Florida FLU REVIEW

Summer 2017

Summary

Weeks 35-36: August 27-September 9, 2017

State influenza and influenza-like illness (ILI)[1] activity[2]:

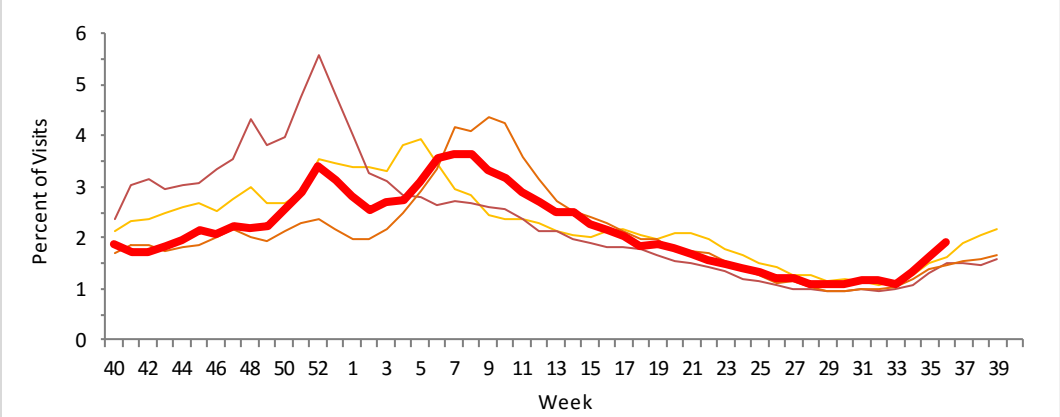
- **Hurricane Irma made landfall on September 10, 2017. A number of health care facilities that normally report data were closed or on evacuation status. Data presented here may change as additional reporting occurs.**
- The percent of emergency department (ED) and urgent care center (UCC) visits for ILI increased and was above levels observed in previous seasons at this time. Increases in ILI activity that coincide with the beginning of the school year are often associated with increased circulation of non-influenza viral respiratory pathogens.
  - Data from multiple surveillance systems suggest that the recent increases are likely due to a combination of influenza and other ILIs (for example, rhinovirus).
- In weeks 35-36, four outbreaks were reported: one outbreak of ILI and three outbreaks of influenza; 172 outbreaks have been reported since the start of the 2016-17 influenza season.
- In week 35, the preliminary estimated number of deaths due to pneumonia and influenza decreased and was below levels observed in previous seasons at this time. The preliminary estimated number of deaths due to pneumonia and influenza reported in week 35 was lower than expected is likely the result of decreased reporting associated with Hurricane Irma.
- **In weeks 35-36, no influenza-associated pediatric deaths were reported.** Ten influenza-associated pediatric deaths have been reported since the start of the 2016-17 influenza season. **Annual vaccination remains the best way to protect children against influenza.**
- In weeks 35-36, nine (15.0%) of the 60 specimens submitted to the Bureau of Public Health Laboratories (BPHL) for influenza testing were positive by real-time reverse transcription polymerase chain reaction (RT-PCR) for influenza: two influenza A 2009 (H1N1), three influenza A (H3), two influenza A (not yet subtyped), one influenza B Yamagata lineage, and one influenza B Victoria lineage.

National influenza activity:

- Influenza viruses continue to circulate at low levels nationally.
- The Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP) voted in favor of a recommendation that **the live attenuated influenza vaccine (LAIV) should not be used during the 2017-18 influenza season.** This recommendation follows concerns about lower effectiveness of the LAIV during the 2013-14 and 2015-16 influenza seasons against influenza A 2009 (H1N1) viruses. **ACIP continues to recommend annual influenza vaccination with either the inactivated influenza vaccine (IIV) or recombinant influenza vaccine (RIV) for everyone aged six months and older.**
- **CDC has identified an antigenically drifted influenza B Victoria lineage strain circulating nationally and in Florida that is different from the strain of influenza B Victoria lineage contained in the 2017-18 influenza vaccination formulations.** This drifted strain is also different from the strain of influenza B Victoria lineage included in the 2016-17 influenza vaccination formulations.
- In week 34, one human infection with novel influenza A virus was reported in Ohio. The individual was infected with influenza A (H1N2v) virus after exposure to swine in a fair setting. **No person-to-person transmission was identified.**

ED and UCC Visits for ILI[3] by Flu Season

ED = emergency department, UCC = urgent care center, ILI = influenza-like illness



The figure to the left shows the percent of visits for ILI from ED and UCC chief complaint data for ESSENCE-FL participating facilities (n=303) from week 40, 2013 through week 36, 2017.

The percent of ILI visits to ESSENCE-FL participating facilities increased in recent weeks and was above levels observed in previous seasons at this time.

2016-17 2014-15
2015-16 2013-14

[1] Influenza-like illness (ILI) is defined as a fever ≥ 100°F AND sore throat and/or cough *in the absence* of another known cause.

[2] In Florida, only influenza-associated pediatric mortalities, cases of novel influenza infection, and outbreaks of influenza or ILI are reportable. The Florida Department of Health (DOH) uses many different surveillance systems to measure influenza activity. A summary of all these systems can be found on our website: www.floridahealth.gov/floridaflu and on page 4.

Posted September 13, 2017 on the Bureau of Epidemiology (BOE) website: www.floridahealth.gov/floridaflu
Produced by BOE, DOH
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P&I Deaths from Vital Statistics by Age Group

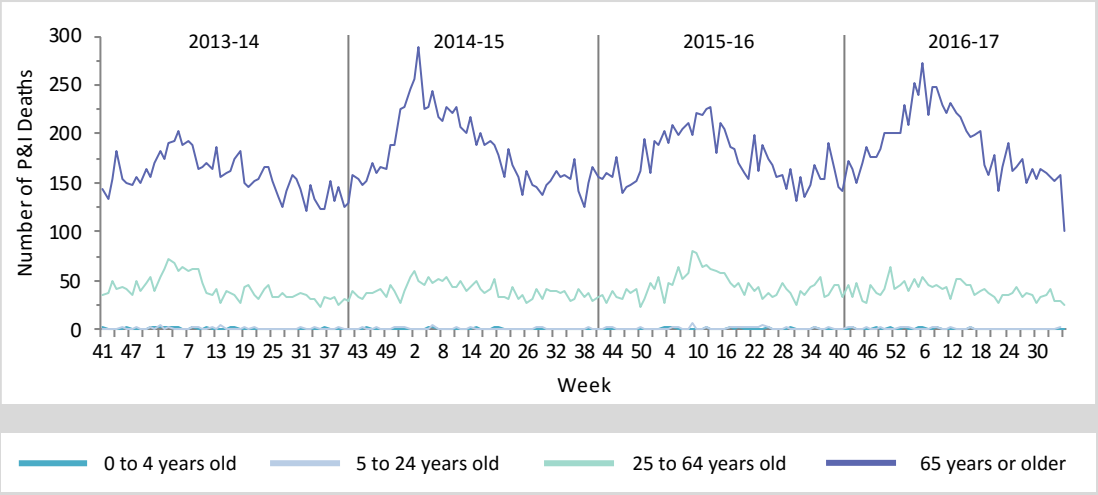
P&I = pneumonia and influenza

The figure below shows the number of preliminary P&I deaths by age group from week 40, 2013 through week 35, 2017, as reported into ESSENCE-FL. *Vital statistics death records data are currently considered to be complete through week 35, 2017.*

The number of P&I deaths reported in week 35 was similar to or below levels seen in previous seasons at this time in all age groups.

128 preliminary estimated P&I deaths were reported for week 35, 2017.

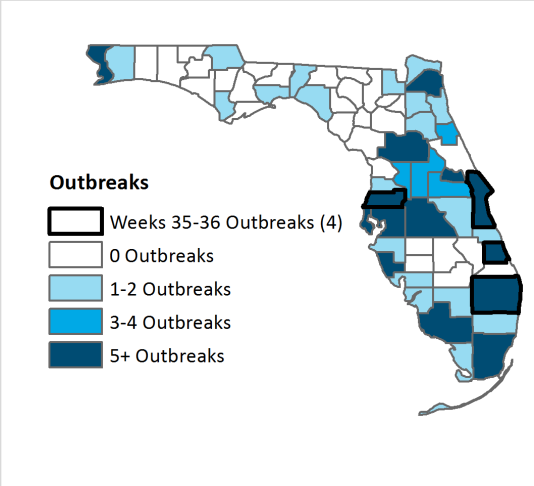
Based on a multi-year regression model to predict P&I death counts in the Florida population, no excess deaths were reported for week 35, 2017. The upper bound of the 95% confidence interval for prediction is 167 deaths.



Influenza and ILI Outbreaks

ILI = influenza-like illness

Influenza and ILI Outbreaks by County
Week 40, 2016 through Week 36, 2017



The map to the left shows influenza and ILI outbreaks by county from week 40, 2016 (beginning on October 4, 2016) through week 36, 2017 (ending on September 9, 2017). Four outbreaks were reported in weeks 35-36: **one outbreak of ILI and three outbreaks of influenza.** As of week 36, 172 outbreaks of influenza and ILI have been reported into Merlin since the start of the 2016-17 season. This is the largest number of outbreaks reported in the past seven influenza seasons.

Brevard County:

- **A school** reported nine students and two staff members with ILI. At least one specimen collected for testing at local health care provider(s) tested positive for influenza A by PCR. At least one specimen was collected for testing at BPHL. Those results are pending. The facility reported that none of the students or staff had been vaccinated for influenza. Infection control measures were reviewed with facility leadership. This investigation is ongoing.

Palm Beach County:

- **An assisted living facility** reported 10 residents and three staff members with ILI. One individual was hospitalized. Four specimens collected for testing at a commercial laboratory were positive for influenza by rapid antigen testing. Of those, two specimens were positive for influenza A and two specimens were positive for influenza B. Three specimens were forwarded for testing at BPHL. Those results are pending. The facility reported that none of the residents or staff had been vaccinated for influenza. Infection control measures were reviewed with facility leadership. This investigation is ongoing.

Pasco County:

- **A long-term care facility** reported eight residents and five staff members with ILI. At least one individual tested positive for influenza B by PCR. No specimens have been available for testing at BPHL thus far. Influenza vaccination status for all residents and staff members is currently unknown. Infection control measures were reviewed with facility leadership. This investigation is ongoing.

St. Lucie County:

- **A school** reported 16 students with ILI. No specimens have been available for testing at BPHL thus far. Influenza vaccination status for all residents and staff members is currently unknown. Infection control measures were reviewed with facility leadership. This investigation is ongoing.

RSV and Other Respiratory Virus Surveillance

RSV = respiratory syncytial virus

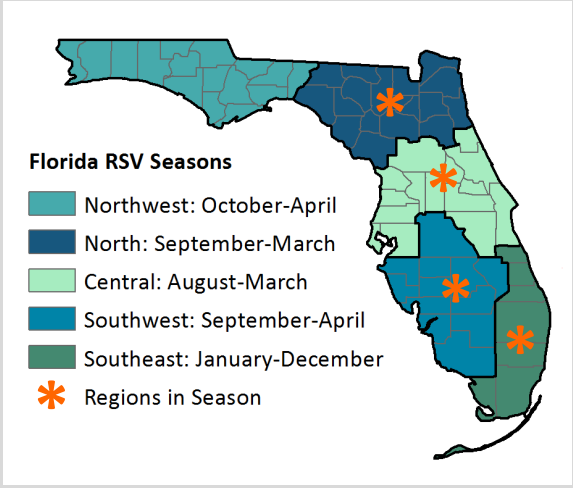
RSV activity:

- **In week 36, the percent of children <5 years old diagnosed with RSV at EDs and UCCs decreased but remained above levels observed in previous seasons at this time.**
- **The percent of specimens testing positive for RSV decreased and was similar to levels observed in previous seasons at this time.**
- To learn more about RSV in Florida, please visit: http://www.floridahealth.gov/rsv.

RSV seasonality:

- **RSV activity in Florida typically peaks between November and January, though activity can vary dramatically by region.** According to CDC, the start of RSV season is marked by the first two consecutive weeks during which the average percentage of specimens testing positive for RSV is ≥10%.
- Florida has established regular RSV seasons based on these thresholds. **Four regions are now in RSV season. RSV season in two additional regions (north and southwest) began on September 1st.**
- Florida's RSV season is longer than the rest of the nation and has distinct regional seasonality. For more information on RSV seasonality in Florida, see the American Academy of Pediatrics' 2015 Red Book.

Florida Respiratory Syncytial Virus (RSV) Regional Season Breakdown

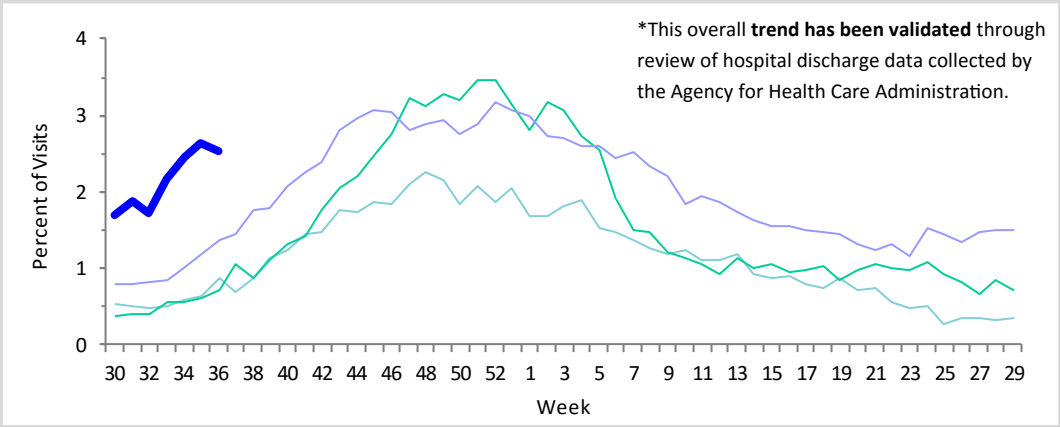


Other respiratory virus surveillance:

- In recent weeks, the percent of specimens testing positive rhinovirus and RSV remained higher than other respiratory viruses under surveillance.

ED and UCC Visits for RSV by Children <5 Years Old

ED = emergency department, UCC = urgent care center, RSV = respiratory syncytial virus



The figure to the left shows the percent of visits to EDs and UCCs with discharge diagnoses that include RSV or RSV-associated illness, as reported by participating ESSSENCE-FL facilities (n=303), week 30, 2014 to week 36, 2017.

In week 36, the percent of children diagnosed with RSV at participating EDs and UCCs decreased. Levels remained above those observed in previous seasons at this time.

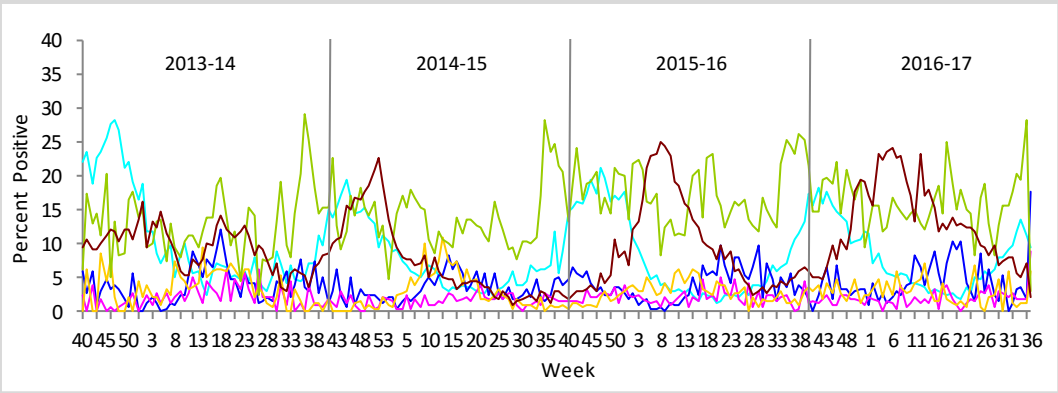
2017-18 2015-16
2016-17 2014-15

Laboratory Viral Respiratory Surveillance

The figure below shows the percent of laboratory results testing positive for eight common respiratory viruses, as reported by the National Respiratory and Enteric Virus Surveillance System (NREVSS) and participating validated laboratories reporting via electronic laboratory reporting (ELR) to DOH (n=15), week 40, 2013 to week 36, 2017.

In recent weeks, the percent of specimens testing positive for rhinovirus and RSV has remained higher than other respiratory viruses under surveillance. Preliminary analyses suggest that the data shown for week 36 is a data artifact due to a reduction in the number of reporting facilities.

RSV
Parainfluenza 1-3
Adenovirus
Human metapneumovirus
Rhinovirus
Influenza



Florida ILI Surveillance System Summary

ESSENCE-FL Syndromic Surveillance and Vital Statistics Portal

- Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE-FL) is used to measure trends in ILI visits from emergency departments (ED) and urgent care clinics (UCC) and influenza mortality using death certificates from the Bureau of Vital Statistics. Participating EDs and UCCs (n=303) electronically transmit visit data into ESSENCE-FL daily or hourly.
- For statewide and regional data on ILI, ED and UCC visits with chief complaints that include the words “influenza” or “flu” are counted along with chief complaints that include the word “fever” and one or both of the following: “cough” or “sore throat.”
- For pneumonia and influenza (P&I) surveillance, death record literals are examined using a free-text query that searches for references to P&I on death certificates. Any mention of P&I in the death certificate literals, with certain exceptions, is counted as a P&I death.
- For respiratory syncytial virus (RSV) surveillance, ED and UCC visits with RSV or RSV-associated illness included in the discharge diagnosis are counted. Death record literals are also queried using a free-text query that searches for references to RSV on death certificates for children <18 years old. Any mention of RSV in the death certificate literals, with certain exceptions, is counted as an RSV-associated pediatric death.

Bureau of Public Health Laboratories (BPHL)

- BPHL performs confirmatory testing and subtyping on surveillance specimens from sentinel providers, outbreak investigations, patients with severe or unusual influenza presentations, and medical examiners.
- For county health departments (CHDs) seeking county-specific laboratory data, please refer to the Flu Lab Report in Merlin. For instructions on how to use the Flu Lab Report, please see the Guide to Flu Lab Report on the Bureau of Epidemiology website at www.floridahealth.gov/diseases-and-conditions/influenza/_documents/flulabreportguide.pdf.

Outbreak Reporting in Merlin

- Merlin, Florida Department of Health (DOH)’s reportable disease surveillance system, is used to track influenza and ILI outbreak investigations by CHDs. CHD epidemiologists document outbreaks of influenza and ILI in Merlin, including type of respiratory disease causing the outbreak and settings where outbreaks occurred.
- Outbreaks are defined as two or more cases of influenza or ILI in a specific setting.

Laboratory Viral Respiratory Surveillance

- National Respiratory and Enteric Virus Surveillance System (NREVSS) and electronic laboratory reporting (ELR) data are from Florida laboratories are used to monitor temporal and geographic patterns of six commonly circulating respiratory viruses on a weekly basis. NREVSS data are collected by the Centers for Disease Control and Prevention (CDC) and ELR data are collected by DOH.

Acute Respiratory Infection Epidemiology and Surveillance (ARIES) Program

- The Acute Respiratory Infection Epidemiology and Surveillance (ARIES) Program is a nationwide surveillance system composed of nine participating jurisdictions. Florida has seven sentinel providers enrolled in ARIES who submit weekly ILI and acute respiratory infection (ARI) patient counts, as well as submit ARI and ILI specimens to BPHL for testing.

Case-Based Influenza Surveillance

- Death in a child whose laboratory-confirmed influenza infection has been identified as contributing to the child’s death is reportable in Florida. Influenza-associated pediatric deaths are documented by CHDs in Merlin.
- In addition, an individual of any age infected with a novel or pandemic influenza strain(s) is reportable in Florida. Pandemic strain influenza cases are documented by CHDs in Merlin.
- For more information about reportable diseases, please visit www.Floridahealth.gov/diseasereporting.