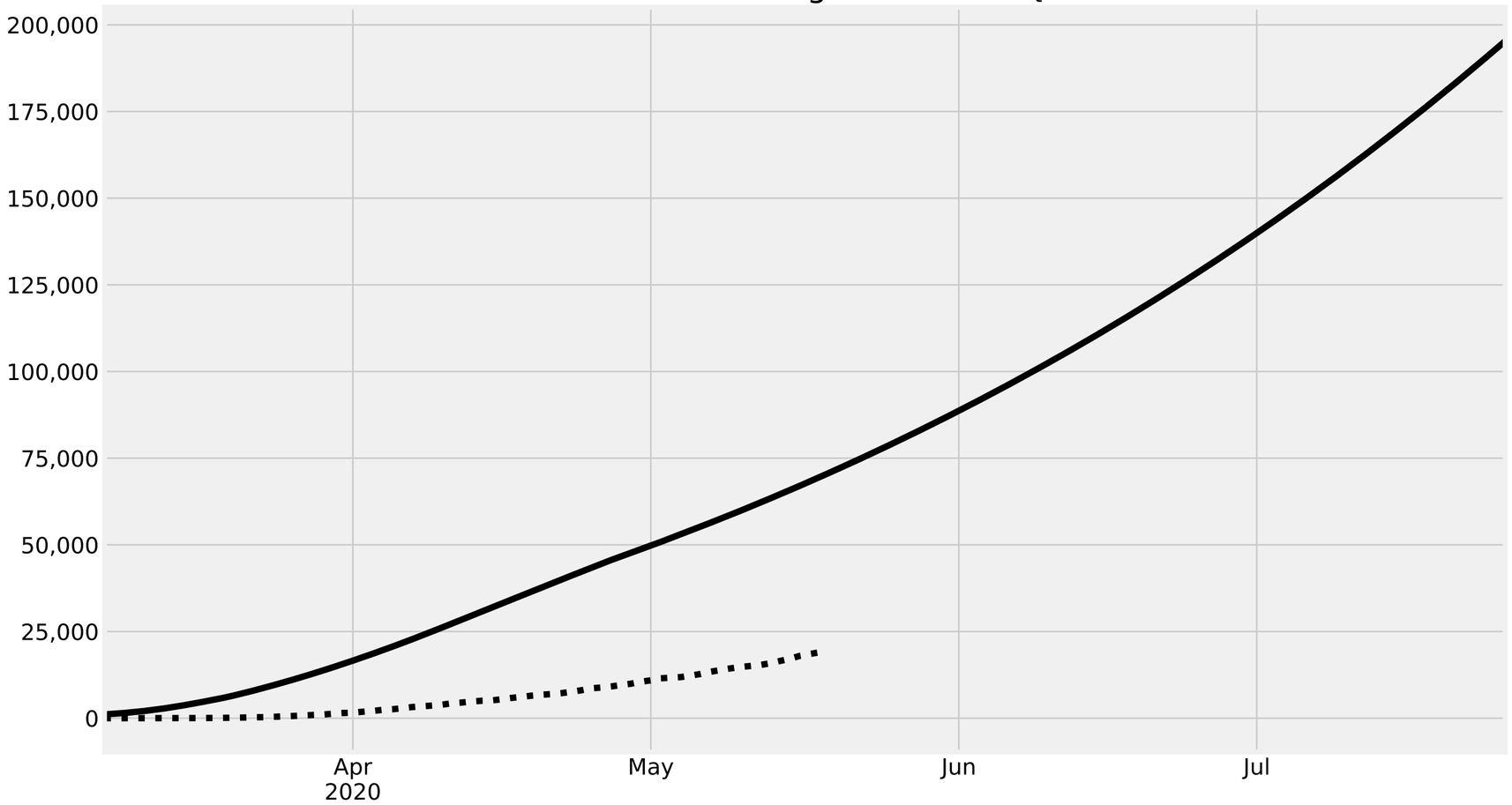

Population Overview Forecast
North Carolina: No Change in Future $R_t$ Scenario
Population
10,488,084
7,866,063
5,244,042
2,622,021
0
100%
75%
50%
25%
0%
Apr
2020
May
Jun
Jul
Forecast Susceptible Population
Forecast Deaths
Forecast Exposures
Forecast Hospitalizations
Forecast Infectious
Forecast Recoveries
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%
$BasicR_0$ : 2.4

# Cumulative Infections Forecast
## North Carolina: 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
$D_{inhospital}$ : 11.0
$D_{tildeath}$ : 17.0
$Rate_{Hospitalization}$ : 4.00%
$Rate_{ICU}$ : 31.71%
$Rate_{Ventilator}$ : 40.00%
$Rate_{Mortality}$ : 1.00%
$BasicR_0$ : 2.4

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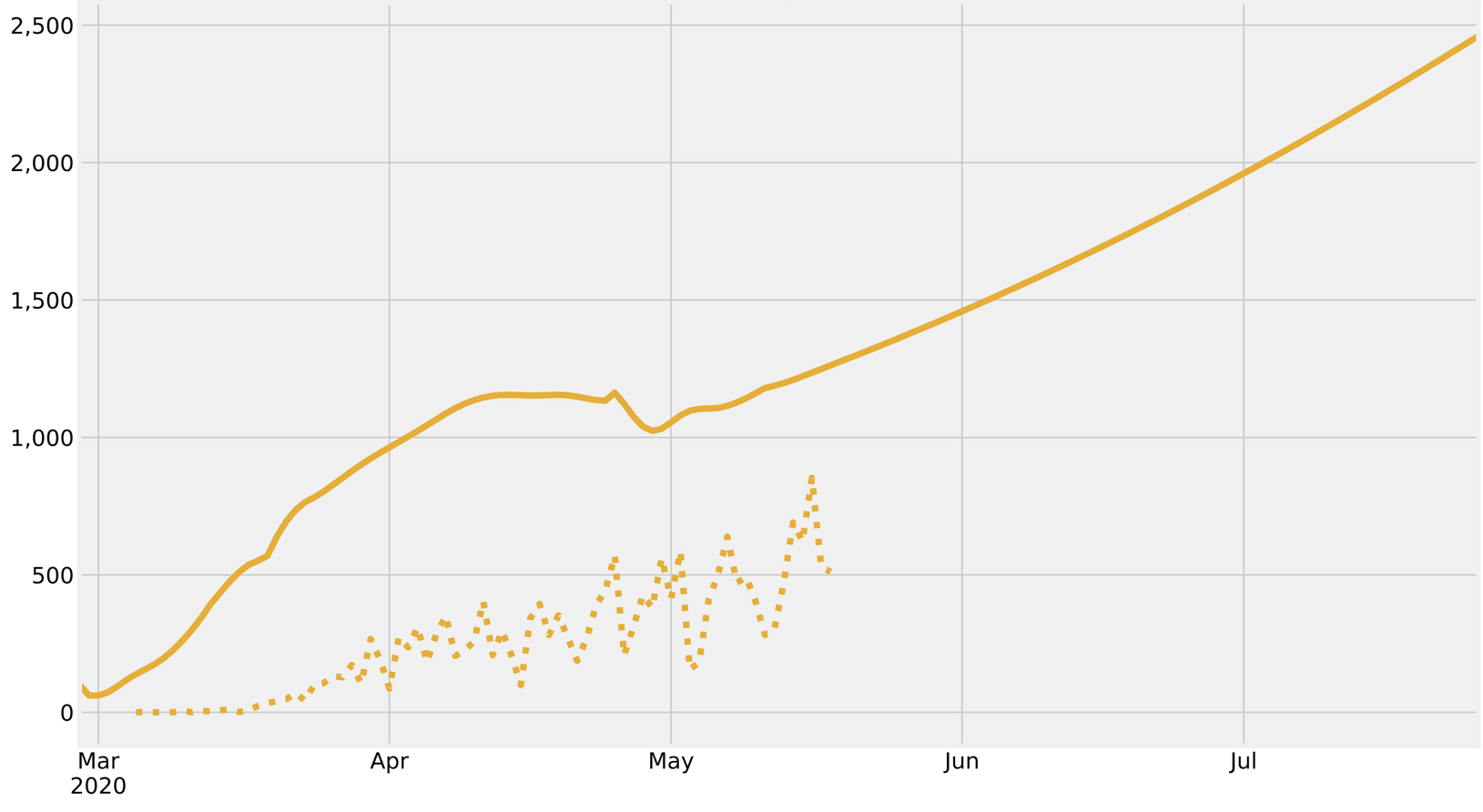
Chart created on 19 May 2020

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

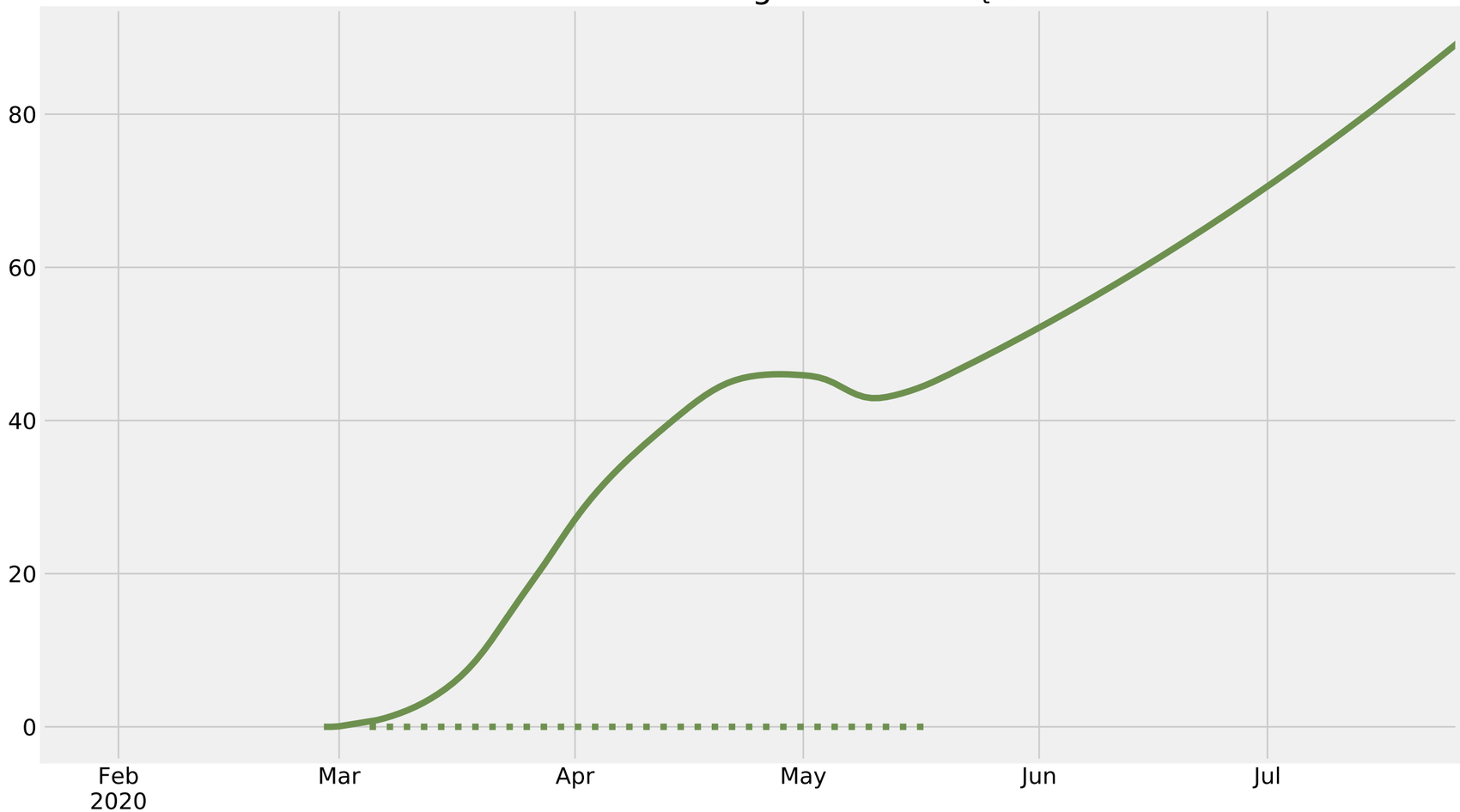



Forecast Daily New Infections (Exposed)
Reported Daily New Infections (Exposed)

**Parameters Used**
$D_{incubation}$ : 3.0
$D_{infectious}$ : 4.0
$D_{tohospital}$ : 7.0
$D_{inhospital}$ : 11.0
$D_{tildeath}$ : 17.0
$Rate_{Hospitalization}$ : 4.00%
$Rate_{ICU}$ : 31.71%
$Rate_{Ventilator}$ : 40.00%
$Rate_{Mortality}$ : 1.00%
$BasicR_0$ : 2.4

Author: Michael Donnelly (twtr: @donnellymjd)
Chart created on 19 May 2020

# Daily Hospital Admissions Forecast
# North Carolina: 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
$D_{inhospital}$ : 11.0
$D_{tildeath}$ : 17.0
$Rate_{Hospitalization}$ : 4.00%
$Rate_{ICU}$ : 31.71%
$Rate_{Ventilator}$ : 40.00%
$Rate_{Mortality}$ : 1.00%
$BasicR_0$ : 2.4

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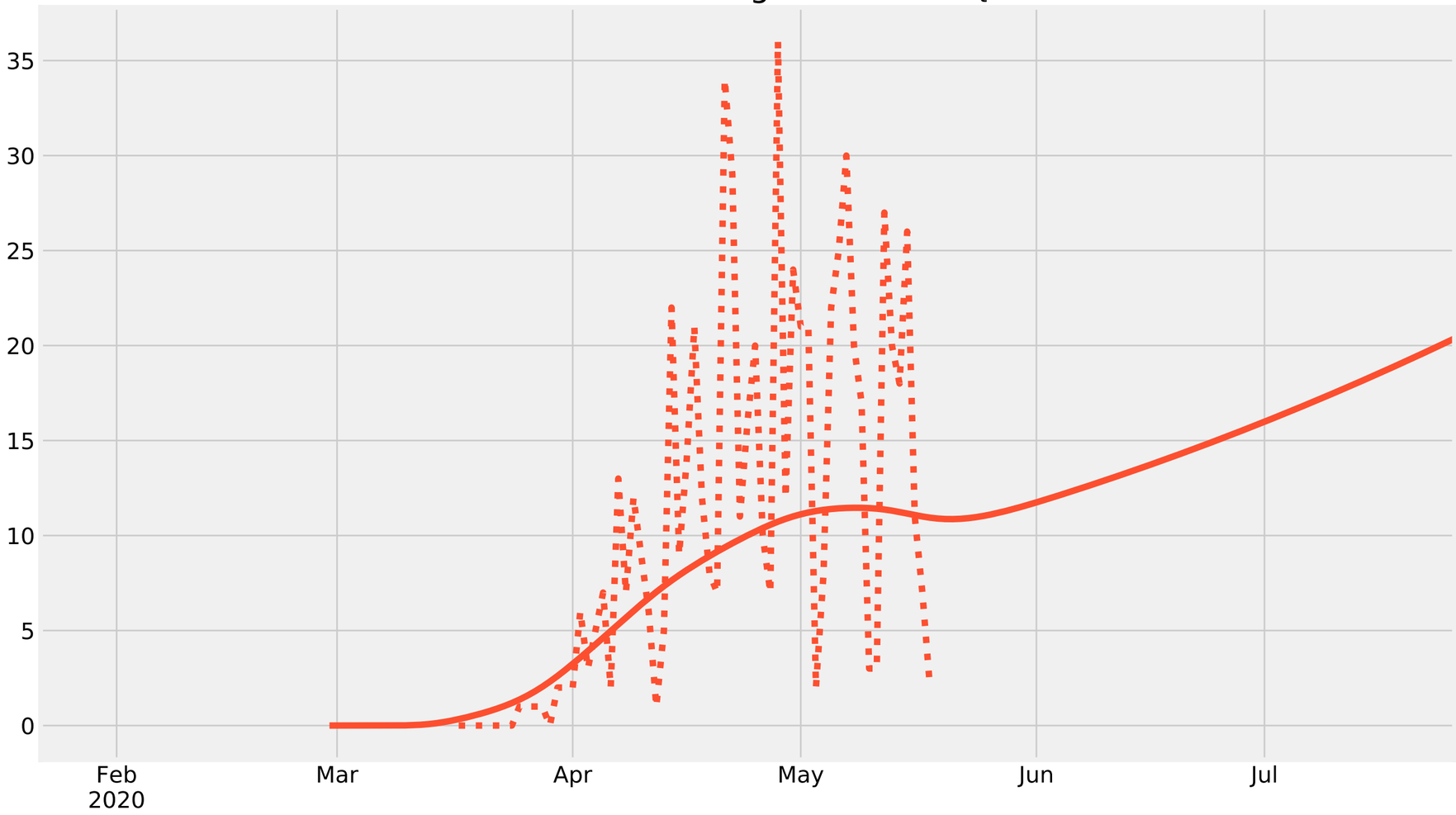
Chart created on 19 May 2020

# Daily Deaths Forecast
## North Carolina: No Change in Future $R_t$ Scenario




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
$Rate_{Hospitalization}$ : 4.00%
$Rate_{ICU}$ : 31.71%
$Rate_{Ventilator}$ : 40.00%
$Rate_{Mortality}$ : 1.00%
$BasicR_0$ : 2.4

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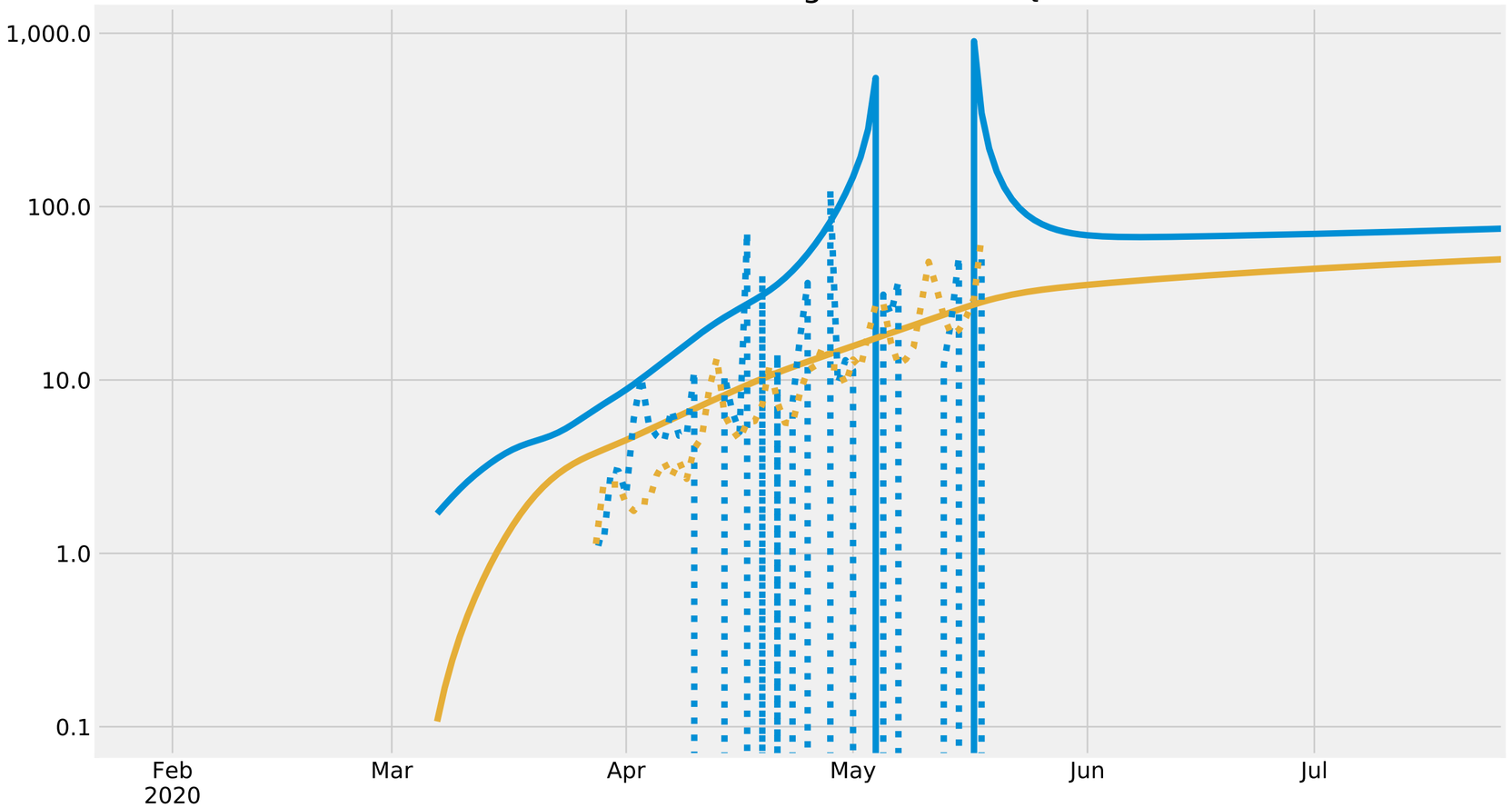
Chart created on 19 May 2020

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




hospitalized
deaths
Reported Concurrent Hospitalizations
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
$Rate_{Hospitalization}$ : 4.00%
$Rate_{ICU}$ : 31.71%
$Rate_{Ventilator}$ : 40.00%
$Rate_{Mortality}$ : 1.00%
$BasicR_0$ : 2.4

Author: Michael Donnelly (twtr: @donnellymjd)
Chart created on 19 May 2020