



**Summit County Public Health
Influenza Surveillance Report
2018 – 2019 Season
Report #27**



Public Health
Prevent. Promote. Protect.

**Flu Surveillance Week 28 (4/14 to 4/20/2019)
Centers for Disease Control and Prevention MMWR Week 16**

Summit County Surveillance Data:

During **Week 28**, influenza-related activity in Summit County *continued to decrease*.

Table 1: Overall Influenza Activity Indicators in Summit County by Week				
	Week 27 MMWR 15 N (%)¹	Week 28 MMWR 16 N (%)¹	Percent change from previous week	Number of weeks increasing or decreasing
Lab Reports				
Test Performed	654	573	- 12.4%	↓6
Positive Tests (Number and %)	80 (12.2)	23 (4.0)	- 67.2%	↓6
Influenza A (Number and %)	74 (11.3)	20 (3.5)	- 69.0%	↓6
Influenza B (Number and %)	6 (0.9)	3 (0.5)	- 44.4%	↓1
Influenza hospitalizations:	16	6	- 62.5%	↓3
Influenza ILI Community Report:				
Long-term Care Facilities	0	0	--	--
Correctional & Addiction Facilities	0	0	--	--
Physician Offices & Clinics	9	0	- 100%	↓2
Pharmacy Prescriptions				
Amantidine	1	3	+ 200%	↑3
Rimantidine Flumadine	0	0	--	--
Relenza	0	0	--	--
Oseltamivir Tamiflu	12	8	- 66.7%	↓6
<i>Total antiviral prescriptions</i>	13	11	- 15.4%	↓6
Schools absenteeism daily rate²	5.3	5.3	NC	NC
Deaths				
Pneumonia associated	2 (1.6)	8 (6.7)	+ 323%	↑1
Influenza associated	1	0	- 100%	↓2
Emergency room visits (EpiCenter)³				
Constitutional Complaints	522 (8.5)	450 (7.7)	- 9.4%	↓5
Fever and ILI	75 (1.2)	51 (0.9)	- 25.0%	↓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 influenza-related deaths were reported during Week 28, the season total remains at 13. There were 8 deaths associated with pneumonia reported in Week 28. **Figure 1** displays weekly Summit County death counts associated with pneumonia and flu.

Acute Care Hospitalizations: There were 6 flu-related hospitalizations, a 62.5% decrease from Week 27. (**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.

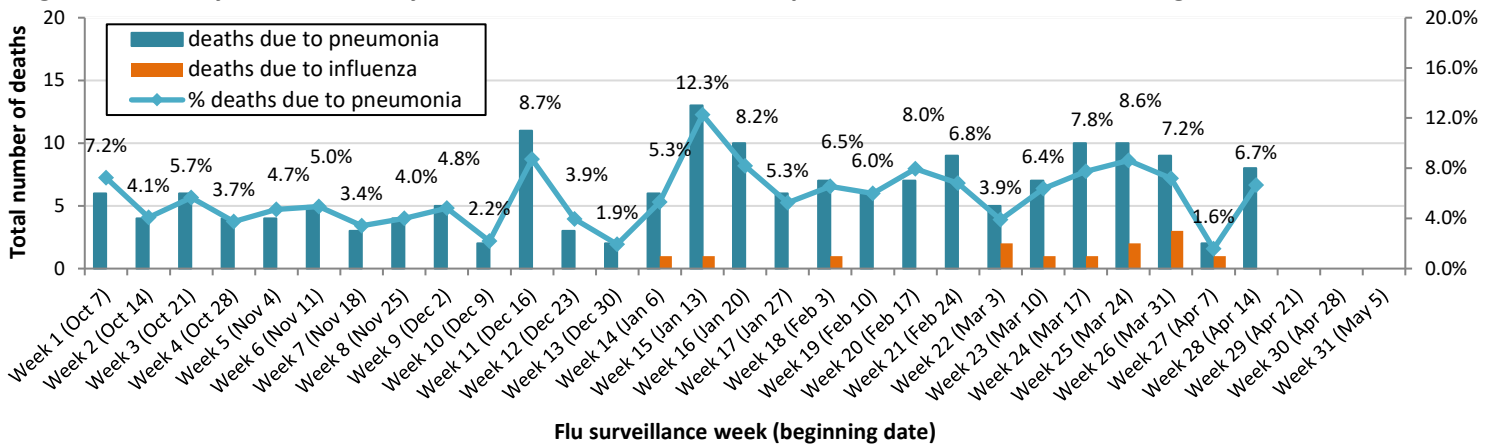
Physician offices and clinics: During Week 28, there were 0 cases of ILI reported.

Pharmacies: 11 Prescriptions for antiviral medications were dispensed by reporting pharmacies during Week 28.

School absenteeism includes absences regardless of reason. During Week 28, area schools reported an average daily absence rate of 5.3%, no change from the Week 27 rate.

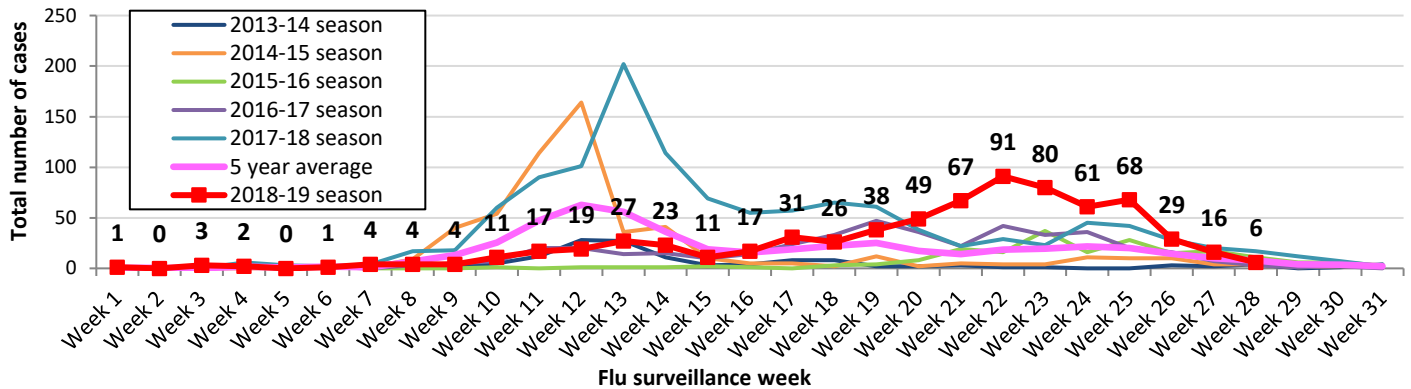
Lab reports: During Week 28, Summit County labs performed 573 influenza tests, of which 23 tested positive (20 Type A, 3 Type B). (**Figure 4**) The percentage of positive test results decreased by 67% since Week 27.

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



Influenza-associated hospitalizations: Summit County hospitals reported 6 influenza-associated hospitalizations in Week 28. **Figure 2** displays weekly confirmed hospitalization counts for Summit County (season count to date = 706).

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 51 ILI-related visits reported during Week 28, which was 0.9% of total ED visits (n = 5,830). This rate was 25% lower than the Week 27 rate.

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

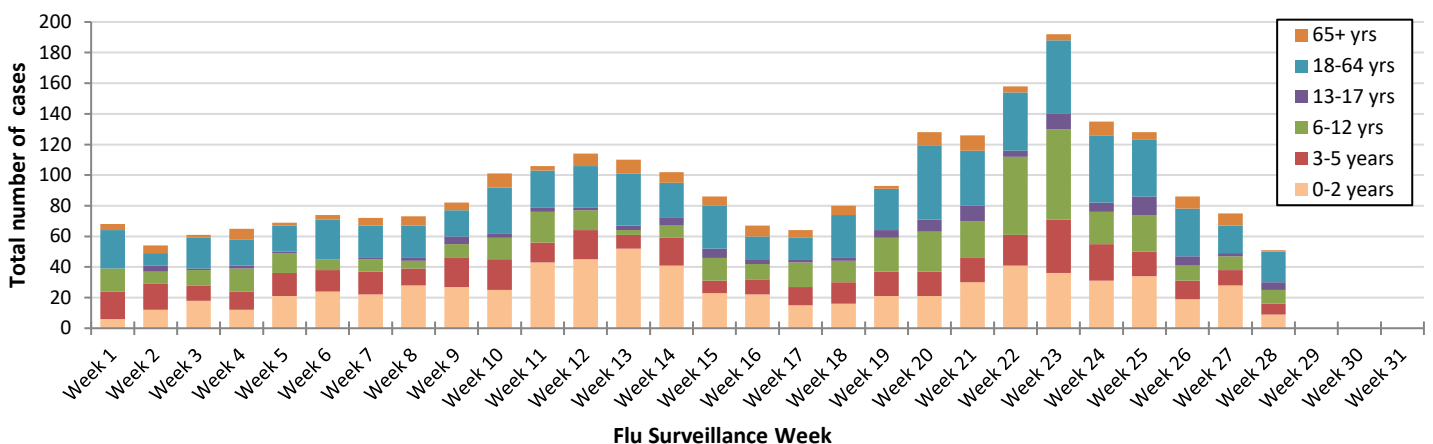
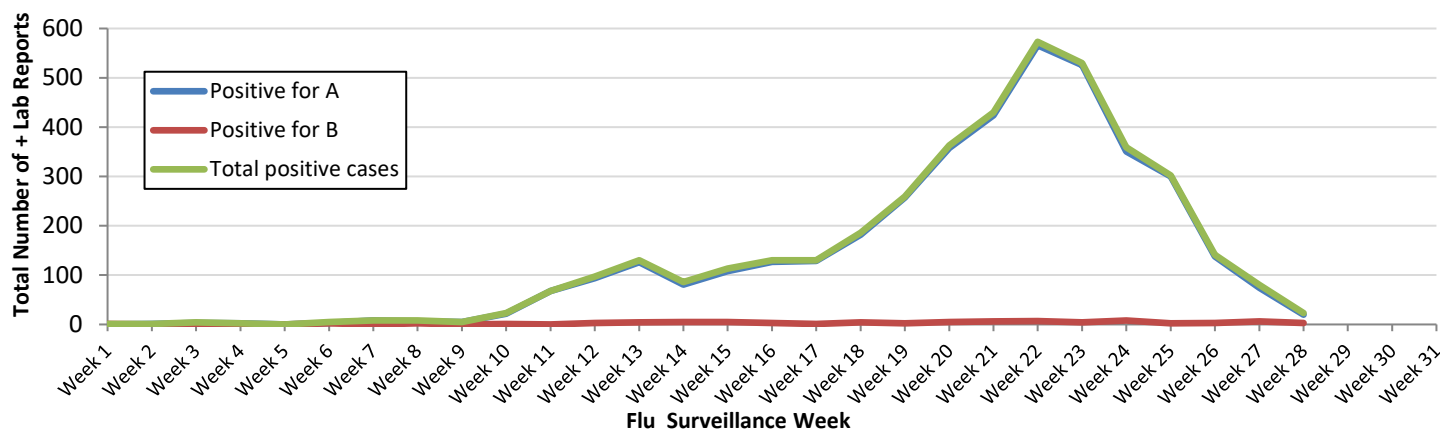


Figure 4. Influenza diagnostic tests with positive results completed by Summit County health facilities, 2018 - 2019 season



Ohio Influenza Activity:

Current Ohio Activity Level (Geographic Spread) – Widespread Definition: Increased ILI in > 2 but less than half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the affected regions, OR institutional outbreaks (ILI or lab confirmed) in > 2 but less than half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the affected regions.

During MMWR Week 16, 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**. Fever and ILI specified ED visits are now below baseline levels. Reported cases of influenza-associated hospitalizations are **above** the seasonal threshold*. There were 177 influenza-associated hospitalizations reported during MMWR Week 16.

Ohio Influenza Activity Summary Dashboard (April 14 – 20, 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)	0.92%	-22.03%	↓ 4	
Thermometer Sales (National Retail Data Monitor)	766	-15.73%	↓ 6	
Fever and ILI Specified ED Visits (EpiCenter)	1.61%	-12.97%	↓ 6	
Constitutional ED Visits (EpiCenter)	8.71%	-5.94%	↓ 6	
Confirmed Influenza-associated Hospitalizations (Ohio Disease Reporting System)	177	-54.15%	↓ 4	
Outpatient Medical Claims Data ⁴	0.99%	-50.25%	↓ 6	

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 1287 **positive** influenza tests from specimens sent from various submitters. 2018-2019 influenza season positive results: **(658) A/pdmH1N1; (621) A/H3N2; (8) Influenza B;** (through 4/20/2019).
- The **National Respiratory and Enteric Virus Surveillance System (NREVSS)** has reported **75,087** influenza tests performed at participating facilities. 2018-2019 influenza season positive results: **(440) A/pdmH1N1, (560) A/H3N2, (12,662) Flu A Not Subtyped, and (289) Flu B** (through 4/20/2019).
- 4 **pediatric influenza-associated mortalities** have been reported during the 2018-2019 season (through 4/20/2019).
- No **novel influenza A virus infections** have been reported during the 2018-2019 season (through 4/20/2019).
- Incidence of confirmed **influenza-associated hospitalizations** in 2018-2019 season = 9616 (through 4/20/2019).

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 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 also have been reported. Below is a summary of the key influenza indicators for the week ending April 20, 2019:

- **Viral Surveillance:** The percentage of respiratory specimens testing positive for influenza viruses in clinical laboratories decreased. During the most recent three weeks, influenza A(H3) viruses were reported more frequently than influenza A(H1N1)pdm09 viruses nationally, and in all 10 HHS Regions.
 - **Virus Characterization:** The majority of influenza A(H1N1)pdm09 and influenza B viruses characterized antigenically are similar to the cell-grown reference viruses representing the 2018–2019 Northern Hemisphere influenza vaccine viruses. However, the majority 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 2.1%, which is below the national baseline of 2.2%. This is the first week ILI activity was below the national baseline since mid-November 2018. Four of 10 regions reported ILI at or above their region-specific baseline level.
 - **ILI State Activity Indicator Map (Figure 6):** Puerto Rico experienced high ILI activity; one state experienced moderate ILI activity; nine states experienced low ILI activity; New York City, the District of Columbia and 40 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 five states was reported as widespread; Puerto Rico and 17 states reported regional activity; 19 states reported local activity; the District of Columbia, the U.S. Virgin Islands and nine states reported sporadic activity; and Guam did not report.
- **Influenza-associated Hospitalizations:** A cumulative rate of 64.2 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported. The highest hospitalization rate is among adults 65 years and older (214.1 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:** Five influenza-associated pediatric deaths were reported to CDC during week 16.

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

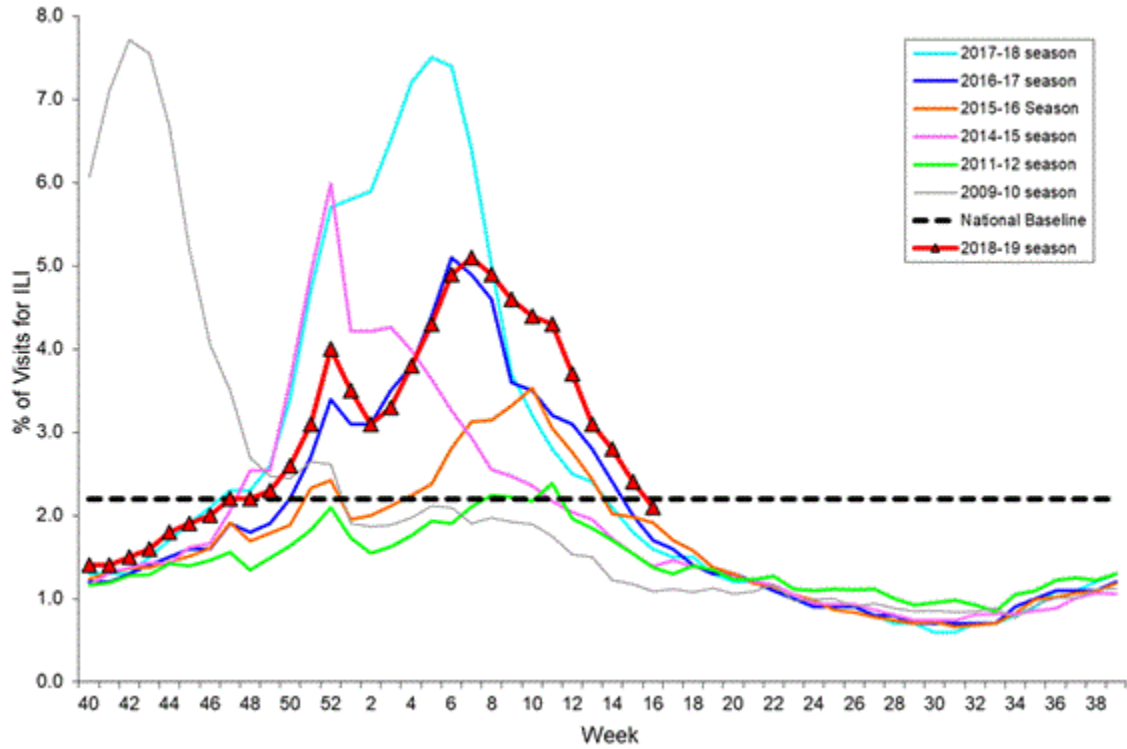


Figure 6. Influenza-like illness (ILI) activity level indicator determined by data reported to ILINet

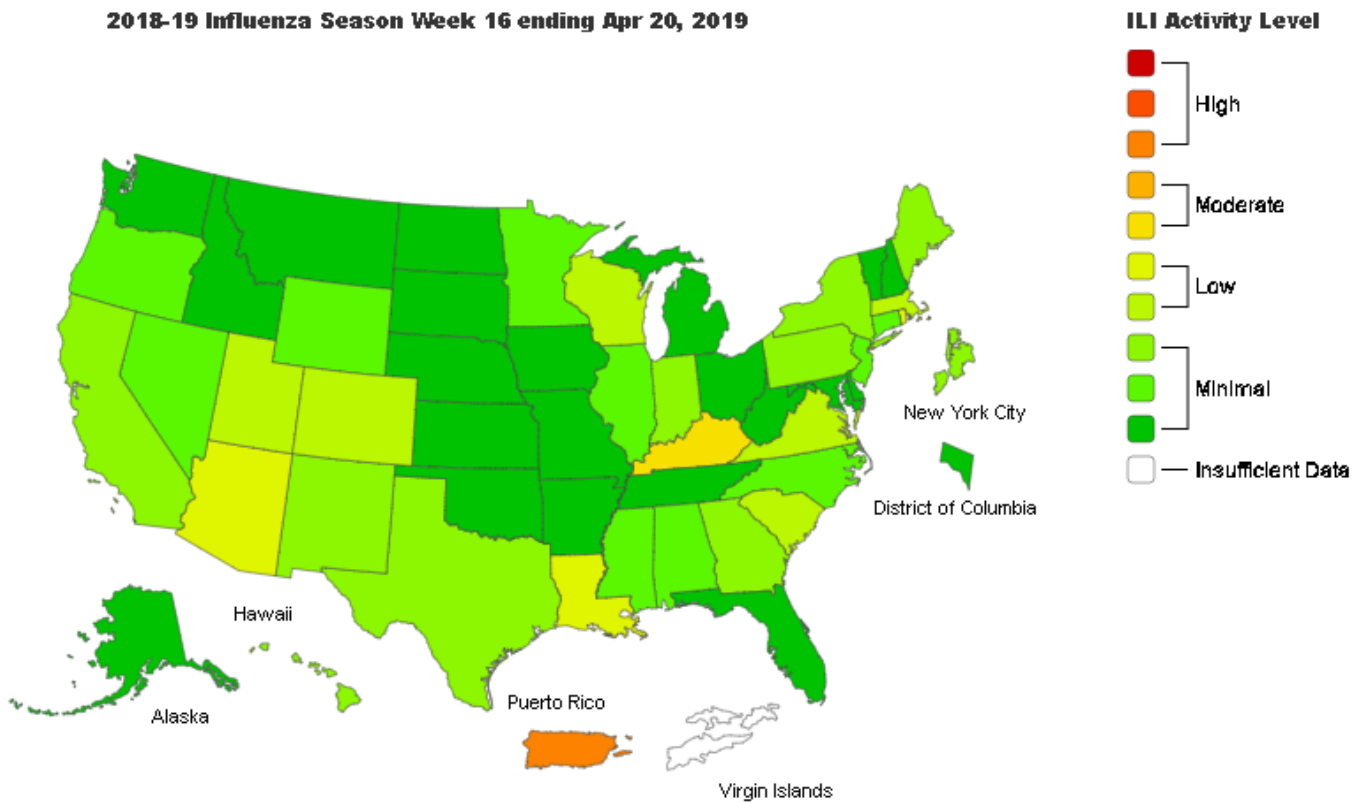
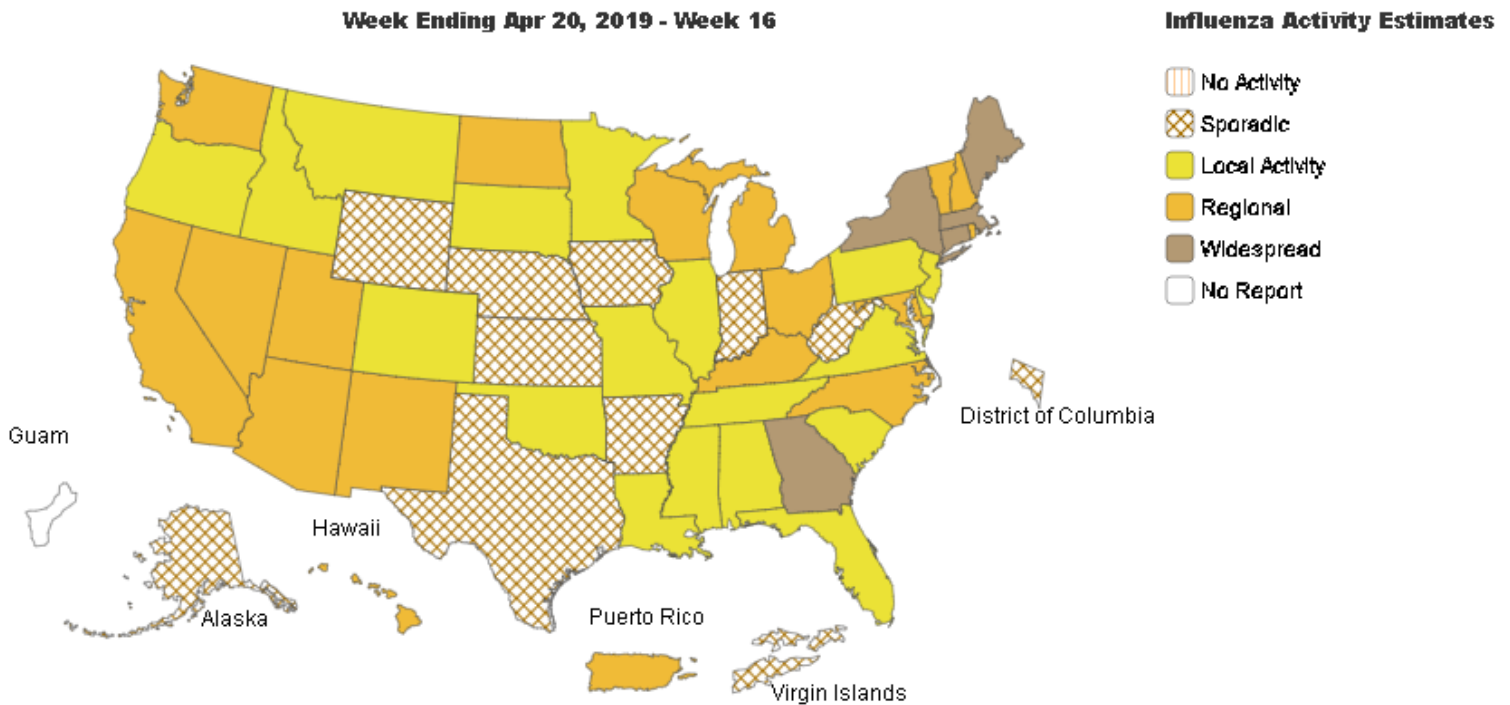


Figure 7. Weekly influenza activity (geographic spread) estimates reported by state and territorial epidemiologists



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

Global Surveillance:

Influenza Update N° 339, World Health Organization (WHO), published 15 April 2019, based on data up to 31 March 2019. The Update is published every two weeks.

Summary:

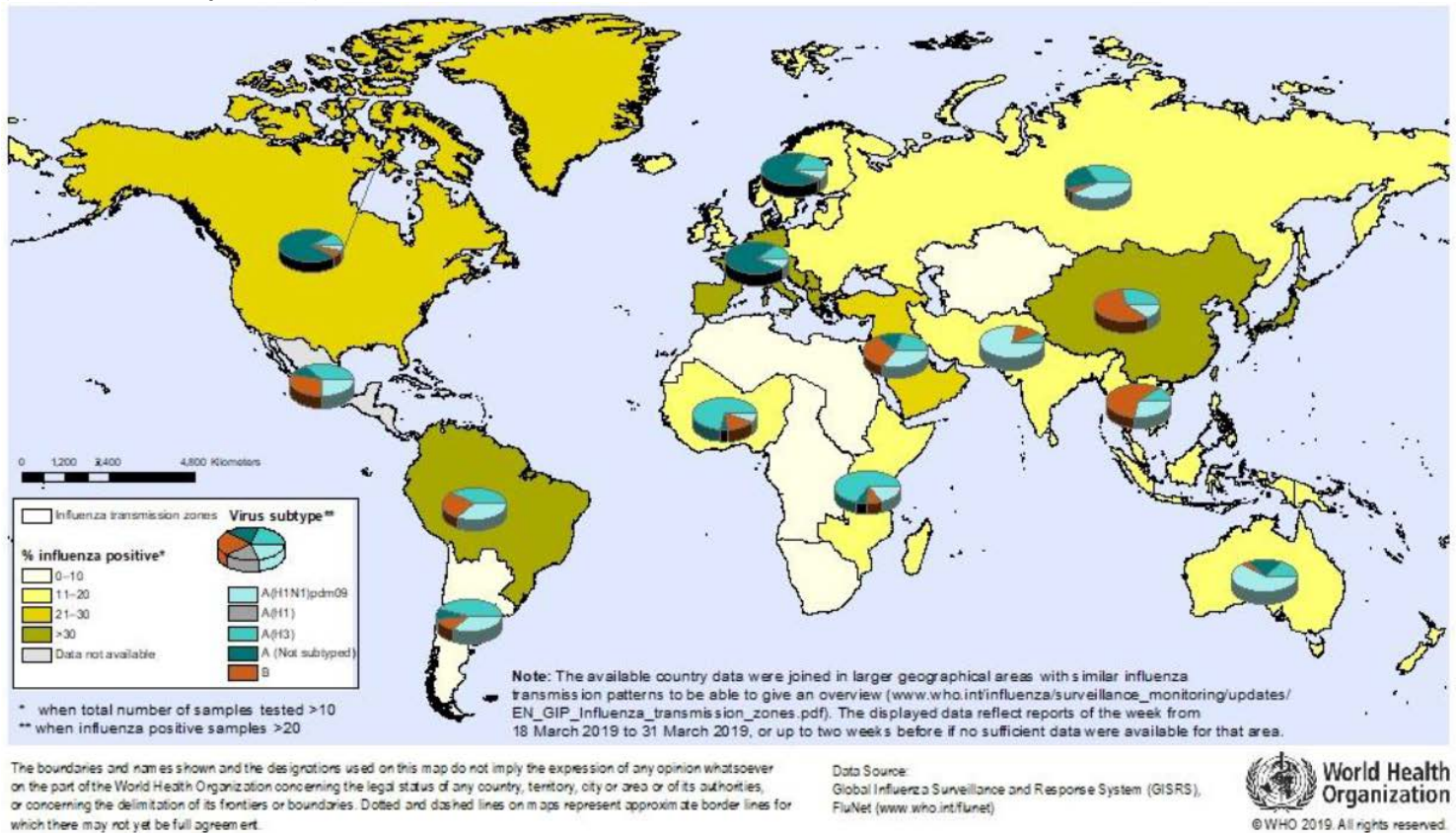
Worldwide, seasonal influenza A viruses accounted for the majority of detections.

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; influenza A(H3N2) was the most frequently identified subtype.
- In **North Africa**, influenza detections were low across reporting countries.
- In **Western Asia**, influenza activity appeared to decrease overall, with exception of Saudi Arabia where activity remained elevated.
- In **East Asia**, although decreased influenza activity continued to be reported. Influenza B was the most frequently detected virus followed by influenza A(H3N2).

National Influenza Centres (NICs) and other national influenza laboratories from 125 countries, areas or territories reported data to FluNet for the time period from 18 March 2019 to 31 March 2019 (data as of 2019-04-12 03:15:47 UTC). The WHO GISRS laboratories tested more than 139623 specimens during that time period. 30960 were positive for influenza viruses, of which 25464 (82.2%) were typed as influenza A and 5496 (17.8%) as influenza B. Of the sub-typed influenza A viruses, 4189 (40.6%) were influenza A(H1N1)pdm09 and 6139 (59.4%) were influenza A(H3N2). Of the characterized B viruses, 154 (3.8%) belonged to the B-Yamagata lineage and 3919 (96.2%) to the B-Victoria lineage.

Figure 8. Percentage of respiratory specimens that tested positive for influenza, by influenza transmission zone (status as of 12 April 2019)



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

Influenza News from the CDC

2009 H1N1 Pandemic (H1N1pdm09 virus)

In the spring of 2009, a novel influenza A (H1N1) virus emerged. It was detected first in the United States and spread quickly across the United States and the world. This new H1N1 virus contained a unique combination of influenza genes not previously identified in animals or people. This virus was designated as influenza A (H1N1)pdm09 virus. Few young people had any existing immunity (as detected by antibody response) to the (H1N1)pdm09 virus, but nearly one-third of people over the age of 60 years had antibodies against this virus, likely from an exposure to an older H1N1 virus earlier in their lives. The (H1N1)pdm09 virus was very different from H1N1 viruses that were circulating at that time; vaccination with seasonal flu vaccines thus offered little cross-protection against (H1N1)pdm09 virus infection. While a [monovalent \(H1N1\)pdm09 vaccine](#) was produced, it was not available in large quantities until late November, which was after the peak of illness during the second wave had come and gone in the United States. From April 12, 2009 to April 10, 2010, CDC estimated that there were 60.8 million cases (range: 43.3-89.3 million), 274,304 hospitalizations (195,086-402,719), and 12,469 deaths (8868-18,306) in the United States due to the (H1N1)pdm09 virus.* CDC estimated that between 151,700 and 575,400 people worldwide died from 2009 H1N1 virus infection during the first year the virus circulated.** Globally, CDC estimated that 80 percent of (H1N1)pdm09 virus-associated deaths were in people younger than 65 years of age, which differs from typical seasonal influenza epidemics during which about 70 percent to 90 percent of deaths are estimated to occur in people 65 years of age and older.

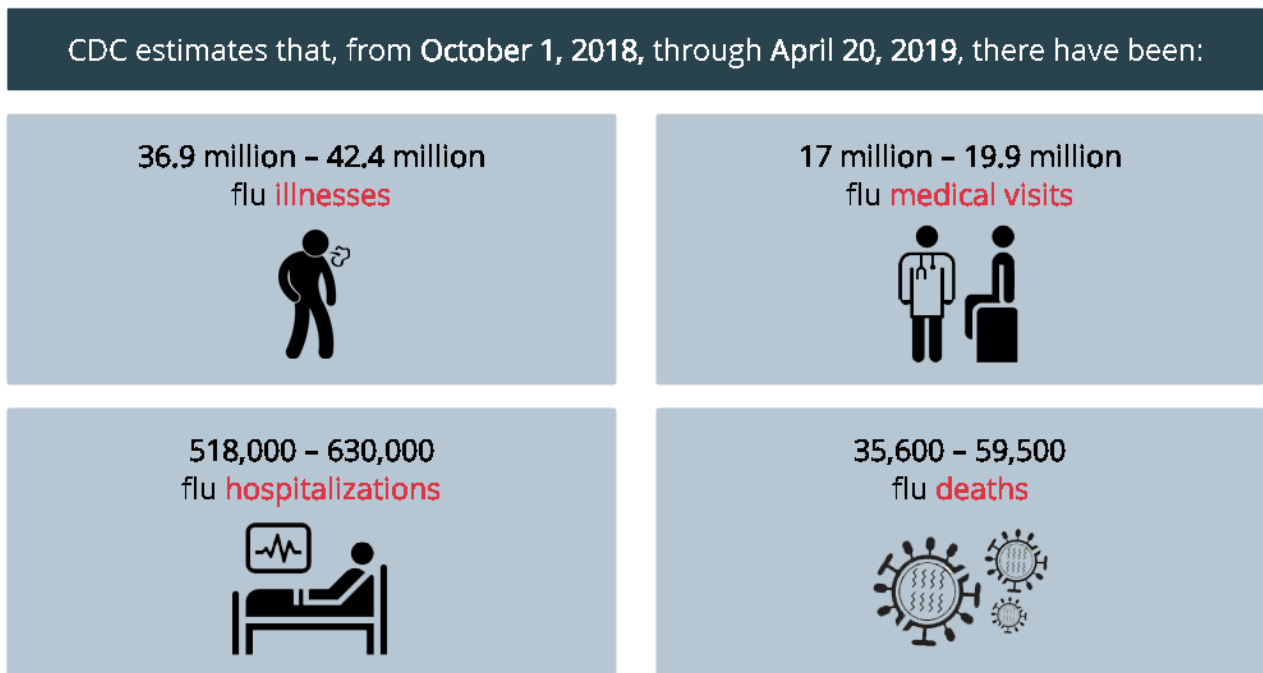
Though this most recent influenza pandemic primarily affected children and young and middle-aged adults, the impact of (H1N1)pdm09 virus on the global population overall during the first year was less severe than that of previous pandemics. Estimates of pandemic influenza mortality ranged from 0.03 percent of the world's population during the 1968 H3N2 pandemic to 1 percent to 3 percent of the world's population during the 1918 H1N1 pandemic. It is estimated that 0.001 percent to 0.007 percent of the world's population died of respiratory complications associated with the (H1N1)pdm09 virus infection during the first 12 months the virus circulated.

The United States mounted a complex, multi-faceted and long-term response to the pandemic, summarized in "[The 2009 H1N1 Pandemic: Summary Highlights, April 2009-April 2010.](#)" On August 10, 2010, WHO declared an end to the global 2009 H1N1 influenza pandemic. However, (H1N1)pdm09 virus continues to circulate as a seasonal influenza virus and cause illness and deaths worldwide every year.

2009 H1N1 Pandemic Timeline

In 2009, a new H1N1 influenza virus emerged, causing the first global flu pandemic in 40 years. Follow this link to the timeline of major events that took place during the 2009 H1N1 pandemic: [2009 H1N1 Pandemic Timeline](#)

Source: <https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html>



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 26, 2019.