

The purpose of this report is to summarize influenza (flu) surveillance data collected every week of the past flu season and identify useful information about how flu affected Vermonters.

For the 2020-21 season, data were collected between September 27, 2020 and May 15, 2021. These weeks are the Center for Disease Control and Prevention (CDC) Morbidity and Mortality Weekly Report (MMWR) weeks 40-19 (**please review the references section for detailed MMWR week information and term definitions**). Vermont reports its flu surveillance data to CDC, as do other states, to establish weekly flu trends across the country.

CDC does not require that individual cases of the flu be reported, unless it is a case where a new strain of influenza A is identified, or the illness caused a pediatric death. Because individual cases cannot be counted, surveillance relies on a variety of data sources to estimate the effect of flu on Vermonters:

- Emergency department and urgent care visits for influenza-like illness (ILI)
- ILINet Service Providers
- Vermont Department of Health Laboratory
- National Respiratory and Enteric Virus Surveillance System (NREVSS)
- Reports of flu outbreaks by institutional settings (long-term care facilities, schools, etc.)

By analyzing information from these sources, Vermont can track where flu is spreading and try to prevent further illness. When the whole season's data is analyzed and compared to previous seasons, Vermont can use it to prepare for the upcoming season and prevent the spread of flu.

The 2020-21 flu season occurred during the ongoing COVID-19 global pandemic, which began during the 2019-20 flu season. In the Southern Hemisphere during 2020, where the flu season typically begins in March, there were early signs that many consequences of the pandemic were making a difference in how flu was moving in communities and being reported. For example, personal hygiene practices like increased handwashing, staying home and away from household members when sick, physical distancing, no large gatherings, and uneasiness about seeking medical care could all have played a part in the [unusually low flu activity in the Southern Hemisphere](#).

A similar trend followed in the Northern Hemisphere's 2020-21 flu season as the COVID-19 pandemic continued. This report provides information for the Vermont 2020-21 flu season with the context of the 2019-20 season, but due to the unique context of the pandemic, direct comparisons between the two seasons should be avoided.

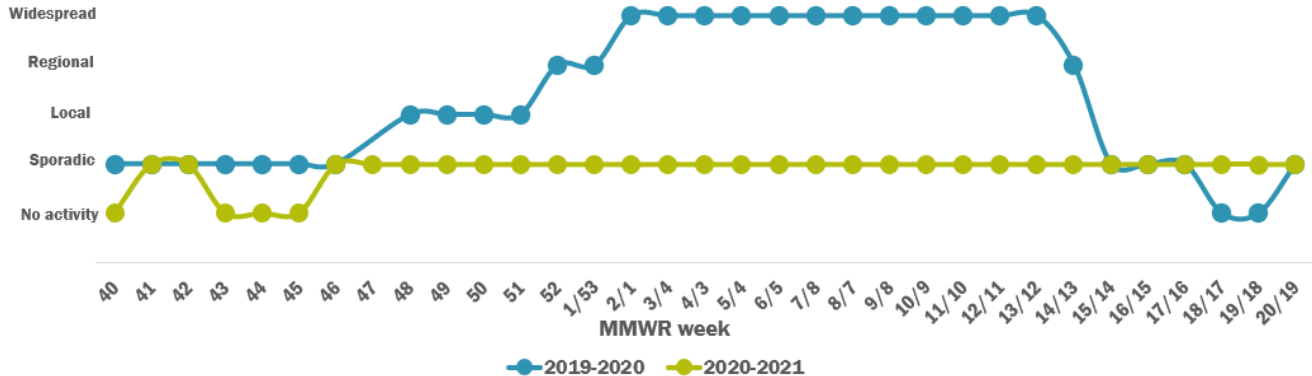
KEY POINTS

- **The flu season began 9/27/20 and ended 5/15/21 (MMWR report weeks 40-19).**
- **To track and prevent flu, Vermont uses a variety of surveillance data sources. Most individual cases of flu are not reportable.**
- **This report summarizes information from the season which was affected by the COVID-19 pandemic and is not generalizable to past seasons.**

Geographic Spread

There are five geographic spread levels for influenza (No Activity, Sporadic, Local, Regional, and Widespread) as defined by [CDC](#). During the flu surveillance season, states and territories report their geographic spread to CDC. The spread is determined using influenza-like illness (ILI) reports, laboratory testing results, and outbreak information available at the time of report.

The 2020-21 flu season activity remained sporadic and did not have a widespread peak of activity.

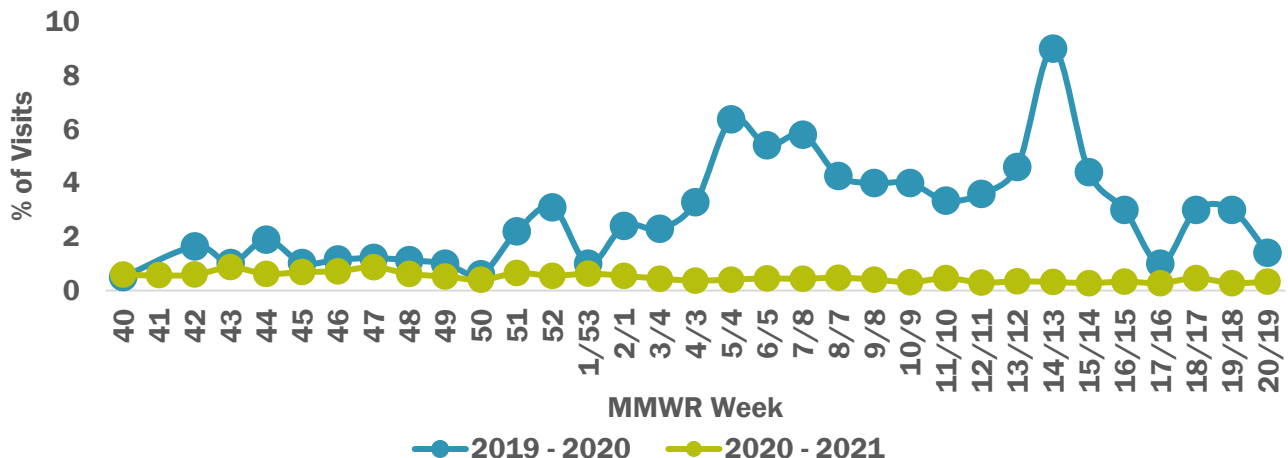


Geographic spread refers only to where flu and ILI have been reported in the state, not the severity of illness. Geographic spread in Vermont was affected by the COVID-19 pandemic during the 2020-21 season, never reaching a widespread peak of activity. The 2019-20 flu season data is presented for context.

Sentinel Provider Data

The sentinel provider surveillance data is based upon reports submitted by [ILINet](#) - a nationwide group of medical offices that act as influenza sentinels. Sentinel providers report the number of patients with an influenza-like illness (ILI) seen by their practices each week.

The 2020-21 flu season percentage of influenza-like illness visits to sentinel providers was less than 1% of total sentinel provider visits for every week of the season.



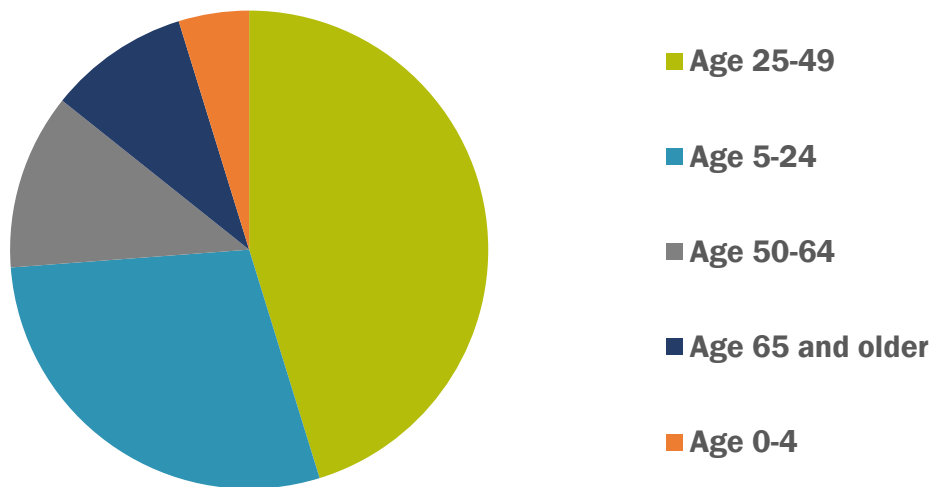
2020-21 End-of-Season Flu Report

During the 2020-21 season, visits to providers and emergency departments for influenza-like illness (ILI) were unusually low, most likely due to the COVID-19 global pandemic. Contributing factors include but are not limited to healthcare-seeking behavior, capacity of providers to provide non-COVID-19 care, personal hygiene, increased physical distancing, and reduced public gathering.

Data from the 2019-20 season is provided for context rather than comparison to the 2020-21 season. In the 2019-20 season, visits to providers and emergency departments for influenza-like illness (ILI) increased starting in late December, experiencing fluctuation until a late-season peak in week 14 (week ending 4/4/2020). In the 2020-21 season, there was no peak in ILI visits, or ILI visit activity above 1% for visits to sentinel healthcare providers.

Sentinel providers report the total weekly numbers of patients seen by age range throughout the flu season. For the 2020-21 season, patients most often seeking care for influenza-like illness from sentinel providers were older than in previous flu seasons (the age range 5-24 had the most visits recorded by ILINet providers during both the 2018-19 and 19-20 flu seasons).

Ages 25-49 had the highest number of visits to sentinel provider practices for influenza-like illness.



The age range 25-49 had the most visits recorded by ILINet providers in the 2020-21 flu season, potentially due to COVID-19 related factors including but not limited to remote learning and no large public gatherings reducing typical flu transmission by [younger age groups](#). Because these data are only reported by a sample of health care providers, they do not represent the full picture of ILI visits in the state. However, they are an important piece of the surveillance system for monitoring where in the state flu may be having substantial impact, and on which age groups.

During the season, 6 providers and 8 EDs reported ILI data to the Vermont Department of Health. ILI data is more robust when a higher percentage of provider reports are received. The COVID-19 pandemic was a burden for providers during the 2020-21 season, and their continued participation in the voluntary ILI surveillance network in addition to pandemic response efforts was crucial to flu monitoring in Vermont.

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Laboratory Data

Interpretations of the most commonly circulating flu strains during 2020-21 should be made with caution. This flu season was especially challenging to closely monitor due to systematic pressure from COVID-19 illness and the important prevention practices instituted to protect Vermonters from the illness.

It is likely the COVID-19 global pandemic contributed to a decrease in tests performed in the 2020-21 season by the Vermont Department of Health Laboratory and Vermont hospitals compared to the previous flu season. Data from the 2019-20 flu season is provided for context rather than comparison to the 2020-21 season.

The Vermont Department of Health Laboratory (VDHL) performs PCR influenza testing on specimens submitted from sentinel sites as well as those submitted from facilities during potential influenza outbreaks.

Vermont Department of Health Laboratory	2019-20 Flu Season		2020-21 Flu Season	
	Count		Count	
Total PCR tests	208		28	
Total positive results	149	72% of total tests	0	0% of total tests
Total positive flu A	114	77% of positive results	--	
H1N1	82	72% of positive flu A results	--	
H3N2	31	27% of positive flu A results	--	
H1N1 + flu B co-infection	1	1% of positive flu A results	--	
Total positive Flu B	35	23% of positive results	--	
Flu B + H1N1 co-infection	1	3% of positive flu B results	--	

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Three hospitals in Vermont report to the National Respiratory and Enteric Virus Surveillance System (NREVSS): Central Vermont Medical Center, Southwestern Vermont Medical Center, and University of Vermont Medical Center. These hospitals report all influenza tests performed at their facility and the test result.

NREVSS Reporting Hospitals	2019-20 Flu Season		2020-21 Flu Season	
	Count		Count	
Total PCR tests	10175		4353	
Total positive results	2013	20% of total tests	13	0.3% of total tests
Total positive flu A	1067	53% of positive results	1	8% of positive results
Total positive flu B	946	47% of positive results	12	92% of positive results

ILI Outbreak Data

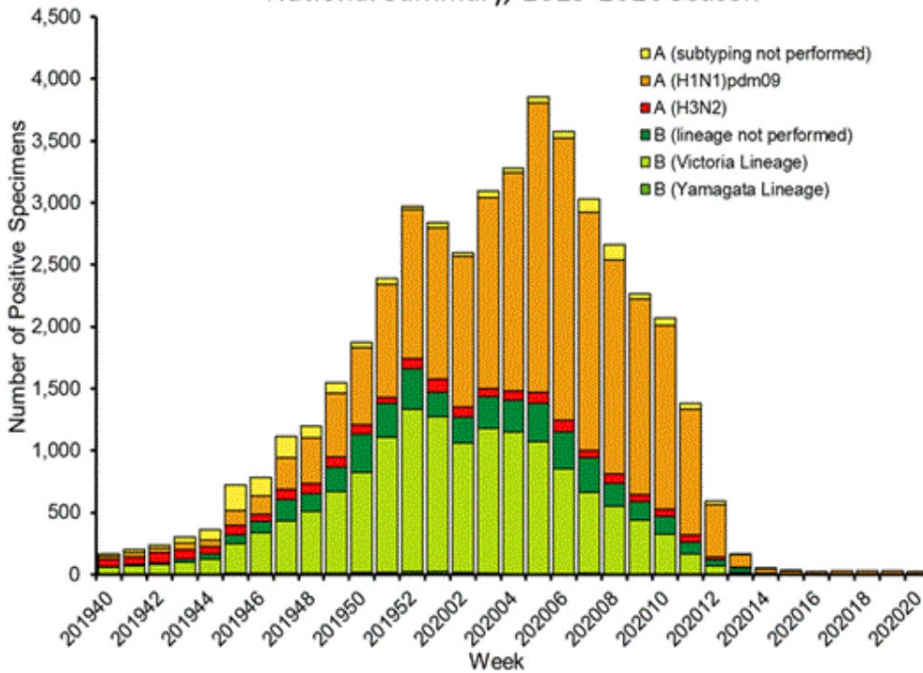
All suspected ILI outbreaks in institutional settings are required to be reported to the Vermont Department of Health. During the 2020-21 season there were 0 outbreaks reported. Policies and personal practices in place throughout the 2020-21 flu season to reduce the spread of respiratory illness (COVID-19 in particular) were likely large contributors to the lack of influenza-like outbreaks during the season. In Vermont, schools had limited in-person attendance, public gatherings were limited, and other policy and personal hygiene factors played a role in reducing flu as well as COVID-19. For context, in the 2019-20 season, 61 flu outbreaks were reported (primarily in school settings) and during the 2018-19 season 39 outbreaks were reported (primarily in long-term care facility settings).

CDC Flu Activity Overview

This flu season's activity was especially challenging to closely monitor due to systematic pressure from COVID-19 nationwide and the important prevention practices instituted to protect Vermonters from the illness. The number of positive specimens reported to CDC is remarkably lower in 2020-21, and the amount of un-subtyped influenza A strains are notably higher compared to the previous season due to COVID-19 related factors. It is important to note that the number of specimens reported to CDC was high in the 2020-21 flu season, but few results were positive. Interpretation of the most commonly circulating flu strains during 2020-21 should be made with caution.

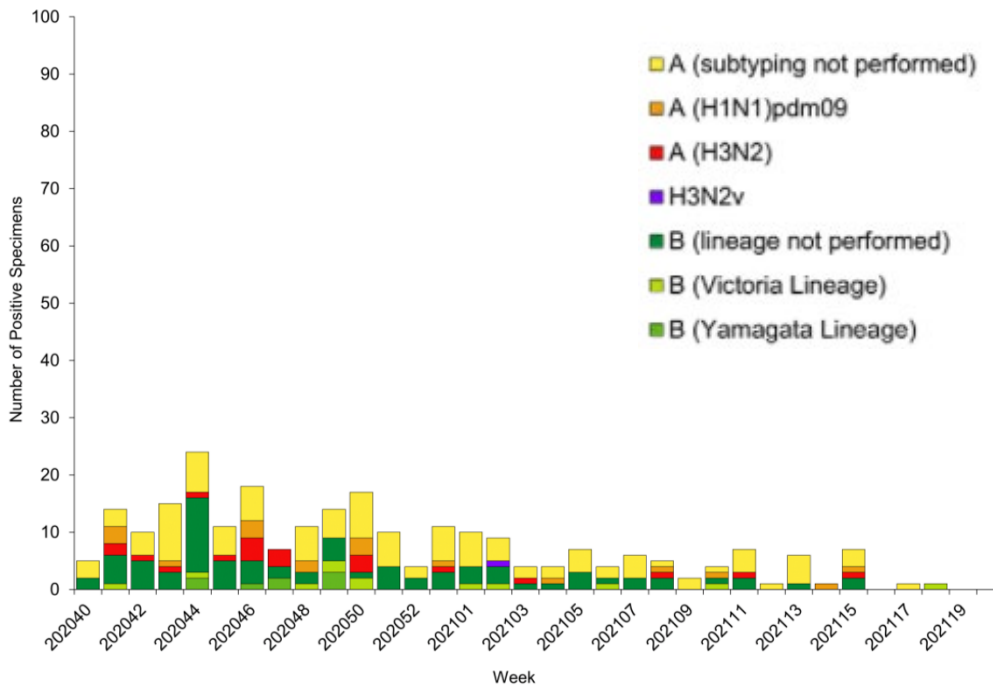
2020-21 End-of-Season Flu Report

Influenza Positive Tests Reported to CDC by U.S. Public Health Laboratories, National Summary, 2019-2020 Season



<https://www.cdc.gov/flu/weekly/weeklyarchives2019-2020/Week20.htm>

Influenza Positive Tests Reported to CDC by U.S. Public Health Laboratories, National Summary, September 27, 2020 – May 15, 2021

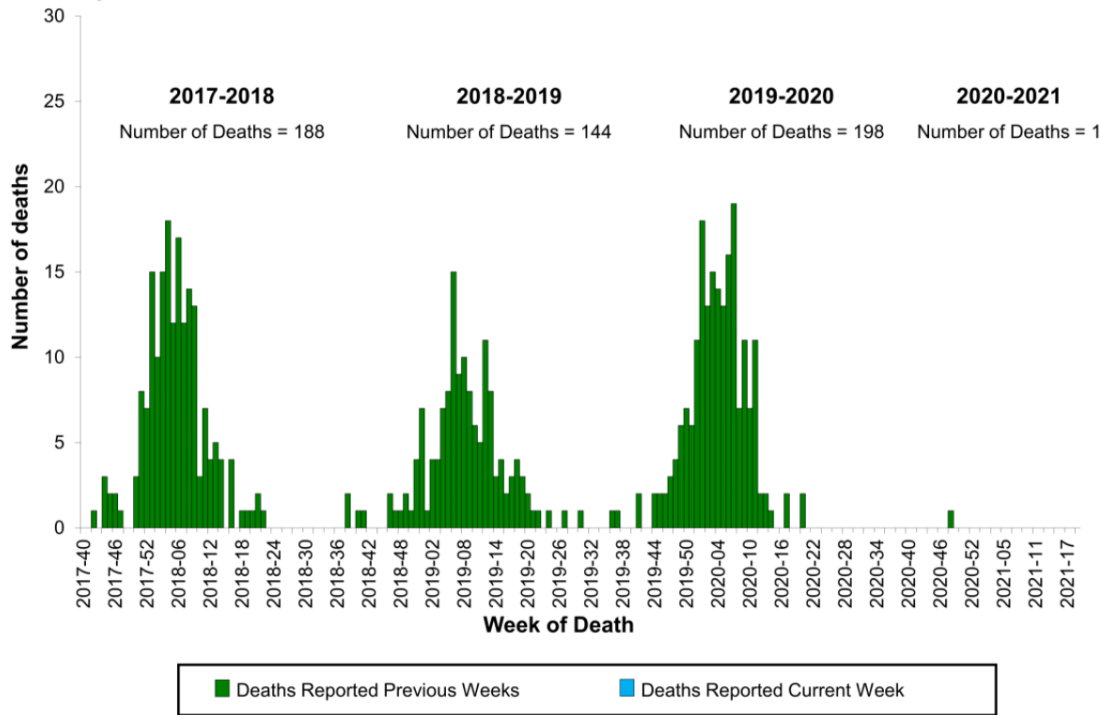


<https://www.cdc.gov/flu/weekly/weeklyarchives2020-2021/Week19.htm>

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In the 2020-19 season there was 1 influenza-associated pediatric death reported. No deaths were reported by Vermont. This is a stark depiction of how unprecedented the 2020-21 flu season is in the context of previous flu seasons.

Influenza-Associated Pediatric Deaths by Week of Death, 2017-2018 season to 2020-2021 season



<https://www.cdc.gov/flu/weekly/weeklyarchives2020-2021/Week19.htm>

Key Takeaways

The 2020-21 flu season was marked by the effects of the COVID-19 global pandemic. At the start of the season in late September Vermonters had approximately 6 months of experience with pandemic policies, and many had established routines to personally prevent the spread of respiratory illnesses including physically distancing, mask-wearing, avoiding large gatherings, and hand washing.

As was seen earlier in the year in the Southern Hemisphere, these and other factors make up a web of reasons why influenza and other respiratory illnesses like pertussis (or whooping cough) did not appear at their usual times with their usual effect.

Additionally, factors like hesitancy to seek health care (or availability of health care) and the global focus on COVID-19 response and prevention presented challenges to monitoring the spread of flu. However, the information that was available in Vermont consistently mirrored what was being seen in most of the country; fewer people were coming to their care providers with influenza-like illnesses, and those who were tested for flu were less likely to be positive than in previous seasons.

Points of interest in surveillance for the 2020-21 flu season include the low threshold of geographic spread, and the number of patients seeking care for influenza-like illness (ILI) in Vermont never reaching a sustained peak of activity. Patients who did visit trended older in the 2020-21 season compared to previous seasons.

Fewer flu tests were performed at the Vermont Public Health Laboratory and NREVSS laboratories due to COVID-19 factors compared to the previous season. Of those specimens, a smaller percentage were positive for influenza; in Vermont and [the US](#), a higher number of influenza B positive results were seen throughout the season from clinical laboratories. Nationally more flu tests were reported by clinical and public health laboratories than in the previous season, but fewer were positive for influenza. The healthcare-seeking behavior of patients was likely influenced by the COVID-19 global pandemic, which is important to remember if comparing data to other flu seasons.

No institutions reported flu outbreaks and no pediatric flu deaths were reported by Vermont in the 2020-21 season. In Vermont, schools had limited in-person attendance, public gatherings were limited, and other [policy](#) and personal hygiene factors played a role in reducing flu and COVID-19. The total number of national pediatric flu deaths sharply decreased in the 2020-21 season compared to the previous season, with [1 death compared to 198](#).

Many factors are being researched that may have been most responsible for the decreased flu season in 2020-21. Among them are the personal hygiene measures taken to prevent COVID-19, a respiratory illness, which are also effective against flu.

Flu is expected to return in communities as pandemic restrictions are lifted. Annual flu vaccination combined with continued adherence to preventive policies and personal hygiene are ways individuals can do their part to reduce the severity of flu illness in Vermont's communities.

Terms:

COVID-19 – [Defined by the World Health Organization \(WHO\)](#): COVID-19 is a disease caused by a new strain of coronavirus. ‘CO’ stands for corona, ‘VI’ for virus, and ‘D’ for disease. Formerly, this disease was referred to as ‘2019 novel coronavirus’ or ‘2019-nCoV.’ The COVID-19 virus is a new virus linked to the same family of viruses as Severe Acute Respiratory Syndrome (SARS) and some types of common cold.

CDC – The Centers for Disease Control and Prevention: [the Influenza Division at CDC collects, compiles, and analyzes information on influenza activity year-round in the United States.](#)

Institutional settings – Examples include schools (including higher education), long-term care facilities, childcare facilities, and correctional facilities.

ILI – Influenza-like Illness: ILI is the presence of a fever greater than or equal to 100° F with the addition of cough or sore throat when a patient seeks medical care. ILI excludes patients with a non-ILI fever (e.g. Dengue, Malaria, or Yellow Fever).

ILINet – The U.S. Outpatient Influenza-like Illness (ILI) Surveillance Network: approximately 3,000 outpatient healthcare providers around the country report data to CDC on the total number of patients seen for any reason and the number of those patients with ILI by age group.

MMWR – Morbidity and Mortality Weekly Report: The MMWR is the [CDC’s weekly scientific publication of public health information and recommendations](#). Weekly reports are numbered 1-52 or 1-53 depending on the number of weeks in the year.

NREVSS - The National Respiratory and Enteric Virus Surveillance System: [NREVSS](#) collects data on the number of PCR flu tests performed by participating labs across the country, and how many tests were positive. This helps determine flu activity in the community.

PCR test – polymerase chain reaction: a test, or assay, that is a rapid and sensitive method for detecting the genetic material of influenza viruses, and is now the first-choice laboratory test for influenza infection in both humans and animals ([WHO](#)).

Physical distancing – or social distancing – requires staying at least 6 feet from other people who are not from your household in both indoor and outdoor spaces ([CDC](#)).

Respiratory illness – illnesses which affect the lungs and may cause coughing, wheezing, difficulty breathing and other symptoms. Examples: colds, flu, respiratory syncytial virus (RSV), bronchitis, pneumonia, and COVID-19 ([MedExpress](#)).

Subtype: a more specific classification of the influenza A virus based on proteins unique to that strain of virus (example: influenza A(H1N1) is classified by its hemagglutinin and neuraminidase protein types H1 and N1). Influenza B strains are not subtyped. Influenza B strains are classified by their lineage, or where the strain was isolated (example: Victoria).

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MMWR Weeks 2020-21 – flu season weeks (2019 40-53, 2020 1-19) are highlighted in green:

MMWR Week	ENDING Dates for MMWR Weeks (Week starts on Sunday and ends on Saturday with this date)	
	2020	2021
1	1/4/2020	1/9/2021
2	1/11/2020	1/16/2021
3	1/18/2020	1/23/2021
4	1/25/2020	1/30/2021
5	2/1/2020	2/6/2021
6	2/8/2020	2/13/2021
7	2/15/2020	2/20/2021
8	2/22/2020	2/27/2021
9	2/29/2020	3/6/2021
10	3/7/2020	3/13/2021
11	3/14/2020	3/20/2021
12	3/21/2020	3/27/2021
13	3/28/2020	4/3/2021
14	4/4/2020	4/10/2021
15	4/11/2020	4/17/2021
16	4/18/2020	4/24/2021
17	4/25/2020	5/1/2021
18	5/2/2020	5/8/2021
19	5/9/2020	5/15/2021
...
40	10/3/2020	10/9/2021
41	10/10/2020	10/16/2021
42	10/17/2020	10/23/2021
43	10/24/2020	10/30/2021
44	10/31/2020	11/6/2021
45	11/7/2020	11/13/2021
46	11/14/2020	11/20/2021
47	11/21/2020	11/27/2021
48	11/28/2020	12/4/2021
49	12/5/2020	12/11/2021
50	12/12/2020	12/18/2021
51	12/19/2020	12/25/2021
52	12/26/2020	1/1/2022
53	1/2/2021	1/2/2021

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