COVID-19 Modeling
July 31, 2020

Presentation available at:
dfr.vermont.gov
152,055

U.S. Deaths Since the Start of the COVID-19 Pandemic

Source: Johns Hopkins University—July 30, 2020
National Data

New confirmed COVID-19 cases per day

Source: Johns Hopkins University - July 30, 2020
National Data

% of Emergency Department Visits for COVID-19 like Illness

Source: Centers for Disease Control - July 24, 2020 (batch reporting)
New confirmed COVID-19 cases per day

Source: Johns Hopkins University - July 30, 2020
Cases slowing in South & West

Cases rising in Midwest & Northeast

Source: Johns Hopkins University
Regional Data
Regional Headlines From This Past Week

‘We should be very concerned’: Docs sound the alarm on COVID rise in R.I.
Providence Journal July 29, 2020

NH public health officials tracking slight uptick in COVID-19 cases
WMUR 9 July 28, 2020

Charlie Baker responds to concerns about COVID-19 uptick in Massachusetts
Boston Globe July 27, 2020

Connecticut expands travel restrictions to 34 states as Gov. Lamont warns about growing number of COVID-19 cases among young residents
Hartford Courant July 28, 2020

New Jersey see 112% increase in cases
ABC News July 30, 2020

Coronavirus Hot Spots: Could The Mid-Atlantic And Northeast See A COVID-19 Rebound?
NPR July 24, 2020
Regional Monitoring: New Cases Week Over Week

2.61% Increase in New Confirmed Cases

Positive Cases July 17th to July 23rd

Positive Cases July 24th to July 30th

Regional Monitoring: Testing Volume

Testing Volume (7-day Avg)

.97% Increase in New Tests

New Tests July 17th to July 23rd

New Tests July 24th to July 30th

Sources: COVID-19 Tracking Project & Government of Quebec
Regional Monitoring:
Week Over Week Case Growth Since May 21, 2020

Fourth week of new case growth within the Northeast

Modeling Regional Disease Growth

IHME Model - Without Universal Masks
July 27, 2020 to November 1, 2020

VT sees -88.46% case decline

IHME Model - With Universal Masks
July 27, 2020 to November 1, 2020

VT improves to -98.87% case decline (Best in NE)
Vermont Forecast Model

Source: Oliver Wyman Forecast Model - July 31, 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 30, 2020
Data Point 2: Viral Growth and Reproductive Rates

- **Summary:** Case growth measured by daily, 3-day, 7-day, and effective reproductive rate (R<sub>t</sub>)
- **Warning Flags:** Sustained viral growth that would lead to <30% of open ICU beds

Source: Vermont Department of Health - July 30, 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 30, 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 30, 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 27, 2020
Source: Vermont Department of Health - July 30, 2020; tests measured as results reported to VDH by day
Travel Policy Update
Updated Travel Map

Source: Raw data from Johns Hopkins University—July 31, 2020 (dynamic map available at Vermont ACCD site)
**Improving:** Moving from Yellow or Red to Green

**Worsening:** Moving to Yellow or Red
Updated Travel Map

Population Not Subject to Vermont Quarantine Policy Over Time

Non-Quarantine Visitors in Millions

- Expanded Travel Map
- Northeast Only

- June 14, 2020: 3,600,000
- June 28, 2020: 4,600,000
- July 12, 2020: 5,800,000
- July 26, 2020: 3,900,000

Legend:
- Expanded Travel Map
- Northeast Only