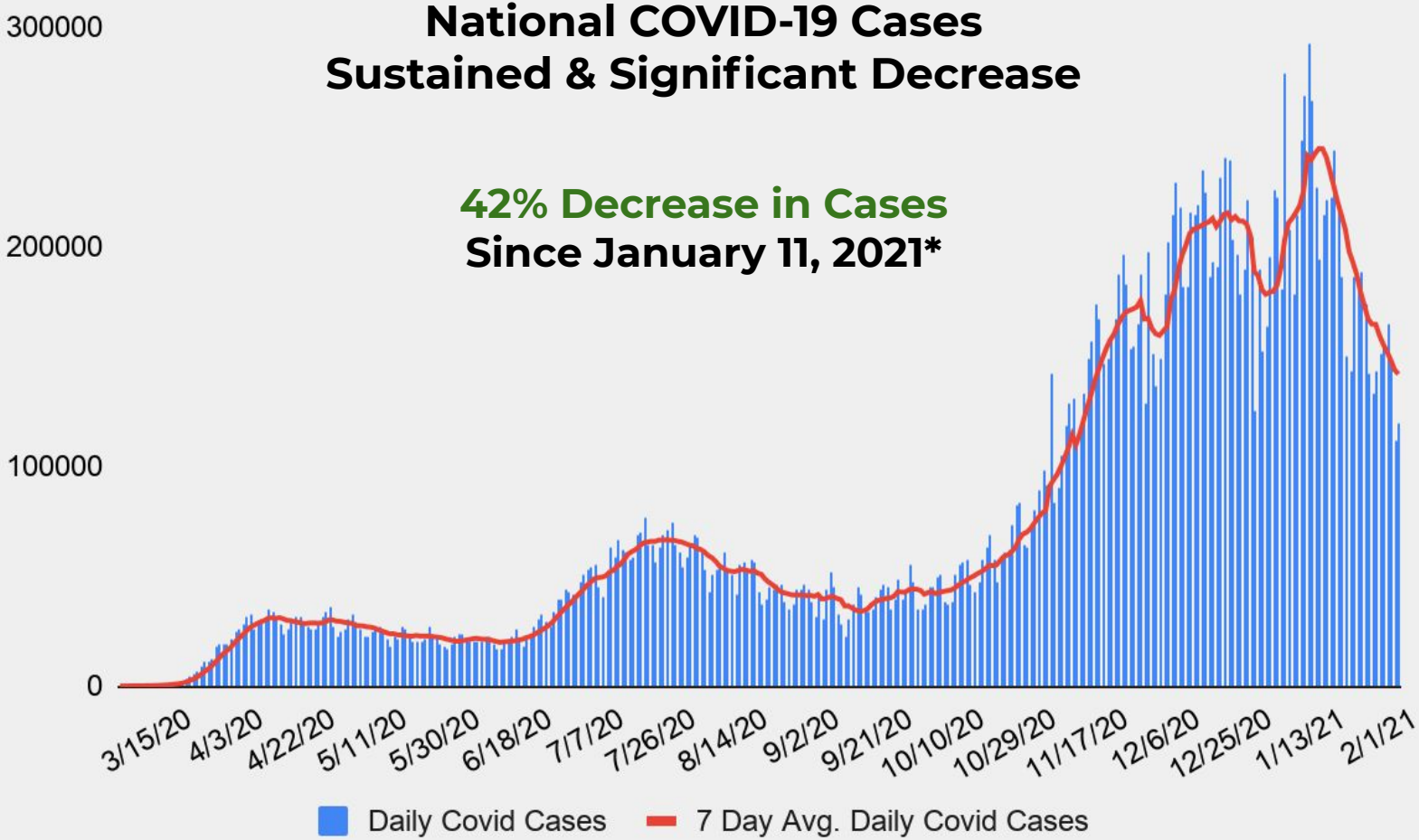
COVID-19 Modeling
February 2, 2021

Presentation available at:
dfr.vermont.gov

National COVID-19 Cases
Sustained & Significant Decrease

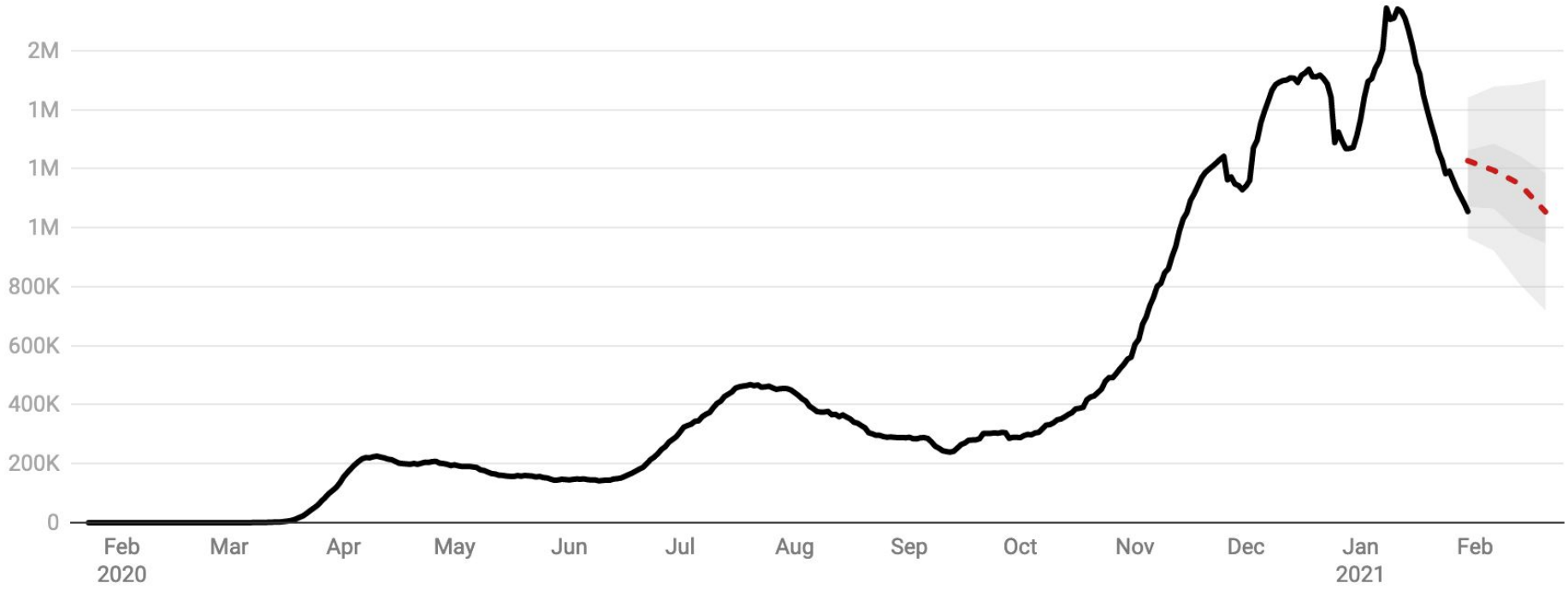
42% Decrease in Cases
Since January 11, 2021*



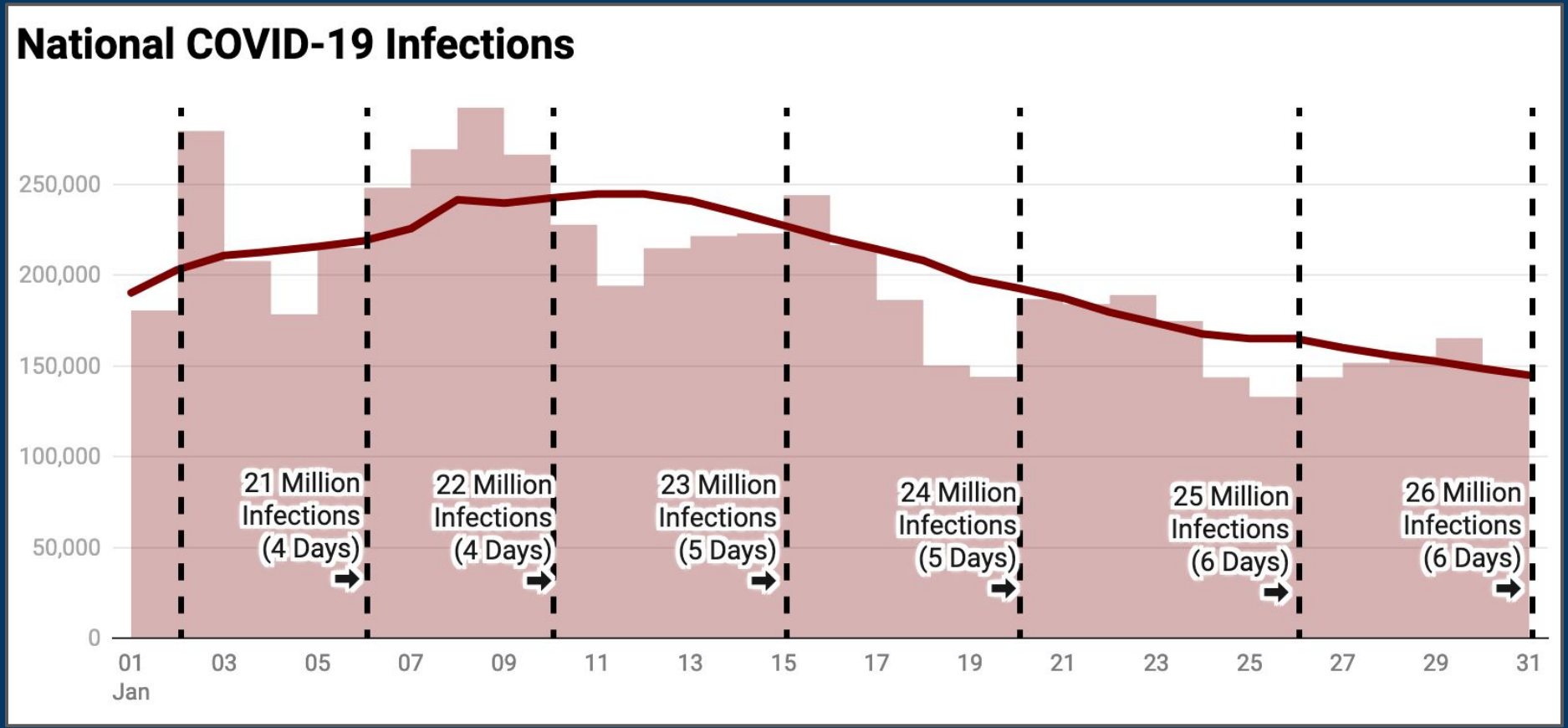
Source: Covid Tracking Project — February 1, 2021; *Recent 7 Day High

National Weekly COVID-19 Infections Forecast

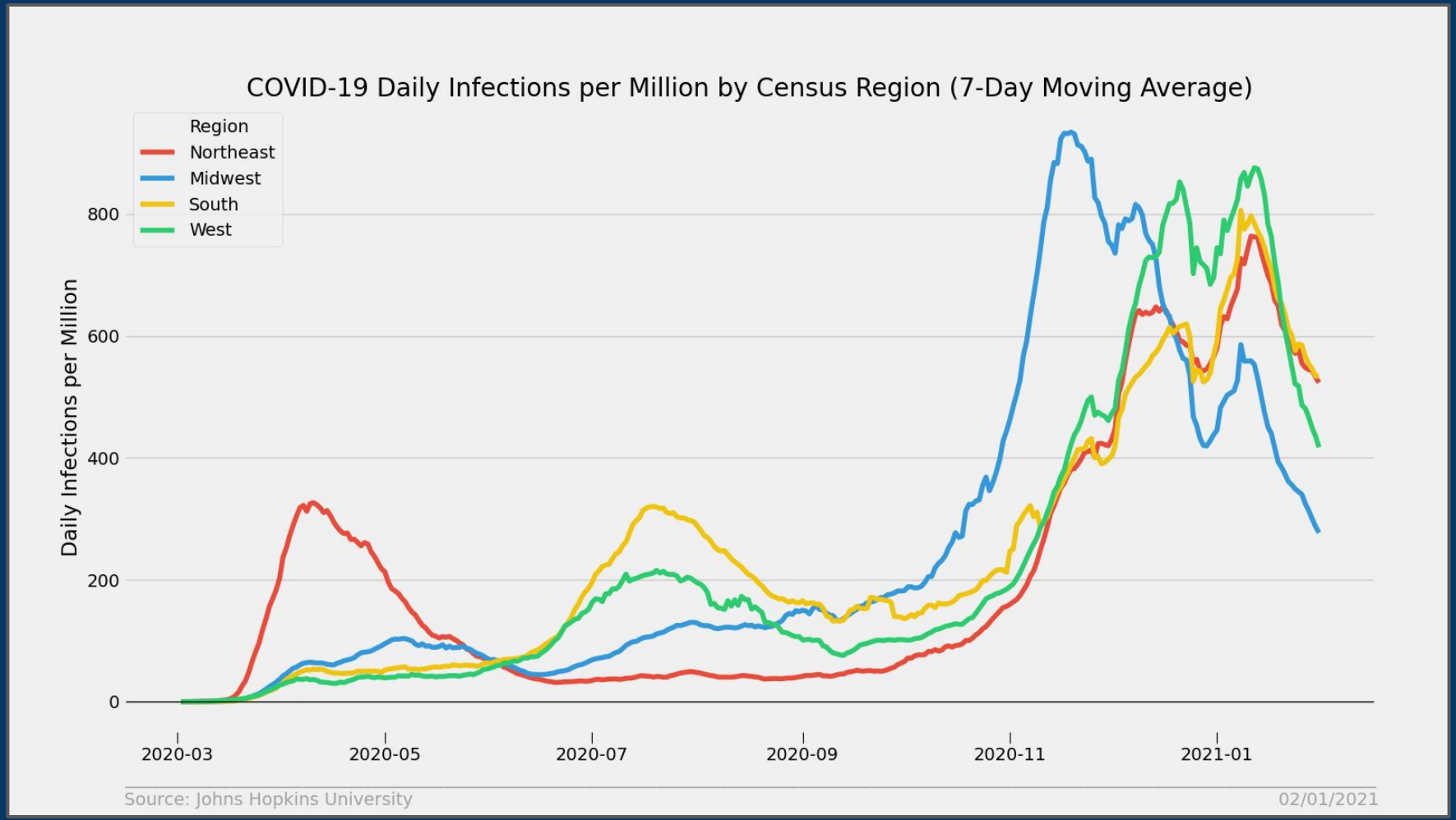
Calculated as the 7-day sum of new infections. Gray bands represent 50% and 95% confidence intervals. Since projections are only released once a week, the actual number may appear to over or undershoot the forecast.



Source: Centers for Disease Control and Prevention Ensemble Model— February 1, 2021

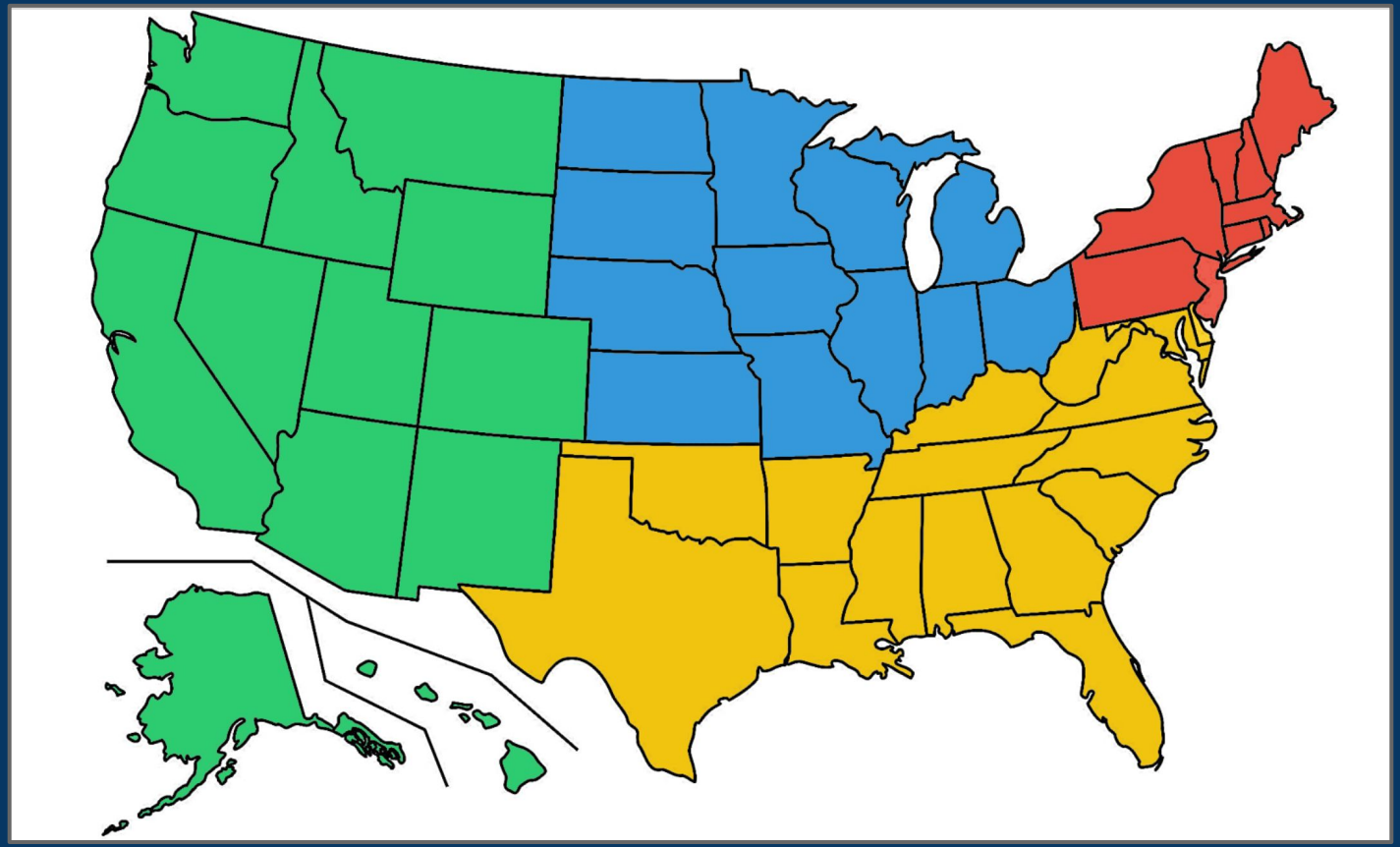


Source: COVID Tracking Project— February 1, 2021



Source: Johns Hopkins

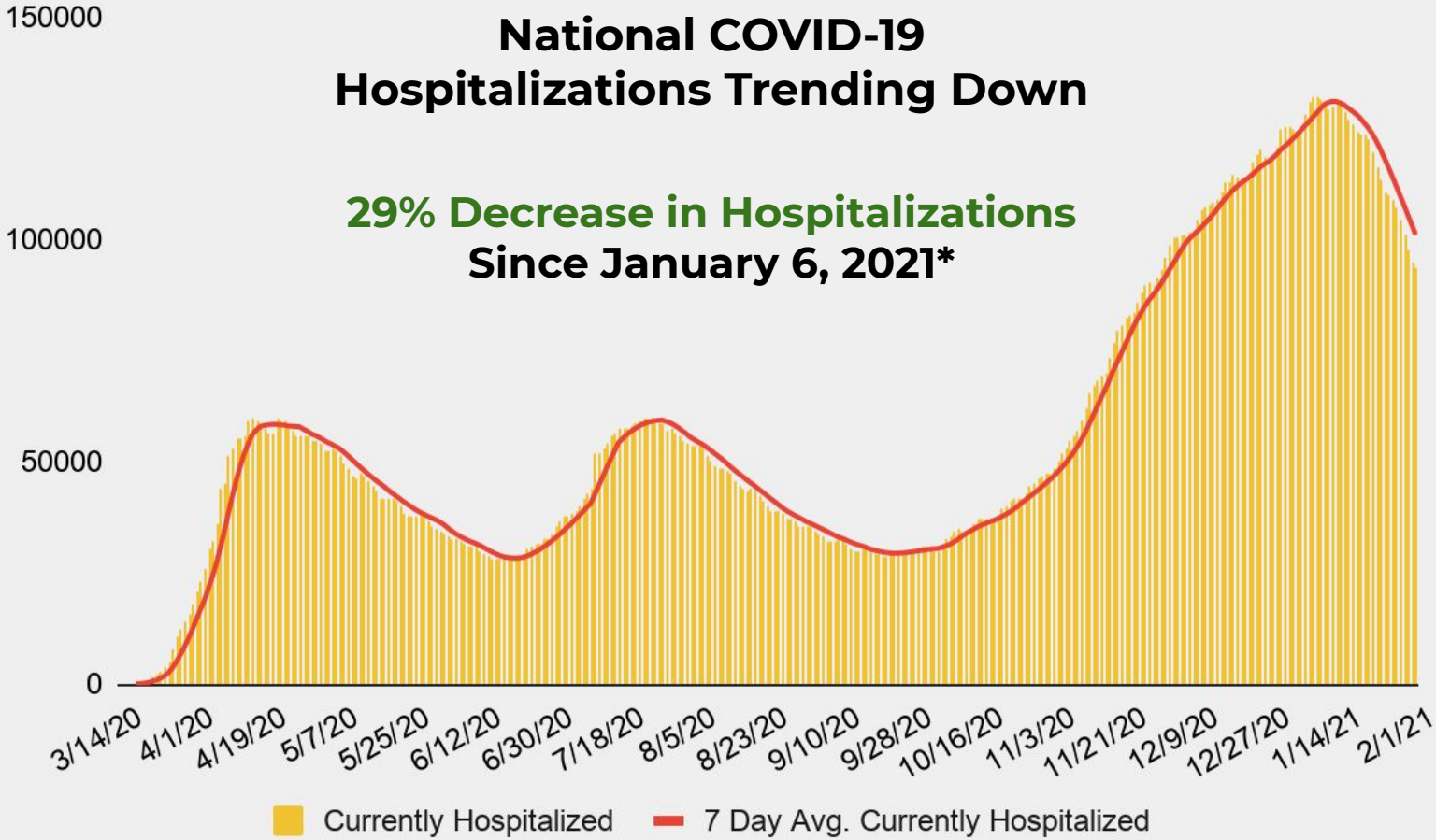
Census Regions



Source: US Census Bureau

National COVID-19 Hospitalizations Trending Down

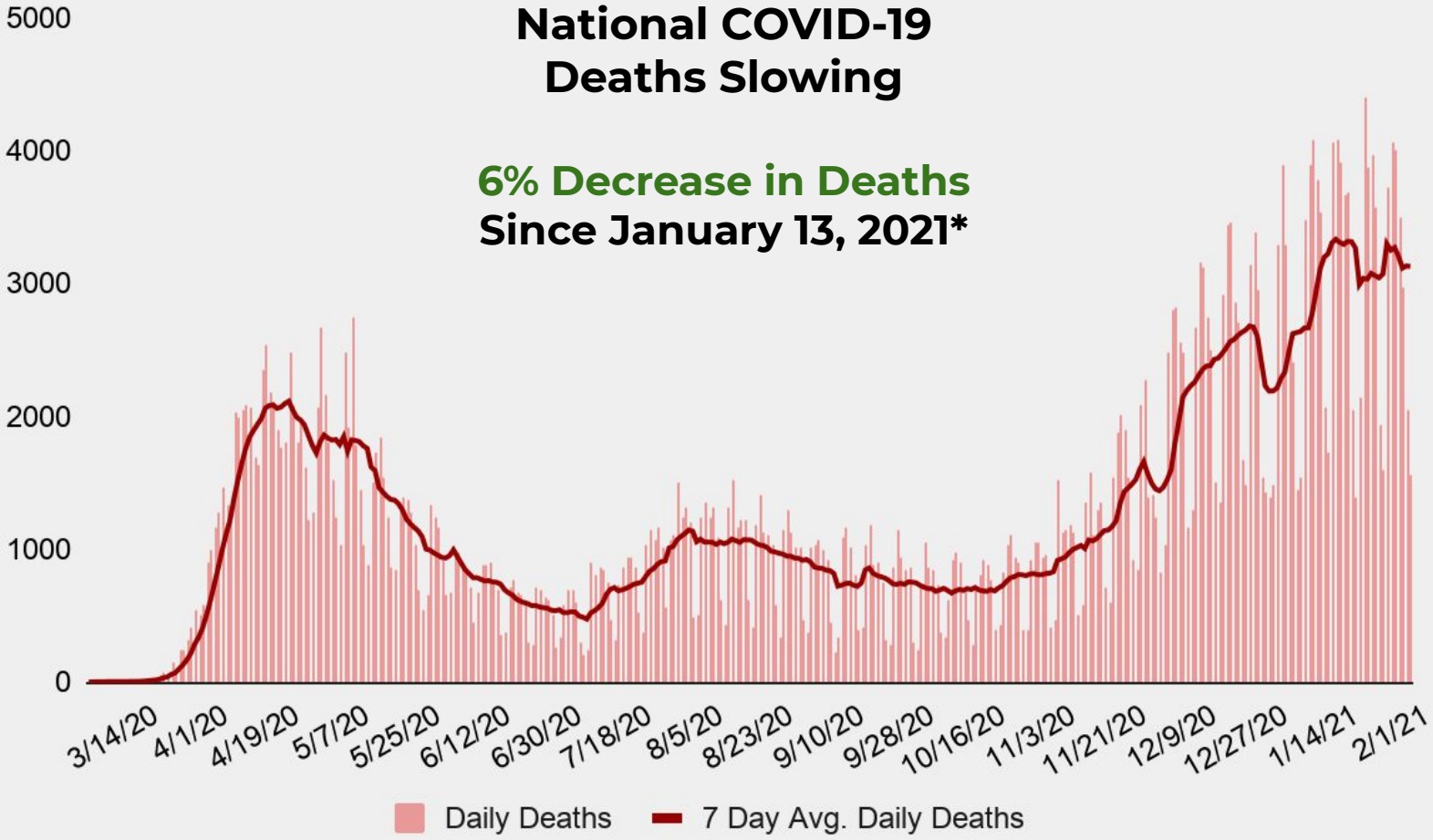
29% Decrease in Hospitalizations
Since January 6, 2021*



Source: Covid Tracking Project — February 1, 2021; *Recent 7 Day High

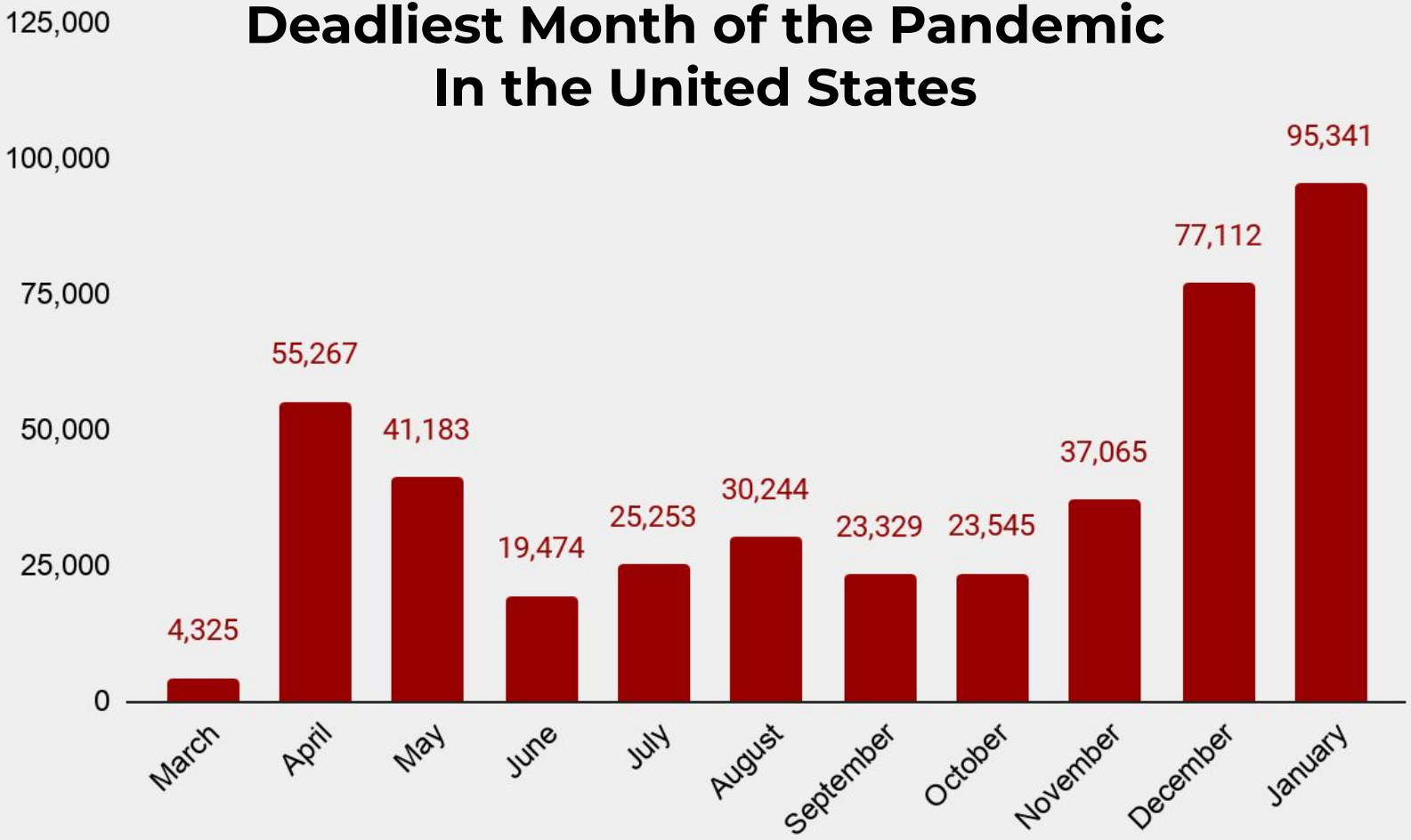
National COVID-19 Deaths Slowing

6% Decrease in Deaths
Since January 13, 2021*



Source: Covid Tracking Project — February 1, 2021; *Recent 7 Day High

Deadliest Month of the Pandemic In the United States

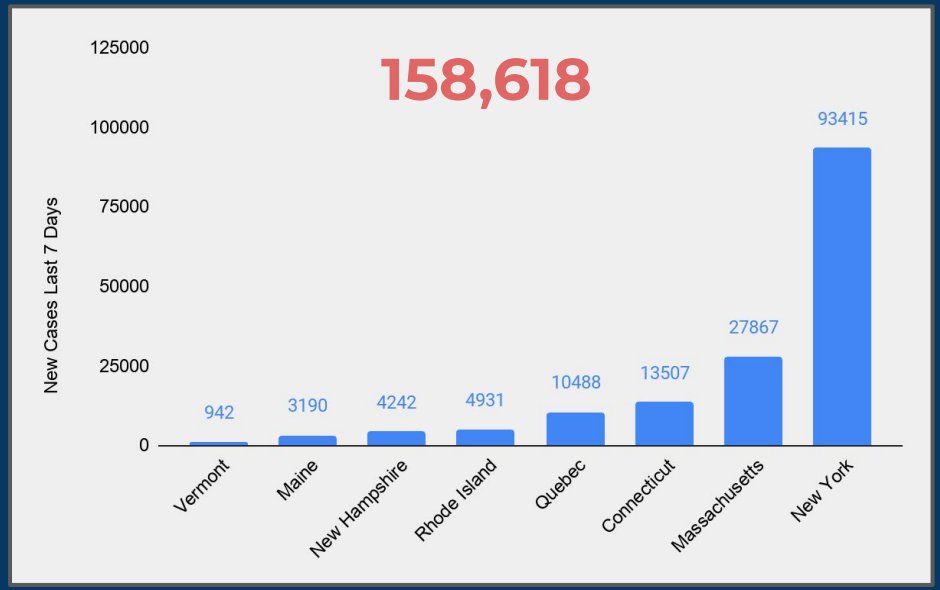


Source: Covid Tracking Project — February 1, 2021

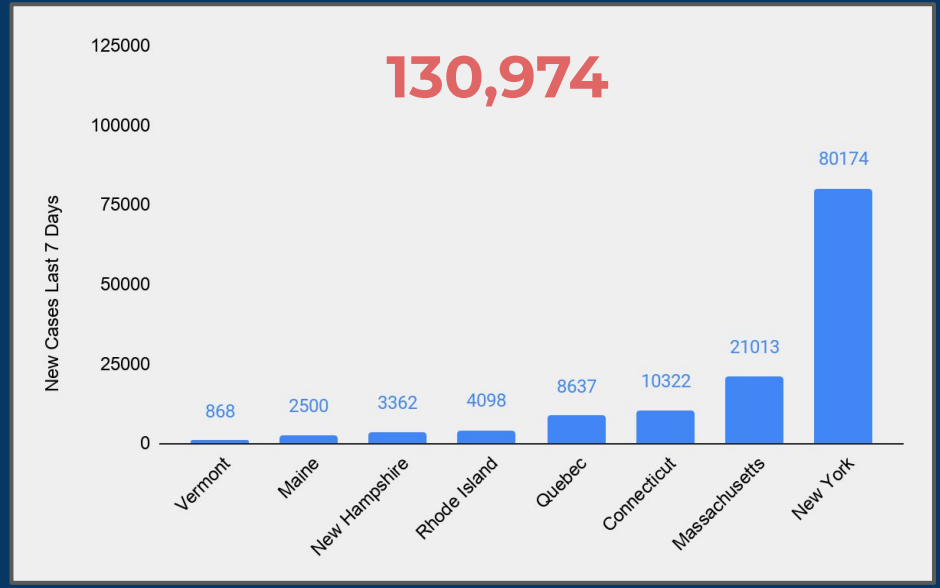
Regional Case Growth

17.43% Decrease in New Cases

New Cases Jan 19th to Jan. 25th



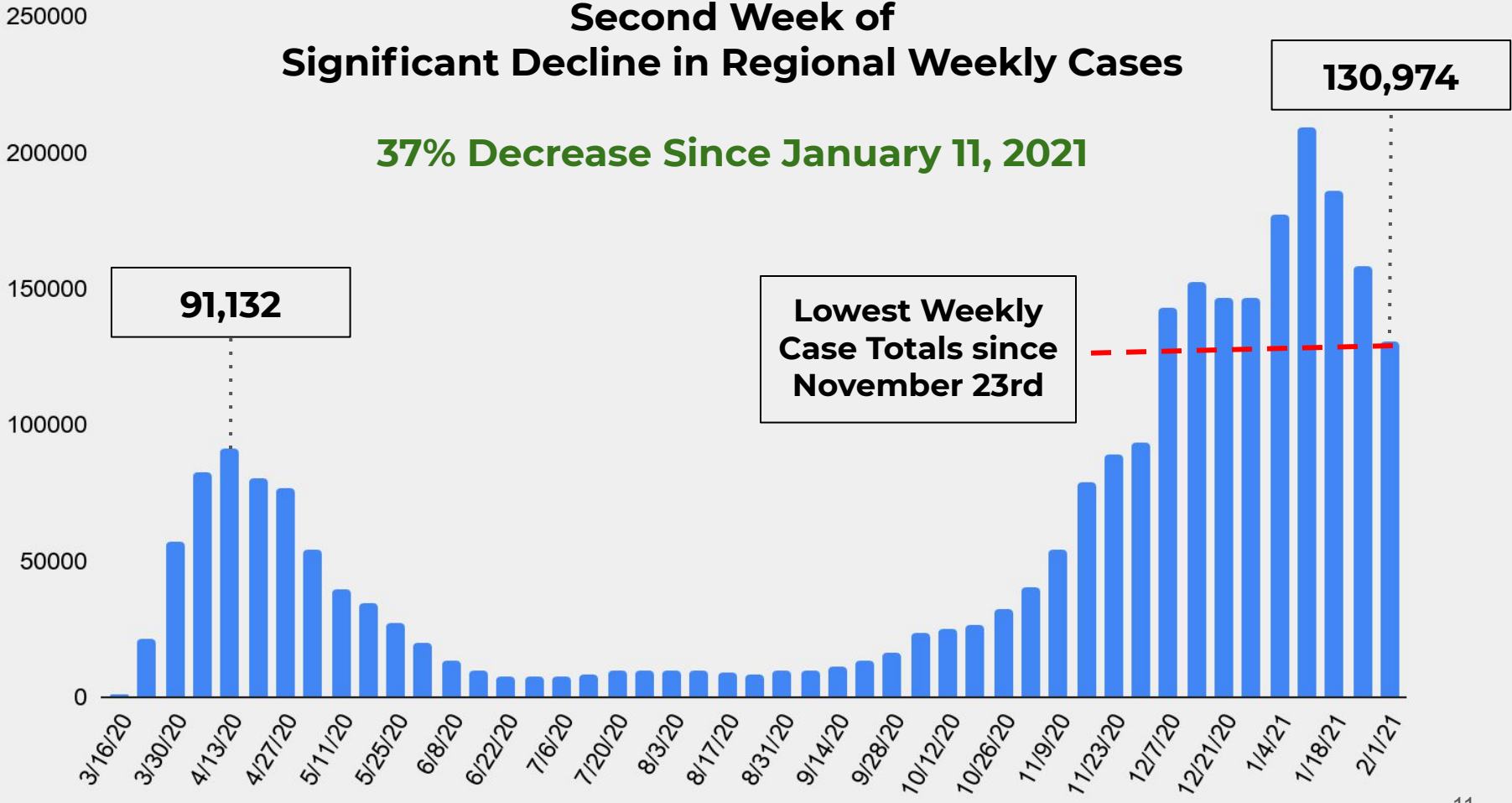
New Cases Jan 26th to Feb. 1st



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

Second Week of Significant Decline in Regional Weekly Cases

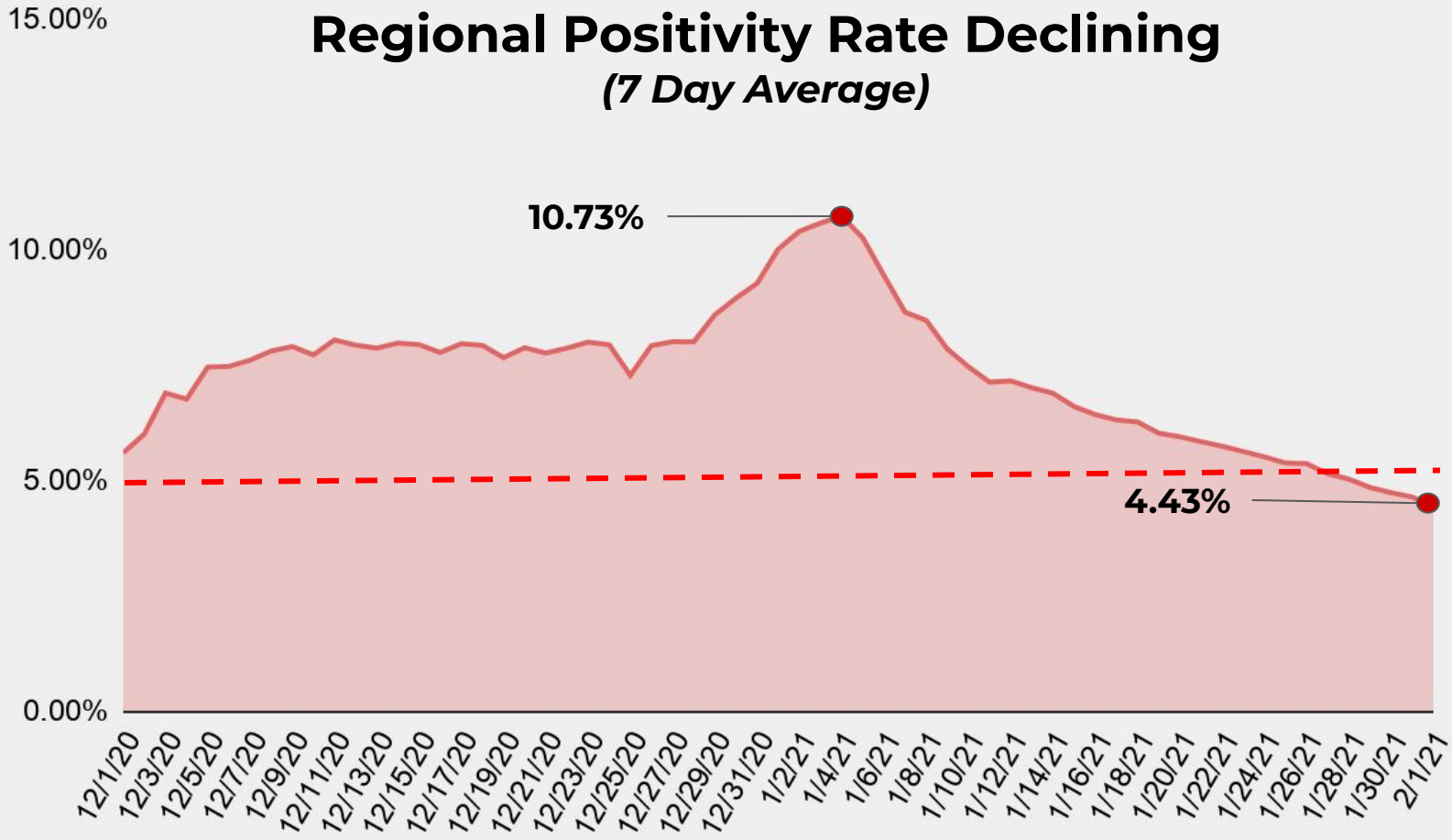
37% Decrease Since January 11, 2021



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

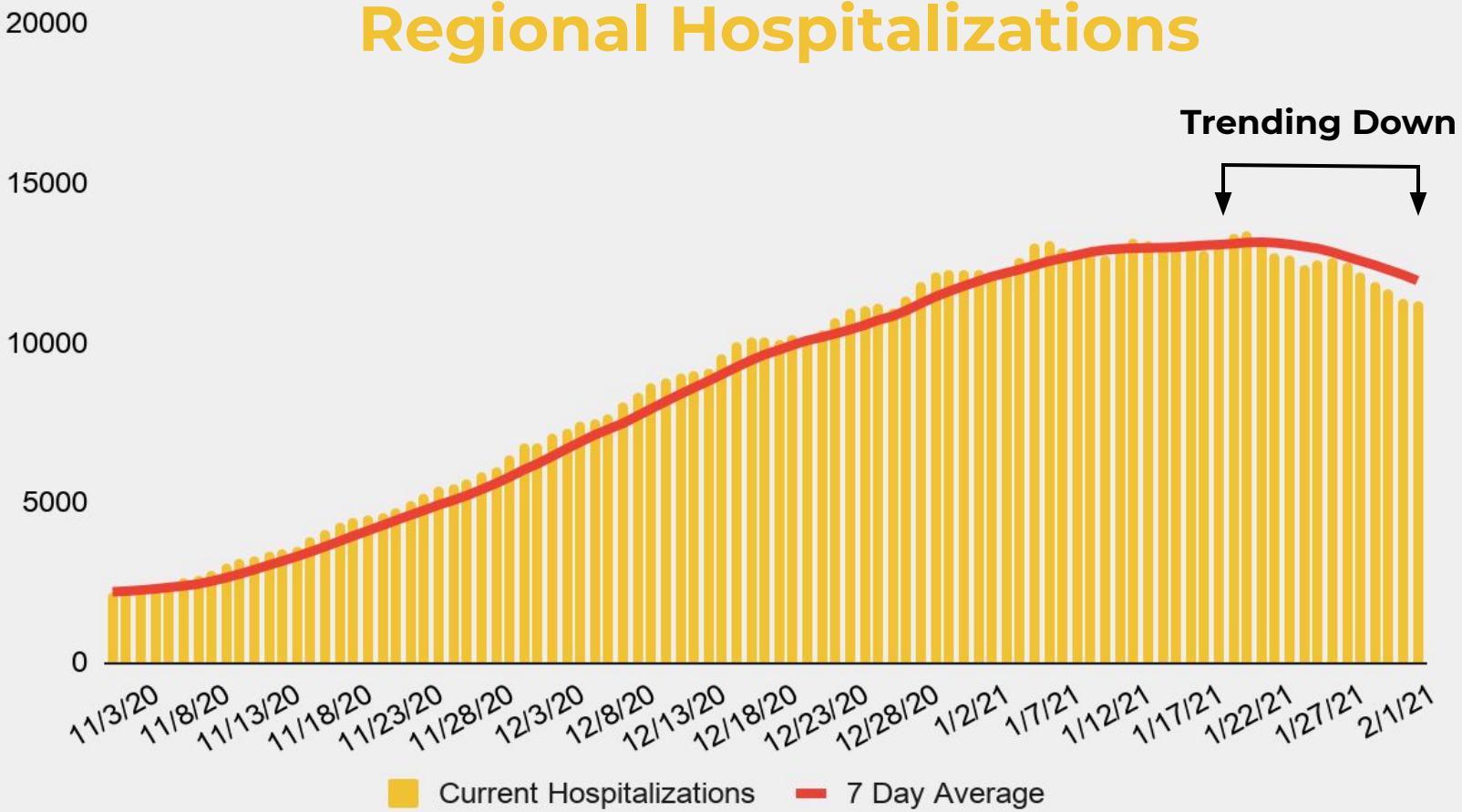
Regional Positivity Rate Declining

(7 Day Average)

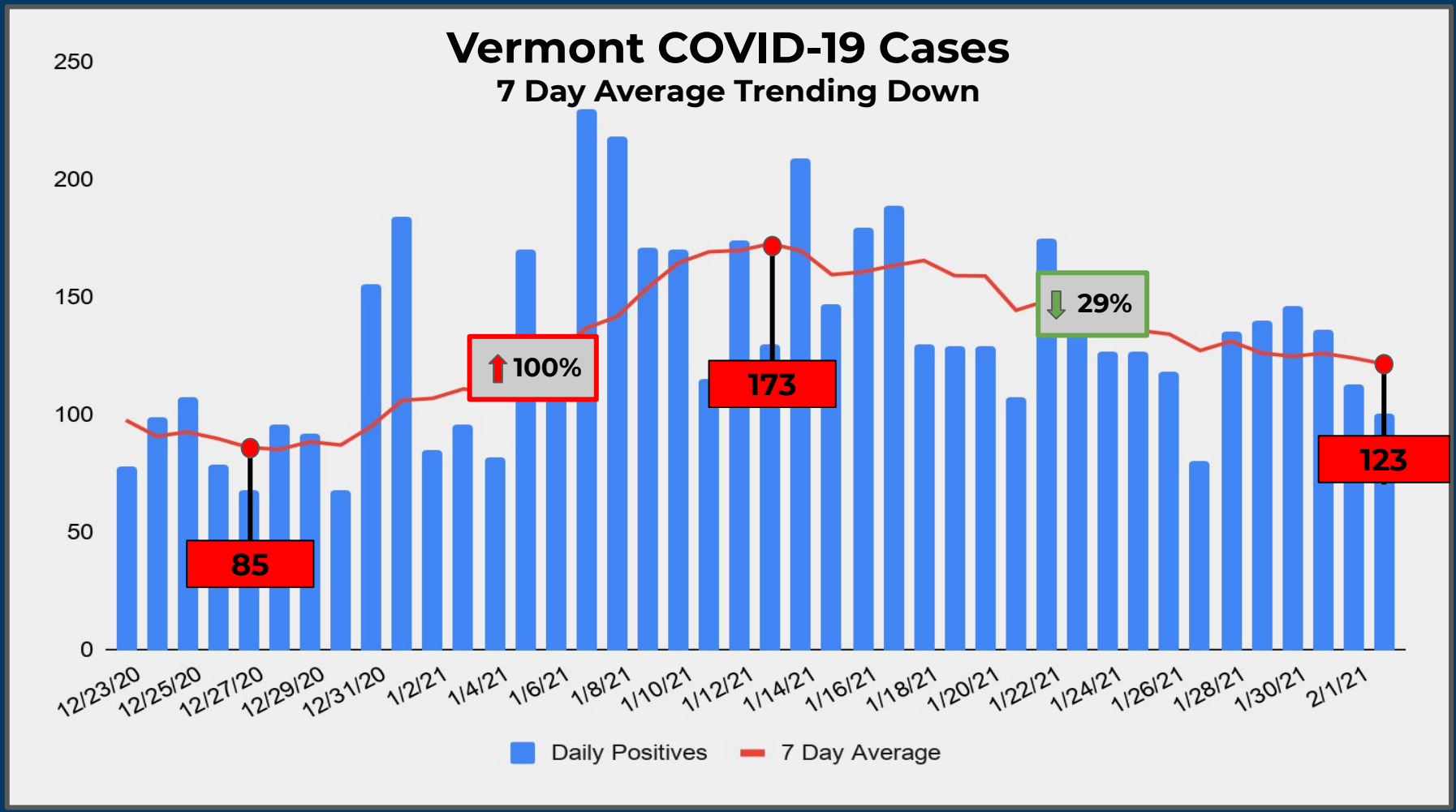


Source: Covid Tracking Project (7 Day Average in CT, ME, MA, NH, NY, RI & VT)—February 1, 2021

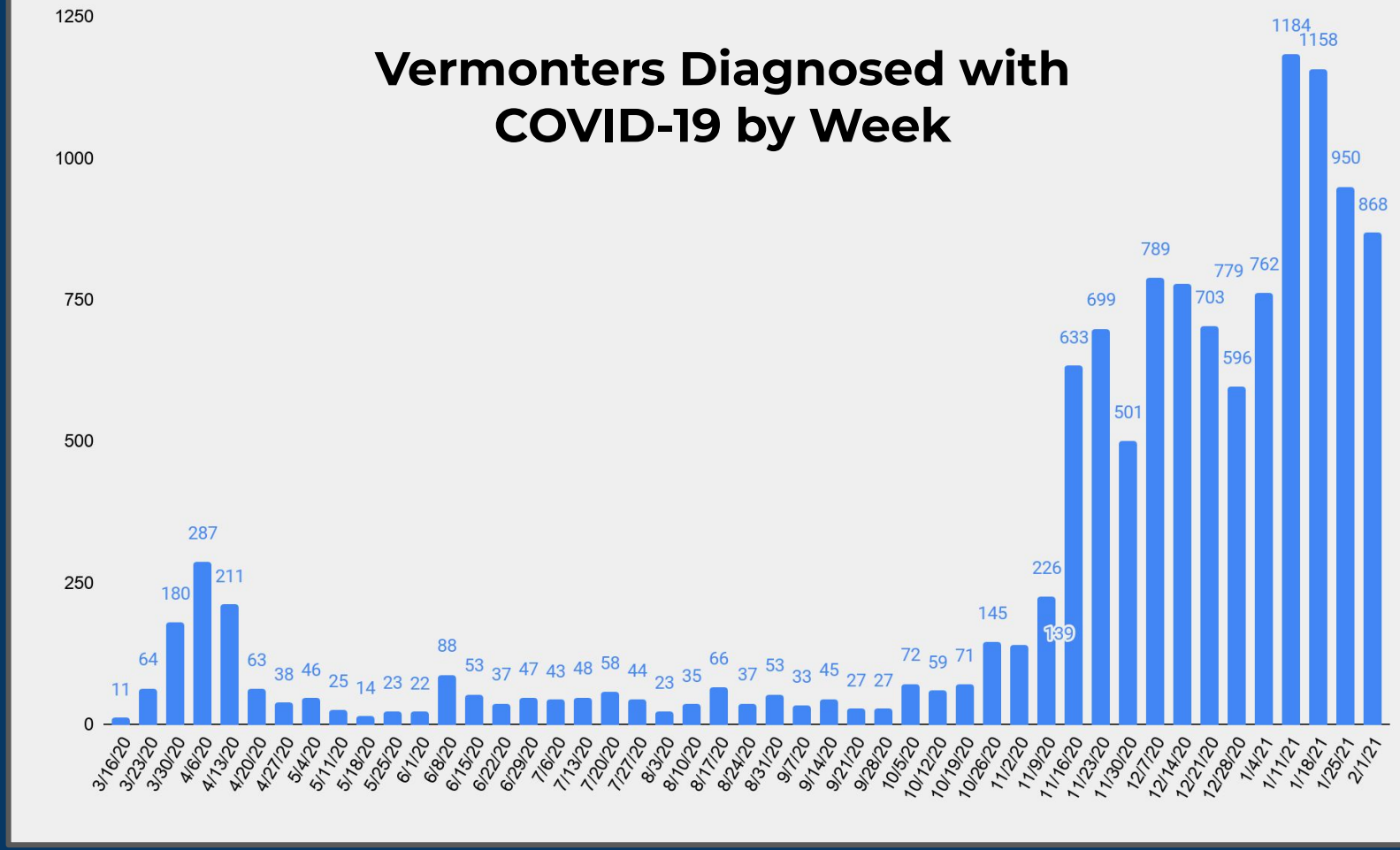
Regional Hospitalizations



Source: Covid Tracking Project (7 Day Average in CT, ME, MA, NH, NY, RI & VT)—February 1, 2021



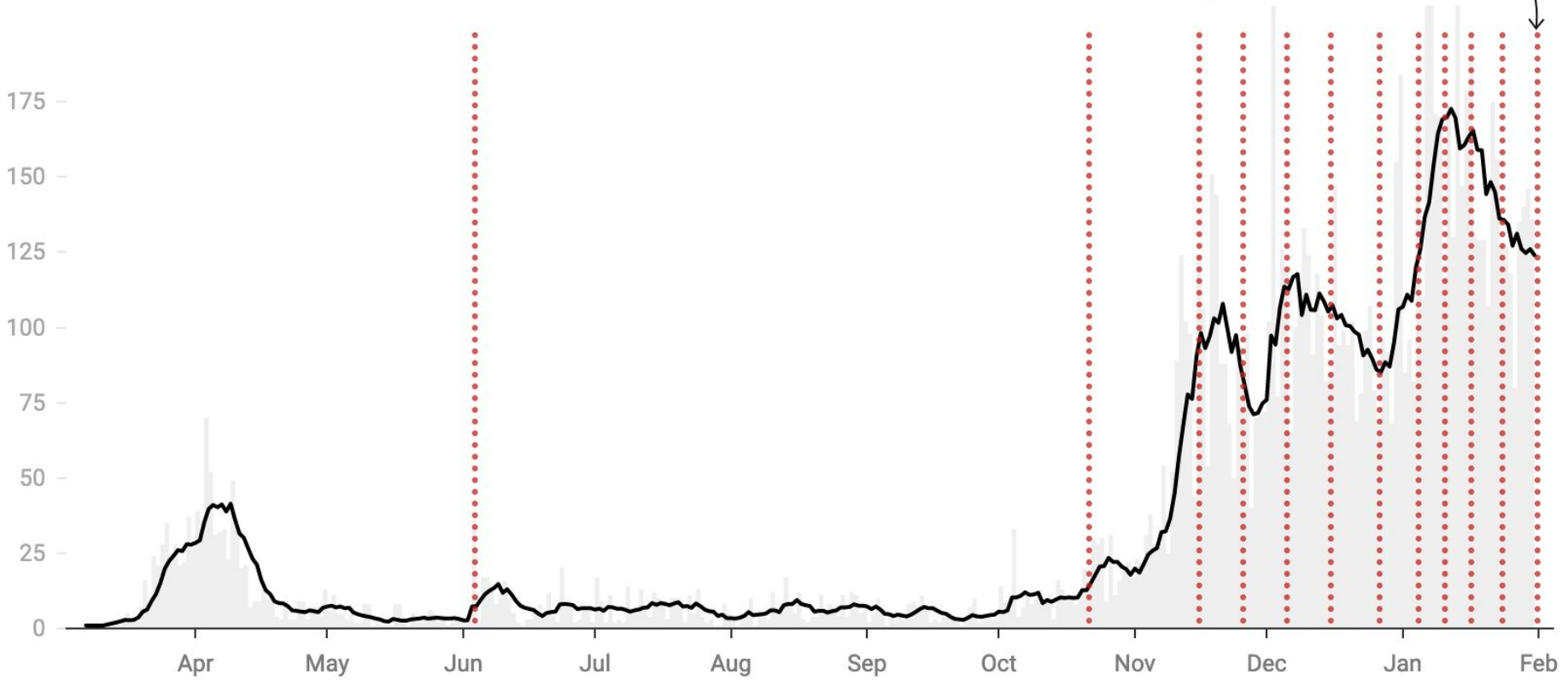
Source: Vermont Department of Health— February 1, 2021



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

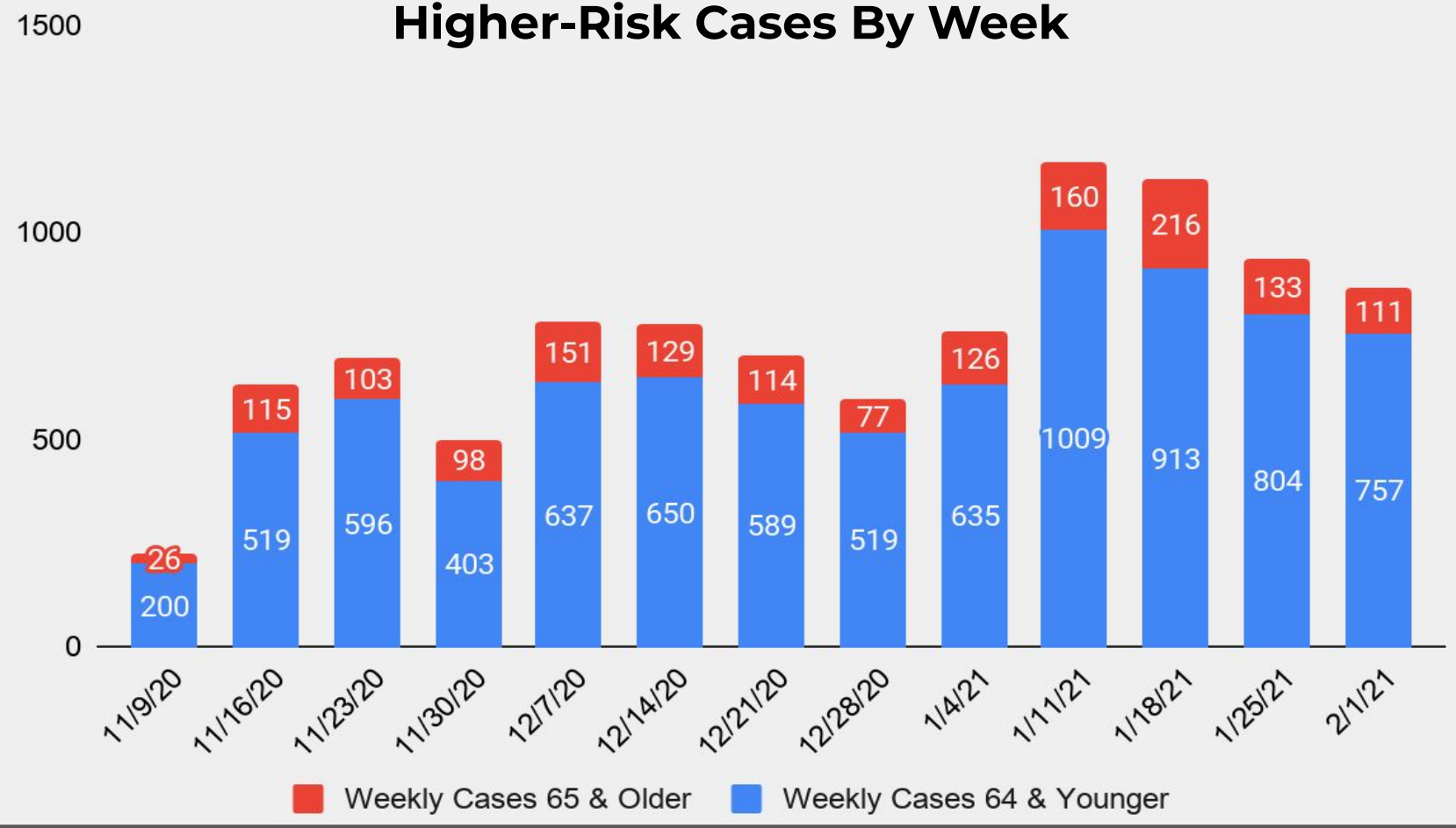
Daily COVID-19 Infections in Vermont (7 Day Average)

1000 Infection thresholds denoted with red dashed line.



Source: Vermont Department of Health— February 2, 2021

Higher-Risk Cases By Week



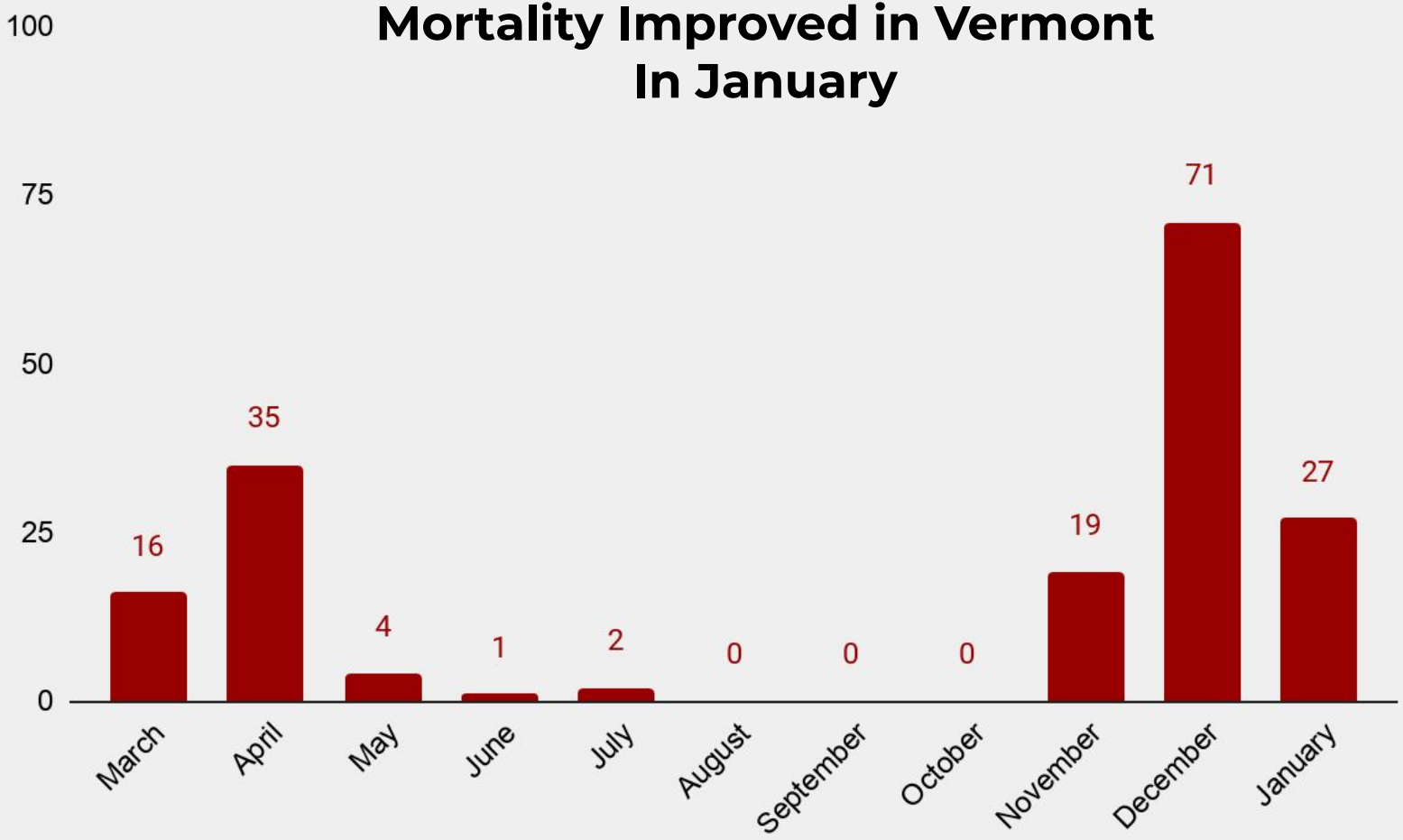
Source: Vermont Department of Health (week calculated as Tuesday to Monday)

Active Outbreaks in Long Term Care Facilities

Facility Name	Total COVID-19 Cases
The Residence at Shelburne Bay, *Shelburne*	43
Village at Cedar Hill, *Windsor*	20
Lakeview Community Care Home, *Burlington*	13
Vermont Veterans Home, *Bennington*	9
Harbor Village, *South Burlington*	9
LTCF D	8
Valley Terrace, *Hartford*	7
Brookdale at Fillmore Pond, *Bennington*	Not Shown
Mountain View Center, *Rutland*	Not Shown
The Residence at Quarry Hill, *South Burlington*	Not Shown
Franklin County Rehab Center, *St. Albans City*	Not Shown

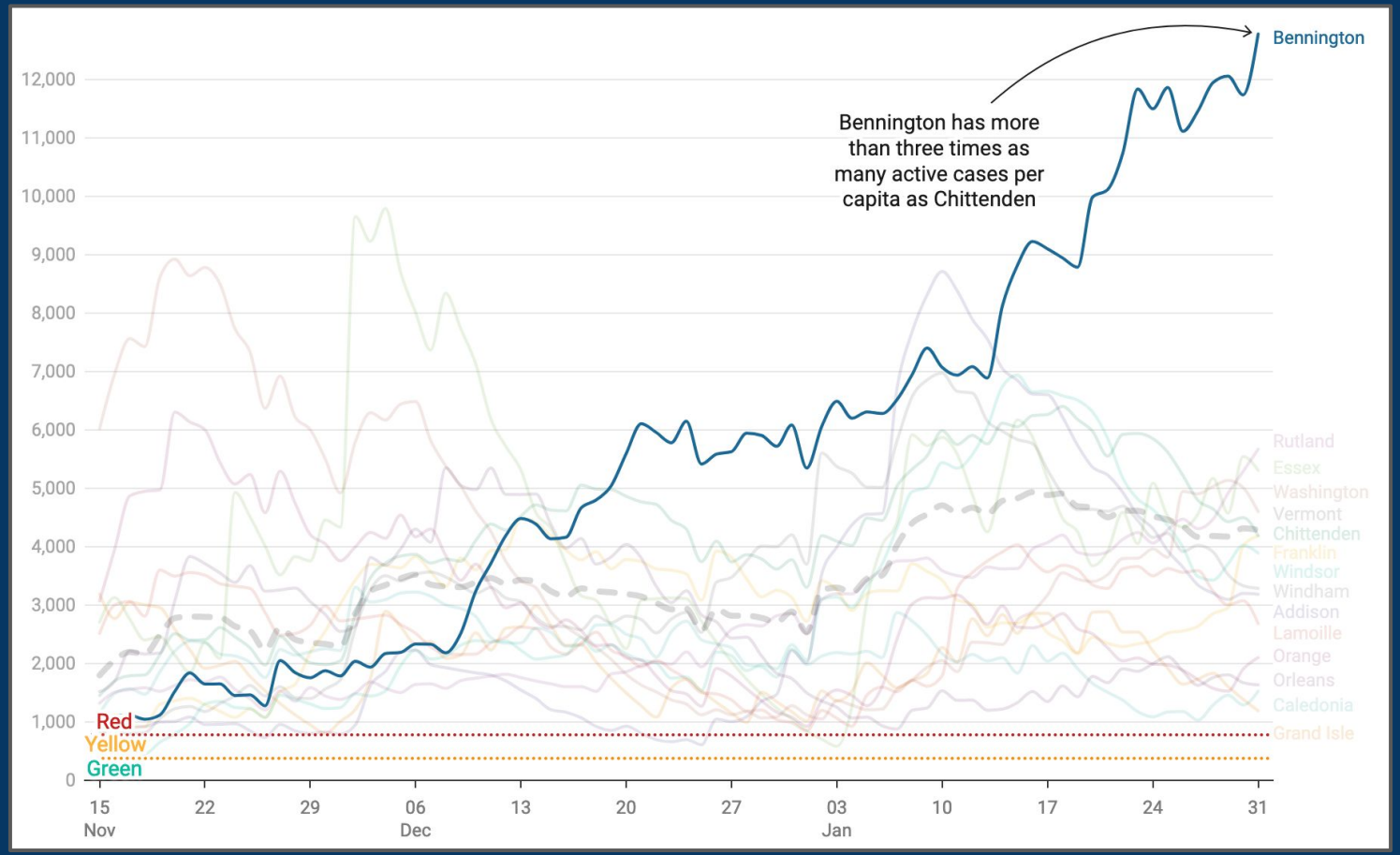
Source: Vermont Department of Health—February 1, 2021 (reporting Monday through previous Sunday); *'Active' defined as less than 28 days since most recent case's specimen collection date or illness start date (whichever is later); *privacy suppressions include facility w/ <25 staff and residents and/or >75% of facility infected -- there are three active outbreaks that are not included as a result.*

Mortality Improved in Vermont In January



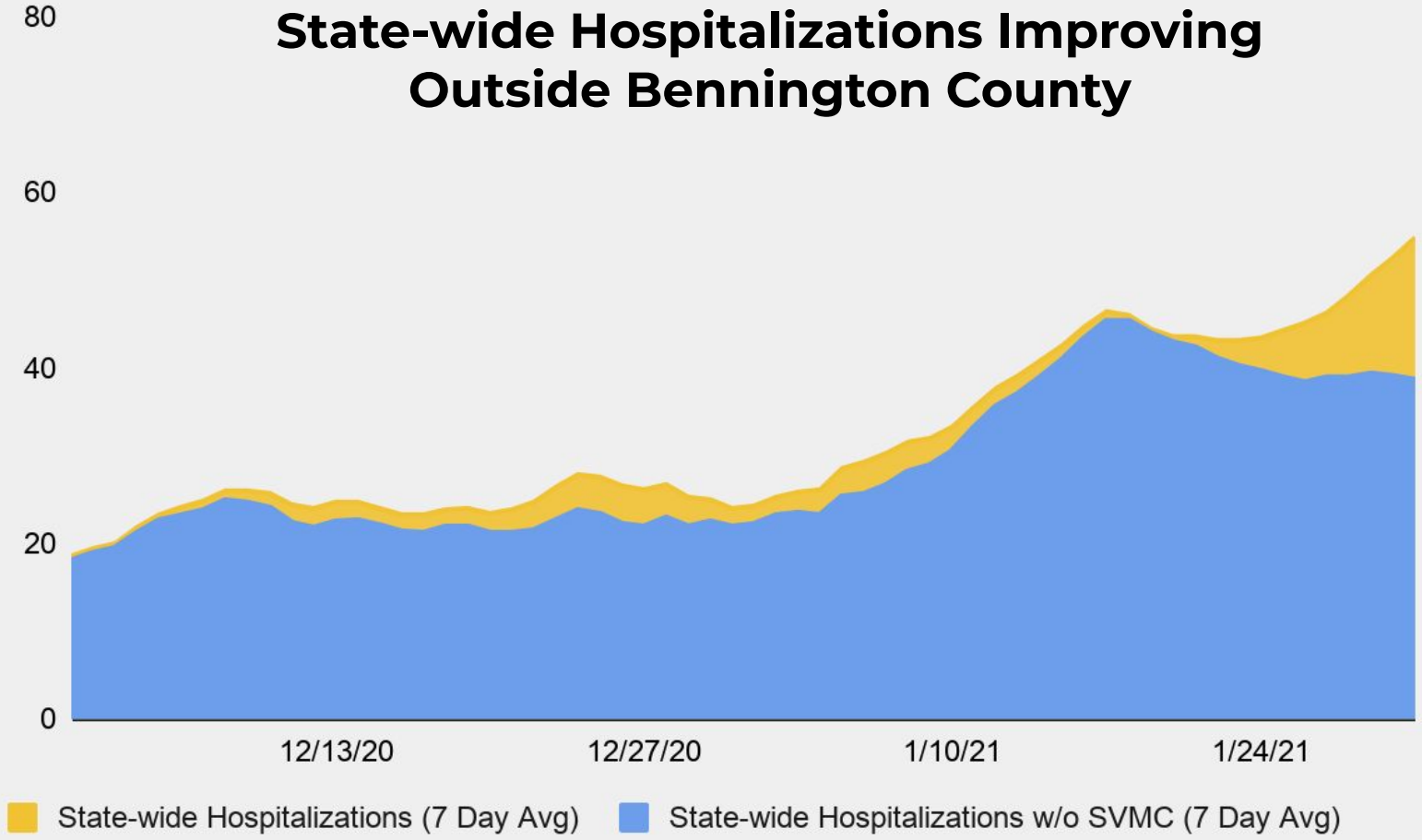
Source: Vermont Department of Health

Estimated Active Cases per Million in Vermont



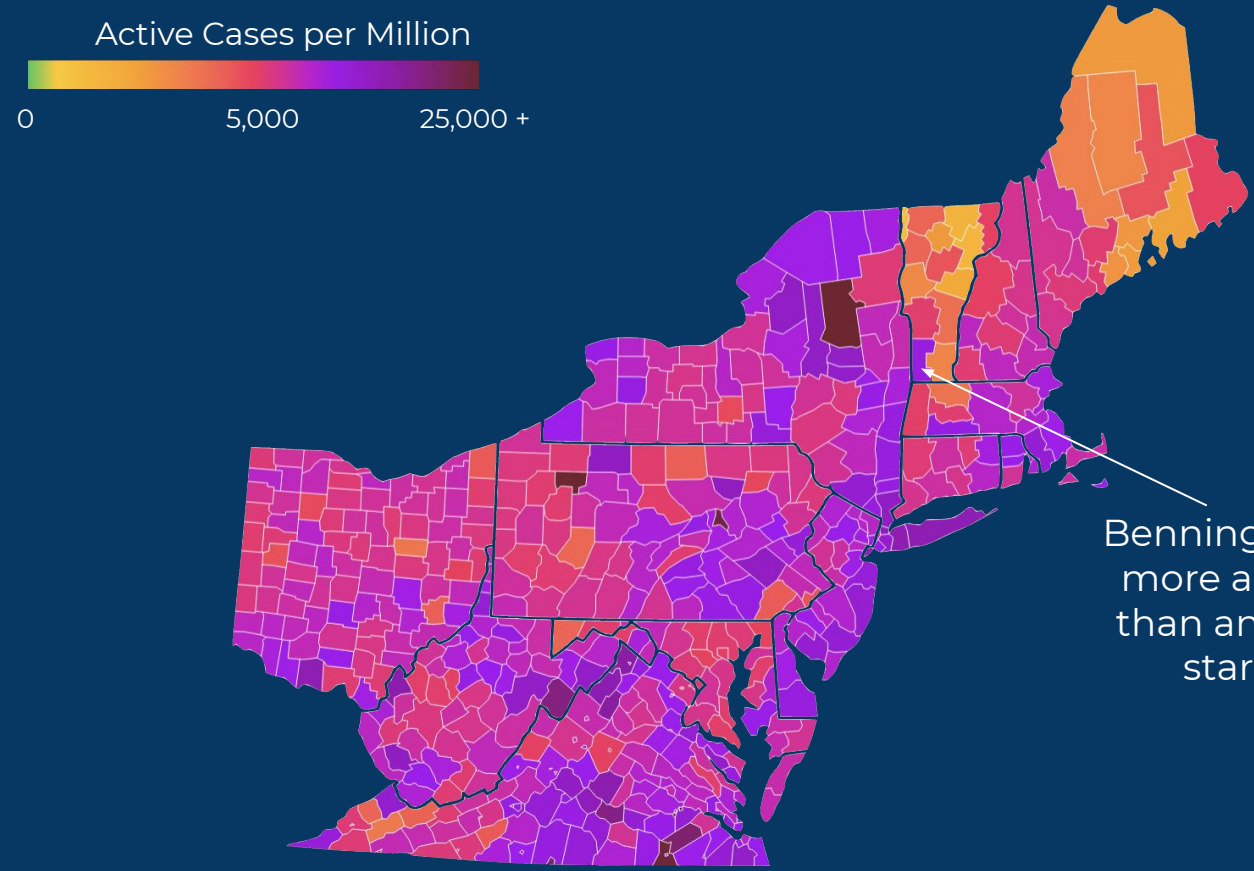
Source: VDH

State-wide Hospitalizations Improving Outside Bennington County



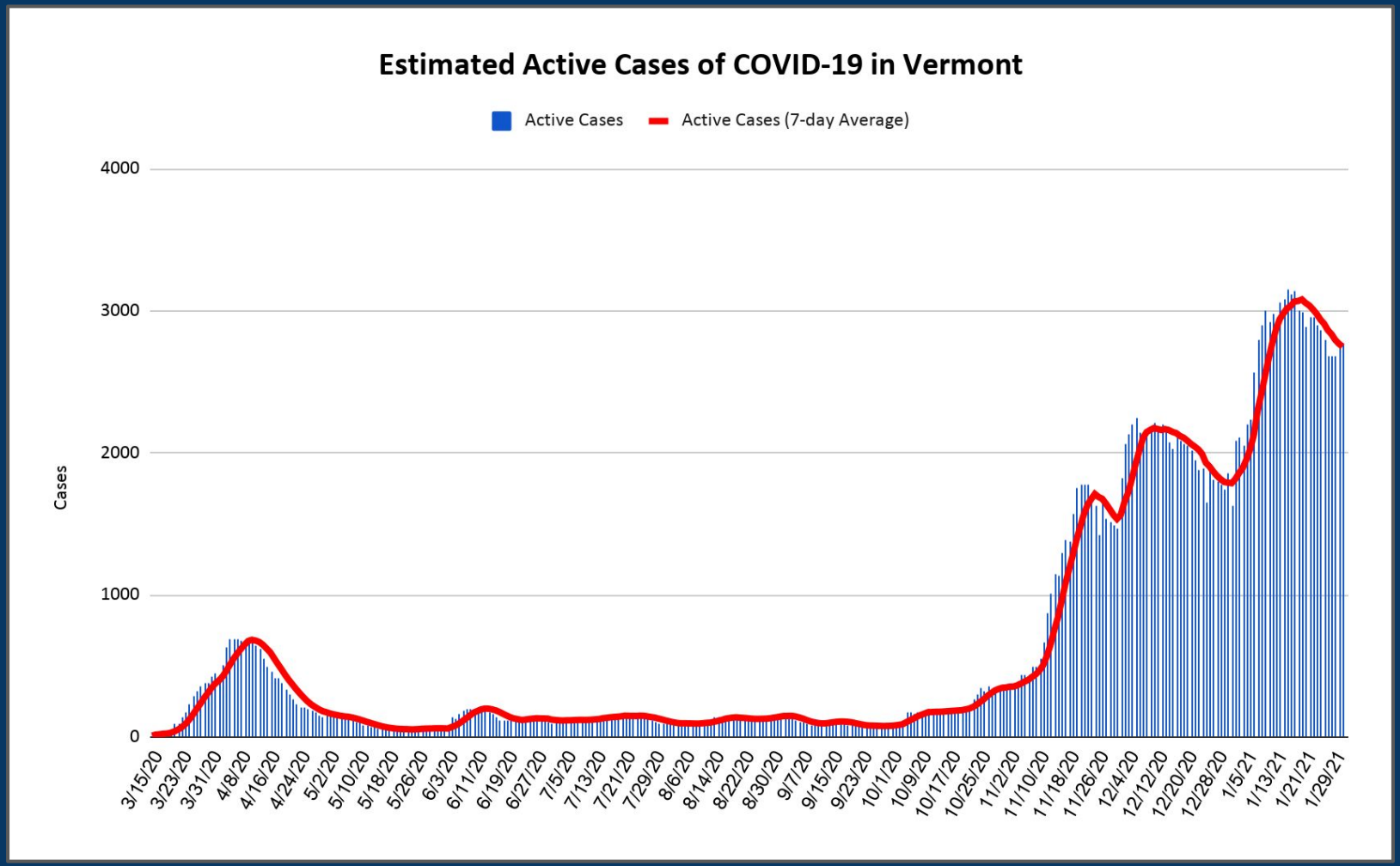
Source: VDH

Regional Heat Map



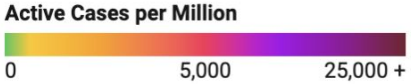
Bennington continues to have more active cases per capita than any VT county since the start of the pandemic

See daily map updates at https://dfr.vermont.gov/about-us/covid-19/modeling/covid-19-modeling-graphics



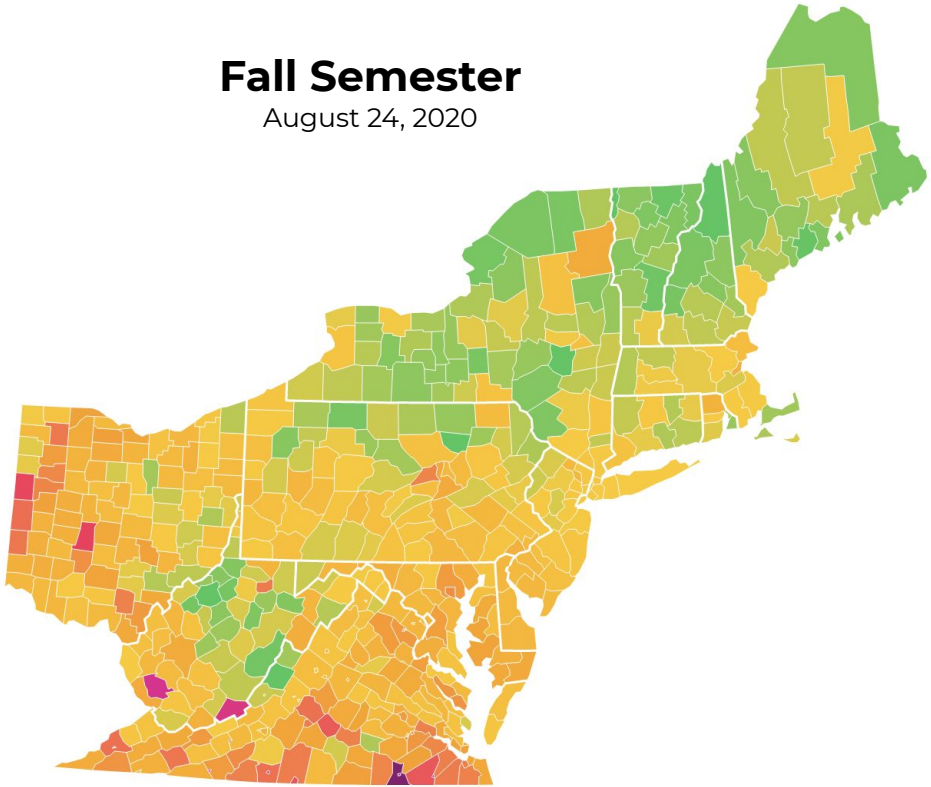
Source: Johns Hopkins University Data & Oliver Wyman Forecast Model—February 1, 2020

Regional Prevalence 1 Week Preceding Fall 2020 & Spring 2021 Terms



Fall Semester

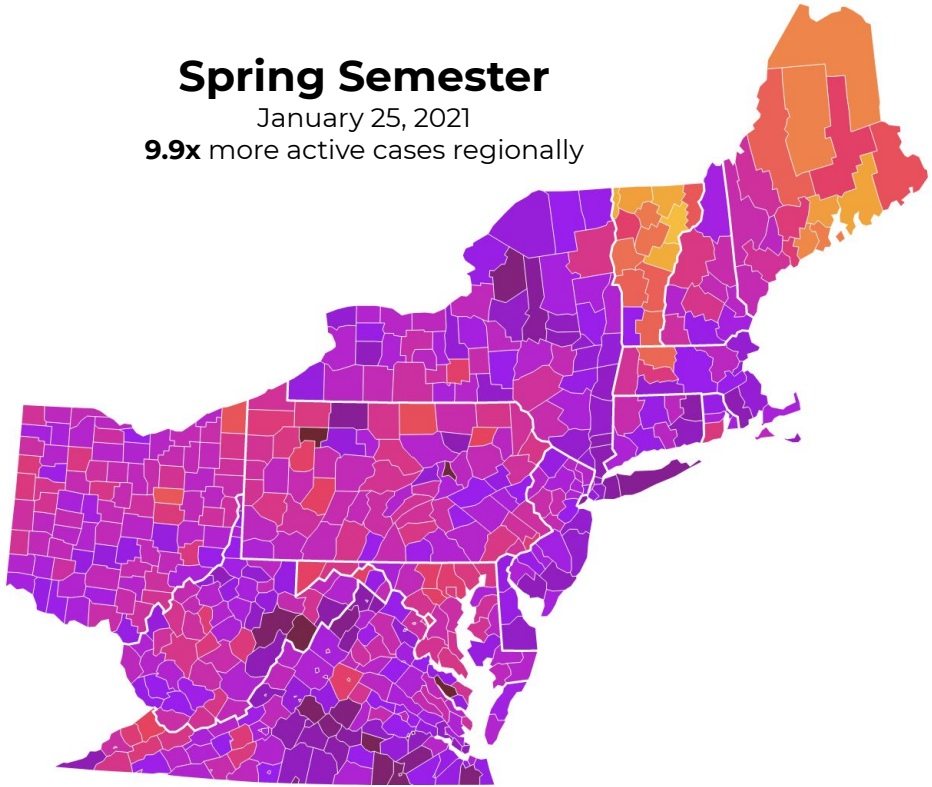
August 24, 2020



Spring Semester

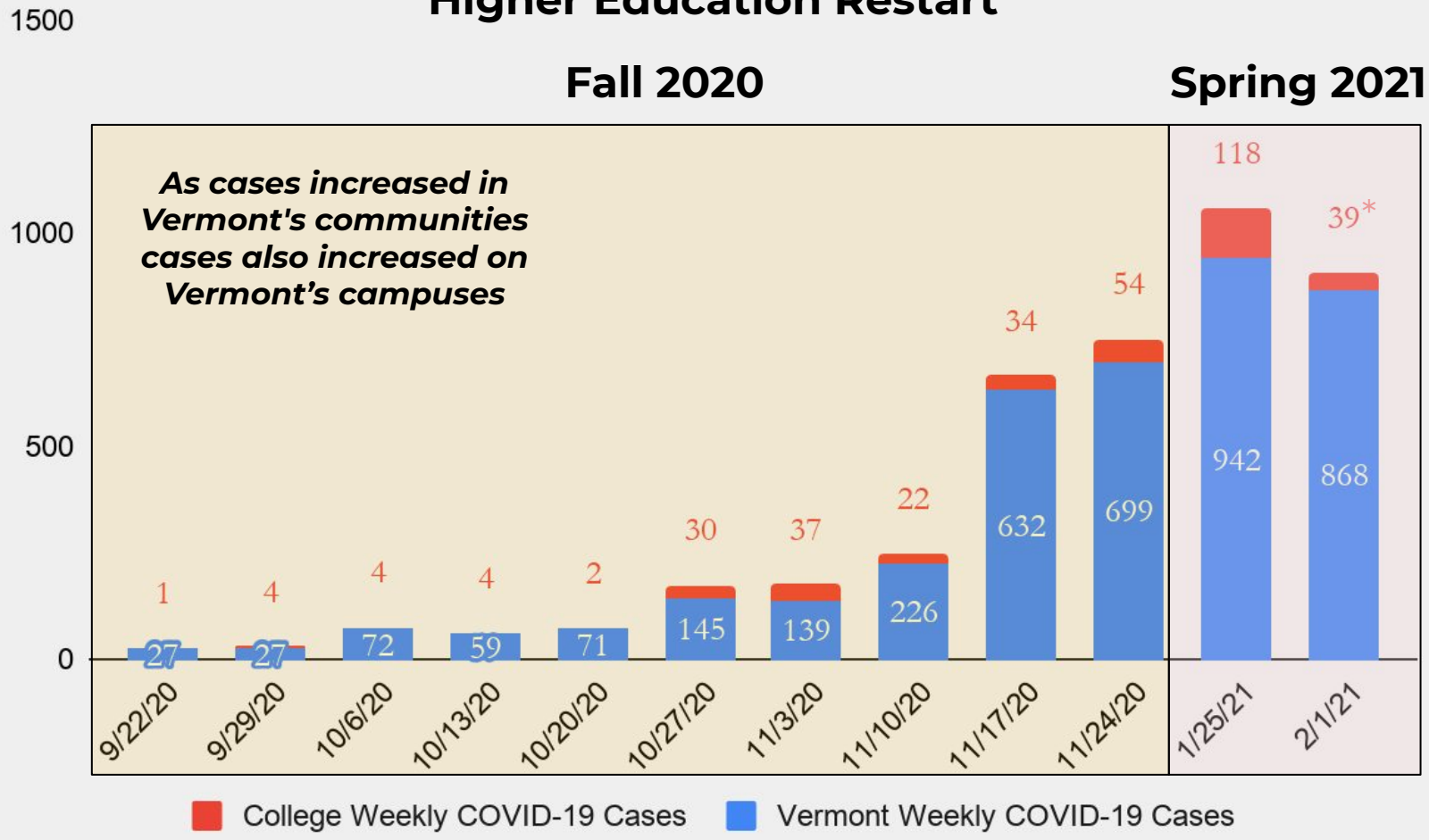
January 25, 2021

9.9x more active cases regionally



Source: Johns Hopkins & NYT

Higher Education Restart

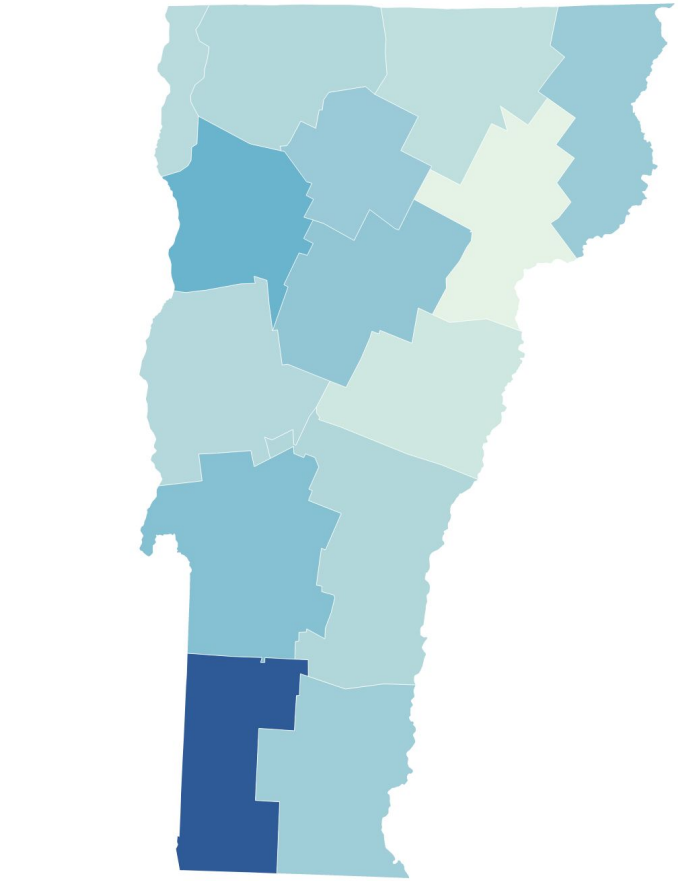


Source: Vermont Higher Education Institution reporting— February 2, 2021; *UVM not reporting

Vermont Weekly Cases by County (per 100,000)

Results Reported January 18 - 25

1 400

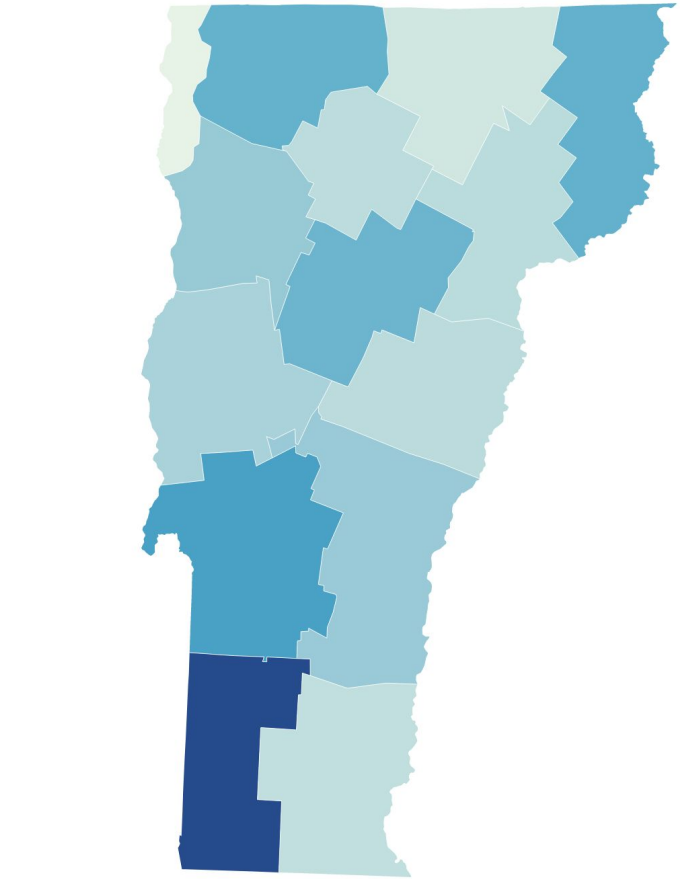


Map: Vermont DFR COVID Modeling Team • Source: Vermont Dept. of Health • Created with Datawrapper

Vermont Weekly Cases by County (per 100,000)

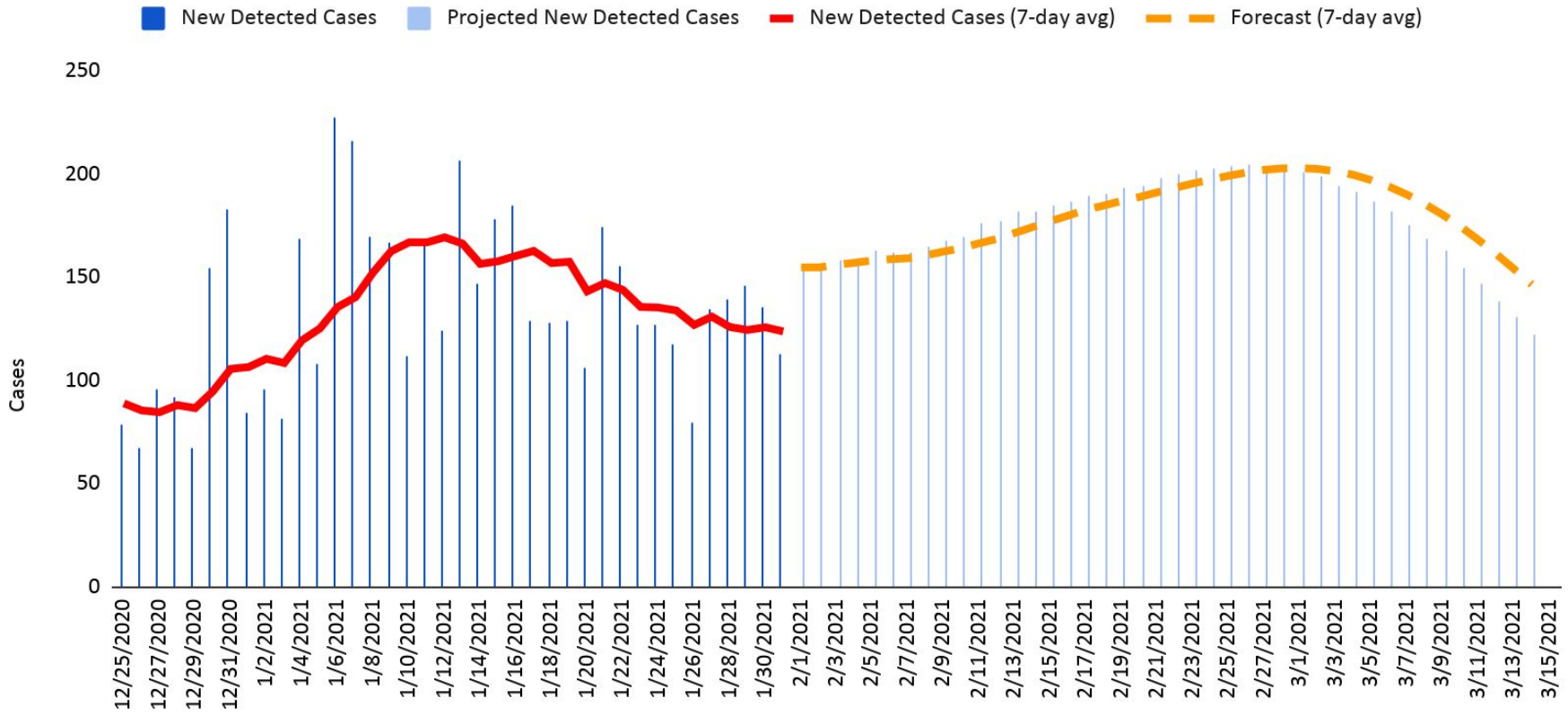
Results Reported January 26 to February 1

1 400



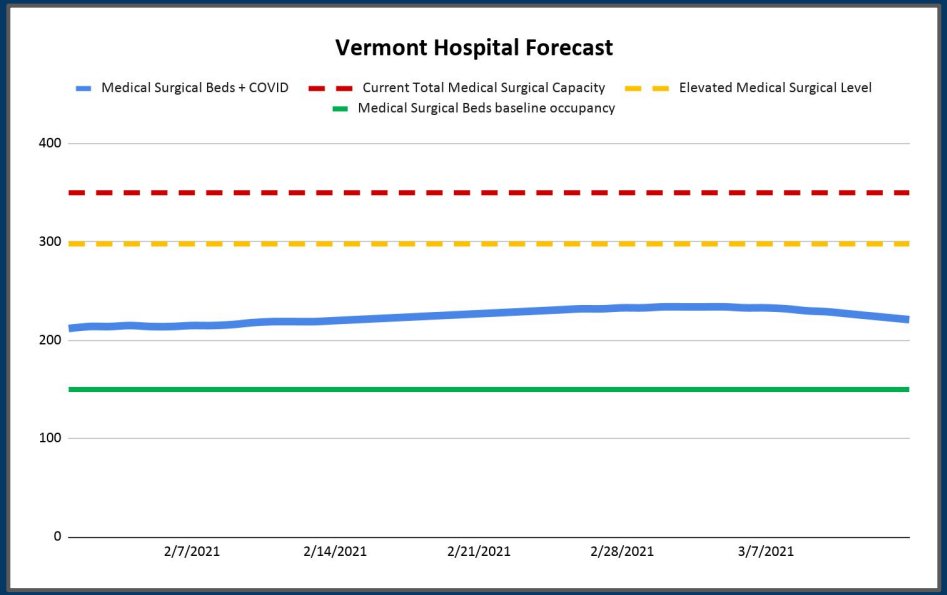
Map: Vermont DFR COVID Modeling Team • Source: Vermont Dept. of Health • Created with Datawrapper

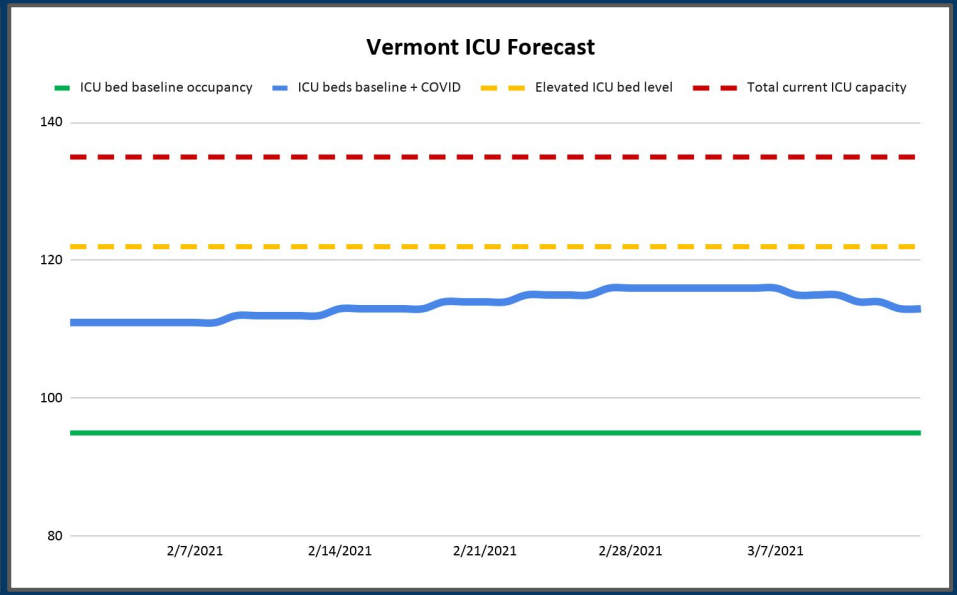
Vermont Forecast



Source: Johns Hopkins University Data & Oliver Wyman Forecast Model—February 1, 2020

Hospital & ICU Capacity Forecasts





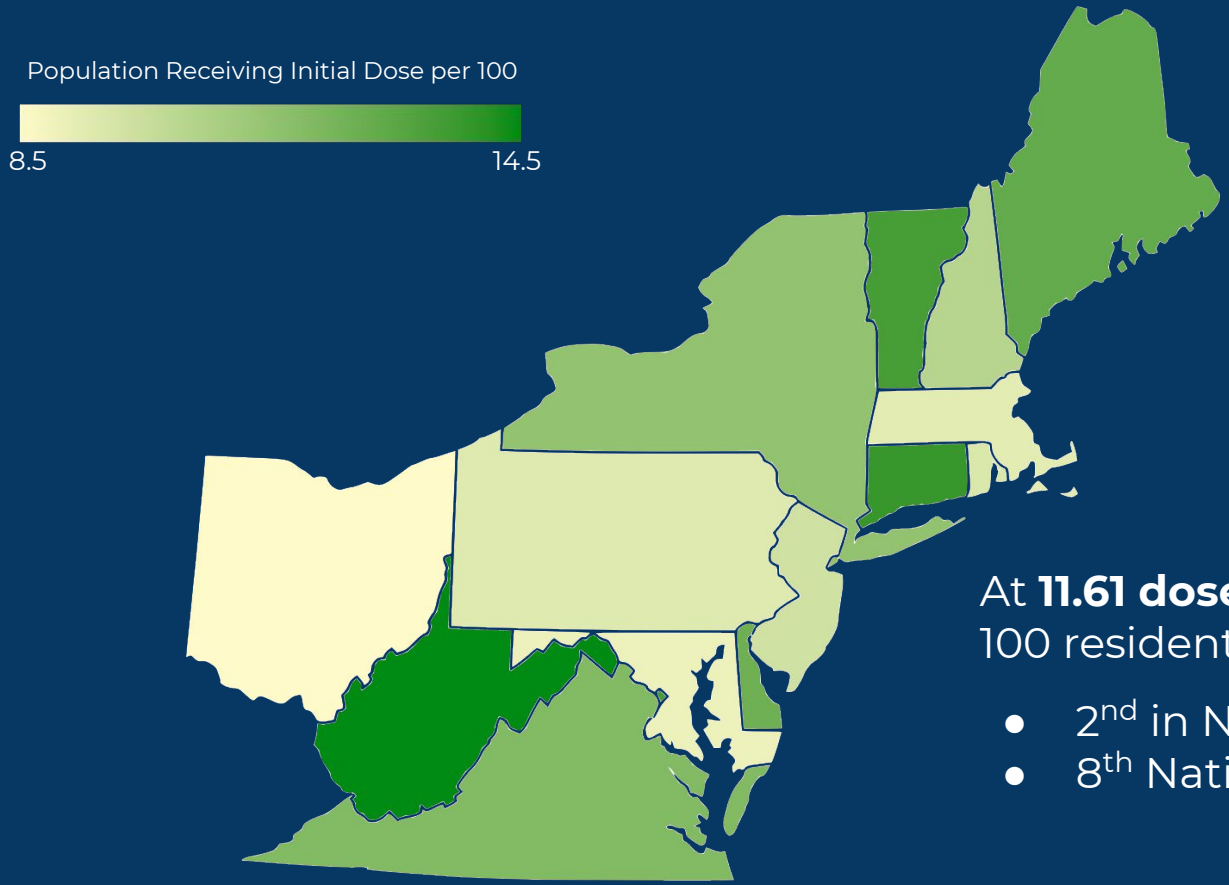
Source: Oliver Wyman Forecast Model—February 1, 2020; GNYHA Hospital Surge framework

Measuring Vermont's Pandemic Response

Rank *(Lowest)*	***Positivity*** *(7 Day Avg.)*	***Cases*** *(7 Day Moving Avg.)*	***Hospitalizations*** *(7 Day Moving Avg.)*	***Fatalities*** *(7 Day Moving Avg.)*
1	Wyoming	Hawaii	Hawaii	Alaska
2	Hawaii	North Dakota	Alaska	**Vermont**
3	**Vermont**	Oregon	North Dakota	North Dakota
4	Alaska	Minnesota	Minnesota	Minnesota
5	D.C.	Michigan	Oregon	Oregon
6	Rhode Island	South Dakota	Wyoming	Utah
7	Massachusetts	Alaska	Montana	Nebraska
8	Oregon	**Vermont**	**Vermont**	Colorado

Source: Covid Tracking Project; Johns Hopkins University & New York Times—February 1, 2021

Regional Vaccination Map



At **11.61 doses** administered per 100 residents, Vermont ranks:

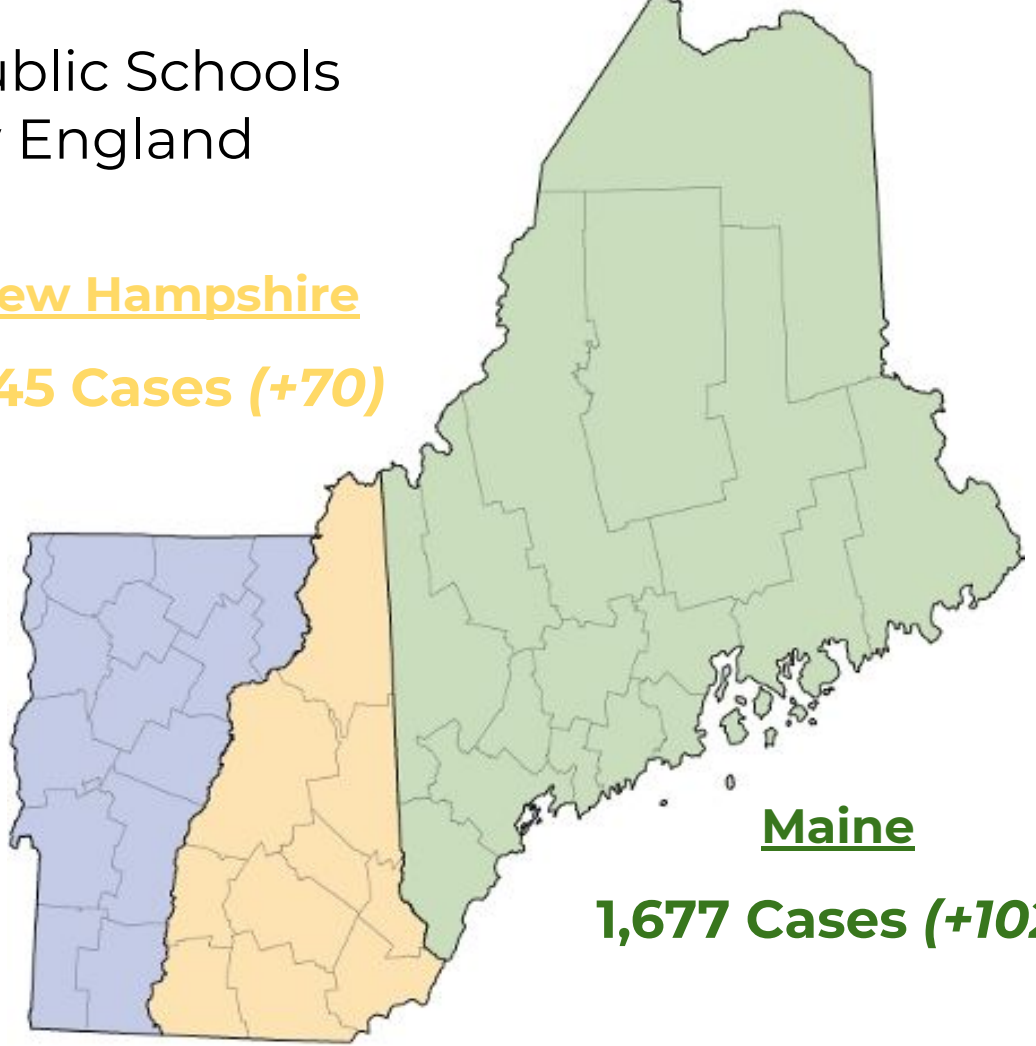
- 2nd in Northeast
- 8th Nationally

Source: CDC—February 1, 2021

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

New Hampshire

1945 Cases *(+70)*



Vermont

460 Cases *(+54)*

Maine

1,677 Cases *(+102)*

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

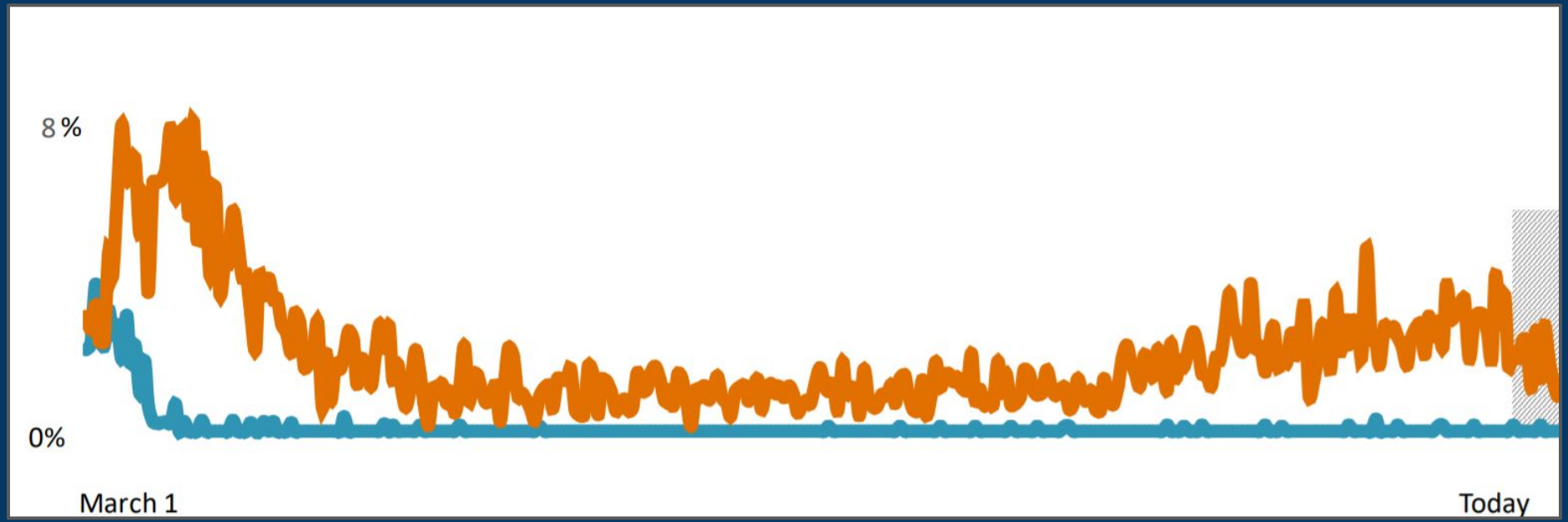
RESTART VERMONT

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

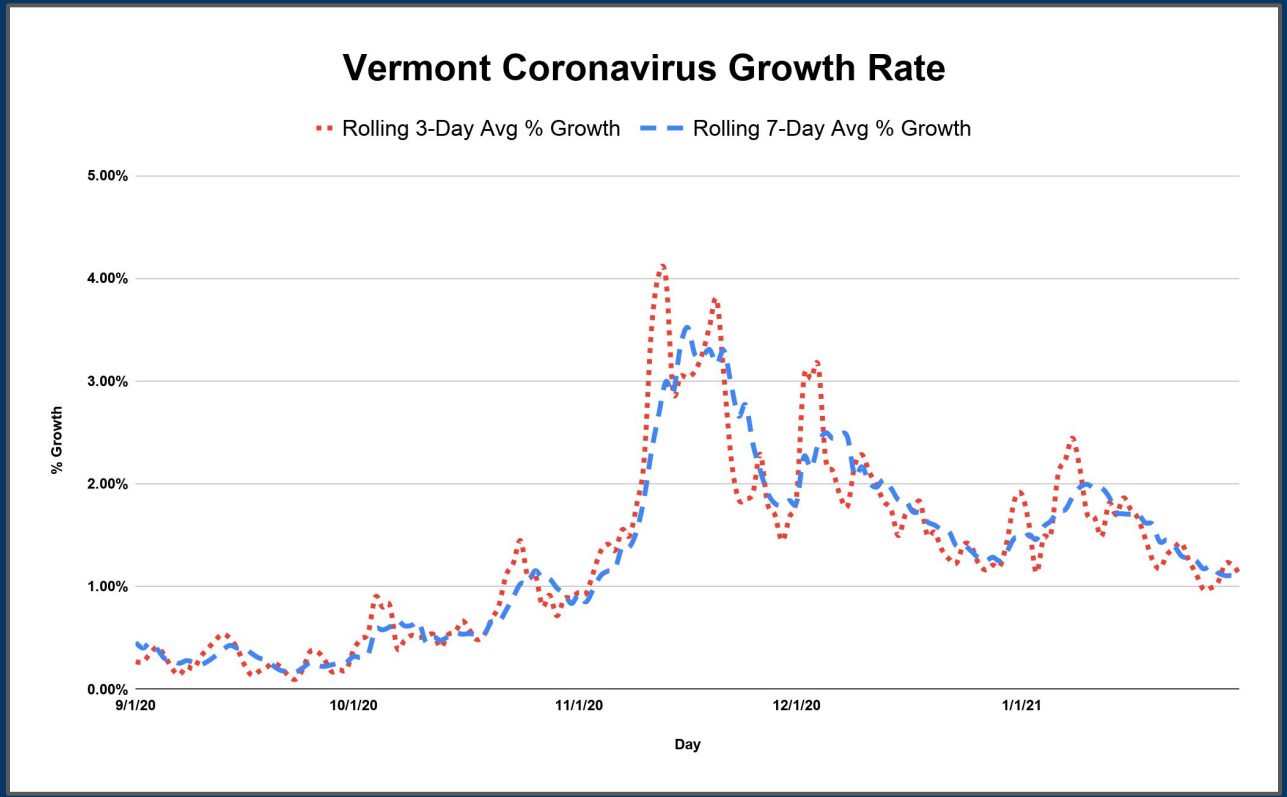
- **Summary:** Percentage of visits with COVID-19 like illness and Influenza diagnosis
- **Warning Flag:** Percentage of visits exceeding 4% for multiple consecutive days



Source: Vermont Department of Health—February 2, 2021

Data Point 2: Viral Growth and Reproductive Rates

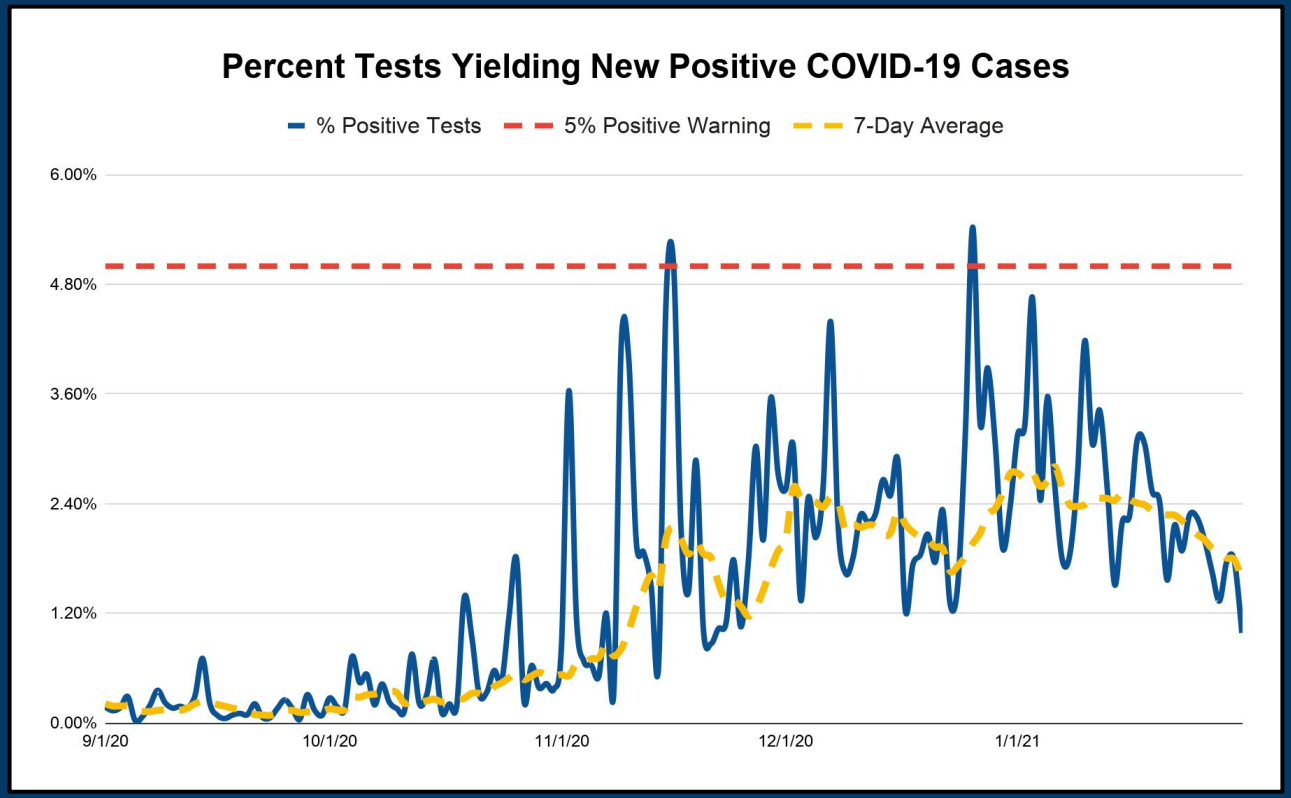
- **Summary:** Case growth measured by daily, 3-day, 7-day, and effective reproductive rate (R_t)
- **Warning Flags:** Sustained viral growth that would lead to <30% open ICU beds



Source: Vermont Department of Health—February 1, 2021

Data Point 3: Percentage of New Positive Tests

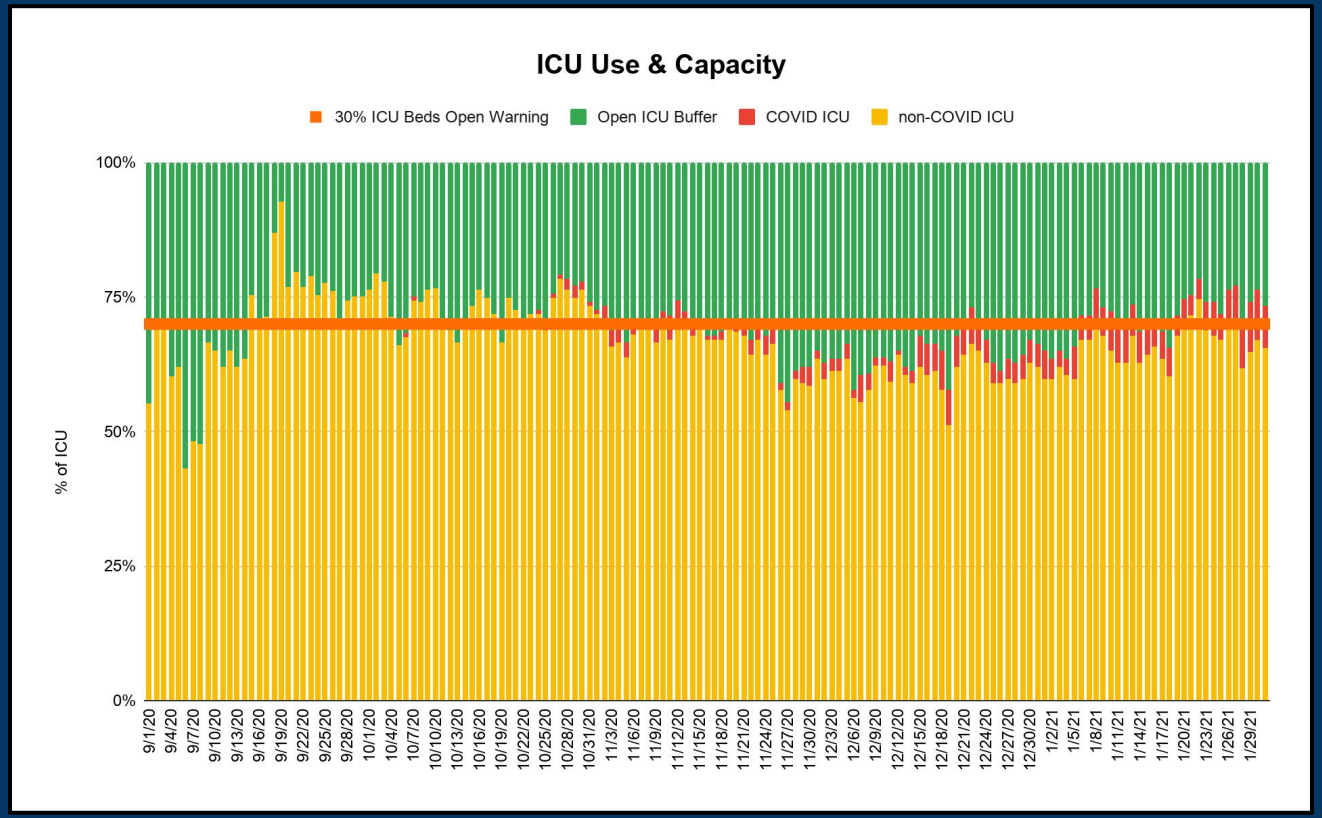
- **Summary:** Percent of tests resulting in a new positive case
- **Warning Flags:** New positives represent >5% of daily results



Source: Vermont Department of Health—February 1, 2021

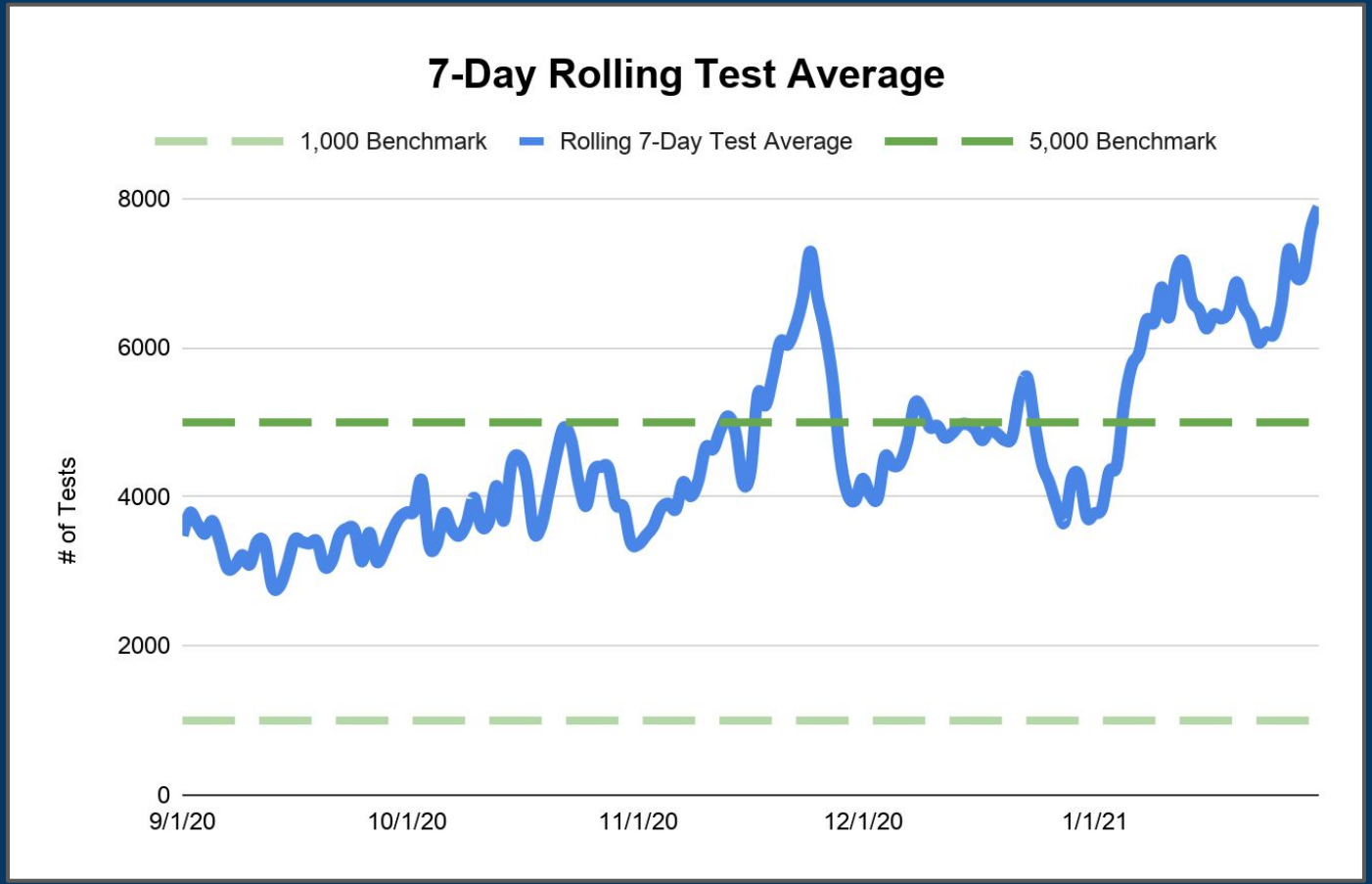
Data Point 4: Hospital & Critical Care Beds

- **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 1, 2021

Vermont Testing



Source: Vermont Department of Health—February 1, 2021; results reported to VDH daily