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Influenza (FLU) Update for Week #15
Week Ending 4-13-19

The CDC reported that **Influenza** (**Flu**) activity, which includes diagnosed flu as well as **ILI** (**Influenza-Like-Illness**), decreased again but was still elevated during Week #15, particularly for so late in the season. This Flu Season has been elevated for 21 weeks, a new record (it was 20 weeks in 2014/15). The percentage of respiratory specimens testing positive for flu decreased to 11.8% from 15.1% last week. Also, the number of hospitalizations from flu continued to increase. The CDC expects flu and ILI activity to continue to wane but sporadic activity will likely occur for several more weeks. Although it is a record long flu season, it doesn't come close to the severity of the 2017/18 Flu Season.

Like 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 Spring. A(H3N2) viruses typically cause more severe illness in older adults and the flu vaccine often covers H3N2 less well in this population.

The majority of the flu viruses were genetically similar to the 2018/19 Flu Vaccine, but an increasing amount of Influenza A(H3N2) viruses continue to be 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***, & from October 1, 2018 through April 13, 2019, there have been an estimated 36 – 41.3 million flu illnesses, 16.7 – 19.4 million medical visits for flu, 502,000 – 610,000 flu-related hospitalizations, and 34,400 – 57,300 flu deaths.

This link provides info on the *EPI* prediction:
https://www.cdc.gov/fslu/weekly/flusight/index.html

FirstWatch RIN (**Regional Influenza Network**): **RIN Alerts for Week #15 showed a significant increase in number.**

For the most recently reported week, ending April 13, 2019, the CDC reported:
Influenza-like illness (ILI) visits to clinics & other non-hospital facilities decreased to 2.4% (l. w. 2.8%), but remained above the national baseline of 2.2%. Seven (7) regions reported ILI at or above their region-specific baselines, with a range of 1% to 3.5%; Regions 4 (Southeast), 6 (South Central), and 10 (Northwest) reported normal activity compared to their baselines.

Flu cases, documented by positive flu tests of respiratory specimens, were reported as Widespread in 11 states. Clinical lab testing for influenza was positive for 11.8% of specimens, compared to 15.1% last week, with a range of 9.1% (Region 9, Southwest) to 22.7% (Region 10, Northwest). Eight (8) regions were in the double digits, with only one (1) at **≥** 20%.

Influenza A remained the dominant flu for 84.9% of the flu tests reported (last week 90.2%). The H3N2 subtype remained the dominant Influenza A virus at 75.4% (76.8% last week), as A(H1N1)pdm09 viruses were 24.6% (23.2% l.w.). The rest of the tests showed 15.1% (9.8% l.w.) tested as Influenza B viruses, with Yamagata at 15% and Victoria at 85%. Typically, Influenza B viruses occur more toward Spring and cause less severe illness, which now may be beginning to show however, 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: (**1 state**): Rhode Island
Moderate ILI Activity: (**5 states**): Arizona, Hawaii, Kentucky, Louisiana, and Missouri
Low Activity: (**New York City, Puerto Rico, & 14 states)**: California, Colorado, Georgia, Iowa, Maine, Massachusetts, New Jersey, New Mexico, New York, Pennsylvania, South Carolina, Texas, Virginia, and Wisconsin
Minimal Activity: (Washington D.C. & 30 states): Alabama, Alaska, Arkansas, Connecticut, Delaware, Florida, Idaho, Illinois, Indiana, Kansas, Maryland, Michigan, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Hampshire, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, South Dakota, Tennessee, Utah, Vermont, Washington, West Virginia, and Wyoming
Insufficient Data: the U.S. Virgin Islands

For Flu (positive flu tests)**:**
Widespread Activity: (11 states): Arizona, California, Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New York, Ohio, Rhode Island, and Virginia
Regional Activity (Puerto Rico & 20 states): Alabama, Florida, Georgia, Illinois, Kentucky, Louisiana, Maryland, Michigan, Missouri, Montana, Nevada, New Jersey, New Mexico, North Dakota, Pennsylvania, South Carolina, Tennessee, Utah, Washington, and Wisconsin
Local Activity: (Washington D.C. & 17 states): Alaska, Arkansas, Colorado, Hawaii, Idaho, Iowa, Kansas, Minnesota, Mississippi, Nebraska, North Carolina, Oklahoma, Oregon, South Dakota, Vermont, West Virginia, and Wyoming
Sporadic Activity: (the U.S. Virgin Islands & 2 state): Indiana and Texas
Guam and did not report

Other Data:

The Hospitalization rate from Flu increased to 62.3 per 100,000 (last week 59.9/100,000). Older adults (age ≥ 65 years) had the highest hospitalization rate at 206.5 per 100,000 (l.w. 195.9/); adults (age 50-64 years) were at 77.8 per 100,000 (l.w. 75.5/); and children (ages 0-4) had 71 per 100,000 (last week 69.1/).

As of 4/18/19, the death rate for pneumonia & influenza in adults was at 6.6% and below the epidemic threshold of 7% for week #14. 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 occurred in Weeks 8,12, 13, and 15, for a total of 91 deaths for this Flu Season.

Flu in Canada, Europe & the World:

Canada:
According to the Public Health Agency of Canada (PHAC), for **Week #15, ending 4/13/19**, because of the shortened week, not all providers reported their data. The PHAC also reported that Influenza A(H3N2) cases have increased since the middle of Jan and represented 83% of the Influenza A subtyping this week, compared to 89% for last week, although A(H1N1)pdm09 was still the dominant type for this Flu Season as a whole. This has resulted in a second wave of flu, though smaller in size than the original wave. Meanwhile, little Influenza B has been identified this season compared to other seasons.

Widespread Activity in 0 Regions
Localized Activity in 12 Regions: Sask. (1), Ont. (7), Que (1), N.B. (2), & P.E.I (1)
Sporadic Activity in 19 Regions: B.C.(5), Sask.(2), Que (5), N.B.(5), Y.T.(1), & N.W.T. (1)
No Activity Reported in 1 Region: N.W.T. (1)

For more specific Canadian information see:
On flu activity: https://www.canada.ca/en/public-health/services/publications/diseases-conditions/fluwatch/2018-2019/week15-april-7-april-13-2019.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 #15 (Apr 8 – 14, 2019)**, for the 41 countries reporting on geographic spread of influenza activity, only 5 had widespread activity. The samples taken from those with ILI or ARI (acute respiratory illness) by sentinel primary healthcare sites, decreased to 20% positive for flu viruses, compared with 23% last week. Those reported with severe acute respiratory infection (SARI) that were tested for flu viruses, had a positive result of 16%; all were Influenza A. Overall, Influenza A viruses dominated, with more A(H3N2 than A(H1N1)pdm09 and few Influenza B viruses found. Data from 23 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:

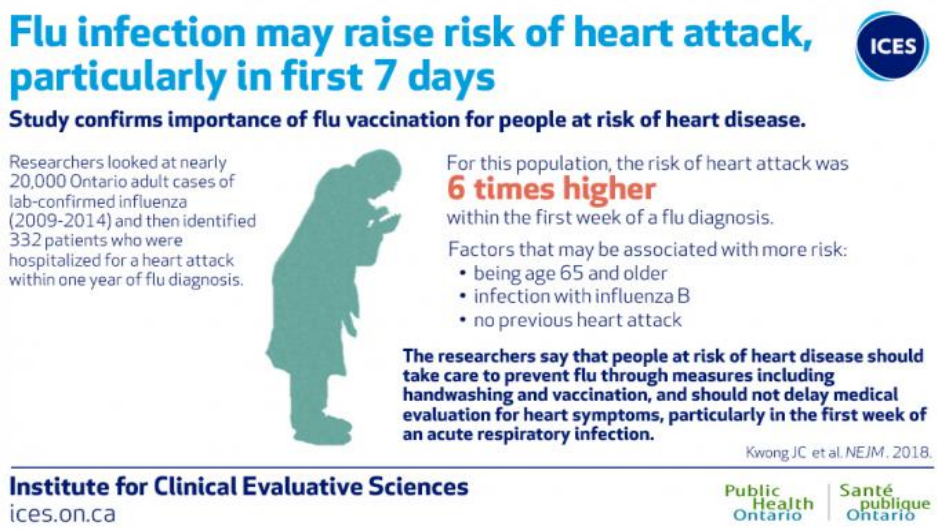

Image courtesy of ICES/PHO

"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

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