



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

Report #20

Flu Surveillance Week 21 (2/24 to 3/2/2019)

Centers for Disease Control and Prevention MMWR Week 9



Public Health
Prevent. Promote. Protect.

Summit County Surveillance Data:

During **Week 21**, influenza-related activity in Summit County *remained at moderate levels*.

| Table 1: Overall Influenza Activity Indicators in Summit County by Week | | | | |
|--|---|---|--|---|
| | Week 20 MMWR 8 N (%)¹ | Week 21 MMWR 9 N (%)¹ | Percent change from previous week | Number of weeks increasing or decreasing |
| Lab Reports | | | | |
| Test Performed | 1,371 | 1,285 | - 6.3% | ↓1 |
| Positive Tests (Number and %) | 363 (26.5) | 430 (33.5) | + 26.4% | ↑7 |
| Influenza A (Number and %) | 358 (26.1) | 424 (33.0) | + 26.4% | ↑6 |
| Influenza B (Number and %) | 5 (0.4) | 6 (0.5) | + 20.0% | ↑2 |
| Influenza hospitalizations: | 49 | 67 | + 36.7% | ↑3 |
| Influenza ILI Community Report: | | | | |
| Long-term Care Facilities | 1 | 1 | NC | NC |
| Correctional & Addiction Facilities | 4 | 2 | - 50.0% | ↓1 |
| Physician Offices & Clinics | 12 | 13 | + 8.3% | ↑2 |
| Pharmacy Prescriptions | | | | |
| Amantidine | 4 | 3 | - 25.0% | ↓1 |
| Rimantidine Flumadine | 0 | 0 | -- | -- |
| Relenza | 0 | 0 | -- | -- |
| Oseltamivir Tamiflu | 47 | 50 | + 6.4% | ↑4 |
| <i>Total antiviral prescriptions</i> | 51 | 53 | + 3.9% | ↑2 |
| Schools absenteeism daily rate² | 7.0 | 5.6 | - 20.0% | ↓1 |
| Deaths | | | | |
| Pneumonia associated | 7 (8.0) | 9 (6.8) | -14.3% | ↓1 |
| Influenza associated | 0 | 0 | -- | -- |
| Emergency room visits (EpiCenter)³ | | | | |
| Constitutional Complaints | 727 (12.3) | 685 (11.5) | - 6.5% | ↓1 |
| Fever and ILI | 128 (2.2) | 126 (2.1) | - 4.6% | ↓1 |
| 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 deaths related to influenza were reported during Week 21, the season total remains at 3. There were 9 deaths associated with pneumonia reported in Week 21. **Figure 1** displays weekly Summit County death counts associated with pneumonia and flu.

Acute Care Hospitalizations: There were 67 flu-related hospitalizations, a 37% increase from Week 20. (**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 1 case of ILI reported.

Correctional and Inpatient Addiction facilities: There were 2 cases of ILI reported.

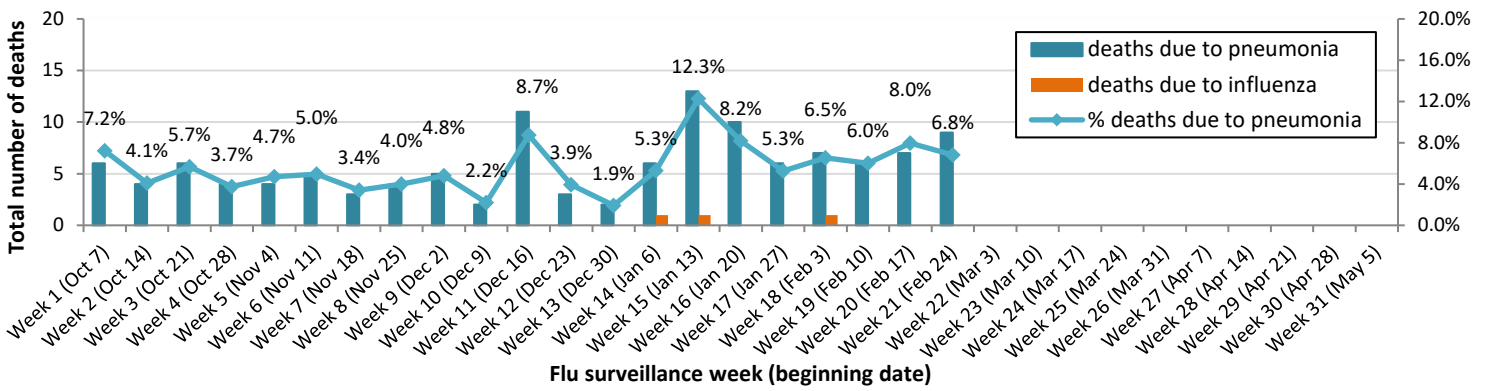
Physician offices and clinics: During Week 21, there were 13 cases of ILI reported.

Pharmacies: 53 Prescriptions for antiviral medications were reported during Week 21.

School absenteeism includes absences regardless of reason. During Week 21, area schools reported an average daily absence rate of 5.6%. This was a 20% decrease over the rate reported during Week 20.

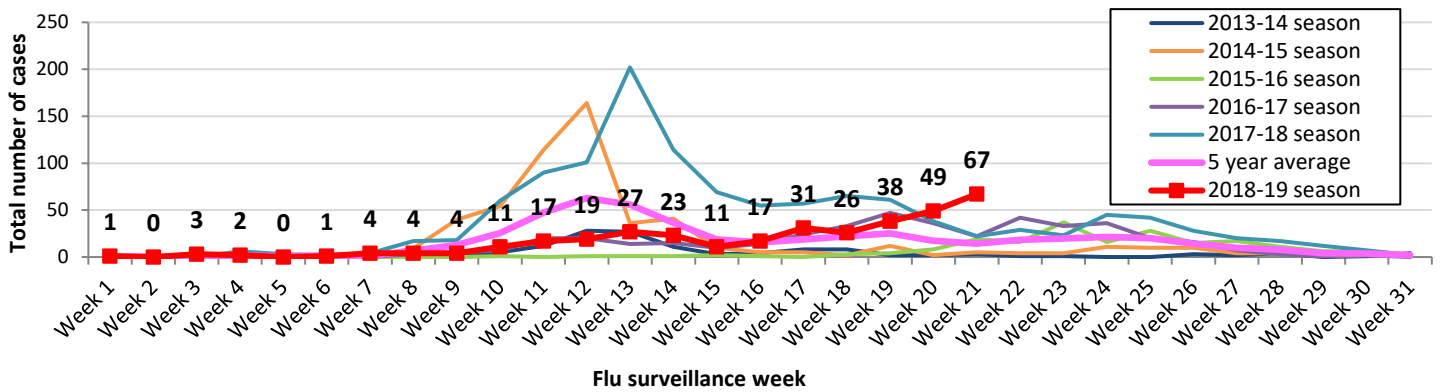
Lab reports: During Week 21, Summit County labs performed 1,285 influenza tests, of which 430 tested positive (424 Type A, 6 Type B). (**Figure 4**) The percentage of positive test results increased by 26.4% since Week 20.

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



Influenza-associated hospitalizations: Summit County hospitals reported 67 influenza-associated hospitalizations in Week 21. **Figure 2** displays weekly confirmed hospitalization counts for Summit County (season count to date = 355).

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 126 ILI-related visits reported during Week 21, which was 2.1% of total ED visits (n = 5,946). This was a 4.6% decrease from the Week 20 rate.

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

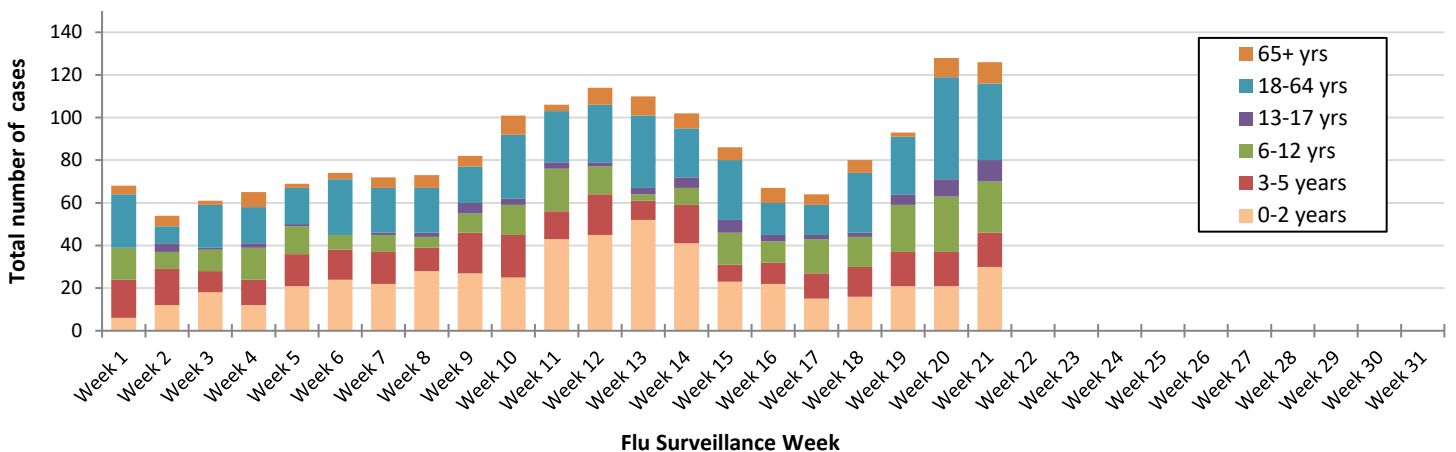
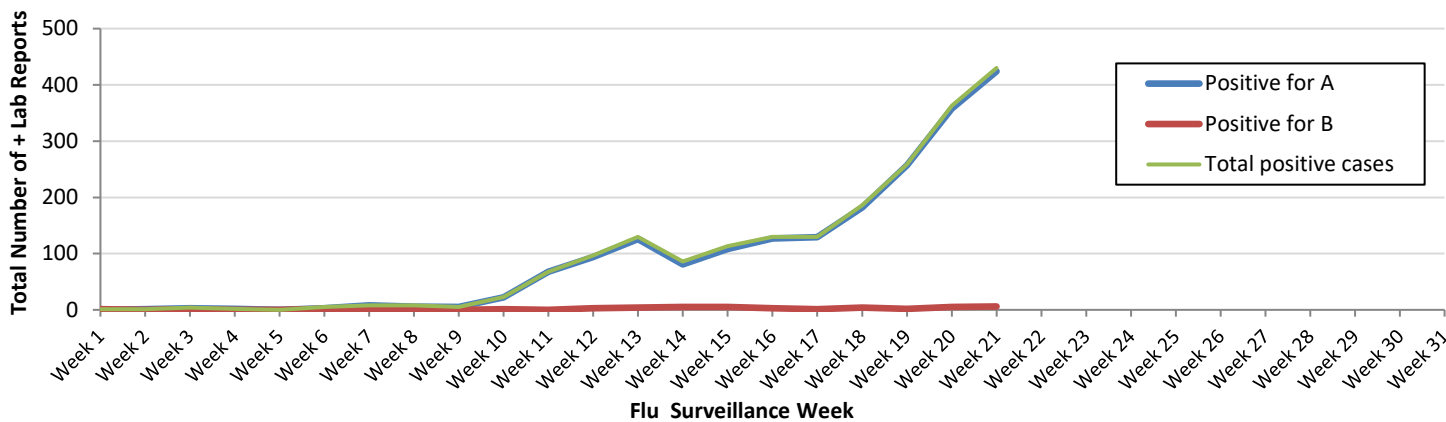


Figure 4. Influenza diagnostic tests with positive results completed by Summit County health facilities, 2018 - 2019 season



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 9, 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 are above baseline levels. Reported cases of influenza-associated hospitalizations are **above** the seasonal threshold*. There were 772 influenza-associated hospitalizations reported during MMWR Week 9.

Ohio Influenza Activity Summary Dashboard (February 24 – March 2, 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) | 2.64% | 1.15% | ↑ 2 | |
| Thermometer Sales (National Retail Data Monitor) | 2209 | 17.13% | ↑ 5 | |
| Fever and ILI Specified ED Visits (EpiCenter) | 3.44% | 6.17% | ↑ 7 | |
| Constitutional ED Visits (EpiCenter) | 14.41% | 5.57% | ↑ 5 | |
| Confirmed Influenza-associated Hospitalizations (Ohio Disease Reporting System) | 772 | 22.54% | ↑ 5 | |
| Outpatient Medical Claims Data ⁴ | 3.41% | -0.58% | ↓ 1 | |

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://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/seasonal-influenza/ohio-flu-activity/>

Ohio Surveillance Data:

- **ODH lab** has reported 865 **positive** influenza tests from specimens sent from various submitters. 2018-2019 influenza season positive results: **(437) A/pdmH1N1; (300) A/H3N2; (2) Influenza B;** (through 3/2/2019).
- The **National Respiratory and Enteric Virus Surveillance System (NREVSS)** has reported **52,218** influenza tests performed at participating facilities. 2018-2019 influenza season positive results: **(231) A/pdmH1N1, (139) A/H3N2, (7263) Flu A Not Subtyped, and (107) Flu B** (through 3/2/2019).
- 3 **pediatric influenza-associated mortalities** have been reported during the 2018-2019 season (through 3/2/2019).
- No **novel influenza A virus infections** have been reported during the 2018-2019 season (through 3/2/2019).
- Incidence of confirmed **influenza-associated hospitalizations** in 2018-2019 season = 4573 (through 3/2/2019).

National Influenza Activity:

Influenza activity remains elevated in the United States. Influenza A(H1N1)pdm09, influenza A(H3N2), and influenza B viruses continue to co-circulate. Below is a summary of the key influenza indicators for the week ending March 2, 2019:

- **Viral Surveillance:** The percentage of respiratory specimens testing positive for influenza viruses in clinical laboratories increased slightly. Nationally, during week 9, influenza A(H3) viruses were reported more frequently than influenza A(H1N1)pdm09 viruses. During the most recent three weeks, influenza A(H3) viruses were reported more frequently than influenza A(H1N1)pdm09 viruses in HHS Regions 2, 4, 6, 7 and 8.
 - **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.
 - **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 slightly to 4.7%, which is 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):** 32 states experienced high ILI activity; Puerto Rico and seven states experienced moderate ILI activity; New York City, the District of Columbia and eight states experienced low ILI activity; three 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 48 states was reported as widespread; the District of Columbia and two states reported local activity; the U.S. Virgin Islands reported sporadic activity; and Guam did not report.
- **Influenza-associated Hospitalizations:** A cumulative rate of 36.6 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported. The highest hospitalization rate is among adults 65 years and older (107.7 hospitalizations per 100,000 population).
- **Pneumonia and Influenza Mortality:** The proportion of deaths attributed to pneumonia and influenza (P&I) was above the system-specific epidemic threshold in the National Center for Health Statistics (NCHS) Mortality Surveillance System.
- **Influenza-associated Pediatric Deaths:** Nine influenza-associated pediatric deaths were reported to CDC during week 9. Eight deaths occurred during the 2018-2019 season and one death occurred during the 2015-2016 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

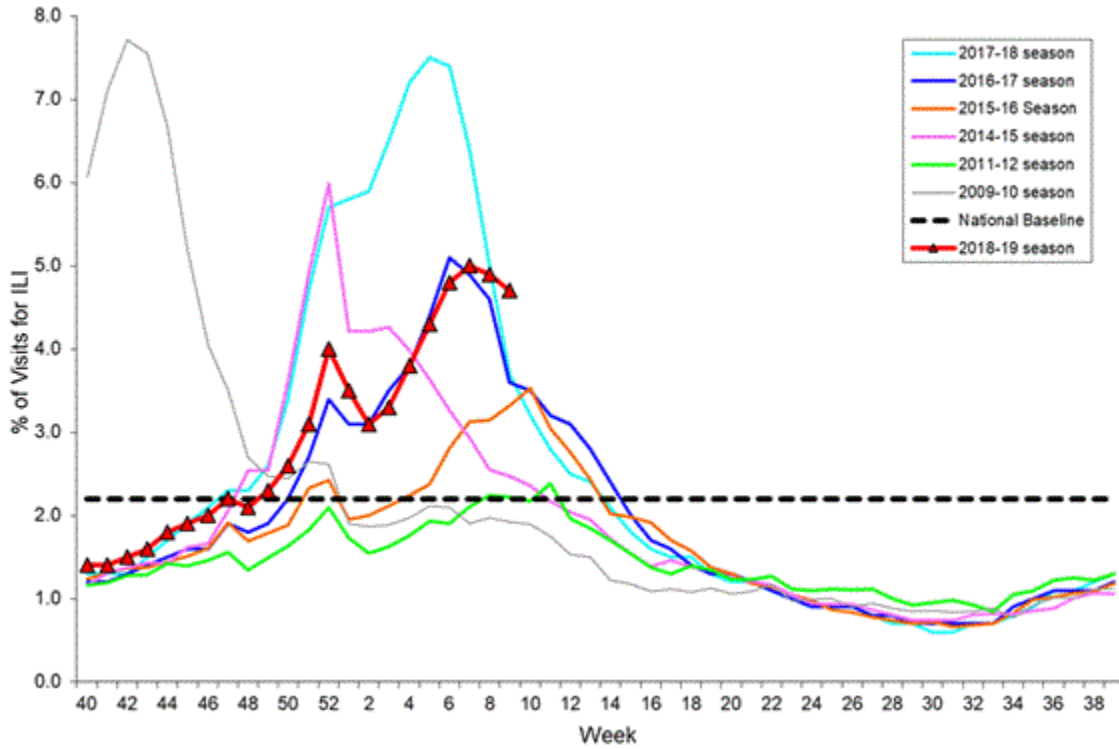


Figure 6. Influenza-like illness (ILI) activity level indicator determined by data reported to ILINet

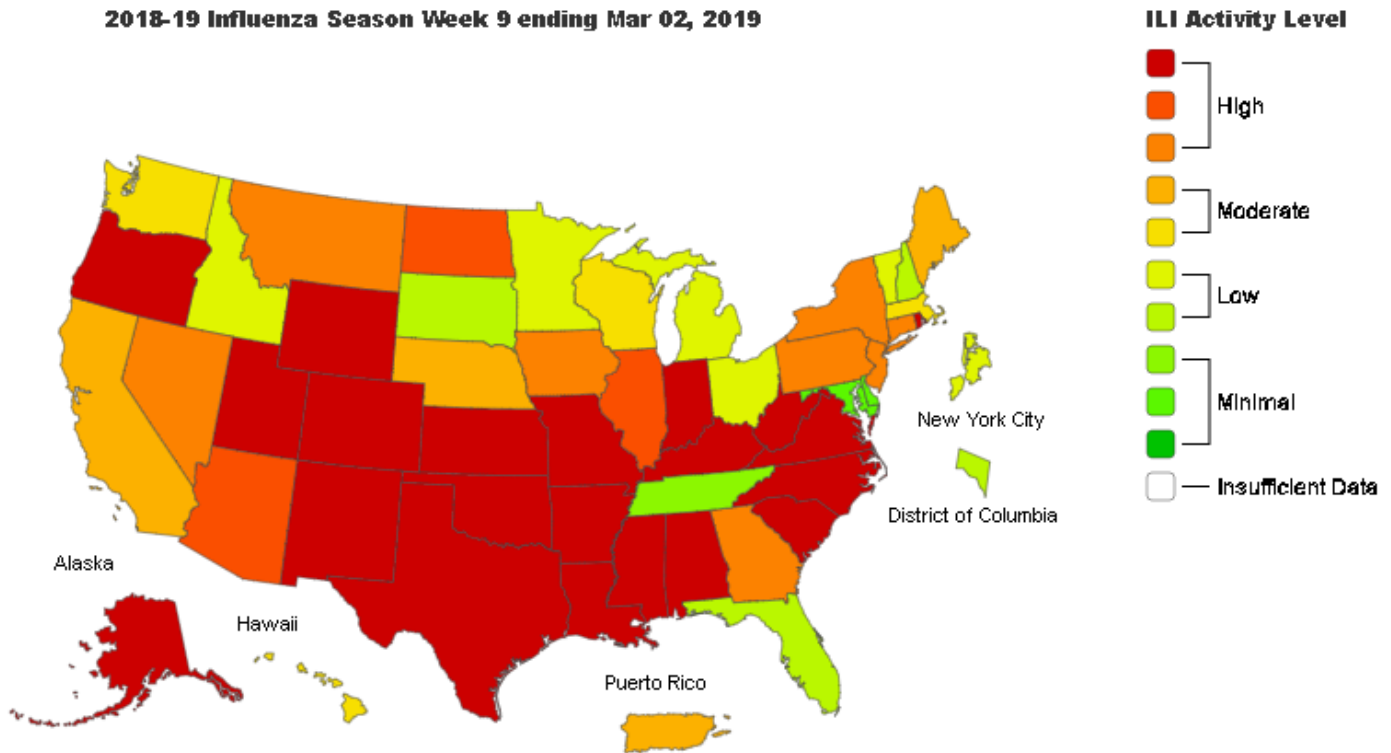
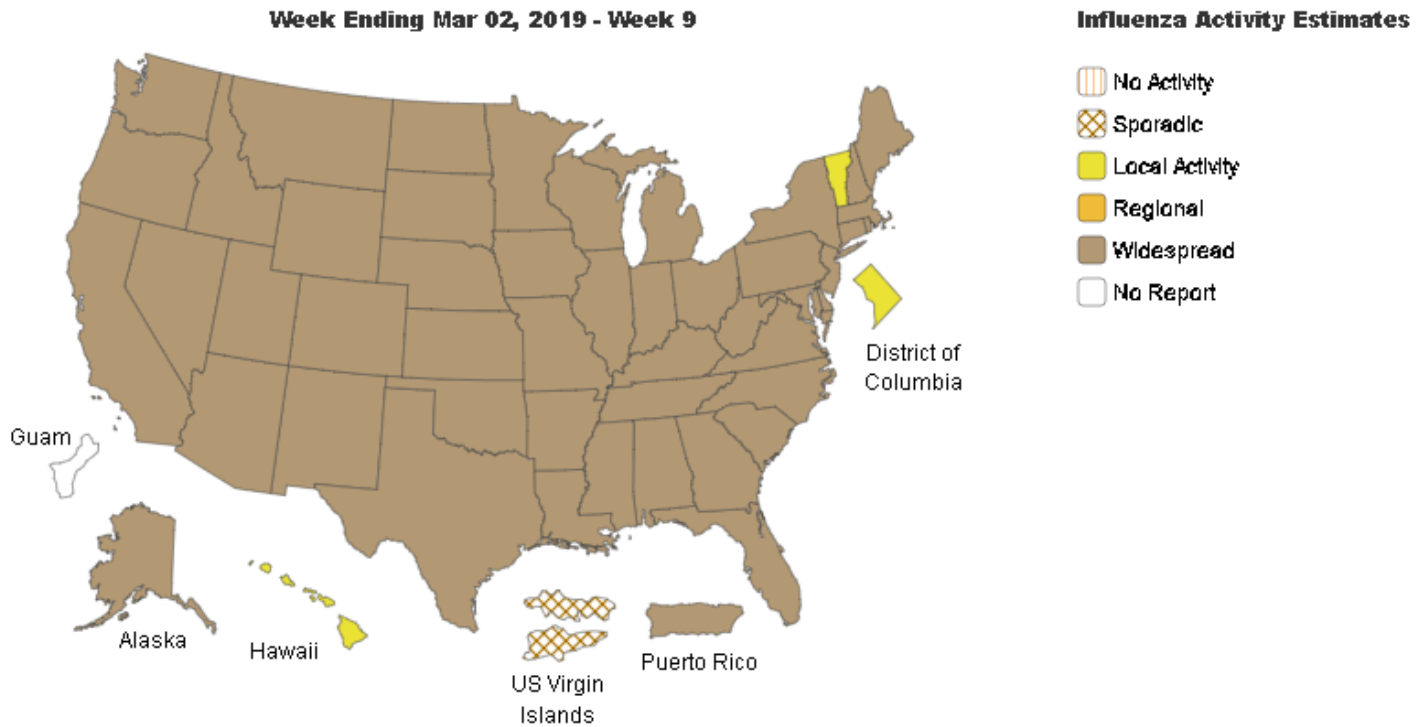


Figure 7. Weekly influenza activity (geographic spread) estimates reported by state and territorial epidemiologists



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

Global Surveillance:

Influenza Update N° 336, World Health Organization (WHO), published 04 March 2019, based on data up to 17 February 2019. The Update is published every two weeks.

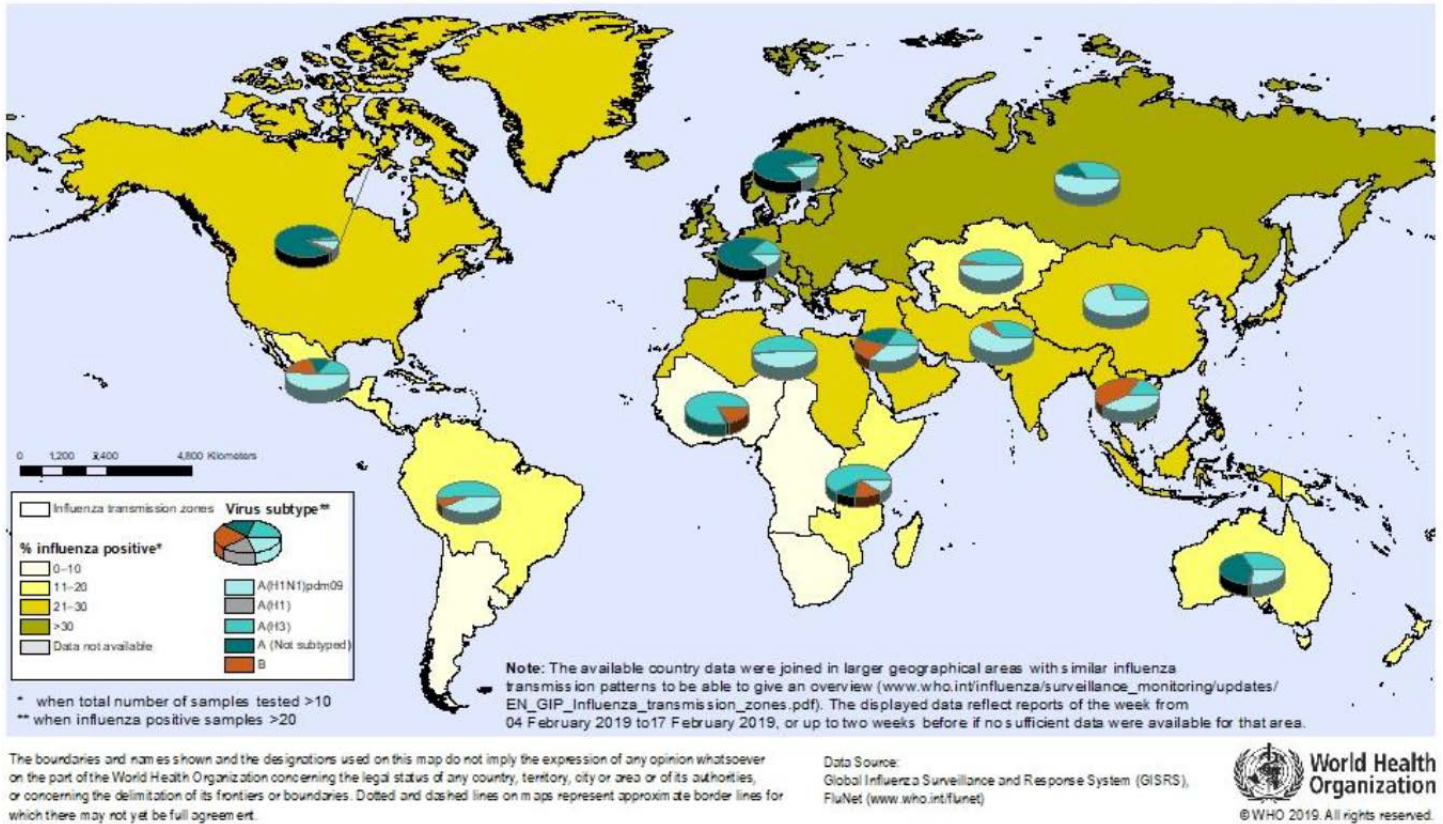
Summary

In the temperate zone of the northern hemisphere influenza activity continued to increase.

- In North America, influenza activity continued to increase in the United States of America, with influenza A(H1N1)pdm09 as the dominant subtype, followed by influenza A(H3N2).
- In Europe, influenza activity remained elevated across the continent and was reported as widespread in most of the countries. Influenza A viruses co-circulated.
- In North Africa, influenza activity remained elevated.
- In Western Asia, influenza activity peaked in some countries and increased in other, with all seasonal influenza subtypes co-circulating.
- In East Asia, influenza activity appeared to decrease overall, with influenza A(H1N1)pdm09 virus predominating.
- Worldwide, seasonal influenza A viruses accounted for the majority of detections.

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 February 2019 to 17 February 2019 (data as of 2019-03-01 05:22:16 UTC). The WHO GISRS laboratories tested more than 220347 specimens during that time period. 74302 were positive for influenza viruses, of which 73225 (98.6%) were typed as influenza A and 1077 (1.4%) as influenza B. Of the sub-typed influenza A viruses, 19600 (65.2%) were influenza A(H1N1)pdm09 and 10447 (34.8%) were influenza A(H3N2). Of the characterized B viruses, 82 (26.2%) belonged to the B-Yamagata lineage and 231 (73.8%) to the B-Victoria lineage.

Figure 8. Percentage of respiratory specimens that tested positive for influenza, by influenza transmission zone (status as of 01 March 2019)



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

Influenza News

From CNN: Flu activity remains high across the nation, and there's a second wave of severe infections striking some states.

There were as many as [26.3 million flu illnesses](#), 12.4 million medical visits and 347,000 flu hospitalizations between October 1 and March 2, according to the [weekly flu report](#) released Friday by the US Centers for Disease Control and Prevention. "We're still having flu. And we're still seeing a steady stream of patients who are being admitted to hospital with influenza," said Dr. William Schaffner, medical director of the National Foundation for Infectious Diseases.

Nine additional children died of flu-related causes during the week ending March 2, bringing the total to 64 for the season. However, not all flu-related deaths are detected or reported, so the CDC believes the actual number of deaths to be higher. For adults, flu deaths are estimated based on pneumonia and other illnesses related to flu. The proportion of deaths attributed to pneumonia and flu during the week ending February 23 was 7.5%, slightly higher than the usual threshold of 7.3% for this time of year, the CDC said, based on data from the National Center for Health Statistics.

It's unclear whether the season has peaked, but there are still weeks of flu activity to come this season, with 48 states and Puerto Rico reporting widespread activity. The CDC also recorded about 37 hospitalizations per every 100,000 people during the week ending March 2. This is the overall rate, with a higher proportion of people who are 65 and older requiring hospitalization (107 per 100,000), followed by children up to age 4 (49 per every 100,000) and then people between the ages of 50 and 64 (48 per 100,000). Hospitalization rates are a lot lower than last season, the CDC said. The H1N1 virus strain has dominated this season, but H3 viruses have been circulating in the Southeast, according to Schaffner.

It's been a "double-barreled influenza outbreak this year," he said, with H1N1 seen throughout most of the country and two waves of H3N2 infections in the southeastern United States. H3N2 viruses account for about two-thirds of influenza A viruses tested this past week, according to the CDC. "H3N2, in general, produces more severe disease," he said. "That was the virus that was causing so much trouble last year. All of these viruses, but particularly H3N2, have a tendency to try to put you in the hospital and set you up for a secondary case of pneumonia."

Everyone 6 months or older should get vaccinated against the flu, the CDC advises. People over 65, children under 2 and individuals with medical conditions should also get a pneumococcal vaccination to prevent pneumonia. "If you become sick, please call your health care provider, because they may well provide a prescription for antiviral drugs that can help reduce the severity and duration of your illness," Schaffner said. Common antivirals include Tamiflu and Xofluza.

Although the CDC continues to recommend getting a flu shot, Schaffner noted that it is "awfully late" in the season, because it takes 10 days to two weeks after getting the shot for your body to develop immunity. Still, as long as flu is circulating in the area where you live, it is not too late to get vaccinated. He also advises his patients to "remember to get it this fall in preparation for the next flu season. Although it's not perfect, it still prevents many, many infections, and even if you should get influenza despite having received the vaccine, it tends to make a less severe infection. You are certainly less likely to get the complications of pneumonia, having to be hospitalized and dying," Schaffner said.

Source: <https://www.cnn.com/2019/03/08/health/flu-update-march-2-cdc-br/index.html>

From CIDRAP: Study suggests flu shots in hospitalized patients may cut heart attack risk

A large study based on hospital records found an association between getting vaccinated against flu during hospitalization and a 10% lower risk of heart attack in the following year. Researchers are slated to present the findings on Mar 16 at the American College of Cardiology (ACC) annual meeting in New Orleans, according to an ACC news release today. For the study, the scientists analyzed data from the National Inpatient Sample, which includes records for nearly 30 million adults who were hospitalized in the United States in 2014. First they divided patients into two groups: those who had been immunized against flu during their hospital stay and those who had not. Then they looked at the proportion who were hospitalized for a heart attack or unstable chest pain at any time during 2014.

About 2% of patients had received a flu shot during their hospital stay. Of those who didn't, 4% had a heart attack or unstable angina, compared with 3% of those who had been immunized. The researchers found that the difference was statistically significant, given the large size of the data set, amounting to about 5,000 fewer heart attacks than expected without the vaccine. After adjusting for confounders, the team found that flu vaccination was associated with a 10% reduction in heart attack risk. Mariam Khandaker, MD, study coauthor and internal medicine resident at Icahn School of Medicine at Mount Sinai St. Luke's in New York City, said in the press release that, as a very low-cost intervention, the flu vaccine is still underused. "It is important for physicians to educate patients about the benefits of vaccination in order to help them make informed decisions. Hospitals are a good venue to do this, in addition to other places such as the primary care clinic," she said.

Source: <http://www.cidrap.umn.edu/news-perspective/2019/03/news-scan-mar-07-2019>

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@sched.org. This report was issued on March 8, 2019.