COVID-19 Modeling
February 8, 2022

Presentation available at:
dfr.vermont.gov
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vermont Case Data</td>
<td>Pg. 3</td>
</tr>
<tr>
<td>Vermont Hospitalization Data</td>
<td>Pg. 23</td>
</tr>
<tr>
<td>Vermont Fatality Data</td>
<td>Pg. 32</td>
</tr>
<tr>
<td>Vermont Vaccination Data</td>
<td>Pg. 37</td>
</tr>
<tr>
<td>Regional Data</td>
<td>Pg. 44</td>
</tr>
<tr>
<td>National Data</td>
<td>Pg. 53</td>
</tr>
<tr>
<td>Restart Vermont</td>
<td>Pg. 60</td>
</tr>
</tbody>
</table>
Vermont Case Data
Vermont is averaging **396 cases** over the last 7 days.

The 7-day average has **decreased 41%** over the last 7 days & **decreased 65%** over the last 14 days.
Vermont reported 2,928 new COVID-19 cases this week, **1,885 fewer cases** compared to last week.
Vermont COVID-19 Cases By Month

<table>
<thead>
<tr>
<th>Month</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>320</td>
</tr>
<tr>
<td>July</td>
<td>559</td>
</tr>
<tr>
<td>October</td>
<td>106</td>
</tr>
<tr>
<td>January</td>
<td>228</td>
</tr>
<tr>
<td>July</td>
<td>209</td>
</tr>
<tr>
<td>April</td>
<td>136</td>
</tr>
<tr>
<td>October</td>
<td>573</td>
</tr>
<tr>
<td>January</td>
<td>5442</td>
</tr>
<tr>
<td>October</td>
<td>1134</td>
</tr>
<tr>
<td>January</td>
<td>2772</td>
</tr>
</tbody>
</table>

Source: VDH—February 8, 2022; created with Datawrapper
Week-over-week testing fell, with the 7-day average decreasing 30%
Test positivity **decreased 14%** over the last 7 days.
The not fully vaccinated case rate has **decreased 42%** in the last 7 days.

The fully vaccinated rate has **decreased 37%** during the same period.

Source: VDH & CDC—February 5, 2022; Created with Datawrapper
Over the last 7 days, cases have:

- Decreased 42% for ages 0 to 24
- Decreased 39% for ages 25 to 49
- Decreased 36% for ages 50 to 64
- Decreased 33% for ages 65+
VT COVID-19 Infections per 100K by Age Group

Source: VDH—February 8, 2022; created with Datawrapper
Vermont Covid-19 Case Rates by Age (7-Day Average)

Source: VDH—February 8, 2022; created with Datawrapper
Vermont COVID-19 Cases Compared to Northeast

Cases in Vermont are declining along with other Northeast states

Sources: State Health Depts.—February 7, 2022
Age of Infected Vermonters

Median age of COVID positive individuals in VT over the last 14 days.

Source: VDH—February 8, 2022; created with Datawrapper
Vermont Case Rate & Vaccination by Age Band

New Infections per 100K (14-Day Average)

Percent Received First Vaccine Dose

Ages 16 to 29

Ages 30 to 39

Ages 40 to 49

Ages 50 to 59

Ages 60 to 64

Ages 65 to 69

Ages 70 to 74

Ages 75+

Infections per 100K

Percent Vaccinated

Source: VDH—February 8, 2022; VDH data cleaning conducted in Jan. 2022
Vermont Case Rate & Vaccination by Age Band

Source: VDH—February 8, 2022
Vermont ranked 25th for the 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 continue to decline in the coming weeks, consistent with improving case trends in Vermont, the Northeast and the U.S.
Declines in COVID-19 fatalities are expected over the next 4 weeks.
# 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>Bennington Health &amp; Rehab</td>
<td>63</td>
</tr>
<tr>
<td>Elderwood at Burlington</td>
<td>50</td>
</tr>
<tr>
<td>Pines Rehab &amp; Health Center</td>
<td>46</td>
</tr>
<tr>
<td>Vermont Veterans Home</td>
<td>46</td>
</tr>
<tr>
<td>Crescent Manor Nursing and Rehabilitation Center</td>
<td>41</td>
</tr>
<tr>
<td>Woodridge Rehabilitation and Nursing</td>
<td>34</td>
</tr>
<tr>
<td>Pine Heights at Brattleboro</td>
<td>29</td>
</tr>
<tr>
<td>The Pines at Rutland Center for Nursing &amp; Rehab</td>
<td>25</td>
</tr>
<tr>
<td>Barre Gardens</td>
<td>23</td>
</tr>
<tr>
<td>St. Albans Healthcare &amp; Rehab</td>
<td>19</td>
</tr>
<tr>
<td>Wake Robin</td>
<td>19</td>
</tr>
<tr>
<td>Berlin Health &amp; Rehab</td>
<td>19</td>
</tr>
<tr>
<td>Green Mountain Nursing and Rehab</td>
<td>14</td>
</tr>
<tr>
<td>Our Lady of the Meadows</td>
<td>13</td>
</tr>
<tr>
<td>The Arbors at Shelburne</td>
<td>12</td>
</tr>
<tr>
<td>Brookdale Fillmore Pond</td>
<td>11</td>
</tr>
<tr>
<td>Sterling House at Rockingham</td>
<td>8</td>
</tr>
<tr>
<td>Franklin County Rehabilitation Center</td>
<td>8</td>
</tr>
<tr>
<td>Kirby House</td>
<td>6</td>
</tr>
<tr>
<td>LTCF A</td>
<td>Not Shown</td>
</tr>
<tr>
<td>Union House Nursing Home</td>
<td>Not Shown</td>
</tr>
<tr>
<td><strong>Total (shown)</strong></td>
<td><strong>486</strong></td>
</tr>
</tbody>
</table>

Source: Vermont Department of Health—February 7, 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.
## Spring 2022 Higher Education

<table>
<thead>
<tr>
<th>Metric</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tests</td>
<td>4,953</td>
<td>10,612</td>
<td>13,043</td>
<td>13,547</td>
<td>4,676</td>
</tr>
<tr>
<td>COVID-19 Positives</td>
<td>313</td>
<td>382</td>
<td>303</td>
<td>282</td>
<td>125</td>
</tr>
<tr>
<td>Percent Positive</td>
<td>6.3%</td>
<td>3.6%</td>
<td>2.3%</td>
<td>2.1%</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

Source: Vermont Higher Education Institutions—February 7, 2021
Vermont Hospitalization Data
14% decrease in the new hospital admission 7-day average over the past week.
13% Decrease in the 7-day hospitalization average over the past week.

Source: VDH—February 8, 2022
Vermont COVID-19 Patients Currently in the ICU

17% decrease in the 7-day ICU average over the past week
Reported influenza hospitalizations in Vermont remain low.
Vermont Hospital Metrics
(7-Day Averages)

Vermont Hospital Beds Available Since July 1, 2021
- 71 beds available on February 8, 2022

Vermont ICU Beds Available Since July 1, 2021
- 15 ICU beds available on February 8, 2022

Source: VDH—February 8, 2022; created with Datawrapper
Hospitalizations continue to be more common among older Vermonters.
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 nearly **8x more** likely to be hospitalized from COVID-19 over the last 6 weeks compared to those **fully vaccinated & boosted**.
Vermont had the 4th-fewest COVID-19 hospital admissions per capita over the last week.
Vermont Fatality Data
Vermont COVID-19 Fatalities

Source: VDH—February 8, 2022; created with Datawrapper
Monthly Covid-19 Deaths In Vermont

558 COVID-19 deaths since the start of the pandemic

Source: VDH—February 8, 2022; created with Datawrapper; deaths attributed to month in which death occurred rather than reported.
COVID-19 Deaths By Vaccination Status Per 100K

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

Those 18+ & **not fully vaccinated** were **9x more** likely to die from COVID-19 over the last 6 weeks compared to those **fully vaccinated & boosted**

- 51.8 Deaths per 100K
- 12.3 Deaths per 100K
- 5.6 Deaths per 100K

Source: VDH & CDC—February 8, 2022; Created with Datawrapper
Vermont had the 8th-fewest COVID-19 deaths per capita over the last week.
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>1 (tied)</td>
</tr>
<tr>
<td>% At Least 1 Dose (Full Population)</td>
<td>6</td>
</tr>
<tr>
<td>% Fully Vaccinated (Full Population)</td>
<td>1</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—February 7, 2022—New Hampshire excluded due to unreliable data
Vermont leads the nation in the percentage of 5 to 11 year olds starting vaccination.

63.1% w/ 1 Dose & 53.0% Fully Vaccinated
Vermont leads the nation in the percentage of fully vaccinated 12 to 17 year olds who are boosted at 33.5%
Vermont: Booster Shots Administered By Week

Source: CDC—February 7, 2022; created with Datawrapper
Vermont Vaccination Progress
By Age Band

Source: Vermont Dept. of Health—February 8, 2022; *based on 2019 census estimates; state data may differ from CDC reporting; VDH data cleaning January 13-14, 2022
Summary of Recent Booster Studies

Boosters were **90% effective against Omicron** hospitalizations and 82% effective against ED/urgent care visits.

Case rates among unvaccinated adults were **5x higher** compared to those with a booster (case rates in vaccinated but not yet boosted adults were nearly 2x as high compared to those adults who were boosted).

Having a booster **reduces your risk of symptomatic infection by 67% compared to those who are unvaccinated** and 66% compared to those who are fully vaccinated.

Source: CDC and JAMA Network
Northeast Regional Cases

38% Decrease in New Cases

New Cases January 25th to January 31st: 205,074

New Cases February 1st to February 7th: 127,139

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

77,935 fewer cases this week compared to last
New England COVID-19 Cases

New England cases **decreased 39%** over last 7 days & **decreased 66%** over last 14 days

Sources: State Health Depts.—February 7, 2022 (includes: CT, ME, MA, NH, RI & VT)
New England COVID-19 Case Trends

7-Day Average Cases Per 100K

Cases continuing to decline across New England

Sources: State Health Depts.—February 7, 2022 (includes: CT, ME, MA, NH, RI & VT)
In areas hit early, Omicron fueled rapid case increases and decreases, although cases remain elevated.
Metro-Boston COVID-19 wastewater detection has decreased over 90% since Omicron peak.
New England hospitalizations decreased 27% over last 7 days & decreased 44% over last 14 days.
Hospitalizations decreasing in Connecticut, New Hampshire, Massachusetts & Rhode Island; stable in Maine & Vermont
National Data
U.S. Infections, Hospitalizations, & Deaths

**Infections**

(7-Day Average)
- **46% Decrease**
  - Over last 7 days
- Source: New York Times—February 8, 2022; created with Datawrapper

**Hospitalizations**

(7-Day Average)
- **18% Decrease**
  - Over last 7 days
- Source: New York Times—February 8, 2022; created with Datawrapper

**Deaths**

(7-Day Average)
- **0.7% Increase**
  - Over last 7 days
- Source: New York Times—February 8, 2022; created with Datawrapper
Week Over Week Percent Change in COVID-19 Infections

Source: JHU—February 8, 2022
Infections, Hospitalizations, & Deaths by Percentage of State Population Vaccinated

Source: Covid Act Now—February 8, 2022; 7-day averages; 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—February 8, 2022; 7-day averages; created with Datawrapper
National COVID-19 cases are **expected to see improvement** in the coming weeks.

Case declines will likely vary by geography based on timing of Omicron peak.
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
Viral Growth & Reproductive Rates

Source: Vermont Department of Health
Test Positivity

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

Source: Vermont Department of Health
Vermont Testing

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