

Influenza (FLU) Update for Week #10 Week Ending 3-9-19

The CDC reported that **Influenza (Flu)** activity, which includes diagnosed flu as well as **ILI (Influenza-Like-Illness)**, remained widespread during Week #10. The percentage of respiratory specimens testing positive for flu decreased slightly again to 25.8% from 26.1% last week, all 10 Regions reported flu levels above their baselines, and the number of hospitalizations from flu continued to increase. The CDC expects flu and ILI activity to stay at elevated levels for the rest of March, however none of the numbers approach last season's (2017/18) flu severity.

In the samples tested, Influenza A viruses were the largest percentage of viruses. However, for the third week in a row this flu season, Influenza A(H3) was more prevalent nationally and continued to dominate in Regions 2 (NY, NJ, PI, & US VI), 4 (the Southeast), 5 (Eastern Central), 6 (South Central), 7 (Central Plains), 8 (Western Central) and 10 (Pacific Northwest). Overall, Influenzas A (H1N1), A (H3N2) and Influenza B viruses were co-circulating.

The majority of the flu viruses were genetically similar to the 2018/19 Flu Vaccine, although vaccine protection numbers have not been as high in previous seasons with Influenza A(H3) strains circulating since they are more likely to genetically change during a flu season.

See this link for more details on Flu and ILI activity, including charts, graphs and maps:
<https://www.cdc.gov/flu/weekly/index.htm>

The CDC has published its *2018/19 Flu Season Preliminary Burden Estimates*, and from October 1, 2018 through March 9, 2019, and there have been an estimated with 25.5 – 29.3 million flu illnesses, 11.8 – 13.8 million medical visits for flu, 327,000 – 394,000 flu-related hospitalizations, and 21,500 – 35,500 flu deaths.

As part of the CDC's *Epidemic Prediction Initiative (EPI)*, their forecast as of 3/12/19, is that flu activity is likely to remain elevated through the end of the month. Also, there is about a 90% chance that this year's flu season has already peaked at a national level, although different areas of the U.S. may differ in their timing. This link provides info on the *EPI* prediction: <https://www.cdc.gov/flu/weekly/flusight/index.html>

FirstWatch RIN (Regional Influenza Network): RIN Alerts for Week #10 repeated a slight decrease.

For the most recently reported week, ending March 9, 2019, the CDC reported: Influenza-like illness (ILI) visits to clinics & other non-hospital facilities decreased slightly to 4.5% (l. w. 4.7%), but remained well above the national baseline of 2.2%. All 10 regions

reported ILI at or above their region-specific baselines, with a range of 3.0% to 8.5%. Thirty (30) states reported high ILI activity.

Flu cases, documented by positive flu tests of respiratory specimens, were reported as Widespread in Puerto Rico and 46 states. Clinical lab testing for influenza was positive for 25.8% of specimens, compared to 26.1% last week, with a range of 13% (Region 9) to 34% (Region 8). All regions were in the double digits, with six (6) at $\geq 20\%$ (3 of them at $> 29.0\%$) and two (2) at $\geq 30\%$.

Influenza A remained the dominant flu for 97.2% of the flu tests reported (the exact same as the last 2 weeks), and the H3N2 subtype remained the dominant Influenza A virus at 61.3% (62% last week), as A(H1N1)pdm09 viruses increased slightly to 38.7% (38% last week). The rest of the tests showed 2.8% (same as last 2 weeks) tested as Influenza B viruses, with Yamagata at 20% and Victoria at 80%. Typically, Influenza B viruses occur more towards Spring and cause less severe illness. This pattern is mirrored in much of the world.

More than 99% of the flu viruses tested were found to be sensitive to the antivirals oseltamivir, zanamivir (100%), and peramivir (Tamiflu, Relenza, and Rapivab, respectively).

The CDC recommends treatment with antivirals, as early as possible, for those with confirmed or suspected flu with severe, complicated, or progressive disease, those who are hospitalized, or at high risk for complications of flu. See this link for a list of those at risk for complications from flu: https://www.cdc.gov/flu/about/disease/high_risk.htm

The CDC provides an interactive U.S. map that will link to each state's public health authorities. ILI and Flu information and processes, as well as other diseases and public health topics. This site includes a tremendous amount of information at the State and even Local level. Find it at this site:

<https://www.cdc.gov/flu/weekly/usmap.htm>

For Influenza-Like Illness:

High ILI Activity: (30 states): Alabama, Alaska, Arkansas, Colorado, Connecticut, Georgia, Indiana, Iowa, Kansas, Kentucky, Louisiana, Mississippi, Missouri, Nebraska, New Jersey, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Texas, Utah, Virginia, Washington, Wisconsin, and Wyoming

Moderate ILI Activity: (11 states): California, Hawaii, Illinois, Maine, Maryland, Montana, Nevada, New York, South Dakota, Vermont, and West Virginia,

Low Activity: (New York City, Washington D.C., & 5 states): Idaho, Massachusetts, Michigan, Minnesota, and New Hampshire

Minimal Activity: (Puerto Rico & 4 states): Arizona, Delaware, Florida, and Tennessee

Insufficient Data: U.S. Virgin Islands

For Flu (positive flu tests):

Widespread Activity: (Puerto Rico & 46 states): Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Utah, Virginia, Washington, West Virginia, Wisconsin, and Wyoming

Regional Activity (4 states): Hawaii, Tennessee, Texas, and Vermont

Local Activity: Washington D.C.

Sporadic Activity: the U.S. Virgin Islands

Guam did not report

Other Data:

The Hospitalization rate from Flu increased to 41.3 per 100,000 (last week 36.6/100,000). Older adults (age \geq 65 years) had the highest hospitalization rate at 123.9 per 100,000 (l.w. 107.7/); children (ages 0-4) had 54.8 per 100,000 (last week 49.3/), and adults (age 50-64 years) were at 54.0 per 100,000 (l.w. 48.4/). Most hospitalizations, 95.6% (l.w. 95.4%), were caused by Influenza A viruses; 3.6% (l.w. 3.8%) were from Influenza B viruses; 0.3% (again the same) showed co-infection with both Influenza A and B viruses; and 0.5% (same as the last 4 weeks) were not typed for a specific flu virus.

As of 3/14/19, the death rate for pneumonia & influenza in adults was at 7.2%, just below the epidemic threshold of 7.3% for week #9 (death reports often aren't reported for data purposes the same week and are typically reported by the CDC a week behind).

There were another four (4) pediatric deaths attributed to flu reported this week, occurring in Weeks 6, 9, & 10, for a total of 68 for this Flu Season.

Flu in Canada, Europe & the World:

Canada:

According to the Public Health Agency of Canada (PHAC), for **Week #10, ending 3/9/19**, when grouped as a nation, most indicators showed similar or slightly increased levels of flu activity when compared to the week prior. Influenza was reported in almost all the Regions, though circulation was at greater levels in the Eastern Regions. The PHAC also reported that while Influenza A(H1N1)pdm09 had been the dominant flu virus up until now, reports of Influenza A(H3N2) have been increasing since the middle of Jan and dgdg was at 56% this week. Meanwhile, little Influenza B has been identified this season, when compared to other seasons.



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Widespread Activity in 0 Regions:

Localized Activity in 17 Regions: Alta. (1), Ont. (5), Que. (2), N.S. (4), and N.B. (3) and N.L. (2),

Sporadic Activity in 30 Regions: B.C. (5), Alta. (4), Man. (4), Ont. (2), Que (4), N.B. (3), N.L. (2), P.E.I (1), Nvt. (3), Y.T. (1), and N.W.T. (1)

No Activity Reported in 3 Regions: Man. (1), N.B. (1), N.W.T (1)

For more specific information see:

On flu activity: <https://www.canada.ca/en/public-health/services/publications/diseases-conditions/fluwatch/2018-2019/week10-march-3-march-9-2019.html>

Canadian Flu Information:

<https://www.canada.ca/en/public-health/services/diseases/flu-influenza.html>

General Page for Canadian Flu Watch Surveillance with links to different components:

<https://www.canada.ca/en/public-health/services/diseases/flu-influenza/influenza-surveillance.html>

About the Canadian Influenza Activity Surveillance System:

<https://www.canada.ca/en/public-health/services/diseases/flu-influenza/influenza-surveillance/about-fluwatch.html>

Europe:

According to the European Center for Disease Prevention & Control (ECDC), **for Week # 10 (Mar 4 – 10, 2019)**, Influenza activity remained widespread throughout the European Region. The samples taken from those with ILI or ARI (acute respiratory illness) by sentinel primary healthcare sites, showed 42% positive for flu viruses, compared with 41.8% last week. The majority of circulating viruses remained Influenza A, with A(H1N1)pdm09 detected a bit more than A(H3N2) and with very few Influenza B viruses found. Data from 22 Member States reported a continued decrease in the excess mortality, compared to previous weeks, but was still seen in those aged >65 overall, as well as some in the 15 – 64 age group.

For more information see: <http://flunewseurope.org/>

World: The **World Health Organization (WHO)** provides info on Influenza in Member Countries here: https://www.who.int/influenza/surveillance_monitoring/en/

First Responder Specific Information

There are many websites that may be helpful in planning and managing seasonal flu within First Responder organizations. A few of those websites are included here:

NIOSH on Flu for Employers/Employees:

<https://www.cdc.gov/niosh/topics/flu/>

Protection from Flu:

<https://www.cdc.gov/flu/protect/habits/index.htm>

Weekly Flu Map:

<https://www.cdc.gov/flu/weekly/usmap.htm>

World Map Showing Flu & Other Infectious Diseases:

<http://www.healthmap.org/en/>

Other Actions First Responders Should Consider

First Responders should be vaccinated for Flu each season to prevent getting flu themselves, taking it home to family members, or transmitting it to patients in their care. Family members and patients may be at increased risk of complications from flu.

Perform proper hand hygiene including frequent handwashing and the use of hand sanitizers in general, and particularly when providing patient care or after touching surfaces.

Masks (N95 or N100) should be used in the presence of patients with cough and/or fever; preferably before being within 6 feet of the patient. This becomes even more important if droplet producing procedures are being performed (i.e. suctioning, nebulizer treatments, BVM, intubation).

Care should be taken to avoid touching your own face and mucous membranes (eyes, mouth, nose) since the flu virus is frequently found on surfaces such as door knobs, writing & recording tools (pens and tablets), cot and equipment handles, phones, light switches, as well as clothing, bed clothes, etc.

Report signs/symptoms of flu to your physician or other appropriate provider for early assessment and care. Alert your employer per policy.

Cough and sneeze into your sleeve, if a tissue is not available, and not onto your hands. Watch this YouTube video for a humorous but educational approach on the subject.

<https://www.youtube.com/watch?v=CtnEwwUWDo0>

Stay away from others if you are sick.

Be aware of your exposure risk and history to prevent exposing others. Take extra precautions or avoid those with immunocompromise, when possible, if you have a known or likely exposure.

Antivirals may be indicated for the treatment of flu, particularly for those in high risk groups, those who are hospitalized or have severe, complicated or progressing flu. Those that present with 48 hours of the onset of symptoms may also be given antivirals, based on PCP judgement but make sure the practitioner is aware of their First Responder Role. See <https://www.cdc.gov/flu/antivirals/whatyoushould.htm>

And, for consideration when looking at yourself, your family and friends, or your patients, consider the following information regarding complications of flu:

Flu is much more worrisome for the very young and the elderly, as well as those who fit into one of the high risk categories see this link for the list:

https://www.cdc.gov/flu/about/disease/high_risk.htm . Signs of ILI/Flu in this group requires careful assessment to rule out complications and these groups are much more likely to need medical oversight to assure adequate care. Young children and those over 65 are typically at greater risk for complications, hospitalization, and even death. Consideration should be given to perhaps monitoring these groups more closely, with inclination for more comprehensive assessment and transport for further evaluation, when presented with possible flu and any signs of complications.

Complications of flu, sometimes requiring hospitalization and even leading to death, tend to occur after the person has begun to get better from the flu and then appears to relapse. EMS personnel may want to look more closely at those patients when the call is not about the initial signs and symptoms of flu, but about increasing or different signs that have appeared, often from five days to two weeks after the initial flu symptoms began.

A study was published by the Institute for Clinical Evaluative Sciences in *NEJM (New England Journal of Medicine)*. See details below:

Flu infection may raise risk of heart attack, particularly in first 7 days



Study confirms importance of flu vaccination for people at risk of heart disease.

Researchers looked at nearly 20,000 Ontario adult cases of lab-confirmed influenza (2009-2014) and then identified 332 patients who were hospitalized for a heart attack within one year of flu diagnosis.



For this population, the risk of heart attack was **6 times higher** within the first week of a flu diagnosis.

Factors that may be associated with more risk:

- being age 65 and older
- infection with influenza B
- no previous heart attack

The researchers say that people at risk of heart disease should take care to prevent flu through measures including handwashing and vaccination, and should not delay medical evaluation for heart symptoms, particularly in the first week of an acute respiratory infection.

Kwong JC et al. NEJM. 2018.

Institute for Clinical Evaluative Sciences

ices.on.ca



Image courtesy of ICES/PHO

“The researchers add that patients should not delay medical evaluation for heart symptoms particularly within the first week of an acute respiratory infection.” (Lisa Schnirring, News Editor: *CIDRAP News* ;Jan 25, 2018)

For more information on Influenza and the Heart Attack Study, please see the link below.

https://www.eurekalert.org/pub_releases/2018-01/pho-rci011818.php

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