



Every Record. In Real Time. Automatically.

### Influenza (FLU) Update for Week #3 Week Ending 1-20-18

The CDC reported that **influenza (Flu)** activity, including diagnosed flu and **Influenza-Like-Illness (ILI)**, increased again. All states reported widespread flu activity except for Hawaii, and ILI levels also increased. This indicates that this flu season is a severe one – at, or just below -- the data seen in the most recent highly severe flu season of 2014-15. Deaths associated with flu have reached system-specific epidemic thresholds.

The dominating flu subtype remained A H3N2, which is typically a more severe subtype of flu with increased complication rates.

Although the highest risk for complications & hospitalizations remained in those 65 years or older, other age groups, ages 50-64 and in young children ages 0-4, also had higher rates of complications and hospitalizations.

See this link for more details, including charts, graphs & maps. <https://www.cdc.gov/flu/weekly/>  
A quick glance at the graphs for *Percentage of Visits for ILI* and *Pneumonia and Influenza Mortality Surveillance*, gives a pictorial presentation of the severity of this flu season.

FirstWatch **RIN (Regional Influenza Network)** Alerts continued to occur frequently, which correlated with CDC ILI and Flu reports.

#### For the most recently reported week ending January 20, 2018, the CDC reported:

- **ILI visits** to clinics & other non-hospital facilities remained elevated at 6.6% (was 6.3% last week) and at or above the national baseline of 2.2% for the 9th<sup>th</sup> week in a row. This remained the highest number reported since flu season 2003-4 (not including the 2009 season which was the H1N1 pandemic). All 10 regions reported ILI at or above their region-specific baselines again.
- **Flu cases** (documented by positive flu tests) remained elevated, with widespread flu reported in 49 states. Clinical lab testing for influenza was positive for flu in 26.7% of the total tests (compared with 25.6% last week), which is a slight increase.
- **Influenza A** remained the dominant flu for 78.5% of the flu tests reported (82.4% last week), with H3N2 the subtype 80.5% (90.4% last week) and 12.7% (9.6% last week) as A (H1N1)pdm09 viruses. The rest of the tests showed 21.5% (17.6% l.w.) tested as Influenza B viruses.  
This again shows a decrease in Influenza A cases and more Influenza B cases. Typically, Influenza B viruses are less severe and occur more in the latter part of the flu season, but this early shift is what Canada and Europe are reporting also.

**Vaccine Coverage:** the majority of the flu viruses collected this season are well matched to the seasonal vaccine offered. However, there was genetic diversity noted in the H3N2 samples and, out of 194, 3 were not inhibited by the vaccine. The very dominant B flu lineage Yamagata samples were completely covered by the vaccine while the B lineage Victoria was only covered in about 60% of the its samples.

**Antiviral Resistance:** all of the circulating flu viruses sampled have been susceptible to the antiviral medications zanamivir (Relenza); rarely, H1N1(pmd09) resistance was found in oseltamivir (Tamiflu) and peramivir (Rapivab), but it is so rare that both are used.

FirstWatch Solutions, Inc 1930 Palomar Point Way, Suite 101, Carlsbad, CA 92008  
[www.firstwatch.net](http://www.firstwatch.net)



Every Record. In Real Time. Automatically.

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 & 39 states):** Alabama, Arizona, Arkansas, California, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Virginia, Washington, West Virginia, Wisconsin, and Wyoming

**Moderate ILI Activity: (Washington D.C. & 5 states):** Colorado, Connecticut, Hawaii, Idaho, and Vermont

**Low Activity: (3 states):** Alaska, North Dakota, and Utah

**Minimal Activity (3 states):** Delaware, Maine, and Montana,

-- **For Flu (positive flu tests):** there is no change from last week in flu geography

**Widespread Activity (Puerto Rico & 49 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, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming

**Regional Activity:** Guam

**Local Activity: (Washington D.C. and 1 state):** Hawaii

**Sporadic Activity:** US Virgin Islands

-- **Other Data:**

Hospitalizations from Flu increased significantly again with a rate of 41.9 per 100,000 per population, compared to 31.5 last week. Each age group reported higher rates, particularly those 65 years & older with 183.1/100,000 compared to 136.5/100,000; ages 50-64 at 33.2/100,000 (44.2/100,000), and ages 0-4 at 27/100,000 (22.8/100,000). The vast majority tested positive for A H3N2. Among those hospitalized, many adults (71.8%) had an underlying condition listed as at increased risk for complications from flu. Among children, the number was 56.1% with underlying chronic illness.

Death rates for pneumonia and influenza in adults was 9.1% and remained above the epidemic threshold of 7.1%. However, death reports often aren't submitted for data purposes in the same time frame as flu and ILI cases are, so they lag behind most other Flu reporting.

There were seven more pediatric deaths from flu reported this week, for a total of 37 for this flu season.

-- **Flu in Canada and Europe::**

According to the Public Health Agency of Canada (PHAC) for Week #3 (ending 1-20-18), Canada still had high flu activity but stated there were indications that it's beginning to slow. H3N2 remained the dominant subtype, although Influenza B cases increased to 40%. Most of the diagnosed flu cases, hospitalizations, and deaths remained in those 65 years and older.

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

According to the European Center for Disease Prevention & Control (**ECDC**), flu was widespread in most of the reporting countries; while Eastern Europe had increased activity for Week 3 (15-21 January 2018). Influenza A & Influenza B viruses were co-circulating with more Influenza B cases noted; different patterns of circulation were detected amongst countries in the Region. For those being tested who presented with ILI or **ARI (acute respiratory infection)** at PCPs, 52% tested positive for flu (compared to 46% last week).

For more information see: <http://flunewseurope.org/>

### First Responder Specific Information

There are many websites that may be helpful in planning and managing seasonal flu within First Responder organizations. There is a list of various links in a document called *Seasonal Influenza Resources*.

Three of those websites are included here: <https://www.cdc.gov/flu/weekly/usmap.htm> & <https://flunearyou.org/#/> and <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 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.
- 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.
- Report signs/symptoms of flu to your physician or other appropriate provider for early assessment and care.
- 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 there 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>
- A study was published by the Institute for Clinical Evaluative Sciences in *NEJM*; 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

Note: the 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 be transported to assure adequate care. Since A H3N2 is, so far, this year's dominant flu, young children and those over 65 are typically at greater risk for complications, hospitalization and even death, although hospitalizations were higher for those aged 50-64 than for aged 0-4. Consideration should be given to perhaps monitoring these groups more closely, with consideration for more comprehensive assessment and transport for further evaluation, with a presentation of possible flu and any signs of complications.

“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-rc1011818.php](https://www.eurekalert.org/pub_releases/2018-01/pho-rc1011818.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](http://www.firstwatch.net/hi)