FIRST WATCH®

Every Record. In Real Time. Automatically.

Influenza (FLU) Update for Week #13
Week Ending 3-30-19

The CDC reported that **Influenza** (**Flu**) activity, which includes diagnosed flu as well as **ILI** (**Influenza-Like-Illness**), decreased but was still elevated during Week #13. The percentage of respiratory specimens testing positive for flu decreased to 18.1% from 22.1% last week, while all 10 Regions reported flu levels above their baseline. Also, the number of hospitalizations from flu continued to increase. The CDC expects flu and ILI activity to stay at elevated levels at least through mid-April, however none of the numbers approach last season's (2017/18) flu severity.

In the samples tested, Influenza A viruses were the largest percentage. As in the past few weeks, Influenza A(H3) was more prevalent nationally and dominant in all the Regions. Overall, Influenzas A (H1N1), A (H3N2) and Influenza B viruses were co-circulating, with Influenza B cases increasing, a sign typically seen in the spring.

The majority of the flu viruses were genetically similar to the 2018/19 Flu Vaccine, but an increasing amount of the Influenza A(H3N2) viruses are antigenically different from the H3N2 reference virus used in the 2018/19 North American Hemisphere Flu Vaccine. Changes to the 2019/20 North American Hemisphere Vaccine have been recommended and adopted.

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 30, 2019, there have been an estimated 33.2 – 38.1 million flu illnesses, 15.3 – 17.8 million medical visits for flu, 425,000 – 549,000 flu-related hospitalizations, and 30,600 – 50,900 flu deaths.

As part of the CDC's *Epidemic Prediction Initiative (EPI)*, their forecast as of 4/1/19, is that flu activity is likely to remain elevated through at least mid-April. Also, there is about a 99% chance that this year's flu season peaked mid-February 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 #13 showed a significant decrease in number.**

For the most recently reported week, ending March 30, 2019, the CDC reported:
Influenza-like illness (ILI) visits to clinics & other non-hospital facilities decreased to 3.2% (l. w. 3.8%), but remained above the national baseline of 2.2%. All 10 regions reported ILI at or above their region-specific baselines, with a range of 2.4% to 4.6%. Six (6) states reported high ILI activity.

Flu cases, documented by positive flu tests of respiratory specimens, were reported as Widespread in Puerto Rico and 33 states. Clinical lab testing for influenza was positive for 18.1% of specimens, compared to 22.1% last week, with a range of 10.8% (Region 9) to 33.5% (Region 10). All regions were in the double digits, with five (5) at ≥ 20% and only one (1) at ≥ 30%.

Influenza A remained the dominant flu for 92.8% of the flu tests reported (last week 94.6%). The H3N2 subtype remained the dominant Influenza A virus at 73.6% (68.1% last week), as A(H1N1)pdm09 viruses decreased to 26.4% (31.9% l.w.). The rest of the tests showed 7.2% (5.4% l.w.) tested as Influenza B viruses, with Yamagata at 25% and Victoria at 75%. Typically, Influenza B viruses occur more towards Spring and cause less severe illness, which now may be beginning to show but, working against that, A(H3N2) viruses are known to cause increased severity and be less covered by the flu vaccine. 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: (**6 states**): Kentucky, Louisiana, Missouri, Rhode Island, South Carolina, and Virginia
Moderate ILI Activity: (**19 states**): Alabama, Arkansas, Colorado, Connecticut, Georgia, Iowa, Kansas, Maryland, Massachusetts, Michigan, New Mexico, New York, North Carolina, Oregon, Pennsylvania, Texas, Utah, Washington, and Wisconsin
Low Activity: (**New York City, Washington D.C., Puerto Rico, & 13 states)**: Arizona, California, Idaho, Illinois, Indiana, Maine, Mississippi, Nebraska, Nevada, New Jersey, Ohio, Oklahoma, and West Virginia
Minimal Activity: (12 states): Alaska, Delaware, Florida, Hawaii, Minnesota, Montana, New Hampshire, North Dakota, South Dakota, Tennessee, Vermont, and Wyoming
Insufficient Data: the U.S. Virgin Islands

For Flu (positive flu tests)**:**

Widespread Activity: (Puerto Rico & 33 states): Alabama, Alaska, Arizona, California, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Virginia, Washington, West Virginia, and Wisconsin
Regional Activity (15 states): Arkansas, Colorado, Florida, Idaho, Kansas, Kentucky, Louisiana, Minnesota, Nebraska, North Dakota, South Dakota, Tennessee, Texas, Utah, and Wyoming
Local Activity: (Washington D.C. & 1 state): Hawaii
Sporadic Activity: (1 state): Vermont
Guam and the U.S. Virgin Islands did not report

Other Data:

The Hospitalization rate from Flu increased to 56.4 per 100,000 (last week 52.5/100,000). Older adults (age ≥ 65 years) had the highest hospitalization rate at 181.8 per 100,000 (l.w. 167/); adults (age 50-64 years) were at 71.9 per 100,000 (l.w. 67.4/); and children (ages 0-4) had 66.1 per 100,000 (last week 63.6/).

As of 4/4/19, the death rate for pneumonia & influenza in adults was at 7.2% and at the epidemic threshold of 7.2% for week #12. Note: the epidemic threshold number may change from week to week. Death reports often aren't reported for data purposes the same week and are typically reported by the CDC a week behind.

There were five (5) pediatric deaths, attributed to flu, reported this week and four (4) occurred in Week 12 and one (1) in Week 11, for a total of 82 for this Flu Season. Another death (1) was reported this week for the 2017-2018 Flu Season, for a total of 186 pediatric deaths last flu season.

Flu in Canada, Europe & the World:

Canada:
According to the Public Health Agency of Canada (PHAC), for **Week #13, ending 3/23/19**, Influenza was reported in almost all the Regions of Canada. The PHAC also reported that Influenza A(H3N2) cases have been increasing since the middle of Jan and represented 76% of the Influenza A subtyping, this week, compared to 72% for last week, although A(H1N1)pdm09 was still the dominant type for this Flu Season as a whole. Influenza A(H1N1) peaked at the end of December, but a smaller wave of flu cases with A(H3N2) dominating for the five (5) weeks, has been seen in most Regions of the country. Meanwhile, very little Influenza B has been identified this season when compared to other seasons.

Widespread Activity in 0 Regions
Localized Activity in 21 Regions: Alta. (2), Ont. (6), Que (2), N.S. (3), N.B. (3), P.E.I (1), Y.T. (1), and N.L. (3),
Sporadic Activity in 26 Regions: B.C. (5), Alta. (3), Sask. (3), Man. (3), Ont. (1), Que (4), N.B. (4), N.L. (1), and N.W.T. (2)
No Activity Reported in 6 Regions: Man. (2), N.S. (1), and Nvt. (3)

For more specific information see:
On flu activity: https://www.canada.ca/en/public-health/services/publications/diseases-conditions/fluwatch/2018-2019/week13-march-24-march-30-2019.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 #13 (Mar 25 – 31, 2019)**, for the 45 countries reporting on geographic spread of influenza activity, only 11 had widespread activity, namely in the Northern, Southern, and Western areas of Europe. The samples taken from those with ILI or ARI (acute respiratory illness) by sentinel primary healthcare sites, decreased to 32% positive for flu viruses, compared with 38% last week. Those reported with severe acute respiratory infection (SARI) that were tested for flu viruses, resulted in a result of 33% and almost all were Influenza A. Overall, Influenza A viruses dominated, with more A(H3N2 than A(H1N1)pdm09; with few Influenza B viruses found. Data from 22 reporting Member States and areas that reported to the EuroMOMO project indicated that excess mortality from earlier weeks had returned to normal levels.

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=CtnEwvUWDo0

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:

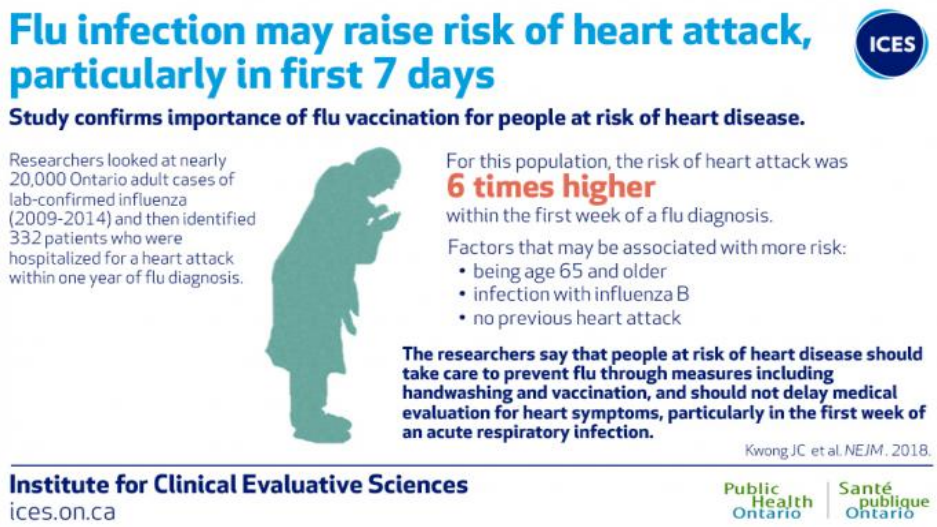

Image courtesy of ICES/PHO

"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-rcl011818.php

This document is provided by FirstWatch as a service to prehospital and public health providers. The information has been compiled from a variety of sources such as the CDC, Health Canada and WHO. It is copyrighted, but may be freely copied and distributed as long as it remains intact. For up-to-date, EMS specific information on emerging diseases, please visit **www.firstwatch.net/hi**