COVID-19 Modeling
July 17, 2020

Presentation available at: dfr.vermont.gov
National Data
Confirmed U.S. Cases Last 10 Days

Source: Raw data from Johns Hopkins University - July 16, 2020
National Data

COVID-19 Daily Infections by Census Region (7-Day Moving Average)

Source: Raw data from Johns Hopkins University - July 16, 2020
National Data

Cumulative COVID-19 Infections by Census Region

Source: Raw data from Johns Hopkins University - July 16, 2020
National Trends: Unfavorable Trajectory

Source: Raw data from Johns Hopkins University—July 17, 2020
Regional Data
Regional Monitoring: New Cases Last 7 Days

9.74% Increase in New Confirmed Cases

Positive Cases July 2nd to July 8th

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>New Cases Last 7 days</th>
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<tbody>
<tr>
<td>Vermont</td>
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<tr>
<td>New Hampshire</td>
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<td>Maine</td>
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<tr>
<td>New York</td>
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Positive Cases July 9nd to July 16th

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>New Cases Last 7 days</th>
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<tbody>
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</tbody>
</table>

Vermont’s Doubling Rate: 16 Weeks

Source: Johns Hopkins University - July 17, 2020
Weekly Infections per Million

Source: Johns Hopkins University, July 10 - July 17, 2020
Weekly Deaths per Million

Source: Johns Hopkins University, July 10 - July 17, 2020
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 - July 17, 2020
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% of open ICU beds

![Vermont Coronavirus Growth Rates](chart.png)

Source: Vermont Department of Health - July 17, 2020
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 - July 17, 2020
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 - July 17, 2020
Mobility Data: Small Weekly Increases in Movement

Percent Change in Median Distance Traveled by Individuals

Median distance defined during 2020-02-17 to 2020-03-07. Values depict % change for individual with median distance traveled of sample population by state.

Source: Descartes Labs – July 13, 2020
Vermont COVID-19 PCR Testing

7-Day Rolling Test Average

- Rolling 7-Day Avg tests
- Testing Benchmark

Source: Vermont Department of Health - July 17, 2020; tests measured as results reported to VDH by day
Travel Policy Update
Updated Travel Map

Source: Raw data from Johns Hopkins University—July 17, 2020 (dynamic map available at Vermont ACCD site)
Travel Map: Updated Formatting

Estimated Active Cases per Million in VT Travel Region

Visitors from green counties may travel to Vermont with no quarantine, while those from yellow or red counties are subject to travel restrictions. Vermont counties are evaluated via different metrics, and so are exempt from travel restrictions.

Source: Raw data from Johns Hopkins University—July 17, 2020 (dynamic map available at Vermont ACCD site)
Travel Map: Counties Falling from Red to Yellow
Travel Policy Standards

New York/Connecticut/New Jersey

Vermont

European Union

Source: Raw data from Johns Hopkins University—July 17, 2020