Influenza (FLU) Update for Week #49
Week Ending 12-8-18

For week #4 (ending 12-8-18) the CDC reported that **influenza** (**Flu**) activity, which includes diagnosed flu as well as **ILI** (**Influenza-Like-Illness**) was still slightly elevated. The percentage of respiratory specimens being tested still remains low.

Influenza A viruses are the most common virus found in sample testing, with Influenza A(H1N1)pdm09 the most common of those. Influenza A (H2N2) and Influenza B viruses have also been found and are considered to be co-circulating. Also, the majority of the flu viruses are matching well with the 2018/19 Flu Vaccine and

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

FirstWatch **RIN** (**Regional Influenza Network**) Alerts were minimal for last week.

For the recently reported week ending December 8, 2018, the CDC reported:

-- Influenza-like illness (ILI) visits to clinics & other non-hospital facilities was 2.2% (same as the previous week) and is at the national baseline of 2.2%. One half (5) of the 10 regions (Regions 1, 2, 4, 7, & 8) reported ILI at or above their region-specific baselines; it was 4 of 10 Regions last week. One (1) state had high ILI activity, Puerto Rico and four (4) states had moderate ILI activity, New York City, Washington DC and nine (9) states reported low levels, and 36 states had minimal ILI activity.

-- Flu cases indicating spread (documented by positive flu tests on respiratory specimens) were reported as Widespread in three (3) states; Regional in ten (10) states; 21 states reported local activity; Washington DC, Puerto Rico, the US Virgin Islands and 16 states reported sporadic flu activity; and Guam didn't report. Clinical lab testing for influenza was positive for just 2.4% of specimens, compared to 1.7% last week.

-- Influenza A remained the dominant flu for 92.2% of the flu tests reported (91.5% last week), with 80.9% (82.2% last week) as A (H1N1)pdm09 viruses and the H3N2 subtype at 19.1% (17.8% last week). The rest of the tests showed 7.8% (8.5% l.w.) tested as Influenza B viruses, with 66.7% (100% l.w) of Yamagata lineage and 33.3% (0% l.w) Victoria lineage.

This shows an increase in Influenza A viruses and slightly less Influenza B. Typically, Influenza B viruses cause less severe illness and occur more towards the Spring.

All the flu viruses that were tested were susceptible to the antivirals oseltamivir, zanamivir, and peramivir (Tamiflu, Relenza, and Rapivab, respectively). There was high resistance to the adamantane group of antivirals, namely Amantadine and rimantadine (Flumadine), which are not effective for any Influenza B viruses).

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 (currently represents Week #49)

-- For Influenza-Like Illness:

High ILI Activity: (**1 state**): Georgia

Moderate ILI Activity: (**Puerto Rico and 4 states**): Colorado, Connecticut, Kentucky, and Louisiana

Low Activity: (**New York City Washington D.C., & 9 states**): Alabama, Arizona, Mississippi, Missouri, New Jersey, Oklahoma, South Carolina, Utah and Virginia

Minimal Activity (**36 states**): Alaska, Arkansas, California, Delaware, Florida, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, Nebraska, Nevada, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Dakota, Tennessee, Texas, Vermont, Washington, West Virginia, Wisconsin, and Wyoming

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

Widespread Activity: (3 states): California, Georgia, and Massachusetts

Regional Activity (**10 states**): Arizona, Connecticut, Idaho, Kentucky, Nevada, New York, North Carolina, Rhode Island, Texas, and Vermont

Local Activity (21 states): Alabama, Colorado, Delaware, Florida, Illinois, Kansas, Louisiana, Maryland, Michigan, Minnesota, Montana, Nebraska, New Jersey, New Mexico, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, and Utah

Sporadic Activity: (Washington D.C., Puerto Rico, U.S. Virgin Islands, & 16 states): Alaska, Arkansas, Hawaii, Indiana, Iowa, Maine, Mississippi, Missouri, New Hampshire, North Dakota, South Dakota, Virginia, Washington, West Virginia, Wisconsin, and Wyoming

-- Other Data:

The Hospitalization rate from Flu was 1.9 per 100,000 (last week 1.3%). Children (ages 0-4) had the highest hospitalization rate of 5.0 per 100,000 (last week 3.3%), with older adults (age $\geq$ 65 years) at 4.6% per 100,000 (l.w. 3.3%) and adults (age 50-64 years) at 2.1 per 100,000 (l.w. 1.4%). Most, 78.9% (l.w. 72.8%), were caused by Influenza A viruses, 18.4% (l.w. 23%) were from Influenza B viruses, and 1.8% (l.w. 2.3%) showed co-infection with both Influenza A and B viruses, and 0.9% (l.w. 1.8%) were not typed for a specific flu virus.

Death rates for pneumonia and influenza in adults (6.0%) is below the epidemic threshold of 6.6% for week #48. Death reports often aren't reported for data purposes the same week as flu and ILI cases.

There was one pediatric death attributed to flu reported this week, with a total of 6 for this flu season

-- Flu in Canada, Europe & the World:

Canada:

According to the Public Health Agency of Canada **(PHAC)**, throughout Canada there was a continued increase in flu activity in Week 49, week ending 12-8-18 with 19.3% of test positive for flu. Influenza A is the predominant circulating Flu (99% of specimens, with A(H1N1)pdm09 as the dominant subtype (94%). Hospitalizations continue in all age ranges but the highest estimated rate was for children less than 5 years old.

For more specific information see:

On this week's flu activity: https://www.canada.ca/en/public-health/services/publications/diseases-conditions/fluwatch/2018-2019/week49-december-2-december-8-2018.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)**, Influenza activity was at baseline or low throughout the European Region (20-member states reporting), although some countries reported local and regional spread. The majority of circulating flu is Influenza A but is found only sporadically in specimens from medical offices.

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 Frist 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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