CDC Centers for Disease Control and Prevention

Weekly U.S. Influenza Surveillance Report

FLUVIEW

A Weekly Influenza Surveillance Report Prepared by the Influenza Division

Note: CDC is tracking the COVID-19 pandemic in a weekly publication called COVID Data Tracker Weekly Review. (https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/)

Key Updates for Week 1, ending January 8, 2022

Seasonal influenza activity in the United States declined slightly this week but remains elevated and is expected to continue for several weeks. The amount of activity varies by region.

Viruses

Clinical Lab

2.2%

positive for influenza this week

Public Health Lab

The majority of viruses detected are influenza A(H3N2).

Virus Characterization

Genetic characterization and antiviral susceptibility are summarized in this report.

(/flu/weekly/#VirusCharacterization)

Illness

Outpatient Respiratory Illness

4.3%

of visits to a health care provider are for respiratory illness this week
(above baseline)

Outpatient Respiratory Illness: Activity Map

This week, 14 jurisdictions experienced moderate activity and 21 jurisdictions experienced high or very high activity.

Long-term Care Facilities

1.3%

of facilities reported
≥ 1 influenza-positive test
among residents this week.

Severe Disease

FluSurv-NET
3.4 per 100,000
cumulative hospitalization rate

HHS Protect Hospitalizations
1,804
patients admitted to hospitals with influenza this week.

NCHS Mortality
23.1%
of deaths attributed to pneumonia, influenza, or COVID-19 this week *(above threshold)*

Pediatric Deaths
1
influenza-associated deaths reported this week for a total of 3 so far this season

All data are preliminary and may change as more reports are received.

A description of the CDC influenza surveillance system, including methodology and detailed descriptions of each data component is available on the surveillance methods (http://www.cdc.gov/flu/weekly/overview.htm) page.

Additional information on the current and previous influenza seasons for each surveillance component are available on FluView Interactive (https://www.cdc.gov/flu/weekly/fluviewinteractive.htm).

Key Points

- Influenza activity declined slightly this week but remains elevated. While influenza is difficult to predict, influenza activity is expected to continue for several more weeks.

- The majority of influenza viruses detected are A(H3N2). Most of the H3N2 viruses so far are genetically closely related to the vaccine virus, but there are some antigenic differences that have developed as H3N2 viruses have continued to evolve.

- The percentage of outpatient visits due to respiratory illness decreased nationally but remains above baseline. Influenza is contributing to levels of respiratory illness, but other respiratory viruses are also circulating. The relative contribution of influenza varies by location.

- The number of hospital admissions reported to HHS Protect declined slightly this week.

- The cumulative hospitalization rate in the FluSurv-NET system is higher than the rate for the entire 2020-2021 season, but lower than the rate seen at this time during the four seasons preceding the COVID-19 pandemic.

- It's not too late to get vaccinated. An annual flu vaccine is the best way to protect against flu and its potentially serious complications. CDC recommends everyone 6 months and older get a flu vaccine.

- There are early signs that flu vaccination coverage so far is lower this season compared to last.

- Flu vaccines are available at many different locations, including pharmacies and health departments. Visit www.vaccines.gov to find a flu vaccine near you.

- There are also flu antiviral drugs that can be used to treat flu illness.

U.S. Virologic Surveillance (https://www.cdc.gov/flu/weekly/overview.htm#anchor_1633697372803)

Influenza A(H3N2) viruses have been the most frequently detected influenza viruses this season. Earlier in the season most influenza viruses were detected among persons aged 5-24 years; however, during the most recent 2 weeks, persons aged 25-64 years accounted for the largest number of A(H3N2) viruses reported. For regional and state level data about circulating influenza viruses, please visit FluView Interactive (https://gis.cdc.gov/grasp/fluview/fluportaldashboard.html). Viruses known to be associated with recent live attenuated influenza vaccine (LAIV) receipt or found upon further testing to be a vaccine virus are not included as they are not circulating influenza viruses.

Clinical Laboratories

The results of tests performed by clinical laboratories nationwide are summarized below. Data from clinical laboratories (the percentage of specimens tested that are positive for influenza) are used to monitor whether influenza activity is increasing or decreasing.

	Week 1	Data Cumulative since October 3, 2021 (Week 40)
No. of specimens tested	102,412	1,095,989
No. of positive specimens (%)	2,203 (2.2%)	30,124 (2.7%)
Positive specimens by type		
Influenza A	2,156 (97.9%)	29,434 (97.7%)
Influenza B	47 (2.1%)	690 (2.3%)

Public Health Laboratories

The results of tests performed by public health laboratories nationwide are summarized below. Data from public health laboratories are used to monitor the proportion of circulating viruses that belong to each influenza subtype/lineage.

	Week 1	Data Cumulative since October 3, 2021 (Week 40)
No. of specimens tested	54,888	385,093
No. of positive specimens	617	7,969
Positive specimens by type/subtype		
Influenza A	613 (99.4%)	7,893 (99.0%)
(H1N1)pdm09	0	4 (0.1%)
H3N2	266 (100%)	5,747 (99.9%)
H3N2v	0	1 (<0.1%)

	Week 1	Data Cumulative since October 3, 2021 (Week 40)
Subtyping not performed	347	2,141
Influenza B	4 (0.6%)	76 (1.0%)
Yamagata lineage	0	1 (3.1%)
Victoria lineage	0	31 (96.9%)
Lineage not performed	4	44

(http://gis.cdc.gov/grasp/fluview/fluportaldashboard.html)

View Chart Data (/flu/weekly/weeklyarchives2021-2022/data/whoAllregt_phl01.html) | View Full Screen (/flu/weekly/weeklyarchives2021-2022/WhoPHL01.html)

Additional virologic surveillance information for current and past seasons:
Surveillance Methods (https://wcms-wp.cdc.gov/flu/weekly/overview.htm#anchor_1633697372803) | FluView Interactive: National, Regional, and State Data (http://gis.cdc.gov/grasp/fluview/fluportaldashboard.html) or Age Data (https://gis.cdc.gov/grasp/fluview/flu_by_age_virus.html)

Influenza Virus Characterization (/flu/weekly/overview.htm#anchor_1633697390939)

CDC performs genetic (https://www.cdc.gov/flu/professionals/laboratory/genetic-characterization.htm) and antigenic (https://www.cdc.gov/flu/professionals/laboratory/antigenic.htm) characterization of U.S. viruses submitted from state and local public health laboratories using the Right Size Roadmap submission guidance. These data are used to compare how similar the currently circulating influenza viruses are to the reference viruses representing viruses contained in the current influenza vaccines. The data are also used to monitor evolutionary changes that continually occur in influenza viruses circulating in humans. CDC also tests susceptibility of circulating influenza viruses to antiviral medications including the neuraminidase inhibitors (oseltamivir, zanamivir, and peramivir) and the PA endonuclease inhibitor baloxavir.

CDC genetically characterized 347 influenza viruses collected since October 3, 2021. While there are little data to date, most of the H3N2 viruses so far are genetically closely related to the vaccine virus, but there are some antigenic differences that have developed as H3N2 viruses have continued to evolve. Virus antigenic data will be reported later this season when a sufficient number of specimens have been tested.

Virus Subtype or Lineage	Genetic Characterization				
	Total No. of Subtype/Lineage Tested	HA Clade	Number (% of subtype/lineage tested)	HA Subclade	Number (% of subtype/lineage tested)
A/H1	3				
		6B.1A	3 (100%)	5a.1	2 (67%)
				5a.2	1 (33%)
A/H3	324				
		3C.2a1b	324 (100%)	1a	0
				1b	1 (0.3%)
				2a	0
				2a.1	0
				2a.2	323 (99.7%)
		3C.3a	0	3a	0
B/Victoria	20				
		V1A	20 (100%)	V1A	0
				V1A.1	0
				V1A.3	11 (55%)
				V1A.3a	0
				V1A.3a.1	0
				V1A.3a.2	9 (45%)
B/Yamagata	0				
		Y3	0		

CDC assesses susceptibility of influenza viruses to the antiviral medications including the neuraminidase inhibitors (oseltamivir, zanamivir, and peramivir) and the PA endonuclease inhibitor baloxavir using next generation sequence analysis supplemented by laboratory assays. Information about antiviral susceptibility test methods can be found at U.S. Influenza Surveillance: Purpose and Methods | CDC (https://www.cdc.gov/flu/weekly/overview.htm#anchor_1633697390939).

Viruses collected in the United States since October 3, 2021, were tested for antiviral susceptibility as follows:

Antiviral Medication			Total Viruses	A/H1	A/H3	B/Victoria	B/Yamagata
Neuraminidase Inhibitors	Oseltamivir	Viruses Tested	349	3	326	20	0
		Reduced Inhibition	(0.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)
		Highly Reduced Inhibition	(0.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)
	Peramivir	Viruses Tested	349	3	326	20	0
		Reduced Inhibition	(0.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)
		Highly Reduced Inhibition	(0.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)
	Zanamivir	Viruses Tested	349	3	326	20	0
		Reduced Inhibition	(0.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)
		Highly Reduced Inhibition	(0.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)
PA Cap-Dependent Endonuclease Inhibitor	Baloxavir	Viruses Tested	344	3	321	20	0
		Reduced Susceptibility	(0.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)

High levels of resistance to the adamantanes (amantadine and rimantadine) persist among influenza A(H1N1)pdm09 and influenza A(H3N2) viruses (the adamantanes are not effective against influenza B viruses). Therefore, use of these antivirals for treatment and prevention of influenza A virus infection is not recommended and data from adamantane resistance testing are not presented.

Outpatient Respiratory Illness Surveillance (https://www.cdc.gov/flu/weekly/overview.htm#anchor_1539281266932)

The U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) monitors outpatient visits for influenza-like illness [ILI (fever plus cough or sore throat)], not laboratory-confirmed influenza, and will therefore capture respiratory illness visits due to infection with any pathogen that can present with similar symptoms, including influenza, SARS-CoV-2, and RSV. Due to the COVID-19 pandemic, health care-seeking behaviors have changed, and people may be accessing the health care system in alternative settings not captured as a part of ILINet or at a different point in their illness than they might have before the pandemic. Therefore, it is important to evaluate syndromic surveillance data, including that from ILINet, in the context of other sources of surveillance data to obtain a complete and accurate picture of influenza, SARS-CoV-2, and other respiratory virus activity. CDC is tracking the COVID-19 pandemic in a weekly publication called COVID Data Tracker Weekly Review (https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html). Information about other respiratory virus activity can be found on CDC's National Respiratory and Enteric Virus Surveillance System (NREVSS) website (https://www.cdc.gov/surveillance/nrevss/index.html).

Outpatient Respiratory Illness Visits

Nationwide, during week 1, 4.3% of patient visits reported through ILINet were due to respiratory illness that included fever plus a cough or sore throat, also referred to as ILI. This percentage is above the national baseline. All 10 HHS regions are above their region-specific baselines. Multiple respiratory viruses are co-circulating, and the relative contribution of influenza virus infection to ILI varies by location.

(http://gis.cdc.gov/grasp/fluview/fluportaldashboard.html)
* Effective October 3, 2021 (week 40), the ILI definition (fever plus cough or sore throat) no longer includes "without a known cause other than influenza."

View Chart Data (current season only) (/flu/weekly/weeklyarchives2021-2022/data/senAllregt01.html) | View Full Screen (/flu/weekly/weeklyarchives2021-2022/ILI01.html)

Outpatient Respiratory Illness Visits by Age Group

More than 70% of ILINet participants provide both the number of patient visits for respiratory illness and the total number of patient visits for the week broken out by age group. Data from this subset of providers are used to calculate the percentages of patient visits for respiratory illness by age group.

The percentage of visits for respiratory illness reported in ILINet decreased for four age groups (0–4 years, 5–24 years, 25-49 years, and 50–64 years) and remained stable for one age group (65+ years).

(http://gis.cdc.gov/grasp/fluview/fluportaldashboard.html)
* Effective October 3, 2021 (week 40), the ILI definition (fever plus cough or sore throat) no longer includes "without a known cause other than influenza."

View Chart Data (/flu/weekly/weeklyarchives2021-2022/data/iliage01.html) | View Full Screen (/flu/weekly/weeklyarchives2021-2022/ILIAge01.html)

Outpatient Respiratory Illness Activity Map

Data collected in ILINet are used to produce a measure of ILI activity* (https://www.cdc.gov/flu/weekly/overview.htm#anchor_1633697504110) by state/jurisdiction and Core Based Statistical Areas (CBSA).

	Number of Jurisdictions		Number of CBSAs	
Activity Level	Week 1 (Week ending Jan. 8, 2022)	Week 52 (Week ending Jan. 1, 2022)	Week 1 (Week ending Jan. 8, 2022)	Week 52 (Week ending Jan. 1, 2022)
Very High	3	9	22	33
High	18	20	116	137

Activity Level	Number of Jurisdictions		Number of CBSAs	
	Week 1 (Week ending Jan. 8, 2022)	Week 52 (Week ending Jan. 1, 2022)	Week 1 (Week ending Jan. 8, 2022)	Week 52 (Week ending Jan. 1, 2022)
Moderate	14	11	92	107
Low	5	6	157	145
Minimal	13	8	263	232
Insufficient Data	2	1	279	275

*Data collected in ILINet may disproportionally represent certain populations within a jurisdiction or CBSA, and therefore, may not accurately depict the full picture of influenza activity for the entire jurisdiction or CBSA. Differences in the data presented here by CDC and independently by some health departments likely represent differing levels of data completeness with data presented by the health department likely being the more complete.

Additional information about medically attended visits for ILI for current and past seasons:
Surveillance Methods (https://wcms-wp.cdc.gov/flu/weekly/overview.htm#anchor_1539281266932) | FluView Interactive: National, Regional, and State Data (http://gis.cdc.gov/grasp/fluview/fluportaldashboard.html) or ILI Activity Map (https://gis.cdc.gov/grasp/fluview/main.html)

Long-term Care Facility (LTCF) Surveillance (https://www.cdc.gov/flu/weekly/overview.htm#anchor_1633698386507)

LTCFs (e.g., nursing homes/skilled nursing, long-term care for the developmentally disabled, and assisted living facilities) from all 50 states and U.S. territories report data on influenza infections among residents through the National Healthcare Safety Network (NHSN) Long-term Care Facility Component (https://www.cdc.gov/nhsn/ltc/index.html). During week 1, 191 (1.3%) of 14,208 reporting LTCFs reported at least one influenza positive test among their residents.

(/flu/weekly/weeklyarchives2021-2022/LTCF01.html)View Chart Data ⬛ (/flu/weekly/weeklyarchives2021-2022/data/LTCFData01.csv) | View Full Screen (/flu/weekly/weeklyarchives2021-2022/LTCF01.html)

Additional information about long-term care facility surveillance:
Surveillance Methods (https://www.cdc.gov/flu/weekly/overview.htm#anchor_1633698386507) | Additional Data ⬈ (https://data.cms.gov/covid-19/covid-19-nursing-home-data)

Hospitalization Surveillance (http://www.cdc.gov/flu/weekly/overview.htm#anchor_1634240269291)

FluSurv-NET

The Influenza Hospitalization Surveillance Network (FluSurv-NET) conducts population-based surveillance for laboratory-confirmed influenza-related hospitalizations in select counties in 14 states and represents approximately 9% of the U.S. population. FluSurv-NET hospitalization data are preliminary. Case counts and rates for recent hospital admissions are subject to reporting delays; these delays are likely to be more pronounced around holidays. As hospitalization data are received each week, prior case counts and rates are updated accordingly. As such, end-of-season rates for any given week may vary substantially from in-season reported rates.

A total of 1,005 laboratory-confirmed influenza-associated hospitalizations were reported by FluSurv-NET sites between October 1, 2021, and January 8, 2022. The overall hospitalization rate was 3.4 per 100,000 population. This cumulative hospitalization rate is higher than the cumulative in-season hospitalization rate observed for week 1 during the 2020-2021 season (0.4 per 100,000), but lower than the in-season rates observed for week 1 during the 4 seasons preceding the COVID-19 pandemic (these ranged from 7.1 to 22.7 per 100,000 during the 2016-2017 through 2019-2020 seasons). The highest hospitalization rate was among adults aged ≥65 (9.6 per 100,000 population), followed by children aged 0-4 (4.8 per 100,000 population) and adults aged 50-64 (2.9 per 100,000 population). Among 1,005 hospitalizations, 947 (94.2%) were associated with influenza A virus, 50 (5.0%) with influenza B virus, 2 (0.2%) with influenza A virus and influenza B virus co-infection, and 6 (0.6%) with influenza virus for which the type was not determined. Among 227 hospitalizations with influenza A subtype information, 224 (98.7%) were A(H3N2) and 3 (1.3%) were A(H1N1)pdm09.

(https://gis.cdc.gov/grasp/fluview/FluHospRates.html)
View Full Screen (/flu/weekly/weeklyarchives2021-2022/EIPRates01.html)

Additional FluSurv-NET hospitalization surveillance information for current and past seasons and additional age groups:
Surveillance Methods (https://www.cdc.gov/flu/weekly/overview.htm#anchor_1633698456778) | FluView Interactive (http://gis.cdc.gov/GRASP/Fluview/FluHospRates.html)

HHS–Protect Hospitalization Surveillance

Hospitals report to HHS-Protect the number of patients admitted with laboratory-confirmed influenza. During week 1, 1,804 patients with laboratory-confirmed influenza were admitted to the hospital.

Additional HHS Protect hospitalization surveillance information:

Surveillance Methods (https://www.cdc.gov/flu/weekly/overview.htm#anchor_1633698474047) | Additional Data [↗] (https://healthdata.gov/Hospital/COVID-19-Reported-Patient-Impact-and-Hospital-Capa/anag-cw7u)

Mortality Surveillance (https://www.cdc.gov/flu/weekly/overview.htm#anchor_1634311686144)

National Center for Health Statistics (NCHS) Mortality Surveillance

Based on NCHS mortality surveillance data available on January 13, 2022, 23.1% of the deaths that occurred during the week ending January 8, 2022 (week 1), were due to pneumonia, influenza, and/or COVID-19 (PIC). This percentage is above the epidemic threshold of 7.0% for this week. Among the 4,417 PIC deaths reported for this week, 3,567 had COVID-19 listed as an underlying or contributing cause of death on the death certificate, and 42 listed influenza, indicating that current PIC mortality is due primarily to COVID-19 and not influenza. The data presented are preliminary and may change as more data are received and processed.

Additional pneumonia, influenza and COVID-19 mortality surveillance information for current and past seasons:
Surveillance Methods (https://www.cdc.gov/flu/weekly/overview.htm#anchor_1633698570680) | FluView Interactive (https://gis.cdc.gov/grasp/fluview/mortality.html)

Influenza-Associated Pediatric Mortality

One influenza-associated pediatric death occurring during the 2021-2022 season was reported to CDC during week 1. This death was associated with an influenza A virus for which no subtyping was performed and occurred during week 51 (the week ending December 25, 2021).

A total of three influenza-associated pediatric deaths occurring during the 2021-2022 season have been reported to CDC.

(http://gis.cdc.gov/GRASP/Fluview/PedFluDeath.html)

View Full Screen (/flu/weekly/weeklyarchives2021-2022/PedFlu01.html)

Additional pediatric mortality surveillance information for current and past seasons:
Surveillance Methods (https://www.cdc.gov/flu/weekly/overview.htm#anchor_1633698596803) | FluView Interactive
(https://gis.cdc.gov/GRASP/Fluview/PedFluDeath.html)

Additional National and International Influenza Surveillance Information

FluView Interactive: FluView includes enhanced web-based interactive applications that can provide dynamic visuals of the influenza data collected and analyzed by CDC. These FluView Interactive applications (http://www.cdc.gov/flu/weekly/fluviewinteractive.htm) allow people to create customized, visual interpretations of influenza data, as well as make comparisons across flu seasons, regions, age groups and a variety of other demographics.

National Institute for Occupational Safety and Health: Monthly surveillance data on the prevalence of health-related workplace absenteeism among full-time workers in the United States are available from NIOSH (https://www.cdc.gov/niosh/topics/absences/default.html).

U.S. State and local influenza surveillance: Select a jurisdiction below to access the latest local influenza information.

Alabama (http://adph.org/influenza/)   Alaska (http://dhss.alaska.gov/dph/Epi/id/Pages/influenza/flui

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Colorado (https://www.colorado.gov/pacific/cdphe/influenza)   Connecticut (https://portal.ct.gov/DPH/Epidemiology-and-Em

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Georgia (https://dph.georgia.gov/epidemiology/influenza/flu-activity-georgia) | Hawaii (http://health.hawaii.gov/docd/resources/reports/influ

Iowa (http://idph.iowa.gov/influenza/surveillance) | Kansas (http://www.kdheks.gov/flu/surveillance.htm)

Maryland (https://phpa.health.maryland.gov/influenza/fluwatch/) | Massachusetts (https://www.mass.gov/influenza)

Missouri (http://health.mo.gov/living/healthcondiseases/communicable/influenza/reports.php) | Montana (https://dphhs.mt.gov/publichealth/cdepi/diseases/

New Jersey (http://www.nj.gov/health/cd/topics/flu.shtml) | New Mexico (https://nmhealth.org/about/erd/ideb/isp/)

Ohio (http://www.flu.ohio.gov) | Oklahoma (https://www.ok.gov/health/Prevention_and_Preparedness/Acu

South Carolina (http://www.scdhec.gov/Health/DiseasesandConditions/InfectiousDiseases/Flu/FluData/) | South Dakota (https://doh.sd.gov/diseases/infectious/flu/su

Vermont (http://www.healthvermont.gov/immunizations-infectious-disease/influenza/flu-activity-and-surveillance) | Virginia (http://www.vdh.virginia.gov/epidemiology/influenza-

Wyoming (https://health.wyo.gov/publichealth/infectious-disease-epidemiology-unit/disease/influenza/) | New York City (http://www1.nyc.gov/site/doh/providers/hea

World Health Organization:
Additional influenza surveillance information from participating WHO member nations is available through FluNet ↗ (https://www.who.int/tools/flunet) and the Global Epidemiology Reports. ↗ (https://www.who.int/teams/global-influenza-programme/surveillance-and-monitoring/influenza-surveillance-outputs)

WHO Collaborating Centers for Influenza:
Australia ↗ (http://www.influenzacentre.org/Surveillance_Samples_Received.html), China ↗ (http://www.chinaivdc.cn/cnic/), Japan ↗ (http://idsc.nih.go.jp/index.html), the United Kingdom ↗ (https://www.crick.ac.uk/research/worldwide-influenza-centre), and the United States (http://www.cdc.gov/flu/) (CDC in Atlanta, Georgia)

Europe:
The most up-to-date influenza information from Europe is available from WHO/Europe and the European Centre for Disease Prevention and Control ↗ (http://www.flunewseurope.org/).

Public Health Agency of Canada:
The most up-to-date influenza information from Canada is available in Canada's weekly FluWatch report ↗ (http://www.phac-aspc.gc.ca/fluwatch/).

Public Health England:
The most up-to-date influenza information from the United Kingdom is available from Public Health England ↗ (http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/).

Any links provided to non-Federal organizations are provided solely as a service to our users. These links do not constitute an endorsement of these organizations or their programs by CDC or the Federal Government, and none should be inferred. CDC is not responsible for the content of the individual organization web pages found at these links.

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