COVID-19 Modeling
August 21, 2020

Presentation available at:
dfr.vermont.gov

National Data

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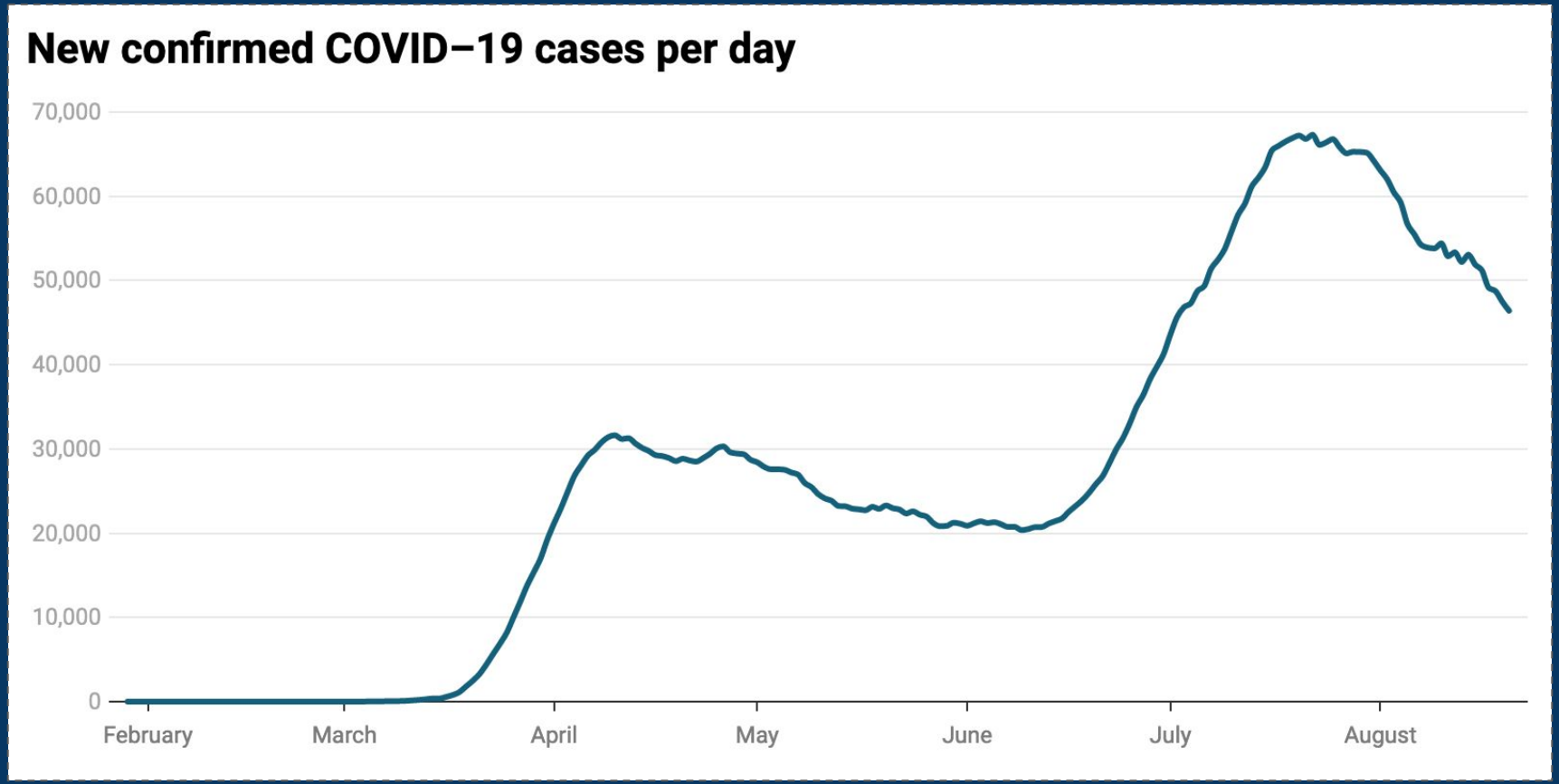
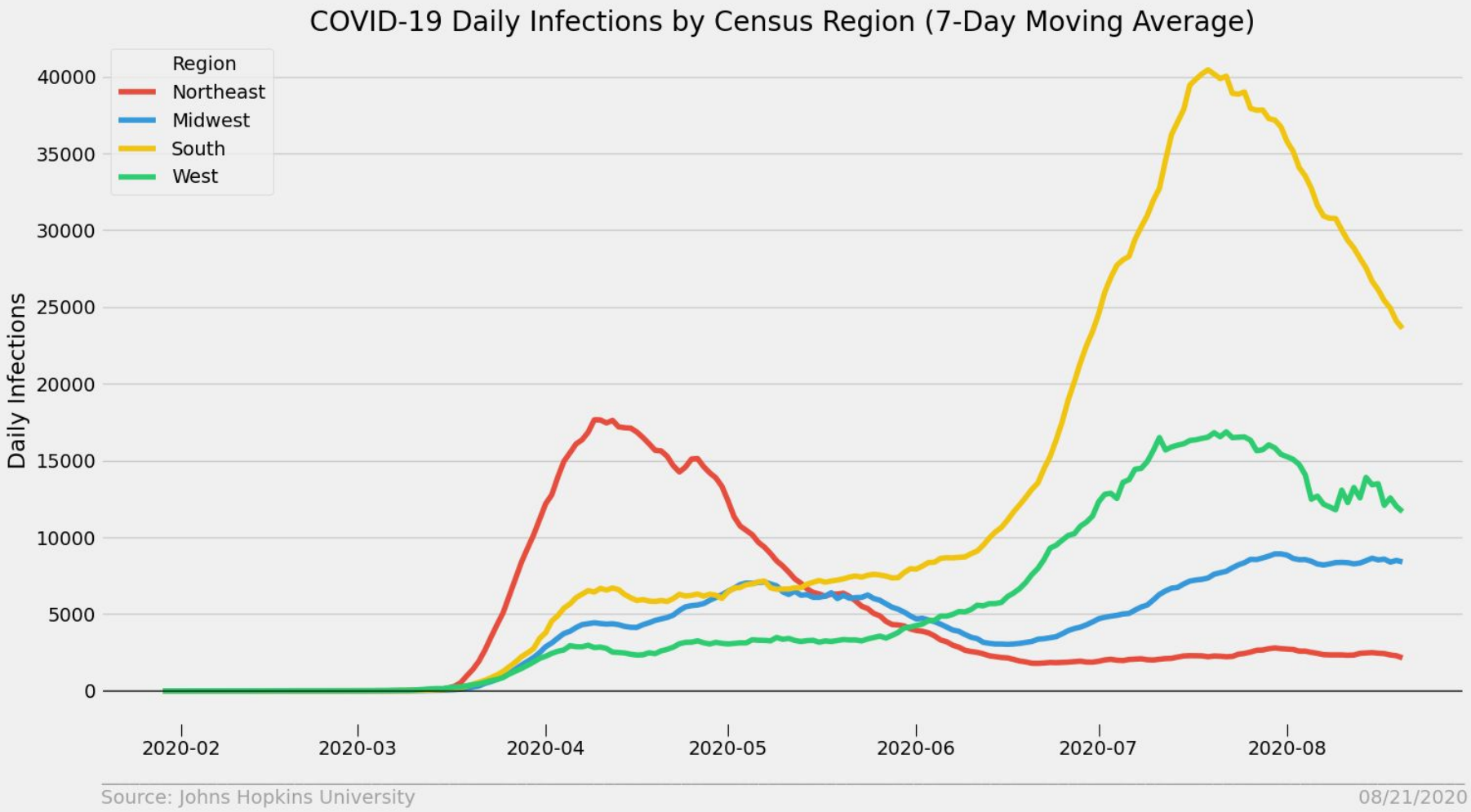
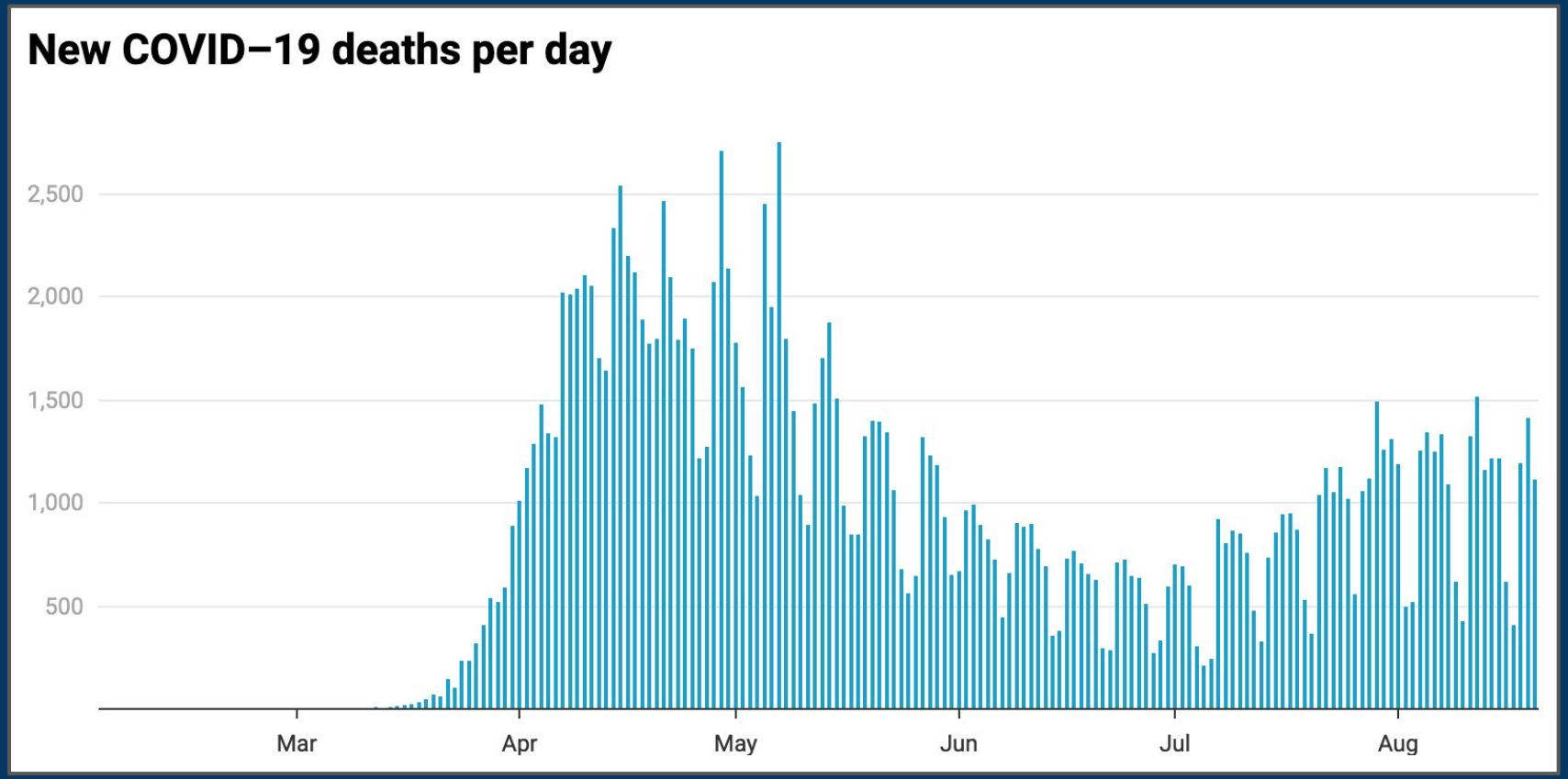


Source: Johns Hopkins University - August 20, 2020


COVID-19 Daily Infections by Census Region (7-Day Moving Average)
Region
Northeast
Midwest
South
West
Daily Infections
40000
35000
30000
25000
20000
15000
10000
5000
0
2020-02
2020-03
2020-04
2020-05
2020-06
2020-07
2020-08
Source: Johns Hopkins University
08/21/2020

National Data



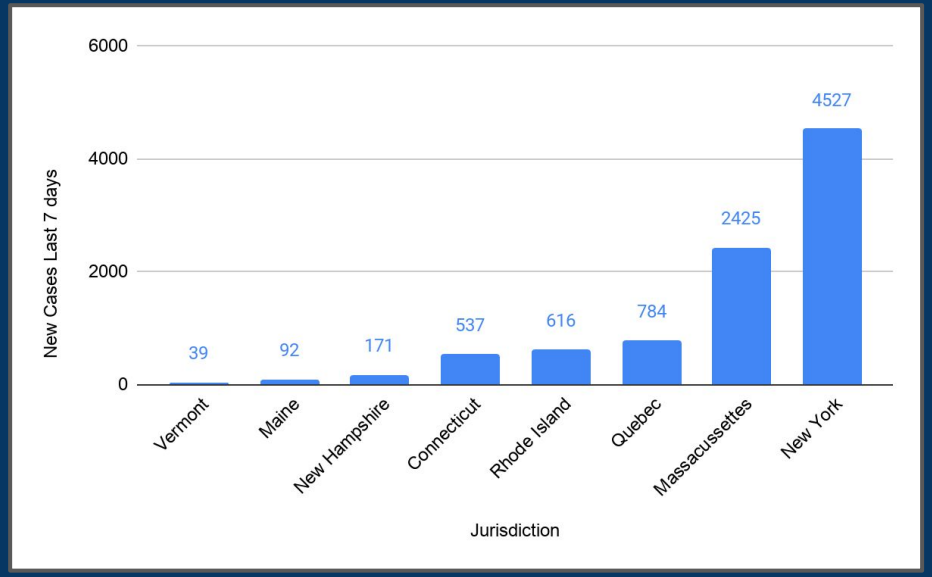
Source: COVID Tracking Project - August 20, 2020

Regional Data

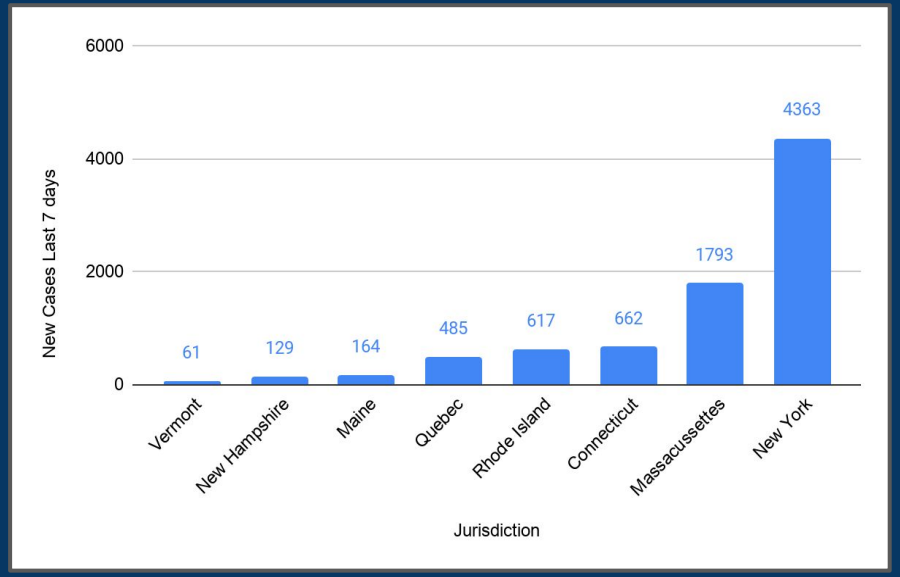
Regional Monitoring: New Cases Week Over Week

9.98% Decrease in New Confirmed Cases

Positive Cases August 7th to August 13th

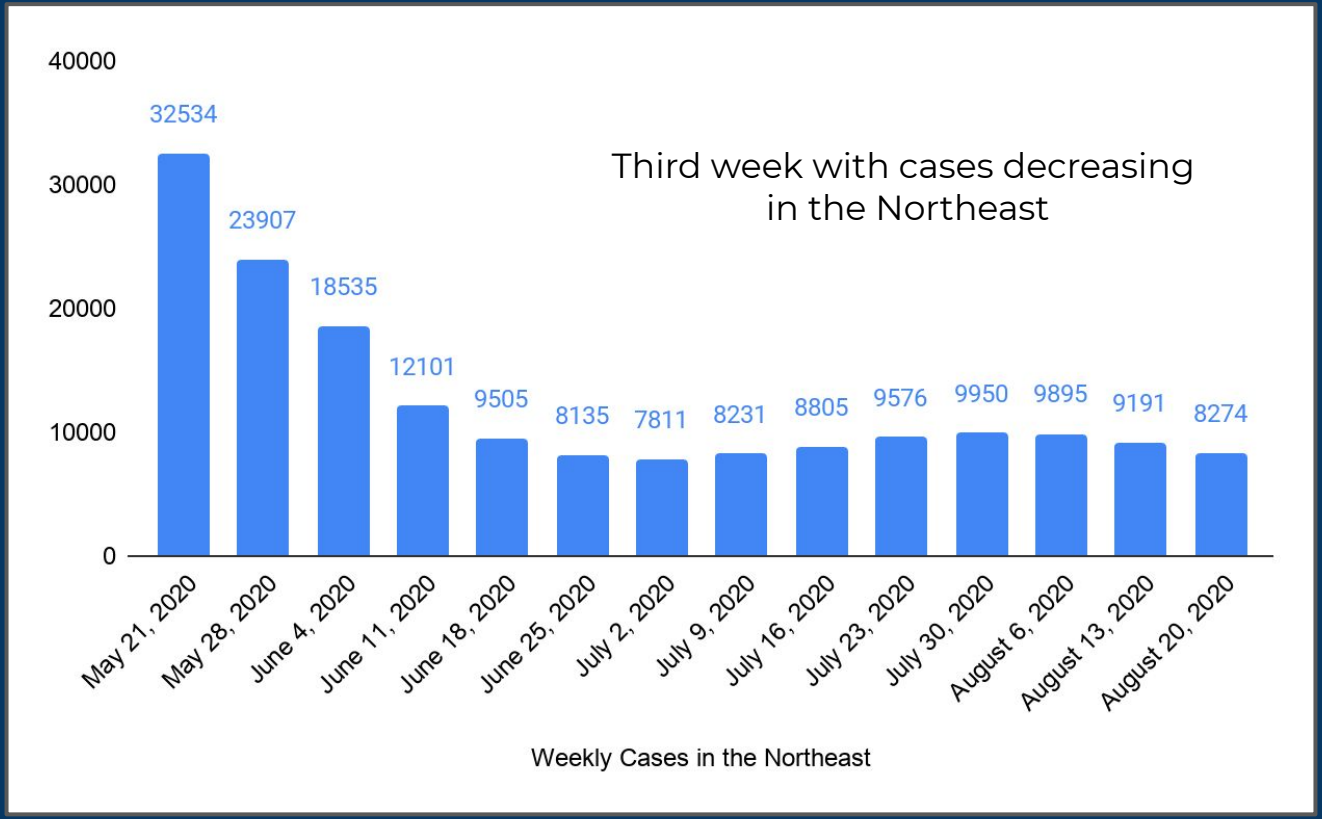


Positive Cases August 14th to August 20th



Sources: COVID-19 Tracking Project, New York Time Covid-19 Database & Government of Quebec

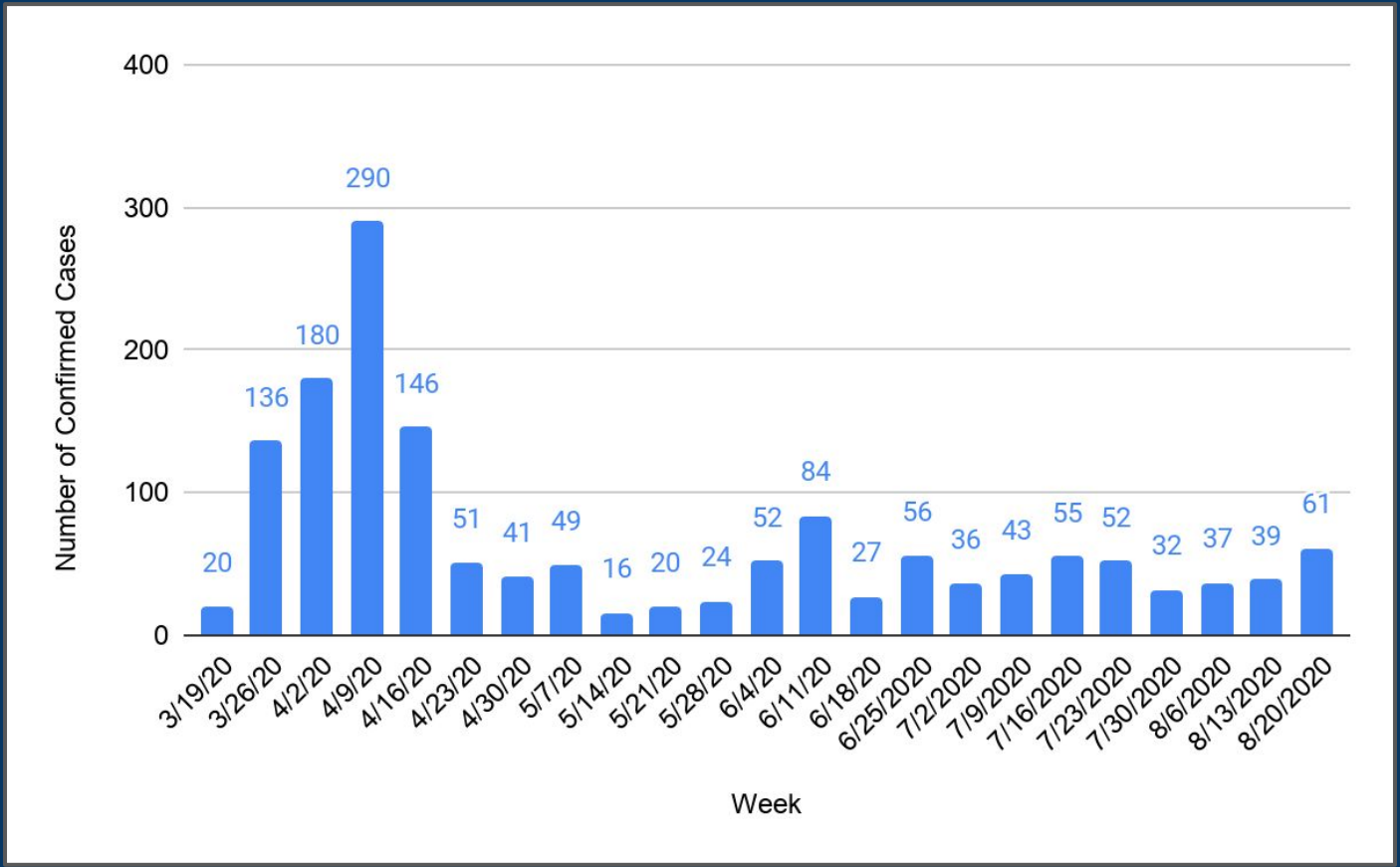
Regional Monitoring:
Week Over Week Case Growth Since May 21, 2020



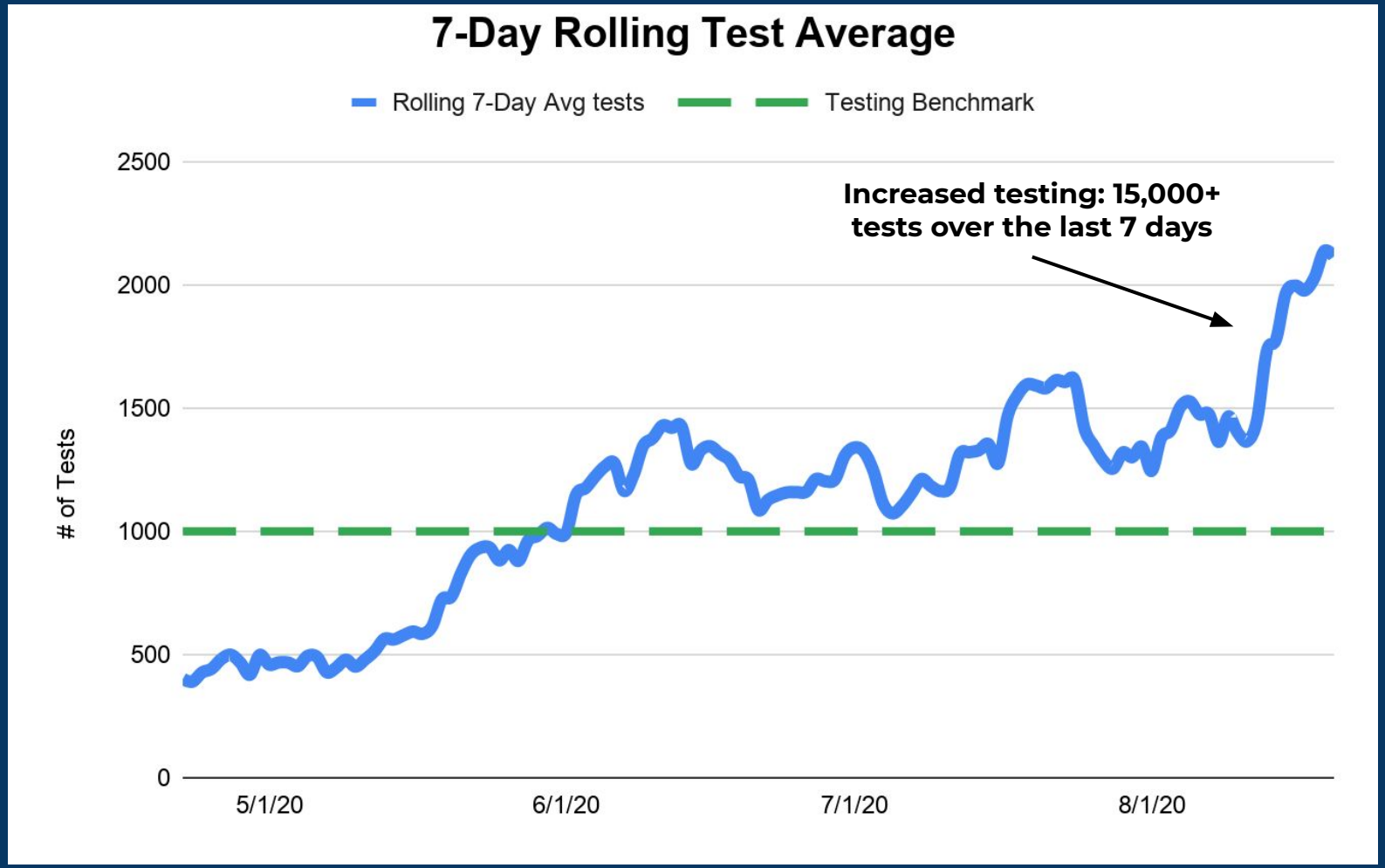
Sources: COVID-19 Tracking Project, New York Time Covid-19 Database & Government of Quebec

Vermont Data

Vermont Weekly Totals



Sources: Vermont Department of Health (week ending Thursday)



Source: Vermont Department of Health - August 21, 2020; tests measured as results reported to VDH by day

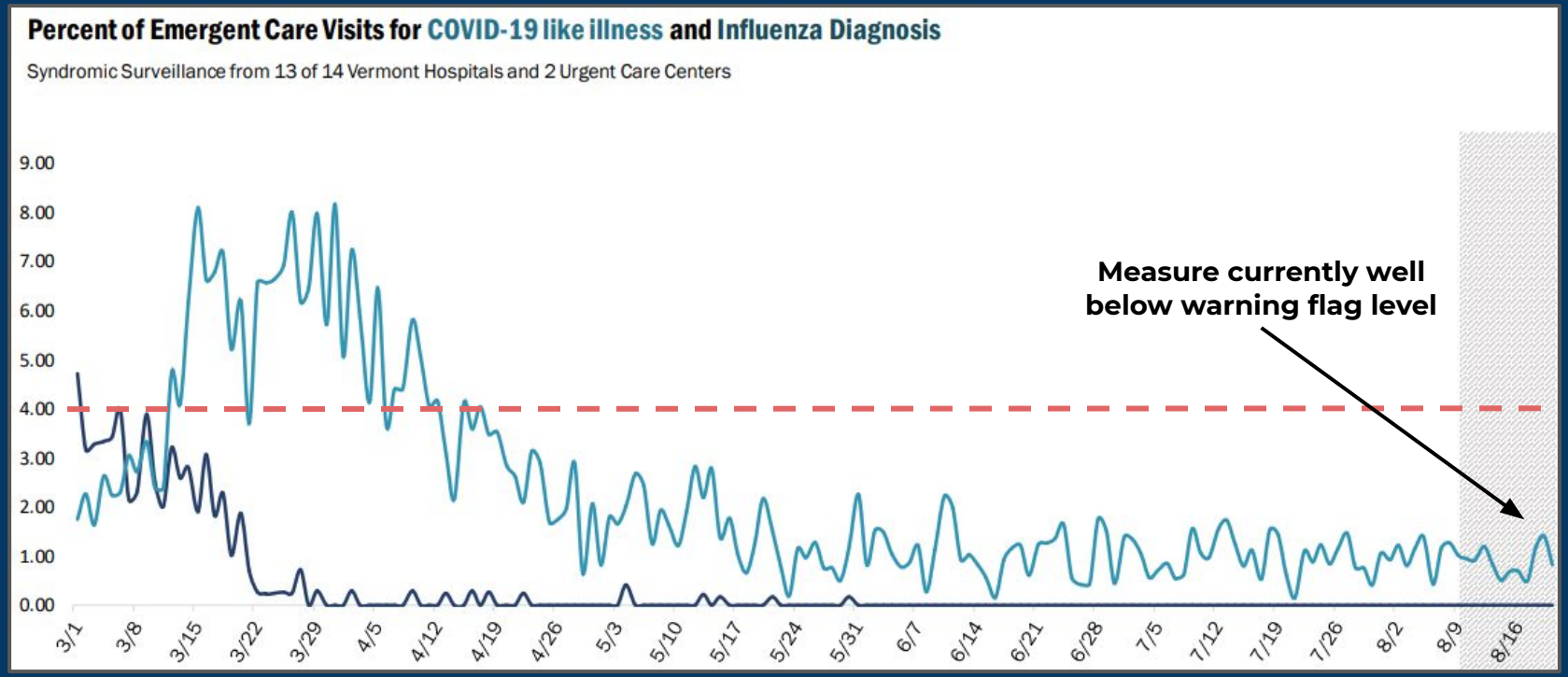
RESTART VERMONT

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

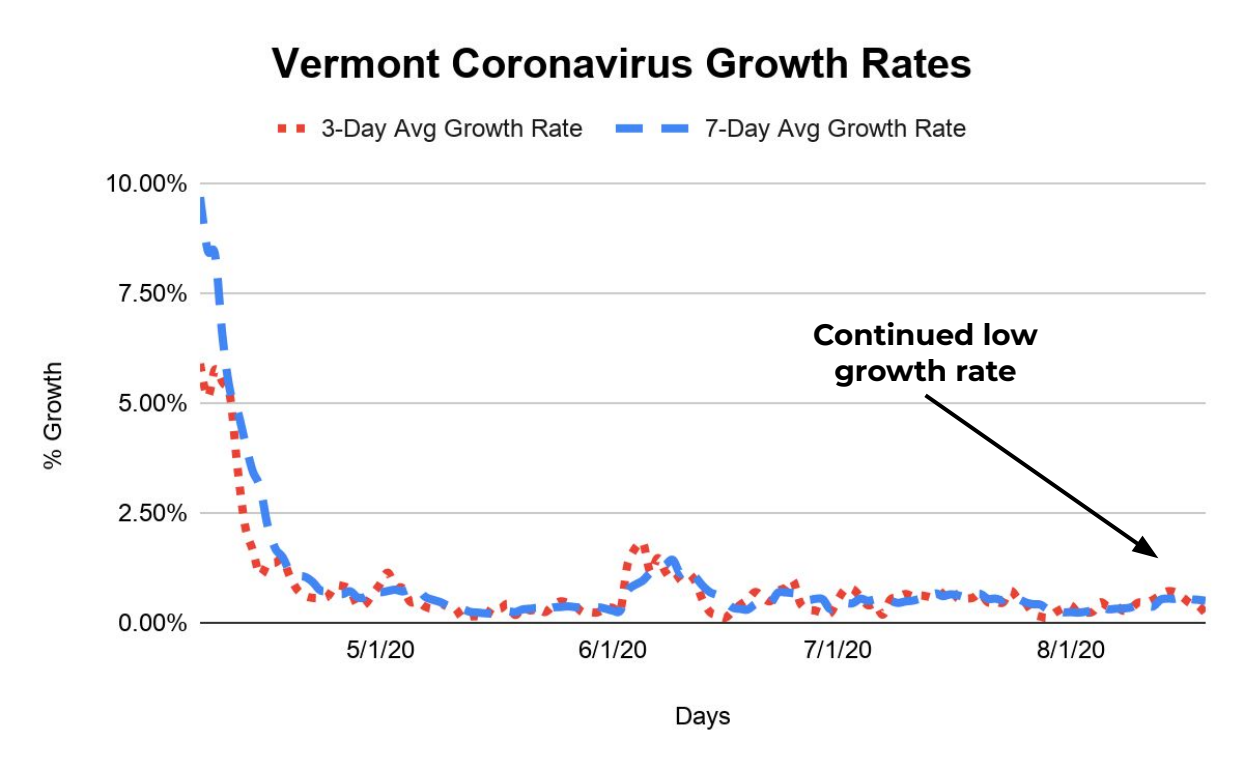
- **Summary:** Percentage of visits with COVID-19 like illness and Influenza diagnosis
- **Warning Flag:** Percentage of visits exceeding 4% for multiple consecutive days



Source: Vermont Department of Health - August 21, 2020

Data Point 2: Viral Growth and Reproductive Rates

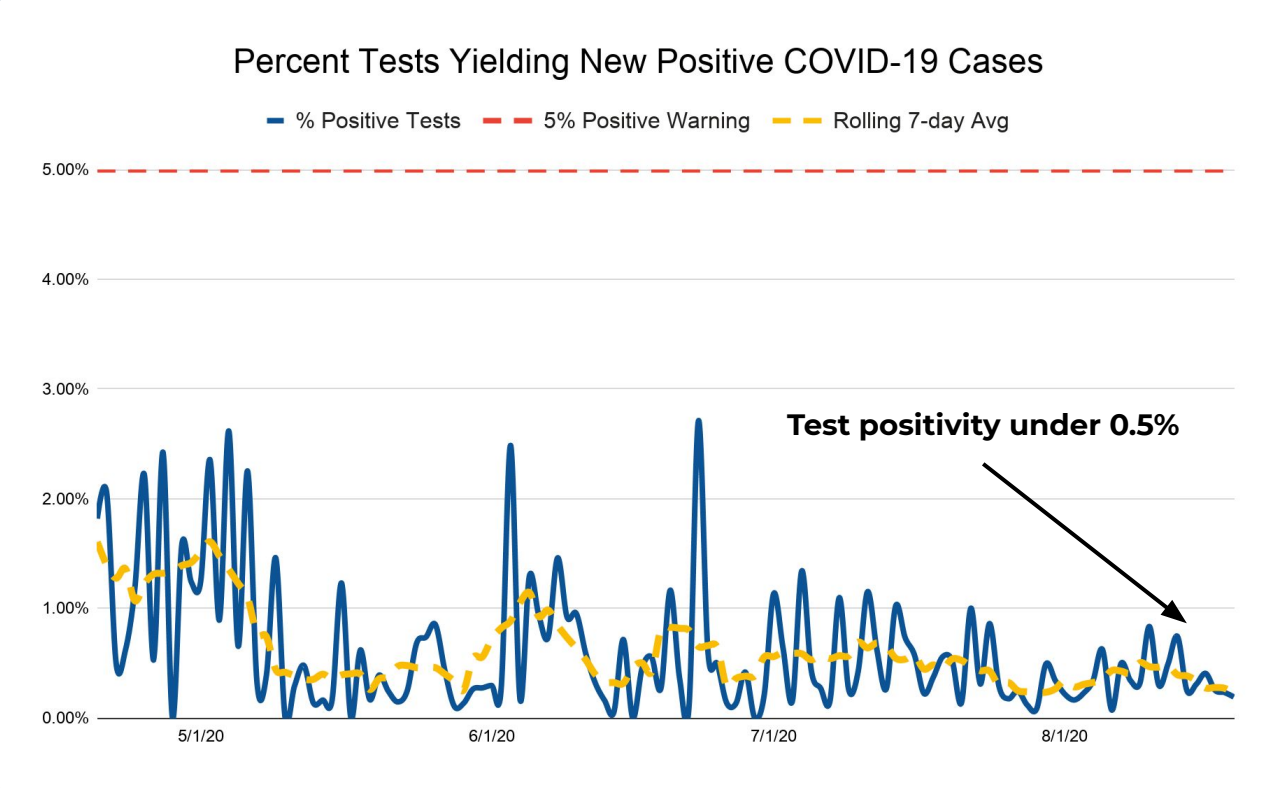
- **Summary:** Case growth measured by daily, 3-day, 7-day, and effective reproductive rate (R_t)
- **Warning Flags:** Sustained viral growth that would lead to <30% of open ICU beds



Source: Vermont Department of Health - August 20, 2020

Data Point 3: Percentage of New Positive Tests

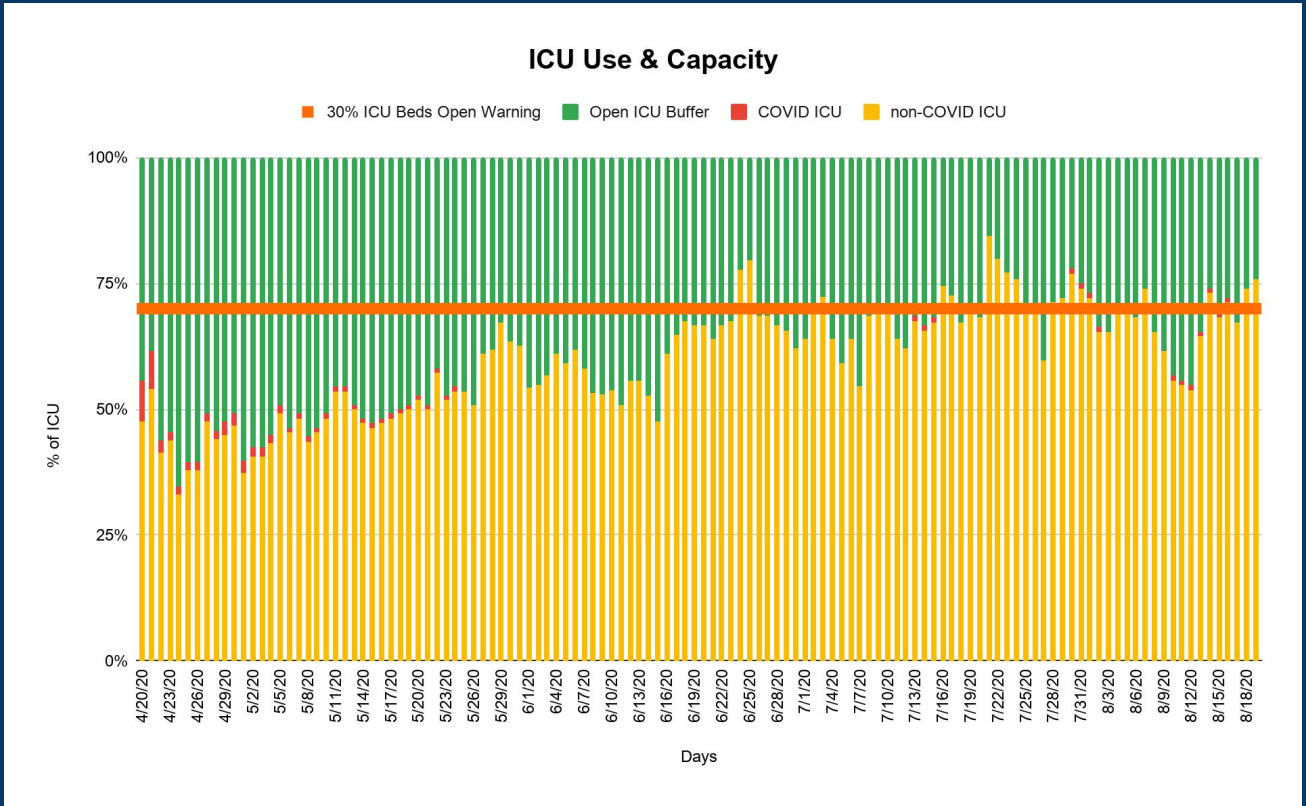
- **Summary:** Percent of tests resulting in a new positive case
- **Warning Flags:** New positives represent >5% of daily results



Source: Vermont Department of Health - August 20, 2020

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 - August 20, 2020

Percent of State-wide Cases Concentrated in **Most Populous County** Since June 15

Vermont

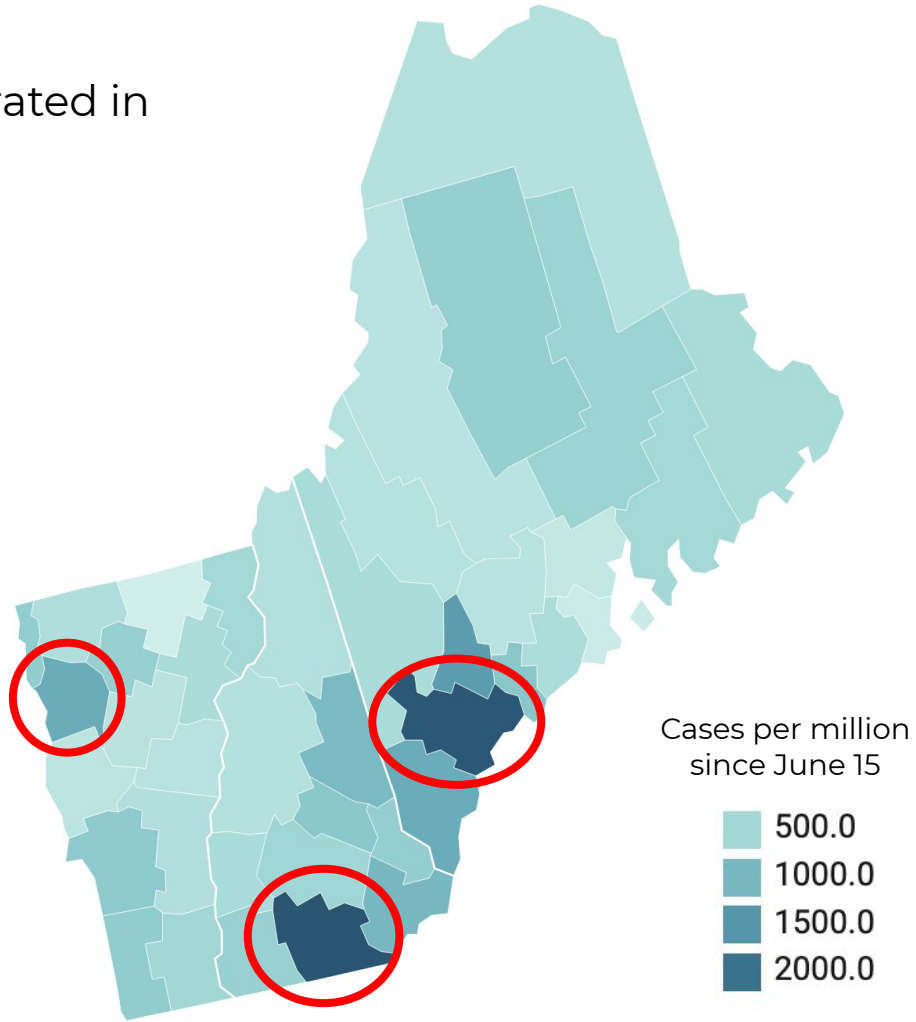
- ~25% of VT lives in Chittenden Co.
- 16.68% of all statewide cases have occured in Chittenden Co. (18.57% of all statewide cases since the start of the pandemic)

New Hampshire

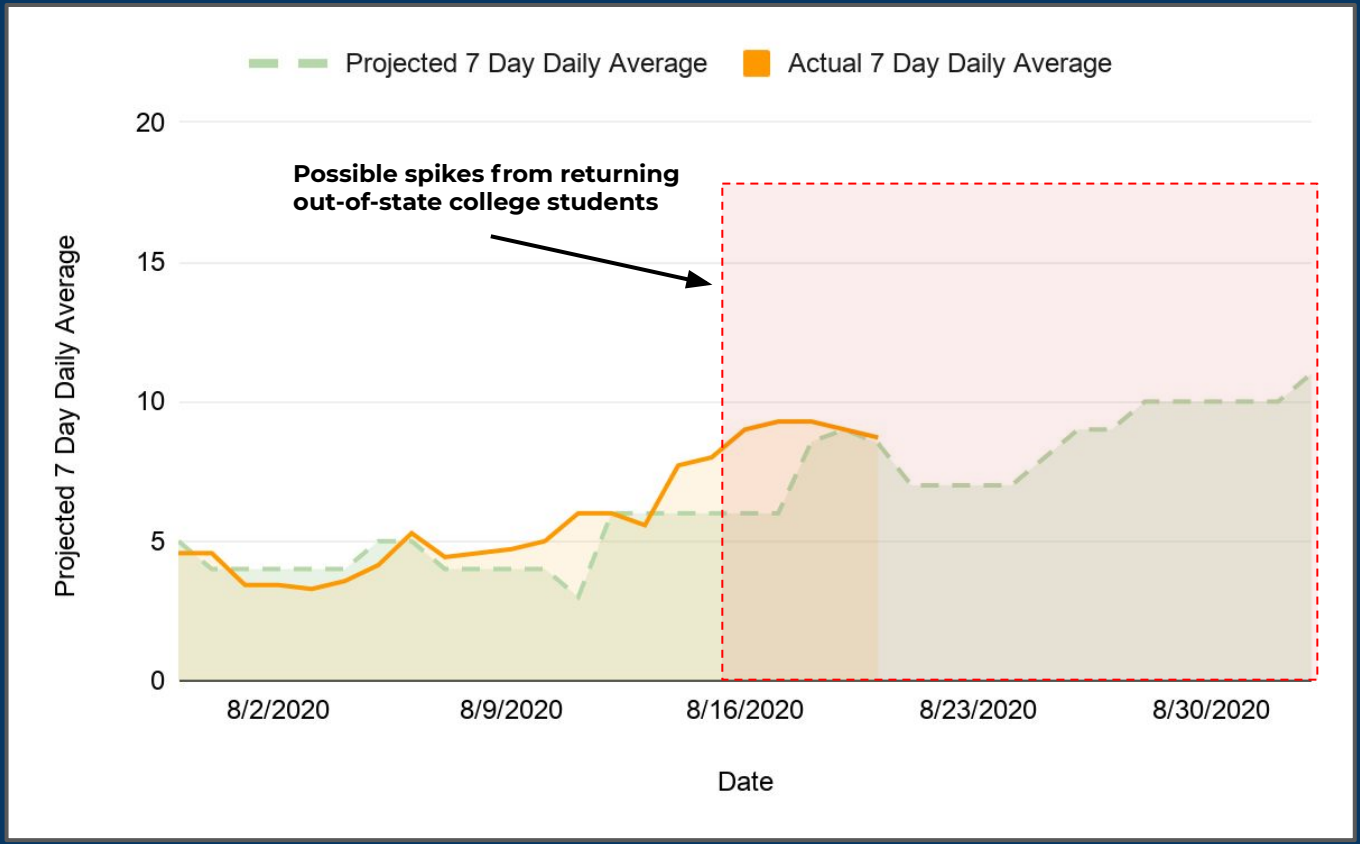
- ~30% of NH lives in Hillsborough Co.
- 29.15% of all statewide cases have occured in Hillsborough Co. (Manchester & Nashua) (32.52% of all statewide cases since the start of the pandemic)

Maine

- ~22% of ME lives in Cumberland Co.
- 22.56% of all statewide cases have occured in Cumberland Co. (Portland) (24.66% of all statewide cases since the start of the pandemic)



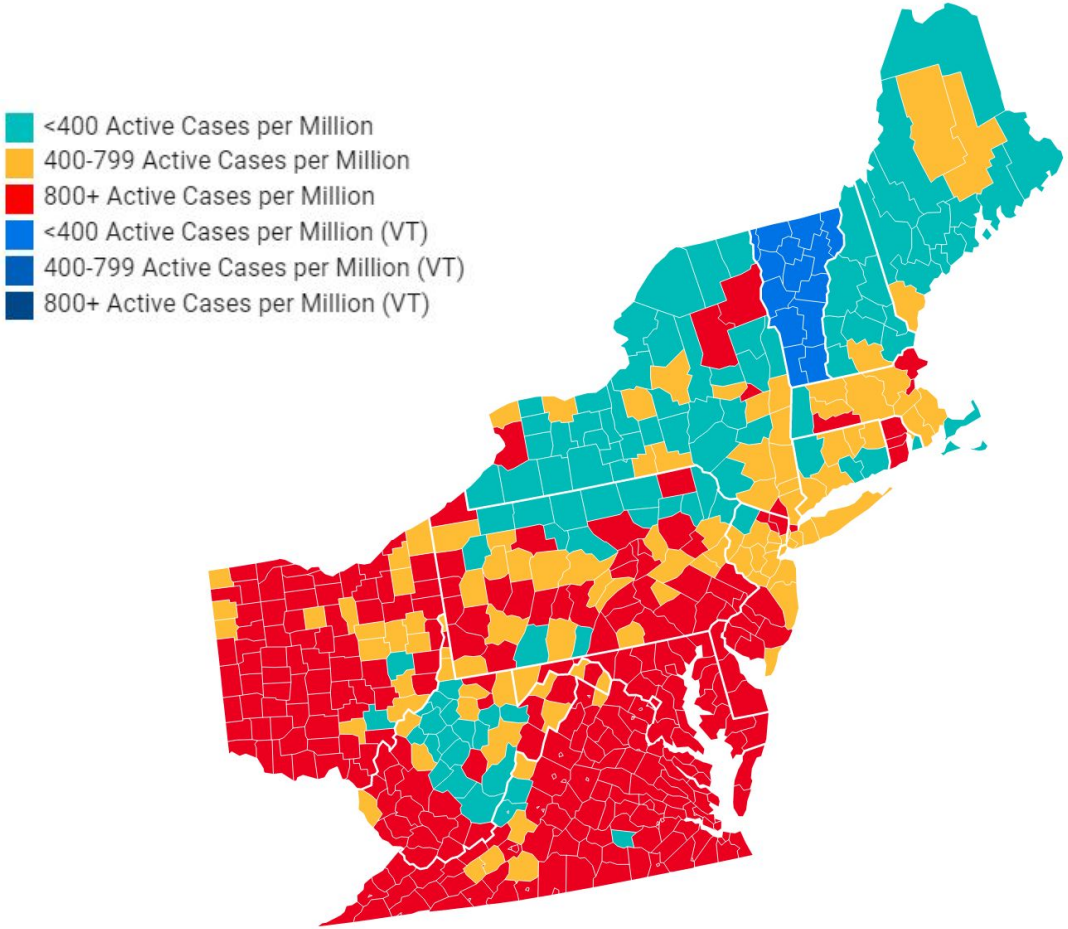
Vermont Forecast Model



Source: Oliver Wyman Forecast Model - August 21, 2020

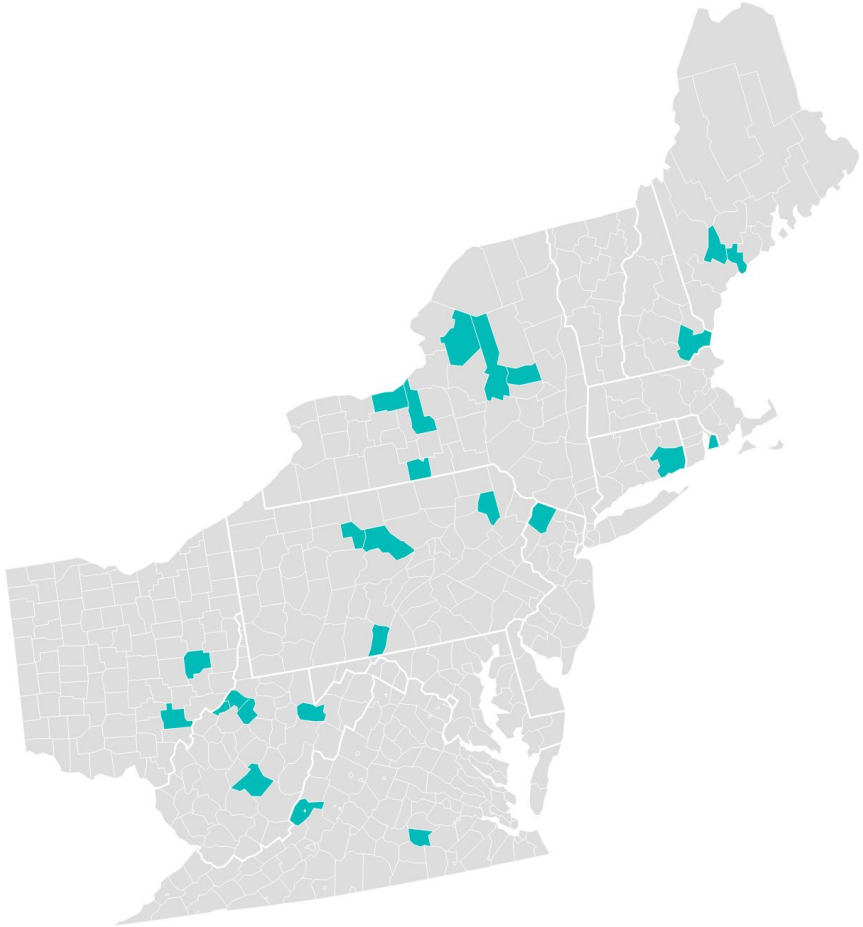
Travel Map Update

Updated Travel Map

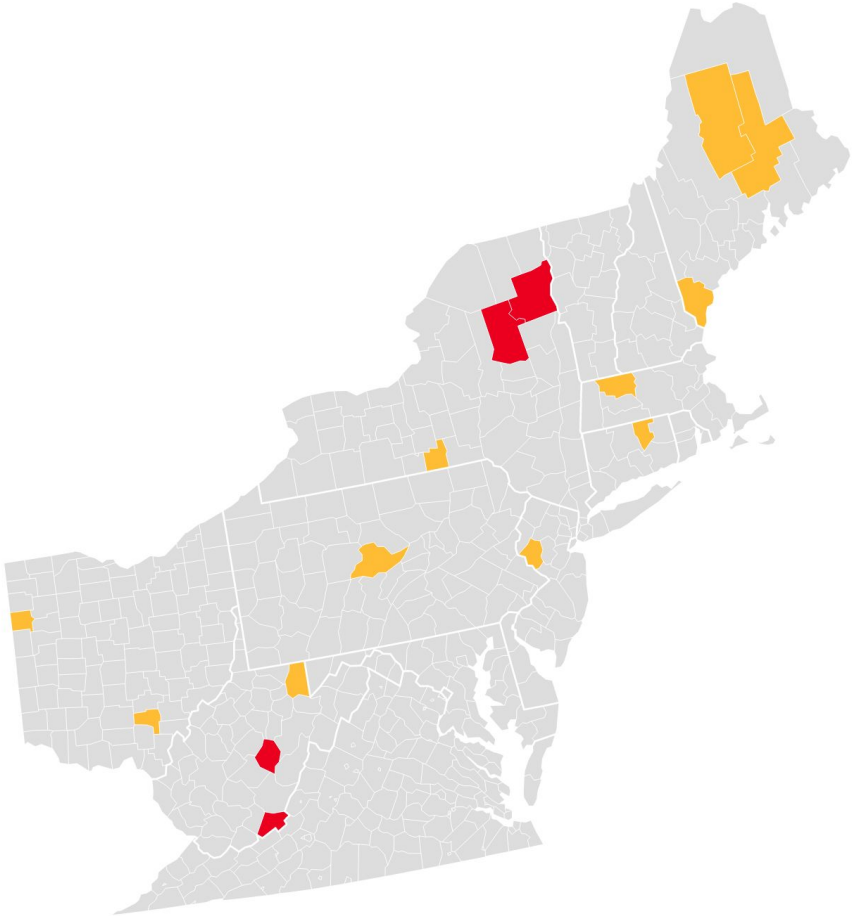
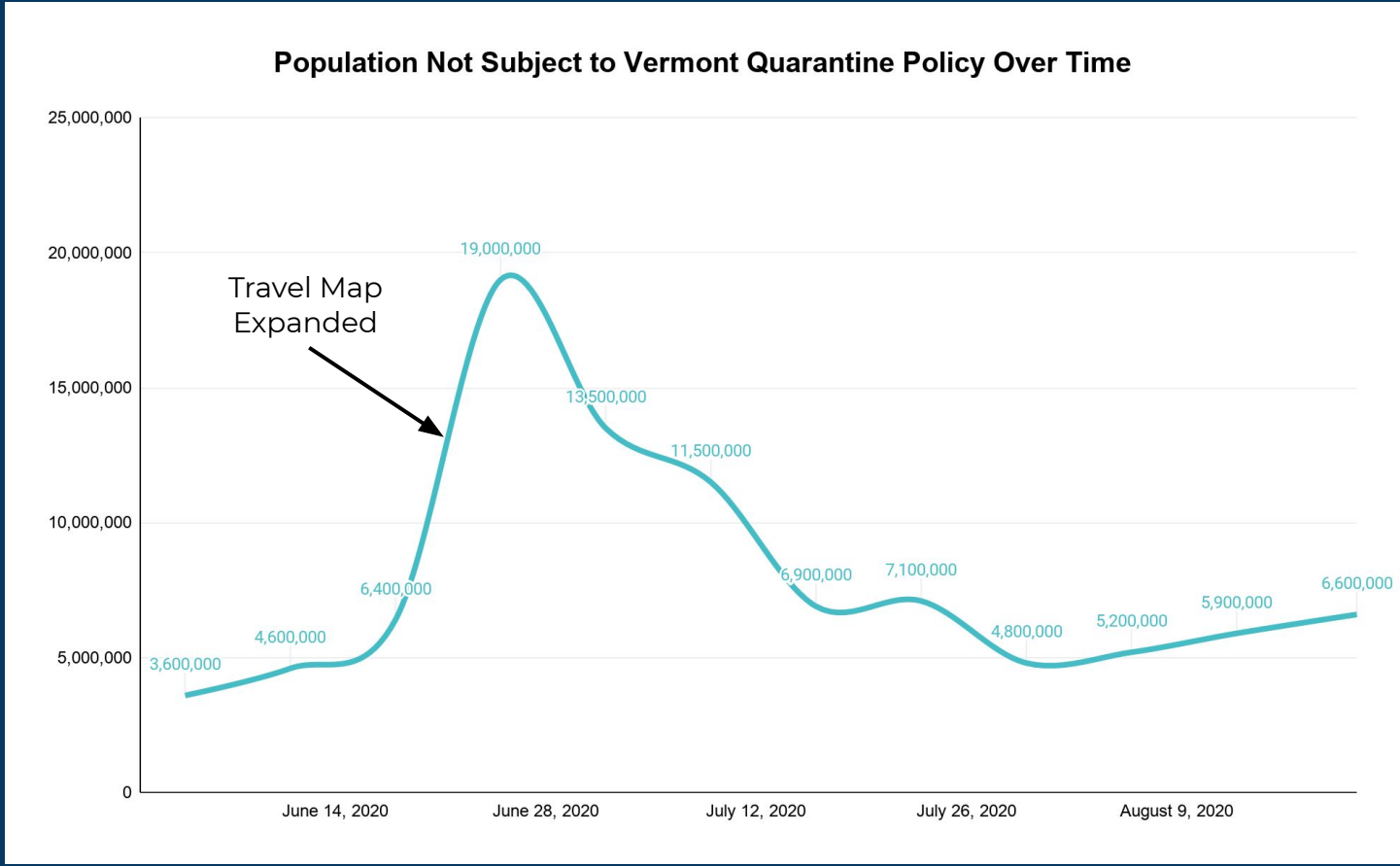


Source: Raw data from Johns Hopkins University—August 21, 2020 (dynamic map available at Vermont ACCD site)

Improving: Moving from Yellow or Red to Green



Worsening: Moving to Yellow or Red



Updated Travel Map