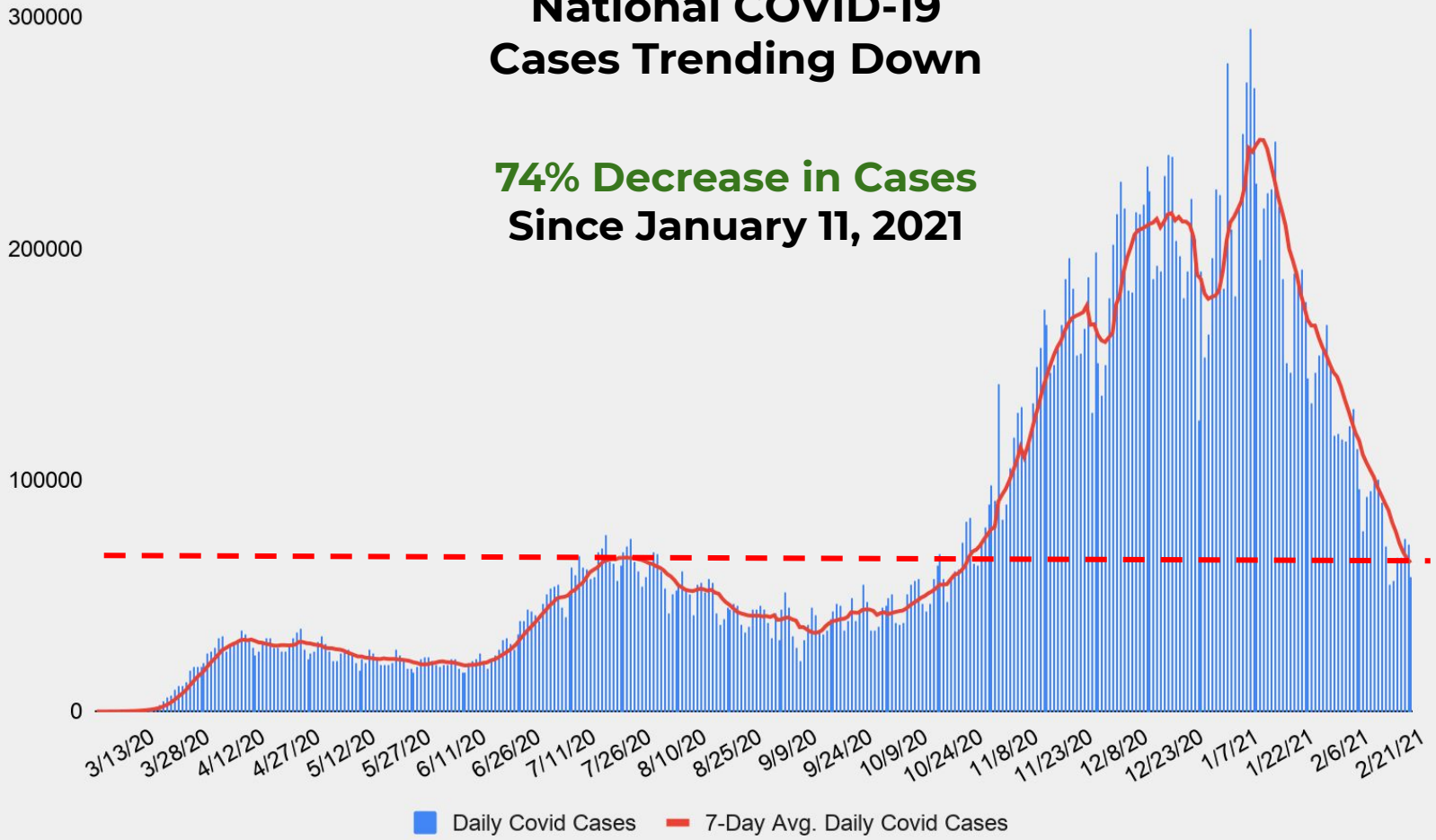
COVID-19 Modeling
February 23, 2021

Presentation available at:
dfr.vermont.gov

National COVID-19 Cases Trending Down

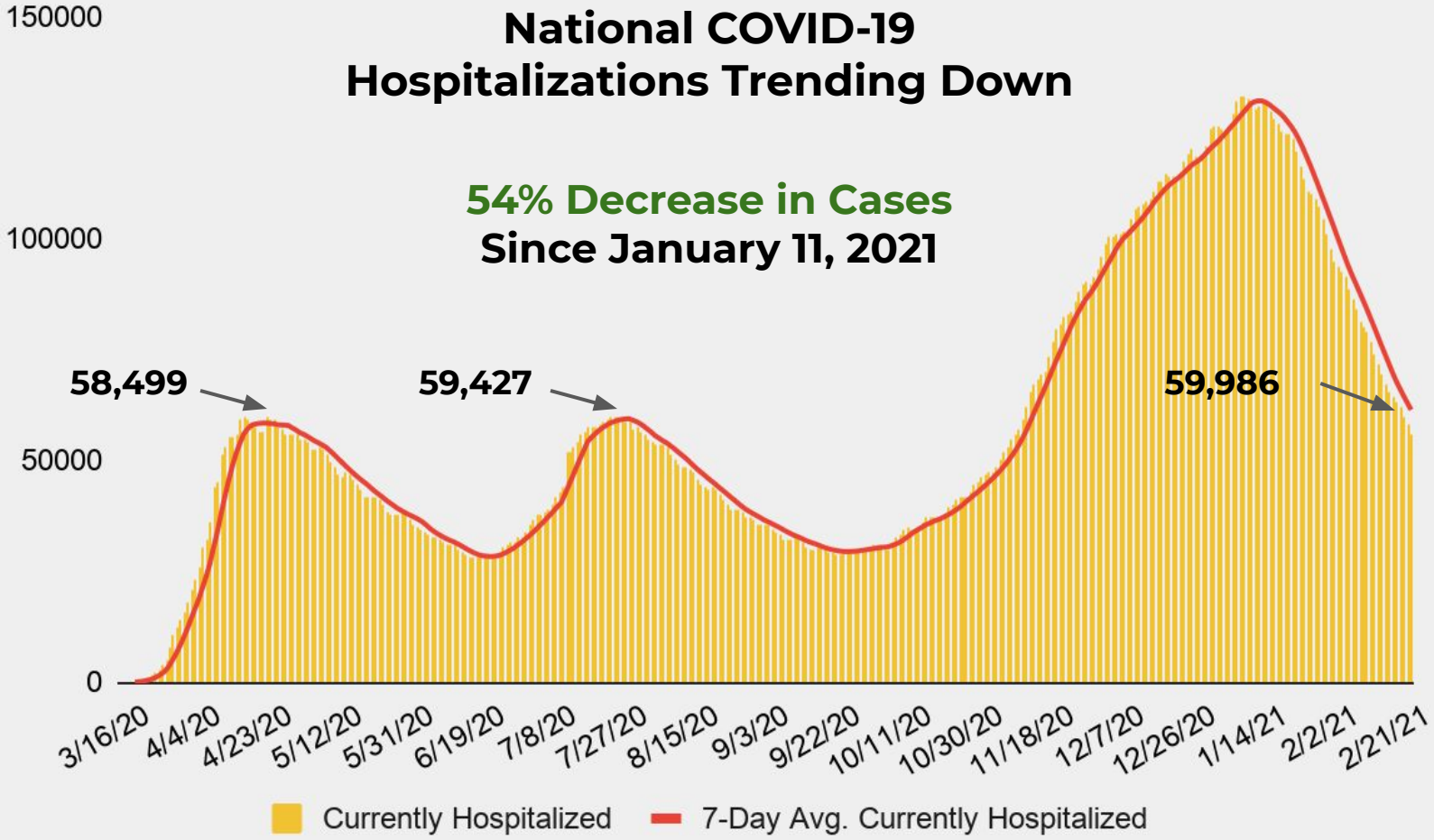
74% Decrease in Cases Since January 11, 2021



Source: Covid Tracking Project — February 22, 2021

National COVID-19 Hospitalizations Trending Down

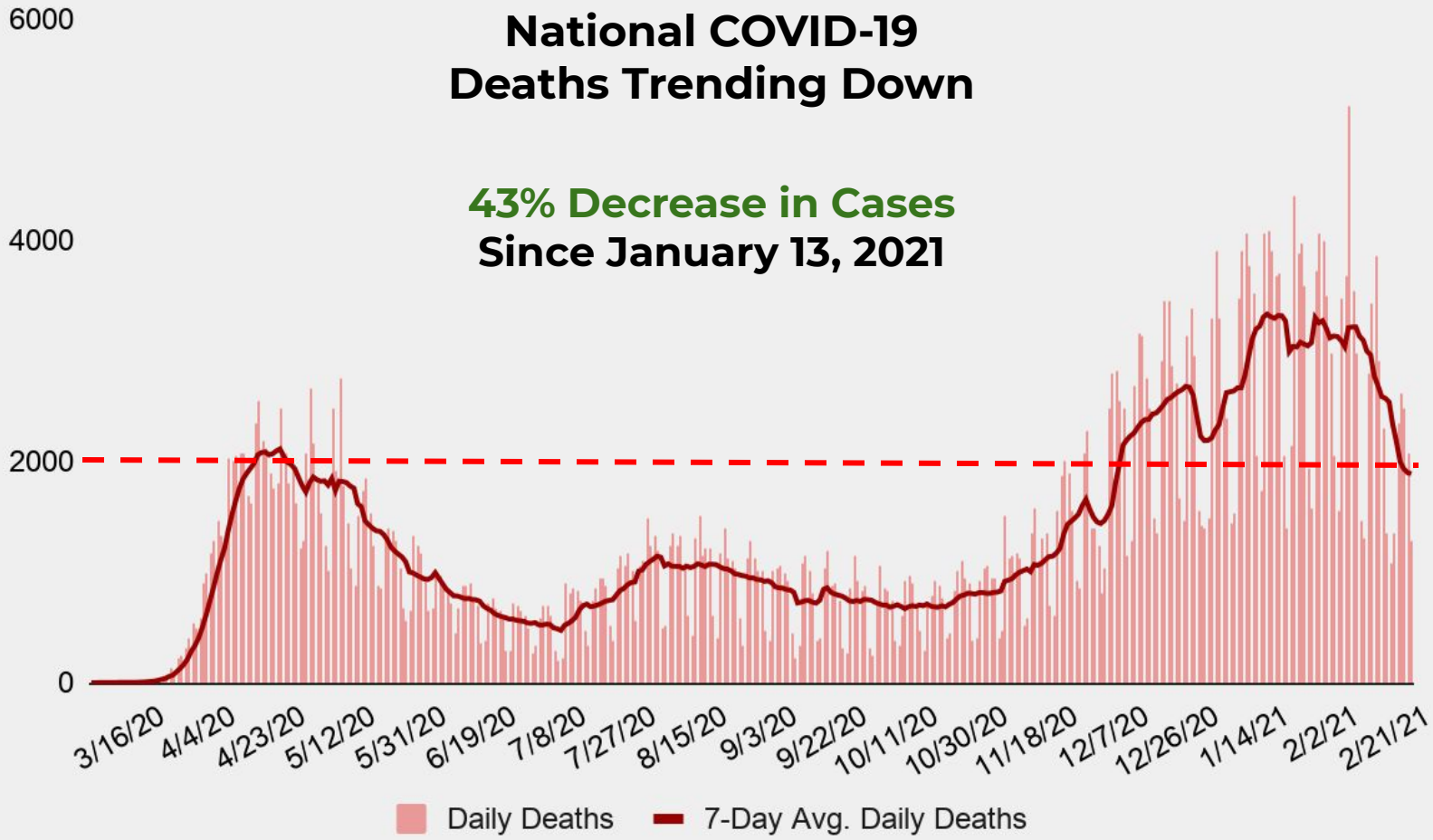
54% Decrease in Cases
Since January 11, 2021



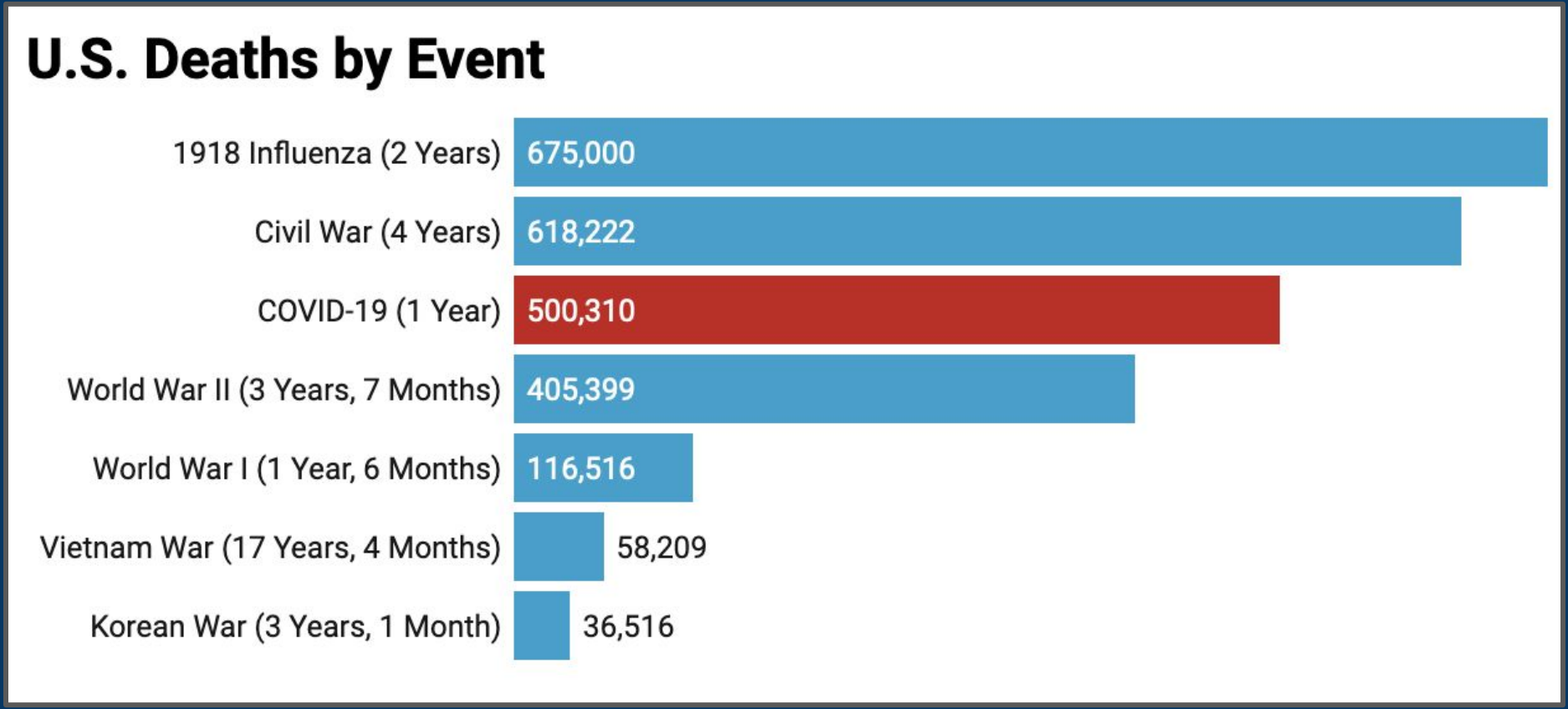
Source: Covid Tracking Project — February 22, 2021

National COVID-19 Deaths Trending Down

43% Decrease in Cases
Since January 13, 2021



Source: Covid Tracking Project — February 21, 2021

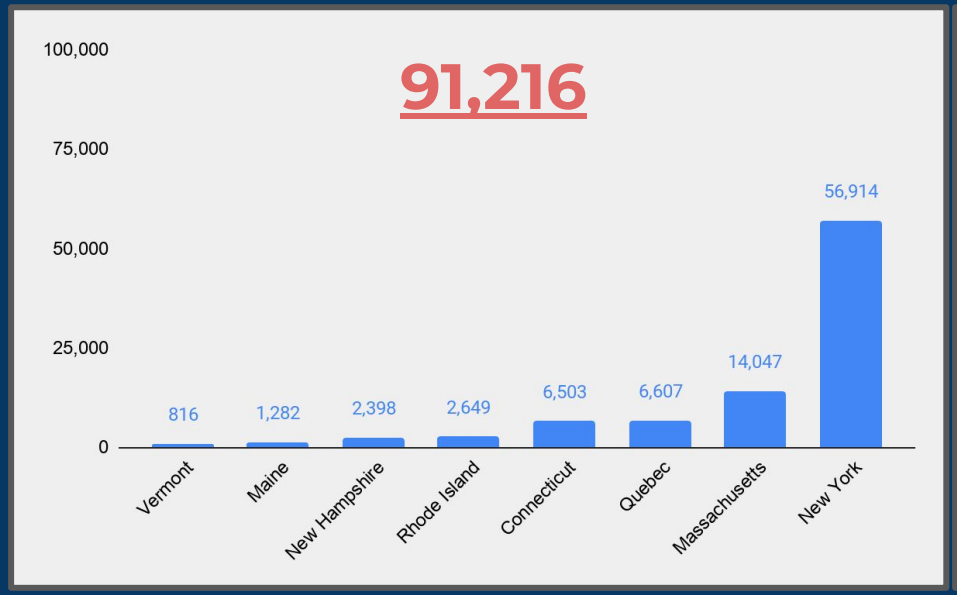


Source: Johns Hopkins — February 23, 2021; CDC and U.S. Department of Veterans Affairs.

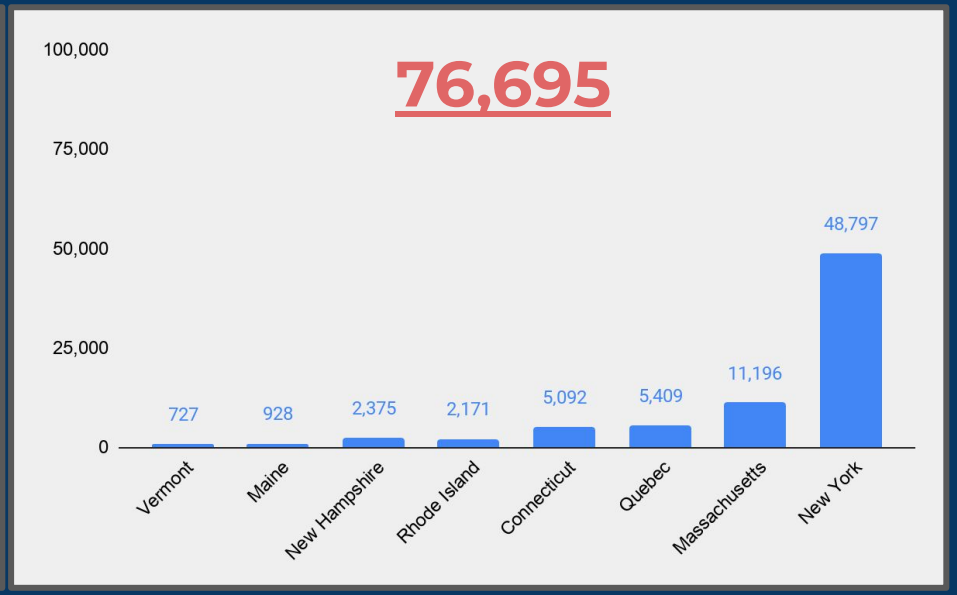
Regional Cases

15.92% Decrease in New Cases

New Cases Feb. 9th to Feb 15th



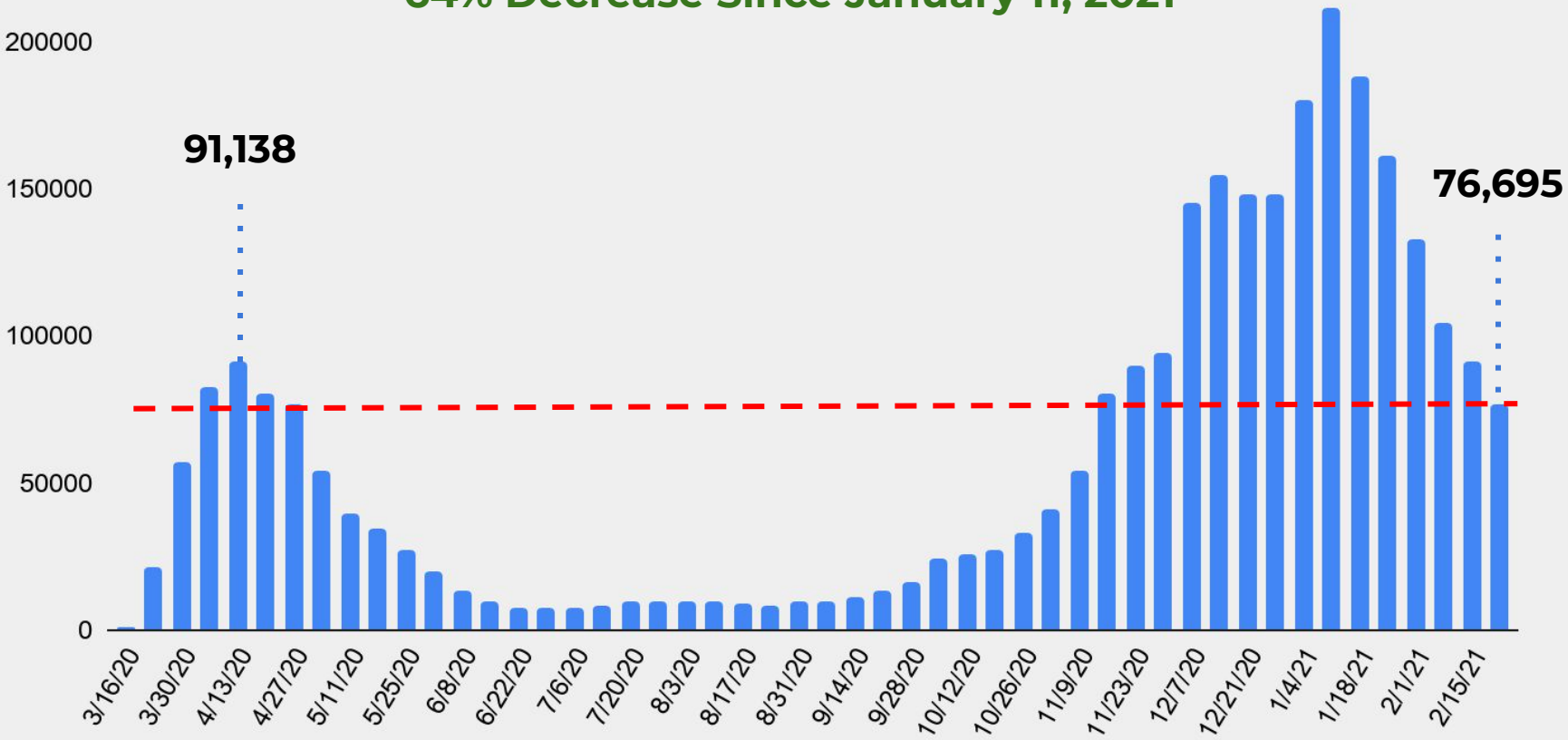
New Cases Feb. 16th to Feb 21st



Sources: State Health Departments & CTV National News (Quebec)

Significant Decline in Regional Weekly Cases

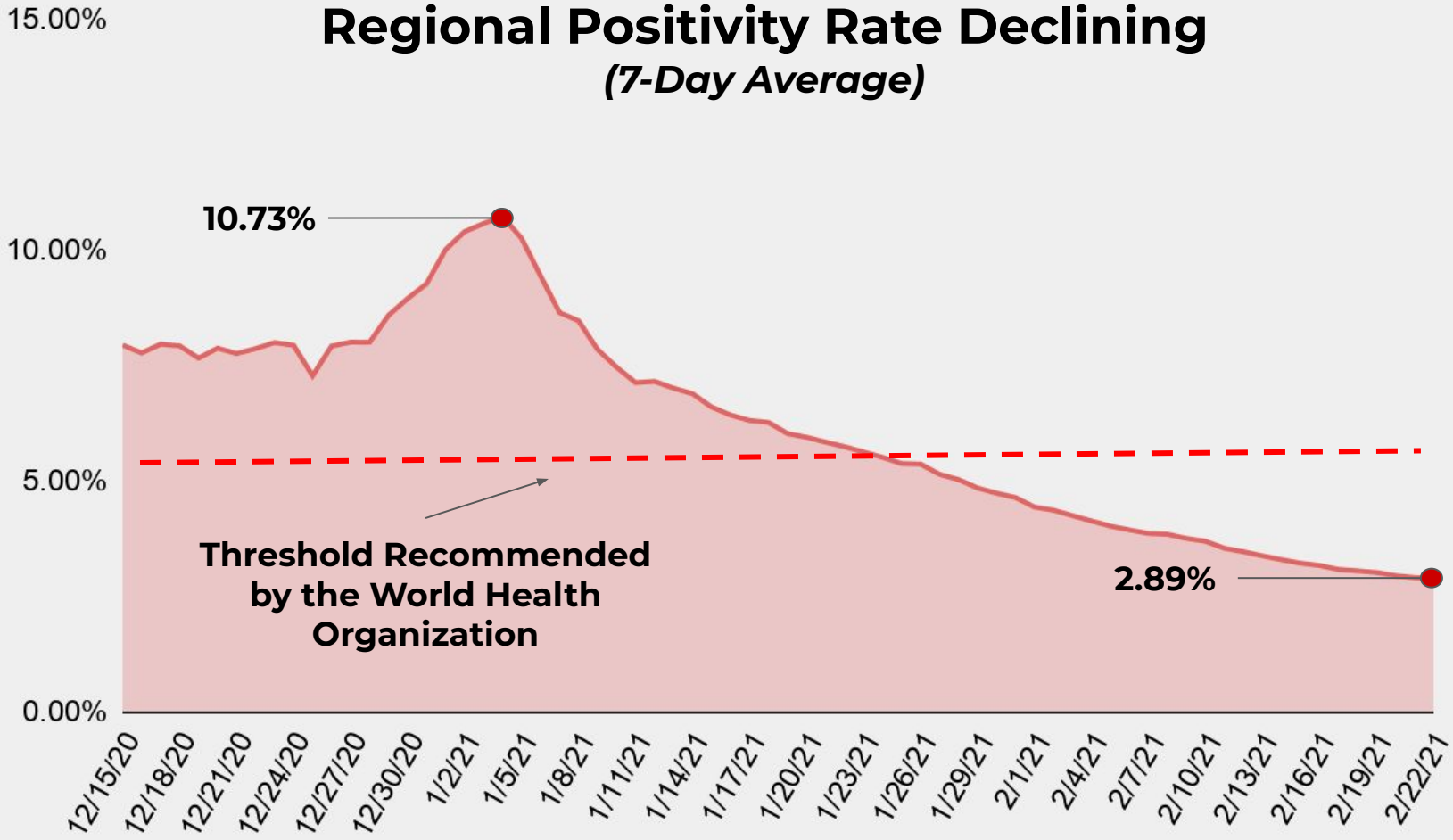
64% Decrease Since January 11, 2021



Sources: State Health Departments & CTV National News (Quebec) (includes: CT, ME, MA, NH, NY, QC, RI & VT)

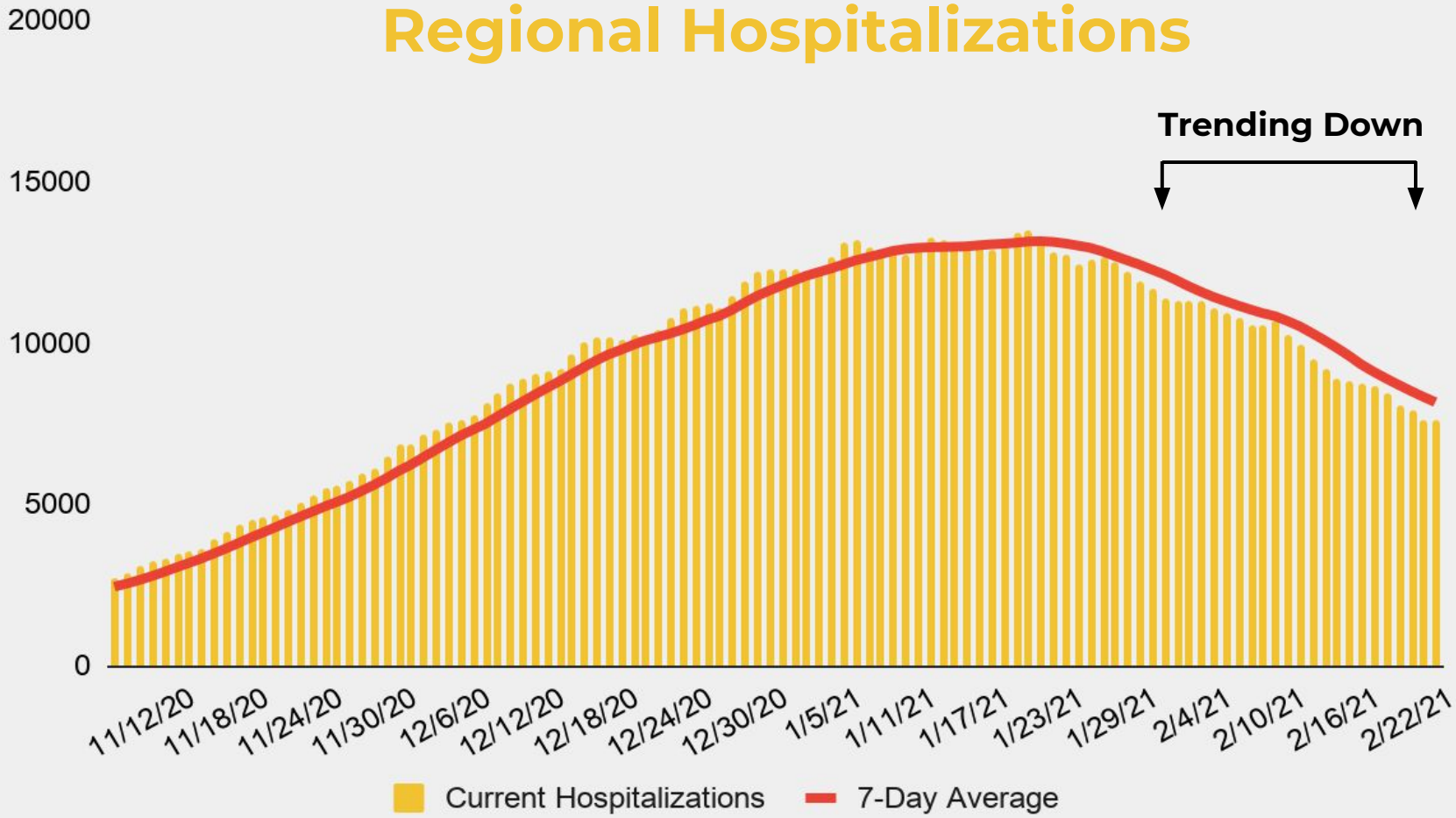
Regional Positivity Rate Declining

(7-Day Average)



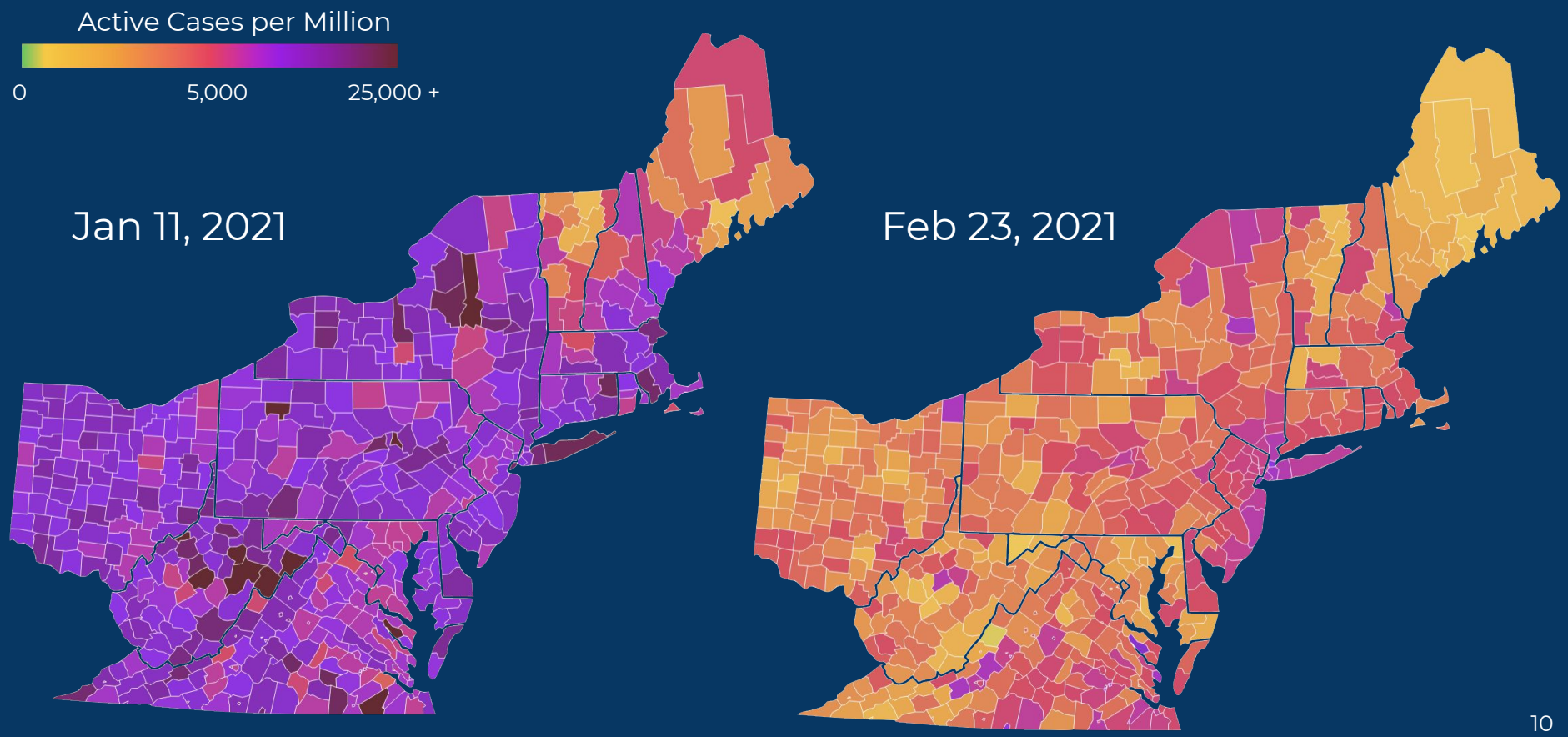
Source: Covid Tracking Project (7-Day Average in CT, ME, MA, NH, NY, RI & VT)—February 22, 2021

Regional Hospitalizations

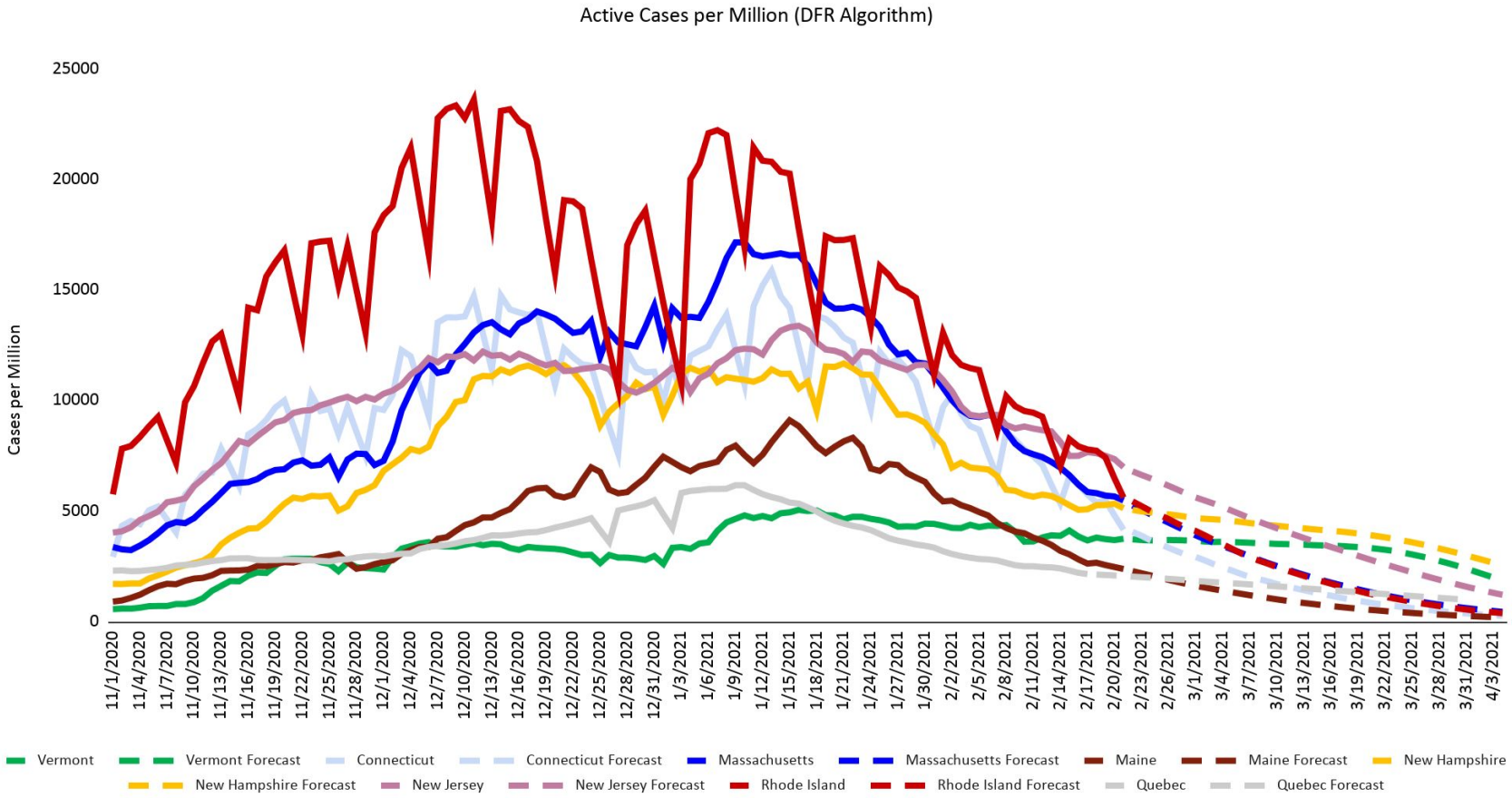


Source: Covid Tracking Project (7-Day Average in CT, ME, MA, NH, NY, RI & VT)—February 22, 2021

Regional Heat Map



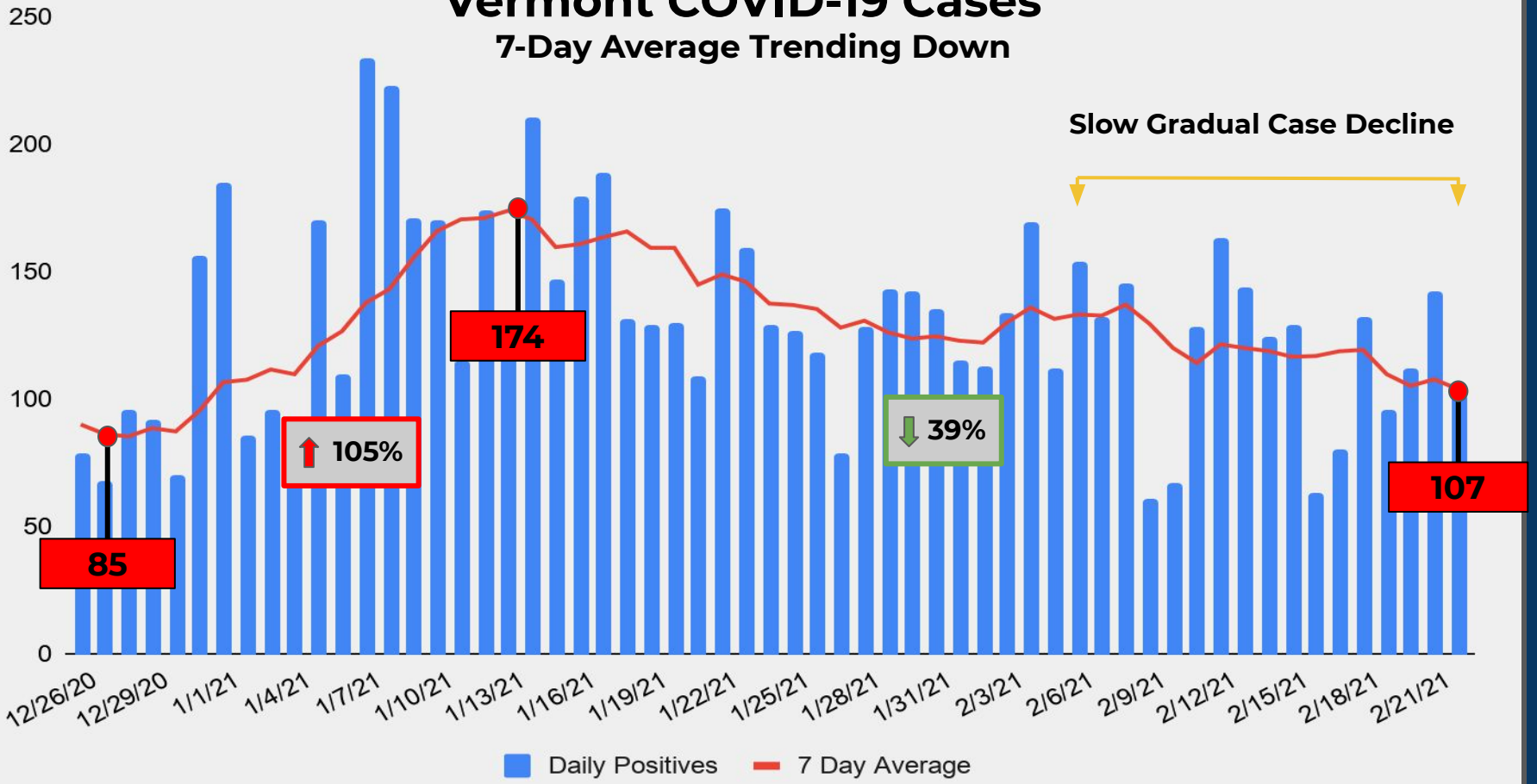
Regional Active Per Capita Case Forecast



Source: Johns Hopkins University Data & Oliver Wyman Forecast Model—February 22, 2021; N.B. assumes current vaccine supply and no variant-specific impact

Vermont COVID-19 Cases

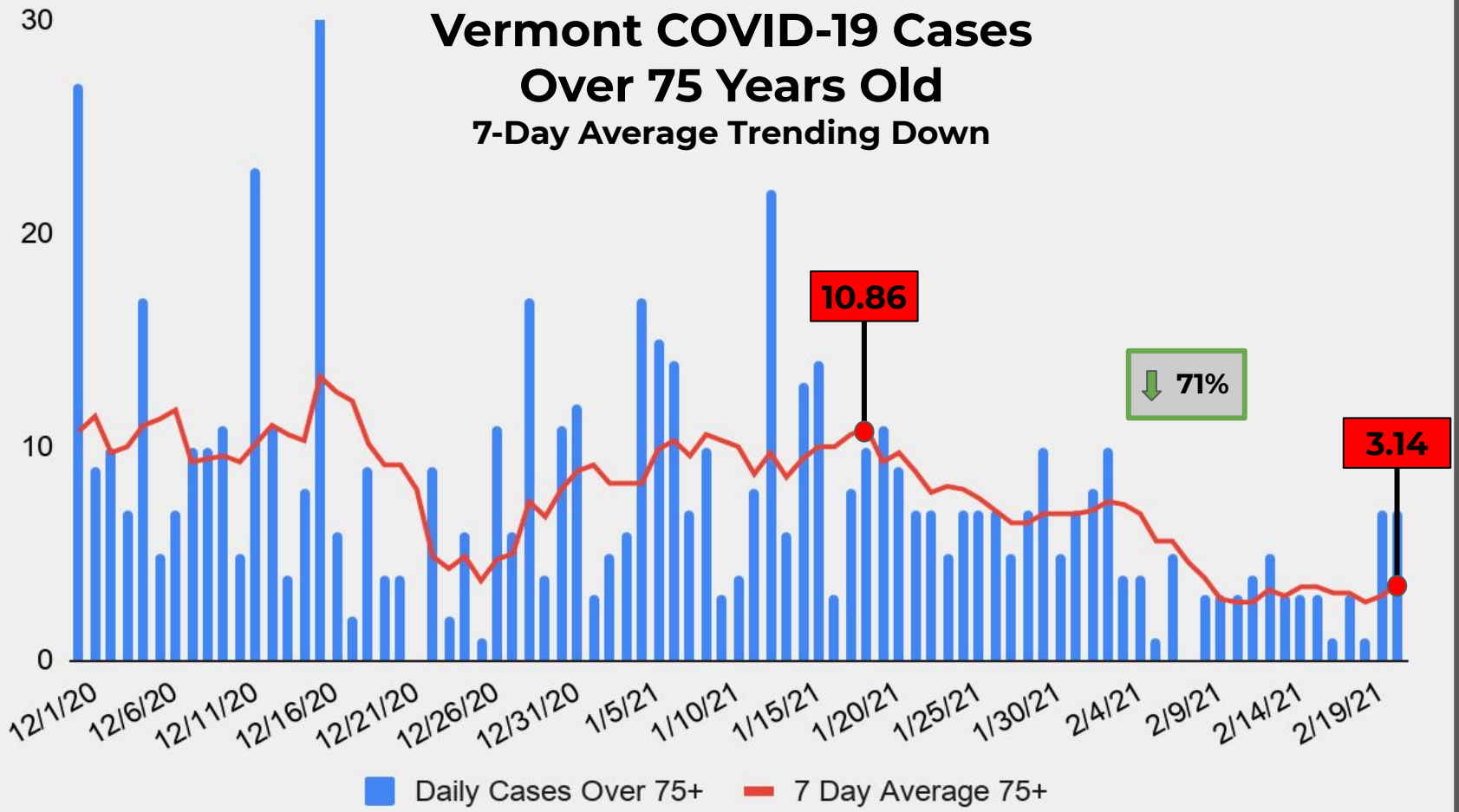
7-Day Average Trending Down



Source: Vermont Department of Health— February 22, 2021

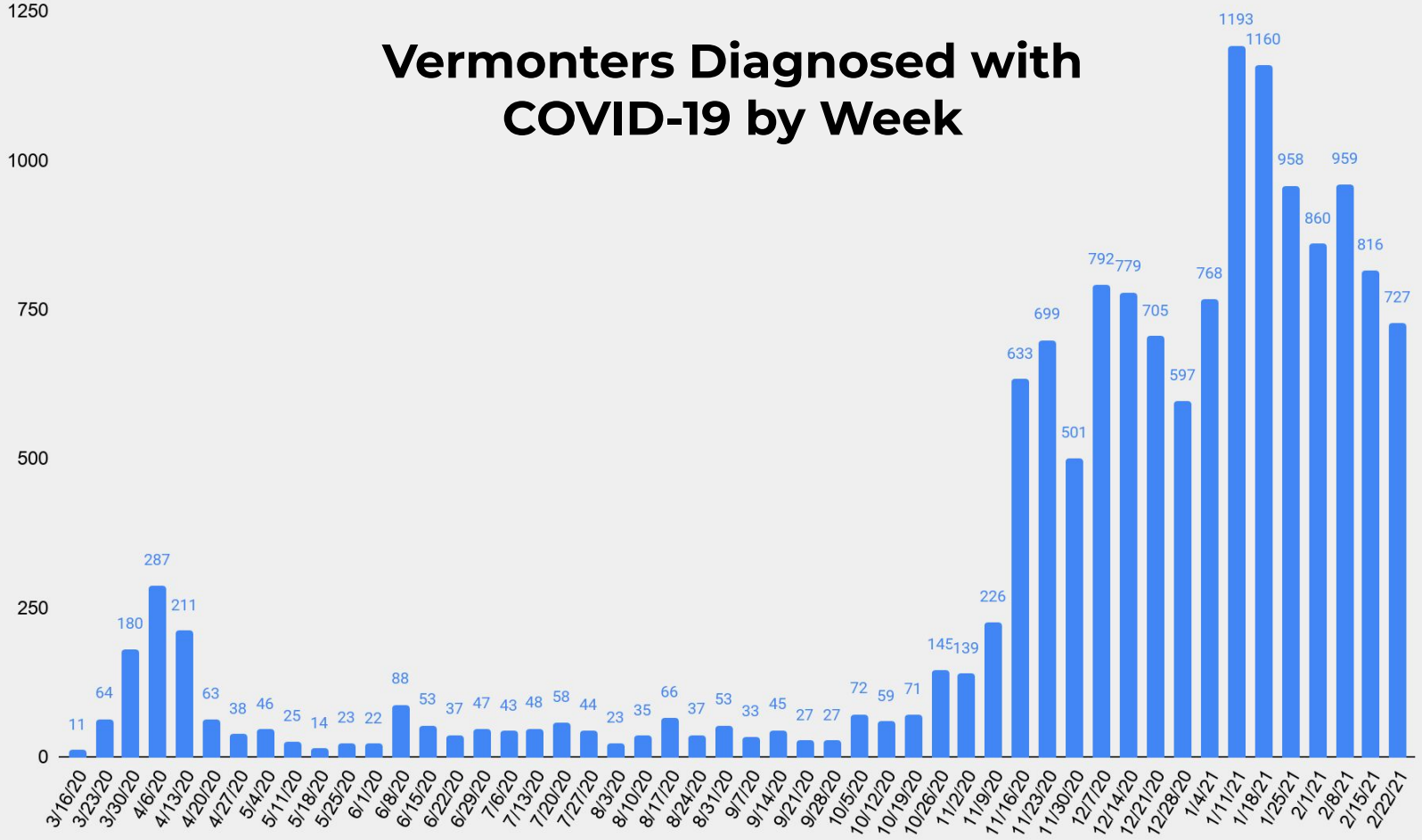
Vermont COVID-19 Cases Over 75 Years Old

7-Day Average Trending Down

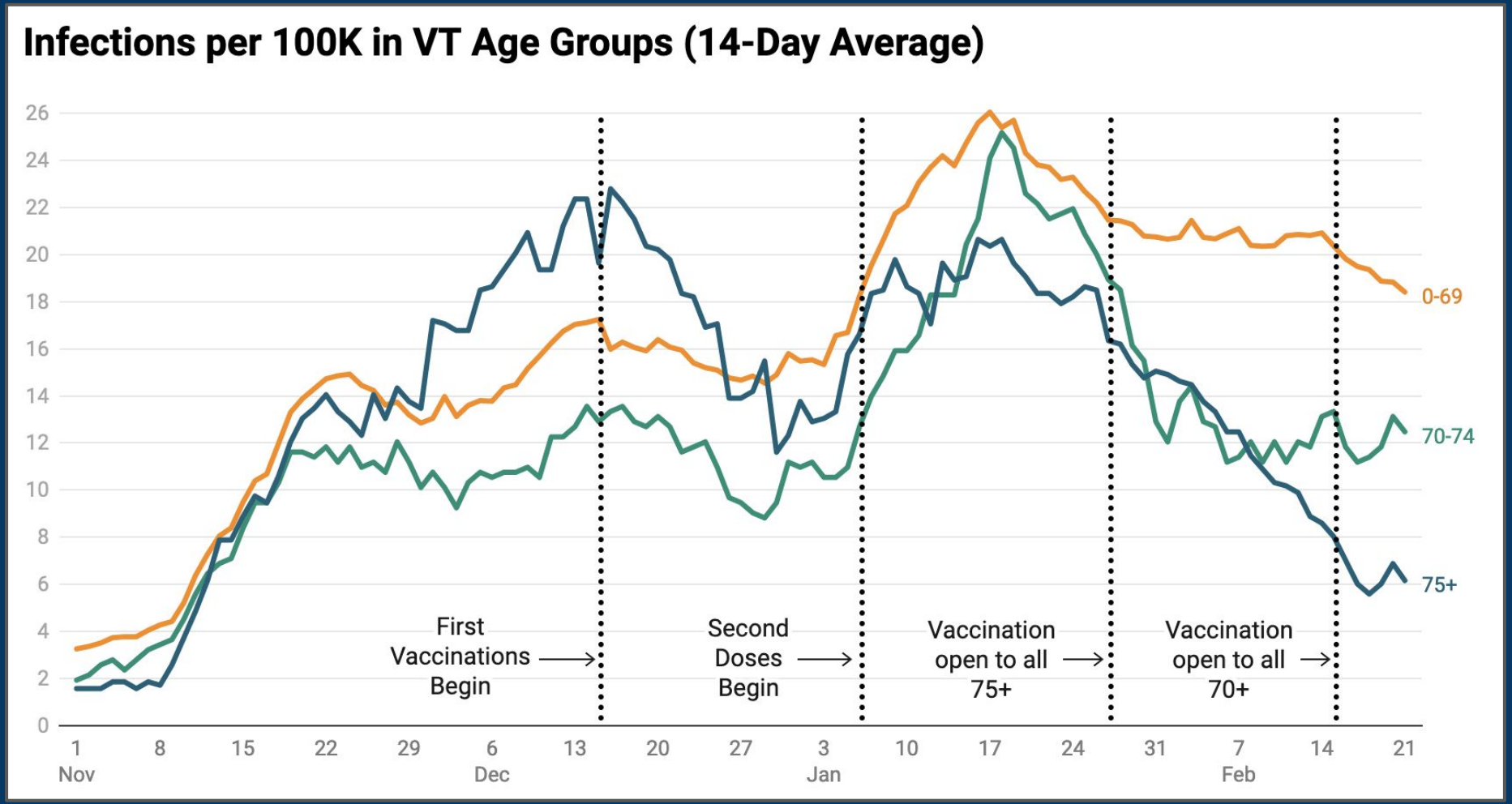


Source: Vermont Department of Health— February 22, 2021

Vermonters Diagnosed with COVID-19 by Week

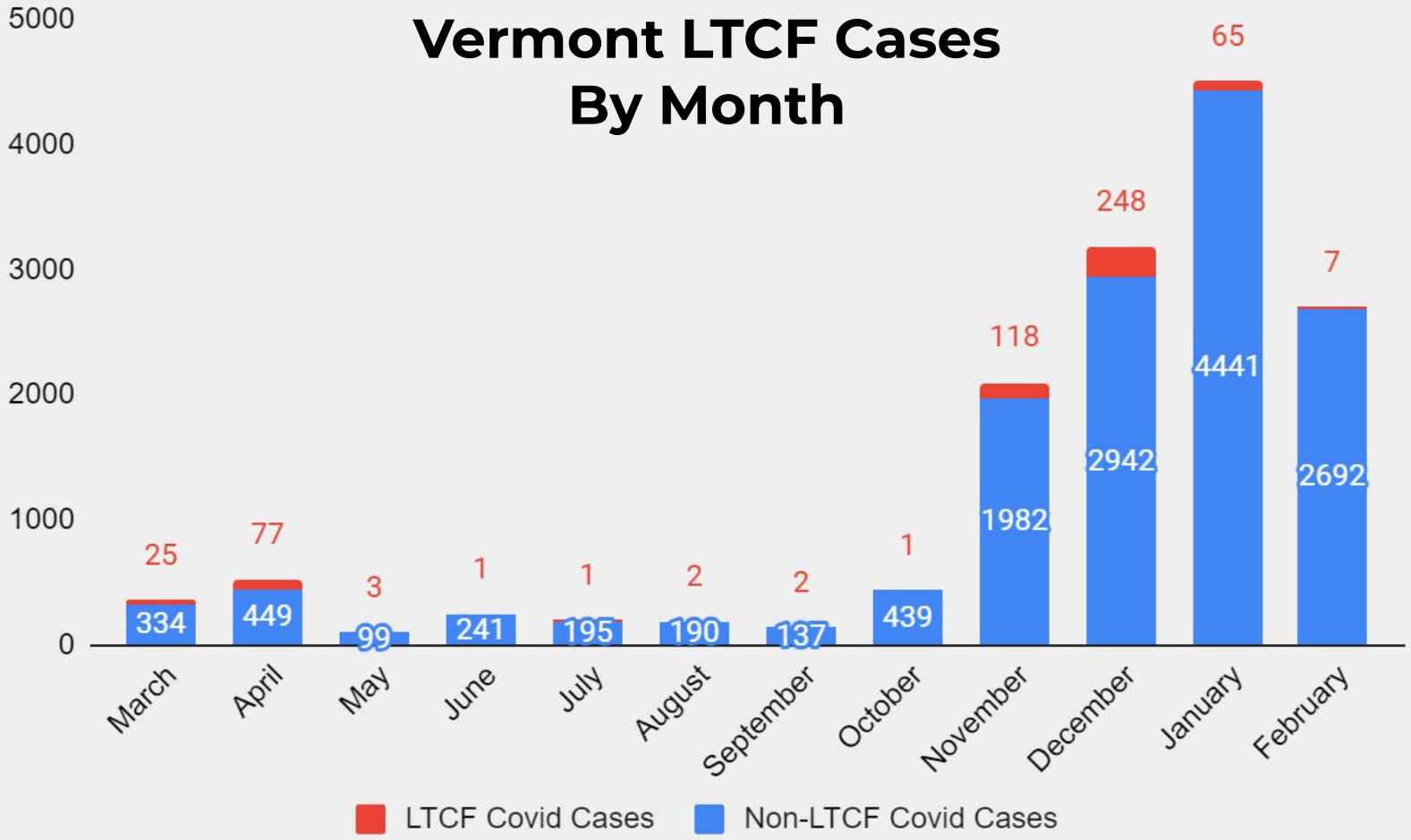


Source: Vermont Department of Health (week calculated as Tuesday to Monday)



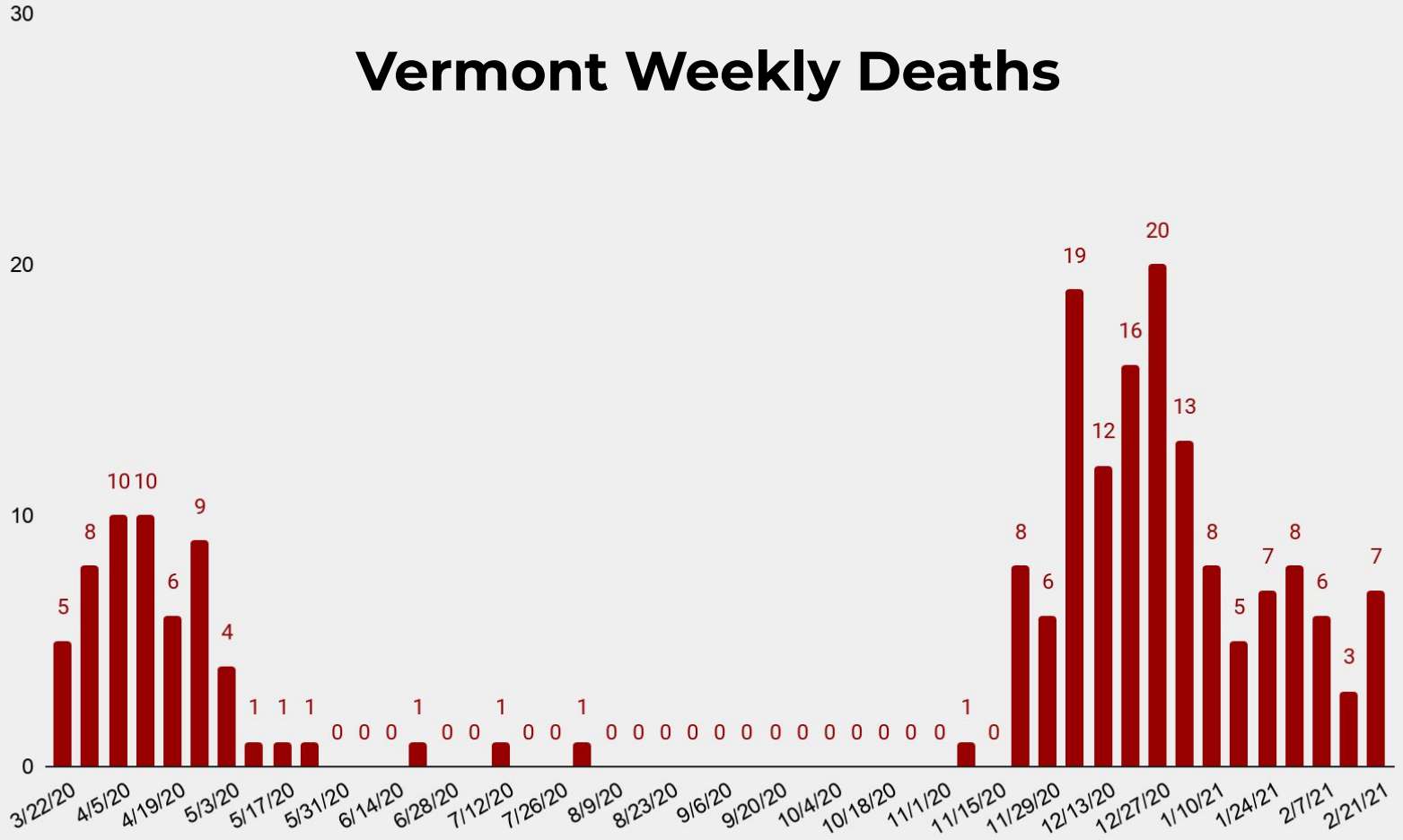
Source: VT Department of Health—February 23, 2021; 2019 Vermont census data

Vermont LTCF Cases By Month



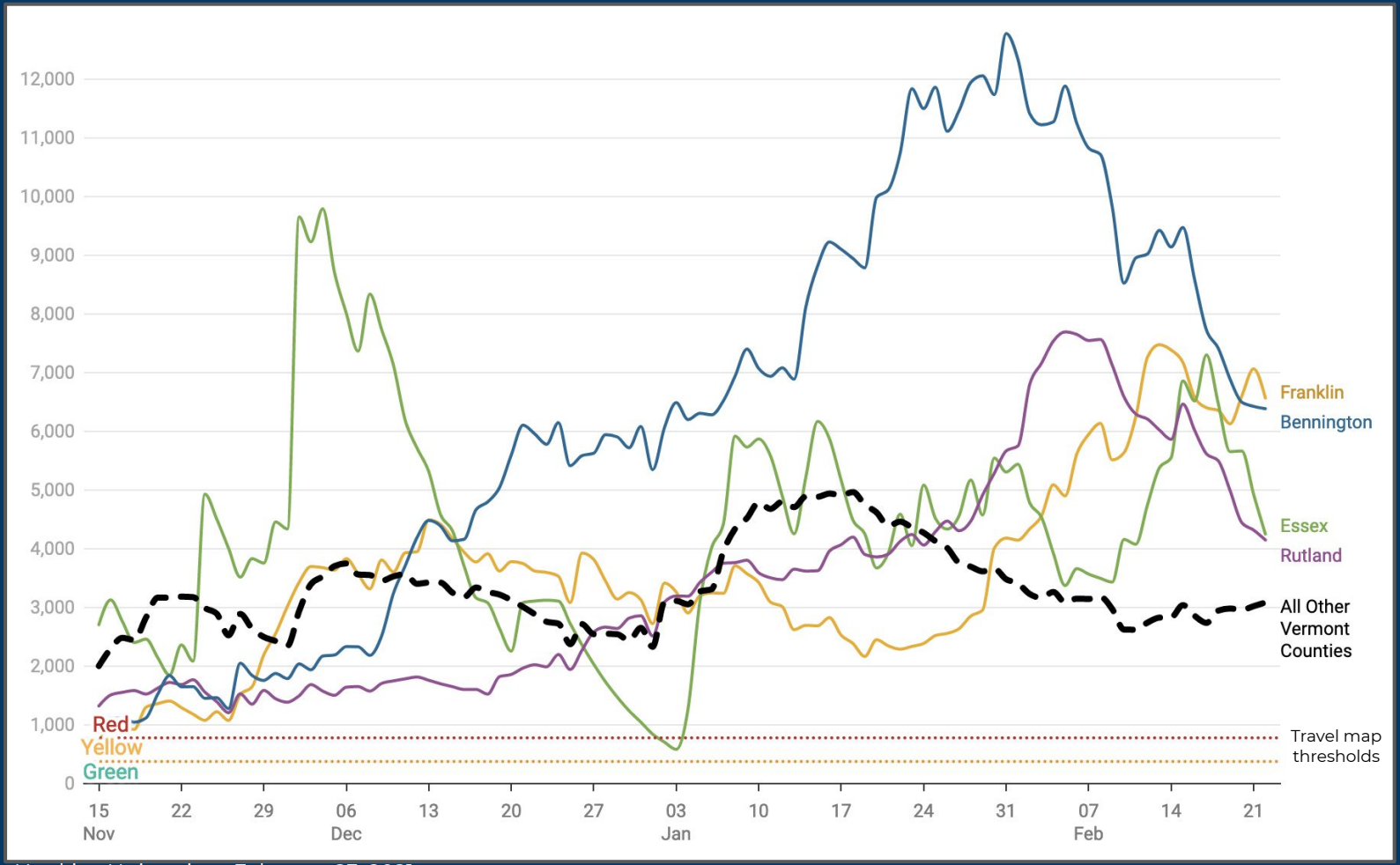
Source: VDH—February 22, 2021

Vermont Weekly Deaths



Source: Vermont Department of Health—February 22, 2021

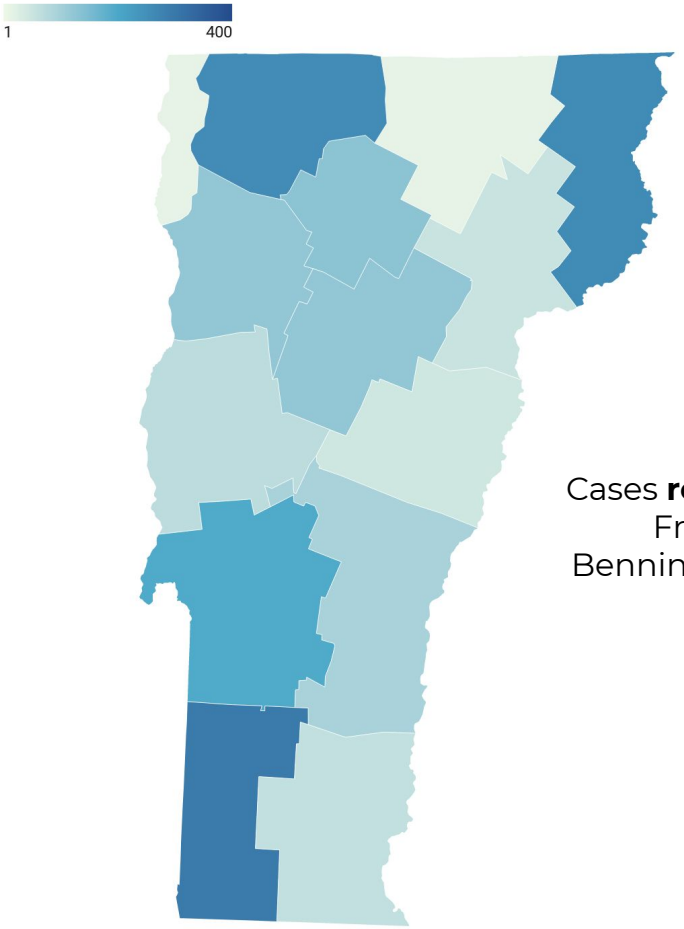
Active Cases per Million in Vermont Counties



Source: Johns Hopkins University—February 23, 2021

Vermont Weekly Cases by County (per 100,000)

Results Reported February 8 to 15

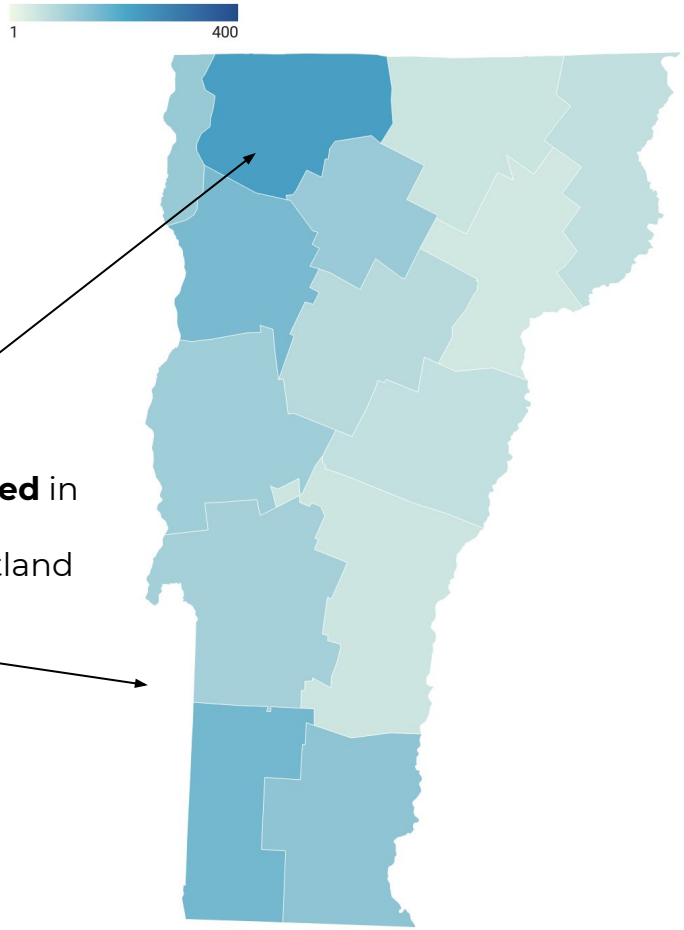


Map: Vermont DFR COVID Modeling Team • Source: Vermont Dept. of Health • Created with Datawrapper

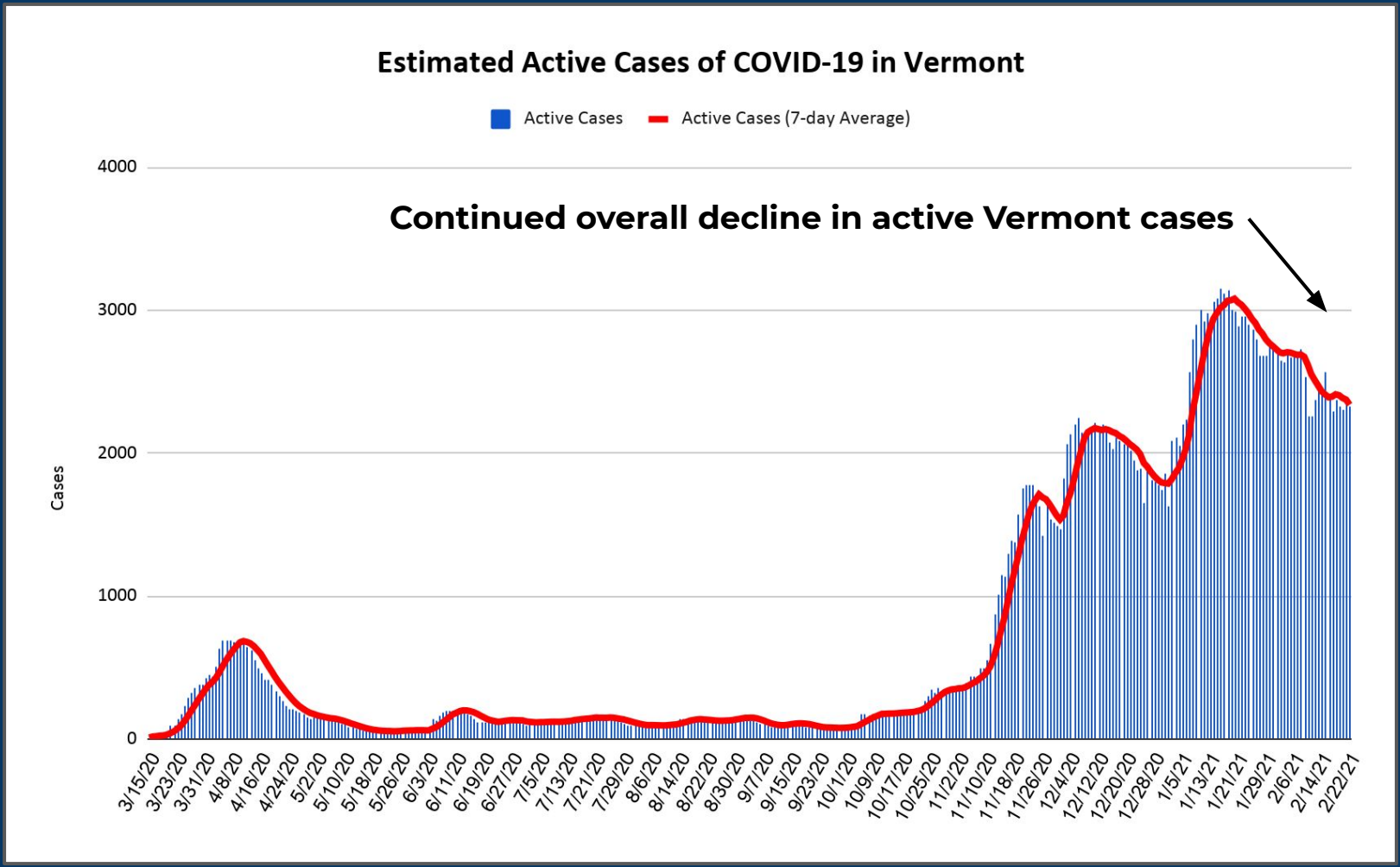
Cases **remain elevated** in Franklin, **fell** in Bennington and Rutland Counties

Vermont Weekly Cases by County (per 100,000)

Results Reported February 16 to 22

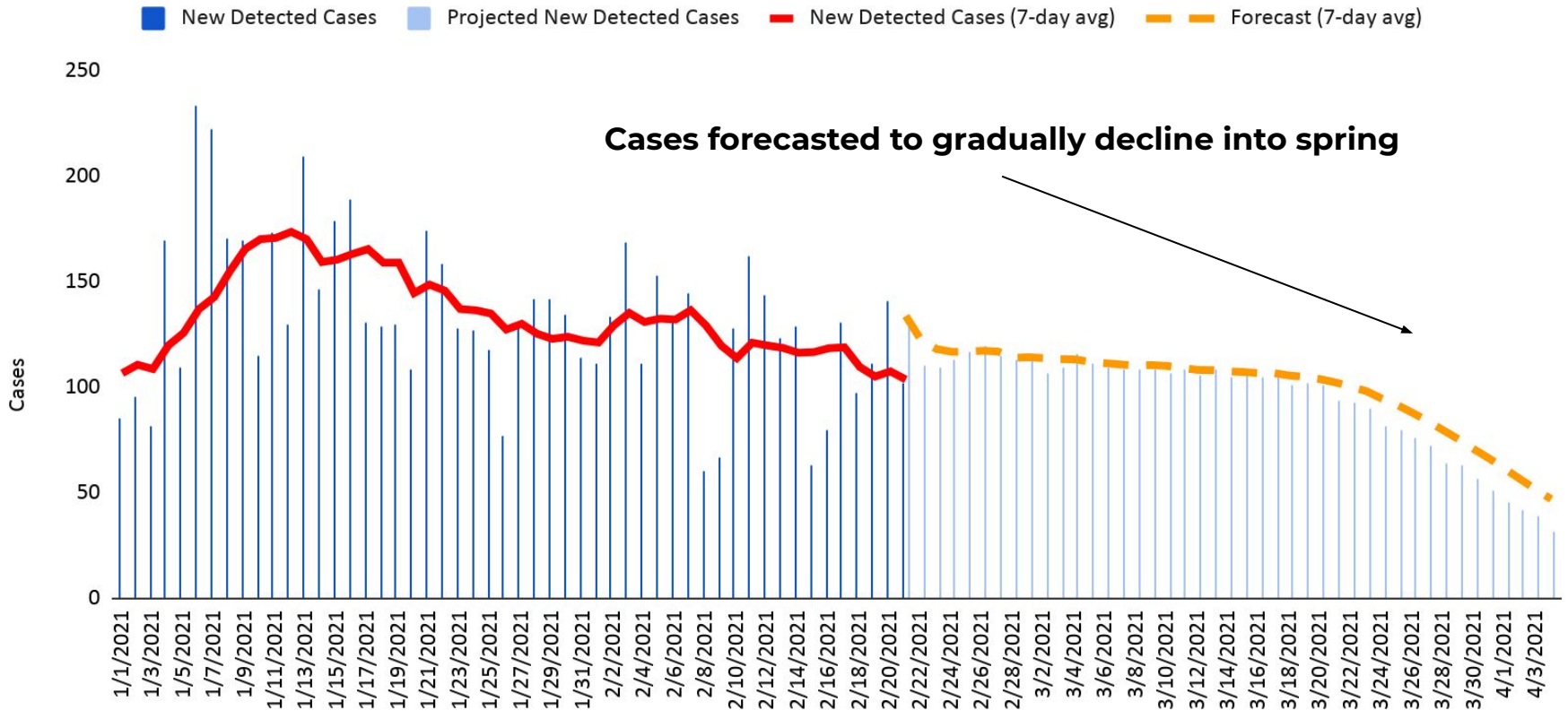


Map: Vermont DFR COVID Modeling Team • Source: Vermont Dept. of Health • Created with Datawrapper



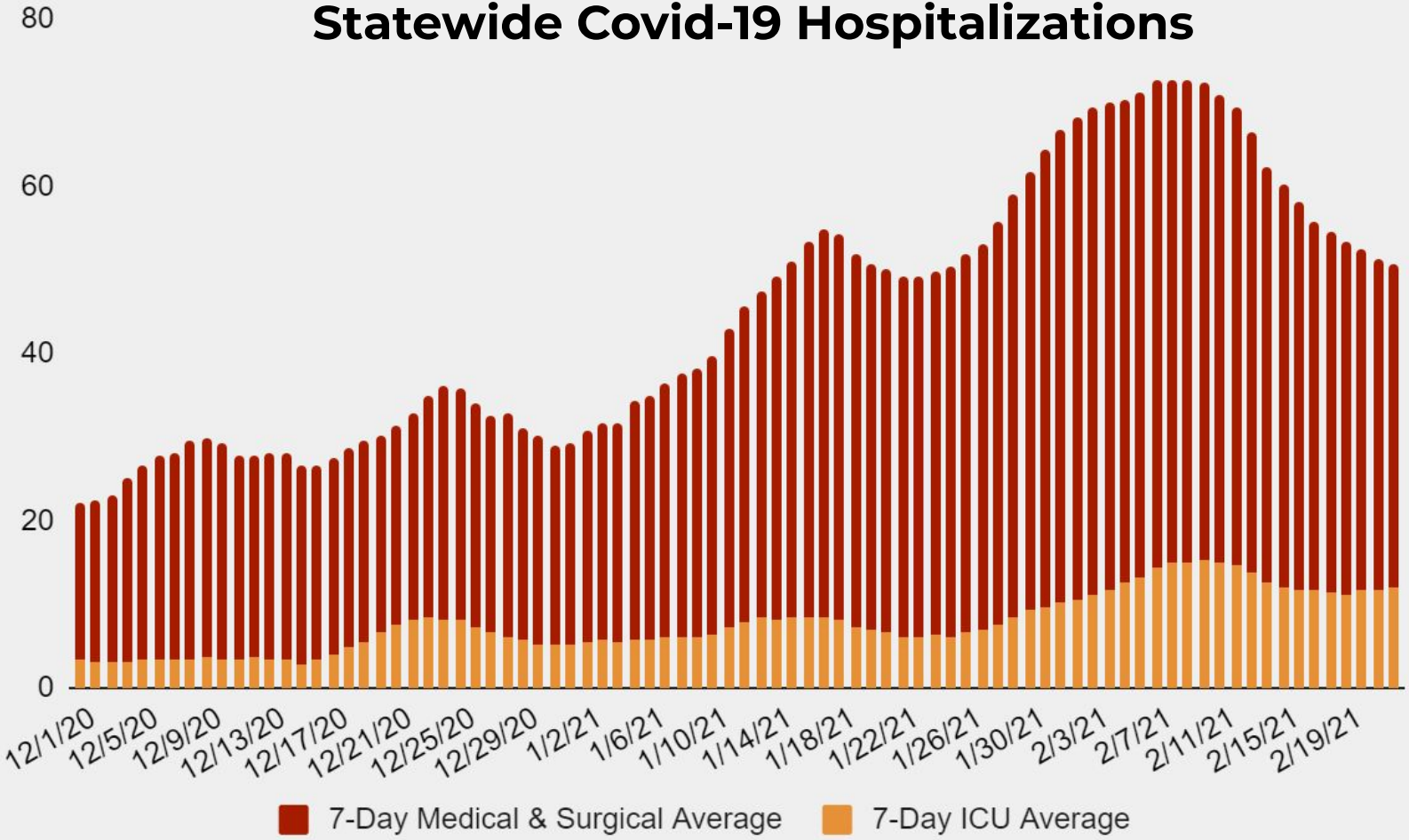
Source: Johns Hopkins University Data & Oliver Wyman Forecast Model—February 22, 2021

Vermont Forecast



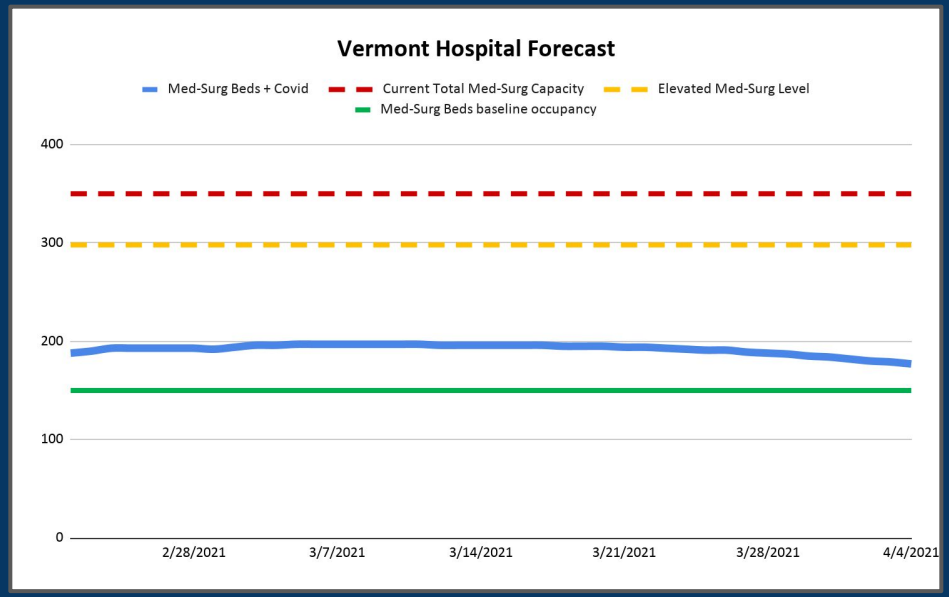
Source: Johns Hopkins University Data & Oliver Wyman Forecast Model—February 22, 2021; *assumes current vaccine supply and no variant-specific impact

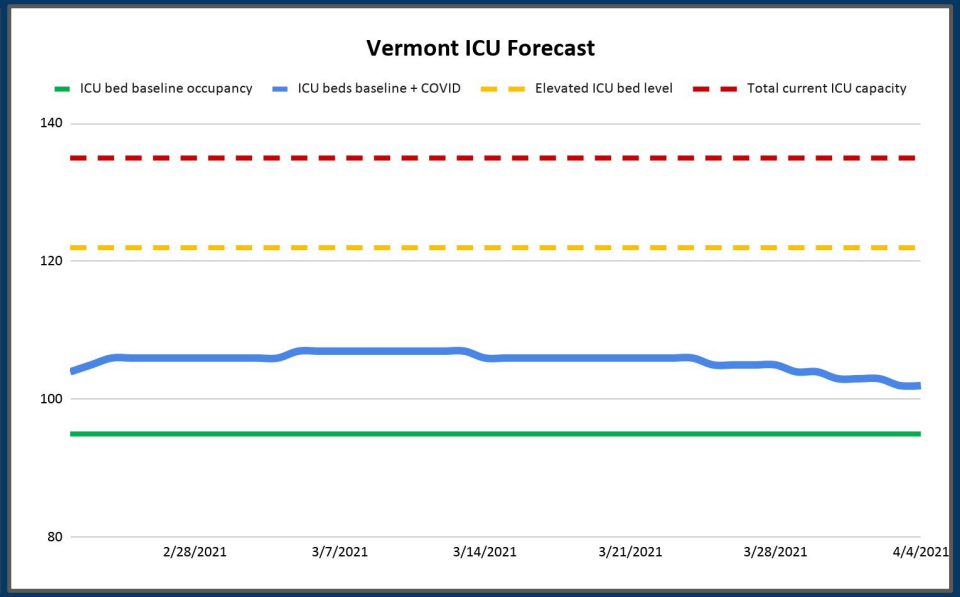
Statewide Covid-19 Hospitalizations



Source: Vermont Department of Health— February 22, 2021

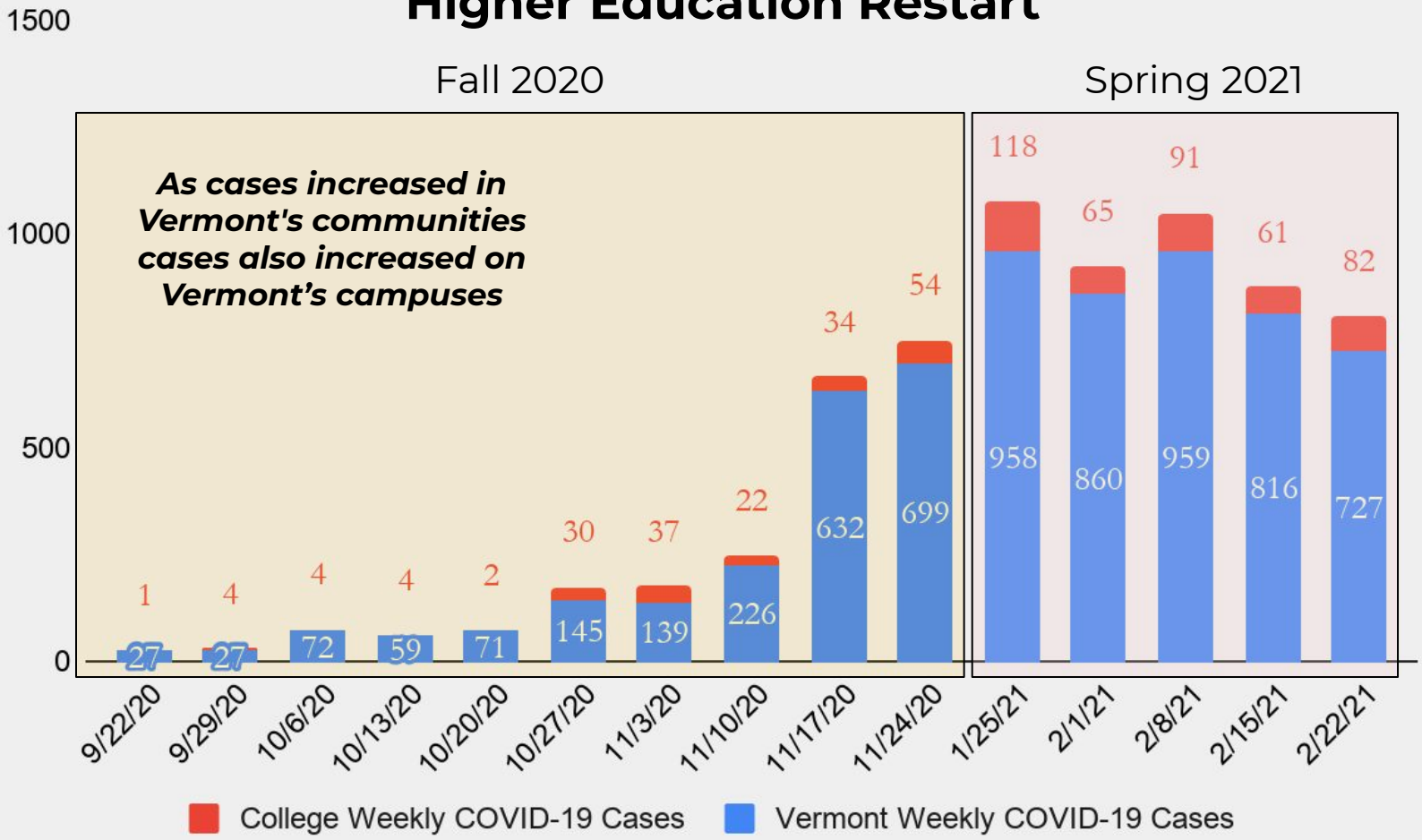
Hospital & ICU Capacity Forecasts





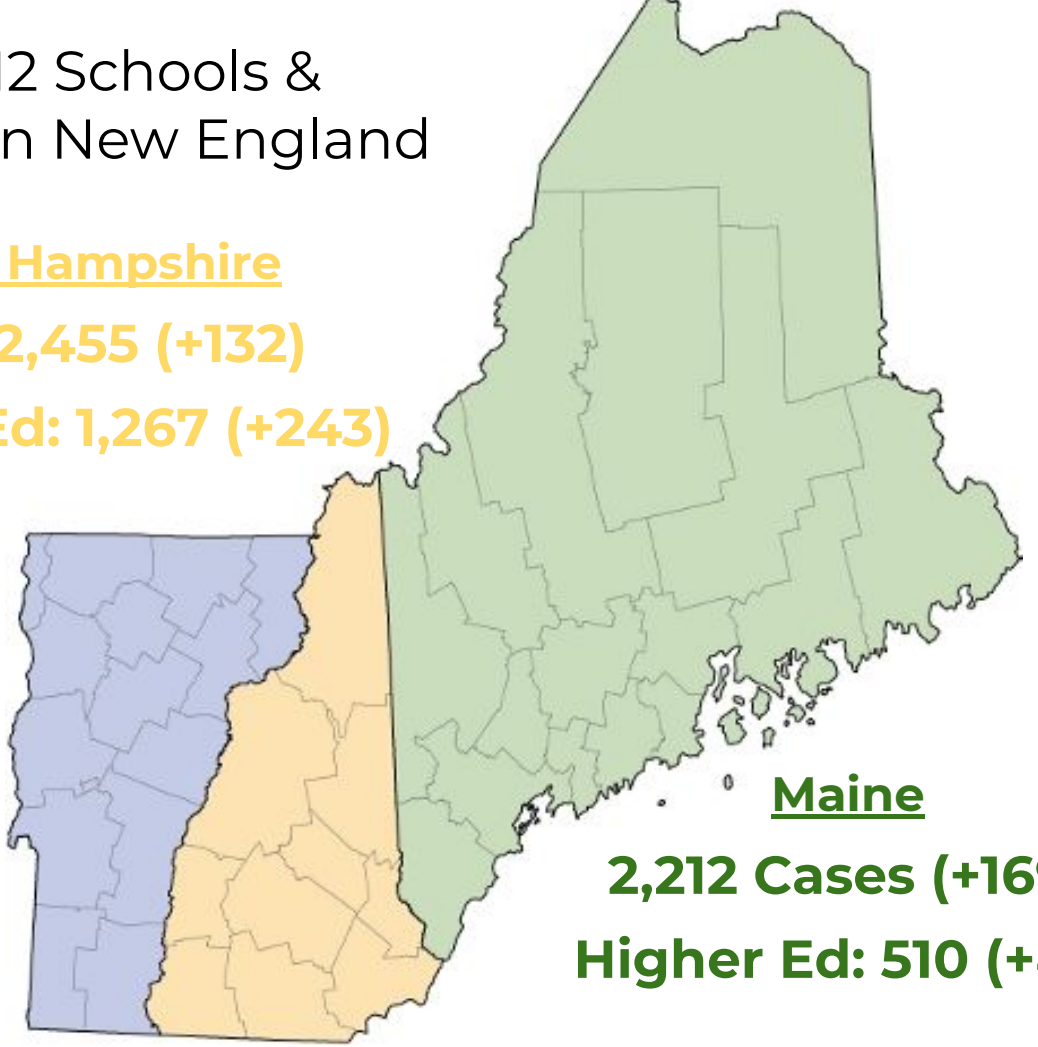
Source: Oliver Wyman Forecast Model—February 22, 2021; GNYHA Hospital Surge framework

Higher Education Restart



Source: Vermont Higher Education Institution reporting—February 22, 2021

Covid-19 Cases in K-12 Schools & Colleges Across Northern New England



New Hampshire

K-12: 2,455 (+132)

Higher Ed: 1,267 (+243)

Vermont

K-12: 637 Cases (+43)

Higher Ed: 417(+82)

Maine

2,212 Cases (+169)

Higher Ed: 510 (+43)

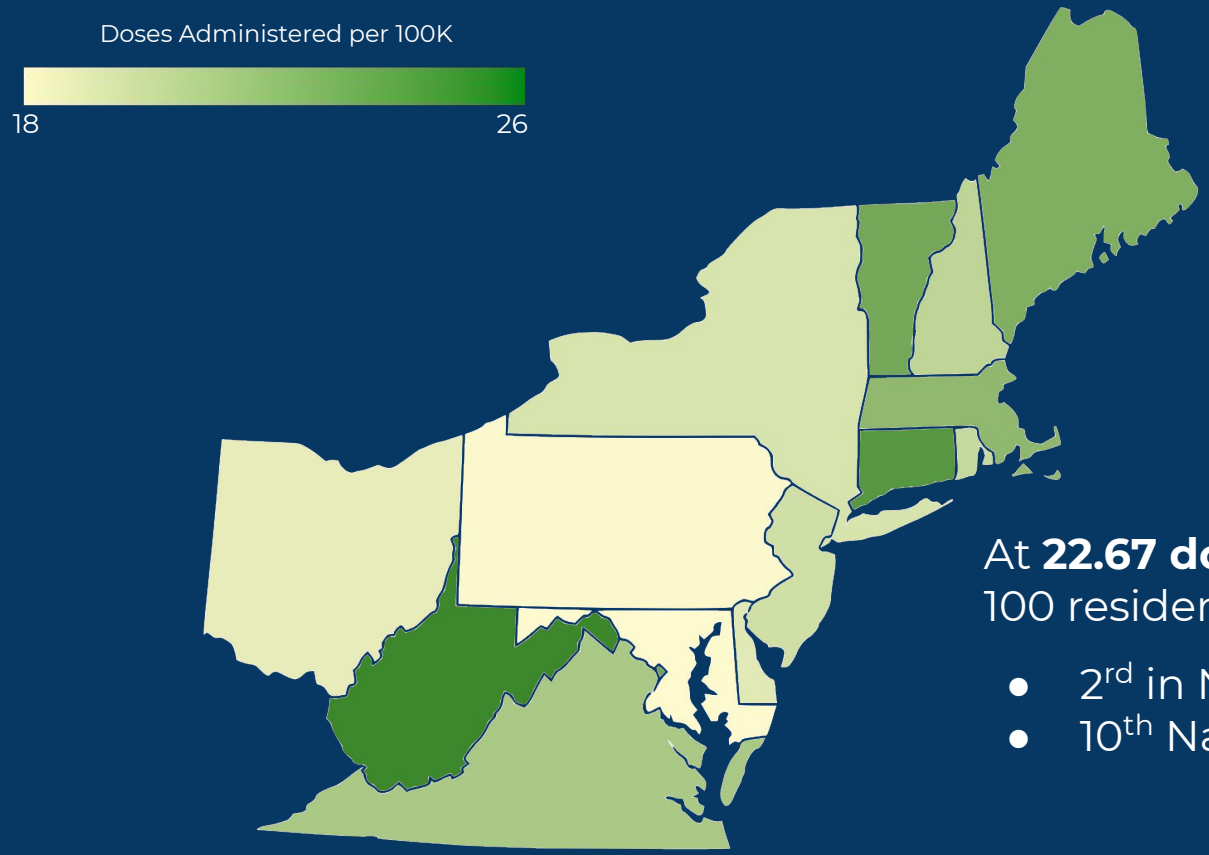
Source: ME, NH & VT K-12 Dashboards, ME media reports

Active Outbreaks in Long Term Care Facilities

Facility Name	Total COVID-19 Cases
Village at Cedar Hill, *Windsor*	23
Long Term Care Facility E	Not Shown
Mountain View Center, *Rutland*	11

Source: Vermont Department of Health—February 22, 2021 (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 or fewer than 5 active cases.*

Regional Vaccination Map: Initial Dose

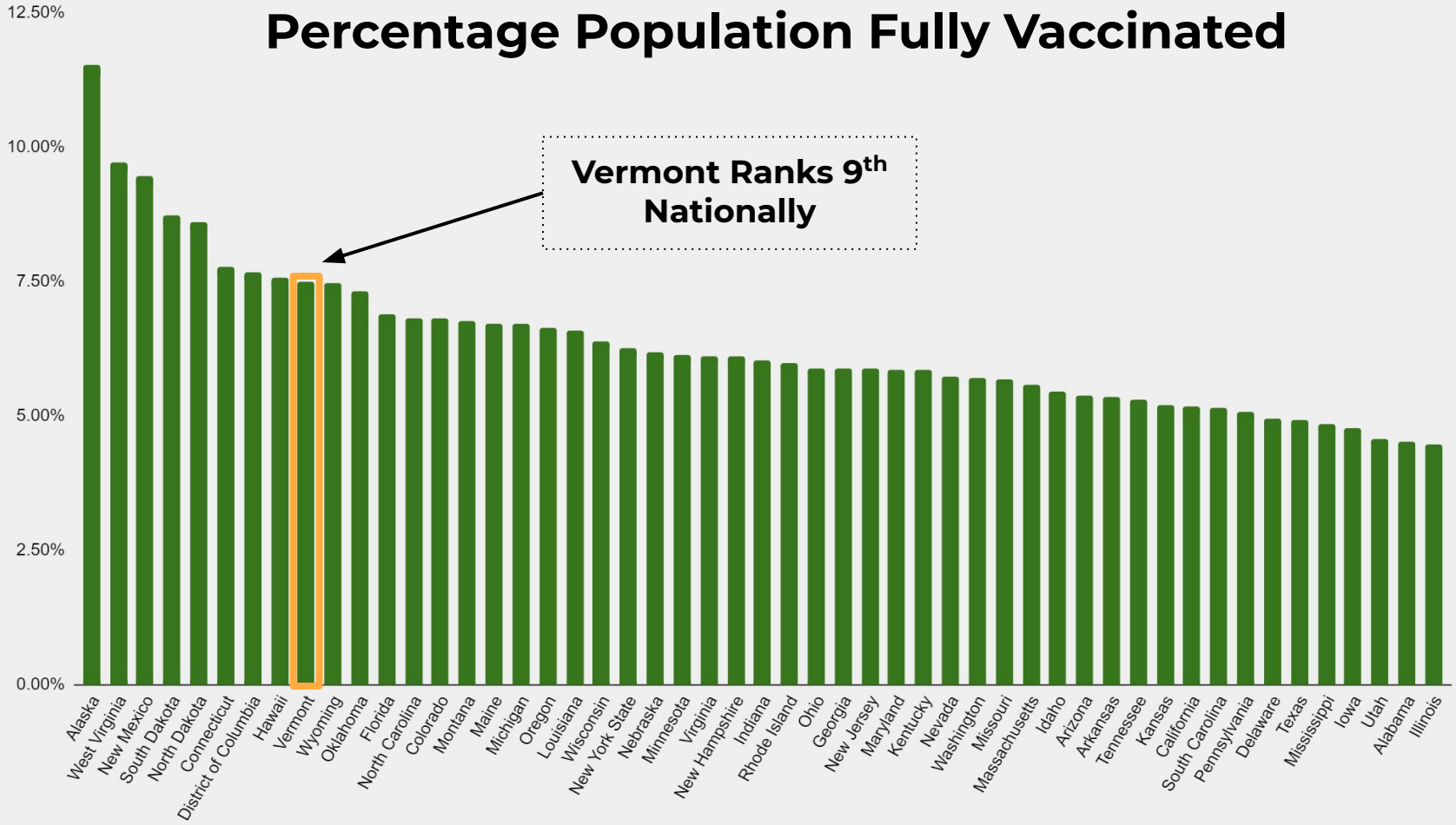


At **22.67 doses** administered per 100 residents, Vermont ranks:

- 2rd in Northeast
- 10th Nationally

Source: CDC—February 23, 2021

Percentage Population Fully Vaccinated



Source: CDC—February 22, 2021

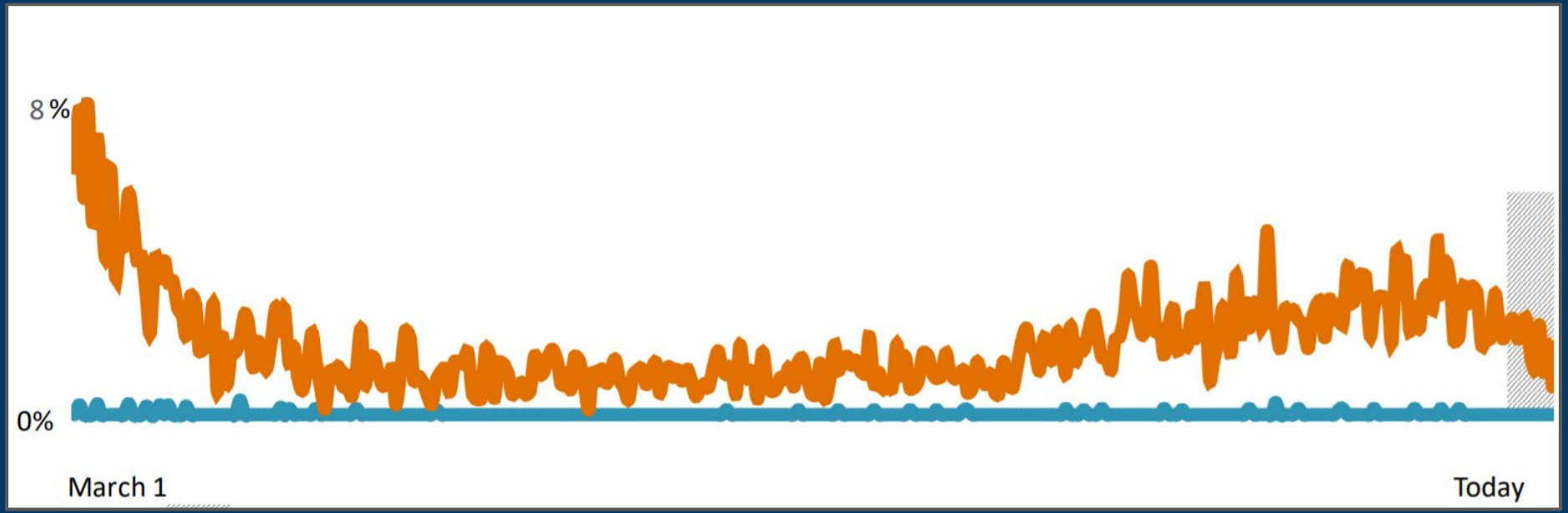
RESTART VERMONT

Reopening Metrics

1. Syndromic Surveillance
2. Viral Growth & Reproductive Rates
3. Percentage of New Positive Tests
4. Hospital & Critical Care Bed Capacity

Data Point 1: Syndromic Surveillance

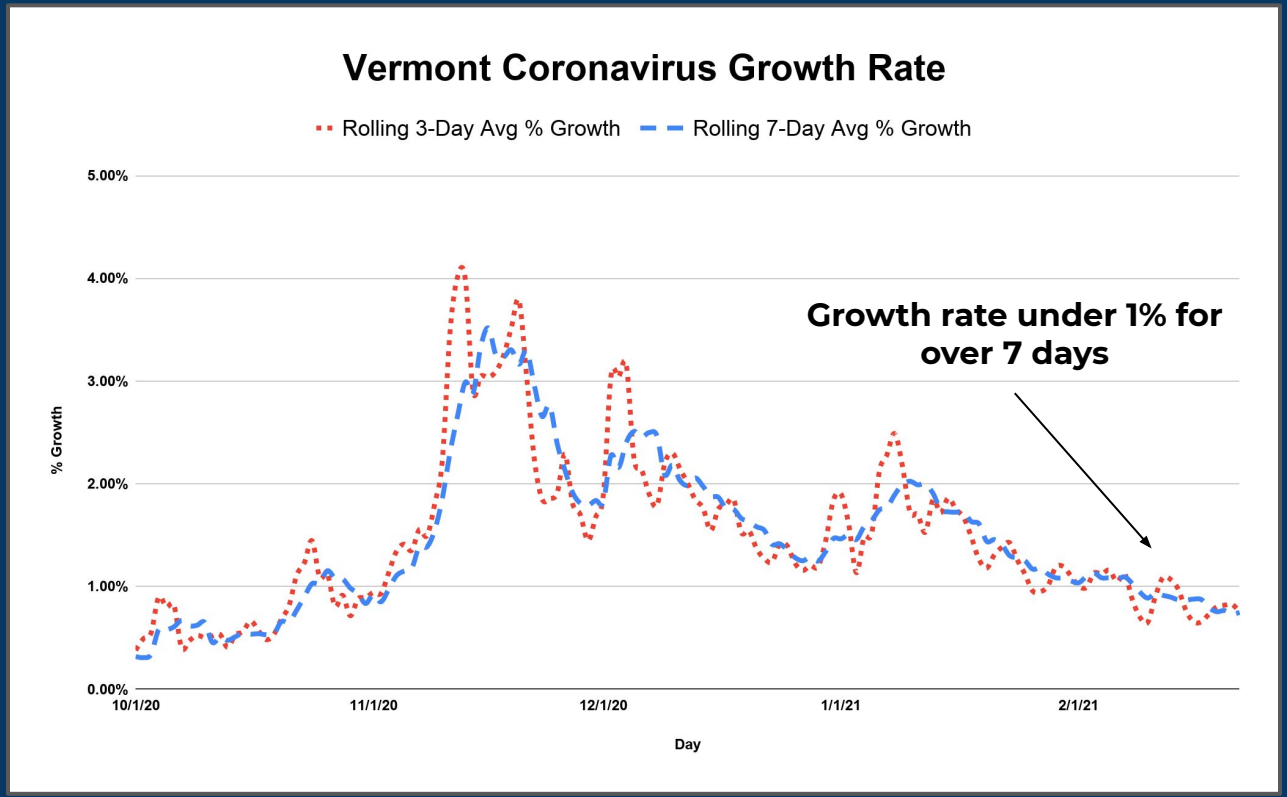
- **<u>Summary</u>:** Percentage of visits with COVID-19 like illness and Influenza diagnosis
- **<u>Warning Flag</u>:** Percentage of visits exceeding 4% for multiple consecutive days



Source: Vermont Department of Health—February 23, 2021

Data Point 2: Viral Growth and Reproductive Rates

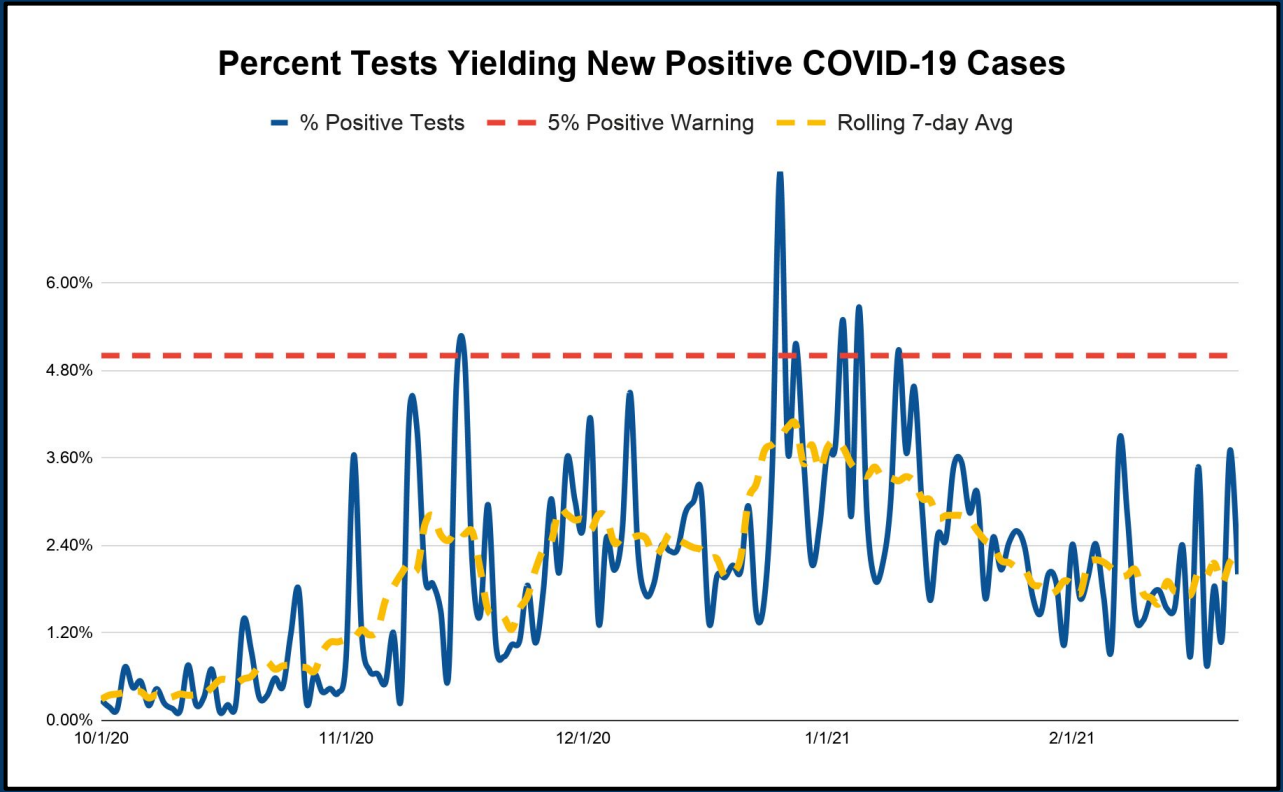
- **Summary:** Case growth measured by daily, 3-day, 7-day, and effective reproductive rate (R_t)
- **Warning Flags:** Sustained viral growth that would lead to <30% open ICU beds



Source: Vermont Department of Health—February 23 2021

Data Point 3: Percentage of New Positive Tests

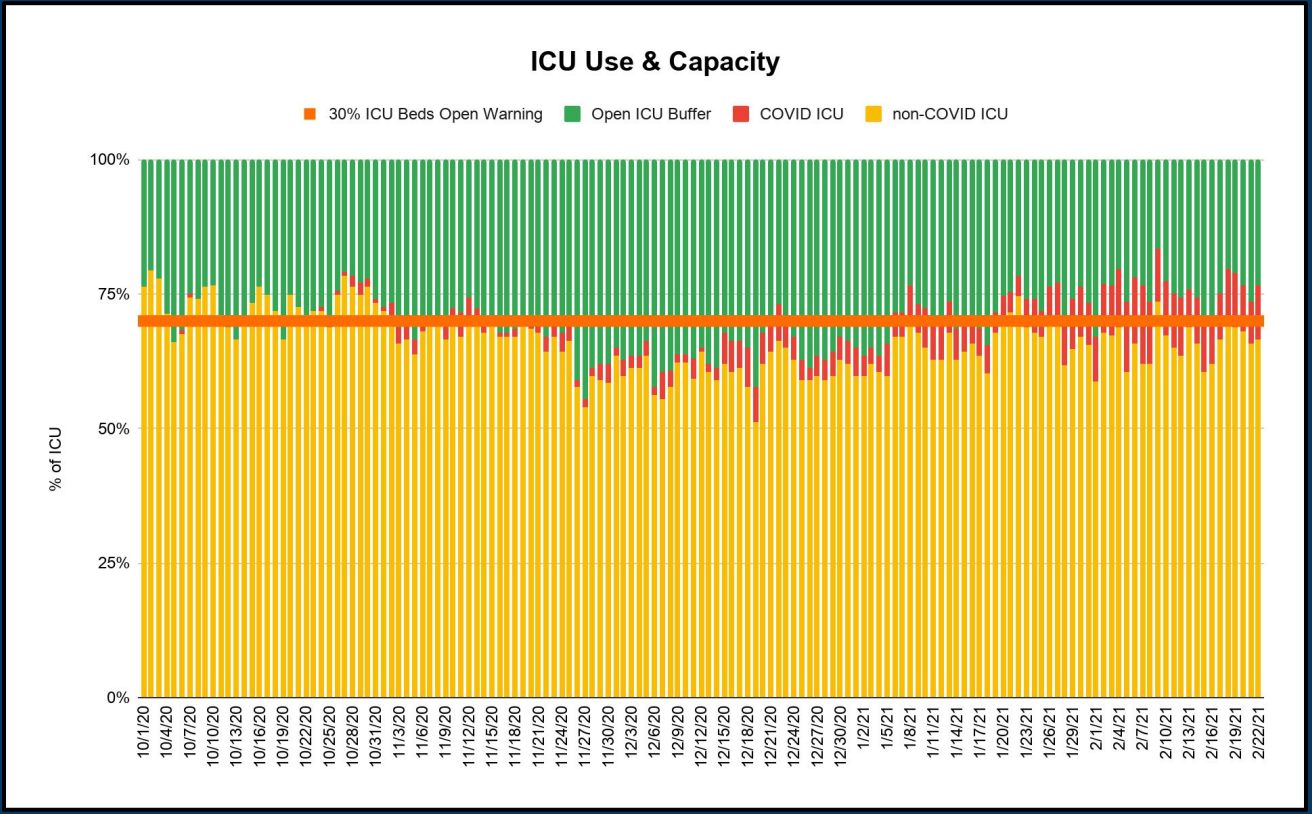
- **Summary:** Percent of tests resulting in a new positive case
- **Warning Flags:** New positives represent >5% of daily results



Source: Vermont Department of Health—February 23, 2021

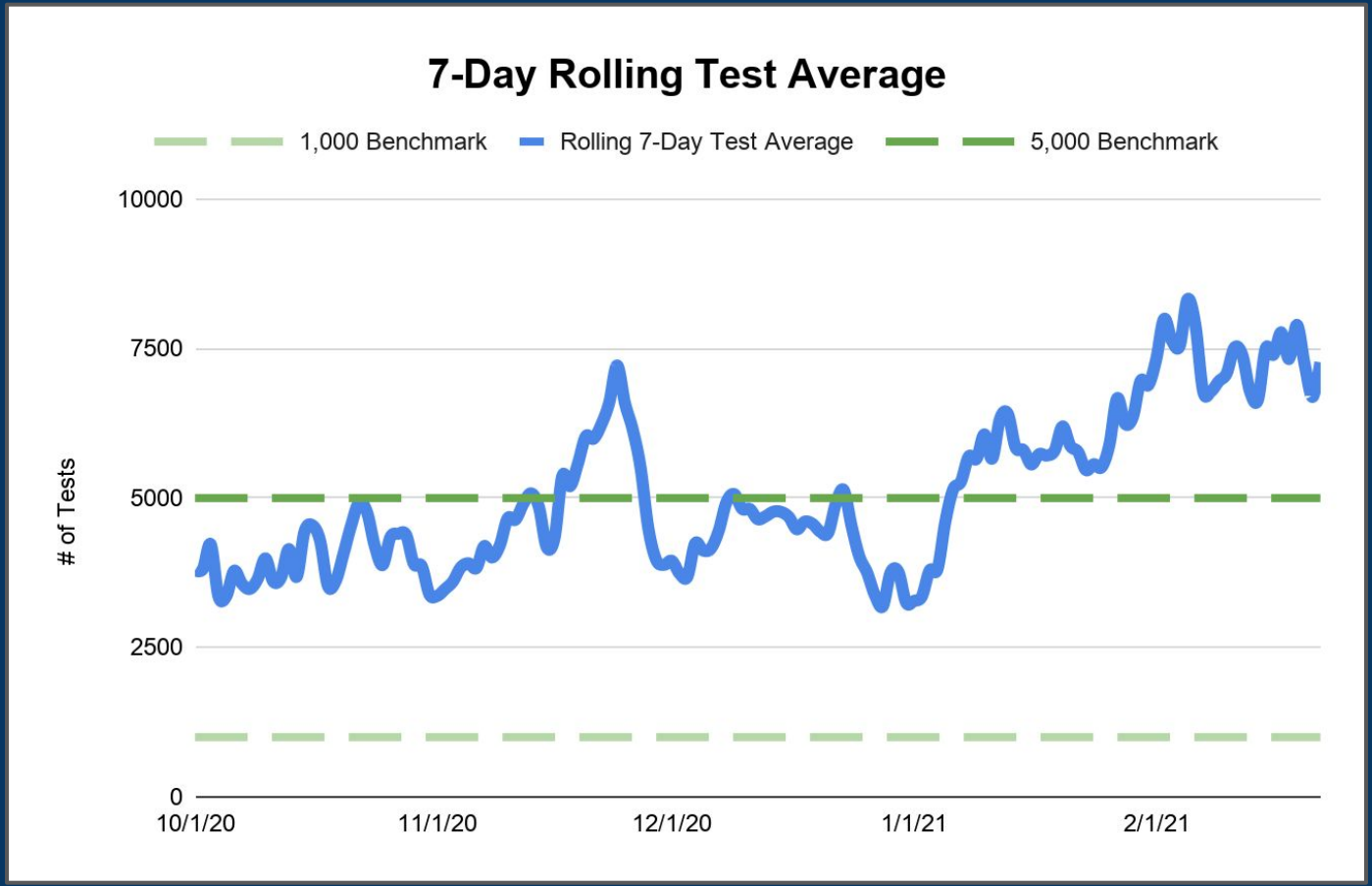
Data Point 4: Hospital & Critical Care Beds

- **Summary:** Number of occupied and unoccupied medical surgical and ICU beds
- **Warning Flags:** Reduction in ICU open beds to less than 30%



Source: Vermont Department of Health—February 23, 2021

Vermont Testing



Source: Vermont Department of Health—February 23, 2021; results reported to VDH daily