



**Summit County Public Health
Influenza Surveillance Report
2018 – 2019 Season
Report #16**



Public Health
Prevent. Promote. Protect.

**Flu Surveillance Week 17 (1/27 to 2/2/2019)
Centers for Disease Control and Prevention MMWR Week 5**

Summit County Surveillance Data:

During **Week 17**, influenza-related activity in Summit County continued to be at an elevated, but low, level.

Table 1: Overall Influenza Activity Indicators in Summit County by Week				
	Week 16 MMWR 4 N (%)¹	Week 17 MMWR 5 N (%)¹	Percent change from previous week	Number of weeks increasing or decreasing
Lab Reports				
Test Performed	816	814	- 0.3%	↓4
Positive Tests (Number and %)	130 (15.9)	130 (16.0)	+ 0.6%	↑3
Influenza A (Number and %)	127 (15.6)	129 (15.9)	+ 1.9%	↑3
Influenza B (Number and %)	3 (0.4)	1 (0.1)	- 75.0%	↓2
Influenza hospitalizations:	17	31	+ 82.4%	↑2
Influenza ILI Community Report:				
Long-term Care Facilities	0	0	--	--
Correctional & Addiction Facilities	0	0	--	--
Physician Offices & Clinics	3	8	+ 167%	↑3
Pharmacy Prescriptions				
Amantidine	1	2	+ 100%	↑1
Rimantidine Flumadine	0	0	--	--
Relenza	0	0	--	--
Oseltamivir Tamiflu	27	24	- 11.1%	↓1
<i>Total antiviral prescriptions</i>	28	26	- 7.1%	↓1
Schools absenteeism daily rate²	8.3	7.7	- 7.2%	↓1
Deaths				
Pneumonia associated	10 (8.2)	6 (5.3)	- 35.8%	↓2
Influenza associated	0	0	--	--
Emergency room visits (EpiCenter)³				
Constitutional Complaints	458 (8.7)	461 (8.4)	- 3.5 %	↓4
Fever and ILI	67 (1.3)	64 (1.2)	- 7.7%	↓3
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				

Zero deaths related to influenza were reported during Week 17, the season total remains at 2. There were 6 deaths associated with pneumonia reported in Week 17. **Figure 1** displays weekly Summit County death counts associated with pneumonia and flu.

Acute Care Hospitalizations: There were 31 flu-related hospitalizations reported during Week 17. (**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.

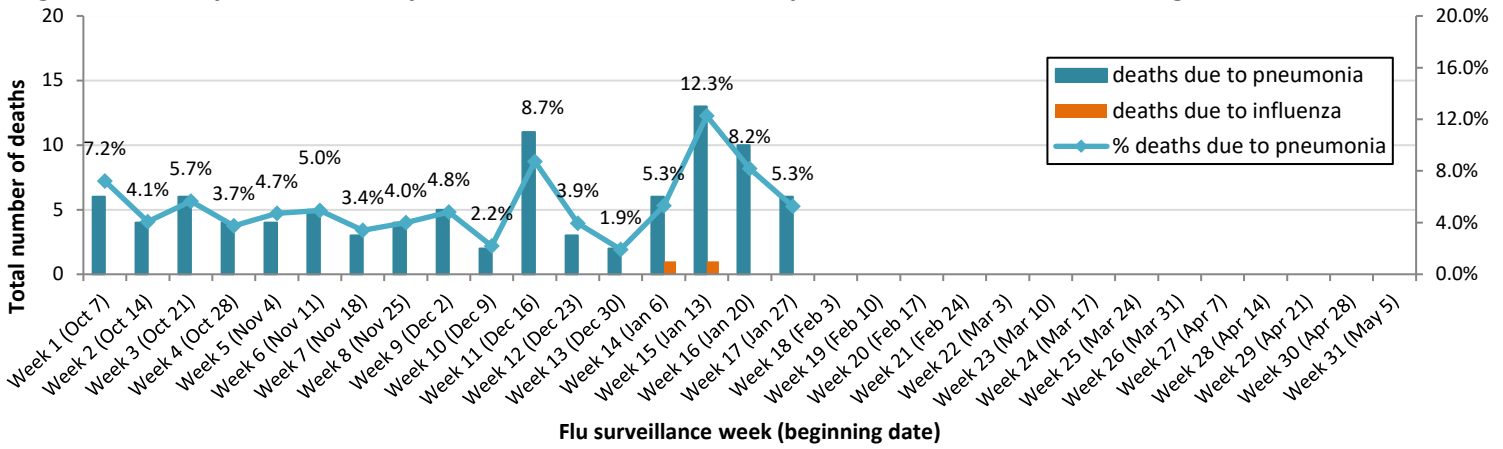
Physician offices and clinics: During Week 17, there were 8 cases of ILI reported.

Pharmacies: 26 prescriptions for antiviral medications were reported during Week 17.

School absenteeism includes absences regardless of reason. During Week 17, area schools reported an average daily absence rate of 7.7%. This was a 7.2% decrease over the rate reported during Week 16.

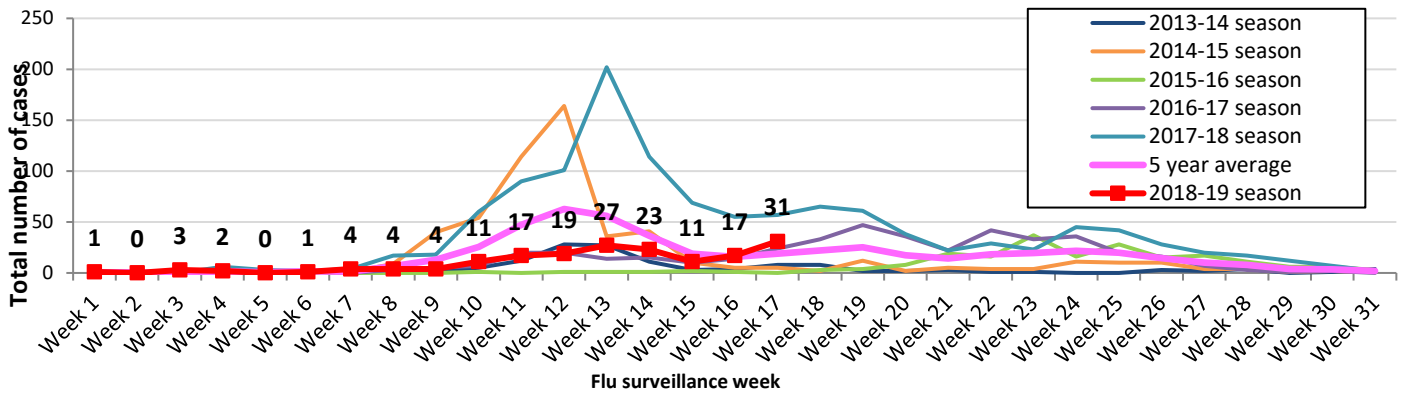
Lab reports: During Week 17, Summit County labs performed 814 influenza tests, of which 130 tested positive (129 Type A, 1 Type B). (**Figure 4**) The number of flu tests ordered remained constant, and percentage of positive tests increased slightly.

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



Influenza-associated hospitalizations: Summit County hospitals reported 31 influenza-associated hospitalizations in Week 17. **Figure 2** displays weekly confirmed hospitalization counts for Summit County (season count to date = 175).

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 64 ILI-related visits reported during Week 17, which was 1.2% of total ED visits (n = 5,460). This was a 7.7% decrease from the Week 16 rate.

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

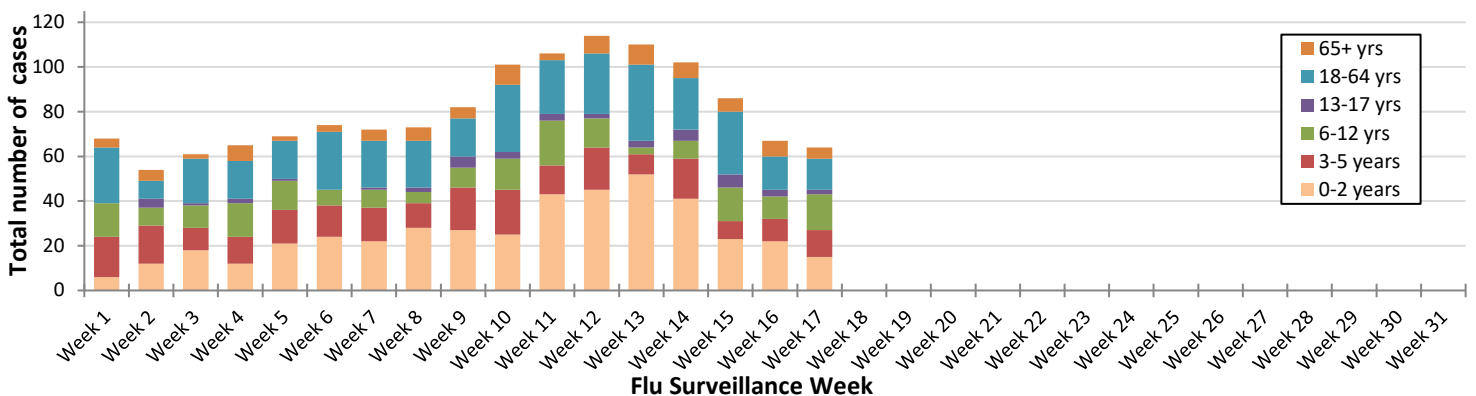
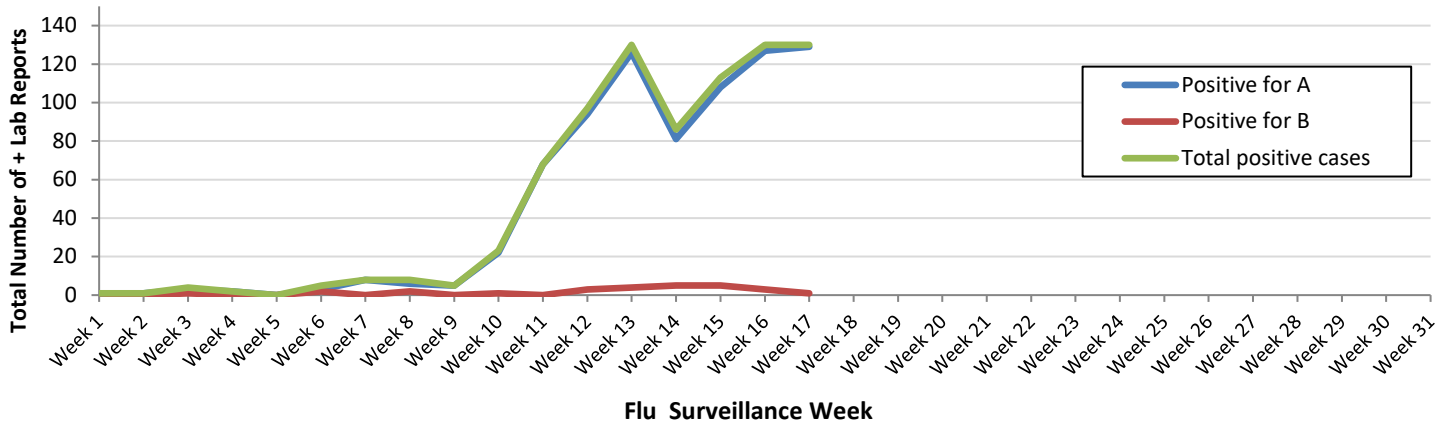


Figure 4. Influenza diagnostic tests with positive results completed by Summit County health facilities, 2018 - 2019 season



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 5, 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 332 influenza-associated hospitalizations reported during MMWR Week 5.

Ohio Influenza Activity Summary Dashboard (January 27 – February 2, 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 369 **positive** influenza tests from specimens sent from various submitters. 2018-2019 influenza season positive results: **(208) A/pdmH1N1; (87) A/H3N2; (1) Influenza B;** (through 02/02/2019).
- The **National Respiratory and Enteric Virus Surveillance System (NREVSS)** has reported **38,470** influenza tests performed at participating facilities. 2018-2019 influenza season positive results: **(122) A/pdmH1N1, (52) A/H3N2, (3247) Flu A Not Subtyped, and (54) Flu B** (through 02/02/2019).
- **No pediatric influenza-associated mortalities** have been reported during the 2018-2019 season (through 02/02/2019).
- No **novel influenza A virus infections** have been reported during the 2018-2019 season (through 02/02/2019).
- Incidence of confirmed **influenza-associated hospitalizations** in 2018-2019 season = **2160** (through 02/02/2019).

National Influenza Activity:

Influenza activity increased 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 February 2, 2019

- **Viral Surveillance:** The percentage of respiratory specimens testing positive for influenza viruses in clinical laboratories increased. Influenza A viruses have predominated in the United States since the beginning of October. 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).
 - **Virus Characterization:** The majority of influenza viruses characterized antigenically and genetically 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 4.3%, 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 24 states experienced high ILI activity; Puerto Rico and 10 states experienced moderate ILI activity; the District of Columbia and 13 states experienced low ILI activity; and three states experienced minimal ILI activity.
- **Geographic Spread of Influenza (Figure 7):** The geographic spread of influenza in Puerto Rico and 47 states was reported as widespread; two states 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 20.1 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported. The highest hospitalization rate is among adults 65 years and older (53.0 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 5.

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

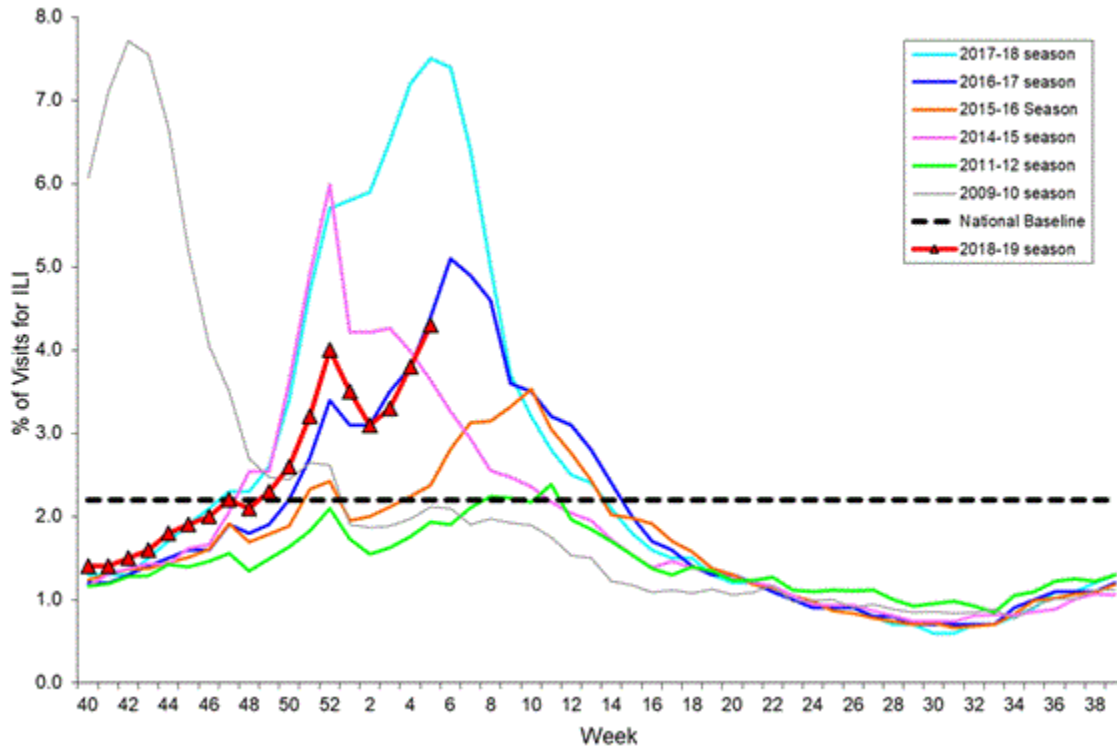


Figure 6. Influenza-like illness (ILI) activity level indicator determined by data reported to ILINet

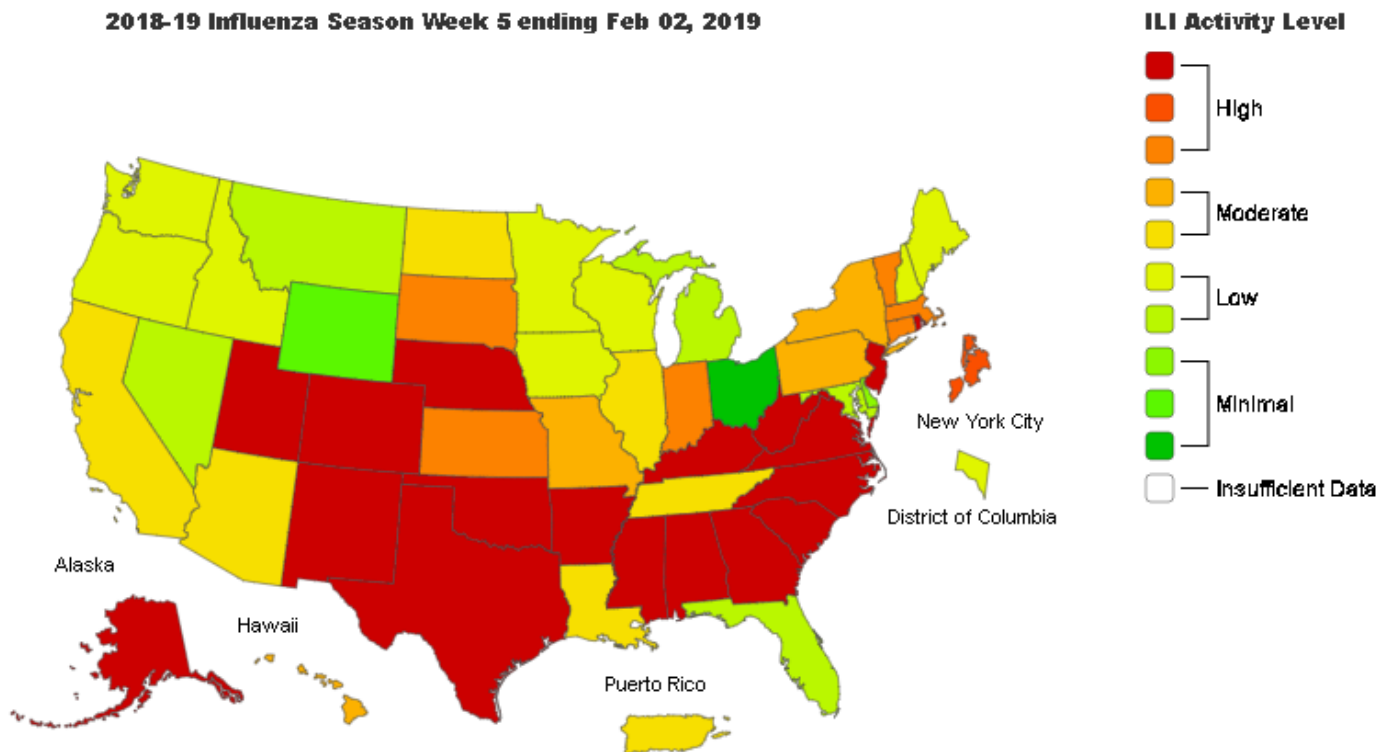
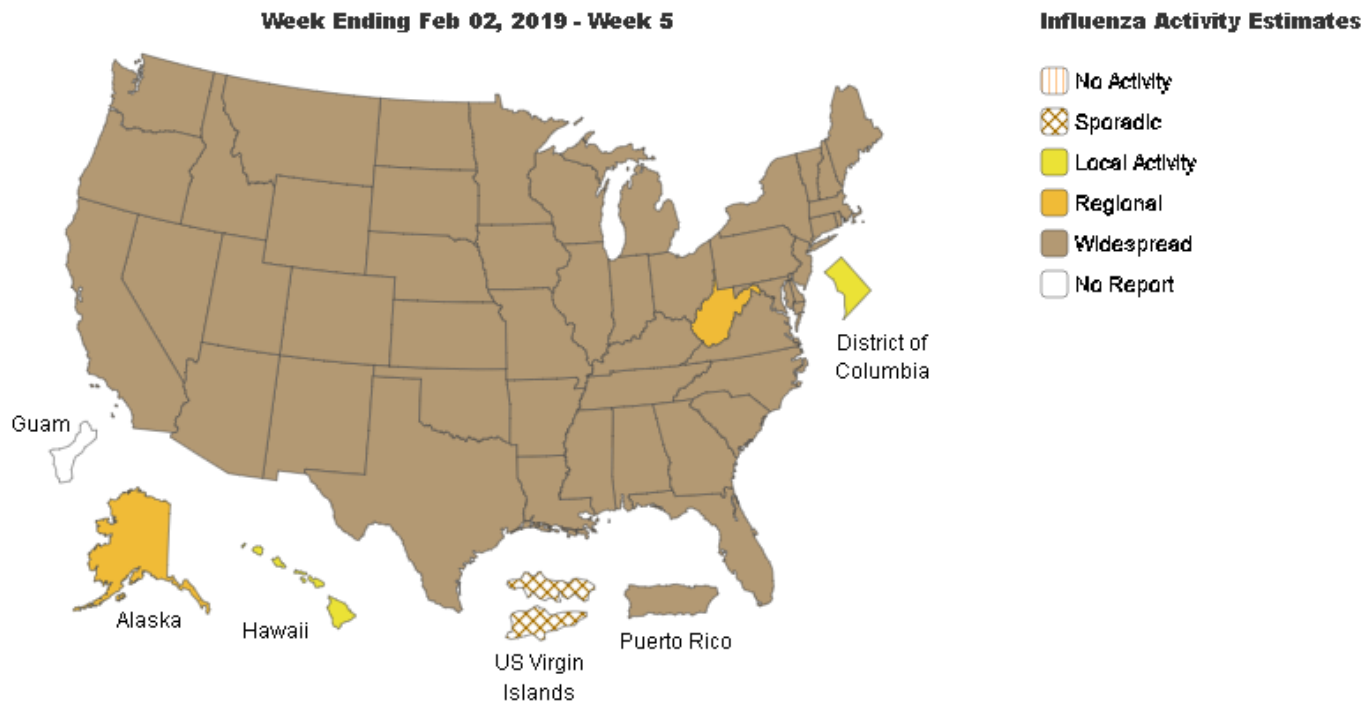


Figure 7. Weekly influenza activity (geographic spread) estimates reported by state and territorial epidemiologists



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.

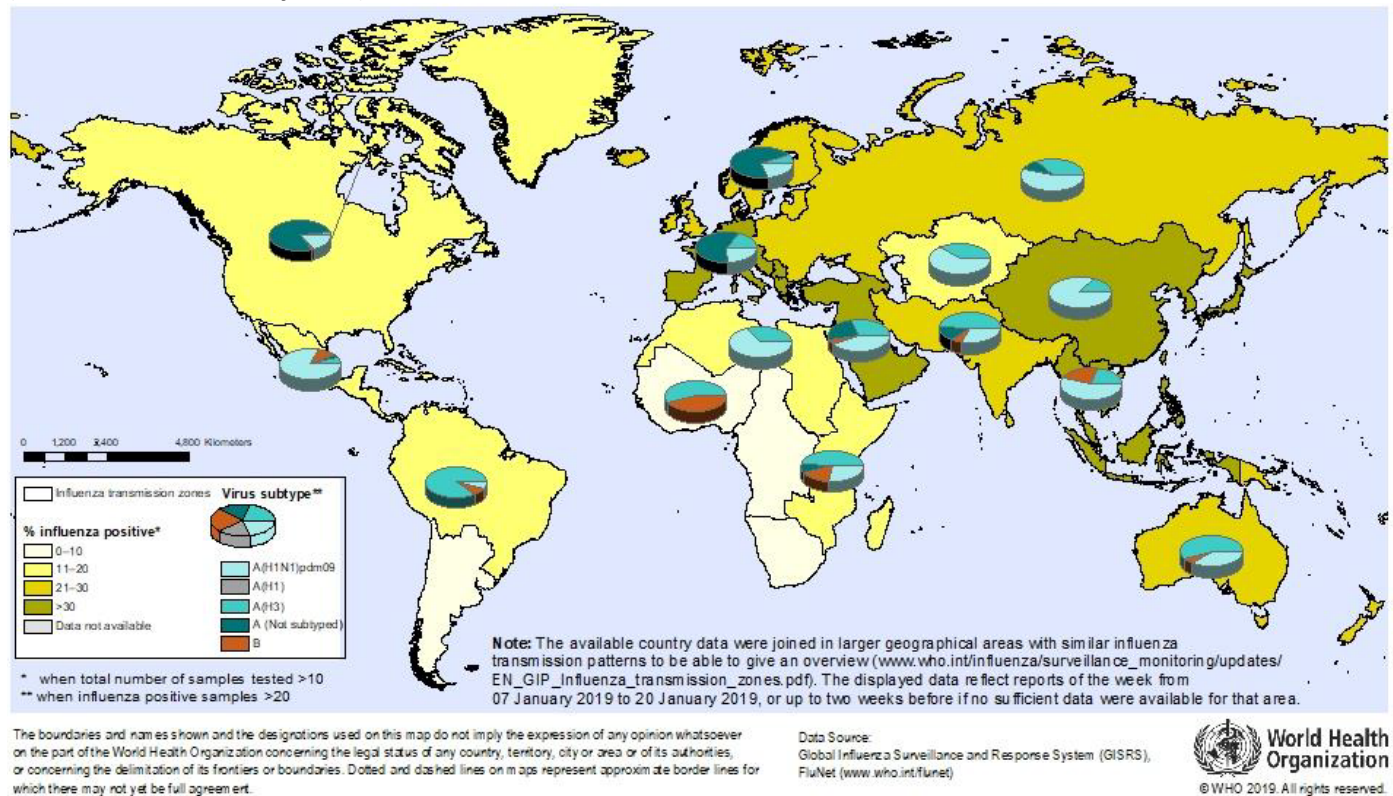
Summary

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)



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

Influenza News:

Influenza A (H1N2) Reassortant Infection in Sweden

On Friday, January 25, 2019, Sweden reported a human infection with an influenza A(H1N2) virus. The virus likely resulted from a reassortment event between circulating human seasonal influenza A(H1N1)pdm09 and influenza A(H3N2) viruses. The World Health Organization (WHO) first reported the case on its regional surveillance site FluNewsEurope.

Influenza Virus Reassortment: Reassortment happens when two or more influenza viruses infect a single host and exchange gene segments. Genetic sequencing showed that the A(H1N2) virus in Sweden was a reassortant containing a similar H1 hemagglutinin gene as circulating, seasonal A(H1N1)pdm09 viruses and an N2 neuraminidase gene similar to circulating, seasonal A(H3N2) viruses. Human infections with reassortant A(H1N2) viruses have occurred rarely in the past, but these were reassortants of the human, seasonal A(H1N1) virus that circulated prior to emergence of the 2009 A(H1N1)pdm09 virus that triggered a pandemic in 2009. This is the second reassortant of seasonal A(H1N1)pdm09 and seasonal A(H3N2) viruses reported. In 2018, [a human infection caused by a reassortant A\(H1N2\) virus was reported in the Netherlands](#). Laboratory experiments with previous A(H1N1) reassortants in ferret models suggested that these viruses had limited capacity for transmission, however human-to-human spread is still possible.

Risk Assessment: This A(H1N2) reassortant virus is thought to pose a health risk similar to other seasonal influenza viruses. The virus has not been detected beyond this one person and current seasonal influenza vaccines would likely offer protection against this virus. Additionally, this virus does not have markers associated with resistance to the neuraminidase inhibitor class of antiviral drugs and, thus, should be susceptible to treatment with the currently recommended drugs oseltamivir, zanamivir and peramivir.

Source: <https://www.cdc.gov/flu/spotlights/h1n2-infection-sweden.htm>

CDC estimates low flu vaccine protection last season still saved many lives

An end-of-season 2017-18 flu vaccine effectiveness (VE) estimate by a team led by CDC researchers found an overall VE of 38% against medically attended influenza and 22% for the H3N2 strain, but even this fairly low level of protection still saved thousands of lives, according to a Feb 2 study in *Clinical Infectious Diseases*. The investigators used national age-specific estimates of 2017-18 flu vaccine coverage and disease burden and measured VE against medically attended flu confirmed by polymerase chain reaction testing. They used a test-negative design. Last year's season was severe, and the H3N2 strain was predominant.

VE against all strains was 38% (95% confidence interval [CI], 31% to 43%). For H3N2 VE was 22% (95% CI, 12% to 31%), for 2009 H1N1 it was 62% (95% CI, 50% to 71%), and against influenza B it was 50% (95% CI, 41% to 57%). In addition, the researchers estimated that vaccination prevented 7.1 million illnesses, 3.7 million medical visits, 109,000 hospitalizations, and 8,000 deaths. Vaccination prevented 10% of expected hospitalizations overall and 41% among children 4 years old and younger.

In an accompanying commentary, Kathleen M. Neuzil, MD, MPH, and Meagan C. Fitzpatrick, PhD, of the University Of Maryland School Of Medicine, said, "The results are qualitatively similar to a previous model that looked at a range of effectiveness estimates and applied them to US burden. In fact, the model published here is considerably more conservative, and represents the lowest possible bound for estimates of disease averted." They add that the data reinforce the importance of routine seasonal flu vaccination.

Feb 2 *Clin Infect Dis* [study](#)

Source: <http://www.cidrap.umn.edu/news-perspective/2019/02/news-scan-feb-04-2019>

Meta-analysis finds good accuracy for rapid tests for flu, other viruses

A meta-analysis of studies on rapid molecular tests for flu, respiratory syncytial virus (RSV), and other respiratory viruses found that they provide accurate results, but results on their clinical impact are conflicting, researchers from the Netherlands reported yesterday in *Clinical Infectious Diseases*. They reviewed 63 separate reports from 56 studies that evaluated, as compared to conventional molecular tests, 13 commercial molecular rapid test products. Pooled sensitivity was 90.9% (95% confidence interval [CI], 88.7%-93.1%) and pooled specificity was 96.1% (95% CI, 94.2%-97.9%) for detecting either flu (29), RSV (1), flu virus and RSV (19), and a viral panel that included flu and RSV (14).

The 15 clinical impact studies varied widely by size and quality, leading to results that were inconclusive. However, the team found high-quality evidence that rapid testing might decrease the length of hospital stay and may increase the use of oseltamivir in patients who test positive for flu. The group didn't observe any effect on antibiotic prescriptions, duration of antibiotic therapy, use of in-hospital isolation measurements, or the number of hospital admissions.

"We therefore suggest to consider implementation of rapid molecular tests within hospital settings and recommend performance of high-quality randomized studies," researchers concluded.

Jan 28 *Clin Infect Dis* [abstract](#)

Source: <http://www.cidrap.umn.edu/news-perspective/2019/01/news-scan-jan-29-2019>

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 8, 2019.
