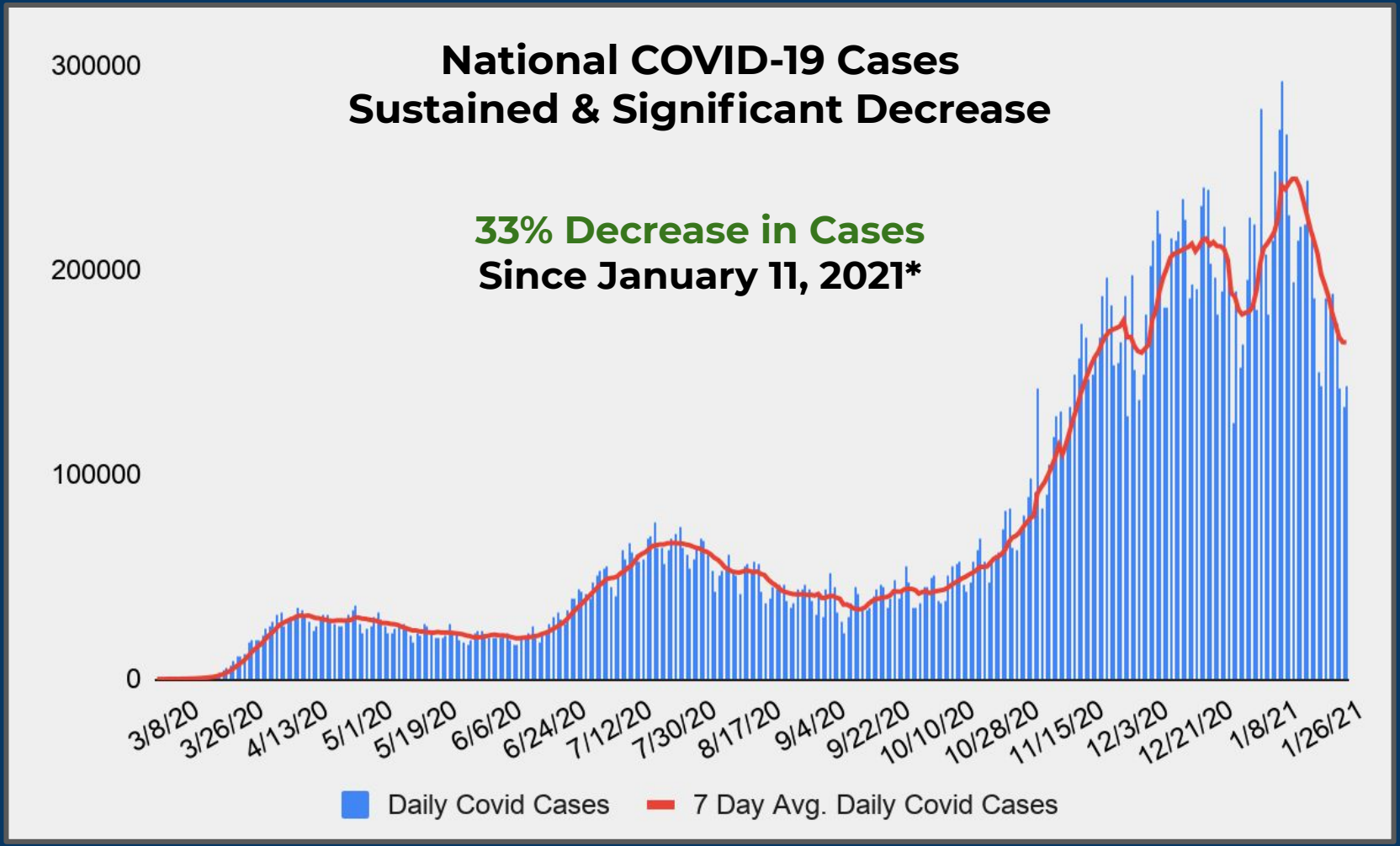
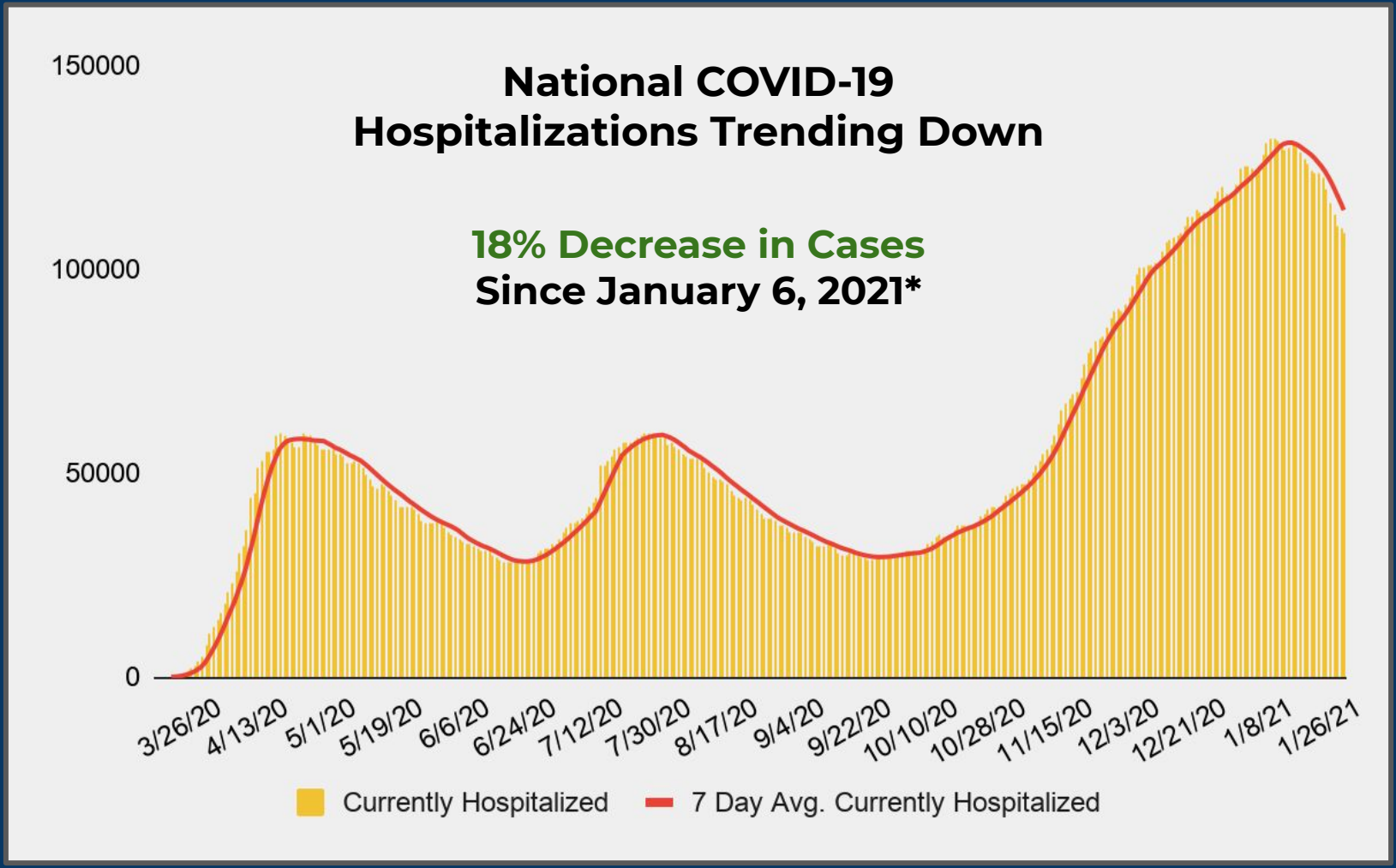
COVID-19 Modeling
January 27, 2021

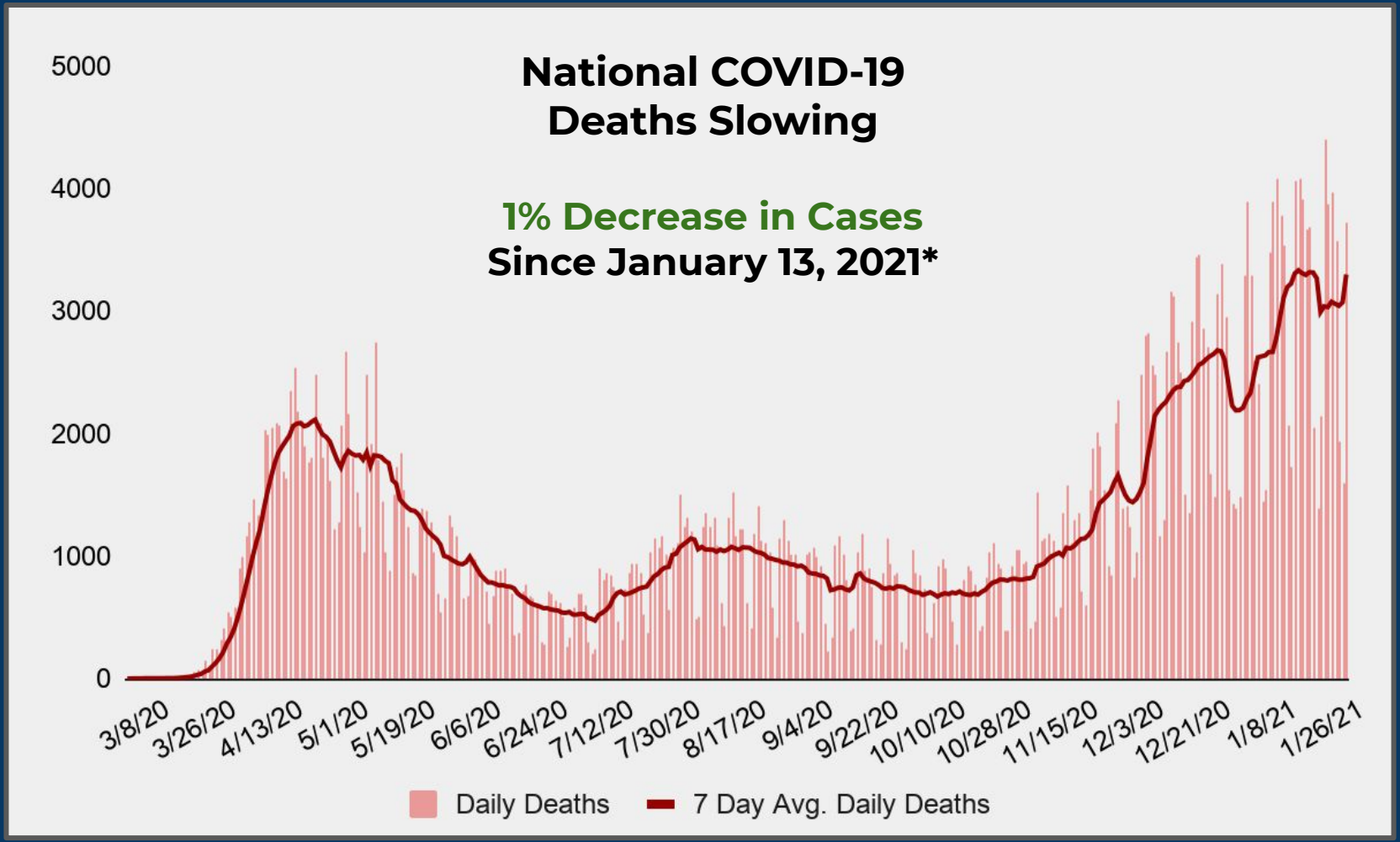
Presentation available at:
dfr.vermont.gov



Source: Covid Tracking Project — January 26, 2021; * Recent 7 Day High



Source: Covid Tracking Project — January 26, 2021; * Recent 7 Day High

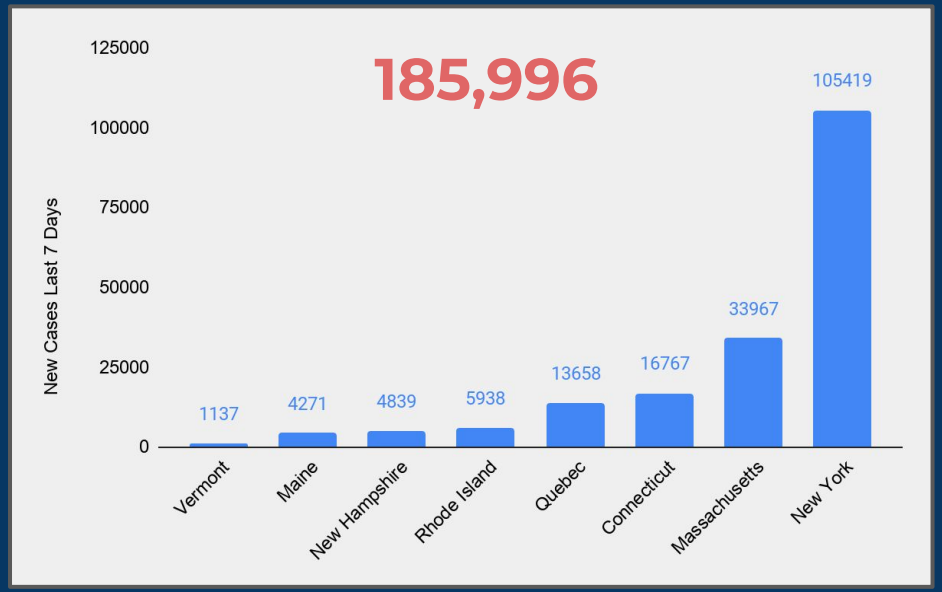


Source: Covid Tracking Project — January 26, 2021; * Recent 7 Day High

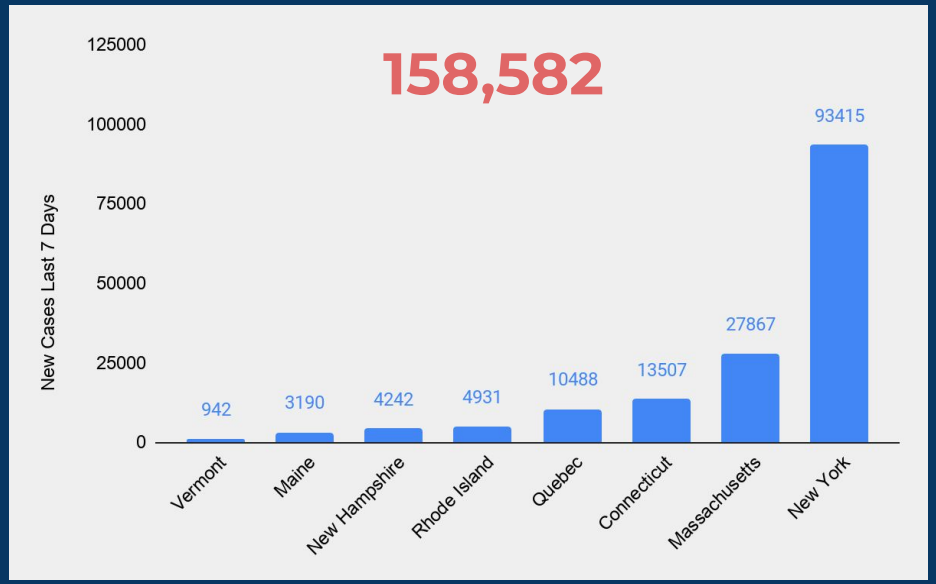
Regional Case Growth

14.74% Decrease in New Cases

New Cases Jan 12th to Jan. 18th



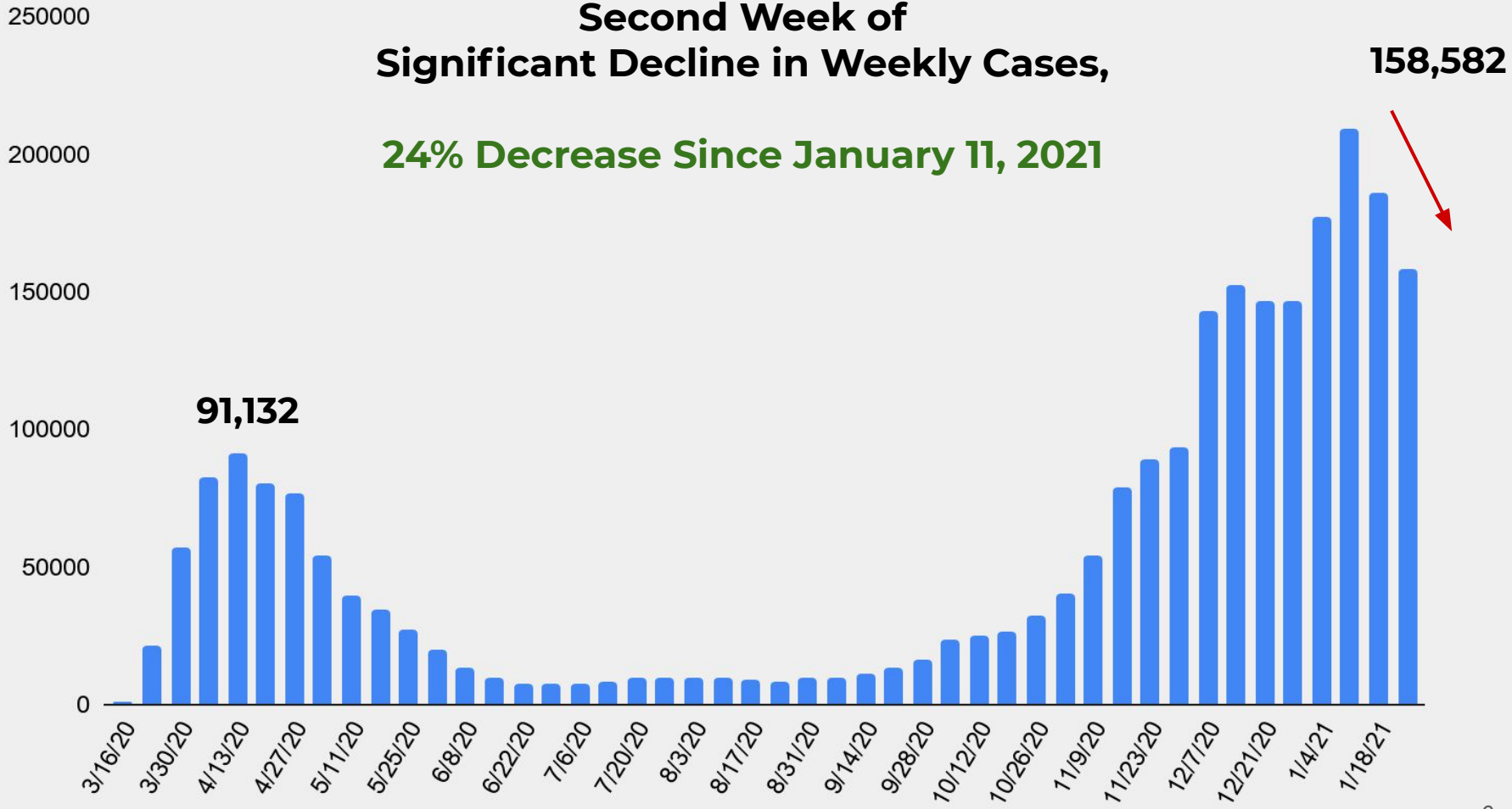
New Cases Jan 13th to Jan. 25th



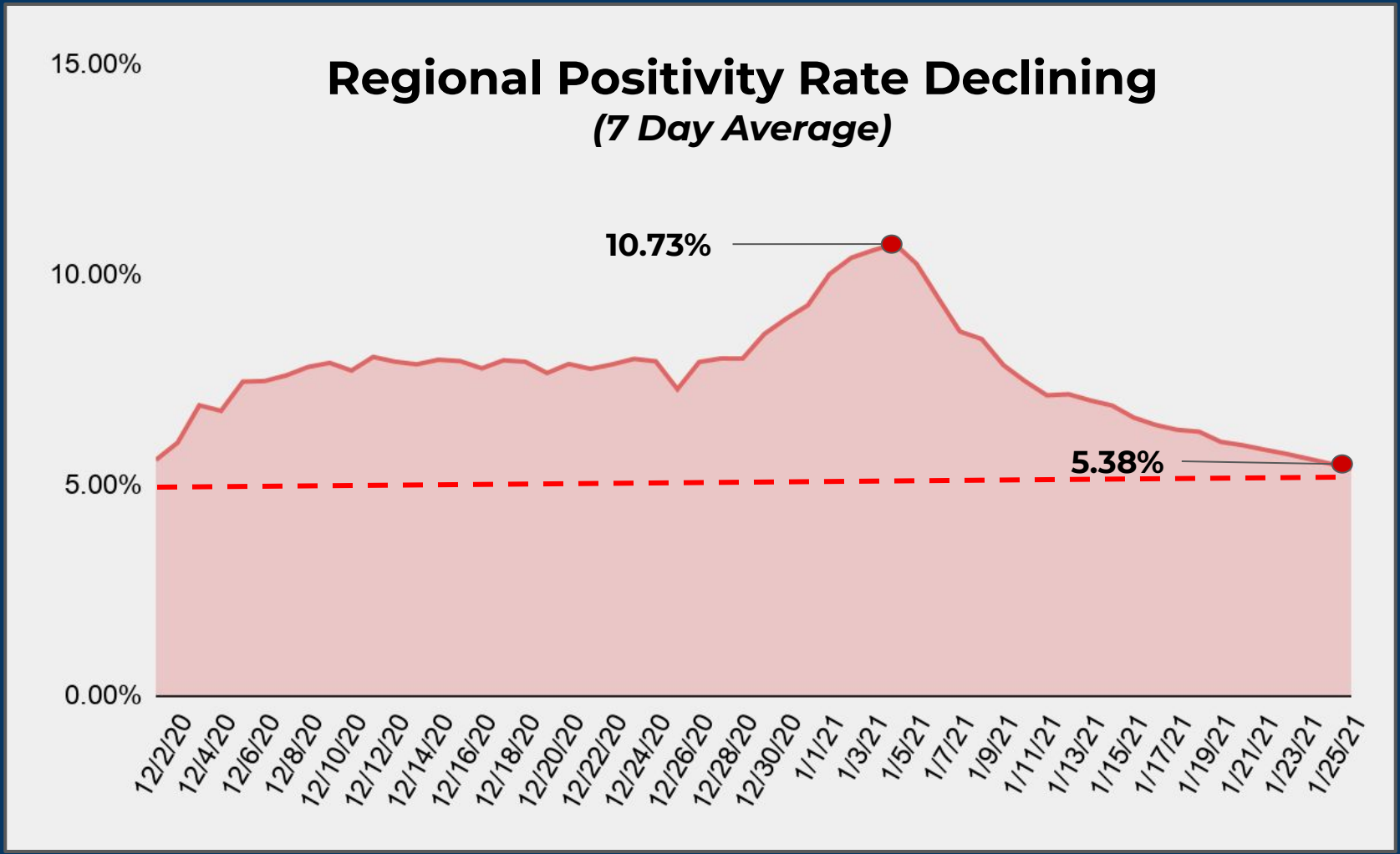
Sources: State Health Departments & CTV National News (Quebec)

Second Week of Significant Decline in Weekly Cases,

24% Decrease Since January 11, 2021

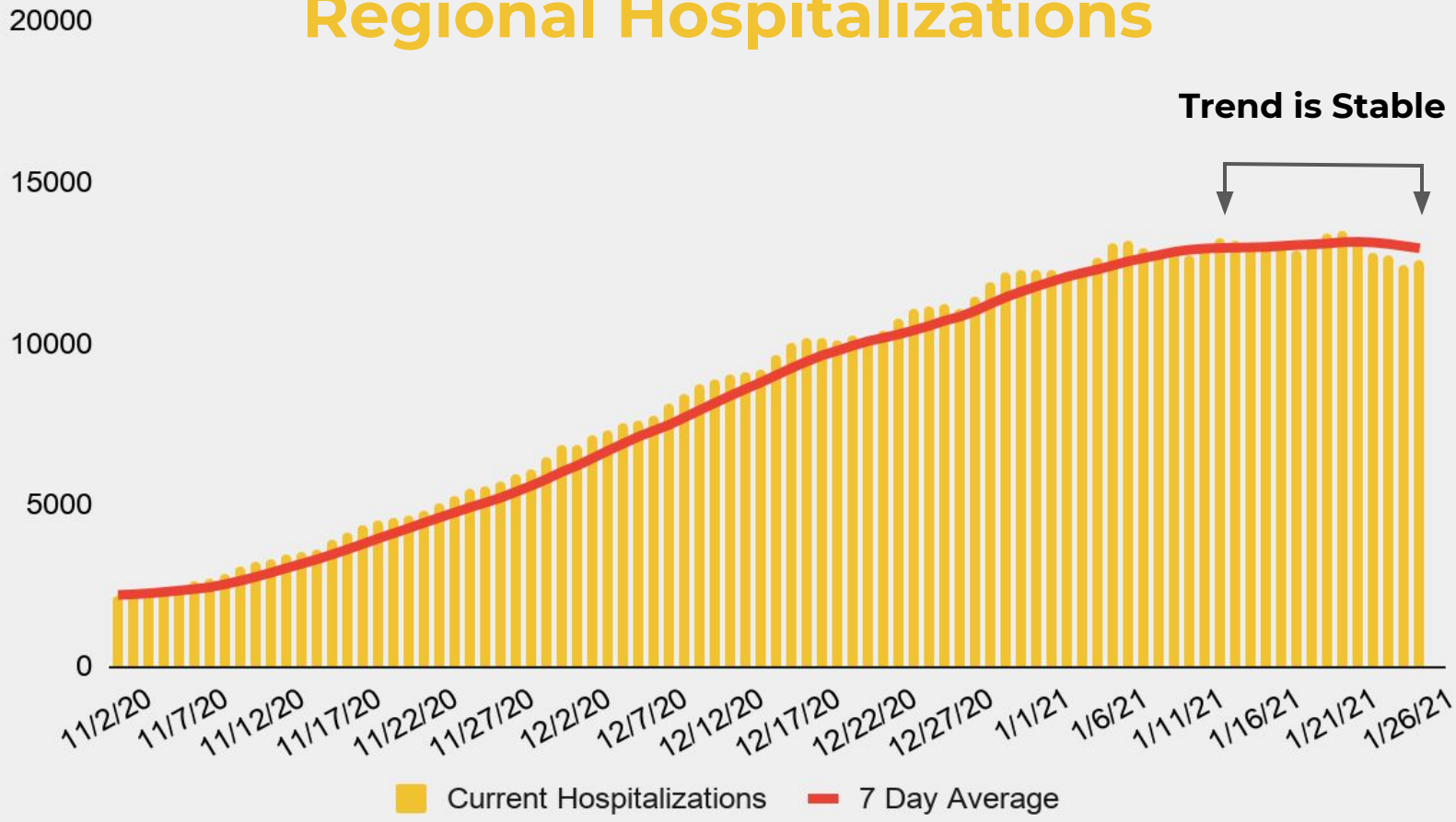


Sources: State Health Departments & CTV National News (Quebec) (includes: CT, ME, MA, NH, NY, QC, RI & VT)

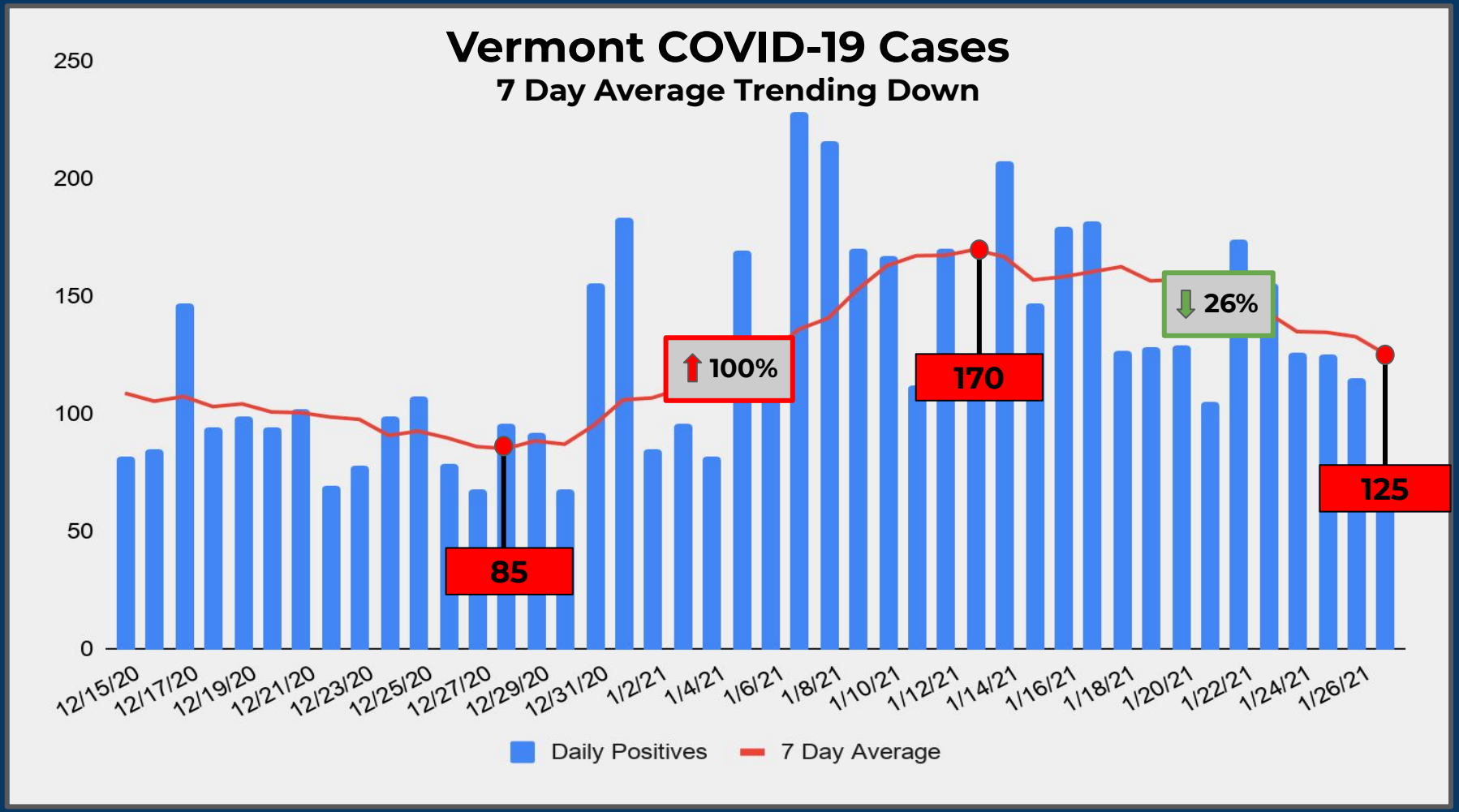


Source: Covid Tracking Project (7 Day Average in CT, ME, MA, NH, NY, RI & VT)—January 10, 2021

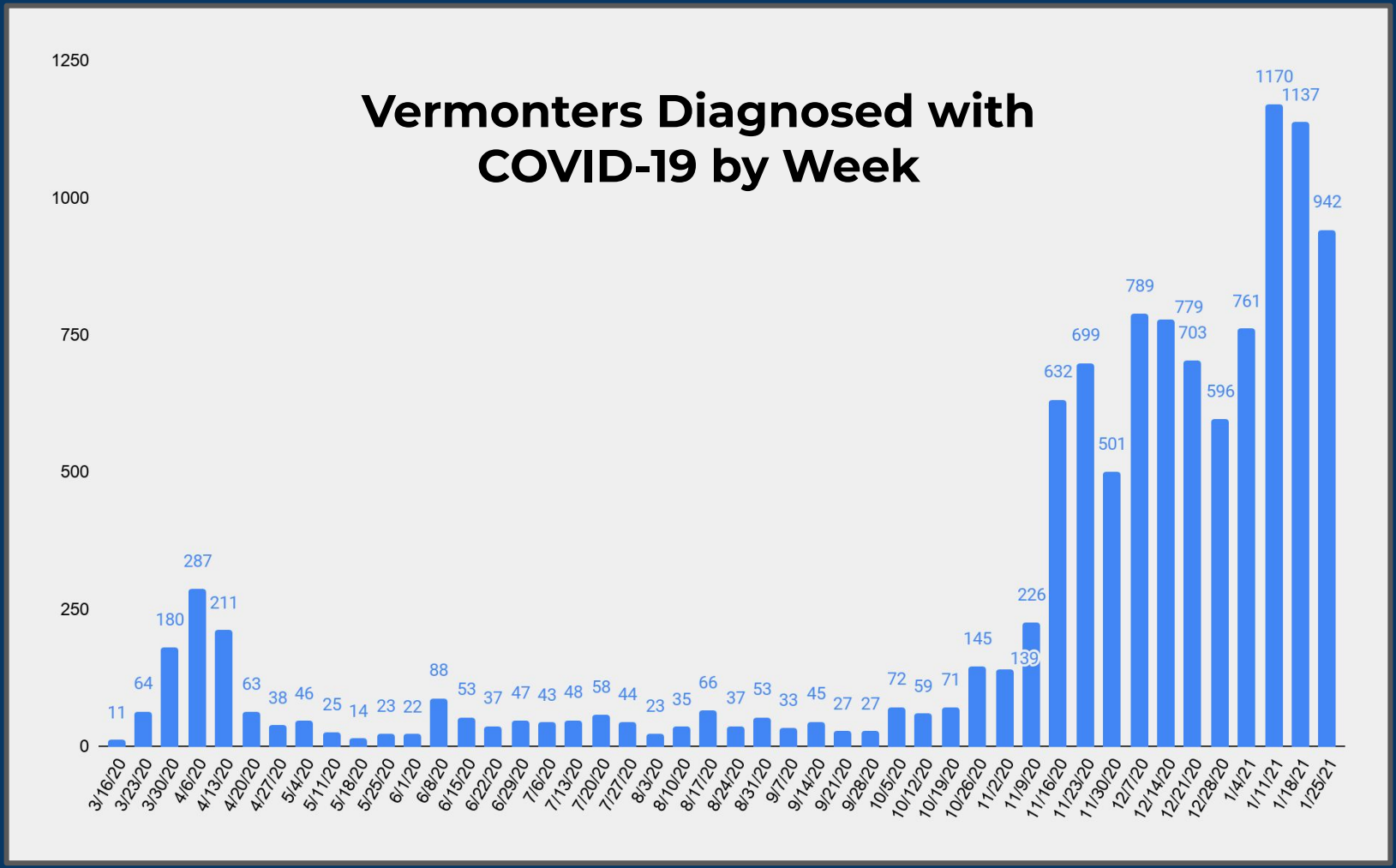
Regional Hospitalizations



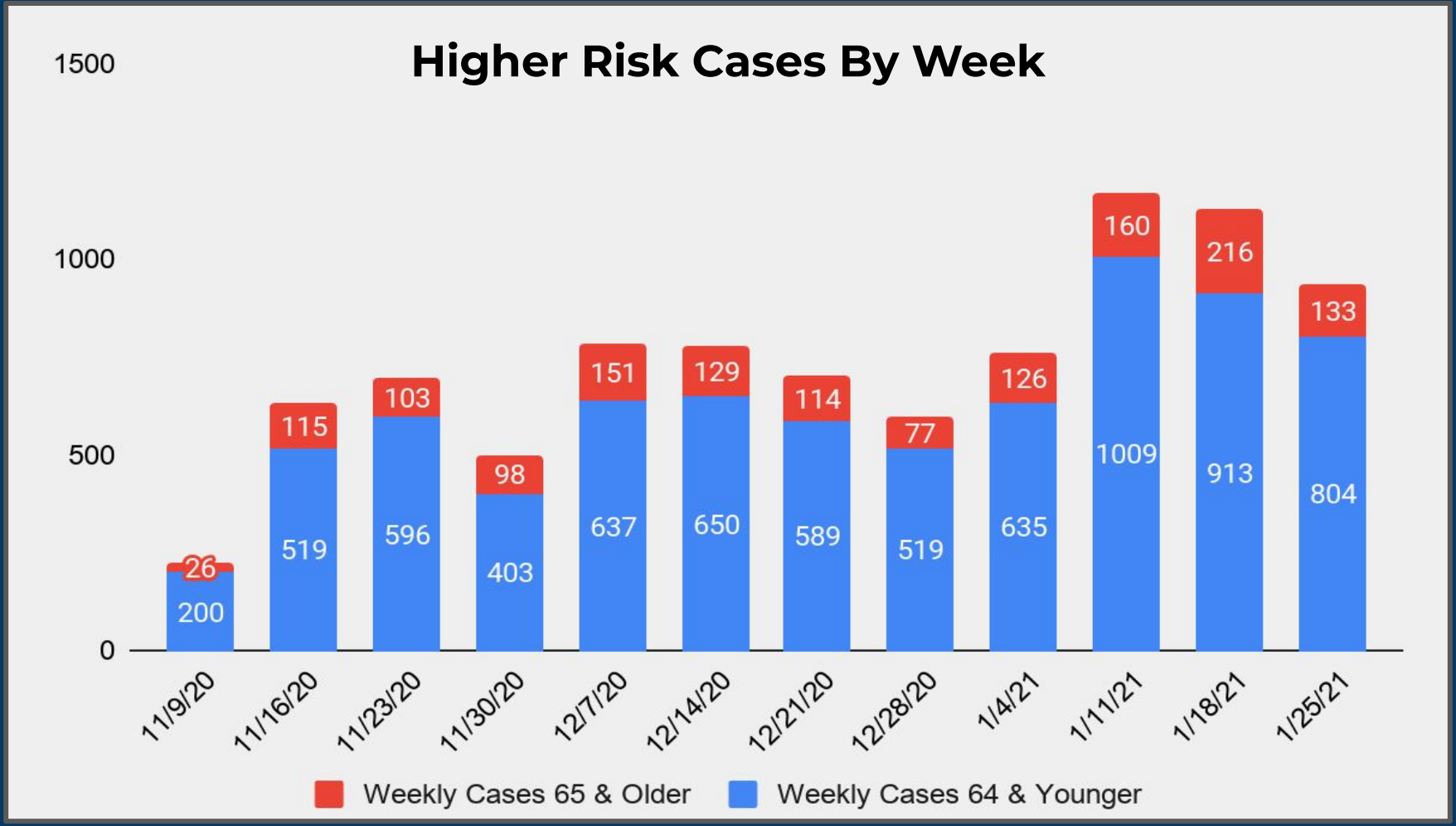
Source: Covid Tracking Project (CT, ME, MA, NH, NY, RI & VT)—January 26, 2021



Source: Vermont Department of Health

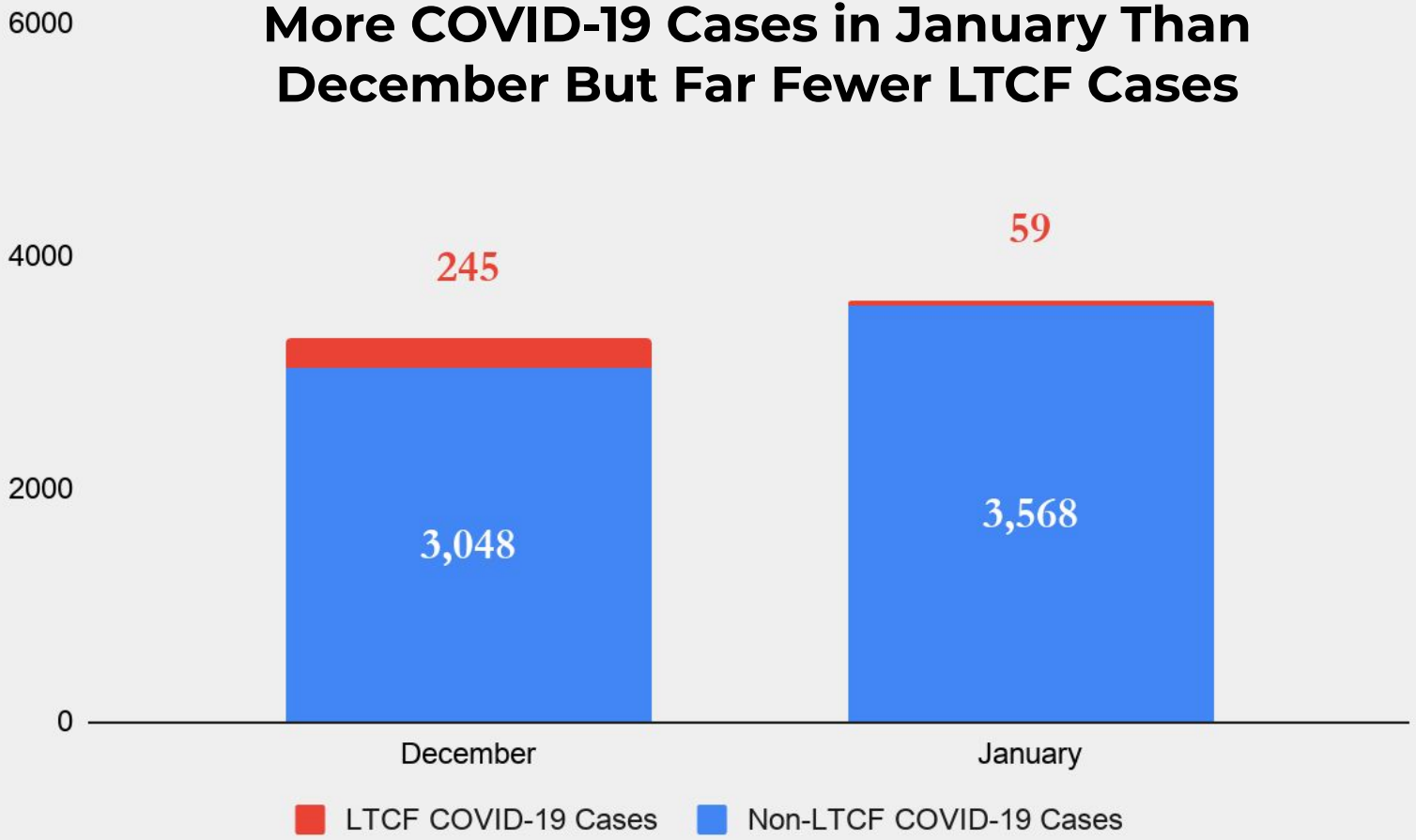


Source: Vermont Department of Health (week calculated as Tuesday to Monday)



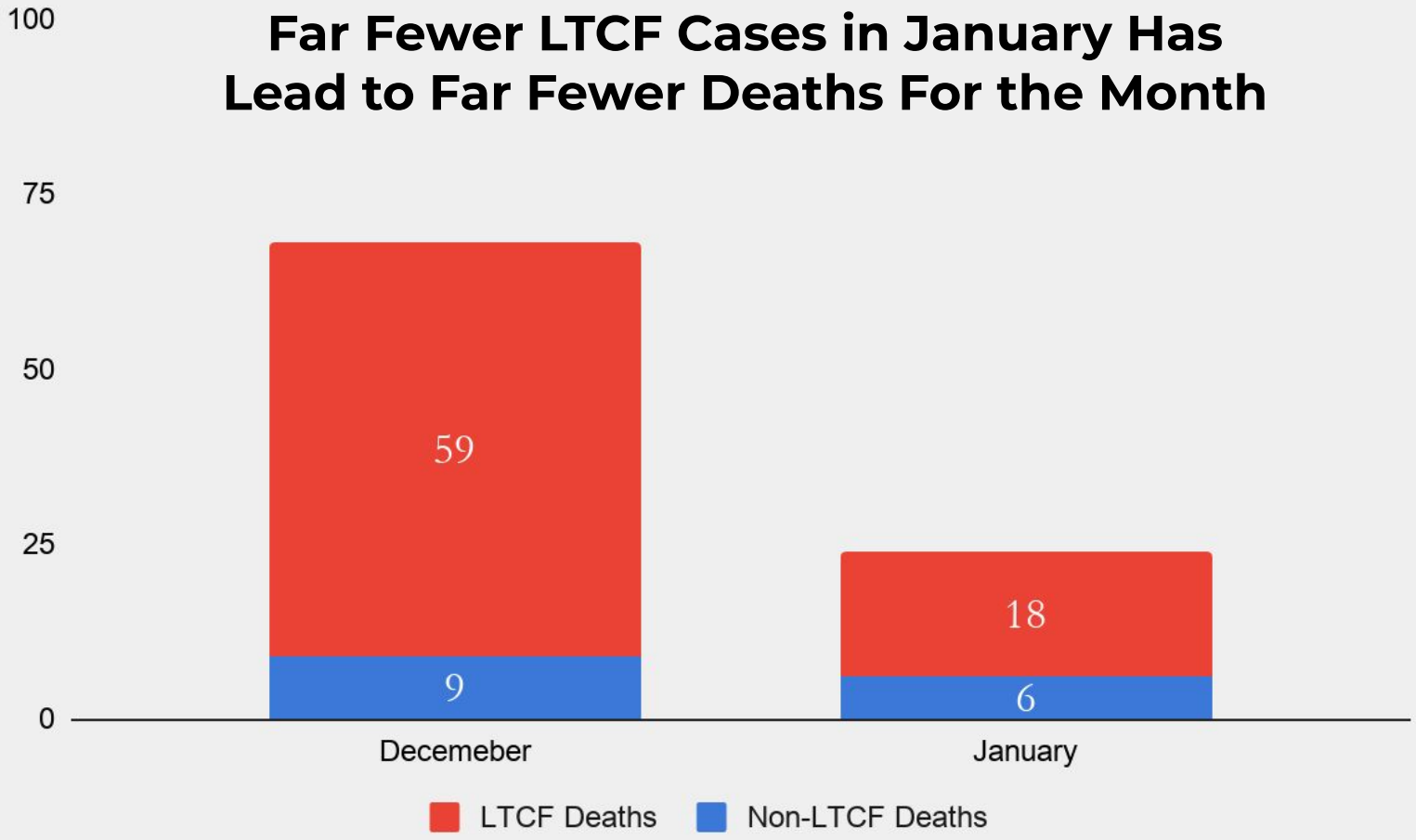
Source: Vermont Department of Health (week calculated as Tuesday to Monday)

More COVID-19 Cases in January Than December But Far Fewer LTCF Cases



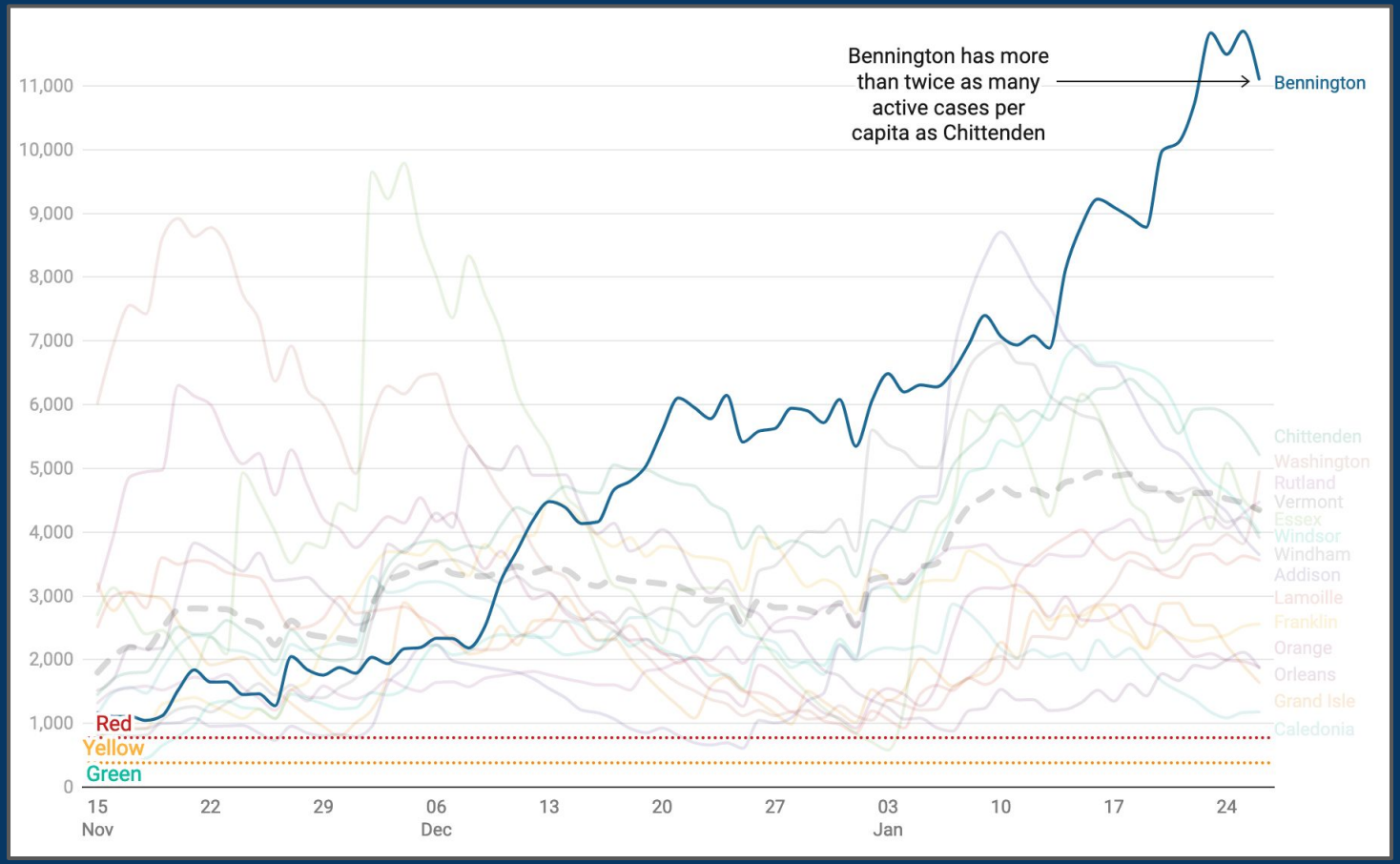
Source: Vermont Department of Health - January 26, 2021

Far Fewer LTCF Cases in January Has Lead to Far Fewer Deaths For the Month

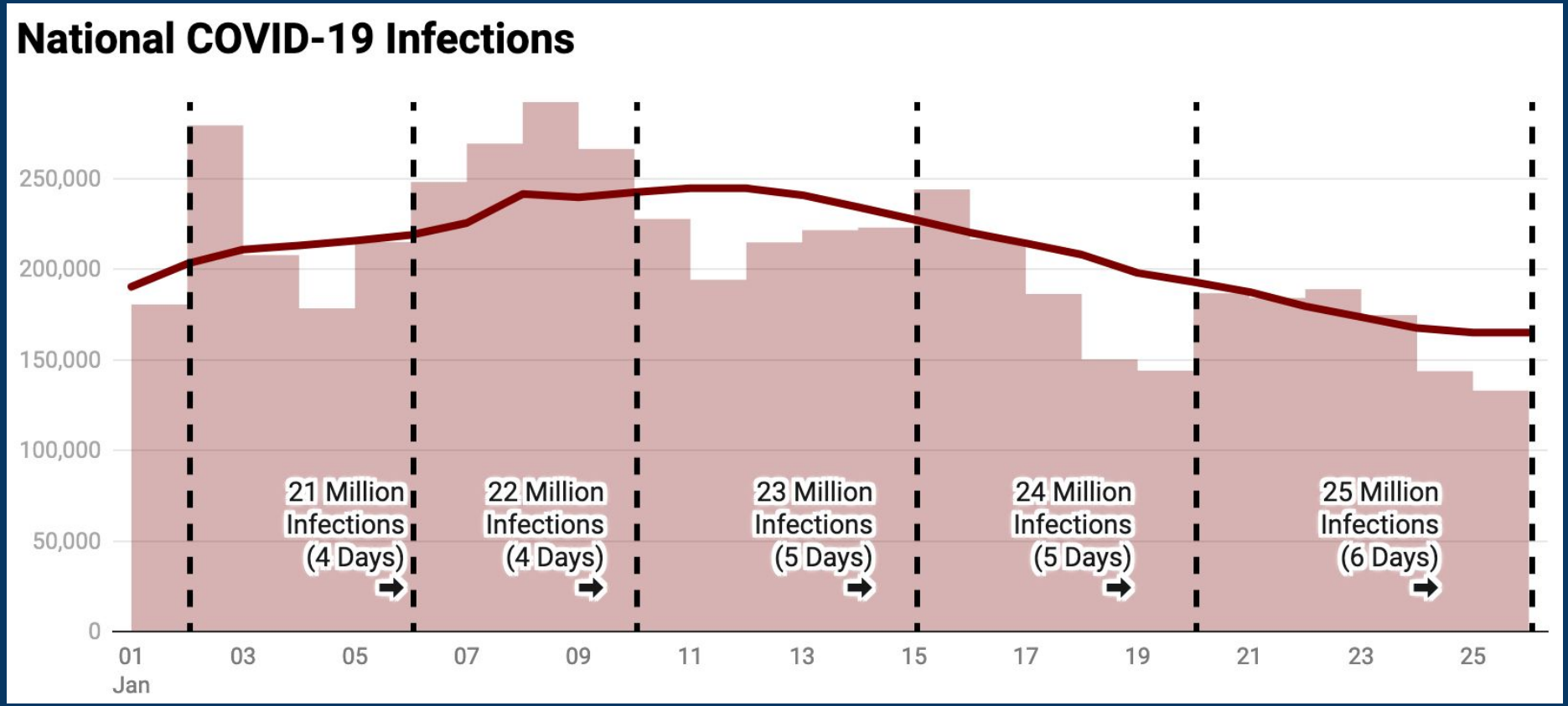


Source: Vermont Department of Health - January 27, 2021

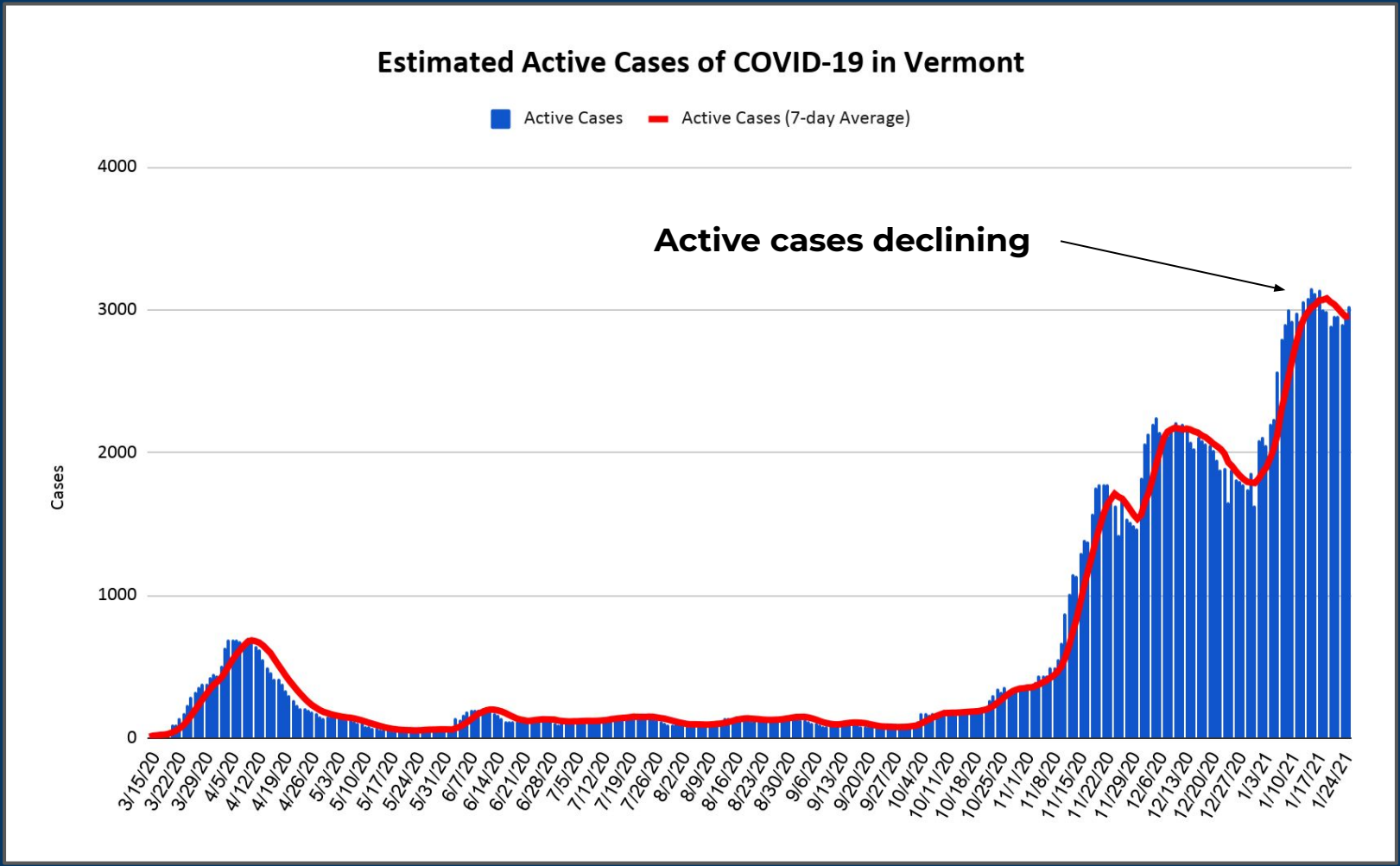
Estimated Active Cases per Million in Vermont



Source: VDH

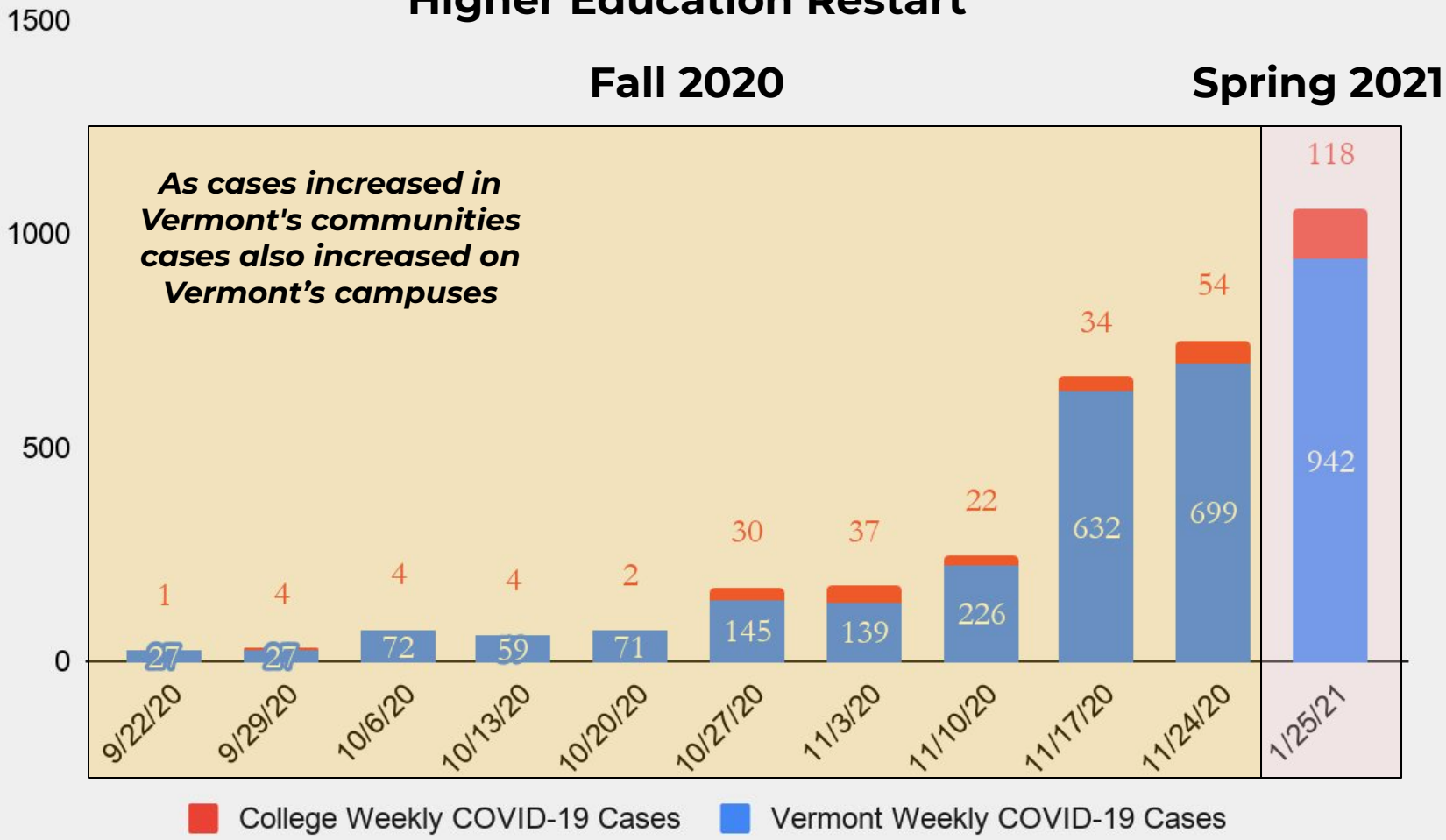

National COVID-19 Infections
250,000
200,000
150,000
100,000
50,000
0
01
Jan
03
05
07
09
11
13
15
17
19
21
23
25
21 Million Infections (4 Days)
22 Million Infections (4 Days)
23 Million Infections (5 Days)
24 Million Infections (5 Days)
25 Million Infections (6 Days)

Source: VDH

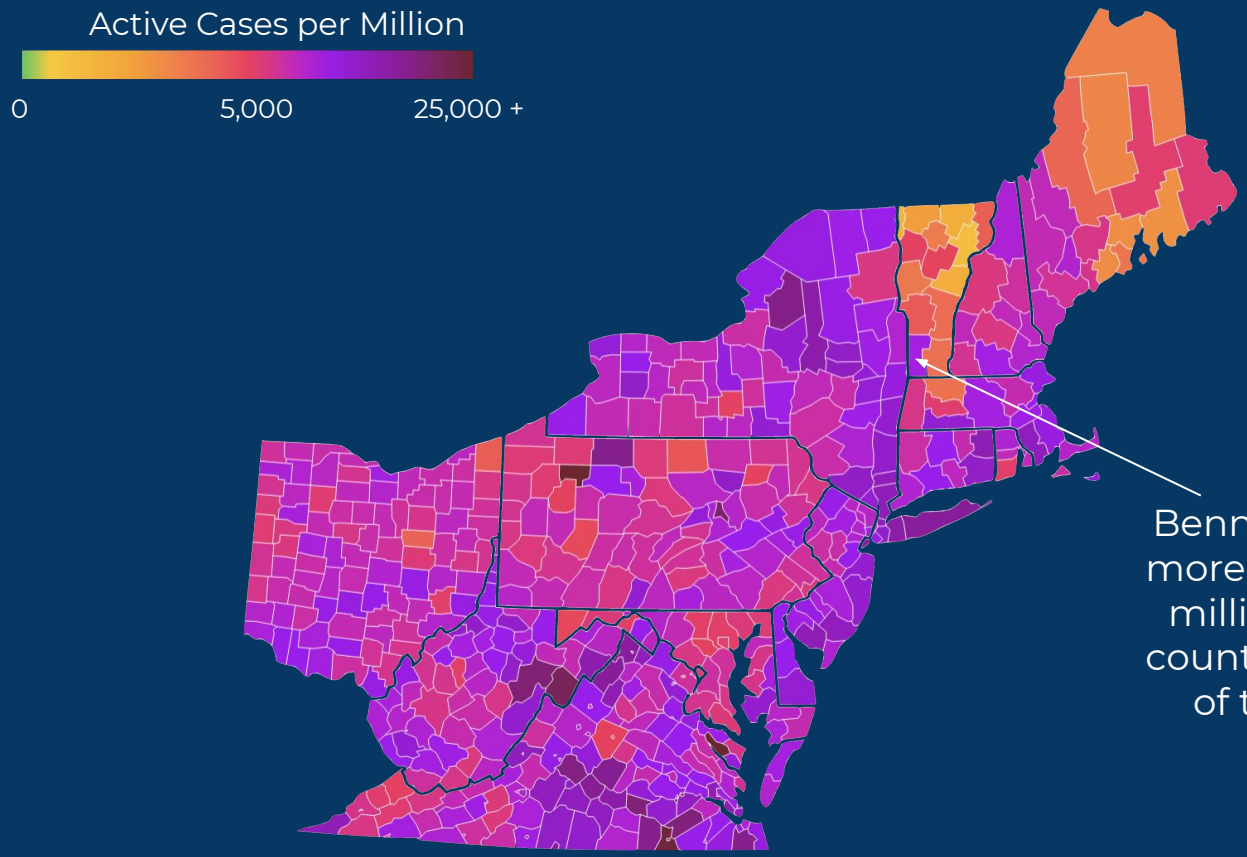


Source: Johns Hopkins University Data & Oliver Wyman Forecast Model—January 26, 2020

Higher Education Restart



Regional Heat Map

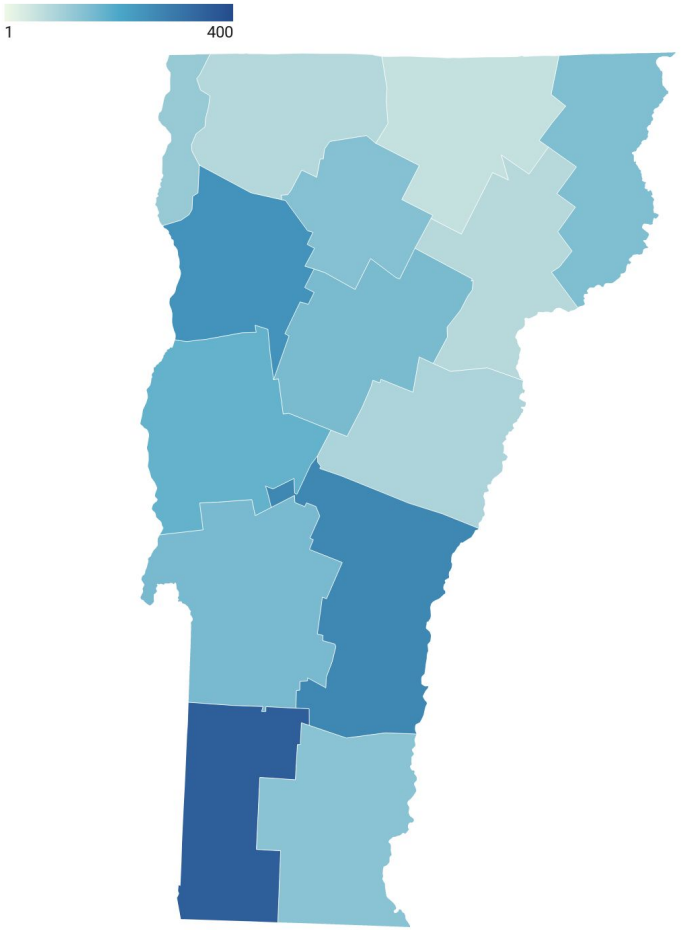


Bennington now has more active cases per million than any VT county since the start of the pandemic

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

Vermont Weekly Cases by County (per 100,000)

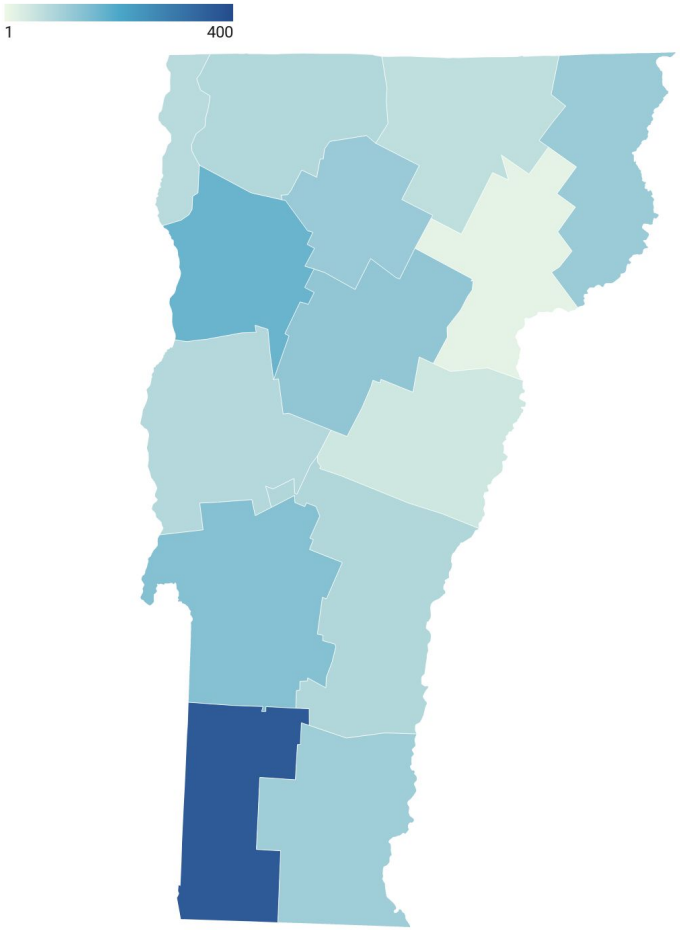
Results Reported January 12 to 18



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

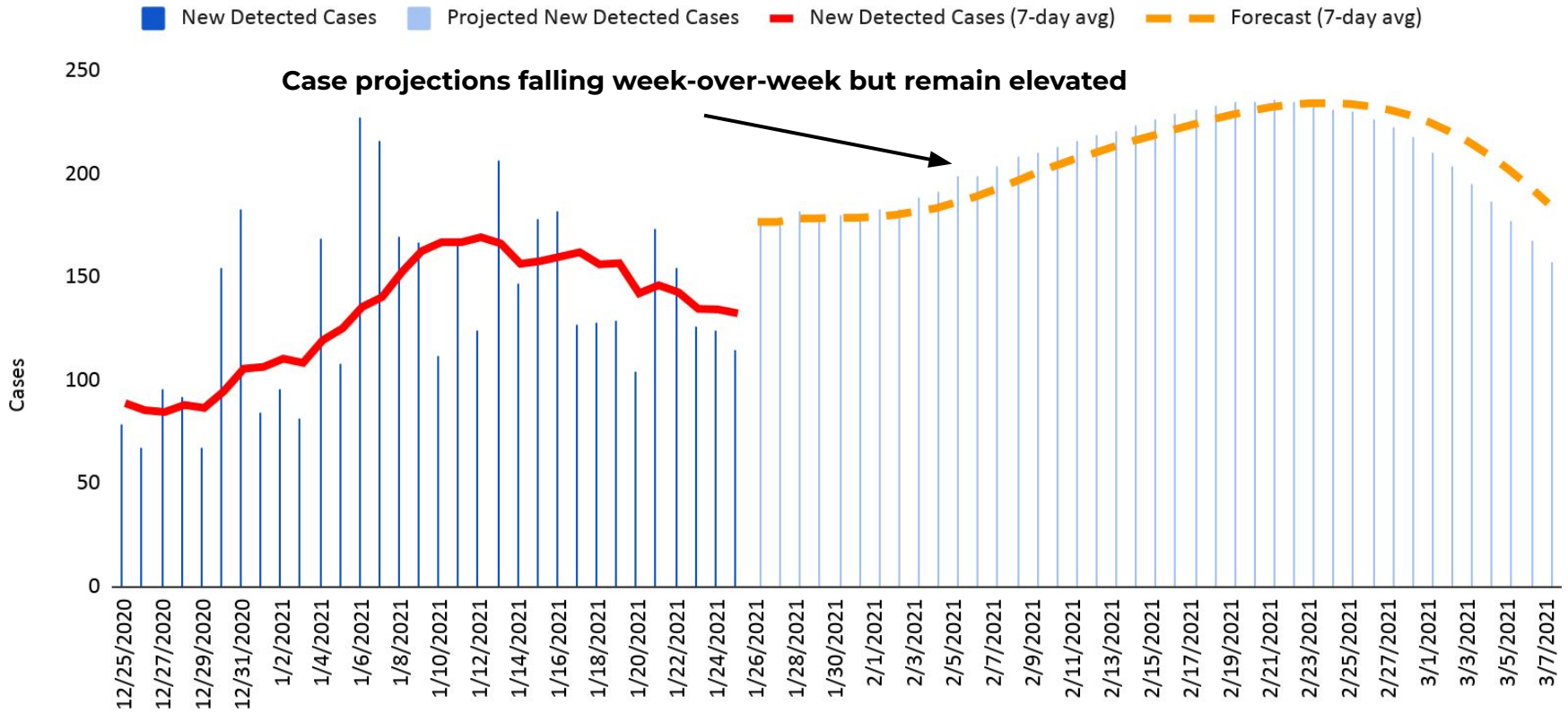
Vermont Weekly Cases by County (per 100,000)

Results Reported January 18 - 25



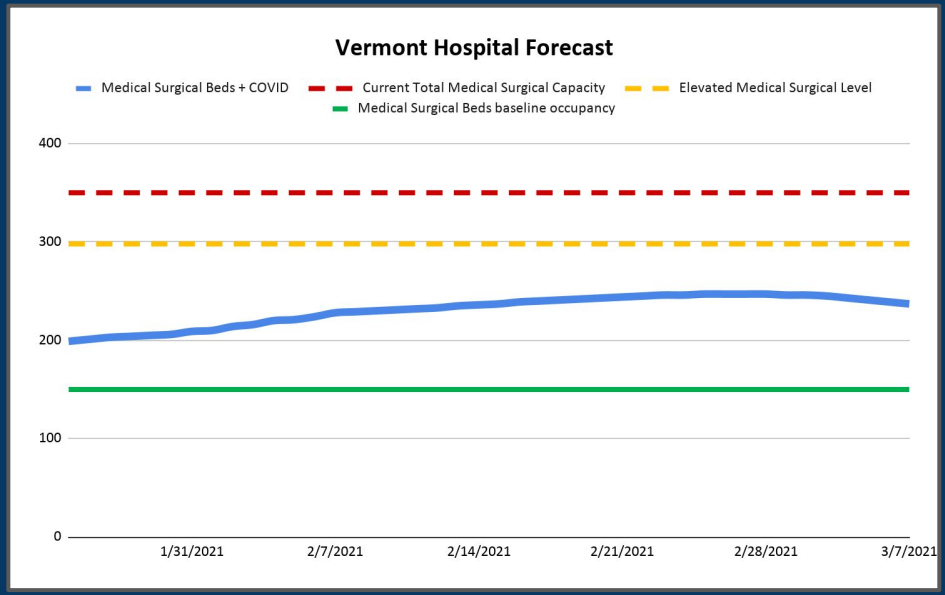
Map: Vermont DFR COVID Modeling Team • Source: Vermont Dept. of Health • Created with Datawrapper

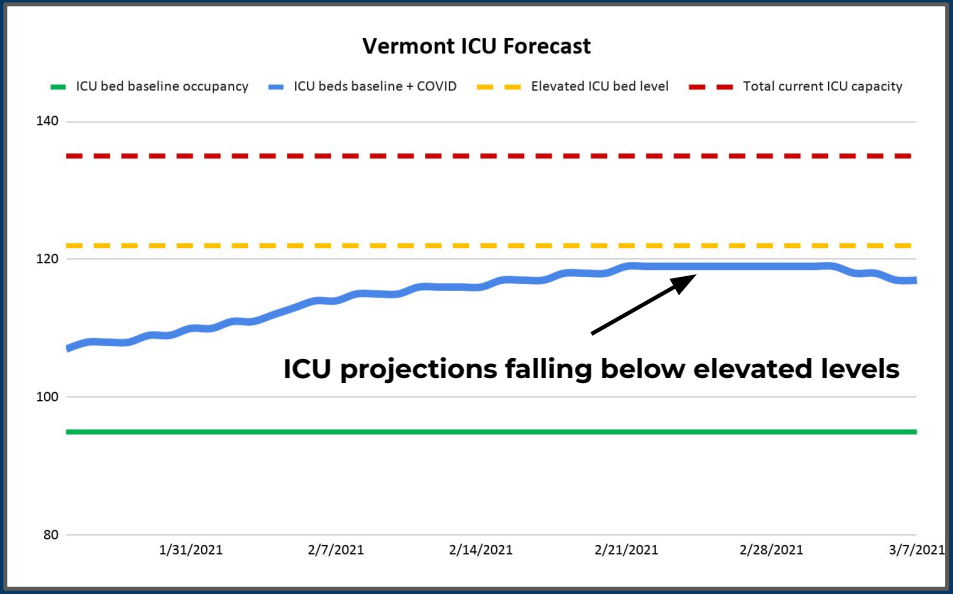
Vermont Forecast



Source: Johns Hopkins University Data & Oliver Wyman Forecast Model—January 26, 2020

Hospital & ICU Capacity Forecasts





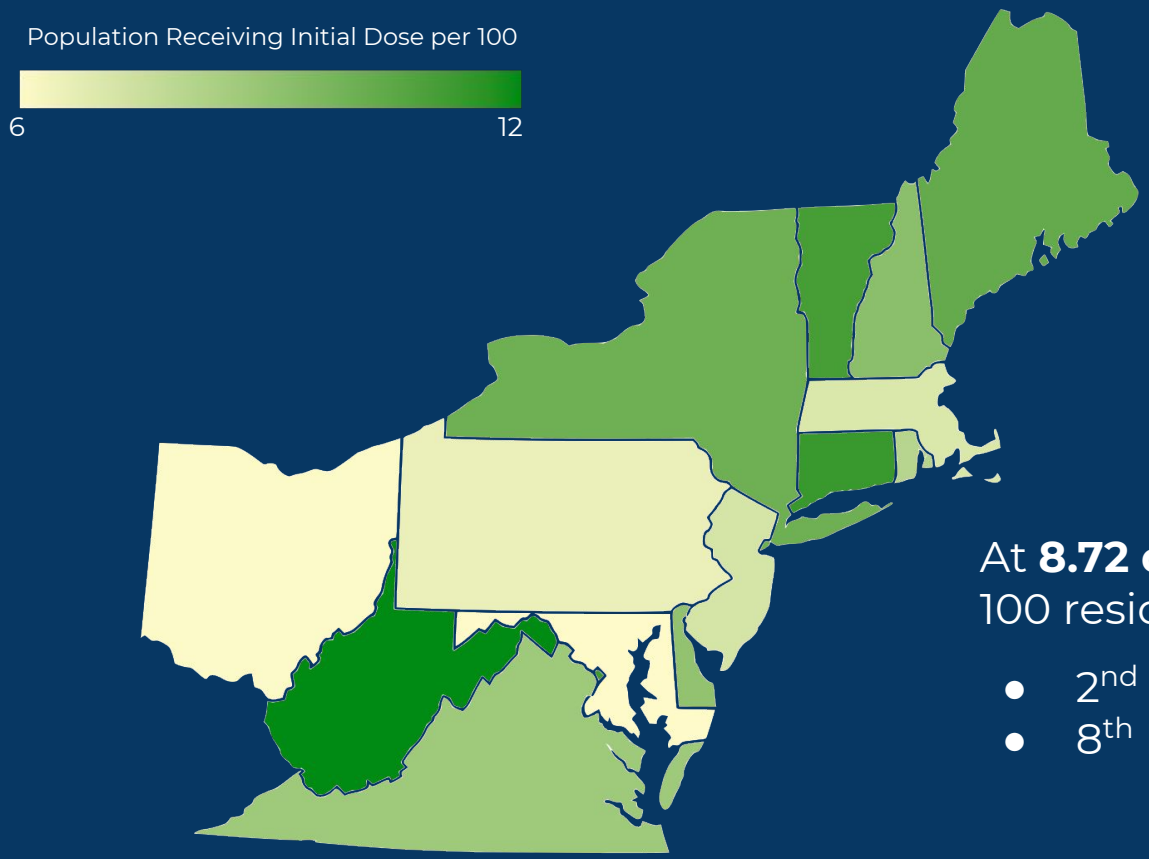
Source: Oliver Wyman Forecast Model—January 26, 2020; GNYHA Hospital Surge framework

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	**Vermont**	Hawaii	Hawaii	**Vermont**
2	Hawaii	Oregon	North Dakota	Oregon
3	Alaska	North Dakota	Alaska	Colorado
4	Maine	Michigan	**Vermont**	Maine
5	D.C.	Minnesota	Oregon	Minnesota
6	Rhode Island	**Vermont**	Minnesota	Utah
7	Oregon	Washington	Wisconsin	D.C.
8	Minnesota	South Dakota	Washington	Delaware

Source: Covid Tracking Project; Johns Hopkins University & New York Times—January 26, 2021

Regional Vaccination Map



At **8.72 doses** administered per 100 residents, Vermont ranks:

- 2nd in Northeast
- 8th Nationally

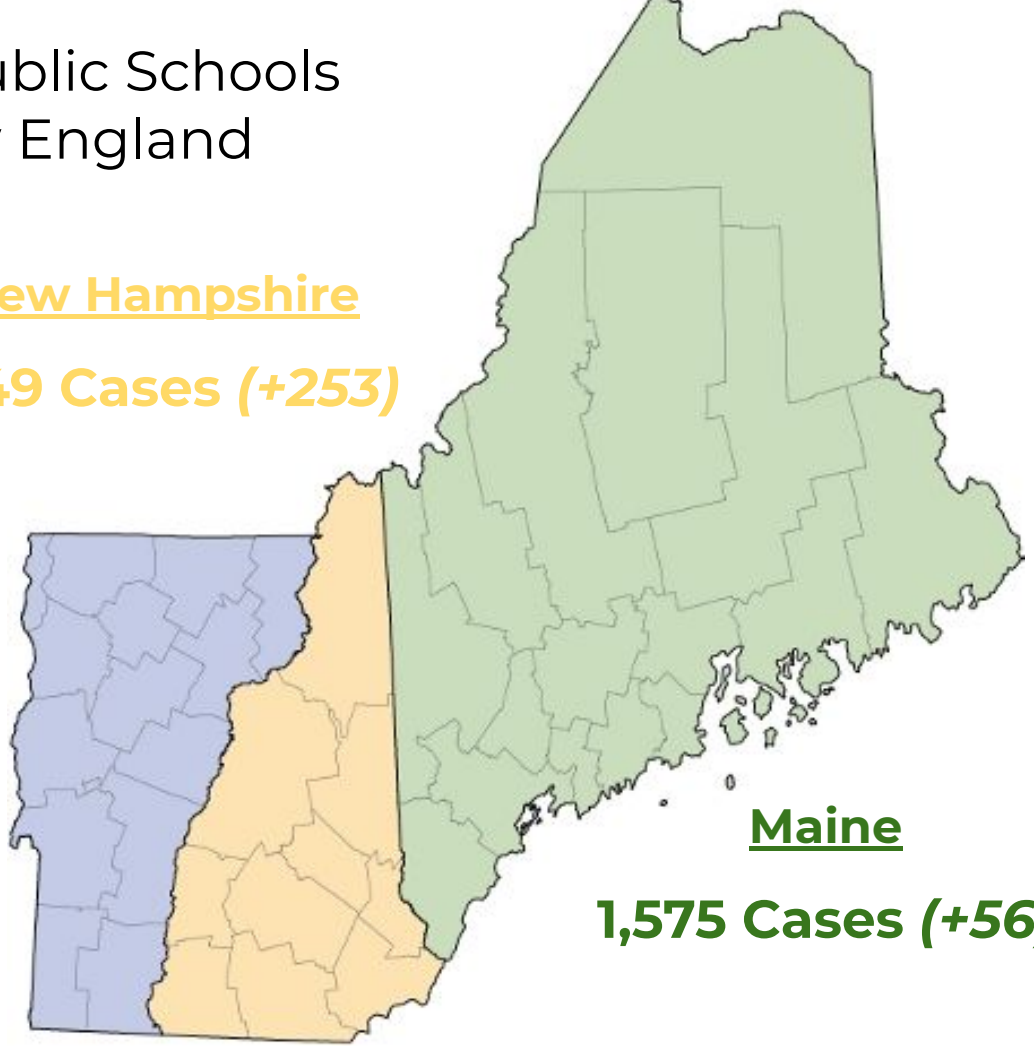
Source: CDC—January 27, 2021

Active Outbreaks in Long Term Care Facilities

Facility Name	Total COVID-19 Cases
Elderwood at Burlington, *Burlington*	127
Saint Albans Healthcare & Rehab Center, *Saint Albans*	89
Our Lady of Providence, *Winooski*	49
The Residence at Shelburne Bay, *Shelburne*	43
Craftsbury Community Care Center, *Craftsbury*	29
Holiday House, *Saint Albans*	22
Village at Cedar Hill, *Windsor*	19
Converse Home Assisted Living, *Burlington*	17
Holton Home, *Brattleboro*	12
Vermont Veterans Home, *Bennington*	9
Lakeview Community Care Home, *Burlington*	12
Harbor Village, *South Burlington*	8
LTCF D	7
Davis Home, *Windsor*	6
Valley Terrace, *Hartford*	6

Source: Vermont Department of Health—January 25, 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.*

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



New Hampshire

1849 Cases *(+253)*

Vermont

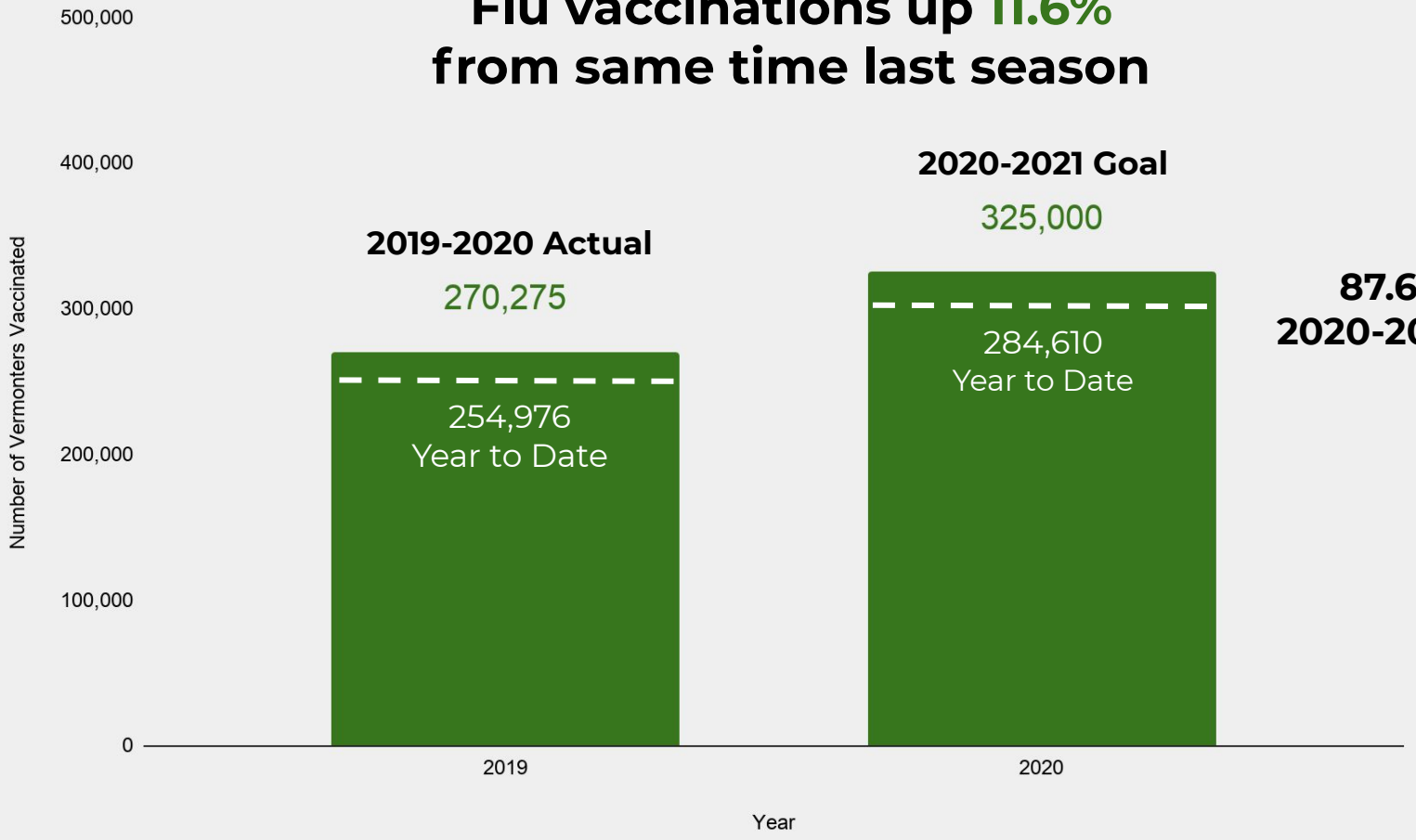
406 Cases *(+50)*

Maine

1,575 Cases *(+56)*

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

Flu vaccinations up 11.6% from same time last season



87.6% to 2020-2021 goal

Data from UVMHN may be incomplete or delayed

Source: Vermont Department of Health & ADS; Immunization Registry; Measured from July 1 to January 17, 2019-2020 & 2020-2021

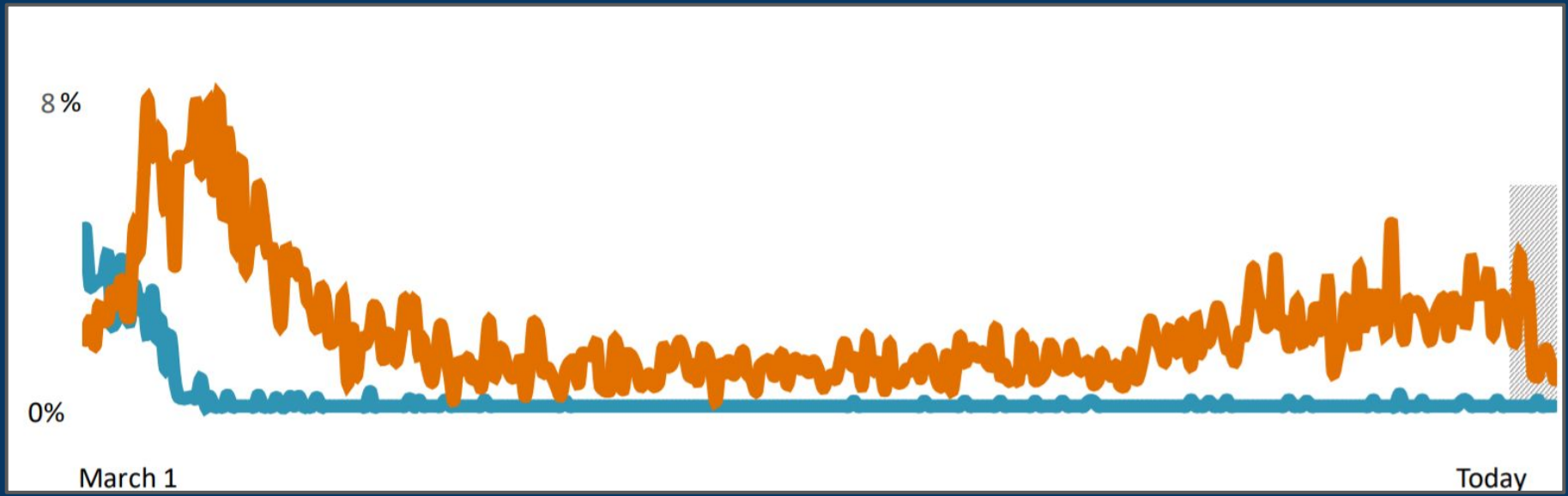
RESTART VERMONT

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

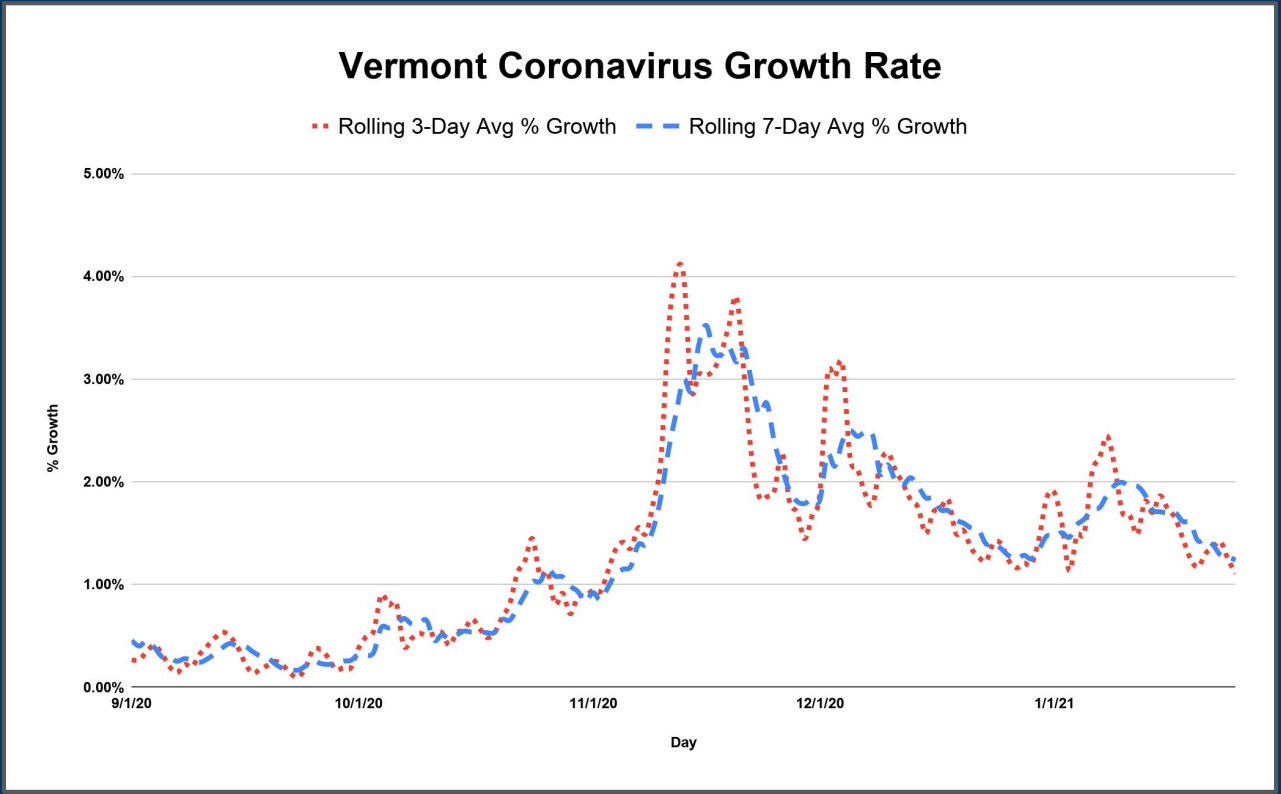
- **Summary:** Percentage of visits with COVID-19 like illness and Influenza diagnosis
- **Warning Flag:** Percentage of visits exceeding 4% for multiple consecutive days



Source: Vermont Department of Health—January 27, 2021

Data Point 2: Viral Growth and Reproductive Rates

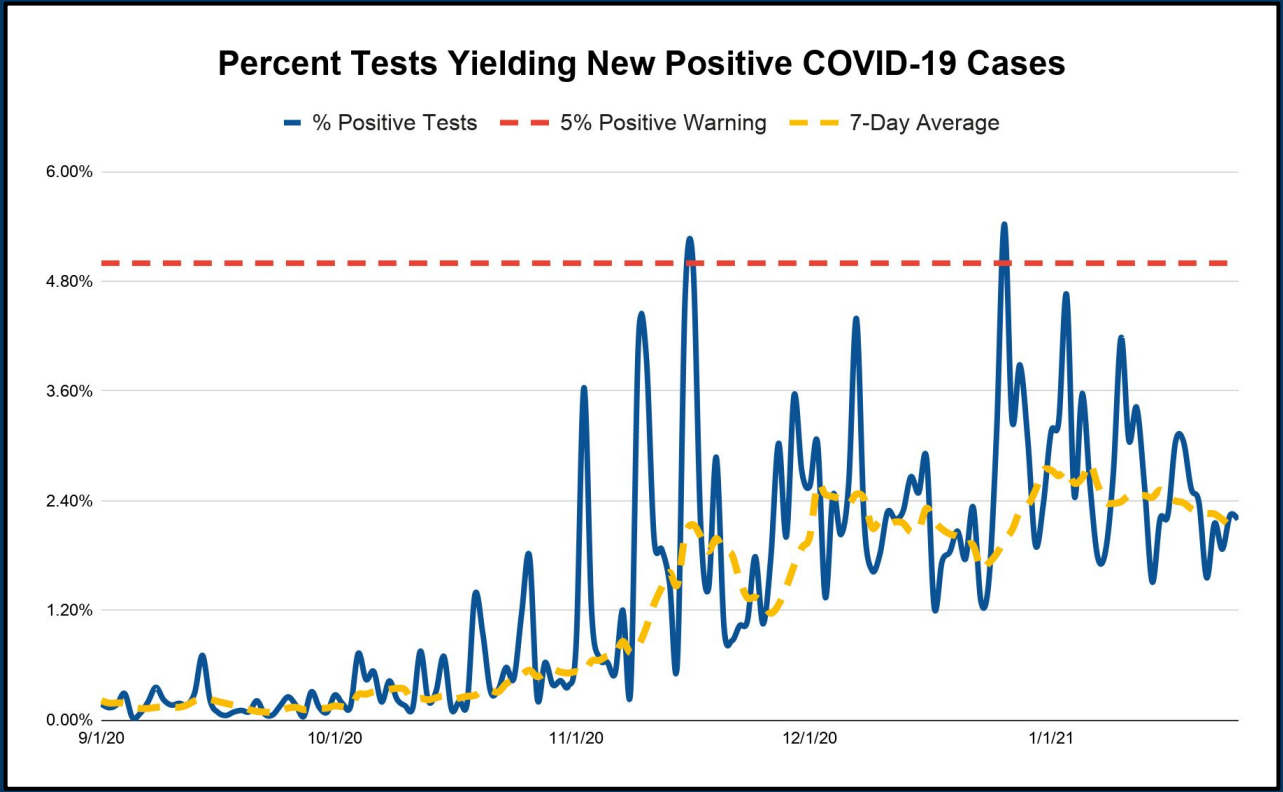
- **Summary:** Case growth measured by daily, 3-day, 7-day, and effective reproductive rate (R_t)
- **Warning Flags:** Sustained viral growth that would lead to <30% open ICU beds



Source: Vermont Department of Health—January 26, 2021

Data Point 3: Percentage of New Positive Tests

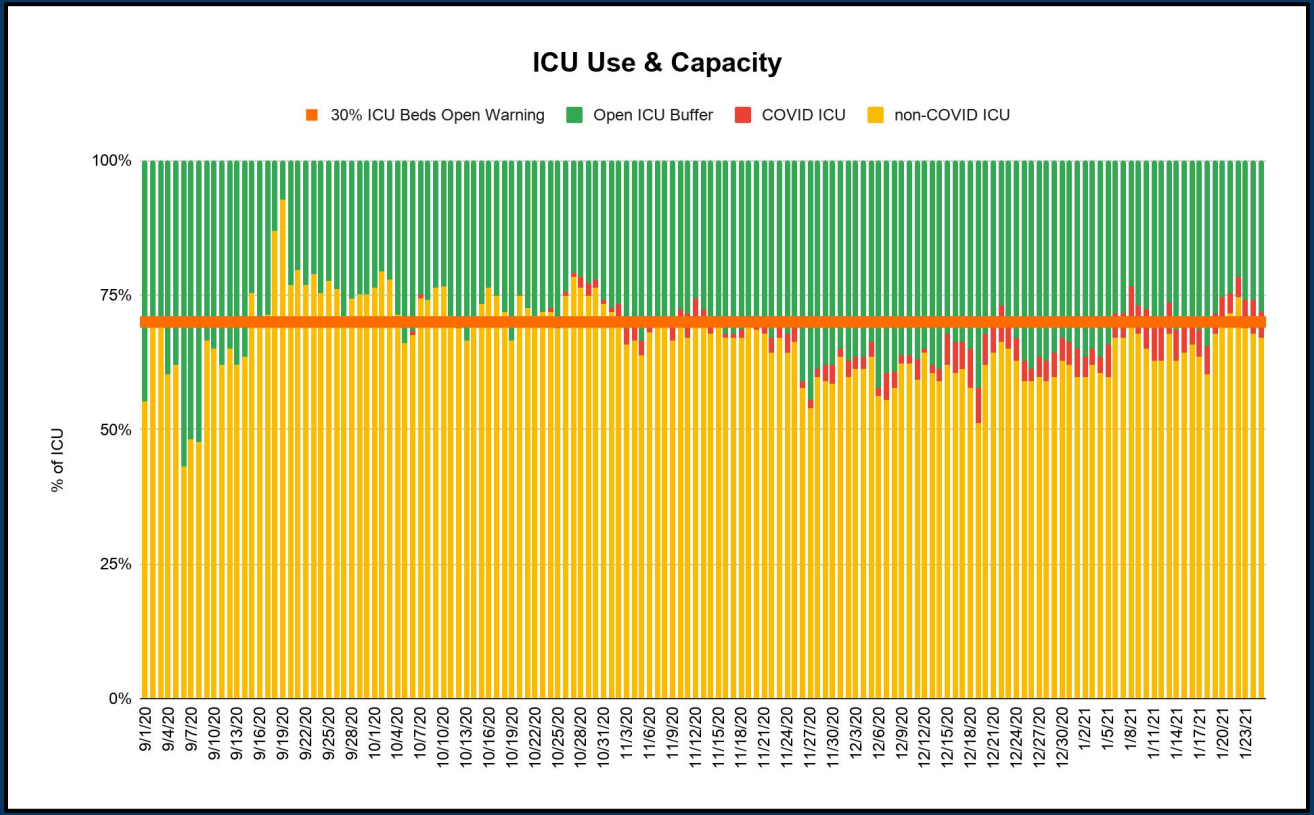
- **Summary:** Percent of tests resulting in a new positive case
- **Warning Flags:** New positives represent >5% of daily results



Source: Vermont Department of Health—January 26, 2021

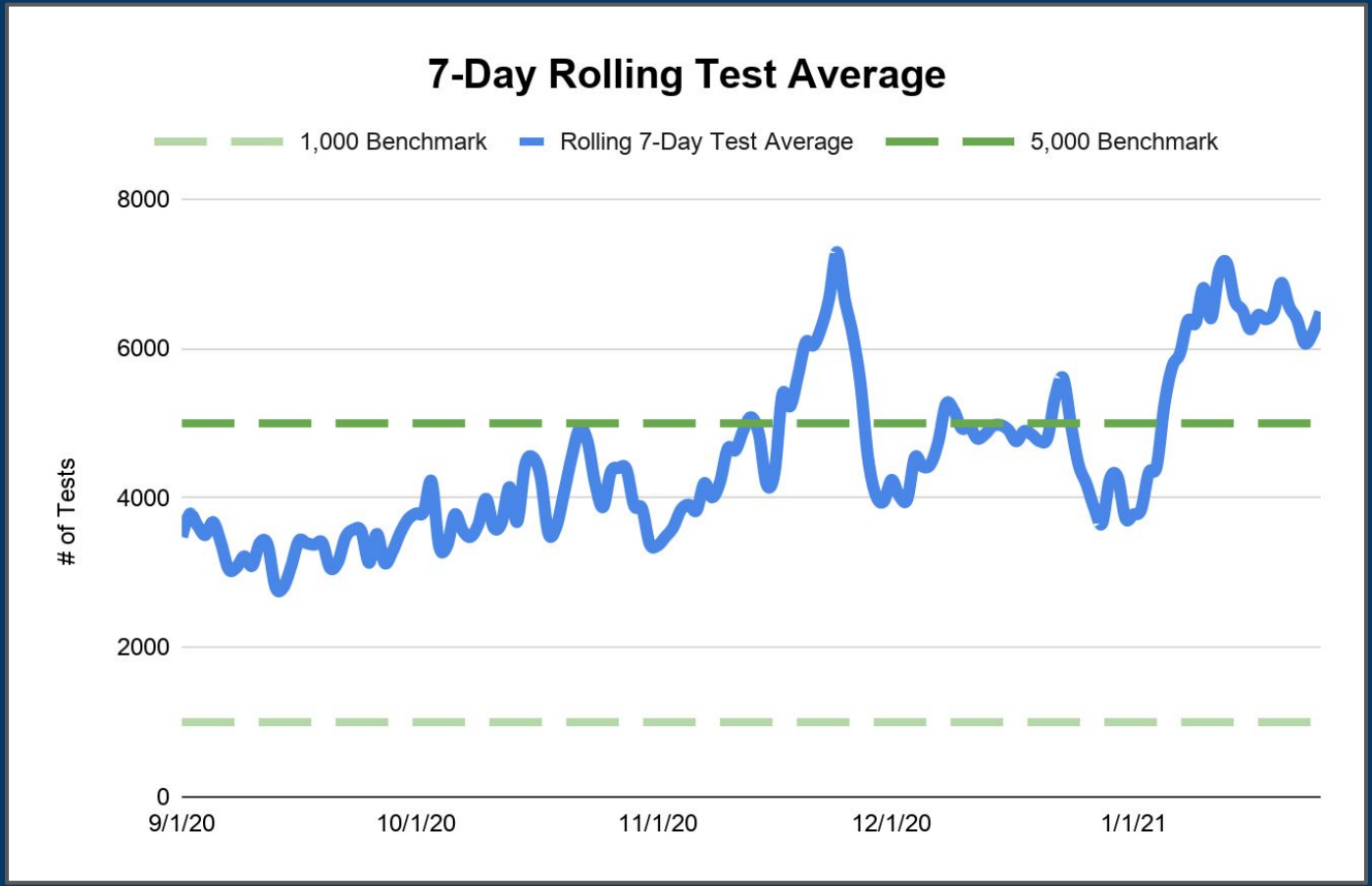
Data Point 4: Hospital & Critical Care Beds

- **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—January 26, 2021

Vermont Testing



Source: Vermont Department of Health—January 26, 2021; results reported to VDH daily