

# **COVID-19 Modeling**

## **April 12, 2022**

Presentation available at:  
[dfr.vermont.gov](https://dfr.vermont.gov)

# Overview

Reported cases in Vermont this week increased from a daily average of 152 to 196 (+29%). The state reported 370 more cases this week than last. Burlington wastewater testing shows an overall increased presence of the virus. New England cases increased from 2,812 to 3,286 cases per day (+17%) in the last week as BA.2 continues to spread, although this represents less than 10% of daily cases reported at the height of the BA.1 Omicron wave.

The BA.2 Omicron subvariant has become dominant across New England, making up more than 90% of sequenced cases in the region. European nations that experienced earlier BA.2 surges have however seen case declines in recent weeks.

Hospitalization admissions, inpatient census, and ICU numbers have increased this week. As of today, 35 individuals are hospitalized, 18 of whom are vaccinated, and six patients are in the ICU.

Six hundred twenty-three Vermonters have now been lost to the virus, with two fatalities so far in April 2022.

The number of booster doses administered in Vermont increased again this week, climbing to 1,664 doses over the last seven days. Vermont has now administered over 300,000 booster doses. Vermont continues to rank first in doses administered per capita and first in percentage of fully vaccinated individuals with a booster dose.

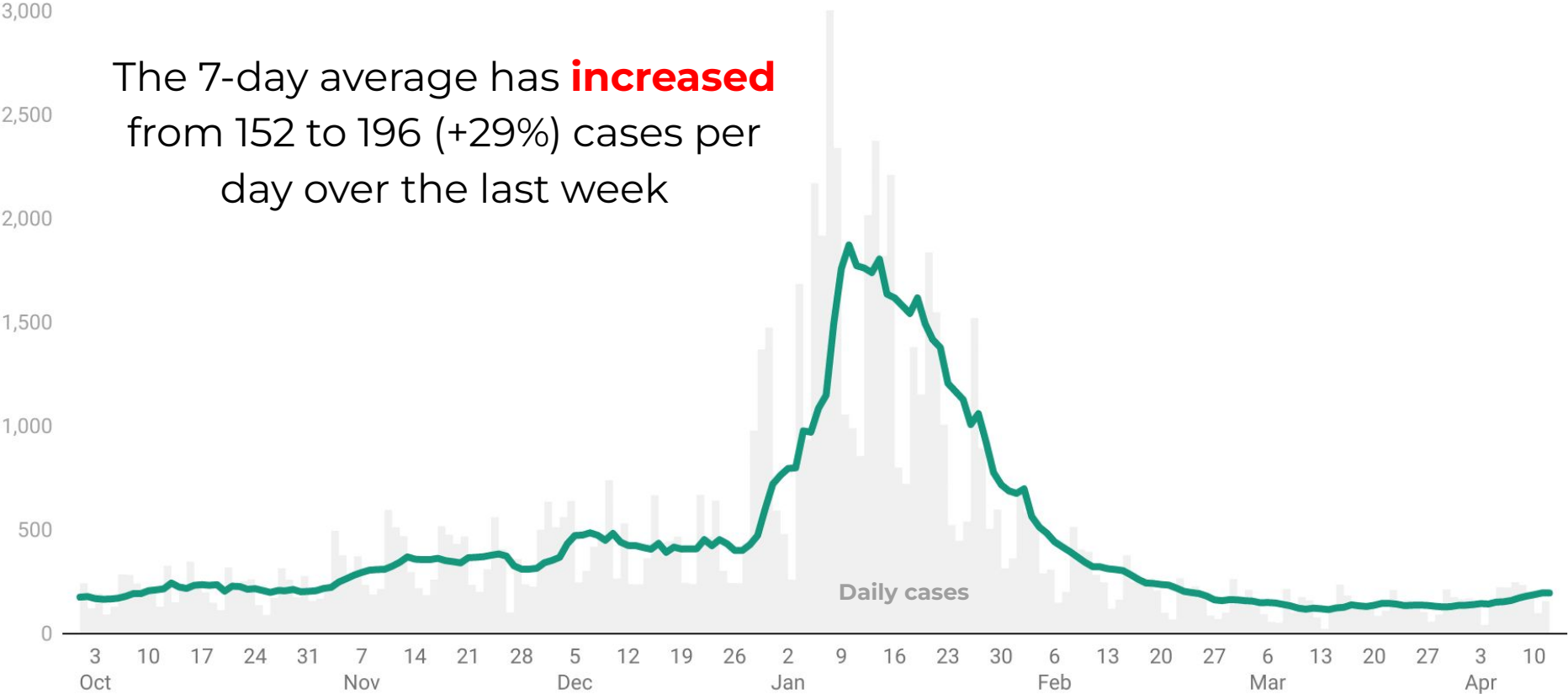
# Table of Contents

Vermont Case Data	Pg. 4
Vermont Hospitalization Data	Pg. 18
Vermont Fatality Data	Pg. 25
Vermont Vaccination Data	Pg. 28
Regional Data	Pg. 31
National Data	Pg. 38
Restart Vermont	Pg. 45

# Vermont Case Data

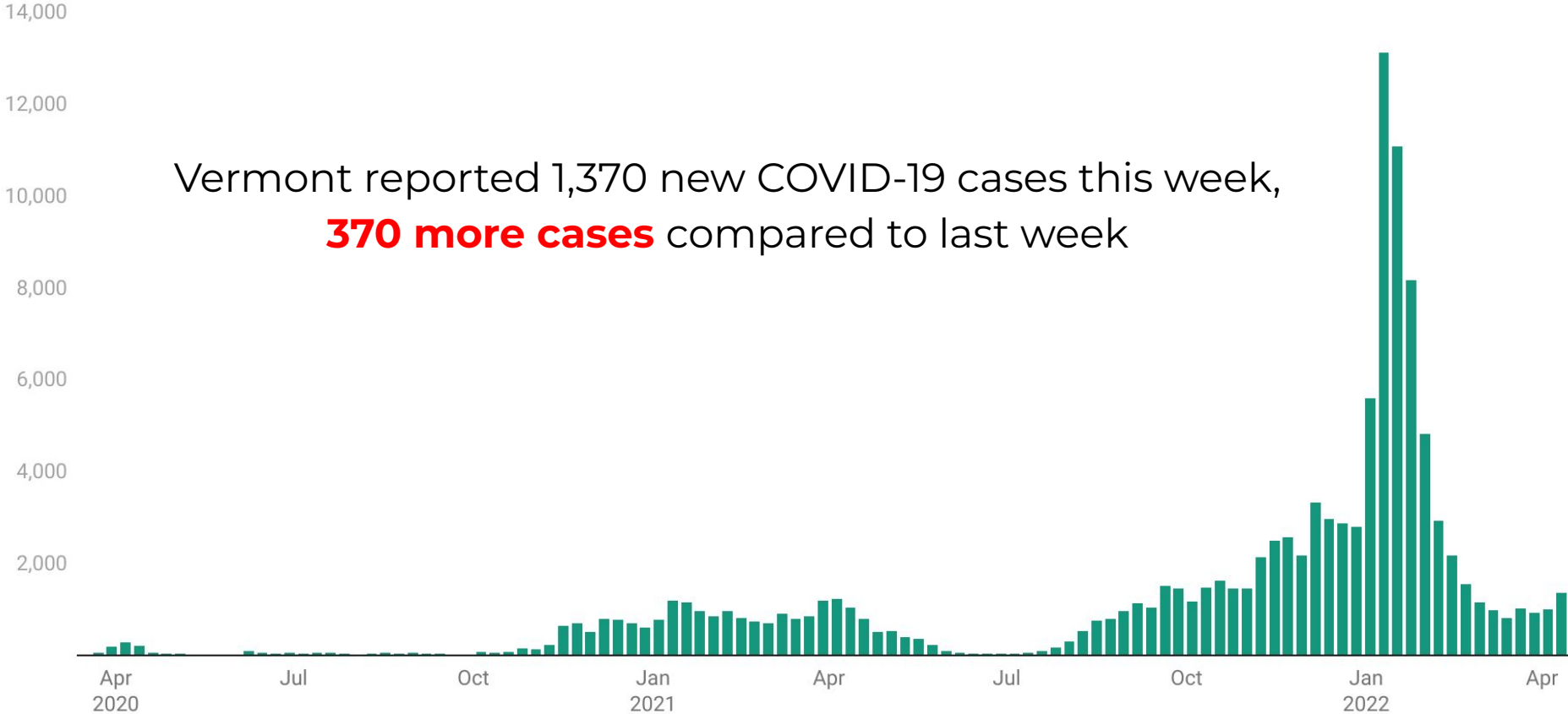
# Vermont New COVID-19 Cases

7-Day Average



Source: VDH—April 12, 2022; created with Datawrapper

# Vermont New Weekly COVID-19



Vermont reported 1,370 new COVID-19 cases this week,  
**370 more cases** compared to last week

Source: VDH—April 11, 2022; created with Datawrapper

# Vermont COVID-19 PCR Testing

— 7-Day Average

20,000

18,000

16,000

14,000

12,000

10,000

8,000

6,000

4,000

2,000

0

Week-over-week testing decreased, with the 7-day average **decreasing -0.6%**

Daily tests

Jul  
2021

Aug

Sep

Oct

Nov

Dec

Jan  
2022

Feb

Mar

Apr

# Vermont PCR Test Positivity

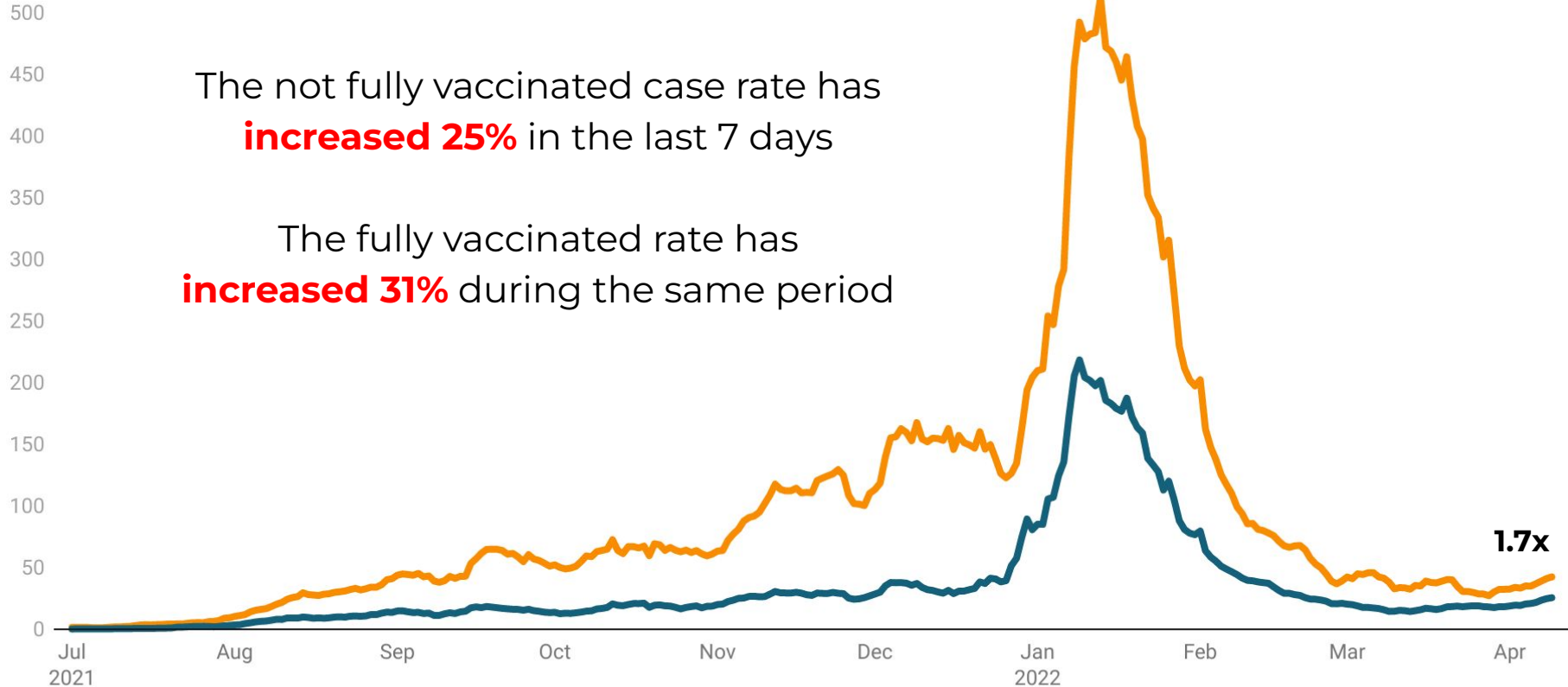
7-Day Positivity Rate



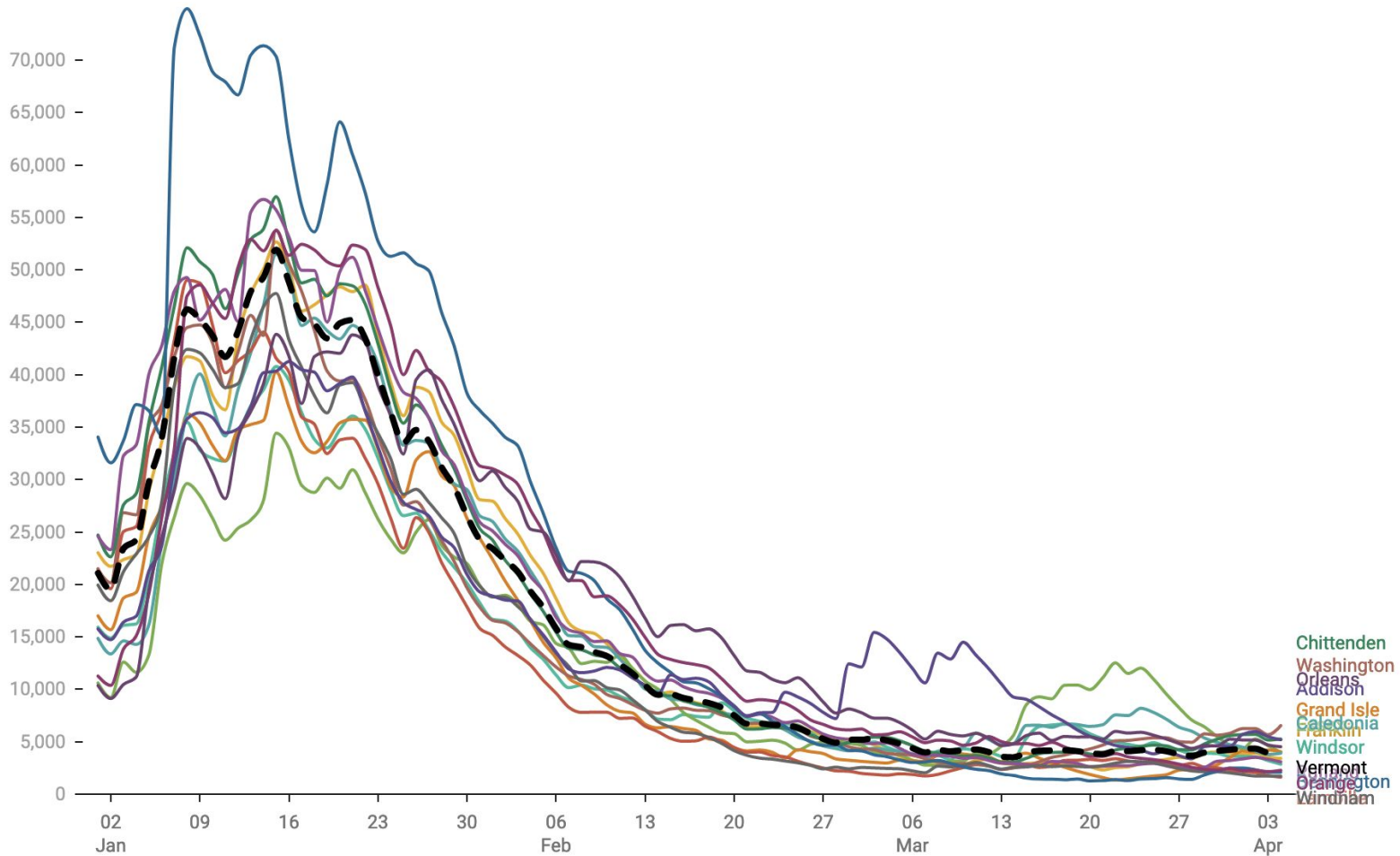


# Vermont COVID-19 New Case Rates Per 100K (7-Day Average)

— Not Fully Vaccinated Case Rate — Fully Vaccinated Case Rate



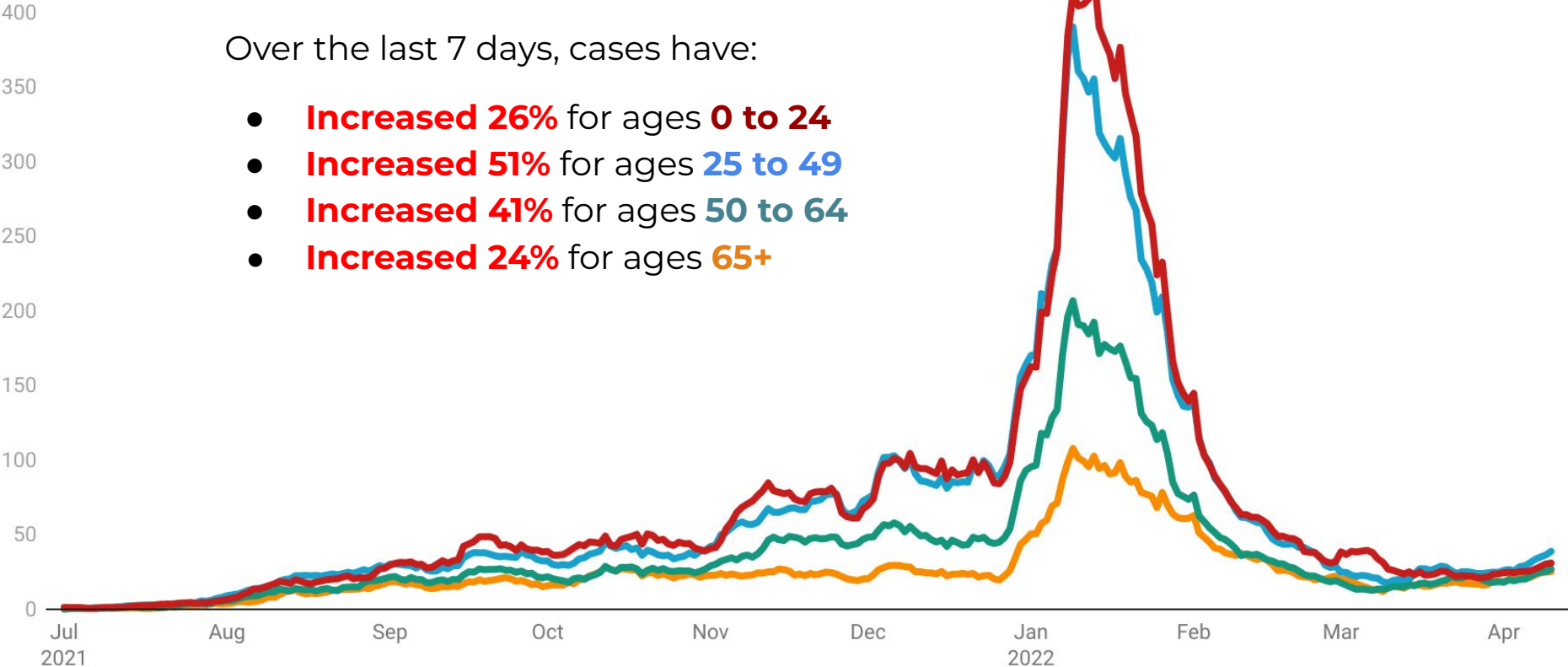
# Estimated Active Cases per Million in All Vermont Counties



Source: VDH—April 11, 2022; created with Datawrapper

# Vermont Case Rates Per 100K By Age (7-Day Average)

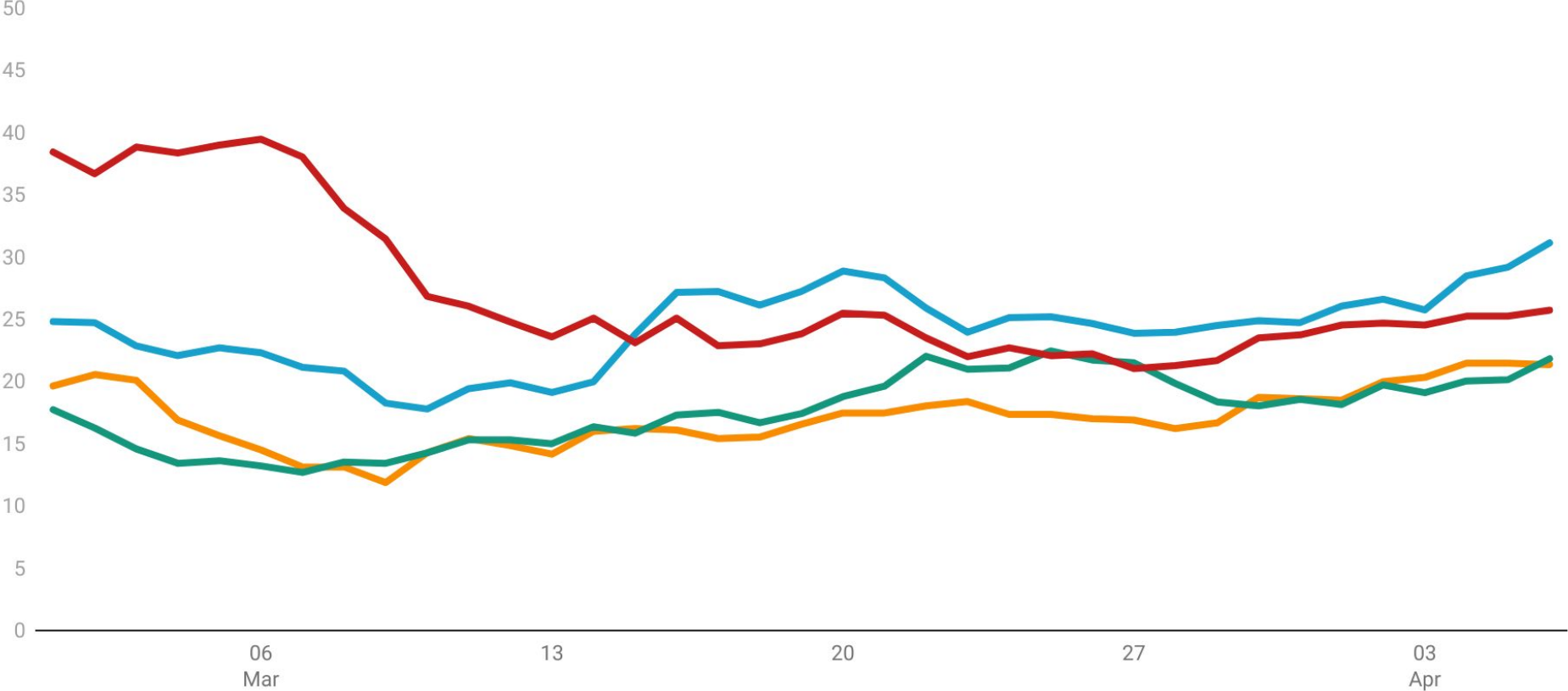
0 to 24 24 to 49 50 to 64 65+



Source: VDH—April 11, 2022; created with Datawrapper

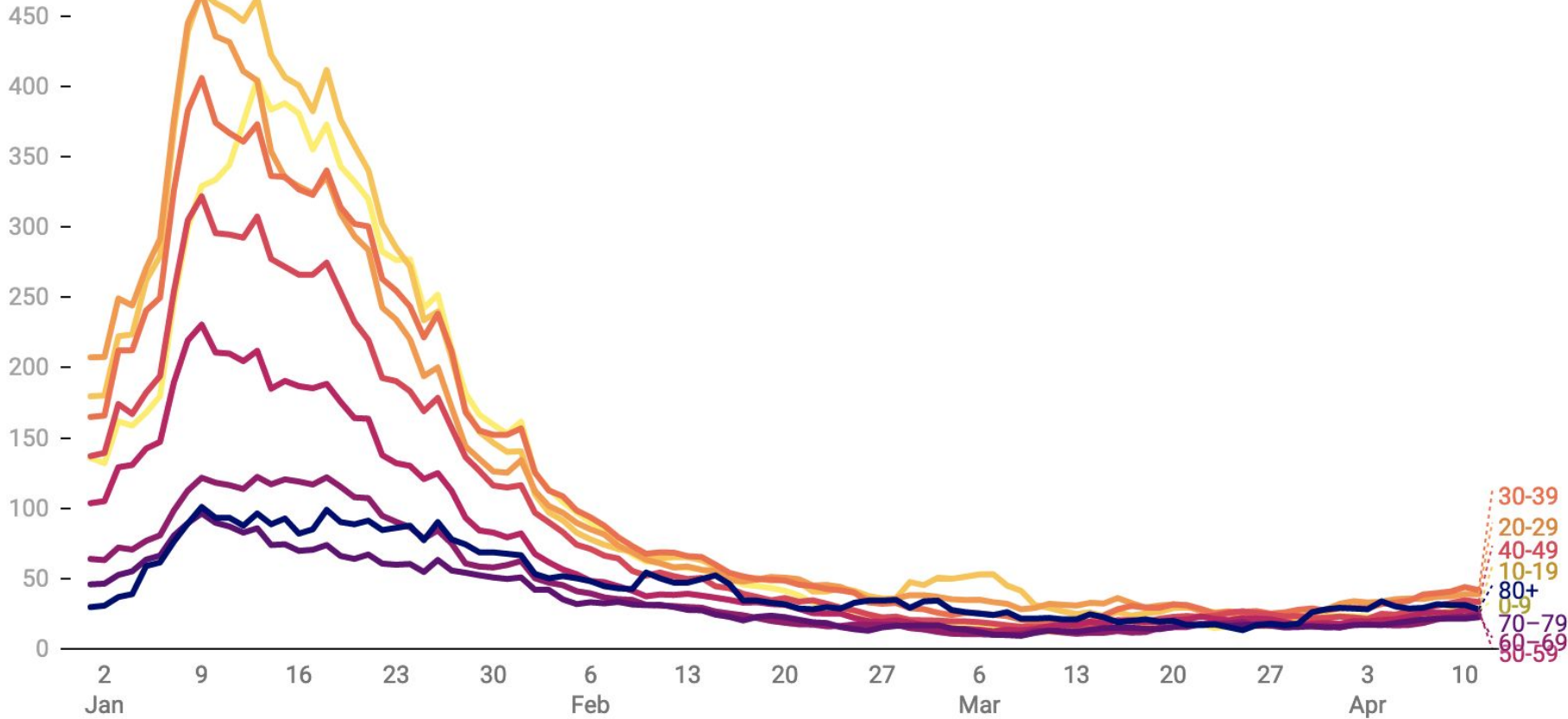
# Vermont Case Rates Per 100K By Age (7-Day Average) Since March 1st

0 to 24 24 to 49 50 to 64 65+



Source: VDH—April 11, 2022; created with Datawrapper

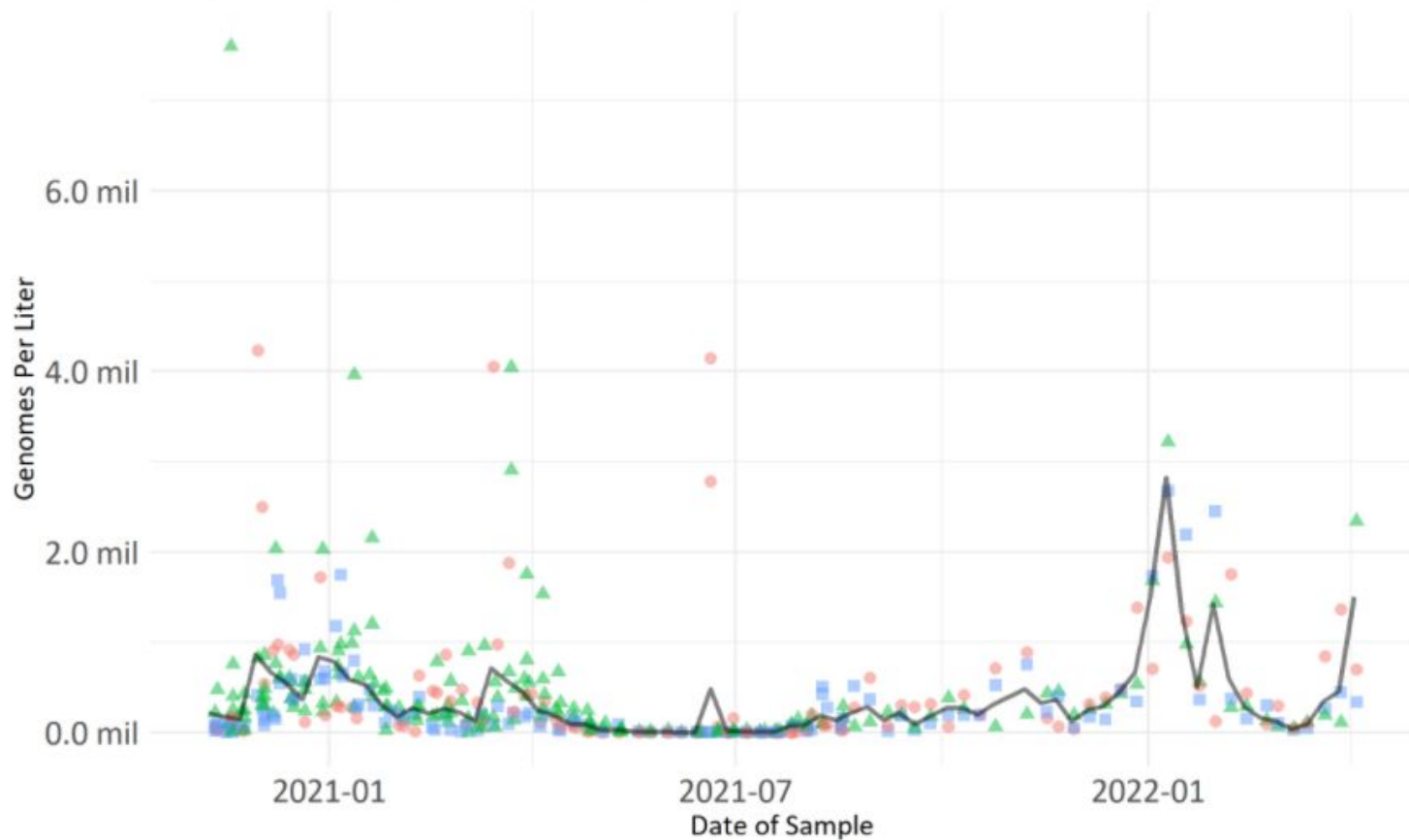
# VT COVID-19 Infections per 100K by Age Group



Source: VDH—April 11, 2022; created with Datawrapper

# Sars-Cov-2 in Burlington Wastewater

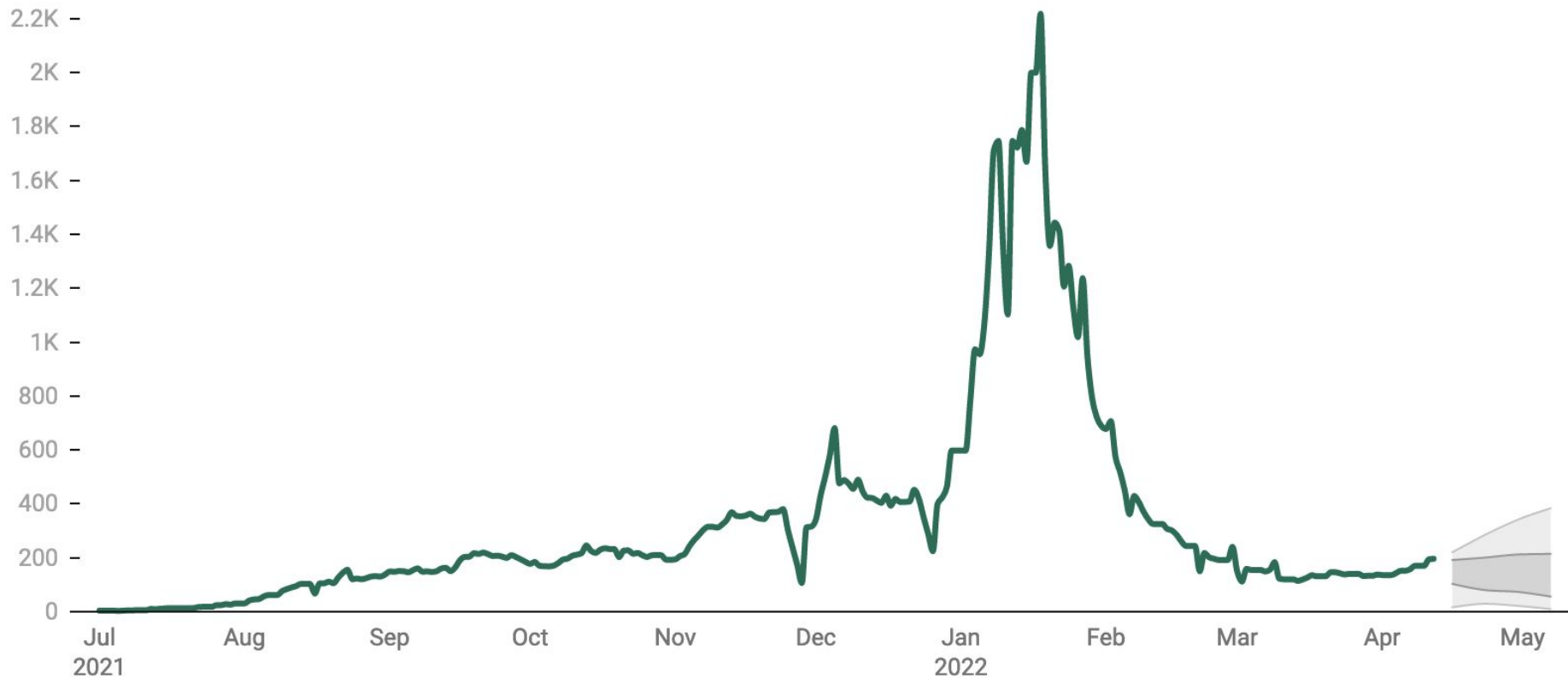
*Average Across Plants by Week, Weighted by Population*



● East Plant ▲ Main Plant ■ North Plant

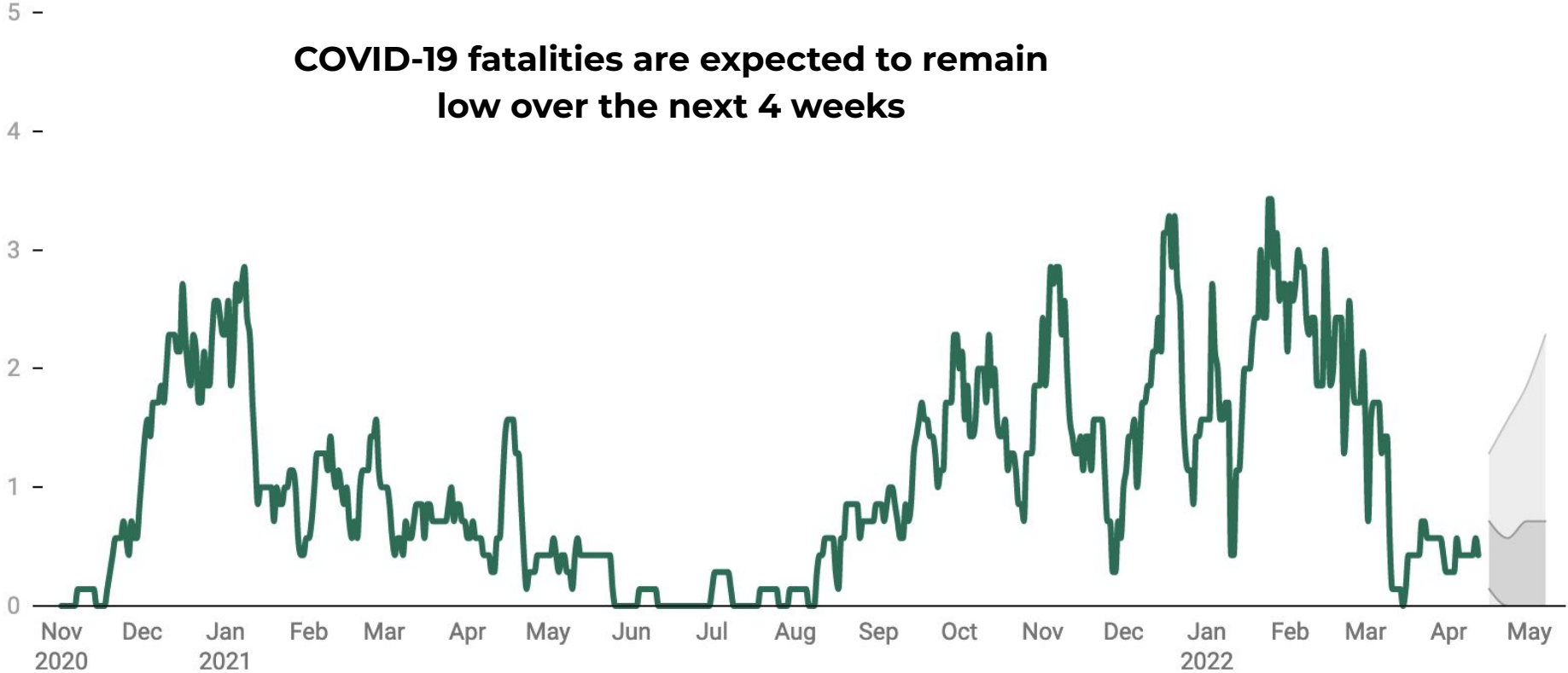
# VT COVID-19 Infection Confidence Intervals

Calculated as a 7-day mean. Inner and outer bands represent 50% and 95% confidence intervals, respectively.



# VT COVID-19 Death Confidence Intervals

Calculated as a 7-day mean. Inner and outer bands represent 50% and 95% confidence intervals, respectively.



Source: Johns Hopkins University & CDC—April 12, 2022; created with Datawrapper



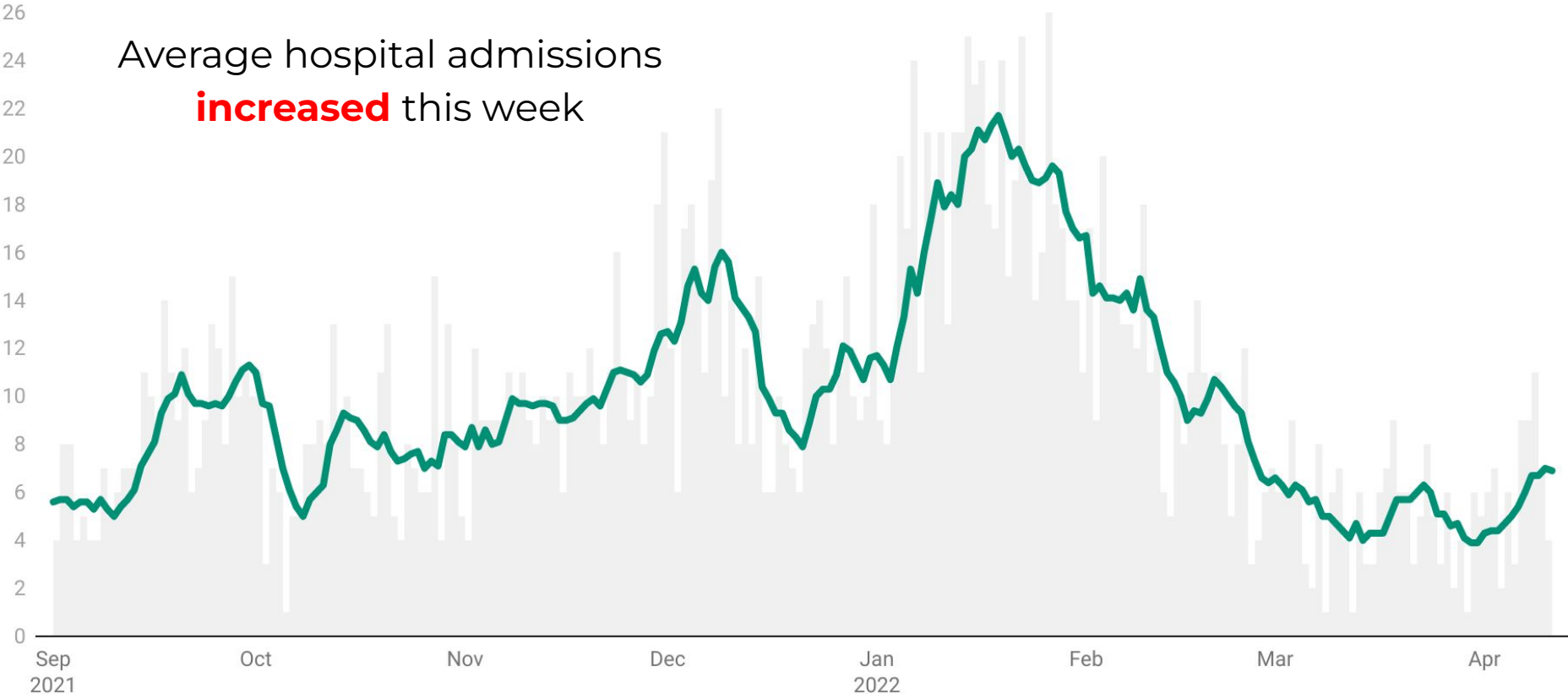
# Active Outbreaks in Long Term Care Facilities

Facility Name	Total COVID-19 Cases
Springfield Rivers Nursing & Rehab	66
Helen Porter Healthcare & Rehabilitation Center	49
Converse Home	26
Greensboro Nursing home	26
Our Lady of Providence	14
Franklin County Rehabilitation Center	7
<b>Total</b>	<b>188</b>

# Vermont Hospitalization Data

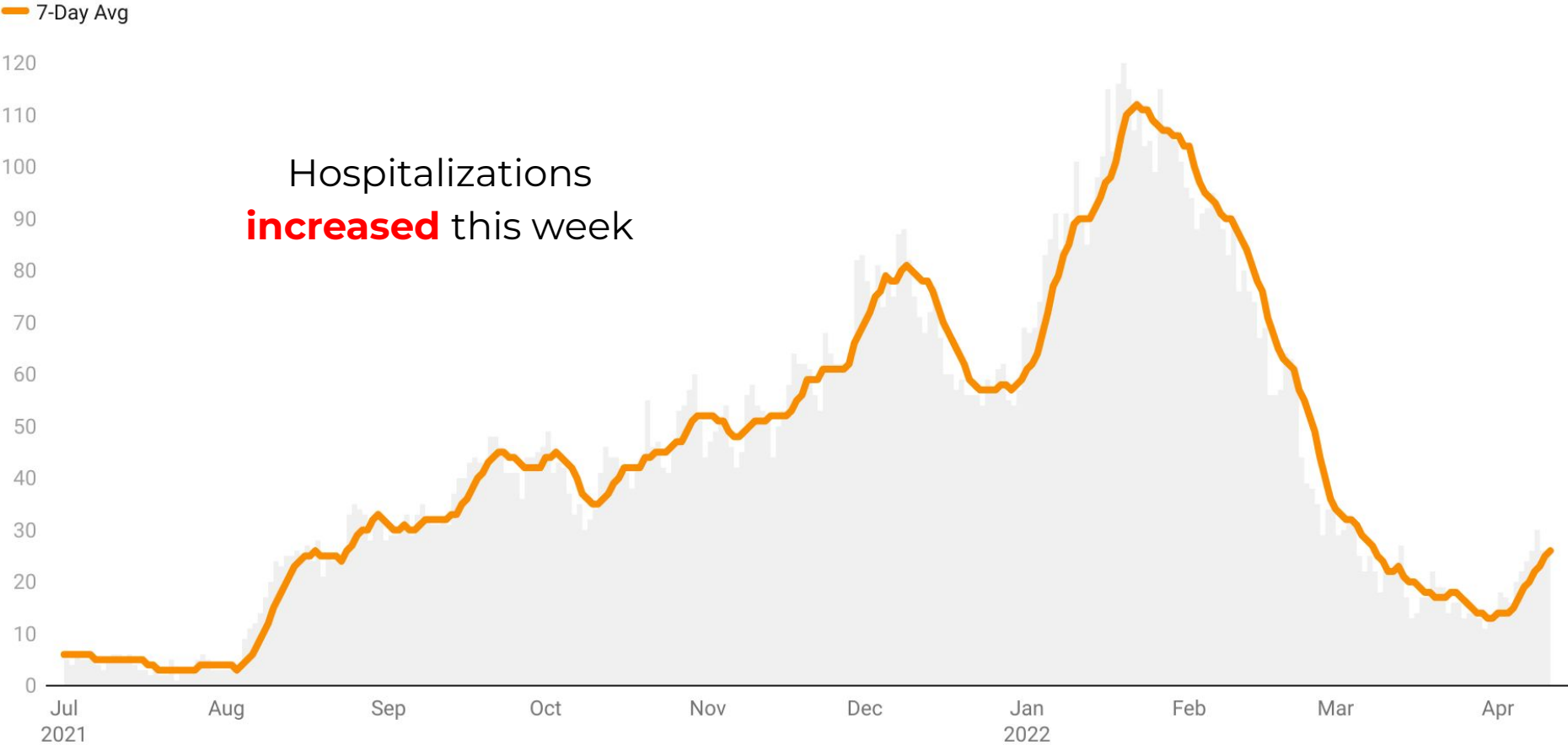
# Vermont New COVID-19 Hospital Admissions

7-Day Average



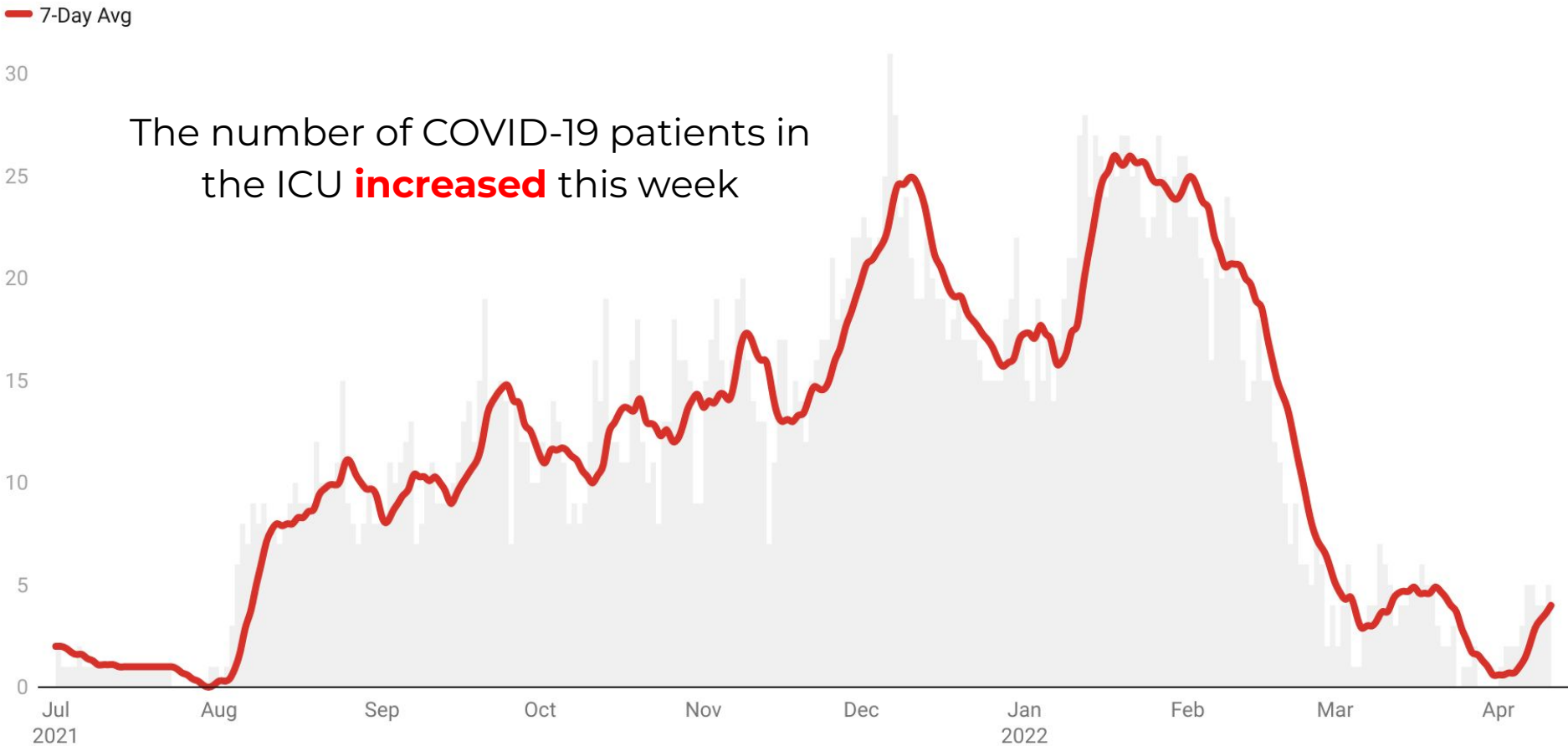
Source: HHS—April 11, 2022; created with Datawrapper

# Vermont COVID-19 Patients Currently Hospitalized



Source: VDH—April 11, 2022; created with Datawrapper

# Vermont COVID-19 Patients Currently in the ICU

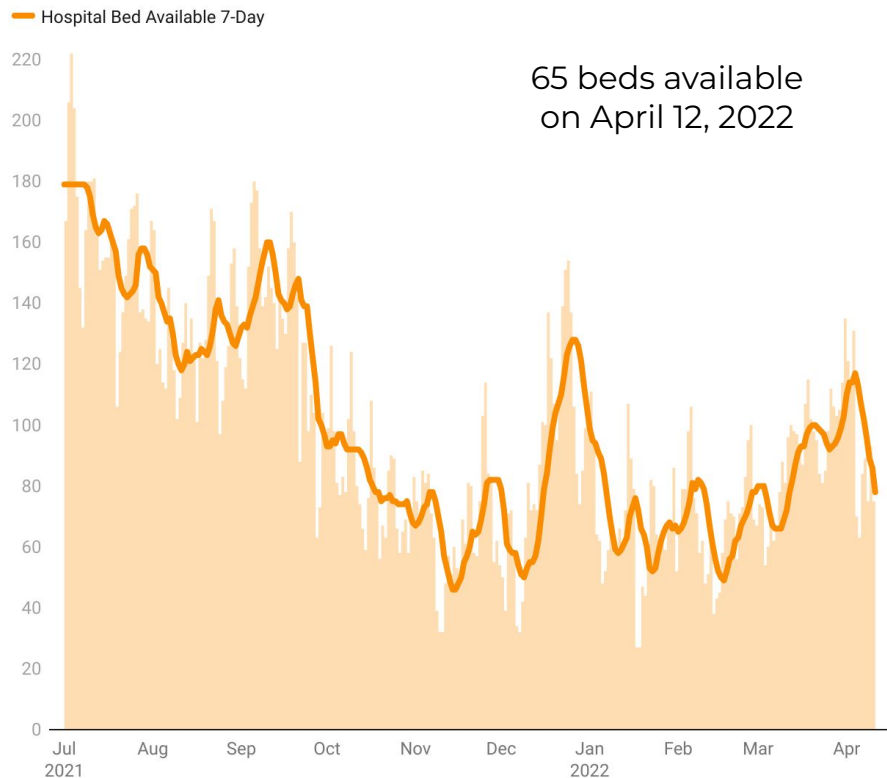


Source: VDH—April 11, 2022; created with Datawrapper

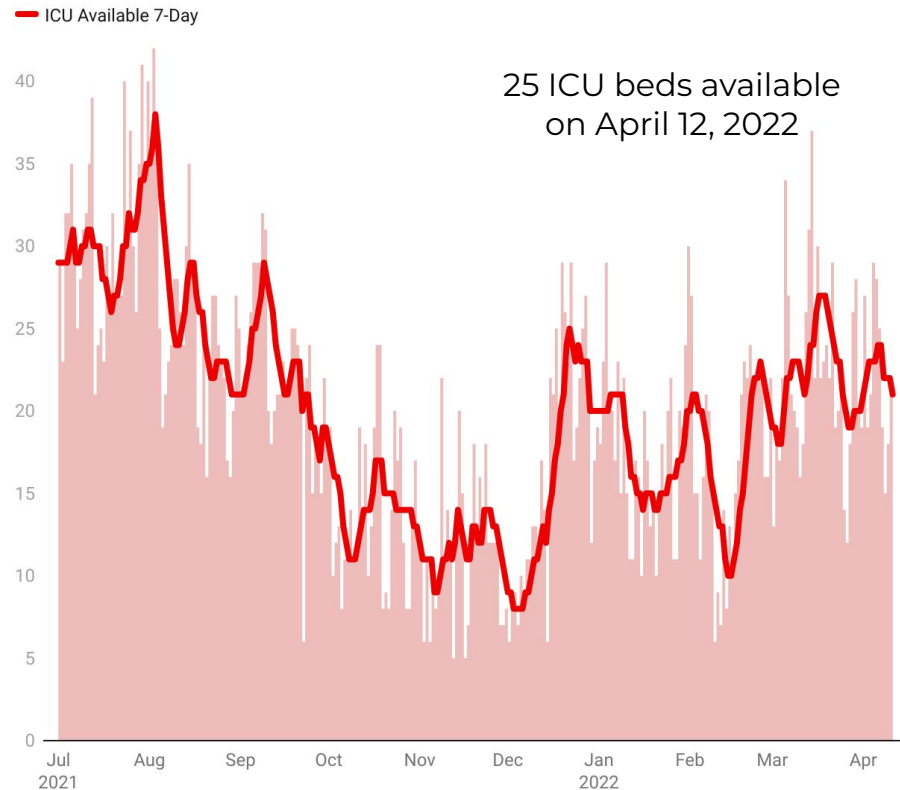
# Vermont Hospital Metrics

## (7-Day Averages)

### Vermont Hospital Beds Available Since July 1, 2021



### Vermont ICU Beds Available Since July 1, 2021



# COVID-19 Hospitalization Rate Per 100K By Age Over The Last 6 Weeks

40

**Hospitalizations continue to be more common among older Vermonters**

**75% of those hospitalized over the last 6 weeks were 65 & older**

29 Hospitalizations per 100K

30

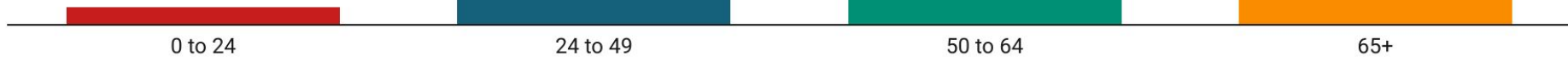
20

10

4 Hospitalizations per 100K

2 Hospitalizations per 100K

1 Hospitalization per 100K



0 to 24

24 to 49

50 to 64

65+

# COVID-19 Hospitalizations By Vaccination Status Per 100K

Measured Over the Last 6 Weeks

30

25

20

15

10

5

Not Fully Vaccinated Fully Vaccinated But Not Boosted Fully Vaccinated & Boosted

20 Hospitalizations  
per 100K

6 Hospitalizations  
per 100K

9 Hospitalizations  
per 100K

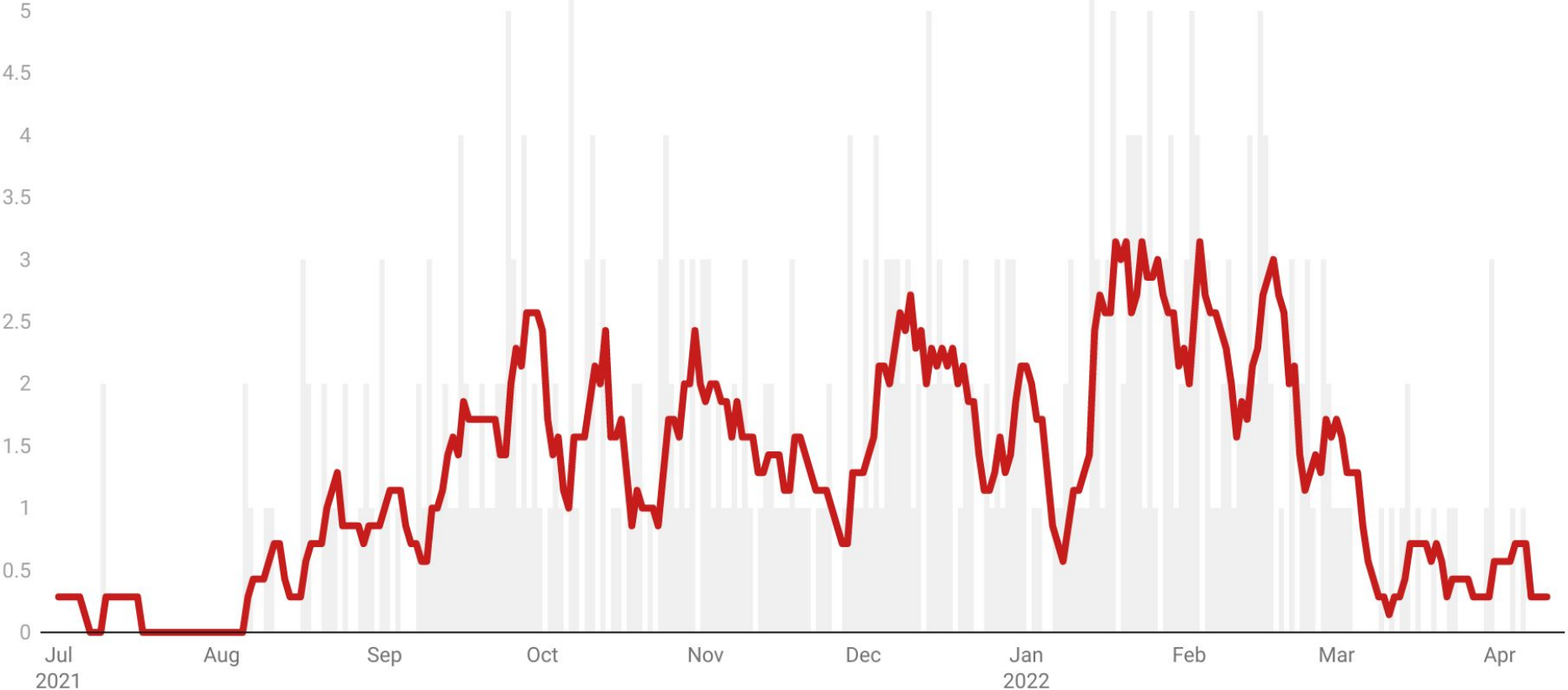
Those 18+ & **not fully vaccinated** were nearly **2.2x more** likely to be hospitalized from COVID-19 over the last 6 weeks compared to those **fully vaccinated & boosted**



# Vermont Fatality Data

# Vermont COVID-19 Fatalities

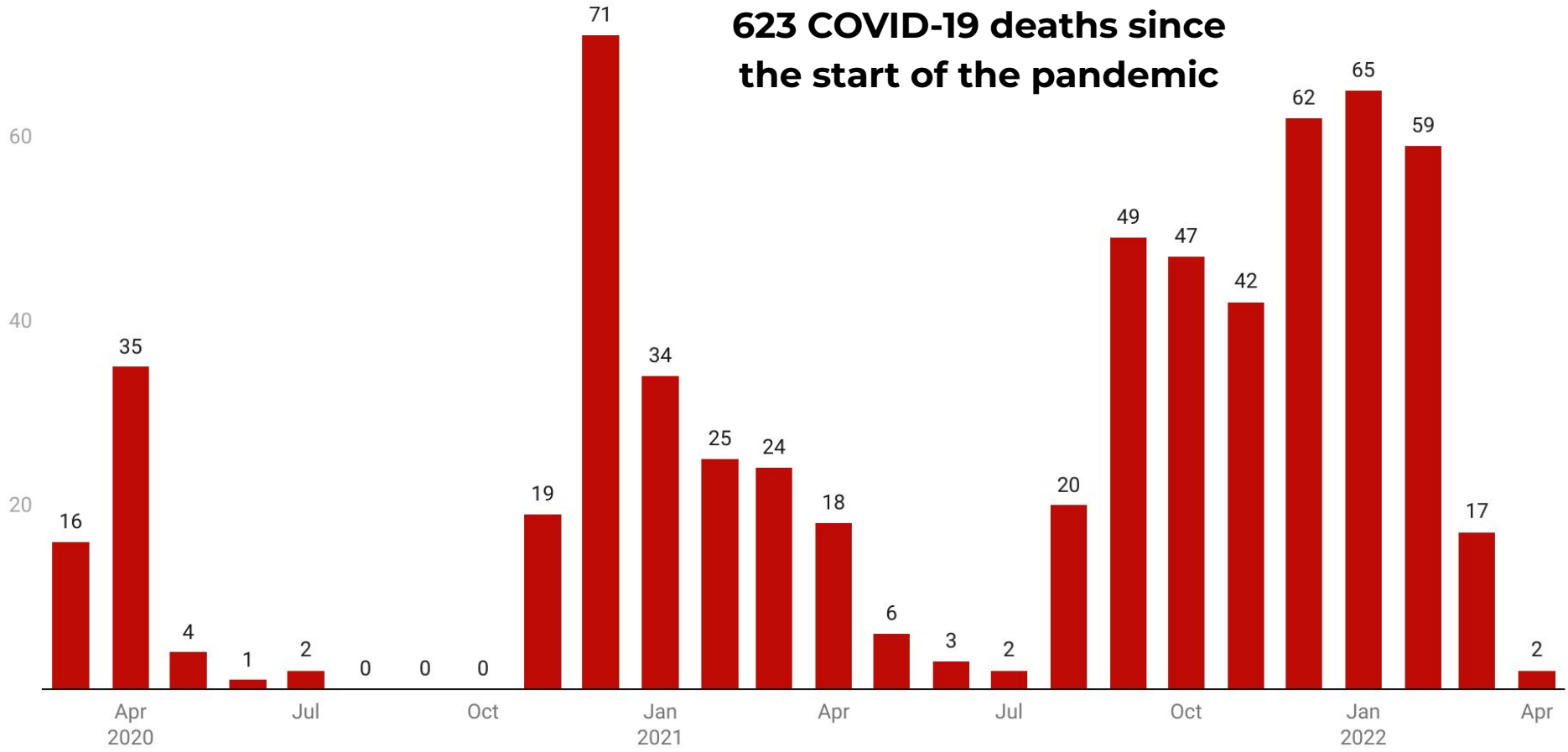
7-Day Average



Source: VDH—April 12, 2022; created with Datawrapper

# Monthly Covid-19 Deaths In Vermont

**623 COVID-19 deaths since the start of the pandemic**



Source: VDH—April 12, 2022; created with Datawrappier; deaths attributed to month in which death occurred rather than reported

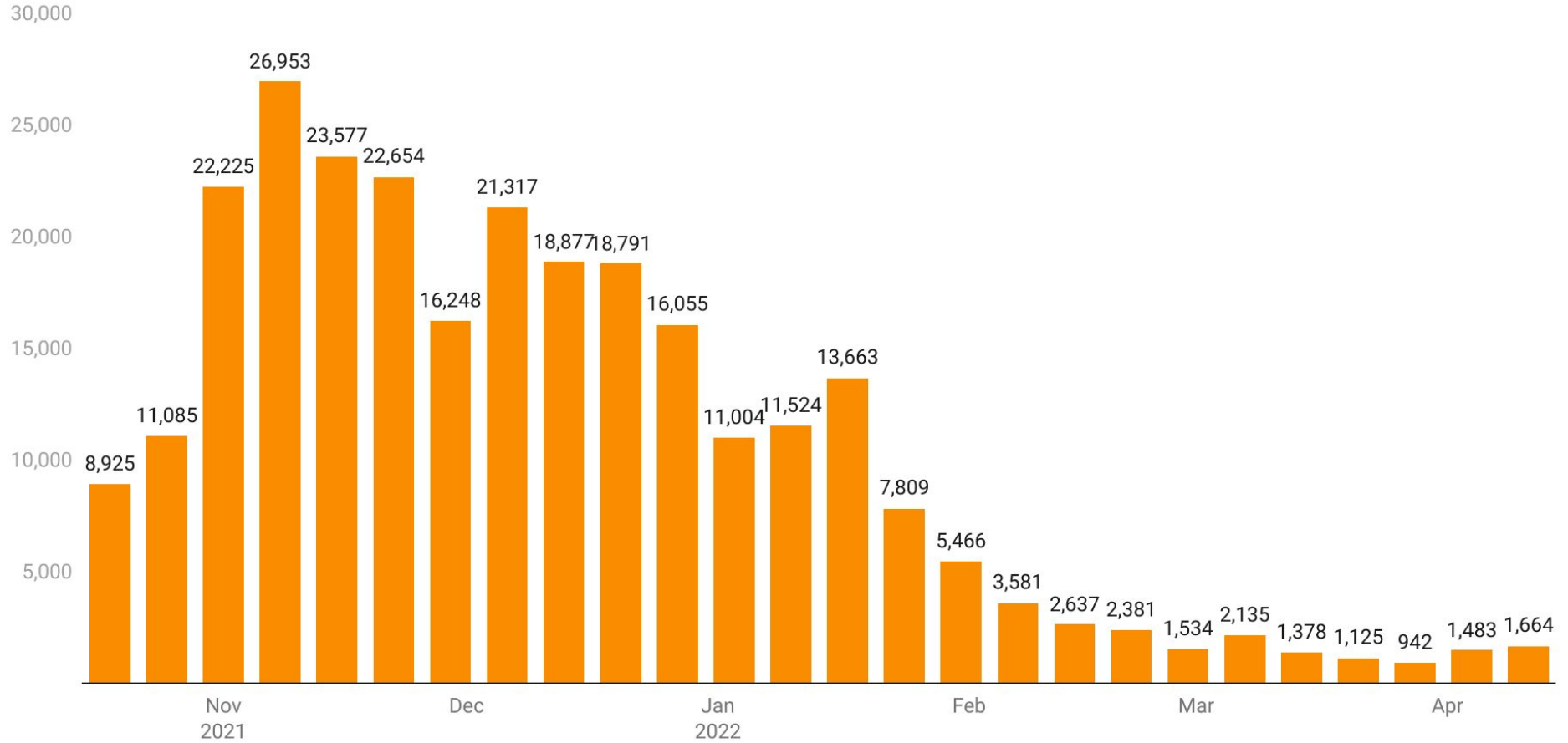
# Vermont Vaccination Data

# Vermont CDC Vaccine Scorecard

Vaccine Metric	Ranking
<b>Doses Administered per 100K</b>	<b>1</b>
<b>% At Least 1 Dose (5+ Population)</b>	<b>1 (tied)</b>
<b>% Fully Vaccinated (5+ Population)</b>	<b>2</b>
<b>% At Least 1 Dose (Full Population)</b>	<b>2</b>
<b>% Fully Vaccinated (Full Population)</b>	<b>2</b>
<b>% Fully Vaccinated (65 &amp; Over)</b>	<b>1 (tied)</b>

Booster Metric	Ranking
<b>% of Fully Vaccinated w/ booster dose</b>	<b>1</b>
<b>% of Fully vaccinated 12+ w/ booster doses</b>	<b>1</b>
<b>% of Fully vaccinated 18+ w/ booster doses</b>	<b>1</b>
<b>% of Fully vaccinated 65+ w/ booster doses</b>	<b>3</b>

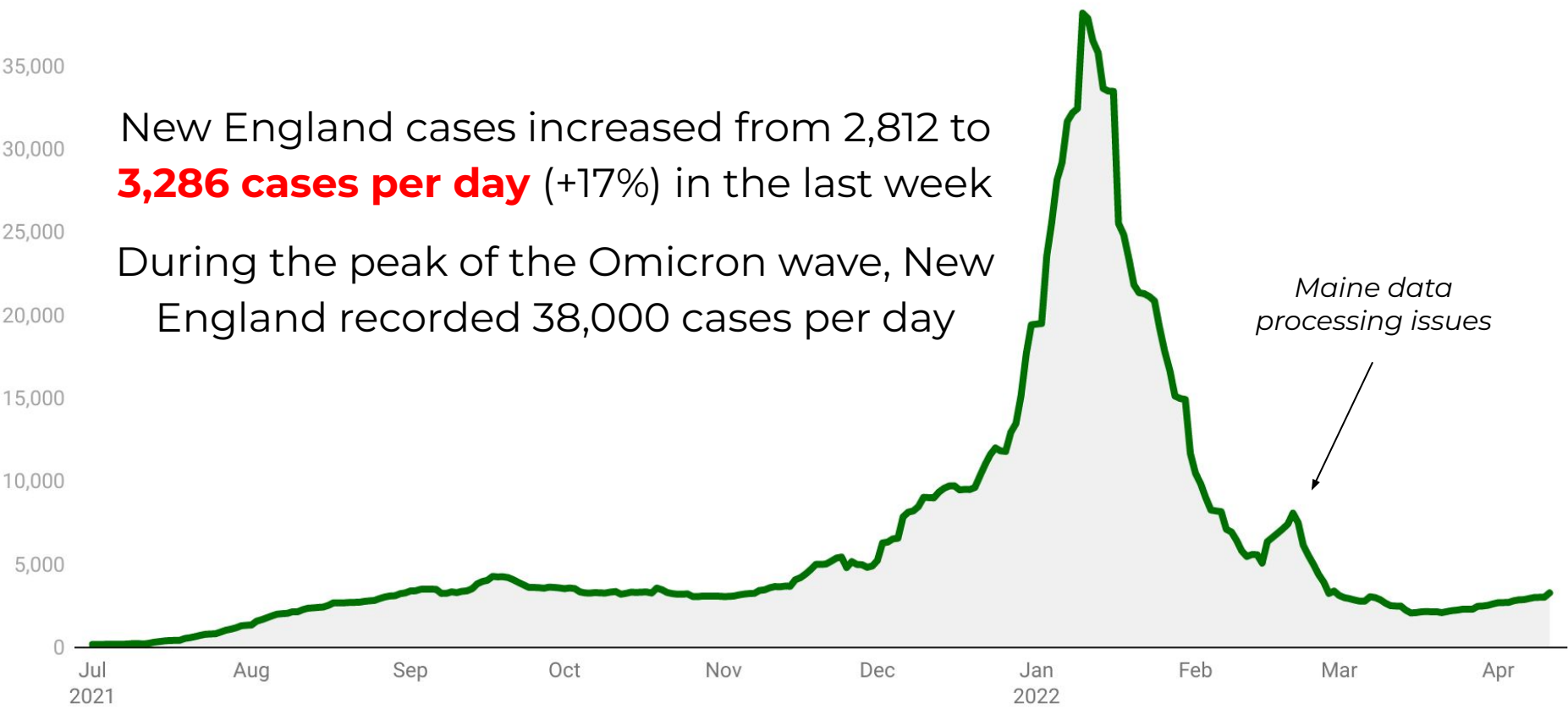
# Vermont: Booster Shots Administered By Week



# Regional Data

# New England COVID-19 Cases

— New England 7-Day Case Average



New England cases increased from 2,812 to **3,286 cases per day** (+17%) in the last week

During the peak of the Omicron wave, New England recorded 38,000 cases per day

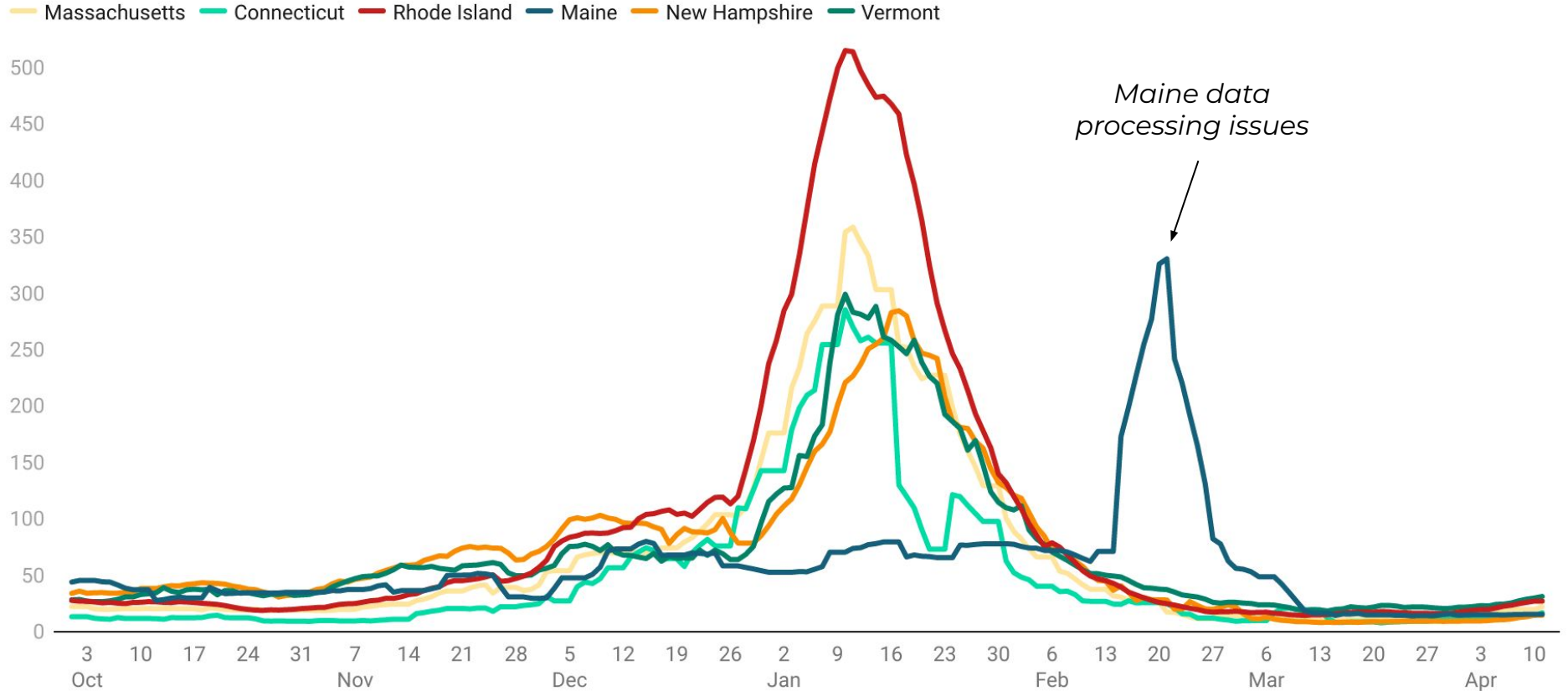
*Maine data processing issues*

Sources: State Health Depts.—April 11, 2022 (includes: CT, ME, MA, NH, RI & VT)



# New England COVID-19 Case Trends

7-Day Average Cases Per 100K

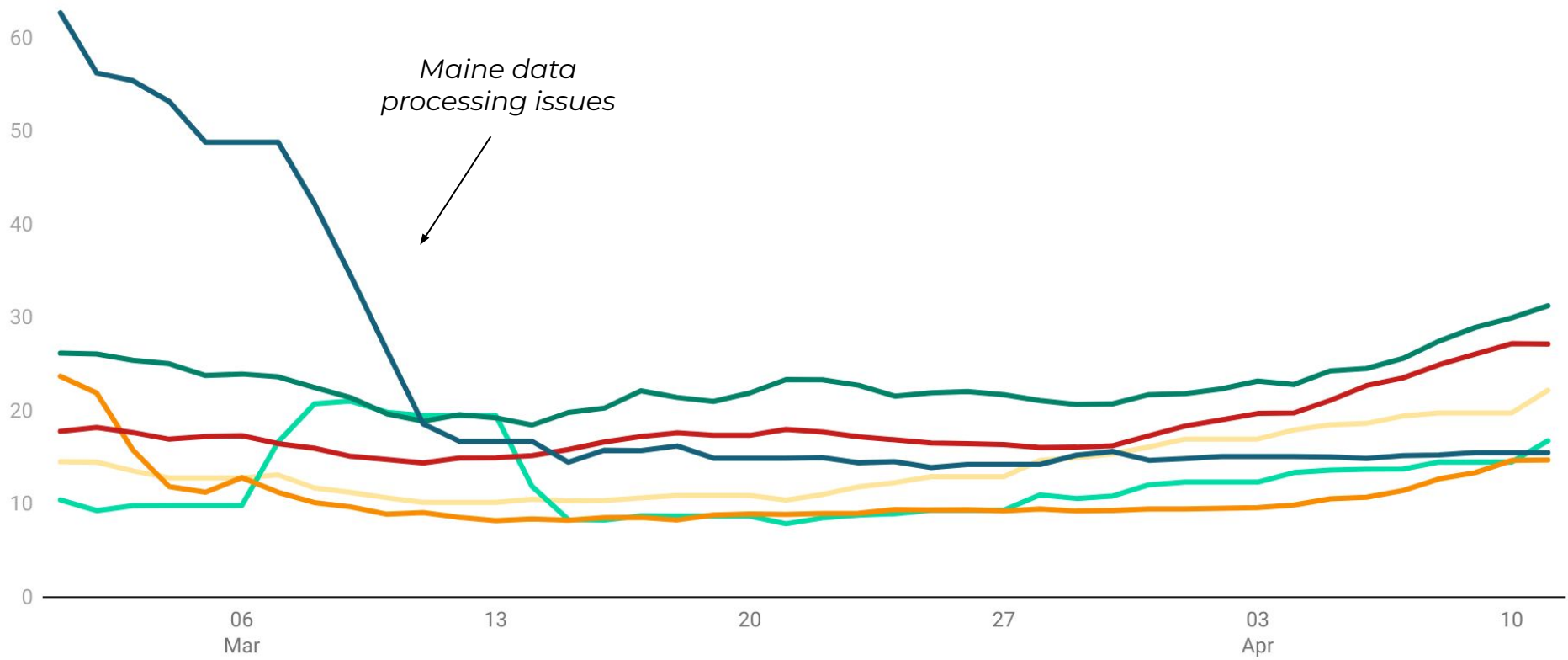


*Maine data processing issues*

# New England COVID-19 Case Trends Since March 1st

7-Day Average Cases Per 100K

Massachusetts Connecticut Rhode Island Maine New Hampshire Vermont



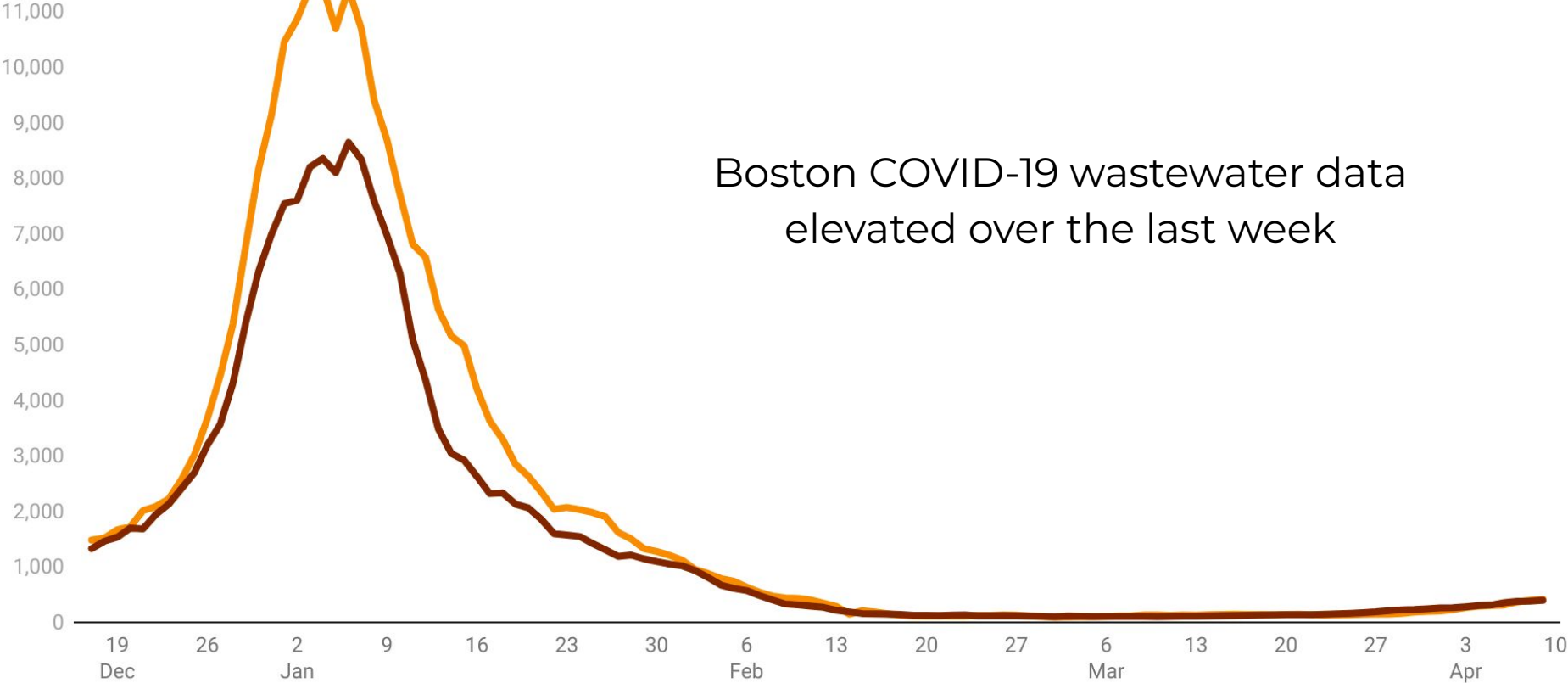
*Maine data processing issues*



Sources: State Health Depts.—April 11, 2022 (includes: CT, ME, MA, NH, RI & VT)

# Boston Wastewater COVID-19 Detection

Southern Collection Area (7-Day Average) Northern Collection Area (7-Day Average)

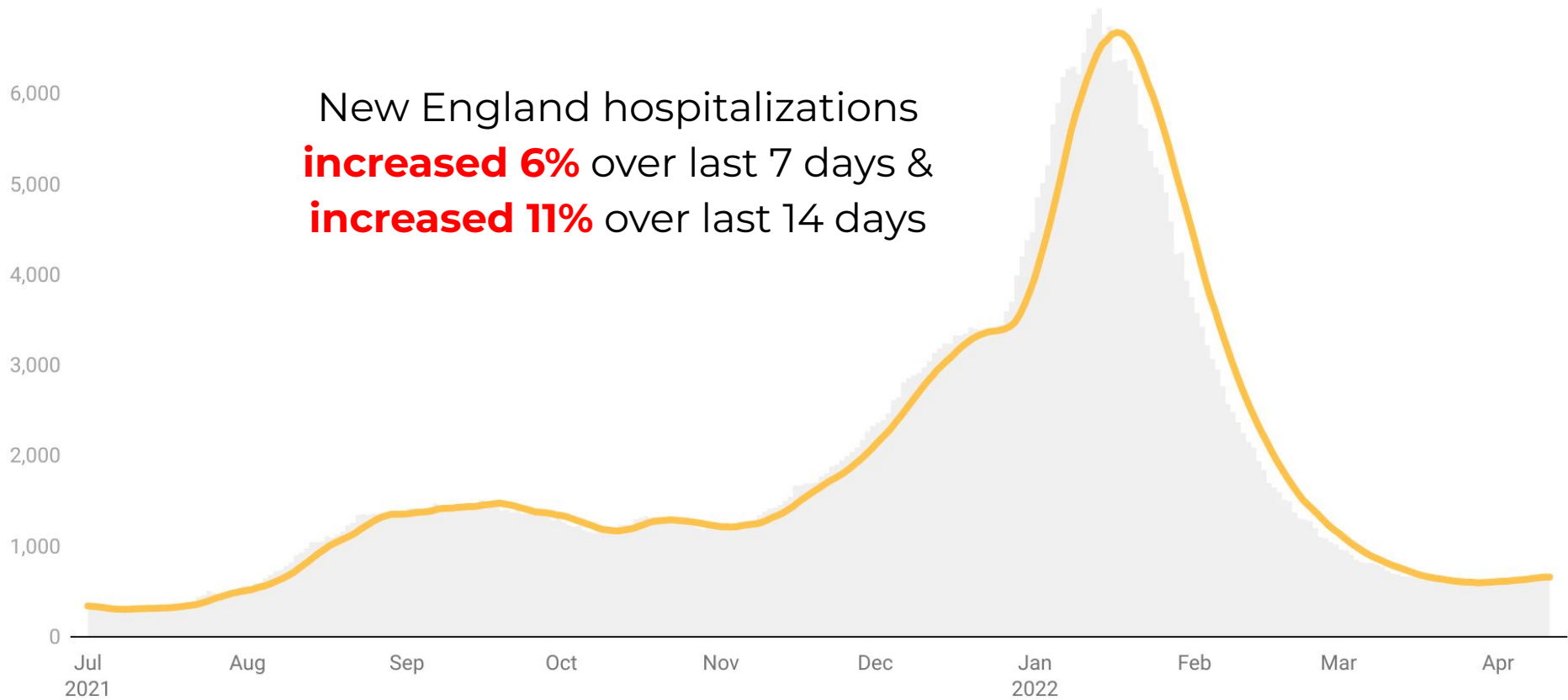


Boston COVID-19 wastewater data elevated over the last week

Source: Massachusetts Water Resources Authority; April 11, 2022

# New England COVID-19 Hospitalizations

7-Day Average

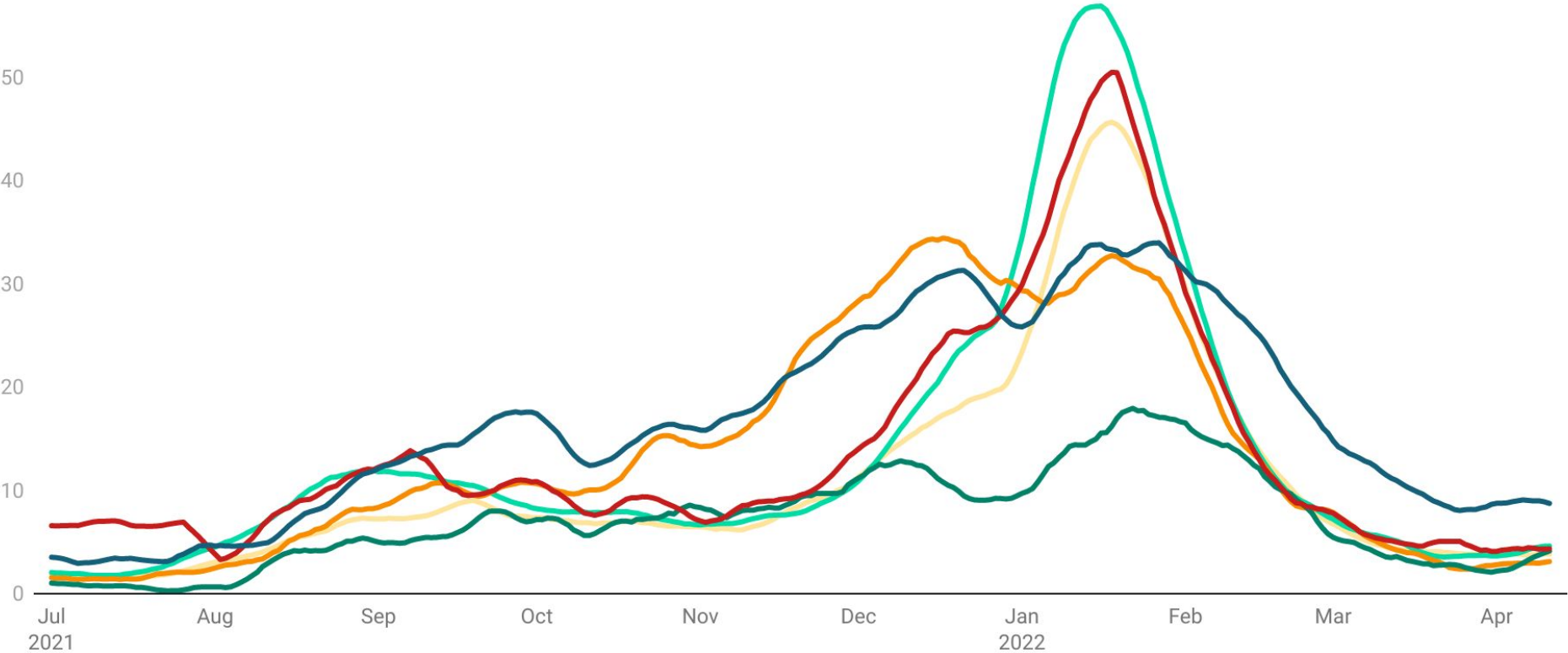


Sources: HHS—April 11, 2022 (includes: CT, ME, MA, NH, RI & VT)

# New England COVID-19 Hospitalizations Trends

7-Day Average Hospitalizations Per 100K

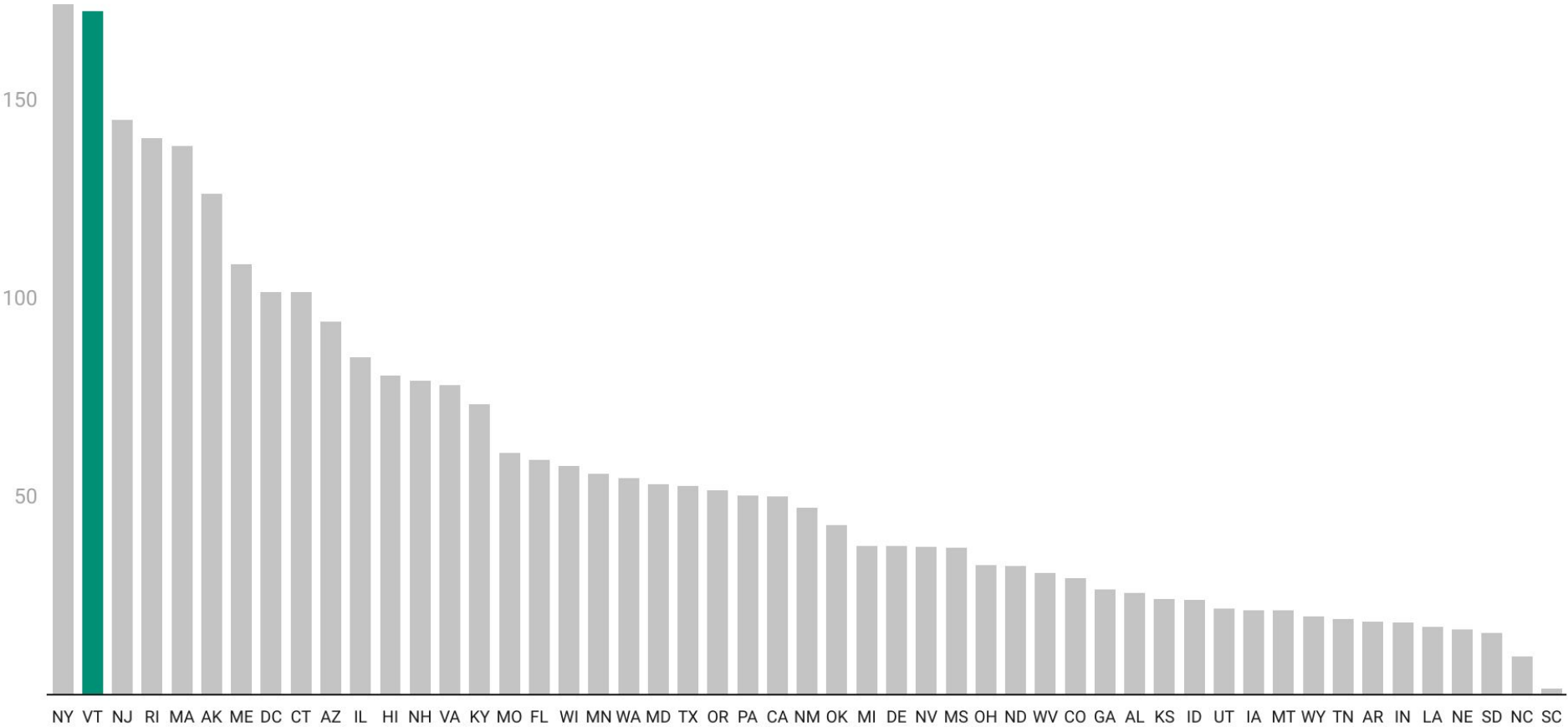
Massachusetts Connecticut Rhode Island Maine New Hampshire Vermont



Sources: HHS—April 11, 2022 (includes: CT, ME, MA, NH, RI & VT)

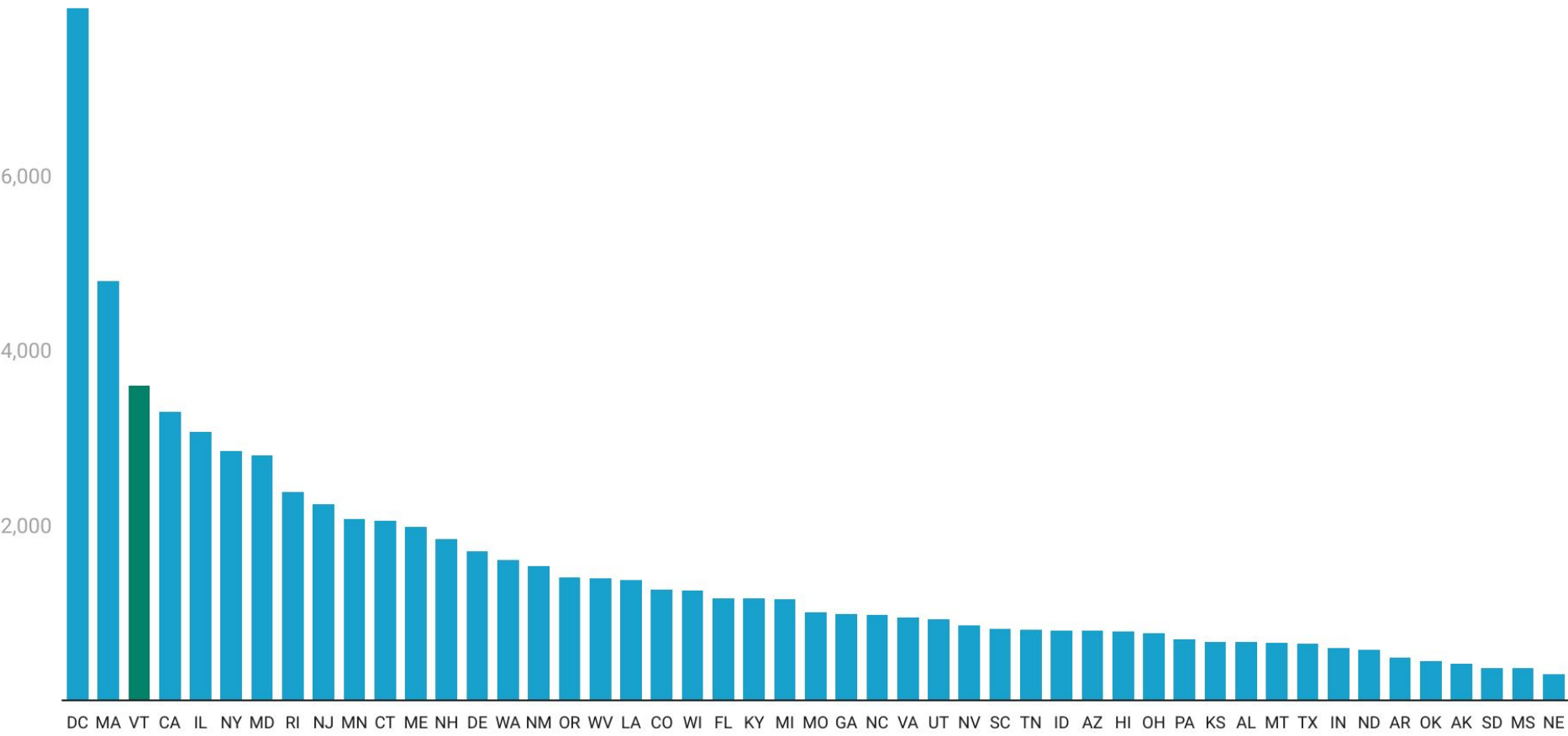
# National Data

# National COVID-19 Case Rates Per 100K Last 7 Days



Source: CDC—April 11, 2022; created with Datawrapper

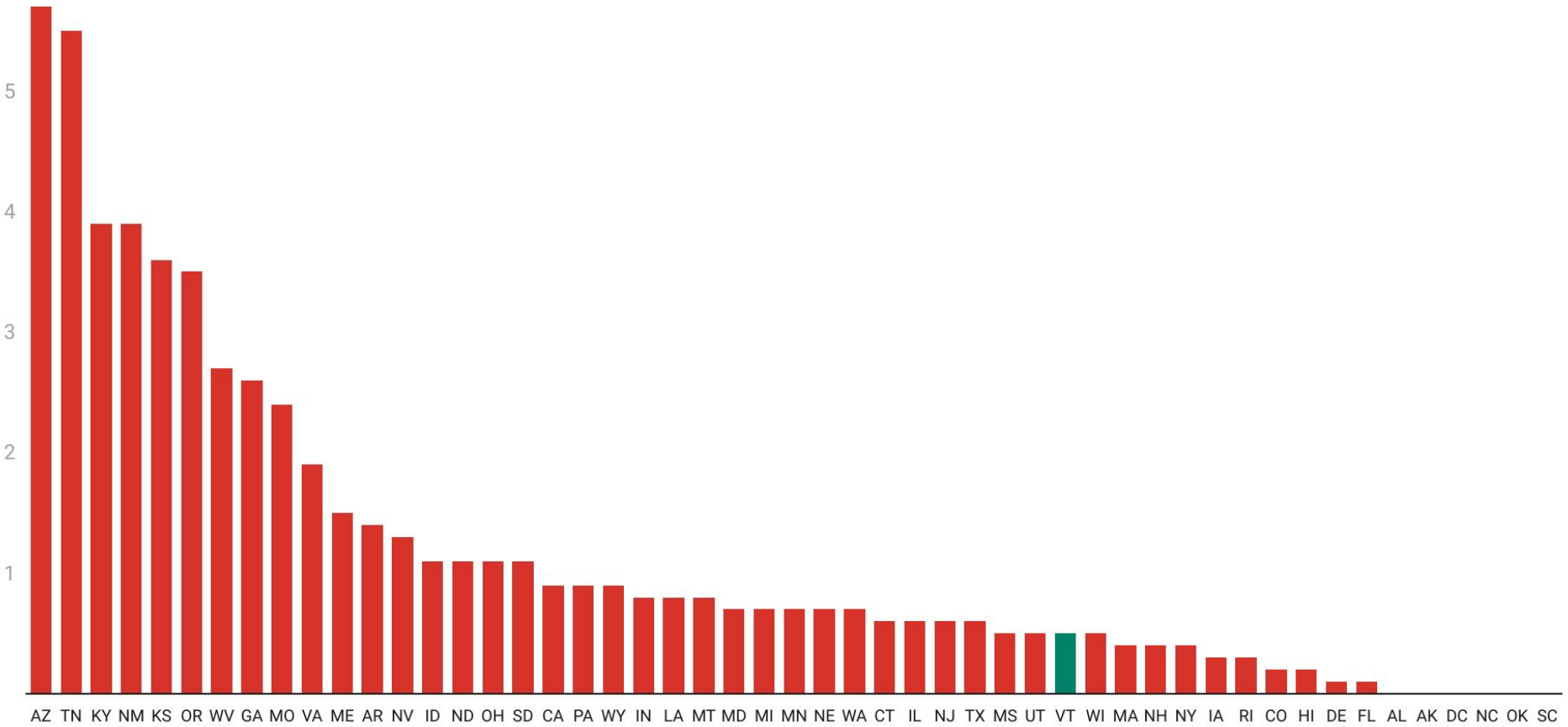
# COVID-19 Testing Per 100K Last 7 Days



Source: CDC—April 11, 2022; created with Datawrapper



# COVID-19 Deaths Per 100K Last 7 Days

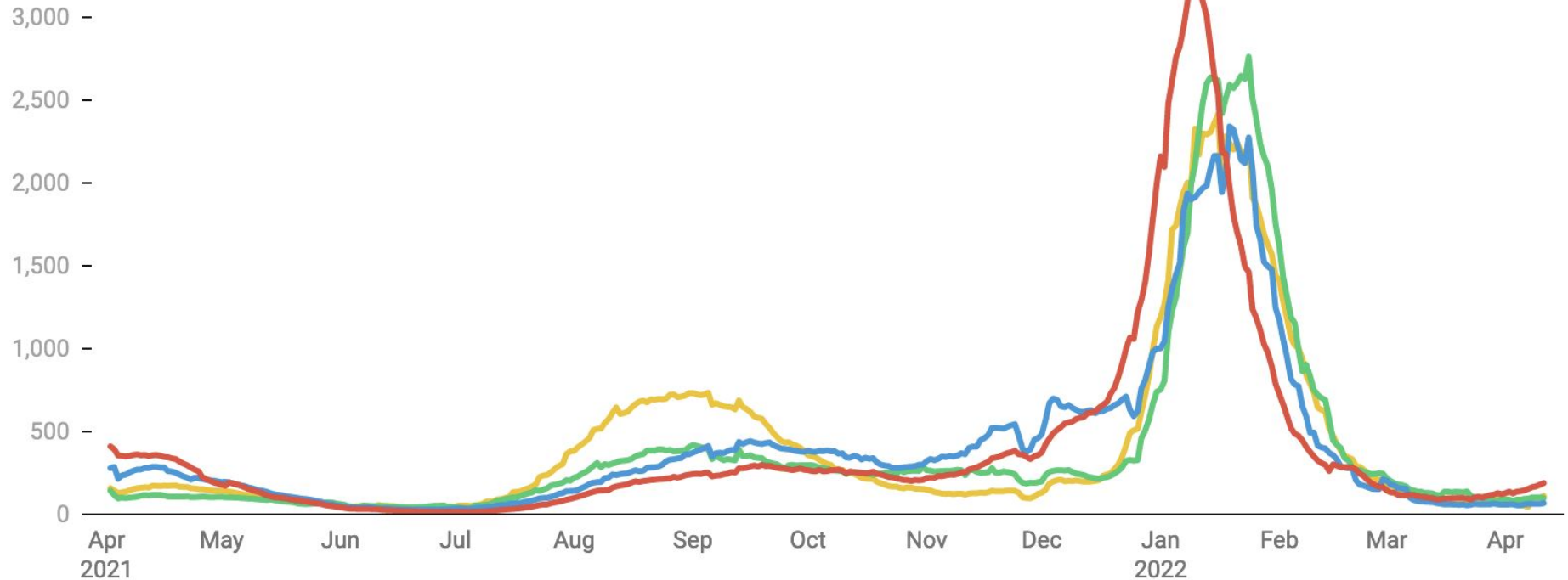


Source: CDC—April 11, 2022; created with Datawrapper; variances in state reporting may influence ranking

# Daily COVID-19 Cases per Million in US Regions

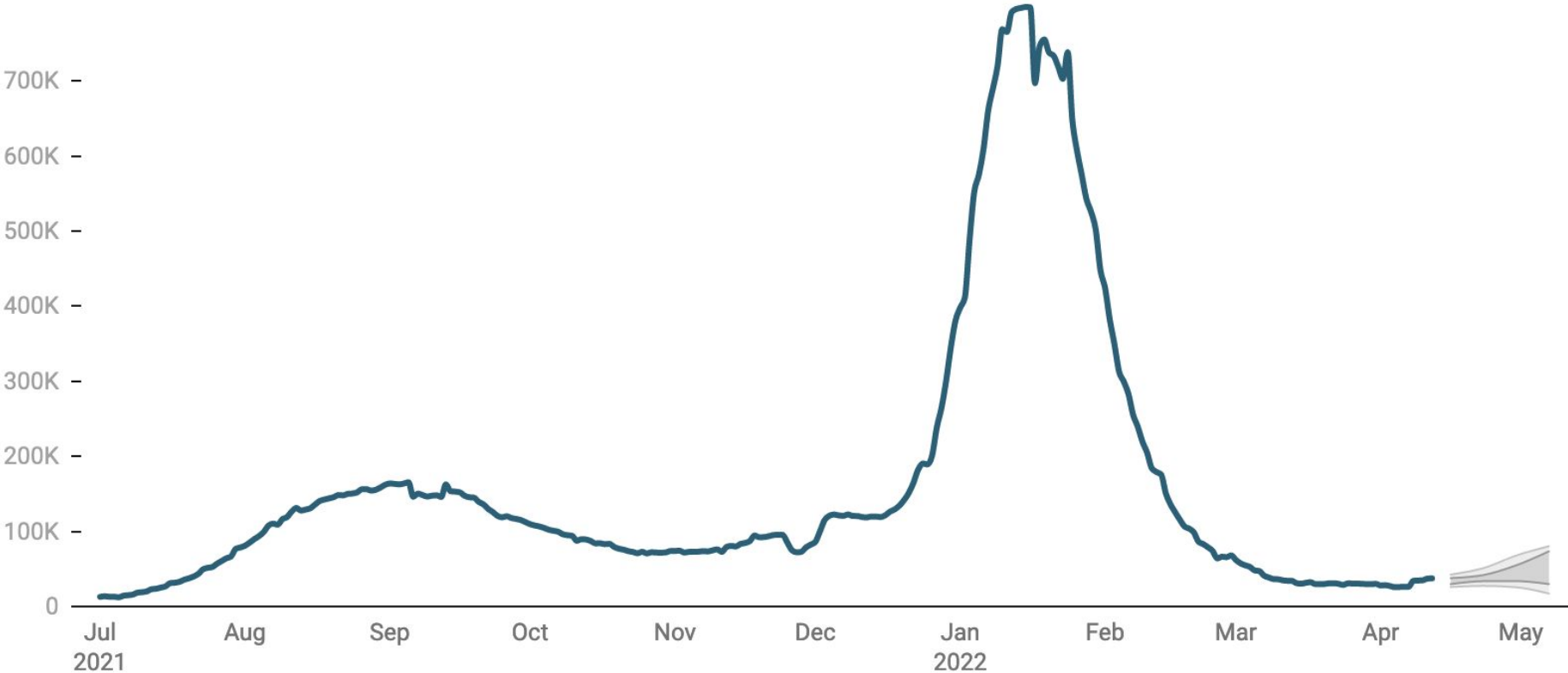
Calculated as a 7-day moving average. Definitions of North, Midwest, South, and West taken from the U.S. Census bureau.

— Northeast — Midwest — South — West



# US COVID-19 Infection Confidence Intervals

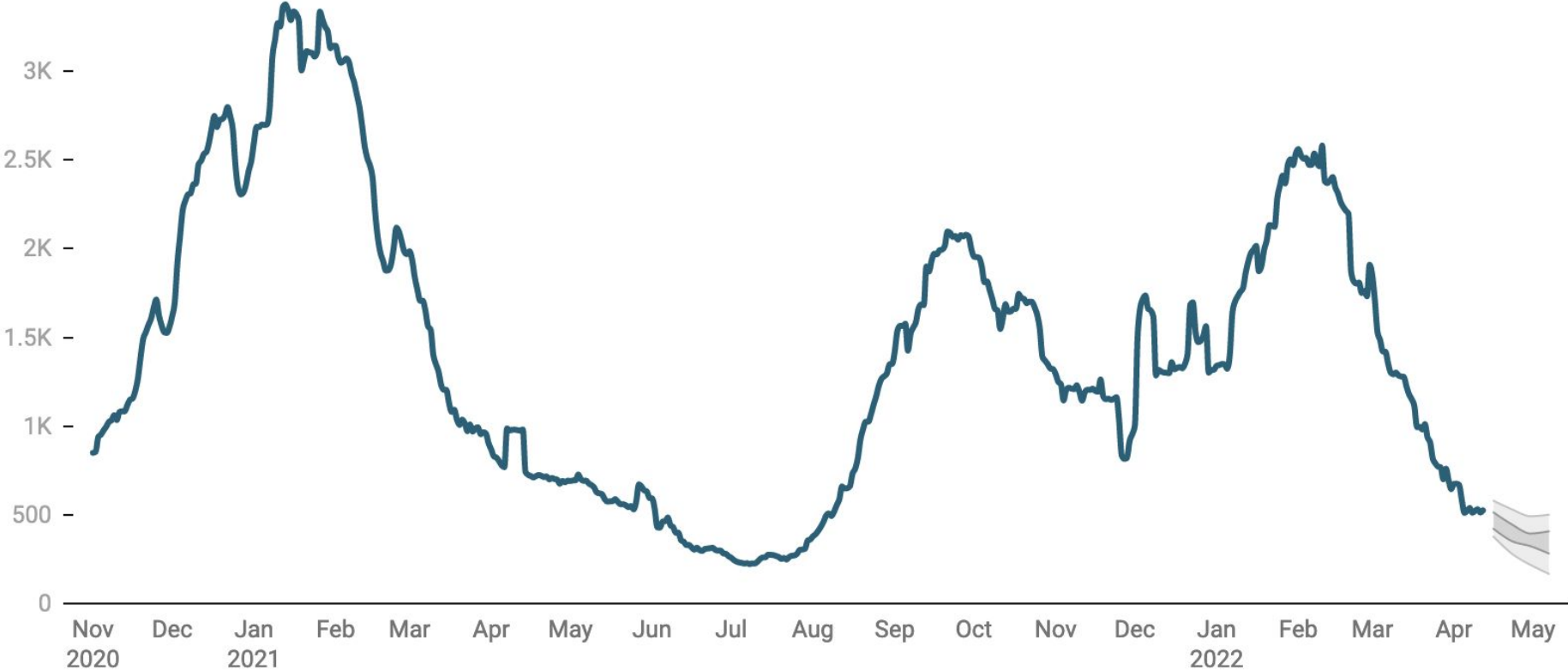
Calculated as a 7-day mean. Inner and outer bands represent 50% and 95% confidence intervals, respectively.



Source: CDC—April 12, 2022; created with Datawrapper

# US COVID-19 Death Confidence Intervals

Calculated as a 7-day mean. Inner and outer bands represent 50% and 95% confidence intervals, respectively.



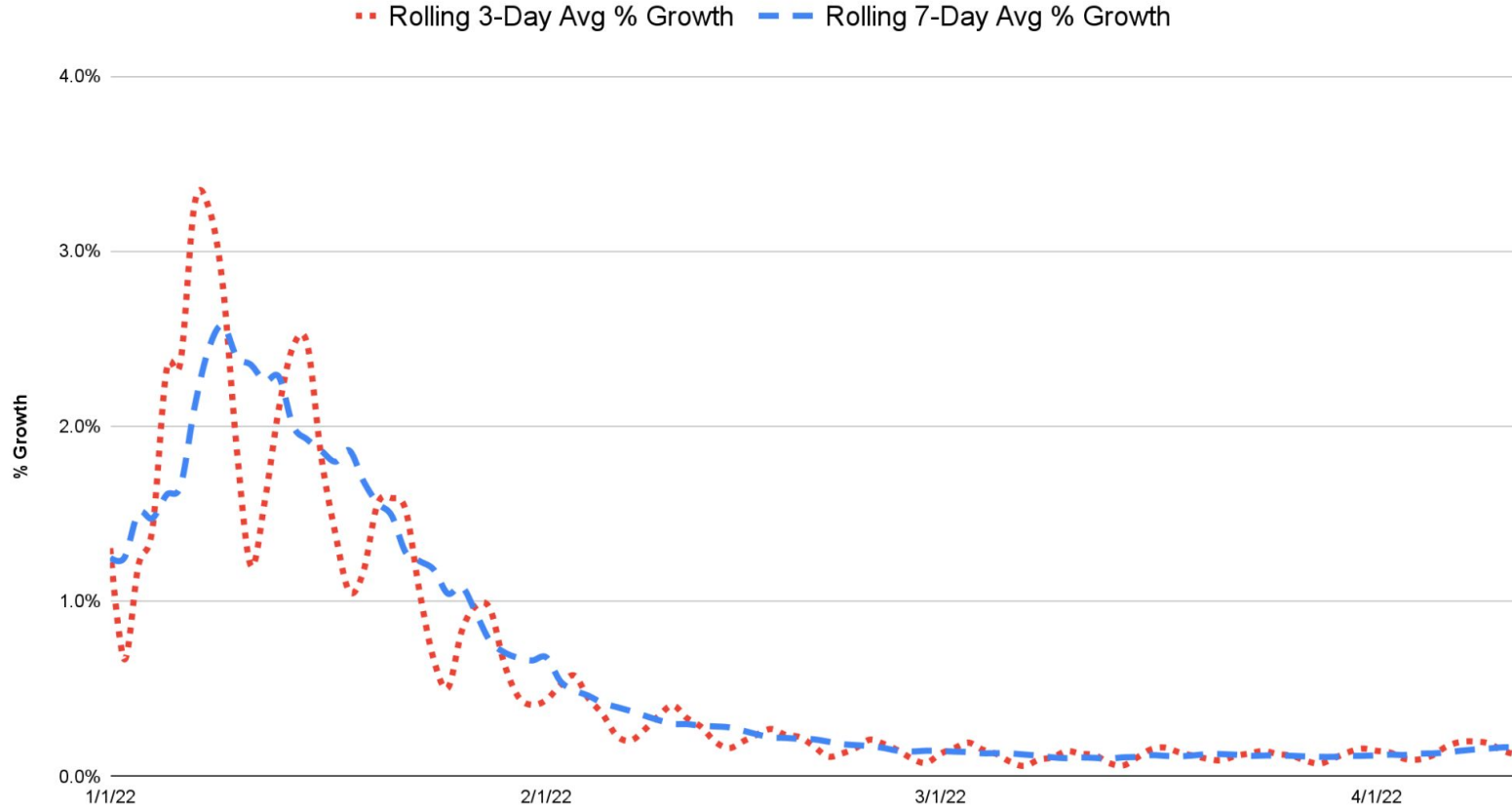
Source: CDC—April 12, 2022; created with Datawrapper

# RESTART VERMONT

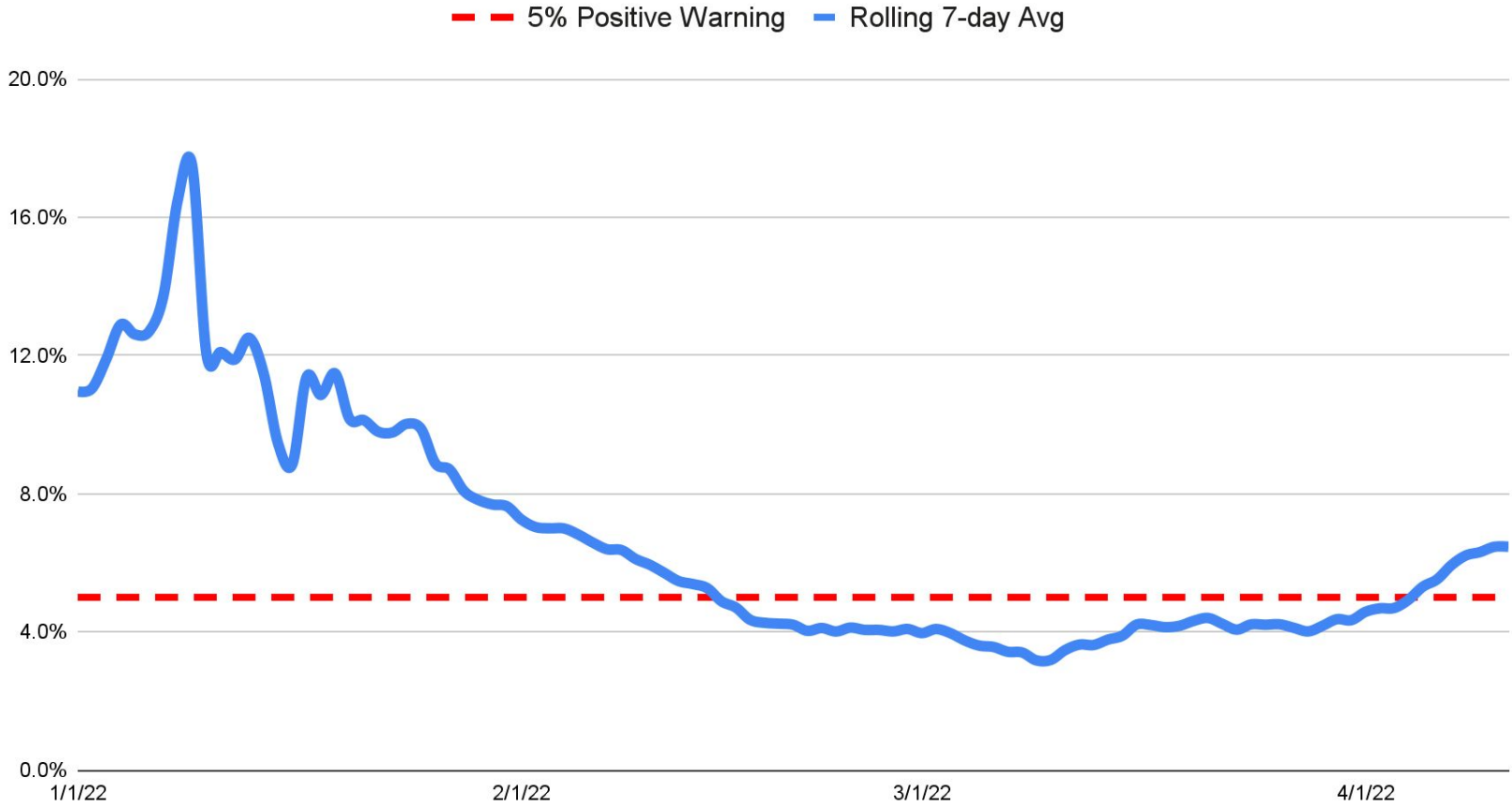
## Reopening Metrics

1. Syndromic Surveillance (*retired*)
2. Viral Growth & Reproductive Rates
3. Percentage of New Positive Tests
4. Hospital & Critical Care Bed Capacity
5. Testing Volume

# Viral Growth & Reproductive Rates



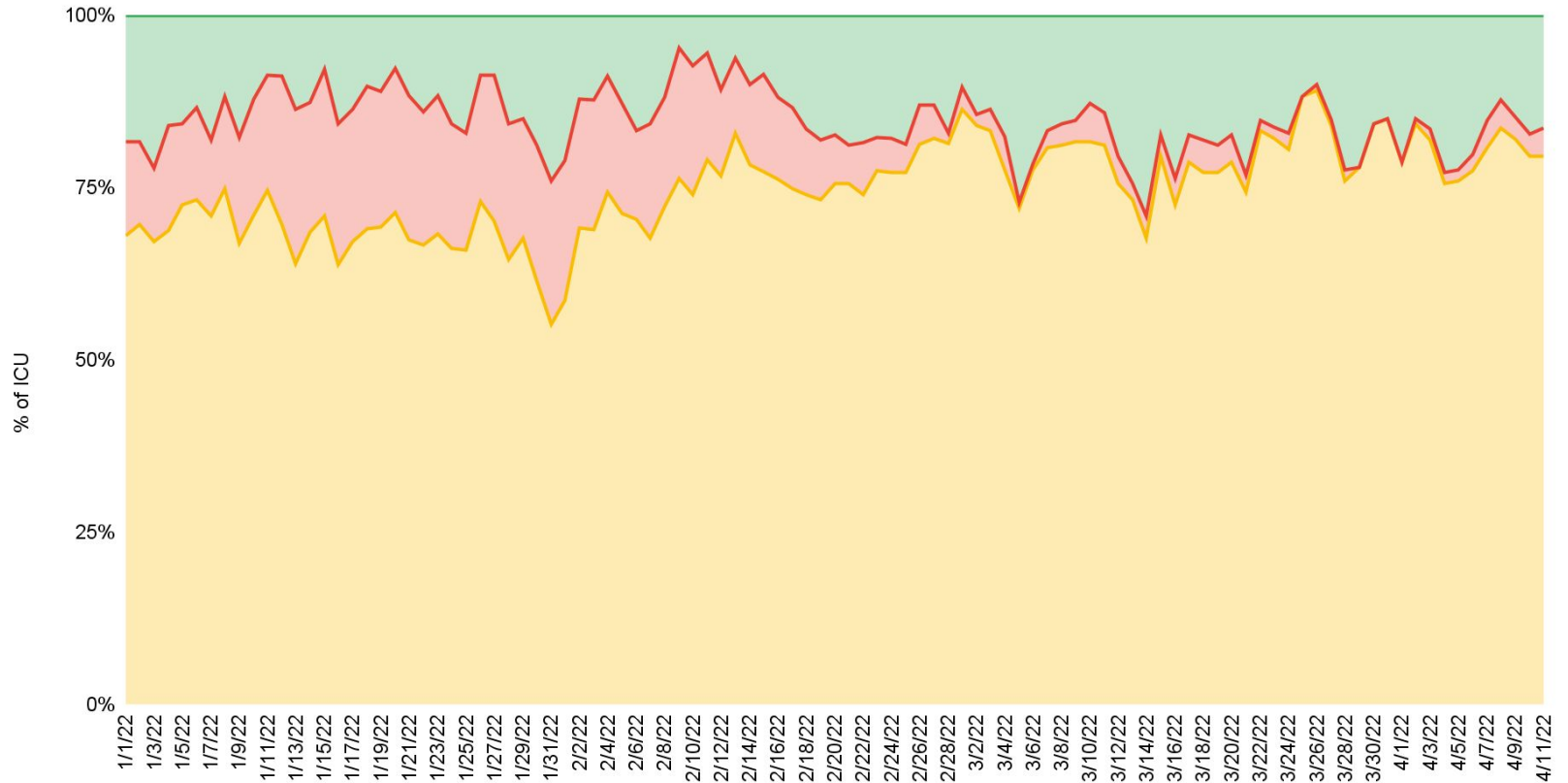
# Test Positivity



Source: Vermont Department of Health; 7-day positivity calculated as positive tests last seven days/tests last seven days

# Critical Care Beds

Open ICU COVID ICU non-COVID ICU





# Vermont Testing

