Chicago Influenza Surveillance Activity Report

Surveillance Week 15 (April 5-11, 2020)

Chicago Flu Update

HEALTHY CHICAGO
CHICAGO DEPARTMENT OF PUBLIC HEALTH

Lori E. Lightfoot, Mayor | April 17, 2020 | Allison Arwady, MD, MPH, Commissioner

News & Updates

Illinois Influenza Geographic Spread

In Chicago, reported laboratory confirmed influenza continues to decrease. However, the percentage of emergency department visits due to influenza-like illness (ILI) remains high compared to previous seasons; this is likely due to the COVID-19 pandemic and changes in healthcare seeking behavior. CDC estimates so far this season there have been at least 39 million flu illnesses, 410,000 hospitalizations and 24,000 deaths from flu.[1] Vaccination is the best way to protect against influenza infection and all Chicagoans six months and older are encouraged to get vaccinated every year. Chicagoans should ask their healthcare provider or pharmacist about vaccine availability when feasible. CDPH Walk-in Immunization Clinics[2] are closed until further notice.

What is the risk?

Currently, the risk of influenza infection is low.

Are severe cases of influenza occurring?

For the week of April 5-11, 2020, one influenza-associated ICU hospitalization was reported (**Figure 1**).

Since September 29, 2019, 477* influenza-associated ICU hospitalizations have been reported; 369 (77%) were positive for influenza A (8 H3N2, 122 H1N1pdm09, 239 unknown subtype [subtyping not performed or not all subtypes tested]) and 108 (23%) were positive for influenza B. The median age of influenza A cases is 55 years and the median age of influenza B cases is 36.5 years (overall range of 1 month-96 years); three pediatric deaths were reported and 14 outbreaks in long-term care facilities; selected attributes are summarized in **Table 1**. *total case counts may change as additional information is received.

Figure 1. Number of influenza-associated ICU hospitalizations reported for Chicago residents, for the current season (2019-2020) and previous season (2018-2019), October-May.

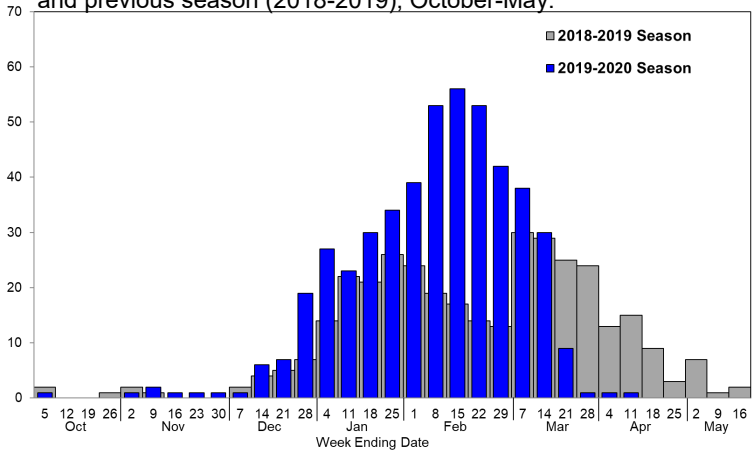
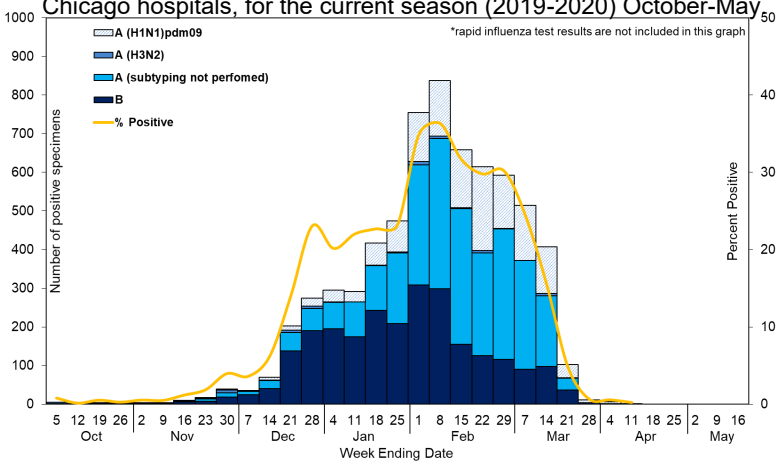


Table 1. Selected attributes of influenza-associated intensive care unit hospitalizations reported for Chicago residents during the 2019-2020 season, October-May.

Age Group*	#	%†	Sex	#	%
0-4	80	17	Male	247	52
5-17	30	6	Female	229	48
18-24	17	4	**Med. Cond./Complication‡**		
25-49	81	17	Lung Disease	159	33
50-64	139	29	Cardiac Disease	142	30
≥65	129	27	Diabetes	110	23
Race/Ethnicity			Ventilator Support	106	22
NH-White	108	23	Reported Deaths§	19	4
NH-Black	259	54	**Treatment/Vaccination‡**		
Hispanic	87	18	Reported Antiviral Tx	381	80
Asian/Other	22	5	Reported Flu Shot	143	30

* One patient missing age and race/ethnicity at time of report; † Percentages may not add up to 100 due to rounding; ‡ As reported in INEDSS (Illinois National Electronic Disease Surveillance System); § Date of death occurring within one week of positive influenza test among reported influenza-associated ICU hospitalizations.

Figure 2. Percent of specimens testing positive (by RT-PCR) for influenza by subtype as reported by local laboratories serving Chicago hospitals, for the current season (2019-2020) October-May.



Which influenza strains are circulating?

Data on influenza virus test results are reported by Chicago laboratories performing influenza RT-PCR. For the week of April 5-11, 2020, 1 of the 481 (<1%) reported specimens that were tested for influenza were positive; 0 typed as influenza A (0 H3N2, 0 H1N1pdm09, and 0 unknown subtype [subtyping not performed or not all subtypes tested]) and 1 typed as influenza B (**Figure 2**).

Since September 29, 2019, 6,645 of the 39,563 (17%) reported specimens that were tested for influenza have been positive; 4,155 (63%) typed as influenza A (68 H3N2, 1,323 H1N1pdm09, and 2,764 unknown subtype [subtyping not performed or not all subtypes tested]) and 2,490 (37%) typed as influenza B. The cumulative number of specimens testing positive for influenza so far this season is higher than last season (11%) but similar to the 2017-2018 season (18%) for the same time period.§

§ Reported percentages represent final end of season data and may differ from previously published reports. All data are preliminary and may change as more reports are received.

[1] https://www.cdc.gov/flu/about/burden/preliminary-in-season-estimates.htm;
[2] https://www.chicago.gov/city/en/depts/cdph/supp_info/health-protection/immunizations_walk-inclinics.html

How much influenza-like illness is occurring?

Several outpatient clinics throughout Chicago participate in CDC's Influenza-like Illness Surveillance Network (ILINet) by reporting on a weekly basis the total number of outpatient clinic visits, and of those visits, the number with influenza-like illness (ILI). For the week of April 5-11, 2020, 2020, 41 of the 3,453 (1.2%) reported outpatient clinic visits were due to influenza-like illness (**Figure 3**).

In addition to ILINet, ESSENCE is an electronic syndromic surveillance system that utilizes the chief complaints of patients visiting emergency departments to monitor for influenza-like illness. Currently, ESSENCE captures nearly every emergency department visit in the city on a daily basis. For the week of April 5-11, 2020, 717 of the 14,478 (5%) total emergency department visits were due to influenza-like illness (**Figure 4**).

Figure 5 represents the percentage of emergency department visits due to influenza-like illness aggregated by Chicago patient zip codes. For the week of April 5-11, 2020, 2020, 47 of 59 (80%) zip codes had moderate to high ILI activity levels; this is higher than last season where 39% of zip codes were at moderate to high levels for the same time period and the 19th consecutive week where over half of zip codes had moderate to high ILI activity levels.

Where can I get more information?

The Centers for Disease Control and Prevention's FluView[3] report provides national updates and trends related to the intensity of influenza activity across the United States, as well as detailed information on antiviral resistance, severity of illness, and other topics. Updates specific to Illinois[4] and Suburban Cook County[5] are also available online. Current and archived issues of the *Chicago Flu Update* can be found on the CDPH website section Current Flu Situation in Chicago[6].

Reporting Information

Illinois Department of Public Health recently issued Influenza Testing and Reporting Guidance[7]. The Chicago Department of Public Health has previously issued guidance on reporting influenza-associated ICU hospitalizations[8]. Healthcare facilities can report cases to the Chicago Department of Public Health via the Illinois National Electronic Disease Surveillance System (INEDSS)[9]. For more information contact: SyndromicSurveillance@cityofchicago.org

Figure 3. Percent of medically-attended **outpatient** visits attributed to influenza-like illness as reported by **ILINet** facilities, Chicago, by week for the current season (2019-2020) and previous two seasons, October-May.

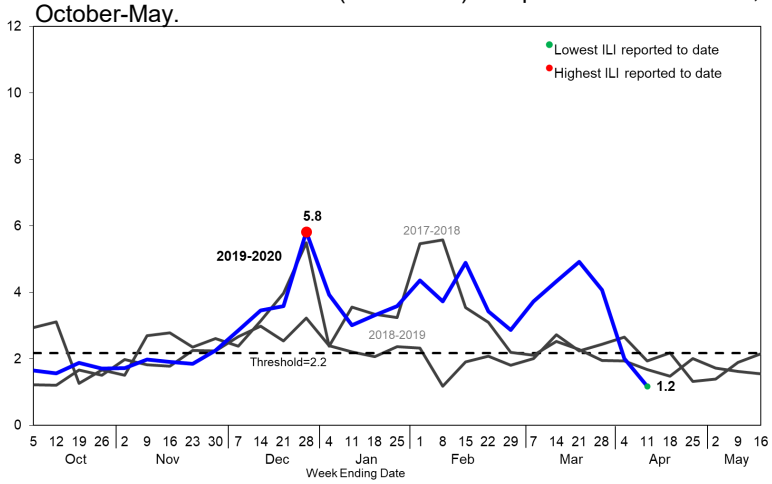


Figure 4. Percent of **emergency department** visits attributed to influenza-like illness for Chicago zip codes based on chief complaint data submitted to **ESSENCE**, Chicago, by week, for the current season (2019-2020) and previous two seasons, October-May.

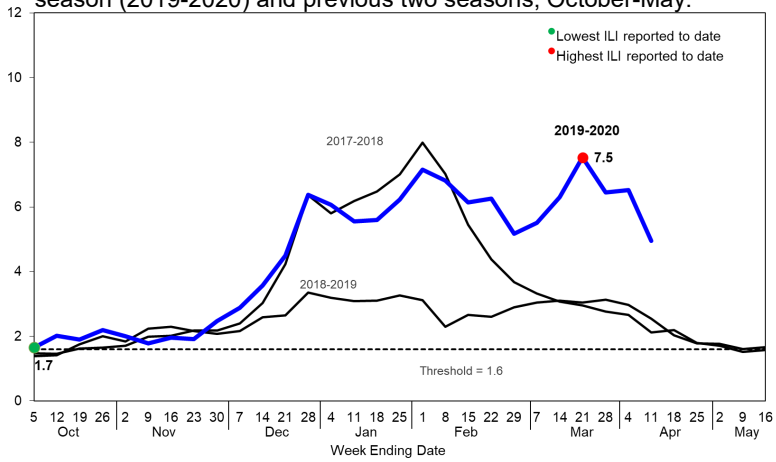
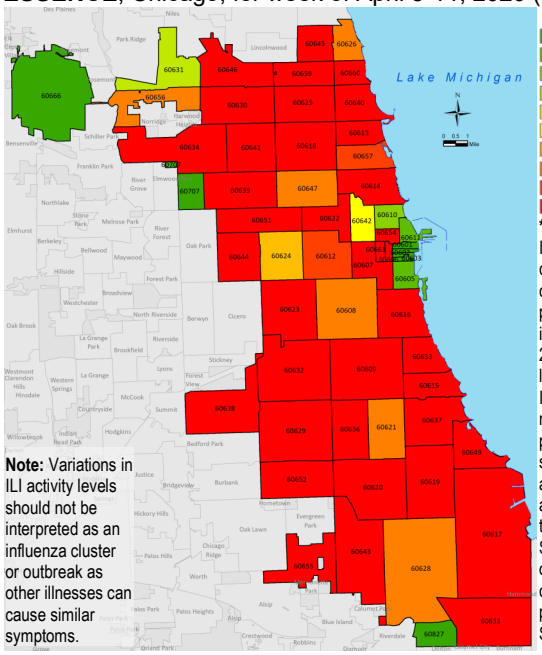


Figure 5. Influenza-like Illness (ILI) activity level by Chicago patient zip codes determined by chief complaint data submitted to **ESSENCE**, Chicago, for week of April 5-11, 2020 (Week 15)



Note: Variations in ILI activity levels should not be interpreted as an influenza cluster or outbreak as other illnesses can cause similar symptoms.

***ILI Activity Level:** ILI percentage for each zip code for the current week is compared to the mean ILI percentage during the non-influenza months (May 19, 2019-September 28,2019); level 1 corresponds to an ILI percentage below the mean, level 2 to an ILI percentage less than one standard deviation (SD) above the mean, level 3 to an ILI percentage more than one, but less than two SDs above mean, and so on, with level 10 corresponding to an ILI percentage more than eight SDs above the mean.

All data are preliminary and may change as more reports are received.

[3] http://www.cdc.gov/flu/weekly/index.htm; [4] http://dph.illinois.gov/topics-services/diseases-and-conditions/influenza/influenza-surveillance; [5] https://ccdphcd.shinyapps.io/influenza/;
[6] https://www.chicago.gov/city/en/depts/cdph/supp_info/health-protection/current_flu_situationinchicago.html;
[7] www.dph.illinois.gov/sites/default/files/publications/20190916idphohp-annual-flu-testing.pdf ;
[8] https://www.chicagohan.org/documents/14171/39923/Reporting+Influenza-Associated+ICU+Hospitalizations/bc2f49b2-cf74-487c-9441-0b0a930e4b41; [9] httpsdph.partner.illinois.gov/