



**Summit County Public Health
Influenza Surveillance Report
2018 – 2019 Season
Report #24**



**Flu Surveillance Week 25 (3/24 to 3/30/2019)
Centers for Disease Control and Prevention MMWR Week 13**

Summit County Surveillance Data:

During **Week 25**, influenza-related activity in Summit County *remained at low levels, but remained elevated.*

Table 1: Overall Influenza Activity Indicators in Summit County by Week				
	Week 24 MMWR 12 N (%)¹	Week 25 MMWR 13 N (%)¹	Percent change from previous week	Number of weeks increasing or decreasing
Lab Reports				
Test Performed	1,332	1,187	- 10.9%	↓3
Positive Tests (Number and %)	359 (27.0)	302 (25.4)	- 5.9%	↓3
Influenza A (Number and %)	351 (26.4)	300 (25.3)	- 4.2%	↓3
Influenza B (Number and %)	8 (0.6)	2 (0.2)	- 66.7%	↓1
Influenza hospitalizations:	61	66	+ 8.2%	↑1
Influenza ILI Community Report:				
Long-term Care Facilities	0	1	+ 100%	↑1
Correctional & Addiction Facilities	0	0	--	--
Physician Offices & Clinics	13	2	- 84.6%	↓3
Pharmacy Prescriptions				
Amantidine	2	1	- 100%	↓2
Rimantidine Flumadine	0	0	--	--
Relenza	0	0	--	--
Oseltamivir Tamiflu	43	35	- 18.6%	↓3
<i>Total antiviral prescriptions</i>	45	36	- 20.0%	↓3
Schools absenteeism daily rate²	6.9	8.2	+ 18.8%	↑5
Deaths				
Pneumonia associated	10 (7.8)	10 (8.6)	+ 11.2%	↑3
Influenza associated	1	2	+ 100%	↑1
Emergency room visits (EpiCenter)³				
Constitutional Complaints	748 (11.7)	667 (11.0)	- 6.0%	↓2
Fever and ILI	135 (2.1)	128 (2.1)	NC	NC
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				

Two influenza-related deaths were reported during Week 25, increasing the season total to 9. There were 10 deaths associated with pneumonia reported in Week 25. **Figure 1** displays weekly Summit County death counts associated with pneumonia and flu.

Acute Care Hospitalizations: There were 66 flu-related hospitalizations, a 8.2% decrease from Week 24. (**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 was one case of ILI reported.

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

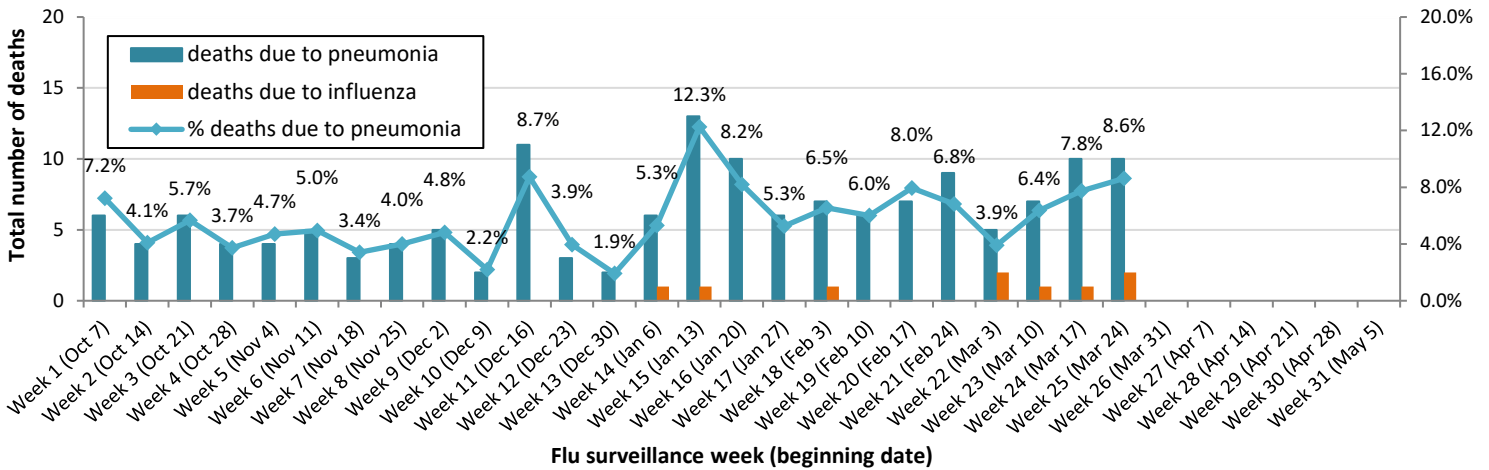
Physician offices and clinics: During Week 25, there were 2 cases of ILI reported.

Pharmacies: 36 Prescriptions for antiviral medications were reported during Week 25.

School absenteeism includes absences regardless of reason. During Week 25, area schools reported an average daily absence rate of 8.2%. This was an 18.8% increase over the rate reported during Week 24.

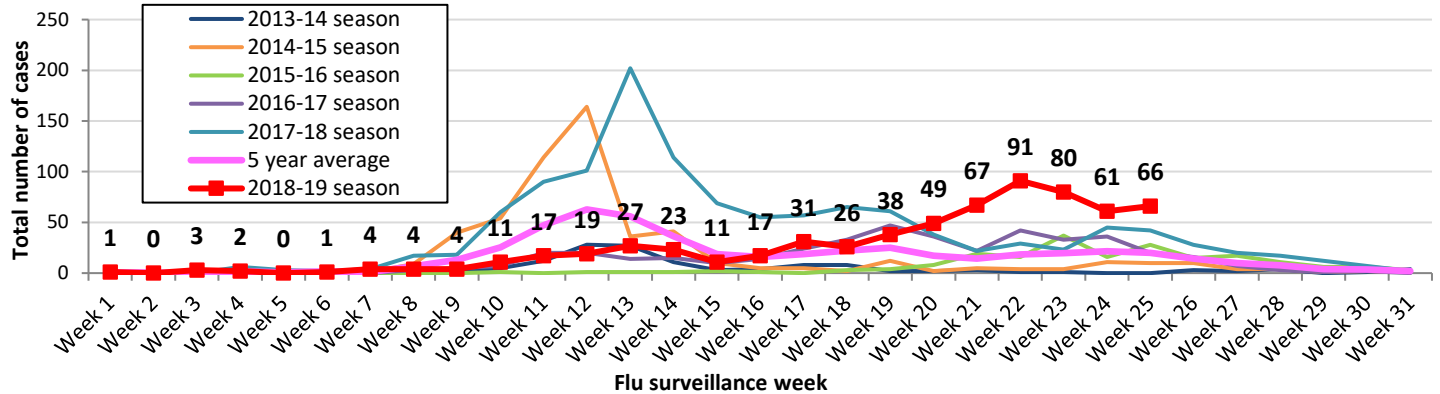
Lab reports: During Week 25, Summit County labs performed 1,187 influenza tests, of which 302 tested positive (300 Type A, 2 Type B). (**Figure 4**) The percentage of positive test results decreased by 6% since Week 24.

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 25. **Figure 2** displays weekly confirmed hospitalization counts for Summit County (season count to date = 653).

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 128 ILI-related visits reported during Week 25, which was 2.1% of total ED visits (n = 6,047). This rate was the same as the Week 24 rate.

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

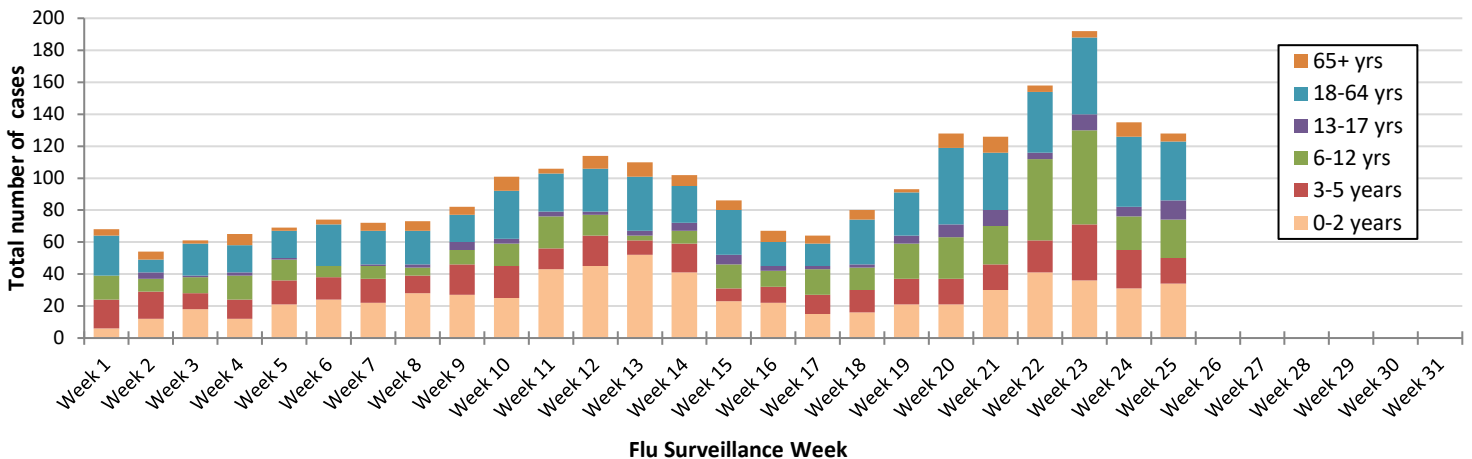
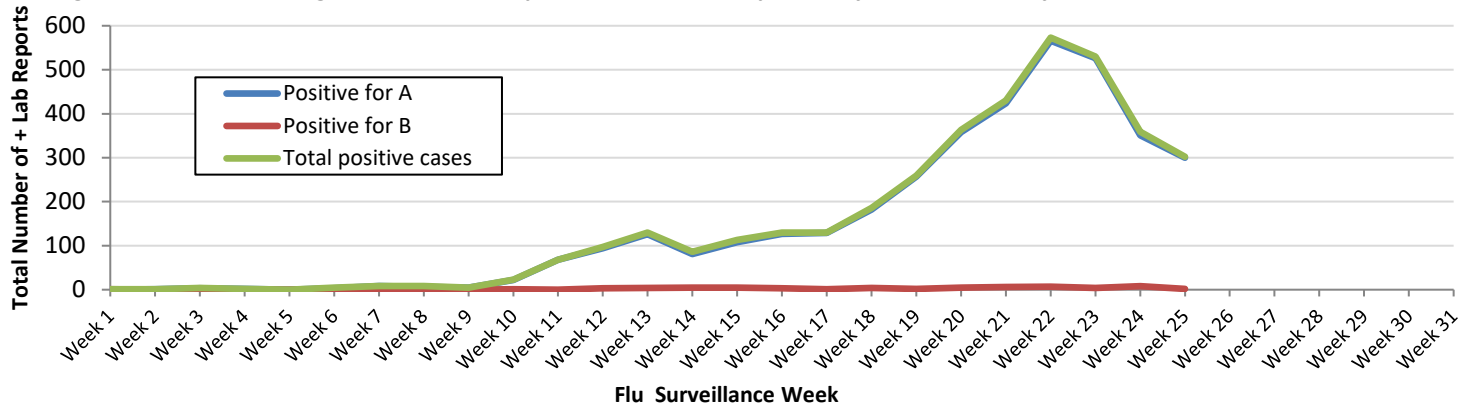


Figure 4. Influenza diagnostic tests with positive results completed by Summit County health facilities, 2018 - 2019 season



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 13, public health surveillance data sources indicate Low 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 789 influenza-associated hospitalizations reported during MMWR Week 13.

Ohio Influenza Activity Summary Dashboard (March 24 – March 30, 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)	2.09%	-27.18%	↓ 1	
Thermometer Sales (National Retail Data Monitor)	1461	-25.38%	↓ 3	
Fever and ILI Specified ED Visits (EpiCenter)	2.53%	-15.67%	↓ 3	
Constitutional ED Visits (EpiCenter)	11.92%	-9.77%	↓ 3	
Confirmed Influenza-associated Hospitalizations (Ohio Disease Reporting System)	789	-33.70%	↓ 1	
Outpatient Medical Claims Data ⁴	2.26%	-32.34%	↓ 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®

Ohio Surveillance Data:

- **ODH lab** has reported 1411 **positive** influenza tests from specimens sent from various submitters. 2018-2019 influenza season positive results: **(618) A/pdmH1N1; (589) A/H3N2; (4) Influenza B;** (through 3/30/2019).
- The **National Respiratory and Enteric Virus Surveillance System (NREVSS)** has reported **60,234** influenza tests performed at participating facilities. 2018-2019 influenza season positive results: **(389) A/pdmH1N1, (463) A/H3N2, (9,268) Flu A Not Subtyped, and (150) Flu B** (through 3/30/2019).
- 4 **pediatric influenza-associated mortalities** have been reported during the 2018-2019 season (through 3/30/2019).
- No **novel influenza A virus infections** have been reported during the 2018-2019 season (through 3/30/2019).
- Incidence of confirmed **influenza-associated hospitalizations** in 2018-2019 season = 8519 (through 3/30/2019).

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 30, 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 3.2%, 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):** Six states experienced high ILI activity; 19 states experienced moderate ILI activity; New York City, the District of Columbia, Puerto Rico and 13 states experienced low ILI activity; 12 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 33 states was reported as widespread; 15 states reported regional activity; the District of Columbia and one state reported local activity; the U.S. Virgin Islands and Guam did not report.
- **Influenza-associated Hospitalizations:** A cumulative rate of 56.4 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported. The highest hospitalization rate is among adults 65 years and older (181.8 hospitalizations per 100,000 population).
- **Pneumonia and Influenza Mortality:** The proportion of deaths attributed to pneumonia and influenza (P&I) was at 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 13. Five deaths occurred during the 2018-19 season and one death occurred during the 2017-18 season.

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

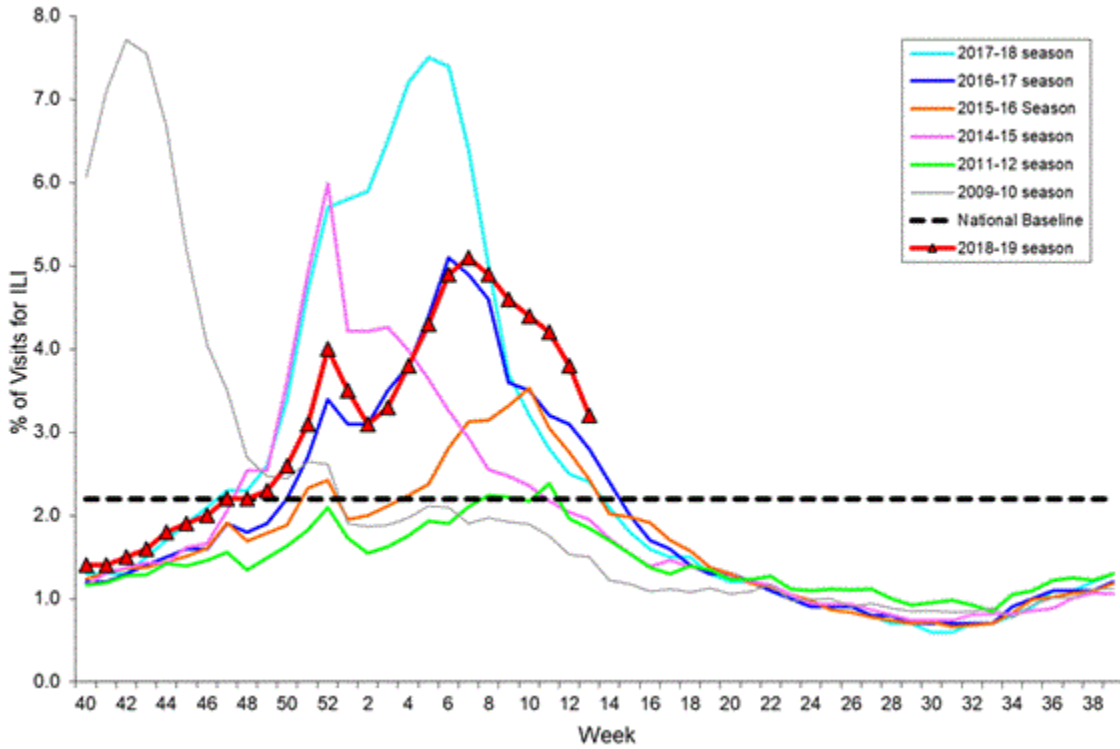


Figure 6. Influenza-like illness (ILI) activity level indicator determined by data reported to ILINet

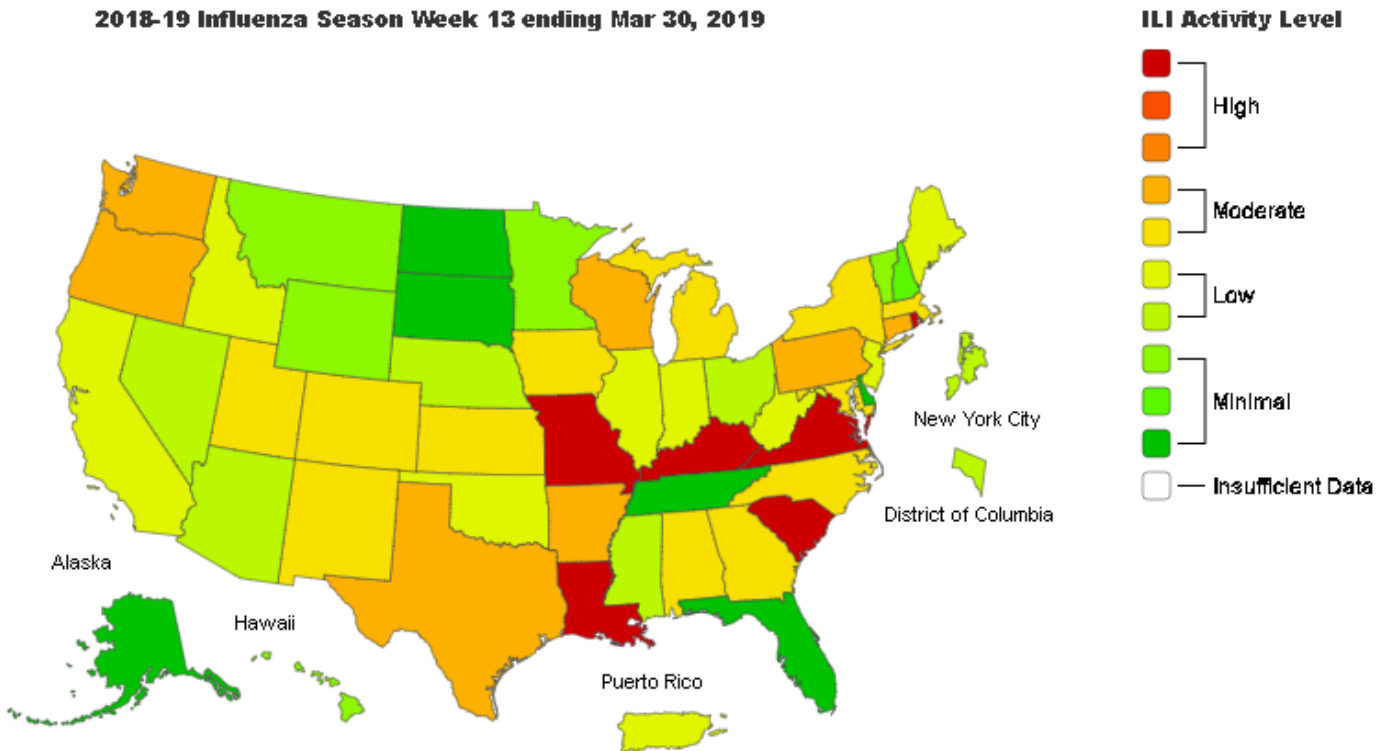
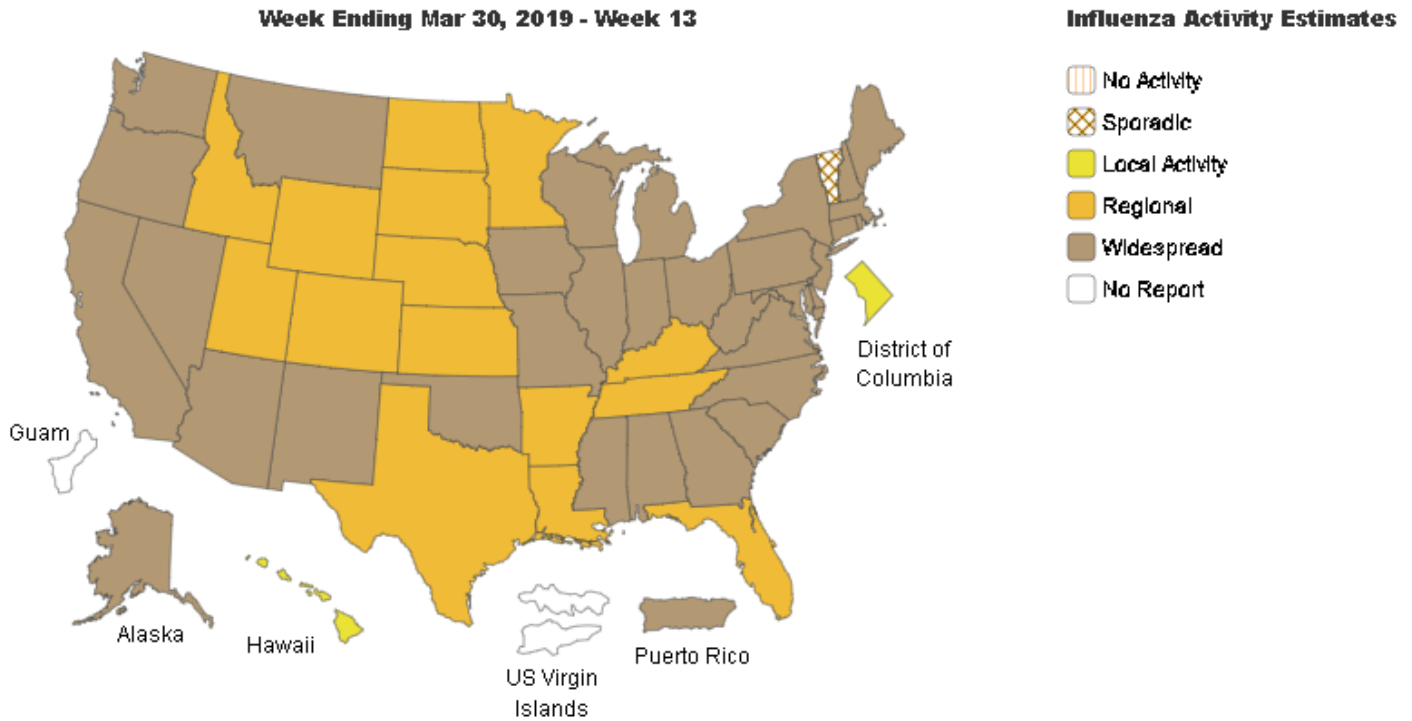


Figure 7. Weekly influenza activity (geographic spread) estimates reported by state and territorial epidemiologists



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

Global Surveillance:

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

Summary:

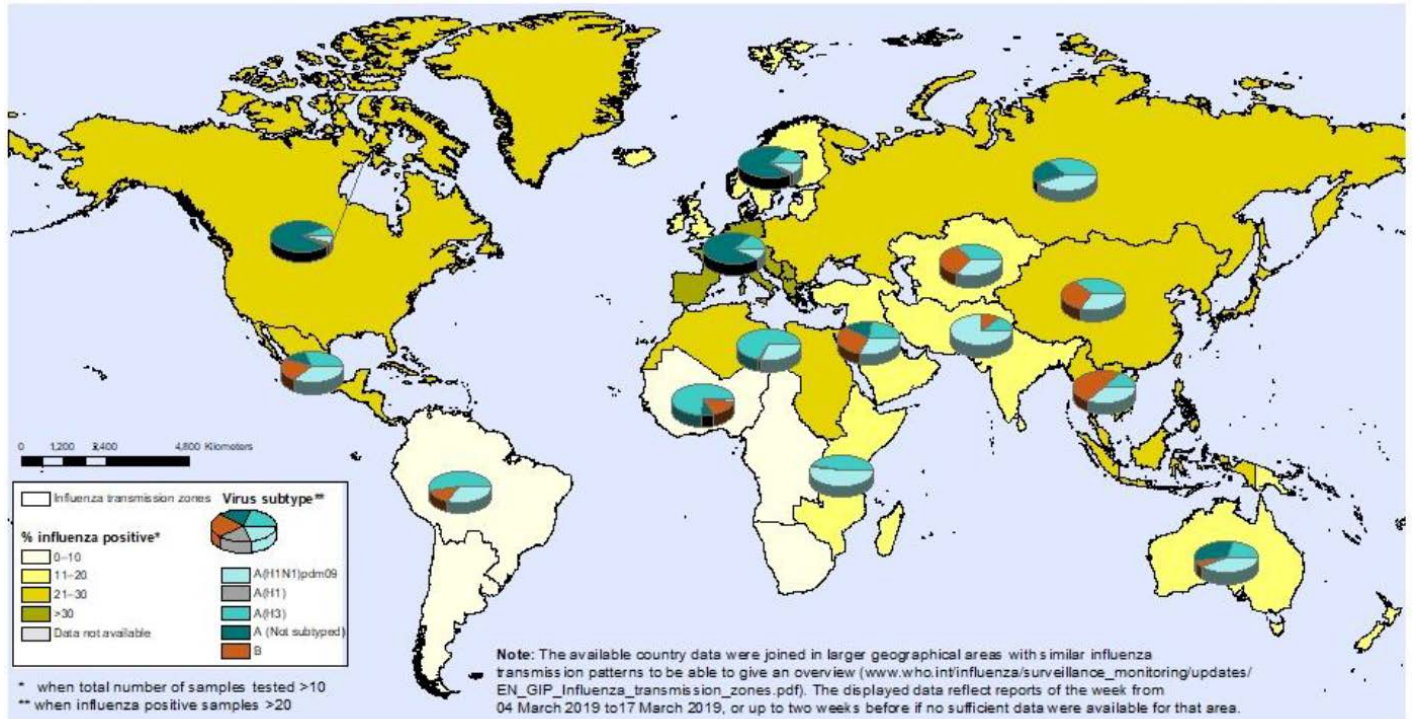
Worldwide, seasonal influenza A viruses accounted for the majority of detections.

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)



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 CIDRAP and the CDC:

NIH launches first human trial of universal flu vaccine candidate

Scientists at the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health (NIH), launched the first human trial of H1ssF_3928, an experimental universal flu vaccine. The trial will test the vaccine's safety and tolerability, as well as its success in eliciting an immune response.

"Seasonal influenza is a perpetual public health challenge, and we continually face the possibility of an influenza pandemic resulting from the emergence and spread of novel influenza viruses," said NIAID Director Anthony S. Fauci, MD. "This Phase 1 clinical trial is a step forward in our efforts to develop a durable and broadly protective universal influenza vaccine."

The trial will include 53 healthy adults ages 18 to 70. A group of 5 participants will receive a single 20-microgram (mcg) intramuscular injection of the experimental vaccine, while the remaining 48 will receive two 60-mcg vaccinations spaced 16 weeks apart.

The vaccine was developed to include the stem of hemagglutinin (HA), an influenza protein. The head of HA is subject to change each year depending on circulating viruses, but the stem remains the same. H1ssF_3928 was created using the stem of the H1N1 virus.

Apr 3 NIH [press release](#)

Source: <http://www.cidrap.umn.edu/news-perspective/2019/04/news-scan-apr-03-2019>

Flu vaccine tied to lower mortality in heart failure patients

In a study today in *Open Forum Infectious Diseases*, researchers combed through published data on all-cause mortality rates among heart failure patients who received the influenza vaccine and found that flu vaccination was associated with a 31% decreased risk of all-cause mortality in those patients. The effect was more prominent (51% lower risk) during influenza season.

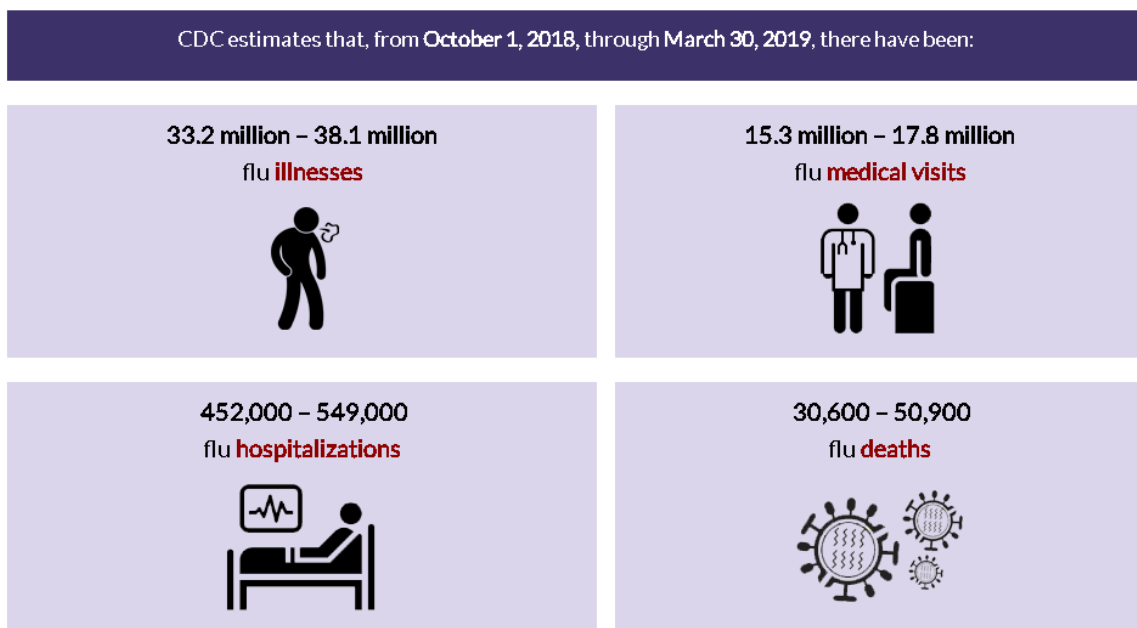
The authors drew from eight studies published since 2000, which included a total of 82,354 patients (average age of 65) with heart failure. They found that patients who had received seasonal flu vaccine had a reduced risk of all-cause mortality (hazard ratio [HR], 0.69; 95% confidence interval [CI], 0.51 to 0.87), especially during flu season (HR, 0.49; 95% CI, 0.30 to 0.69).

"There was no statistically significant difference in the rate of hospitalization among vaccinated and non-vaccinated patients with heart failure (pooled hazard ratio of 0.62 favoring influenza vaccination), which may be due to the relatively limited number of studies," the authors wrote.

Influenza infection has been associated with an increased risk of myocardial infarction and an exacerbation of chronic cardiovascular conditions. Because of this and the evidence gained from this study, the authors recommend seasonal flu vaccines for eligible heart failure patients.

Apr 2 *Open Forum Infect Dis* study

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



Source: <https://www.cdc.gov/flu/about/burden/preliminary-in-season-estimates.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 5, 2019.