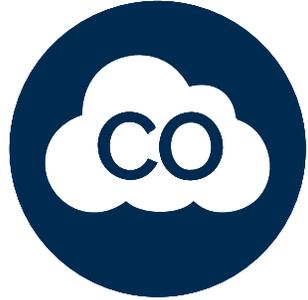


**Section 5:
Influenza and
Influenza-Like Illness**



Section 5: Influenza and Influenza-Like Illness

Key Points for the 2017–18 Influenza Season



The predominant strain was influenza A (H3).



Increased influenza spread occurred from mid-November to late April; activity peaked in late January.



Influenza activity was unprecedented in Florida and nationally.



The season was classified as having high severity overall and in all age groups nationally.

Background

Influenza causes an estimated 9.2–35.6 million illnesses annually, with 140,000–710,000 of those resulting in hospitalization and 12,000–56,000 resulting in death. The best way to prevent influenza infection, and its potentially severe complications, is to get vaccinated each year.

Influenza A and B viruses routinely spread among the human population and are responsible for seasonal influenza epidemics each year. Influenza A viruses are more commonly associated with the ability to cause epidemics or pandemics than influenza B viruses. Over the course of an influenza season, several different influenza A and B viruses will circulate and cause illness, but there is typically a predominantly circulating strain, which varies by season.

Influenza activity in Florida and nationally can vary widely from season to season, underscoring the importance of robust influenza surveillance. The Florida Department of Health conducts regular surveillance of influenza and influenza-like illness (ILI) using a variety of surveillance systems, including laboratory-based surveillance and syndromic surveillance. Florida’s syndromic surveillance system, ESSENCE-FL, collects chief complaint data from emergency departments and urgent care centers. During the 2017–18 influenza season, 331 facilities submitted data into ESSENCE-FL, capturing 97% of all emergency department visits in Florida. Individual cases of influenza are not reportable in Florida, except for novel influenza (a new subtype of influenza) and influenza-associated pediatric deaths. All outbreaks, including those due to influenza or ILI, are reportable in Florida. Florida Health produces a weekly report during influenza season (October through May) and a biweekly report during the other months. These reports summarize influenza and ILI surveillance information and are available at FloridaHealth.gov/FloridaFlu.

The 2017–18 season was classified as having a high severity overall as well as having high severity in all age groups (children, adolescents, adults, and older adults). This is the first time a season was classified as high severity in all age groups.

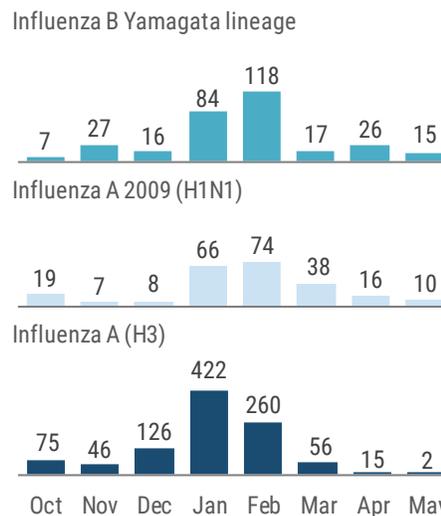
Disease Facts

- Caused** by influenza viruses
- Illness** is respiratory, including fever, cough, sore throat, runny or stuffy nose, muscle/body aches, headache, fatigue
- Transmitted** person-to-person by direct contact with respiratory droplets from nose or throat of infected person
- Under surveillance** to detect changes in influenza virus to inform vaccine composition; identify unusually severe presentations of influenza; detect outbreaks; determine the onset, peak, and wane of the influenza season to assist with influenza prevention

Influenza A (H3) viruses predominated during the 2017–18 season in Florida and nationwide. Over the past 10 years, influenza A (H3) or influenza A 2009 (H1N1) have predominated in Florida. Seasons where influenza A (H3) viruses predominate are typically associated with increased morbidity and mortality, particularly in adults ≥65 years old and children ≤4 years old.

Influenza A 2009 (H1N1)	Influenza A (H3)	Influenza A 2009 (H1N1)	Influenza A (H3)	Influenza A (H3)
2013-14	2014-15	2015-16	2016-17	2017-18

Influenza B Yamagata lineage viruses were most commonly reported from April to May, and influenza A 2009 (H1N1) viruses circulated at lower levels throughout the season. This is consistent with past seasons in Florida.

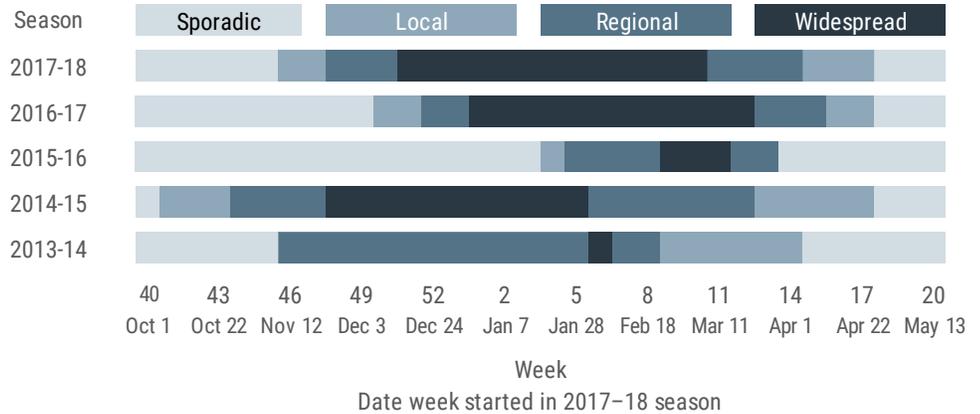


The Florida Health Bureau of Public Health Laboratories tests and subtypes surveillance specimens from sentinel providers, outbreak investigations, patients with severe or unusual influenza presentations, and medical examiners. This represents only a small number of all influenza cases.

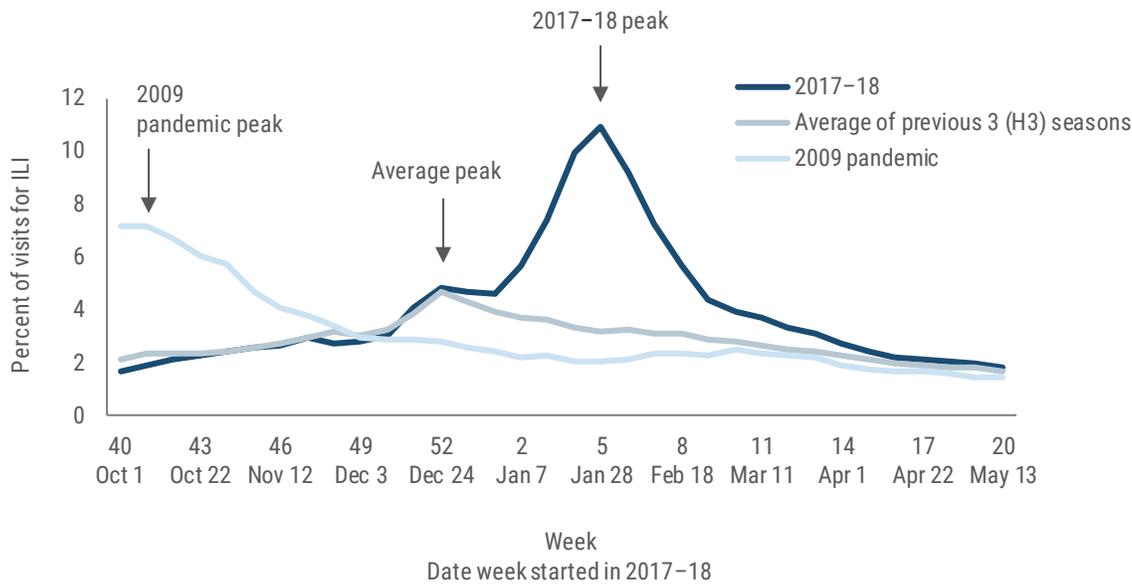
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General Trends

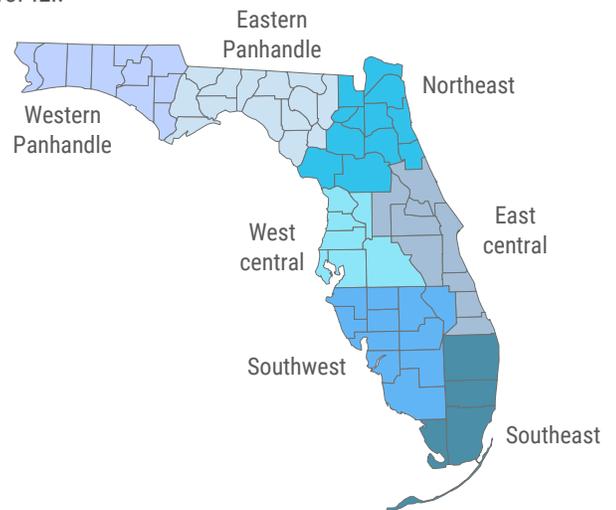
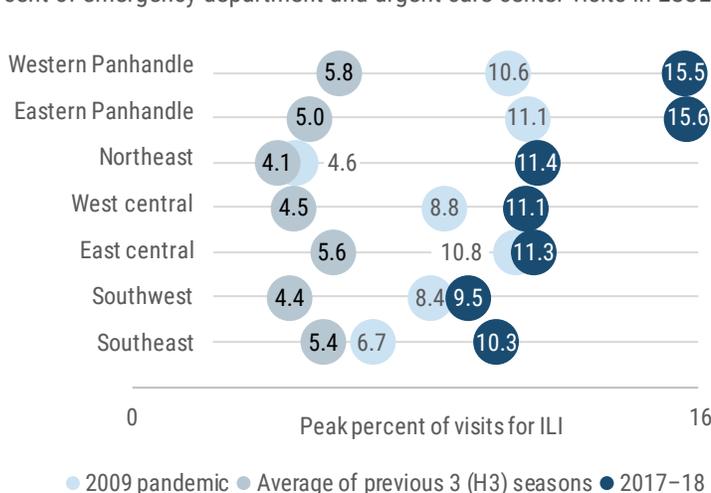
Increased spread of influenza was observed from mid-November to late April during Florida's 2017-2018 influenza season. Although influenza activity in Florida often differs from national influenza trends, the 2017-18 Florida season mirrored the national season with peak activity observed during week 5 (starting January 28, 2018).



Influenza activity in the 2017-18 season was unprecedented, both nationally and in Florida. The percent of emergency department and urgent care center visits in ESSENCE-FL for ILI in Florida peaked at 10.9% statewide, the highest percentage on record, 133% higher than the average influenza (H3) season peak, and 53% higher than the 2009 pandemic peak.



Peak influenza activity for the 2017-18 season was higher than the average influenza (H3) season peak and the 2009 pandemic peak in all regions of the state. Florida Panhandle counties had the highest peaks in the state for the 2017-18 season. Peaks are based on percent of emergency department and urgent care center visits in ESSENCE-FL for ILI.



The influenza reporting year is defined by standard reporting weeks outlined by Centers for Disease Control and Prevention, where every year has either 52 or 53 reporting weeks; there were 52 reporting weeks in 2017. In Florida, increased surveillance for influenza begins in week 40 (October 1, 2017) and ends in week 20 of the following year (May 19, 2018).

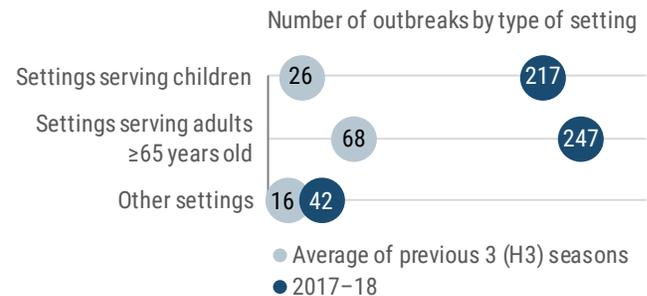
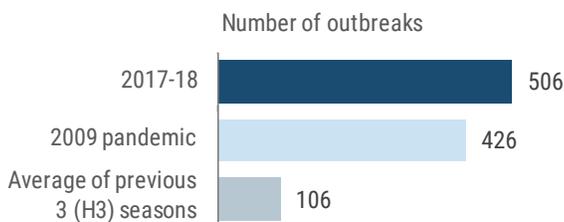
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Outbreaks

The number of outbreaks reported and the types of outbreak settings vary each season and often serve as indicators of disease severity and population affected. The majority of outbreaks (92%) were reported in facilities serving people at higher risk for complications from influenza infection (children and adults ≥65 years old), which is consistent with past influenza A (H3) seasons. Settings that serve these groups include child daycares, schools/camps, assisted living facilities, nursing facilities, and other long-term care facilities. During the 2017–18 season, most early season outbreaks were in facilities serving adults aged 65 years and older, a pattern that was also observed during the last influenza A (H3) dominant season (2016–17). Prior to 2016–17, early season outbreaks were often observed in facilities serving children before progressing into facilities serving other age groups.

More outbreaks were reported during the 2017–18 season than any previous season on record, including the 2009 pandemic, underscoring the season’s severity. Almost 5 times the average number of outbreaks was reported during the 2017–18 season.

In the 2017–18, more than 8 times as many outbreaks were reported in facilities serving children and **more than 3 times as many outbreaks** were reported in facilities serving adults ≥65 years old compared to the average for (H3) seasons.



Influenza-Associated Intensive Care Unit Admissions

In response to sharp increases in influenza activity in February 2018, Florida Health requested that hospitals report all influenza-associated intensive care unit (ICU) admissions in Florida residents aged <65 years to identify unusually severe presentations of influenza. This enhanced surveillance was continued through the end of the traditional influenza season in May.



378 influenza-associated ICU admissions reported

56%

Over half of people admitted were 50 to 64 years old



Most (88%) people admitted had underlying medical conditions



69% of people admitted had not received current influenza vaccine (of 242 people with known vaccination status)

Deaths

Influenza-associated deaths in children <18 years old are reportable in Florida. Typically, two to eight deaths are reported each year. Eight deaths were reported in children during the 2017–18 season. Of the eight children who died, none had received seasonal influenza vaccination and five had underlying health conditions. Influenza-positive specimens collected from children who die frequently go untyped, and given the small number deaths each year, it is difficult to interpret how pediatric mortality might be affected by strain.

Although not individually reportable, pneumonia and influenza deaths in people of all ages are monitored through review of death certificate data. Estimating the number of deaths due to influenza is challenging because:

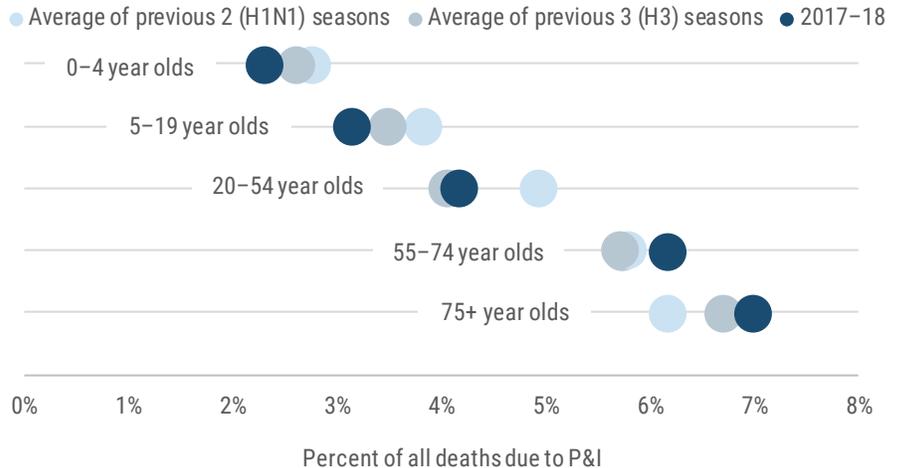
- Influenza is not frequently listed on the death certificates of people who die from influenza-related complications.
- Many influenza-related deaths occur one to two weeks after a person’s initial infection, often due to development of secondary bacterial infection (e.g., pneumonia) or because infection aggravated an existing chronic illness (e.g., congestive heart failure, chronic obstructive pulmonary disease).
- Most people who die from influenza are never tested.

For these reasons, influenza deaths are estimated by looking at both pneumonia and influenza (P&I) deaths.

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During the 2017–18 influenza season, deaths due to P&I were lower than previous seasons in children and young adults (≤ 19 years old) and higher in older adults (≥ 55 years old).

Compared to influenza (H1N1) seasons, (H3) seasons tend to have lower mortality in young and middle-aged adults (20–54 years old) and higher mortality in elderly adults (≥ 75 years old).



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Centers for Disease Control and Prevention. Disease Burden of Influenza. www.cdc.gov/flu/about/disease/burden.htm. Accessed September 25, 2018.

Garten R, Blanton L, Abd Elal AI, Alabi N, Barnes J, Biggerstaff M, et al. Update: Influenza activity in the United States during the 2017–18 season and composition of the 2018–19 influenza vaccine. *Morbidity and Mortality Weekly Report*. 2018; 67(22):634–642. doi: 10.15585/mmwr.mm6722a4. Available at www.cdc.gov/mmwr/volumes/67/wr/mm6722a4.htm.