



**Summit County Public Health
Influenza Surveillance Report
2018 – 2019 Season**



Public Health
Prevent. Promote. Protect.

Report #17

Flu Surveillance Week 18 (2/3 to 2/9/2019)

Centers for Disease Control and Prevention MMWR Week 6

Summit County Surveillance Data:

During **Week 18**, influenza-related activity in Summit County is *increasing, but remains at low levels*.

Table 1: Overall Influenza Activity Indicators in Summit County by Week				
	Week 17 MMWR 5 N (%)¹	Week 18 MMWR 5 N (%)¹	Percent change from previous week	Number of weeks increasing or decreasing
Lab Reports				
Test Performed	814	892	+ 9.6%	↑1
Positive Tests (Number and %)	130 (16.0)	186 (20.9)	+ 30.6%	↑4
Influenza A (Number and %)	129 (15.9)	182 (20.4)	+ 28.3%	↑4
Influenza B (Number and %)	1 (0.1)	4 (0.5)	+ 400%	↑1
Influenza hospitalizations:	31	26	- 16.1%	↓1
Influenza ILI Community Report:				
Long-term Care Facilities	0	0	--	--
Correctional & Addiction Facilities	0	0	--	--
Physician Offices & Clinics	8	8	NC	NC
Pharmacy Prescriptions				
Amantidine	2	5	+ 150%	↑2
Rimantidine Flumadine	0	0	--	--
Relenza	0	0	--	--
Oseltamivir Tamiflu	24	29	+ 20.8%	↑1
<i>Total antiviral prescriptions</i>	26	34	+ 30.8%	↑1
Schools absenteeism daily rate²	7.7	4.9	- 36.4%	↓2
Deaths				
Pneumonia associated	6 (5.3)	7 (6.5)	+ 24.3%	↑1
Influenza associated	0	1	+ 100%	↑1
Emergency room visits (EpiCenter)³				
Constitutional Complaints	461 (8.4)	567 (9.7)	+ 15.5%	↑1
Fever and ILI	64 (1.2)	80 (1.4)	+ 14.3%	↑1
1) N and % are reported when available; NC = no change 2) Absence is for any reason. Percent is from total number of students enrolled. Data was collected from 8 schools or school districts throughout Summit County (n = ~37,000 students) 3) Percent is from total number of emergency room interactions Note: Data is provisional and may be updated as more information is received. Percentages should be interpreted with caution. Small changes in number can result in large changes in percent. When a percentage, or prevalence, is available in this table, the percent change will be calculated from those values				

One death related to influenza were reported during Week 18, the season total is now 3. There were 7 deaths associated with pneumonia reported in Week 18. **Figure 1** displays weekly Summit County death counts associated with pneumonia and flu.

Acute Care Hospitalizations: There were 26 flu-related hospitalizations reported during Week 18. (**Figure 2**)

COMMUNITY ILI REPORTS: Influenza like illness (ILI) as defined by the CDC is fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

Long Term Care Facilities: There were 0 cases of ILI reported.

Correctional and Inpatient Addiction facilities: There were 0 cases of ILI reported.

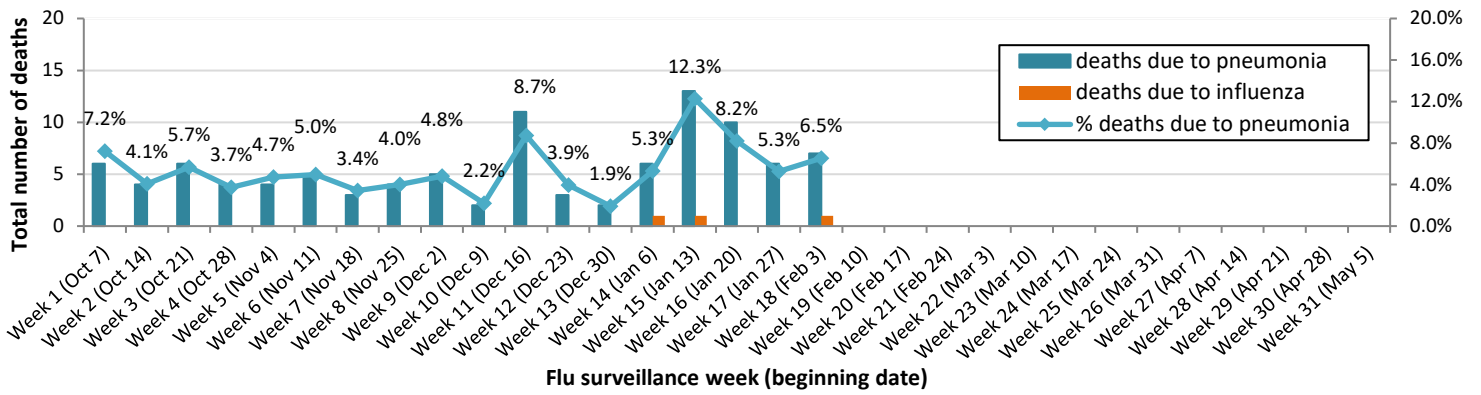
Physician offices and clinics: During Week 18, there were 8 cases of ILI reported.

Pharmacies: 34 prescriptions for antiviral medications were reported during Week 18.

School absenteeism includes absences regardless of reason. During Week 18, area schools reported an average daily absence rate of 4.9%. This was a 36% decrease over the rate reported during Week 17.

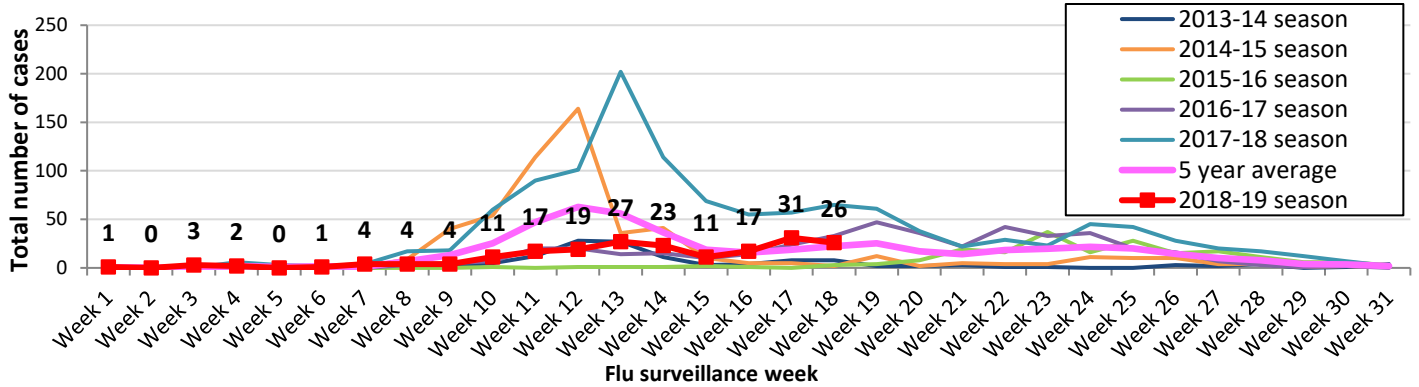
Lab reports: During Week 18, Summit County labs performed 892 influenza tests, of which 186 tested positive (182 Type A, 4 Type B). (**Figure 4**) The percentage of positive test results increased by 31% over Week 17.

Figure 1. Weekly Summit County death counts associated with pneumonia and influenza during 2018-2019 season



Influenza-associated hospitalizations: Summit County hospitals reported 26 influenza-associated hospitalizations in Week 18. **Figure 2** displays weekly confirmed hospitalization counts for Summit County (season count to date = 201).

Figure 2. Summit County influenza-associated hospitalizations by week, 2018-2019 and previous five seasons



EpiCenter collects and analyzes health related data in real time to provide information about the health of the community. This system tracks ER visits related to constitutional complaints and fever and ILI. **Figure 3** displays the weekly number of ER visits related to ILI and flu symptoms in Summit County. There were 80 ILI-related visits reported during Week 18, which was 1.4% of total ED visits (n = 5,861). This was a 14.3% increase from the Week 17 rate.

Figure 3. Weekly ER visits in Summit County related to Fever + ILI stratified by age groups, 2018 to 2019 season

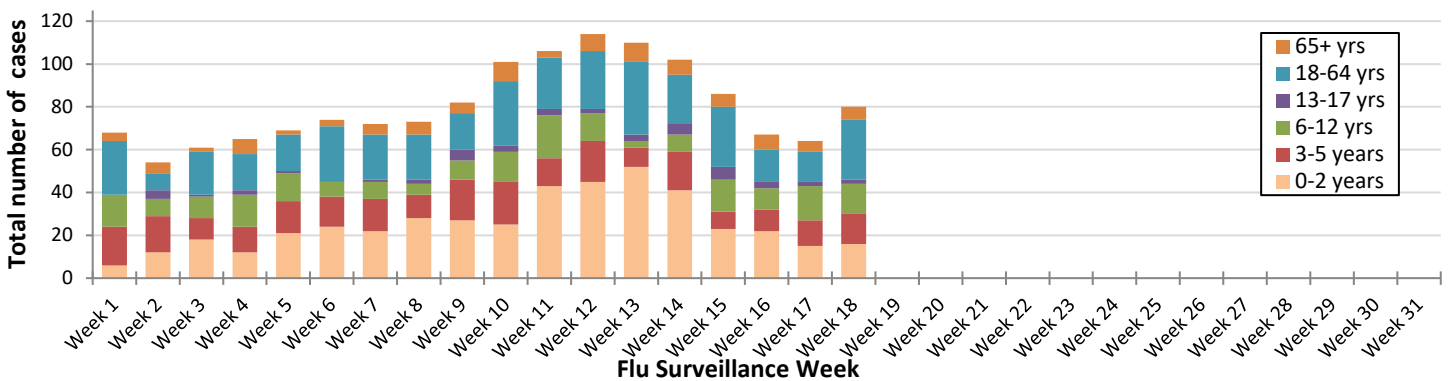
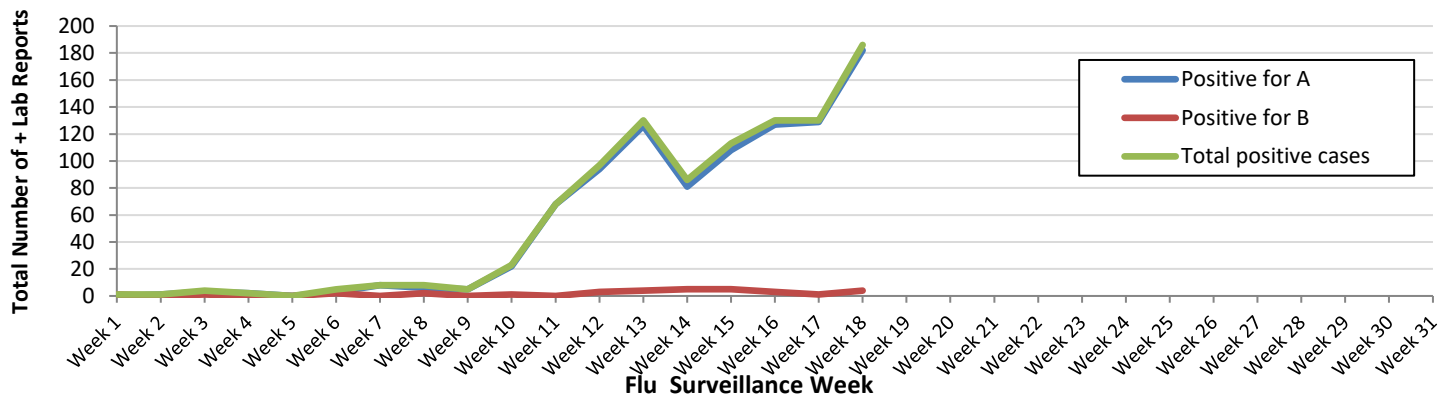


Figure 4. Influenza diagnostic tests with positive results completed by Summit County health facilities, 2018 - 2019 season



Ohio Influenza Activity:

Current Ohio Activity Level (Geographic Spread) – Widespread Definition: Increased ILI in at least half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the state.

During MMWR Week 6, public health surveillance data sources indicate minimal intensity for influenza-like illness (ILI) in outpatient settings reported by Ohio’s sentinel providers. The percentage of emergency department visits with patients exhibiting constitutional symptoms and fever and ILI specified ED visits are below baseline levels. Reported cases of influenza-associated hospitalizations are above the seasonal threshold*. There were 489 influenza-associated hospitalizations reported during MMWR Week 6.

Ohio Influenza Activity Summary Dashboard (February 3 – February 9, 2019):

Data Source	Current week value	Percent Change from last week ¹	# of weeks ²	Trend Chart ³
Influenza-like Illness (ILI) Outpatient Data (ILINet Sentinel Provider Visits)	1.15%	-23.33%	↓ 1	
Thermometer Sales (National Retail Data Monitor)	1327	13.13%	↑ 1	
Fever and ILI Specified ED Visits (EpiCenter)	2.31%	0.00%	—	
Constitutional ED Visits (EpiCenter)	10.56%	2.52%	↑ 1	
Confirmed Influenza-associated Hospitalizations (Ohio Disease Reporting System)	332	21.61%	↑ 1	
Outpatient Medical Claims Data ⁴	1.99%	48.51%	↑ 3	

¹Interpret percent changes with caution. Large variability may be exhibited in data sources with low weekly values.

²Number of weeks that the % change is increasing or decreasing.

³Black lines represent current week’s data; red lines represent baseline averages

⁴Medical Claims Data provided by athenahealth®

Source: <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/seasonal-influenza/ohio-flu-activity/>

Ohio Surveillance Data:

- **ODH lab** has reported 477 **positive** influenza tests from specimens sent from various submitters. 2018-2019 influenza season positive results: **(266) A/pdmH1N1; (122) A/H3N2; (1) Influenza B;** (through 02/09/2019).
- The **National Respiratory and Enteric Virus Surveillance System (NREVSS)** has reported **41,258** influenza tests performed at participating facilities. 2018-2019 influenza season positive results: **(135) A/pdmH1N1, (60) A/H3N2, (3936) Flu A Not Subtyped, and (69) Flu B** (through 02/09/2019).
- **0 pediatric influenza-associated mortalities** have been reported during the 2018-2019 season (through 02/09/2019).
- No **novel influenza A virus infections** have been reported during the 2018-2019 season (through 02/09/2019).
- Incidence of confirmed **influenza-associated hospitalizations** in 2018-2019 season = **2647** (through 02/09/2019).

National Influenza Activity:

Influenza activity continues to increase in the United States. Influenza A(H1N1)pdm09, influenza A(H3N2), and influenza B viruses continue to co-circulate. Below is a summary of the key influenza indicators for the week ending Feb 9, 2019:

- **Viral Surveillance:** The percentage of respiratory specimens testing positive for influenza viruses in clinical laboratories increased. Influenza A(H1N1)pdm09 viruses have predominated in most areas of the country, however influenza A(H3) viruses have predominated in the southeastern United States (HHS Region 4). In the most recent three weeks, influenza A(H1N1)pdm09 and influenza A(H3) viruses were reported in approximately equal numbers in HHS Regions 6 and 7.
 - **Virus Characterization:** The majority of influenza viruses characterized antigenically are similar to the cell-grown reference viruses representing the 2018–2019 Northern Hemisphere influenza vaccine viruses.
 - **Antiviral Resistance:** The vast majority of influenza viruses tested (>99%) show susceptibility to oseltamivir and peramivir. All influenza viruses tested showed susceptibility to zanamivir.
- **Influenza-like Illness Surveillance (Figure 5):** The proportion of outpatient visits for influenza-like illness (ILI) increased to 4.8%, which is above the national baseline of 2.2%. All 10 regions reported ILI at or above their region-specific baseline level.
 - **ILI State Activity Indicator Map (Figure 6):** New York City and 26 states experienced high ILI activity; the District of Columbia, Puerto Rico and eight states experienced moderate ILI activity; 11 states experienced low ILI activity; and the U.S. Virgin Islands and five states experienced minimal ILI activity.
- **Geographic Spread of Influenza (Figure 7):** The geographic spread of influenza in Puerto Rico and 48 states was reported as widespread; one state reported regional activity; the District of Columbia and one state reported local activity; the U.S. Virgin Islands reported sporadic activity; and Guam did not report.
- **Influenza-associated Hospitalizations:** A cumulative rate of 23.8 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported. The highest hospitalization rate is among adults 65 years and older (64.1 hospitalizations per 100,000 population).
- **Pneumonia and Influenza Mortality:** The proportion of deaths attributed to pneumonia and influenza (P&I) was below the system-specific epidemic threshold in the National Center for Health Statistics (NCHS) Mortality Surveillance System.
- **Influenza-associated Pediatric Deaths:** Six influenza-associated pediatric deaths were reported to CDC during Week 6.

Figure 5. Percentage of visits for influenza-like illness (ILI) reported by the U.S. Outpatient Influenza-like Surveillance Network (ILINet), weekly national summary, 2018-2019 and selected previous seasons

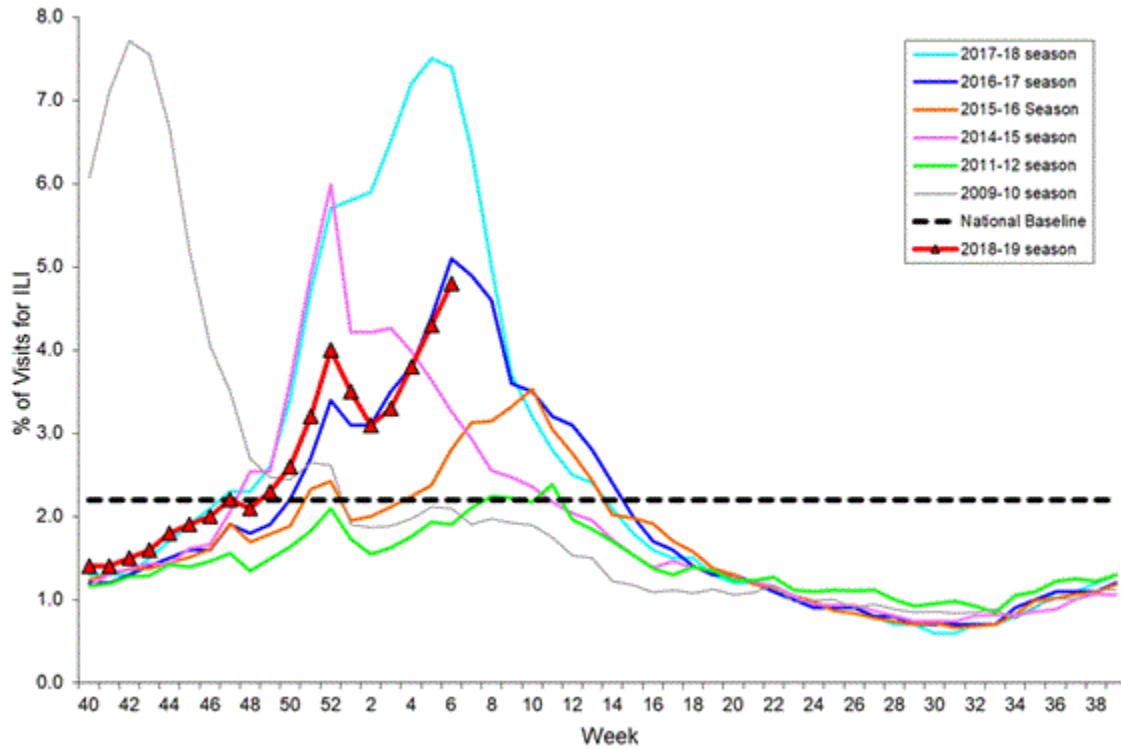


Figure 6. Influenza-like illness (ILI) activity level indicator determined by data reported to ILINet

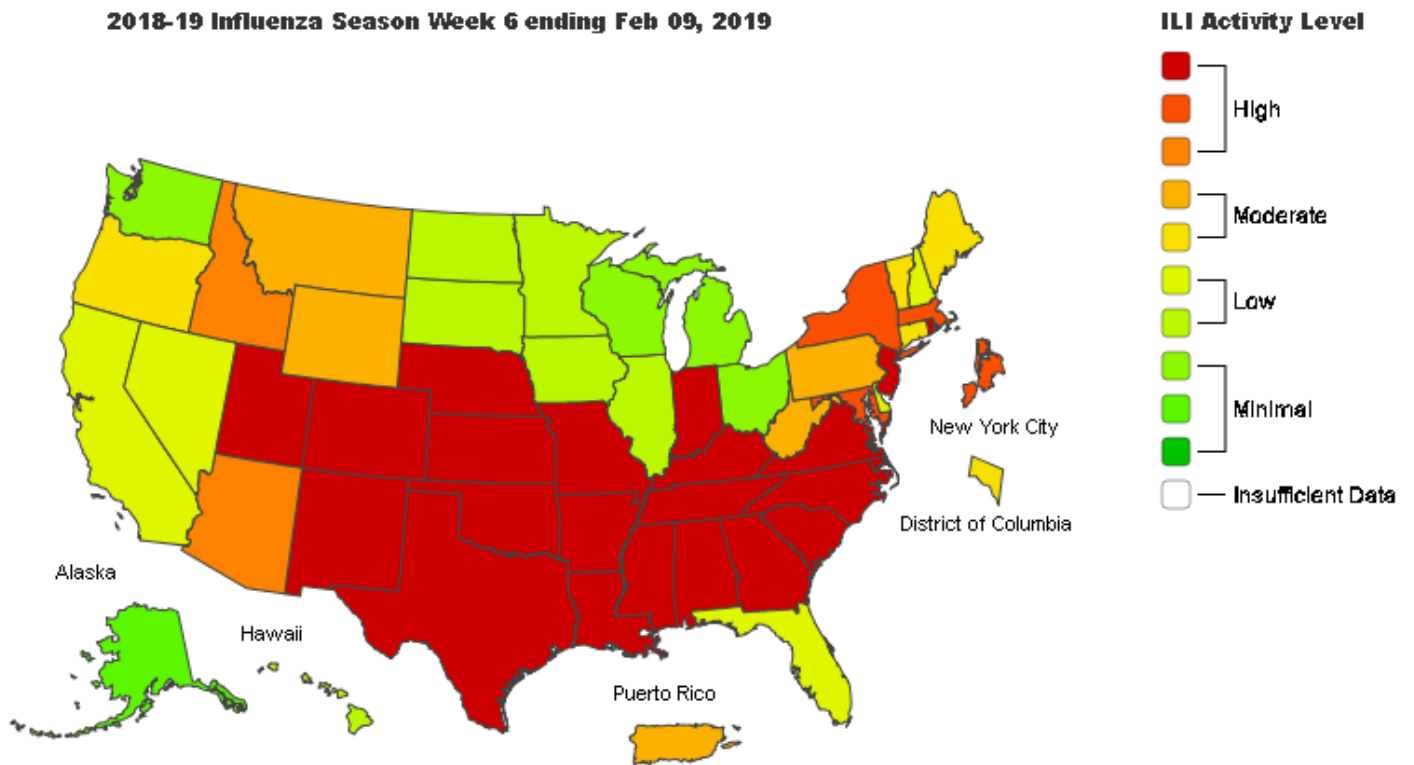
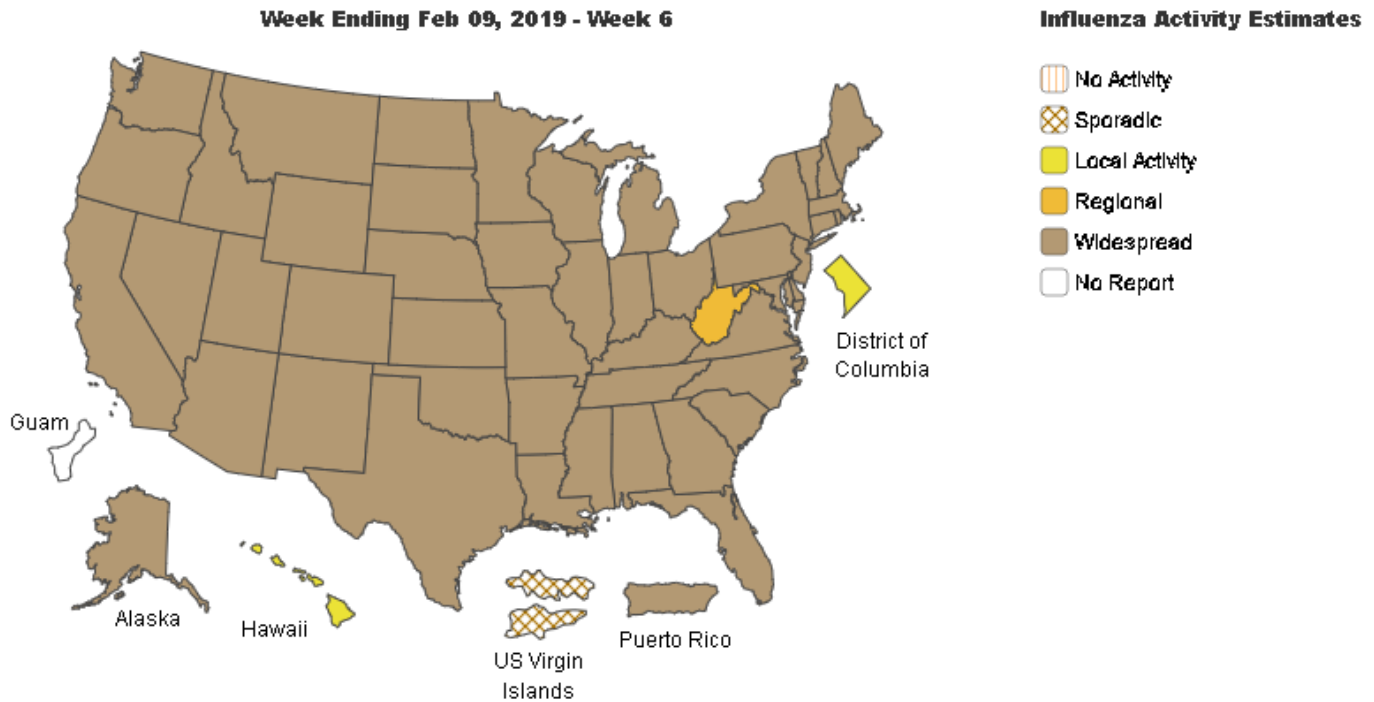


Figure 7. Weekly influenza activity (geographic spread) estimates reported by state and territorial epidemiologists



Source: <https://www.cdc.gov/flu/weekly/>

Global Surveillance:

Influenza Update N° 334, World Health Organization (WHO), published 4 February 2019, based on data up to 20 January 2019. The Update is published every two weeks.

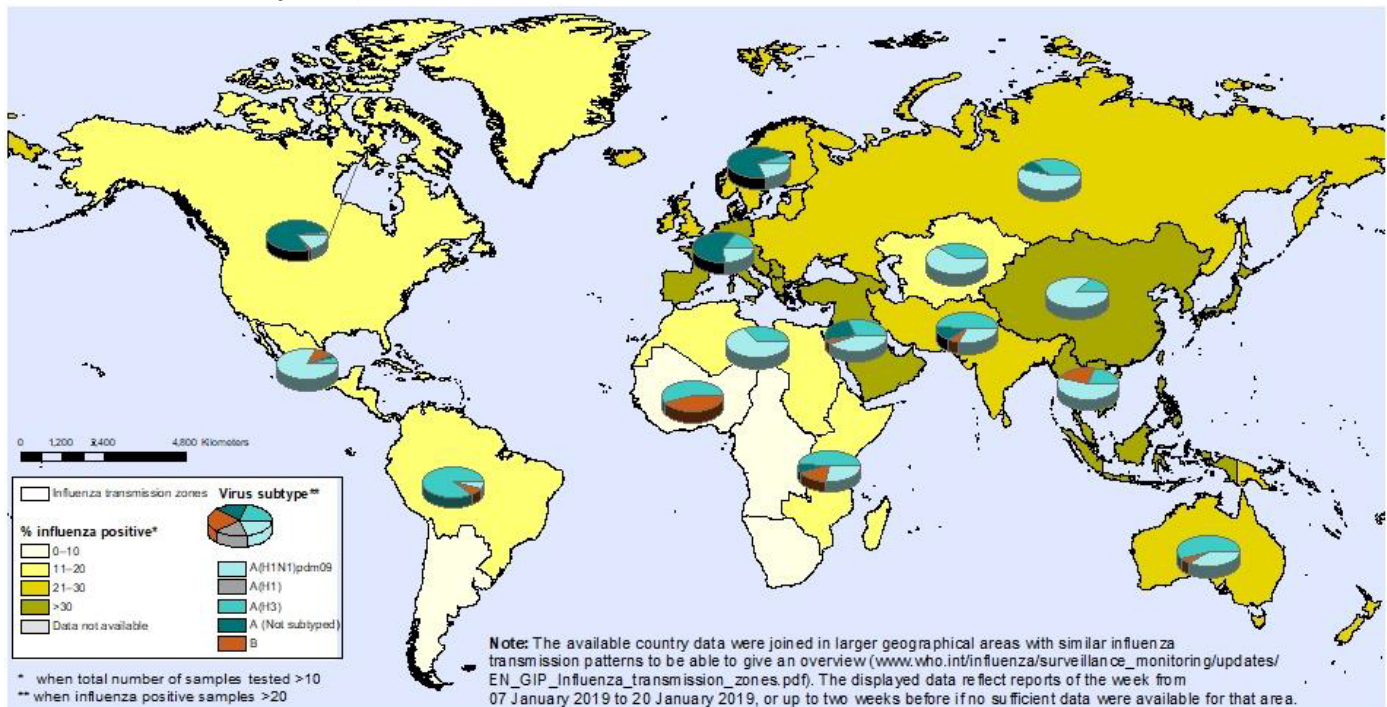
Summary

In the temperate zone of the northern hemisphere influenza activity continued to increase.

- In North America, influenza activity appeared to decrease slightly with influenza A(H1N1)pdm09 predominating.
- In Europe, influenza activity continued to increase, with both A viruses circulating.
- In North Africa, influenza A(H1N1)pdm09 detections sharply increased in Morocco.
- In Western Asia, influenza activity continued to increase in some countries and appeared to decrease across countries of the Arabian Peninsula.
- In East Asia, influenza activity continued to increase, with influenza A(H1N1)pdm09 virus predominating.
- In Southern Asia, influenza detections remained elevated overall. Influenza activity continued to increase in Iran (Islamic Republic of) with influenza A(H3N2) the predominant circulating virus.
- In the temperate zones of the southern hemisphere, influenza activity remained at inter-seasonal levels.
- Worldwide, seasonal influenza A viruses accounted for the majority of detections.

National Influenza Centres (NICs) and other national influenza laboratories from 110 countries, areas or territories reported data to FluNet for the time period from 07 January 2019 to 20 January 2019 (data as of 2019-02-01 04:30:14 UTC). The WHO GISRS laboratories tested more than 232136 specimens during that time period. 59457 were positive for influenza viruses, of which 58436 (98.3%) were typed as influenza A and 1021 (1.7%) as influenza B. Of the sub-typed influenza A viruses, 24559 (77.7%) were influenza A(H1N1)pdm09 and 7058 (22.3%) were influenza A(H3N2). Of the characterized B viruses, 85 (34.6%) belonged to the B-Yamagata lineage and 161 (65.4%) to the B-Victoria lineage.

Figure 8. Percentage of respiratory specimens that tested positive for influenza, by influenza transmission zone (status as of 1 February 2019)



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source:
Global Influenza Surveillance and Response System (GISRS),
FluNet (www.who.int/flu-net)



Source: https://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/

Influenza News:

Early US flu vaccine analysis finds moderate protection

Author: [Lisa Schnirring](#) | News Editor | CIDRAP News
Feb 14, 2019

In its early estimate of this season's flu vaccine effectiveness (VE) in the United States, the Centers for Disease Control and Prevention (CDC) said VE was modest—at 47%—but the vaccine afforded better protection in children but less in adults age 50 and older. Midway through and at the end of each flu season the CDC and its collaborators at five study sites publish their flu vaccine protection estimates, based on findings from children and adults seen for acute respiratory infections at medical centers. The new update appears today in *Morbidity and Mortality Weekly Report (MMWR)*. The early look comes when flu activity is still increasing across the United States during a season dominated in all regions but the Southeast by 2009 H1N1, a more reliable foe for the vaccine compared with more complex challenges when H3N2 is the main strain. In a separate *MMWR* report today on the US flu season so far, CDC scientists said severity as yet has been low, in contrast to the 2017-18 season, which was severe, much of it attributed to H3N2.

Findings influenced by H1N1 dominance

The interim VE estimate includes data from 3,254 children and adults seen at the five US Influenza Vaccine Effective Network sites from Nov 23, 2018, to Feb 2. Overall effectiveness against influenza was 47% (95% confidence interval [CI], 34% to 57%). For children age 6 months to 17 years, VE was 61% (95% CI, 44% to 73%). For adults age 50 and older, VE against all strains was 24% (95% CI, -15% to 51%) and against 2009 H1N1 was 8% (95% CI, -59% to 46%). VE was not statistically significant for either figure in that age-group. Of subtyped influenza A samples, 74% were 2009 H1N1. The team estimated that flu VE against 2009 H1N1 was 46% (95% CI, 30% to 58%) across all ages.

Small sample size limits comparisons

The researchers said the interim estimate of 46% against 2009 H1N1 in all age-groups is similar to the 45% VE against H1N1 seen in the most recent season dominated by 2009 H1N1, which was 2015-16. They added, however, that protection was lower than a meta-analysis of VE against 2009 H1N1 in the years since the 2010-11 season, lower than Canada's recent interim estimate this season of 72% against the strain, and lower than the 78% VE Australia saw against the H1N1 strain during its 2018 flu season. "The reasons for these differences might include limited sample size caused by low attack rates in some age groups, geographic differences in circulating viruses, and genetic variation within virus subtypes," the group wrote. Though a limited number of H3N2 viruses were detected, the early analysis found a VE of 44% (95% CI, 13% to 64%) against the strain. The team included a few caveats about interpreting the early findings. For example, they said the sample sizes are smaller than recent interim estimates, resulting in wide confidence levels, especially in adults ages 50 and older for whom protection was not significant. They also note that the small sample size for the interim analysis, common in mild or late flu seasons, limited the number of age groups included in the analysis. For example, they weren't able to look at protection levels in people ages 65 and older.

Better vaccines needed

Michael Osterholm, PhD, MPH, director of the University of Minnesota's Center for Infectious Disease Research and Policy (CIDRAP), which publishes CIDRAP News, said he credits the CDC for doing the studies, important work that helps sort out flu vaccine challenges. So far, protection against H1N1 looks comparable to last year, he said. End-of-season estimates will, he hopes, shed more light on the vaccine's protection among older people, given the sparse data in the early report. But for now, Osterholm said the early glimpse confirms that the vaccine offers some protection in terms of decreased morbidity and mortality. Also, he said today's report underscores the need for better flu vaccines. "These vaccines are surely not what we want for the future," he added. In today's report, the CDC recommends that healthcare providers continue to administer influenza vaccine as long as flu is circulating and that the vaccine can still prevent illness, hospitalization, and death associated with currently flu strains and others that appear—such as influenza B—later in the season.

Season tracking with past 2009 H1N1 seasons

In the update on the US flu season to date, the CDC said its markers show that, as of Feb 2, flu severity has been low. Hospitalization rates and flu-related deaths have been relatively low, consistent with what the CDC has observed in past seasons that were dominated by 2009 H1N1. According to early estimates, 155,000 to 186,000 people have been hospitalized for flu so far, and 9,600 to 15,900 deaths have been linked to the virus. Lab tests to track how closely circulating strains match the vaccine strains show that most flu viruses are similar to the cell-culture grown-vaccine strains, but genetic diversity in 2009 H1N1 strains belonging to clade 6B.1 has increased, a sign of ongoing evolution. Tests are also finding an increasing proportion of circulating H3N2 viruses that are distinct from the vaccine component. The CDC's forecasts hint that elevated flu activity in parts of the United States will continue for several more weeks.

See also: Feb 15 *MMWR* report on [early flu VE](#)
Feb 15 *MMWR* report on [US flu season](#)

Source: <http://www.cidrap.umn.edu/news-perspective/2019/02/early-us-flu-vaccine-analysis-finds-moderate-protection>

About this report: Reporting agencies include labs, hospitals, long-term care and community-based care providers, physician offices, university clinic, pharmacies, and schools. Agencies are distributed throughout Summit County and report different indicators of flu activity including total lab tests, numbers of positive tests and type, antiviral prescriptions filled, school absences, and influenza like illness (ILI). Hospitalizations are lab confirmed for influenza and are obtained from the Ohio Disease Reporting System. Number of deaths associated with influenza and pneumonia are gathered from the Summit County Office of Vital Records death listings. Emergency room visits for complaints related to influenza are obtained by syndromic surveillance system (Epicenter).
Special thanks to all agencies who report Influenza related data weekly.

Reporting from participants may not be complete each week. Numbers may change as updated reports are received. For questions, please contact Joan Hall or Tracy Rodriguez at the Summit County Public Health Communicable Disease Unit (330-375-2662 or cdu@schd.org). This report was issued on February 15, 2019.