



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



Public Health
Prevent. Promote. Protect.

Report #25

Flu Surveillance Week 26 (3/31 to 4/6/2019)

Centers for Disease Control and Prevention MMWR Week 14

Summit County Surveillance Data:

During **Week 26**, influenza-related activity in Summit County *decreased, but remained low elevated levels.*

Table 1: Overall Influenza Activity Indicators in Summit County by Week				
	Week 25 MMWR 13 N (%)¹	Week 26 MMWR 14 N (%)¹	Percent change from previous week	Number of weeks increasing or decreasing
Lab Reports				
Test Performed	1,187	861	- 27.5%	↓4
Positive Tests (Number and %)	302 (25.4)	141 (16.4)	- 35.4%	↓4
Influenza A (Number and %)	300 (25.3)	138 (16.0)	- 36.8%	↓4
Influenza B (Number and %)	2 (0.2)	3 (0.4)	+ 100%	↑1
Influenza hospitalizations:	68	29	- 57.4%	↓1
Influenza ILI Community Report:				
Long-term Care Facilities	2	0	- 100%	↓1
Correctional & Addiction Facilities	0	0	--	--
Physician Offices & Clinics	6	16	+ 167%	↑1
Pharmacy Prescriptions				
Amantidine	1	0	- 100%	↓3
Rimantidine Flumadine	0	0	--	--
Relenza	0	0	--	--
Oseltamivir Tamiflu	35	26	- 25.7%	↓4
<i>Total antiviral prescriptions</i>	36	26	- 27.8%	↓4
Schools absenteeism daily rate²	8.2	5.6	- 31.7%	↓1
Deaths				
Pneumonia associated	10 (8.6)	10 (7.2)	- 16.5%	↓1
Influenza associated	2	3	+ 50.0%	↑2
Emergency room visits (EpiCenter)³				
Constitutional Complaints	667 (11.0)	520 (8.9)	- 19.1%	↓3
Fever and ILI	128 (2.1)	86 (1.5)	- 28.6%	↓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				

Three influenza-related deaths were reported during Week 26, increasing the season total to 12. There were 10 deaths associated with pneumonia reported in Week 26. **Figure 1** displays weekly Summit County death counts associated with pneumonia and flu.

Acute Care Hospitalizations: There were 29 flu-related hospitalizations, a 57.4% decrease from Week 25. (**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 no cases of ILI reported.

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

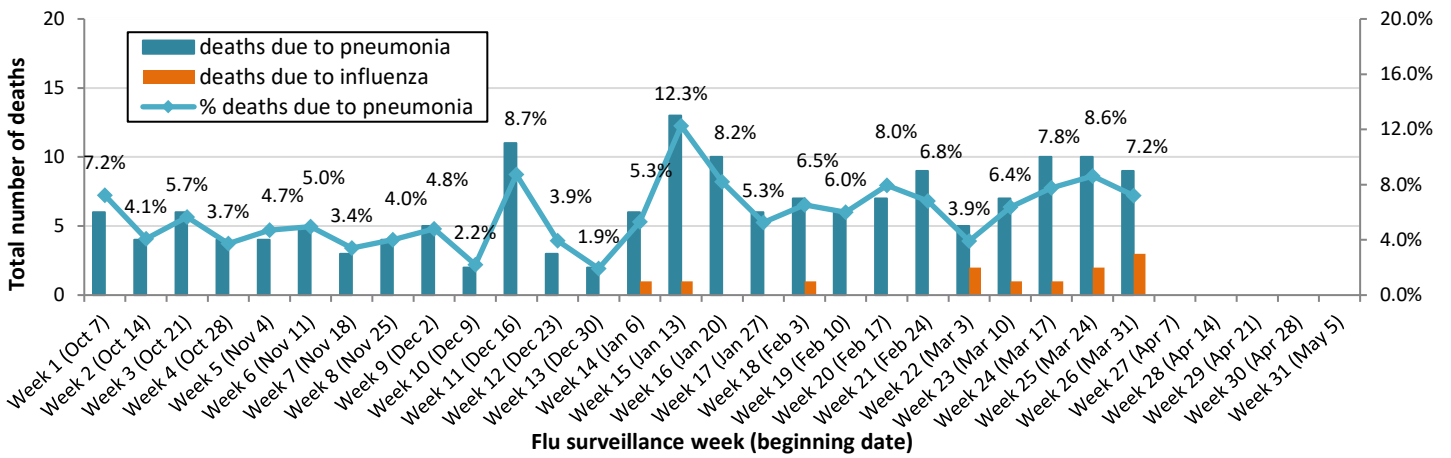
Physician offices and clinics: During Week 26, there were 16 cases of ILI reported.

Pharmacies: 26 Prescriptions for antiviral medications were reported during Week 26.

School absenteeism includes absences regardless of reason. During Week 26, area schools reported an average daily absence rate of 5.6%. This was a 31.7% decrease over the rate reported during Week 25.

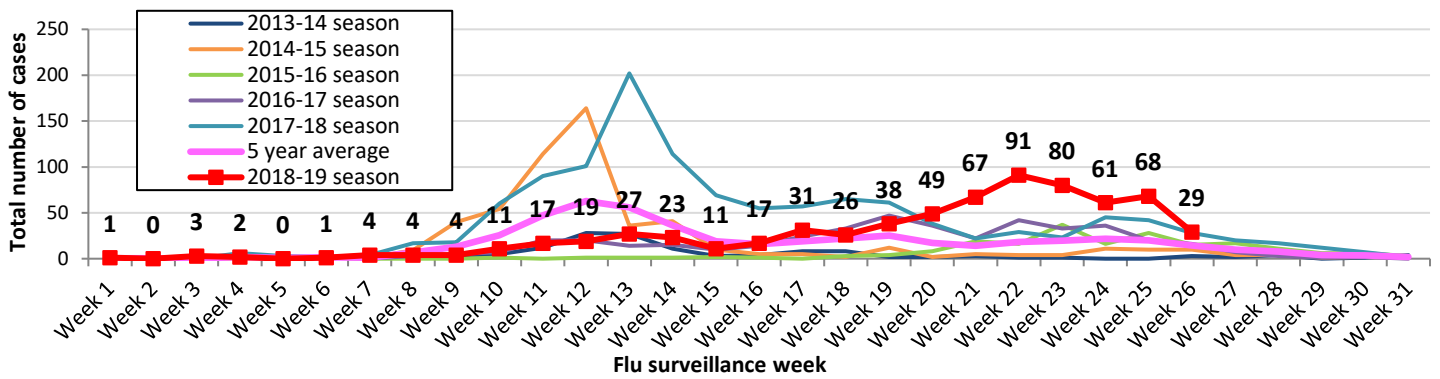
Lab reports: During Week 26, Summit County labs performed 861 influenza tests, of which 141 tested positive (138 Type A, 3 Type B). (**Figure 4**) The percentage of positive test results decreased by 35.4% since Week 25.

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



Influenza-associated hospitalizations: Summit County hospitals reported 29 influenza-associated hospitalizations in Week 26. **Figure 2** displays weekly confirmed hospitalization counts for Summit County (season count to date = 684).

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 86 ILI-related visits reported during Week 26, which was 1.5% of total ED visits (n = 5,862). This rate was 28.6% lower than the Week 25 rate.

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

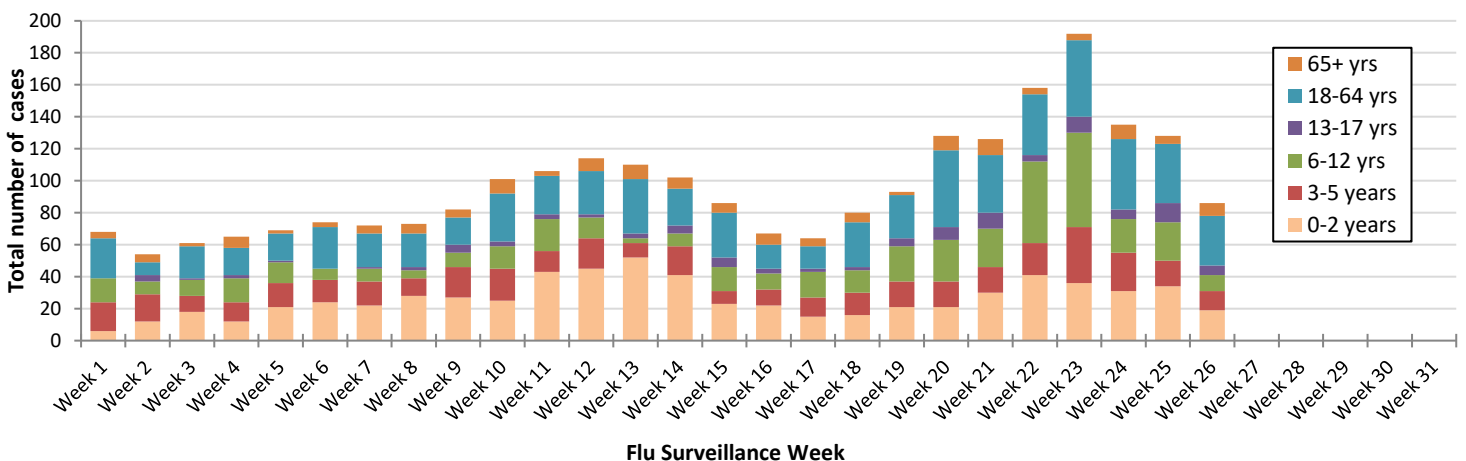
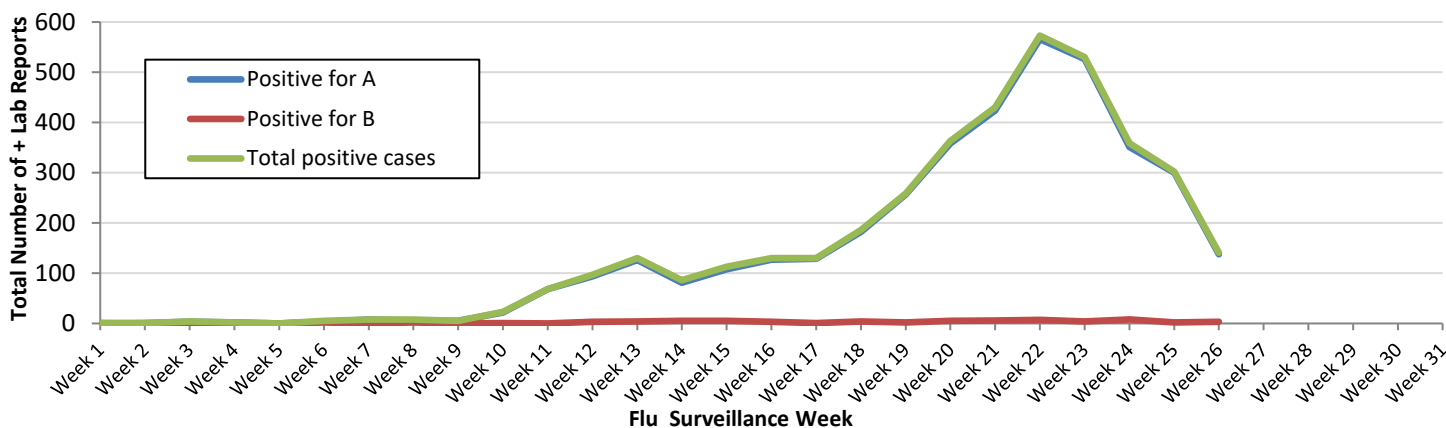


Figure 4. Influenza diagnostic tests with positive results completed by Summit County health facilities, 2018 - 2019 season



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 14, 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 **decreased** but are still above baseline levels. Reported cases of influenza-associated hospitalizations are **above** the seasonal threshold*. There were 579 influenza-associated hospitalizations reported during MMWR Week 14.

Ohio Influenza Activity Summary Dashboard (March 30 – April 6, 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)	1.49%	-36.60%	↓ 2	
Thermometer Sales (National Retail Data Monitor)	1263	-22.56%	↓ 4	
Fever and ILI Specified ED Visits (EpiCenter)	2.08%	-17.79%	↓ 4	
Constitutional ED Visits (EpiCenter)	10.30%	-13.66%	↓ 4	
Confirmed Influenza-associated Hospitalizations (Ohio Disease Reporting System)	579	-26.62%	↓ 2	
Outpatient Medical Claims Data ⁴	1.57%	-41.20%	↓ 4	

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®

Ohio Surveillance Data:

- **ODH lab** has reported 1411 **positive** influenza tests from specimens sent from various submitters. 2018-2019 influenza season positive results: **(647) A/pdmH1N1; (610) A/H3N2; (7) Influenza B;** (through 4/06/2019).
- The **National Respiratory and Enteric Virus Surveillance System (NREVSS)** has reported **61,299** influenza tests performed at participating facilities. 2018-2019 influenza season positive results: **(403) A/pdmH1N1, (508) A/H3N2, (9,408) Flu A Not Subtyped, and (158) Flu B** (through 4/06/2019).
- 4 **pediatric influenza-associated mortalities** have been reported during the 2018-2019 season (through 4/06/2019).
- No **novel influenza A virus infections** have been reported during the 2018-2019 season (through 4/06/2019).
- Incidence of confirmed **influenza-associated hospitalizations** in 2018-2019 season = 9090 (through 4/06/2019).

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

National Influenza Activity:

Influenza activity continues to decrease but remains elevated in the United States. Influenza A(H1N1)pdm09 viruses predominated from October to mid-February, and influenza A(H3N2) viruses have been more commonly identified since late February. Small numbers of influenza B viruses have also been reported. Below is a summary of the key influenza indicators for the week ending April 6, 2019:

- **Viral Surveillance:** The percentage of respiratory specimens testing positive for influenza viruses in clinical laboratories decreased. Nationally, during the most recent three weeks, influenza A(H3) viruses were reported more frequently than influenza A(H1N1)pdm09 viruses and in all 10 HHS Regions.
 - **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. However, an increasing proportion of influenza A(H3N2) viruses are antigenically distinguishable from A/Singapore/INFIMH-16-0019/2016 (3C.2a1), a cell-propagated reference virus representing the A(H3N2) component of 2018-19 Northern Hemisphere influenza vaccines.
 - **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) decreased to 2.8%, and remains above the national baseline of 2.2%. Nine of 10 regions reported ILI at or above their region-specific baseline level.
 - **ILI State Activity Indicator Map (Figure 6):** Four states experienced high ILI activity; eight states experienced moderate ILI activity; New York City and 21 states experienced low ILI activity; the District of Columbia, Puerto Rico and 17 states experienced minimal ILI activity; and the U.S. Virgin Islands had insufficient data.
- **Geographic Spread of Influenza (Figure 7):** The geographic spread of influenza in 20 states was reported as widespread; Puerto Rico and 25 states reported regional activity; the District of Columbia and five states reported local activity; the U.S. Virgin Islands reported sporadic activity; Guam did not report.
- **Influenza-associated Hospitalizations:** A cumulative rate of 59.9 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported. The highest hospitalization rate is among adults 65 years and older (195.9 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:** Four influenza-associated pediatric deaths were reported to CDC during week 14.

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

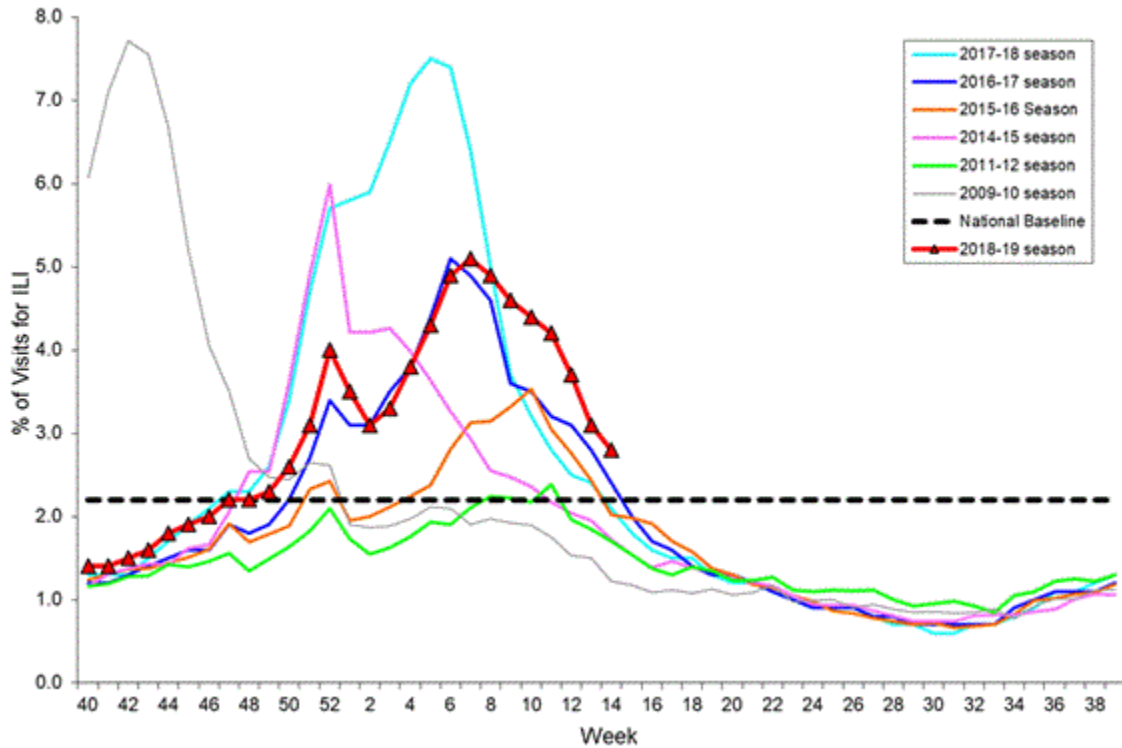


Figure 6. Influenza-like illness (ILI) activity level indicator determined by data reported to ILINet

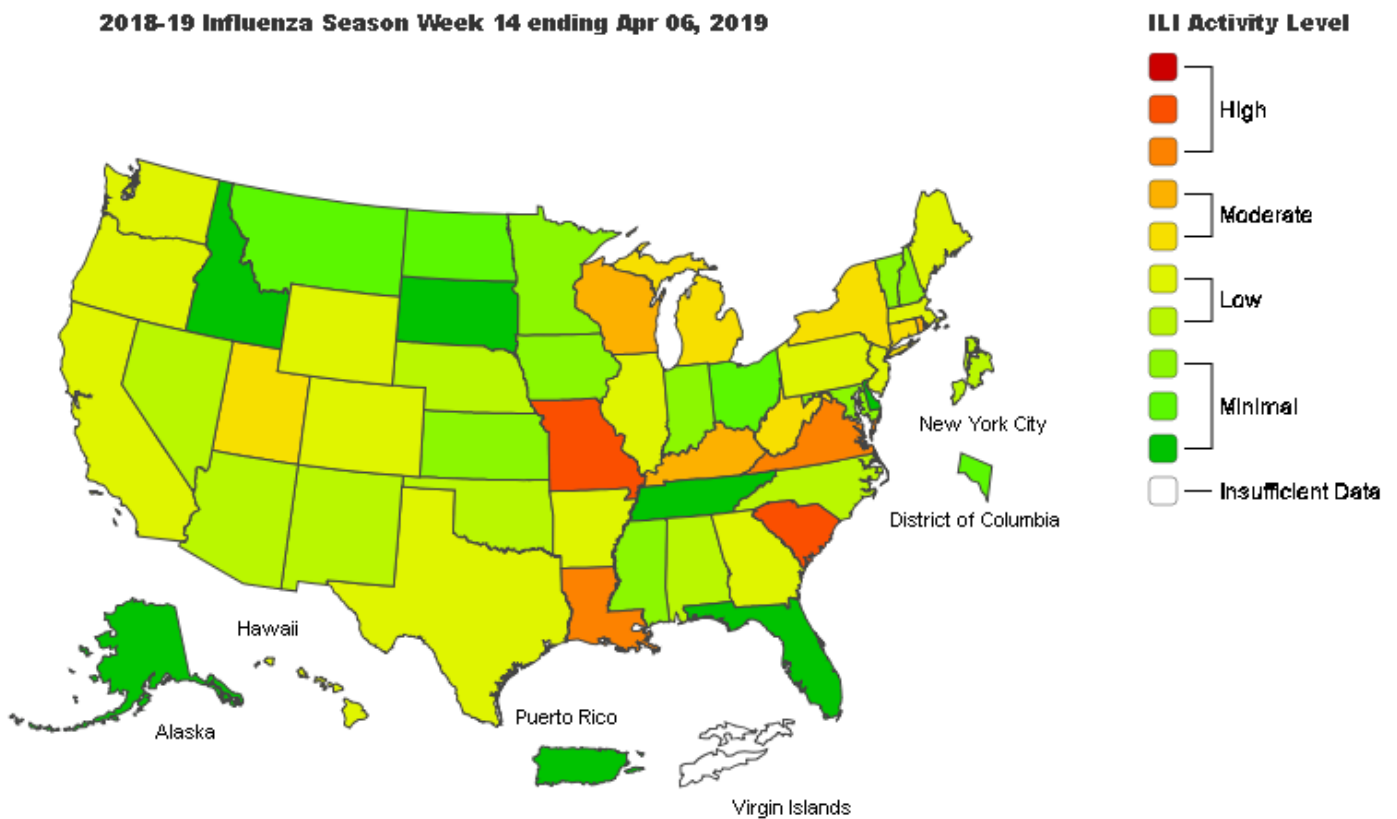
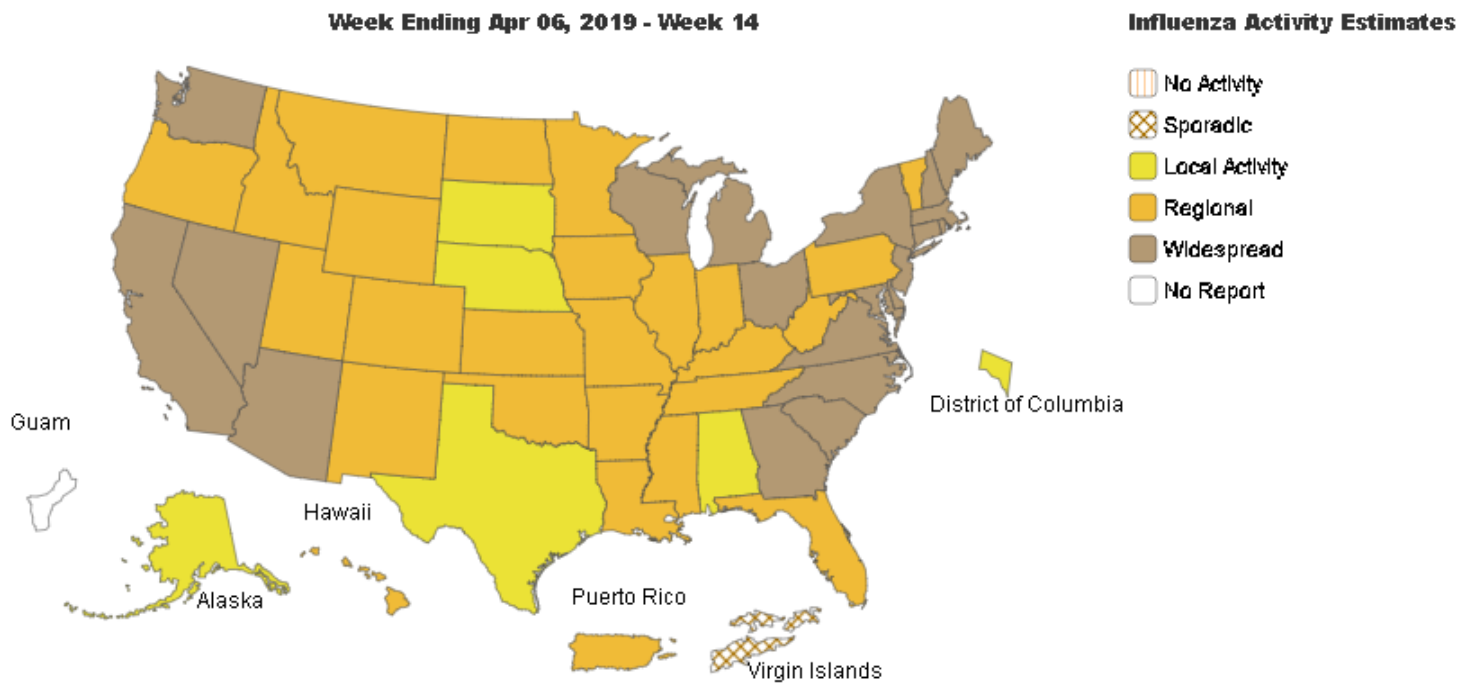


Figure 7. Weekly influenza activity (geographic spread) estimates reported by state and territorial epidemiologists



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

Global Surveillance:

Influenza Update N° 338, World Health Organization (WHO), published 01 April 2019, based on data up to 17 March 2019. The Update is published every two weeks.

Summary:

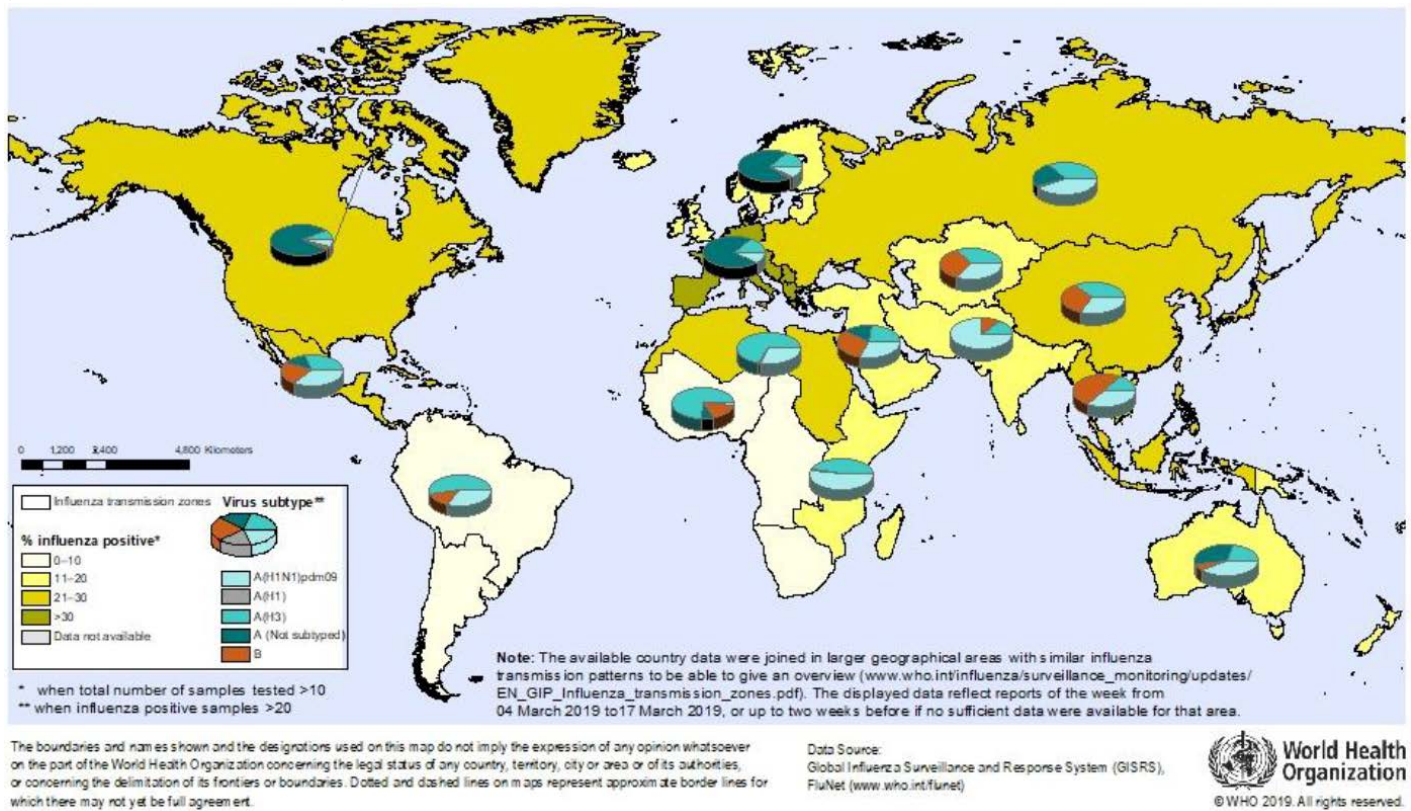
Worldwide, seasonal influenza A viruses accounted for the majority of detections.

In the temperate zone of the northern hemisphere influenza activity decreased overall:

- **In North America**, influenza activity appeared to decrease with influenza A(H3N2) the dominant virus, followed by influenza A(H1N1)pdm09.
- **In Europe**, influenza activity decreased across the continent. Both influenza A viruses co-circulated.
- **In North Africa**, influenza activity was still reported in some countries.
- **In Western Asia**, influenza activity appeared to decrease overall, with exception of some countries where activity remained elevated.
- **In East Asia**, although decreased influenza activity continued to be reported. Increased detections of influenza A(H3N2) and B (Victoria-lineage) viruses were reported in the recent weeks.

National Influenza Centres (NICs) and other national influenza laboratories from 115 countries, areas or territories reported data to FluNet for the time period from 04 March 2019 to 17 March 2019 (data as of 2019-03-29 03:30:56 UTC). The WHO GISRS laboratories tested more than 176726 specimens during that time period. 43084 were positive for influenza viruses, of which 39652 (92%) were typed as influenza A and 3432 (8%) as influenza B. Of the sub-typed influenza A viruses, 8769 (49.9%) were influenza A(H1N1)pdm09 and 8795 (50.1%) were influenza A(H3N2). Of the characterized B viruses, 119 (5.1%) belonged to the B-Yamagata lineage and 2193 (94.9%) to the B-Victoria lineage.

Figure 8. Percentage of respiratory specimens that tested positive for influenza, by influenza transmission zone (status as of 29 March 2019)



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

Influenza News from the CDC:

Looking Ahead: Frequently Asked Flu Questions for the 2019-2020 Influenza Season

What viruses will the 2019-2020 flu vaccines protect against?

There are many different flu viruses and they are constantly changing. The composition of U.S. flu vaccines is reviewed annually and updated as needed to match circulating flu viruses. Flu vaccines protect against the three or four viruses (depending on the vaccine) that research suggests will be most common. For 2019-2020, trivalent (three-component) vaccines are recommended to contain:

- A/Brisbane/02/2018 (H1N1)pdm09-like virus (updated)
- A/Kansas/14/2017 (H3N2)-like virus (updated)
- B/Colorado/06/2017-like (Victoria lineage) virus

Quadrivalent (four-component) vaccines, which protect against a second lineage of B viruses, are recommended to contain:

- the three recommended viruses above, plus B/Phuket/3073/2013-like (Yamagata lineage) virus.

The World Health Organization (WHO) made the selection of the H1N1 and both B components for 2019-2020 Northern Hemisphere flu vaccines on February 21 and at that time decided to delay the decision on an H3N2 vaccine component. FDA's Vaccines and Related Biological Products Advisory Committee (VRBPAC) also selected the H1N1 and B

components at their first meeting on March 6, but also decided to postpone the selection of the H3N2 component. WHO selected the H3N2 component listed above on March 21, 2019. VRBPAC chose the same H3N2 component for U.S. vaccines on March 22, 2019.

Are there any changes to the 2019-2020 Northern Hemisphere vaccines from what was included in this season's 2018-2019 U.S. flu vaccines?

Flu vaccines are updated to better match circulating viruses. The A(H1N1)pdm09 vaccine component was updated from an A/Michigan/45/2015 (H1N1)pdm09-like virus to an A/Brisbane/02/2018 (H1N1)pdm09-like virus. The A(H3N2) vaccine component was updated from an A/Singapore/INFIMH-16-0019/2016 A(H3N2)-like virus to an A/Kansas/14/2017 (H3N2)-like virus. Both B/Victoria and B/Yamagata virus components from the 2018-2019 flu vaccine remain the same for the 2019-2020 flu vaccine.

Why was there a delay in selecting the A(H3N2) virus component of 2019-2020 flu vaccines?

A number of factors can make getting a good vaccine virus for vaccine production challenging. H3N2 viruses have presented an increasing challenge for vaccine virus selection due to frequent changes in the H3N2 viruses and difficulties in generating optimal candidate vaccine viruses for use in manufacturing. In February 2019, experts at the vaccine consultation meetings reviewed various sources of data including virus surveillance, antigenic characterization, and virus fitness forecasts, identified multiple co-circulating H3N2 virus groups. These data showed that the proportion of viruses in one antigenically distinct group of H3N2 viruses (called 3C.3a virus) was rapidly increasing in some countries, particularly the United States. Selection of an H3N2 vaccine virus for 2019-2020 Northern Hemisphere vaccines was delayed from February to March to allow more time for monitoring H3N2 virus circulation and characterization of potential H3N2 candidate vaccine viruses.

Is it the first time that a WHO recommendation of a component of the seasonal flu vaccine has been postponed?

No. The last time there was a postponed influenza vaccine recommendation was in February 2003, due to challenges selecting the A(H3N2) vaccine component for the 2003-2004 flu season. During the 2002-2003 influenza season, a distinct antigenic group virus emerged and increased in circulation, but it was unclear how fast the increase would be and no appropriate candidate vaccine virus was available at the time. Therefore, the decision was postponed and the recommendation was announced in March 2003.

Will the delay in selecting the H3N2 component delay availability of flu vaccines for the upcoming 2019-2020 northern hemisphere flu season?

It is too soon to say how the delay in the selection of the H3N2 candidate vaccine component may affect the timing of vaccine availability for the 2019-2020 flu season. Private manufacturers in the United States produce flu vaccines each season. Once the viruses are selected for the new vaccine formulation, manufacturers operate under a tight timeline for producing, testing, releasing and distributing flu vaccine. CDC and other federal partners will continue to coordinate and collaborate with U.S. flu vaccine manufacturers to monitor production and vaccine availability timelines

Source: <https://www.cdc.gov/flu/season/flu-season-2019-2020.htm>

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 April 12, 2019.