



**Summit County Public Health
Influenza Surveillance Report
2019 – 2020 Season
Report #8**



**Flu Surveillance Weeks 8 & 9 (11/23/2019 to 12/7/2019)
Centers for Disease Control and Prevention MMWR Weeks 48 & 49**

Summit County Surveillance Data:

In **Week 9** of surveillance, influenza-related activity is low in Summit County, and is increasing.

Zero deaths related to influenza were reported during Week 9, and there were four deaths associated with pneumonia. **Figure 1** displays weekly Summit County death counts associated with pneumonia and influenza.

Acute Care Hospitalizations: Three hospitalizations were reported during Week 9. **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:** Zero cases ILI reported. **Physician offices and clinics:** During Week 9, two cases of ILI was reported.

Pharmacies: Six prescriptions for CDC-approved antiviral medications were reported by participating pharmacies during Week 9.

School absenteeism includes absences regardless of reason. During Week 9 the rate was 6.9%, a 6.8% decrease from the rate reported in Week 8.

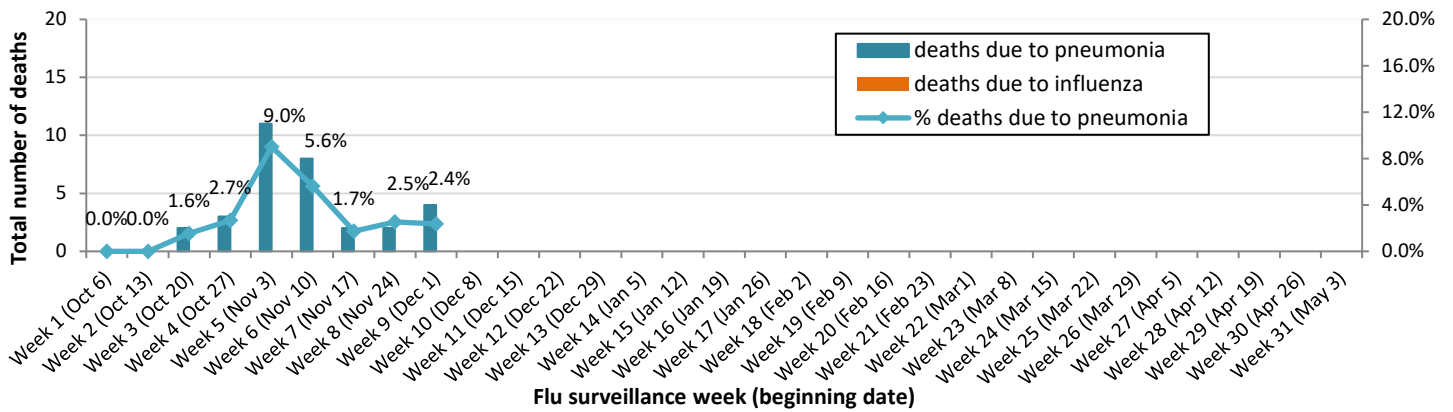
Lab reports: During Week 9 of influenza surveillance, reporting Summit County laboratories performed 721 flu tests, of which 28 were positive (Type A = 13, Type B = 15). (**Figure 4**)

Table 1: Overall Influenza Activity Indicators in Summit County by Week

	Week 8 MMWR 48 N (%) ¹	Week 9 MMWR 49 N (%) ¹	Percent change from previous week	Number of weeks increasing or decreasing
Lab Reports				
Test Performed	598	721	+ 20.6%	↑2
Positive Tests (Number and %)	17 (2.8)	28 (3.9)	+ 36.6%	↑3
Influenza A (Number and %)	9 (1.5)	13 (1.8)	+19.8%	↑3
Influenza B (Number and %)	8 (1.3)	15 (2.1)	+ 55.5%	↑3
Acute care hospitalization for Influenza:	1	3	+ 200%	↑2
Influenza ILI Community Report:				
Long-term Care ILI Cases	1	0	- 100%	↓1
Correctional & Addiction Facility	0	0	--	--
Physician Offices & University Clinic	1	2	+ 100%	↑2
Pharmacy Prescriptions				
Zanamivir (Relenza)	0	0	--	--
Oseltamivir (Tamiflu)	1	6	+ 500%	↑1
Baloxavir marboxil (Xofluza)	0	0	--	--
<i>Total</i>	1	6	+ 500%	↑1
Schools absenteeism²	7.4	6.9	- 6.8%	↓1
Deaths				
Pneumonia associated	2 (2.5)	4 (2.4)	- 6.0%	NC
Influenza associated	0	0	--	--
Emergency room visits (EpiCenter)³				
Constitutional Complaints	578 (9.9)	576 (9.3)	- 6.0%	NC
Fever and ILI	114 (2.0)	115 (1.9)	- 4.9%	NC

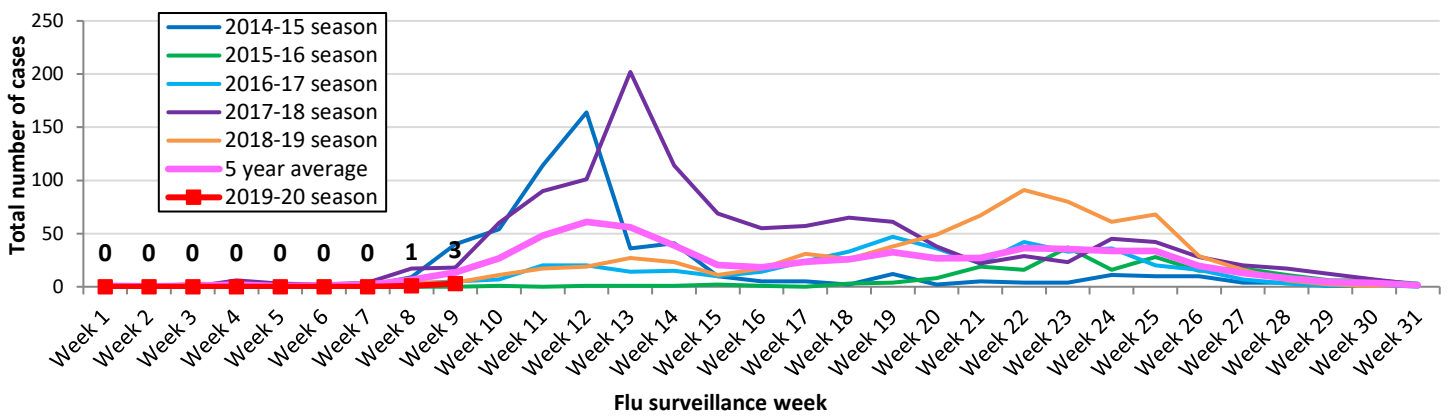
1) N and % are reported when available, NC = no change, or change that is not significant
 2) Absence is for any reason. Percent is from total number of students enrolled. Data was collected from 6 schools or school districts throughout Summit County (n = 32,000 students)
 3) Percent is from total number of emergency room interactions
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

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



Influenza-associated hospitalization: Summit County hospitals reported three influenza-associated hospitalizations during Week 9. **Figure 2** displays weekly confirmed hospitalization count for Summit County (**cumulative count to date = 4**).

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 115 ILI-related visits reported during Week 9, which was 1.9% of total ED visits (n = 6189). This rate was slightly lower (4.9% decrease) than the ILI rate during Week 8.

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

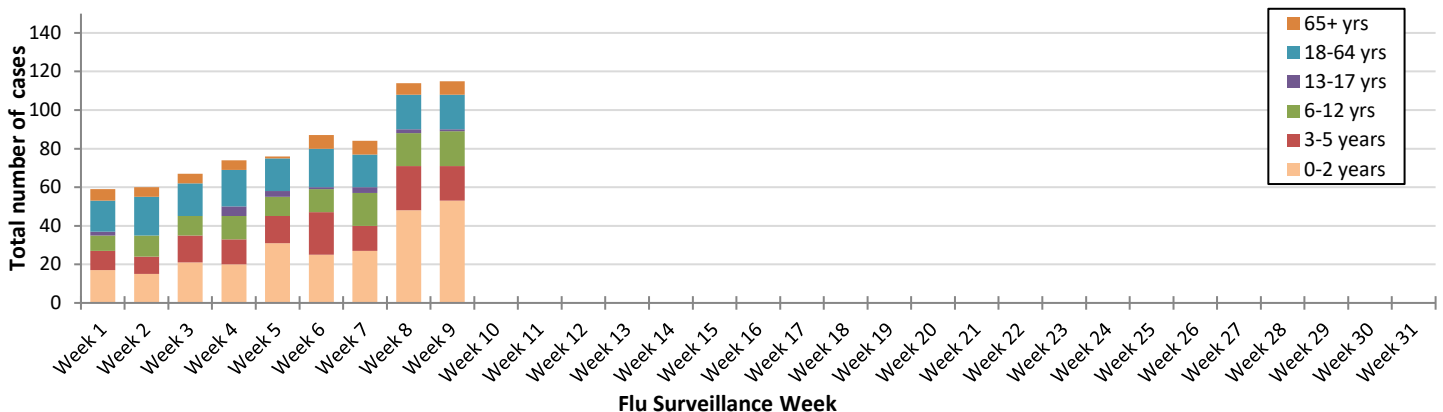
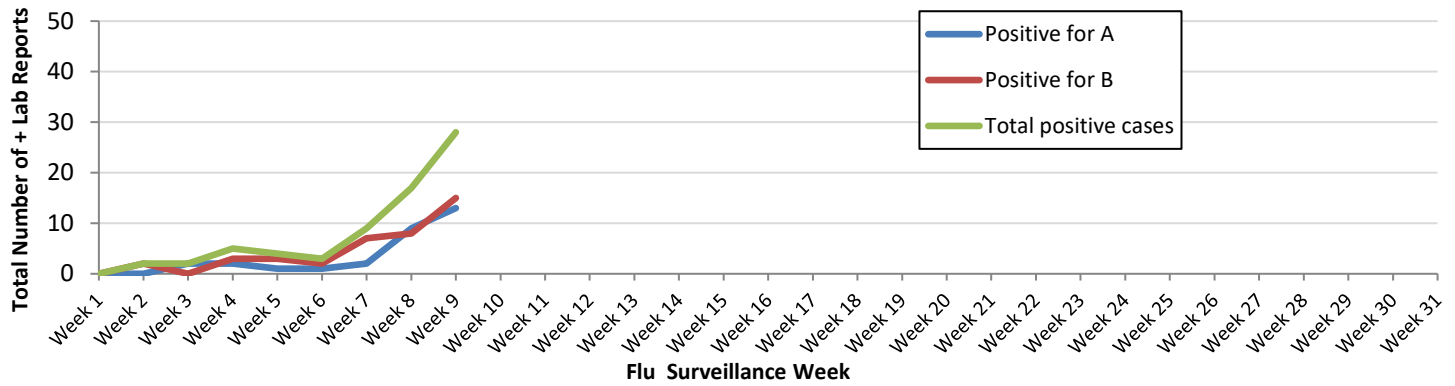


Figure 4. Influenza diagnostic tests with positive results completed by Summit County health facilities, 2019 - 2020 season



Ohio Influenza Activity: from the Ohio Department of Health:

Current Ohio Activity Level (Geographic Spread) – Regional

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 49, 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 (threshold is 25 cases). There were 90 influenza-associated hospitalizations reported during MMWR Week 49

Ohio Influenza Activity Summary Dashboard (December 1 – 7, 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)	0.78%	-25.71%	↓ 1	
Thermometer Sales (National Retail Data Monitor)	1079	14.18%	↑ 1	
Fever and ILI Specified ED Visits (EpiCenter)	2.46%	-0.81%	↓ 1	
Constitutional ED Visits (EpiCenter)	10.37%	3.49%	↑ 8	
Confirmed Influenza-associated Hospitalizations (Ohio Disease Reporting System)	90	172.73%	↑ 4	
Outpatient Medical Claims Data ⁴	0.64%	-9.86%	↓ 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®

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

Ohio Surveillance Data:

- **ODH lab** has reported **42 positive** influenza tests from specimens sent from sentinel ILINet providers and hospital clinical labs. 2019-2020 influenza season results: **(13) A/pdmH1N1; (9) A/H3N2; (20) Influenza B;** (through 12/7/2019).
- The **National Respiratory and Enteric Virus Surveillance System (NREVSS)** has **14,014** influenza specimens tested by RTPCR at participating facilities. 2019-2020 influenza season positive results: **(12) A/pdmH1N1; (2) A/H3N2; (72) Flu A Not Subtyped; and (86) Flu B;** (NREVSS data for MMWR Week 49 is not yet available, data shown is through 11/30/2019)
- **0 pediatric influenza-associated mortalities** have been reported during the 2019-2020 season (through 12/7/2019).
- No **novel influenza A virus infections** have been reported during the 2019-2020 season (through 12/7/2019).
- Incidence of confirmed **influenza-associated hospitalizations** in 2019-2020 season = **262** (through 12/7/2019).

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

According to this week's FluView report, seasonal influenza activity in the United States has been elevated for five weeks and continues to increase.

- **Viral Surveillance:** Nationally influenza B/Victoria viruses have been reported more frequently than other influenza viruses this season; followed by A(H1N1)pdm09 and A(H3N2) viruses. The predominant virus varies by region and the proportions of influenza B/Victoria and influenza A(H1N1)pdm09 viruses are increasing in some regions. The predominant virus also varies 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%** (18 of 18 samples); **A (H3N2): 70.6%** (12 of 17 samples); **B/Victoria: 62.5%** (10 of 16 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 49, 3.2% 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%.* The decrease in the percentage of patient visits for ILI during week 49 compared to week 48 may be influenced in part by a reduction in routine healthcare visits surrounding the Thanksgiving holiday (occurring during week 48) as has occurred during previous seasons. On a regional level, the percentage of outpatient visits for ILI ranged from 1.8% to 5.7% during week 49. All regions reported a percentage of outpatient visits for ILI which is equal to or above their region-specific baselines.
 - **ILI State Activity Indicator Map (Figure 6):** Puerto Rico and 11 states reported high ILI activity; New York City and 11 states reported moderate activity; and the District of Columbia, and 9 states experienced low ILI activity; and 18 states reported minimal activity. Data was insufficient for Louisiana and USVI.
- **Geographic Spread of Influenza (Figure 7):** The geographic spread of influenza was reported widespread in 23 states; regional in Puerto Rico and 14 states, local in 12 states; the District of Columbia, the U.S. Virgin Islands and 3 Alaska reported sporadic activity; and Guam did not report.
- **Pneumonia and Influenza Mortality:** Based on National Center for Health Statistics (NCHS) mortality surveillance data available on December 12, 2019, 5.0% of the deaths occurring during the week ending November 30, 2019 (week 48) were due to P&I. This percentage is below the epidemic threshold of 6.5% for week 48.
- **Influenza-associated Pediatric Deaths:** 4 influenza-associated pediatric deaths were reported to CDC during Week 49.

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

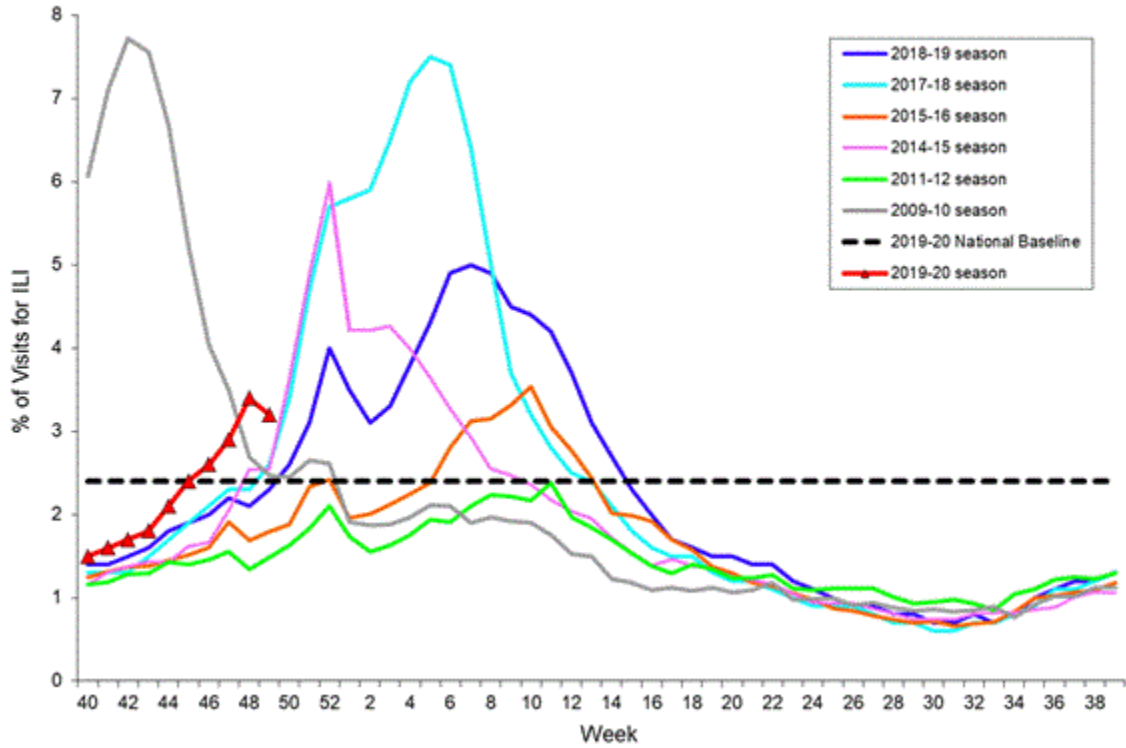


Figure 6. Influenza-like illness (ILI) activity level indicator determined by data reported to ILINet

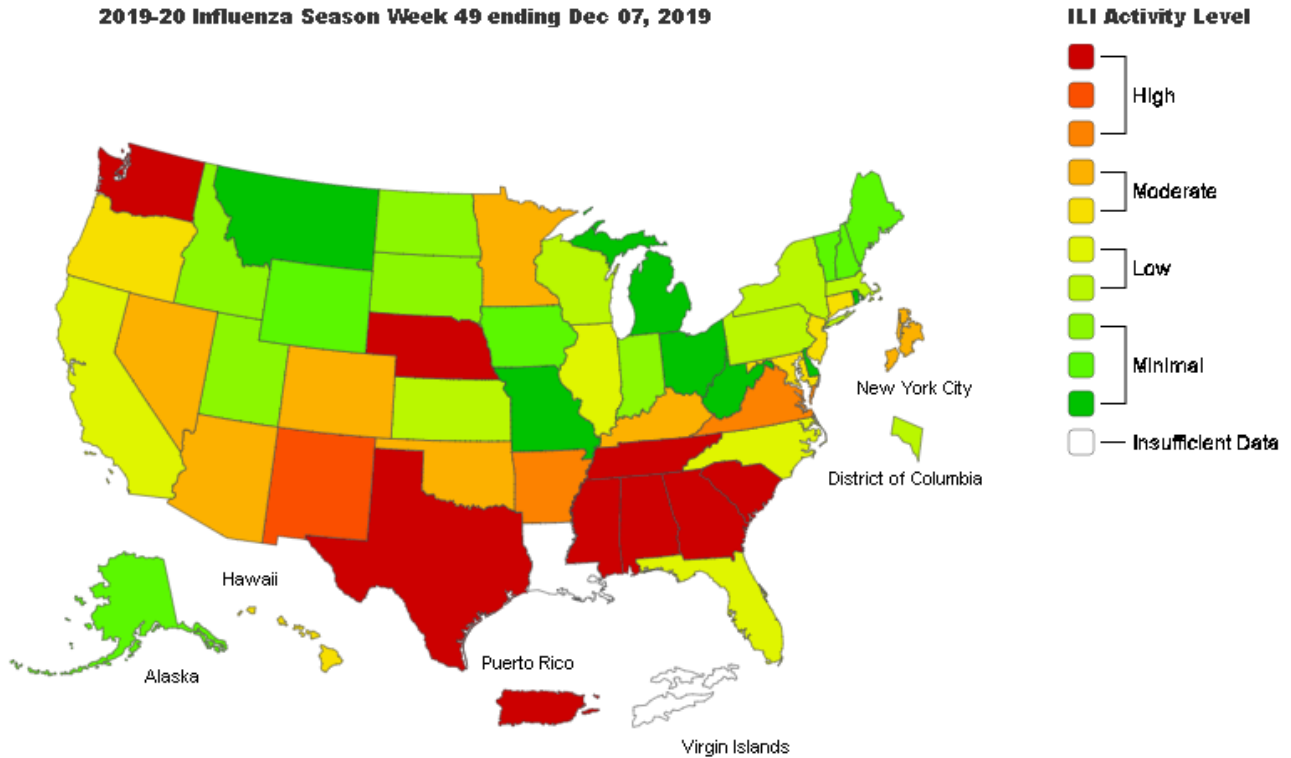
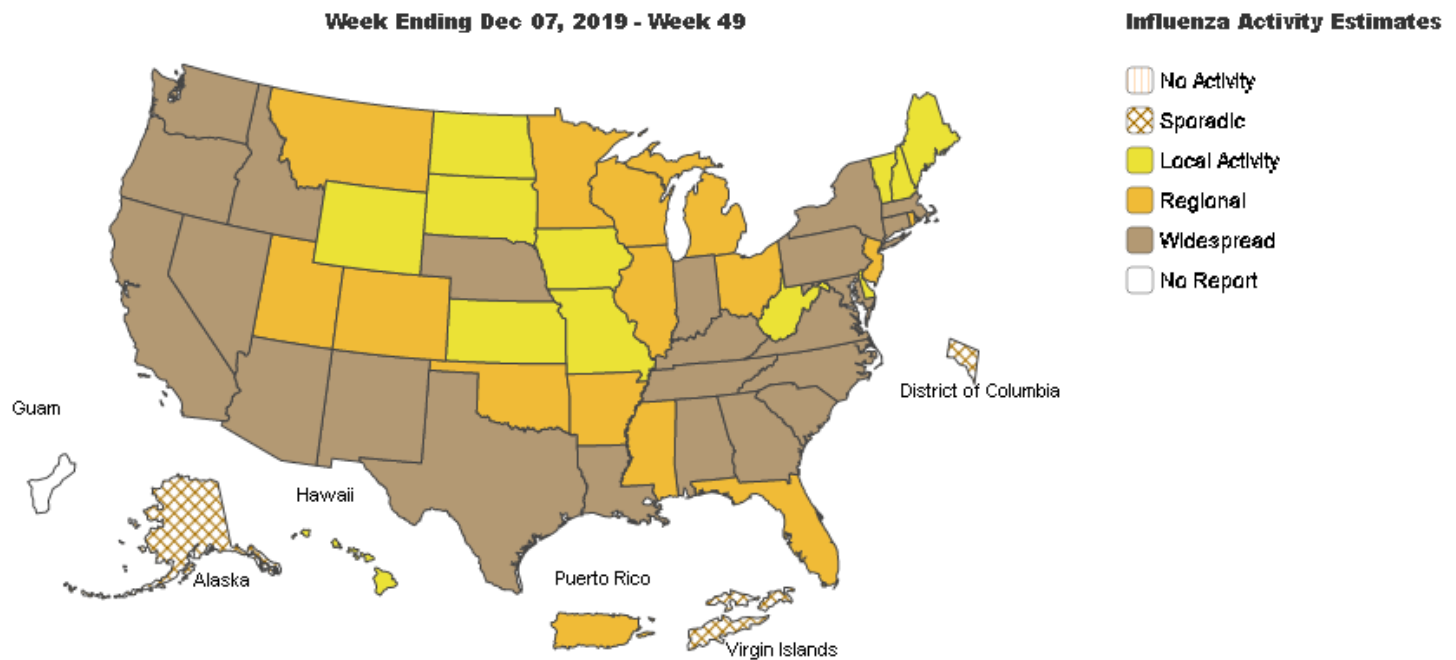


Figure 7. Weekly influenza activity (geographic spread) estimates reported by state and territorial epidemiologists



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

Global Surveillance:

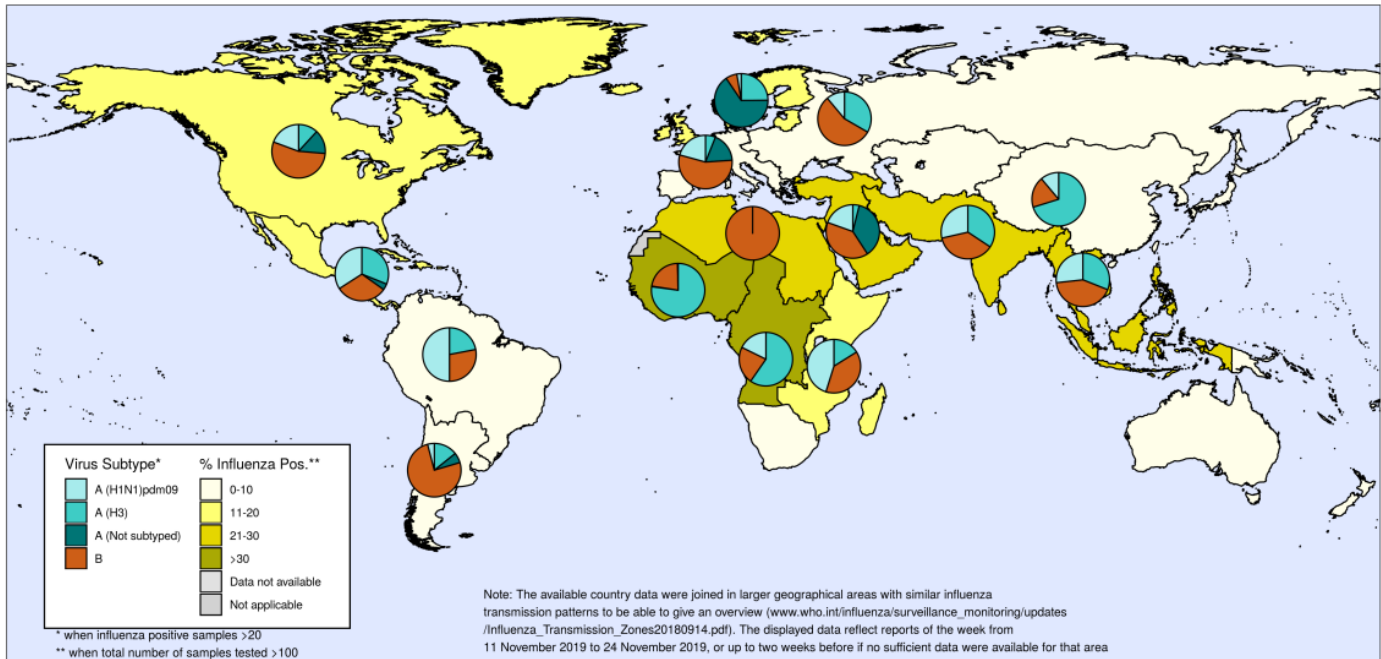
Influenza Update N° 356, World Health Organization (WHO), published 9 December 2019, based on data up to 24 November 2019. The Update is published every two weeks.

Summary

- In **the temperate zone of the northern hemisphere**, respiratory illness indicators and influenza activity started to increase in most countries. Influenza activity was elevated across the countries in Western Asia.
- In **the Caribbean and Central American countries**, influenza activity was low overall, except for Jamaica and Honduras. In tropical South American countries, influenza activity remained low.
- In **tropical Africa**, influenza activity remained elevated in some countries of Western Africa.
- In **Southern Asia**, influenza activity was low across reporting countries, but continued to increase in Iran (Islamic Republic of).
- In **South East Asia**, influenza activity continued to be reported in Lao PDR and Viet Nam.
- In the **temperate zones of the southern hemisphere**, influenza activity returned to 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 119 countries, areas or territories reported data to FluNet for the time period from 11 November 2019 to 24 November 2019 (data as of 2019-12-06 09:04:10 UTC). The WHO GISRS laboratories tested more than 92883 specimens during that time period. 7914 were positive for influenza viruses, of which 5629 (71.1%) were typed as influenza A and 2285 (28.9%) as influenza B. Of the sub-typed influenza A viruses, 2682 (71.5%) were influenza A(H3N2) and 1069 (28.5%) were influenza A(H1N1)pdm09. Of the characterized B viruses, 1014 (96.8%) belonged to the B-Victoria lineage and 34 (3.2%) to the B-Yamagata lineage.

Figure 8. Percentage of respiratory specimens that tested positive for influenza, by influenza transmission zone
Map generated on 06 December 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)
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Source: https://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/

Influenza News from MMWR and Medscape:

Study confirms that some flu vaccines cause a stronger immune response among older adults

Dec. 12, 2019 – A [new CDC co-authored study](#) published today in the journal *Clinical Infectious Diseases* offers more evidence that certain specially formulated flu vaccines may offer people 65 years and older better protection than standard-dose flu vaccines. People in this age group are considered at high risk of developing serious flu complications, yet vaccines may not work as well for them as they do in younger people. There are at least three relatively newer influenza vaccine options that may improve vaccine protection among older adults, and this is the first study to directly compare the antibody responses from these newer vaccine options with standard flu vaccines among people in the same age group during the same influenza season.

People 65 years and older are at high risk of developing serious [complications from flu](#) compared with young, healthy adults. This is partly because human immune defenses become weaker with increasing age. During most seasons, people 65 years and older account for the majority of flu hospitalizations and deaths. In the United States, between about 70 percent and 85 percent of seasonal flu-related deaths and between 50 percent and 70 percent of seasonal flu-related hospitalizations have occurred among people 65 years and older. The weakened immune system can also mean that older people don't respond as well to flu vaccination.

This study randomly assigned older adults (65 – 82 years old) in Hong Kong to receive either a standard 4-component flu vaccine or one of three specially formulated flu vaccine options sometimes called “enhanced” vaccines. For



the purposes of this study, enhanced vaccines include those listed below in order of how long they have been available on the U.S. market.:

- A high-dose 3-component flu vaccine that contains four times the amount of antigen as a regular-dose flu vaccine so as to elicit a stronger response to vaccination;
- A 3-component flu vaccine that contains a specially formulated adjuvant, which is an ingredient to boost antibody response to vaccination, and;
- A 4-component recombinant hemagglutinin (HA) vaccine that involves cell-based rather than egg-based production and contains three times the amount antigen.

Although there is some evidence that these three relatively newer vaccines both produce a better immune response and improve protection among older adults, no study, until this one, has directly compared the antibody response of all of these vaccines during the same year, using the same vaccine components, among people in the same age group.

The study found that all three of the enhanced vaccines produced an improved immune response as measured by antibody levels against influenza A(H1N1) and A(H3N2) viruses compared to standard-dose vaccine. For example, older adults who received a standard-dose vaccine had a 3.4-fold increase in antibodies to the A(H3N2) component of the vaccine following vaccination compared to a 4.2- to 4.7-fold increase among those who received an enhanced vaccine. There was only one significant difference between the different enhanced vaccines. Older adults who received the recombinant-HA vaccine had a significantly higher antibody response to a cell-like A(H3N2) virus that was similar to the A(H3N2) viruses that circulated locally. Responses to the B/Victoria vaccine component were similar across vaccines, with the exception of higher post-vaccination antibodies among those who received high-dose vaccine.

Although increased antibody response following vaccination does not guarantee better clinical protection against influenza illness, the improved immune response against the A(H3N2) viruses elicited by the enhanced vaccines might be particularly important for older adults. During recent seasons, influenza A(H3N2) viruses have been associated with higher mortality and hospitalization rates among adults 65 years and older, and a [June 2019 study](#) found that the highest hospitalization rates in this age group occurred during H3N2 predominant seasons.

The improved antibody response observed with all three enhanced vaccines is consistent with findings from previous studies that looked at these vaccines separately. However, further studies are needed to directly compare the value of each vaccine in preventing clinical flu illness. This study lays the groundwork for future efficacy trials and effectiveness studies on enhanced vaccines in older adults and can help in planning for those more definitive evaluations and anticipating the differences in efficacy/effectiveness that might plausibly be expected.

Additionally, CDC recommendations do not include a preference for any influenza vaccine over another, and people should not wait to be vaccinated if they cannot find a specific vaccine, however, studies like this may inform evolution in vaccine recommendations. This study was conducted in Hong Kong, but the enhanced vaccines examined in this study are licensed for use and available in the United States.

For more information on enhanced vaccines, visit <https://www.cdc.gov/flu/prevent/different-flu-vaccines.htm>

Source website: <https://www.cdc.gov/flu/spotlights/2019-2020/vaccine-stronger-immune.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 December 13, 2019.