



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



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

## Report #19 Flu Surveillance Weeks 19 & 20 (2/9/2020 to 2/22/2020) Centers for Disease Control and Prevention MMWR Weeks 7 & 8

### Summit County Surveillance Data:

In **Week 20** of surveillance, influenza-related activity continued to be high in Summit County.

**Zero** deaths related to influenza were reported during Week 20, and there were 3 deaths associated with pneumonia. **Figure 1** displays weekly Summit County death counts associated with pneumonia and influenza. *The seasonal average for pneumonia and influenza (P&I) deaths is 3.2%.*

**Acute Care Hospitalizations:** 82 hospitalization was reported during Week 20. **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 was one case of ILI reported. **Correctional and Inpatient Addiction facilities:** One case of ILI was reported. **Physician offices and clinics:** During Week 20, 16 cases of ILI were reported.

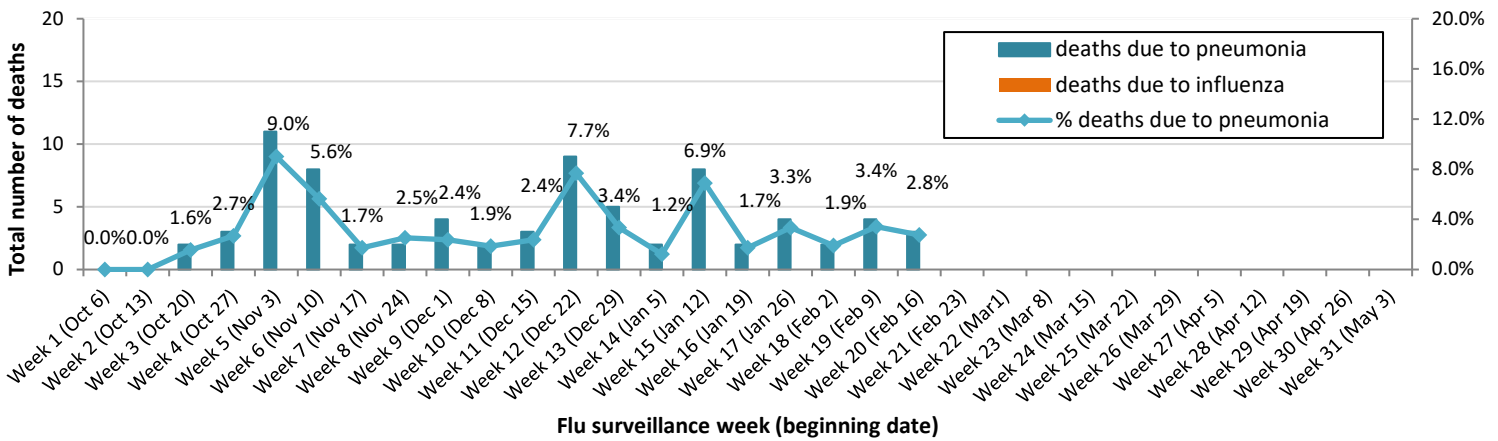
**Pharmacies:** 107 antiviral prescriptions were filled by reporting pharmacies during Week 20.

**School absenteeism** includes absences regardless of reason. During Week 20, the reported absence rate was 7.1%, a 14.5% decrease from Week 19.

**Lab reports:** During Week 20 of influenza surveillance, reporting Summit County laboratories performed 1814 flu tests, of which 716 were positive (Type A = 421, Type B = 295). (**Figure 4**).

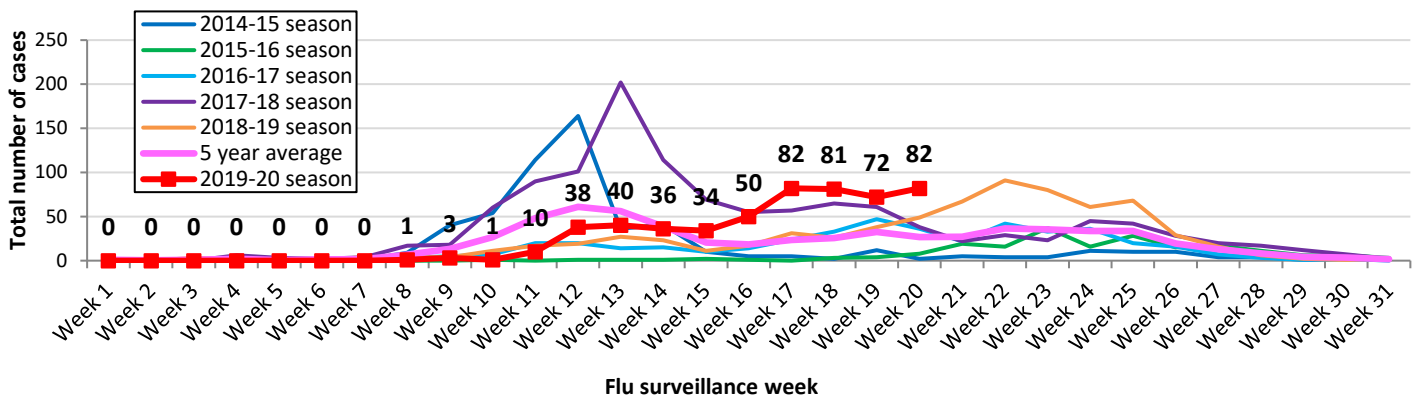
Table 1: Overall Influenza Activity Indicators in Summit County by Week				
	Week 19 MMWR 7 N (%) <sup>1</sup>	Week 20 MMWR 8 N (%) <sup>1</sup>	Percent change from previous week	Number of weeks increasing or decreasing
<b>Lab Reports</b>				
Tests Performed	1862	1814	- 2.6%	↓1
Positive Tests (Number and %)	730 (39.2)	716 (39.5)	+ 0.7%	NC
Influenza A (Number and %)	397 (21.3)	421 (23.2)	+ 8.9%	↑1
Influenza B (Number and %)	333 (17.9)	295 (16.3)	- 9.1%	↓4
<b>Acute care hospitalizations for Influenza:</b>	72	82	+13.9%	↑1
<b>Influenza ILI Community Report:</b>				
Long-term Care ILI Cases	3	1	- 66.7%	↓1
Correctional & Addiction Facility	0	1	+ 100%	↑1
Physician Offices & University Clinic	16	16	NC	NC
<b>Pharmacy Prescriptions</b>				
Zanamivir (Relenza)	0	0	--	--
Oseltamivir (Tamiflu)	102	106	+ 3.9%	↑1
Baloxavir marboxil (Xofluza)	0	1	+ 100%	↑1
<i>Total</i>	102	107	+ 4.9%	↑1
<b>Schools absenteeism<sup>2</sup></b>	8.3%	7.1%	- 14.5%	↓2
<b>Deaths</b>				
Pneumonia associated	4 (3.4)	3 (2.8)	- 19.5%	↓1
Influenza associated	0	0	--	--
<b>Emergency room visits (EpiCenter)<sup>3</sup></b>				
Constitutional Complaints	991 (16.1)	956 (15.3)	- 5.0%	↓2
Fever and ILI	174 (2.8)	178 (2.8)	+ 0.7%	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				
<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				

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



**Influenza-associated hospitalization:** Summit County hospitals reported 82 influenza-associated hospitalizations during Week 20. **Figure 2** displays weekly confirmed hospitalization count for Summit County (**cumulative count to date = 530**).

**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 178 ILI-related visits reported during Week 20, which was 2.8% of total ED visits (n = 6250). This rate was 0.7% higher, or virtually the same as the ILI rate during Week 19.

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

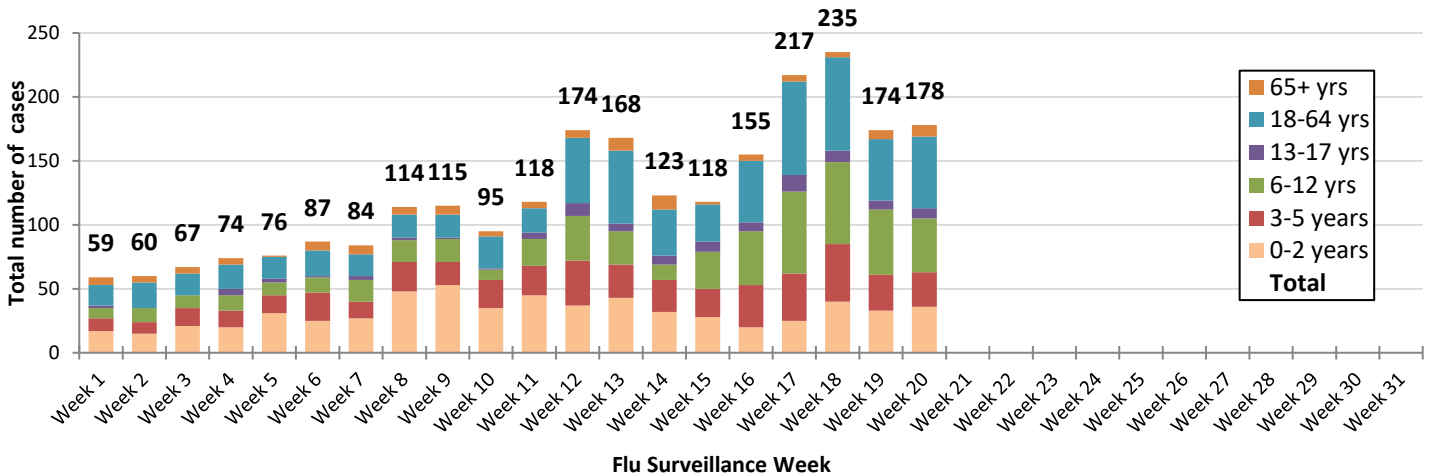
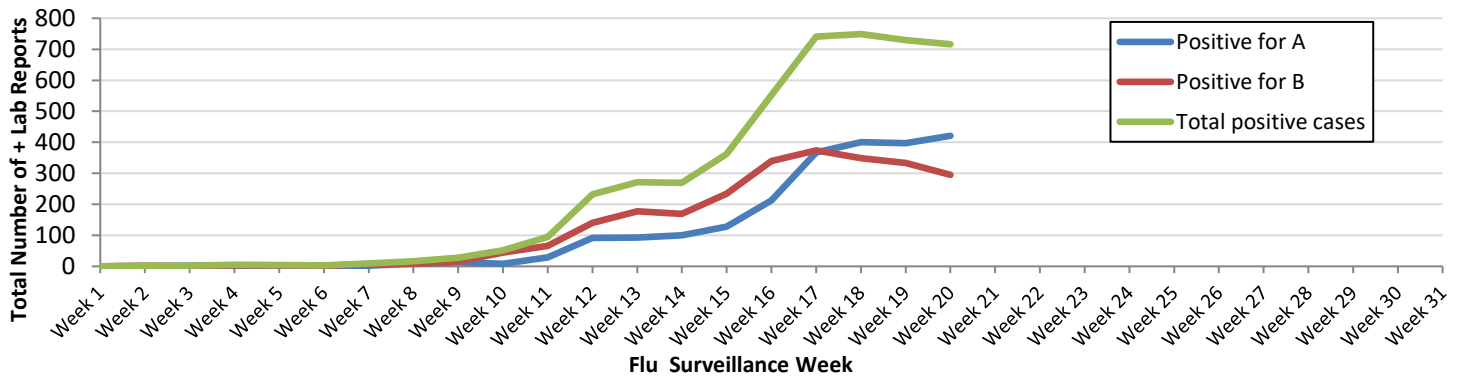


Figure 4. Influenza diagnostic tests with positive results completed by Summit County health facilities, 2019 - 2020 season



## 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 8, public health surveillance data sources indicate Moderate 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 decreased but are still above baseline levels statewide; fever and ILI specified ED visits decreased and are also still above baseline levels. Reported cases of influenza-associated hospitalizations are above the seasonal threshold\*. There were 981 influenza-associated hospitalizations reported during MMWR Week 8.

### Ohio Influenza Activity Summary Dashboard (February 16 - 22, 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)	3.23%	-11.26%	↓ 3	
Thermometer Sales (National Retail Data Monitor)	2173	-4.48%	↓ 3	
Fever and ILI Specified ED Visits (EpiCenter)	3.41%	-6.83%	↓ 2	
Constitutional ED Visits (EpiCenter)	15.16%	-6.94%	↓ 2	
Confirmed Influenza-associated Hospitalizations (Ohio Disease Reporting System)	981	-17.70%	↓ 1	
Outpatient Medical Claims Data <sup>4</sup>	3.67%	-32.54%	↓ 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®

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

## Ohio Surveillance Data:

- **ODH lab** has reported **709 positive** influenza tests from specimens sent from sentinel ILINet providers and hospital clinical labs. 2019-2020 influenza season results: **(377) A/H1N1pdm09; (17) A/H3N2; (315) Influenza B;** (through 02/22/2020).
- The **National Respiratory and Enteric Virus Surveillance System (NREVSS)** has reported **63,902** influenza specimens tested by RT-PCR at participating facilities. 2019-2020 influenza season positive results: **(418) A/pdmH1N1; (3) A/H3N2; (6,773) Flu A Not Subtyped; and (7,575) Flu B;** (through 02/22/2020)
- **2 influenza-associated pediatric mortalities** have been reported during the 2019-2020 season (through 02/22/2020).
- **No novel influenza A virus infections** have been reported during the 2019-2020 season (through 02/22/2020).
- Incidence of confirmed **influenza-associated hospitalizations** in 2019-2020 season = **7,592** (through 02/22/2020).

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

Key indicators that track flu activity remain high but decreased for the second week in a row. Severity indicators (hospitalizations and deaths) remain moderate to low overall, but hospitalization rates differ by age group, with high rates among children and young adults.

- **Viral Surveillance:** While influenza B/Victoria viruses predominated earlier in the season, during recent weeks, influenza A(H1N1)pdm09 viruses have been reported more frequently than B/Victoria viruses. For the season, the number of B/Victoria and A(H1N1)pdm09 viruses are approximately equal. The predominant virus continues to vary 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): 43.1%** (31 of 72 samples); **B/Victoria: 63.4%** (83 of 131 samples); **B/Yamagata: 100%** (10 of 10 samples).
  - **Antiviral Resistance:** the vast majority of influenza viruses tested (99.8%) show susceptibility to oseltamivir, peramivir, and zanamivir. All influenza viruses tested showed susceptibility to baloxavir.
- **Influenza-like Illness Surveillance (Figure 5):** Nationwide during week 8, 5.5% 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 3.6% to 8.8% during week 8. 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 43 states reported high ILI activity; 5 states reported moderate activity; the District of Columbia and Idaho experienced low activity, and the US Virgin Islands and Florida reported minimal ILI activity.
- **Geographic Spread of Influenza (Figure 7):** During Week 8, 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; sporadic in the U.S. Virgin Islands and Guam did not report.
- **Pneumonia and Influenza (P&I) Mortality:** Based on National Center for Health Statistics (NCHS) mortality surveillance data available on February 27, 2020, 6.9% of the deaths occurring during the week ending February 15, 2020 (week 7) were due to P&I. This percentage is below the epidemic threshold of 7.3% for week 7.
- **Influenza-associated Pediatric Deaths:** A total of 125 influenza-associated pediatric deaths occurring during the 2019-2020 season have been reported to CDC.
  - 87 deaths were associated with influenza B viruses. 18 of these had the lineage determined and all were B/Victoria viruses.
  - 38 deaths were associated with influenza A viruses. 23 of these had subtyping performed and 22 were A(H1N1)pdm09 viruses, one was A(H3) virus.

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

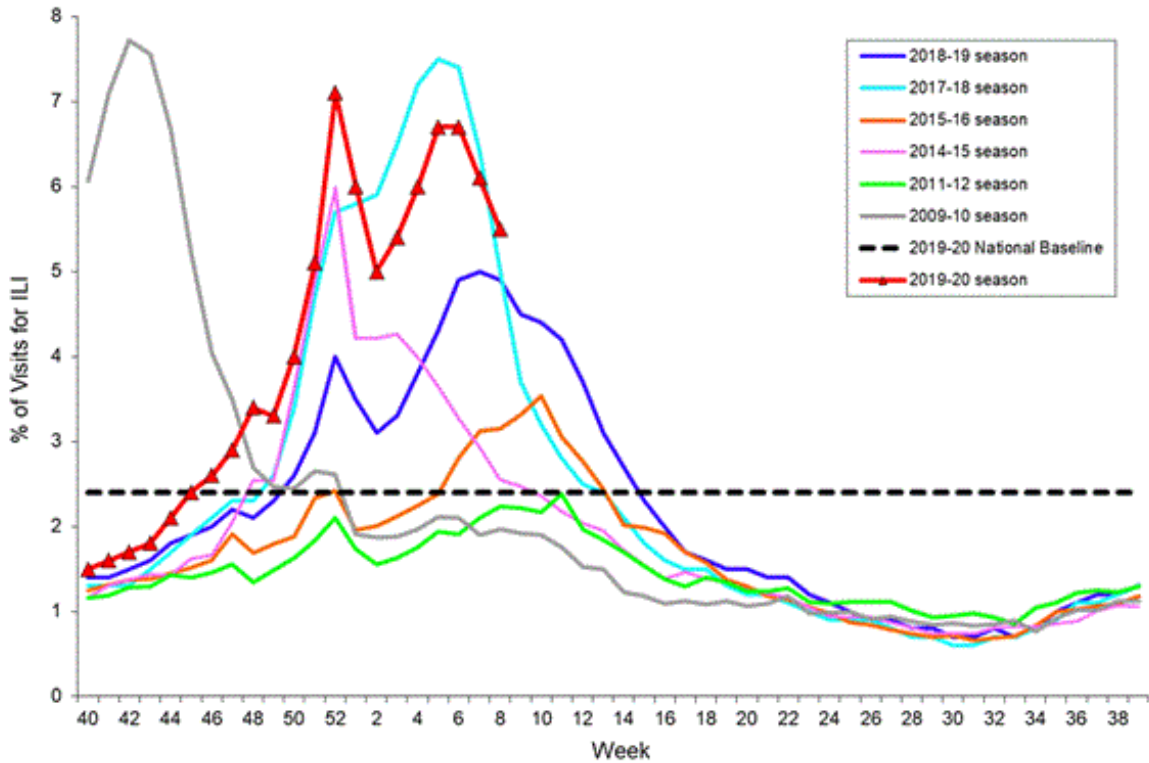


Figure 6. Influenza-like illness (ILI) activity level indicator determined by data reported to ILINet  
**2019-20 Influenza Season Week 8 ending Feb 22, 2020**

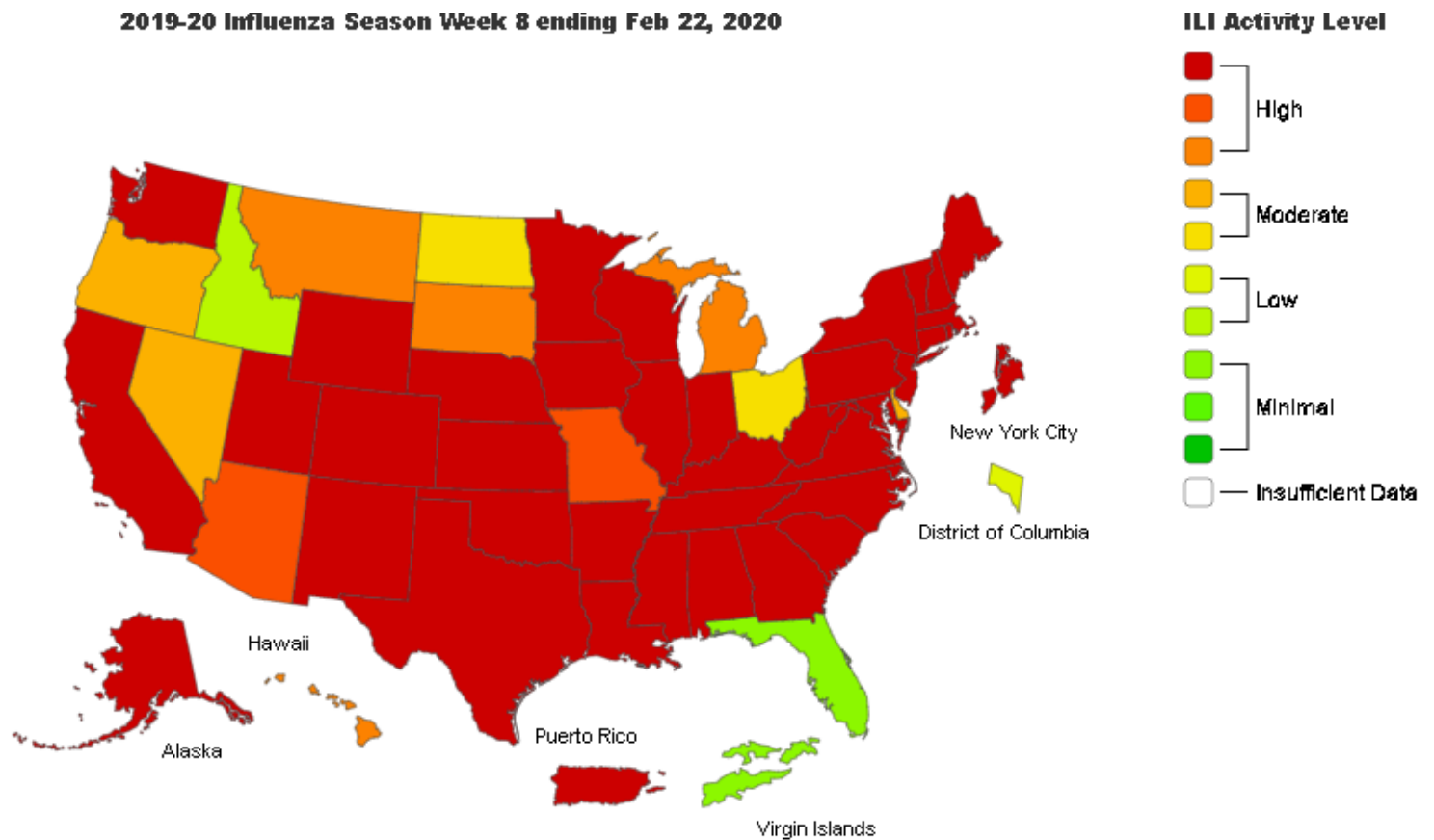
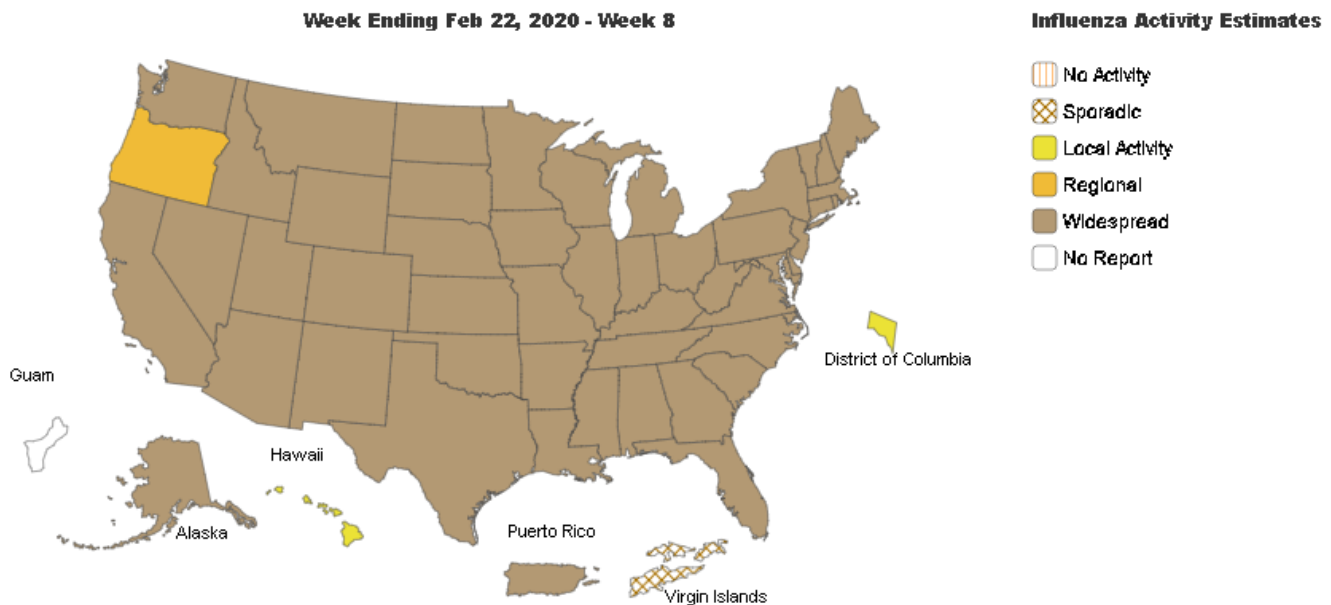




Figure 7. Weekly influenza activity (geographic spread) estimates reported by state and territorial epidemiologists



Source for Figures 5 - 7: <https://www.cdc.gov/flu/weekly/>

## Global Surveillance:

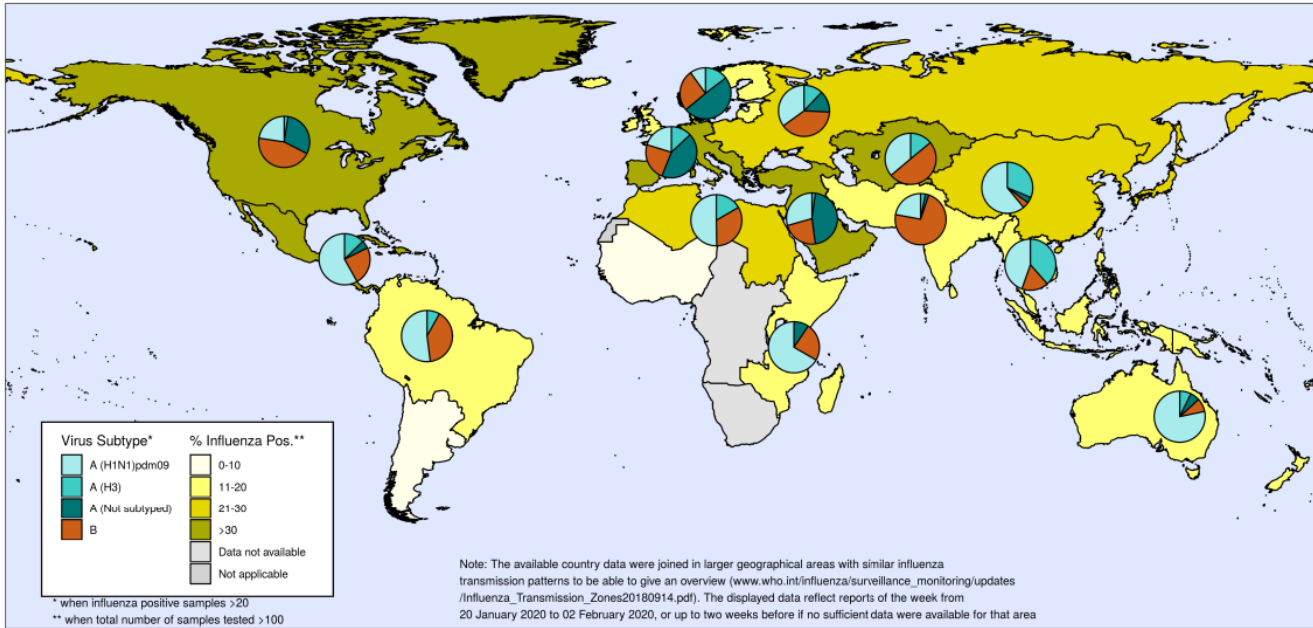
Influenza Update N° 361, World Health Organization (WHO), published 17 February 2020, based on data up to 02 February 2020. The Update is published every two weeks.

### Summary

- In the **temperate zone of the northern hemisphere**, respiratory illness indicators and influenza activity remained elevated overall.
  - In **North America**, influenza activity remained elevated influenza A(H1N1)pdm09 and B viruses co-circulating.
  - In **Europe**, influenza activity continued to increase across the region but appeared to have peaked in some countries of Northern Europe. In **Central Asia**, influenza activity increased with detections of all seasonal influenza subtypes. In **Northern Africa**, influenza activity increased in Algeria and Tunisia, with detections of influenza A(H1N1)pdm09 and B viruses. In **Western Asia**, influenza activity remained elevated overall, though in some countries activity returned to low levels. In **East Asia**, influenza-like illness (ILI) and influenza activity remained elevated overall.
- In the **Caribbean and Central American countries**, influenza activity was low across reporting countries, except for Mexico with increased activity of influenza A(H1N1)pdm09 viruses. In tropical South American countries, influenza activity was low.
- In **tropical Africa**, influenza detections were low across reporting countries.
- In **Southern Asia**, influenza activity was low overall, though remained elevated in Afghanistan.
- In **South East Asia**, influenza activity was low in most reporting countries.
- 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 109 countries, areas or territories reported data to FluNet for the time period from 20 January 2020 to 02 February 2020 (data as of 2020-02-14 03:52:46 UTC). The WHO GISRS laboratories tested more than 204 655 specimens during that time period. A total of, 59 702 were positive for influenza viruses, of which 35 359 (59.2%) were typed as influenza A and 24 343 (40.8%) as influenza B. Of the sub-typed influenza A viruses, 75.8% were influenza A(H1N1)pdm09 and 24.2% were influenza A(H3N2). Of the characterized B viruses, 1.5% belonged to the B-Yamagata lineage and 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 14 February 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](http://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 CIDRAP and CDC:

### FDA approves first adjuvanted 4-strain seasonal flu vaccine for seniors

The US Food and Drug Administration (FDA) has approved the first adjuvanted quadrivalent (four-strain) seasonal influenza vaccine for people 65 years and older, Flud Quadrivalent, according to manufacturer Seqirus, Inc.

The vaccine includes Seqirus's MF59 adjuvant, which is an immune-boosting additive, according to a news release yesterday from Seqirus, based in Summit, New Jersey. "Adults 65 years and older are at high risk for influenza-related complications each season and it is important to have influenza vaccines to help protect this vulnerable population," said Anjana Narain, Seqirus executive vice president and general manager.

Unpublished data presented by Seqirus in December showed that Flud Quadrivalent is more effective in reducing flu-related hospitalizations than a trivalent (three-strain) influenza vaccine (TIV) in adults 65 and older living in nursing facilities in 2016-17. In the study, 823 nursing facilities were randomly assigned to offer Flud (21,278 residents) or a TIV (21,269 residents), and Flud was 20% more effective than TIV in reducing influenza- and pneumonia-related hospitalizations.

Older adults are at elevated risk for complications from influenza. During the 2017-18 influenza season, 70% of influenza-related hospitalizations and 90% of related deaths occurred in this age range, Seqirus said. The vaccine also tends to be less effective in seniors because of their reduced immune response.

Feb 24 Seqirus [news release](#)

Dec 10, 2019, [CIDRAP Flu Scan](#) on earlier date

Source: <http://www.cidrap.umn.edu/news-perspective/2020/02/news-scan-feb-25-2020>

## CDC's portable flu testing kit allows for faster, on-site detection of viruses that could cause the next pandemic

*CDC researchers have developed a portable flu testing kit that cuts the time needed to sequence and analyze flu viruses of pandemic concern in half.*

**Feb 6, 2020** – Experts in CDC's Influenza Division have developed a portable flu laboratory that can sequence the influenza genome and analyze flu A viruses in real-time and on site during an outbreak. The kit, called *Mia (Mobile Influenza Analysis)*, brings influenza sequencing technology out of the laboratory and into the field—cutting the time needed to genetically analyze flu viruses in half and producing real-time, actionable data that can be used in a public health response.



*“Mia has the potential to transform influenza surveillance, accelerate vaccine production during an influenza pandemic and greatly enhances CDC's responsiveness to influenza outbreaks for protecting public health”- John Barnes, PhD, Team Lead, Genomics and Diagnostics, CDC*

A recently published article in *mSphere* details the successful use of *Mia* to detect and quickly analyze flu A viruses that emerged during an outbreak of flu among pigs in 2018. Using their portable laboratory equipment, the team was able to extract, sequence, and analyze influenza samples from pigs in just 14.5 hours—an impressive improvement over the week required when samples must be sent to a laboratory for examination.

### The importance of monitoring flu outbreaks among pigs

Just like human flu viruses, flu viruses that normally circulate among pigs are constantly changing and—although it is very rare—these genetic changes can result in the emergence of entirely new human viruses triggering a pandemic. When humans are infected with flu viruses that typically infect pigs, these are called “variant virus” infections. Variant viruses are concerning to public health officials for several reasons:

- Flu viruses that infect pigs may be different from human flu viruses, so flu vaccines may not provide protection against them.
- Pigs are susceptible to bird, human, and pig flu viruses—and can be infected with viruses from several different species at the same time. When this happens, it is possible for the genes of these different viruses to combine and create a new flu virus.
- If this new flu virus spreads to people and can be easily transmitted from person to person, a flu pandemic can occur.

During any potential outbreak time is of the essence. For flu, the sooner researchers can understand the genetic composition of the emergent viruses, the sooner prevention and control measures can begin, including the development of a vaccine. Barnes' team estimates that had the viruses they detected caused a flu pandemic, their proactive surveillance and the time saved by using *Mia* would have provided an 8-week advantage for vaccine manufacturing. The success of *Mia's* use in the field at the site of a flu outbreak paves the way for future progress toward the decentralization of flu surveillance. Real-time, on-site analysis of flu viruses saves time and allows faster public health countermeasures in response to detection of flu viruses of potential pandemic concern.

Source: <https://www.cdc.gov/flu/spotlights/2019-2020/portable-testing-kit.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](mailto:cdu@schd.org)). This report was issued on March 2, 2020.