

# **COVID-19 Modeling**

## **March 22, 2022**

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

# Overview

Reported COVID-19 cases in Vermont increased this week but remain more than 90% below peak January levels. Forecasts predict continued low-level viral activity in Vermont, but the spread of the more-transmissible Omicron BA.2 subvariant has introduced increased uncertainty in these projections. The CDC [estimates](#) the BA.2 subvariant now makes up over 50% of new infections in the Northeast.

Hospitalizations and fatalities in Vermont remain at stable low levels, with older and unvaccinated Vermonters at the highest risk of adverse outcomes.

The New England region continues to see improvement, with cases down nearly a third in the last two weeks, but the rate at which cases are decreasing slowed to 6% week. Cases remain low nationally, with levels similar to last year's pre-Delta summer period. Forecasts call for deaths across the US to continue to decline in the coming weeks.

International COVID-19 trends, particularly in Europe, warrant a note of caution for the US COVID-19 outlook with cases increasing due to a number of factors, including the BA.2 subvariant, varied rates of prior Omicron infection, and the lifting of mitigation measures during surging viral spread. Experts continue to debate the degree to which these factors will influence case and hospitalization growth in the US in the coming weeks.

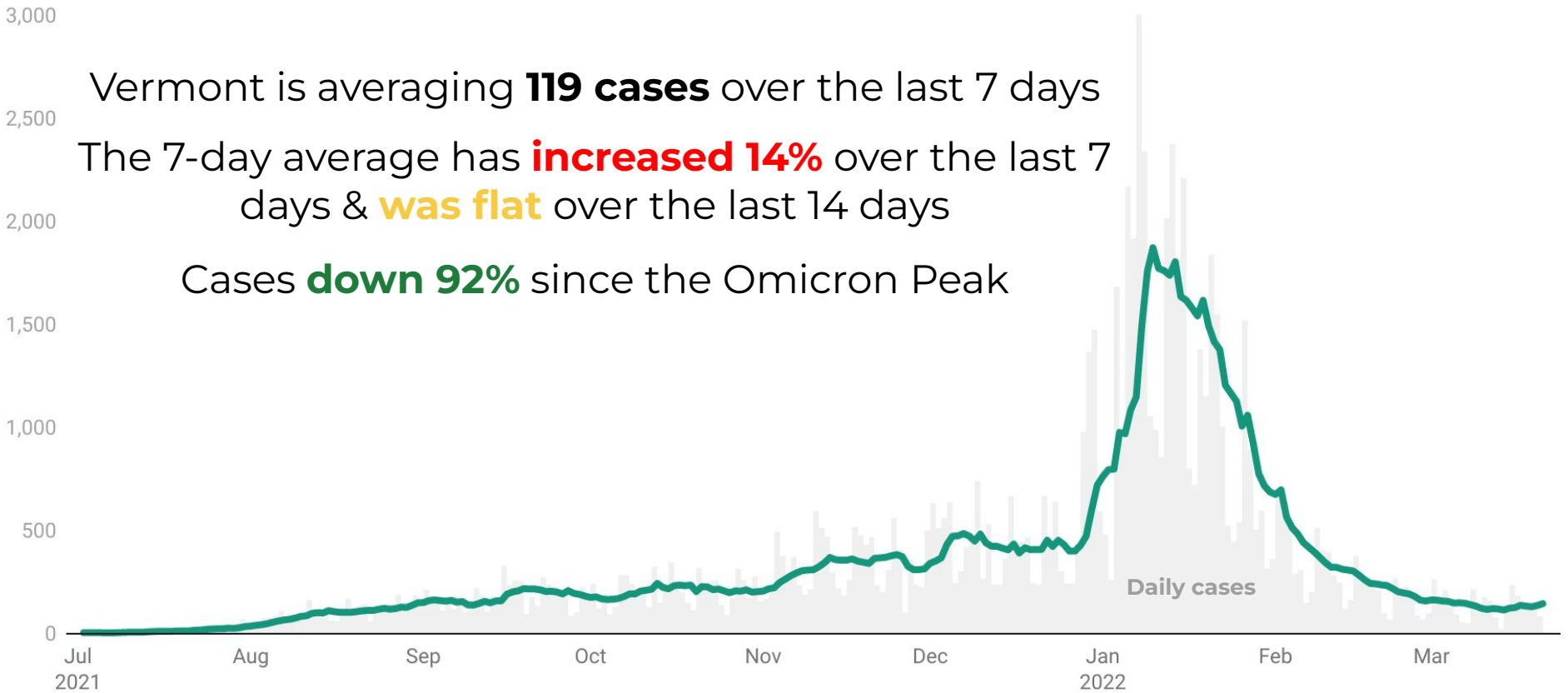
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# Vermont Case Data

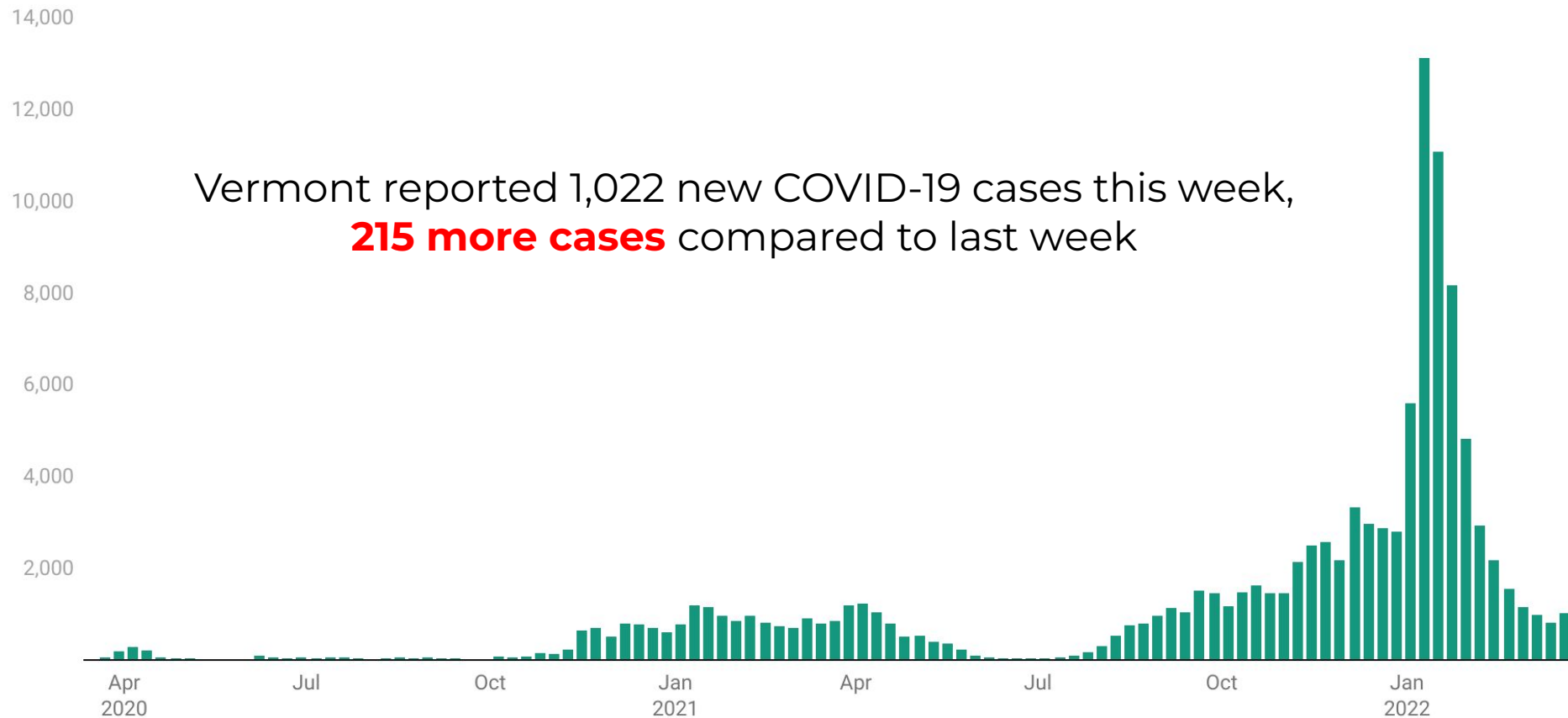
# Vermont New COVID-19 Cases

7-Day Average



Source: VDH—March 22, 2022; created with Datawrapper

# Vermont New Weekly COVID-19

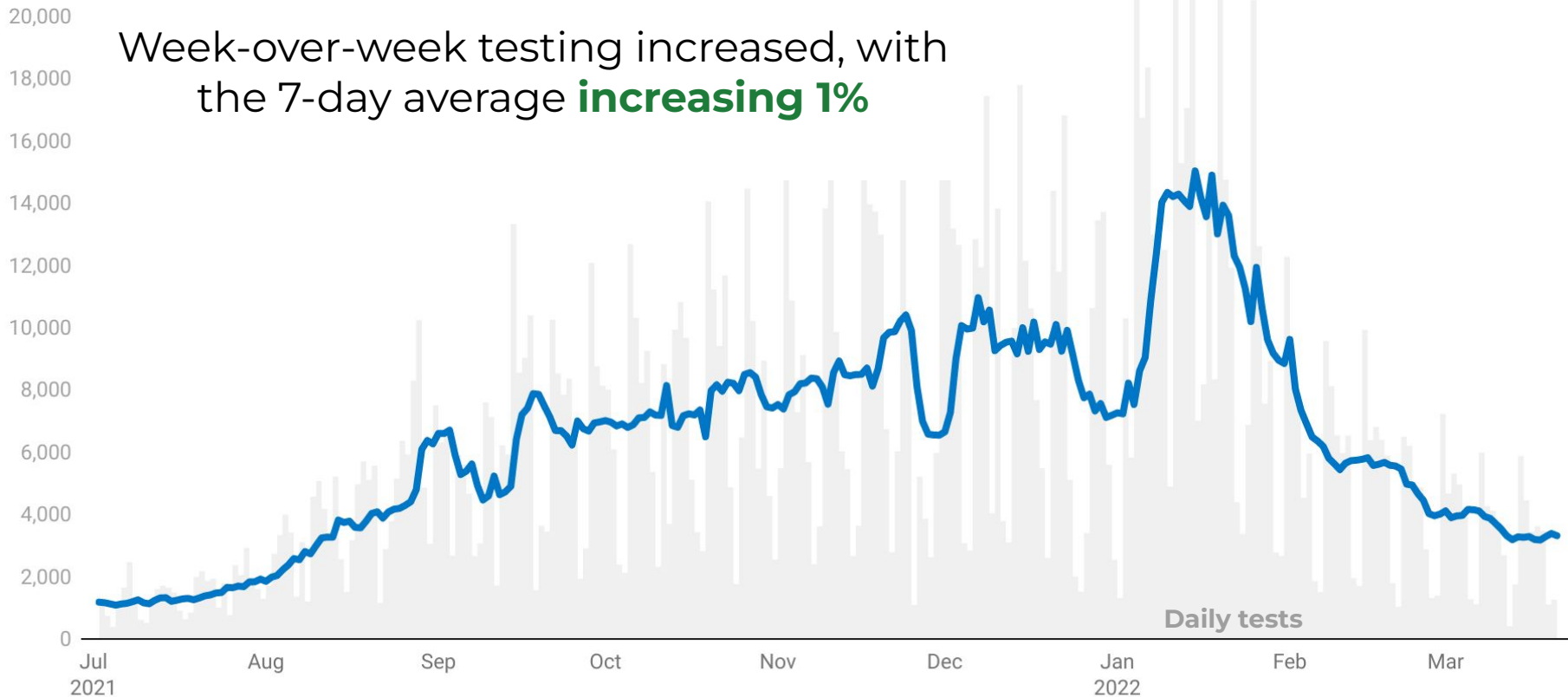


## Vermont COVID-19 PCR Testing

— 7-Day Average

Week-over-week testing increased, with the 7-day average **increasing 1%**

Number of Tests



Daily tests

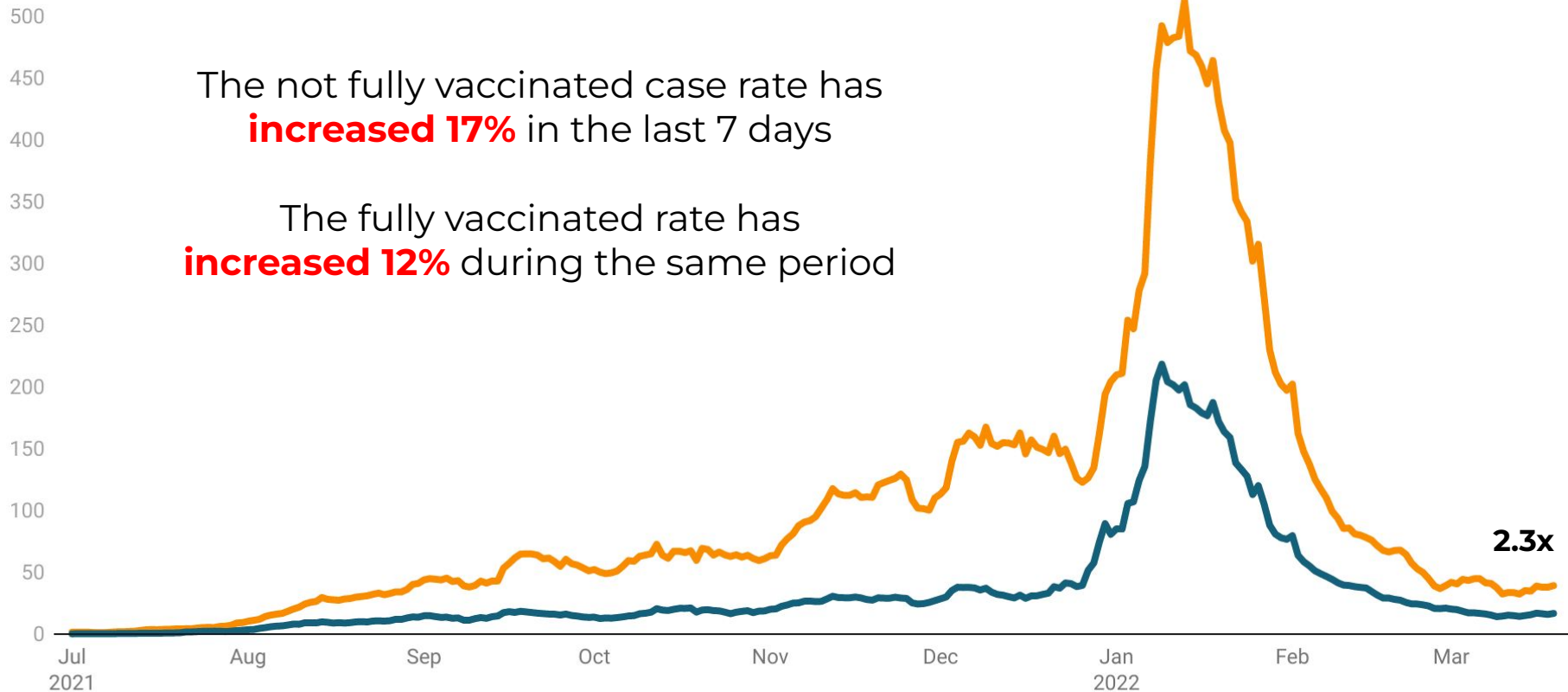
# Vermont PCR Test Positivity

7-Day Positivity Rate



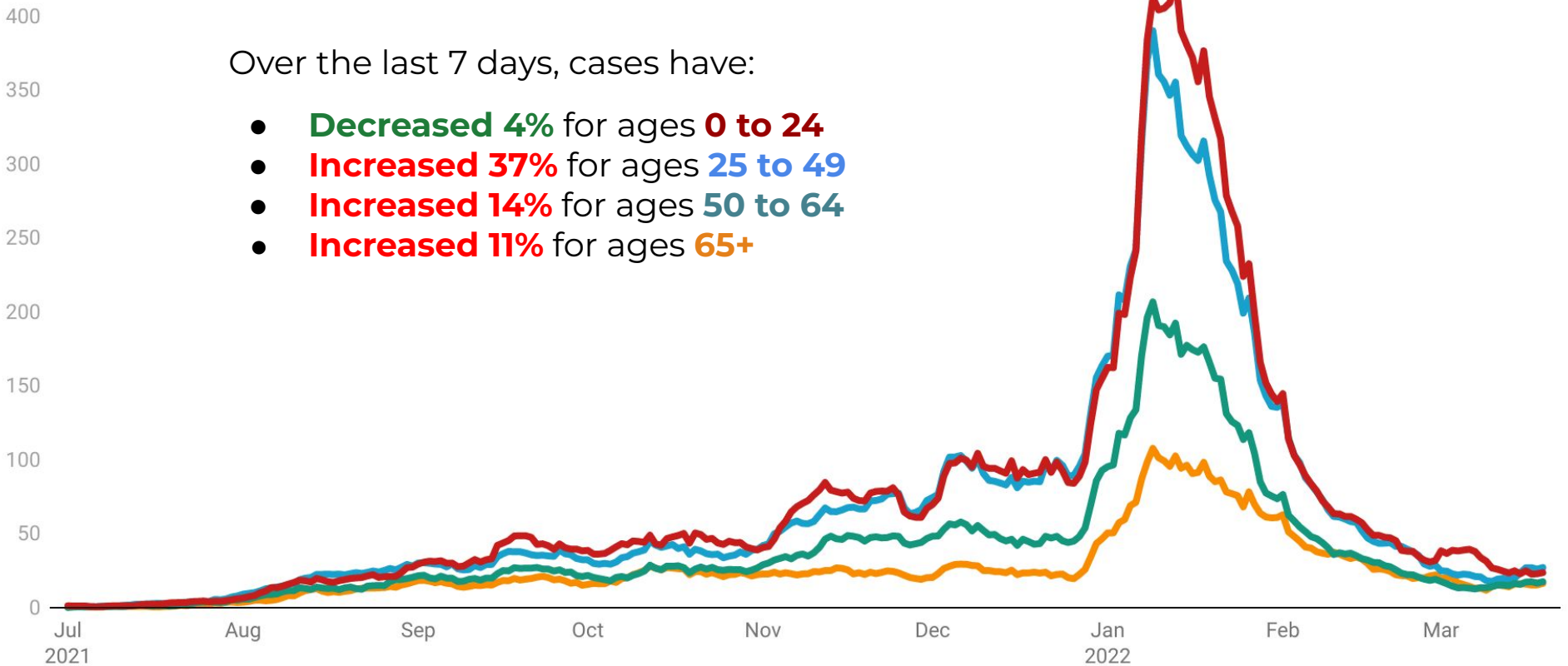
## Vermont COVID-19 New Case Rates Per 100K (7-Day Average)

Not Fully Vaccinated Case Rate Fully Vaccinated Case Rate



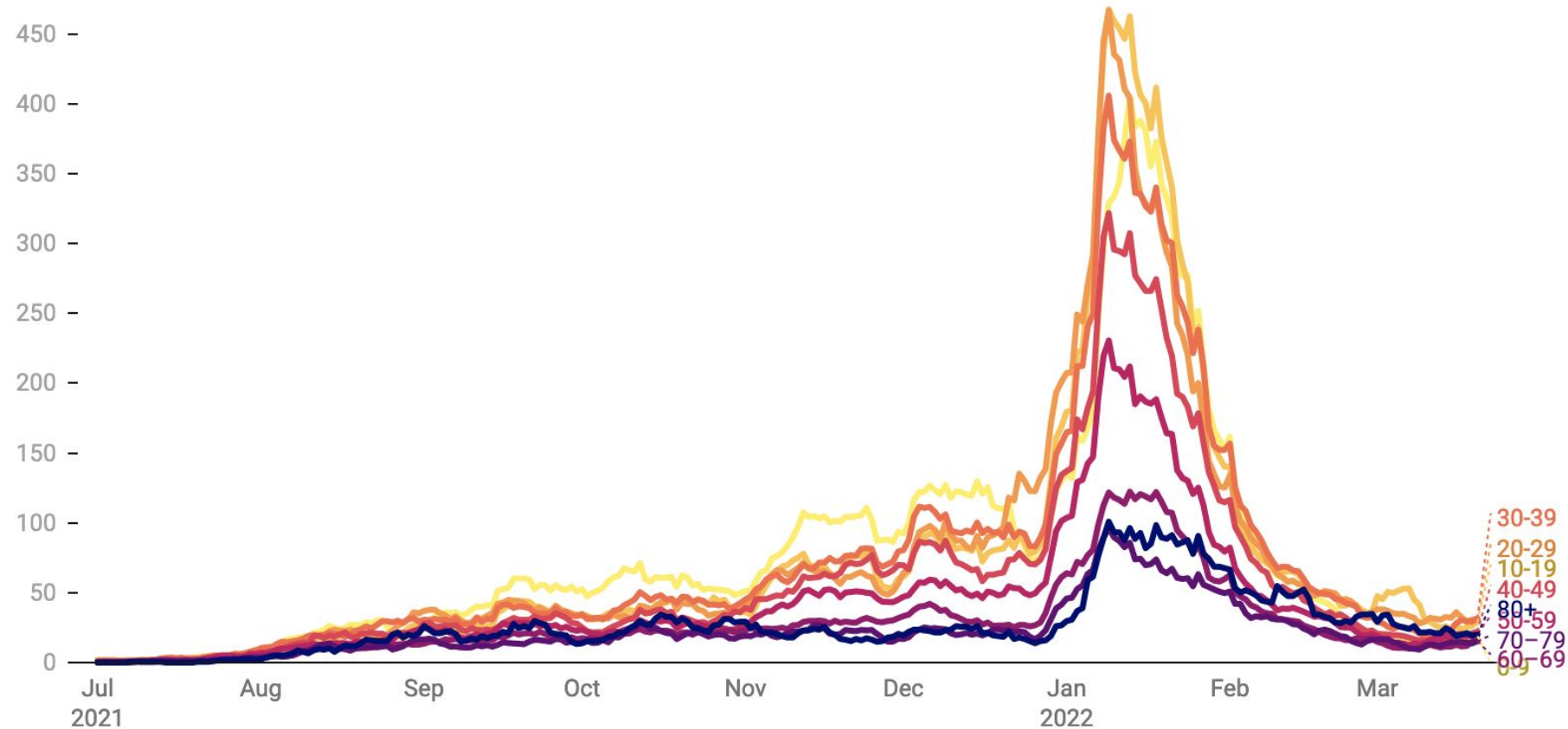
# Vermont Case Rates Per 100K By Age (7-Day Average)

0 to 24   24 to 49   50 to 64   65+



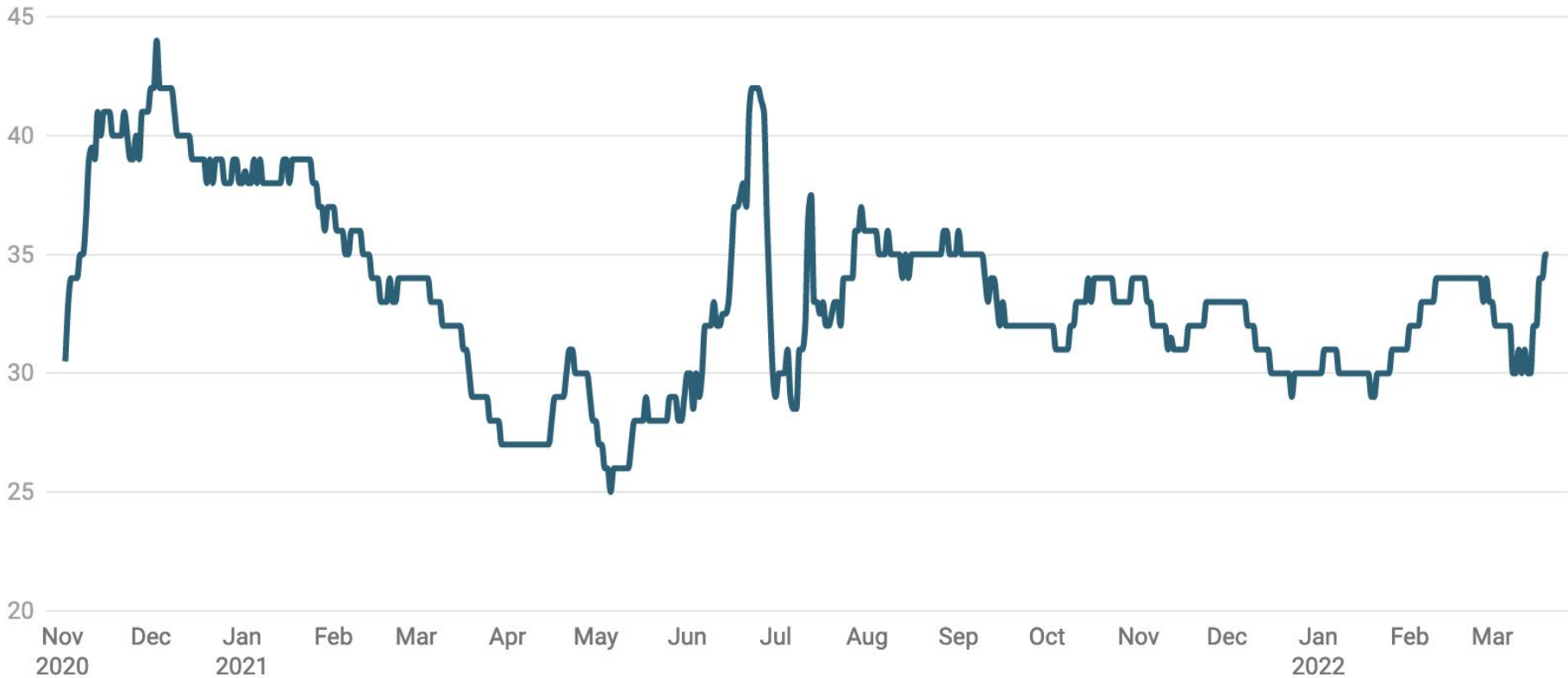
Source: VDH—March 22, 2022; created with Datawrapper

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



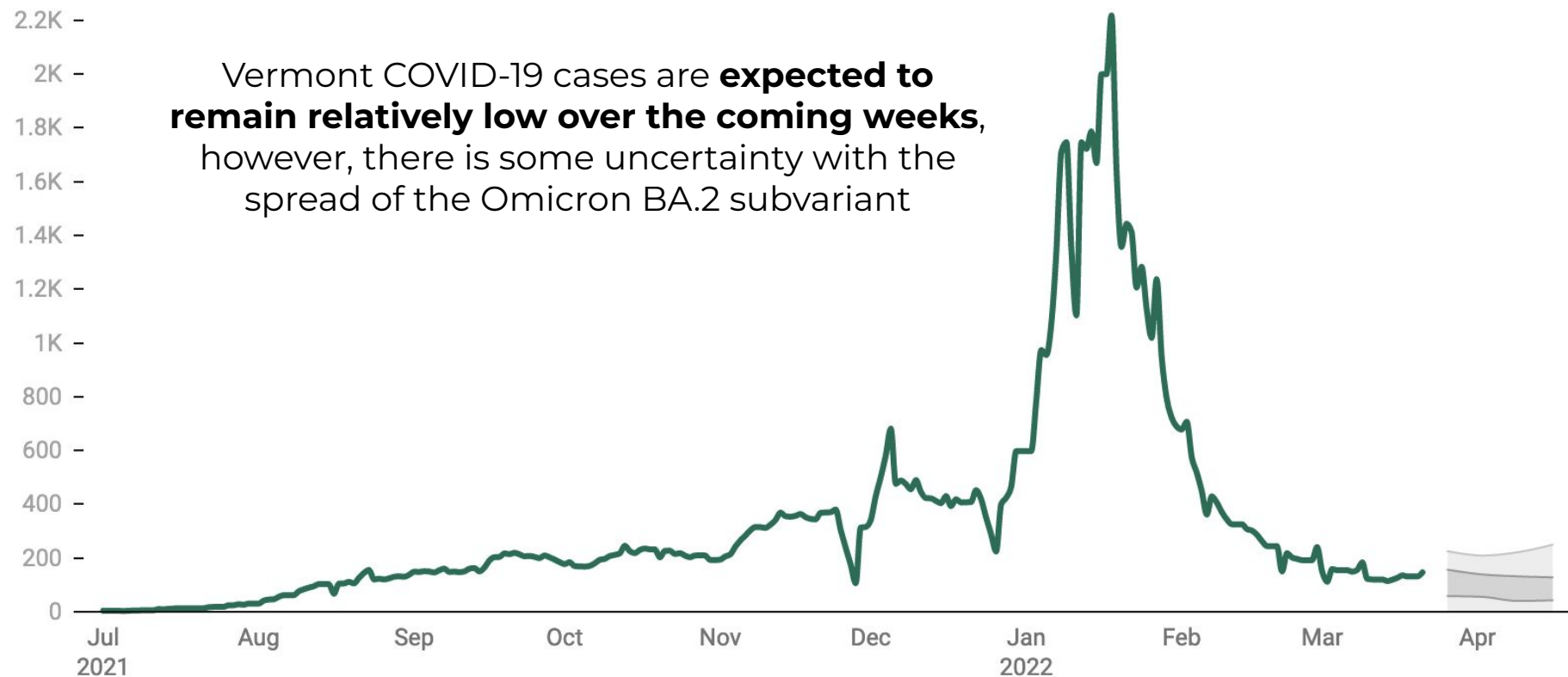
# Age of Infected Vermonters

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.

5 -

**COVID-19 fatalities are expected to remain low over the next 4 weeks**

4 -

3 -

2 -

1 -

0 -

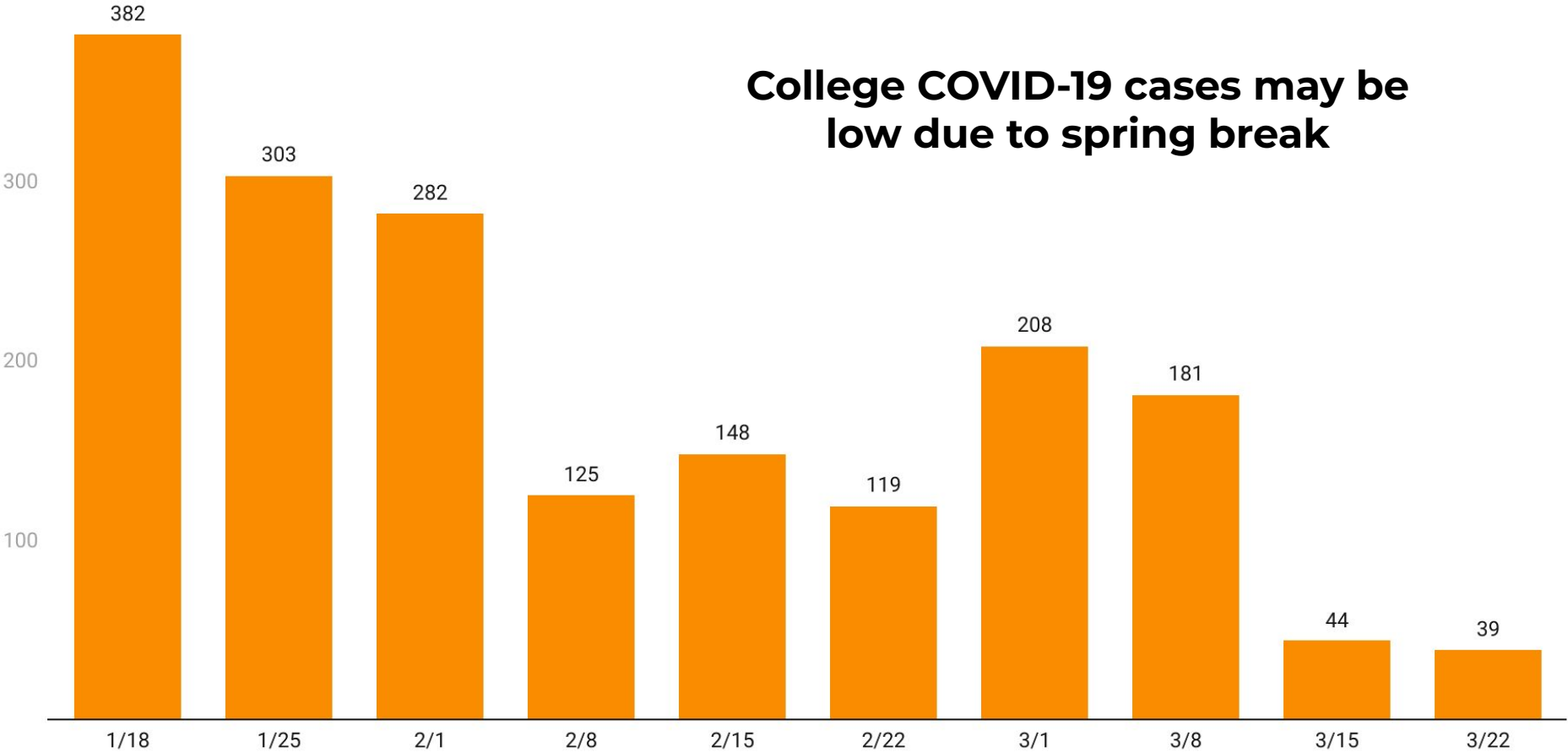
Nov 2020 Dec Jan 2021 Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan 2022 Feb Mar Apr



# Active Outbreaks in Long Term Care Facilities

Facility Name	Total COVID-19 Cases
Springfield Rivers Nursing & Rehab	52
St. Johnsbury Health & Rehab Center	25
The Willows of Windsor	24
Greensboro Nursing Home	22
Loretto Home	13
The Residence at Quarry Hill	12
Thompson House	12
<b>Total</b>	<b>160</b>

# Weekly COVID-19 College Cases

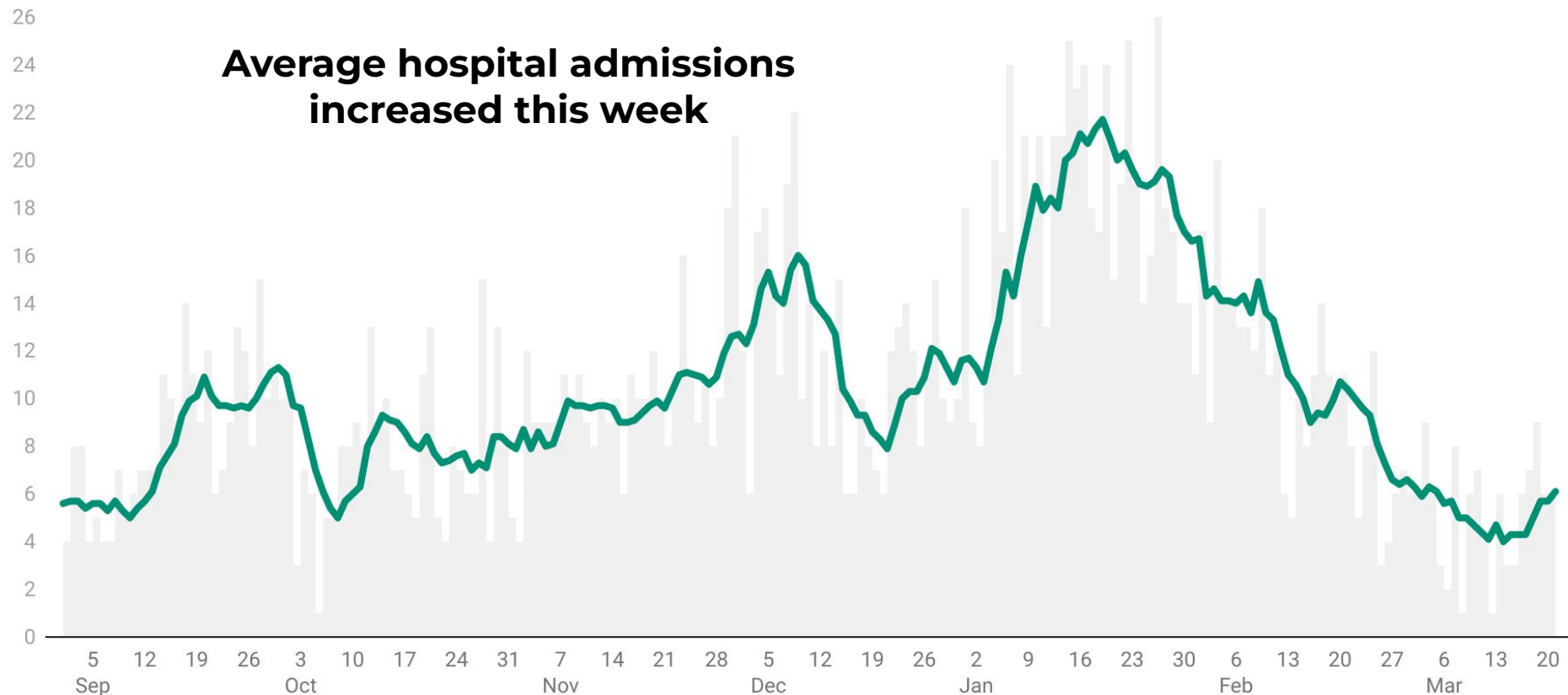


Source: Vermont College Reporting—March 22, 2022; created with Datawrapper

# Vermont Hospitalization Data

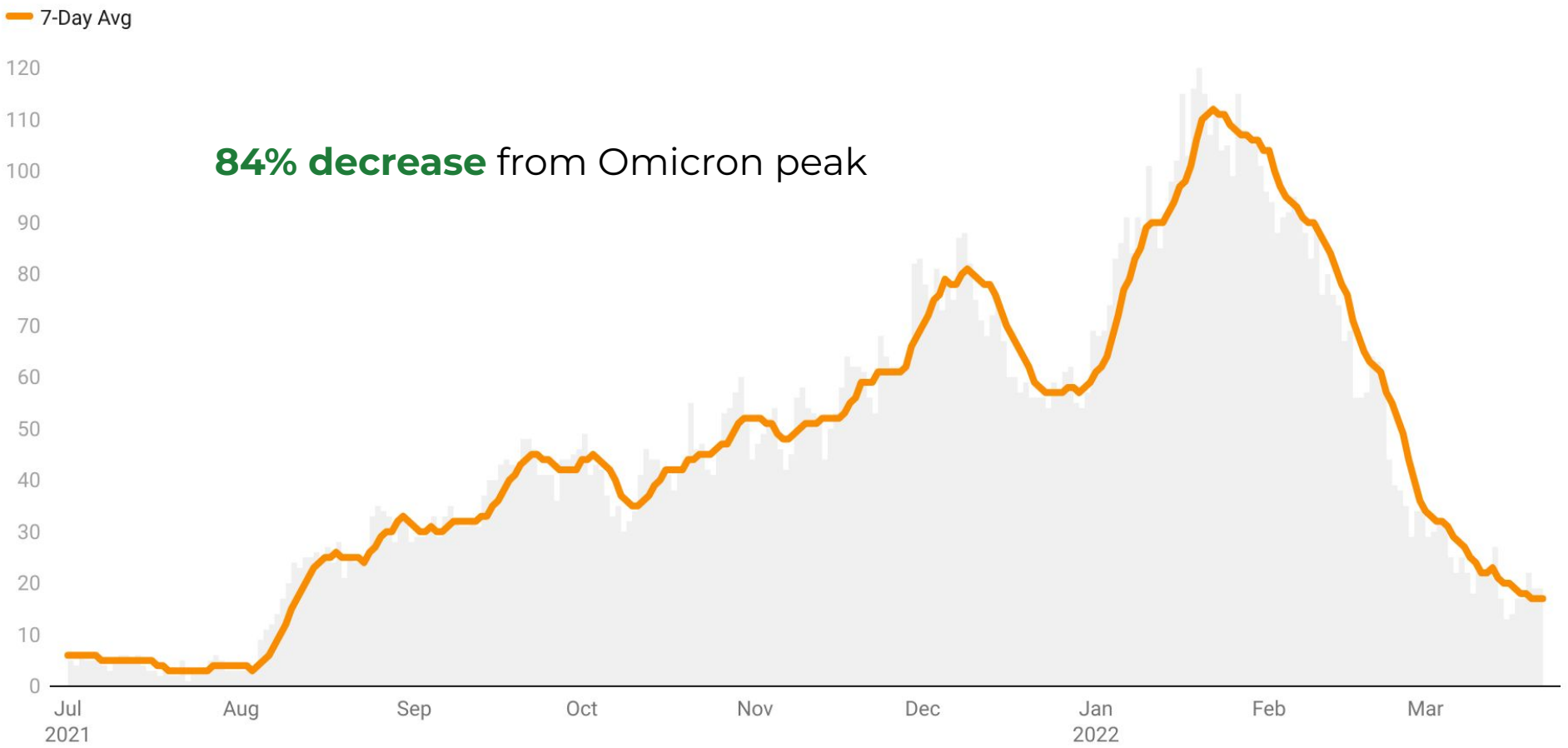
# Vermont New COVID-19 Hospital Admissions

7-Day Average



Source: HHS—March 21, 2022; created with Datawrapper

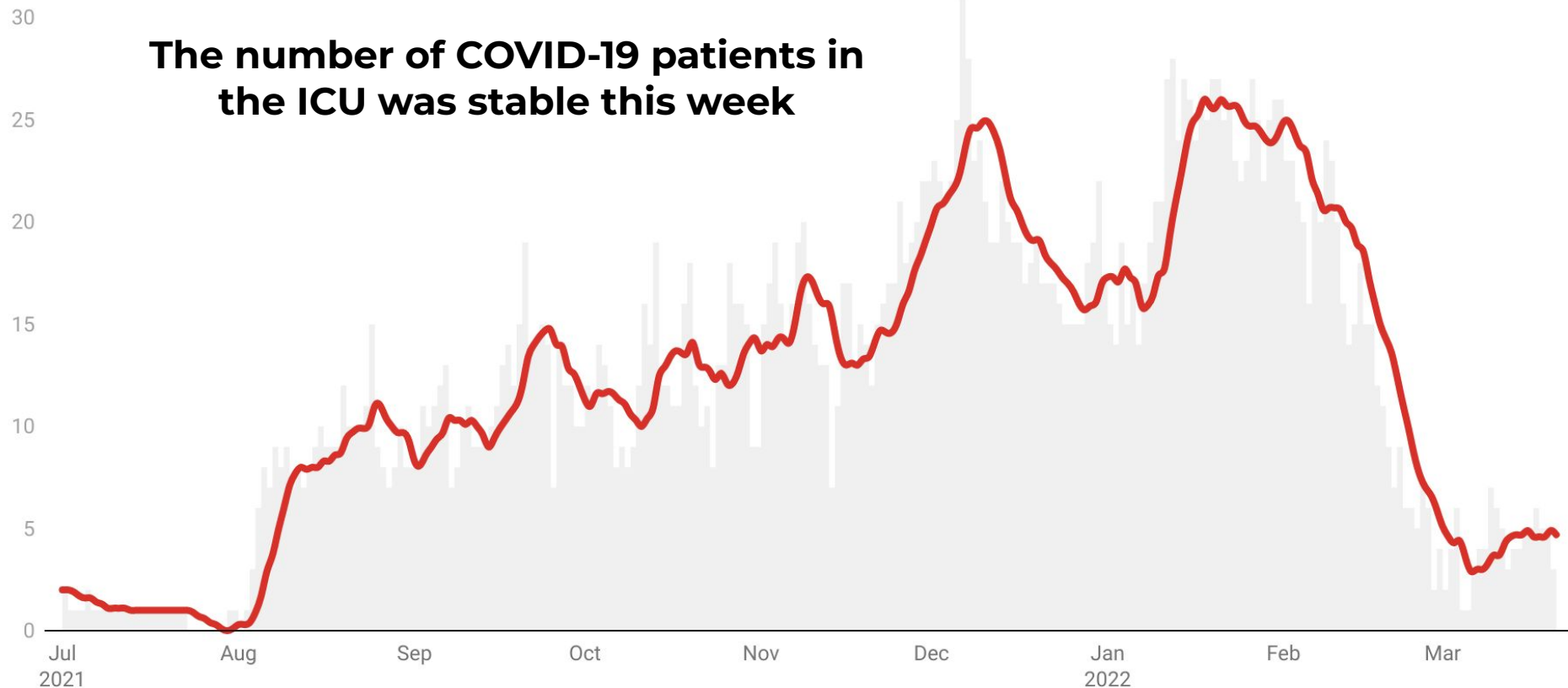
# Vermont COVID-19 Patients Currently Hospitalized



Source: VDH—March 22, 2022; created with Datawrapper

## Vermont COVID-19 Patients Currently in the ICU

— 7-Day Avg

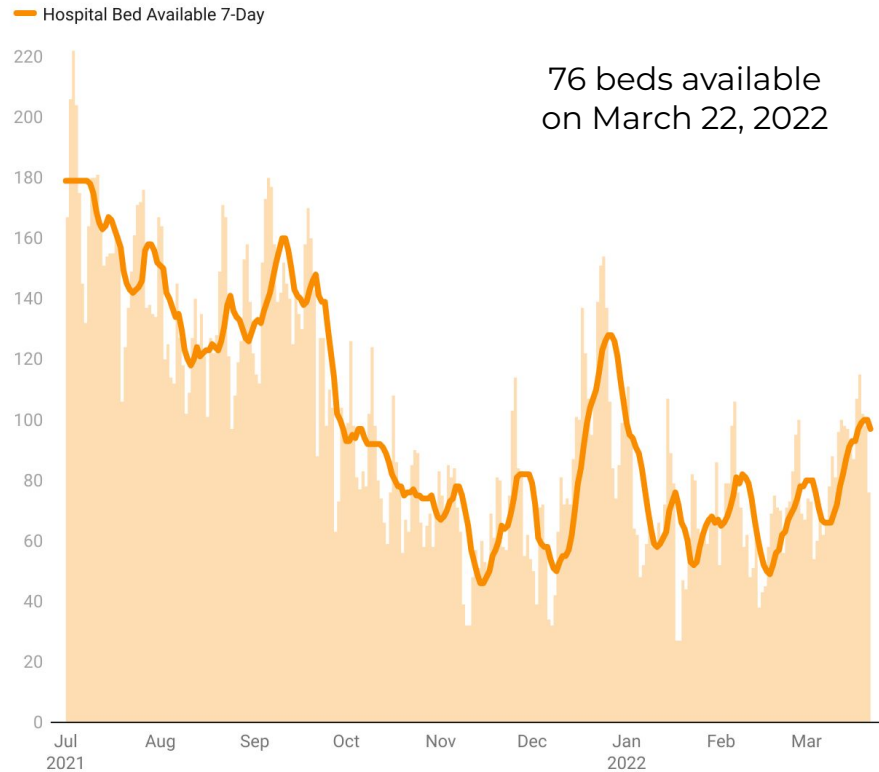


Source: VDH—March 22, 2022; created with Datawrapper

# Vermont Hospital Metrics

## (7-Day Averages)

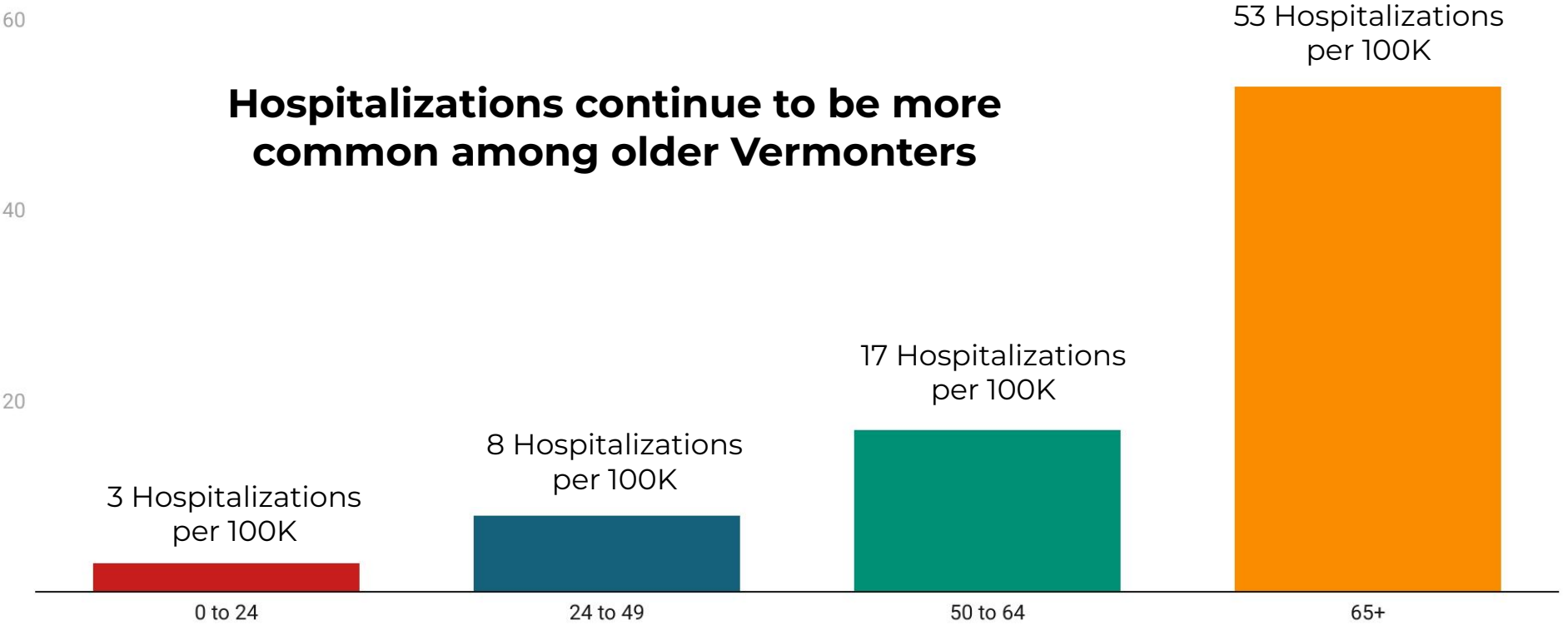
### Vermont Hospital Beds Available Since July 1, 2021



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

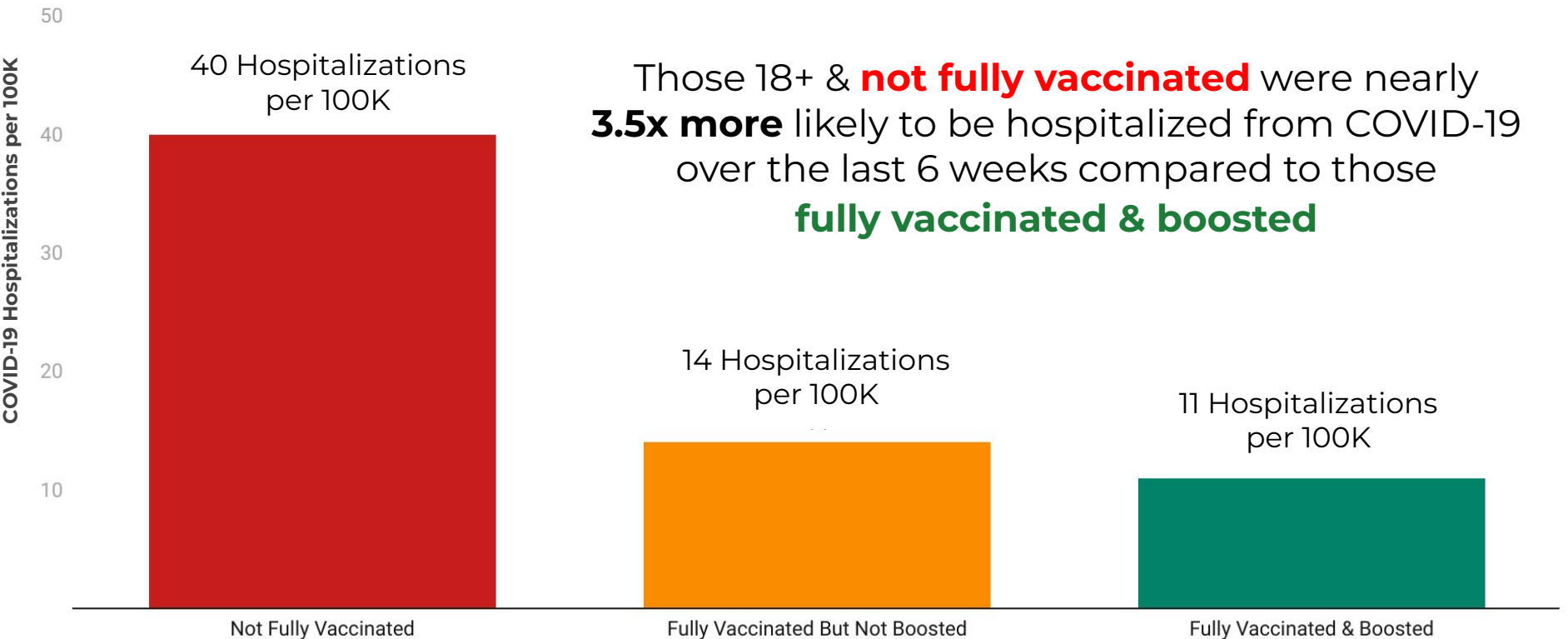


# COVID-19 Hospitalization Rate Per 100K By Age Over The Last 6 Weeks



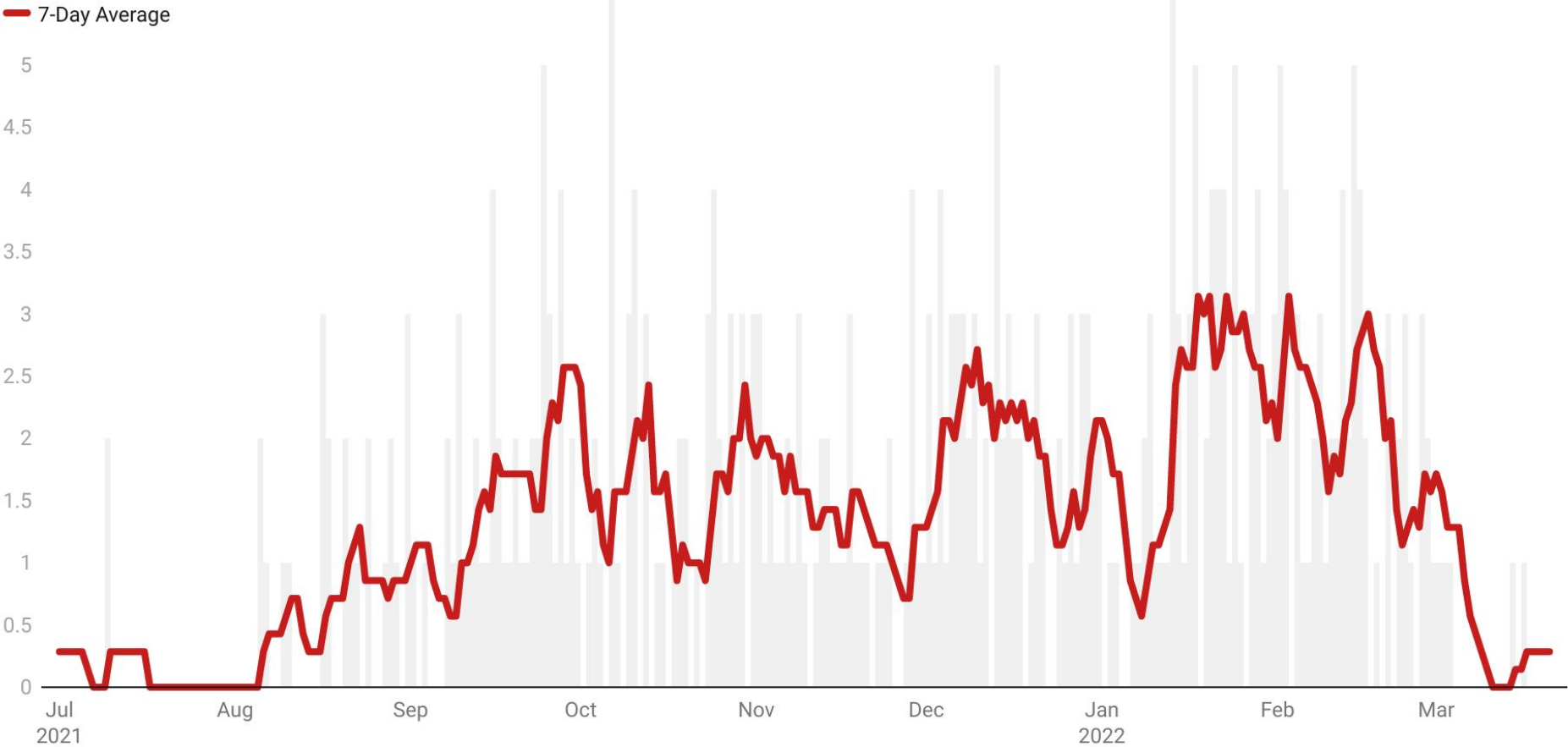
# COVID-19 Hospitalizations By Vaccination Status Per 100K

Measured Over the Last 6 Weeks



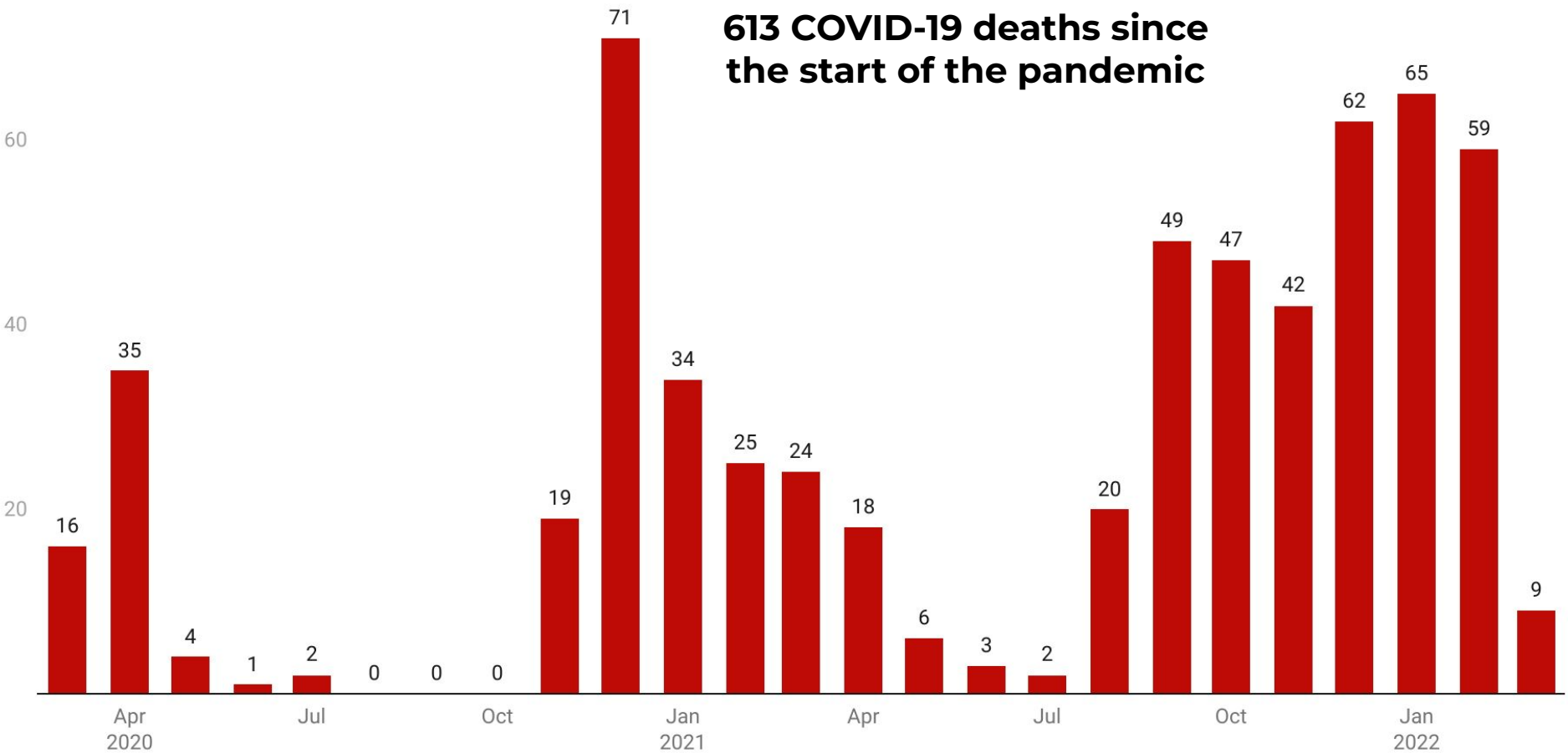
# Vermont Fatality Data

# Vermont COVID-19 Fatalities



Source: VDH—March 22, 2022; created with Datawrapper

# Monthly Covid-19 Deaths In Vermont



Source: VDH—March 22, 2022; created with Datawrapper; deaths attributed to month in which death occurred rather than reported

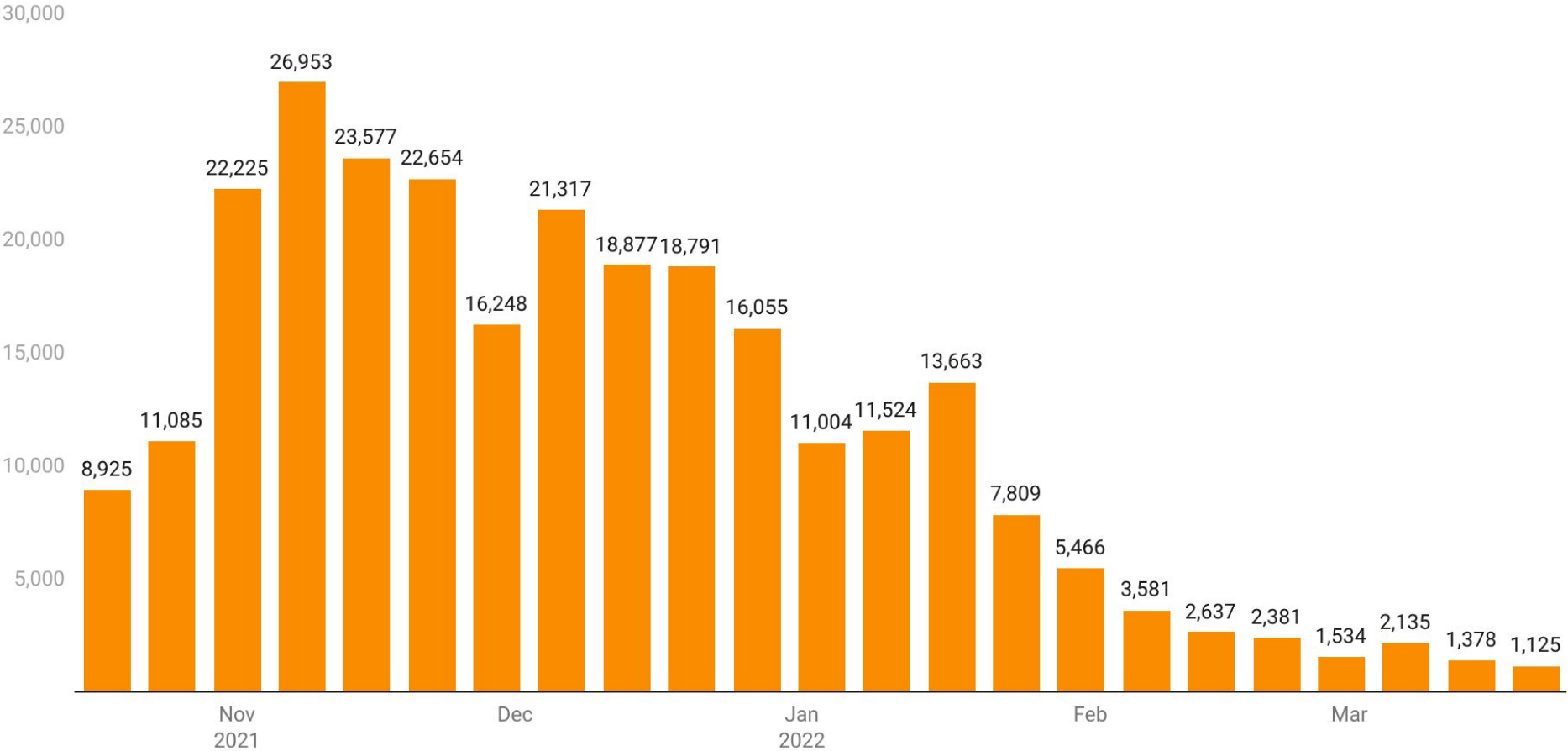
# Vermont Vaccination Data

# 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

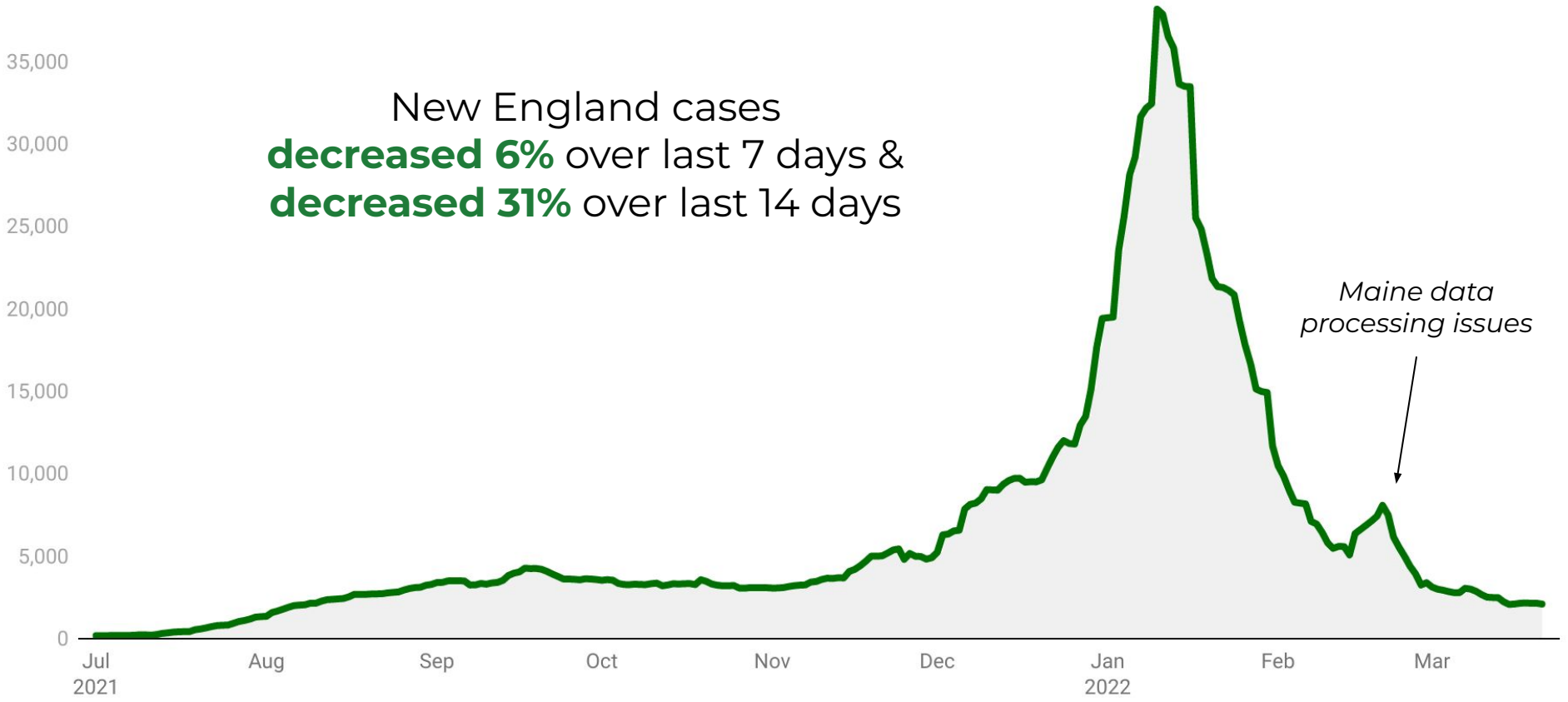


Source: CDC—March 21, 2022; created with Datawrapper

# Regional Data

# New England COVID-19 Cases

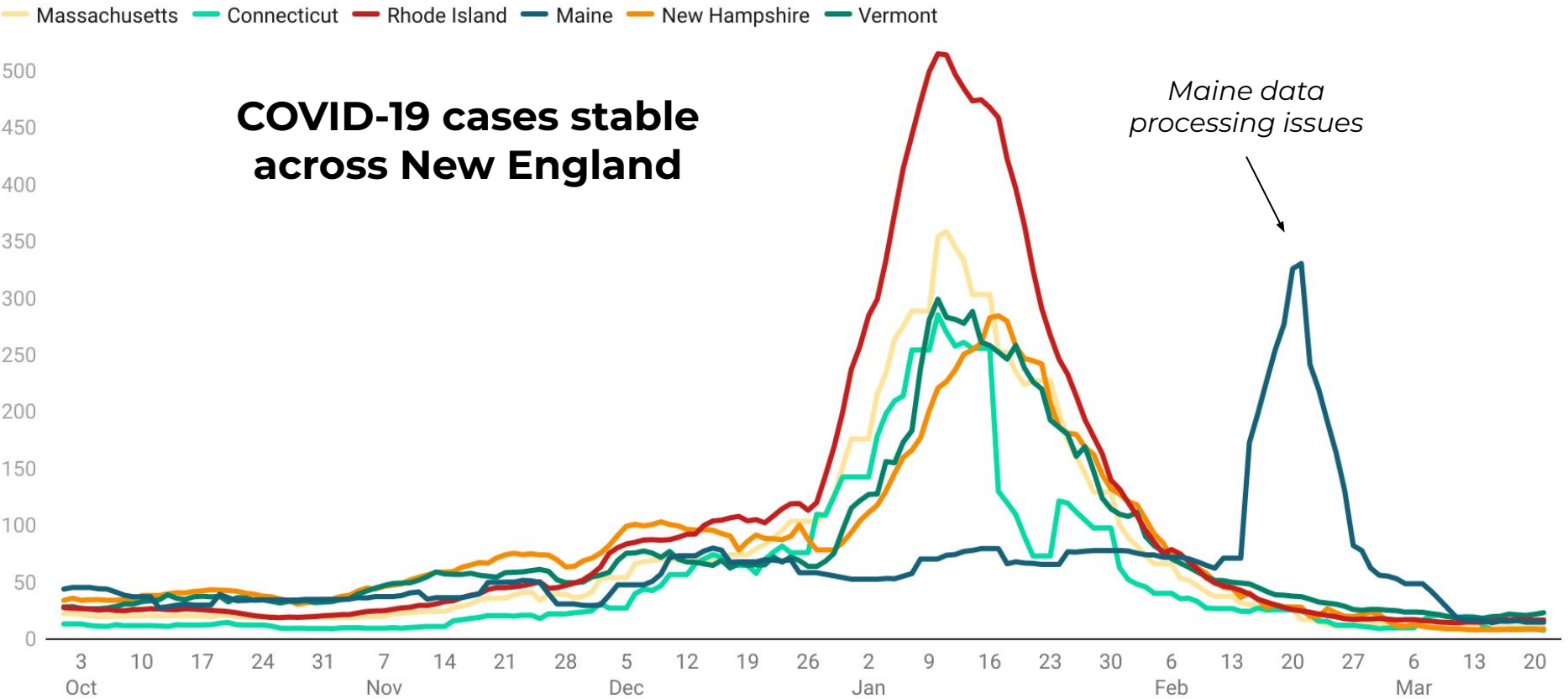
— New England 7-Day Case Average



Sources: State Health Depts.—March 21, 2022 (includes: CT, ME, MA, NH, RI & VT)

# New England COVID-19 Case Trends

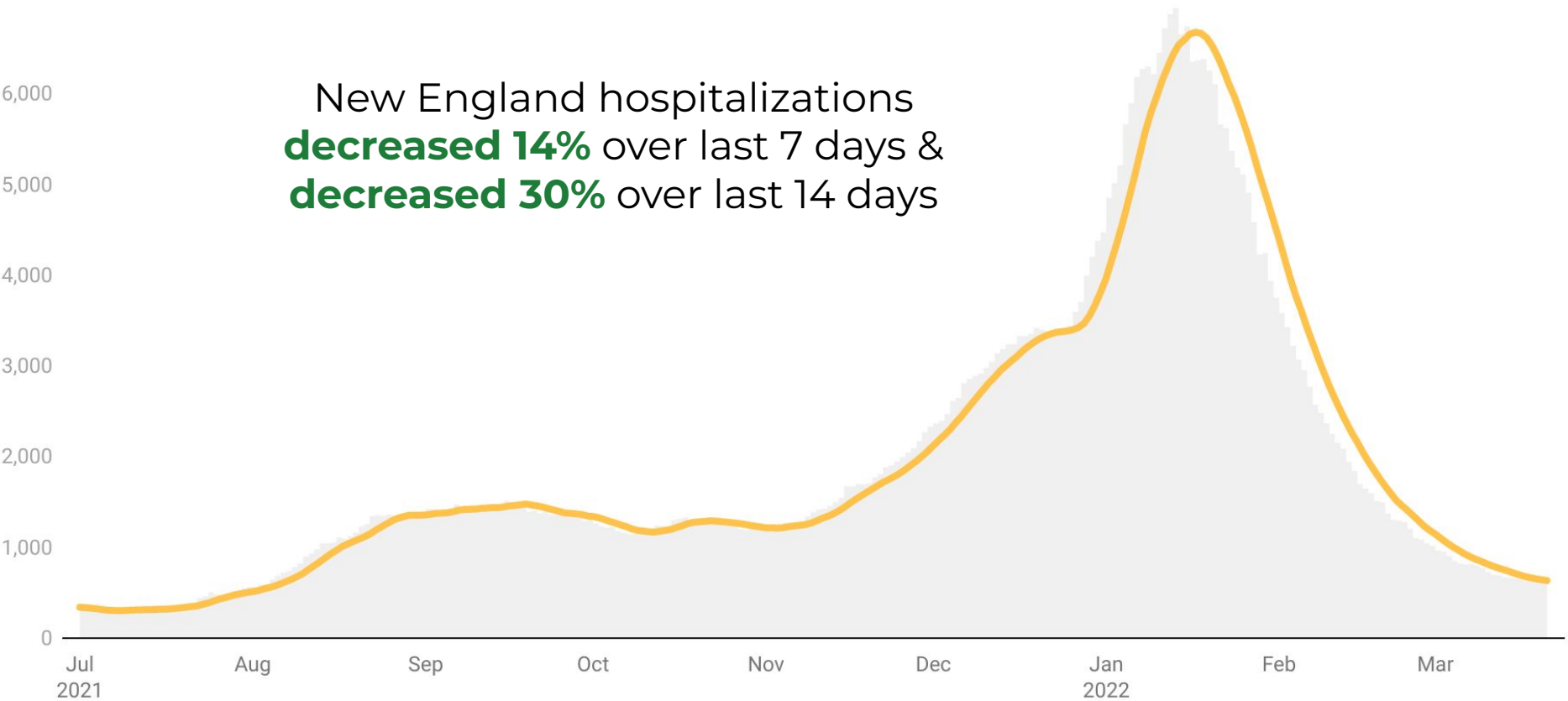
7-Day Average Cases Per 100K



Sources: State Health Depts.—March 21, 2022 (includes: CT, ME, MA, NH, RI & VT)

# New England COVID-19 Hospitalizations

7-Day Average

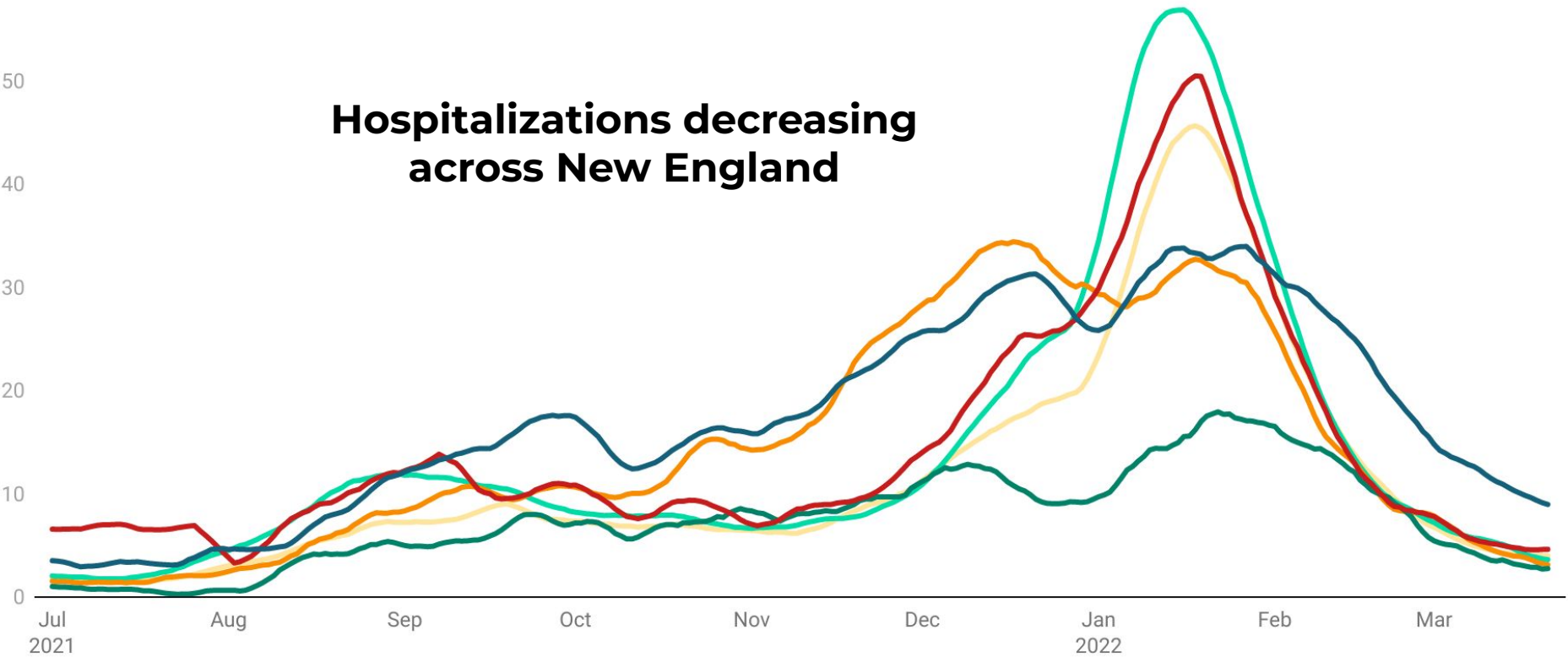


Sources: HHS—March 21, 2022 (includes: CT, ME, MA, NH, RI & VT)

# New England COVID-19 Hospitalizations Trends

7-Day Average Hospitalizations Per 100K

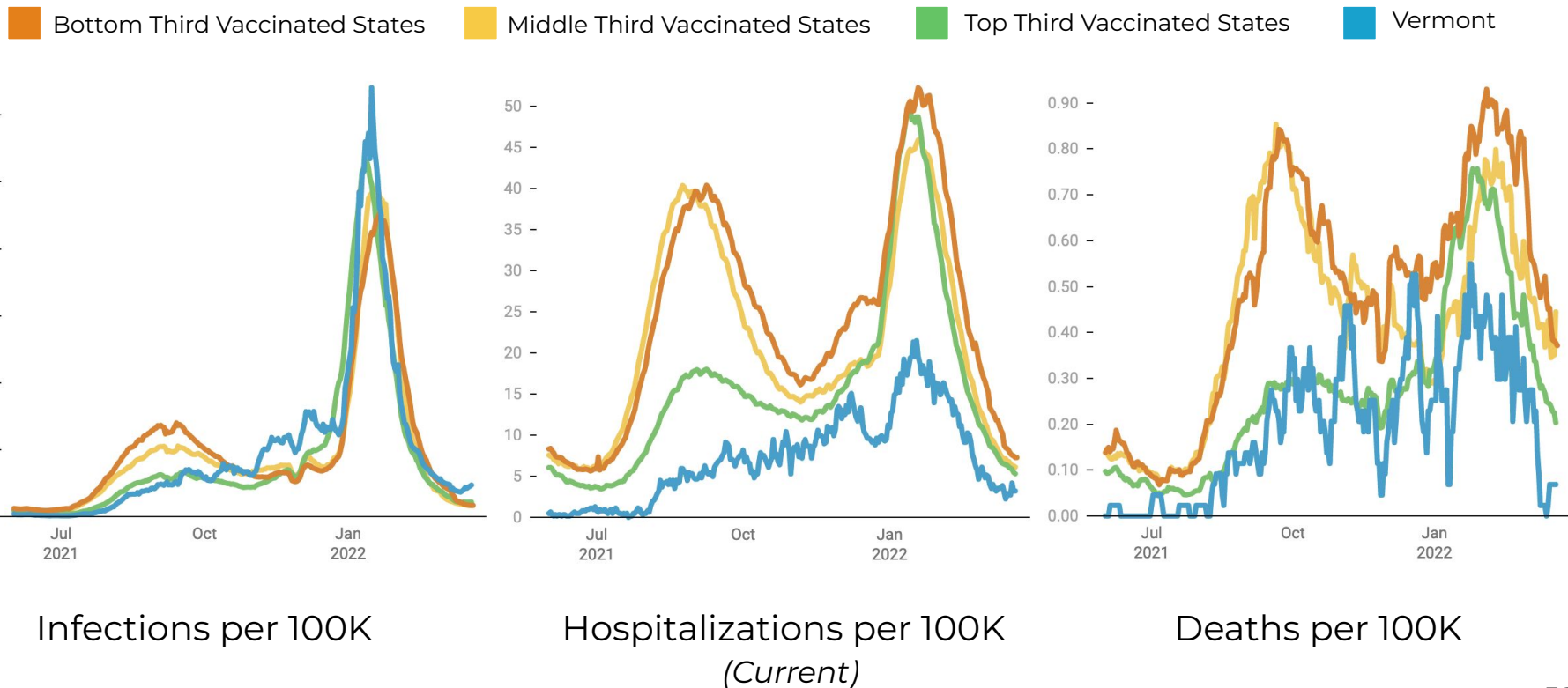
Massachusetts Connecticut Rhode Island Maine New Hampshire Vermont



Sources: HHS—March 21, 2022 (includes: CT, ME, MA, NH, RI & VT)

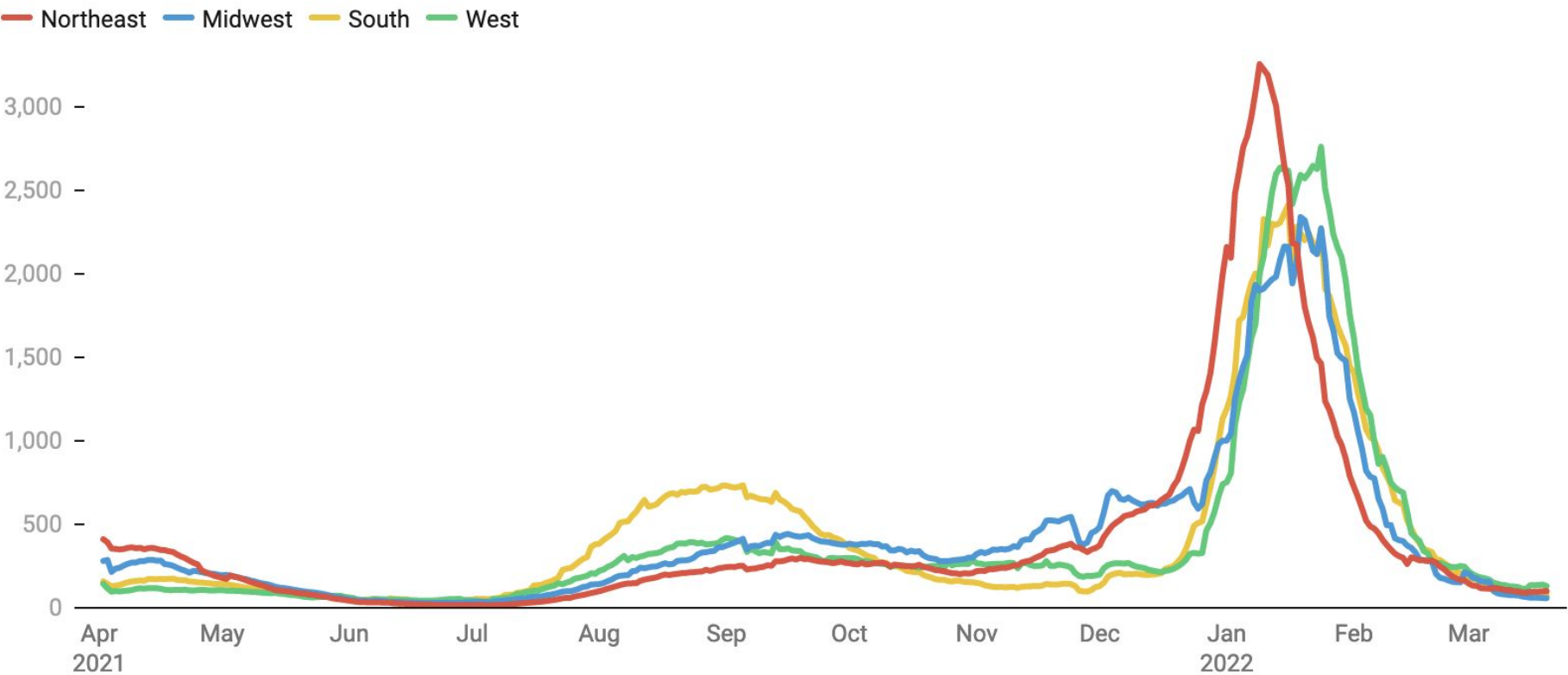
# National Data

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



# Daily COVID-19 Cases per Million in US Regions

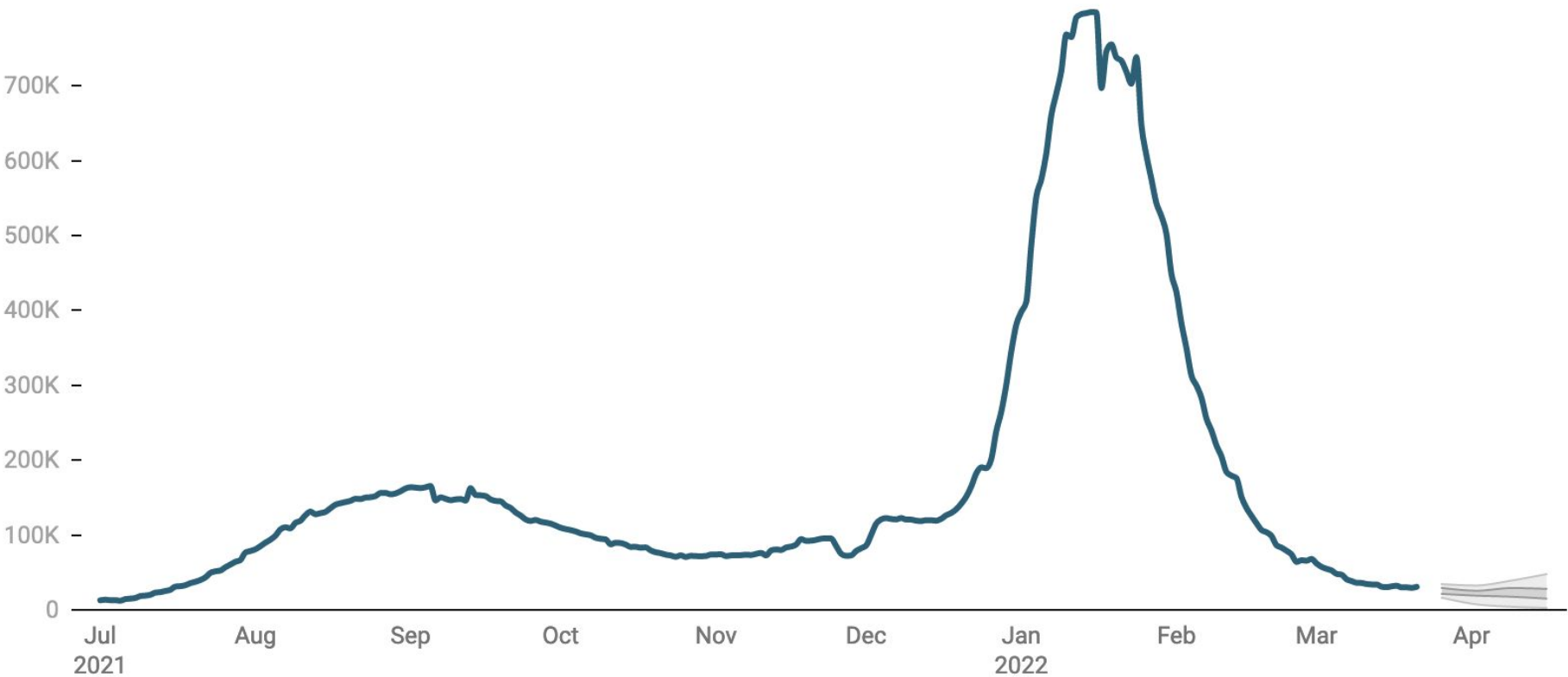
Calculated as a 7-day moving average. Definitions of North, Midwest, South, and West taken from the U.S. Census bureau.



Source: JHU—March 22, 2022; 7-day averages; created with Datawrapper

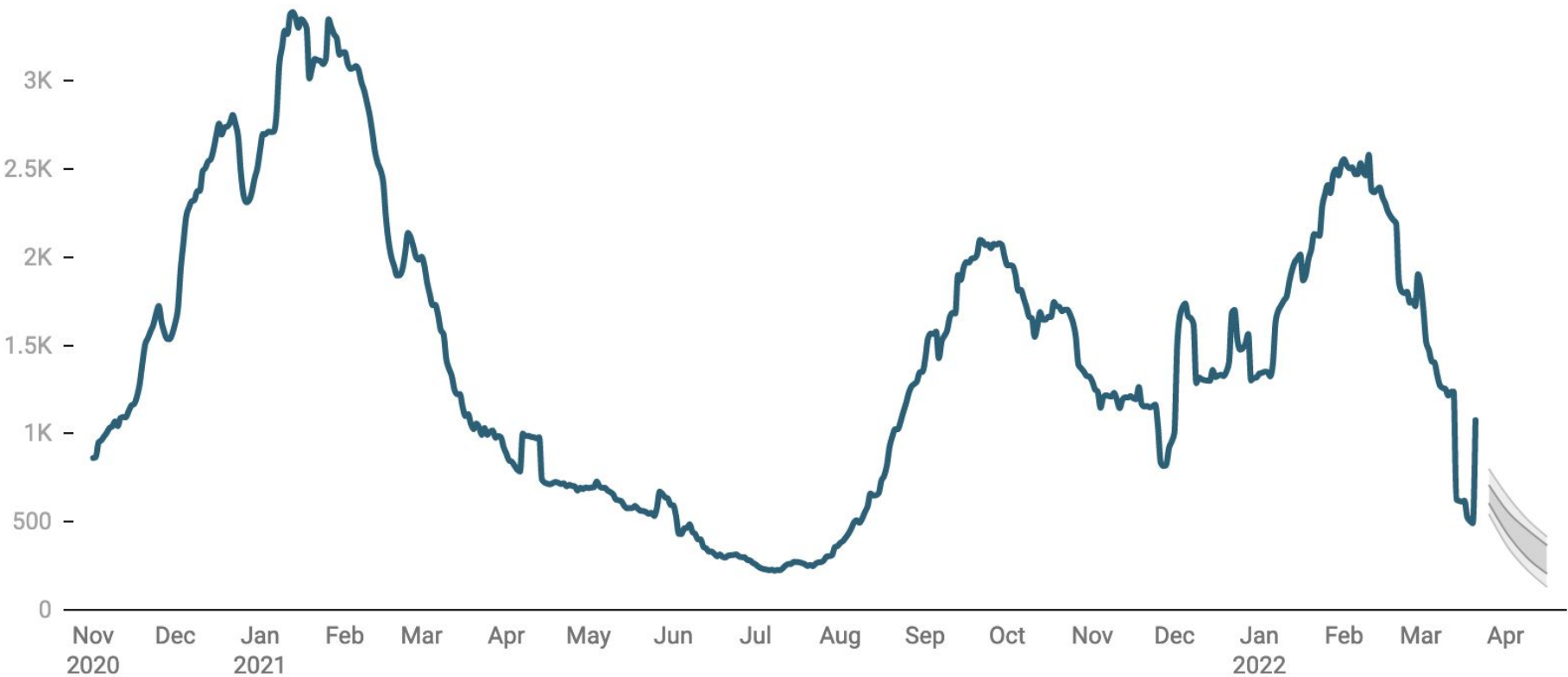
# US COVID-19 Infection Confidence Intervals

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



# US COVID-19 Death Confidence Intervals

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

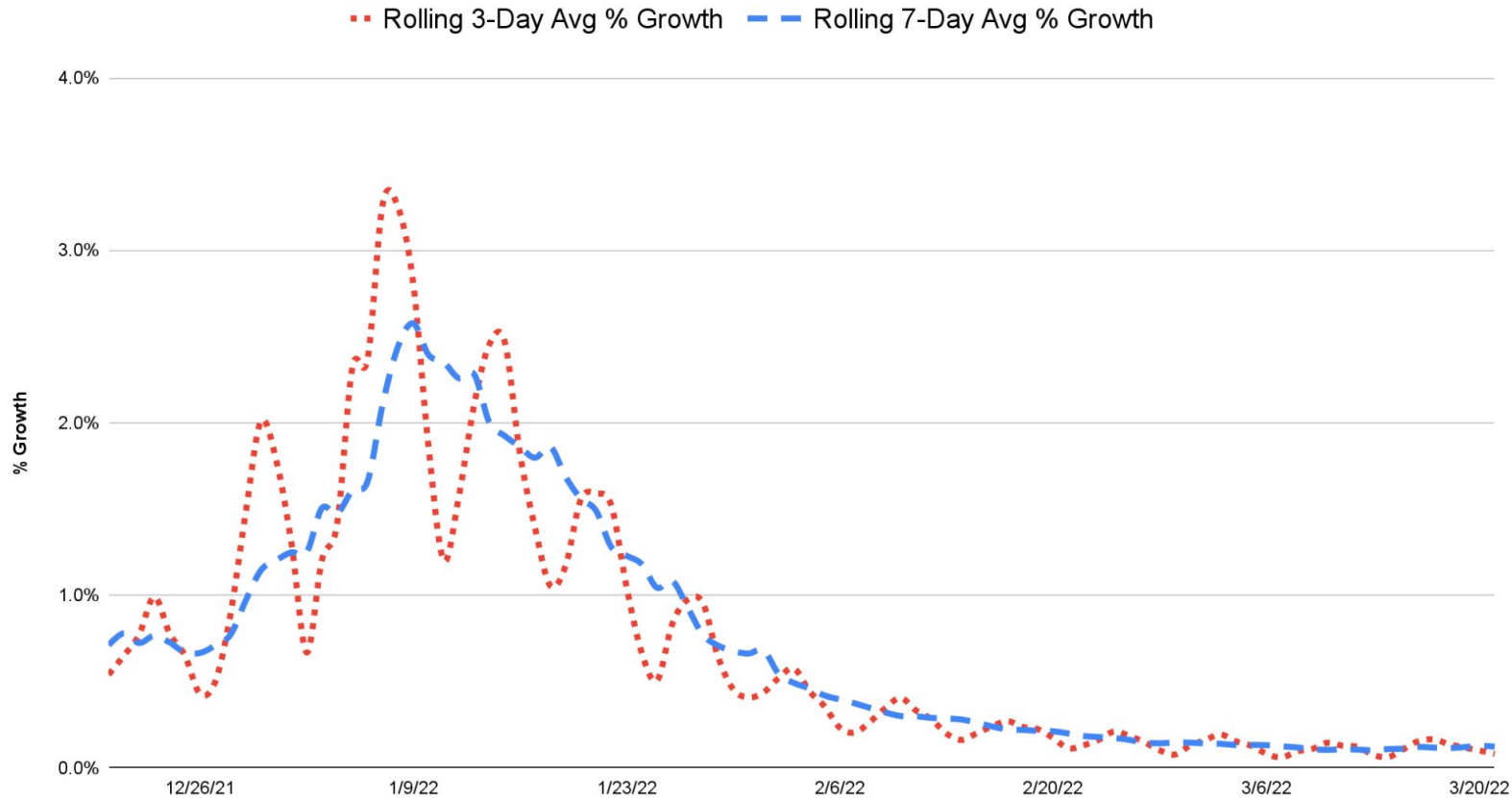


# RESTART VERMONT

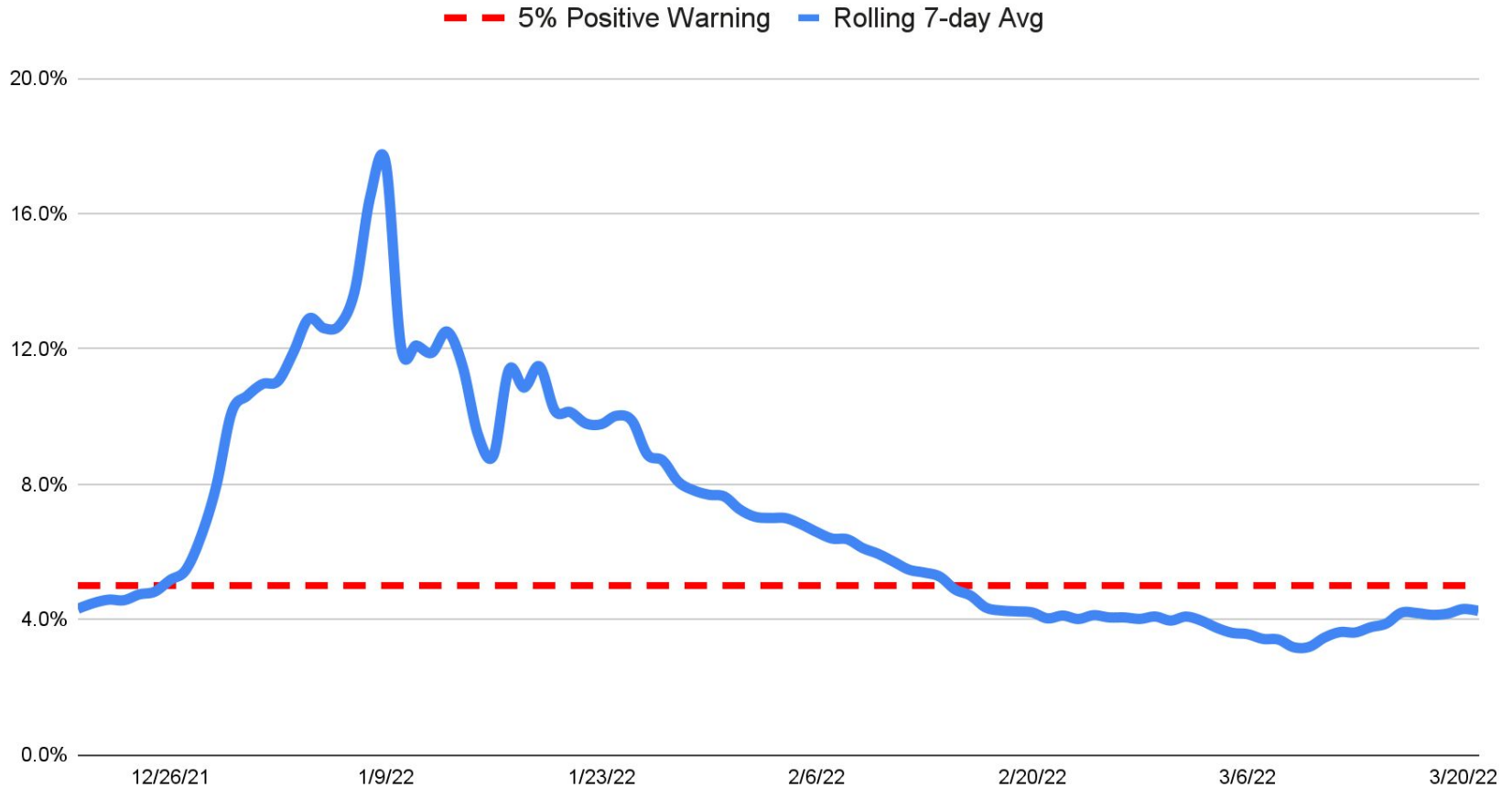
## Reopening Metrics

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

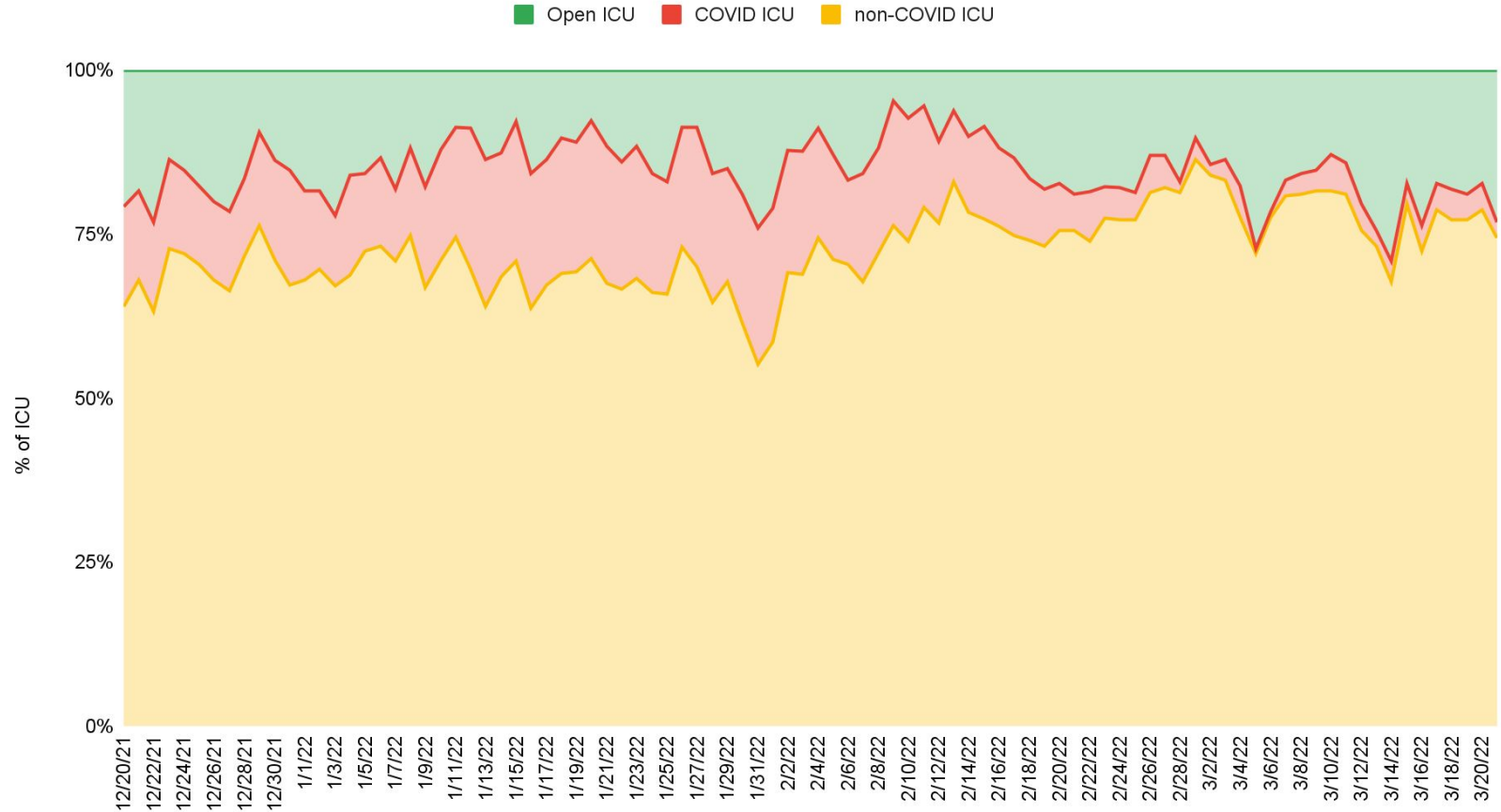


# Test Positivity



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

# Critical Care Beds



# Vermont Testing

