

COVID-19 Modeling

April 19, 2022

Presentation available at:
dfr.vermont.gov

Overview

Cases in Vermont and New England have increased over the last week, although the pace of those increases is slower than during the rapid surges at the beginning of the Omicron wave. Vermont's confirmed COVID-19 cases grew from a seven-day average of 201 to 256 per day, an increase of 27%.

Regionally, cases grew from 3,288 to 4,226 cases per day (+29%). Vermonters in the hospital for the virus also increased this week. Today, 40 individuals are hospitalized for COVID-19 with two people in the ICU. Three more fatalities were reported this week, with 626 total deaths now recorded since the beginning of the pandemic.

Over the last week, Vermont also recorded among the lowest rates of hospitalizations to confirmed cases in the United States. States with higher ratios—such as Mississippi, South Dakota, and Georgia—may be seeing an underreporting of cases relative to current hospitalizations.

Testing is up in Vermont as cases rise, with testing increasing 18% in the last week. Vermont continues to report one of the highest per capita testing rates in the nation, consistent with historical testing trends.

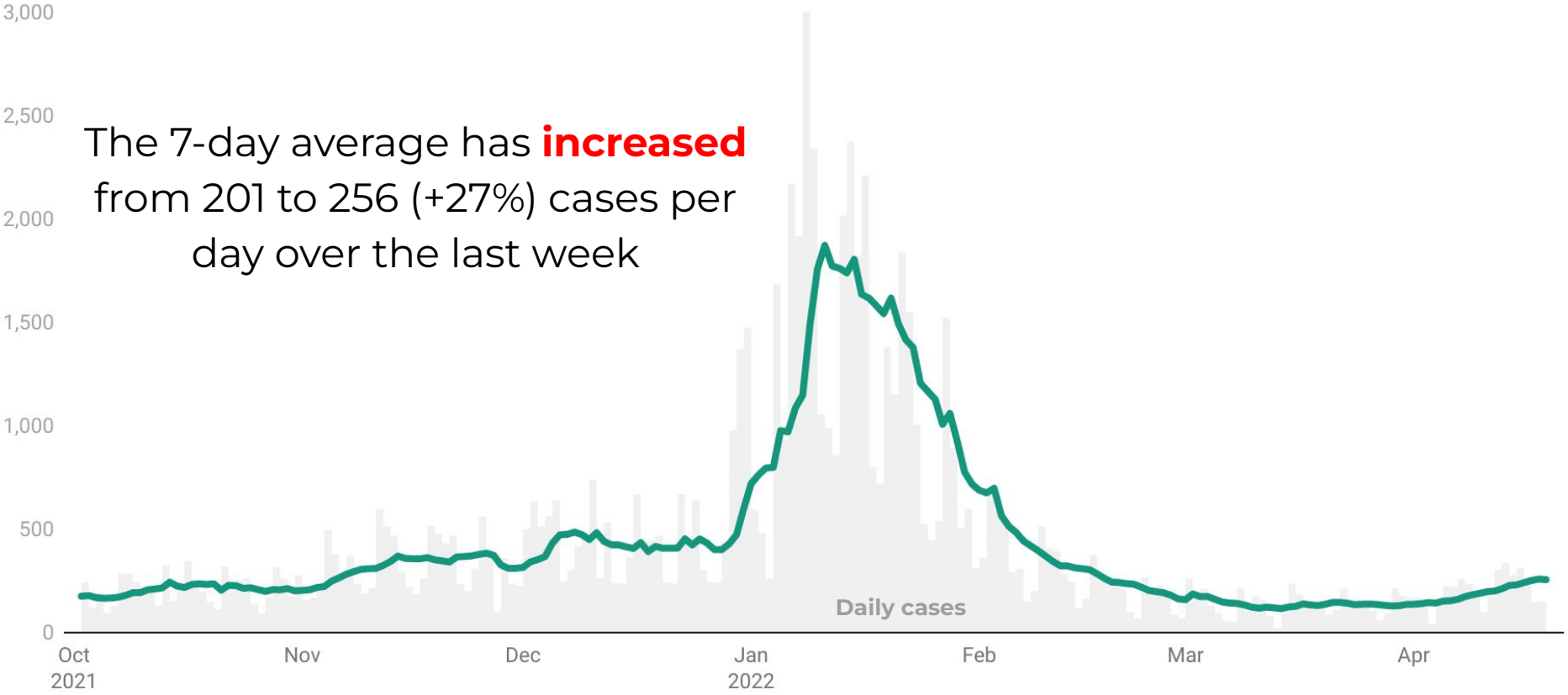
Table of Contents

Vermont Case Data	Pg. 4
Vermont Hospitalization Data	Pg. 16
Vermont Fatality Data	Pg. 23
Vermont Vaccination Data	Pg. 26
Regional Data	Pg. 29
National Data	Pg. 36
Restart Vermont	Pg. 44

Vermont Case Data

Vermont New COVID-19 Cases

7-Day Average

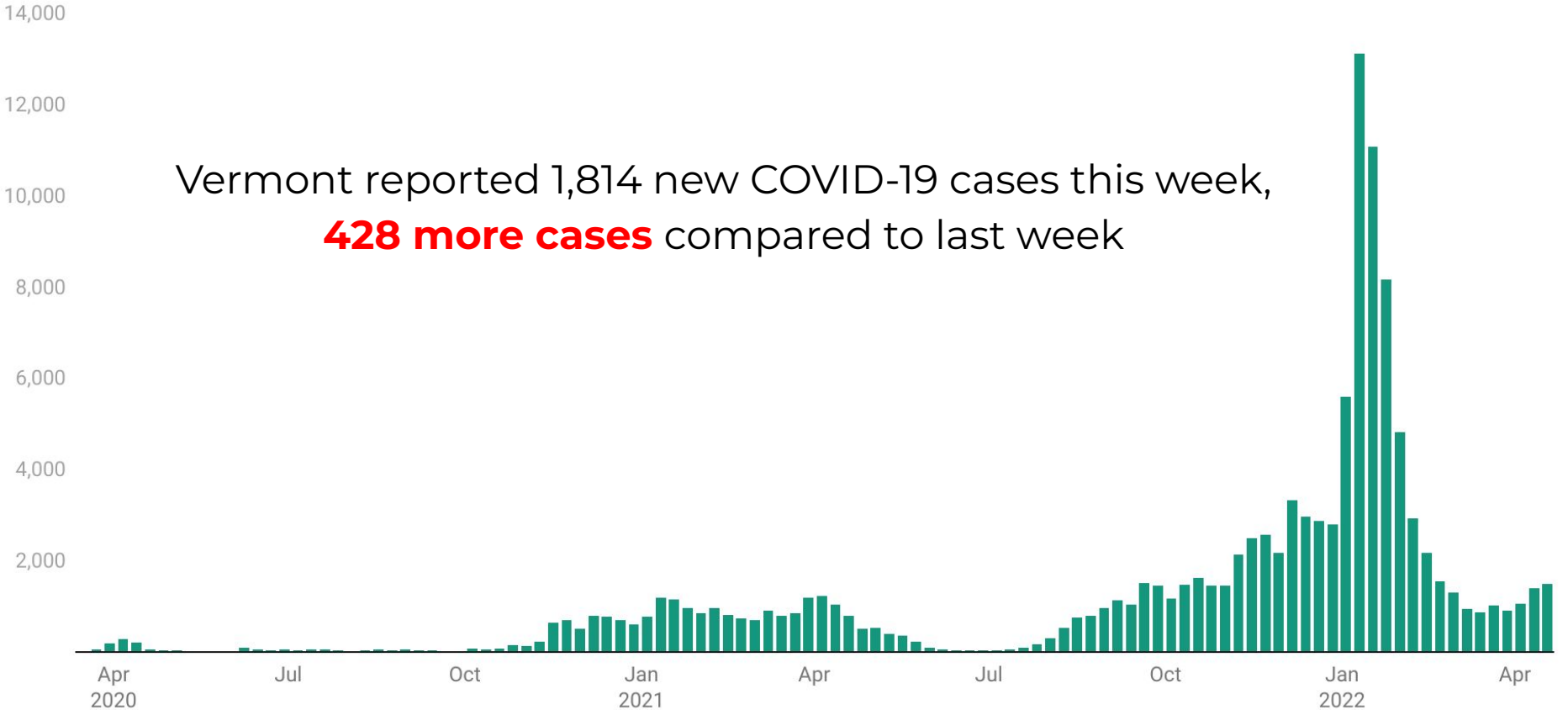


The 7-day average has **increased** from 201 to 256 (+27%) cases per day over the last week

Daily cases

Source: VDH—April 19, 2022; created with Datawrapper

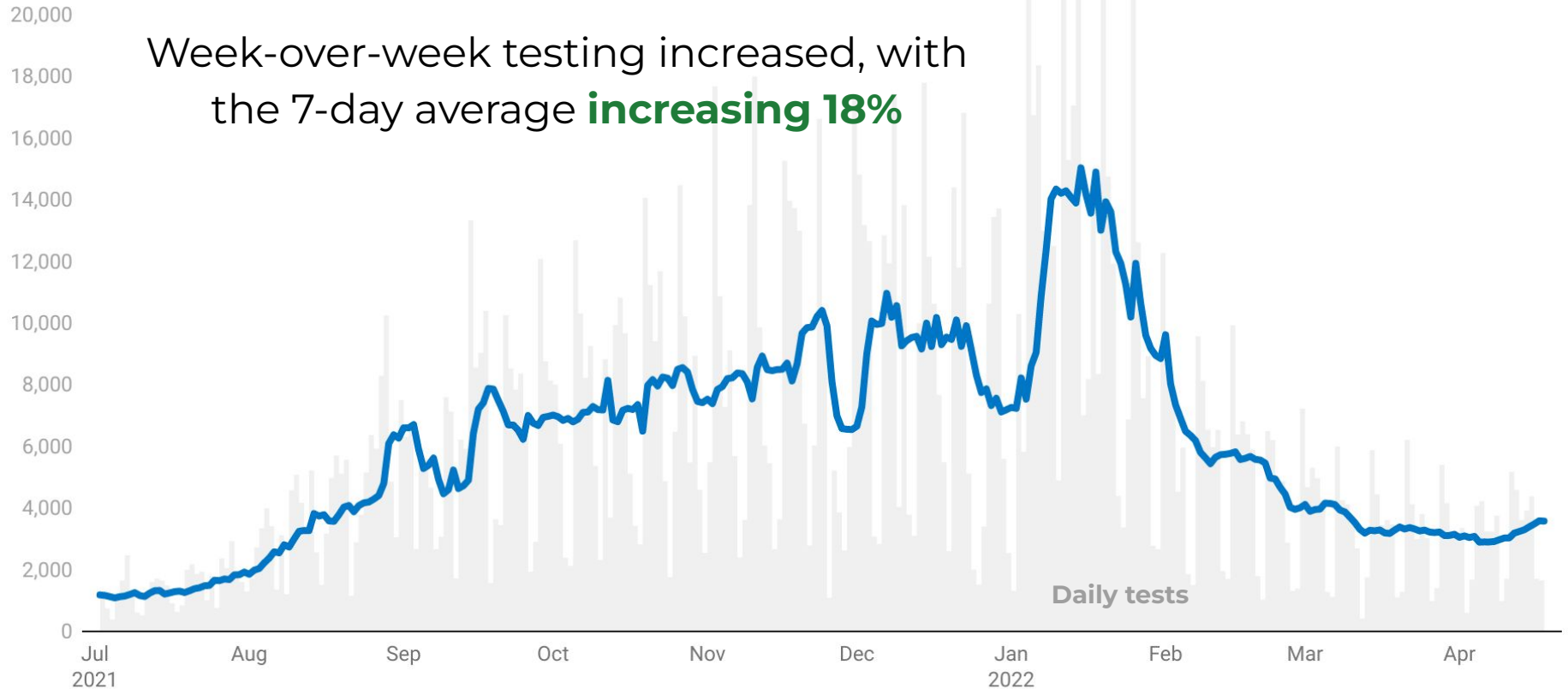
Vermont New Weekly COVID-19



Source: VDH—April 18, 2022; created with Datawrapper

Vermont COVID-19 PCR Testing

7-Day Average



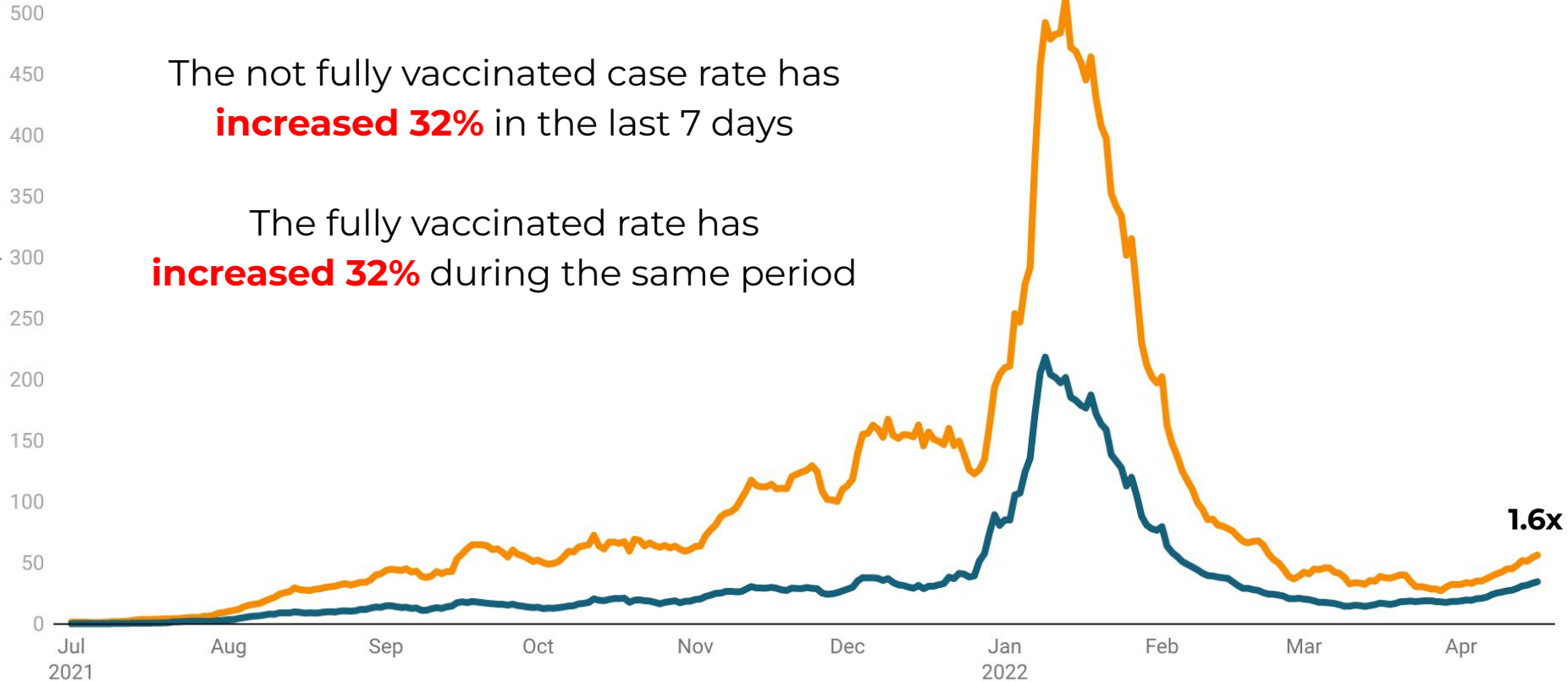
Vermont PCR Test Positivity

7-Day Positivity Rate

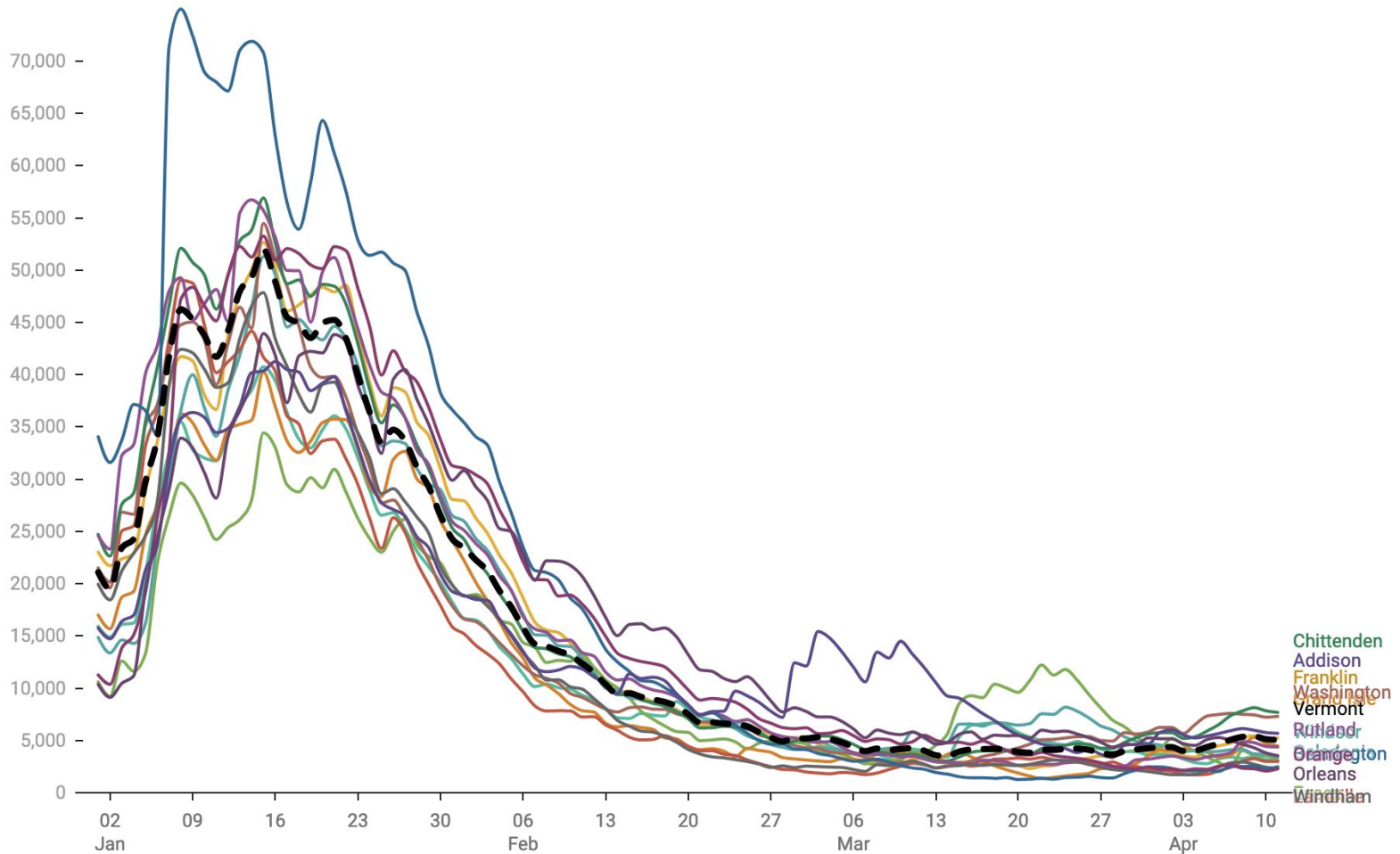


Vermont COVID-19 New Case Rates Per 100K (7-Day Average)

— Not Fully Vaccinated Case Rate — Fully Vaccinated Case Rate

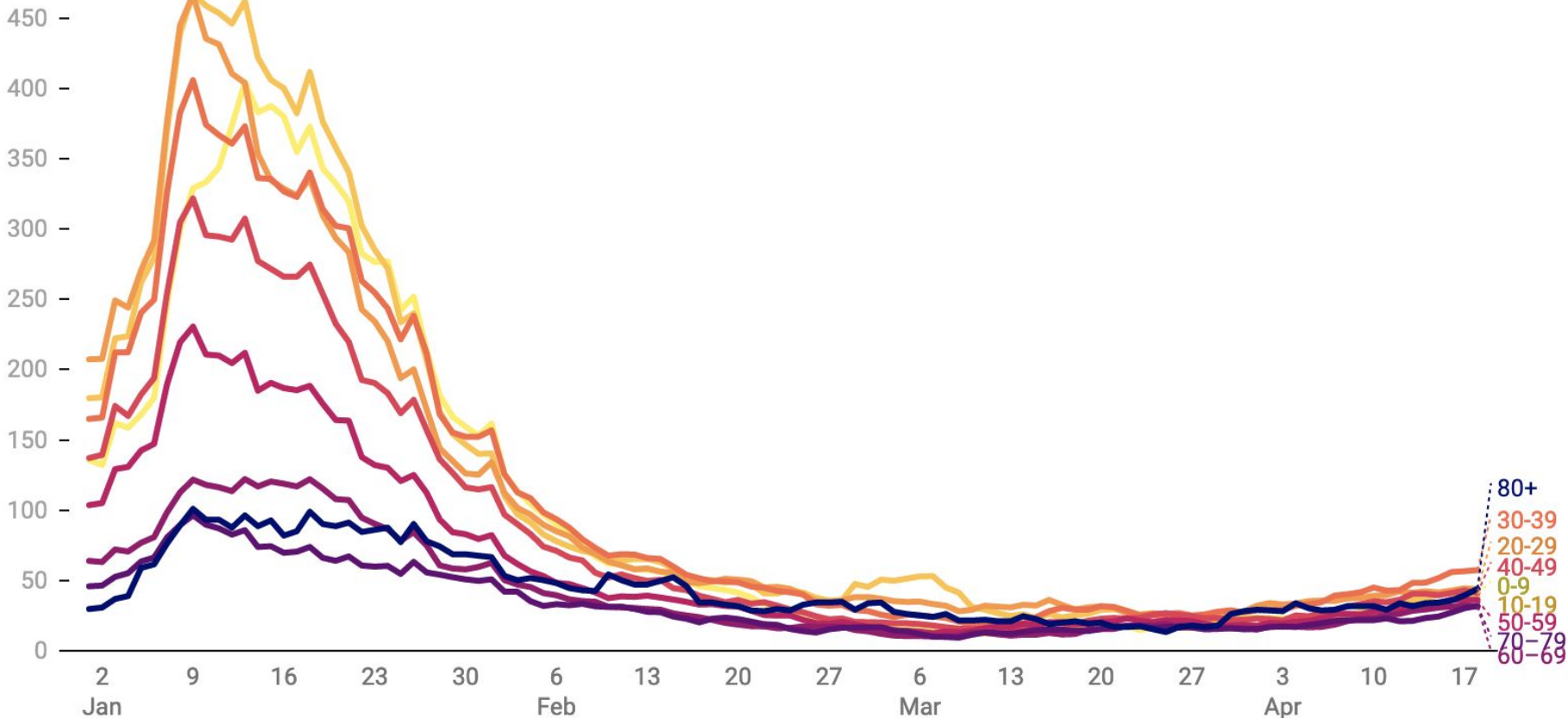


Estimated Active Cases per Million in All Vermont Counties



Source: VDH—April 19, 2022; created with Datawrapper

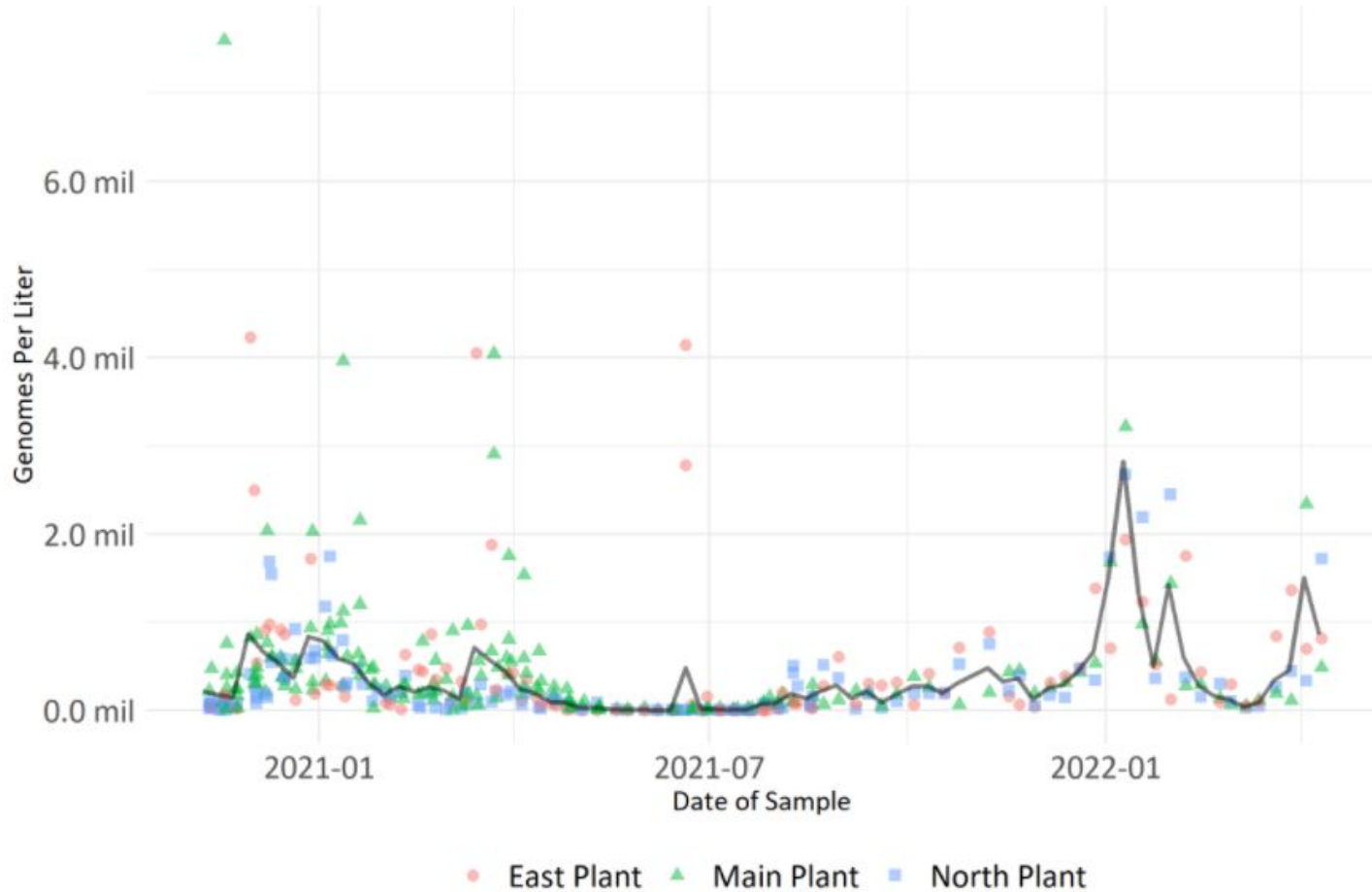
VT COVID-19 Infections per 100K by Age Group



Source: VDH—April 19, 2022; created with Datawrapper

Sars-Cov-2 in Burlington Wastewater

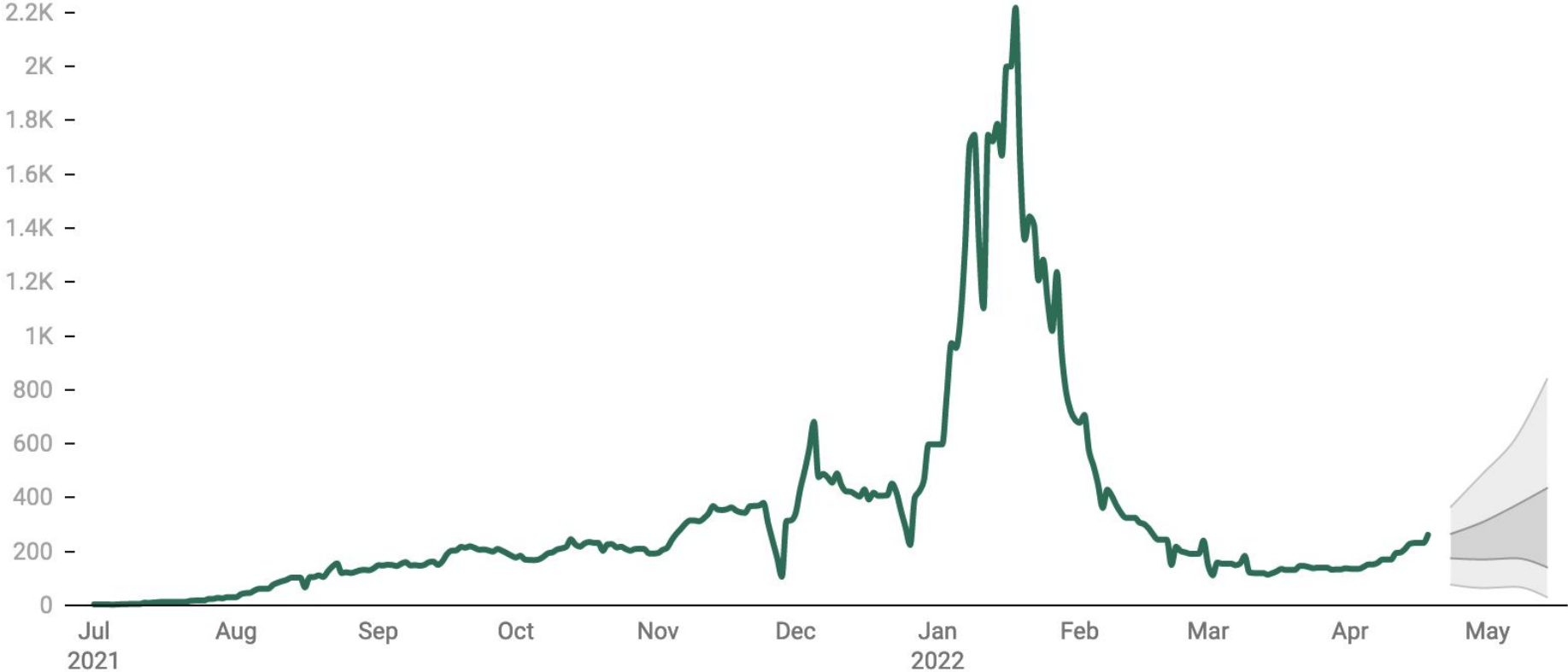
Average Across Plants by Week, Weighted by Population



Source: Burlington Wastewater Testing; April 11, 2022

VT COVID-19 Infection Confidence Intervals

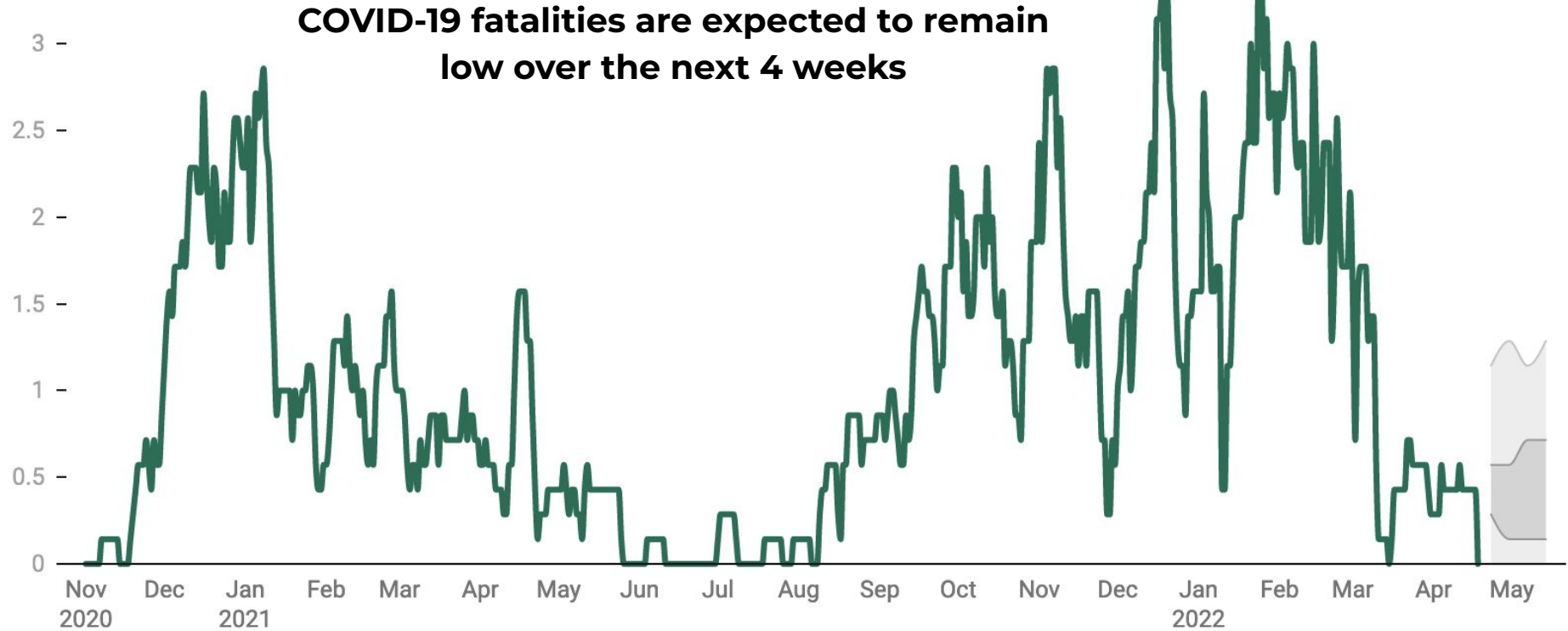
Calculated as a 7-day mean. Inner and outer bands represent 50% and 95% confidence intervals, respectively.



Source: Johns Hopkins University & CDC—April 19, 2022; created with Datawrapper

VT COVID-19 Death Confidence Intervals

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



Active Outbreaks in Long Term Care Facilities

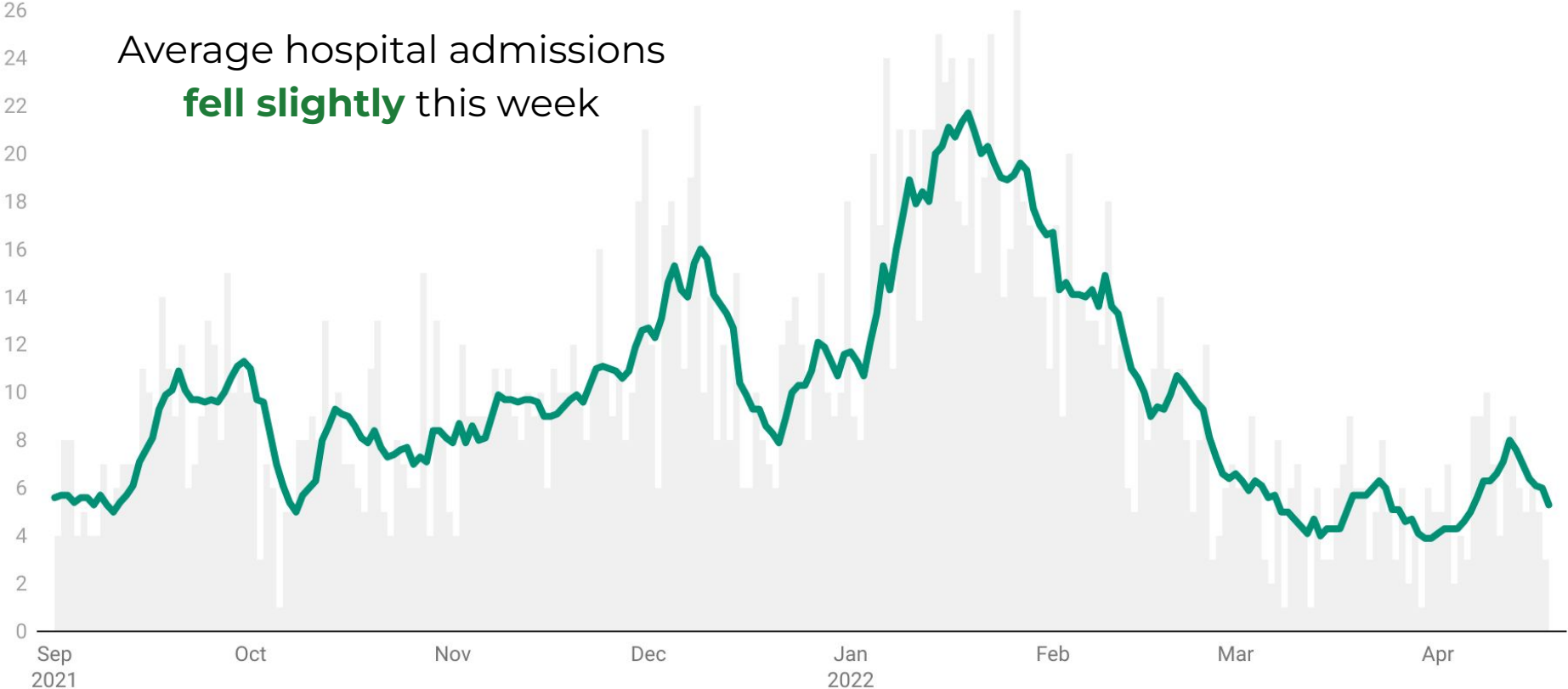
Facility Name	Total COVID-19 Cases
Helen Porter Healthcare and Rehabilitation Center	49
The Residence at Quarry Hill	34
Centers for Living & Rehabilitation	31
Converse Home	28
Greensboro Nursing home	27
Our Lady of Providence	14
Villa Rehab Center	10
Franklin County Rehabilitation Center	7
Loretto Home	6
Arioli Community Care Home	Not Shown
HCRS Meadowview	Not Shown
Total	206

Source: Vermont Department of Health—April 19, 2022 (reporting Monday through previous Sunday); 'Active' defined as less than 28 days since most recent case's specimen collection date or illness start date (whichever is later); *privacy suppressions include facility w/ <25 staff and residents and/or >75% of facility infected

Vermont Hospitalization Data

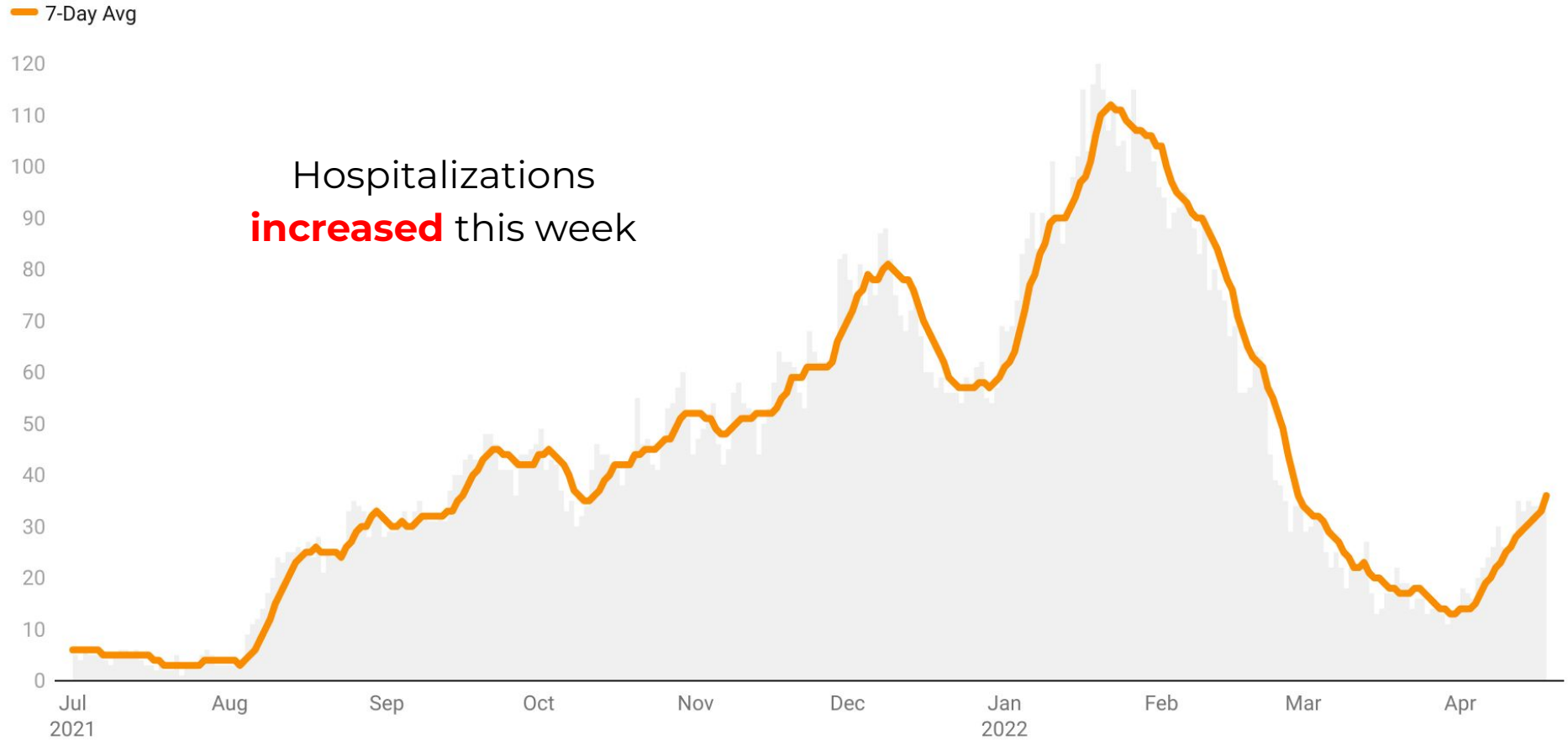
Vermont New COVID-19 Hospital Admissions

7-Day Average



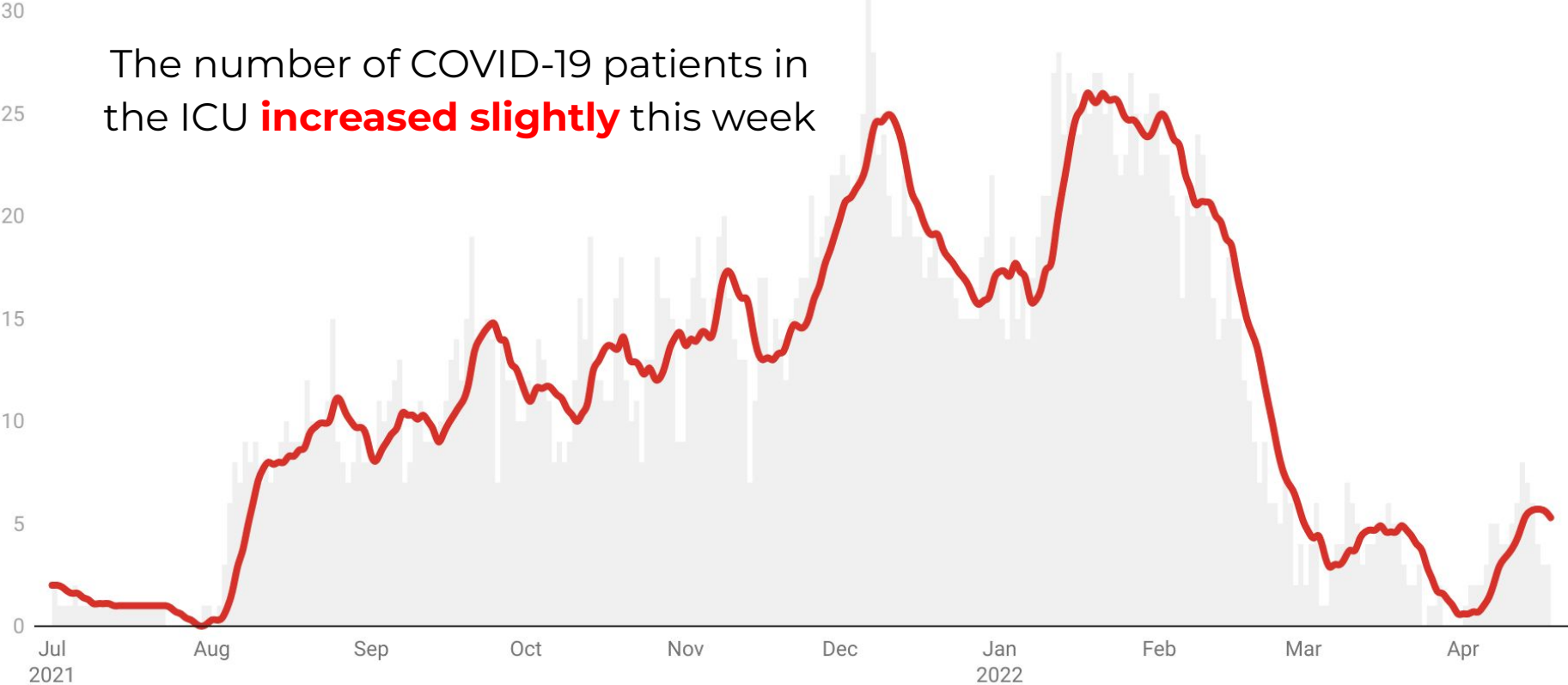
Source: HHS—April 18, 2022; created with Datawrapper

Vermont COVID-19 Patients Currently Hospitalized



Vermont COVID-19 Patients Currently in the ICU

7-Day Avg

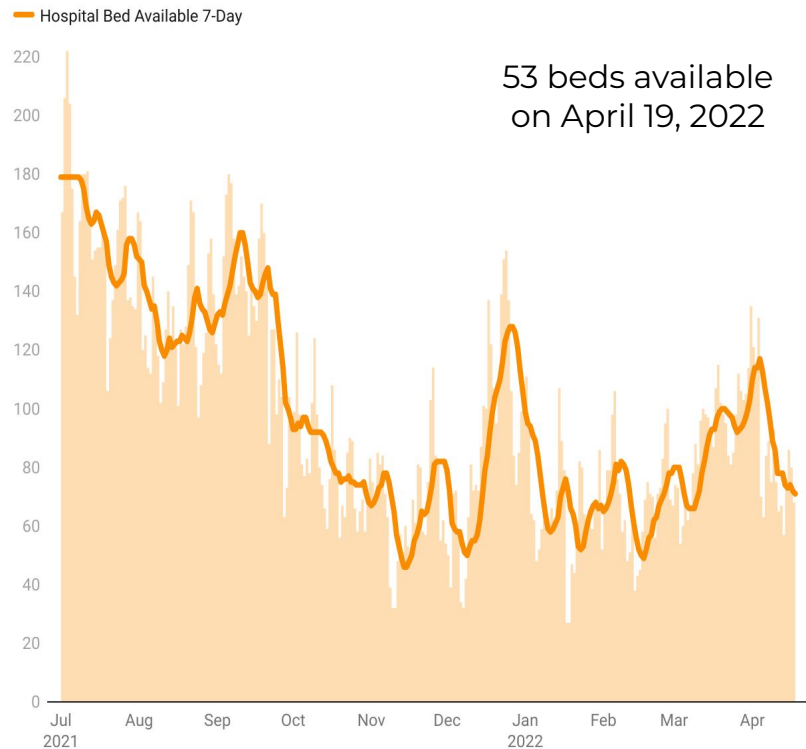


Source: VDH—April 18, 2022; created with Datawrapper

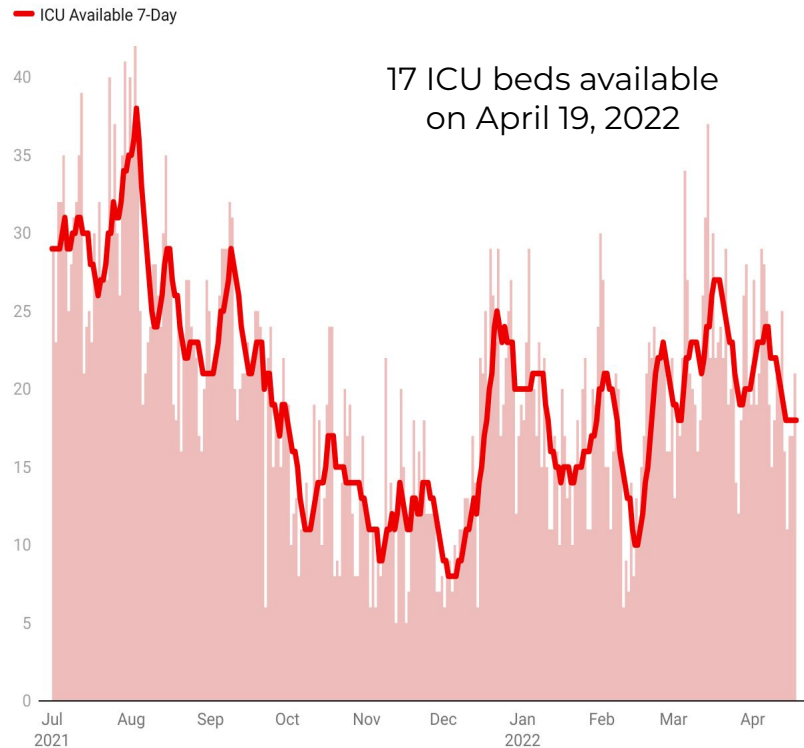
Vermont Hospital Metrics

(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

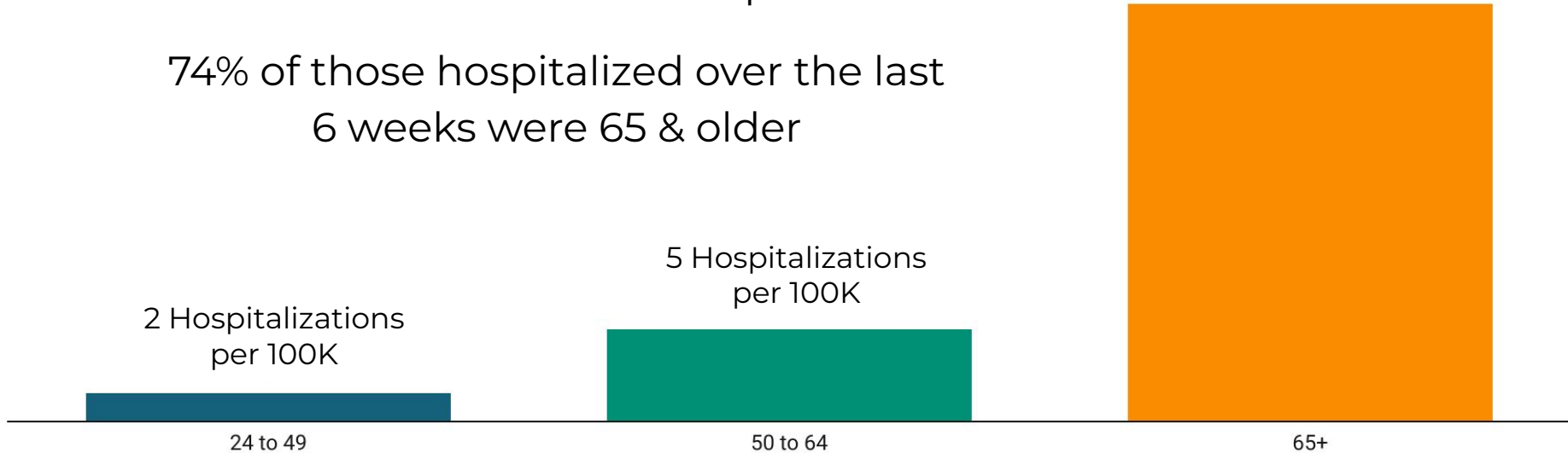
30

No one under 24 years old was hospitalized in Vermont for COVID-19 over the past 6 weeks

20

74% of those hospitalized over the last 6 weeks were 65 & older

10



COVID-19 Hospitalizations By Vaccination Status Per 100K

Measured Over the Last 6 Weeks

20

Those 18+ & **not fully vaccinated** were nearly **1.9x more** likely to be hospitalized from COVID-19 over the last 6 weeks compared to those **fully vaccinated & boosted**

15 Hospitalizations
per 100K

4 Hospitalizations
per 100K

8 Hospitalizations
per 100K

Not Fully Vaccinated

Fully Vaccinated But Not Boosted

Fully Vaccinated & Boosted

COVID-19 Hospitalizations per 100K

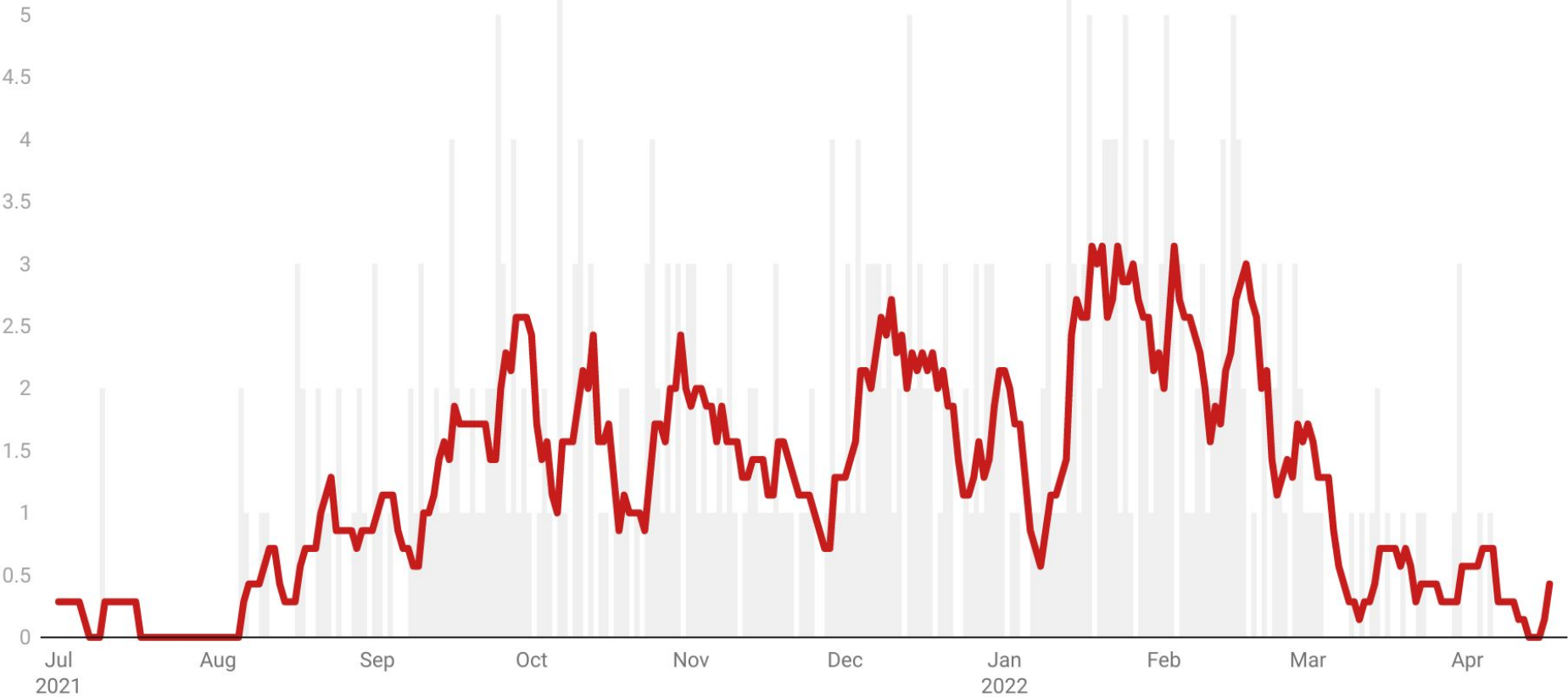
10

5

Vermont Fatality Data

Vermont COVID-19 Fatalities

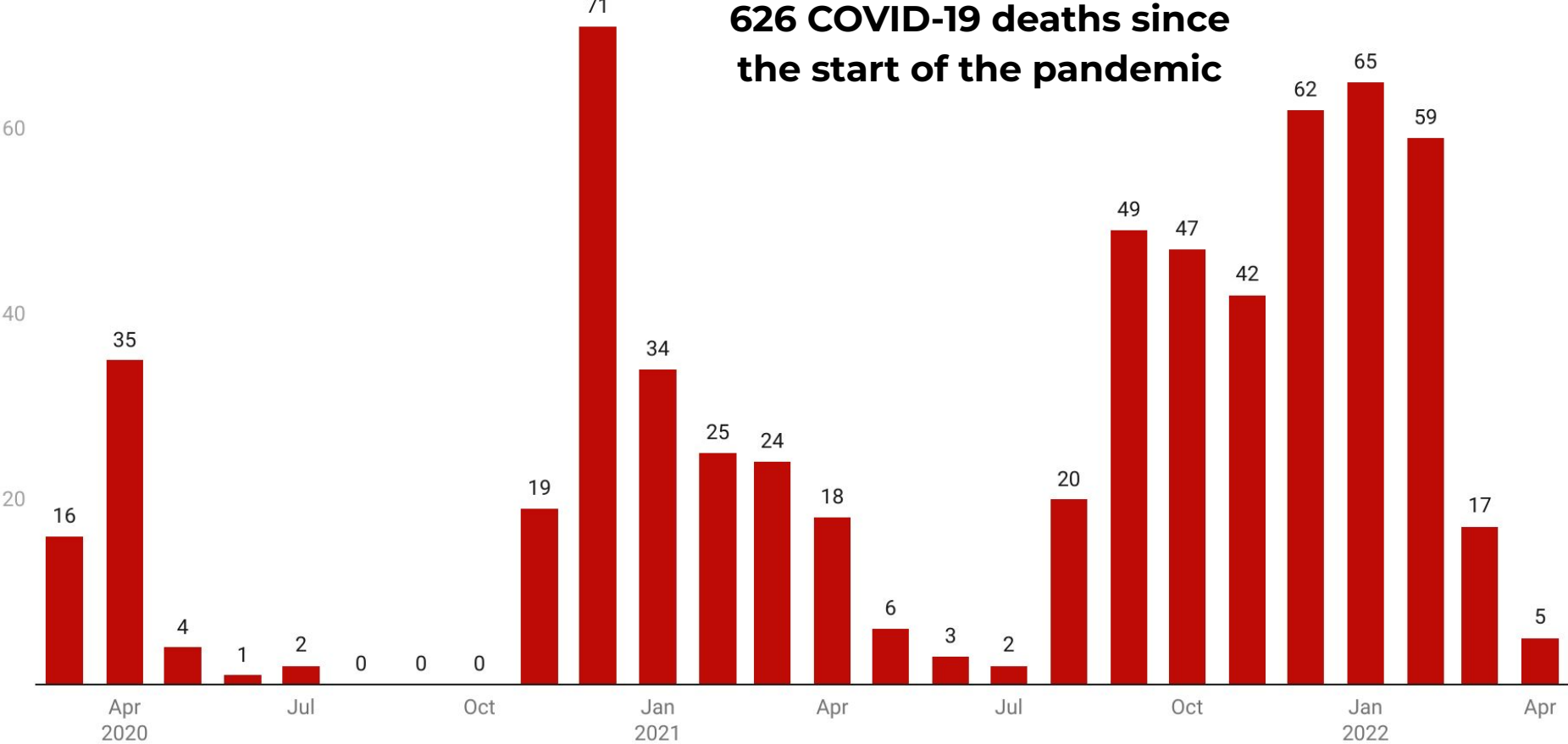
7-Day Average



Source: VDH—April 19, 2022; created with Datawrapper

Monthly Covid-19 Deaths In Vermont

626 COVID-19 deaths since the start of the pandemic



Source: VDH—April 19, 2022; created with Datawrapper; deaths attributed to month in which death occurred rather than reported

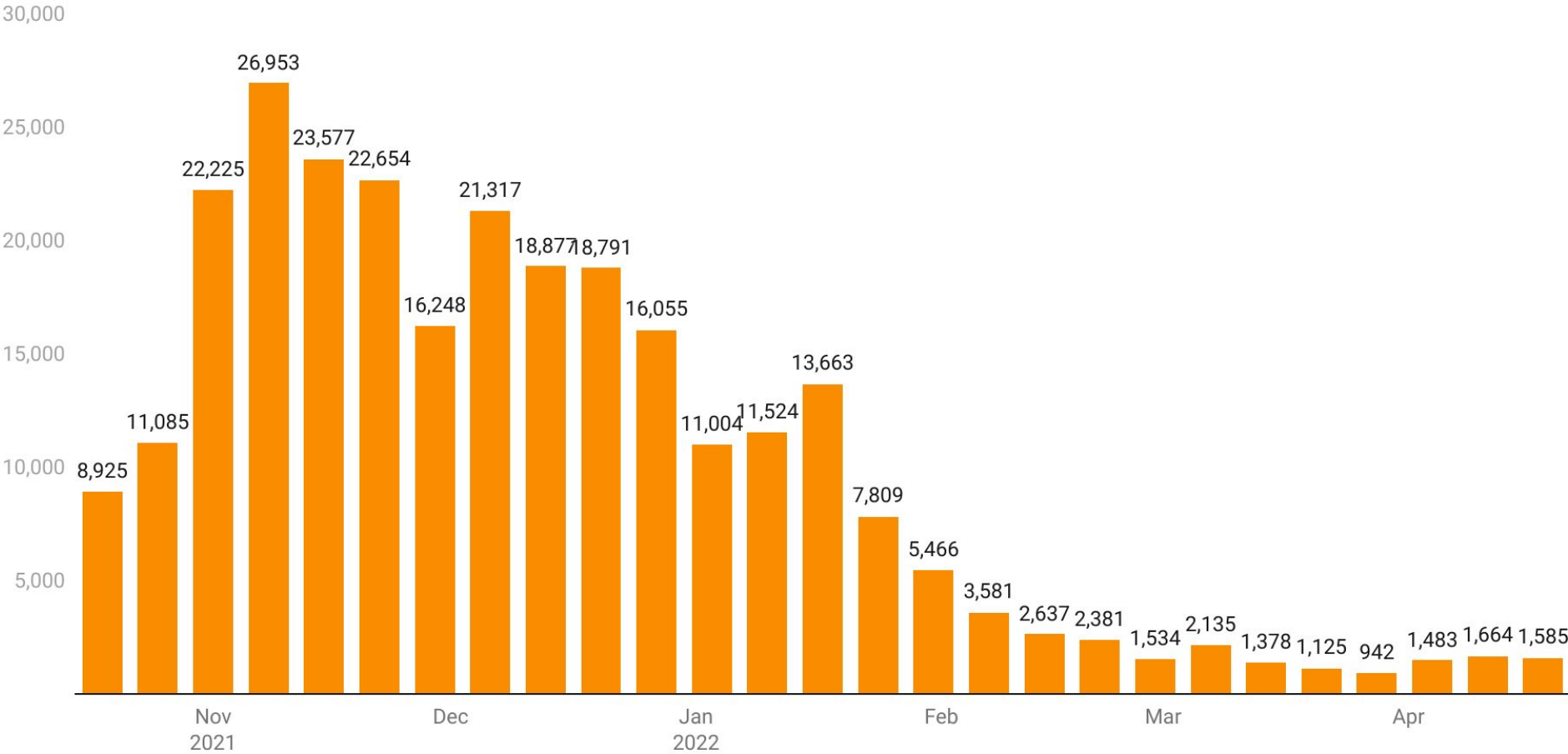
Vermont Vaccination Data

Vermont CDC Vaccine Scorecard

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

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

Vermont: Booster Shots Administered By Week

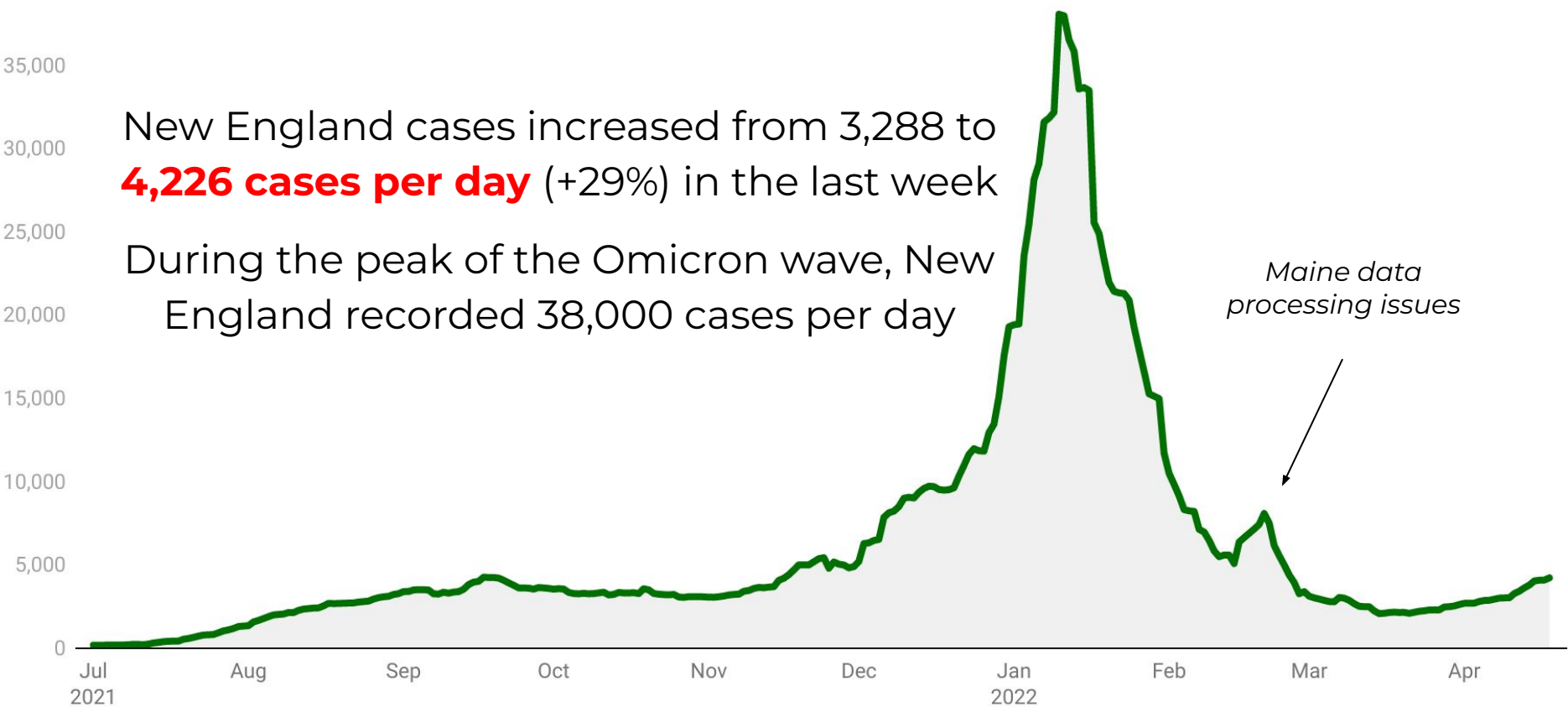


Source: CDC—April 18, 2022; created with Datawrapper

Regional Data

New England COVID-19 Cases

— New England 7-Day Case Average

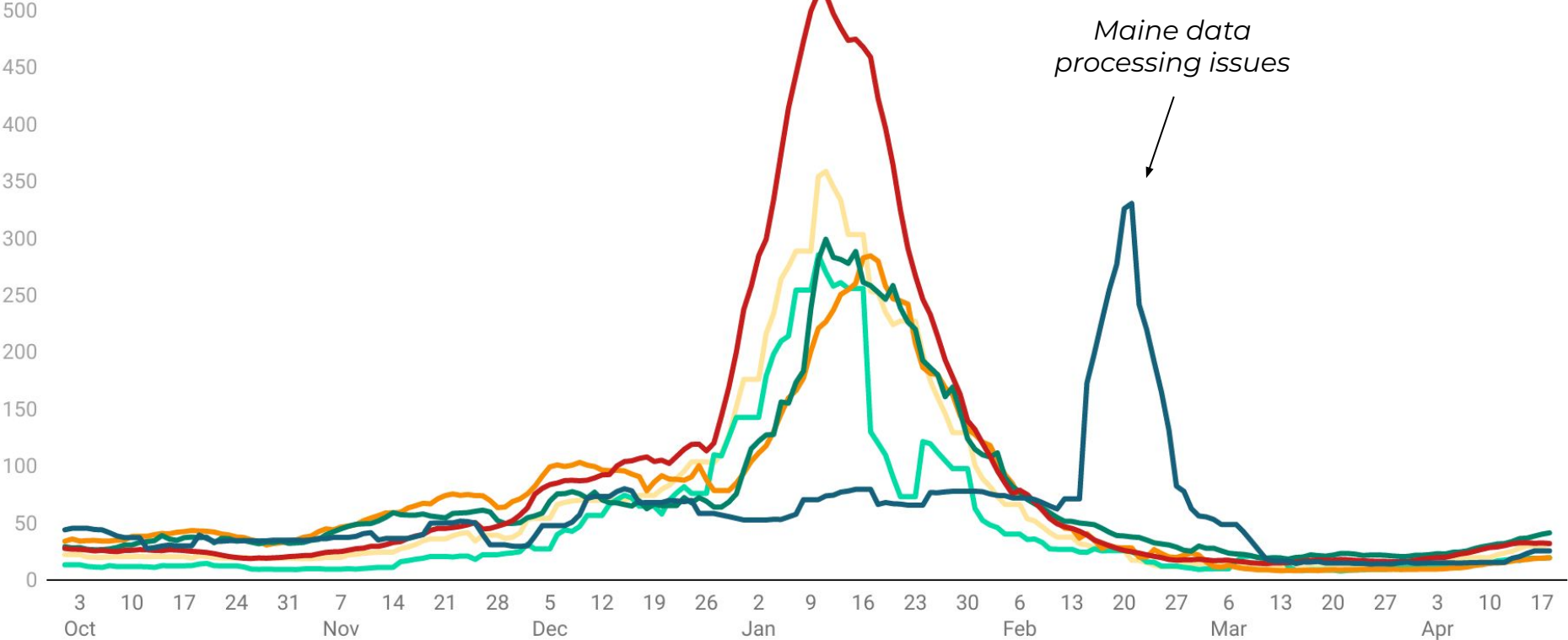


Sources: State Health Depts.—April 18, 2022 (includes: CT, ME, MA, NH, RI & VT)

New England COVID-19 Case Trends

7-Day Average Cases Per 100K

Massachusetts Connecticut Rhode Island Maine New Hampshire Vermont

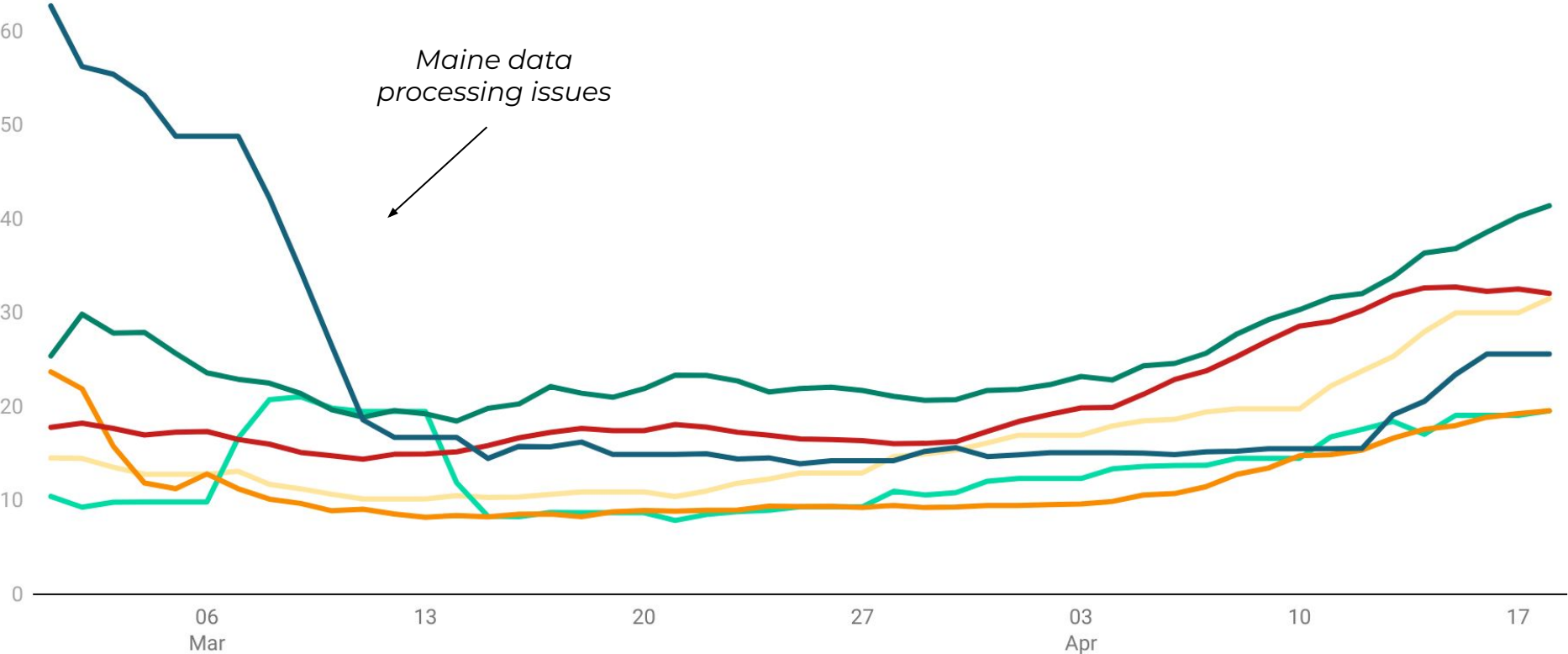


Sources: State Health Depts.—April 18, 2022 (includes: CT, ME, MA, NH, RI & VT)

New England COVID-19 Case Trends Since March 1st

7-Day Average Cases Per 100K

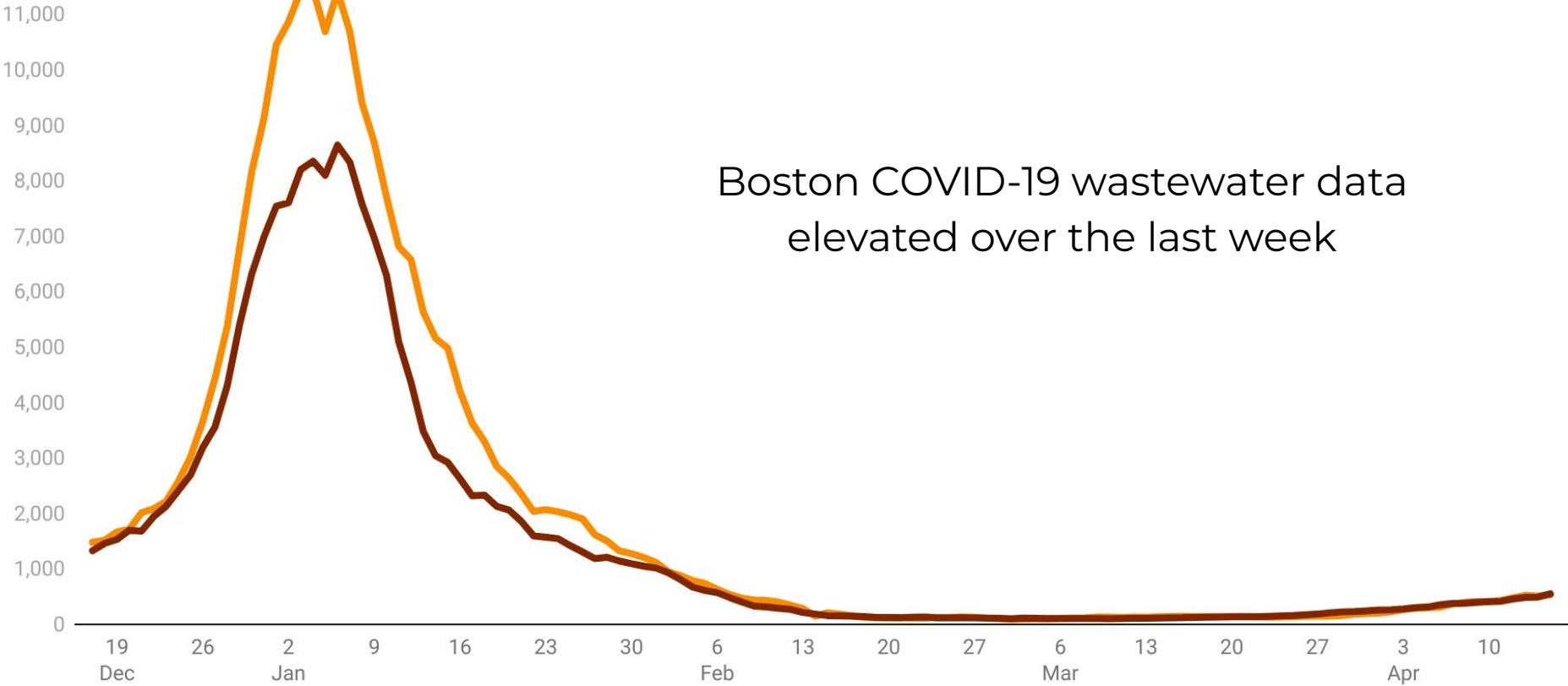
Massachusetts Connecticut Rhode Island Maine New Hampshire Vermont



Sources: State Health Depts.—April 18, 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)



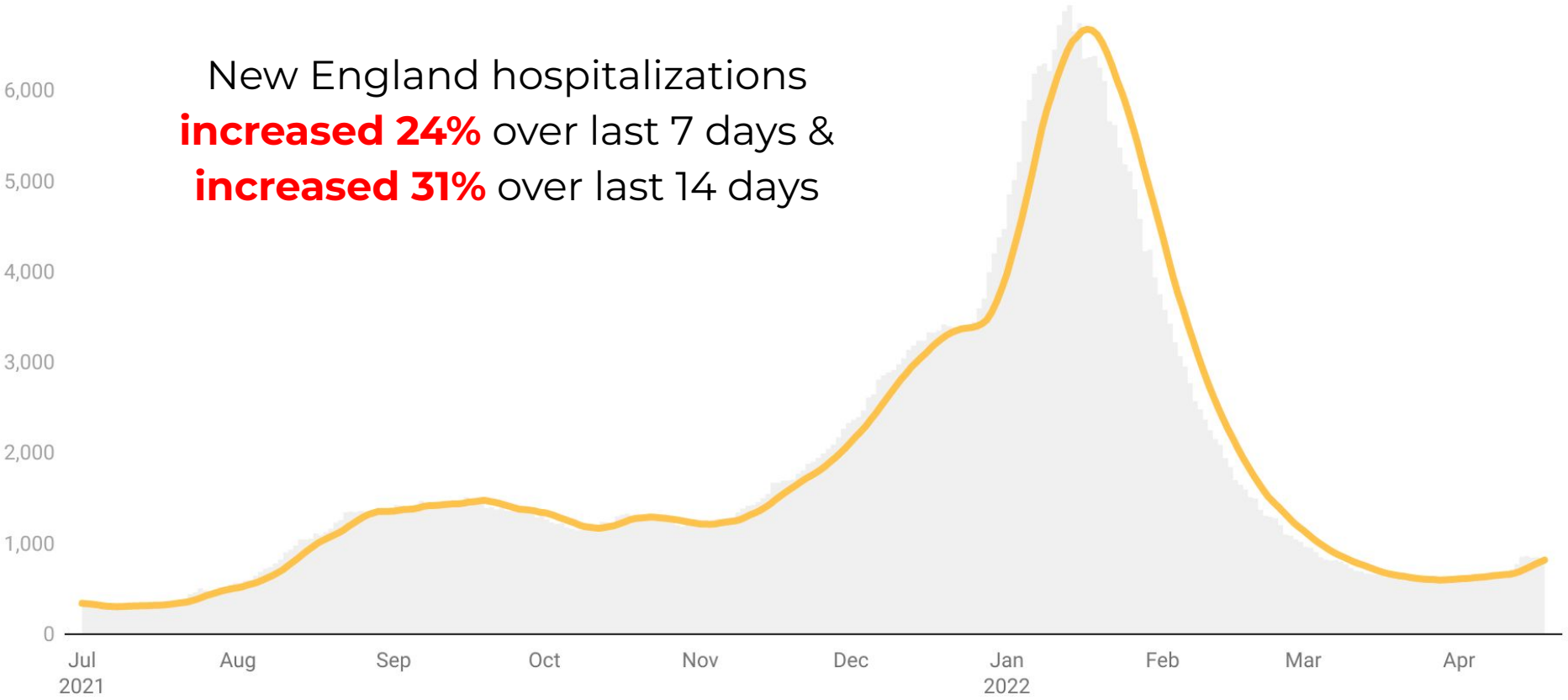
Boston COVID-19 wastewater data elevated over the last week

Source: Massachusetts Water Resources Authority; April 15, 2022

New England COVID-19 Hospitalizations

7-Day Average

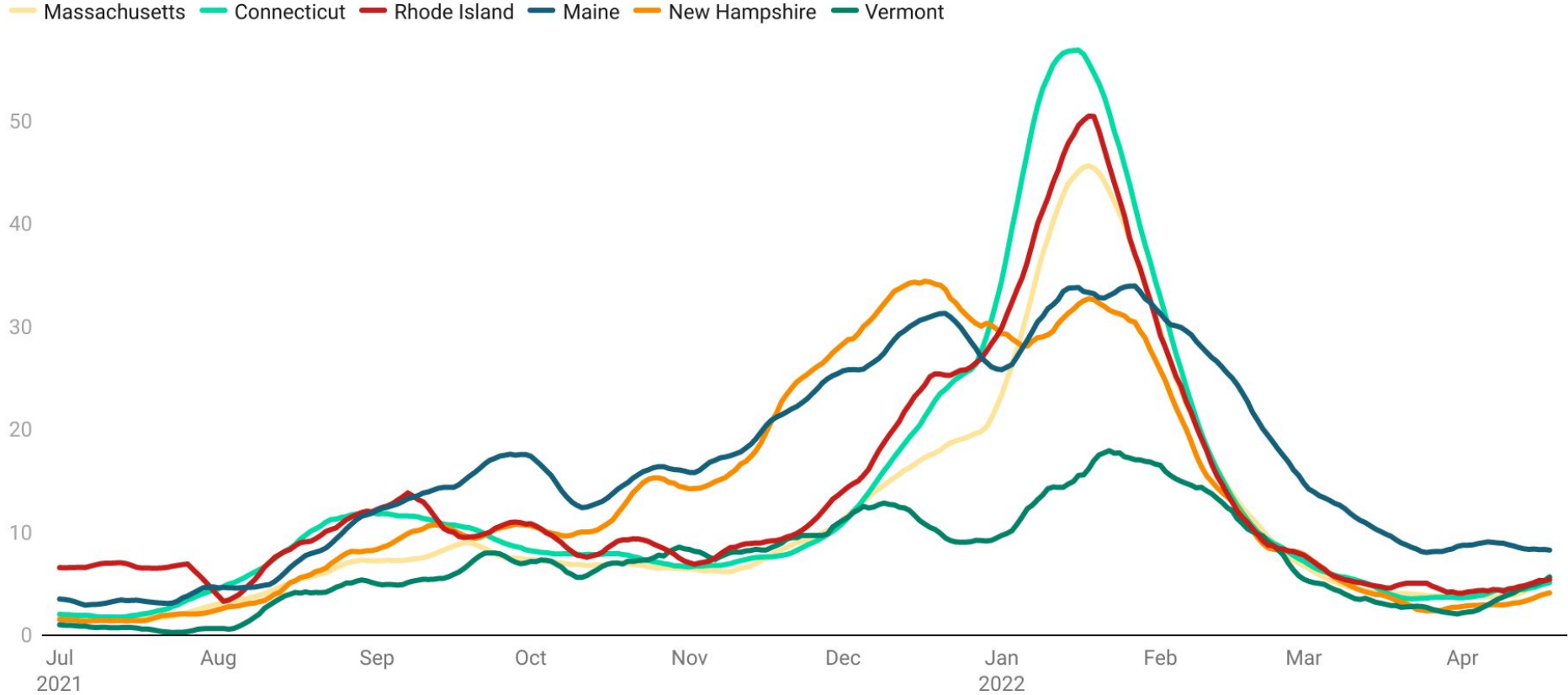
New England hospitalizations
increased 24% over last 7 days &
increased 31% over last 14 days



Sources: HHS—April 18, 2022 (includes: CT, ME, MA, NH, RI & VT)

New England COVID-19 Hospitalizations Trends

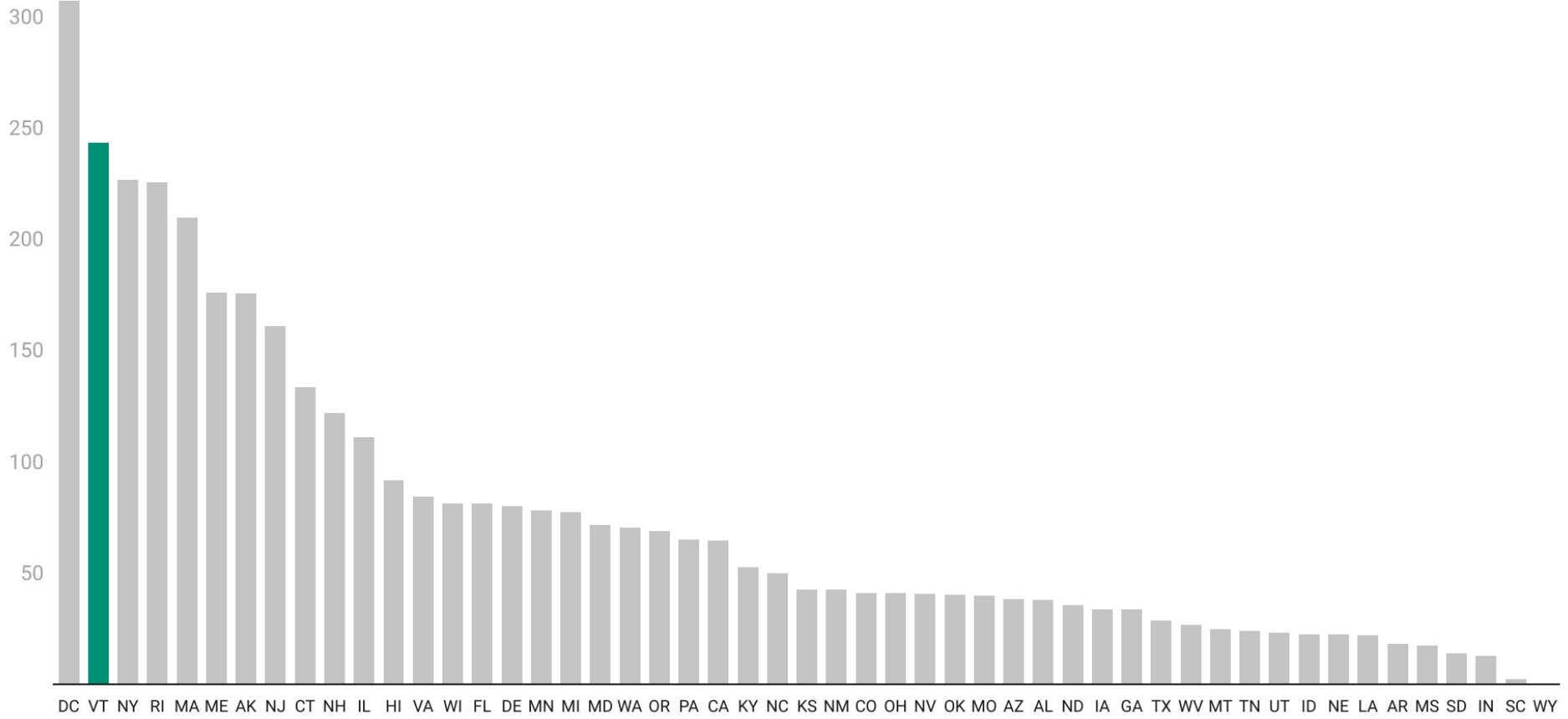
7-Day Average Hospitalizations Per 100K



Sources: HHS—April 18, 2022 (includes: CT, ME, MA, NH, RI & VT)

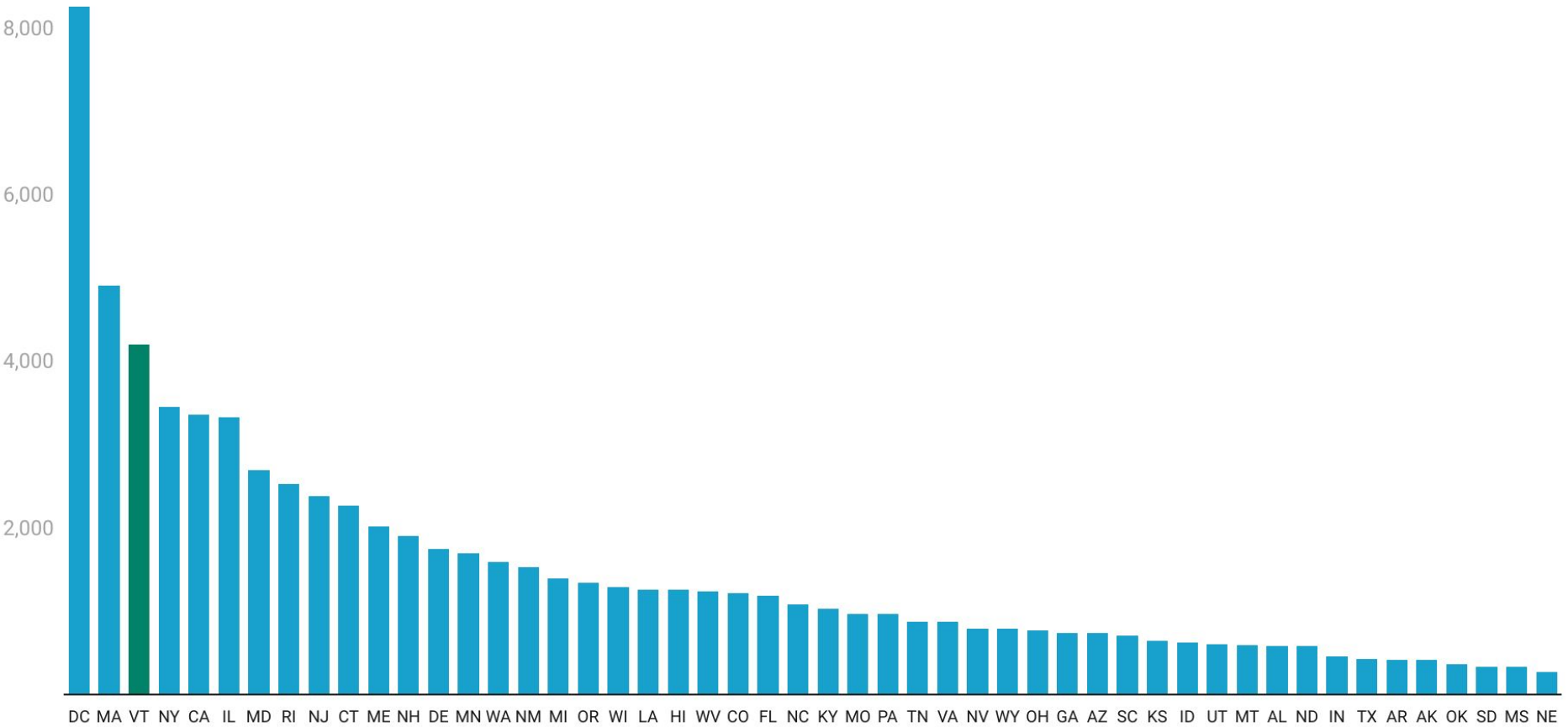
National Data

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



Source: CDC—April 18, 2022; created with Datawrapper

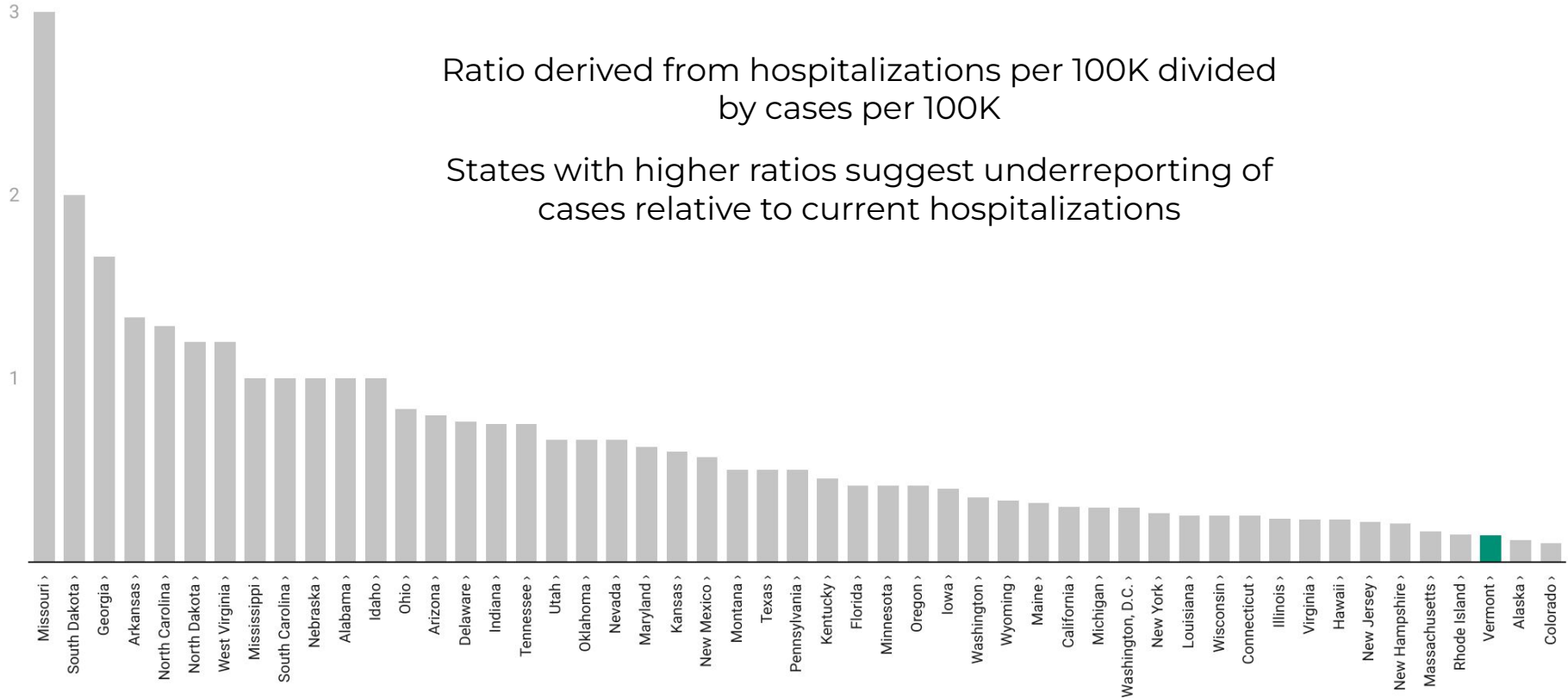
COVID-19 Testing Per 100K Last 7 Days



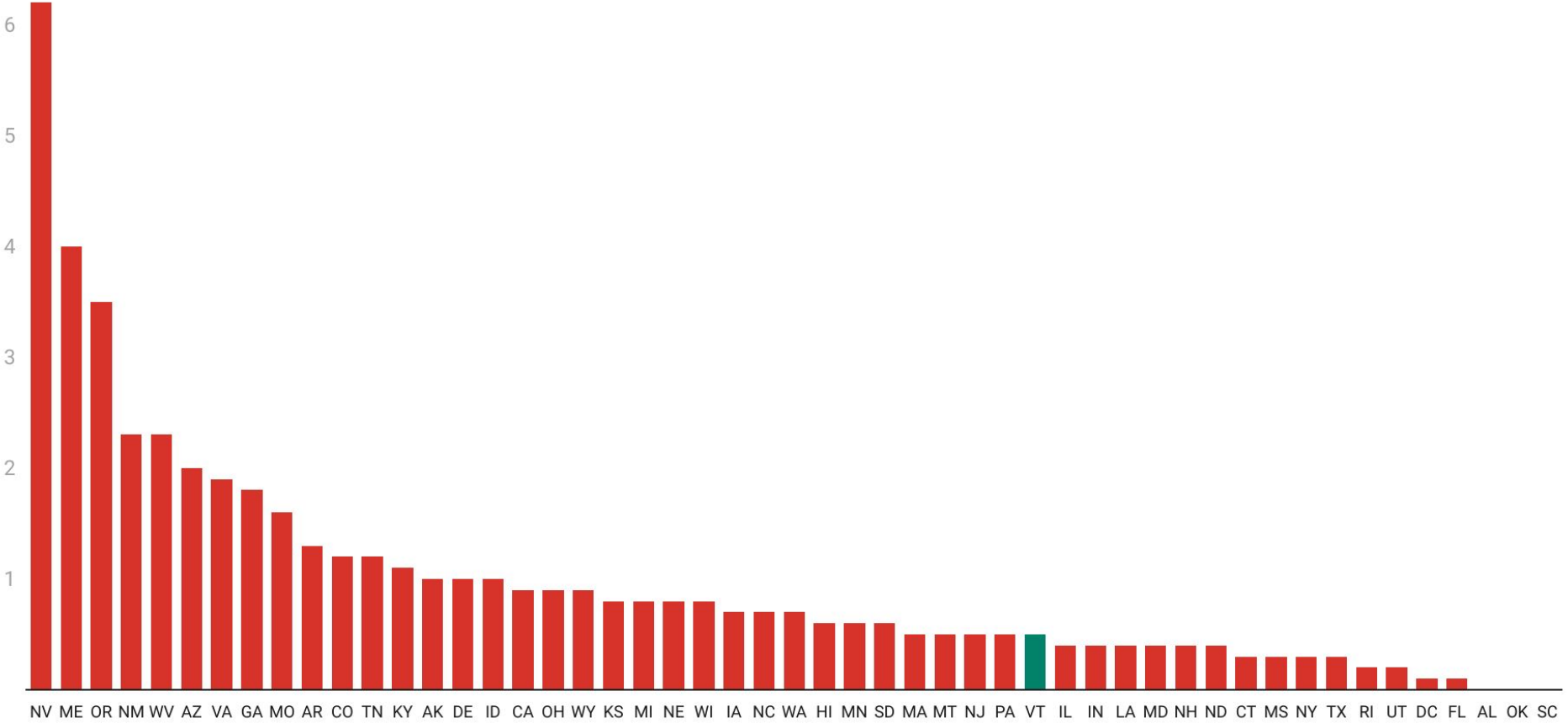
Source: CDC—April 18, 2022; created with Datawrapper

National COVID-19 Hospitalization to Case Ratio

7-day Average per 100K



COVID-19 Deaths Per 100K Last 7 Days

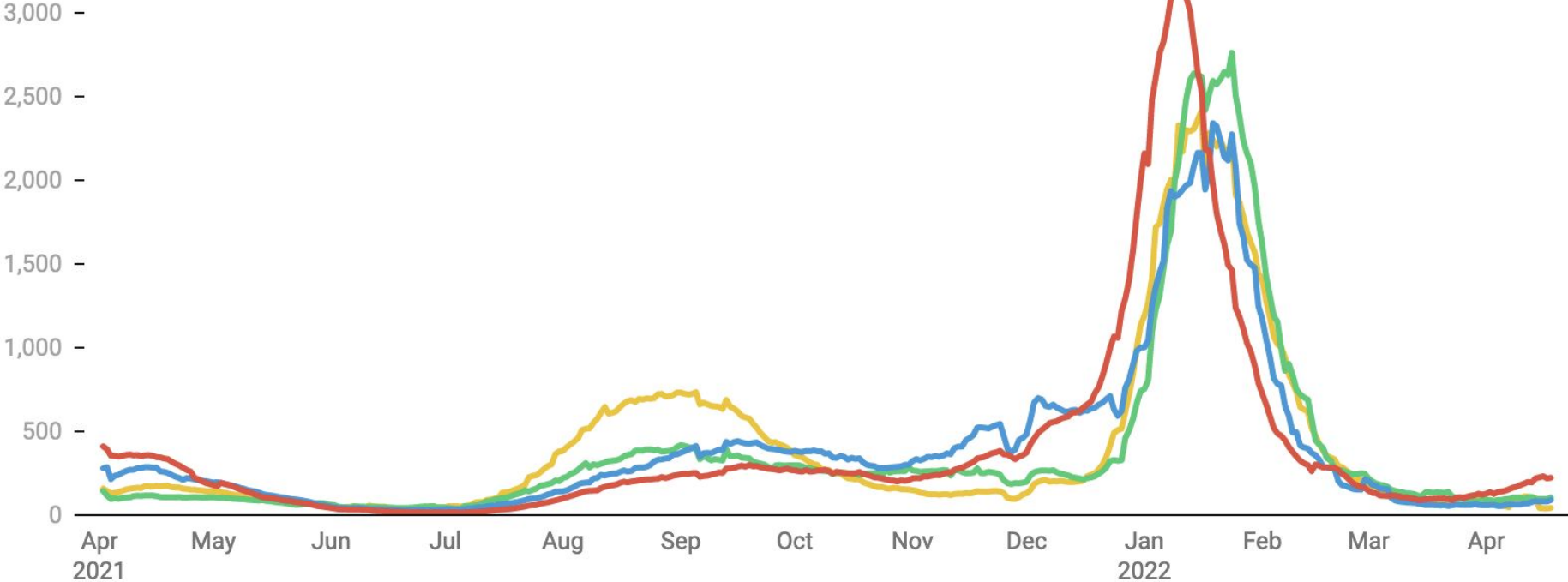


Source: CDC—April 18, 2022; created with Datawrapper; variances in state reporting may influence ranking

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.

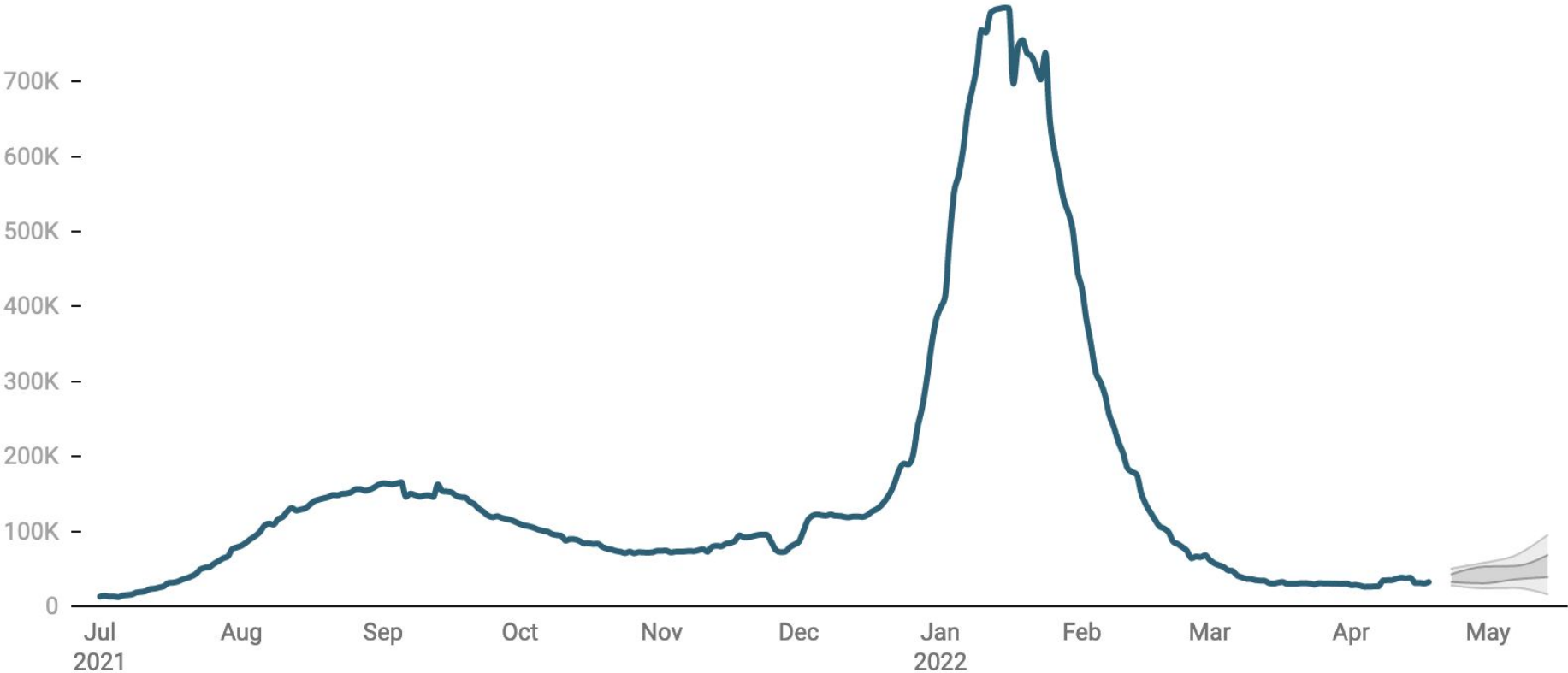
— Northeast — Midwest — South — West



Source: JHU—April 18, 2022; 7-day averages; created with Datawrapper

US COVID-19 Infection Confidence Intervals

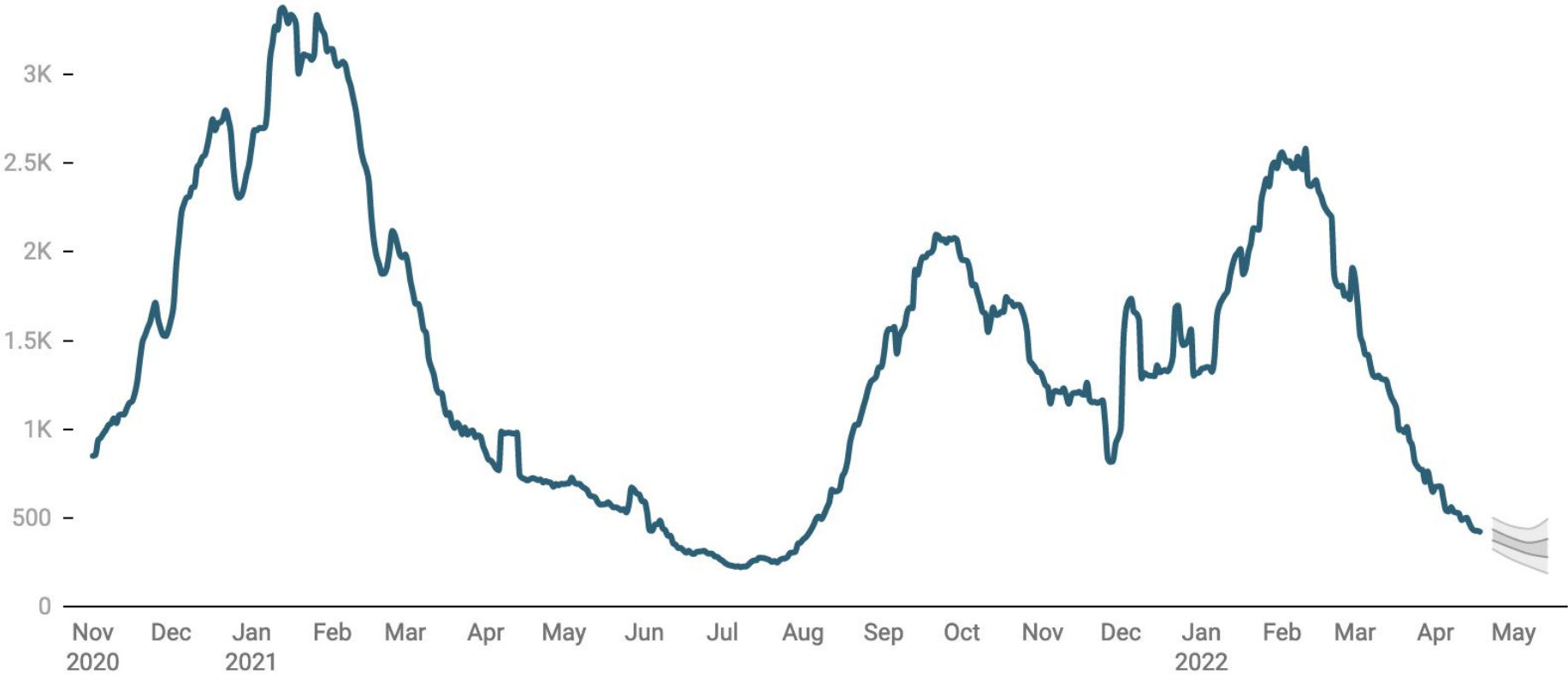
Calculated as a 7-day mean. Inner and outer bands represent 50% and 95% confidence intervals, respectively.



Source: CDC—April 19, 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.



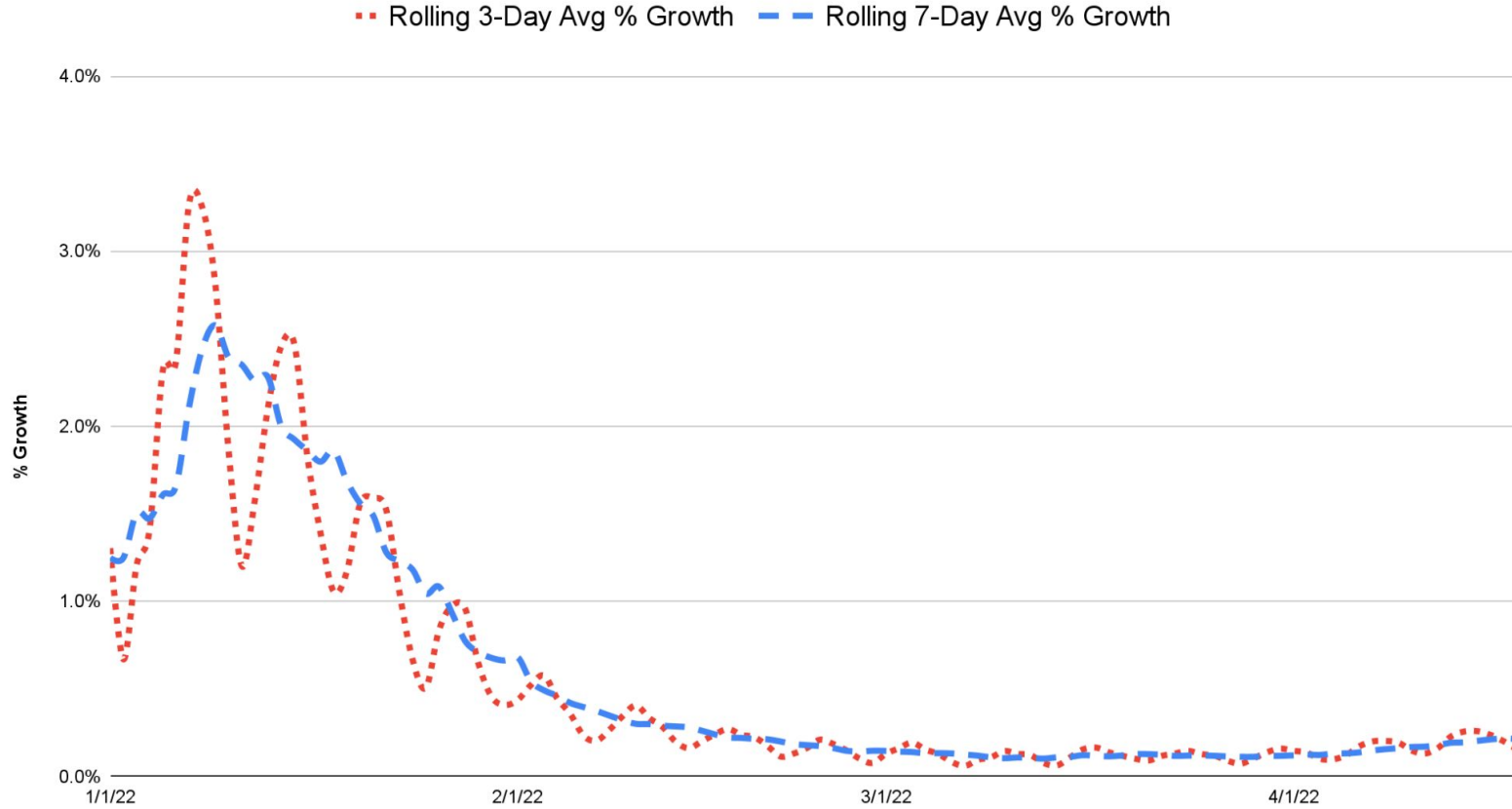
Source: CDC—April 19, 2022; created with Datawrapper

RESTART VERMONT

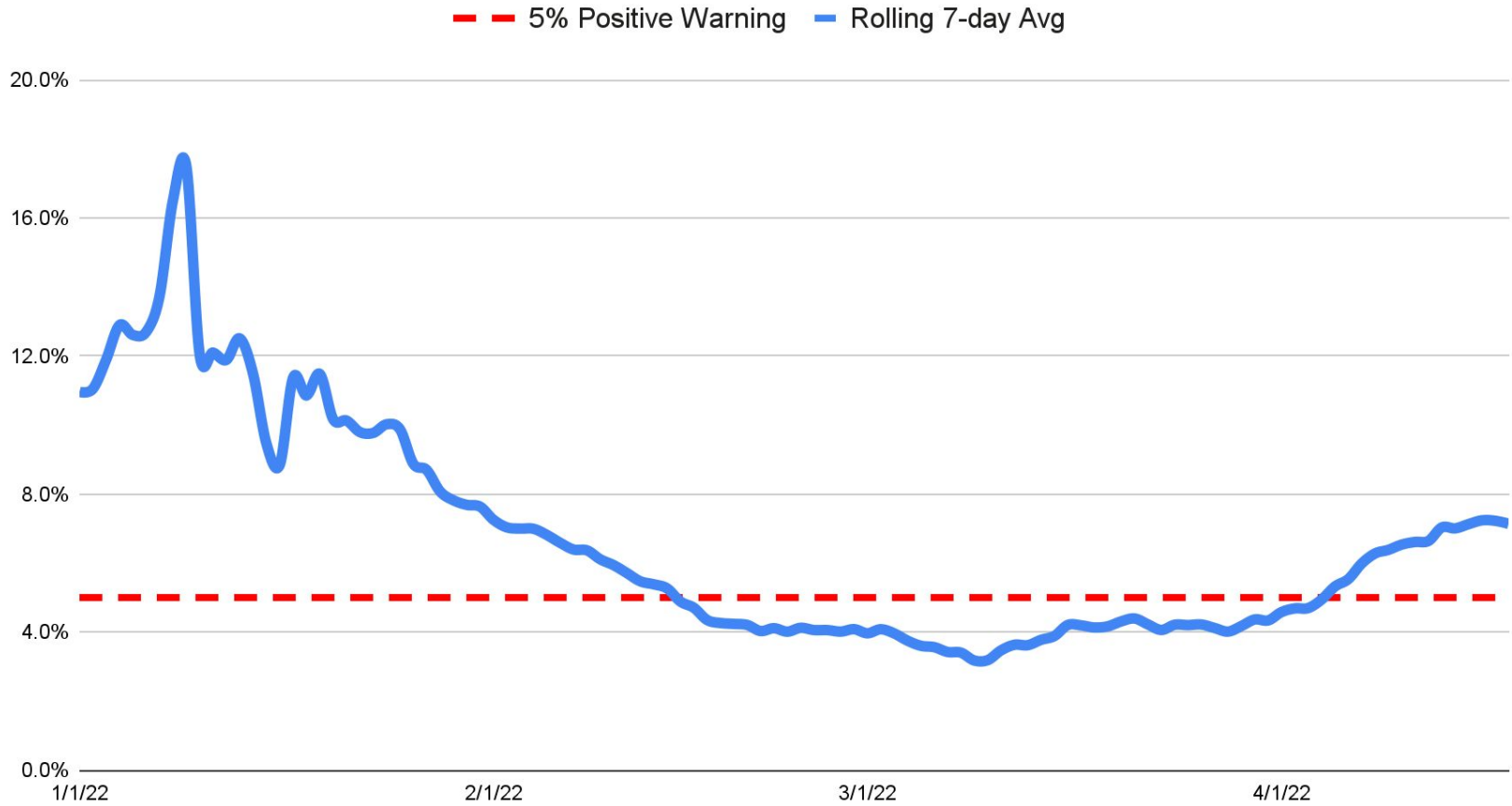
Reopening Metrics

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



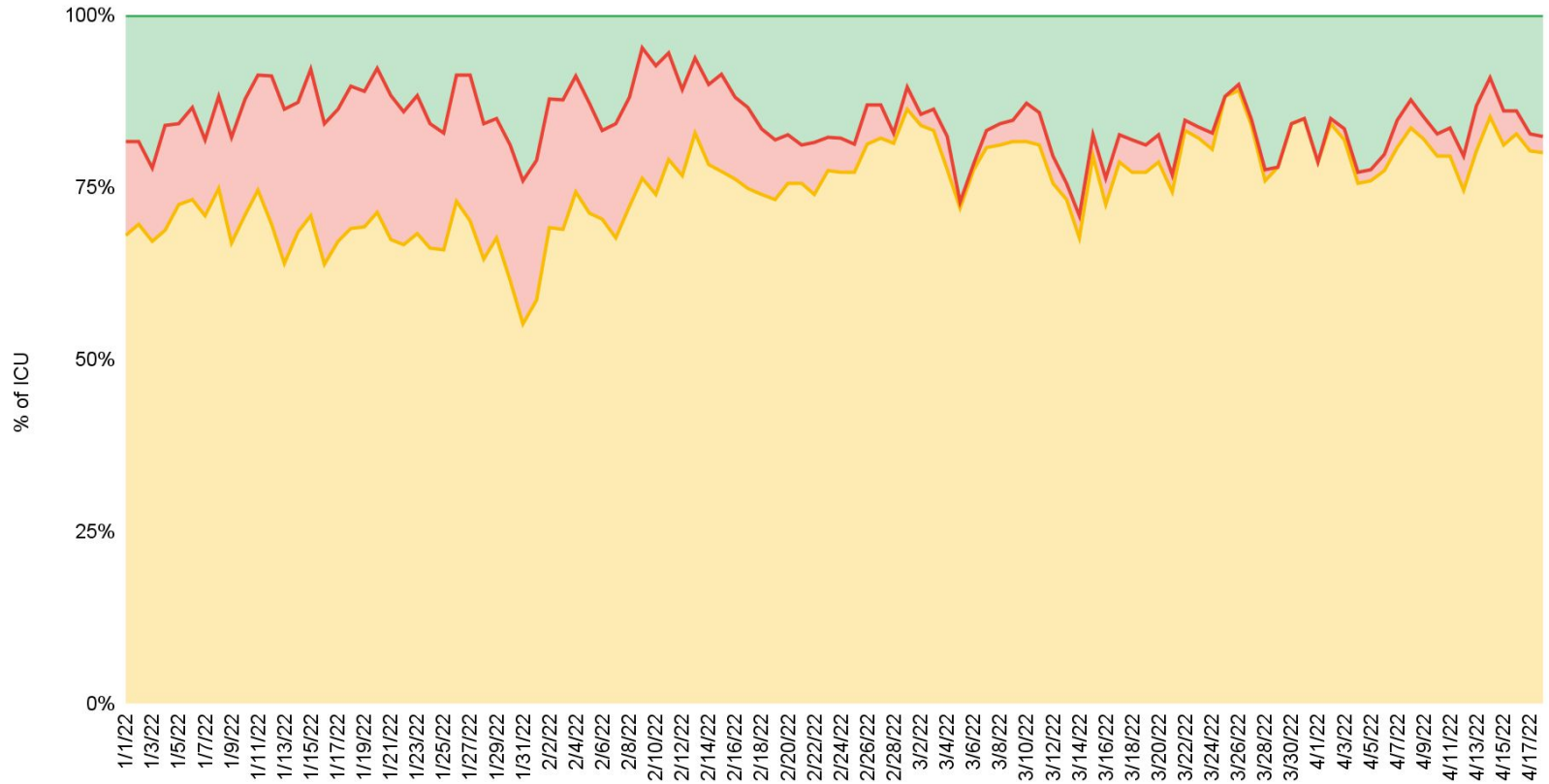
Test Positivity



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

