

Vermont
Medical
Society

2020-2021

THIRD THURSDAY
WEBINAR SERIES

12:00 *pm* to 1:00 *pm*

Vermont
Medical
Society

THIRD THURSDAY WEBINAR SERIES

Date: January 21, 2021

Title: Emerging Information on COVID-19

134 MAIN STREET, MONTPELIER, VERMONT, 05602

TEL.: 802-223-7898

WWW.VTMD.ORG

CME DISCLAIMER

In support of improving patient care, this activity has been planned and implemented by the Robert Larner College of Medicine at the University of Vermont and the Vermont Medical Society. The University of Vermont is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

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Please watch your email from the Vermont Medical Society providing directions for claiming CME credit.

**CME credit must be claimed within
30 days of participating in the event.**

VMS Third Thursday Webinar Series: Emerging Information on COVID-19

Speakers: Patsy Kelso, PhD

Planning Committee Members:

Jessa Barnard, ESQ, Catherine Schneider, MD, Stephanie Winters & Elizabeth Alessi

Purpose Statement/Goal of This Activity: Join one of Vermont's public health experts for an exploration of emerging issues related to COVID-19 epidemiology and vaccine.

Learning Objectives:

1. Understand the epidemiology of COVID-19 in Vermont.
2. Identify ways in which Vermont's response is data-driven.
3. Describe Vermont's progress with COVID-19 vaccines administered to date.
4. Understand next steps for vaccine distribution.

Disclosures:

Is there anything to Disclose? Yes No

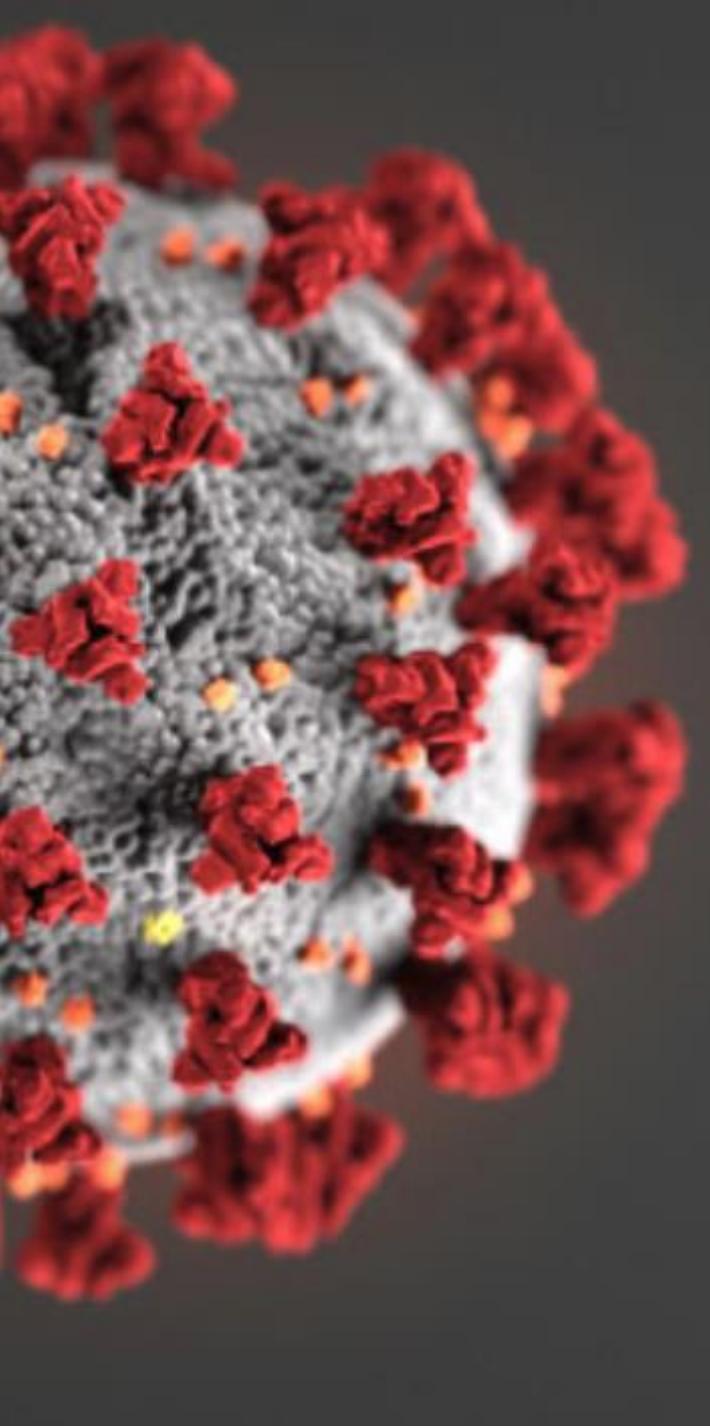
Did this activity receive any commercial support? Yes No

(The CMIE staff do not have any possible conflicts)

In support of improving patient care, this activity has been planned and implemented by the Robert Larner College of Medicine at the University of Vermont and the Vermont Medical Society. The University of Vermont is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

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Vermont Medical Society Third Thursday Webinar

Emerging Information on COVID-19

Patsy Kelso, PhD

State Epidemiologist

Vermont Department of Health

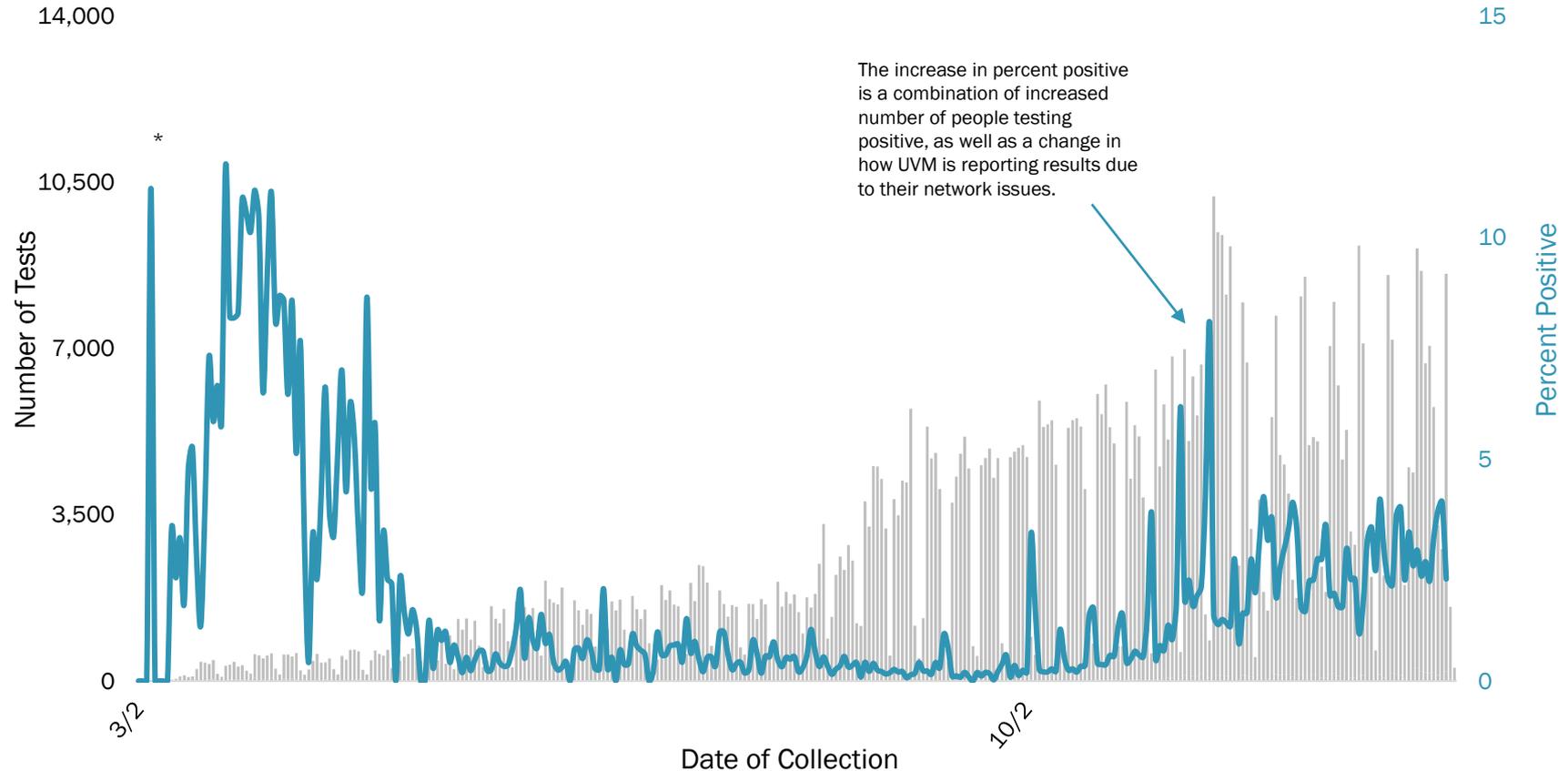
January 21, 2021

Objectives

1. Understand the epidemiology of COVID-19 in Vermont.
2. Identify ways in which Vermont's response is data-driven.
3. Describe Vermont's progress with COVID-19 vaccines administered to date.
4. Understand next steps for vaccine distribution.

Testing for COVID-19 in Vermont

Percent of positive COVID-19 tests



*Not a stable estimate due to small numbers. There were 8 total tests and 1 was positive.

13,702
People
Tested this
Week

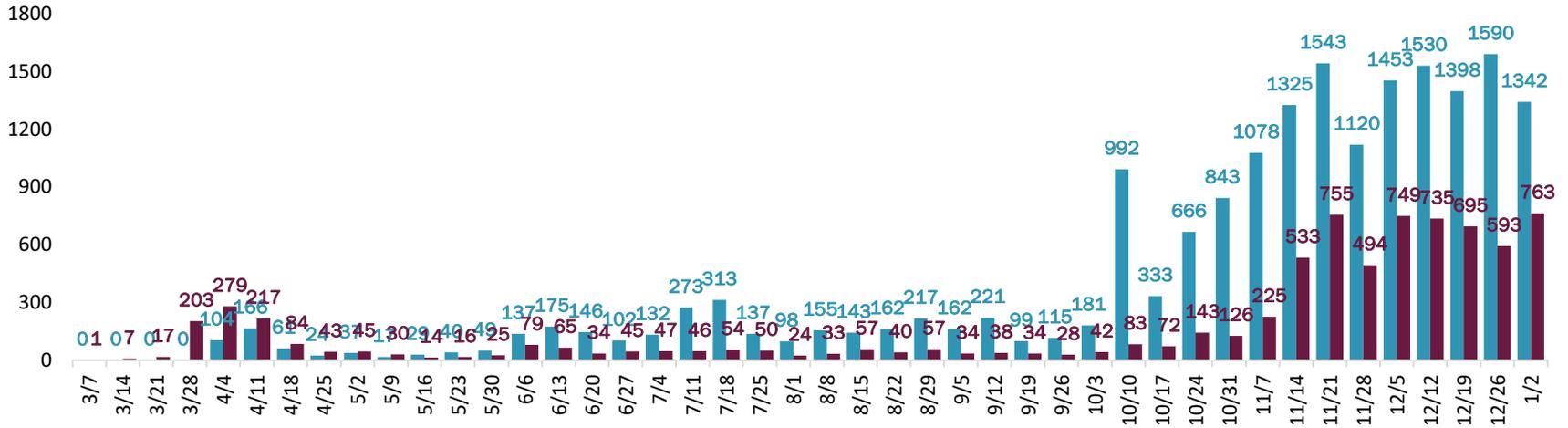
35,973
Tests
this Week

282,517
People
Tested to
Date

779,141
Tests
to Date

Contact Tracing for Confirmed and Close Contacts

Contact tracers speak with both **cases** and their **close contacts** each week.



195

Number of full-time equivalent contact tracing staff trained

995

Cases interviewed last week

January 3 - January 9

1,342

Contacts named last week

January 3 - January 9

2.8

Average number of contacts per case*

*Since April 1

Contact Tracing in the Last Two Weeks

In the last two weeks (from December 27 to January 9):



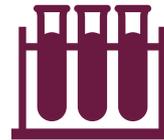
84%

Of cases were interviewed within 24 hours



80%

Of cases provided their close contacts



68%

Of contacts were tested within 14 days of exposure

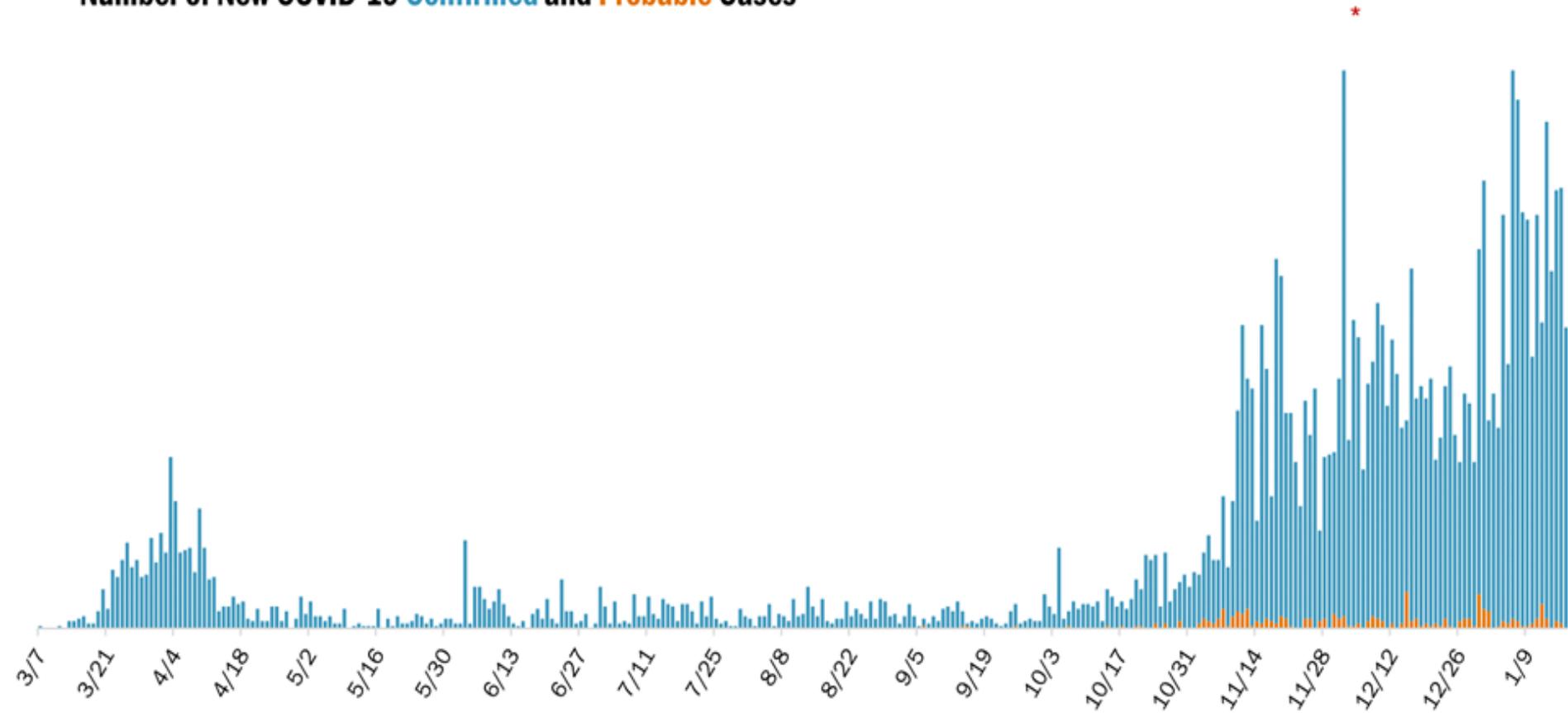


13%

Of contacts became a case

COVID-19 Cases in Vermont

Number of New COVID-19 **Confirmed** and **Probable** Cases

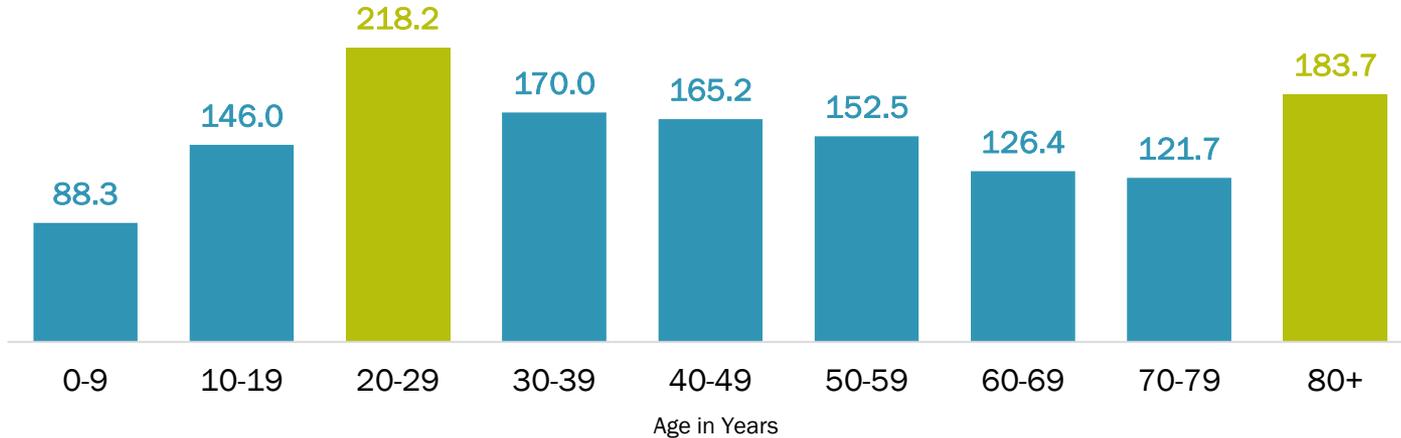


*The 12/2 case count includes 36 delayed results from UVMMC. The 12/3 case count includes approximately 6 delayed results.

Age and Sex of People with COVID-19

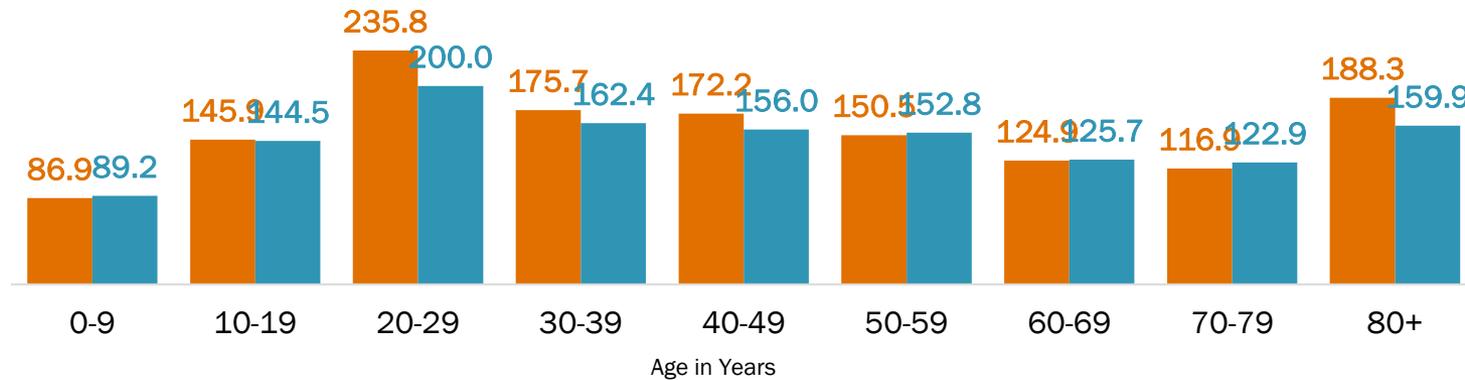
Rates of COVID-19 are highest among **Vermonters 20-29** and **80 years and older**.

Rate per 10,000 Vermonters



There are differences in age and sex of Vermonters with COVID-19.

Rates of COVID-19 by Age Group for **Females** and **Males** per 10,000 Vermonters

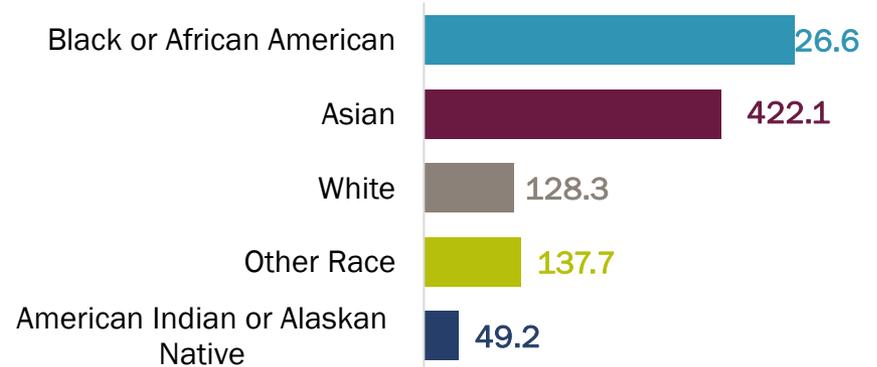
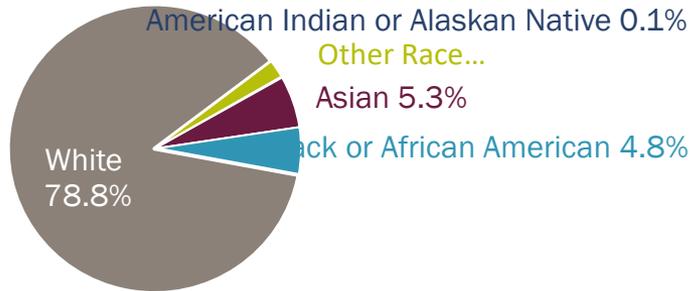


Race and Ethnicity of People with COVID-19

White Vermonters represent the majority of COVID-19 cases.

African American Vermonters have the highest rate.

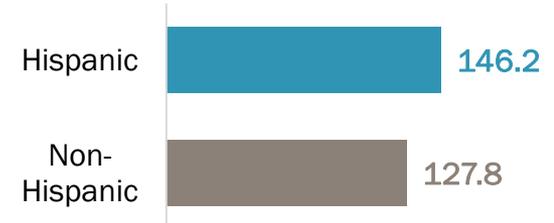
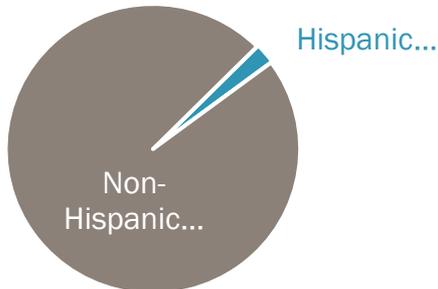
Rate per 10,000 Vermonters



Non-Hispanic Vermonters represent the majority of COVID-19 cases.

Hispanic Vermonters have the higher rate.

Rate per 10,000 Vermonters



Approximately 40% of people* with COVID-19 have a pre-existing condition.

*of the 7,750 people for whom the Health Department has pre-existing condition data.

Condition	Count	Percentage
Other Chronic Condition**	860	11%
Chronic Lung Disease (includes asthma and COPD)	775	10%
Current/Former Smoker	757	10%
Diabetes	421	5%
Heart Disease	372	5%
Neurologic Condition/Intellectual Disability	170	2%
Immunocompromised Condition	106	1%
Chronic Kidney Disease	73	1%
Pregnant	51	1%
Chronic Liver Disease	25	0.3%

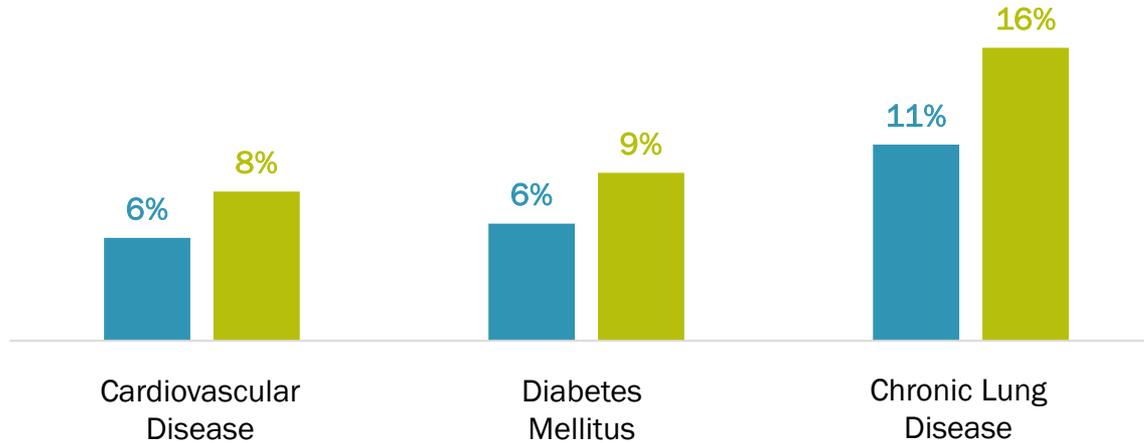
29% of people with a pre-existing condition have two or more conditions.

**Not mutually exclusive, includes things like arthritis, thyroid conditions, multiple free text entries.

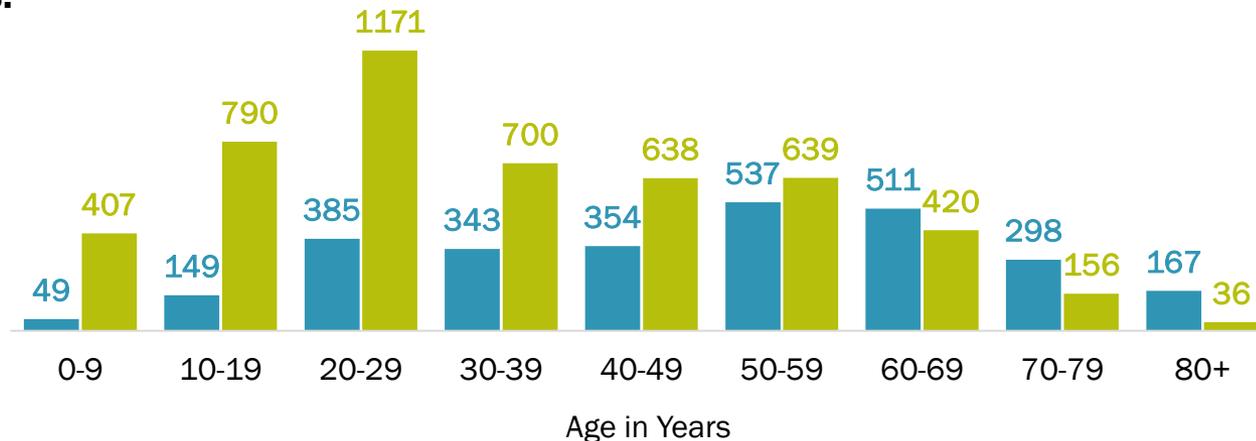
The Health Department has information about pre-existing conditions in 81% (7,750) of 9,573 total COVID-19 cases.

Additional Information About COVID-19 Patients with Pre-Existing Conditions

Prevalence of select conditions in COVID-19 adult patients and Vermont adults.



COVID-19 patients with pre-existing conditions tend to be older than those without pre-existing conditions.

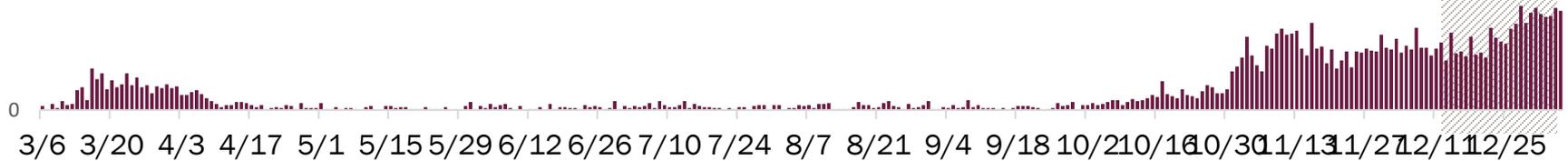


Symptoms Among COVID-19 Cases

300

The day **symptoms start** is important to know when people with COVID-19 become infectious.

Illnesses occurring in this window may not be reported yet; median reporting lag = 6 days



Note: Date of symptom onset is not always known.

9 days
Average illness duration

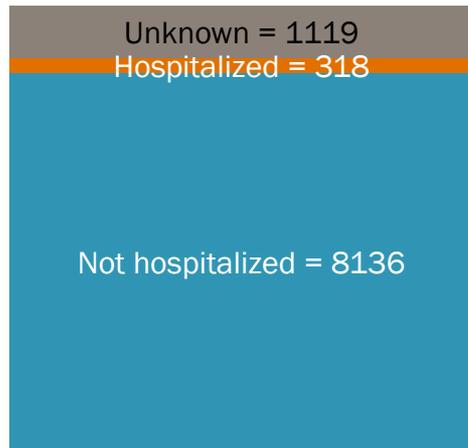
70%
Cases with symptoms

Sign or Symptom	Percent of Symptomatic Cases
Cough	57%
Fatigue	56%
Headache	52%
Runny Nose	49%
Muscle Pain	45%
Loss of Smell/Taste	38%
Felt Feverish	36%
Sore Throat	36%

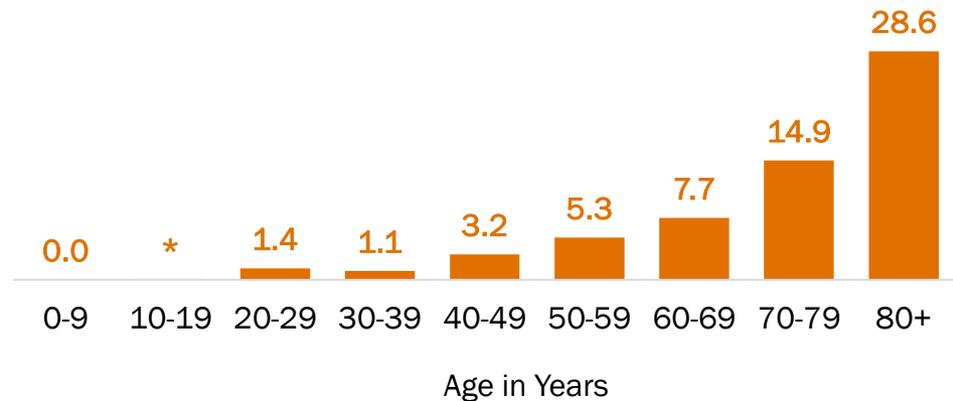
Vermont Department of Health

Hospitalizations Among COVID-19 Cases

Most Vermonters with COVID-19 are **not hospitalized**.



Vermonters **80 years and older** are more likely to be **hospitalized**.
Rate per 10,000 Vermonters



8%

Of those hospitalized were on a ventilator

7 days

Average hospital stay (range: 0-43 days)

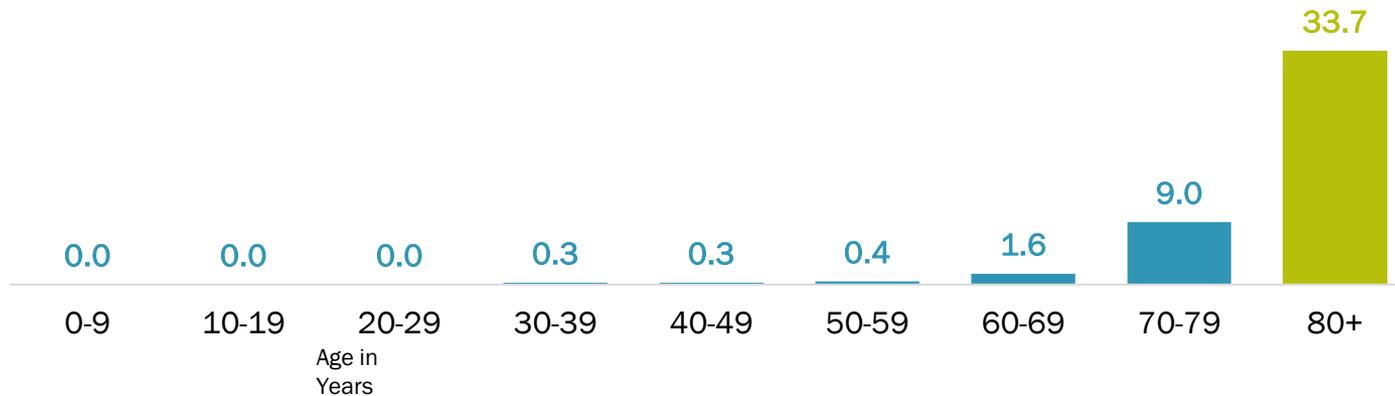
27%

Of those hospitalized were in the ICU

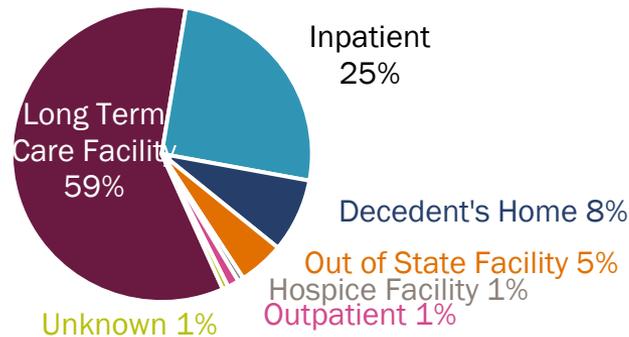
Deaths Among COVID-19 Cases

Vermonters 80 years and older have higher rates of COVID-19 death than other age groups.

Rate per 10,000 Vermonters

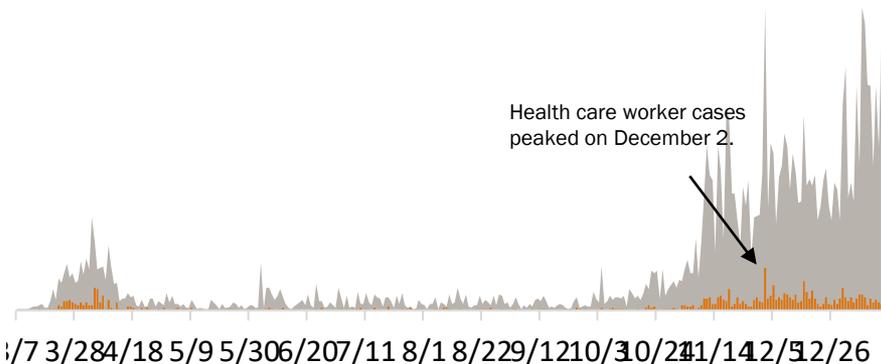


Most COVID-19 deaths occurred in a long-term care facility or an inpatient hospital setting.



Age, Sex and Additional Information on Health Care Workers with COVID-19

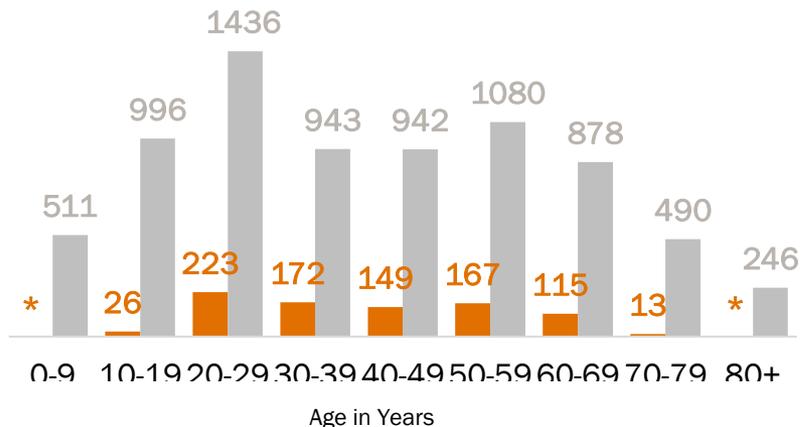
Number of **New Health Care Worker** and All Cases by Day



1 in 10 Vermonters with COVID-19 are health care workers.



The age distribution of **health care workers** and non-health care workers with COVID-19 is similar.



* Value suppressed due to small numbers.

80% of health care workers with COVID-19 are **female**.



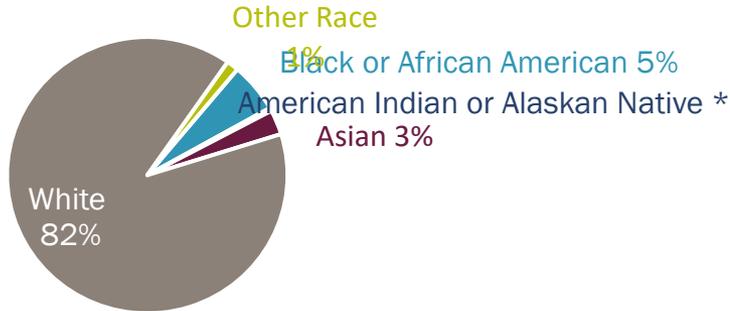
36% of health care workers with COVID-19 are associated with an **outbreak**.



The Health Department has information about healthcare worker status in 88% (8,388) of 9,573 total COVID-19 cases.

Race, Symptoms and Hospitalizations Among Health Care Workers with COVID-19

White Vermonters represent the majority of health care workers with COVID-19.



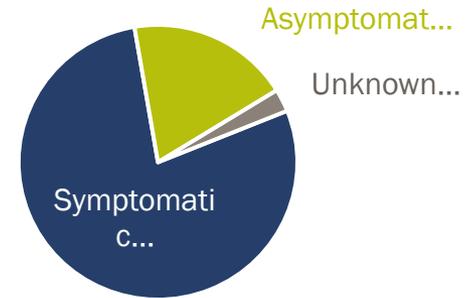
* Value suppressed due to small numbers.

Most health care workers with COVID-19 are not hospitalized.



There are no reported deaths among health care workers.

Most health care workers with COVID-19 have symptoms.



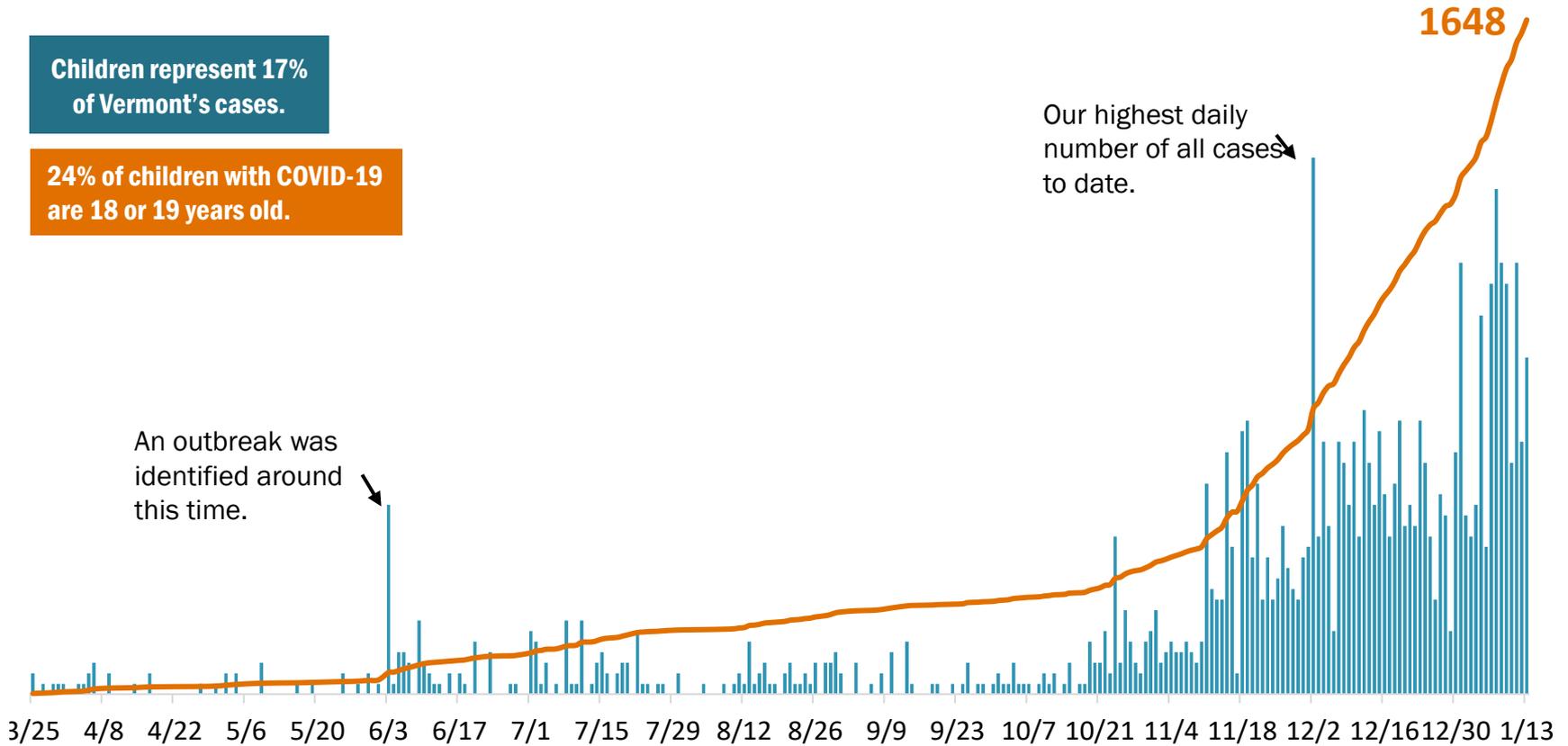
Sign or Symptom among Health Care Workers with COVID-19	Percent of Symptomatic Cases
Cough	62%
Fatigue	61%
Headache	58%
Runny Nose	52%
Muscle Pain	51%
Loss of Smell or Taste	44%
Chills	35%
Fever	26%

Cases of Children with COVID-19

New and Cumulative Cases of Vermont Children (Age 19 and Younger) with COVID-19

Children represent 17% of Vermont's cases.

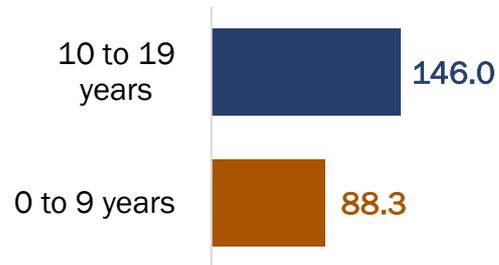
24% of children with COVID-19 are 18 or 19 years old.



Demographics of Children with COVID-19

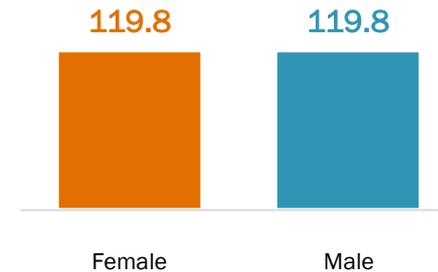
Older children have a higher rate of COVID-19 compared to younger children.

Rate per 10,000 Vermonters 0-19 years old

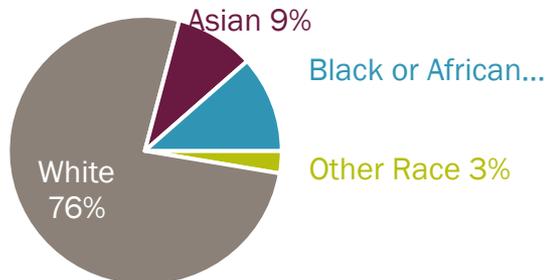


Female and male children have similar rates of COVID-19.

Rate per 10,000 Vermonters 0 to 19 years old

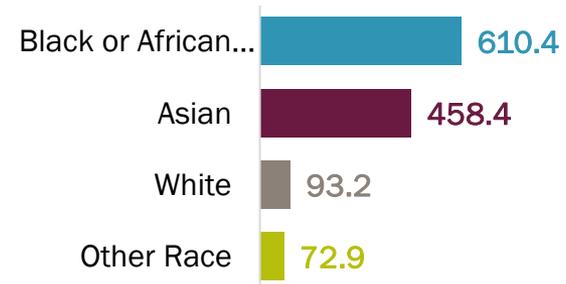


Among children with COVID-19, Black, Indigenous and people of color represent 24% of cases.



Among children with COVID-19, Black or African Americans have the highest rate.

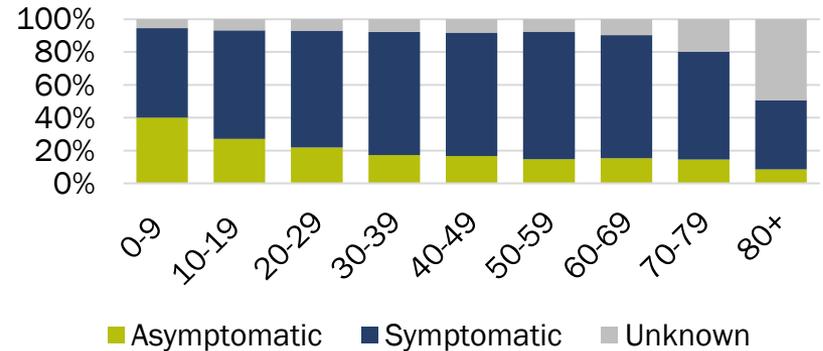
Rate per 10,000 Vermonters 0 to 19 years



Symptoms and How Children Contract COVID-19

Sign or Symptom	Percent of Children with Symptom
Runny nose	51%
Headache	46%
Cough	41%
Fatigue	38%
Sore Throat	36%
Loss of smell or taste	27%
Muscle pain	25%
Fever	21%

The percent of COVID-19 cases with **no symptoms** is higher among children. Less than half (31%) of cases among children had **no symptoms** reported.



5 days
Average illness duration among children

71% of children with COVID-19 had known contact with somebody else who had COVID-19.

16% of children with COVID-19 were part of an outbreak.

Among Vermont's children with COVID-19, there are currently no reported cases of multi-system inflammatory syndrome or deaths, and there are fewer than six hospitalizations.



20% of people testing positive for COVID-19 are associated with an outbreak



Outbreaks

46 Active

95 Resolved

Congregate Care & Living



566
cases
among
residents



331
cases among
facility staff

Schools and Child Care



165
cases
among
children and
staff

Workplaces



263
cases among
employees

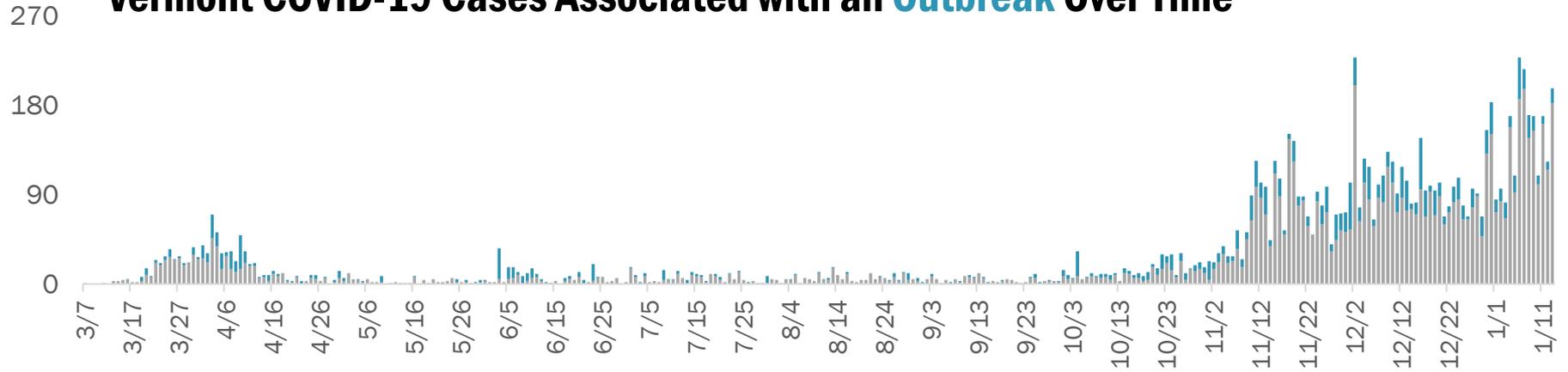
Community



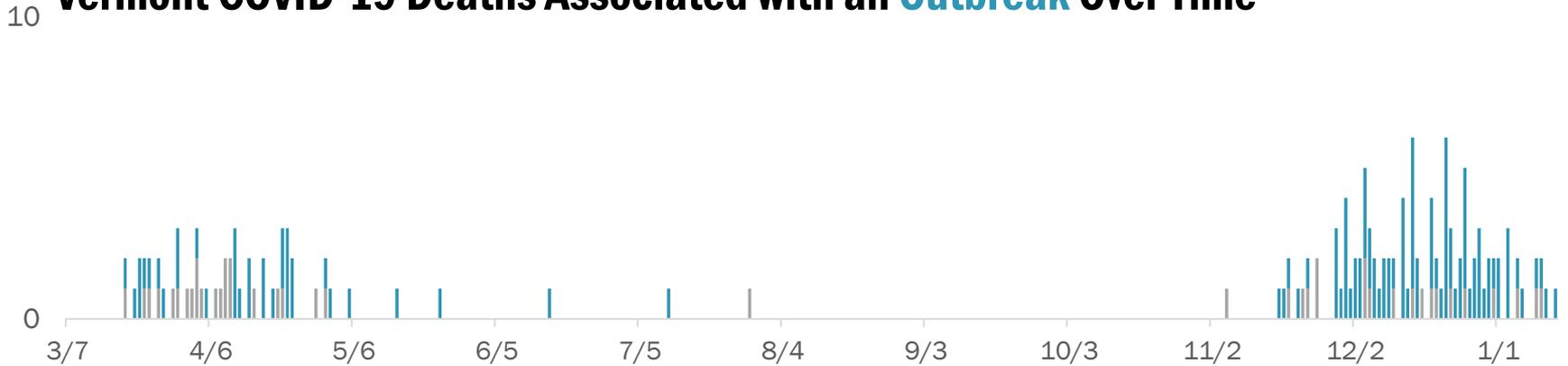
606
cases

Source: Vermont Department of Health
Reflects confirmed data as of 1/13/2021

Vermont COVID-19 Cases Associated with an Outbreak Over Time

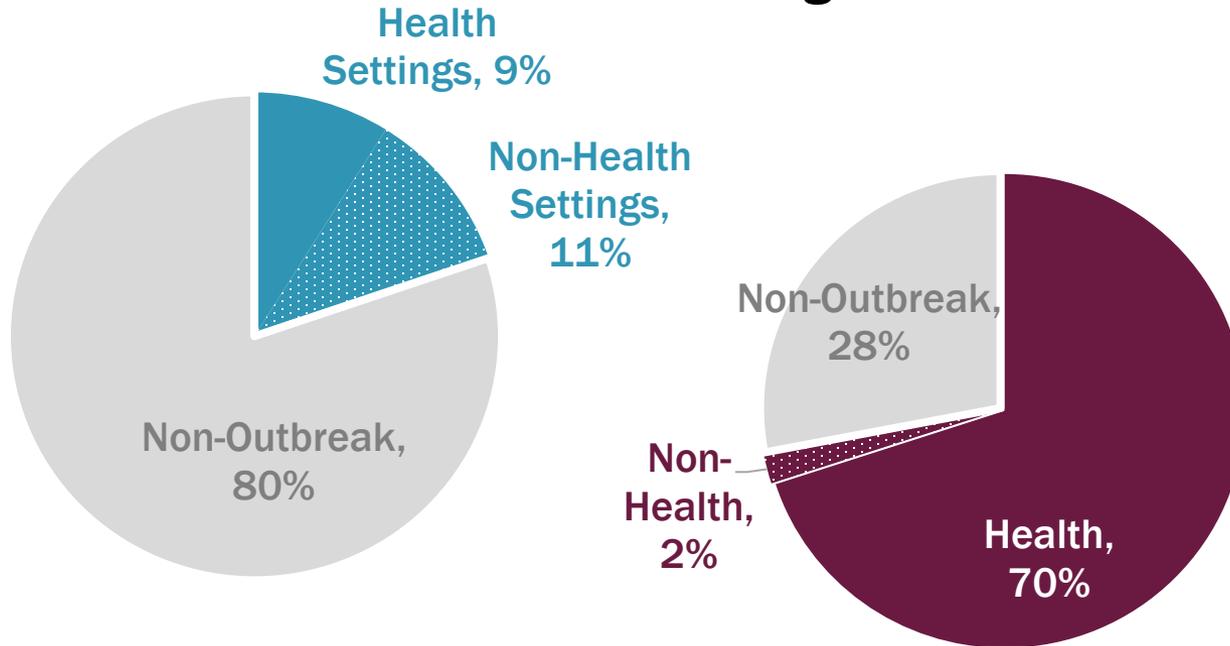


Vermont COVID-19 Deaths Associated with an Outbreak Over Time



Source: Vermont Department of Health
Reflects confirmed data as of 1/13/2021

While only 20% of all people testing positive for COVID-19 are associated with an outbreak, 72% of COVID-19-related deaths have occurred in outbreak settings.



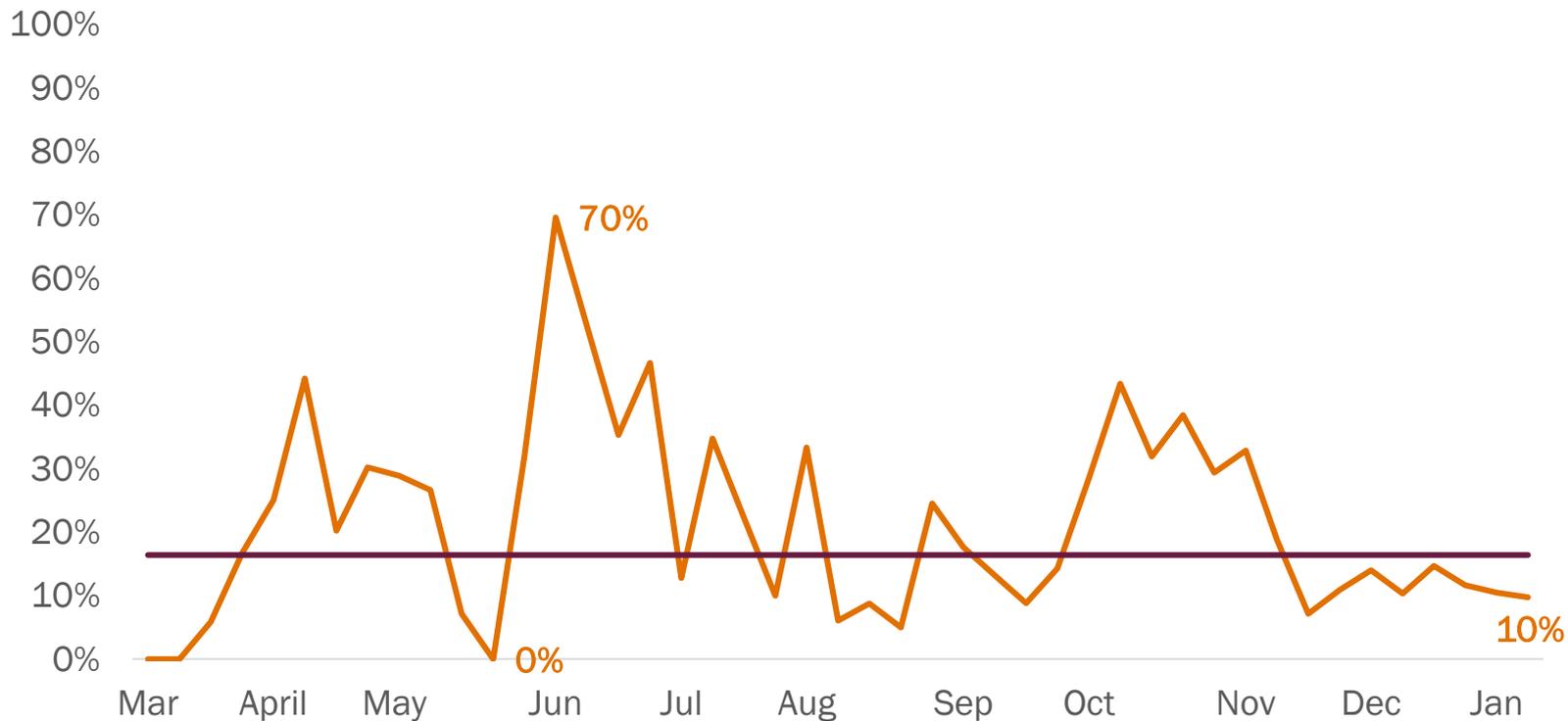
Values in these charts are rounded to the nearest whole number and therefore may not always add to 100% due to

Note: Examples of a health setting include long term care or assisted living facilities, therapeutic treatment centers, and behavioral health institutions. Examples of a non-health setting include correctional facilities, senior housing communities, businesses, and homeless shelters. Vermont has not experienced an outbreak in all health and non-health settings.

Source: Vermont Department of Health
Reflects confirmed data as of 1/13/2021

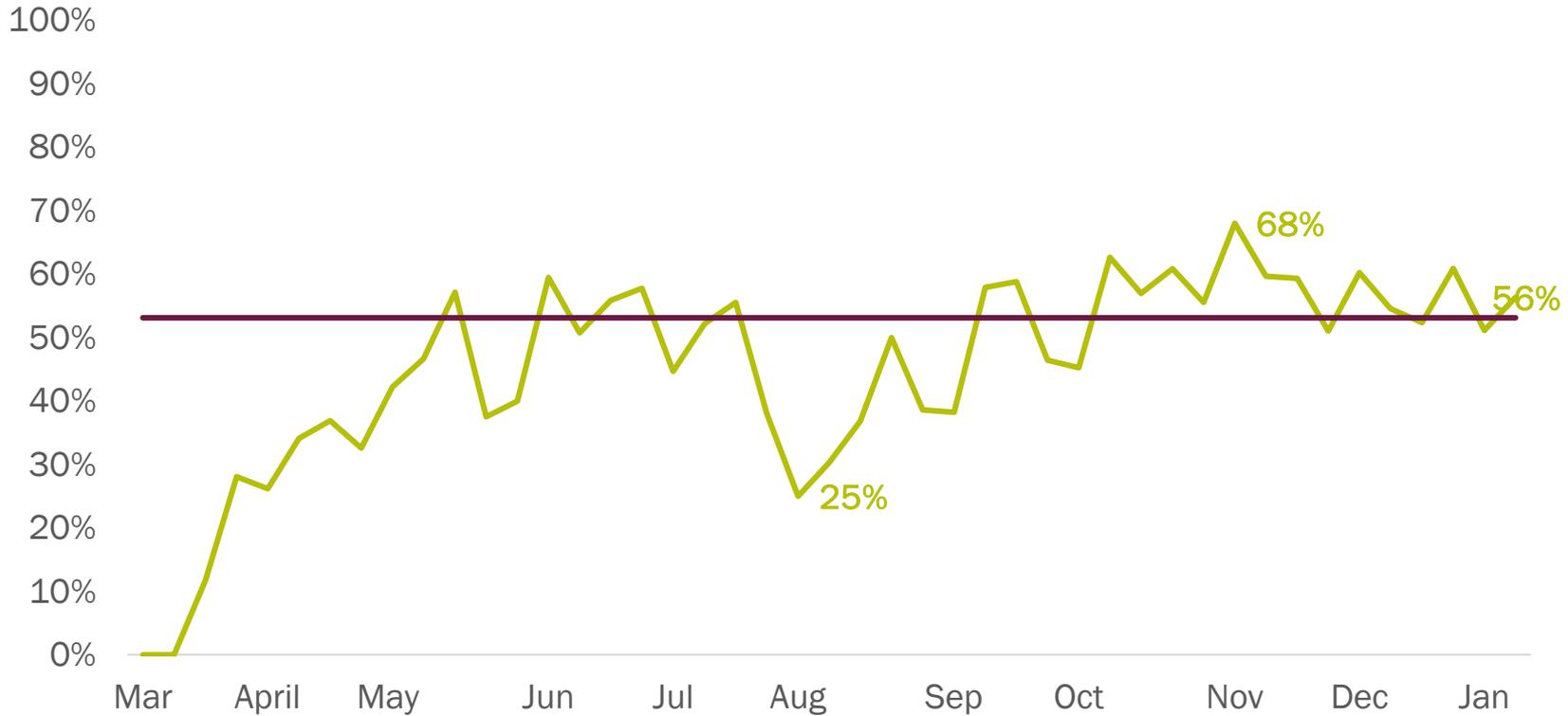
Since March, an **average of 16%** of people with COVID-19 are **associated with an outbreak**.

Since mid-November, this percent has been lower than average.



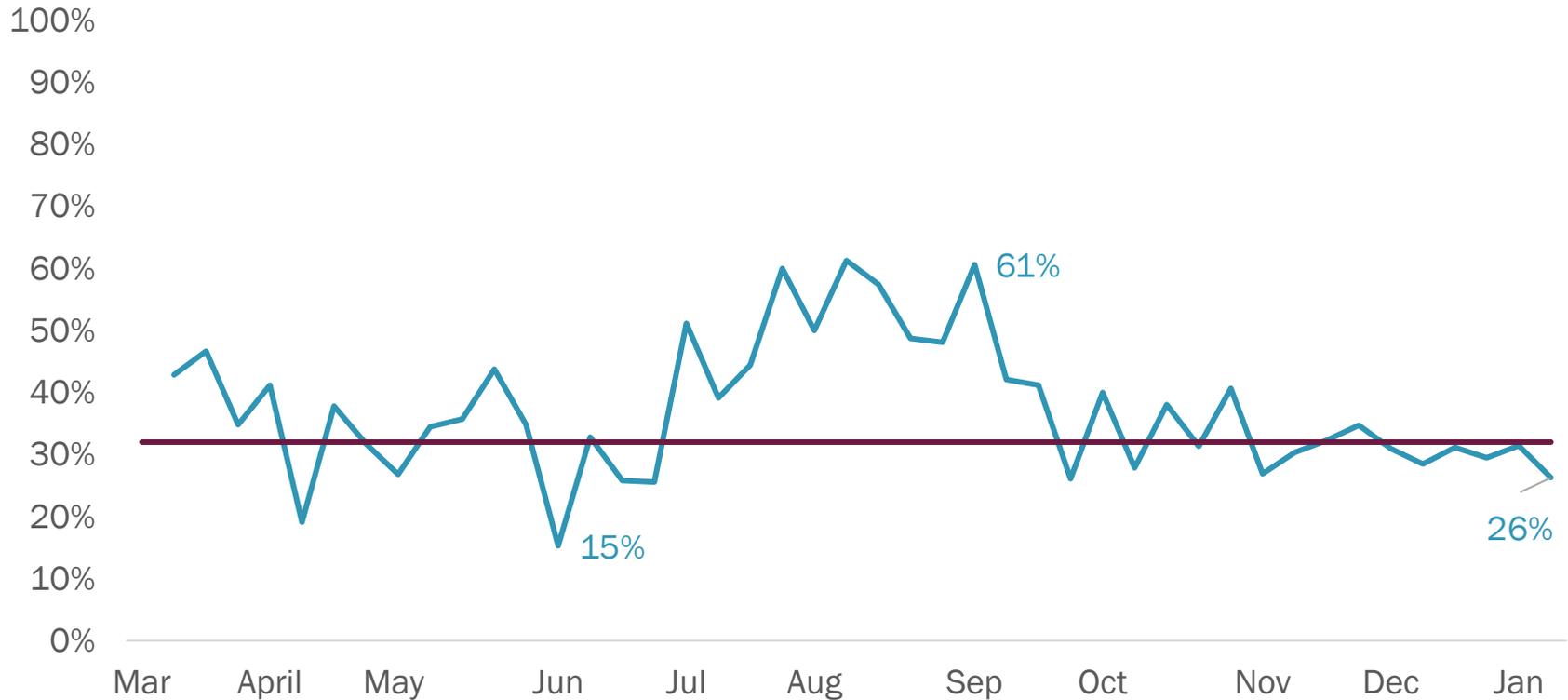
Since March, an **average of 53%** of people with COVID-19 had **contact with another case**.

Since October, this percent has been higher than average nearly every week.



Since March, an **average of 32%** of people with COVID-19 have an **unknown source of exposure**.

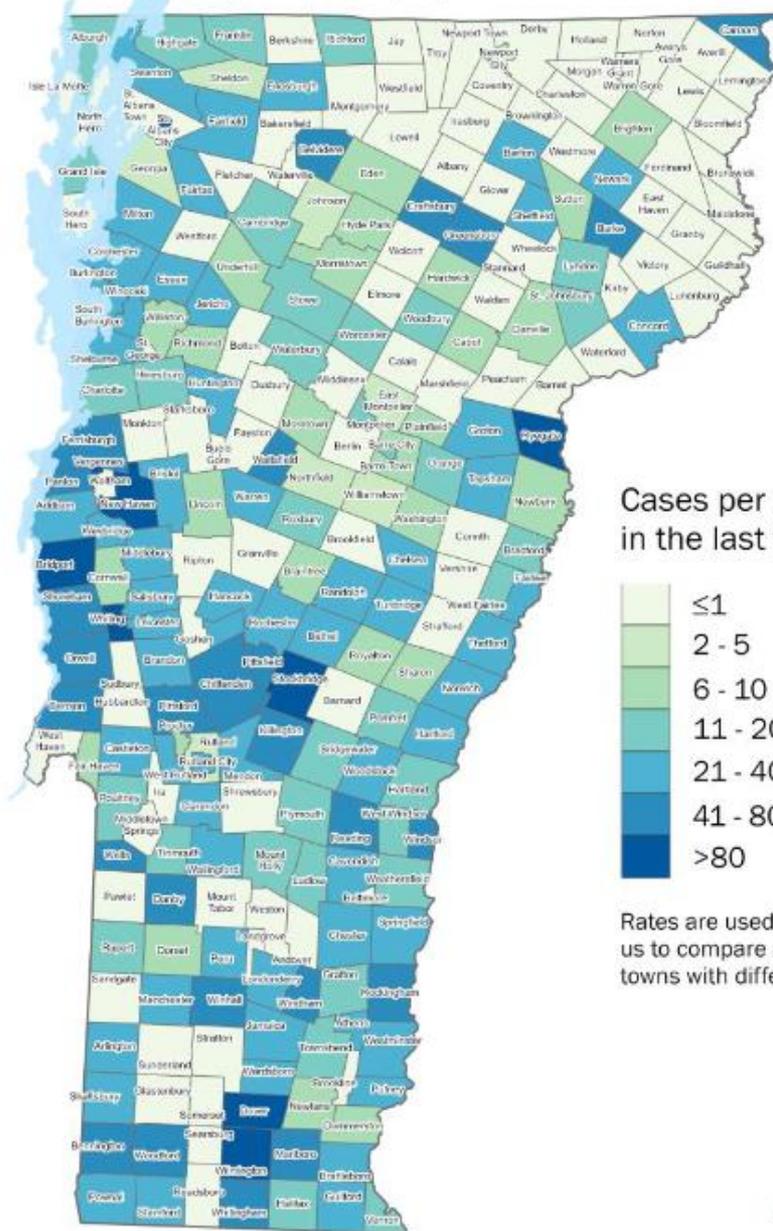
Since December, this percent has been lower than average.



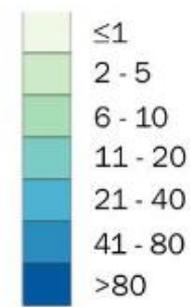
Rate of Vermonters with COVID-19 by Town in the Last Two Weeks

Data from 12/24/2020 to 01/06/2021

COVID-19 Case Rates by Town



Cases per 10,000 people in the last two weeks



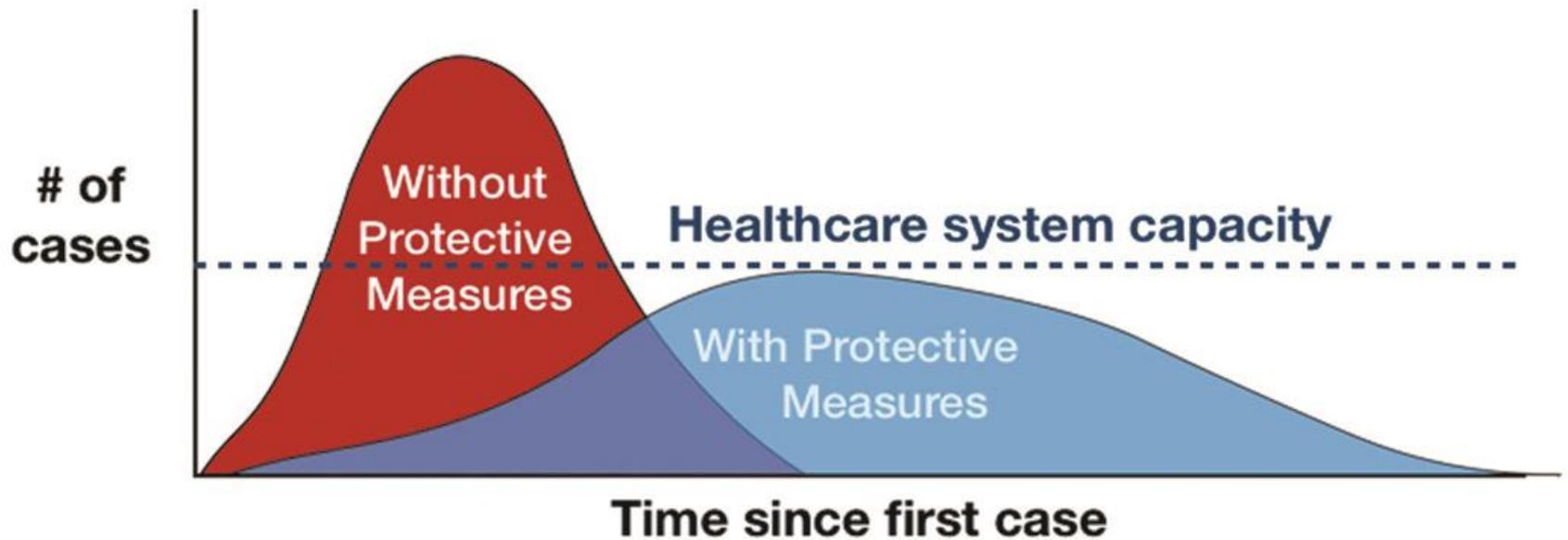
Rates are used because they allow us to compare recent activity across towns with different populations.

CDC Mitigation Guidance by Phase – May 1, 2020

Gating Criteria for all Phases

- **Transmission:** Community transmission is under control (Decrease in the percent of patient visits for influenza-like illness (ILI) **or** a decrease in ILI activity levels over 14 days, **plus** downward trajectory of documented cases within a 14-day period **or** downward trajectory of positive tests as a percent of total tests within a 14-day period- flat or increasing volume of tests).
- **Public Health Capacity:** Public health systems can detect, test, track, isolate, and quarantine cases and quickly contain an outbreak.
- **Health System Capacity:** Health system is able to treat all new cases with capacity to absorb increased transmission.

Flattening the Curve



Adapted from CDC / The Economist

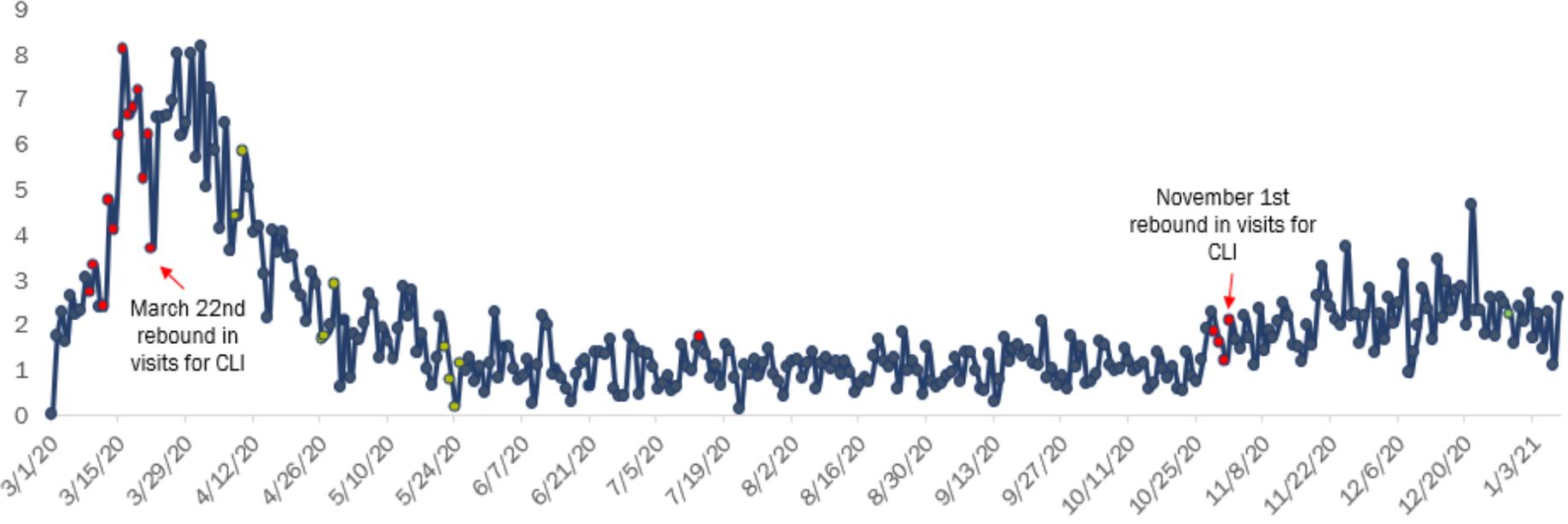
Restart Vermont Metrics

- Syndromic Surveillance
- Viral Growth & Reproductive Rates
- Percentage of New Positive Tests
- Hospital & Critical Care Bed Capacity

Percent of ED and Urgent Care Visits for COVID-like Illness

Percent of ED and Urgent Care Visits for COVID-like Illness (CLI)

Syndromic Surveillance for 13 of 14 Vermont Hospitals and 2 Urgent Care Centers

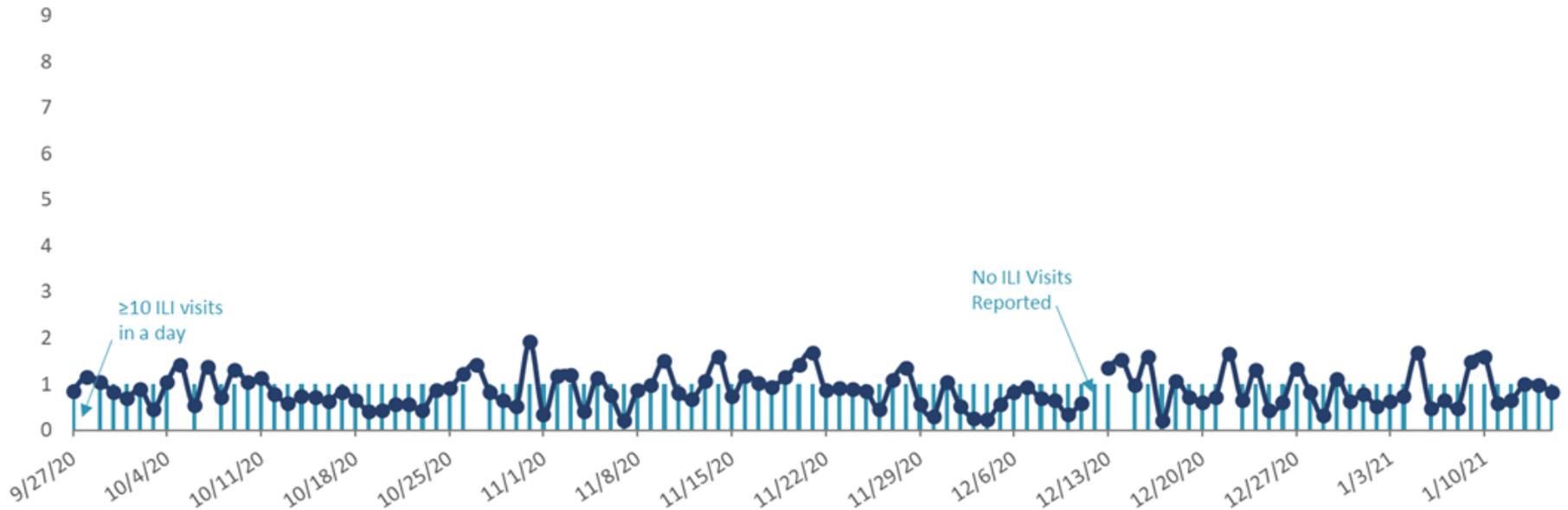


Source: Electronic Surveillance for the Early Notification of Community-based Epidemics (ESSENCE), 2020.
Regression method: Binomial regression

Percent of ED and Urgent Care Visits for Influenza-like Illness

Percent of ED and Urgent Care Visits for Influenza-like Illness (ILI)

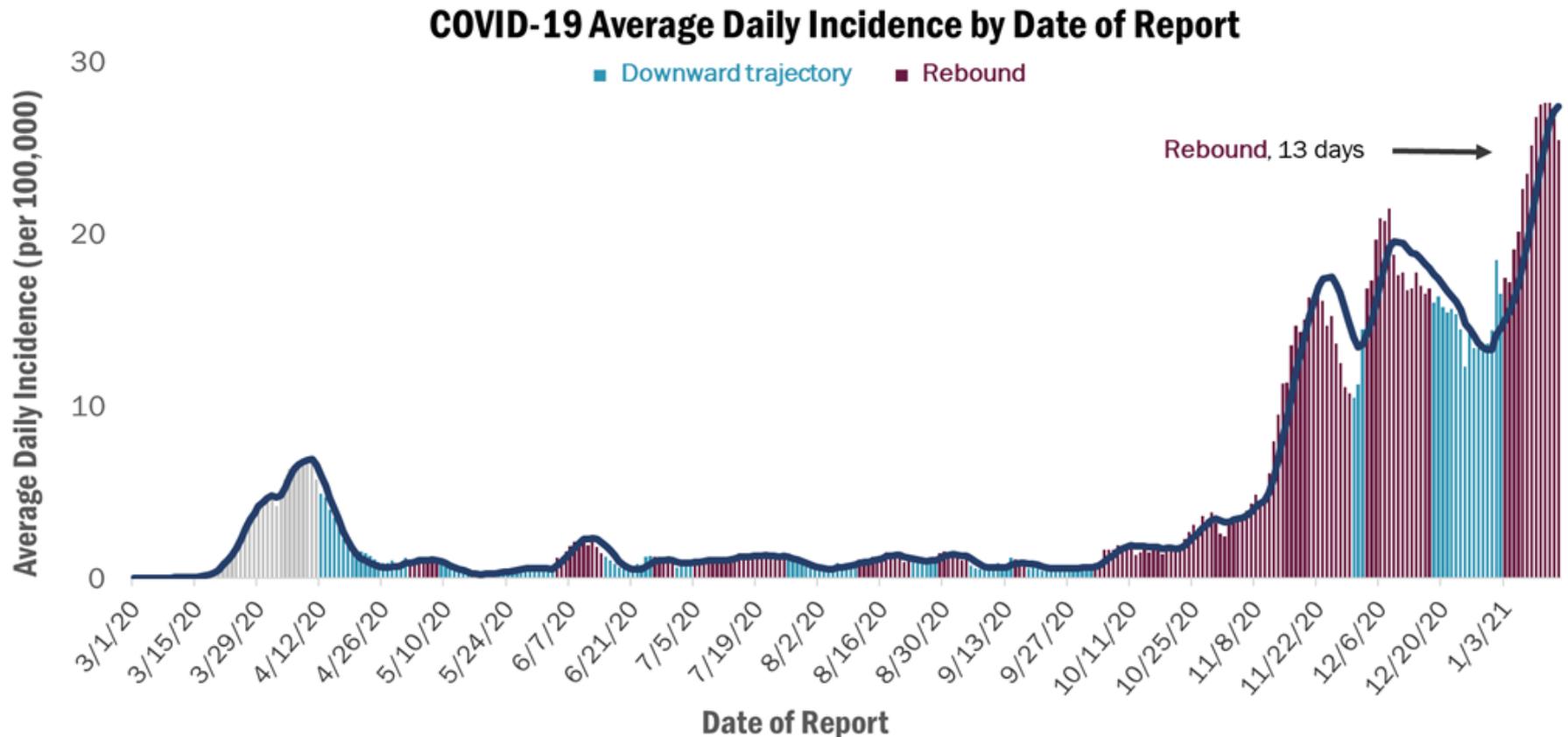
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Source: Electronic Surveillance for the Early Notification of Community-based Epidemics (ESSENCE), 2020.

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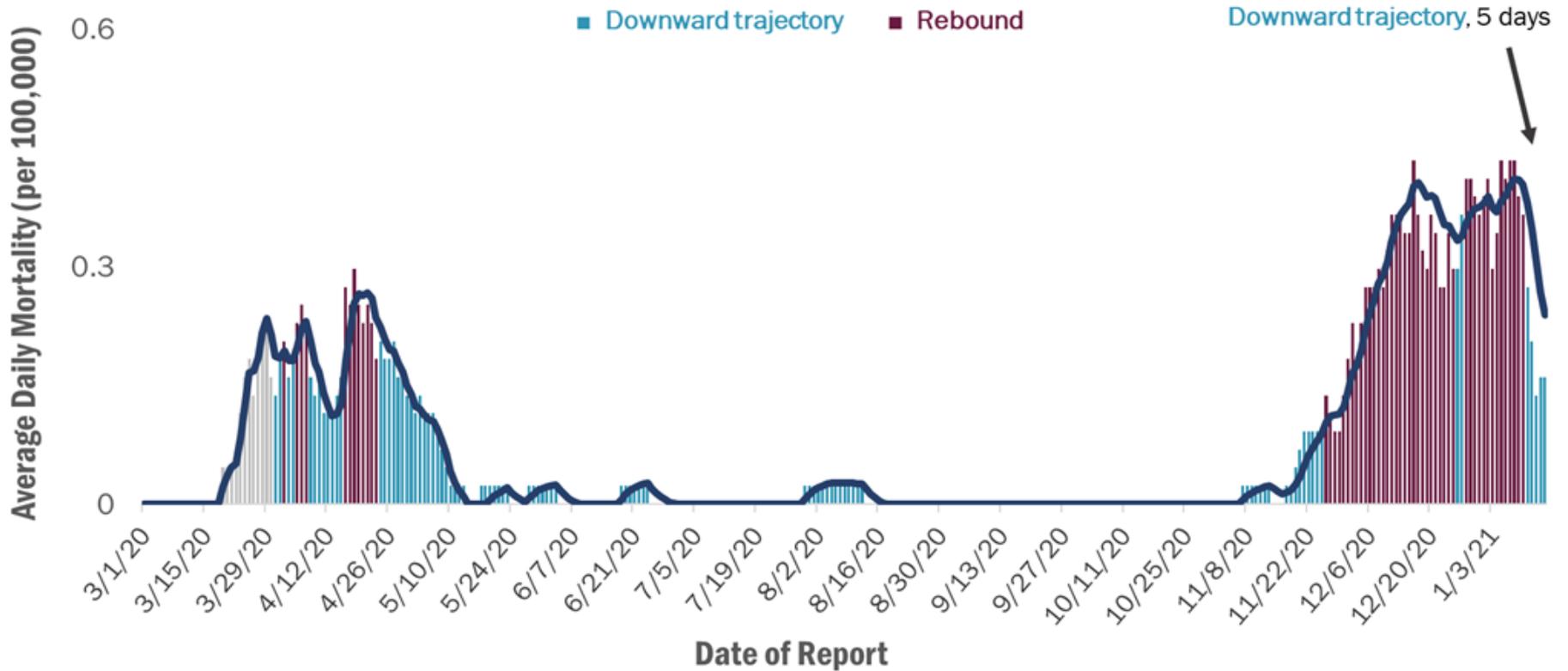
COVID-19 Average Daily Incidence by Date of Report



Rebound is defined as not being in a downward trajectory following at least 14 days of being in a downward trajectory.

COVID-19 Average Daily Mortality by Date of Report

COVID-19 Average Daily Mortality by Date of Report

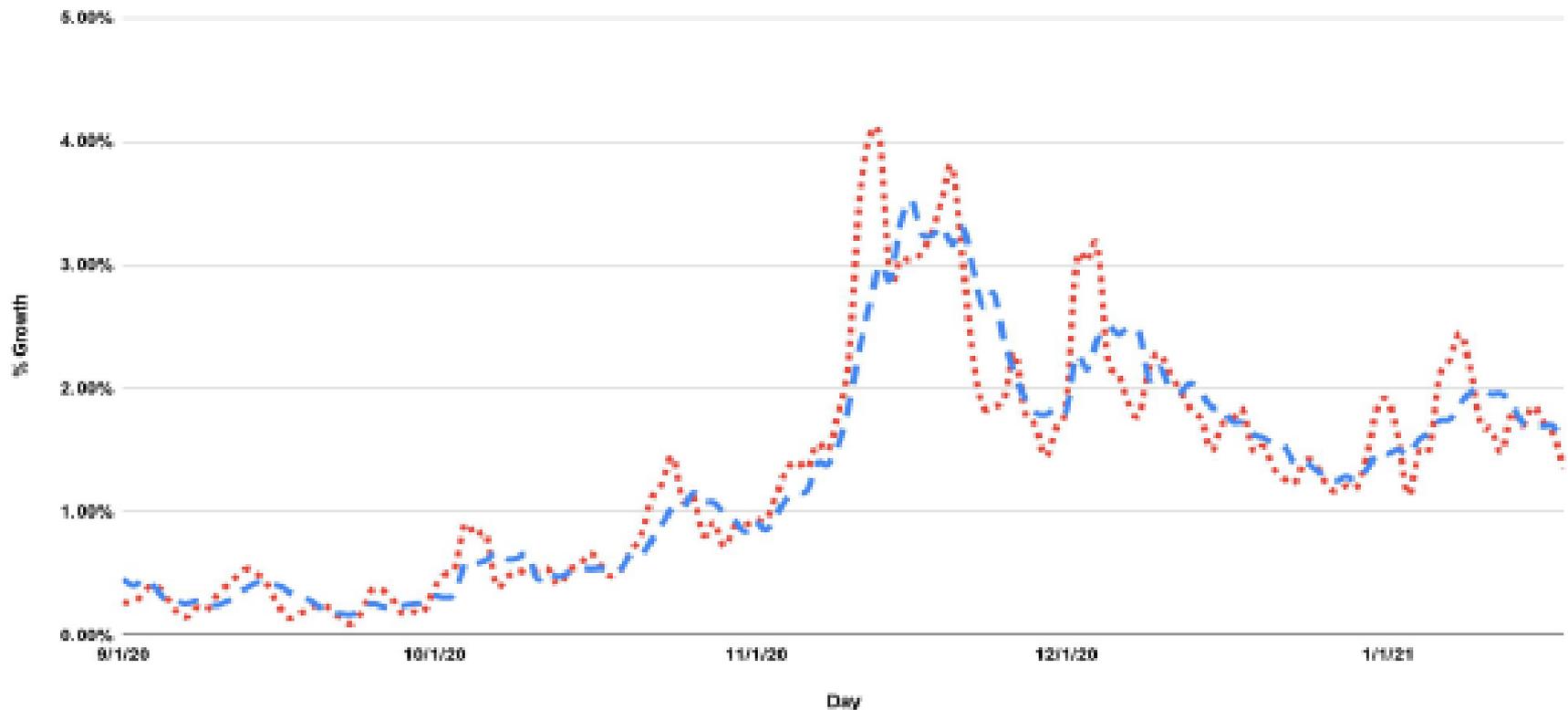


Rebound is defined as not being in a downward trajectory (without the requirement of being in a downward trajectory during the previous 14 days).

3-day and 7-day Viral Growth Rate

Vermont Coronavirus Growth Rate

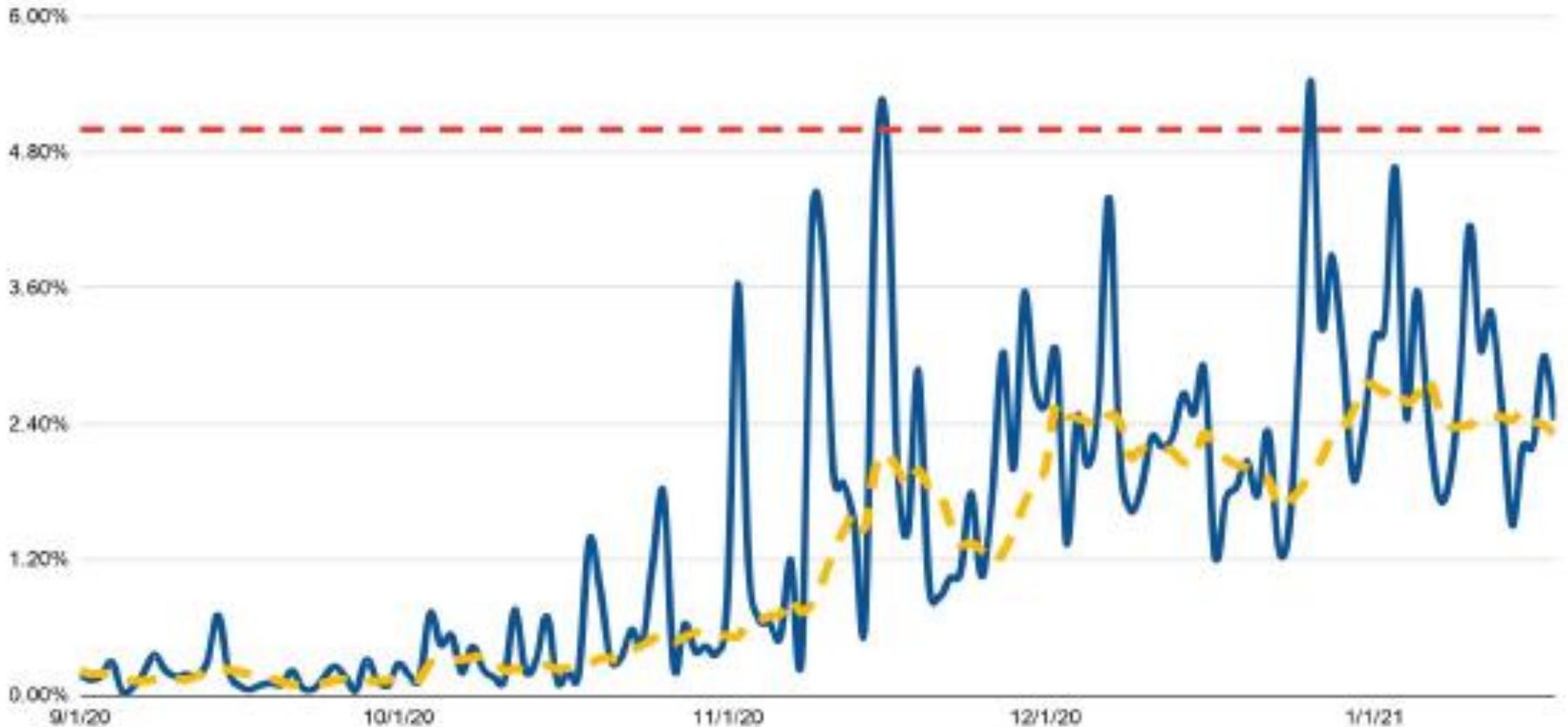
--- Rolling 3-Day Avg % Growth - - - Rolling 7-Day Avg % Growth



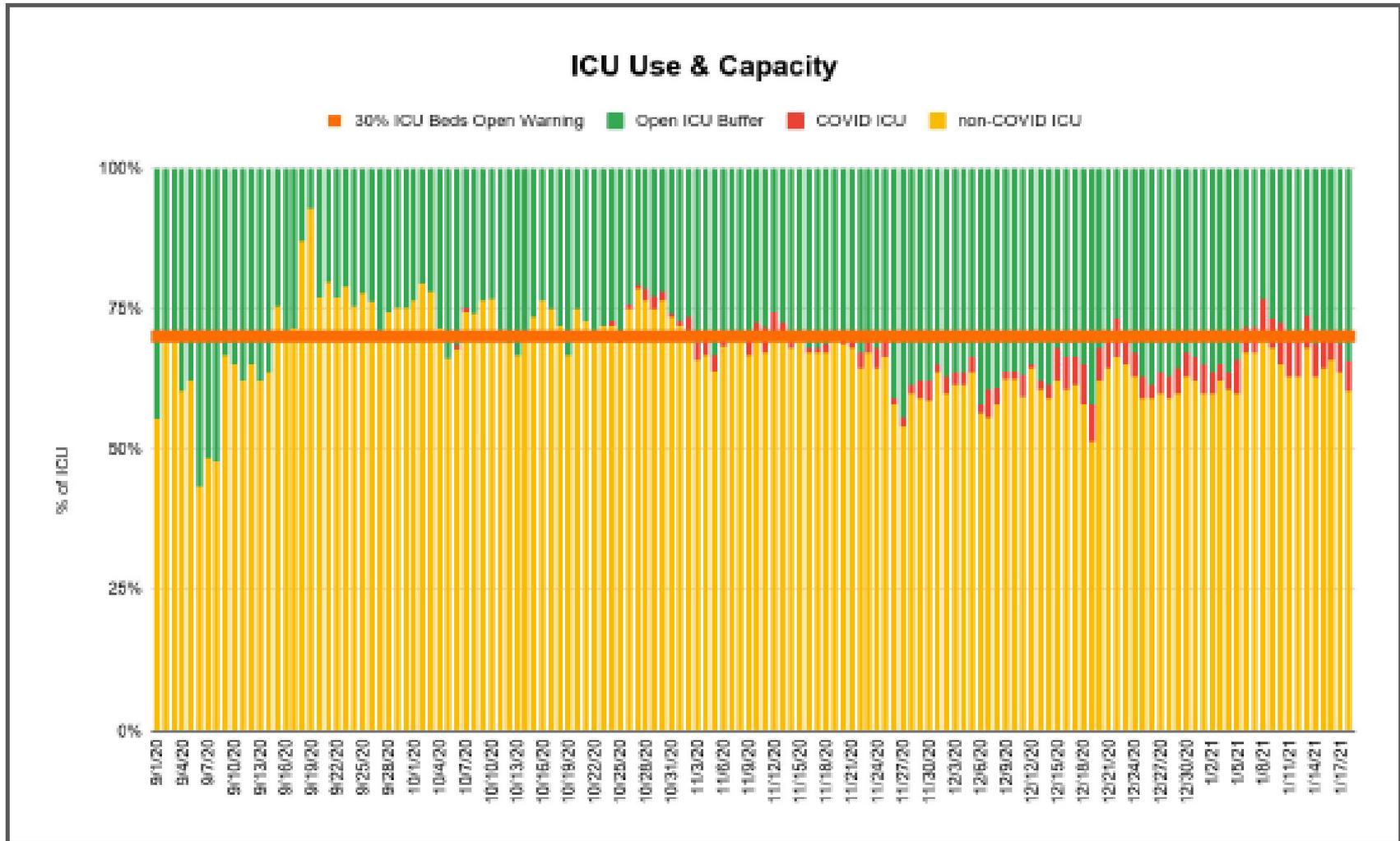
Percent of Tests that are Positive

Percent Tests Yielding New Positive COVID-19 Cases

■ % Positive Tests ■ 5% Positive Warning ■ 7-Day Average



Hospital Capacity for Critically Ill COVID-19 Patients

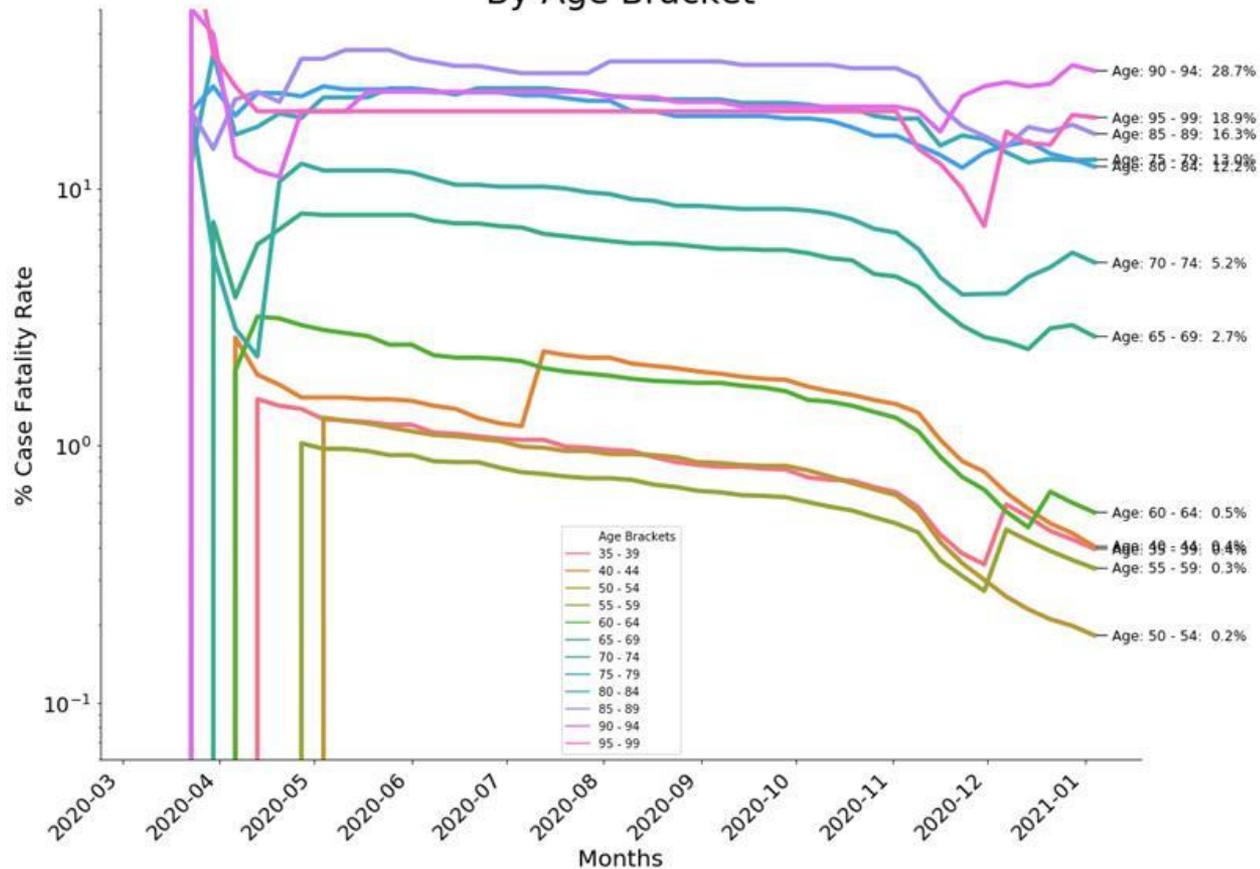


Priority for Vaccination Roll-out: Prevent deaths from COVID in Vermont

Key Factors

- Aligns with the priority to save lives
- Easy to implement
- Easy to communicate and understand
- Prevents confusion and divisiveness

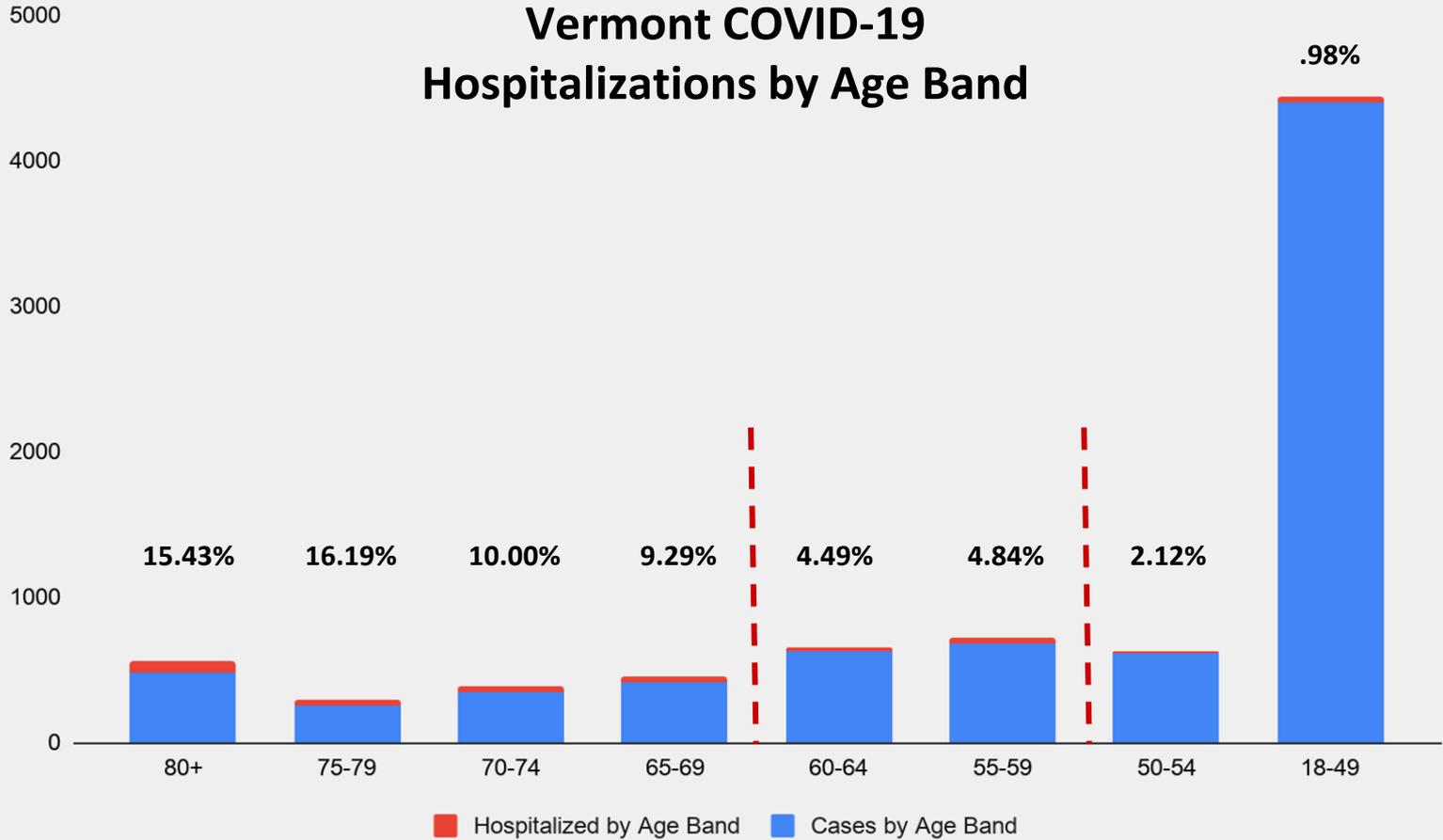
Case Fatality Rate of COVID-19 Deaths in Vermont
By Age Bracket



VT CFR 1.9%

- Age 95-99: 18.9%
- Age 90-94: 28.7%
- Age 85-89: 16.3%
- Age 80-84: 12.2%
- Age 75-79: 13.0%
- Age 70-74: 5.2%
- Age 65-69: 2.7%
- Age 60-64: .5%
- Age 55-59: .4%
- Age 50-54: .2%
- Age 45-49: .4%
- Age 40-44: .4%

Vermont COVID-19 Hospitalizations by Age Band



Vermonters with COVID-19 who are high risk have more serious health outcomes.

Average Length of Illness (Days)



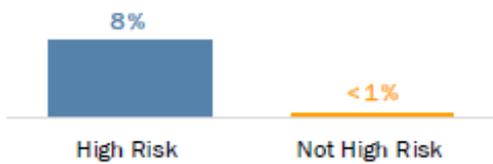
Nearly 1 in 3 high risk Vermonters hospitalized are admitted to the ICU (31%).

Average Length of Hospitalization (Days)



All deaths have been among those who are high risk.

Percent hospitalized

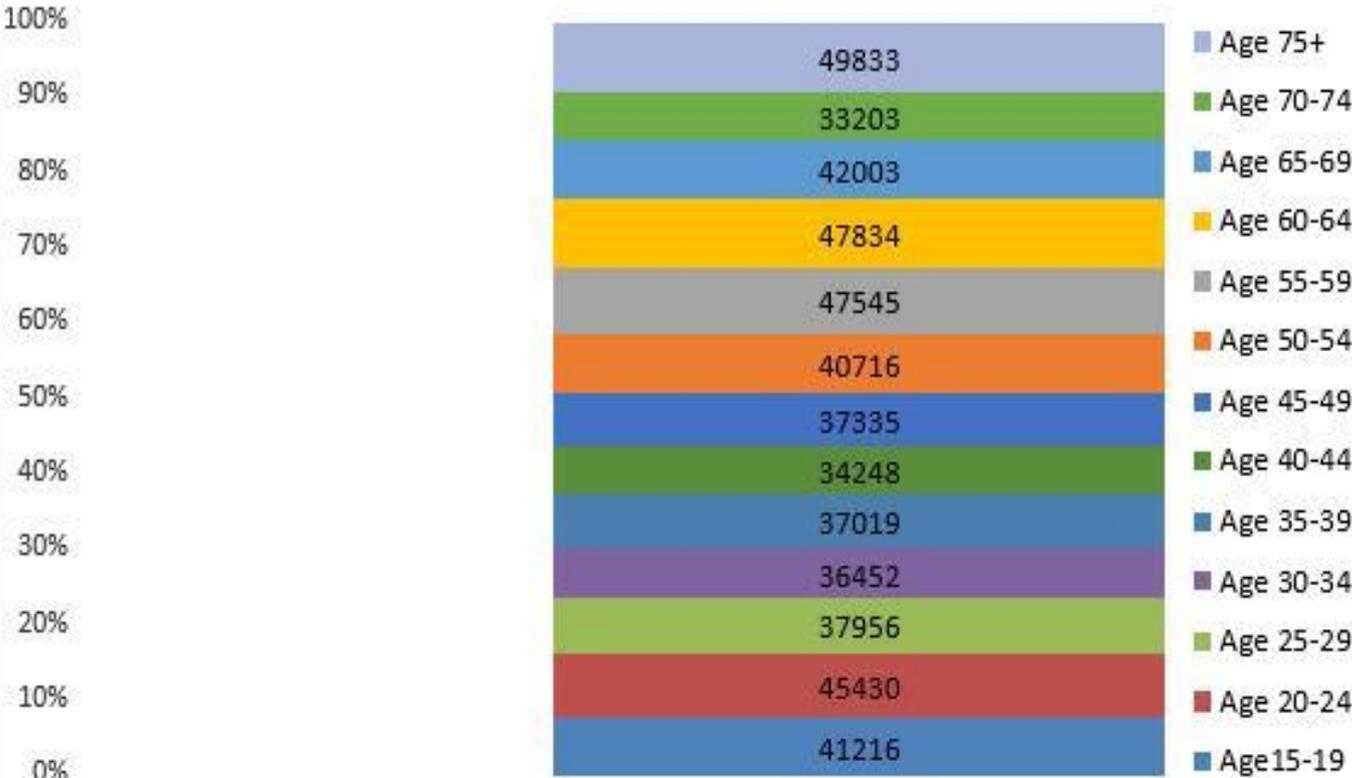


4% case fatality rate among those who are high risk.

0% case fatality rate among those who are not high risk (0 deaths).

Population Estimates by Age Groups

Vermont 2019 Population Estimates, by Age Groups



Vaccine Allocations

Total 6 weeks		
Moderna dose 1	Pfizer dose 1	Moderna & Pfizer total dose 1
9470	5275	14745
1900	1220	3120
1400	110	1510
600	2235	2835
1400	135	1535
1200	95	1295
1100	115	1215
1200	135	1335
4000	210	4210
110	25	135
320	30	350
1500	170	1670
400	55	455
600	1120	1720
1500	170	1670
800	125	925
27500	11225	38725
0	0	0
0	19000	19000
27500	30225	57725

Hospitals

Federal LTCF pharmacy program

Moderna & Pfizer

Week 1: 5850

Week 2: 16275

Week 3: 9850

Week 4: 7800

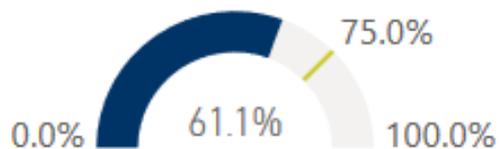
Week 5: 8875

Week 6: 9075

Week 7: 9075

Overall Vaccination Progress (through 1/19/21)

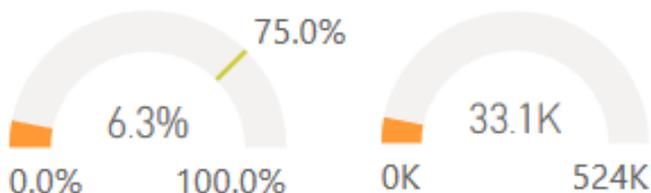
Phase 1A progress



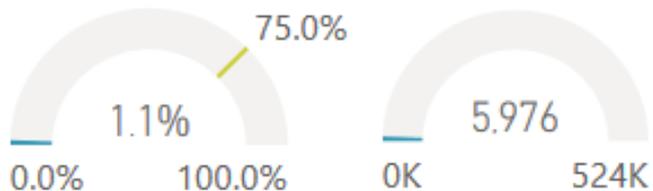
Phase 1A progress is derived from an estimate of the number of individuals in the priority populations targeted for Phase 1A

Overall progress (age 16+)

People who have received at least one dose of the vaccine



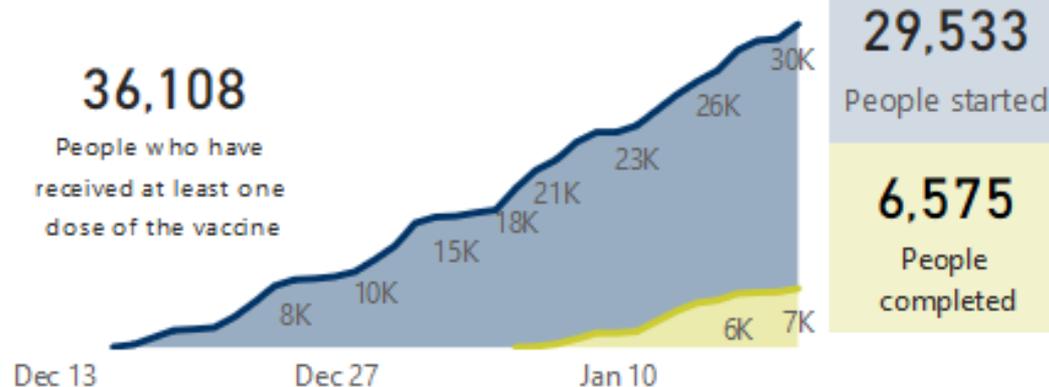
People who have received two doses of the vaccine



Includes people with an address in VT, including people who receive vaccinations in other states. Does not include people from outside VT vaccinated at VT sites.

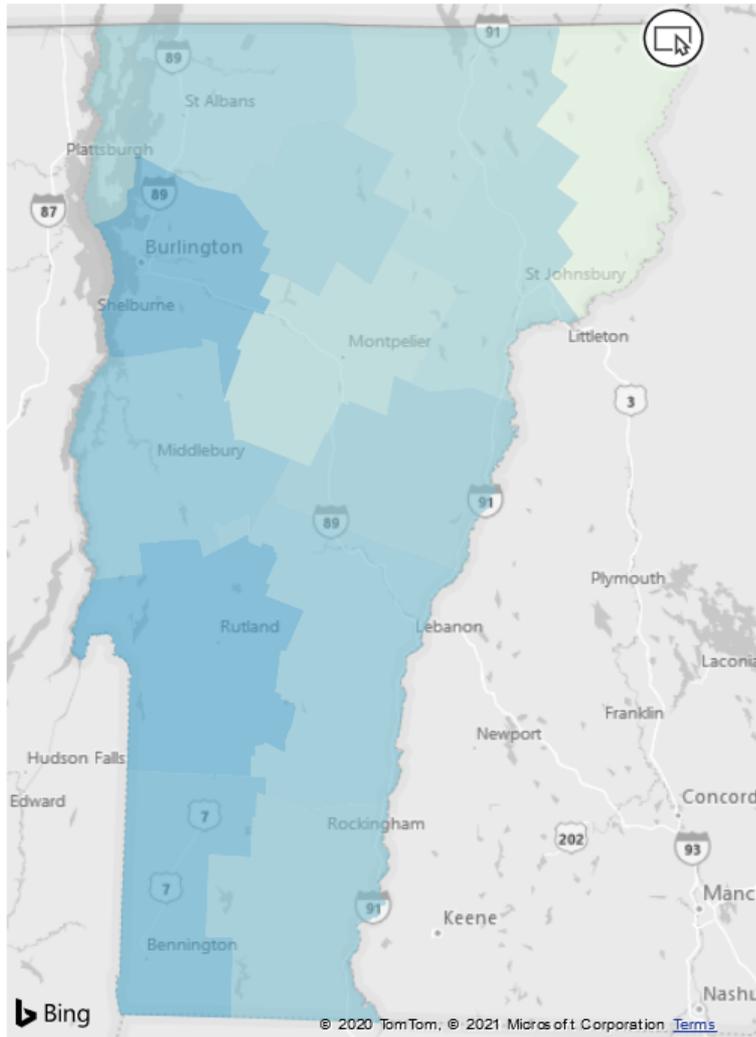
Total People Vaccinated

● Completed ● Started



Includes all vaccinations reported into IMR. 2,145 doses were administered out of state.

Vaccinations by County



County	Started or completed	% Started or completed	Completed	% Completed
Addison	1,857	6.4%	322	1.1%
Bennington	2,130	7.2%	666	2.3%
Caledonia	1,186	4.8%	184	0.8%
Chittenden	11,049	7.6%	1,654	1.1%
Essex	102	2.4%	7	0.2%
Franklin	1,983	5.3%	509	1.4%
Grand Isle	344	5.2%	68	1.0%
Lamoille	1,170	5.5%	262	1.2%
Orange	1,300	5.6%	220	1.0%
Orleans	1,027	4.7%	145	0.7%
Rutland	3,702	7.8%	845	1.8%
Washington	2,292	4.5%	266	0.5%
Windham	1,980	5.9%	310	0.9%
Windsor	2,976	6.0%	518	1.0%
Total	33,098	6.3%	5,976	1.1%

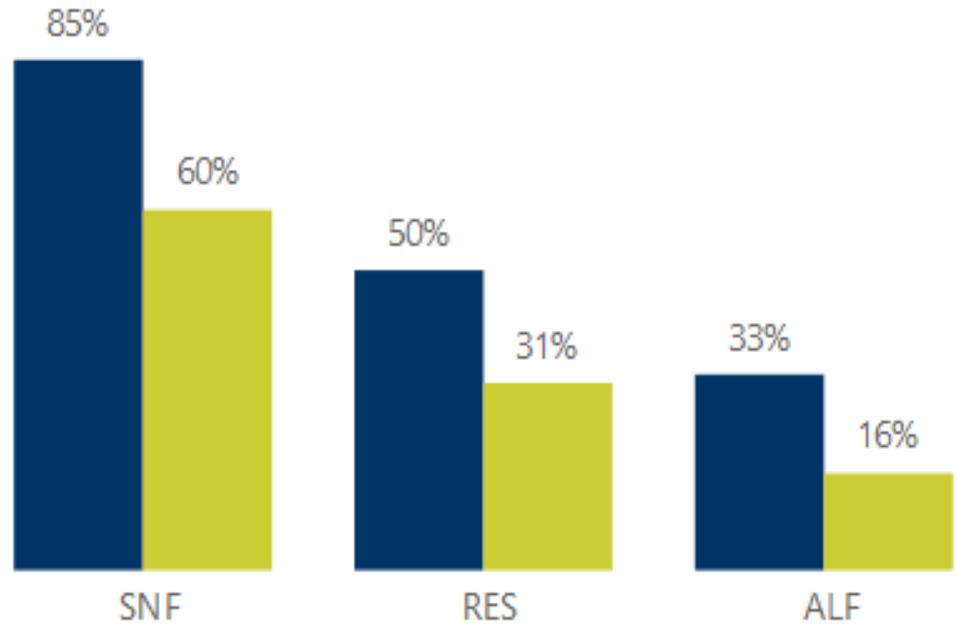
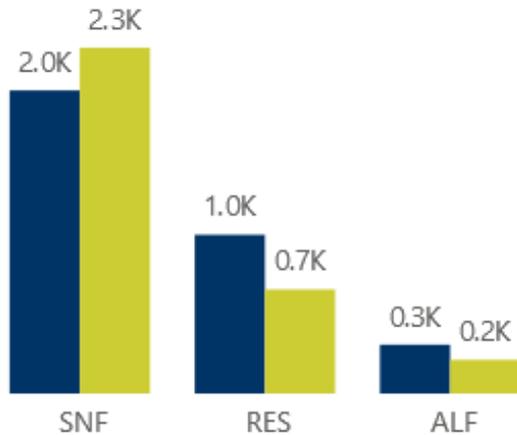
Long-term Care Vaccination Progress

1st Dose Vaccination Rate by Facility Type

● Residents ● Staff

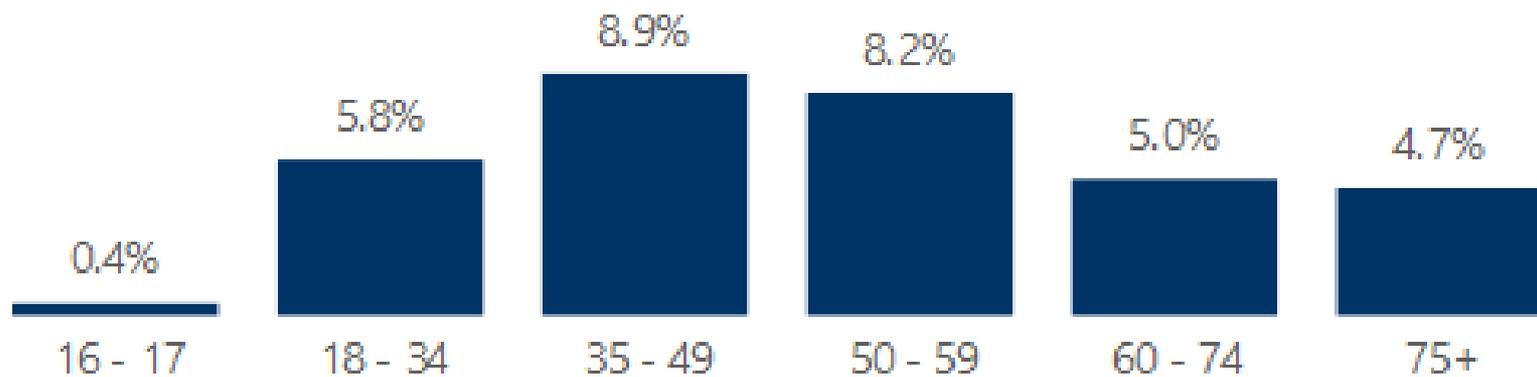
1st Dose Vaccinations by Facility Type

● Residents ● Staff



Vaccinations by Age

By Age



Vaccination Next Phase

- Vermonters 75 years of age and older.
 - Health Department District Office clinics weekly
 - Pharmacies
 - Health care organizations have bid on an open RFP
 - Vermont National Guard capacity available if vaccine allocation increases or to fill gaps
- Online registration
- Call center registration

Lessons Learned

(besides masks help, kids can spread COVID-19)

- Importance of asymptomatic spread
 - Asymptomatic infection rate possibly 40%
- Containment works!
 - But requires testing and contact tracing capacity
 - Strategic targeting
 - Importance of stockpiles
- How to protect the most vulnerable (LTCFs, DOC)
 - Visitation policies, testing policies when cases arise
 - Protocols for new admissions or those who travel frequently
- Rurality is not totally protective
- Health equity
- Public health and economic health can coexist
- Reopening and risk can be balanced