



# Summit County Public Health Influenza Surveillance Report 2019 – 2020 Season



**Public Health**  
Prevent. Promote. Protect.

## Report #13

### Flu Surveillance Weeks 13 & 14 (12/29/2019 to 1/11/2020) Centers for Disease Control and Prevention MMWR Weeks 1 & 2

#### Summit County Surveillance Data:

In **Week 14** of surveillance, influenza-related activity is elevated in Summit County, but some indicators are decreasing.

Table 1: Overall Influenza Activity Indicators in Summit County by Week				
	Week 13 MMWR 1 N (%) <sup>1</sup>	Week 14 MMWR 2 N (%) <sup>1</sup>	Percent change from previous week	Number of weeks increasing or decreasing
<b>Lab Reports</b>				
Test Performed	1389	1236	- 11.0%	↓1
Positive Tests (Number and %)	271 (19.5)	269 (21.8)	+11.5%	↑1
Influenza A (Number and %)	93 (6.7)	100 (10.7)	+ 20.8%	↑1
Influenza B (Number and %)	178 (14.0)	169 (18.6)	+ 45.5%	↑1
<b>Acute care hospitalization for Influenza:</b>	40	36	- 10.0%	↓1
<b>Influenza ILI Community Report:</b>				
Long-term Care ILI Cases	3	0	- 100%	↓1
Correctional & Addiction Facility	0	1	+ 100%	↑1
Physician Offices & University Clinic	5	3	- 60.0%	↓1
<b>Pharmacy Prescriptions</b>				
Zanamivir (Relenza)	0	0	--	--
Oseltamivir (Tamiflu)	16	17	+ 6.3%	↑1
Baloxavir marboxil (Xofluza)	0	0	--	--
<i>Total</i>	16	17	+ 6.3%	↑1
<b>Schools absenteeism<sup>2</sup></b>	closed	6.4%	--	--
<b>Deaths</b>				
Pneumonia associated	5 (3.4)	2 (1.2)	- 63.7%	↓2
Influenza associated	0	0	--	--
<b>Emergency room visits (EpiCenter)<sup>3</sup></b>				
Constitutional Complaints	866 (13.3)	781 (12.6)	- 5.2%	↓1
Fever and ILI	168 (2.6)	123 (2.0)	- 23.0%	↓2
1) N and % are reported when available, NC = no change, or change that is not significant				
2) Absence is for any reason. Percent is from total number of students enrolled. Data was collected from 6 schools or school districts throughout Summit County (n = 32,000 students)				
3) Percent is from total number of emergency room interactions				
<b>Note:</b> 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 14, and there were two deaths associated with pneumonia. **Figure 1** displays weekly Summit County death counts associated with pneumonia and influenza.

**Acute Care Hospitalizations:** 36 hospitalization was reported during Week 14. **Figure 2** displays influenza associated hospitalizations in Summit County.

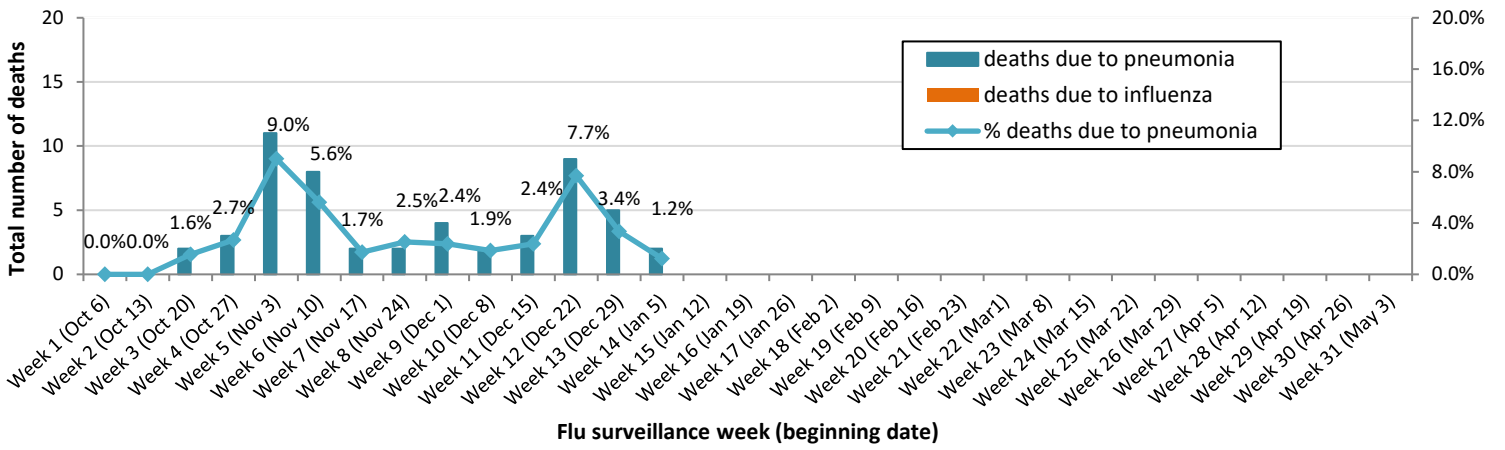
**COMMUNITY ILI REPORTS:** Influenza like Illness (ILI) as defined by the CDC is fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. Community ILI reports: **Long Term Care Facilities:** There were no cases of ILI reported. **Correctional and Inpatient Addiction facilities:** One case of ILI was reported. **Physician offices and clinics:** During Week 14, three cases of ILI were reported.

**Pharmacies:** 17 antiviral prescriptions were filled by reporting pharmacies during Week 14, a slight increase from Week 13.

**School absenteeism** includes absences regardless of reason. During Week 14, the reported absence rate was 6.4%.

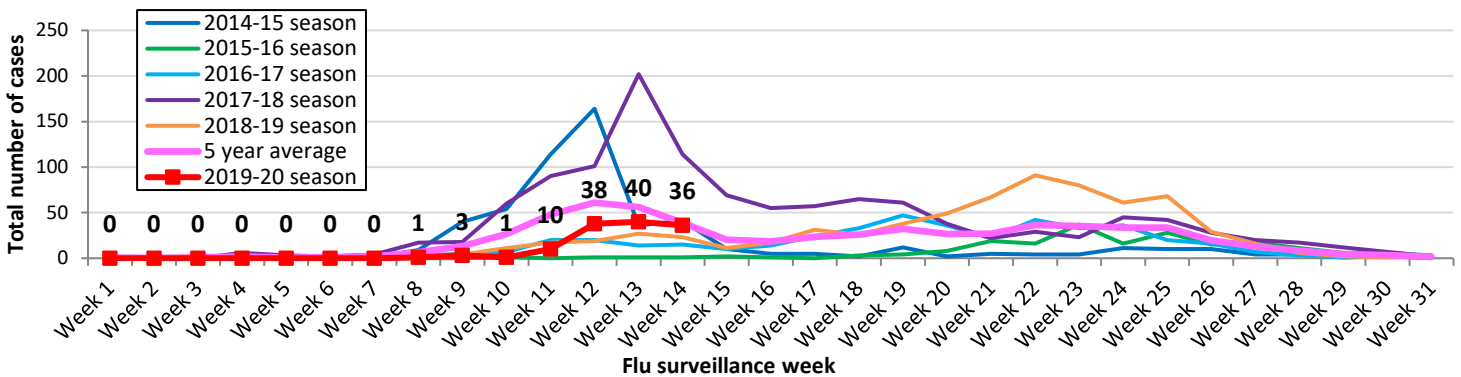
**Lab reports:** During Week 14 of influenza surveillance, reporting Summit County laboratories performed 1236 flu tests, of which 269 were positive (Type A = 100, Type B = 169). (**Figure 4**). The percentage of positive flu tests increased during Week 14.

**Figure 1. Weekly Summit County death counts associated with pneumonia and influenza during 2019-2020 season**



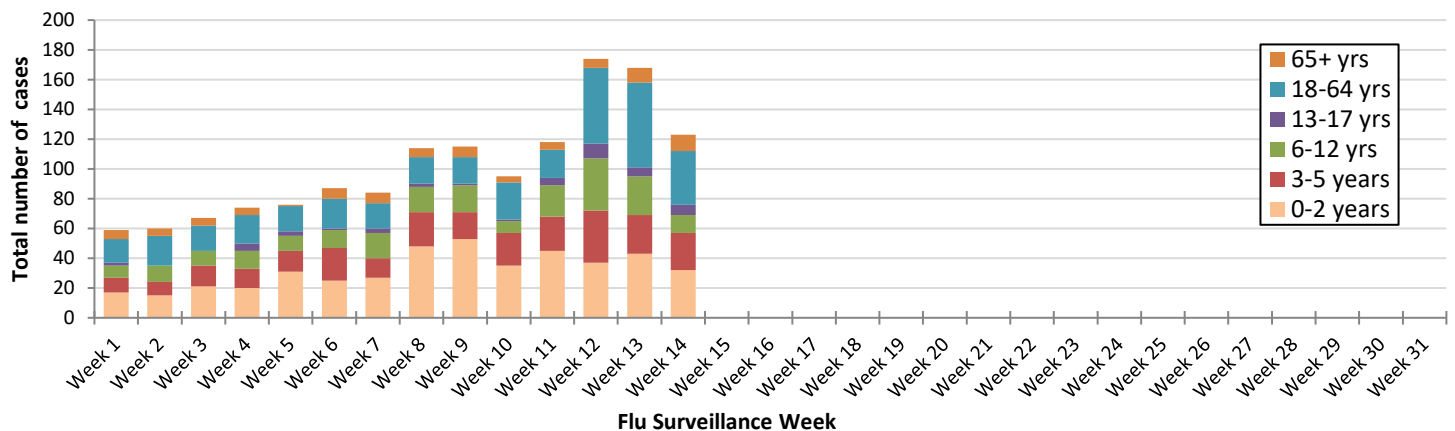
**Influenza-associated hospitalization:** Summit County hospitals reported 36 influenza-associated hospitalizations during Week 14. **Figure 2** displays weekly confirmed hospitalization count for Summit County (**cumulative count to date = 129**).

**Figure 2. Summit County influenza-associated hospitalizations by week, 2019-2020 and previous five seasons**

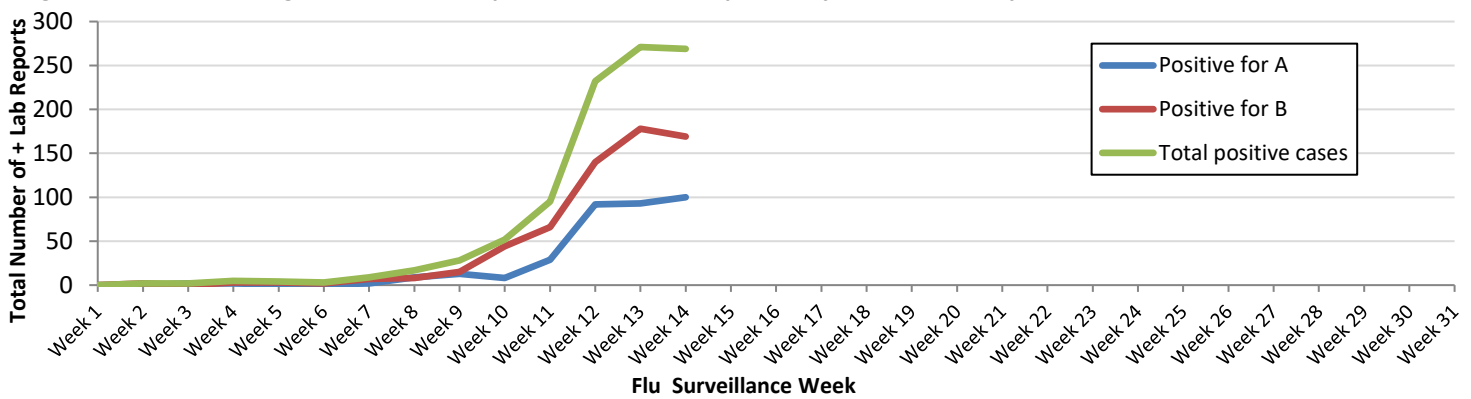


**EpiCenter** collects and analyzes health related data in real time to provide information about the health of the community. This system tracks ER visits related to constitutional complaints and fever and ILI. **Figures 3** displays the weekly number of ER visits related to ILI and flu symptoms in Summit County. There were 123 ILI-related visits reported during Week 14, which was 2.0% of total ED visits (n = 6193). This rate was 23% lower than the ILI rate during Week 13.

**Figure 3. Weekly ED visits in Summit County related to Fever + ILI stratified by age groups, 2019 to 2020 season**



**Figure 4. Influenza diagnostic tests with positive results completed by Summit County health facilities, 2019 - 2020 season**



## Ohio Influenza Activity: from the Ohio Department of Health:

### **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 2, 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 are above baseline levels statewide; fever and ILI specified ED visits are also above baseline levels. Reported cases of influenza-associated hospitalizations are above the seasonal threshold\*. There were 672 influenza-associated hospitalizations reported during MMWR Week 2.

### **Ohio Influenza Activity Summary Dashboard (January 5 – January 11, 2020):**

Data Source	Current week value	Percent Change from last week <sup>1</sup>	# of weeks <sup>2</sup>	Trend Chart <sup>3</sup>
Influenza-like Illness (ILI) Outpatient Data (ILINet Sentinel Provider Visits)	1.82%	-18.75%	↓ 2	
Thermometer Sales (National Retail Data Monitor)	1675	1.89%	↑ 1	
Fever and ILI Specified ED Visits (EpiCenter)	2.85%	-21.05%	↓ 2	
Constitutional ED Visits (EpiCenter)	13.97%	-8.99%	↓ 2	
Confirmed Influenza-associated Hospitalizations (Ohio Disease Reporting System)	672	-16.63%	↓ 1	
Outpatient Medical Claims Data <sup>4</sup>	1.96%	-46.59%	↓ 2	

<sup>1</sup>Interpret percent changes with caution. Large variability may be exhibited in data sources with low weekly values.

<sup>2</sup>Number of weeks that the % change is increasing or decreasing.

<sup>3</sup>Black lines represent current week's data; red lines represent baseline averages

<sup>4</sup>Medical Claims Data provided by athenahealth®

\*The seasonal threshold is 25 cases of influenza-associated hospitalizations; historical data demonstrate that once the weekly count exceeds 25 cases, the number of weekly cases thereafter will likely not decrease until after the peak of influenza activity for the season

Source: <https://www.odh.ohio.gov/seasflu/Ohio%20Flu%20Activity.aspx>

## Ohio Surveillance Data:

- **ODH lab** has reported **267 positive** influenza tests from specimens sent from sentinel ILINet providers and hospital clinical labs. 2019-2020 influenza season results: **(94) A/pdmH1N1; (17) A/H3N2; (156) Influenza B;** (through 01/11/2020).
- The **National Respiratory and Enteric Virus Surveillance System (NREVSS)** has **38,571** influenza specimens tested by RTPCR at participating facilities. 2019-2020 influenza season positive results: **(79) A/pdmH1N1; (2) A/H3N2; (1315) Flu A Not Subtyped; and (3959) Flu B;** (through 01/11/2020)
- **1 influenza-associated pediatric mortality** has been reported during the 2019-2020 season (through 01/11/2020).
- No **novel influenza A virus infections** have been reported during the 2019-2020 season (through 01/11/2020).
- Incidence of confirmed **influenza-associated hospitalizations** in 2019-2020 season = **2,472** (through 01/11/2020)

## National Surveillance: from Centers for Disease Control and Prevention (CDC):

According to this week's FluView report, key indicators that track flu activity declined slightly but are still high, but indicators that track severity (hospitalizations and deaths) are not high at this point in the season.

- **Viral Surveillance:** Nationally influenza B/Victoria viruses have been reported more frequently than other influenza viruses this season. However, during recent weeks, approximately equal numbers of B/Victoria and influenza A(H1N1)pdm09 viruses have been reported nationally. The predominant virus varies by region and by age group.
  - **Virus Characterization:** the percentage of viruses that were characterized antigenically are similar to the cell grown reference viruses representing the 2019-20 Northern Hemisphere influenza vaccines are listed by subtype. **A (H1N1)pdm09: 100%** (74 of 74 samples); **A (H3N2): 34.1%** (14 of 41 samples); **B/Victoria: 65.7%** (46 of 70 samples); **B/Yamagata: 100%** (10 of 10 samples).
  - **Antiviral Resistance:** the vast majority of influenza viruses tested (> 99%) show susceptibility to oseltamivir, peramivir, and zanamivir. All influenza viruses tested showed susceptibility to baloxavir.
- **Influenza-like Illness Surveillance (Figure 5):** Nationwide during week 2, 4.7% of patient visits reported through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) were due to influenza-like illness (ILI). *This percentage is above the national baseline of 2.4%.* On a regional level, the percentage of outpatient visits for ILI ranged from 3.0% to 7.4% during week 2. All regions reported a percentage of outpatient visits for ILI which is above their region-specific baselines.
  - **ILI State Activity Indicator Map (Figure 6):** Puerto Rico, New York City, and 32 states reported high ILI activity; the District of Columbia and 4 states reported moderate activity; 9 states experienced low ILI activity; and 5 states reported minimal activity. Data was insufficient for US Virgin Islands to report.
- **Geographic Spread of Influenza (Figure 7):** The geographic spread of influenza was reported widespread in Puerto Rico and 48 states; regional in Oregon, local in the District of Columbia and Hawaii; the U.S. Virgin Islands reported sporadic activity and Guam did not report.
- **Pneumonia and Influenza (P&I) Mortality:** Based on National Center for Health Statistics (NCHS) mortality surveillance data available on January 16, 2020, 6.9% of the deaths occurring during the week ending January 4, 2020 (week 1) were due to P&I. This percentage is below the epidemic threshold of 7.0% for week 1.
- **Influenza-associated Pediatric Deaths:** A total of 39 influenza-associated pediatric deaths occurring during the 2019-2020 season have been reported to CDC.
  - 28 deaths were associated with influenza B viruses. Five of these had the lineage determined and all were B/Victoria viruses.
  - 11 deaths were associated with influenza A viruses. Six of these had subtyping performed and all were A(H1N1)pdm09 viruses.

Figure 5. Percentage of visits for influenza-like illness (ILI) reported by the U.S. Outpatient Influenza-like Surveillance Network (ILINet), weekly national summary, 2019-2020 and selected previous seasons

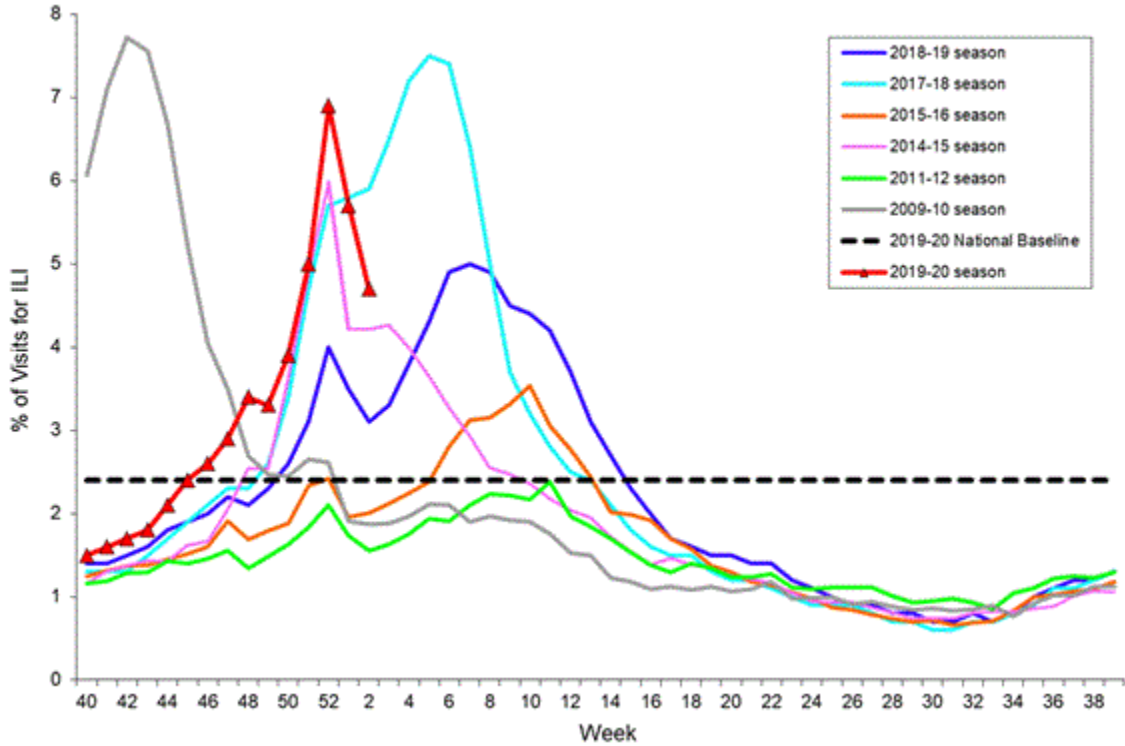


Figure 6. Influenza-like illness (ILI) activity level indicator determined by data reported to ILINet

2019-20 Influenza Season Week 2 ending Jan 11, 2020

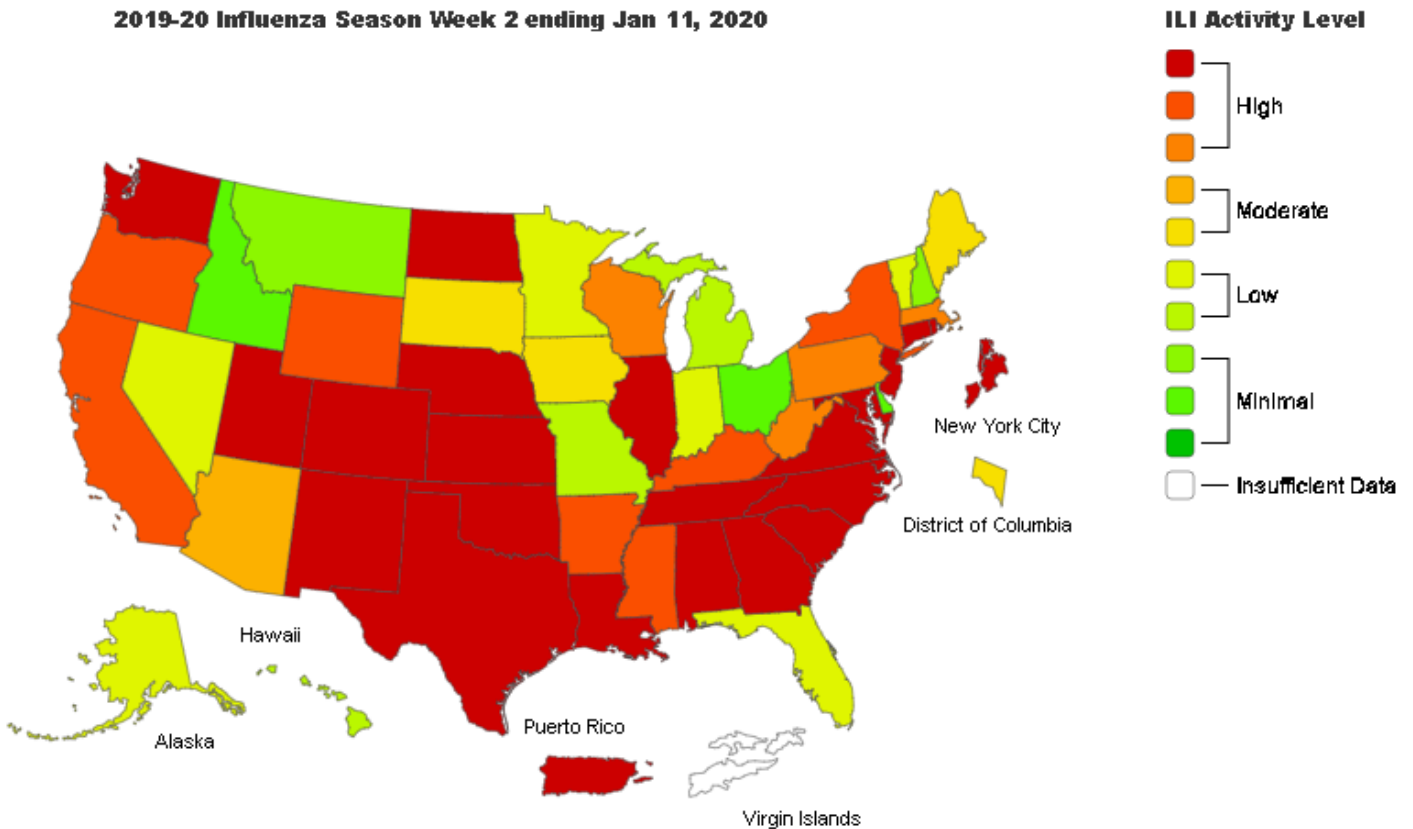
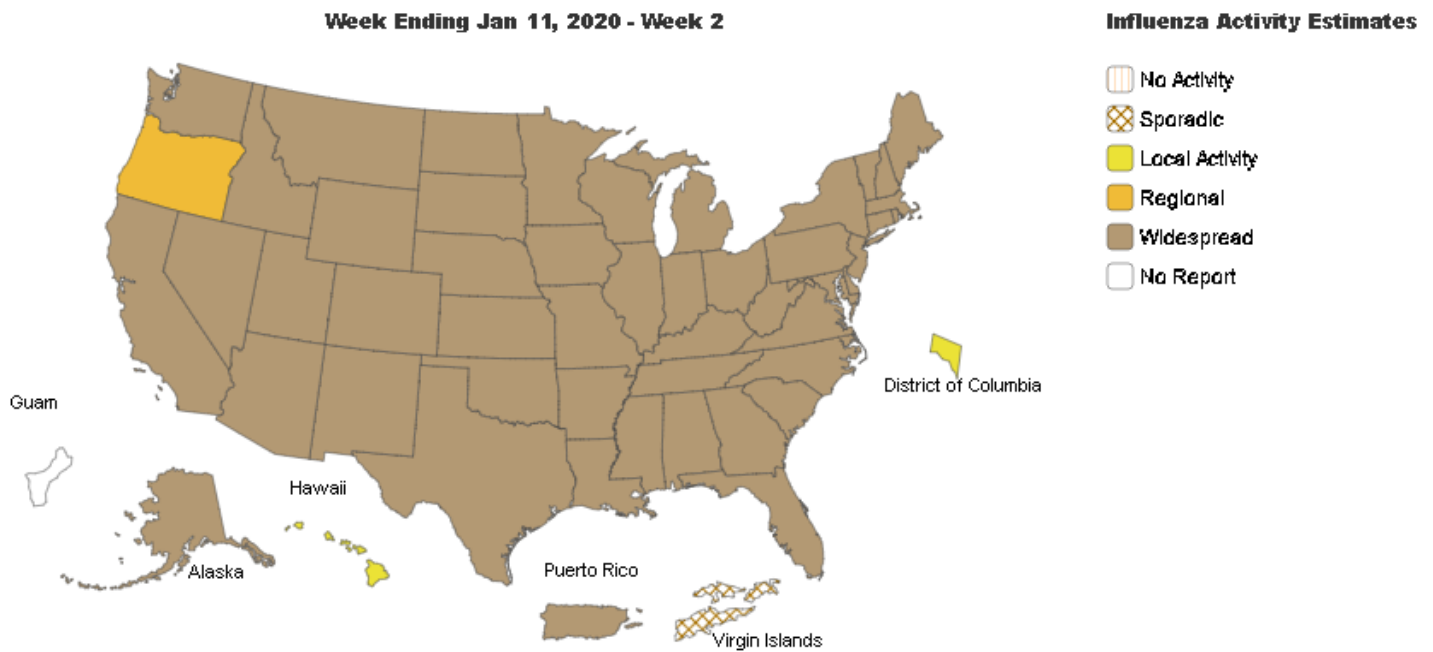


Figure 7. Weekly influenza activity (geographic spread) estimates reported by state and territorial epidemiologists



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

## Global Surveillance:

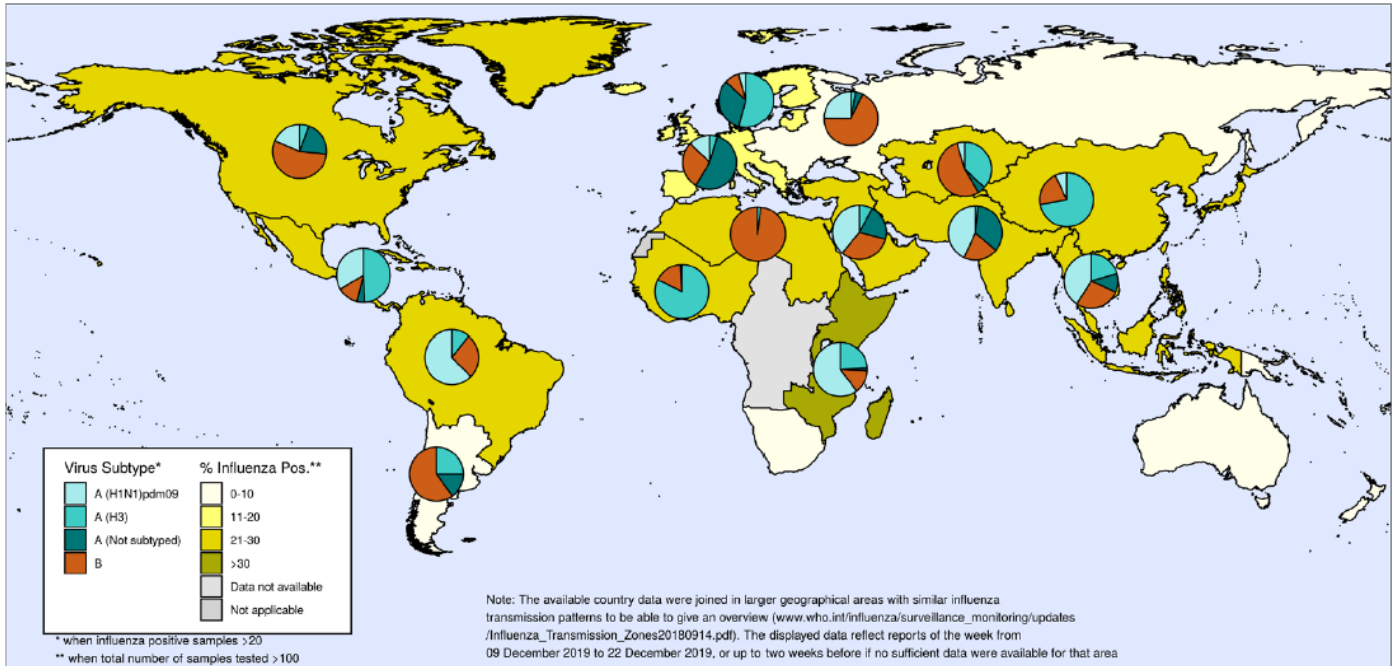
Influenza Update N° 358, World Health Organization (WHO), published 6 January 2020, based on data up to 22 December 2019. The Update is published every two weeks.

### Summary

- In the **temperate zone of the northern hemisphere**, respiratory illness indicators and influenza activity continued to increase in most countries. In **North America**, influenza activity further increased and although all seasonal influenza subtypes were co-circulating there was a high proportion of influenza B viruses. In **Europe**, influenza activity continued to increase across the region and was reported at moderate levels in some countries of Northern Europe. In **Central Asia**, influenza activity increased with influenza A and B viruses co-circulating. In **Northern Africa**, influenza activity was low overall. In **Western Asia**, influenza activity remained elevated overall and continued to increase in Iraq, Israel, Jordan, Turkey and Yemen. In **East Asia**, ILI and influenza activity continued to increase overall.
- In **the Caribbean and Central American countries**, influenza activity was low overall, except for Cuba where increased detections of influenza B/Victoria lineage viruses were reported. In **tropical South American countries**, increased influenza activity was reported from Ecuador and Colombia in recent weeks.
- In **tropical Africa**, influenza activity was elevated in some countries of Eastern and Middle Africa.
- In **Southern Asia**, influenza activity was low in most reporting countries, but remained elevated in the Islamic Republic of Iran, though decreased.
- In **South East Asia**, influenza activity was reported in the Lao People’s Democratic Republic and Malaysia.
- In the **temperate zones of the southern hemisphere**, influenza activity remained at inter-seasonal levels.
- **Worldwide**, seasonal influenza A(H3N2) 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 9 December 2019 to 22 December 2019 (*data as of 2020-01-03 08:00:07 UTC*). The WHO GISRS laboratories tested more than 96 024 specimens during that time period. A total of 20 706 specimens were positive for influenza viruses, of which 14 225 (68.7%) were typed as influenza A and 6481 (31.3%) as influenza B. Of the sub-typed influenza A viruses, 3210 (28.9%) were influenza A(H1N1)pdm09 and 7890 (71.1%) were influenza A(H3N2). Of the characterized B viruses, 45 (1.5%) belonged to the B-Yamagata lineage and 2962 (98.5%) to the B-Victoria lineage.

**Figure 8. Percentage of respiratory specimens that tested positive for influenza, by influenza transmission zone**  
**Map generated by the WHO on 3 January 2020**



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)  
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Source: [https://www.who.int/influenza/surveillance\\_monitoring/updates/latest\\_update\\_GIP\\_surveillance/en/](https://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/)

## Influenza News from CDC and CIDRAP:

### Study shows middle-age adults at most risk for H3N2 flu

A new study on influenza immunologic imprinting suggests adults who were first exposed to H3N2 influenza A in the late 1960s and early 1970s possess non-neutralizing (ineffective) antibodies against current strains of the virus, making them more susceptible to infection. The study appeared yesterday on medRxiv, a preprint server.

H3N2 first began circulating in humans in 1968, and most people have been exposed to and develop antibodies against the virus by 3 to 4 years of age. But a new clade of the virus—3c2. A H3N2—emerged during the 2014-15 flu season and has since been associated with high rates of severe illness and flu hospitalizations in the United States. The clade has dominated three recent US flu seasons, including the 2017-18 season.

To test how and if age affected immune response to the virus, the researchers collected sera samples from 140 children and 212 adults from hospital systems in Philadelphia during the summer of 2018.

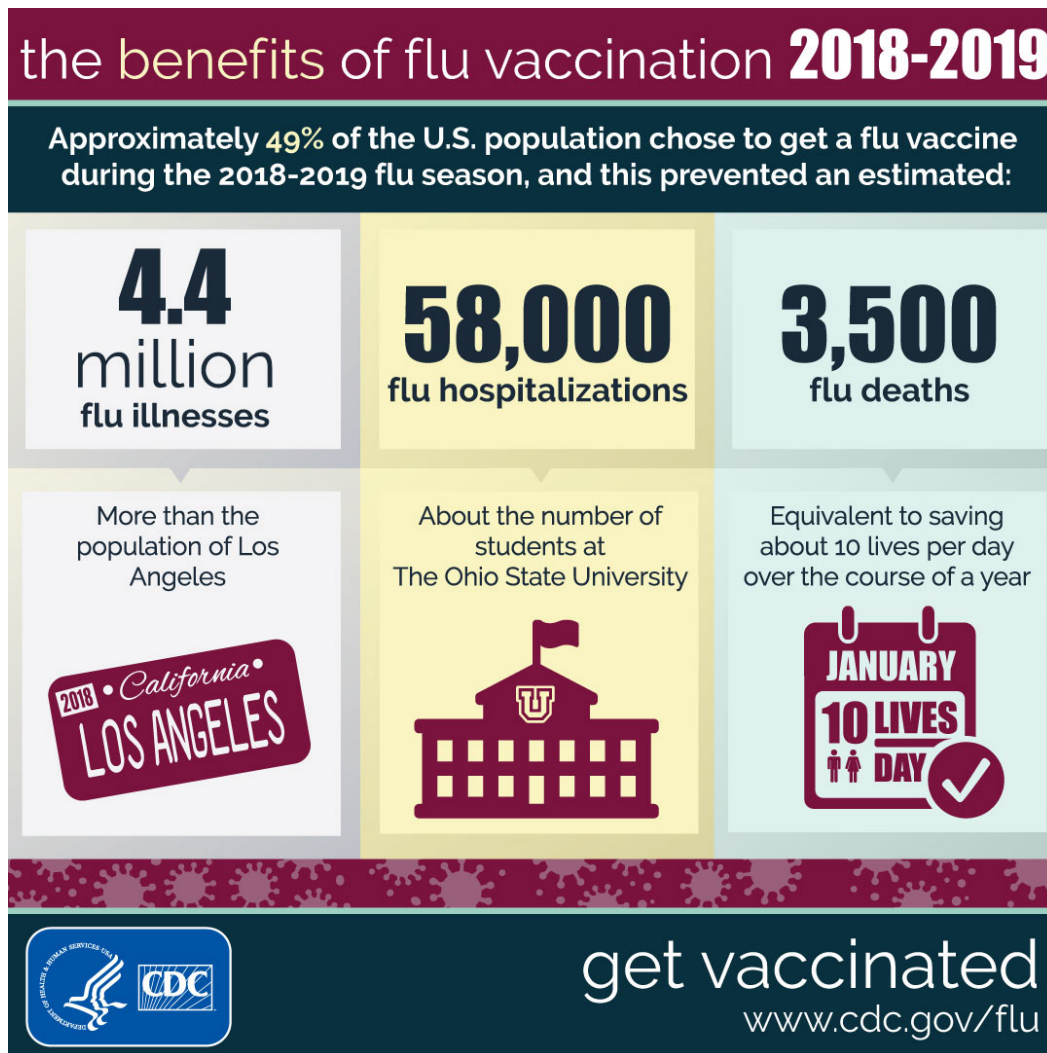
"Sera from children aged 3-10 years old possessed the highest levels of neutralizing antibodies against these viruses ( $p < 0.0007$  when compared to all other age groups for both 3c2.A and 3c2.A2 titers), whereas most middle-aged adults did not have detectable neutralizing antibody titers," the authors wrote. "Among adults, neutralizing antibody titers were lowest in individuals ~50 years of age. This is notable since 50 year olds were born in 1967, one year before H3N2 viruses began circulating in humans.

The authors said their findings may help explain why recent flu vaccines have been so ineffective against H3N2, "It may be inherently difficult to design 3c2.A H3N2 vaccine antigens that are able to elicit neutralizing antibodies in humans that were exposed early in childhood with H3N2 viruses in the 1960s and 1970s," the authors concluded.

Source: <http://www.cidrap.umn.edu/news-perspective/2020/01/news-scan-jan-14-2020>

## 2018–19 Influenza Illnesses, Medical Visits, Hospitalizations, and Deaths Averted by Vaccination

In addition to estimating the number of illnesses, medical visits, hospitalizations, and deaths due to influenza that occurred during the 2018–19 influenza season in the United States, CDC also estimates the burden of influenza that was averted by seasonal influenza vaccination. To do so, CDC uses the preliminary estimates of burden from the 2018–19 season in a model with vaccine coverage and vaccine effectiveness. Further description of the methods and the estimates of burden averted by influenza vaccination during the 2018–19 season are published and available at:



Source: [https://www.cdc.gov/flu/about/burden-averted/2018-2019.htm?deliveryName=USCDC\\_7\\_3-DM17375](https://www.cdc.gov/flu/about/burden-averted/2018-2019.htm?deliveryName=USCDC_7_3-DM17375)

**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](mailto:cdu@schd.org)). This report was issued on January 17, 2020.