



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



Public Health
Prevent. Promote. Protect.

Report #23

Flu Surveillance Week 24 (3/17 to 3/23/2019)

Centers for Disease Control and Prevention MMWR Week 12

Summit County Surveillance Data:

During **Week 24**, influenza-related activity in Summit County *decreased to low levels, but remains elevated*.

Table 1: Overall Influenza Activity Indicators in Summit County by Week				
	Week 23 MMWR 11 N (%)¹	Week 24 MMWR 12 N (%)¹	Percent change from previous week	Number of weeks increasing or decreasing
Lab Reports				
Test Performed	1,557	1,332	- 14.5%	↓2
Positive Tests (Number and %)	530 (34.0)	359 (27.0)	- 20.6%	↓2
Influenza A (Number and %)	526 (33.8)	351 (26.4)	- 21.9%	↓2
Influenza B (Number and %)	4 (0.3)	8 (0.6)	+ 100%	↑1
Influenza hospitalizations:	80	61	- 23.8%	↓3
Influenza ILI Community Report:				
Long-term Care Facilities	0	0	--	--
Correctional & Addiction Facilities	0	0	--	--
Physician Offices & Clinics	15	13	- 13.3%	↓2
Pharmacy Prescriptions				
Amantidine	3	2	- 33.3%	↓1
Rimantidine Flumadine	0	0	--	--
Relenza	0	0	--	--
Oseltamivir Tamiflu	53	43	- 18.9%	↓2
<i>Total antiviral prescriptions</i>	56	45	- 19.6%	↓2
Schools absenteeism daily rate²	6.9	7.0	+ 1.4%	↑4
Deaths				
Pneumonia associated	7 (6.4)	10 (7.8)	+ 21.8%	↑2
Influenza associated	1	1	NC	NC
Emergency room visits (EpiCenter)³				
Constitutional Complaints	947 (14.1)	748 (11.7)	- 17.0%	↓1
Fever and ILI	192 (2.9)	135 (2.1)	- 38.1%	↓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 influenza-related death was reported during Week 24, increasing the season total to 7. There were 10 deaths associated with pneumonia reported in Week 24. **Figure 1** displays weekly Summit County death counts associated with pneumonia and flu.

Acute Care Hospitalizations: There were 61 flu-related hospitalizations, a 24% decrease from Week 23. (**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 zero cases of ILI reported.

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

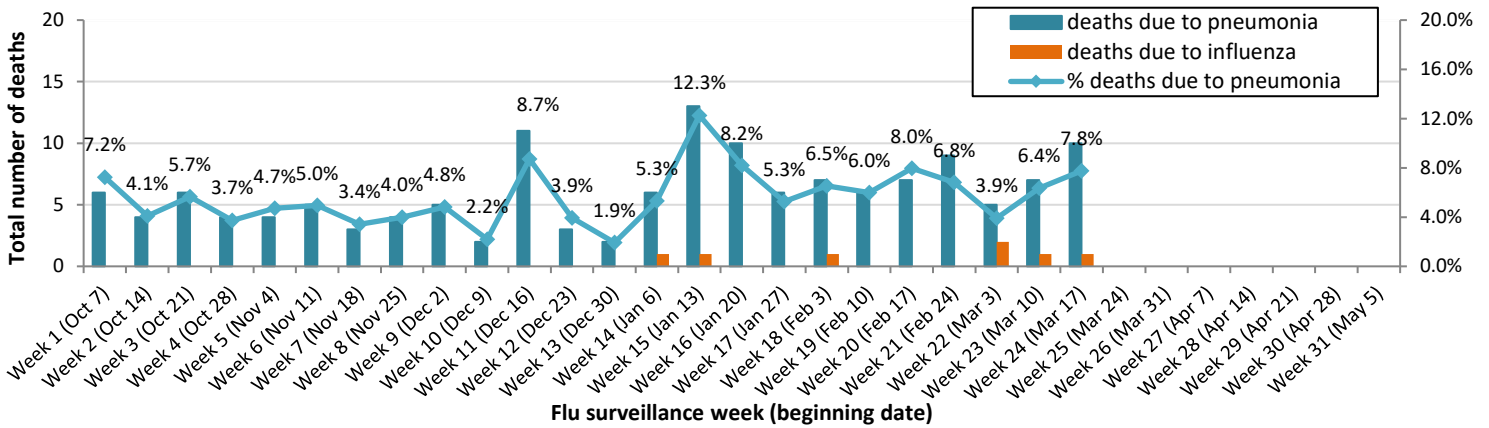
Physician offices and clinics: During Week 24, there were 13 cases of ILI reported.

Pharmacies: 45 Prescriptions for antiviral medications were reported during Week 24.

School absenteeism includes absences regardless of reason. During Week 24, area schools reported an average daily absence rate of 7.0%. This was a negligible 1.4% increase over the rate reported during Week 23.

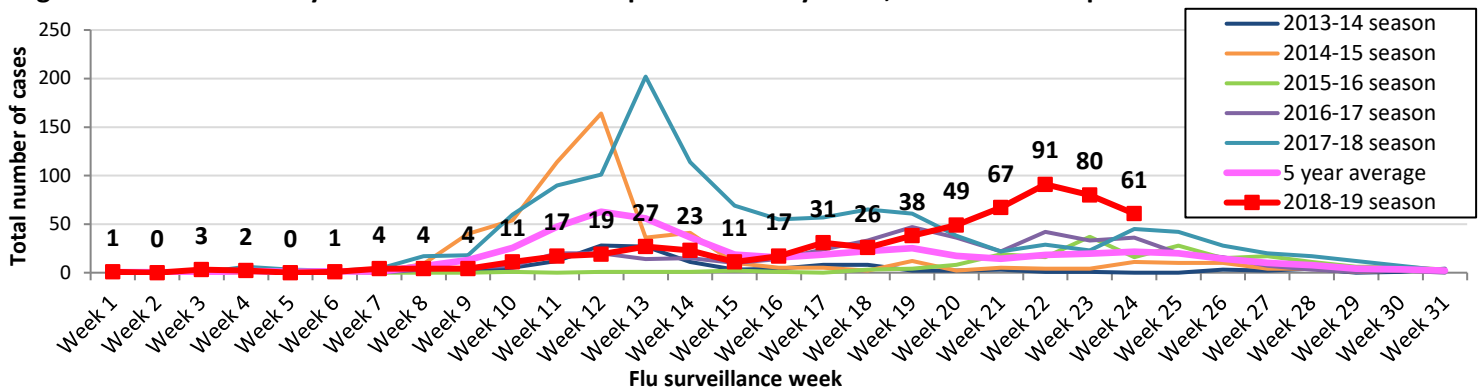
Lab reports: During Week 24, Summit County labs performed 1,332 influenza tests, of which 359 tested positive (351 Type A, 8 Type B). (**Figure 4**) The percentage of positive test results decreased by 20.6% since Week 23.

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



Influenza-associated hospitalizations: Summit County hospitals reported 61 influenza-associated hospitalizations in Week 24. **Figure 2** displays weekly confirmed hospitalization counts for Summit County (season count to date = 587).

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 135 ILI-related visits reported during Week 24, which was 2.1% of total ED visits (n = 6,395). This was a 38.1% decrease from the Week 23 rate.

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

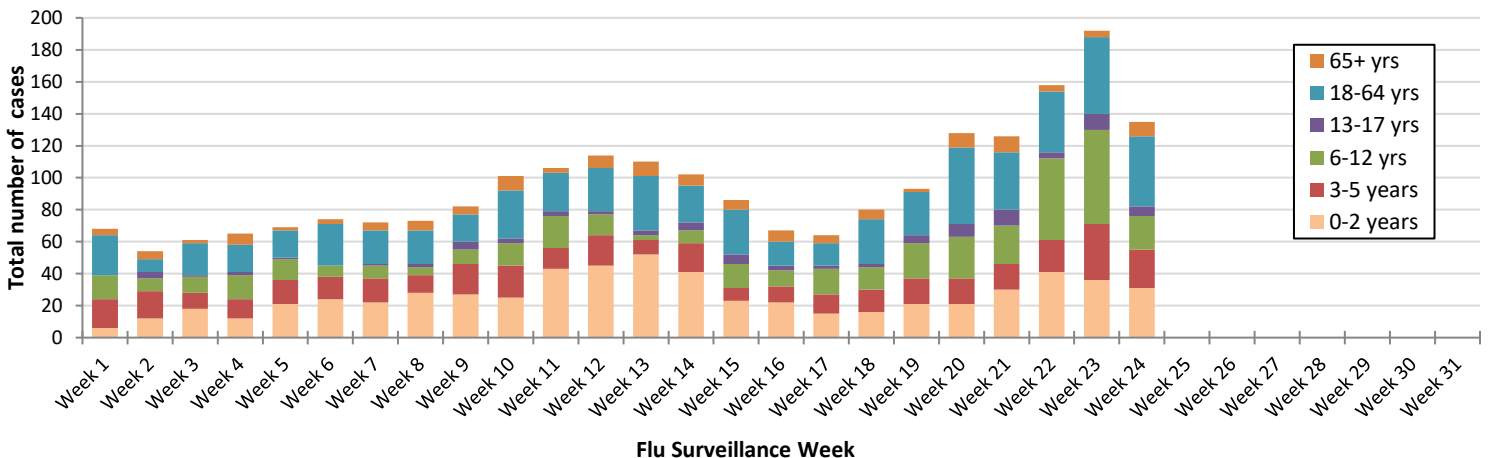
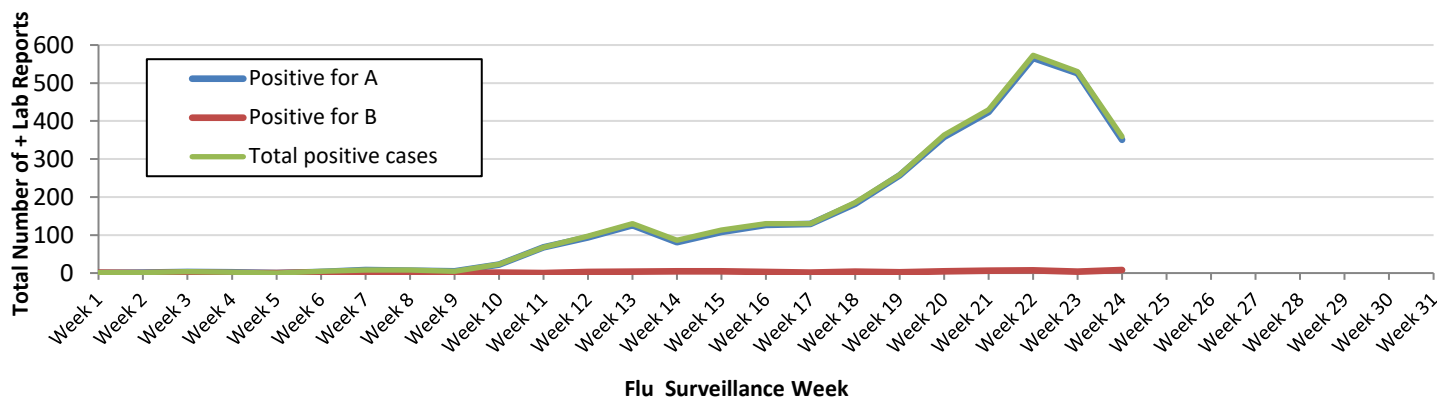


Figure 4. Influenza diagnostic tests with positive results completed by Summit County health facilities, 2018 - 2019 season



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 12, public health surveillance data sources indicate Moderate 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 1190 influenza-associated hospitalizations reported during MMWR Week 12.

Ohio Influenza Activity Summary Dashboard (March 17 – March 23, 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)	2.82%	1.08%	↓ 2	
Thermometer Sales (National Retail Data Monitor)	1957	-10.96%	↓ 2	
Fever and ILI Specified ED Visits (EpiCenter)	3.06%	-15.70%	↓ 2	
Constitutional ED Visits (EpiCenter)	13.22%	-11.39%	↓ 2	
Confirmed Influenza-associated Hospitalizations (Ohio Disease Reporting System)	1190	7.40%	↑ 8	
Outpatient Medical Claims Data ⁴	2.88%	-38.06%	↓ 2	

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 1132 **positive** influenza tests from specimens sent from various submitters. 2018-2019 influenza season positive results: **(561) A/pdmH1N1; (568) A/H3N2; (3) Influenza B;** (through 3/23/2019).
- The **National Respiratory and Enteric Virus Surveillance System (NREVSS)** has reported **58,889** influenza tests performed at participating facilities. 2018-2019 influenza season positive results: **(353) A/pdmH1N1, (418) A/H3N2, (9,021) Flu A Not Subtyped, and (144) Flu B** (through 3/23/2019).
- **4 pediatric influenza-associated mortalities** have been reported during the 2018-2019 season (through 3/23/2019).
- No **novel influenza A virus infections** have been reported during the 2018-2019 season (through 3/23/2019).
- Incidence of confirmed **influenza-associated hospitalizations** in 2018-2019 season = 7741 (through 3/23/2019).

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

National Influenza Activity:

Influenza activity decreased 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 March 23, 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 3.8%, and remains 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):** 20 states experienced high ILI activity; Puerto Rico and 13 states experienced moderate ILI activity; New York City, the District of Columbia and seven states experienced low ILI activity; 10 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 Puerto Rico and 34 states was reported as widespread; 14 states reported regional activity; the District of Columbia and two states reported local activity; the U.S. Virgin Islands reported sporadic activity; and Guam did not report.
- **Influenza-associated Hospitalizations:** A cumulative rate of 52.5 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported. The highest hospitalization rate is among adults 65 years and older (167.0 hospitalizations per 100,000 population).
- **Pneumonia and Influenza Mortality:** The proportion of deaths attributed to pneumonia and influenza (P&I) was above the system-specific epidemic threshold in the National Center for Health Statistics (NCHS) Mortality Surveillance System.
- **Influenza-associated Pediatric Deaths:** One influenza-associated pediatric death was reported to CDC during week 12.

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

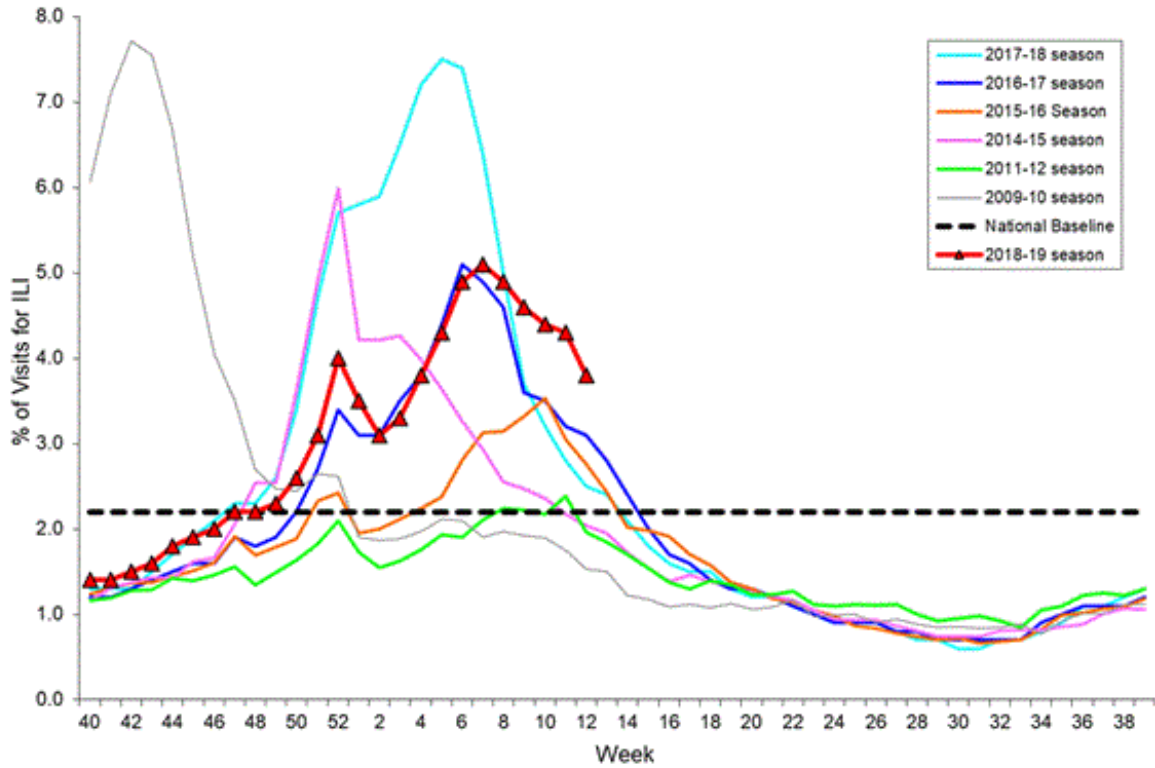


Figure 6. Influenza-like illness (ILI) activity level indicator determined by data reported to ILINet

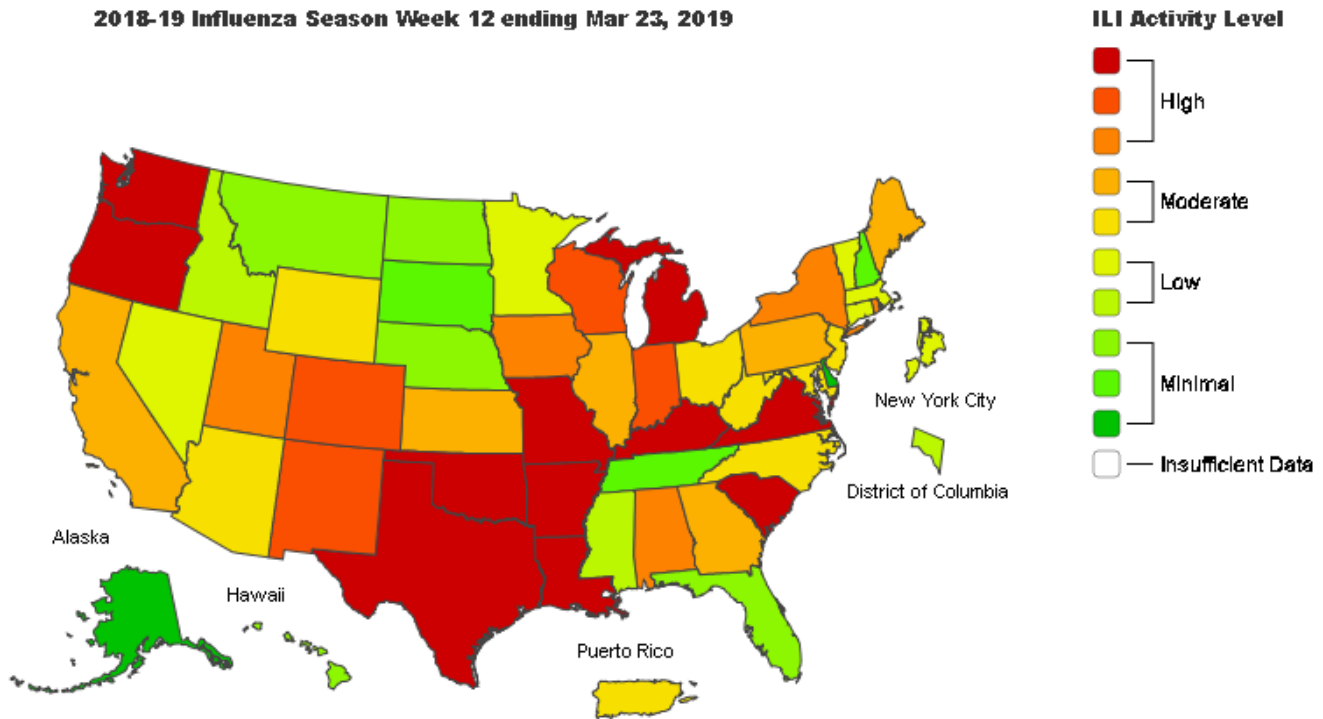
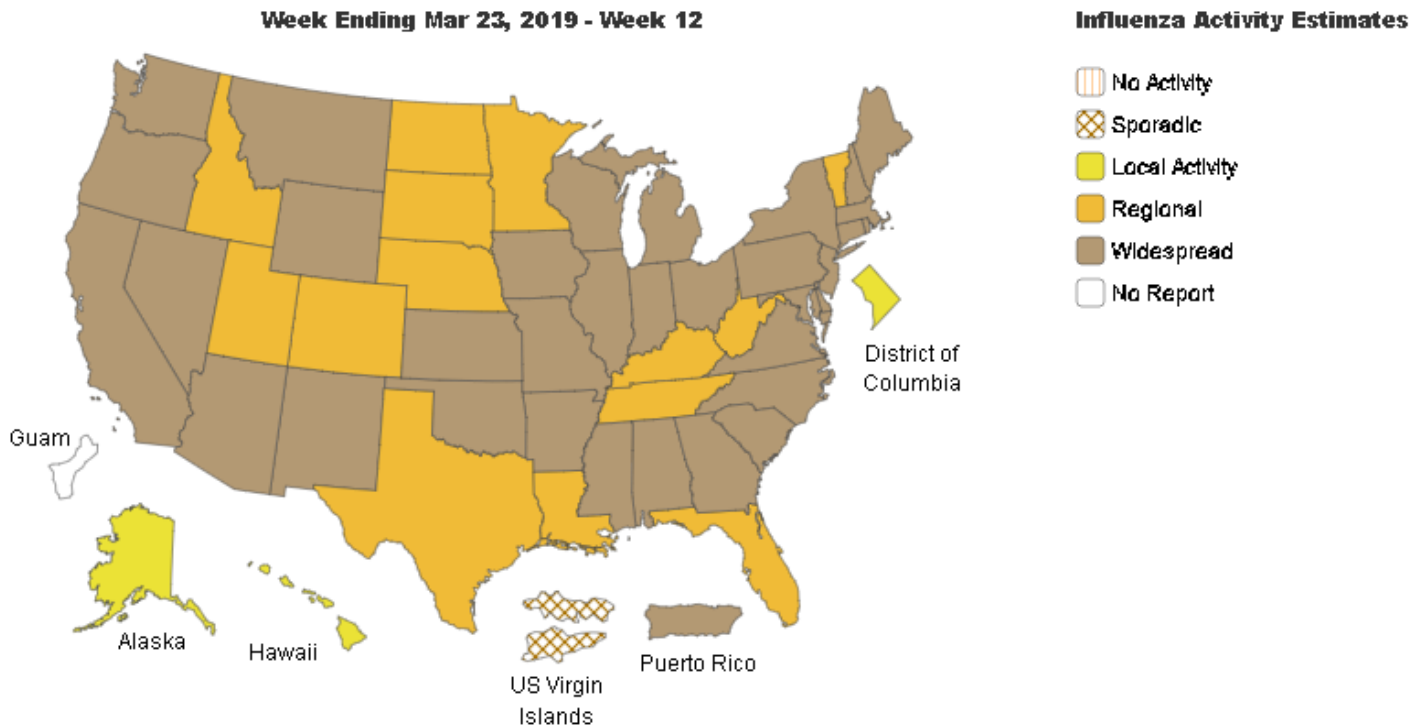


Figure 7. Weekly influenza activity (geographic spread) estimates reported by state and territorial epidemiologists



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

Global Surveillance:

Influenza Update N° 337, World Health Organization (WHO), published 18 March 2019, based on data up to 03 March 2019. The Update is published every two weeks.

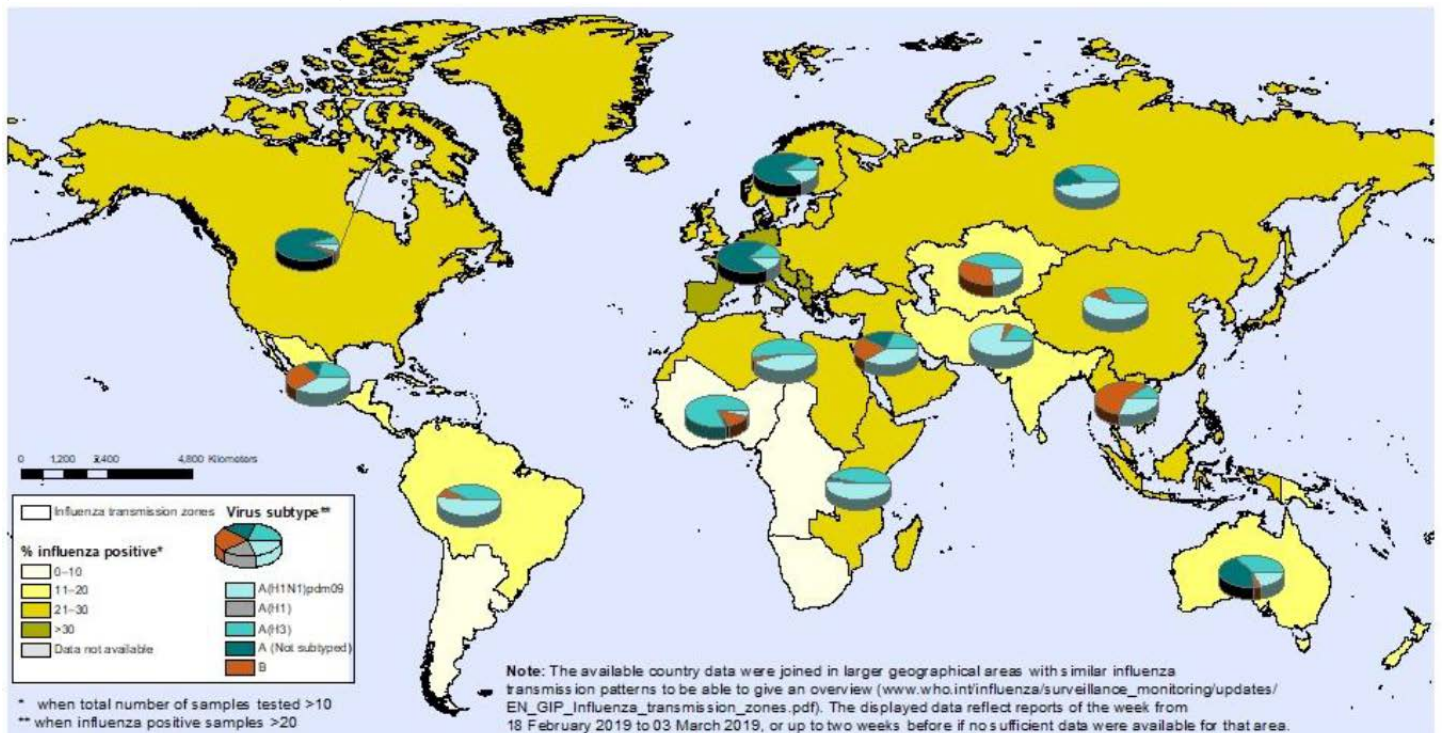
Summary

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

- In North America, influenza activity continued but in recent weeks influenza A(H3N2) was the dominant virus, followed by influenza A(H1N1)pdm09.
- In Europe, influenza activity decreased across the continent, with two thirds of countries still above baseline for influenza-like illness activity. 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, influenza activity appeared to decrease overall, with influenza A(H1N1)pdm09 virus predominating.
- Worldwide, seasonal influenza A viruses accounted for the majority of detections.

National Influenza Centres (NICs) and other national influenza laboratories from 114 countries, areas or territories reported data to FluNet for the time period from 18 February 2019 to 03 March 2019 (data as of 2019-03-15 07:02:52 UTC). The WHO GISRS laboratories tested more than 205150 specimens during that time period. 59350 were positive for influenza viruses, of which 57635 (97.1%) were typed as influenza A and 1715 (2.9%) as influenza B. Of the sub-typed influenza A viruses, 14751 (59.5%) were influenza A(H1N1)pdm09 and 10037 (40.5%) were influenza A(H3N2). Of the characterized B viruses, 147 (19%) belonged to the B-Yamagata lineage and 625 (81%) to the B-Victoria lineage.

Figure 8. Percentage of respiratory specimens that tested positive for influenza, by influenza transmission zone (status as of 15 March 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 from the CDC:

CDC Issues Health Advisory: **Influenza Season Continues with an Increase in Influenza A(H3N2) Activity**



March 28, 2019: The Centers for Disease Control and Prevention (CDC) is issuing this health advisory to notify clinicians that influenza activity remains high in the United States, with an increasing proportion of activity due to influenza A(H3N2) viruses, continued circulation of influenza A(H1N1) viruses, and low levels of influenza B viruses. Influenza should be considered as a possible diagnosis for patients with respiratory illness while local influenza activity remains elevated. Because influenza A(H3N2) viruses may be associated with severe disease in older adults, this health advisory serves as a reminder that early empiric treatment with influenza antiviral medications is recommended for hospitalized and high-risk patients, especially those 65 years and older. Antiviral treatment should be started as soon as possible after illness onset and should not wait for laboratory confirmation.

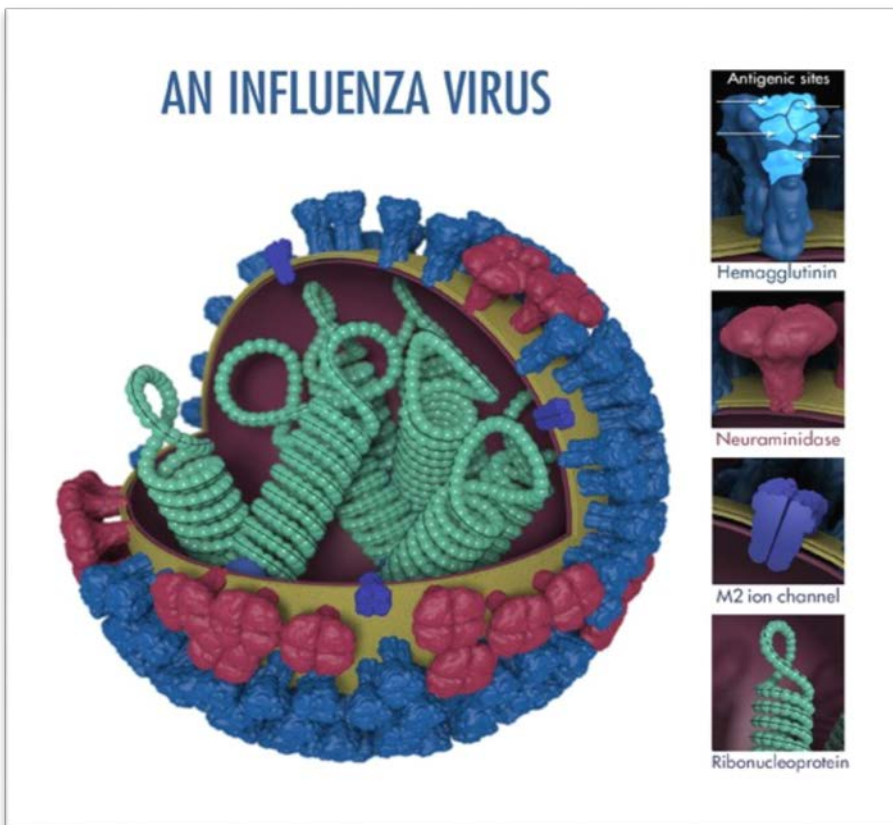
Additional information and recommendations can be obtained here: <https://emergency.cdc.gov/han/han00419.asp>

CDC Study Describes New Lab Method to Test Flu A(H3N2) viruses, Has Potential to Improve Flu Vaccine Strain Selection

March 13, 2019: A recent [study](#) describes CDC's development and use of a new lab test that can more quickly and accurately characterize circulating flu A(H3N2) viruses, which evolve more rapidly than other flu subtypes. This new method is a major step forward in overcoming the challenges of vaccine strain selection and how well flu vaccines work against flu viruses.

More information is available at the source link below:

Source: <https://www.cdc.gov/flu/spotlights/2018-2019/new-lab-method-test-flu.html>



An influenza virus' surface proteins, hemagglutinin (HA) and neuraminidase (NA), are "antigens," which are molecular structures that trigger an immune response in an infected host. The term "antigenic properties" is used to describe the characteristics of the immune response triggered by the antigens of a particular virus. "Antigenic characterization" refers to the analysis of different viruses' antigenic properties to help determine their similarity. Flu experts attempt to choose vaccine viruses for inclusion in seasonal flu vaccines that are antigenically similar or closely "matched" to the viruses most likely to spread and cause illness during the flu season.

Source: <https://www.cdc.gov/flu/spotlights/2018-2019/new-lab-method-test-flu.html>

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 March 29, 2019.