

Summary

Week 51: December 20-26, 2015

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

- Florida reported sporadic activity to the Centers for Disease Control and Prevention (CDC) in week 51.
- **Overall the influenza season has been mild, however influenza activity has increased in week 51 and peak activity is yet to come.** While activity has remained low, early season low activity levels are not necessarily predictive of an overall mild influenza season.
 - Thus far, influenza A (H3) is the predominately circulating strain. Seasons where influenza A (H3) is the predominately circulating strain are generally more severe, particularly in children <5 years old and adults ≥65 years old, than other seasons.
- The preliminary estimated number of deaths due to pneumonia and influenza is below levels seen in previous years at this time.
- In week 51, all counties reported mild or no influenza activity.
- No influenza-associated pediatric deaths were reported in week 51, however one influenza-associated pediatric death has been reported so far in the 2015-16 influenza season.
 - While rare, sadly, Florida receives reports of influenza-associated pediatric deaths each year. Most deaths occur in unvaccinated children with underlying health conditions.
- No outbreaks of influenza or ILI were reported in week 51.
- In week 51, the percent of specimens testing positive for influenza at the Bureau of Public Health Laboratories (BPHL) decreased and is below levels seen in previous years at this time.
- In the 2015-16 season, BPHL has identified influenza A (H3) as the most commonly circulating influenza virus so far in Florida: 51% of 53 influenza positive specimens were typed as influenza A (H3). Low levels influenza A (2009 H1N1), influenza B Yamagata lineage, and influenza B Victoria lineage have also been identified as circulating at this time.

National influenza activity:

- National influenza activity levels are increasing but remain low.
- While influenza A (H3) has been most predominately circulating strain since October 1, in the past two weeks, influenza A (2009 H1N1) has predominated.
- **The vast majority of circulating flu viruses analyzed this season remain similar to the vaccine virus components for this season's flu vaccines.** CDC recommends an annual flu vaccine for everyone 6 months of age and older. **If you have not gotten vaccinated yet this season, you should get vaccinated now.**
 - To learn more, please visit: www.cdc.gov/flu/weekly/.
- Highly pathogenic avian influenza (HPAI) H5 viruses have been identified in U.S. backyard and commercial flocks of birds during the spring and summer of 2015. HPAI H5 has not been identified in Florida birds, but identifications are anticipated. No human HPAI infections have been identified in Florida or the rest of the nation.
 - To learn more, please visit: www.floridahealth.gov/novelflu.

Weekly State Influenza Activity

Sporadic

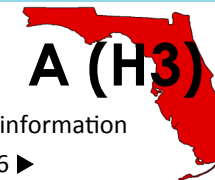
For more information
see page 2 ►



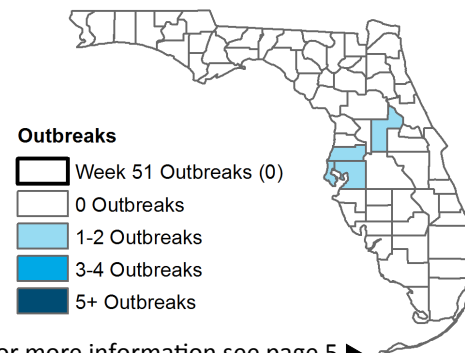
Predominately Circulating Strain

A (H3)

For more information
see page 6 ►

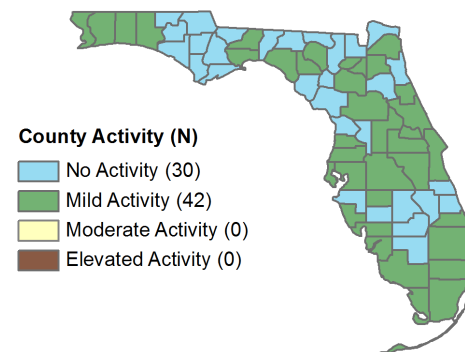


Influenza and ILI Outbreaks Reported as of 12/30/15



For more information see page 5 ►

County Influenza Activity



For more information see page 4 ►

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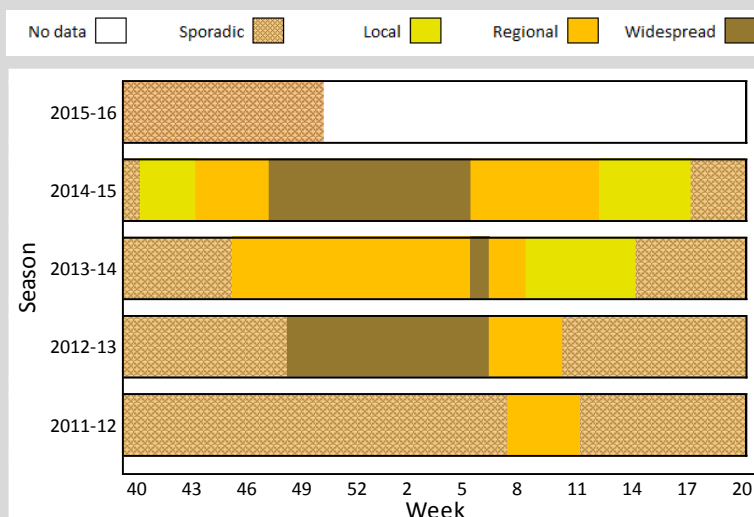
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Weekly State Influenza Activity Reporting

Below is the state influenza activity level reported to CDC each week since the 2011-12 influenza season. **Florida reported sporadic influenza activity for week 51.**



The graphic above shows how influenza activity in Florida can vary widely from year to year. 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 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, the elderly, and pregnant women.
- See the back page of this report for more information on influenza surveillance systems used in Florida: Page 11 ►

Statewide ILI Visits

Influenza-like illness (ILI) is defined as a fever $\geq 100^{\circ}\text{F}$ AND sore throat and/or cough *in the absence* of another known cause.

ED and UCC Visits for ILI by Flu Season

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

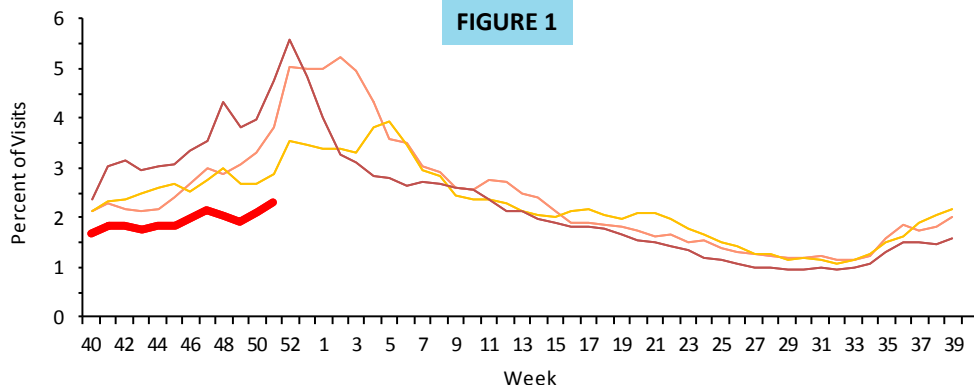
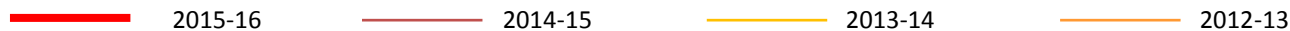


Figure 1 shows the percent of visits for ILI from ED and UCC chief complaints for ESSENCE-FL participating facilities (N=259), week 40, 2012 to week 51, 2015.

The percent of visits to EDs and UCCs for ILI has increased in recent weeks but remains below levels seen in previous years at this time.



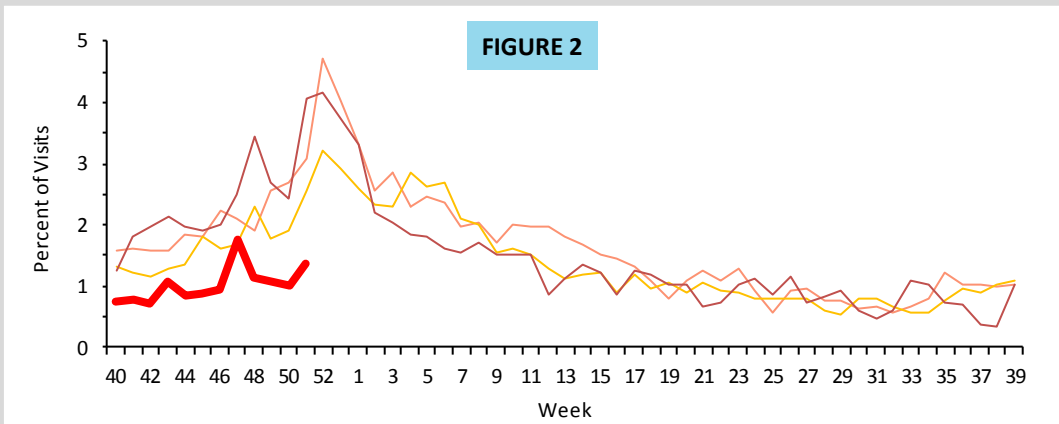


Visits for ILI to Outpatient Providers by Flu Season

ILI = influenza-like illness

Figure 2 shows the percent of visits for ILI reported by ILINet outpatient providers statewide (n=42), week 40, 2012 to week 51, 2015.

In week 51, the percent of visits for ILI reported to ILINet outpatient providers has increased but remains below levels seen in previous years at this time.



P&I Deaths* from Vital Statistics by Flu Season

P&I = pneumonia and influenza

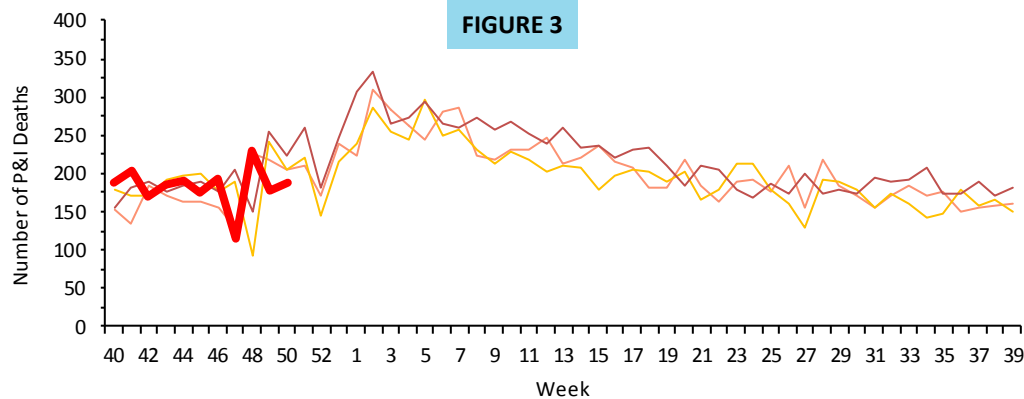


Figure 3 shows P&I deaths* for all Florida counties from the Bureau of Vital Statistics, as reported into ESSENCE-FL, week 40, 2012 to week 50, 2015.

As of week 50 (ending December 19, 2015), 2,017 P&I deaths have been reported in the 2015-16 influenza season.

The number of P&I deaths is below levels seen in previous years at this time.

P&I Deaths*, Multi-Year Regression Model

P&I = pneumonia and influenza

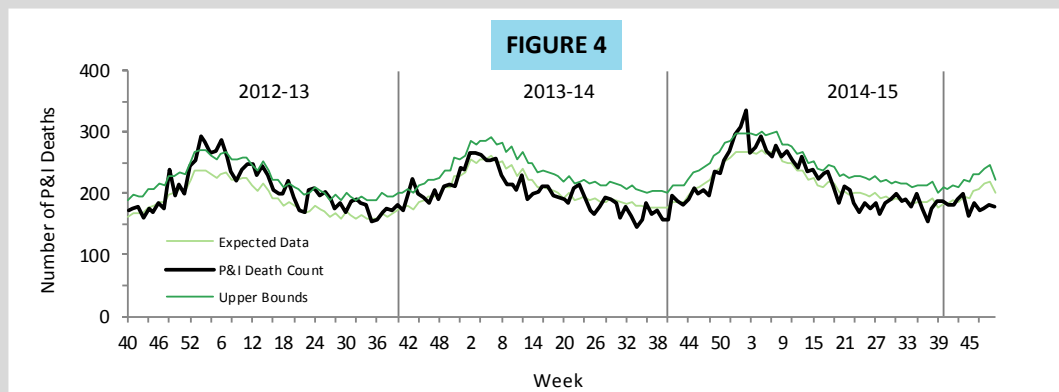
Figure 4 shows the number of preliminary estimated P&I deaths* for all Florida counties, the number of deaths predicted using a multi-year regression model, and the upper bound of the 95% confidence interval for this prediction.

For week 50 (ending December 19, 2015):

180 preliminary estimated P&I deaths were reported.

The upper bound of the 95% confidence interval for prediction is 223 deaths with no excess deaths.

The number of P&I deaths is below levels seen in previous years at this time. P&I deaths tend to occur later in the season as at-risk populations have complications from influenza infection.



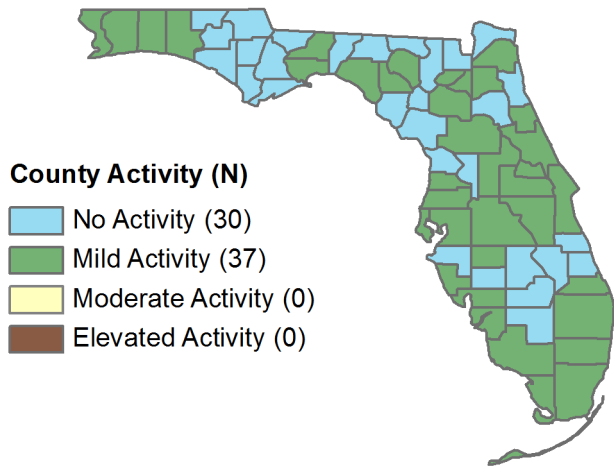
* Current season P&I death counts are preliminary estimates, and may change as more data are received. *The most recent data available are displayed here. Vital statistics death records received in ESSENCE-FL are considered to be complete through week 50, 2015.*

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 influenza-like illness (ILI) activity. **The figures below reflect a county's assessment of influenza activity within their county as a whole. For week 51, nine counties reported that activity is increasing, 55 counties reported that activity is at a plateau, and three counties reported that activity is decreasing.**

County Influenza Activity

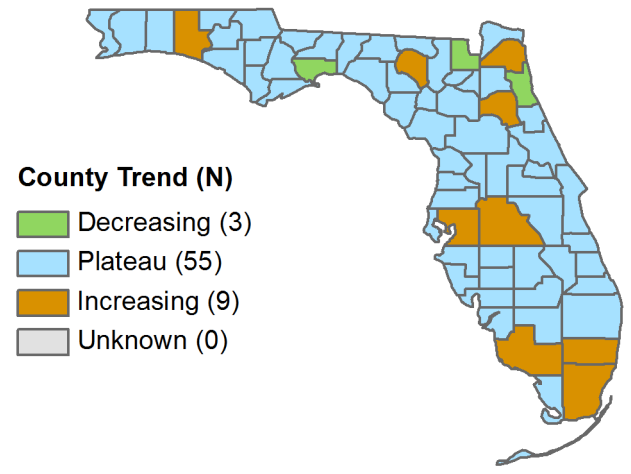
Map 1

County Influenza Activity Level for Week 51
Reported by 9:30 a.m. December 30, 2015



Map 2

County Influenza Activity Trend for Week 51
Reported by 9:30 a.m. December 30, 2015



As of 9:30 a.m. December 30, 2015, a total of 67 (100%) counties reported their weekly level of influenza activity. Please note that data reported by counties after the deadline Tuesday at 5 p.m. are recorded but may not be included in the activity maps for this week.

Influenza-Associated Pediatric Deaths

Influenza-Associated Pediatric Deaths

FIGURES 5 - 7

Figures 5-7 show the number of pediatric deaths associated with influenza infection reported from week 40, 2011 to week 50, 2015.

No influenza-associated pediatric deaths were reported in week 51.

One influenza-associated pediatric death has been reported so far in the 2015-16 season. While rare, sadly, Florida receives reports of influenza-associated pediatric deaths each year. Most deaths occur in unvaccinated children with underlying health conditions.

Children, especially those with underlying health conditions, are at higher risk of severe outcomes (including death) from influenza infection. The best way to prevent influenza infection in children is to get them vaccinated every year. **It is not too late to get children vaccinated this season.** For more information please visit: www.cdc.gov/flu/protect/whoshouldvax.htm#annual-vaccination.

Figure 5: Influenza-Associated Pediatric Deaths by Vaccination Status

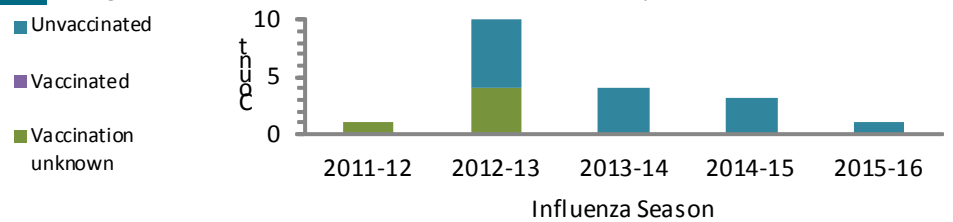


Figure 6: Influenza-Associated Pediatric Deaths by Medical History

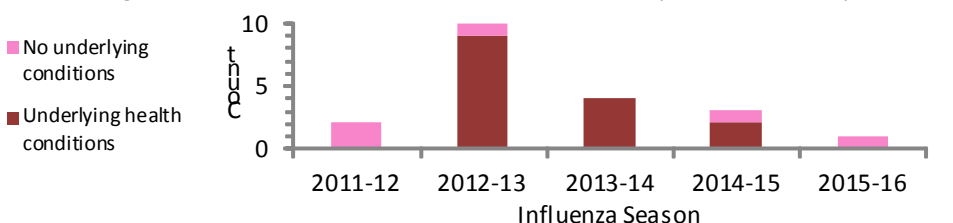
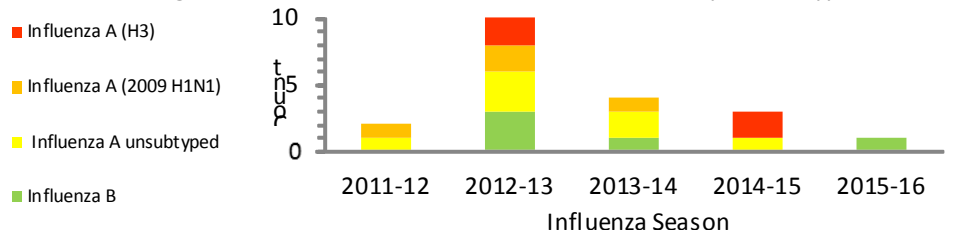


Figure 7: Influenza-Associated Pediatric Deaths by Strain Type



Reported Influenza and ILI Outbreaks

ILI = influenza-like illness

Five outbreaks of influenza or ILI have been reported into EpiCom so far in the 2015-16 season.

No outbreaks of influenza or ILI were reported in week 51.

Map 3 Influenza and ILI Outbreaks by County Week 40-51, 2015

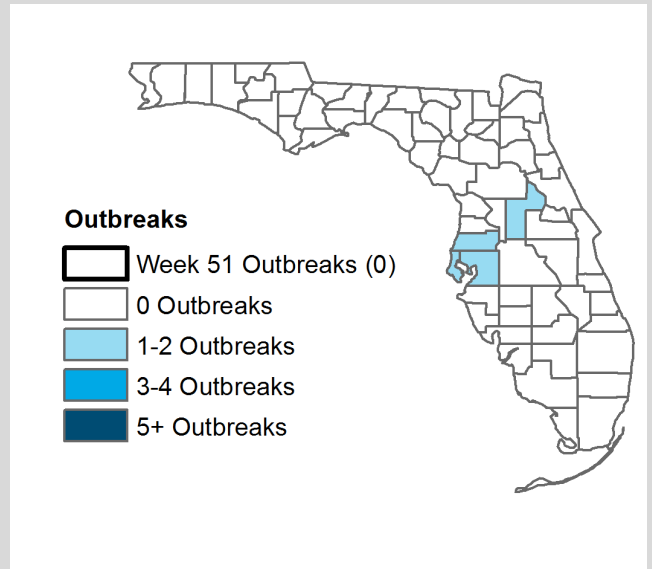


TABLE 1: Summary of Florida Influenza and ILI Outbreaks by Setting, Week 40-51, 2015

Setting	Total	A (H3)	A (2009 H1N1)	A Unspecified	A & B Unspecified	B Yamagata	B Unspecified	Other respiratory viruses	Currently unknown virus
Schools	1	-	-	-	-	-	-	-	1
Daycares	1	-	-	-	-	-	-	1- respiratory syncytial virus (RSV)	-
Jails & prisons	-	-	-	-	-	-	-	-	-
Mental health facilities	-	-	-	-	-	-	-	-	-
Nursing homes & long term care facilities	3	-	-	1	-	-	-	1- rhinovirus	1
Healthcare facilities	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	5	0	0	1	0	0	0	2	2

Reported Influenza and ILI Outbreaks by Facility Type

ILI = influenza-like illness

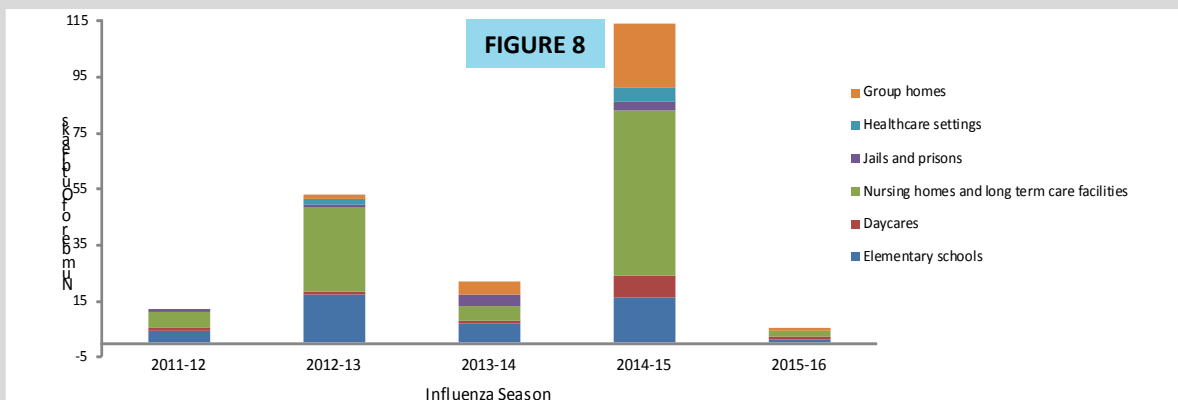
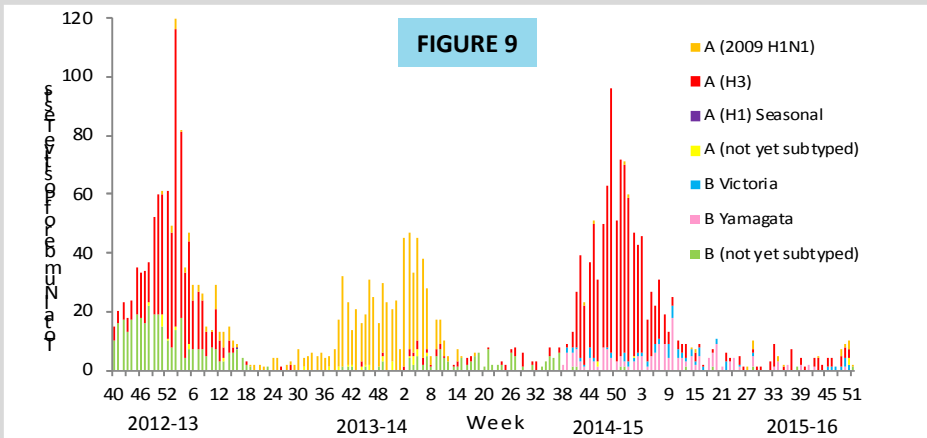


Figure 8 shows the distribution of outbreaks by facility type and season.

In Florida, influenza and ILI activity often increases first in children and then spreads to other age groups. As such, mid-season outbreaks are expected in facilities serving older age groups.

Viral Influenza Specimen Testing



These figures use Bureau of Public Health Laboratories (BPHL) viral surveillance data.

Figure 9 shows the number of influenza-positive specimens tested by subtype and lab event date*.

Influenza A (H3) is the most commonly circulating virus identified by BPHL in recent weeks. Nationally, while influenza A (H3) have been the most commonly circulating viruses, in the last two weeks influenza A (2009 H1N1) has predominated.

Low levels of influenza A (2009 H1N1), influenza B Yamagata lineage, and influenza B Victoria lineage have also been identified by BPHL as circulating at this time.

Figure 10 shows the number of specimens tested by BPHL and the percent that were positive for influenza by lab event date*.

In week 51, the number of specimens tested for influenza and the percent of laboratory results testing positive for influenza have decreased. Both indicators are below levels seen in previous years at this time.

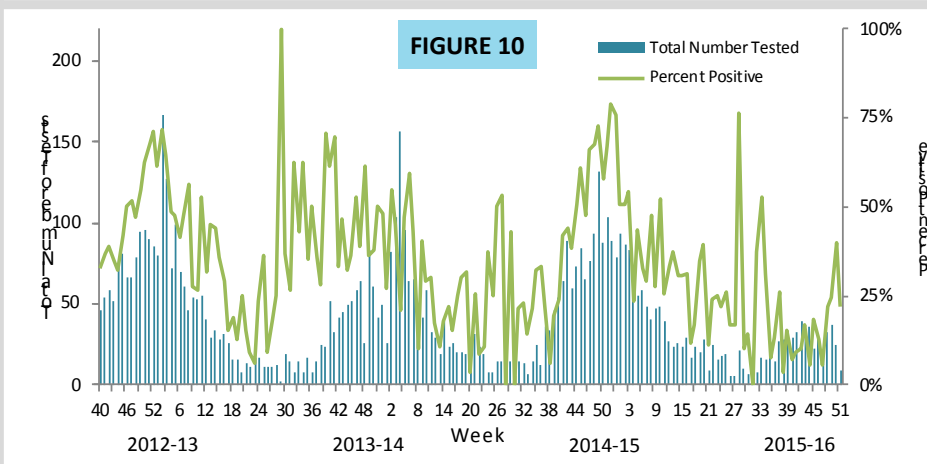


TABLE 2: Bureau of Public Health Laboratories (BPHL) Viral Surveillance by Lab Event Date*
Reported by 10:00 a.m. December 30, 2015

Specimen	Current Week 51	Previous Week 50	Current 2015-16 Season
Total Specimens Tested	9	25	340
Influenza positive specimens (% of total)	2 (22%)	10 (40%)	53 (16%)
Influenza A (2009 H1N1) (% of influenza positives)	1 (50%)	3 (30%)	8 (15%)
Influenza A (H3) (% of influenza positives)	-	3 (30%)	27 (51%)
Influenza A not yet subtyped (% of influenza positives)	-	2 (20%)	2 (4%)
Influenza A inconclusive** (% of influenza positives)	-	-	2 (4%)
Influenza B Yamagata (% of influenza positives)	-	-	4 (7%)
Influenza B Victoria (% of influenza positives)	-	2 (20%)	9 (17%)
Influenza B not yet subtyped (% of influenza positives)	1 (50%)	-	1 (2%)

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

**Influenza A inconclusive test results are due to technical difficulties including insufficient sample for testing or internal sample control failure and occur occasionally in routine laboratory testing.

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:

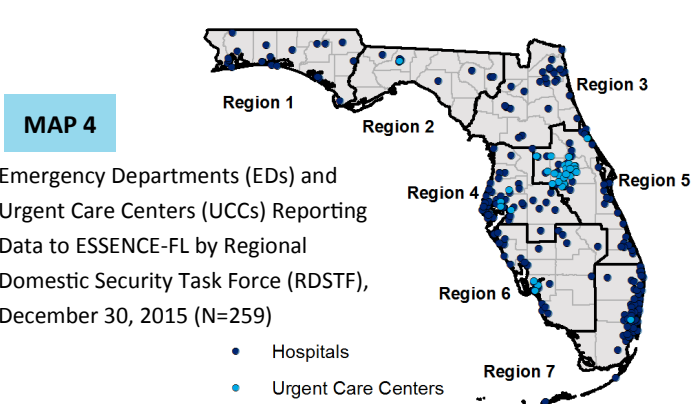
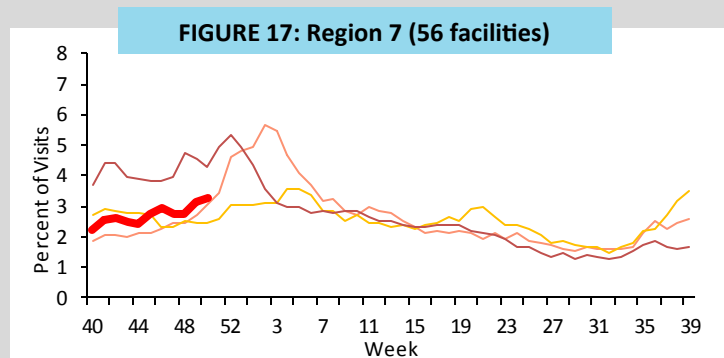
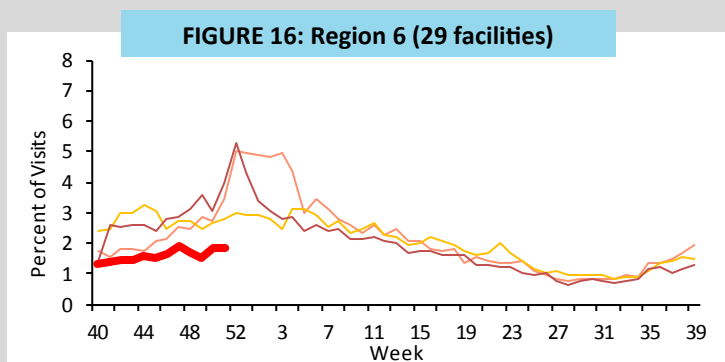
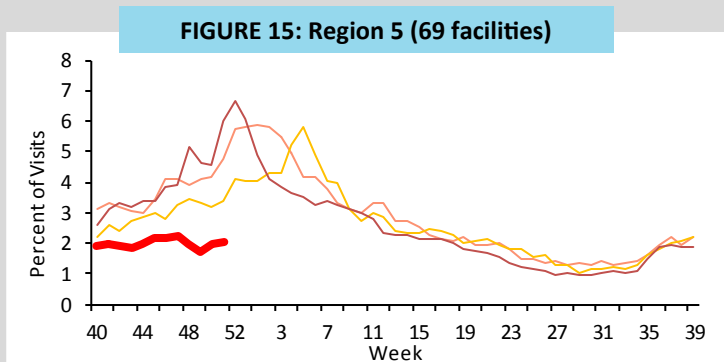
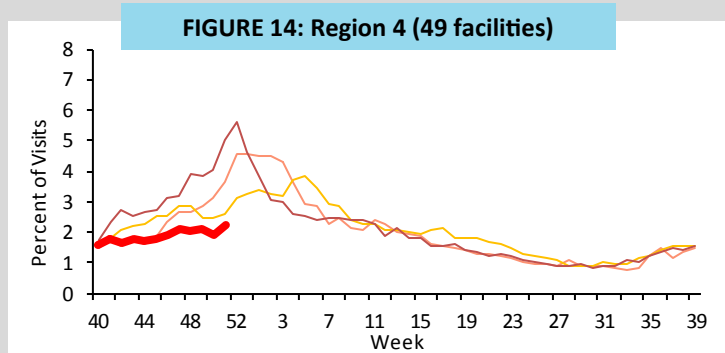
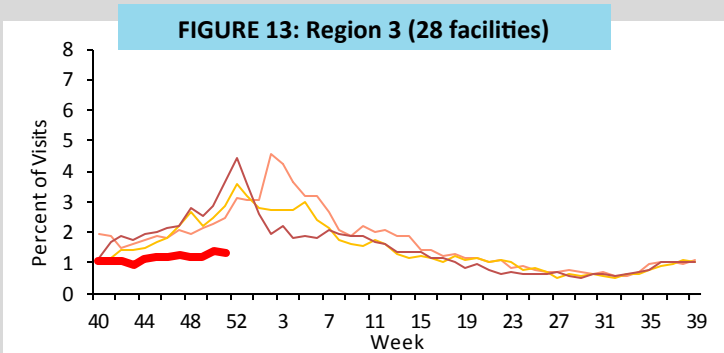
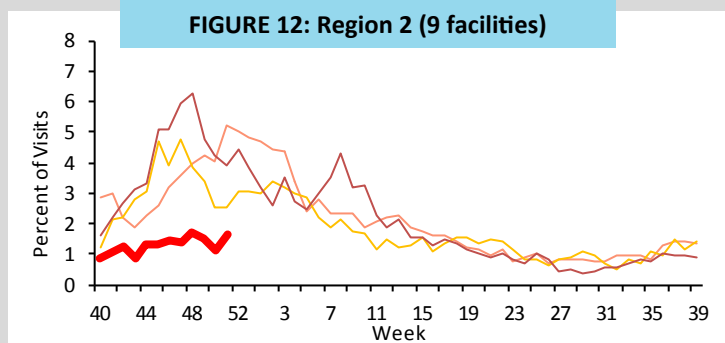
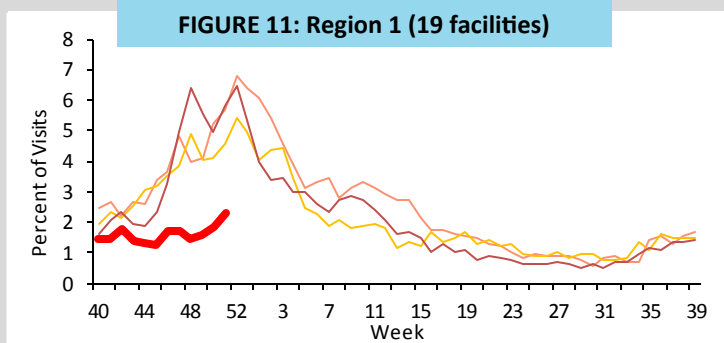
www.floridahealth.gov/diseases-and-conditions/influenza/_documents/flulabreportguide.pdf

ED and UCC Visits for ILI by Region

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

Figures 11-17 shows the percent of ILI visits from ED and UCC chief complaints for ESSENCE-FL participating facilities (N=259), by ESSENCE-FL Regional Domestic Security Task Force (RDSTF) regions (see map 4) from week 40, 2012 to week 51, 2015*. ED and UCC visits for ILI increased or remained the same in all regions. ED and UCC visits for ILI in region 7 are similar to levels seen in previous years at this time while ED and UCC visits for ILI in regions 1-6 are below levels seen in previous years at this time.

— 2015-16
 — 2014-15
 — 2013-14
 — 2012-13



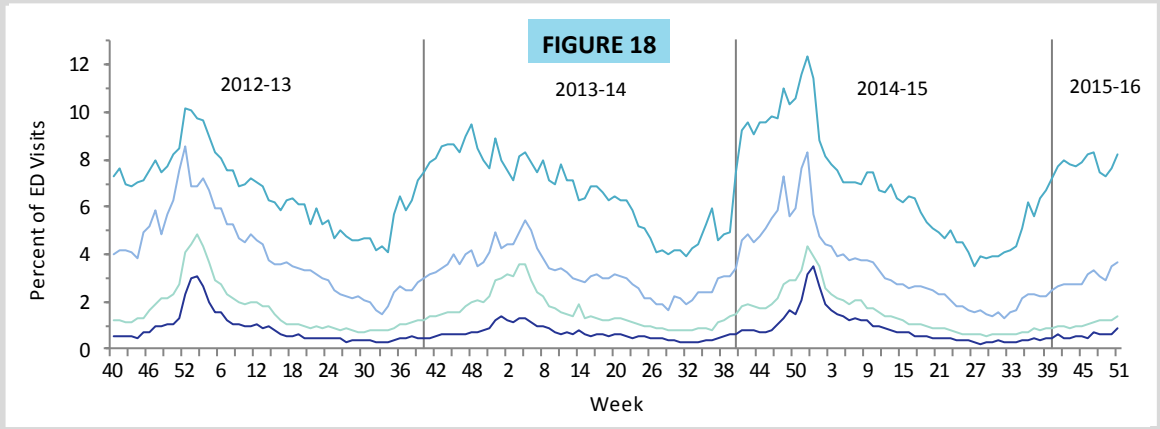
*There is no week 53 for the 2010-2011, 2011-2012, and 2013-2014 seasons; the week 53 data point for those seasons is an average of weeks 52 and 1.



ED and UCC Visits for ILI by Age Group

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 by age group, as reported into ESSENCE-FL, week 40, 2012 to week 51, 2015. ED and UCC visits for ILI increased in all age groups in recent weeks and are similar to or below levels seen in previous years in all age groups at this time.



Visits to Outpatient Providers for ILI by Age Group*

ILI = influenza-like illness

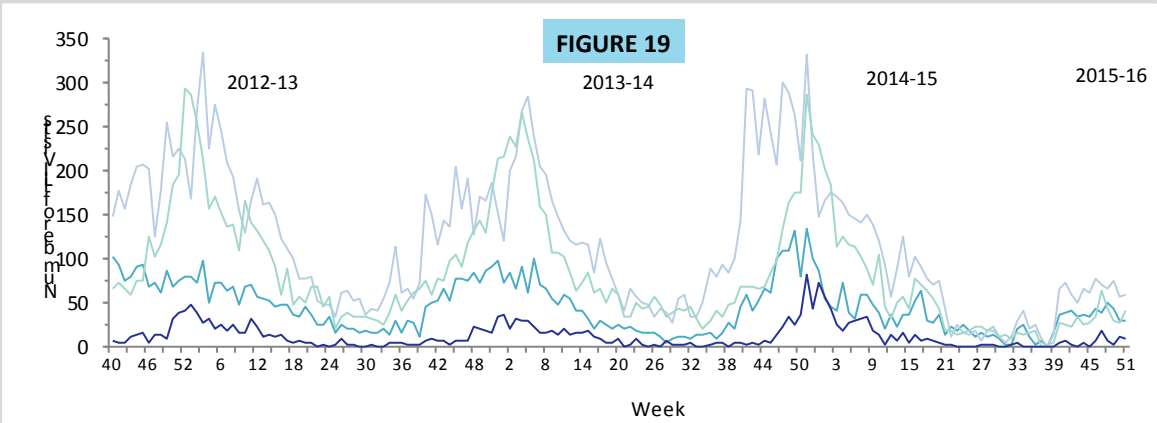


Figure 19 shows the number of visits for ILI reported by ILINet outpatient providers statewide (n=42) by age group, week 40, 2012 to week 51, 2015. The number of visits for ILI reported by ILINet outpatient providers is below levels seen in previous years in all age groups at this time.

*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

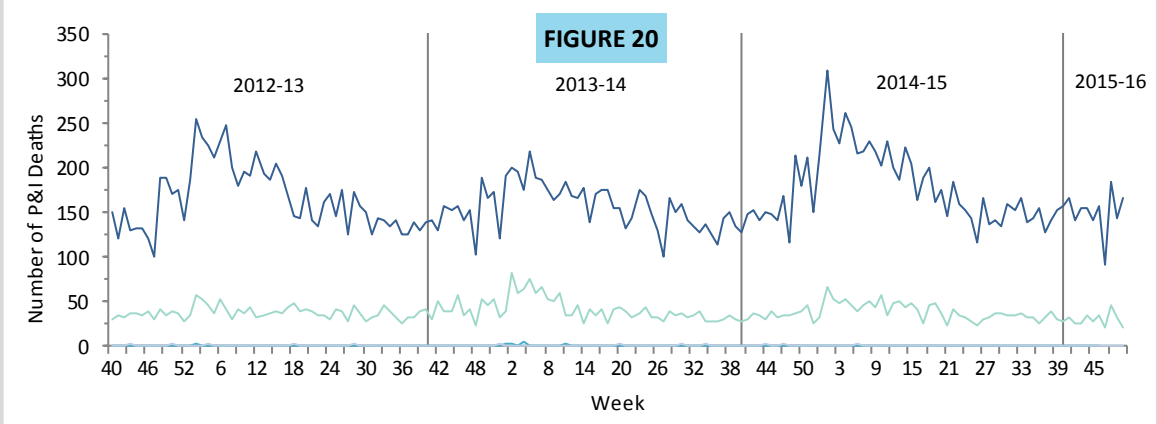


Figure 20 shows P&I deaths* for all Florida counties by age group, as reported into ESSENCE-FL, week 40, 2012 to week 50, 2015. As of week 50 (ending December 19, 2015), the number of P&I deaths is similar to levels seen in previous years in all age groups at this time.

*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 50, 2015.

ESSENCE-FL collects data daily from 259 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", "cough", and/or "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.

2015-16 2014-15 2013-14 2012-13

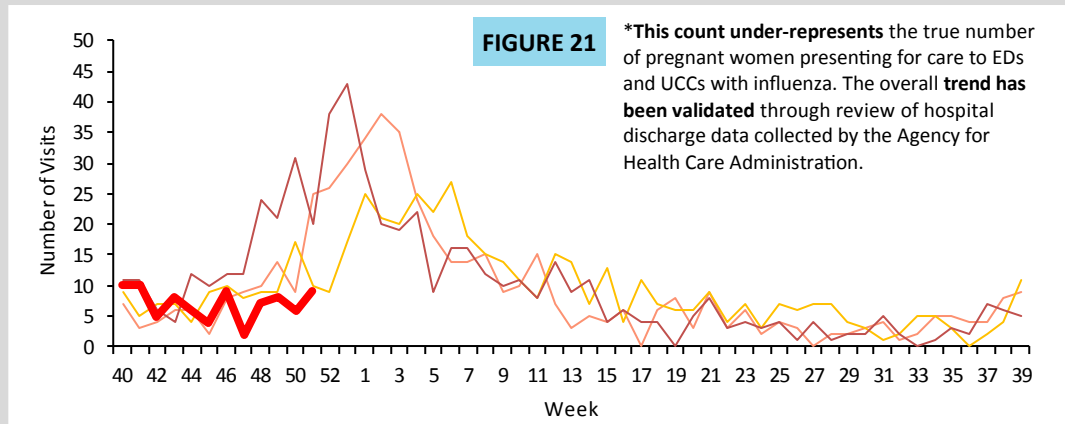
ED and UCC Visits for ILI by Pregnant Women

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

Pregnant women are at high risk for severe complications due to influenza infection.

Figure 21 shows the number of visits* to EDs and UCCs with chief complaints of influenza infection and pregnancy, as reported into ESSENCE-FL, week 40, 2012 to week 51, 2015.

In week 51, the number of visits by pregnant women presenting to EDs and UCCs with mention of influenza increased but is below levels seen in previous years at this time.



ED and UCC Visits for ILI by Children ≤ 18 Years Old

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

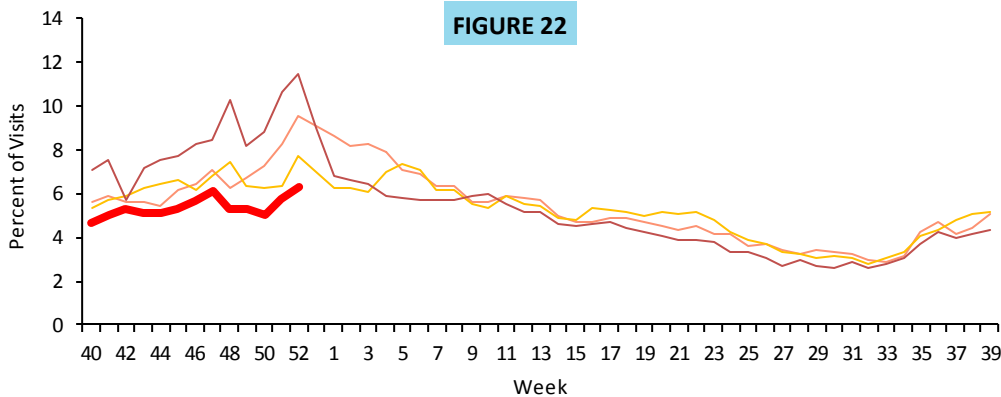


Figure 22 shows the percent of ILI visits among all ED and UCC visits for children ≤ 18 years old, as reported into ESSENCE-FL, week 40, 2012 to week 51, 2015.

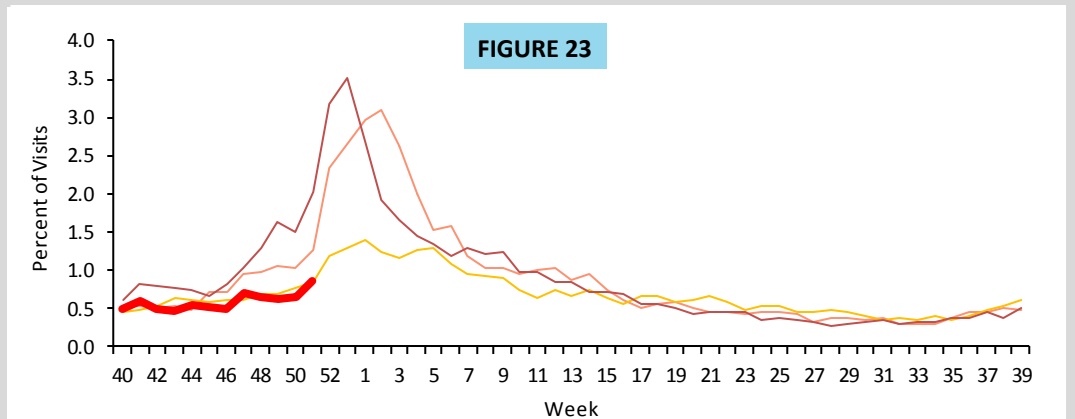
In week 51, the percent of ILI visits among all ED and UCC visits for children ≤ 18 years old increased but remains below levels seen in previous years at this time.

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

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

Figure 23 shows the percent of ILI visits among all ED and UCC visits for adults ≥ 65 years old, as reported into ESSENCE-FL, week 40, 2012 to week 51, 2015.

In week 51, the percent of ILI visits among all ED and UCC visits for adults ≥ 65 years old increased and is similar to levels seen in previous years at this time.



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.

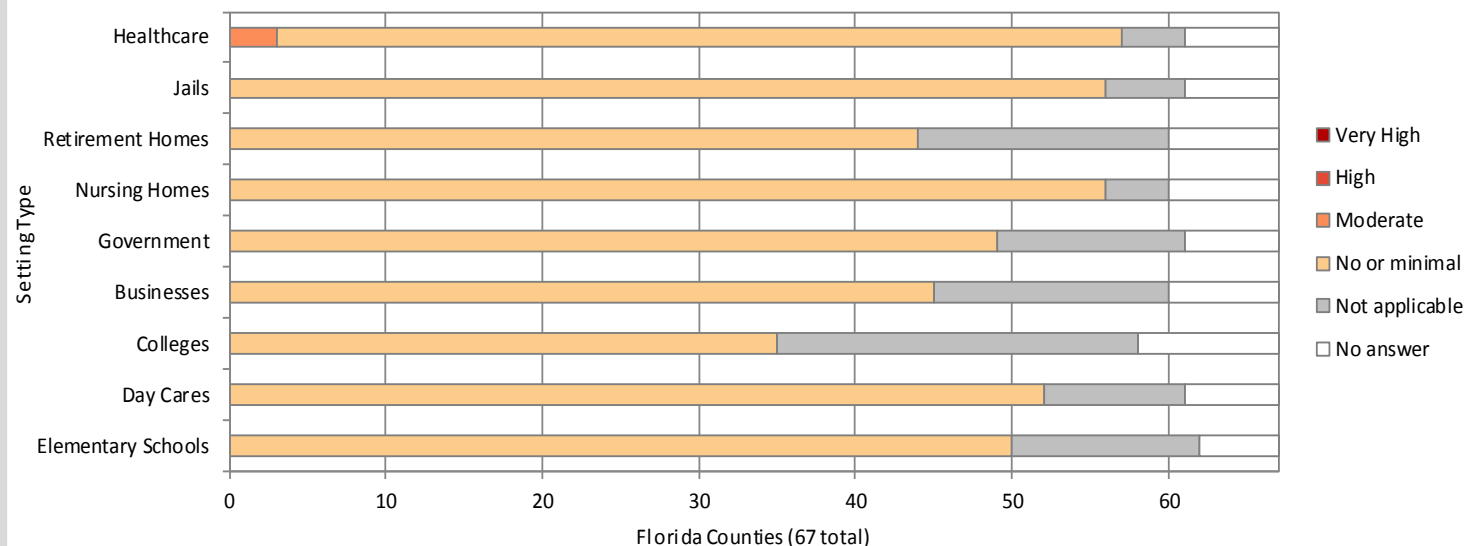
Figure 24 shows the results of the influenza activity assessment for week 51, 2015.

Counties that reported “not applicable” for the listed settings are excluded from the denominator in the calculations below.

ILI activity levels:

- No or very minimal activity
- Moderate activity
- High activity
- Very high activity

FIGURE 24



Settings for Children under 18

In elementary schools, 50 counties (91%) reported no or minimal influenza and ILI activity.

In daycare settings, 52 counties (90%) reported no or minimal influenza and ILI activity.

Settings for Adults over 65

In nursing homes, 56 counties (89%) reported no or minimal influenza and ILI activity.

In retirement homes, 44 counties (86%) reported no or minimal influenza and ILI activity.

Settings for Adults ages 18 to 65

In colleges and universities, 35 of 44 (78%) counties reported no or minimal influenza and ILI activity.

In private businesses, 45 counties (86%) reported no or minimal influenza and ILI activity.

In government offices, 49 counties (89%) reported no or minimal influenza and ILI activity.

Other Unique settings

In jails and prisons, 56 counties (90%) reported no or minimal influenza and ILI activity.

In healthcare settings, including rehabilitation facilities and mental health facilities, three counties (5%) reported moderate influenza and ILI activity.

Viral Respiratory Surveillance with NREVSS Laboratories

NREVSS = National Respiratory and Enteric Viral Surveillance System

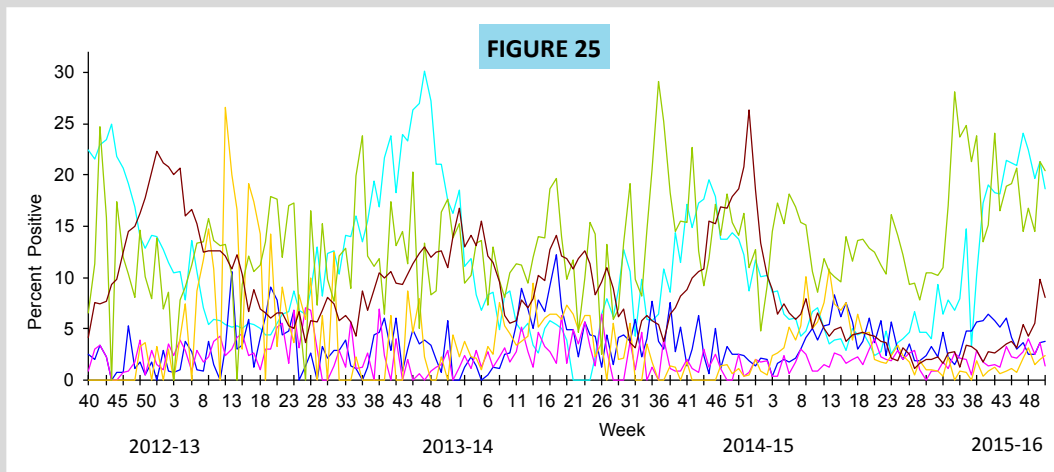
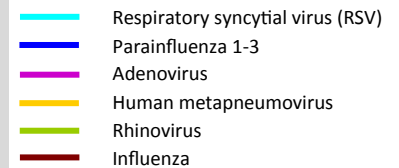


Figure 25 shows the percent positive tests by respiratory virus type reported by NREVSS participating laboratories (n=11), week 40, 2012 to week 51, 2015.

In week 51, the percent of specimens testing positive for RSV, rhinovirus, and influenza decreased but remain elevated.



Florida ILI Surveillance System Summary

Florida ILINet • Data source for figures: 2 and 19

- ILINet is a nationwide surveillance system composed of sentinel providers, predominately outpatient healthcare providers. Florida has 88 sentinel providers enrolled in ILINet who submit weekly ILI and total visit counts, as well as submit ILI specimens to the Bureau of Public Health Labs (BPHL) for confirmatory testing.

ESSENCE-FL Syndromic Surveillance and Vital Statistics Portal • Data source for figures 1, 3-7, 11-18, 20-23; map 4

- 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. EDs and UCCs electronically transmit visit data into ESSENCE-FL daily or hourly.
- For statewide and regional data on influenza-like illness, visits are counted as ED or UCC visits to participating facilities that include influenza-like illness in patient chief complaints.

- For pneumonia and influenza (P&I) 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.

County Influenza Activity in EpiGateway • Data source for figures 19, 24, 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 EpiCom • Data source for figure 8, map 3, and table 1

- EpiCom tracks influenza and ILI outbreak investigations by county health departments. Reports by county health departments include the type of respiratory disease causing the outbreak and settings where outbreaks are occurring. CHD epidemiologists report outbreaks of influenza or ILI into EpiCom, Florida's online disease communication 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 figures 9, 10 and table 2

- BPHL performs confirmatory testing and subtyping on surveillance specimens from ILINet 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.

National Respiratory and Enteric Virus Surveillance System (NREVSS) • Data source for figure 25

- The National Respiratory and Enteric Virus Surveillance System (NREVSS) collects data from laboratories around the country on a weekly basis. NREVSS monitors temporal and geographic patterns of six common respiratory viruses.

Case-Based Influenza Surveillance

Pediatric Influenza-Associated Mortality (Merlin) • Data source for figure 5-7

Influenza due to Novel or Pandemic Strains

- Deaths in children with laboratory-confirmed influenza infection and patients with influenza infection due to novel or pandemic strains are reportable in Florida. For more information about reportable diseases please visit www.Floridahealth.gov/