Weekly U.S. Influenza Surveillance Report

FLUVIEW
Weekly Influenza Surveillance Report prepared by the Influenza Division
WHO Collaborating Centre for Influenza Reference and Epidemiology, Atlanta, Georgia

This report contains data collected during influenza season week 40, 2019, ending October 5, 2019. The number of outpatient and their reasons for seeking care in the outpatient and ED settings is changing. These changes are expected as schools and universities across the United States transition from changes in these factors related to their decision to close or shift to virtual learning.

Highlights for Week 14, ending April 4, 2020

Laboratory confirmed influenza are reported by clinical laboratories continues to decrease but still high in new low. Influenza like illness activity, which has been low for 7 weeks, is still elevated. Influenza severity indicators remain moderate to low overall. Most jurisdictions reported widespread activity, with high rates among children and young adults.

Views

Clinical Labs

The percentage of respiratory specimens testing positive for influenza is elevated.

Public Health Labs

Nationally, influenza A(H1N1)pdm09 viruses are now the most commonly reported influenza virus. Most of the influenza A(H1N1)pdm09 viruses characterized to date are like the vaccine strain.

Outpatient Illness & Hospitalizations

The number of outpatients reporting influenza-like illness (ILI) is below the baseline. Overall hospitalization rates are lower than expected for this time of year.

Geographic Spread

The number of jurisdictions reporting widespread activity increased from 41 last week to 51 this week.

Illnesses

Outpatient Illness: ILINet

Visits to health care providers for influenza-like illness (ILI) decreased from 1.3% last week to 0.9% this week. All regions are above their baseline.

Outpatient Illness: ILINet Activity Map

The number of jurisdictions experiencing moderate or high levels of influenza-like illness (ILI) activity decreased from 31 last week to 25 this week.

Severe Disease

Hospitalizations

The overall cumulative hospitalization rate for the entire season is lower than expected at this time of year (90.0/100).

P&I Mortality

The percentage of deaths attributed to pneumonia and influenza (P&I) is below the epidemic threshold of 7.1%.

Pediatric Deaths

No pediatric deaths associated with influenza were reported to FluSurv-NET this week. The total for the season is 200.

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

A description of the CDC influenza surveillance system, including methodology and detailed definitions, is available at http://www.cdc.gov/flu/weekly/weeklyhp.htm.

Additional information on the current and previous influenza seasons for each surveillance component is available on FluView Interactive.

Key Points

- Nationally, the percent of laboratory specimens testing positive for influenza or clinical specimens testing positive for influenza is elevated.
- Influenza activity continues to decrease nationally but remains elevated.
- Recent changes in healthcare seeking behavior, including increasing use of telemedicine and decreasing in-person clinic visits, may impact the number of ILI cases seen in clinic, with increasing levels of social distancing, and affecting the number of people who are seeking healthcare or seeking care in outpatient and ED settings.
- Hospitalization rates and the percentage of deaths attributed to pneumonia and influenza are lower than expected based on past seasons. The cumulative hospitalization rate is 90.0 per 100,000 population. The 65 and older age group is the highest and has crossed higher than expected thresholds. The 18-49 and 50-64 age group are lower than expected.
- The number of deaths associated with pneumonia and influenza is above the epidemic threshold. Most of the pneumonia and influenza deaths are occurring in people aged 65 years or older. The percentage of deaths attributed to pneumonia and influenza (P&I) is below the epidemic threshold. The percentage of deaths attributed to COVID-19 is elevated.
- 105 influenza-associated deaths in children have been reported for this season. This season's pediatric deaths have been reported to occur more frequently than the 2017-2018 season during which 185 pediatric deaths were reported.
- CDC estimates that so far this season there have been at least 38 million illnesses, 360,000 hospitalizations and 24,000 deaths from flu.
- Influenza-like illness (ILI) activity increased slightly in 16 states in the control of influenza. Among all 50 states, 25 of the influenza activ ities reported ILI activity as being at or above their baseline. Nationwide, ILI activity increased. Nationwide hospitalizations increased. Nationwide, influenza-associated pediatric deaths occurred. Nationwide, 51 out of 64 reporting jurisdictions reported widespread geographic activity. Nationwide, 25 out of 64 reporting jurisdictions reported local activity. Nationwide, 0 out of 64 reporting jurisdictions reported sporadic activity. Nationwide, 0 out of 64 reporting jurisdictions reported no activity. Nationwide, 0 out of 64 reporting jurisdictions reported activity due to influenza outbreaks.

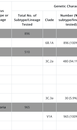
U.S. Virologic Surveillance

Clinical Laboratories

The results of tests performed by clinical laboratories nationwide are summarized below. Data from public health laboratories are summarized in the following section. Ratios and percentages are based on positive specimens. Rates are based on 100,000 population.

	Week 14	Data Cumulative since September 29, 2019 (week 40)
No. of specimens tested:	22,534	1,309,974
No. of positive specimens (%):	1811 (8.0%)	207,190 (15.8%)
Positive specimens by type:		
Influenza A	1,705 (94.2%)	152,461 (73.6%)
Influenza B	75 (41.7%)	115,326 (66.1%)

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



View Chart Data | View Full Screen

Public Health Laboratories

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

	Week 14	Data Cumulative since September 29, 2019 (week 40)
No. of specimens tested:	356	81,392
No. of positive specimens:	35	42,455
Positive specimens by type/subtype:		
Influenza A	31 (88.6%)	24,822 (57.7%)
pH1N1(pandemic)	28 (90.3%)	23,763 (95.5%)
H3N2	3 (9.4%)	1,790 (7.4%)
Subtyping not performed	2	719
Influenza B	4 (11.4%)	18,634 (42.3%)
Yamagata lineage	0 (0.0%)	238 (1.3%)
Victoria lineage	0 (0.0%)	14,196 (98.4%)
Lineage not performed	4	2,198

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

View Chart Data | View Full Screen

Additional virologic surveillance information for current and past seasons:
Surveillance Methods | FluView Interactive: National, Regional, and State Data or Flu Data Sites

Influenza Virus Characterization

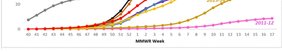
CDC performs virus characterization of H1N1 viruses submitted from state and local health laboratories using Flight Two Hemagglutination assays. These data are used to compare the ability of influenza viruses to bind to red blood cells with the ability of the vaccine strain developing new influenza vaccines and to monitor relationship changes that commonly occur in circulating influenza viruses. Antigenic characterization data are based on an animal model and may not always be predictive of vaccine effectiveness in humans. Antigenic characterization results are cumulative. Additional antigenic characterization studies may be performed using updated with current influenza vaccines are conducted later in the season. Antigenic characterization data are not used to determine the composition of the influenza vaccine. Antigenic characterization data are not used to make calculations about vaccine effectiveness in CDC FluVe. CDC FluVe uses field data to measure the effectiveness of flu vaccines in people. Report percentage of vaccine effectiveness against medical visits.

CDC **genetically characterized** 2,483 influenza viruses collected in the U.S. from September 29, 2019, to April 4, 2020.

Genetic Characterization

Virus Subtyping	Total No. of Subtypes Tested	Number (% of subtypes/lineage tested)	Vaccine Like	Number (% of subtypes/lineage tested)
A(H1)	29			
		18 (1.5)	918 (100%)	
A(H3)	1,452			
		30 (2.4)	1,422 (99.7%)	2,d
				2,d2
				2,d4
		30 (2.4)	30 (0.3%)	3a
A(Pandemic)	965			
		914 (94.7%)	914	3
				V1A.1
				V1A.3
B/Yamagata	10			
		10	10 (100%)	

CDC **antigenically characterized** a subset of influenza viruses by hemagglutination inhibition (HI) assay using ferret antisera. Viruses are considered "Reduced" if HI titers are 8-fold lower than homologous antigens (propagated in MDCK cell culture) and "Reduced Quadruplicate

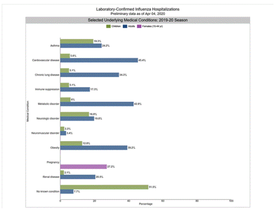


View Full Screen

The highest rate of hospitalization is among adults aged ≥ 65, followed by children aged 0-4 years and adults aged 50-64 years.

Age Group	2019-2020 Season Cumulative Rate per 100,000 Population
Overall	68.2
0-4 years	94.1
5-17 years	24.6
18-49 years	35.6
50-64 years	90.2
65+ years	179.7

Among 3,433 hospitalized adults with information on underlying medical conditions, 92.3% had at least one reported underlying medical condition, the most commonly reported were cardiovascular disease, metabolic disorder, obesity, and chronic lung disease. Among 569 hospitalized children with information on underlying medical conditions, 48.5% had at least one underlying medical condition; the most commonly reported was asthma. Among 600 hospitalized women of childbearing age (15-44 years) with information on pregnancy status, 27.2% were pregnant.

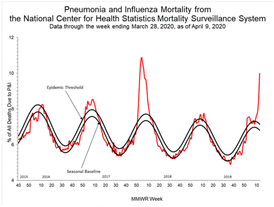


View Full Screen

Additional hospitalization surveillance information for current and past seasons and additional age groups:
Surveillance Methods | FluView Interactive: Rates by Age or Patient Characteristics

Pneumonia and Influenza (P&I) Mortality Surveillance

Based on National Center for Health Statistics (NCHS) mortality surveillance data available on March 26, 2020, 10.0% of the deaths occurring during the week ending March 28, 2020 (week 13) were due to P&I. This percentage is above the epidemic threshold of 7.1% for week 13.



View Chart Data | View Full Screen

While the percent of all deaths due to P&I has increased during weeks 9-13 (7.4-10.0%), the percent of all deaths with Influenza listed as a cause have decreased (from 1.0% to 0.7%) over this same time period. The increase in pneumonia deaths during this time period are likely associated with COVID-19 rather than influenza.

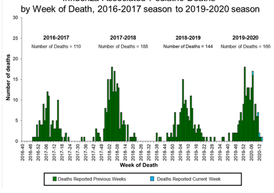
Additional pneumonia and influenza mortality surveillance information for current and past seasons:
Surveillance Methods | FluView Interactive

Influenza-Associated Pediatric Mortality

Four influenza-associated pediatric deaths occurring during the 2019-2020 season between weeks 7 and 14 (the weeks ending February 15, 2020 and April 4, 2020) were reported to CDC during week 14. Two were associated with influenza A viruses, and one was subtyped as an A(H1N1)pdm09 virus. Two were associated with influenza B viruses, and neither had a lineage determined.

Of the 166 influenza-associated pediatric deaths occurring during the 2019-2020 season and reported to CDC:

- 104 deaths were associated with influenza B viruses, and 25 had a lineage determined; all were B/Victoria viruses.
- 62 deaths were associated with influenza A viruses, and 36 were subtyped; 35 were A(H1N1)pdm09 viruses, and one was an A(H3) virus.



View Full Screen

Additional pediatric mortality surveillance information for current and past seasons:
Surveillance Methods | FluView Interactive

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 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. To access these tools, visit http://www.cdc.gov/flu/weekly/fluviewinteractive.htm

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 at 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	Alaska	Arizona	Arkansas	California
Colorado	Connecticut	Delaware	District of Columbia	Florida
Georgia	Hawaii	Idaho	Illinois	Indiana
Iowa	Kansas	Kentucky	Louisiana	Maine
Maryland	Massachusetts	Michigan	Minnesota	Mississippi
Missouri	Montana	Nebraska	Nevada	New Hampshire
New Jersey	New Mexico	New York	North Carolina	North Dakota
Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island
South Carolina	South Dakota	Tennessee	Texas	Utah
Vermont	Virginia	Washington	West Virginia	Wisconsin
Wyoming	New York City	Puerto Rico	Virgin Islands	

World Health Organization: Additional influenza surveillance information from participating WHO member nations is available through FluNet and the Global Epidemiology Reports.

WHO Collaborating Centers for Influenza located in Australia, China, Japan, the United Kingdom, and the United States (CDC in Atlanta, Georgia).

Europe: For the most recent influenza surveillance information from Europe, please see WHO/Europe and the European Centre for Disease Prevention and Control at http://www.flunewseurope.org/.

Public Health Agency of Canada: The most up-to-date influenza information from Canada is available at http://www.phac-aspc.gc.ca/fluwatch/

Public Health England: The most up-to-date influenza information from the United Kingdom is available at https://www.gov.uk/government/statistics/weekly-national-flu-reports

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.

An overview of the CDC influenza surveillance system, including methodology and detailed descriptions of each data component, is available at: http://www.cdc.gov/flu/weekly/overview.htm.

Page last reviewed: April 10, 2020, 11:00 AM
Content source: Centers for Disease Control and Prevention, National Center for Immunization and Respiratory Diseases (NCIRD)