

For Week #8 Flu & ILI Decreased for 2nd Week but Pediatric Deaths at Record Rate

Executive Summary:

Although the flu season is hopefully going to continue to decline over the next month, it is still something to watch closely. Flu activity decreased with hospitalizations for children & young adults higher than other recent flu seasons. Pediatric deaths total 125 for the season, with 20 of those deaths reported this week. This season is considered severe.

Also, with COVID-19 now in different states and communities within the U.S., some with community spread, everyone must realize that the symptoms of the flu and COVID-19 are quite similar, so any person with cough & fever should discuss it with their primary care physician, preferably over the phone, and follow their recommendations.

Influenza (FLU) Update for Week #8 -- Week Ending 2-22-20

Now that there is community spread of COVID-19 in a growing number of states and communities, it is important to realize that the signs & symptoms of Flu and COVID-19 are often the same and now could be either, although at this time, flu is still more likely. Ideally, anyone with cough and fever would be tested for flu and COVID-19, but with limited numbers of test kits at this time, testing for COVID-19 is limited to those with serious illness who test negative for flu and other circulating respiratory symptoms, unless travel to an affected area (see CDC Travel Warnings) is reported. As more COVID-19 tests are developed and distributed, more testing will probably take place. Until then, any person with cough & fever should discuss it with their primary care physicians, preferably over the phone, and follow their recommendations, stay home from work/school, monitor for worsening symptoms, and report them, if they occur.

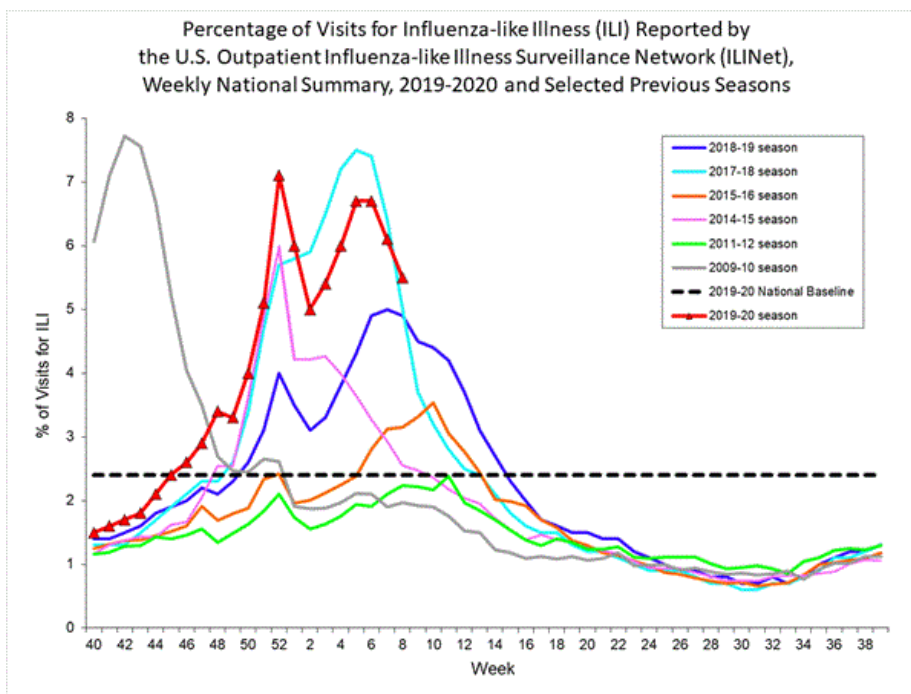
Here is an update on Flu & ILI and a reminder that it is not too late to get a flu shot which, if it doesn't completely prevent the flu, will likely make it a lighter case with less risk of complications, hospitalization, & death.

After an early start to the 2019/20 Flu Season, the season appears to finally be beginning to taper off, although flu and ILI is still widespread throughout the country; outpatient ILI and positive flu tests decreased for the second week in a row. Hospitalization rates, as a whole, are similar to previous seasons for the same time in the season, but rates among the 0-4 age group is the highest ever at this point; school aged children and young adults have been hospitalized at higher rates than normal too. Pediatric deaths from flu are higher at this time of the season than previously recorded except for the 2009 H1N1 Pandemic, although adult mortality has been low compared to previous years.

The CDC estimates that there have been at least 32 million flu cases, 310,000 hospitalizations & 18,000 flu deaths. It also suggests that flu & ILI will continue to be elevated into March. For this **atypical** flu season, Influenza B was predominant for the fall and early winter, while Influenza A, which is almost all H1N1, is now significantly more

dominant. Both Influenza B and the (H1N1) pdm09 are particularly tough on children and young adults and this has certainly been the case this season.

The CDC chart below is displaying the number of ILI cases reported by ILINet for this flu season, as well as certain recent ones, for comparison. **Note that the only year that has an earlier start than this year (the red line) is the 2009/10 Pandemic Flu year (the silver line).** And, with the extra early start and the double high peaks, it's easy to see why they are calling this season a severe one. Hopefully, the downward trajectory will continue all the way to below baseline.



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

FirstWatch RIN (Reginal Influenza Network) Alerts less frequently than the previous three weeks.

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.

Flu vaccination is the best way to prevent the flu and, if someone does get the flu, to lessen its severity and risk of serious complications. It is recommended by public health officials & health care providers, that for all those 6 months or older, flu vaccinations be completed ASAP unless there is a valid medical contraindication.

See this link for the symptoms of flu as well as the complications associated with it:
<https://www.cdc.gov/flu/professionals/acip/clinical.htm>

For the most recently reported week ending February 22, the CDC reported:

--ILI visits to clinics and other non-hospital facilities decreased to 5.5%, a nice drop but still significantly above the national baseline of 2.4%. The regional range was between 3.6% and 8.8% for Week #8. All ten regions reported that outpatient visits for ILI were above their own regional baselines.

--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 of the 26.4% positive flu specimens, 67.9% were Influenza A & 32.1%, influenza B.

--Public Health Labs report data use a limited number of specimens but provide a more specific breakdown of flu virus strains. Influenza A was detected in 72.4% of the specimens and Influenza B in 27.6%. Further breakdown revealed that H1N1 is the dominant A with 94.8% with H3N2 far behind at 5.2%, while Influenza B showed 99.3% Victoria lineage and 0.7% Yamagata.

To access specific state and regional information on circulating flu viruses, please see:
<https://gis.cdc.gov/grasp/fluview/fluportaldashboard.html>

--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 or with signs of severe flu. It is also important to start the antiviral as soon as flu symptoms appear.** Consult your Health Care Provider to see if antivirals might be appropriate for you or someone in your family.

--Vaccine Coverage: The CDC published an interim report in the *MMWR* on Vaccine Effectiveness (VE) so far in the US, and during this 2019/20 flu season (covering 1/23/19-1/25/20), found that, overall, the adjusted **vaccine effectiveness was 45% when measuring for Influenza A and B combined; broken down into 50% effective against Influenza B/Victoria and 37% against Influenza A(H1N1)pdm09**, showing that the vaccine has been effective in decreasing medical visits due to influenza this season. Even better news, the **VE jumps to 55% for those from 6 months - 17 years of age.** Despite this added level of protection, children and adolescents had higher hospitalization rates from influenza than in other recent seasons, including the 2017/18 season which was labeled SEVERE. Also, **for the 18-49 age group, the VE estimate against A(H1N1) was a dismal 5%, while older adults had VE levels similar to the children's rate.** As the season progresses and more cases are added to the calculations, the authors will determine if the current percentages are sustained.

In Canada, according to The Sentinel Practitioner Surveillance Network (SPSN), interim VE rates were higher with an overall of 58% against all strains combined; A

breakdown by strain, shows a **VE of 44% against A(H1N1); 62% against A(H3N2), and 69% against Influenza B.** This indicates, per the SPSN, that the 2019/20 flu vaccine provided substantial protection against flu illness requiring medical attention.

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

--For Influenza-Like Illness (ILI)

High ILI Activity (New York City, Puerto Rico & 43 states): Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming

Moderate ILI Activity (5 states): Delaware, Nevada, North Dakota, Ohio, and Oregon

Low Activity (Washington D.C., & 1 state): Idaho

Minimal Activity (U.S. Virgin Islands & 1 state): Florida

--For Flu (positive Flu tests)

Widespread Activity (Puerto Rico & 48 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, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming

Regional Activity (1 state): Oregon

Local Activity (Washington D.C., & 1 state) Hawaii

Sporadic Activity: (U.S. Virgin Islands & 0 states)

No Activity: (0 states)

No Report: Guam

--Other Data:

Hospitalizations from Flu: There were a total of 15,319 lab-confirmed influenza-related cases reported hospitalized between 10/1/19 and 2/22/20. The hospitalization rate for all ages increased to 52.7 per 100,000. The highest rate was in those aged ≥ 65 years (132/100,000), then children ages 0-4 (80.1/100,000), adults ages 50-64 (69.1/100,000), ages 18-49, (28.6/100,000) and 5-17 years (20.6/100,000). Just over 2/3 were from infections with influenza A; about a 1/3 with influenza B.

Death rates for pneumonia & influenza in adults: from data as of 2/27/20, 6.9% of adult deaths during week #7 (ending 2/15) were associated with influenza and pneumonia. This is below the epidemic threshold of 7.3% for that week.

Twenty (20) pediatric deaths, associated with influenza, were reported during week #8 but occurred between weeks #52 and #8. 15 of the cases were influenza B and five (5) were typed as influenza A. A total of 125 pediatric deaths can be attributed to Influenza for the 2019-20 Season with 87 deaths from Influenza B and 38 from Influenza A.

International:

Canada:

Flu in Canada for Week # (2/16 - 2/22, 2020):

According to the Public Health Agency of Canada (PHAC), influenza activity remained elevated with many indicators close to or slightly lower than last week. Influenza activity was reported in all provinces & territories and all regions (53/53). Influenza A & B continue to co-circulate. Influenza A(H1N1) continued to be the most dominant flu virus circulating with 78% of subtyped influenza A specimens. The highest hospitalization rates are in children less than 5 years old and adults 65 years and older.

Widespread Activity in 1 Region (2%): British Columbia (1)

Localized Activity in 23 Regions (43%): Newfoundland & Labrador (2), Prince Edward Island (1), Nova Scotia (3), New Brunswick (4), Quebec (4), Ontario (6), Saskatchewan (1), Alberta (1), British Columbia (1)

Sporadic Activity in 29 Regions (55%): Newfoundland & Labrador (2), Nova Scotia (1), New Brunswick (3), Quebec (2), Ontario (1), Manitoba (5), Saskatchewan (2), Alberta (4), British Columbia (3), Yukon Territory (1), Northwest Territory (2), Nunavut (3)

No Activity in 0 Regions

PHAC Flu Watch Summary & Influenza/ILI Activity Map for Week #8:

<https://www.canada.ca/en/public-health/services/publications/diseases-conditions/fluwatch/2019-2020/week-08-february-16-22-2020.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>

Europe:

European Center for Disease Prevention & Control - Flu for Week #8 (2/17 - 2/23, 2020):

Influenza activity decreased after a likely peak in Week #5, although the majority of countries are still reporting Widespread activity across the region. Of the Flu samples for those presenting to sentinel PCPs, 48% again tested positive. Specimens have tested positive for flu at greater than 10% since Week #47 ending 11/24/19. Influenzas A & B are co-circulating with the majority of flu cases from Influenza A (61%). Mortality from Flu shows expected levels.

For more info see: <http://flunewseurope.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](#)

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/>

- ✓ **If response to an alarm that includes fever and cough or other signs or symptoms of respiratory illness, particularly in areas where there is already COVID-19 cases, don the appropriate PPE and implement assessment, management, and transport strategies approved by Medical Direction and Operations. Report as a possible exposure, per Local Policy, if there is contact with the patient without appropriate PPE and COVID-19 is suspected.**
- 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 out your patients and co-workers at risk.
- 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

Public Health Ontario | Santé publique Ontario

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