COVID-19 Modeling
February 16, 2021

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

65% Decrease in Cases
Since January 11, 2021*

Source: Covid Tracking Project — February 15, 2021; *Recent 7-Day High
National COVID-19 Hospitalizations Trending Down

45% Decrease in Hospitalizations Since January 6, 2021*

Source: Covid Tracking Project — February 15, 2021; *Recent 7-Day High
National COVID-19 Deaths Slowing

24% Decrease in 7-Day Death Rates Since January 13, 2021*

Source: Covid Tracking Project — February 15, 2021; *Recent 7-Day High
Regional Cases

14.69% Decrease in New Cases

New Cases Feb. 2nd to Feb 8th

103,303

New Cases Feb. 9th to Feb 15th

90,075

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

57% 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)

Threshold Recommended by the World Health Organization

Source: Covid Tracking Project (7 Day Average in CT, ME, MA, NH, NY, RI & VT)—February 15, 2021
Regional Hospitalizations

Trending Down

Source: Covid Tracking Project (7 Day Average in CT, ME, MA, NH, NY, RI & VT)—February 15, 2021
Vermonters Diagnosed with COVID-19 by Week

Source: Vermont Department of Health (week calculated as Tuesday to Monday)
Vermont COVID-19 Cases
7-Day Average Trending Down

Source: Vermont Department of Health—February 14, 2021
Vermont COVID-19 Cases
Over 75 Years Old
7-Day Average Trending Down


Daily Cases Over 75+ 7 Day Average 75+
New Cases (75+) and New Vaccinations in Vermont
Counts are rolling 7-day averages.

Source: VDH—February 15, 2020
Vermont Weekly Deaths

Source: Vermont Department of Health—February 14, 2021
January 1\textsuperscript{st} to February 15\textsuperscript{th}
New Daily Deaths Per 100,000
(14-Day Average)

Source: Covid Tracking Project and Vermont Department of Health—February 16th, 2021
Active Cases per Million in Vermont Counties

Source: Johns Hopkins University—February 16th, 2021
Cases remain elevated in Rutland, Franklin, and Bennington Counties.

Essex County added 11 cases last week.
Continued overall decline in active Vermont cases
Vermont Forecast

Improved forecast, but cases remain flat in near future

Source: Johns Hopkins University Data & Oliver Wyman Forecast Model—February 16, 2020
Statewide Hospitalizations Improving
Outside Bennington & Rutland Counties

Medical / Surgical Beds

Source: VDH—February 16, 2020
Statewide Hospitalizations Improving
Outside Bennington & Rutland Counties

Source: VDH—February 16, 2020
Hospital & ICU Capacity Forecasts

Vermont Hospital Forecast
- Med-Surg Beds + Covid
- Current Total Med-Surg Capacity
- Elevated Med-Surg Level
- Med-Surg Beds baseline occupancy

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

Source: Oliver Wyman Forecast Model—February 15, 2020; GNYHA Hospital Surge framework
Higher Education Restart

As cases increased in Vermont's communities, cases also increased on Vermont's campuses.

Source: Vermont Higher Education Institution reporting—February 15, 2021
Covid-19 Cases in K-12 Schools & Colleges Across Northern New England

**Vermont**
- K-12: 594 Cases (+71)
- Higher Ed: 335 (+61)

**New Hampshire**
- K-12: 2,323 (+201)
- Higher Ed: 1,024

**Maine**
- 2,043 Cases (+334)
- Higher Ed: 491

Source: ME, NH & VT K-12 Dashboards, ME media reports
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>Village at Cedar Hill, Windsor</td>
<td>23</td>
</tr>
<tr>
<td>Long Term Care Facility D</td>
<td>9</td>
</tr>
<tr>
<td>Mountain View Center, Rutland</td>
<td>11</td>
</tr>
<tr>
<td>Brookdale at Fillmore Pond, Bennington</td>
<td>Not Shown</td>
</tr>
</tbody>
</table>

Source: Vermont Department of Health—February 7, 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 or fewer than 5 active cases.
Regional Vaccination Map: Initial Dose

At **17.11 doses** administered per 100 residents, Vermont ranks:

- 2nd in Northeast
- 10th Nationally

Source: CDC—February 16, 2021
Percentage Population Fully Vaccinated

Vermont Ranks 7th Nationally

Source: CDC—February 14, 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—February 16, 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 15, 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 15, 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 15, 2021
Vermont Testing

7-Day Rolling Test Average

Source: Vermont Department of Health—February 15, 2021; results reported to VDH daily