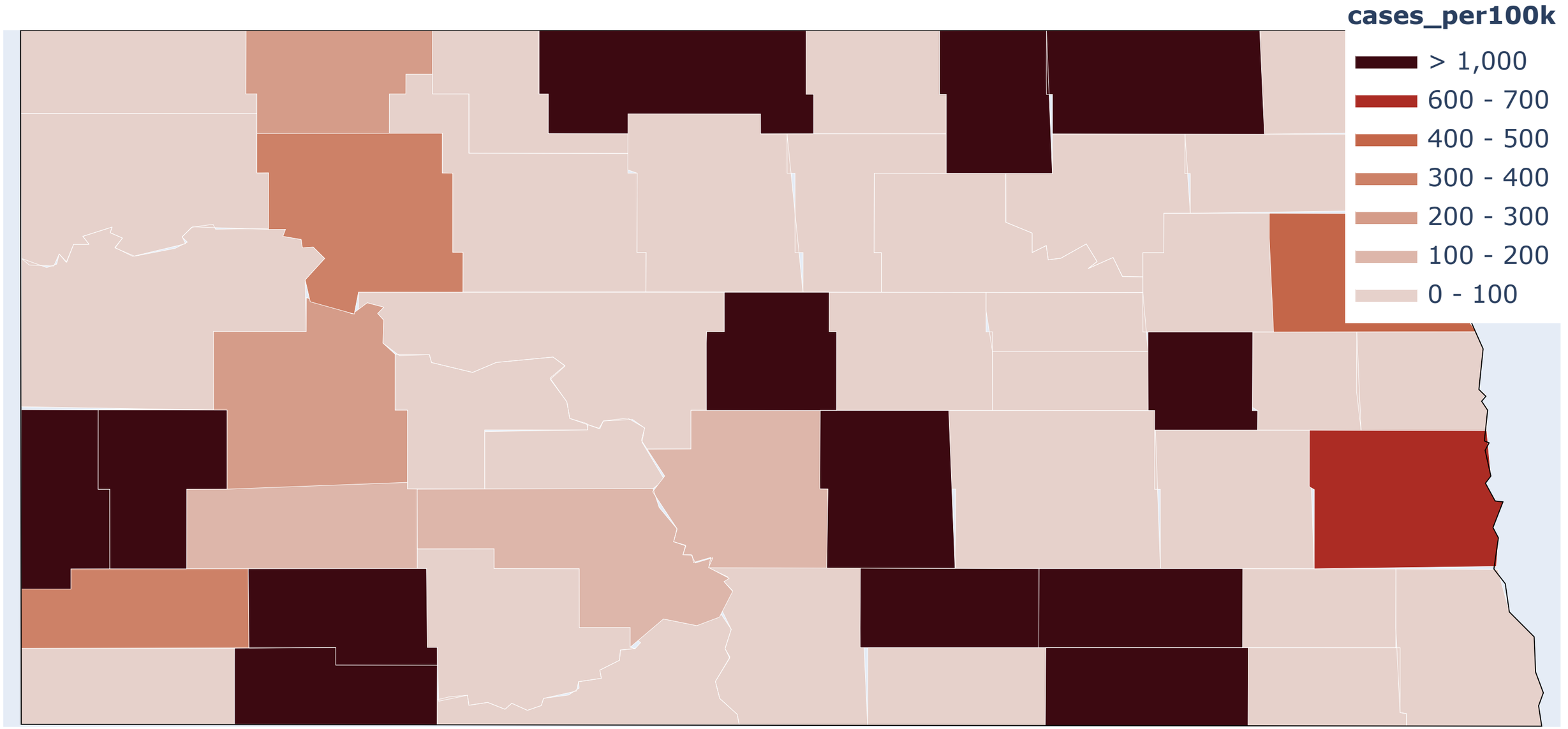
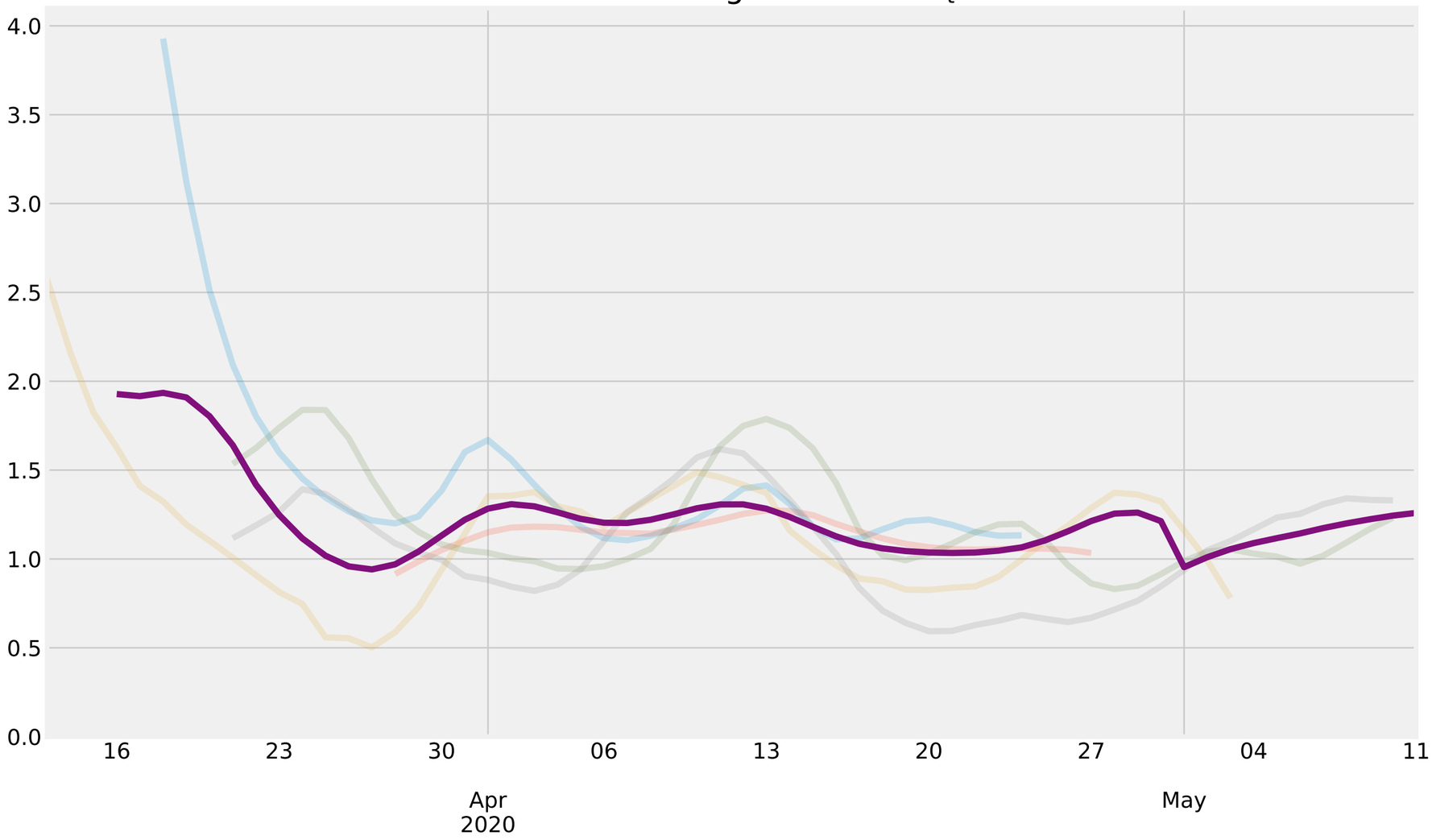
North Dakota: COVID-19 Cases Per 100k Residents



Reproduction Rate (R_t) Estimates
North Dakota: No Change in Future R_t Scenario

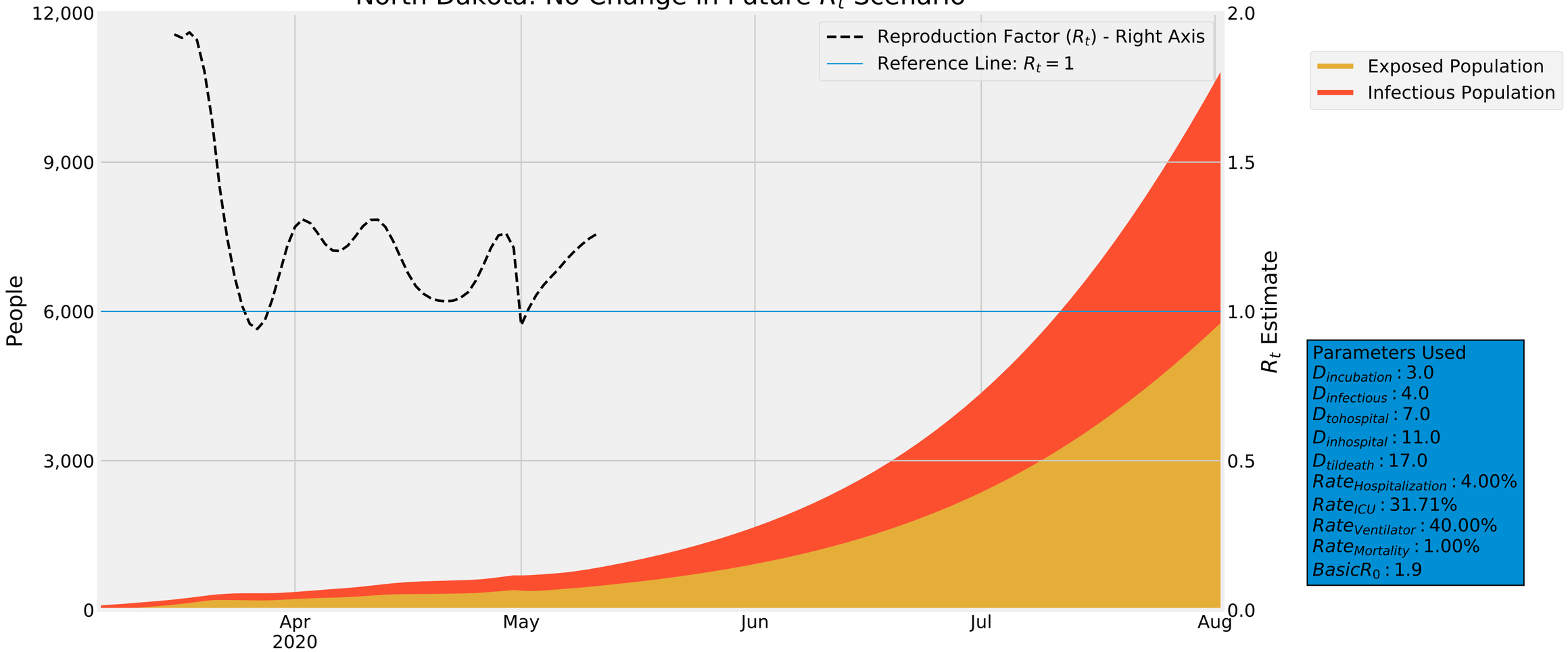


rt_deaths_daily
rt_hosp_concur
rt_hosp_admits
rt_cases_daily
rt_pos_test_share_daily
rt_joint_est

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%
$BasicR_0$: 1.9

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

Simultaneous Infections Forecast
North Dakota: No Change in Future R_t Scenario

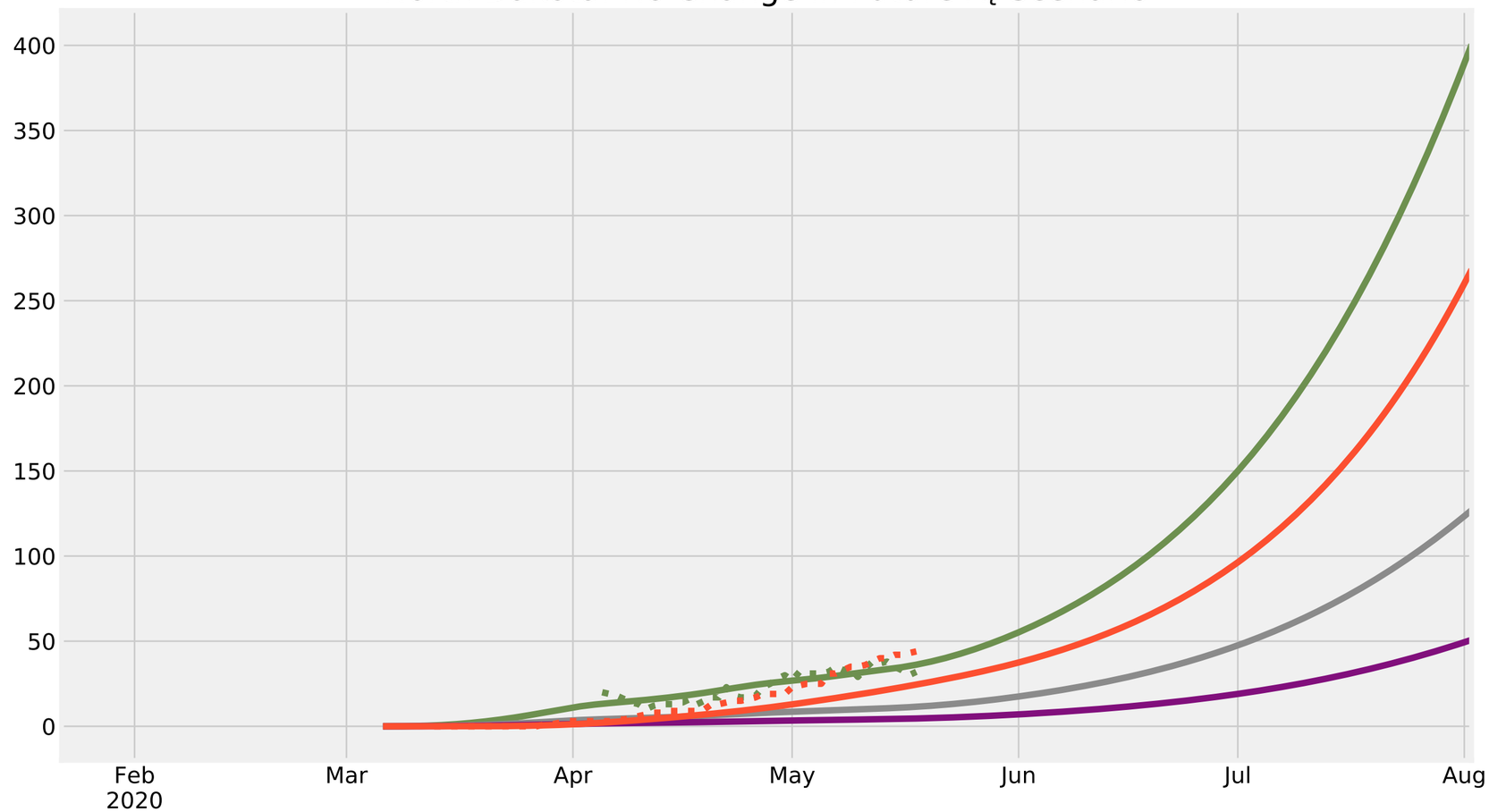


Parameters Used

$D_{incubation}$: 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%
$BasicR_0$: 1.9

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

Hospitalization and Deaths Forecast
North Dakota: No Change in Future R_t Scenario

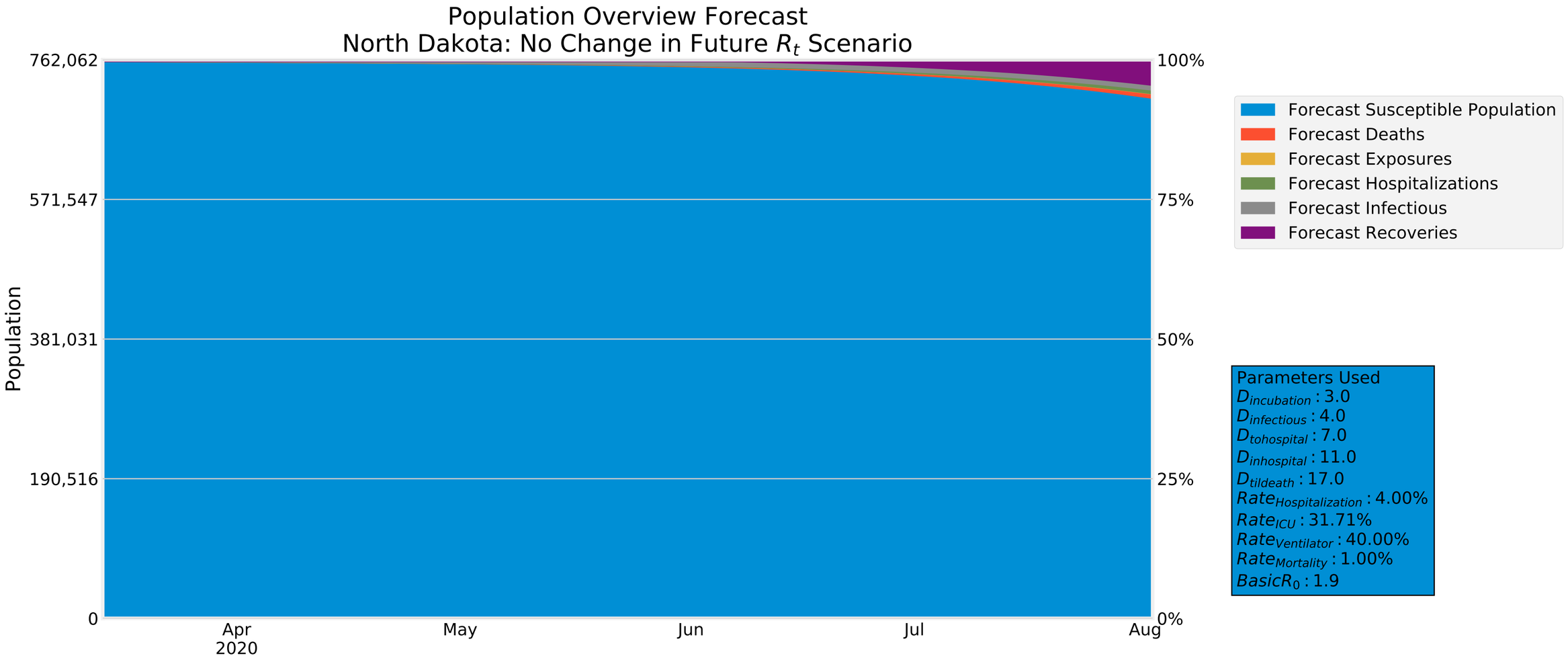


Forecast Concurrent Hospitalizations
Forecast ICU Cases
Forecast Ventilations
Forecast Cumulative Deaths
Reported Concurrent Hospitalizations
Reported Total Deaths

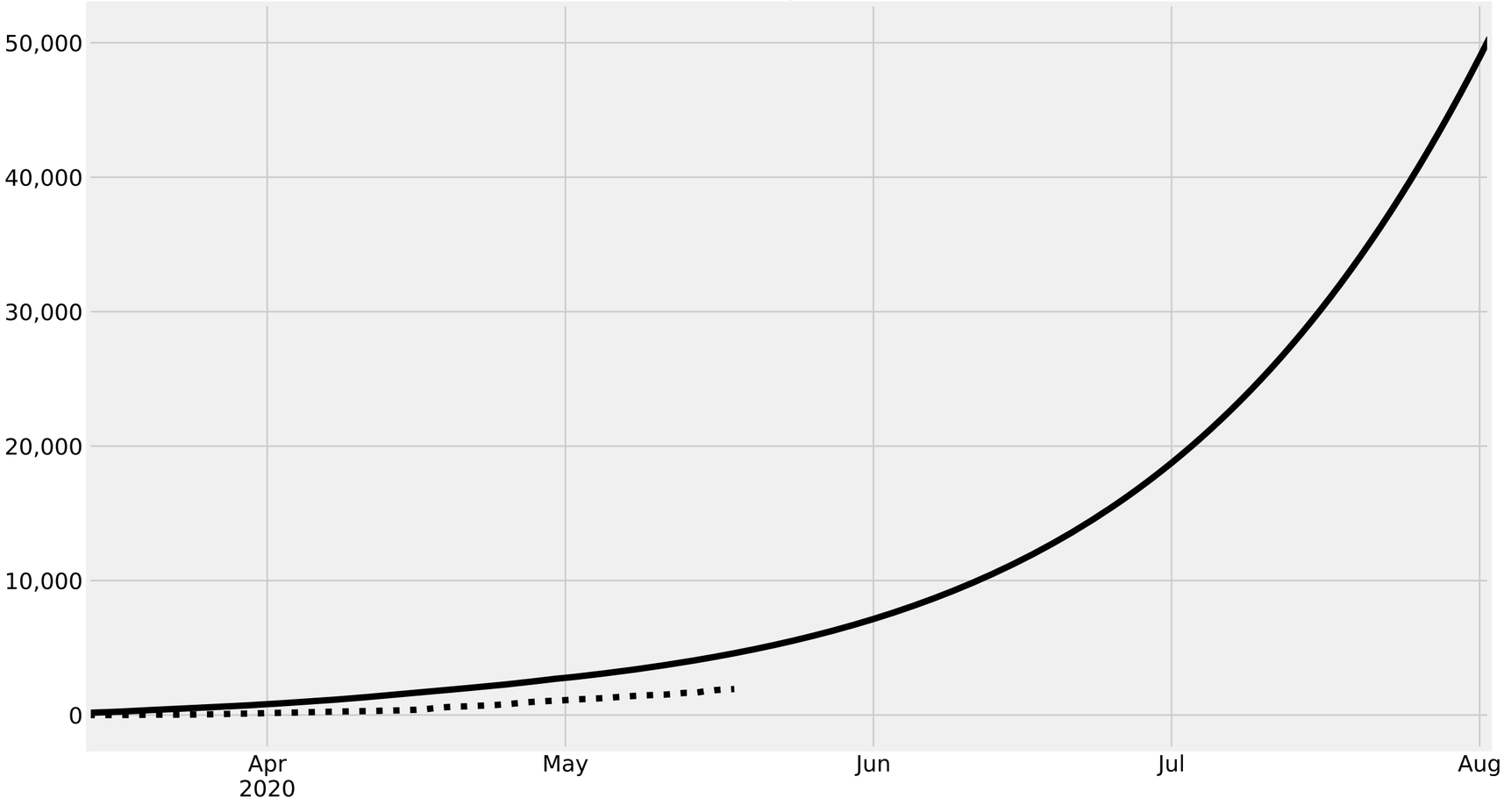
Parameters Used

$D_{incubation}$: 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%
$Rate_{Ventilator}$: 40.00%
$Rate_{Mortality}$: 1.00%
$BasicR_0$: 1.9

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


Population Overview Forecast
North Dakota: No Change in Future R_t Scenario
762,062
571,547
381,031
190,516
0
Population
100%
75%
50%
25%
0%
Apr
2020
May
Jun
Jul
Aug
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%
$BasicR_0$: 1.9

Cumulative Infections Forecast
North Dakota: No Change in Future R_t Scenario

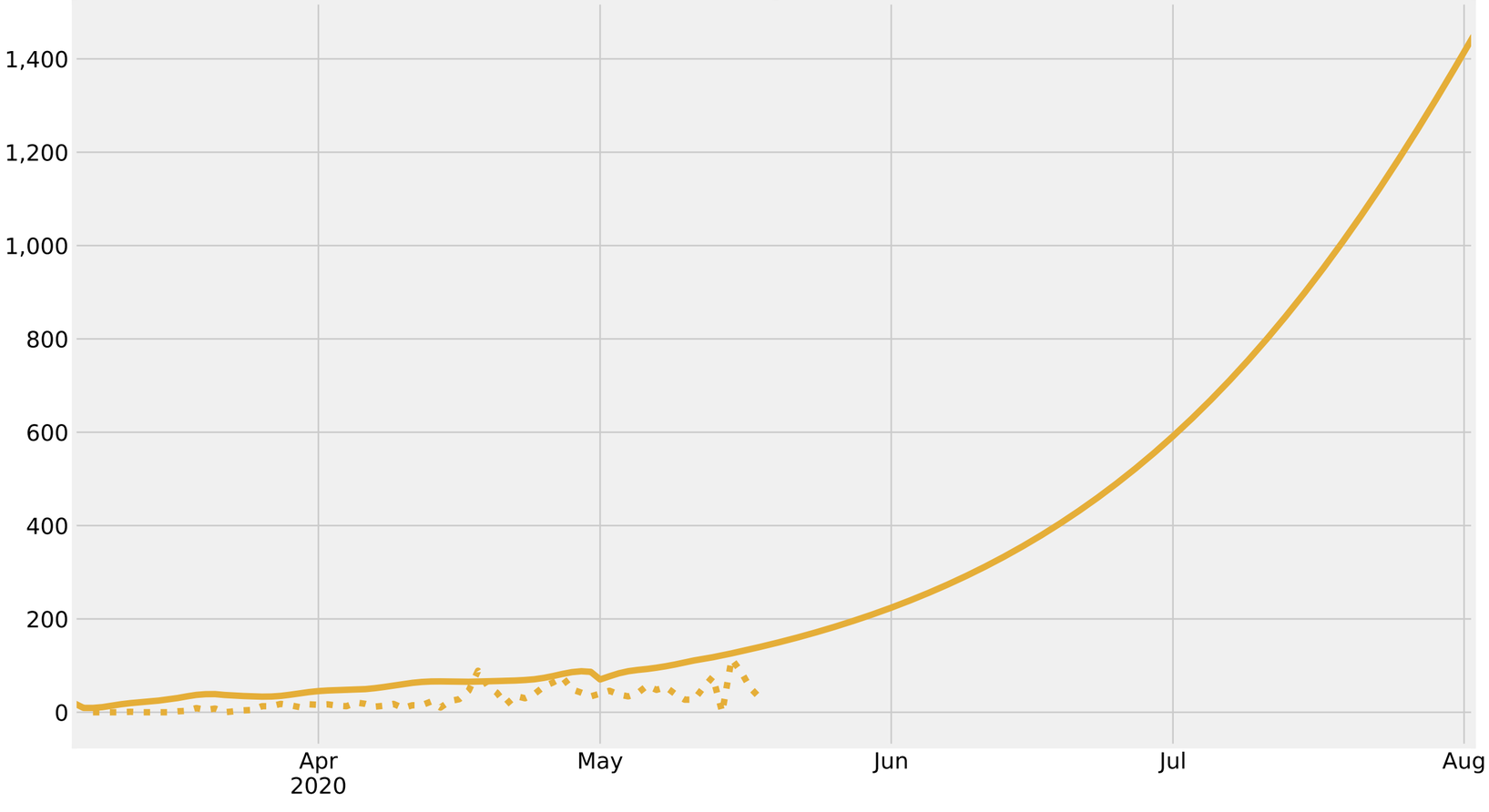


Forecast Cumulative Infections
Reported Cumulative Infections

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%
$BasicR_0$: 1.9

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

Daily Exposures Forecast
North Dakota: No Change in Future R_t Scenario

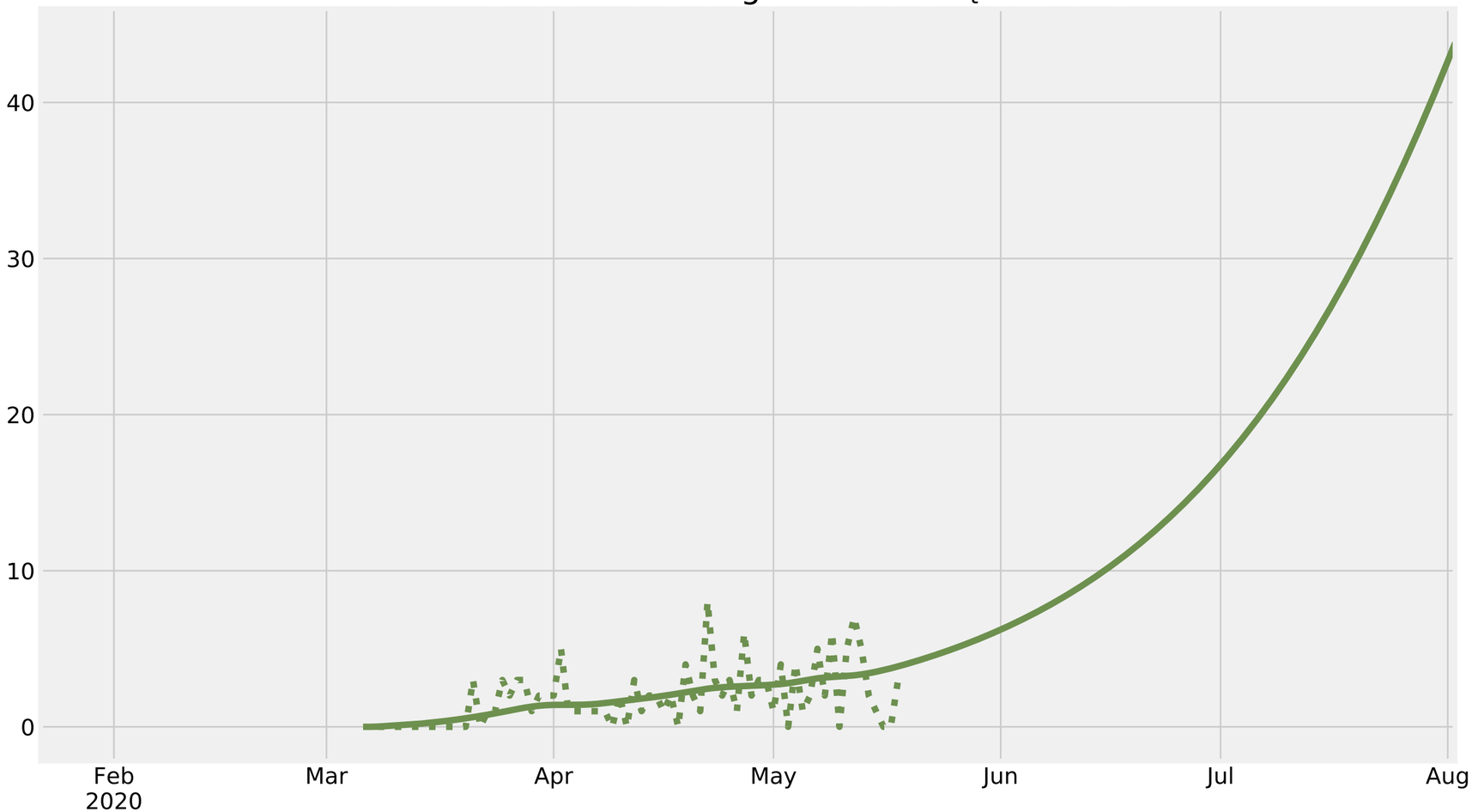


Forecast Daily New Infections (Exposed)
Reported Daily New Infections (Exposed)

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%
$BasicR_0$: 1.9

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

Daily Hospital Admissions Forecast
North Dakota: No Change in Future R_t Scenario

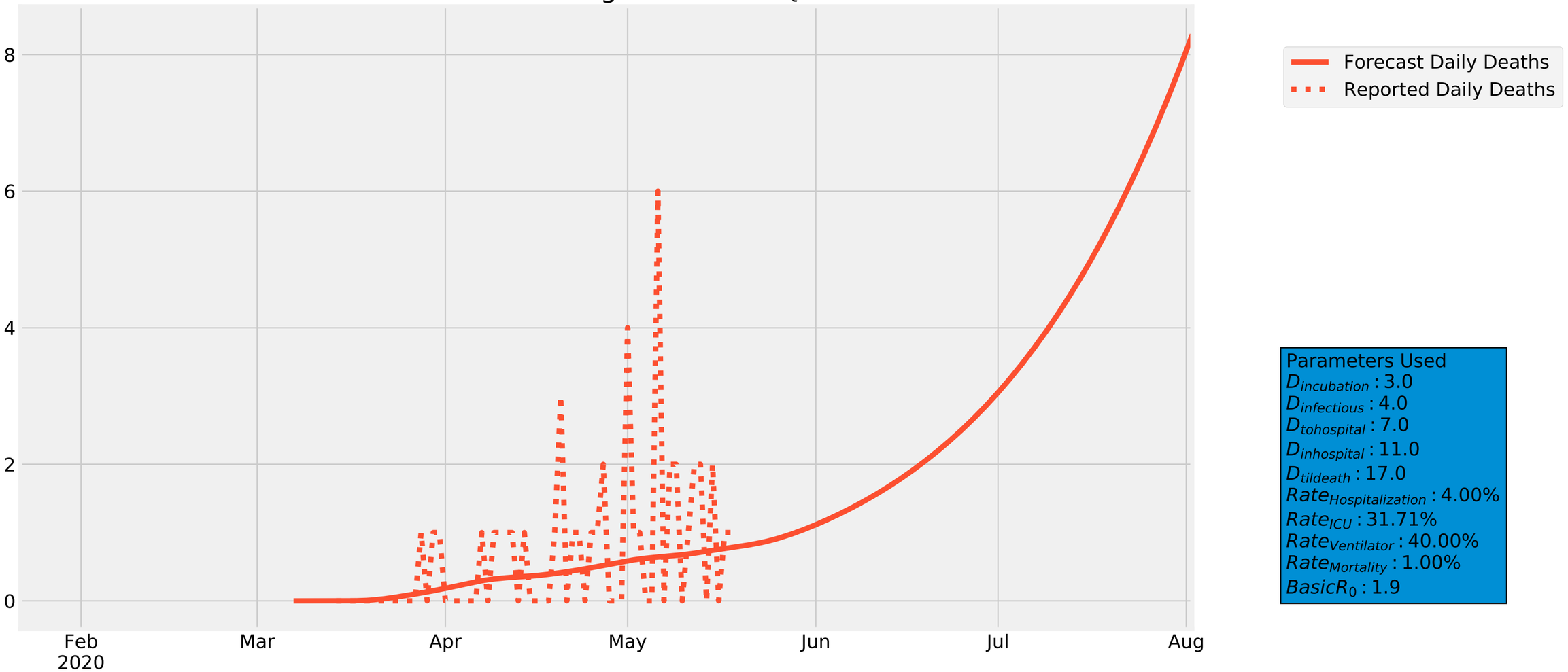


Forecast Hospital Admissions
Reported Hospital Admissions

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%
$BasicR_0$: 1.9

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

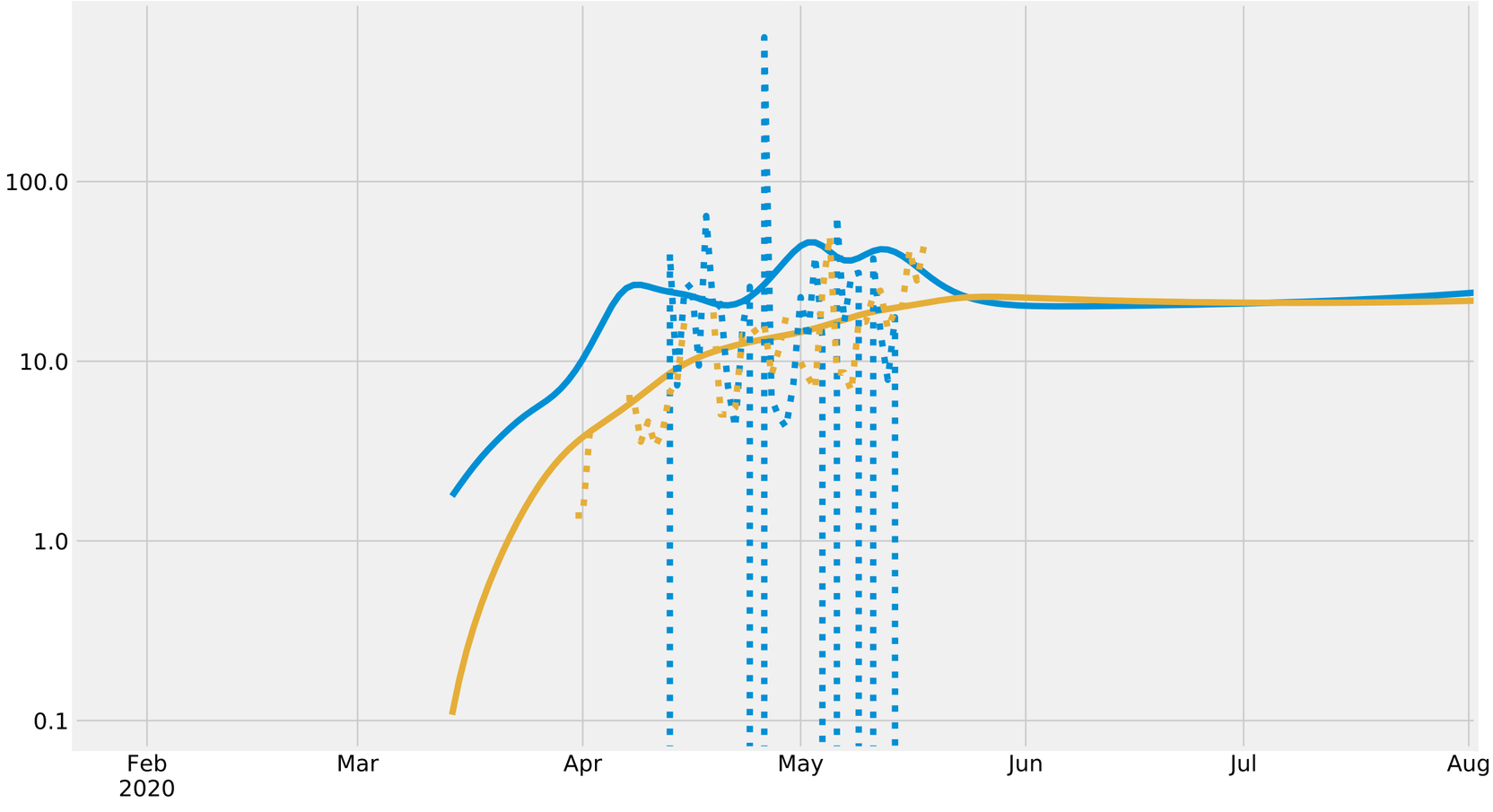
Daily Deaths Forecast
North Dakota: No Change in Future R_t Scenario



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%
$BasicR_0$: 1.9

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

Doubling Rate Forecast
North Dakota: 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%
$BasicR_0$: 1.9

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