

# **COVID-19 Modeling**

## **March 15, 2022**

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

# Overview

Case and hospitalization metrics across the region and nationally improved this week. National forecasts anticipate these trends will continue in the coming weeks. CDC modeling predicts US COVID-19 fatalities will keep falling as these favorable trajectories persist.

Global cases are up 11% this week, primarily driven by confirmed infections in Europe and Asia. These case increases are possibly due to a combination of factors, including low rates of immunity (Hong Kong, China), the Omicron BA.2 subvariant, and the lifting of COVID-19 mitigation measures.

Vermont cases are down 94% from the peak of the Omicron wave, leading to the continued decline in new hospital admissions, which are down 80% from the peak. Today, Vermont is reporting 12 individuals in the hospital for the virus, with four requiring ICU care. Per capita, Vermont is tied with New Hampshire and Massachusetts in reporting the lowest COVID-19 hospitalization rates in the nation.

The trend of declining COVID-19 fatalities seen in the latter part of February has carried into March, with four reported COVID-19 deaths so far in Vermont this month. The state has not reported a COVID-19 death in 10 days.

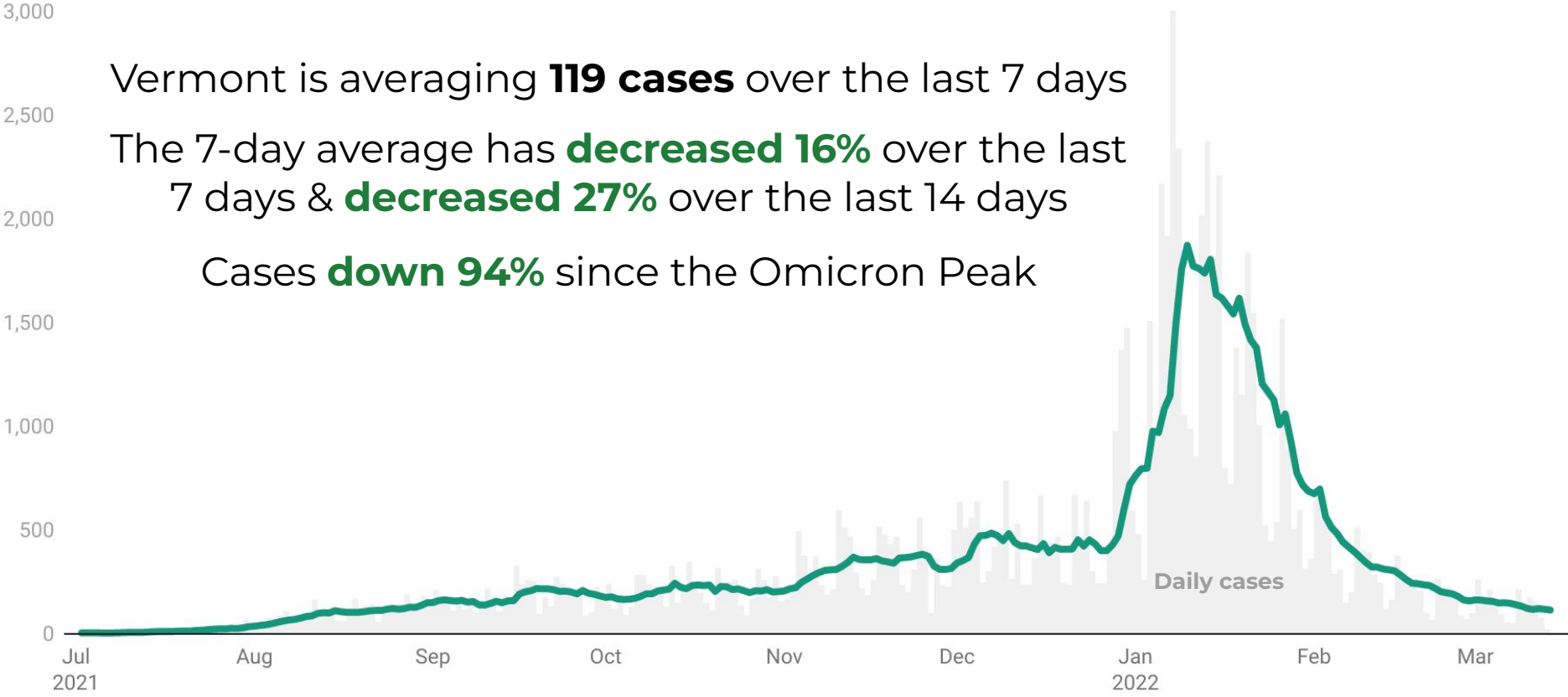
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# Vermont Case Data

# Vermont New COVID-19 Cases

7-Day Average



Source: VDH—March 15, 2022; created with Datawrapper

# Vermont New Weekly COVID-19

14,000

12,000

10,000

8,000

6,000

4,000

2,000

Vermont reported 798 new COVID-19 cases this week,  
**188 fewer cases** compared to last week

Lowest weekly COVID-19 case total since August 2021

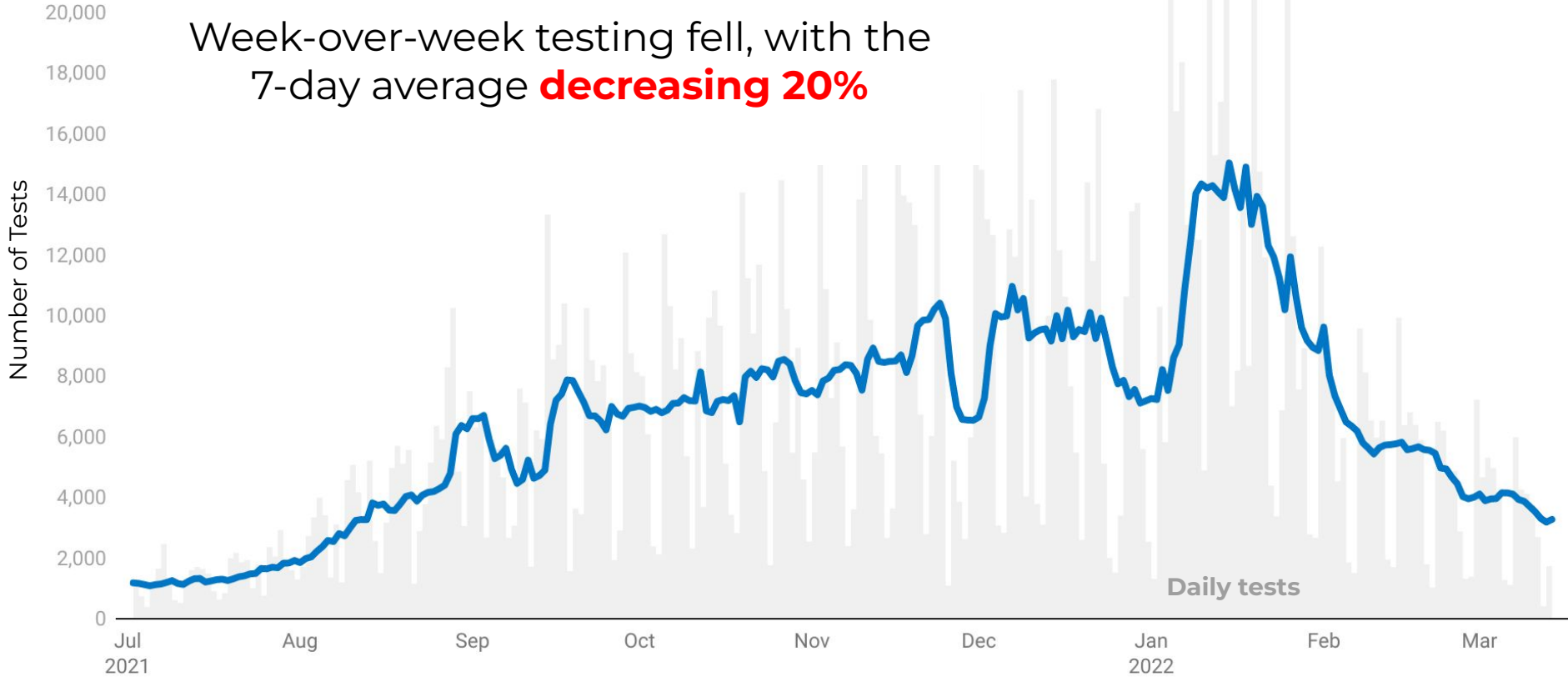


Source: VDH—March 15, 2022; created with Datawrapper

# Vermont COVID-19 PCR Testing

7-Day Average

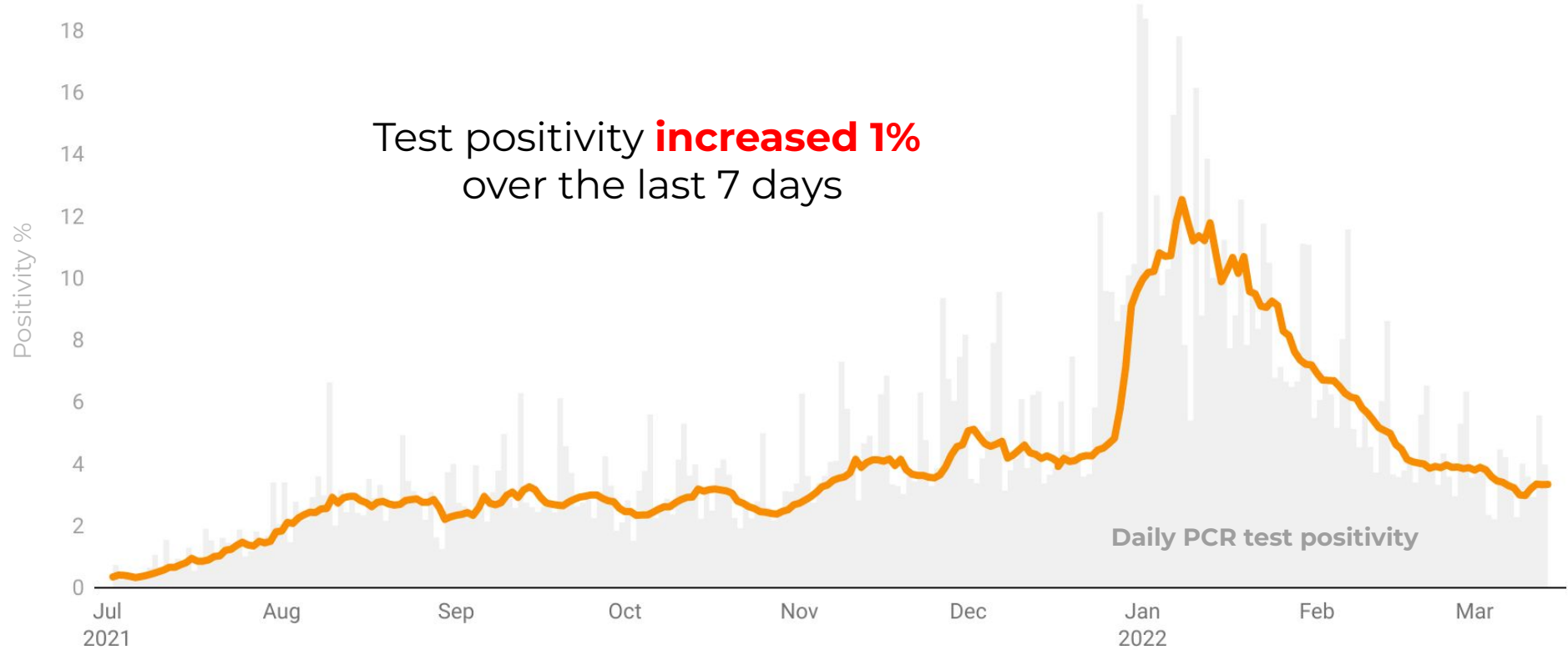
Week-over-week testing fell, with the 7-day average **decreasing 20%**



Daily tests

# Vermont PCR Test Positivity

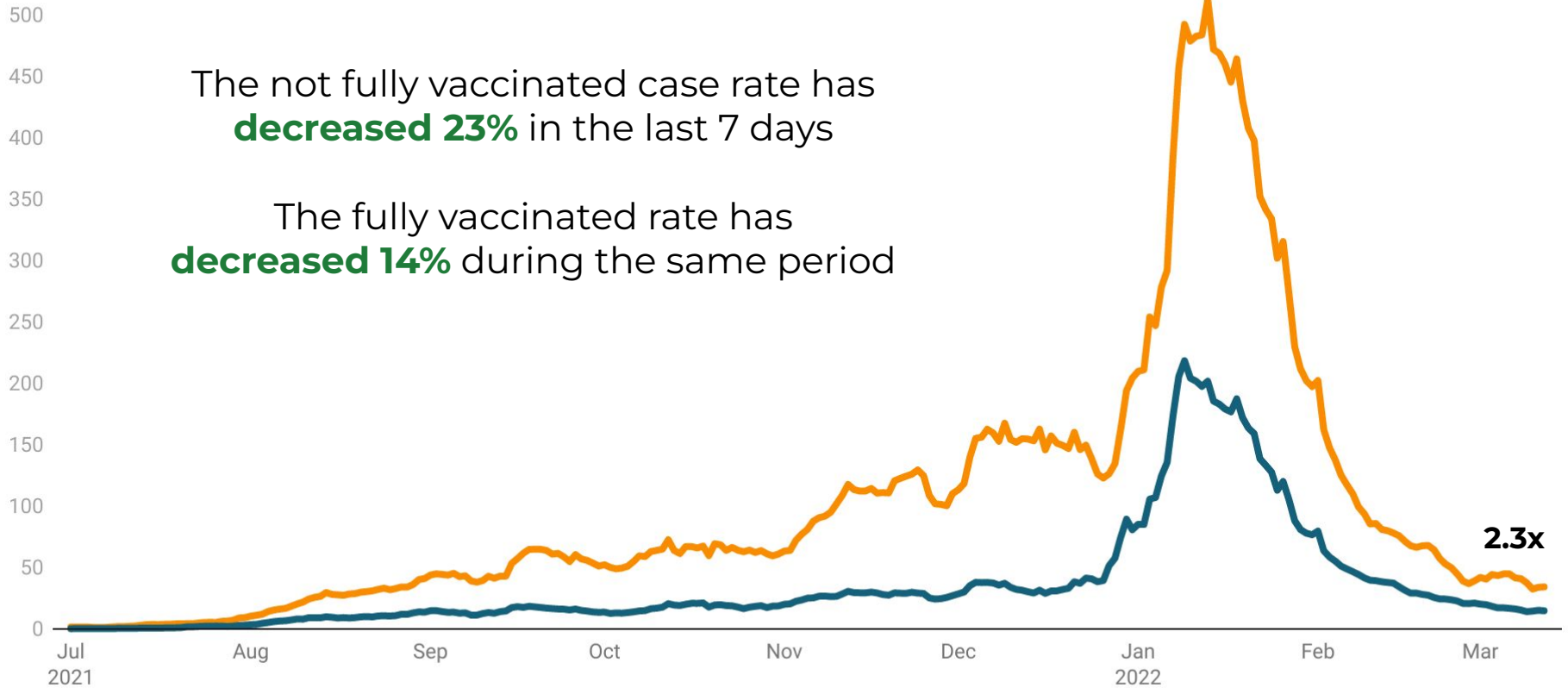
7-Day Positivity Rate





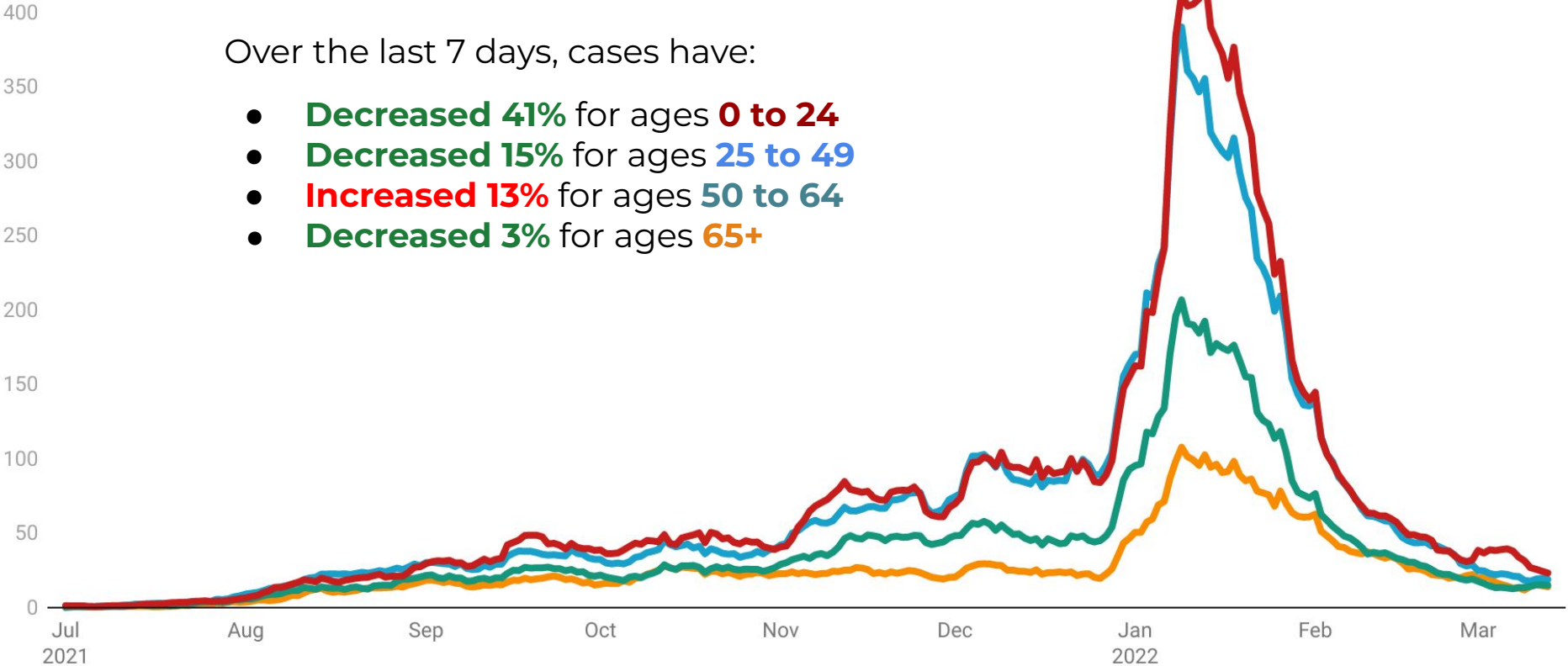
# Vermont COVID-19 New Case Rates Per 100K (7-Day Average)

— Not Fully Vaccinated Case Rate — Fully Vaccinated Case Rate



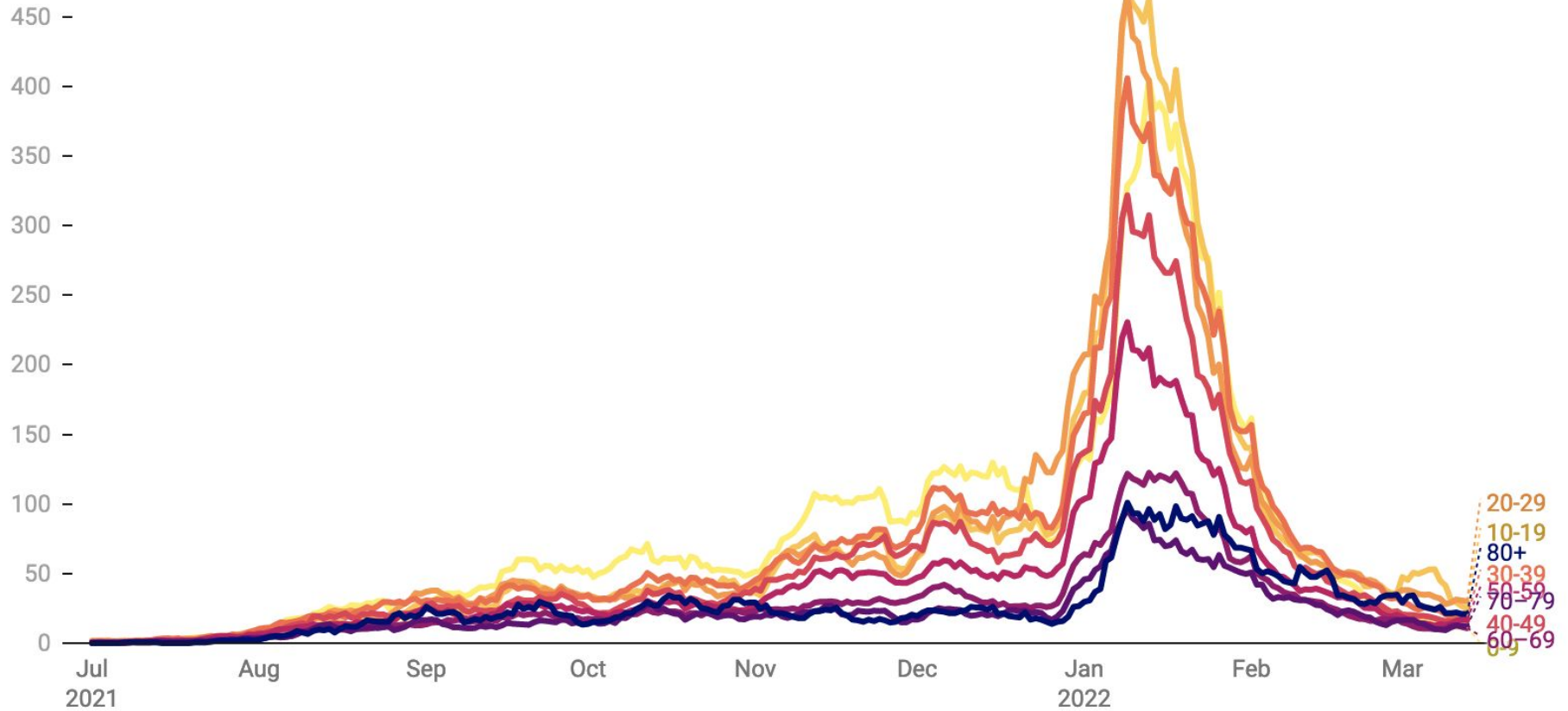
# Vermont Case Rates Per 100K By Age (7-Day Average)

0 to 24 24 to 49 50 to 64 65+



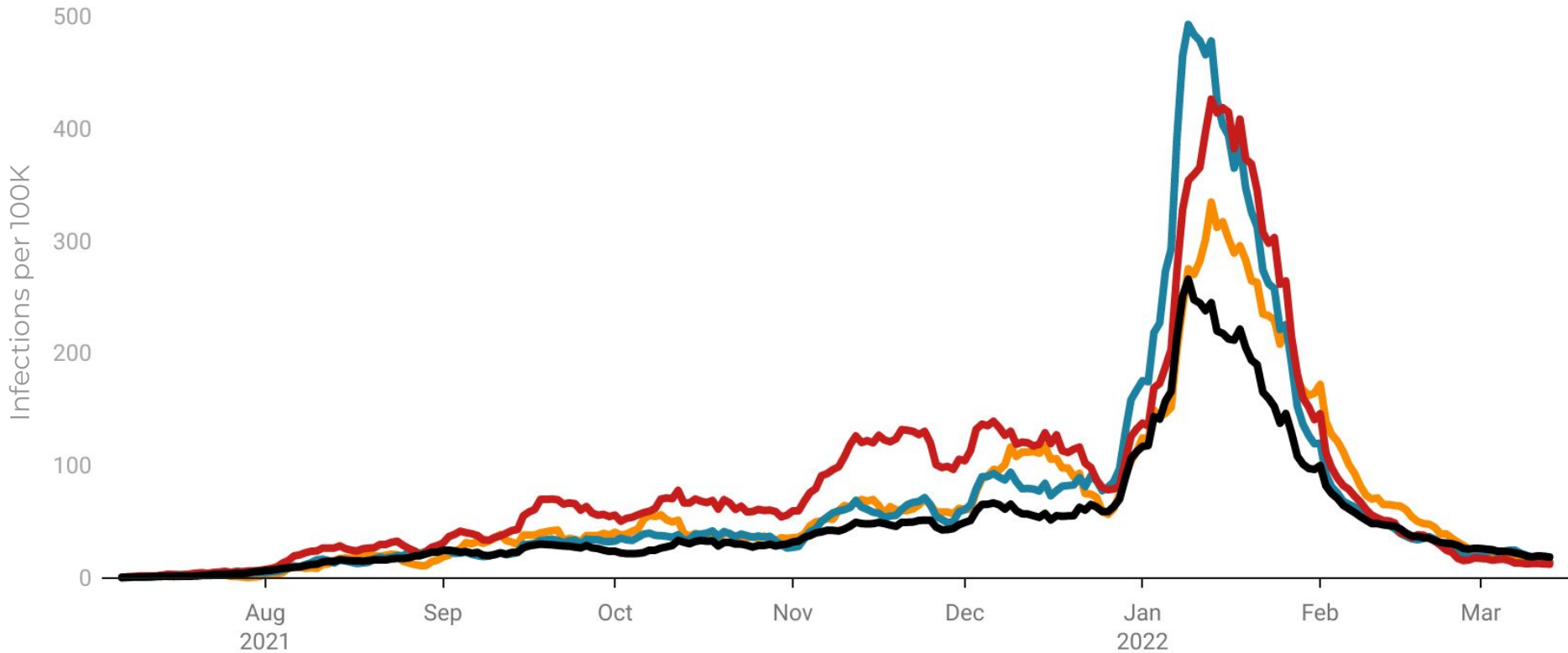
Source: VDH—March 15, 2022; created with Datawrapper

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



# Vermont Covid-19 Case Rates by Age (7-Day Average)

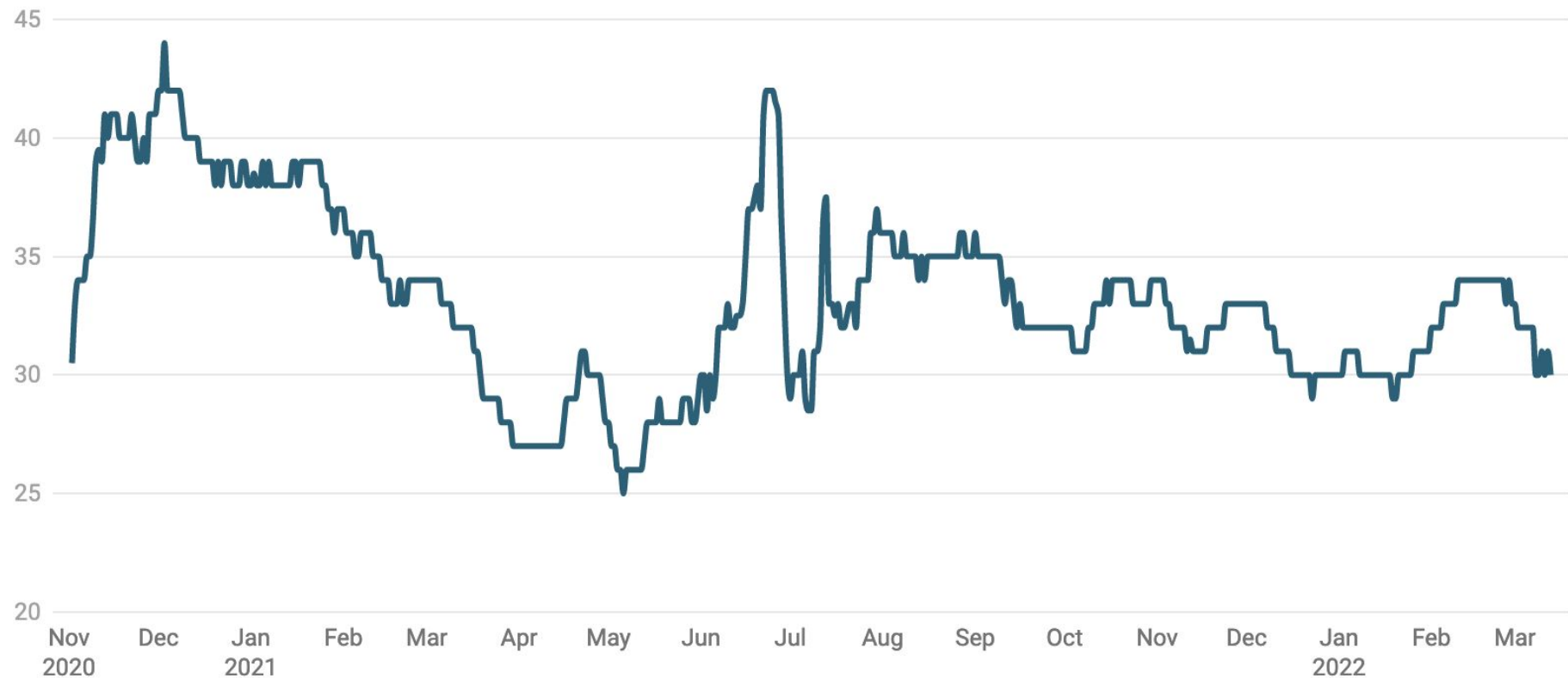
0-4 5-11 12-18 19+



Source: VDH—March 15, 2022; created with Datawrapper

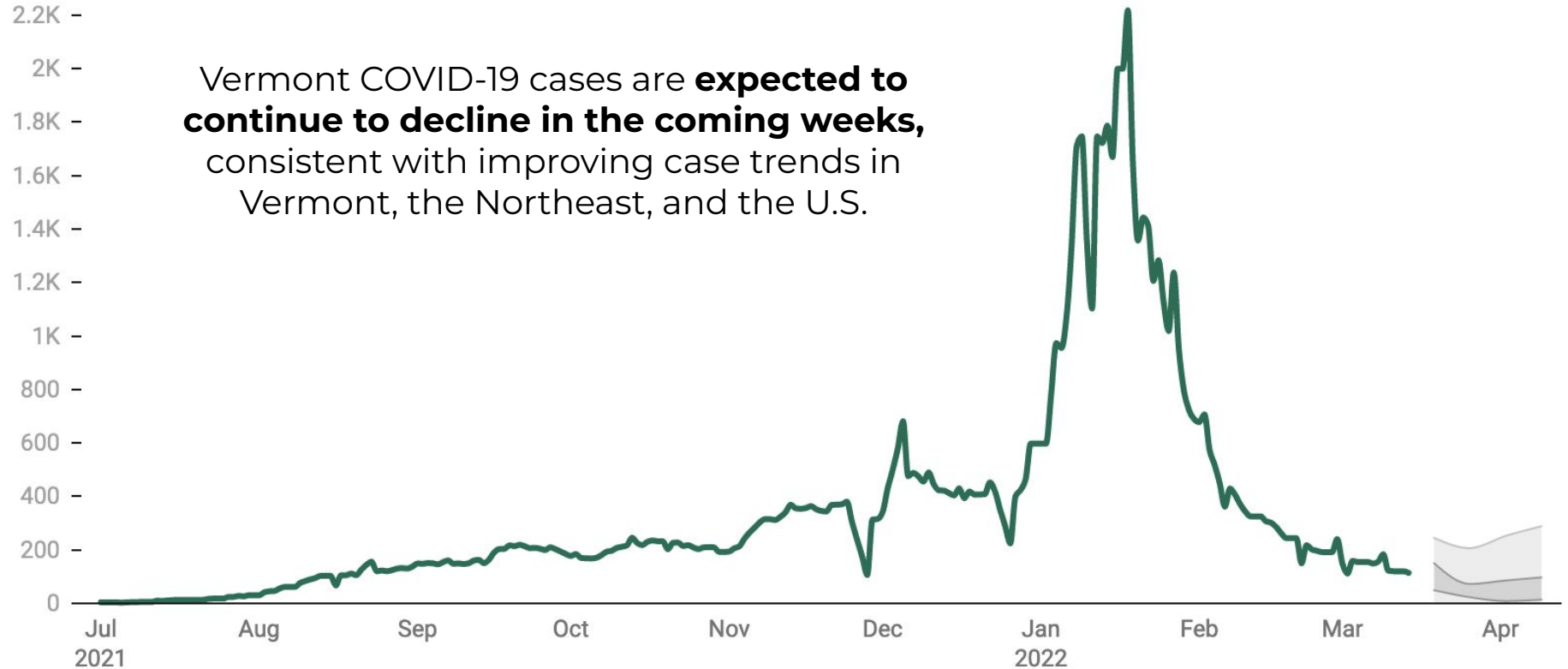
# Age of Infected Vermonters

Median age of COVID positive individuals in VT over the last 14 days.



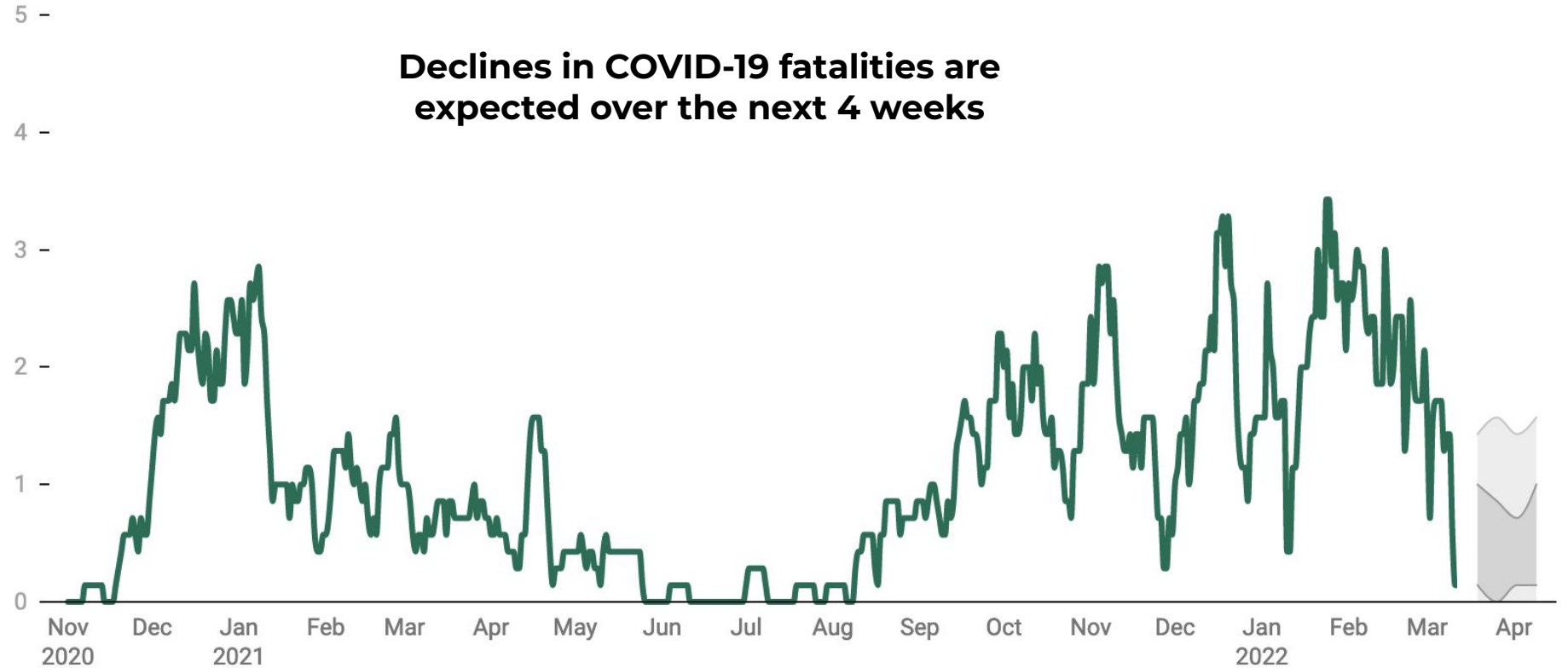
# VT COVID-19 Infection Confidence Intervals

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.



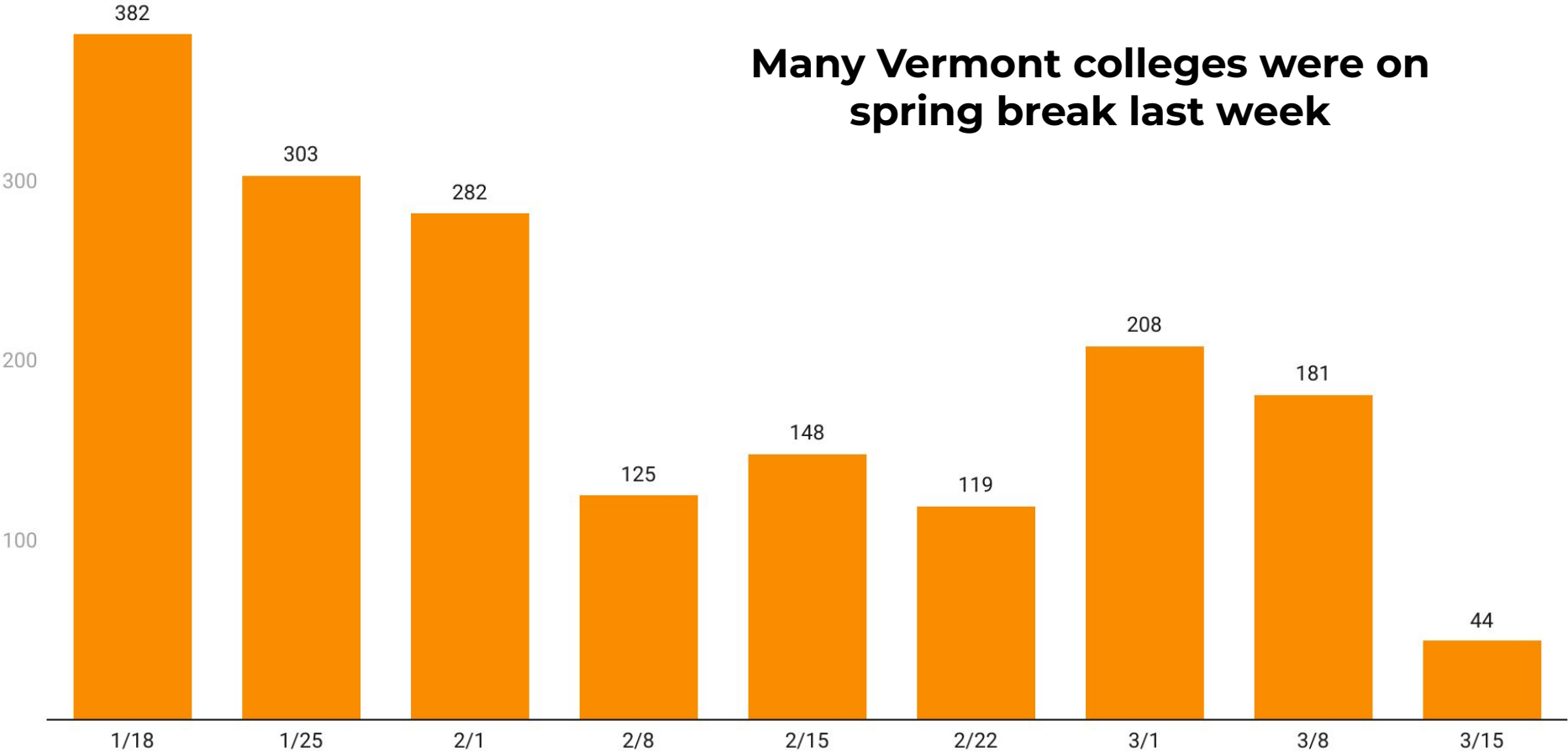
# Active Outbreaks in Long Term Care Facilities

Facility Name	Total COVID-19 Cases
Mountain View Center	123
Bel-Aire Center	64
The Arbors at Shelburne	25
The Willows of Windsor	20
St. Johnsbury Health & Rehab Center	18
Vergennes Residential Care	17
The Residence at Quarry Hill	12
Loretto Home	9
Thompson House	8
Mayo Residential Care	7
<b>Total (shown)</b>	<b>303</b>



# Weekly COVID-19 College Cases

**Many Vermont colleges were on spring break last week**

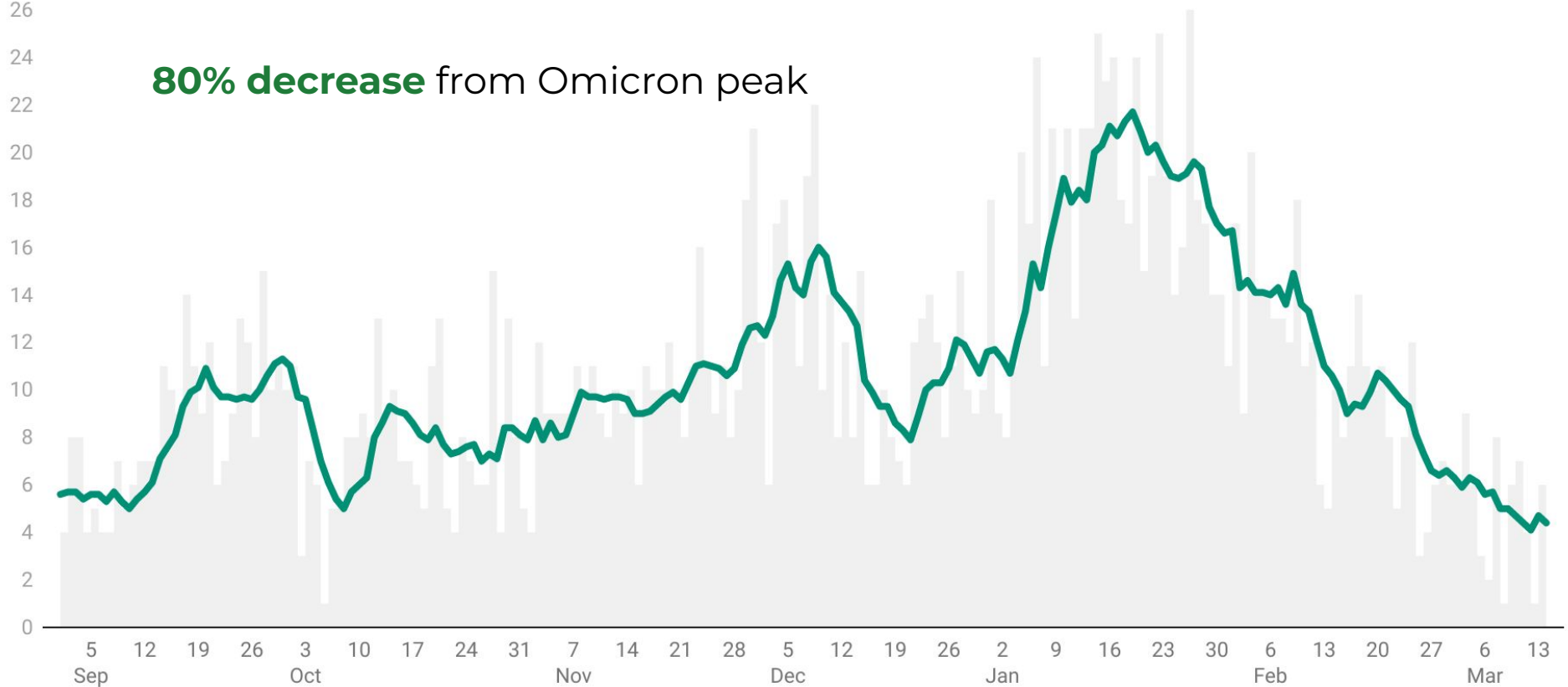


Source: Vermont College Reporting—March 15, 2022; created with Datawrapper

# Vermont Hospitalization Data

# Vermont New COVID-19 Hospital Admissions

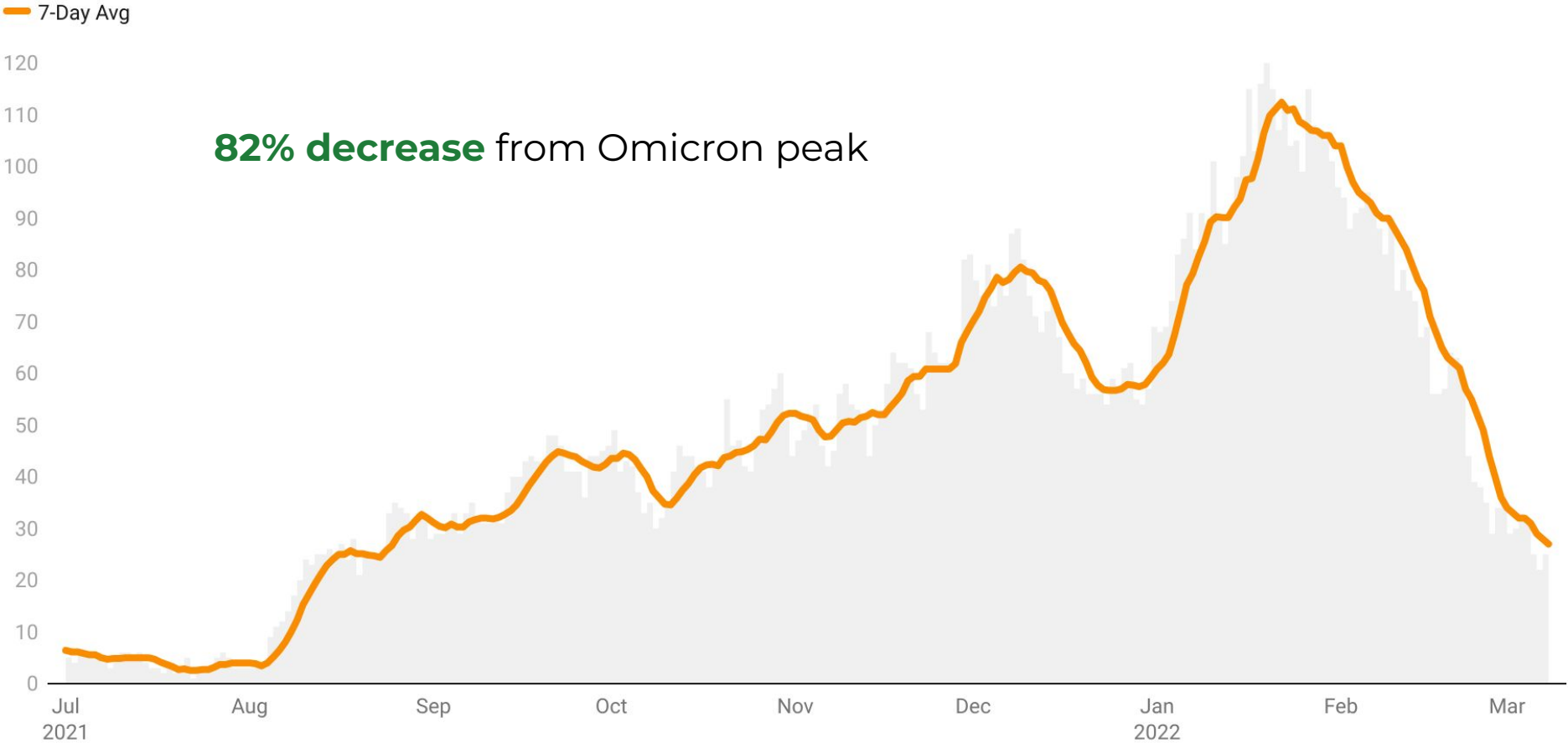
7-Day Average



**80% decrease** from Omicron peak

Source: HHS—March 14, 2022; created with Datawrapper

# Vermont COVID-19 Patients Currently Hospitalized

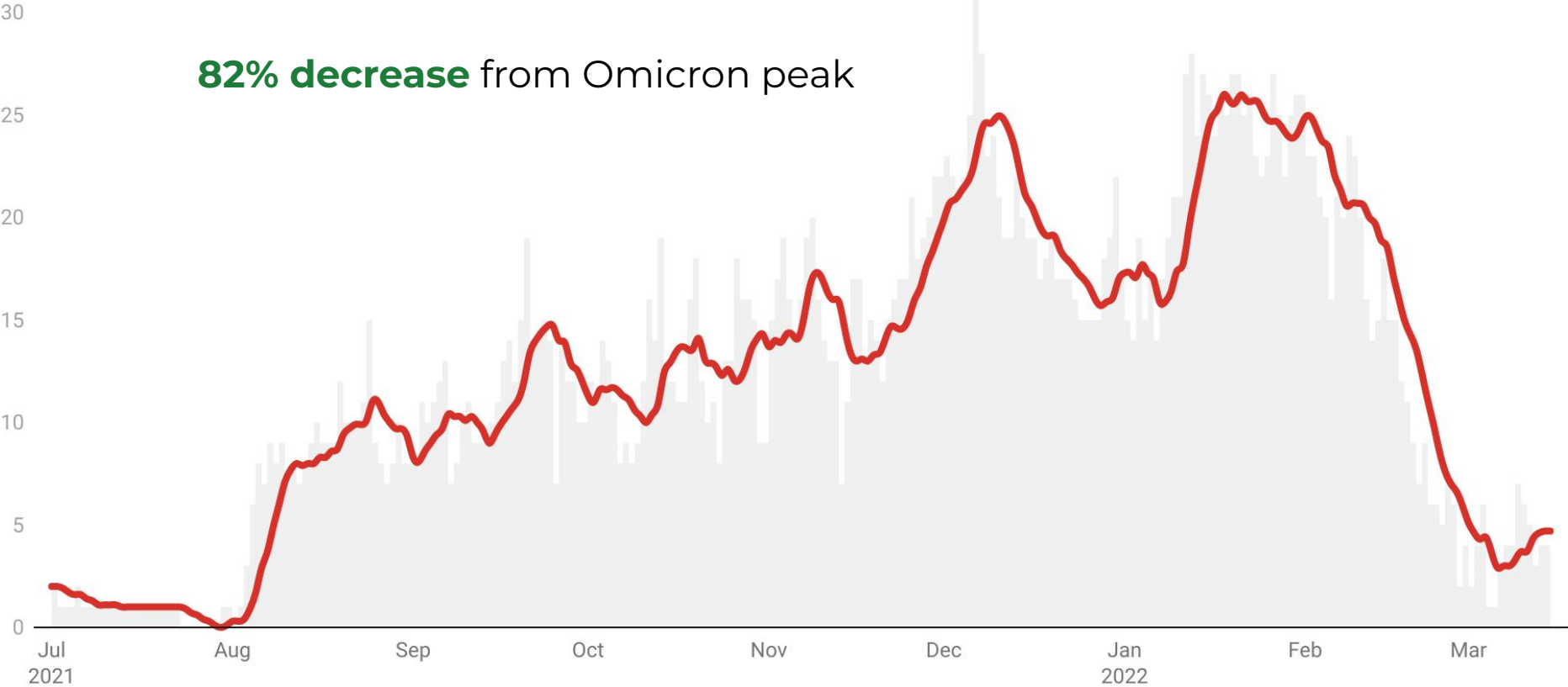


**82% decrease** from Omicron peak

Source: VDH—March 15, 2022; created with Datawrapper

# Vermont COVID-19 Patients Currently in the ICU

7-Day Avg



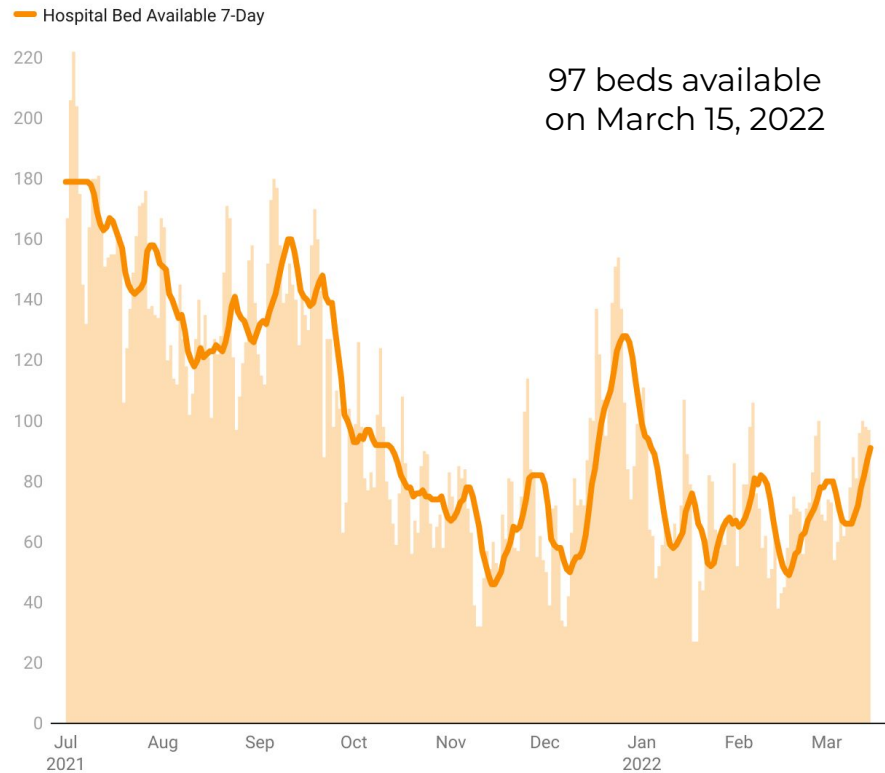
82% decrease from Omicron peak

Source: VDH—March 15, 2022; created with Datawrapper

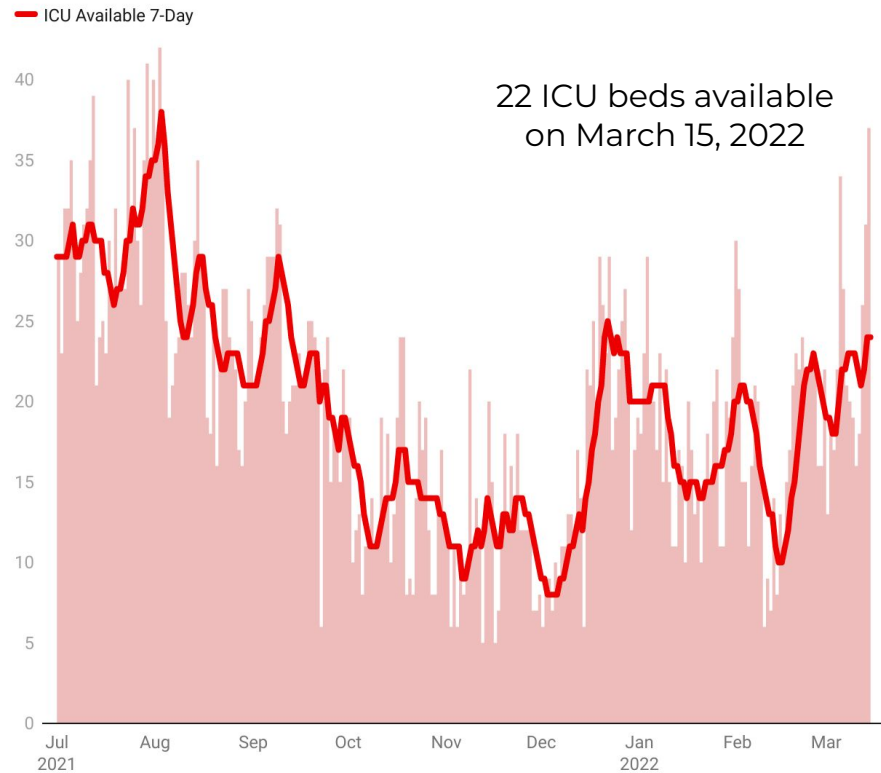
# Vermont Hospital Metrics

## (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

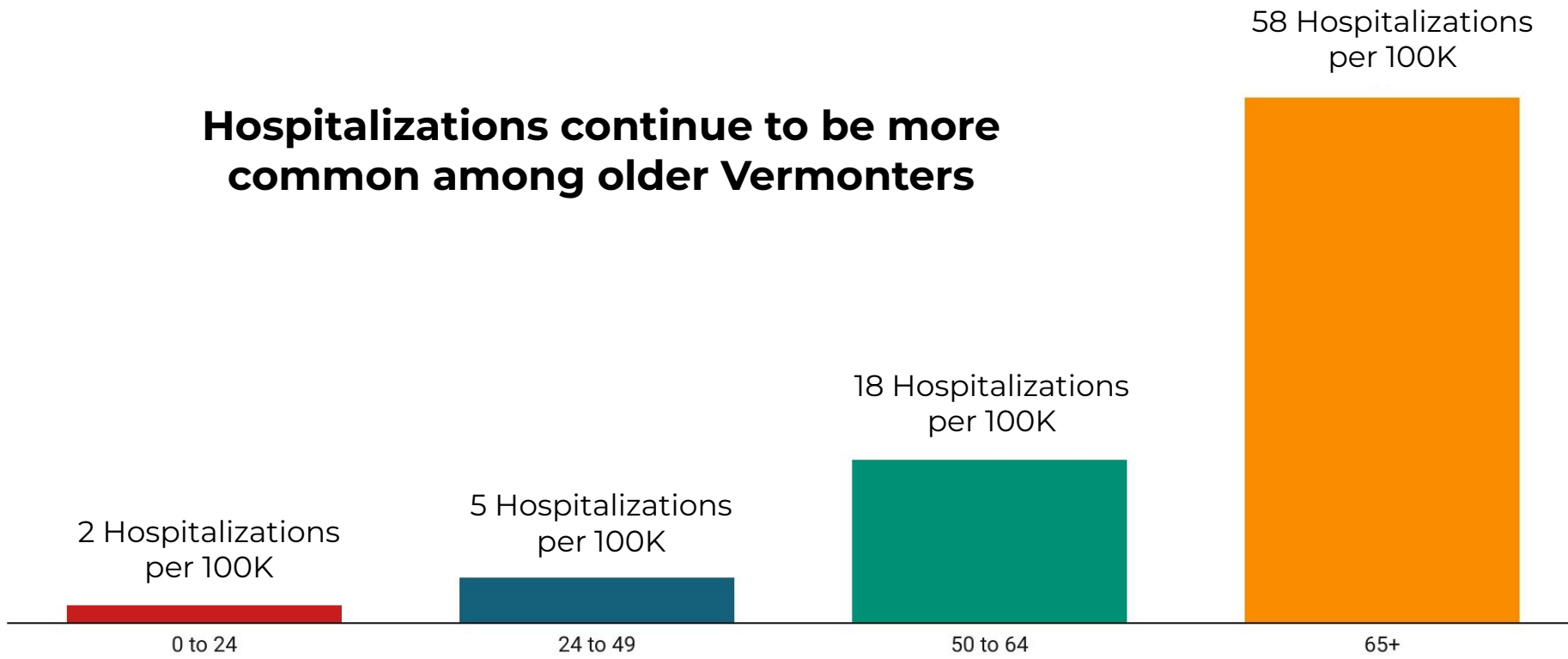
80

60

40

20

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

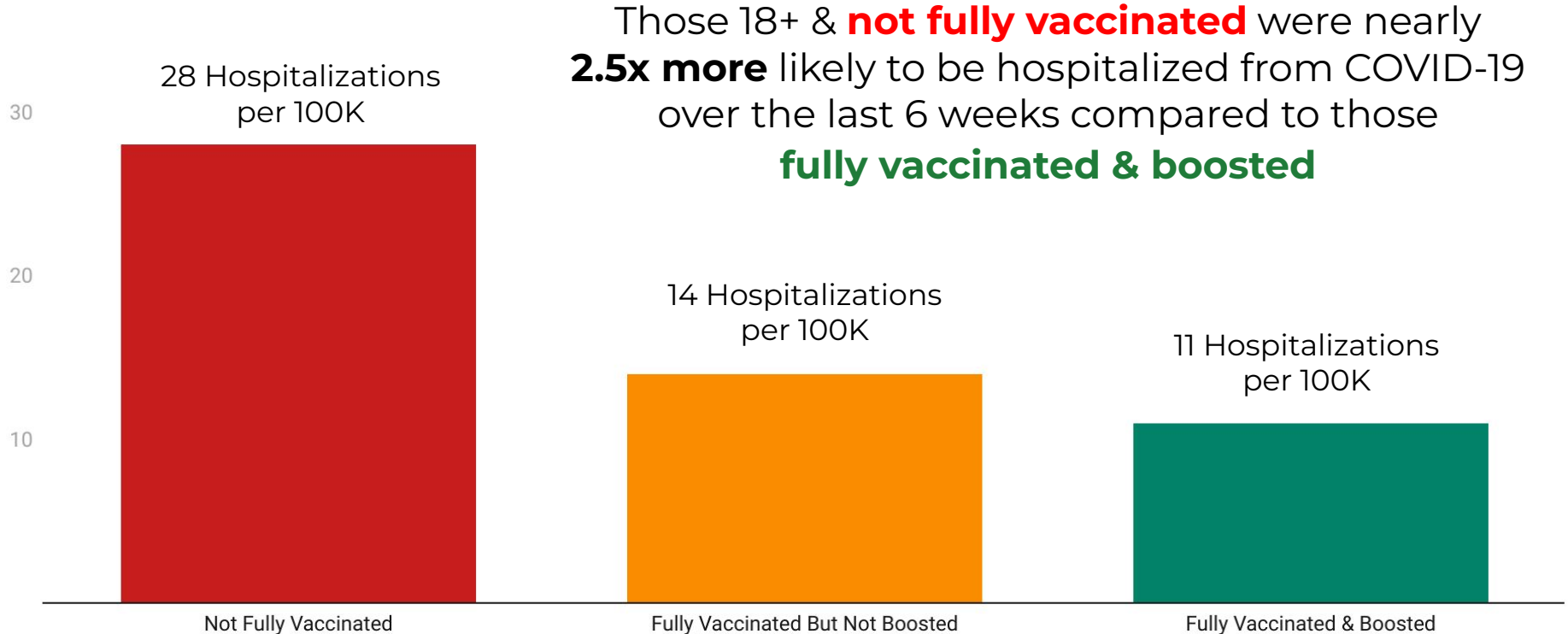


Source: VDH—March 12, 2022; created with Datawrapper

# COVID-19 Hospitalizations By Vaccination Status Per 100K

Measured Over the Last 6 Weeks

40

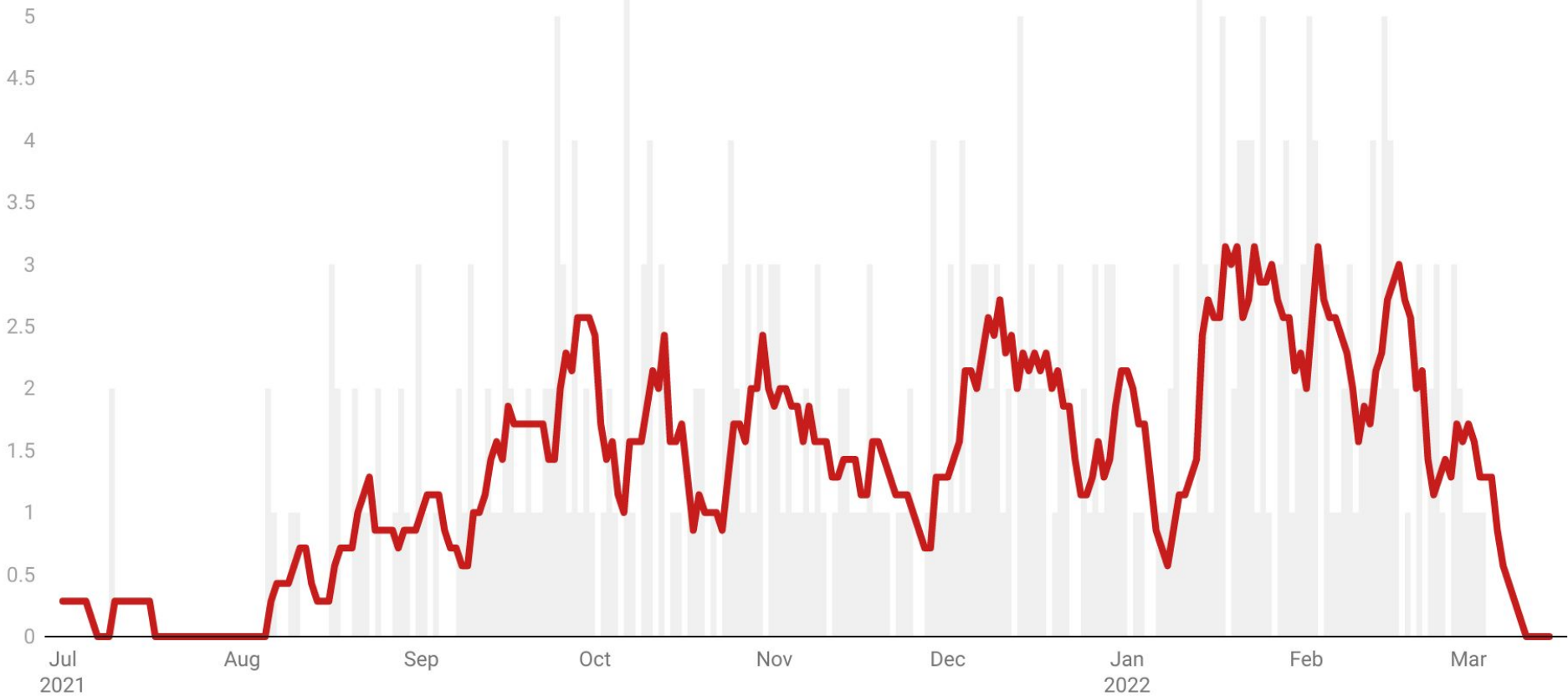




# Vermont Fatality Data

# Vermont COVID-19 Fatalities

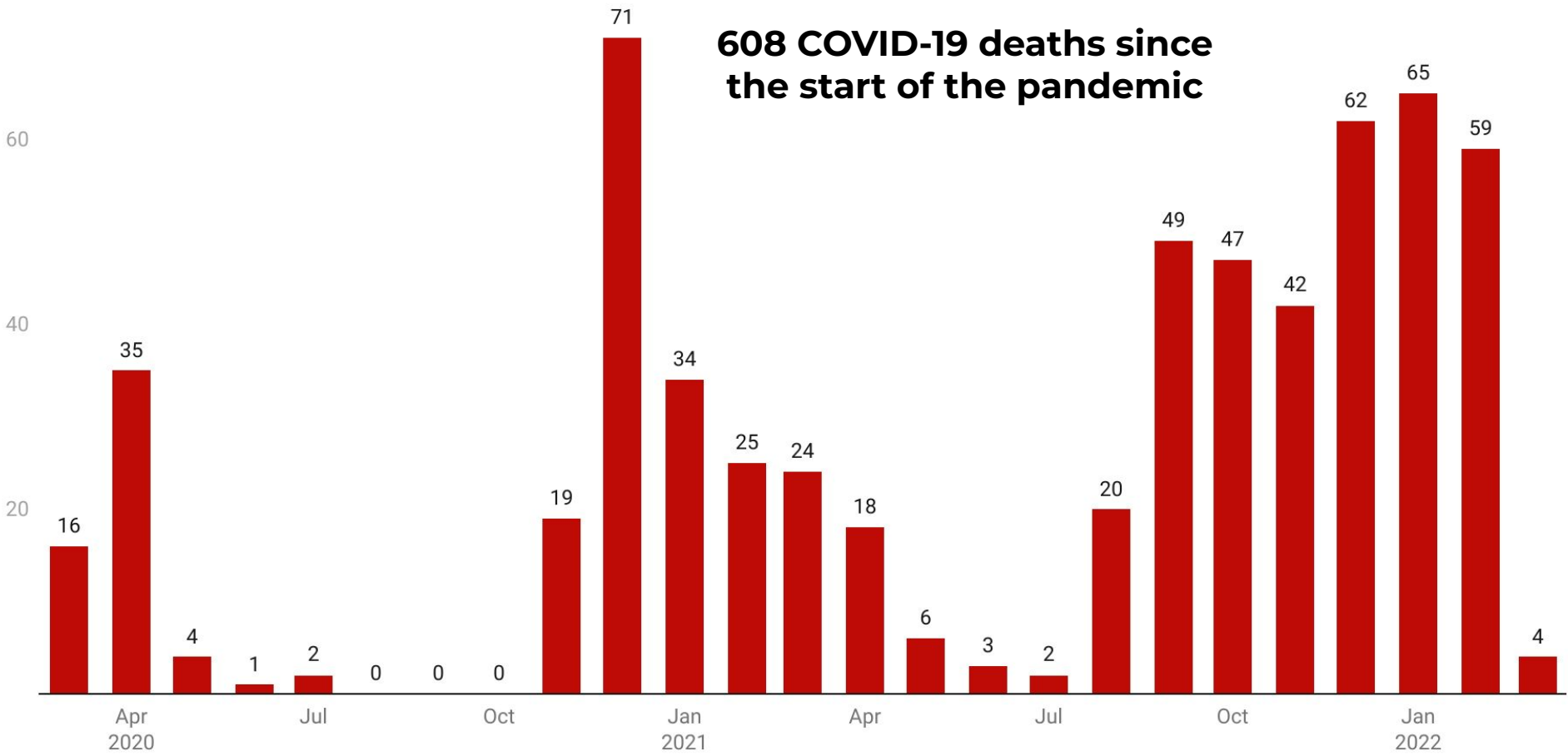
7-Day Average



Source: VDH—March 15, 2022; created with Datawrapper

# Monthly Covid-19 Deaths In Vermont

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



Source: VDH—March 15, 2022; created with Datawrapper; deaths attributed to month in which death occurred rather than reported

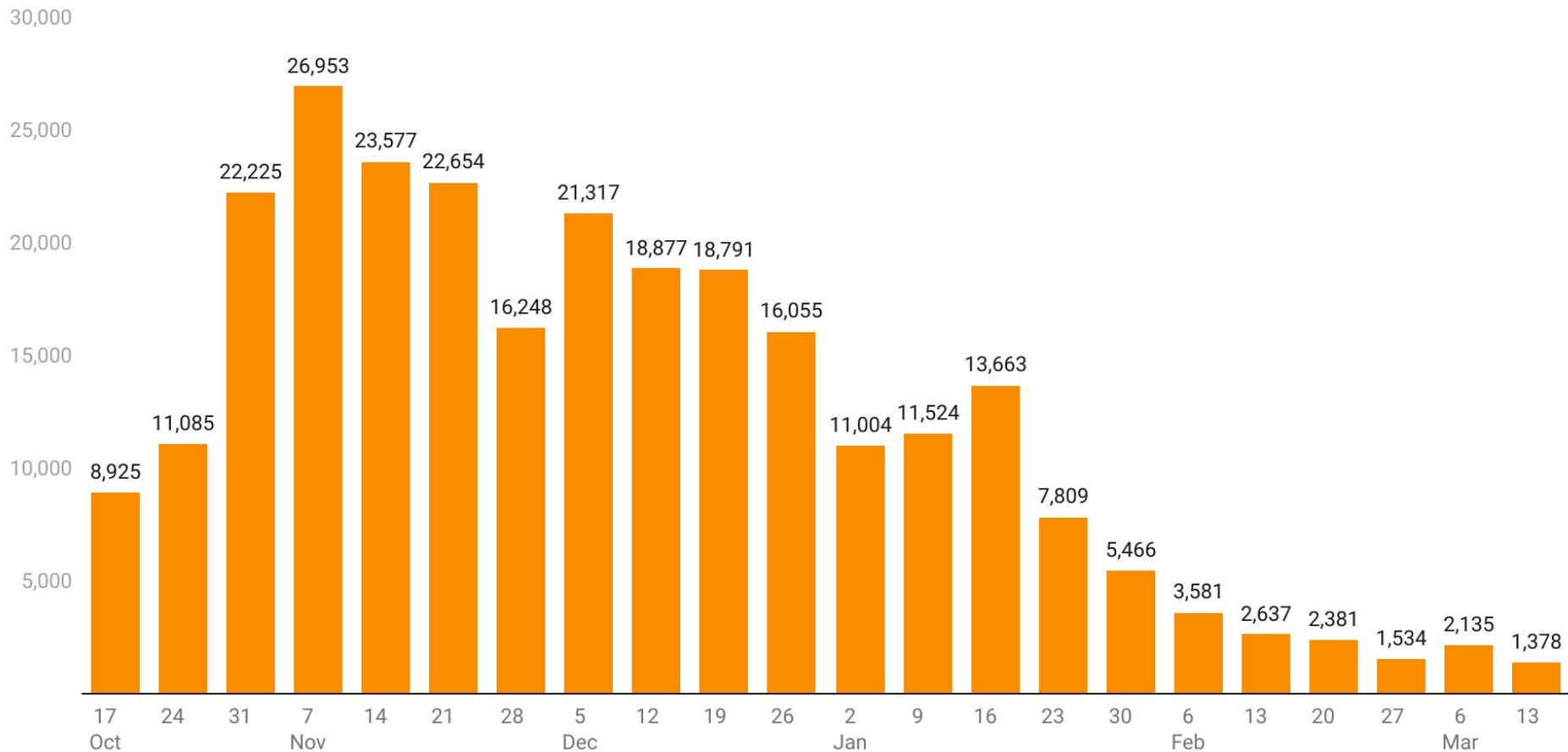
# Vermont Vaccination Data

# Vermont CDC Vaccine Scorecard

Vaccine Metric	Ranking
<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>3</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

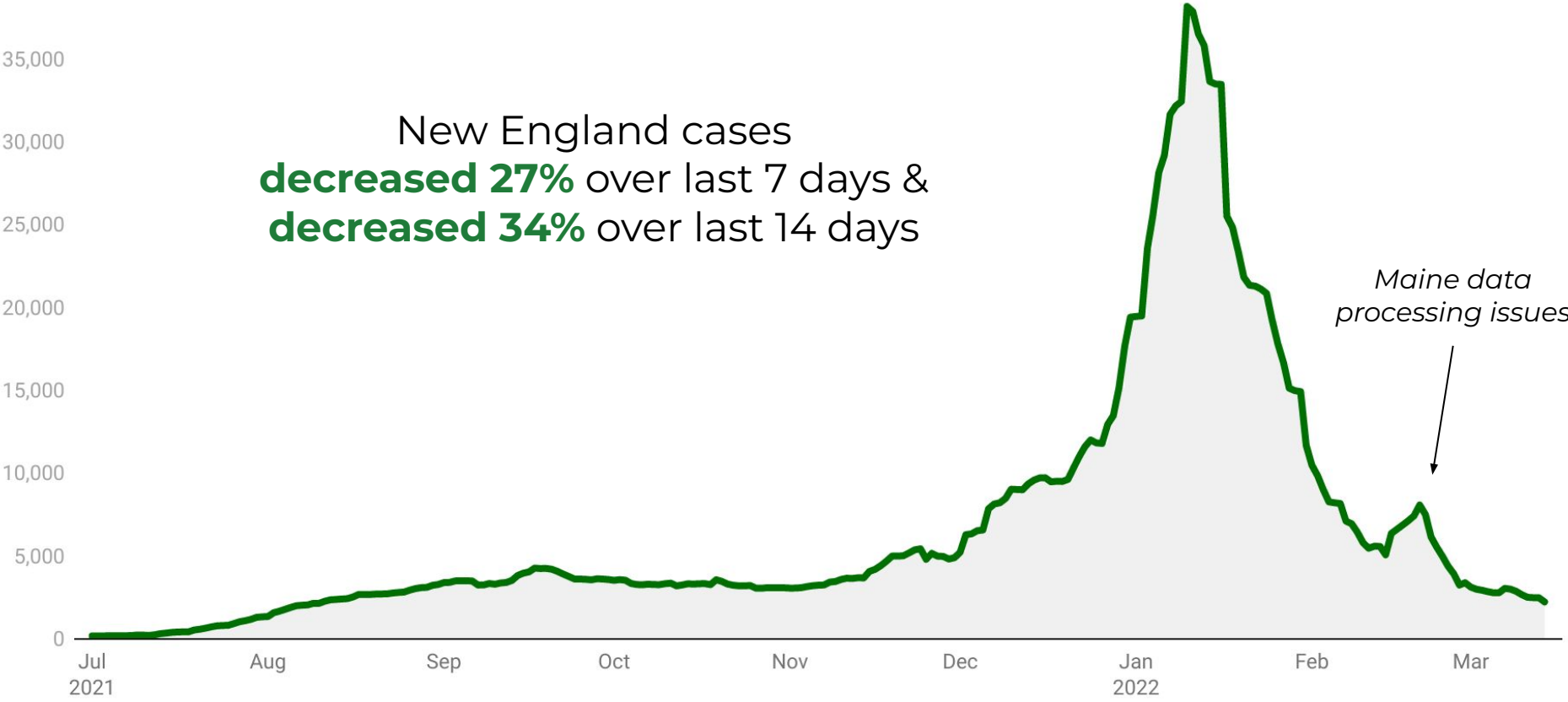


Source: CDC—March 15, 2022; created with Datawrapper

# Regional Data

# New England COVID-19 Cases

— New England 7-Day Case Average

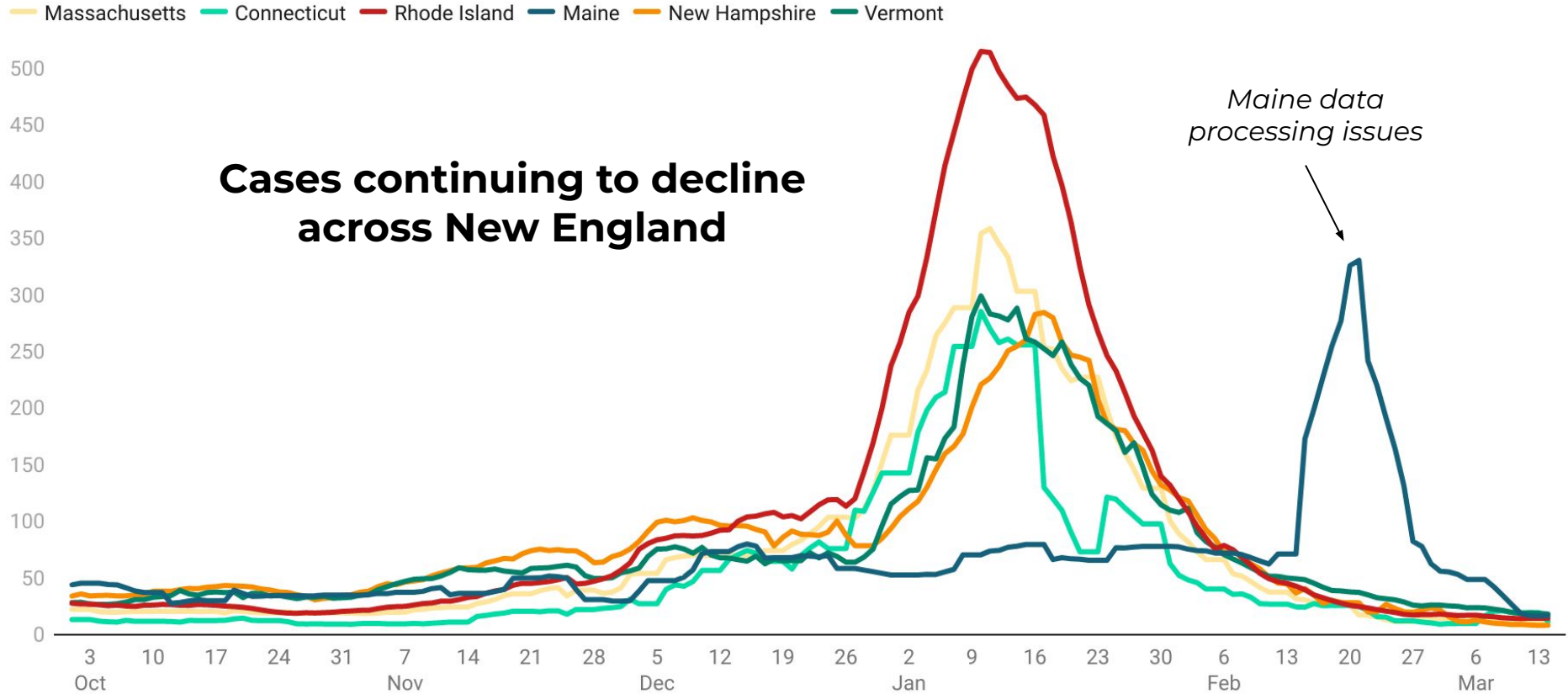


Sources: State Health Depts.—March 14, 2022 (includes: CT, ME, MA, NH, RI & VT)



# New England COVID-19 Case Trends

7-Day Average Cases Per 100K



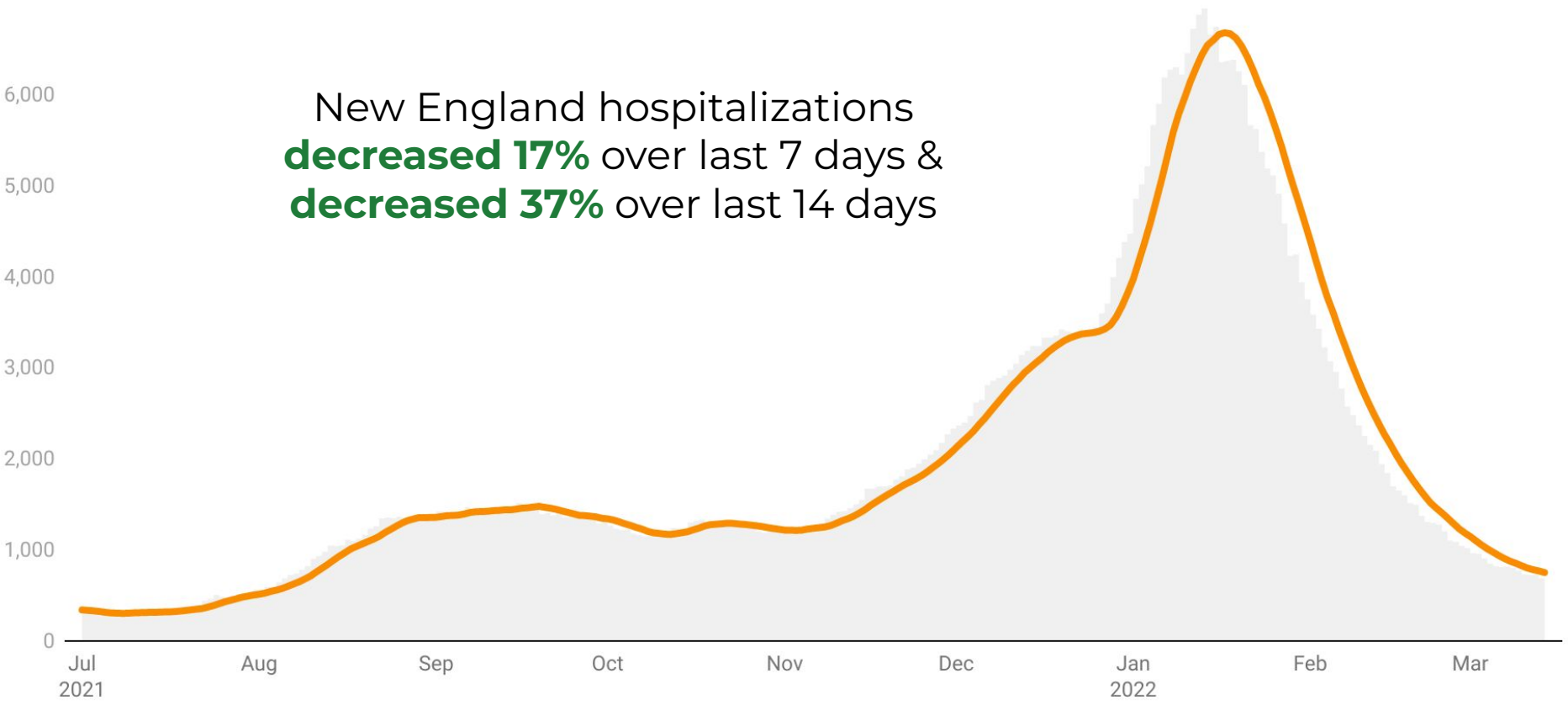
*Maine data processing issues*



Sources: State Health Depts.—March 14, 2022 (includes: CT, ME, MA, NH, RI & VT)

# New England COVID-19 Hospitalizations

7-Day Average

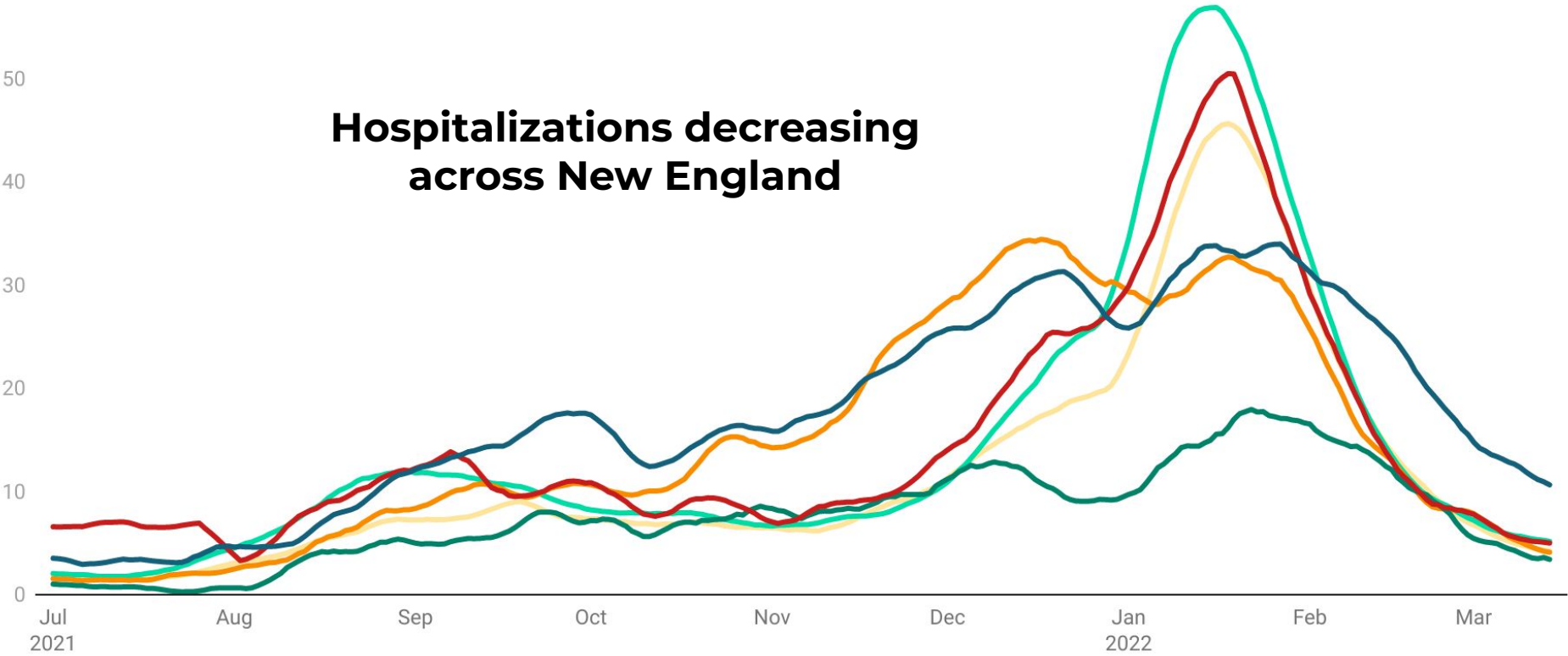


Sources: HHS—March 14, 2022 (includes: CT, ME, MA, NH, RI & VT)

# New England COVID-19 Hospitalizations Trends

7-Day Average Hospitalizations Per 100K

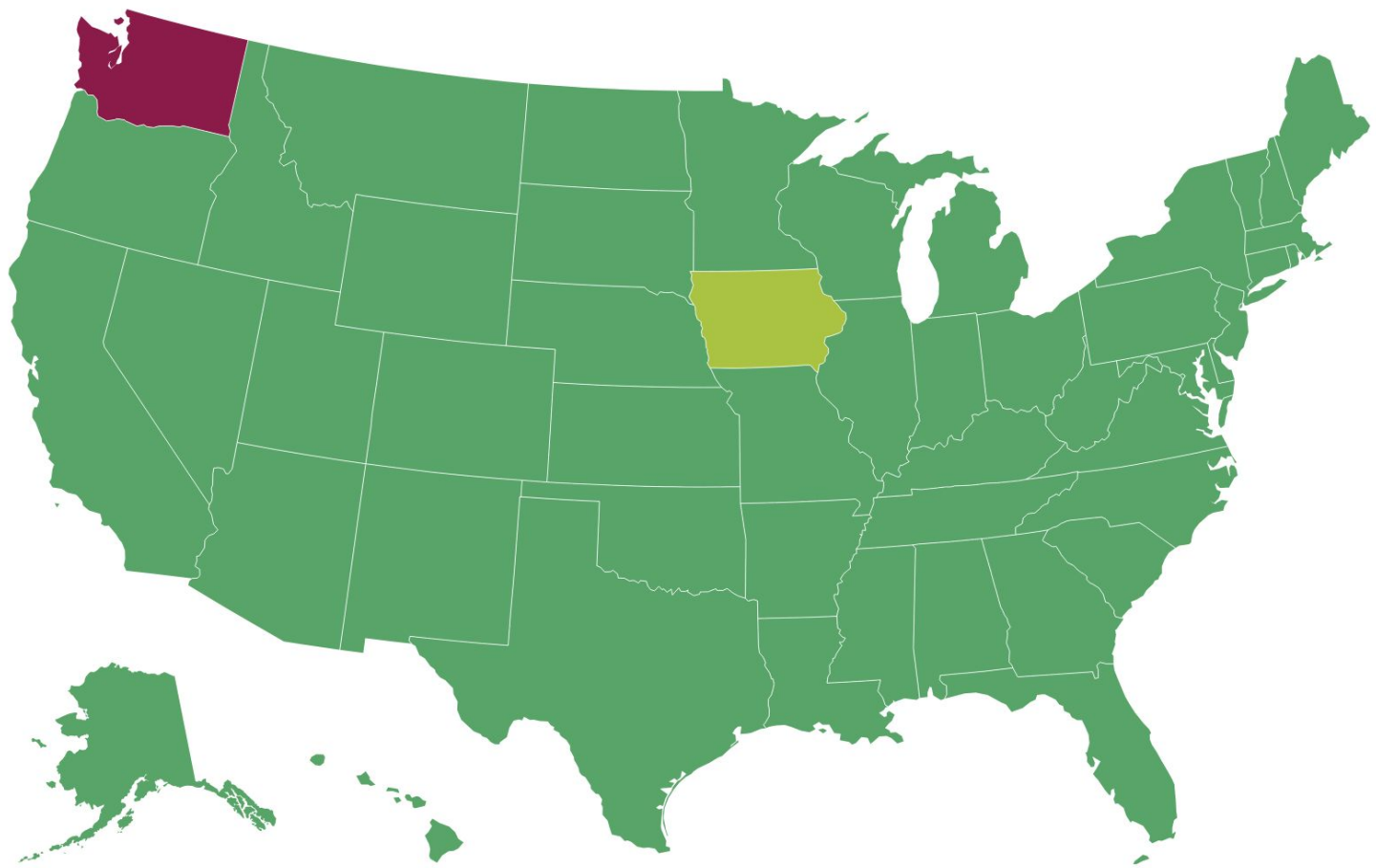
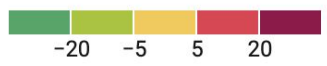
Massachusetts Connecticut Rhode Island Maine New Hampshire Vermont



Sources: HHS—March 14, 2022 (includes: CT, ME, MA, NH, RI & VT)

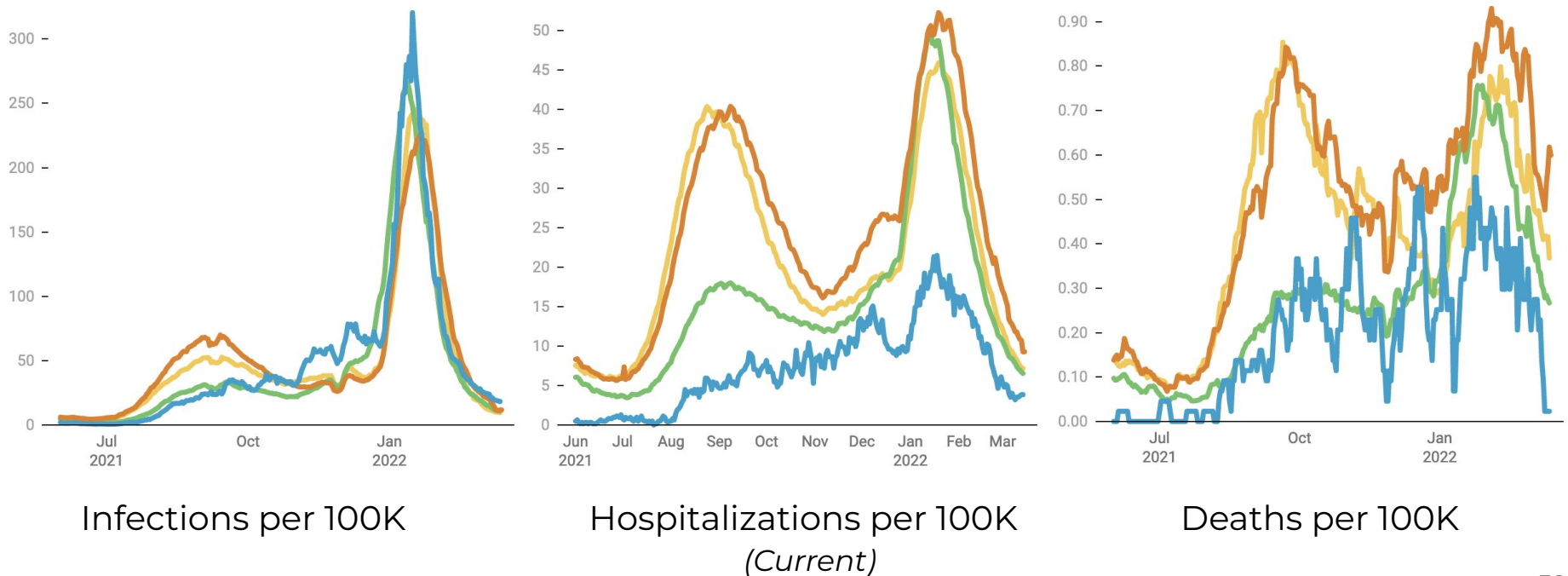
# National Data

# Week Over Week Percent Change in COVID-19 Infections



# Infections, Hospitalizations, & Deaths by Percentage of State Population Vaccinated

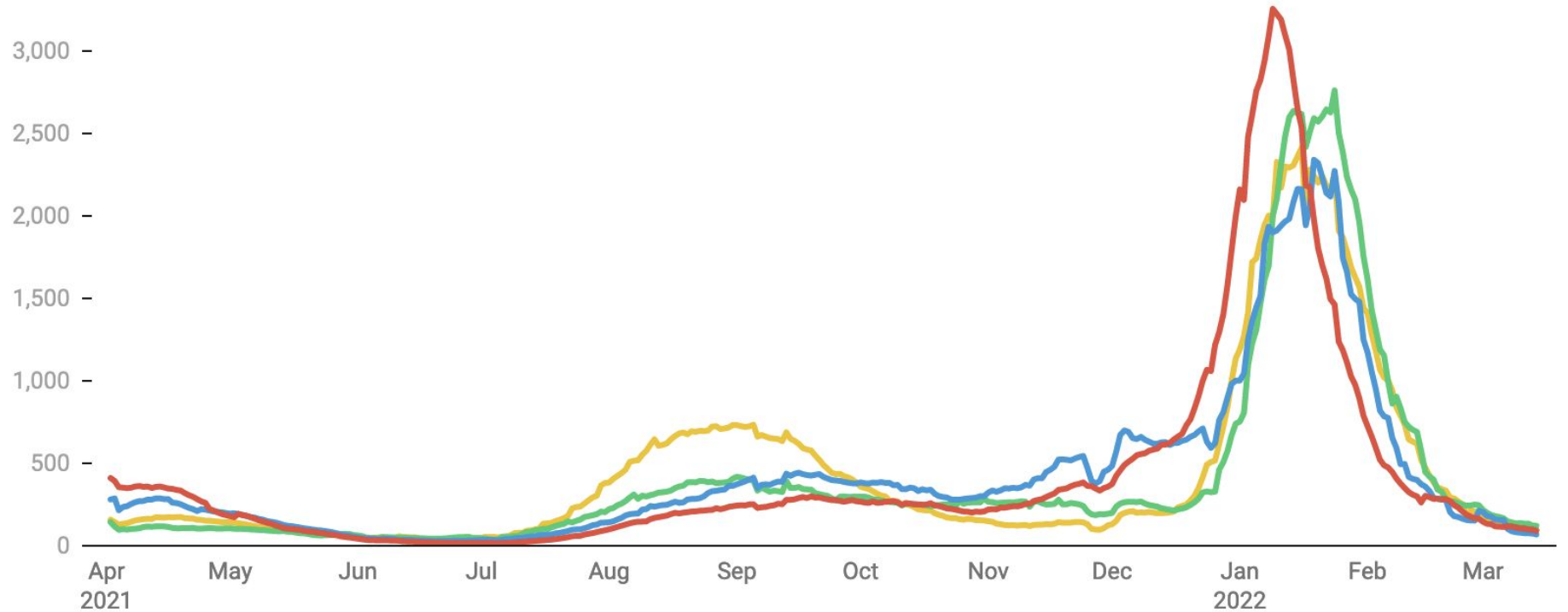
■ Bottom Third Vaccinated States    
 ■ Middle Third Vaccinated States    
 ■ Top Third Vaccinated States    
 ■ Vermont



# Daily COVID-19 Cases per Million in US Regions

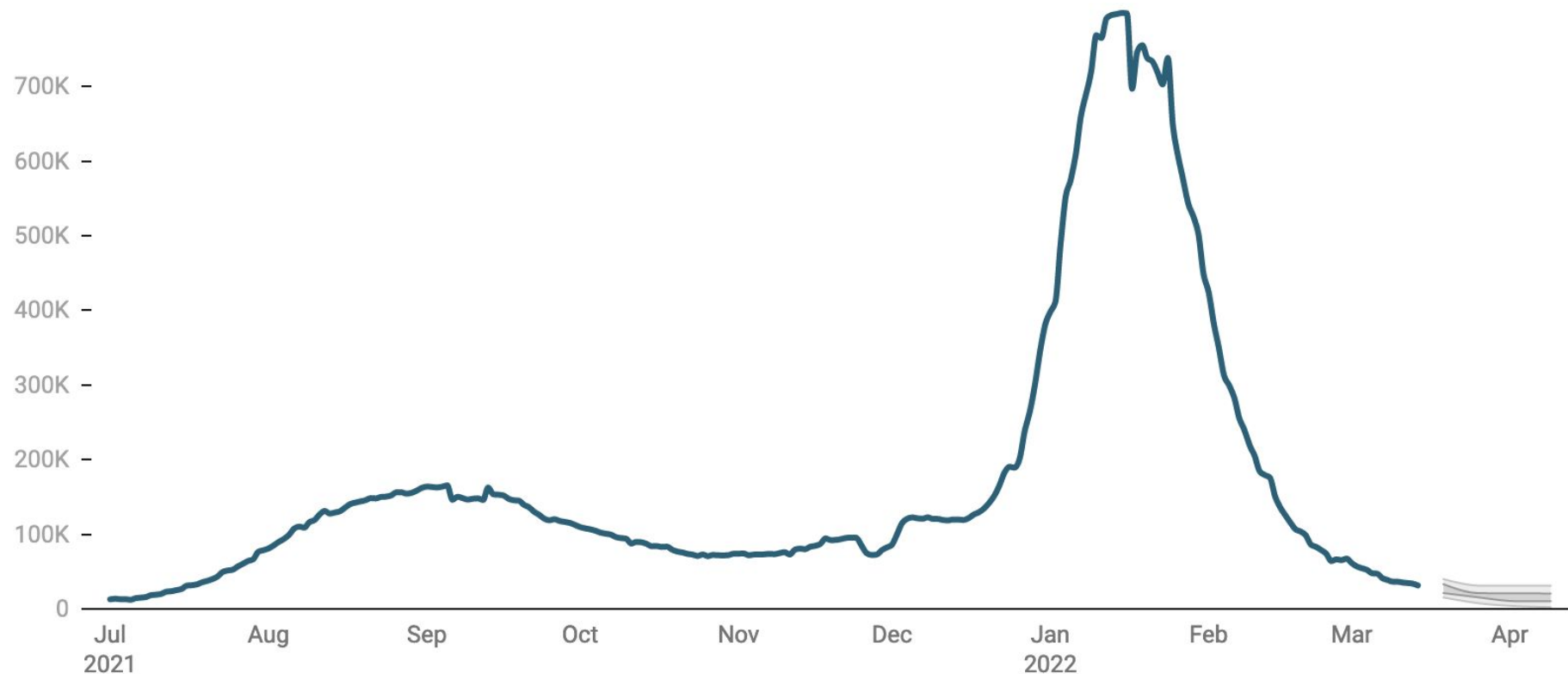
Calculated as a 7-day moving average. Definitions of North, Midwest, South, and West taken from the U.S. Census bureau.

— Northeast — Midwest — South — West



# US COVID-19 Infection Confidence Intervals

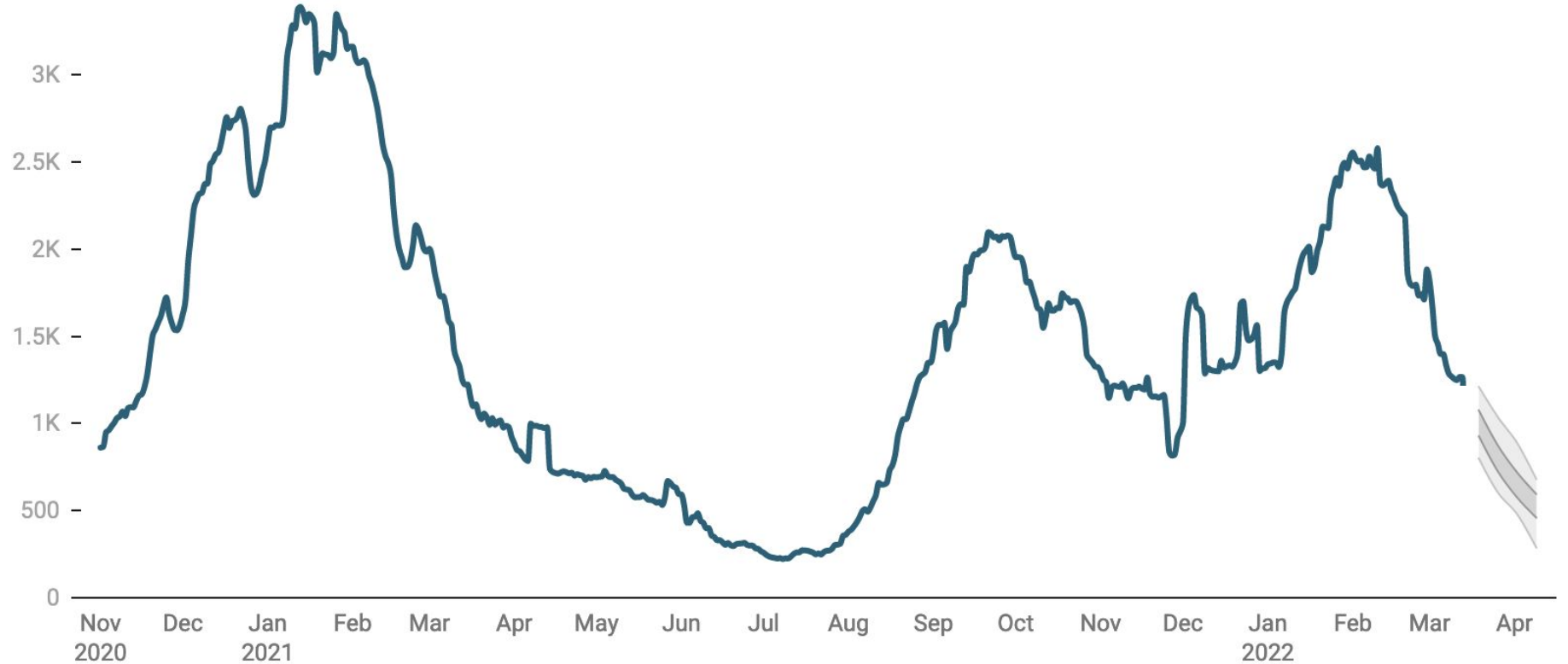
Calculated as a 7-day mean. Inner and outer bands represent 50% and 95% confidence intervals, respectively.





# US COVID-19 Death Confidence Intervals

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

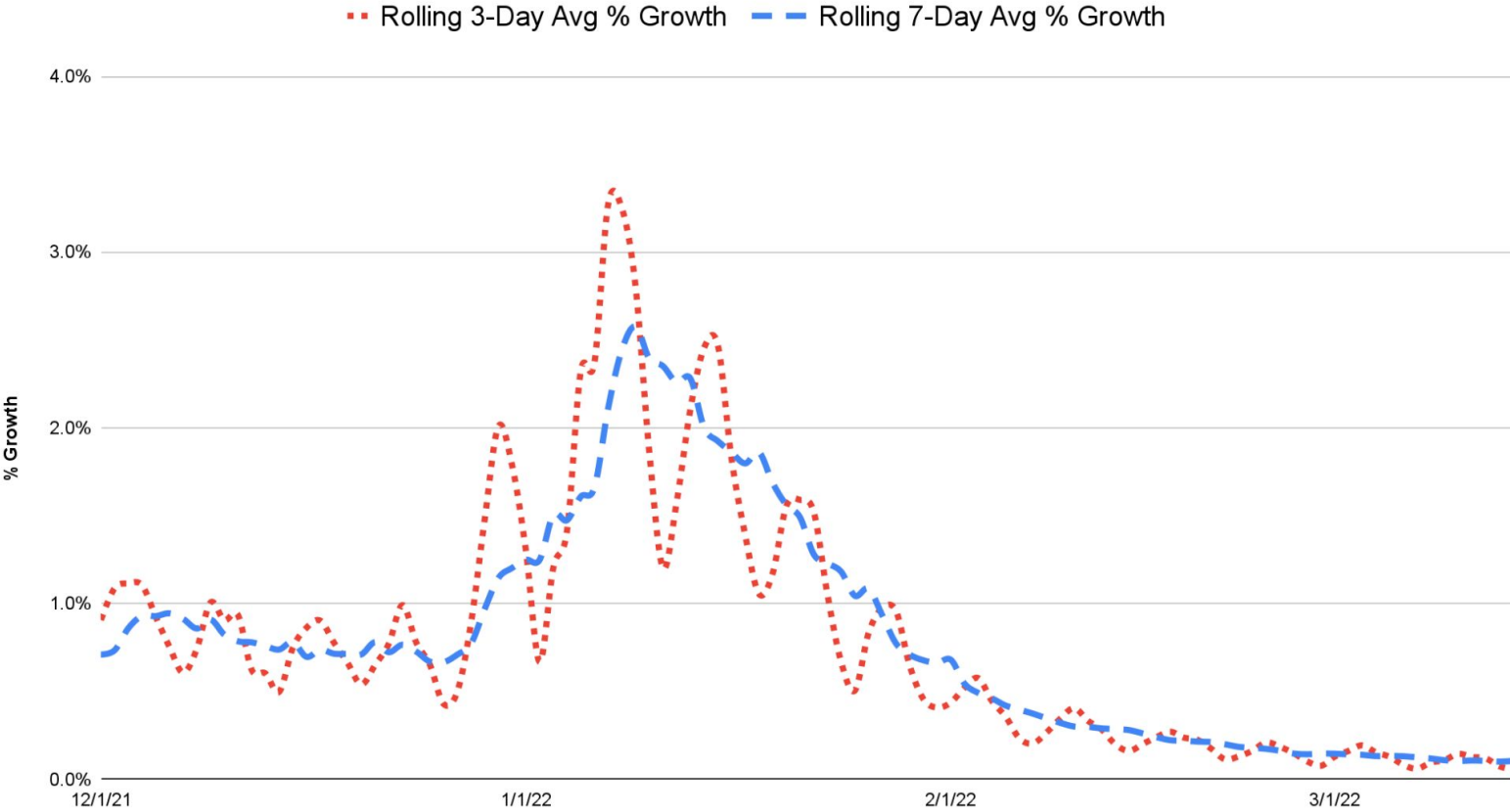


# RESTART VERMONT

## Reopening Metrics

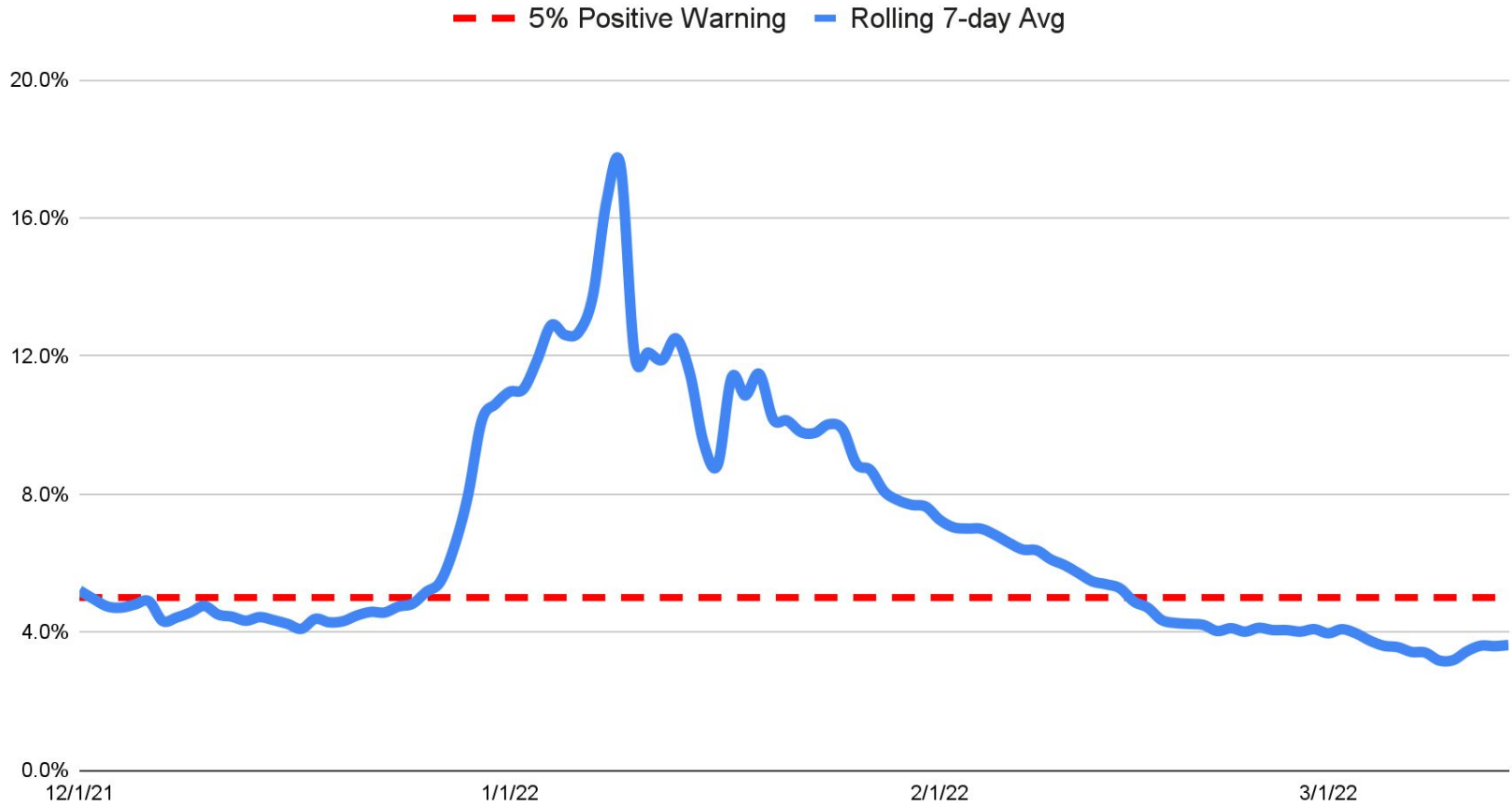
1. Syndromic Surveillance (*retired*)
2. Viral Growth & Reproductive Rates
3. Percentage of New Positive Tests
4. Hospital & Critical Care Bed Capacity
5. Testing Volume

# Viral Growth & Reproductive Rates



Source: Vermont Department of Health

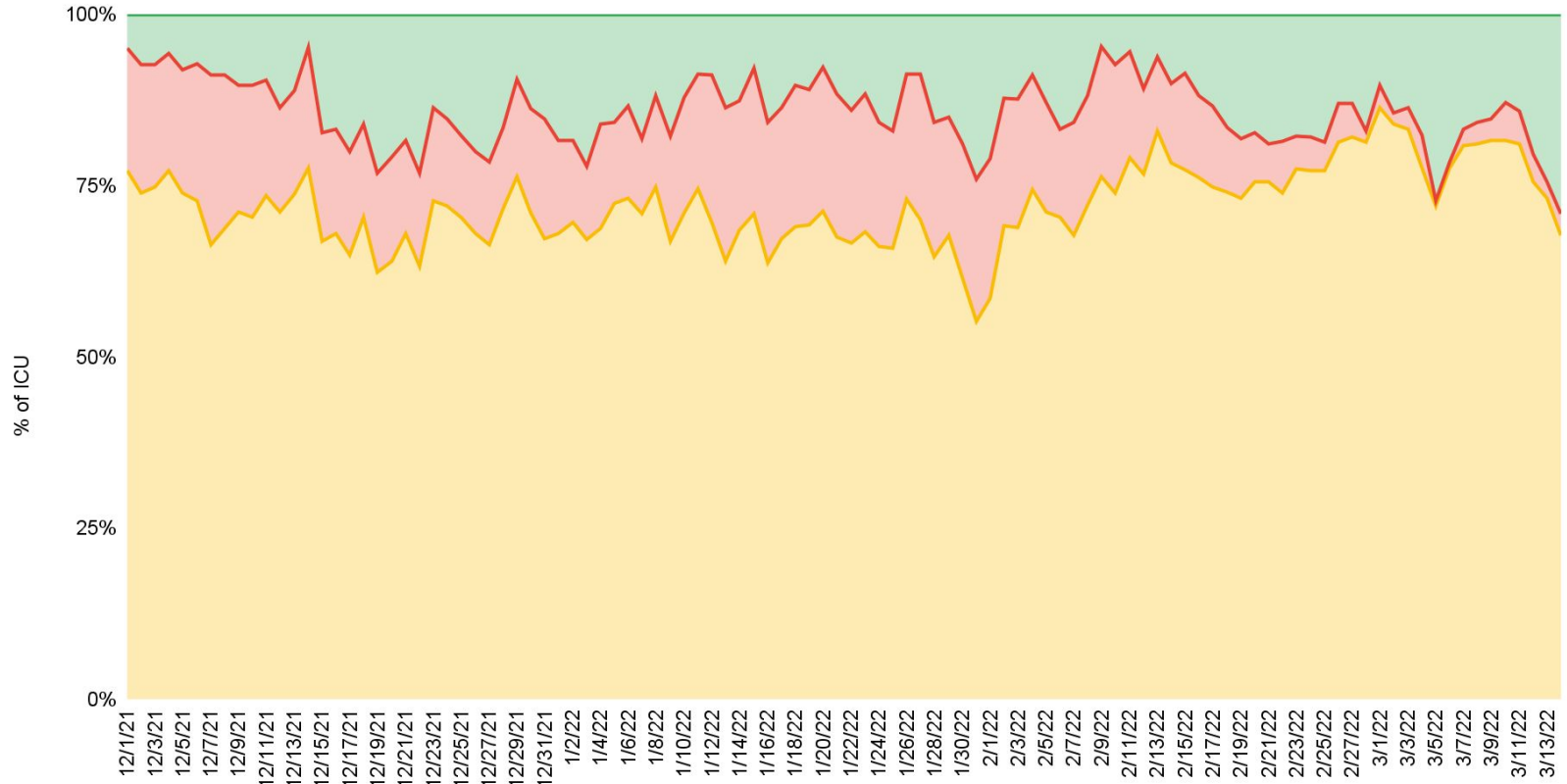
# Test Positivity



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

