Florida FLU REVIEW 2017-18 Season

Week 8: February 18-24, 2018

State influenza and influenza-like illness (ILI) activity:

Summary

- In week 8, influenza activity decreased for the third consecutive week. Preliminary data indicate influenza activity peaked during week 5 (ending February 3, 2018). While decreases have been observed, influenza activity remains elevated statewide.
- No new influenza-associated pediatric deaths were confirmed. Six influenza-associated pediatric deaths have been confirmed so far in the 2017-18 influenza season.
- Overall, deaths due to pneumonia and influenza were higher than expected. Increases in deaths due to pneumonia and influenza are also expected over the coming weeks given the amount of widespread illness in the preceding weeks. Most pneumonia and influenza deaths continued to occur in people aged 65 years and older; of the deaths in people aged 64 years and younger, most occurred in people with underlying health conditions (65%).
- Twenty-seven outbreaks of influenza or ILI were reported: 14 with laboratory confirmation of influenza and 13 ILI. As of week 8 (ending February 24, 2018), 447 outbreaks of influenza and ILI have been reported since the start of the 2017-18 season.
- The Florida Department of Health is conducting enhanced surveillance of intensive-care unit (ICU) patients aged <65 with laboratory-confirmed influenza. In week 8, 41 cases were reported, bringing the total number of cases reported up to 241 since February 1, 2018. The majority of these cases occurred in unvaccinated people with underlying health conditions.

Immunizations and prevention:

- The Florida Department of Health recommends that sick people stay home until fever-free for at least 24 hours (without the use of fever-reducing medication) and that all people use good handwashing practices.
- On February 15, 2018, the Centers for Disease Control and Prevention (CDC) reported a preliminary interim vaccine efficacy estimate of 36%. Of note, CDC estimated vaccine efficacy against influenza A (H3N2) viruses among children aged 6 months-8 years to be 51%.
- People who have not been vaccinated should get vaccinated as soon as possible. Flu vaccines are safe and are the best way to prevent influenza infection and serious influenza complications. CDC recommends vaccination as long as influenza viruses are circulating. To find a flu shot near you, visit: www.floridahealth.gov/findaflushot. Flu vaccines are also available at your local county health department.

Treatment:

- In severe seasons like this one, the use of antivirals is especially important. There is no shortage of antivirals, however, some supply chain issues have been reported.
- CDC recommends the use of antiviral treatment as soon as possible for all hospitalized, severely ill, and people who are at higher risk for complications with suspect influenza: children <2 years old, adults ≥65 years old, pregnant women, and those with underlying medical conditions. Administer treatment within 48 hours of illness onset (but treatment administered after this period can still be beneficial). A recent CDC health advisory stresses the importance of rapid and early antiviral treatment this season. Visit: http:// www.floridahealth.gov/diseases-and-conditions/influenza/_documents/cdc-han-influenza-12 -27-2017.pdf.
 - Clinicians should not wait for laboratory confirmation to administer antivirals to people with suspect influenza.

National influenza activity:

- Influenza activity decreased, but remained well above the national baseline.
- As in Florida, influenza A (H3) has been the most common strain of influenza identified, however, influenza B activity increased in recent weeks.

Weekly State Influenza Activity



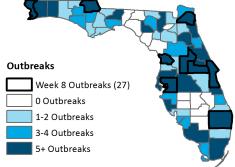
For more information see

page 2 🕨

Predominately Circulating Strain



Influenza and ILI Outbreaks Reported as of 2/24/2018



For more information see page 5 ►

County Influenza Activity

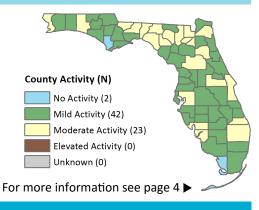


Table of Contents on the next page ►

Posted February 28, 2018 on the Bureau of Epidemiology (BOE) website: www.floridahealth.gov/floridaflu Produced by the BOE, Florida Department of Health

Contributors: Heather Rubino, PhD; Julia Munroe, MS; Mwedu Mtenga, MPH; Katie Kendrick, MPH; Amy Bogucki, MPH; Lea Heberlein-Larson, MPH; Valerie Mock, BS; Marshall Cone, MPH; Pam Colarusso, MSH; Janet Hamilton, MPH, Leah Eisenstein, MPH.



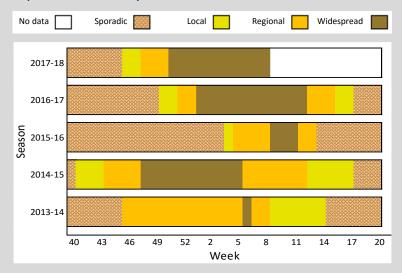
In This Issue

Table of Contents

In This Issue	2
Statewide ILI Visits	2
Statewide ILI Outpatient Visits and P&I Deaths	3
County influenza and ILI Activity Maps	4
Influenza-Associated Pediatric Deaths	4
ILI Activity and Outbreaks by Setting	5
Influenza Laboratory Surveillance	6
Regional ILI Visits	7
Age Groups: ILI Visits and P&I Deaths	8
At-Risk Populations: Children	9
At-Risk Populations: Pregnant Women	10
At-Risk Populations: Adults ≥ 65 Years Old	11
Respiratory Syncytial Virus Surveillance	12
Other Respiratory Virus Surveillance	13
Outbreak Summaries	14
Florida ILI Surveillance System Summary	18

Weekly State Influenza Activity Reporting

Below is the state influenza activity level reported to the Centers for Disease Control and Prevention each week since the 2013-14 influenza season. **Florida reported widespread influenza activity for week 8.**



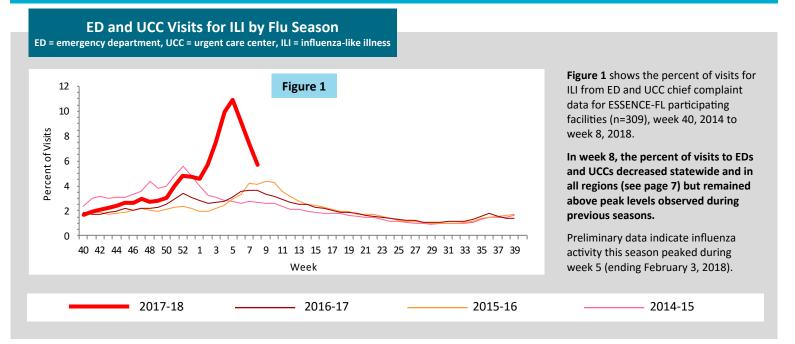
Influenza activity in Florida can vary widely from season to season. This unpredictability underscores the importance of influenza surveillance in Florida.

Influenza surveillance goals:

- Influenza surveillance is conducted to detect changes in the influenza virus. These data are used to help determine the annual national vaccine composition and to prepare for potential epidemics or pandemics.
- Surveillance is also conducted to identify unusually severe presentations of influenza infection, detect outbreaks, and determine seasonal influenza trends
 in order to guide influenza prevention, particularly in high-risk populations like children, adults ≥65 years old, and pregnant women. These activities are
 particularly important at the start of flu season in order to identify potential changes in circulating influenza strains.

Note: Surveillance case definitions for influenza-like illness vary across surveillance systems. For more information on influenza surveillance systems and associated case definitions used in Florida, see page 18 >

Statewide ILI Visits



The ESSENCE-FL ILI syndrome is composed of chief complaints that include the words "influenza" or "flu," or chief complaints that include the words "fever" and "cough," or "fever" and "sore throat." For more information on ESSENCE-FL, see page 17.

Statewide ILI Outpatient Visits and P&I Deaths

Page 3

2017-18

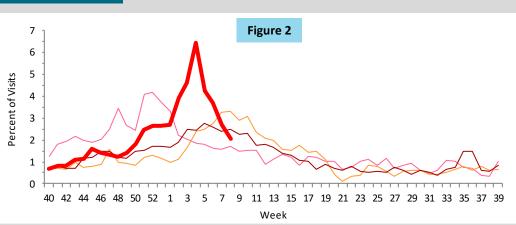
2016-17

_____ 2014-15

Visits for ILI to Outpatient Providers by Flu Season ILI = influenza-like illness

Figure 2 shows the percent of visits for ILI reported by ILINet outpatient providers statewide (n=47), week 40, 2014 to week 8, 2018. For ILINet, ILI is defined as a fever ≥100°F AND sore throat and/or cough in the absence of another known cause.

In week 8, the percent of visits for ILI reported by ILINet outpatient providers decreased and was similar to levels observed in previous seasons at this time.



2015-16



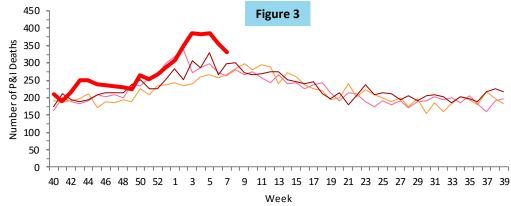


Figure 3 shows P&I deaths* for all Florida counties from the Bureau of Vital Statistics, as reported into ESSENCE-FL, week 40, 2014 to week 7, 2018.

In week 7 (ending February 17, 2018), 332 P&I deaths were reported.

The preliminary number of P&I deaths remained above levels observed in previous seasons.

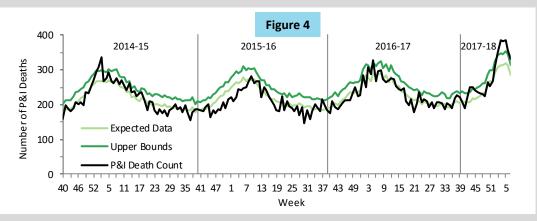
P&I Deaths* Multi-Year Regression Model P&I = pneumonia and influenza

Figure 4 shows the number of preliminary estimated P&I deaths* for all Florida counties, the number of deaths predicted using a multi-year regression model, and the upper bound of the 95% confidence interval for this prediction.

For week 7 (ending February 17, 2018), 332 preliminary estimated P&I deaths were reported.

The upper bound of the 95% confidence interval for prediction is 314 deaths, with 18 excess deaths.

Due to the delay in death data, it is expected that the number of deaths reported will increase with additional excess deaths reported; this trend will be closely monitored.

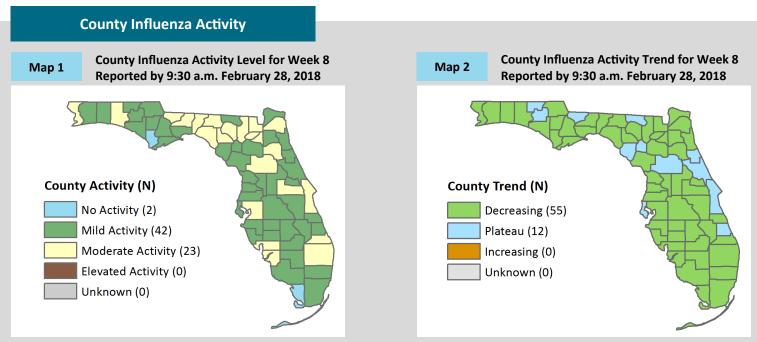


* Current season P&I death counts are preliminary estimates and may change as more data are received. The most recent data available are displayed here. Vital statistics death records received in ESSENCE-FL are considered to be complete through week 7, 2018.

County Influenza and ILI Activity Maps

Page 4

County influenza activity data are reported by county health departments through EpiGateway on a weekly basis. Information is used to determine county activity and includes laboratory results, outbreak reports, and ILI activity. **The figures below reflect a county health department's assessment of influenza activity within their county. For week 8, 12 counties reported activity at a plateau, and 55 counties reported decreasing activity.**

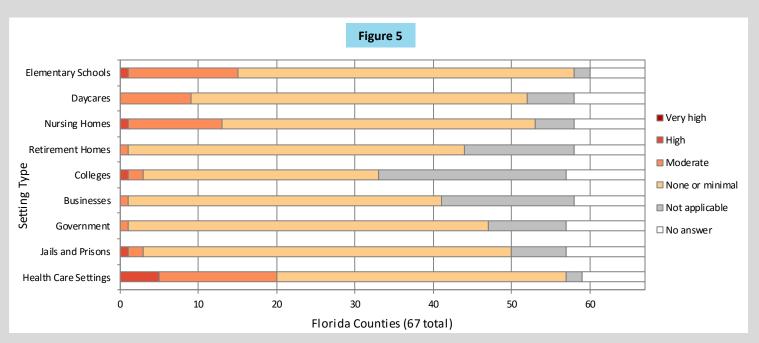


As of 9:30 a.m. February 28, 2018, a total of 67 (100%) counties reported their weekly level of influenza activity. Please note that data reported after the deadline (Tuesday at 5 p.m.) are recorded but may not be included in the activity maps for this week.

County ILI Activity by Setting Type ILI = influenza-like illness

County health departments are asked to evaluate influenza activity in certain settings within their county. The assessment scale for activity ranges from no or minimal activity to very high activity.

Figure 5 shows the results of the influenza activity assessment for week 8, 2018.



ILI Activity and Outbreaks by Setting

Reported Influenza and ILI Outbreaks

ILI = influenza-like illness

Map 3 shows influenza and ILI outbreaks by county for week 40, 2017 through week 8, 2018, as reported into Merlin.

Total Outbreaks:

- In week 8, 27 outbreaks were reported: 14 outbreaks with laboratory evidence of influenza and 13 outbreaks of ILI.
 - Influenza and ILI outbreaks were reported in nine counties located in all regions of the state (see map 3). Of the 27 outbreaks reported, 10 (37%) have ongoing investigations.
- The number of outbreaks reported decreased over the last three weeks (see figure 6).
 Most outbreaks continue to be caused by influenza A, however, in week 8, a substantial number of outbreaks due to influenza B was reported.
- A total of 447 outbreaks have been reported so far this season. Of the 447 outbreaks reported, 413 (92%) have been in facilities serving people at higher risk for complications due to influenza infection (children and adults aged ≥65 years).
 - More outbreaks have been reported this season than in previous seasons on record. An average of 91 total outbreaks were reported during the last five seasons.

Settings:

- In week 8, outbreaks occurred in the following settings: two (7%) in assisted living facilities, two (7%) in other long-term care facilities, nine (33%) in child daycares, 11 (41%) in schools/camps, and one (4%) in other settings.
- Outbreaks Outbreaks 0 Outbreaks 0 Outbreaks 1-2 Outbreaks 3-4 Outbreaks 5+ Outbreaks

Map 3

Influenza and ILI Outbreaks by County

Week 40, 2017 through Week 8, 2018

• In the 2017-18 season, outbreaks occurred in the following settings: 53 (12%) in assisted living facilities, 74 (17%) in nursing facilities, 85 (19%) in other long-term care facilities, two (0.4%) in adult daycares, 79 (18%) in child daycares, 120 (27%) in schools/camps, 15 (3%) in correctional facilities/juvenile detention centers, six (1%) in hospitals, two (0.4%) in shelters, and 11 (2%) in other settings.

Laboratory Testing:

• Of the 27 outbreaks reported in week 8, specimens have been collected and submitted to the Bureau of Public Health Laboratories (BPHL) for testing for two outbreaks so far (7%).

Control Measures:

- Outbreak control measures were reviewed with facility leadership for 21 (78%) of the 27 reported outbreaks by county health departments (CHDs).
 - Facilities administered antiviral treatment for ill individuals in 1/4 outbreaks (25%) where CHDs recommended antiviral treatment.
 - Facilities administered antiviral chemoprophylaxis of at-risk individuals in 2/8 outbreaks (25%) where CHDs recommended antiviral chemoprophylaxis. In these two outbreaks, chemoprophylaxis was administered the same day recommendations were made by CHDs.

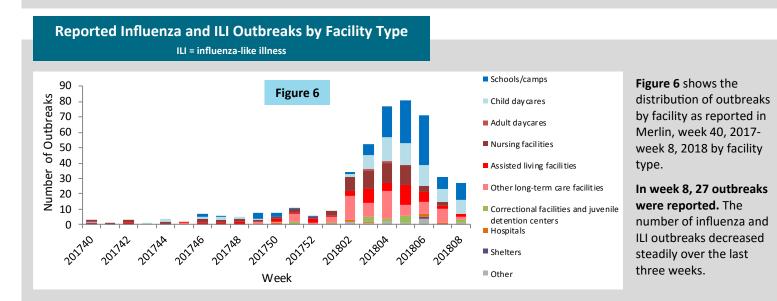
Hospitalizations and Deaths:

- Of the 27 outbreaks reported in week 8, people were hospitalized in three outbreaks (11%). None of the 27 outbreaks had deaths reported.
- Of the 447 outbreaks reported so far this season, people were hospitalized in 104 outbreaks (23%) and deaths were reported in 21 outbreaks (5%).

For detailed information on select outbreaks reported during week 8, see page 16. For updates on select outbreaks reported in week 7 (ending February 17, 2018), see page 17.

For information on outbreaks reported in settings serving children, see page 9.

For information on outbreaks reported in settings serving adults aged ≥65 years, see page 11.



Laboratory Surveillance

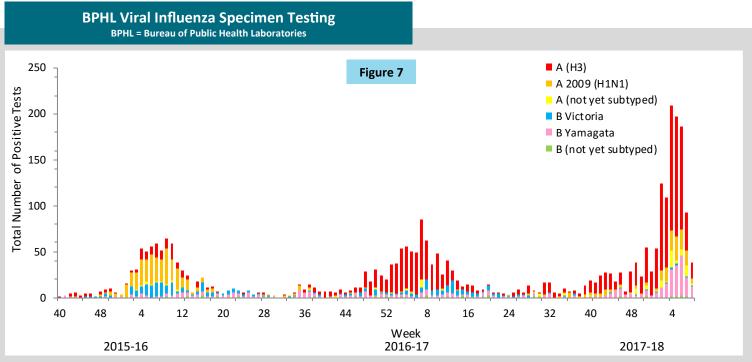


Figure 7 shows the number of influenza-positive specimens tested by subtype and lab event date.*

The most common influenza subtype detected at BPHL statewide for the 2017-18 influenza season has been influenza A (H3). The Centers for Disease Control and Prevention (CDC) has continued to report extensive genetic diversity in the HA genes of influenza A (H3) viruses submitted to CDC for phylogenetic analysis. No significant antigenic drift has been reported.

Seasons in which A (H3) viruses predominate are associated with more severe illness in young children and adults ≥65 years old. While statewide data indicate influenza A (H3) is the predominantly circulating strain, these data also indicate a substantial amount of influenza B Yamagata lineage and influenza A 2009 (H1N1) viruses present and co-circulating.

The percent of specimens testing positive for influenza B Yamagata lineage at BPHL has increased steadily in recent weeks. An increase in influenza B activity has also been observed nationally.

Table 1: Bureau of Public Health Laboratories (BPHL) Viral Surveillance by Lab Event Date* Reported by 10:00 a.m. February 28, 2018			
Influenza Type	Current Week 8	Previous Week 7	Current 2017-18 Season
Total Specimens Tested	63	131	2093
Influenza positive specimens (% of total specimen tested)	38 (61.9%)	93 (71.0%)	1345 (64.3%)
Influenza A 2009 (H1N1) (% of influenza positives)	6 (15.8%)	16 (17.2%)	151 (11.2%)
Influenza A (H3) (% of influenza positives)	17 (44.7%)	42 (45.2%)	888 (66.0%)
Influenza A not yet subtyped (% of influenza positives)	2 (5.3%)	12 (12.9%)	66 (4.9%)
Influenza B Yamagata (% of influenza positives)	12 (31.6%)	21 (22.6%)	220 (16.4%)
Influenza B Victoria (% of influenza positives)	1 (2.6%)	1 (1.1%)	13 (1.0%)
Influenza B not yet subtyped (% of influenza positives)	-	1 (1.1%)	7 (0.5%)

*"Lab event date" is defined as the earliest of the following dates associated with influenza testing at the laboratory: date specimen collected, date received by the laboratory, date reported, or date inserted.

For county health departments 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: www.floridahealth.gov/diseases-and-conditions/influenza/_documents/flulabreportguide.pdf

Regional ILI Visits

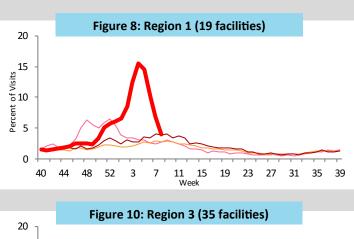
ED and UCC Visits for ILI by Region

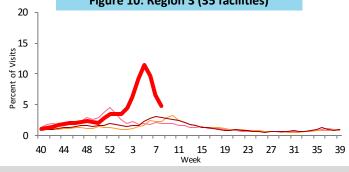
ED = emergency department, UCC = urgent care center, ILI = influenza-like illness

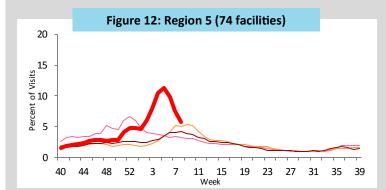
Figures 8 - 14 show the percent of visits for ILI from ED and UCC chief complaints for ESSENCE-FL participating facilities (n=309), by ESSENCE-FL Regional Domestic Security Task Force regions (see map 4) from week 40, 2014 to week 8, 2018.* **In week 8, the**

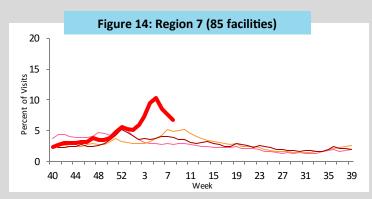
percent of ED and UCC visits for ILI decreased in all regions. Despite this decrease, activity in all regions remained above levels observed in previous seasons at this time. In regions 3 and 7, activity remained above peak activity levels observed in previous seasons.

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

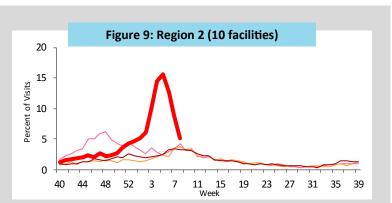


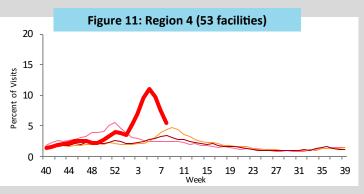


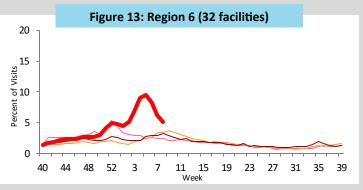




*There is no week 53 for the 2015-16, 2016-17, and 2017-18 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.







Region 2

Region 6

Region 7

Region 3

Region 5

Map 4

Emergency Departments (EDs) and
Urgent Care Centers (UCCs) ReportingRegion 4Data to ESSENCE-FL by Regional
Domestic Security Task Force Region,
February 28, 2018 (n=309)Region 4

Region 1

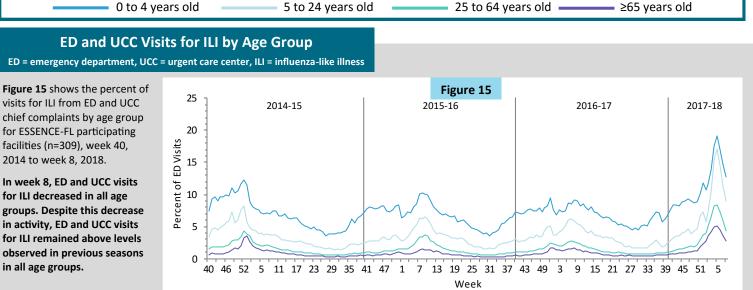
- Urgent Care Center
- Emergency Department

Age Groups: ILI Visits and P&I Deaths

0 to 4 years old

25 to 64 years old

Page 8



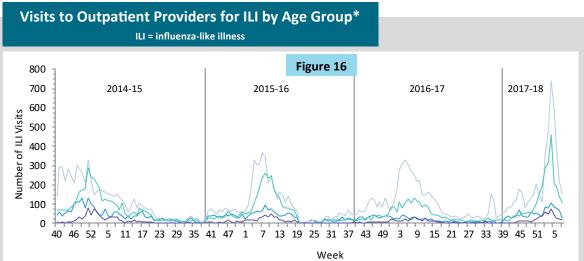
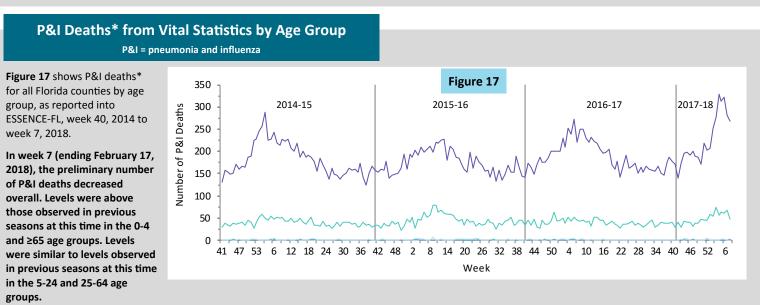


Figure 16 shows the number of visits for ILI reported by ILINet outpatient providers statewide (n=47) by age group, week 40, 2014 to week 8, 2018.

In week 8, the number of visits for ILI decreased in all age groups. Levels were similar to those observed in previous seasons at this time in all age groups.

*Data presented here are counts, not proportions. This is because age group denominator data is not available through ILINet.



*Current season P&I death numbers are preliminary estimates and may change as more data are received. The most recent data available are displayed here. Vital statistics death records received in ESSENCE-FL are currently considered to be complete through week 7, 2018.

At-Risk Populations: Children

Page 9

Background: Children, especially those with underlying health conditions, are at higher risk for severe complications from influenza infection. The single best way to protect children from influenza is to get them vaccinated every year. The Centers for Disease Control and Prevention recommends vaccination as long as influenza viruses are circulating. To find a flu shot near you, please visit: www.floridahealth.gov/findaflushot.

ED and UCC Visits for ILI by Children ≤18 Years Old ED = emergency department, UCC = urgent care center, ILI = influenza-like illness

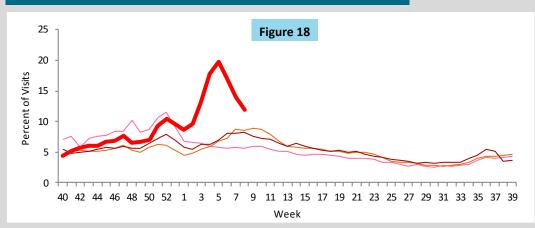


Figure 18 shows the percent of ILI visits among all ED and UCC visits for children ≤18 years old, as reported into ESSSENCE-FL, week 40, 2014 to week 8, 2018.

In week 8, the percent of ILI visits among all ED and UCC visits for children ≤18 years old decreased but remained well above peak levels observed during previous seasons.

Children are at higher risk for complications from influenza. Children who have not been vaccinated yet should get vaccinated as soon as possible.

Outbreaks in Facilities Serving Children ILI = influenza-like illness

Total outbreaks in facilities serving children:

- In week 8, 20 outbreaks were reported in facilities serving children (schools/camps and child daycares): 11 outbreaks with laboratory evidence of influenza and nine outbreaks of ILI.
 - Influenza and ILI outbreaks in facilities serving children were reported in nine counties located in all regions of the state. Of the 20 outbreaks reported, five (25%) have ongoing investigations.

Settings:

• In week 8, outbreaks occurred in the following settings: 11 (55%) in schools/camps and nine (45%) in child daycares.

Laboratory testing:

• Of the 20 outbreaks reported in week 8, none have had specimens available for testing at the Bureau of Public Health Laboratories thus far.

Control measures:

• Outbreak control measures were reviewed with facility leadership for 17 (85%) of the 20 outbreaks.

Hospitalizations and deaths:

• Of the 20 outbreaks reported in week 8, none had hospitalizations or deaths.

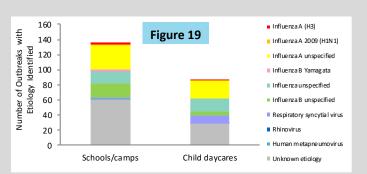


Figure 19 shows the distribution of each outbreak etiology reported in facilities serving children (schools/camps and child daycares) as reported into Merlin, week 40, 2017 through week 8, 2018. Outbreaks with multiple etiologies are displayed more than once.

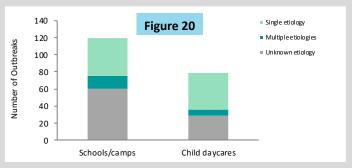


Figure 20 shows the number of outbreaks reported in facilities serving children (schools/camps and child daycares) by single, multiple or unknown etiology as reported into Merlin, week 40, 2017 through week 8, 2018.

At-Risk Populations: Children

Page **10**

Influenza-Associated Pediatric Deaths

Figures 21-23

Figures 21-23 show the number of pediatric deaths associated with influenza infection, week 40, 2013 to week 8, 2018.

In week 8, no new influenza-associated pediatric deaths were confirmed. A total of six influenza-associated pediatric deaths have been confirmed so far this season. All of the deaths confirmed so far this season have been in unvaccinated children.

While rare, Florida receives reports of influenza-associated pediatric deaths each season. **Most deaths occur in unvaccinated children with underlying health conditions.** Children, especially those with underlying health conditions, are at higher risk of severe outcomes from influenza infection.

A recent study showed that flu vaccination can reduce a child's likelihood of dying from influenza by 50-60%. For more information, visit: https://www.cdc.gov/media/ releases/2017/p0403-flu-vaccine.html.

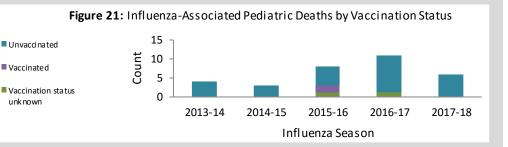
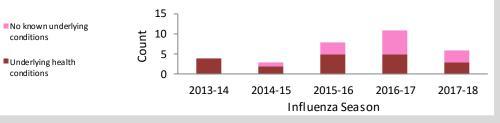
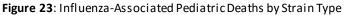
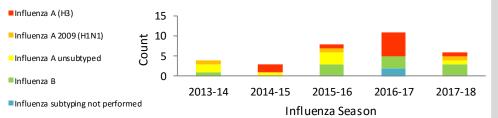


Figure 22: Influenza-Associated Pediatric Deaths by Medical History







At-Risk Populations: Pregnant Women

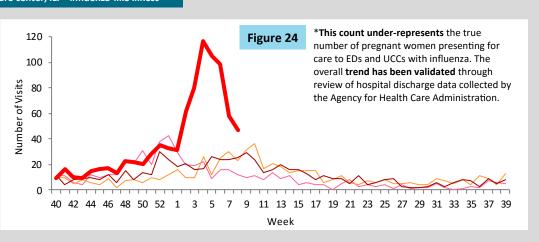
ESSENCE-FL collects data daily from 309 EDs and UCCs. Data are processed into 11 different syndrome categories based on the patient's chief complaint. One of the categories is ILI, which is composed of chief complaints that include the words "influenza" or "flu," or complaints that contain "fever" and "cough," or "fever" and "sore throat." The Florida Department of Health uses ED and UCC chief complaint data to monitor influenza and ILI activity in a timely manner in groups at higher risk of severe health outcomes (such as hospitalization and death) from influenza infection. These at-risk groups include pregnant women, children ≤18 years old, and adults ≥65 years old.

ED and UCC Visits for ILI by Pregnant Women ED = emergency department, UCC = urgent care center, ILI = influenza-like illness

Pregnant women and their babies are at higher risk for severe complications due to influenza infection.

Figure 24 shows the number of visits* to EDs and UCCs with chief complaints of influenza infection and pregnancy, as reported into ESSSENCE-FL, week 40, 2014 to week 8, 2018.

In week 8, the number of visits to EDs and UCCs by pregnant women with mention of influenza decreased notably but remained above peak levels observed during previous seasons. Pregnant women who have not yet been vaccinated this season should get vaccinated as soon as possible.



At-Risk Populations: Adults ≥65 Years Old

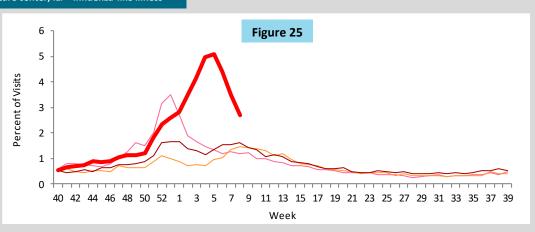
Background: Adults ≥65 years old are at higher risk for severe complications from influenza infection, including hospitalization and death. While influenza seasons vary in intensity, adults in this age group bear the greatest burden of severe influenza disease. Annual vaccination is the best way to prevent influenza infection. The Centers for Disease Control and Prevention recommends vaccination as long as influenza viruses are circulating. To locate a flu shot near you, please visit: www.floridahealth.gov/findaflushot.

ED and UCC Visits for ILI by Adults ≥65 Years Old ED = emergency department, UCC = urgent care center, ILI = influenza-like illness

Figure 25 shows the percent of ILI visits among all ED and UCC visits for adults ≥65 years old, as reported into ESSSENCE-FL, week 40, 2014 to week 8, 2018.

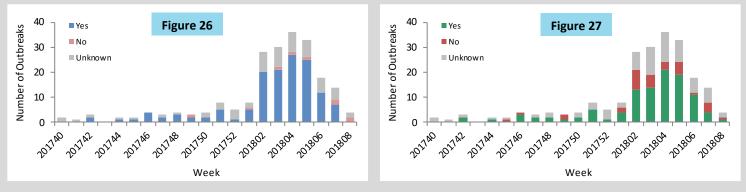
In week 8, the percent of ILI visits among all ED and UCC visits for adults ≥65 years decreased but remained well above levels observed in previous seasons at this time.

Adults aged ≥65 years are at high-risk for complications due to influenza infection. People in this age group who have not yet been vaccinated for the 2017-18 season should get vaccinated as soon as possible.



Outbreaks in Facilities Serving Adults ≥65 Years Old ILI = influenza-like illness

Figure 26 shows the number of outbreaks with antiviral treatment administered to ill individuals by week in facilities serving adults ≥65 years old (nursing homes, assisted living facilities, and other long-term care facilities. Figure 27 shows the number of outbreaks with antiviral chemoprophylaxis administered to at-risk individuals by week in facilities serving adults ≥65 years old.



Total outbreaks in facilities serving adults ≥65 years old:

- In week 8, four outbreaks were reported in facilities serving adults ≥65 years old: two outbreaks with laboratory evidence of influenza and two outbreaks of ILI.
 - Influenza and ILI outbreaks in facilities serving adults ≥65 years old were reported in four counties located in the central and northeastern regions of the state. Of the four outbreaks reported, all have ongoing investigations.

Settings:

• In week 8, outbreaks occurred in the following settings: two (50%) in assisted living facilities and two (50%) in other long-term care facilities.

Laboratory testing:

• Of the four outbreaks reported in week 8, specimens have been collected and submitted to the Bureau of Public Health Laboratories (BPHL) for testing for one outbreak so far (25%).

Control measures:

- Outbreak control measures were reviewed with facility leadership for two (50%) of the four reported outbreaks by county health departments (CHDs).
 - Facilities administered antiviral treatment for ill individuals in 0/2 outbreaks (0%) where CHDs recommended antiviral treatment.
 - Facilities administered antiviral chemoprophylaxis of at-risk individuals in 1/2 outbreaks (50%) where CHDs recommended antiviral chemoprophylaxis.

Hospitalizations and deaths:

• Of the four outbreaks reported in week 8, people were hospitalized in two outbreaks (50%). None of the four outbreaks had deaths reported.

Page **11**

Respiratory Syncytial Virus Surveillance

Respiratory syncytial virus (RSV) activity:

Summary

- In week 8, the percent of children <5 years old diagnosed with RSV at emergency departments and urgent care centers increased slightly but remained within levels observed in previous seasons at this time. It is unclear how the influenza season is impacting RSV activity.
- All regions are currently in RSV season.
- One RSV-associated pediatric death was identified in week 7 in a child with underlying medical conditions. Two RSV-associated pediatric deaths have been identified so far this season. Premature infants and children <2 years with underlying medical conditions are at higher risk for severe complications from RSV infection. Prophylaxis is available for children who qualify. For more information, contact your physician.
- To learn more about RSV in Florida, please visit: www.floridahealth.gov/rsv.

RSV seasonality:

- RSV activity in Florida typically peaks in November through 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.
- 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' (AAP) 2015 Red Book.

RSV surveillance goals:

- A statewide RSV surveillance system was implemented in Florida to support clinical decision-making for prophylaxis of premature infants. The determination of unique seasonal and geographic trends of RSV activity has important implications for prescribing patterns for initiating prophylaxis to children at high risk for RSV infection. The AAP currently recommends that preapproval for prophylactic treatment be made based on state surveillance data.
- See the back page of this report for more information on RSV surveillance systems used in Florida: page 18 ▶

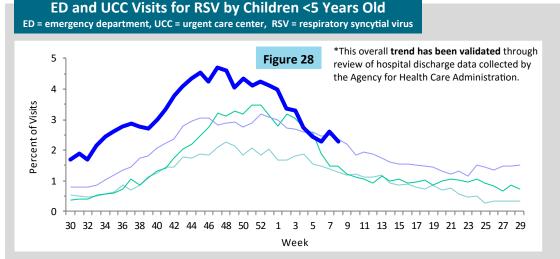


Figure 28 shows the percent of visits to EDs and UCCs with discharge diagnoses that include RSV or RSV-associated illness, as reported by participating ESSSENCE-FL facilities (n=309), week 30, 2014 to week 8, 2018.

In week 8, the percent of children presenting to participating EDs and UCCs for care with RSV decreased and remained within levels observed in previous seasons at this time.

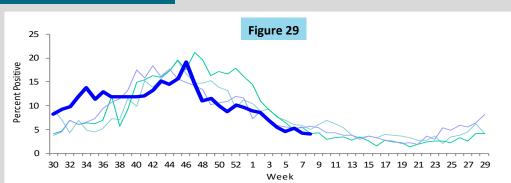


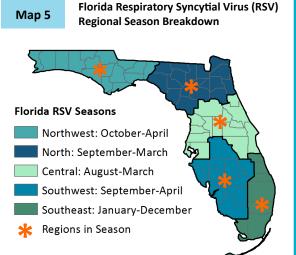


Figure 29 shows the percent of specimens testing positive for RSV, as reported by hospital laboratories (n=7), week 30, 2014 to week 8, 2018.

In week 8, the percent of specimens RSV positive decreased. It is unclear how the widespread circulation of influenza is impacting detection of RSV.







Other Respiratory Virus Surveillance

Statewide activity:

The percent of specimens testing positive for influenza decreased over recent weeks but remained higher than other respiratory
viruses under surveillance.

Enterovirus D68 (EV-D68) activity:

- In week 8, no new people tested positive for EV-D68 in Florida.
 - No people have tested positive for EV-D68 by PCR so far in 2018. In 2017, three people tested positive for EV-D68 by PCR in Florida. One person was identified in August 2017 during the investigation of an ILI outbreak. Two people were identified in October 2017 as part of routine outpatient surveillance as a result of Florida participating in the Acute Respiratory Infection Epidemiology and Surveillance (ARIES) Program.
- To learn more about EV-D68, please visit: http://www.floridahealth.gov/diseases-and-conditions/d68.

Outbreaks:

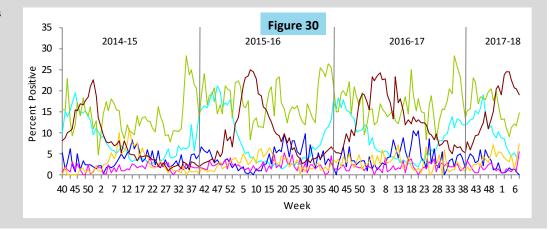
• In week 8, no outbreaks of respiratory syncytial virus (RSV), parainfluenza 1-3, adenovirus, human metapneumovirus (MPV), rhinovirus, enterovirus, or coronavirus were reported.

Laboratory Viral Respiratory Surveillance

Figure 30 shows the percent of laboratory results testing positive for eight common respiratory viruses, as reported by hospital laboratories (n=7), week 40, 2014 to week 8, 2018.

In recent weeks, the percent of specimens testing positive for influenza decreased but remained higher than other respiratory viruses under surveillance.





Non-Influenza ARIES Laboratory Outpatient Surveillance* ARIES = Acute Respiratory Infection Epidemiology and Surveillance Program BPHL = Bureau of Public Health Laboratories

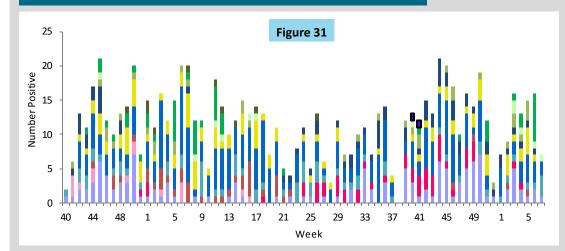
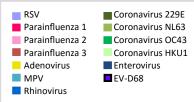


Figure 31 shows the number of specimens testing positive for 12 common respiratory viruses, as reported by BPHL and ARIES outpatient providers statewide (n=6), week 40, 2016 to week 7, 2018.

In week 7 (ending February 17, 2018), specimens submitted by ARIES providers tested positive for RSV, MPV, rhinovirus, and coronavirus HKU1 by PCR.



*Data presented here are counts, not proportions. The most recent data available are displayed here. ARIES laboratory data are currently considered to be complete through week 7, 2018. Laboratory results for specimens that have not yet been tested in full will be included in future reports.

Outbreak Summaries

Table 2: Week 8 Outbreaks: Summary of Florida Influenza and ILI Outbreaks by Setting		
Setting	Number of outbreaks (percent of outbreaks)	Implicated viruses
Schools and camps	11 (41%)	 1 outbreak of influenza A unspecified 1 outbreak of influenza A unspecified and influenza B unspecified 1 outbreak of influenza B unspecified 4 outbreaks of influenza unspecified 4 outbreaks of unknown etiology
Child daycares	9 (33%)	 1 outbreak of influenza A unspecified 1 outbreak of influenza A unspecified and influenza B unspecified 2 outbreaks of influenza unspecified 5 outbreaks of unknown etiology
Adult daycares	0 (0%)	No outbreaks
Correctional facilities and juvenile detention centers	2 (7%)	2 outbreaks of unknown etiology
Nursing facilities	0 (0%)	No outbreaks
Assisted living facilities	2 (7%)	 1 outbreak of influenza B unspecified 1 outbreak of unknown etiology
Other long-term care facilities	2 (7%)	 1 outbreak of influenza B Yamagata lineage 1 outbreak of unknown etiology
Hospitals	0 (0%)	No outbreaks
Shelters	0 (0%)	No outbreaks
Other	1 (4%)	• 1 outbreak of influenza A unspecified
Total	27 (100%)	 3 outbreaks of influenza A unspecified 2 outbreaks of influenza A unspecified and influenza B unspecified 2 outbreaks of influenza B unspecified 1 outbreak of influenza B Yamagata lineage 6 outbreaks of influenza unspecified 13 outbreaks of unknown etiology

Table 3: Season Total: Summary of Florida Influenza and ILI Outbreaks by Setting		
Setting	Number of outbreaks (percent of outbreaks)	Implicated viruses
Schools and camps	120 (27%)	 1 outbreak of influenza A (H3) 1 outbreak of influenza A (H3) and influenza B Yamagata lineage 1 outbreak of influenza A (H3) and influenza B unspecified 1 outbreak of influenza A 2009 (H1N1) 20 outbreaks of influenza A unspecified 11 outbreaks of influenza A unspecified and influenza B unspecified 1 outbreaks of influenza A unspecified, influenza B unspecified, and human metapneumovirus 6 outbreaks of influenza B unspecified 2 outbreaks of influenza B unspecified 1 outbreaks of influenza B unspecified 2 outbreaks of influenza B unspecified 1 outbreaks of influenza B unspecified 2 outbreaks of influenza unspecified 1 outbreak of influenza unspecified and respiratory syncytial virus (RSV) 1 outbreaks of unknown etiology
Child daycares	79 (18%)	 1 outbreak of influenza A (H3) 17 outbreaks of influenza A unspecified 5 outbreaks of influenza A unspecified and influenza B unspecified 1 outbreak of influenza A unspecified and RSV 1 outbreak of influenza B unspecified 16 outbreaks of influenza unspecified 1 outbreak of influenza unspecified and RSV 8 outbreaks of RSV 1 outbreak of rhinovirus 28 outbreaks of unknown etiology
Adult daycares	2 (0.4%)	 1 outbreak of influenza A (H3) and influenza B unspecified 1 outbreak of influenza B unspecified
Correctional facilities and juvenile detention centers	15 (3%)	 6 outbreaks of influenza A (H3) 2 outbreaks of influenza A (H3) and influenza A 2009 (H1N1) 2 outbreaks of influenza A (H3) and influenza B Yamagata lineage 1 outbreak of influenza A unspecified 1 outbreak of influenza B Yamagata lineage 1 outbreak of adenovirus 2 outbreaks of unknown etiology

Table 3 continued on page 15.

Table 3: Season Total: Summary of Florida Influenza and ILI Outbreaks by Setting, Cont.		
Setting	Number of outbreaks (percent of outbreaks)	Implicated viruses
Nursing facilities	74 (17%)	 16 outbreaks of influenza A (H3) 1 outbreaks of influenza A (H3) and influenza A 2009 (H1N1) 1 outbreaks of influenza A (H3), influenza B unspecified, and respiratory syncytial virus (RSV) 1 outbreaks of influenza A (H3) and parainfluenza 1 19 outbreaks of influenza A unspecified 4 outbreaks of influenza B unspecified and influenza B unspecified 7 outbreaks of influenza B unspecified 1 outbreaks of influenza B unspecified and coronavirus HKU1 2 outbreaks of influenza B Yamagata lineage 1 outbreaks of influenza B Yamagata lineage and human metapneumovirus (MPV) 1 outbreaks of influenza B Yamagata lineage and RSV 3 outbreaks of influenza unspecified 1 outbreak of RSV and rhinovirus 16 outbreaks of unknown etiology
Assisted living facilities	53 (12%)	 6 outbreaks of influenza A (H3) 2 outbreaks of influenza A (H3) and influenza A 2009 (H1N1) 1 outbreak of influenza A (H3), influenza B unspecified, parainfluenza 1, and MPV 22 outbreaks of influenza A unspecified 4 outbreaks of influenza B unspecified 2 outbreaks of influenza B unspecified 4 outbreaks of influenza unspecified 2 outbreaks of influenza unspecified 2 outbreaks of influenza unspecified 10 outbreaks of respiratory syncytial virus (RSV) 10 outbreaks of unknown etiology
Other long-term care facilities	85 (19%)	 12 outbreaks of influenza A (H3) 1 outbreak of influenza A (H3) and coronavirus HKU1 1 outbreak of influenza A (H3) and coronavirus NL63 1 outbreak of influenza A (H3), influenza A 2009 (H1N1), and influenza B Yamagata lineage 2 outbreaks of influenza A (H3) and influenza B unspecified 1 outbreak of influenza A (H3) and rhinovirus 1 outbreak of influenza A 2009 (H1N1) 23 outbreaks of influenza A unspecified 14 outbreaks of influenza A unspecified 2 outbreaks of influenza B unspecified 2 outbreaks of influenza A unspecified 2 outbreaks of influenza B unspecified 2 outbreaks of influenza B Yamagata lineage 1 outbreaks of influenza B Yamagata lineage, influenza A unspecified, and RSV 3 outbreaks of influenza unspecified 2 outbreaks of influenza H Yamagata lineage, influenza A unspecified, and RSV 3 outbreaks of influenza H Yamagata lineage 2 outbreaks of influenza H Yamagata lineage, influenza A unspecified, and RSV 3 outbreaks of influenza H Yamagata lineage 1 outbreaks of influenza H Yamagata lineage, influenza A unspecified, and RSV 3 outbreaks of influenza H Yamagata lineage 1 outbreaks of influenza H Yamagata lineage 20 outbreaks of influenza H Yamagata lineage
Hospitals	6 (1%)	 1 outbreak of influenza A 2009 (H1N1) 1 outbreak of influenza A unspecified 2 outbreaks of influenza B unspecified 1 outbreak of RSV 1 outbreak of unknown etiology
Shelters	2 (0.4%)	 1 outbreak of influenza A (H3) 1 outbreak of influenza A (H3) and rhinovirus
Other	11 (2%)	 4 outbreaks of influenza A unspecified 1 outbreak of influenza unspecified 6 outbreaks of unknown etiology

Table 3 continued on page 16.

Table 3: Season Total: Summary of Florida Influenza and ILI Outbreaks by Setting, Cont.		
Setting	Number of outbreaks (percent	Implicated viruses
Total	447 (100%)	 43 outbreaks of influenza A (H3) 1 outbreak of influenza A (H3) and coronavirus HKU1 1 outbreak of influenza A (H3) and coronavirus NL63 1 outbreak of influenza A (H3) and parainfluenza 1 2 outbreaks of influenza A (H3) and influenza A 2009 (H1N1) 1 outbreak of influenza A (H3) and influenza A 2009 (H1N1) 1 outbreak of influenza A (H3) and influenza A 2009 (H1N1) 1 outbreaks of influenza A (H3) and influenza B Yamagata lineage 3 outbreaks of influenza A (H3) and influenza B Yamagata lineage 4 outbreaks of influenza A (H3) and influenza B Yamagata lineage 4 outbreaks of influenza A (H3) and influenza B Unspecified 1 outbreak of influenza A (H3), influenza B unspecified, parainfluenza 1, and human metapneunmovirus (MPV) 1 outbreaks of influenza A (H3), influenza B unspecified, and respiratory syncytial virus (RSV) 3 outbreaks of influenza A unspecified 1 outbreaks of influenza A unspecified 1 outbreaks of influenza A unspecified and influenza B unspecified 1 outbreak of influenza A unspecified and RSV 21 outbreaks of influenza B unspecified and RSV 21 outbreaks of influenza B Unspecified and Coronavirus HKU1 7 outbreaks of influenza B Yamagata lineage 1 outbreak of influenza B Yamagata lineage 1 outbreak of influenza B Yamagata lineage 1 outbreak of influenza B Yamagata lineage and MPV 1 outbreaks of influenza B Yamagata lineage and MPV 1 outbreaks of influenza B Yamagata lineage and MPV 1 outbreaks of influenza B Yamagata lineage and MPV 1 outbreaks of influenza B Yamagata lineage and MPV 1 outbreaks of influenza B Yamagata lineage and MPV 1 outbreaks of influenza B Yamagata lineage and MPV 1 outbreaks of influenza B Yamagata lineage and MPV 1 outbreaks of influenza B Yamagata lineage and MPV 1 outbreaks of influenza B Yamagata l

Reported Influenza and ILI Outbreaks ILI = influenza-like illness

BPHL = Bureau of Public Health Laboratories

In week 8, 27 outbreaks were reported in Merlin: 14 outbreaks with laboratory evidence of influenza and 13 outbreaks of ILI. Of the 27 outbreaks reported during week 8 (ending February 24, 2018), 12 select outbreaks are summarized below.

Lake County

- A long-term care facility reported 10 residents with ILI. Six residents sought treatment at local emergency departments and two residents were hospitalized as a result of their illness. No specimens were available for testing at BPHL. The etiology of this outbreak is unknown. The facility estimated 97% of residents and 25% of staff were vaccinated for the 2017-18 influenza season. Control measures were reviewed with facility leadership. This investigation is closed.
- A school reported 13 students with ILI. At least one student tested positive for influenza A (test type unknown) at a local health care provider. No specimens were available for testing at BPHL. Influenza vaccination status for the 2017-18 season for students and staff is unknown. Information regarding control measures is not yet available. This investigation is closed.

Hillsborough County

- A school reported 63 individuals with ILI. Four specimens collected from ill individuals tested positive for influenza A by rapid antigen testing at local health care providers. One specimen collected from an ill individual tested positive for influenza B by rapid antigen testing at a local health care provider. No specimens were available for testing at BPHL. Influenza vaccination status for the 2017-18 season for students and staff is unknown. Control measures were reviewed with facility leadership. This investigation is closed.
- A second school reported 16 students with ILI. At least one student tested positive for influenza (test type unknown) at a local health care provider. No specimens were available for testing at BPHL. Influenza vaccination status for the 2017-18 season for students and staff is unknown. Control measures were reviewed with facility leadership. This investigation is closed.
- A child daycare reported 11 individuals with ILI. No specimens were available for testing at BPHL. The etiology of this outbreak is unknown. Influenza vaccination status for children and staff is unknown. Control measures were reviewed with facility leadership. This investigation is closed.

Brevard County

• A correctional facility reported 14 individuals with ILI. No specimens have been available for testing at BPHL thus far. The etiology of this outbreak is not yet known. Influenza vaccination status for the 2017-18 season for inmates and staff is not yet known. Information regarding control measures is not yet available. This investigation is ongoing.

Continued on page 17

Reported Influenza and ILI Outbreaks ILI = influenza-like illness BPHL = Bureau of Public Health Laboratories

Citrus County

• An assisted living facility reported five residents and four staff with ILI. One resident sought treatment at a local emergency department and was hospitalized as a result of their illness. Specimens collected from four individuals tested positive for influenza (test type unknown) at local health care providers. No specimens have been available for testing at BPHL thus far. Influenza vaccination status for the 2017-18 season for residents and staff is not yet known. Information regarding control measures is not yet available. This investigation is ongoing.

Escambia County

• A child daycare reported 10 children with ILI. At least one child tested positive for influenza A by rapid antigen testing at a local health care provider. No specimens were available for testing at BPHL. The facility estimated 56% of children were vaccinated for the 2017-18 influenza season. Influenza vaccination status for the 2017-18 season for staff is unknown. Control measures were reviewed with facility leadership. This investigation is closed.

Jackson County

• A correctional facility reported 18 individuals with ILI. Five specimens were collected for testing at BPHL. Those results are pending. The etiology of this outbreak is not yet known. Influenza vaccination status for the 2017-18 season for inmates and staff is not yet known. Control measures were reviewed with facility leadership. This investigation is ongoing.

Palm Beach County

• A skilled nursing and rehabilitation facility reported five residents and four staff members with ILI. One ill individual was hospitalized as a result of their illness. At least one ill individual tested positive for influenza A (test type unknown) at a local health care provider. No specimens have been available for testing at BPHL thus far. Influenza vaccination status for the 2017-18 season for residents is not yet known. The facility reported 83% of staff were vaccinated for the 2017-18 influenza season. Control measures were reviewed with facility leadership. This investigation is ongoing.

Duval County

- A child daycare reported 20 children and two staff members with ILI. Six specimens collected from ill individuals tested positive for influenza A (test type unknown) at local health care providers. No specimens have been available for testing at BPHL thus far. Influenza vaccination status for the 2017-18 season for children and staff is not yet known. Control measures were reviewed with facility leadership. This investigation is ongoing.
- A second child daycare reported seven children and three staff members with ILI. Five specimens collected from ill individuals tested positive for influenza A (test type unknown) at local health care providers. One specimen collected from an ill individual tested positive for influenza B (test type unknown) at a local health care provider. No specimens have been available for testing at BPHL thus far. Influenza vaccination status for the 2017-18 season for children and staff is not yet known. Control measures were reviewed with facility leadership. This investigation is ongoing.

In week 7 (ending February 17, 2018), 31 outbreaks were reported into Merlin. Updates were made to two select outbreaks during week 8.

Polk County

• A hospital reported three individuals with ILI. Two specimens collected from ill individuals tested positive for influenza B (test type unknown) at local health care providers. No specimens have been available for testing at BPHL thus far. Influenza vaccination status for the 2017-18 season for staff is not yet known. Control measures were reviewed with facility leadership. This investigation is ongoing. Update: Two additional ill individuals were reported. Two specimens were collected for testing at BPHL. Those results are pending. This investigation is closed.

Palm Beach County

• A long-term care facility reported four residents with ILI. One resident was hospitalized as a result of their illness. Two specimens collected from ill residents tested positive for influenza A by rapid antigen testing at local health care providers. No specimens have been available for testing at the Bureau of Public Health Laboratories (BPHL) thus far. The facility reported 63% of residents and 30% of staff were vaccinated for the 2017-18 influenza season. Control measures were reviewed with facility leadership. This investigation is ongoing. Update: Three additional ill residents were reported. Two additional specimens collected from ill residents tested positive for influenza B by rapid antigen testing at local health care providers. This investigation is still ongoing.

Florida ILI Surveillance System Summary

Florida ILINet \cdot Data source for figures 2 and 16

- ILINet is a nationwide surveillance system composed of sentinel providers, predominately outpatient health care providers. Florida has 88 sentinel providers enrolled in ILINet who submit weekly influenza-like illness (ILI) and total visit counts, as well as submit ILI specimens to the Bureau of Public Health Laboratories (BPHL) for confirmatory testing.
- ESSENCE-FL Syndromic Surveillance and Vital Statistics Portal · Data source for figures 1, 3-4, 8-15, 17-18, 24-25, 28; map 4
- Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE-FL) measures trends in ILI visits from emergency departments (ED) and urgent care clinics (UCC) and influenza mortality by using death certificates from the Bureau of Vital Statistics. Participating EDs and UCCs (n=309) electronically transmit visit data into ESSENCE-FL daily or hourly.
- For statewide and regional data on ILI, visits are counted as ED or UCC visits to participating facilities that include the words "influenza" or "flu" in patient chief complaints. Chief complaints with the words "fever" and "cough," or "fever" and "sore throat" are also counted as ILI.
- For pneumonia and influenza (P&I) mortality surveillance, death record literals are queried 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. Deaths counts are aggregated and presented by date of death.
- For respiratory syncytial virus (RSV) surveillance, visits are counted as ED or UCC visits to participating facilities for which RSV or RSV-associated illness is included in the discharge diagnosis. 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.
- For RSV mortality surveillance, death record literals are queried using a free-text query that searches for references to RSV on death certificates. Any mention of RSV, syncytial, and bronchiolitis in the death certificate literals, with certain exceptions, is counted as a RSV death.

County Influenza Activity in EpiGateway · Data source for figure 5, and maps 1 and 2

• County health department (CHD) epidemiologists report their county's influenza and ILI surveillance data weekly into the EpiGateway website. Influenza activity is classified as: no activity, mild, moderate, or elevated. Setting-specific influenza activity and influenza trend information is also reported. EpiGateway data provided by CHDs creates a county-by-county breakdown of influenza and ILI activity around the state.

Outbreak Reporting in Merlin · Data source for figures 6, 19-20, 26-27, map 3, and tables 2 and 3

- Merlin tracks influenza and ILI outbreak investigations by CHDs. Reports by CHDs include the type of respiratory disease causing the outbreak and settings where outbreaks are occurring. CHD epidemiologists report outbreaks of influenza or ILI into Merlin, Florida's reportable disease surveillance system.
- Outbreaks are defined as two or more cases of influenza or ILI in a specific setting.
- Bureau of Public Health Laboratories (BPHL) · Data source for figure 7 and table 1
- 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-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.

Laboratory Viral Respiratory Surveillance · Data sources for figures 29-30

• The National Respiratory and Enteric Virus Surveillance System (NREVSS) and Electronic Laboratory Reporting (ELR) collect data from laboratories in Florida on a weekly basis and monitor temporal and geographic patterns of eight commonly circulating respiratory viruses. NREVSS data is collected by the Centers for Disease Control and Prevention (CDC) and ELR data is collected by the Florida Department of Health (DOH).

Acute Respiratory Infection Epidemiology and Surveillance (ARIES) Program · Data source for figure 31

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

Case-Based Influenza Surveillance

- Death in a child whose laboratory-confirmed influenza infection has been identified as a 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 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.