COVID-19 Modeling
December 28, 2021

Presentation available at: dfr.vermont.gov
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Vermont Case Data
Vermont cases have increased 4% over last 7 days & increased 3% over last 14 days

Source: VDH—December 28, 2021; created with Datawrapper
Week-over-week testing decreased slightly, with the 7-day average decreasing 17% this week.
Test positivity has increased, **increasing 25%** over the last 7 days.
Vermont Case Growth Metrics

4% Increase
Over last 7 days

18% Decrease
Over last 7 days

25% Increase
Over last 7 days

Source: VDH—December 28, 2021; created with Datawrapper
The not fully vaccinated case rate has decreased **14%** in the last 7 days.

The fully vaccinated rate has increased **21%** during the same period.

Source: Vermont Dept. of Health and CDC—December 27, 2021
COVID-19 Hospitalizations By Vaccination Status Per 100K

Measured Among Vermont’s 18 & Over Population Over the Last 6 Weeks

Those 18+ & not fully vaccinated were 23x more likely to be hospitalized from COVID-19 over the last 6 weeks compared to those fully vaccinated & boosted.

- 198 Hospitalizations per 100K (Not Fully Vaccinated)
- 32 Hospitalizations per 100K (Fully Vaccinated But Not Boosted)
- 8 Hospitalizations per 100K (Fully Vaccinated & Boosted)

Source: VDH & CDC—December 27, 2021; Created with Datawrapper
Those 18+ & **not fully vaccinated** were **23x more** likely to die from COVID-19 over the last 6 weeks compared to those **fully vaccinated & boosted**.
Vermont COVID-19 Cases Fall 2020 vs. Fall 2021

Source: Vermont Dept. of Health—December 28, 2021; created with Datawrapper
Vermont reported **65 fewer cases** this week compared to last week.
Vermont had the 23rd-highest rate of new COVID-19 cases over the last week.
Vermont had the 2nd highest rate of COVID-19 testing over the last week.
Vermont COVID-19 cases are expected to increase over next 4 weeks

Anticipating cases to increase after Christmas & New Year’s & with Omicron variant

Source: Johns Hopkins University & CDC—December 28, 2021
VT COVID-19 Death Confidence Intervals

Calculated as a 7-day mean. Inner and outer bands represent 50% and 95% confidence intervals, respectively.

Vermont COVID-19 fatalities are not expected to decrease over the next 4 weeks.
Case rates **decreased in 11 of 14** counties this week.

Bennington & Chittenden Counties reporting highest levels of spread, but testing lower due to holiday.
### 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>Queen City Health &amp; Rehabilitation</td>
<td>23</td>
</tr>
<tr>
<td>The Manor, Morrisville</td>
<td>9</td>
</tr>
<tr>
<td>Springfield Rivers Nursing &amp; Rehabilitation</td>
<td>6</td>
</tr>
<tr>
<td>Thompson House, Brattleboro</td>
<td>Not Shown</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>38</strong></td>
</tr>
</tbody>
</table>
Vermont Hospitalization Data
Statewide Covid-19 Hospitalizations

3% Decrease in the 7-Day hospitalization average over the past week

72% of hospitalizations among the unvaccinated over the last 7 days

Source: Vermont Department of Health—December 28, 2021
**Statewide Covid-19 Critical Care Usage**

- **15% Decrease** in the 7-Day ICU average over the past week
- **85%** of critical care stays among the unvaccinated over the last 7 days

Source: Vermont Department of Health—December 28, 2021
Vermont Hospital Metrics
(7-Day Averages)

Vermont Hospital Beds Available Since July 1, 2021
- 21 ICU Beds Available on December 28, 2021

Vermont ICU Beds Available Since July 1, 2021
- 84 ICU Beds Available on December 28, 2021

Source: Vermont Department of Health—December 28, 2021;
Vermont had the 13th-fewest COVID-19 hospital admissions per capita over the last week.
Vermont Fatality Data
Vermont COVID-19 Fatalities

Source: Vermont Department of Health—December 28, 2021
Monthly Covid-19 Deaths In Vermont

465 COVID-19 deaths since the start of the pandemic

Source: Vermont Department of Health—December 28, 2021; deaths attributed to month in which death occurred rather than reported
Vermont had the 10th-fewest COVID-19 deaths per capita over the last week.
Vermont Vaccination Data
<table>
<thead>
<tr>
<th>Metric</th>
<th>Figure</th>
<th>State Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Doses Administered per 100K</strong></td>
<td>199,590</td>
<td>1</td>
</tr>
<tr>
<td><strong>% At Least 1 Dose (5+ Population)</strong></td>
<td>90%+</td>
<td>2 (tied)</td>
</tr>
<tr>
<td><strong>% Fully Vaccinated (5+ Population)</strong></td>
<td>81.1%</td>
<td>1</td>
</tr>
<tr>
<td><strong>% At Least 1 Dose (Full Population)</strong></td>
<td>89.1%</td>
<td>2</td>
</tr>
<tr>
<td><strong>% Fully Vaccinated (Full Population)</strong></td>
<td>77.3%</td>
<td>1</td>
</tr>
<tr>
<td><strong>% Fully Vaccinated (65 &amp; Over)</strong></td>
<td>95%+</td>
<td>1 (tied)</td>
</tr>
</tbody>
</table>

Source: CDC—December 27, 2021; New Hampshire & West Virginia excluded due to unreliable data
Vermont leads the nation with the percentage of 5 to 11 year olds starting vaccination.

55.4% w/ 1 Dose & 42.1% Fully Vaccinated
Vermont Vaccination Progress

By Age Band

- Partially Vaccinated
- Fully Vaccinated

Source: Vermont Dept. of Health—December 27, 2021; *based on 2019 census estimates; state data may differ from CDC reporting
<table>
<thead>
<tr>
<th>Metric</th>
<th>Figure</th>
<th>State Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Fully Vaccinated w/ booster dose</td>
<td>48.3%</td>
<td>1</td>
</tr>
<tr>
<td>% of Fully vaccinated 18+ w/ booster doses</td>
<td>53.3%</td>
<td>1</td>
</tr>
<tr>
<td>% of Fully vaccinated 50+ w/ booster doses</td>
<td>64.7%</td>
<td>1</td>
</tr>
<tr>
<td>% of Fully vaccinated 65+ w/ booster doses</td>
<td>73.9%</td>
<td>2</td>
</tr>
</tbody>
</table>
Regional Data
Northeast Regional Cases

72.2% Increase in New Cases

New Cases December 14th to December 20th

New Cases December 21st to December 27th

Sources: State Health Dept. & CTV National News (Quebec)
Weekly Northeast Regional Cases

Most weekly COVID-19 cases reported in Northeast Region ever

Sources: State Health Depts.—December 20, 2021 (includes: CT, ME, MA, NH, NY, QC, RI & VT)
New England COVID-19 Cases

New England cases **increased 34%** over last 7 days &
**increased 38%** over last 14 days

Sources: State Health Depts.—December 27, 2021 (includes: CT, ME, MA, NH, RI & VT)
Cases remain elevated across New England

Sources: State Health Depts.—December 27, 2021 (includes: CT, ME, MA, NH, RI & VT)
New England COVID-19 Hospitalizations increased 2% over last 7 days & increased 14% over last 14 days.
New England COVID-19 Hospitalizations Trends

7-Day Average Hospitalizations Per 100K

Sources: HHS—December 27, 2021 (includes: CT, ME, MA, NH, RI & VT)

Hospitalizations slowing/improving across New England
National Data
U.S. Infections, Hospitalizations, & Deaths

63% Increase
Over last 7 days

3% Increase
Over last 7 days

13% Increase
Over last 7 days

Source: New York Times—December 28, 2021; created with Datawrapper
Daily COVID-19 Cases per Million in US Regions

Calculated as a 7-day moving average. Definitions of North, Midwest, South, and West taken from the U.S. Census bureau.

Source: JHU—December 21, 2021; 7-day averages; created with Datawrapper
US COVID-19 Infection Confidence Intervals

Calculated as a 7-day mean. Inner and outer bands represent 50% and 95% confidence intervals, respectively.

Source: CDC—December 21, 2021; created with Datawrapper
US COVID-19 Death Confidence Intervals

Calculated as a 7-day mean. Inner and outer bands represent 50% and 95% confidence intervals, respectively.
COVID-19 Variant Data
Omicron Spread: Regional Differences

HHS Region 2
Omicron 88% of cases

HHS Region 1
Omicron 45% of cases

Source: CDC—December 28, 2021; created with Datawrapper
RESTART VERMONT

Reopening Metrics

1. Syndromic Surveillance (retired)
2. Viral Growth & Reproductive Rates
3. Percentage of New Positive Tests
4. Hospital & Critical Care Bed Capacity
5. Testing Volume
Viral Growth & Reproductive Rates

Vermont Coronavirus Growth Rate

- Rolling 3-Day Avg % Growth
- Rolling 7-Day Avg % Growth

Source: Vermont Department of Health
Test Positivity

Percent Tests Yielding New Positive COVID-19 Cases

- % Positive Tests
- 5% Positive Warning
- Rolling 7-day Avg

Source: Vermont Department of Health; 7-day positivity calculated as positive tests last seven days/tests last seven days

Few tests conducted around holiday
Hospital & Critical Care Beds

ICU Use & Capacity

Source: Vermont Department of Health
Vermont Testing

Vermont COVID-19 Testing

7-Day Rolling Average

# of Tests

Source: Vermont Department of Health; results reported to VDH daily