



Summary

Week 10: March 4-10, 2018

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

- In week 10, influenza activity decreased. Data indicate influenza activity peaked during week 5 (ending February 3, 2018). While decreases have been observed, activity levels were still high, indicating the season is not over yet.
- No new influenza-associated pediatric deaths were confirmed. Six influenza-associated pediatric deaths have been confirmed so far in the 2017-18 influenza season.
- Deaths due to pneumonia and influenza were below expected levels.
- Twelve outbreaks of influenza or ILI were reported: four with laboratory confirmation of influenza and eight ILI. As of week 10 (ending March 10, 2018), 468 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 10, 18 cases were reported, bringing the total number of cases reported up to 292 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.
- Although influenza activity has peaked, it is still not too late to get vaccinated. 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. Influenza vaccination has been shown to significantly reduce the risk of hospitalization for influenza among adults aged ≥50 years (<https://academic.oup.com/cid/article/63/10/1304/2452971>) and the risk of death due to influenza among children (<https://www.cdc.gov/media/releases/2017/p0403-flu-vaccine.html>).
- The Centers for Disease Control and Prevention (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.
- 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 has continued to increase in recent weeks.
 - This late-season circulation of influenza B is expected.

Weekly State Influenza Activity

Widespread

For more information see page 2 ▶



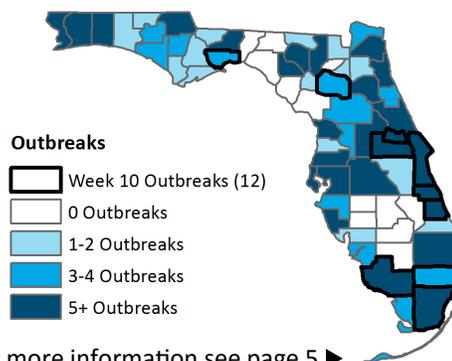
Predominately Circulating Strain

A (H3)

For more information see page 6 ▶

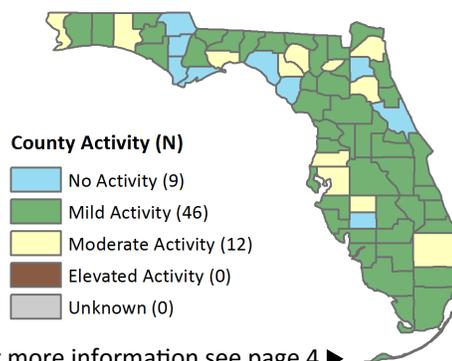


Influenza and ILI Outbreaks Reported as of 3/10/2018



For more information see page 5 ▶

County Influenza Activity



For more information see page 4 ▶

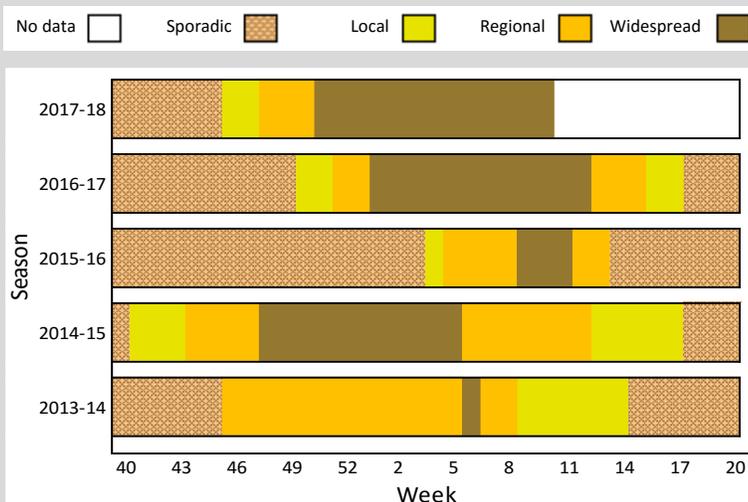
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Weekly State Influenza Activity Reporting

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 10.**



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 17 ►

Statewide ILI Visits

ED and UCC Visits for ILI by Flu Season

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

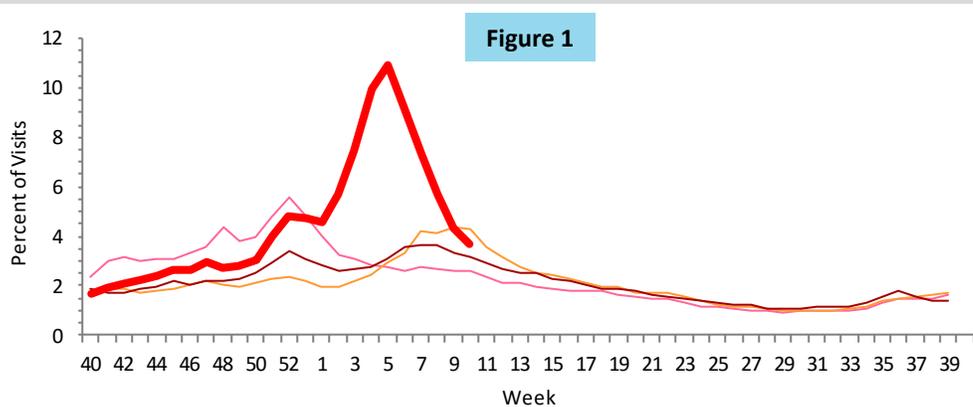


Figure 1 shows the percent of visits for ILI from ED and UCC chief complaint data for ESSENCE-FL participating facilities (n=312), week 40, 2014 to week 10, 2018.

In week 10, the percent of visits to EDs and UCCs decreased statewide and in all regions (see page 7). Levels remained slightly above peak activity observed during the 2016-17 season.

Data indicate influenza activity this season peaked during week 5 (ending February 3, 2018).



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.

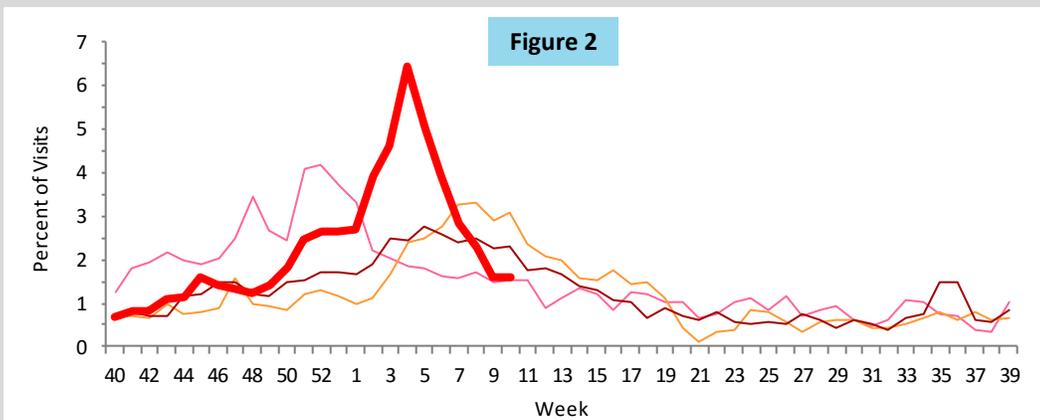
2017-18 2016-17 2015-16 2014-15

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=45), week 40, 2014 to week 10, 2018. For ILINet, ILI is defined as a fever $\geq 100^{\circ}\text{F}$ AND sore throat and/or cough in the absence of another known cause.

In week 10, the percent of visits for ILI reported by ILINet outpatient providers increased slightly and was similar to levels observed in previous seasons at this time.



P&I Deaths* from Vital Statistics by Flu Season

P&I = pneumonia and influenza

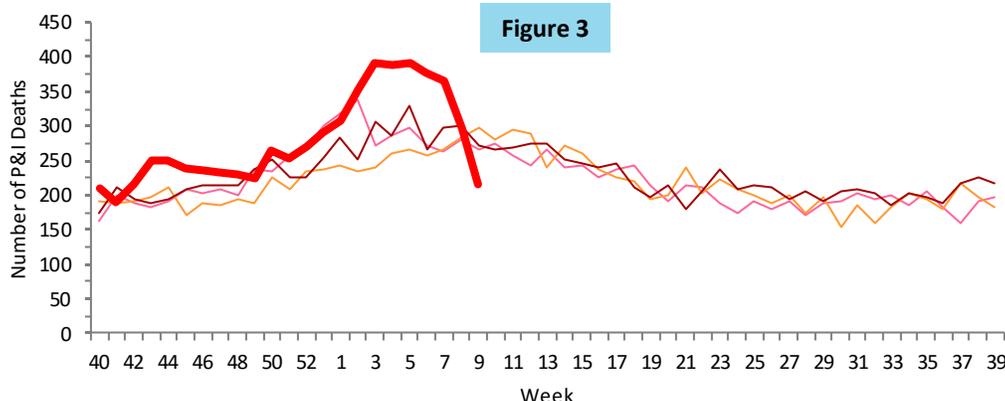


Figure 3 shows P&I deaths* for all Florida counties from the Bureau of Vital Statistics, as reported into ESSENCE-FL, week 40, 2014 to week 9, 2018.

In week 9 (ending March 3, 2018), 216 P&I deaths were reported.

The preliminary number of P&I deaths decreased and was below levels observed during previous seasons at this time.

P&I Deaths* Multi-Year Regression Model

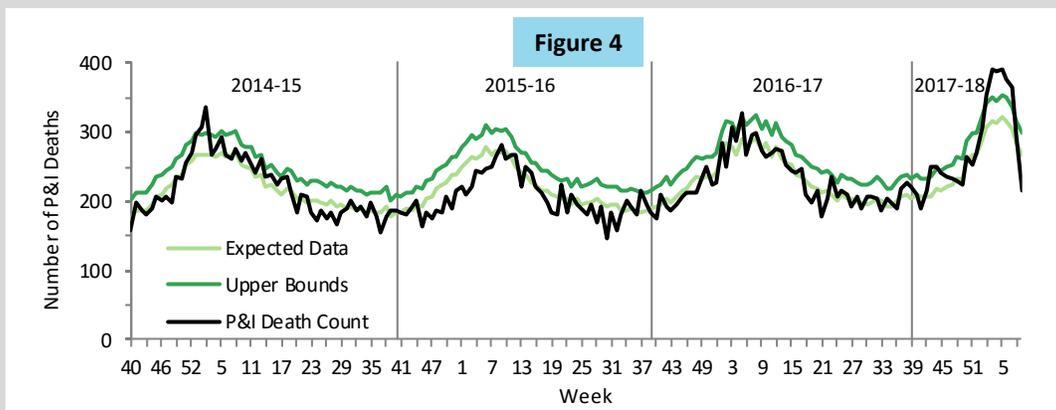
P&I = pneumonia and influenza

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 9 (ending March 3, 2018), 216 preliminary estimated P&I deaths were reported.

The upper bound of the 95% confidence interval for prediction is 267 deaths, with no excess deaths.

Increases in P&I deaths tend to be observed later in the season as at-risk populations develop complications from influenza infection.



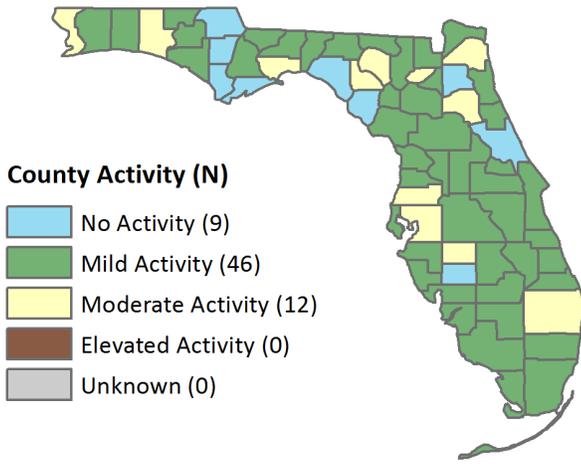
* Current season P&I death counts are preliminary estimates and may change as more data are received. The most recent data available are displayed here. Vital statistics death records received in ESSENCE-FL are considered to be complete through week 9, 2018.

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 10, 11 counties reported activity at a plateau and 56 counties reported decreasing activity.**

County Influenza Activity

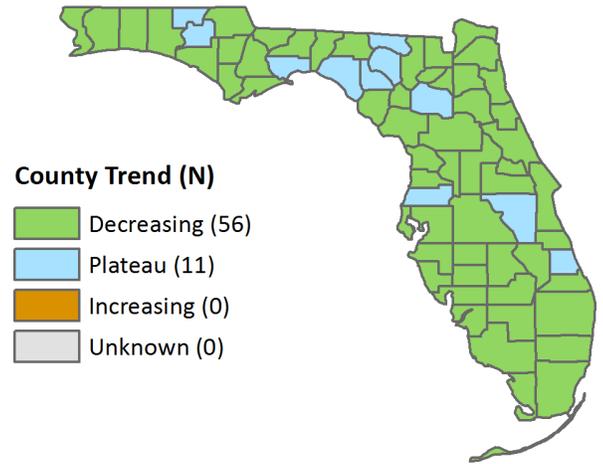
Map 1

County Influenza Activity Level for Week 10
Reported by 9:30 a.m. March 14, 2018



Map 2

County Influenza Activity Trend for Week 10
Reported by 9:30 a.m. March 14, 2018



As of 9:30 a.m. March 14, 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.

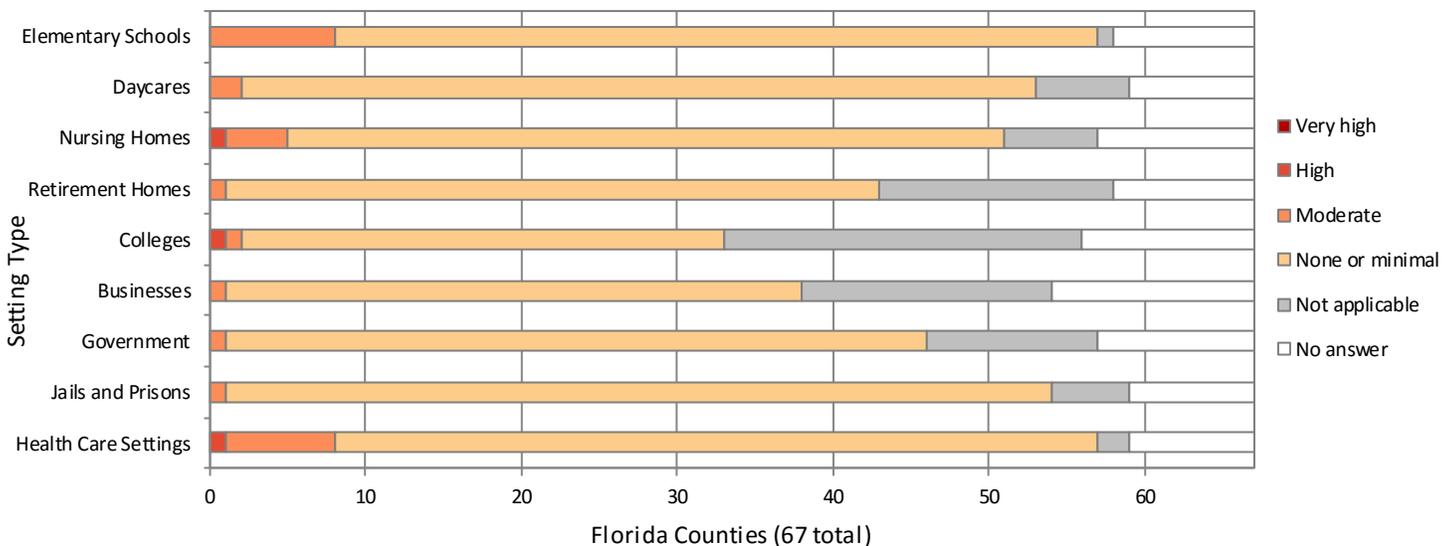
County ILI Activity by Setting Type

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 10, 2018.

Figure 5



Reported Influenza and ILI Outbreaks

ILI = influenza-like illness

Map 3 shows influenza and ILI outbreaks by county for week 40, 2017 through week 10, 2018, as reported into Merlin.

Total Outbreaks:

- In week 10, 12 outbreaks were reported: four outbreaks with laboratory evidence of influenza and eight outbreaks of ILI.
 - Influenza and ILI outbreaks were reported in 10 counties located across the state (see map 3). Of the 12 outbreaks reported, all 12 have ongoing investigations.
- The number of outbreaks reported increased slightly in week 10 (see figure 6).
 - Influenza B activity increased in recent weeks. As such, outbreaks of influenza B are expected in the coming weeks.
- A total of 468 outbreaks have been reported so far this season. Of the 468 outbreaks reported, 430 (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 10, outbreaks occurred in the following settings: one in an assisted living facility, two in nursing facilities, three in other long-term care facilities, two in child daycares, three in schools/camps, and one in other settings.
- In the 2017-18 season, outbreaks occurred in the following settings: 55 (12%) in assisted living facilities, 76 (16%) in nursing facilities, 93 (20%) in other long-term care facilities, two (0.2%) in adult daycares, 82 (18%) in child daycares, 124 (26%) in schools/camps, 16 (3%) in correctional facilities/juvenile detention centers, six (1%) in hospitals, two (0.4%) in shelters, and 12 (3%) in other settings.

Laboratory Testing:

- None of the 12 outbreaks reported in week 10 have had specimens collected and submitted to the Bureau of Public Health Laboratories for testing thus far.

Control Measures:

- Outbreak control measures were reviewed with facility leadership for four of the 12 reported outbreaks by county health departments (CHDs).
 - Facilities administered antiviral treatment for ill individuals in two of three outbreaks where CHDs recommended antiviral treatment. In one outbreak, antiviral treatment was administered ahead of the CHD recommendation and within the same day as CHD recommendation for one outbreak. Date of administration was unknown for one outbreak where a CHD recommended antiviral treatment.
 - Facilities administered antiviral chemoprophylaxis of at-risk individuals in two of four outbreaks where CHDs recommended antiviral chemoprophylaxis. In these two outbreaks, antiviral chemoprophylaxis was administered in the same day as the CHD recommendation.

Hospitalizations and Deaths:

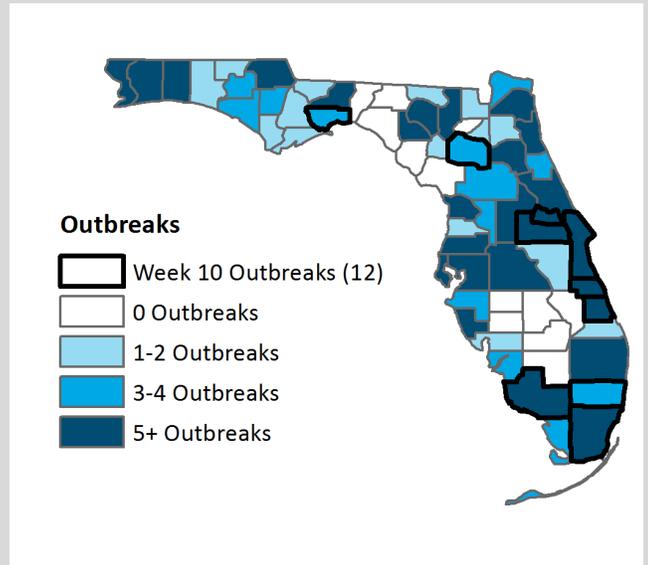
- Of the 12 outbreaks reported in week 10, none had hospitalizations or deaths.
- Of the 468 outbreaks reported so far this season, people were hospitalized in 109 outbreaks (23%) and deaths were reported in 26 outbreaks (6%).

For detailed information on select outbreaks reported during week 10, see page 16. For updates on select outbreaks reported in week 9 (ending March 3, 2018), see page 16.

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.

Map 3

Influenza and ILI Outbreaks by County
Week 40, 2017 through Week 10, 2018



Reported Influenza and ILI Outbreaks by Facility Type

ILI = influenza-like illness

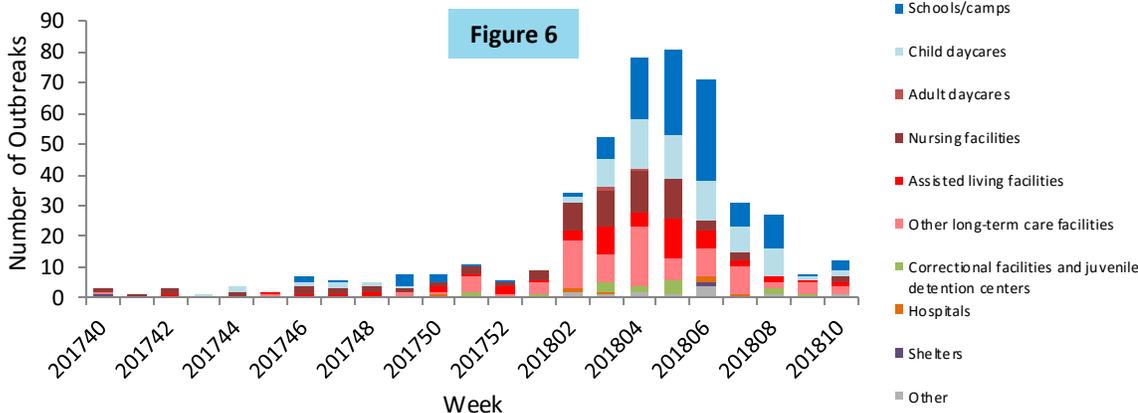


Figure 6 shows the distribution of outbreaks by facility as reported in Merlin, week 40, 2017-week 10, 2018 by facility type.

In week 10, 12 outbreaks were reported. The number of influenza and ILI outbreaks increased in week 10. An overall decline in the number of outbreaks has been observed over the last few weeks.

BPHL Viral Influenza Specimen Testing

BPHL = Bureau of Public Health Laboratories

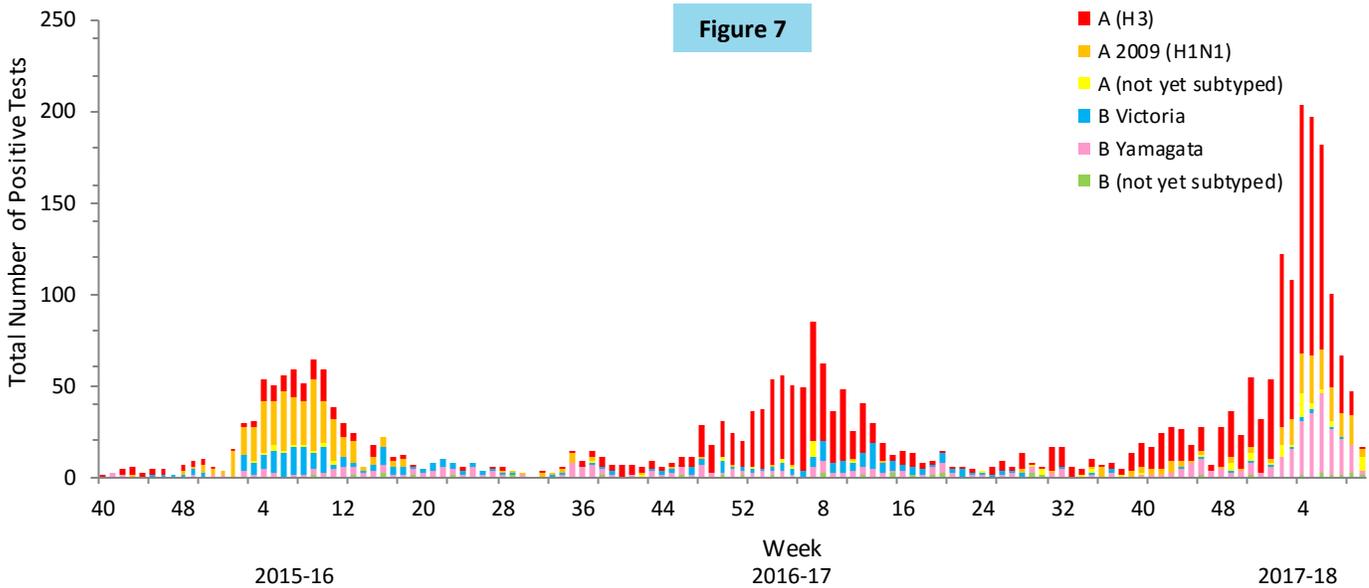


Figure 7

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 increased steadily in recent weeks. An increase in influenza B activity has also been observed nationally. This late-season circulation of influenza B is expected.

**Table 1: Bureau of Public Health Laboratories (BPHL) Viral Surveillance by Lab Event Date*
Reported by 10:00 a.m. March 14, 2018**

Influenza Type	Current Week 10	Previous Week 9	Current 2017-18 Season
Total Specimens Tested	31	78	2232
Influenza positive specimens (% of total specimen tested)	16 (51.6%)	47 (60.3%)	1432 (64.2%)
Influenza A 2009 (H1N1) (% of influenza positives)	4 (25.0%)	16 (34.0%)	180 (12.6%)
Influenza A (H3) (% of influenza positives)	1 (6.3%)	13 (27.7%)	929 (64.9%)
Influenza A not yet subtyped (% of influenza positives)	8 (50.0%)	-	49 (3.4%)
Influenza B Yamagata (% of influenza positives)	2 (12.5%)	16 (34.0%)	251 (17.5%)
Influenza B Victoria (% of influenza positives)	-	-	13 (0.9%)
Influenza B not yet subtyped (% of influenza positives)	1 (6.3%)	2 (4.3%)	10 (0.7%)

*“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

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=312), by ESSENCE-FL Regional Domestic Security Task Force regions (see map 4) from week 40, 2014 to week 10, 2018.* **In week 10, the**

percent of ED and UCC visits for ILI decreased in all regions. Levels were similar to those observed in previous seasons at this time in regions 1-5. Levels were slightly above those observed in previous seasons at this time in regions 6 and 7.

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

Figure 8: Region 1 (20 facilities)

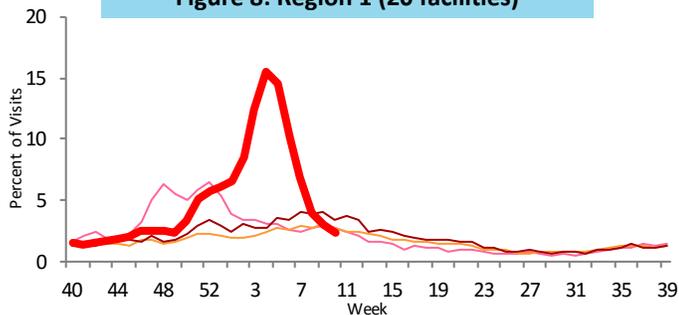


Figure 9: Region 2 (10 facilities)

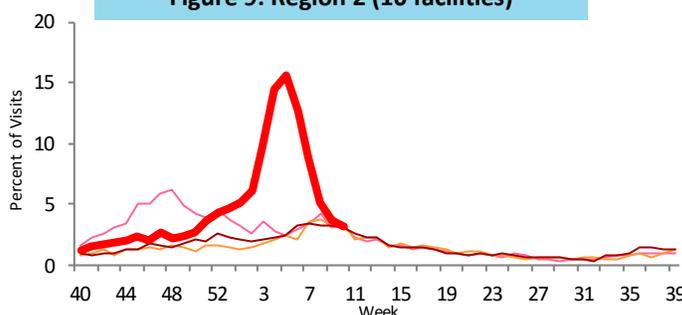


Figure 10: Region 3 (36 facilities)

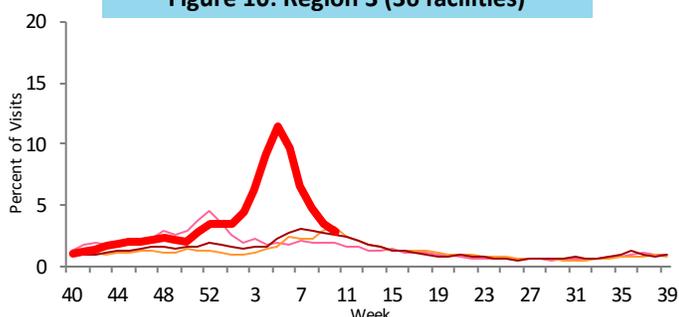


Figure 11: Region 4 (54 facilities)

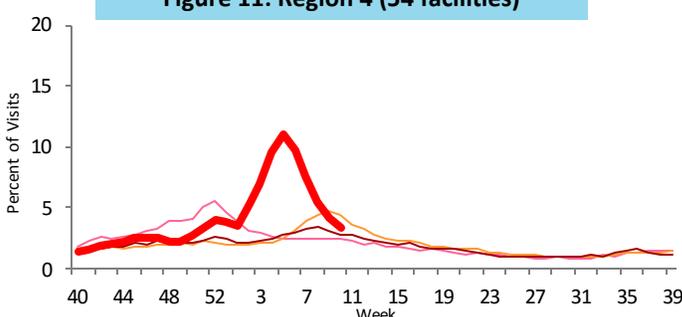


Figure 12: Region 5 (74 facilities)

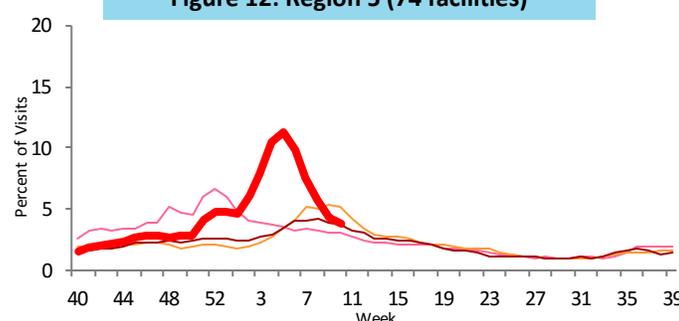


Figure 13: Region 6 (33 facilities)

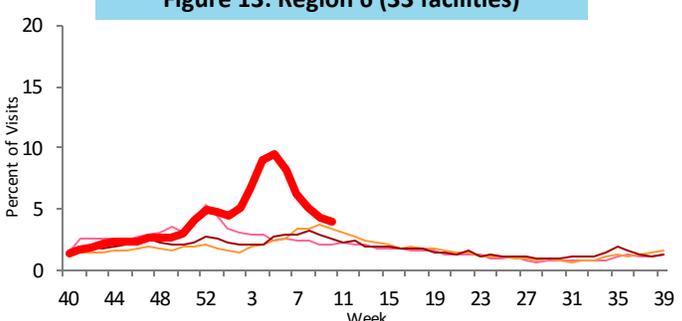
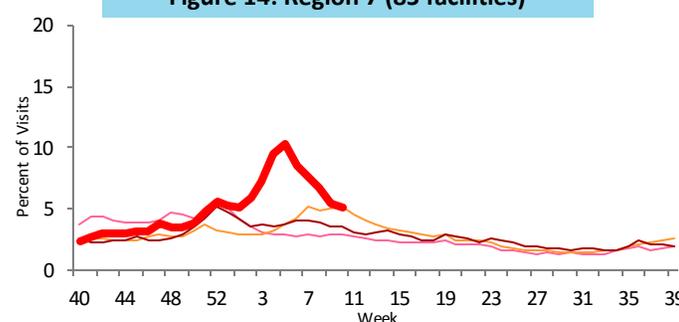
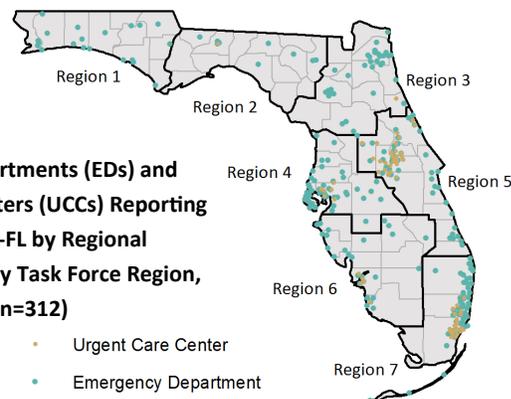


Figure 14: Region 7 (85 facilities)



Map 4

Emergency Departments (EDs) and Urgent Care Centers (UCCs) Reporting Data to ESSENCE-FL by Regional Domestic Security Task Force Region, March 14, 2018 (n=312)



*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.

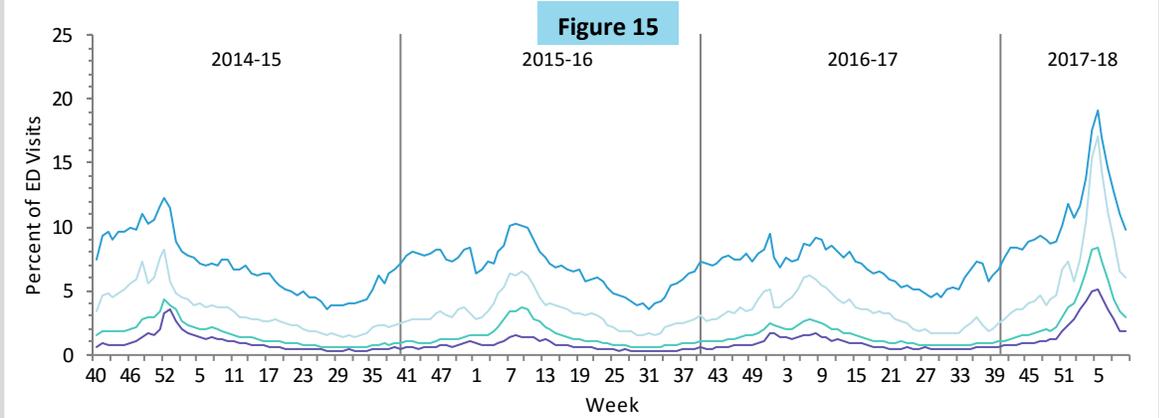
0 to 4 years old 5 to 24 years old 25 to 64 years old ≥65 years old

ED and UCC Visits for ILI by Age Group

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

Figure 15 shows the percent of visits for ILI from ED and UCC chief complaints by age group for ESSENCE-FL participating facilities (n=312), week 40, 2014 to week 10, 2018.

In week 10, ED and UCC visits for ILI decreased in all age groups. Levels remained above those observed in previous seasons at this time in the ≥65 age group. Levels were similar to those observed in previous seasons in all other age groups.



Visits to Outpatient Providers for ILI by Age Group*

ILI = influenza-like illness

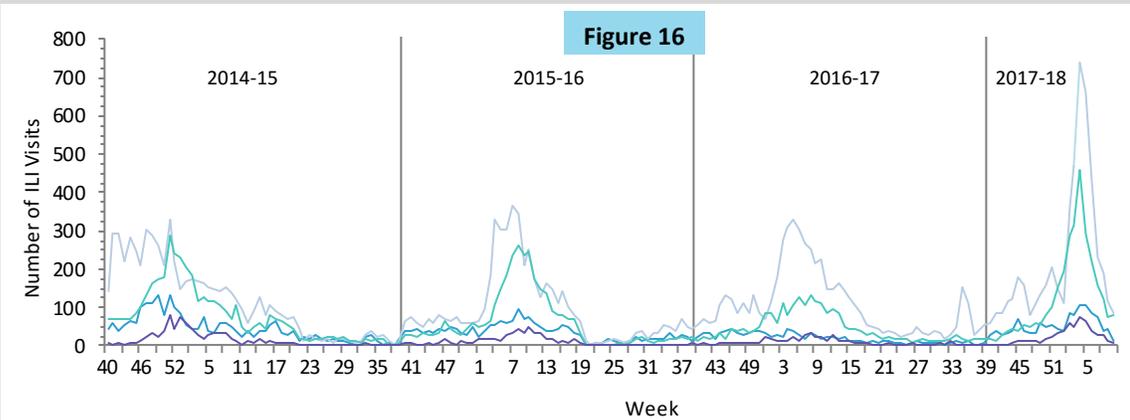


Figure 16 shows the number of visits for ILI reported by ILINet outpatient providers statewide (n=45) by age group, week 40, 2014 to week 10, 2018.

In week 10, the number of visits for ILI decreased in all age groups. Levels were below those observed in previous seasons at this time in all age groups.

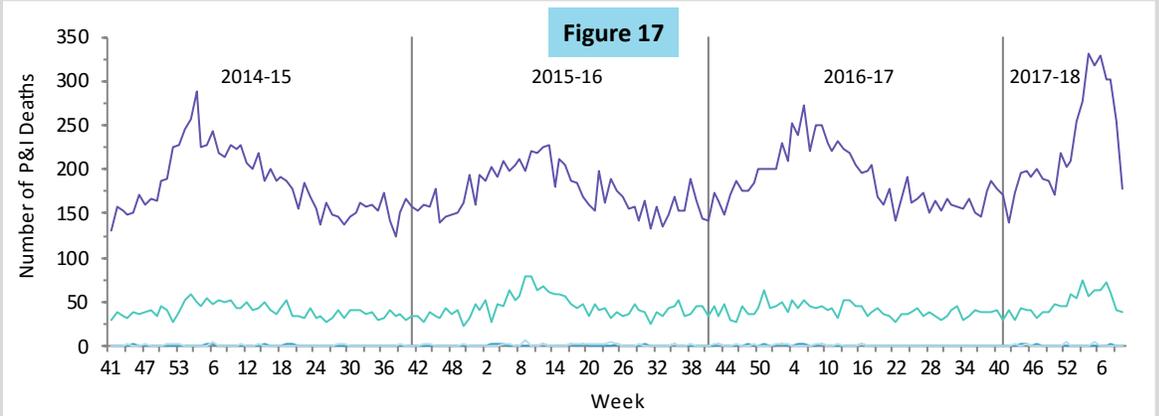
*Data presented here are counts, not proportions. This is because age group denominator data is not available through ILINet.

P&I Deaths* from Vital Statistics by Age Group

P&I = pneumonia and influenza

Figure 17 shows P&I deaths* for all Florida counties by age group, as reported into ESSENCE-FL, week 40, 2014 to week 9, 2018.

In week 9 (ending March 3, 2018), the preliminary number of P&I deaths decreased overall. Levels were similar to or below levels observed in previous seasons at this time in all age groups.



*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 9, 2018.

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

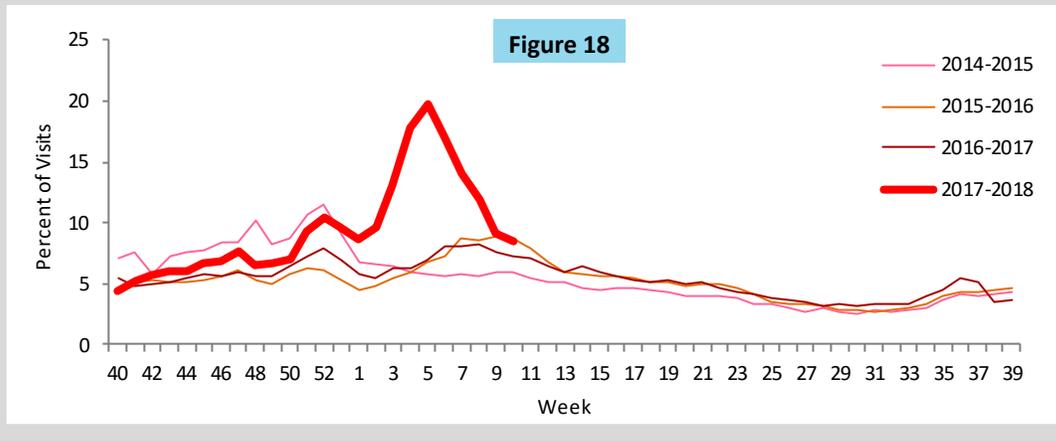


Figure 18 shows the percent of ILI visits among all ED and UCC visits for children ≤18 years old, as reported into ESSENCE-FL, week 40, 2014 to week 10, 2018.

In week 10, the percent of ILI visits among all ED and UCC visits for children ≤18 years old decreased but remained above peak activity observed during the 2016-17 influenza season.

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 10, 12 total outbreaks were reported; five of these 12 were in facilities serving children (schools/camps and child daycares). Of the five outbreaks reported in facilities serving children, one outbreak had laboratory evidence of influenza and etiology has not yet been determined for the remaining four.
 - Influenza and ILI outbreaks in facilities serving children were reported in five counties located in the northwest, northeast, and southern parts of the state. Of the five outbreaks reported, all have ongoing investigations.

Settings:

- In week 10, outbreaks occurred in the following settings serving children: three in schools/camps and two in child daycares.

Laboratory testing:

- Of the five outbreaks reported in facilities serving children during week 10, 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 two of the outbreaks reported.

Hospitalizations and deaths:

- In the five outbreaks reported in facilities serving children during week 10, none had hospitalizations or deaths.

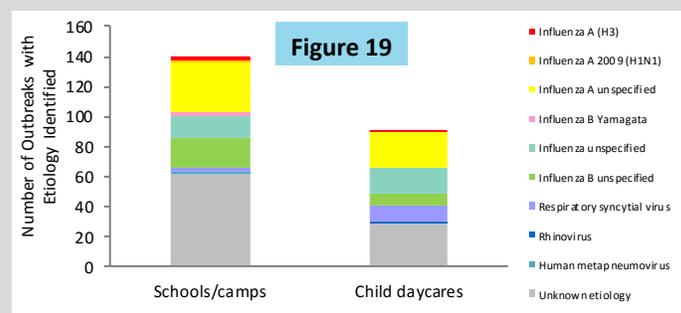


Figure 19 shows the distribution of each outbreak etiology reported in facilities serving children (schools/camps and child daycares) as reported into Merlin, week 40, 2017 through week 10, 2018. Outbreaks with multiple etiologies are displayed more than once.

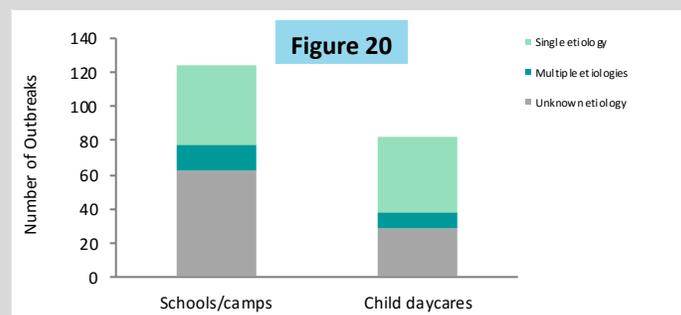


Figure 20 shows the number of outbreaks reported in facilities serving children (schools/camps and child daycares) by single, multiple or unknown etiology as reported into Merlin, week 40, 2017 through week 10, 2018.

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 10, 2018.

In week 10, 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 21: Influenza-Associated Pediatric Deaths by Vaccination Status

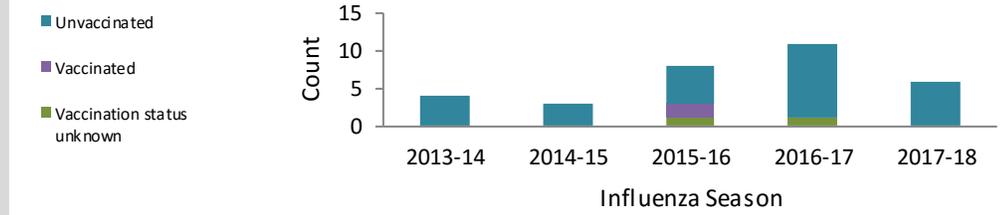


Figure 22: Influenza-Associated Pediatric Deaths by Medical History

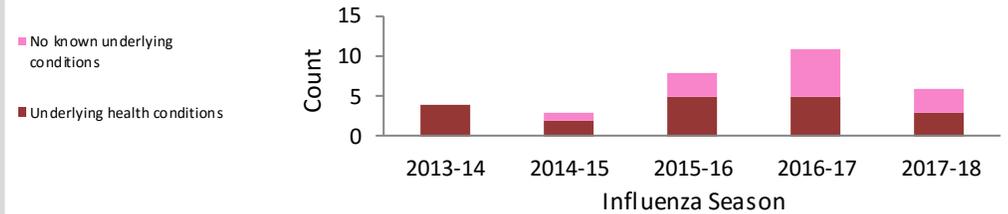
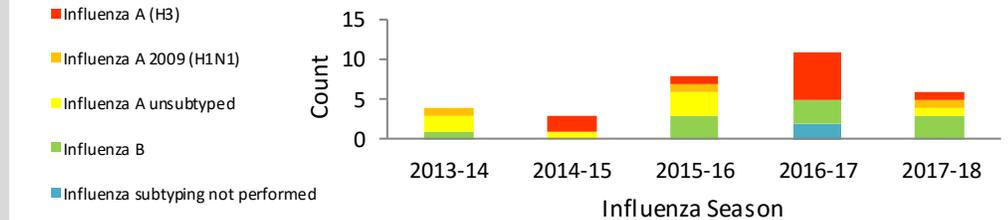


Figure 23: Influenza-Associated Pediatric Deaths by Strain Type



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.

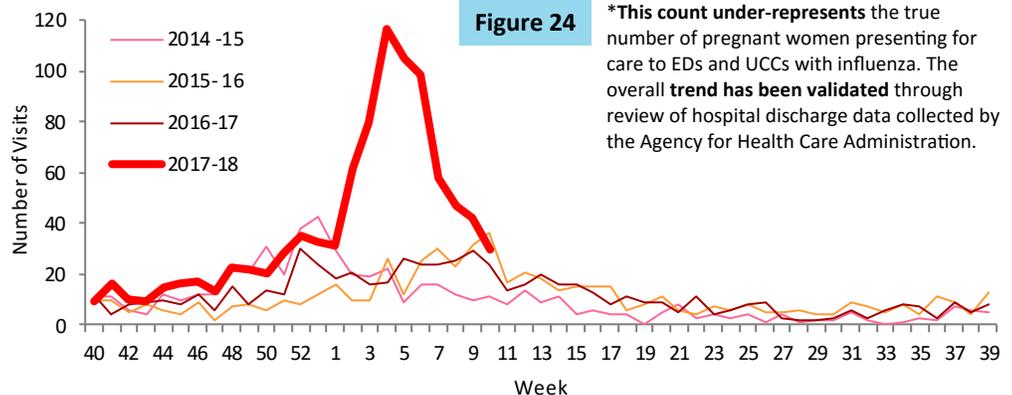
ED and UCC Visits for ILI by Pregnant Women

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 ESSENCE-FL, week 40, 2014 to week 10, 2018.

In week 10, the number of visits to EDs and UCCs by pregnant women with mention of influenza decreased and was within levels observed during previous seasons at this time. Pregnant women who have not yet been vaccinated this season should get vaccinated as soon as possible.



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.

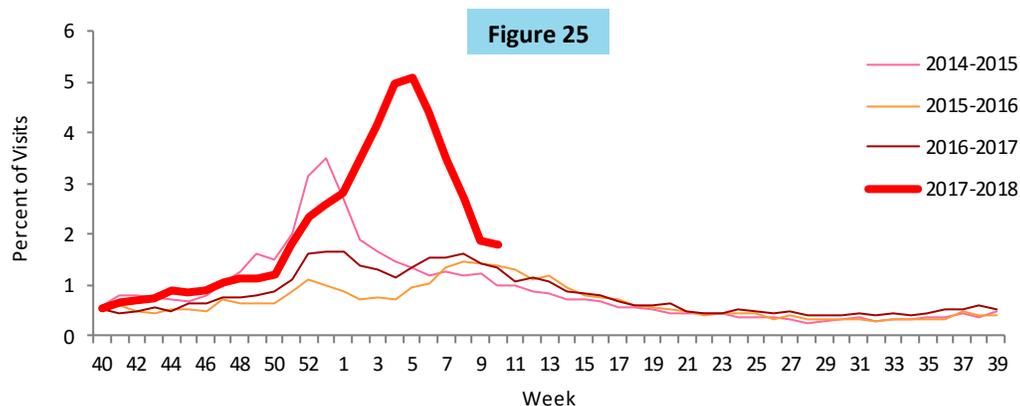
ED and UCC Visits for ILI by Adults ≥65 Years Old

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 ESSENCE-FL, week 40, 2014 to week 10, 2018.

In week 10, the percent of ILI visits among all ED and UCC visits for adults ≥65 years old decreased slightly but remained above levels observed in previous seasons at this time.

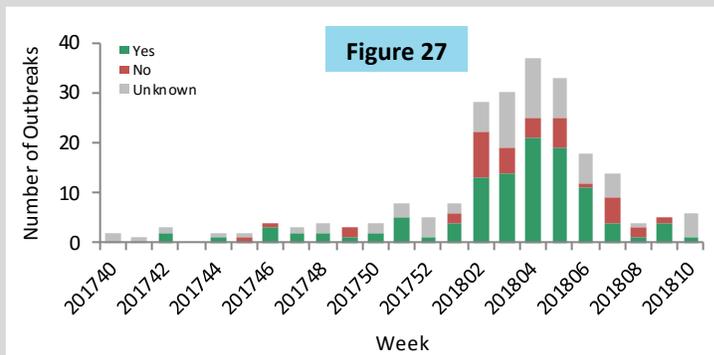
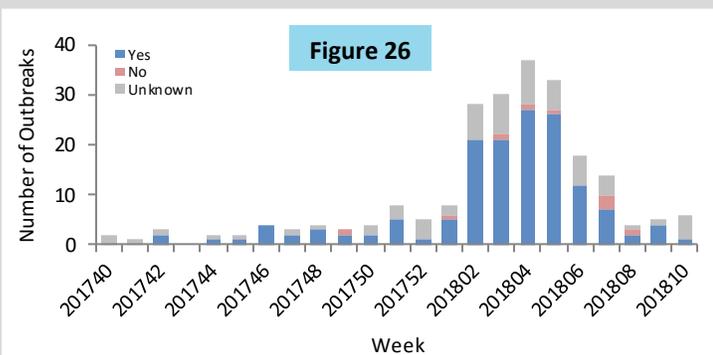
Adults aged ≥65 years are at high-risk for complications due to influenza infection. People in this age group who have not yet been vaccinated for the 2017-18 season should get vaccinated as soon as possible.



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 10, a total of 12 outbreaks were reported; six of these 12 outbreaks were reported in facilities serving adults ≥65 years old: three outbreaks with laboratory evidence of influenza and three outbreaks of ILI.
 - Influenza and ILI outbreaks in facilities serving adults ≥65 years old were reported in five counties located in the central and southern regions of the state. Of the six outbreaks reported in facilities serving adults ≥65 years old, all have ongoing investigations.

Settings:

- In week 10, outbreaks occurred in the following settings: one in an assisted living facility, two in nursing facilities, and three in other long-term care facilities.

Laboratory testing:

- Of the six outbreaks reported in facilities serving adults ≥65 years old during week 10, none have had specimens collected and submitted to the Bureau of Public Health Laboratories (BPHL) for testing so far.

Control measures:

- Outbreak control measures were reviewed with facility leadership for one of the six reported outbreaks by county health departments (CHDs).
 - Facilities administered antiviral treatment for ill individuals in one of the two outbreaks where CHDs recommended antiviral treatment.
 - Facilities administered antiviral chemoprophylaxis of at-risk individuals in one of the two outbreaks where CHDs recommended antiviral chemoprophylaxis.

Hospitalizations and deaths:

- Of the six outbreaks reported in facilities serving adults ≥65 years old during week 10, none had hospitalizations or deaths reported.

Summary

Week 10: March 4-10, 2018

Respiratory syncytial virus (RSV) activity:

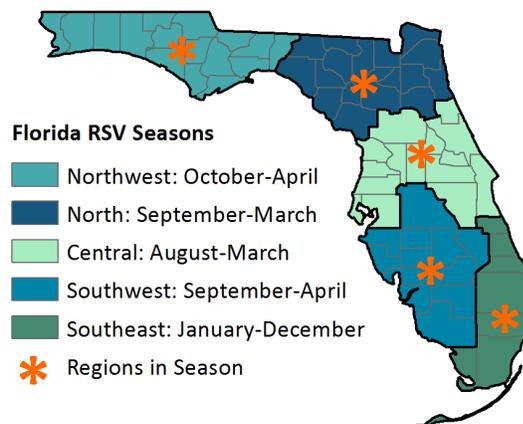
- In week 10, the percent of children <5 years old diagnosed with RSV at emergency departments and urgent care centers decreased, but was slightly above levels observed during previous seasons at this time. It is unclear how the influenza season is impacting RSV activity.
- All regions are currently in RSV season.
- No new RSV-associated pediatric deaths were identified in week 10. 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 $\geq 10\%$.
- 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.

Map 5

Florida Respiratory Syncytial Virus (RSV) Regional Season Breakdown



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 17 ►

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

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

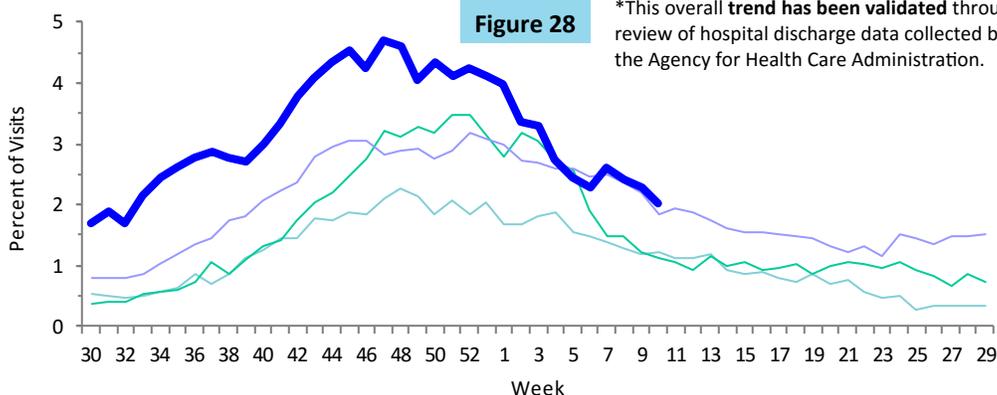


Figure 28

*This overall trend has been validated through review of hospital discharge data collected by the Agency for Health Care Administration.

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=312), week 30, 2014 to week 10, 2018.

In week 10, the percent of children presenting to participating EDs and UCCs for care with RSV decreased but was slightly above levels observed in previous seasons at this time.

Legend for Figure 28:
 2017-18 (dark blue line)
 2016-17 (purple line)
 2015-16 (green line)
 2014-15 (light blue line)

Laboratory RSV Surveillance

RSV = respiratory syncytial virus

Figure 29 shows the percent of specimens testing positive for RSV, as reported by hospital laboratories (n=8), week 30, 2014 to week 10, 2018.

In week 10, the percent of specimens RSV positive decreased. It is unclear how the widespread circulation of influenza is impacting detection of RSV.

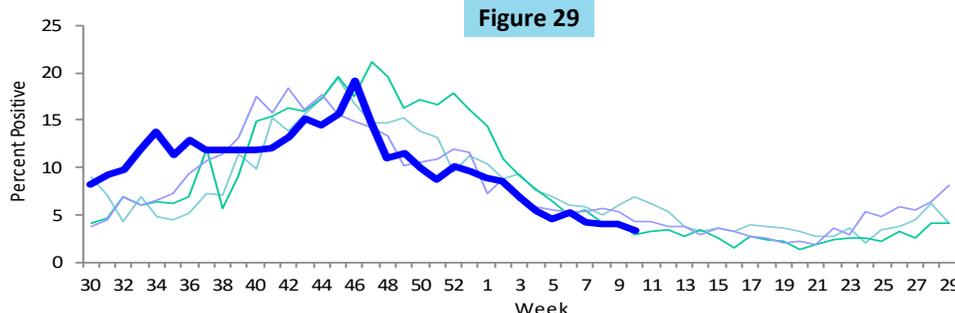


Figure 29

Legend for Figure 29:
 2017-18 (dark blue line)
 2016-17 (purple line)
 2015-16 (green line)
 2014-15 (light blue line)

Other Respiratory Virus Surveillance

Statewide activity:

- The percent of specimens testing positive for rhinovirus decreased but remained higher than other respiratory viruses under surveillance.

Enterovirus D68 (EV-D68) activity:

- In week 10, 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>.

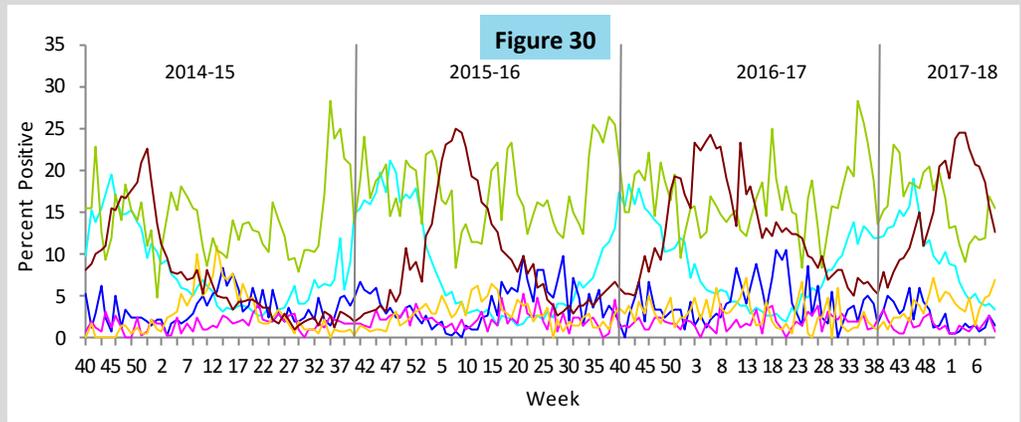
Outbreaks:

- In week 10, 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=8), week 40, 2014 to week 10, 2018.

The percent testing positive for rhinovirus decreased but remained higher than all 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

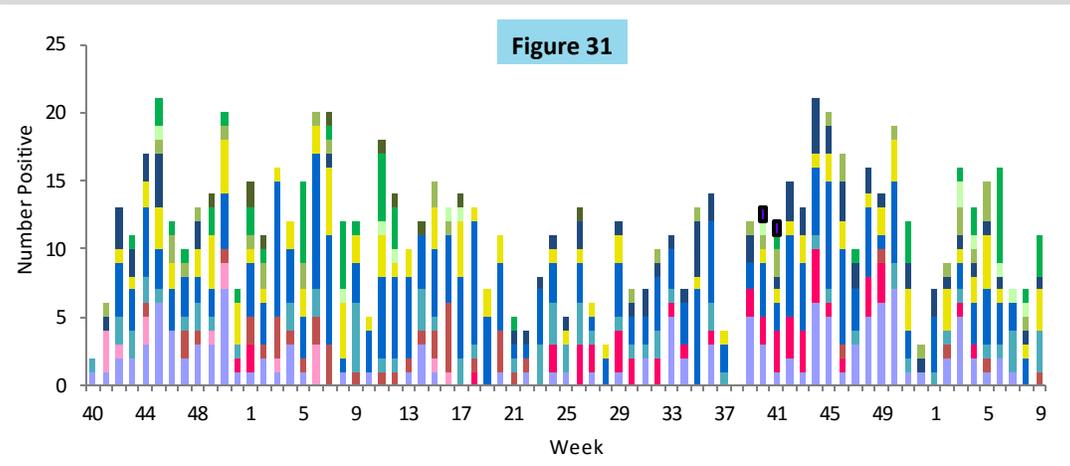
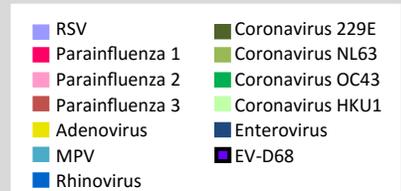


Figure 31 shows the number of specimens testing positive for 12 common respiratory viruses, as reported by BPHL and ARIES outpatient providers statewide (n=6), week 40, 2016 to week 9, 2018.

In week 9 (ending March 3, 2018), specimens submitted by ARIES providers tested positive for parainfluenza 3, MPV, adenovirus, enterovirus, and coronavirus OC43 by PCR at BPHL.



*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 9, 2018. Laboratory results for specimens that have not yet been tested in full will be included in future reports.

Table 2: Week 10 Outbreaks: Summary of Florida Influenza and ILI Outbreaks by Setting

Setting	Number of outbreaks (percent of outbreaks)	Implicated viruses
Schools and camps	3 (25%)	<ul style="list-style-type: none"> 1 outbreak of influenza B unspecified 2 outbreaks of unknown etiology
Child daycares	2 (17%)	<ul style="list-style-type: none"> 2 outbreaks of unknown etiology
Adult daycares	0 (0%)	<ul style="list-style-type: none"> No outbreaks
Correctional facilities and juvenile detention centers	0 (0%)	<ul style="list-style-type: none"> No outbreaks
Nursing facilities	2 (17%)	<ul style="list-style-type: none"> 1 outbreak of influenza A unspecified 1 outbreak of influenza B unspecified
Assisted living facilities	1 (8%)	<ul style="list-style-type: none"> 1 outbreak of unknown etiology
Other long-term care facilities	3 (25%)	<ul style="list-style-type: none"> 1 outbreak of influenza A unspecified and influenza B unspecified 2 outbreaks of unknown etiology
Hospitals	0 (0%)	<ul style="list-style-type: none"> No outbreaks
Shelters	0 (0%)	<ul style="list-style-type: none"> No outbreaks
Other	1 (8%)	<ul style="list-style-type: none"> 1 outbreak of unknown etiology
Total	12 (100%)	<ul style="list-style-type: none"> 1 outbreak of influenza A unspecified 1 outbreak of influenza A unspecified and influenza B unspecified 2 outbreaks of influenza B unspecified 8 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	124 (26%)	<ul style="list-style-type: none"> 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) 21 outbreaks of influenza A unspecified 11 outbreaks of influenza A unspecified and influenza B unspecified 1 outbreak of influenza A unspecified, influenza B unspecified, and human metapneumovirus (MPV) 2 outbreaks of influenza B Yamagata lineage 7 outbreaks of influenza B unspecified 14 outbreaks of influenza unspecified 1 outbreak of influenza unspecified and respiratory syncytial virus (RSV) 1 outbreak of RSV 62 outbreaks of unknown etiology
Child daycares	82 (18%)	<ul style="list-style-type: none"> 1 outbreak of influenza A (H3) 17 outbreaks of influenza A unspecified 7 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 29 outbreaks of unknown etiology
Adult daycares	2 (0.4%)	<ul style="list-style-type: none"> 1 outbreak of influenza A (H3) and influenza B unspecified 1 outbreak of influenza B unspecified
Correctional facilities and juvenile detention centers	16 (3%)	<ul style="list-style-type: none"> 8 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 2 outbreaks of influenza B Yamagata lineage 1 outbreak of adenovirus

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)	Implicated viruses
Nursing facilities	76 (16%)	<ul style="list-style-type: none"> • 16 outbreaks of influenza A (H3) • 1 outbreak of influenza A (H3) and influenza A 2009 (H1N1) • 1 outbreak of influenza A (H3), influenza B unspecified, and respiratory syncytial virus (RSV) • 1 outbreak of influenza A (H3) and parainfluenza 1 • 20 outbreaks of influenza A unspecified • 4 outbreaks of influenza A unspecified and influenza B unspecified • 8 outbreaks of influenza B unspecified • 1 outbreak of influenza B unspecified and coronavirus HKU1 • 2 outbreaks of influenza B Yamagata lineage • 1 outbreak of influenza B Yamagata lineage and human metapneumovirus (MPV) • 1 outbreak 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	55 (12%)	<ul style="list-style-type: none"> • 7 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 • 1 outbreak of influenza A 2009 (H1N1) • 22 outbreaks of influenza A unspecified • 4 outbreaks of influenza A unspecified and influenza B unspecified • 2 outbreaks of influenza B unspecified • 4 outbreaks of influenza unspecified • 2 outbreaks of RSV • 10 outbreaks of unknown etiology
Other long-term care facilities	93 (20%)	<ul style="list-style-type: none"> • 13 outbreaks of influenza A (H3) • 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 coronavirus HKU1 • 1 outbreak of influenza A (H3) and coronavirus NL63 • 1 outbreak of influenza A (H3) and rhinovirus • 1 outbreak of influenza A (H3), rhinovirus, and enterovirus • 1 outbreak of influenza A 2009 (H1N1) • 26 outbreaks of influenza A unspecified • 15 outbreaks of influenza A unspecified and influenza B unspecified • 2 outbreaks of influenza B Yamagata lineage • 1 outbreak of influenza B Yamagata lineage, influenza A unspecified, and RSV • 1 outbreak of influenza B Yamagata lineage and MPV • 2 outbreaks of influenza B unspecified • 2 outbreaks of influenza unspecified • 1 outbreak of rhinovirus • 22 outbreaks of unknown etiology
Hospitals	6 (1%)	<ul style="list-style-type: none"> • 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%)	<ul style="list-style-type: none"> • 1 outbreak of influenza A (H3) • 1 outbreak of influenza A (H3) and rhinovirus
Other	12 (3%)	<ul style="list-style-type: none"> • 4 outbreaks of influenza A unspecified • 1 outbreak of influenza unspecified • 7 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 of outbreaks)	Implicated viruses
Total	468 (100%)	<ul style="list-style-type: none"> • 47 outbreaks of influenza A (H3) • 5 outbreaks of influenza A (H3) and influenza A 2009 (H1N1) • 1 outbreak of influenza A (H3), influenza A 2009 (H1N1), 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 unspecified • 1 outbreak of influenza A (H3), influenza B unspecified, parainfluenza 1, and human metapneumovirus (MPV) • 1 outbreak of influenza A (H3), influenza B unspecified, and respiratory syncytial virus (RSV) • 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 rhinovirus • 1 outbreak of influenza A (H3), rhinovirus, and enterovirus • 4 outbreaks of influenza A 2009 (H1N1) • 112 outbreaks of influenza A unspecified • 41 outbreaks of influenza A unspecified and influenza B unspecified • 1 outbreak of influenza A unspecified, influenza B unspecified, and MPV • 8 outbreaks of influenza B Yamagata lineage • 1 outbreak of influenza B Yamagata lineage, influenza A unspecified, and RSV • 2 outbreaks of influenza B Yamagata lineage and MPV • 1 outbreak of influenza B Yamagata lineage and RSV • 23 outbreaks of influenza B unspecified • 1 outbreak of influenza B unspecified and coronavirus HKU1 • 40 outbreaks of influenza unspecified • 2 outbreaks of influenza unspecified and RSV • 12 outbreaks of RSV • 1 outbreak of RSV and rhinovirus • 2 outbreaks of rhinovirus • 1 outbreak of adenovirus • 147 outbreaks of unknown etiology

Reported Influenza and ILI Outbreaks

ILI = influenza-like illness

BPHL = Bureau of Public Health Laboratories

In week 10, 12 outbreaks were reported in Merlin: four outbreaks with laboratory evidence of influenza and eight outbreaks of ILI. Of the eight outbreaks reported during week 10 (ending March 10, 2018), one select outbreak is summarized below.

Brevard County

- **A long-term care facility** reported 23 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 residents and staff is not yet known. Information regarding control measures is not yet available. This investigation is ongoing.

In week 9 (ending March 3, 2018), eight outbreaks were reported into Merlin. Updates were made to three select outbreaks during week 10.

Sumter County

- **A correctional facility** reported six 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. Control measures were reviewed with facility leadership. This investigation is ongoing. **Update: The facility reported one additional individual with ILI. One specimen was collected for testing at BPHL. The specimen tested positive for influenza A (H3) by PCR at BPHL. This investigation is still ongoing.**

Holmes County

- **A long-term care facility** reported 44 residents and 12 staff with ILI. Two individuals sought treatment at local emergency departments and were hospitalized as a result of their illness. One individual died as a result of their illness. No specimens have been available for testing at BPHL thus far. The etiology of this outbreak is not yet known. The facility estimated 73% of residents and 53% of staff were vaccinated for the 2017-18 influenza season. Control measures were reviewed with facility leadership. This investigation is ongoing. **Update: Three specimens were collected from ill individuals for testing at BPHL. Of those, two specimens tested positive for influenza B Yamagata lineage by PCR and one specimen tested positive for both influenza B Yamagata lineage and human metapneumovirus by PCR at BPHL. This investigation is still ongoing.**

St. Johns County

- **A long-term care facility** reported 13 residents and five staff with ILI. One individual sought treatment at a local emergency department and two individuals were hospitalized as a result of their illness. A specimen collected from one individual tested positive for influenza A by PCR at a local health care provider. At least one specimen was collected for testing at BPHL. Those results are pending. The facility reported 90% of residents and 36% of staff were vaccinated for the 2017-18 influenza season. Control measures were reviewed with facility leadership. This investigation is ongoing. **Update: Three specimens were collected from ill individuals for testing at BPHL. Of those, one specimen tested positive for influenza A by PCR at BPHL. Subtyping results are pending. This investigation is still ongoing.**

Florida ILINet · 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=312) 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.