COVID-19 Modeling
January 27, 2021

Presentation available at: dfr.vermont.gov
National COVID-19 Cases
Sustained & Significant Decrease

33% Decrease in Cases
Since January 11, 2021*

Source: Covid Tracking Project — January 26, 2021; * Recent 7 Day High
National COVID-19 Hospitalizations Trending Down

18% Decrease in Cases Since January 6, 2021*

Source: Covid Tracking Project — January 26, 2021; * Recent 7 Day High
National COVID-19 Deaths Slowing

1% Decrease in Cases Since January 13, 2021*

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

185,996

New Cases Jan 13th to Jan. 25th

158,582

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

24% Decrease Since January 11, 2021
Regional Positivity Rate Declining
(7 Day Average)

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

Trend is Stable

Source: Covid Tracking Project (CT, ME, MA, NH, NY, RI & VT) — January 26, 2021
Vermont COVID-19 Cases
7 Day Average Trending Down

Source: Vermont Department of Health
Vermonters Diagnosed with COVID-19 by Week

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

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

Source: VDH
National COVID-19 Infections

Source: VDH
Estimated Active Cases of COVID-19 in Vermont

Active cases declining

Source: Johns Hopkins University Data & Oliver Wyman Forecast Model—January 26, 2020
As cases increased in Vermont's communities, cases also increased on Vermont's campuses.
Bennington now has more active cases per million than any VT county since the start of the pandemic.

Case projections falling week-over-week but remain elevated

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

**Vermont Hospital Forecast**
- Medical Surgical Beds + COVID
- Current Total Medical Surgical Capacity
- Elevated Medical Surgical Level
- Medical Surgical Beds baseline occupancy

**Vermont ICU Forecast**
- ICU bed baseline occupancy
- ICU beds baseline + COVID
- Elevated ICU bed level
- Total current ICU capacity

ICU projections falling below elevated levels

Source: Oliver Wyman Forecast Model—January 26, 2020; GNYHA Hospital Surge framework
# Measuring Vermont’s Pandemic Response

<table>
<thead>
<tr>
<th>Rank</th>
<th>Positivity (7 Day Avg.)</th>
<th>Cases (7 Day Moving Avg.)</th>
<th>Hospitalizations (7 Day Moving Avg.)</th>
<th>Fatalities (7 Day Moving Avg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vermont</td>
<td>Hawaii</td>
<td>Hawaii</td>
<td>Vermont</td>
</tr>
<tr>
<td>2</td>
<td>Hawaii</td>
<td>Oregon</td>
<td>North Dakota</td>
<td>Oregon</td>
</tr>
<tr>
<td>3</td>
<td>Alaska</td>
<td>North Dakota</td>
<td>Alaska</td>
<td>Colorado</td>
</tr>
<tr>
<td>4</td>
<td>Maine</td>
<td>Michigan</td>
<td>Vermont</td>
<td>Maine</td>
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<tr>
<td>5</td>
<td>D.C.</td>
<td>Minnesota</td>
<td>Oregon</td>
<td>Minnesota</td>
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<tr>
<td>6</td>
<td>Rhode Island</td>
<td>Vermont</td>
<td>Minnesota</td>
<td>Utah</td>
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<tr>
<td>7</td>
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<td>Washington</td>
<td>Wisconsin</td>
<td>D.C.</td>
</tr>
<tr>
<td>8</td>
<td>Minnesota</td>
<td>South Dakota</td>
<td>Washington</td>
<td>Delaware</td>
</tr>
</tbody>
</table>

Source: Covid Tracking Project; Johns Hopkins University & New York Times—January 26, 2021
At **8.72 doses** administered per 100 residents, Vermont ranks:

- 2\textsuperscript{nd} in Northeast
- 8\textsuperscript{th} Nationally

Source: CDC—January 27, 2021
### Active Outbreaks in Long Term Care Facilities

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.

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

2019-2020 Actual
270,275

2020-2021 Goal
325,000

254,976 Year to Date

284,610 Year to Date

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

7-Day Rolling Test Average

- 1,000 Benchmark
- Rolling 7-Day Test Average
- 5,000 Benchmark

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