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*
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
National COVID-19 Infections

Source: COVID Tracking Project—February 1, 2021
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

158,618

New Cases Jan 26th to Feb. 1st

130,974

Sources: State Health Departments & CTV National News (Quebec)
Second Week of Significant Decline in Regional Weekly Cases

37% Decrease Since January 11, 2021

Lowest Weekly Case Totals since November 23rd

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

Trending Down

Source: Covid Tracking Project (7 Day Average in CT, ME, MA, NH, NY, RI & VT)—February 1, 2021
Vermont COVID-19 Cases
7 Day Average Trending Down

Source: Vermont Department of Health—February 1, 2021
Vermonters Diagnosed with COVID-19 by Week

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.

8 days for most recent 1000 infections (11,000 to 12,000 total)

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

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

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

Bennington has more than three times as many active cases per capita as Chittenden.

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.

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
As cases increased in Vermont's communities, cases also increased on Vermont's campuses.
Hospital & ICU Capacity Forecasts

Source: Oliver Wyman Forecast Model—February 1, 2020; GNYHA Hospital Surge framework
## Measuring Vermont’s Pandemic Response

<table>
<thead>
<tr>
<th>Rank (Lowest)</th>
<th><strong>Positivity</strong> (7 Day Avg.)</th>
<th><strong>Cases</strong> (7 Day Moving Avg.)</th>
<th><strong>Hospitalizations</strong> (7 Day Moving Avg.)</th>
<th><strong>Fatalities</strong> (7 Day Moving Avg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wyoming</td>
<td>Hawaii</td>
<td>Hawaii</td>
<td>Alaska</td>
</tr>
<tr>
<td>2</td>
<td>Hawaii</td>
<td>North Dakota</td>
<td>Alaska</td>
<td>Vermont</td>
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<tr>
<td>3</td>
<td>Vermont</td>
<td>Oregon</td>
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<td>4</td>
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<td>Minnesota</td>
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<td>5</td>
<td>D.C.</td>
<td>Michigan</td>
<td>Oregon</td>
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<td>6</td>
<td>Rhode Island</td>
<td>South Dakota</td>
<td>Wyoming</td>
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<tr>
<td>7</td>
<td>Massachusetts</td>
<td>Alaska</td>
<td>Montana</td>
<td>Nebraska</td>
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<td>Oregon</td>
<td>Vermont</td>
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<td>Colorado</td>
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</table>

Source: Covid Tracking Project; Johns Hopkins University & New York Times—February 1, 2021
At **11.61 doses** administered per 100 residents, Vermont ranks:

- 2\(^{nd}\) in Northeast
- 8\(^{th}\) Nationally

Source: CDC—February 1, 2021
Covid-19 Cases in K-12 Public Schools Across Northern New England

Vermont
460 Cases (+54)

New Hampshire
1945 Cases (+70)

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

7-Day Rolling Test Average

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