COVID-19 Modeling
April 19, 2022

Presentation available at: dfr.vermont.gov
Overview

Cases in Vermont and New England have increased over the last week, although the pace of those increases is slower than during the rapid surges at the beginning of the Omicron wave. Vermont’s confirmed COVID-19 cases grew from a seven-day average of 201 to 256 per day, an increase of 27%.

Regionally, cases grew from 3,288 to 4,226 cases per day (+29%). Vermonters in the hospital for the virus also increased this week. Today, 40 individuals are hospitalized for COVID-19 with two people in the ICU. Three more fatalities were reported this week, with 626 total deaths now recorded since the beginning of the pandemic.

Over the last week, Vermont also recorded among the lowest rates of hospitalizations to confirmed cases in the United States. States with higher ratios—such as Mississippi, South Dakota, and Georgia—may be seeing an underreporting of cases relative to current hospitalizations.

Testing is up in Vermont as cases rise, with testing increasing 18% in the last week. Vermont continues to report one of the highest per capita testing rates in the nation, consistent with historical testing trends.
Vermont
Case Data
Vermont New COVID-19 Cases

The 7-day average has increased from 201 to 256 (+27%) cases per day over the last week.

Source: VDH—April 19, 2022; created with Datawrapper
Vermont reported 1,814 new COVID-19 cases this week, **428 more cases** compared to last week.

Source: VDH—April 18, 2022; created with Datawrapper
Week-over-week testing increased, with the 7-day average increasing 18%.
Vermont PCR Test Positivity

Test positivity **increased** over the last 7 days

Source: VDH—April 19, 2022; created with Datawrapper
The not fully vaccinated case rate has increased 32% in the last 7 days.

The fully vaccinated rate has increased 32% during the same period.

Source: VDH & CDC—April 16, 2022; Created with Datawrapper
VT COVID-19 Infections per 100K by Age Group

Source: VDH—April 19, 2022; created with Datawrapper
Sars-Cov-2 in Burlington Wastewater

Average Across Plants by Week, Weighted by Population

Source: Burlington Wastewater Testing; April 11, 2022
VT COVID-19 Infection Confidence Intervals

Calculated as a 7-day mean. Inner and outer bands represent 50% and 95% confidence intervals, respectively.
VT COVID-19 Death Confidence Intervals

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

COVID-19 fatalities are expected to remain low over the next 4 weeks

Source: Johns Hopkins University & CDC—April 19, 2022; created with Datawrapper
# 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>Helen Porter Healthcare and Rehabilitation Center</td>
<td>49</td>
</tr>
<tr>
<td>The Residence at Quarry Hill</td>
<td>34</td>
</tr>
<tr>
<td>Centers for Living &amp; Rehabilitation</td>
<td>31</td>
</tr>
<tr>
<td>Converse Home</td>
<td>28</td>
</tr>
<tr>
<td>Greensboro Nursing home</td>
<td>27</td>
</tr>
<tr>
<td>Our Lady of Providence</td>
<td>14</td>
</tr>
<tr>
<td>Villa Rehab Center</td>
<td>10</td>
</tr>
<tr>
<td>Franklin County Rehabilitation Center</td>
<td>7</td>
</tr>
<tr>
<td>Loretto Home</td>
<td>6</td>
</tr>
<tr>
<td>Arioli Community Care Home</td>
<td>Not Shown</td>
</tr>
<tr>
<td>HCRS Meadowview</td>
<td>Not Shown</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>206</strong></td>
</tr>
</tbody>
</table>

Source: Vermont Department of Health—April 19, 2022 (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*
Vermont Hospitalization Data
Average hospital admissions fell slightly this week.
Hospitalizations increased this week.
The number of COVID-19 patients in the ICU increased slightly this week.
Vermont Hospital Metrics
(7-Day Averages)

Vermont Hospital Beds Available Since July 1, 2021
- 53 beds available on April 19, 2022

Vermont ICU Beds Available Since July 1, 2021
- 17 ICU beds available on April 19, 2022

Source: VDH—April 19, 2022; created with Datawrapper
COVID-19 Hospitalization Rate Per 100K By Age Over The Last 6 Weeks

Hospitalizations continue to be more common among older Vermonters

No one under 24 years old was hospitalized in Vermont for COVID-19 over the past 6 weeks

74% of those hospitalized over the last 6 weeks were 65 & older

Source: VDH—April 16, 2022; created with Datawrapper
COVID-19 Hospitalizations By Vaccination Status Per 100K

Measured Over the Last 6 Weeks

Those 18+ & **not fully vaccinated** were nearly **1.9x more** likely to be hospitalized from COVID-19 over the last 6 weeks compared to those **fully vaccinated & boosted**
Vermont Fatality Data
Vermont COVID-19 Fatalities

Source: VDH—April 19, 2022; created with Datawrapper
Monthly Covid-19 Deaths In Vermont

626 COVID-19 deaths since the start of the pandemic

Source: VDH—April 19, 2022; created with Datawrapper; deaths attributed to month in which death occurred rather than reported
Vermont Vaccination Data
## Vermont CDC Vaccine Scorecard

<table>
<thead>
<tr>
<th>Vaccine Metric</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doses Administered per 100K</td>
<td>1</td>
</tr>
<tr>
<td>% At Least 1 Dose (5+ Population)</td>
<td>1 (tied)</td>
</tr>
<tr>
<td>% Fully Vaccinated (5+ Population)</td>
<td>2</td>
</tr>
<tr>
<td>% At Least 1 Dose (Full Population)</td>
<td>2</td>
</tr>
<tr>
<td>% Fully Vaccinated (Full Population)</td>
<td>2</td>
</tr>
<tr>
<td>% Fully Vaccinated (65 &amp; Over)</td>
<td>1 (tied)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Booster Metric</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Fully Vaccinated w/ booster dose</td>
<td>1</td>
</tr>
<tr>
<td>% of Fully vaccinated 12+ w/ booster doses</td>
<td>1</td>
</tr>
<tr>
<td>% of Fully vaccinated 18+ w/ booster doses</td>
<td>1</td>
</tr>
<tr>
<td>% of Fully vaccinated 65+ w/ booster doses</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: CDC—April 18, 2022
Regional Data
New England COVID-19 Cases

New England cases increased from 3,288 to 4,226 cases per day (+29%) in the last week.

During the peak of the Omicron wave, New England recorded 38,000 cases per day.
Maine data processing issues
New England COVID-19 Case Trends Since March 1st

7-Day Average Cases Per 100K

- Massachusetts
- Connecticut
- Rhode Island
- Maine
- New Hampshire
- Vermont

Maine data processing issues

Sources: State Health Depts.—April 18, 2022 (includes: CT, ME, MA, NH, RI & VT)
Boston Wastewater COVID-19 Detection

Boston COVID-19 wastewater data elevated over the last week

Source: Massachusetts Water Resources Authority; April 15, 2022
New England hospitalizations increased 24% over last 7 days & increased 31% over last 14 days.
New England COVID-19 Hospitalizations Trends

7-Day Average Hospitalizations Per 100K

Sources: HHS—April 18, 2022 (includes: CT, ME, MA, NH, RI & VT)
National Data
National COVID-19 Case Rates Per 100K Last 7 Days

Source: CDC—April 18, 2022; created with Datawrapper
COVID-19 Testing Per 100K Last 7 Days

Source: CDC—April 18, 2022; created with Datawrapper
National COVID-19 Hospitalization to Case Ratio

Ratio derived from hospitalizations per 100K divided by cases per 100K

States with higher ratios suggest underreporting of cases relative to current hospitalizations

Source: State governments, HHS—April 18, 2022; created with Datawrapper
COVID-19 Deaths Per 100K Last 7 Days

Source: CDC—April 18, 2022; created with Datawrapper; variances in state reporting may influence ranking
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—April 18, 2022; 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—April 19, 2022; 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.
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
Test Positivity

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

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