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Influenza (FLU) Update for Week #50 -- Week Ending 12-14-19

The CDC reported that flu season is in full swing, with all regions of the US having elevated ILI and flu activity continuing to increase. Most of the current flu activity is caused by Influenza B/Victoria which typically occurs in late Winter or Spring, toward the end of the flu season. A(H1N1) is the next most common and is increasing compared to the other flu viruses, followed by A(H3N2) with an even smaller share. The CDC estimated that at this point in the season, there have been at least 3.7 million sick with flu, 32,000 hospitalizations, and 1,800 deaths. **Influenza-like illness (ILI) is defined as a temperature at/above 100° F [37.8° C] and cough and/or sore throat without a known cause other than flu. A Flu case, that is included in CDC data, indicates a positive flu test read by either a Clinical or Public Health Lab.**

Diagnosed Flu and ILI are expected to continue to increase over the next few weeks and flu activity is likely to persist for several more months. **It is recommended by public health officials & health care providers that for all those 6 months or older, flu vaccinations be completed ASAP, unless they have a valid medical contraindication.** Most will receive a vaccination that covers 4 strains of influenza.

The severity of Flu & ILI of this season, as well as which virus(es) will ultimately dominate, is still too early to call, but there are indications that this season may be more severe than many, since most recent seasons have hit the national threshold for ILI typically between weeks #48 and #50, but this season hit the threshold at week #45 and has already been elevated for 6 weeks now and, as the so far dominant influenza B/Victoria seems to be hitting the pediatric population hard. As more data is collected by the CDC as the season continues, its severity and length will become clearer.

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

FirstWatch RIN (Regional Influenza Network) Alerts occurred frequently.

For the most recently reported week ending December 14, 2019, the CDC reported:

--ILI visits to clinics and other non-hospital facilities was at 3.9%, higher than last week's 3.2% and above the national baseline of 2.4%. The regional range was between 1.9% and 7.8% for Week #50. All ten regions reported that outpatient visits for ILI were at/above their own regional baselines.

--Flu cases, documented by positive flu tests from Clinical Labs, showed that 16.3% of respiratory specimens tested for influenza were positive, which is significantly higher than last week's report of 11.3%.



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-- For this reporting period, viewed nationally, influenza B/Victoria viruses were reported even more frequently than influenza A(H1N1)pdm09 and; even less reported were influenza A(H3N2) viruses. There were significantly more influenza B than A and an even greater difference between H1N1 than H3N2. The predominant strain varied by region and patient age. To access specific state and regional information on circulating flu viruses, please see: <https://gis.cdc.gov/grasp/fluvie.../fluportaldashboard.html>

--Clinical Labs, which test many specimens to determine whether flu cases are increasing, decreasing, or staying stable, as well as a simple breakdown of A and B flu percentages, reported that there were 16.3% positive flu specimens with 68.5% influenza B and 31.5% influenza A.

--Public Health Labs report data using a more limited number of specimens but provides a more specific breakdown of specific flu virus strains. Influenza B was detected at 61.5% and Influenza A at 38.5%. **Further breakdown revealed that Influenza B showed 97.8% Victoria lineage and 2.2% Yamagata, while H1N1 is the dominant A with 87.2% with H3N2 at 12.8%.** Influenza B viruses are typically seen in greater numbers nearer the end of the flu season rather than the beginning and may be a tougher flu for children.

--Antiviral Resistance: At this time, >99% of the flu samples are susceptible to the four antivirals currently marketed for flu. This is particularly important for those at increased risk for complications from flu and it is important to start the antiviral as soon as flu symptoms appear. Consult your Health Care Provider ahead of flu season to see if antivirals might be appropriate for you or someone in your family.

--Vaccine Coverage: Testing of Influenza A(H1N1) samples revealed that all samples tested were well matched with the components in the 2019-20 flu vaccine, as were the A(H3N2) Influenza virus samples; 76% B/Victoria virus samples were a similar match but B/Yamagata samples matched 100%. Unfortunately, it is the B/Victoria that is currently dominant nationally although specific areas or regions may differ.

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 (ILI)

High ILI Activity (New York City, Puerto Rico & 19 states): Alabama, Arizona, Arkansas, Colorado, Florida, Georgia, Kansas, Kentucky, Maryland, Mississippi, Nebraska, New Mexico, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Virginia, and Washington



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Moderate ILI Activity (Washington D.C. & 6 states): Connecticut, Illinois, Minnesota, New Jersey, North Carolina, and North Dakota

Low Activity (10 states): California, Hawaii, Indiana, Massachusetts, Nevada, New York, Pennsylvania, Utah, Wisconsin, and Wyoming

Minimal Activity (14 states): Alaska, Delaware, Idaho, Iowa, Maine, Michigan, Missouri, Montana, New Hampshire, Ohio, Rhode Island, South Dakota, Vermont, and West Virginia

Insufficient Data to Calculate: U.S. Virgin Islands & Louisiana

--For Flu (positive Flu tests)

Widespread Activity (Puerto Rico & 30 states): Alaska, Alabama, Arizona, California, Connecticut, Delaware, Florida, Georgia, Idaho, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Mexico, New York, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and Washington

Regional Activity (17 states): Arkansas, Colorado, Illinois, Iowa, Kansas, Maine, Michigan, Missouri, New Hampshire, New Jersey, North Dakota, Oklahoma, Rhode Island, South Dakota, Utah, Wisconsin, and Wyoming

Local Activity (Washington D.C., & 2 states): Vermont, and West Virginia

Sporadic Activity (U.S. Virgin Islands, & 1 state): Hawaii

No Activity: (0 states):

No Report: Guam

--Other Data:

Hospitalizations from Flu: There were a total of 1,593 lab-confirmed influenza-related cases that were hospitalized reported between 10/1/19 and 12/14/19. The hospitalization rate for all ages increased to 5.5 per 100,000. The highest rate was in those aged ≥ 65 years (12.7/100,000), then children ages 0-4 (10.9/100,000), and then adults ages 50-64 (5.5/100,000). A slight majority were from infections with influenza A (53.7%), 45.3% with influenza B, 0.6% with both influenza A and B co-infection, and 0.4% which did not have a flu type determined. For the influenza A positives that had subtyping performed, 73.3% were A(H1N1); only 26.7% were A(H3N2).

Death rates for pneumonia & influenza in adults: from data as of 12/19/19, 5.5% of adult deaths during week #49 (ending 12/7) were associated with influenza and pneumonia. This is below the epidemic threshold of 6.6% for that week. This data reporting typically lags a week or more behind the reporting week.

Nine (9) pediatric deaths associated with influenza were reported during week #50 but occurred in the span between week #44 and week #50. Seven (7) of the cases were influenza B and only two had lineage tested with both those being B/Victoria; two (2) were typed as influenza A.

A total of 19 pediatric deaths can be attributed to influenza for the 2019-20 Season. Thirteen (13) of them were from influenza B viruses and all five (5) of the ones with



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determined lineage were B/Victoria. Six (6) of the deaths were from influenza A viruses; the four (4) that had subtyping were all A(H1N1)pdm09 viruses.

International:

Canada:

Flu in Canada for Week #50 (12/8 - 12/14, 2019):

According to the Public Health Agency of Canada (PHAC), influenza activity increased across the country with 74% of the regions reporting influenza activity. 15.6% of flu tests were positive. Influenza A(H3N2) virus circulated (50.2%), almost equal to Influenza B which increased to 49.8%. A(H3N2) accounted for 60% of Influenza A positive specimens. All 53 Regions reported. The majority of hospitalizations have been A(H3N2), while in the pediatric populations, 55% were influenza B.

Localized Activity in 11 Regions (21%): New Brunswick (1), Quebec (1), Ontario (4), Alberta (4), British Columbia (1)

Sporadic Activity in 28 Regions (53%): Newfoundland & Labrador (2), Prince Edward Island (1), New Brunswick (3), Quebec (5), Ontario (3), Manitoba (5), Saskatchewan (3), Alberta (1), British Columbia (3), Yukon Territory (1), Northwest Territory (1),

No Activity in 14 Regions (26%): Newfoundland & Labrador (2), Nova Scotia (4), New Brunswick (3), British Columbia (1), Northwest Territory (1), Nunavut (3)

PHAC Flu Watch Summary & Influenza/ILI Activity Map for Week #50 see:

<https://www.canada.ca/en/public-health/services/publications/diseases-conditions/fluwatch/2019-2020/week-50-december-8-14-2019.html>

PHAC Home Page for Surveillance on Flu: <http://www.phac-aspc.gc.ca/fluwatch/>

Public Health Agency of Canada (PHAC) Home Page for Information on Flu:

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

PHAC Provides Flu Watch Summary & Link to Full Influenza Reports Past & Present:

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

PHAC Interactive Map for Flu Activity Across Canada:

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

PHAC Site that Explains How to Become a Canadian Flu Watcher:

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



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Europe:

European Center for Disease Prevention & Control - Flu for Week #50 (12/9 - 12/15, 2019):

Influenza activity continued to increase across Europe with some countries reporting increased intensity and spread, although most still reported rates at or below baseline. For the fourth week in a row, specimens tested positive for flu, for those going to sentinel PCPs for ILI and ARI, at greater than 10%. The majority of flu cases were from Influenza A, although five (5) countries reported more cases of influenza B, and three (3) more countries reported dominance of both A and B. Data from 21 countries/regions reported mortality from all causes were at expected levels for this time of year.

For more info see: <http://fluneweurope.org/>

Public Health England Flu Summary:

<https://www.gov.uk/government/statistics/weekly-national-flu-reports>

Global:

World Health Organization (WHO) Weekly Flu Summary (FluNet):

http://www.who.int/influenza/gisrs_laboratory/flunet/en/

WHO Global Flu Overview with Map and Text:

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

Global Epidemiology Reports:

WHO Collaborating Centers for Flu in [Australia](#), [Japan](#), & the [United Kingdom](#)



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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/>

NIOSH Listing on Absenteeism in the Workplace throughout the US:

<https://www.cdc.gov/niosh/topics/absences/default.html>

Protection from Flu:

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

World Map Showing Flu & Other Infectious Diseases:

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

- 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 with soap and water, and the use of hand sanitizers in general, and particularly when providing patient care or after touching surfaces.
- Masks (N95 or 100) should be used in the presence of patients with cough and/or fever. Procedure or surgical masks can also be used but may not provide the same level of protection.
- Care should be taken to avoid touching their own face and mucous membranes (eyes, mouth, nose) since the flu virus is frequently found on surfaces such as door knobs, cot and equipment handles, phones, as well as clothing, bed clothes, etc. Once picked up on the hands from touching inanimate objects or from the secretions of a patient, it can transmit the flu (or any respiratory infection virus) via the mucous membranes of the face and head.
- Report signs/symptoms of flu to your physician or other appropriate provider for early assessment and care. Signs & symptoms suggest a period of contagiousness and put your patients and co-workers at risk.



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- Cough and sneeze into your sleeve, if a tissue is not available, and not onto your hands.
 - Stay away from others if you are sick.
 - Be aware of your exposure risk and history. 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>
 - Flu is much more worrisome for the very young and the very old. Signs of ILI in this group requires careful assessment to rule out complications and these groups are much more likely to need to be transported to assure adequate care. Young children and those over 65 are typically at greater risk for complications, hospitalization, and even death. Hospitalization rates may also be elevated in those aged 50-64. Consideration should perhaps be given to 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.
- A study was published by the Institute for Clinical Evaluative Sciences in *NEJM*; 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 the Influenza and Heart Attack Study, please see the link below.
https://www.eurekalert.org/pub_releases/2018-01/pho-rcl011818.php