# Florida FLU REVIEW

2015-16 season

# **Summary**

Week 14: April 3-9, 2016

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

- Florida reported "sporadic" activity to the Centers for Disease Control and Prevention (CDC) in week 14. This is down from "regional" activity in recent weeks.
- Preliminary data suggests that influenza activity this season has peaked, with peak activity occurring between weeks 7 and 11. This peak in activity has occurred later than in the past six seasons.
- Emergency department (ED) and urgent care center (UCC) visits for ILI decreased in all regions in Florida
  and are similar to levels seen in previous seasons in most regions at this time.
- In recent weeks, the preliminary estimated number of deaths due to pneumonia and influenza remained elevated. The most notable increase in deaths due to pneumonia and influenza were observed in the 55-74 age group.
  - Deaths due to pneumonia and influenza tend to occur later in the season as at-risk populations develop complications from influenza infection.
- In week 14, 10 counties reported "increasing" activity, 25 counties reported activity at a "plateau," 31 counties reported "decreasing" activity, and one county did not report.
- In week 14, 10 counties reported "moderate" activity, 49 counties reported "mild" activity, seven
  counties reported no activity, and one county did not report.
- No influenza-associated pediatric deaths were reported in week 14.
  - Six influenza-associated pediatric deaths have been reported so far this season. While rare, Florida
    receives reports of influenza-associated pediatric deaths each season. Annual vaccination remains
    the best way to protect children against the flu.
- In week 14, two outbreaks of influenza A 2009 (H1N1) were reported in a Baker County correctional facility and a Miami-Dade County nursing home.
- Influenza A 2009 (H1N1) has been the most common influenza subtype identified by the Bureau of Public Health Laboratories (BPHL) this season.

#### National influenza activity:

- Influenza activity decreased slightly, but remains elevated nationally. Data suggests that influenza activity
  has likely peaked nationally although some parts of the country are still experiencing widespread
  influenza activity.
- The CDC recommends that persons at high risk for developing complications from influenza infections (such as children and pregnant women) or very ill patients suspected of having influenza receive prompt treatment with antiviral drugs, even prior to laboratory confirmation.
- Influenza A 2009 (H1N1) is the predominately circulating strain.
- The vast majority of circulating flu viruses analyzed this season remain similar to the vaccine virus components for this season's flu vaccines. If you have not yet been vaccinated this season, get vaccinated now; it's not too late!
  - The CDC reported preliminary influenza vaccine effectiveness (VE) estimates for the 2015-16 seasonal influenza vaccine. The 2015-16 flu vaccine is a good match for the currently circulating strains of influenza.
  - To learn more, please visit: www.cdc.gov/flu/weekly/.
- In March 2016, the Infectious Disease Society of America published an article in the Clinical Infectious
  Disease Journal suggesting that Australian mothers who received the influenza vaccine while pregnant
  were significantly less likely to experience stillbirth compared to unvaccinated Australian mothers. This is
  the first study of its kind, therefore additional research is needed to make strong conclusions on the
  subject.
  - To learn more, please visit: http://cid.oxfordjournals.org/content/early/2016/03/10/ cid.ciw082.abstract.
- 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. Influenza (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**



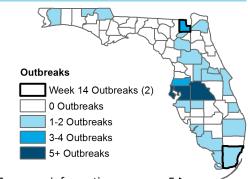
For more information see page 2 ▶

**Predominately Circulating Strain** 

A 2009 (H1N1)

For more information see page 6 ▶

Influenza and ILI Outbreaks
Reported as of 4/13/2016



For more information see page 5 ▶

# **County Influenza Activity**

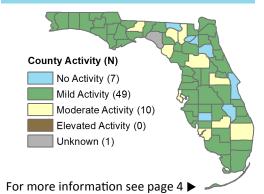


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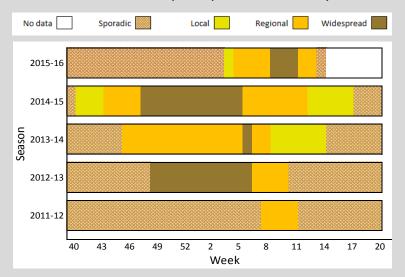
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### **Weekly State Influenza Activity Reporting**

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 14.



The graphic above shows how influenza activity in Florida can vary widely from season to season. This unpredictability underscores the importance of influenza surveillance in Florida.

2013-14

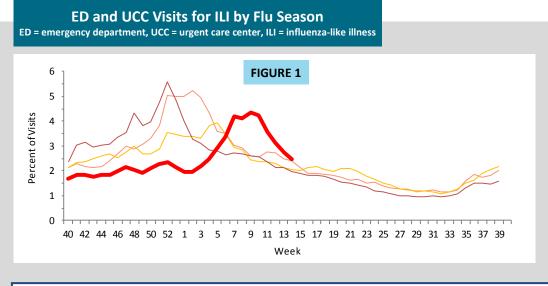
#### Influenza surveillance goals:

- 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.
- See the back page of this report for more information on influenza surveillance systems used in Florida: Page 11

# Statewide ILI Visits

2015-16

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



2014-15

**Figure 1** shows the percent of visits for ILI from ED and UCC chief complaints for ESSENCE-FL participating facilities (n=265), week 40, 2012 to week 14, 2016.

In week 14, the percent of visits to EDs and UCCs for ILI decreased, but remains slightly above levels seen in previous seasons at this time. Peak influenza activity occurred between weeks 7-11, although the influenza season is not over yet.

2012-13

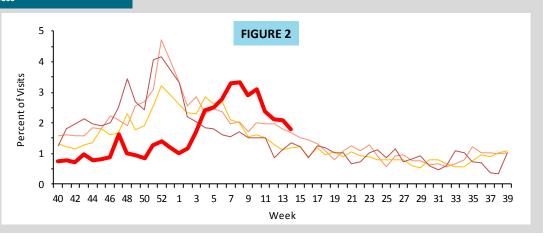
2015-16 — 2014-15 — 2013-14 — 2012-13

# 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=43), week 40, 2012 to week 14, 2016.

In week 14, the percent of visits for ILI reported by ILINet outpatient providers decreased, but remains slightly above levels seen in previous seasons at this time.



# P&I Deaths\* from Vital Statistics by Flu Season

P&I = pneumonia and influenza

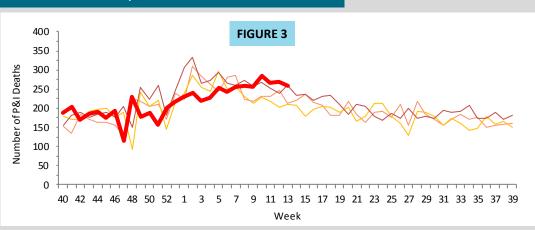


Figure 3 shows P&I deaths\* for all Florida counties from the Bureau of Vital Statistics, as reported into ESSENCE-FL, week 40, 2012 to week 13, 2016.

As of week 13 (ending April 2, 2016), 5,854 P&I deaths have been reported in the 2015-16 influenza season.

The number of P&I deaths decreased slightly and is similar levels seen in previous seasons at this time. P&I deaths tend to occur later in the season as at-risk populations develop complications from influenza infection.

# P&I Deaths\*, Multi-Year Regression Model

P&I = pneumonia and influenza

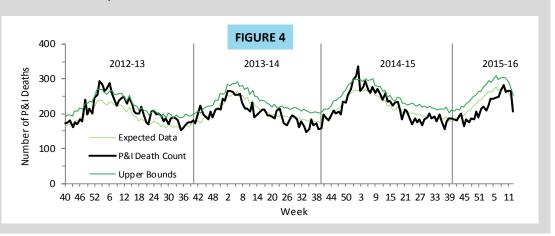
Figure 4 shows the number of preliminary estimated P&I deaths\* for all Florida counties, the number of deaths predicted using a multi-year regression model, and the upper bound of the 95% confidence interval for this prediction.

For week 13 (ending April 2, 2016):

205 preliminary estimated P&I deaths were reported.

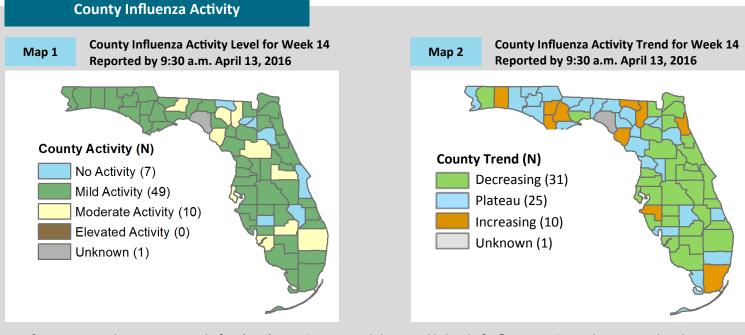
The upper bound of the 95% confidence interval for prediction is 252 deaths, with no excess deaths.

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



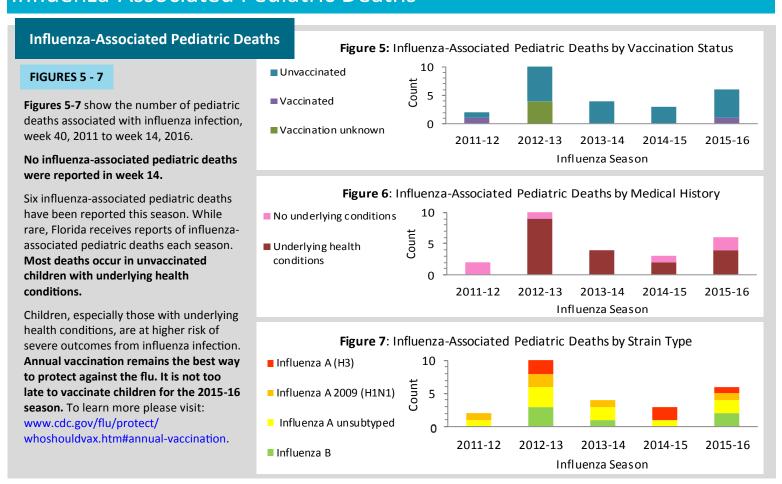
<sup>\*</sup> Current season P&I death counts are preliminary estimates, and may change as more data are received. The most recent data available are displayed here. Vital statistics death records received in ESSENCE-FL are considered to be complete through week 13, 2016.

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 14, 10 counties reported "increasing" activity, 25 counties reported activity at a "plateau," 31 counties reported "decreasing" activity, and one county did not report.



As of 9:30 a.m. April 13, 2016, a total of 66 (99%) 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.

# Influenza-Associated Pediatric Deaths



# ILI Activity and Outbreaks by Setting

## Reported Influenza and ILI Outbreaks

ILI = influenza-like illness

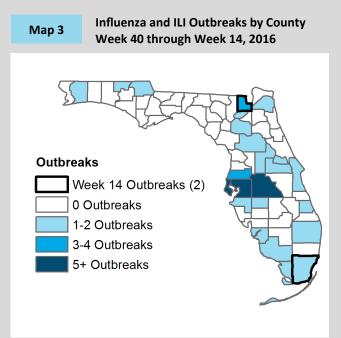
Two outbreaks of influenza were reported in week 14; 49 outbreaks of influenza and ILI have been reported into EpiCom so far in the 2015-16 season. Both outbreaks reported in week 14 occurred in earlier weeks.

#### **Baker County:**

A correctional facility reported six inmates with ILI. Three specimens were collected for testing from ill inmates and two tested positive for influenza A 2009 (H1N1) by PCR at the Bureau of Public Health Laboratories (BPHL). Several additional inmates reported symptoms prompting an evaluation of all 32 inmates in the affected dorm. Nine additional inmates were identified as symptomatic. No additional specimens were available for testing. Influenza vaccination status is unknown. Infection control measures were reviewed with facility leadership. This investigation is closed.

#### Miami-Dade County:

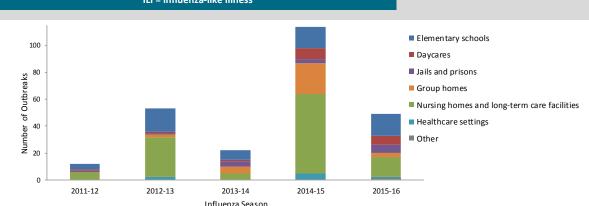
A nursing home reported 15 residents and 11 staff members with ILI. Of the 15 residents, five tested positive for influenza A by rapid antigen testing and three tested positive for influenza A 2009 (H1N1) by PCR at local health care providers. No specimens were available for testing at BPHL. Thirteen ill residents and 10 ill staff members received prophylaxis treatment for influenza. Of the 15 ill residents, 14 (93%) received the 2015-16 influenza vaccine. Of the 11 ill staff members, six (55%) received the 2015-16 influenza vaccine. Infection control measures were reviewed with facility leadership. This investigation is ongoing.



## TABLE 1: Summary of Florida Influenza and ILI Outbreaks by Setting, Week 40 through Week 14, 2016

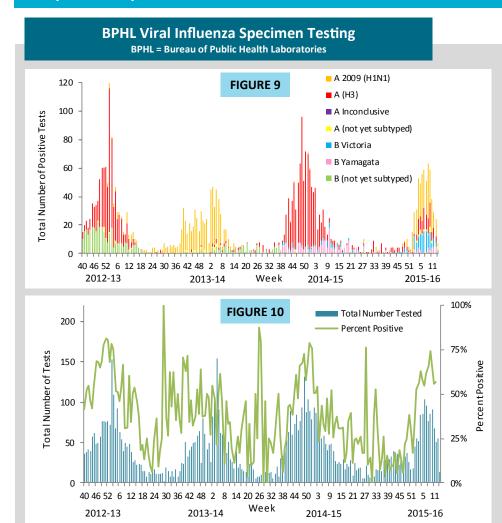
Setting	Total	A (H3)	A 2009 (H1N1)	A Unspecified	A & B Unspecified	B Yamagata	B Victoria	B Unspecified	Influenza Unspecified	Other respiratory viruses	Currently unknown pathogen
Schools	16	-	-	6	3	1		-	-	1 - respiratory syncytial virus (RSV)	5
Daycares	7	-	-	2	-	-		-	2	2 - RSV	1
Jails & prisons	6	-	2	3	-	-		-	-	-	1
Mental health facilities	-	-	-	-	-	-		-	-	-	-
Nursing homes & long term care facilities	17	1	2	3	-	-		5	-	1 - rhinovirus, 1 - human metapneumovirus	4
Health care facilities	1	-	-	1	-	-		-	-	-	=
Other	2	-	1	1	-	-		-		-	-
Total	49	1	5	16	3	1		5	2	5	11





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

Influenza activity
typically increases in
children before older age
groups. Increased ILI
activity in facilities
serving older age groups
is expected at this time
in the influenza season.



These figures use BPHL viral surveillance data

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

Influenza A 2009 (H1N1) has been the most commonly identified influenza subtype by BPHL since December. In the early part of the 2015-16 influenza season, influenza A (H3) was the most commonly identified subtype. This change was also observed nationally.

Influenza B Yamagata lineage and influenza B Victoria lineage have also been identified by BPHL this season.

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

In recent weeks, the number of specimens tested for influenza and the percent of laboratory results testing positive for influenza have decreased. Both indicators are still above levels seen in previous seasons at this time.

TABLE 2: Bureau of Public Health Laboratories (BPHL) Viral Surveillance by Lab Event Date\*

Reported by 10:00 a.m. April 13, 2016

Specimen	Current Week 14	Previous Week 13	Current 2015-16 Season
Total Specimens Tested	13	55	1329
Influenza positive specimens (% of total specimen tested)	8 (62%)	24 (44%)	625 (47%)
Influenza A 2009 (H1N1) (% of influenza positives)	1 (12.5%)	12 (50%)	305 (49%)
Influenza A (H3) (% of influenza positives)	-	4 (17%)	134 (21%)
Influenza A not yet subtyped (% of influenza positives)	4 (50%)	-	19 (3%)
Influenza A inconclusive** (% of influenza positives)	1 (12.5%)	-	5 (1%)
Influenza B Yamagata (% of influenza positives)	1 (12.5%)	4 (17%)	37 (6%)
Influenza B Victoria (% of influenza positives)	1 (12.5%)	3 (12%)	123 (19%)
Influenza B not yet subtyped (% of influenza positives)	-	1 (4%)	2 (1%)

<sup>\*&</sup>quot;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.

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

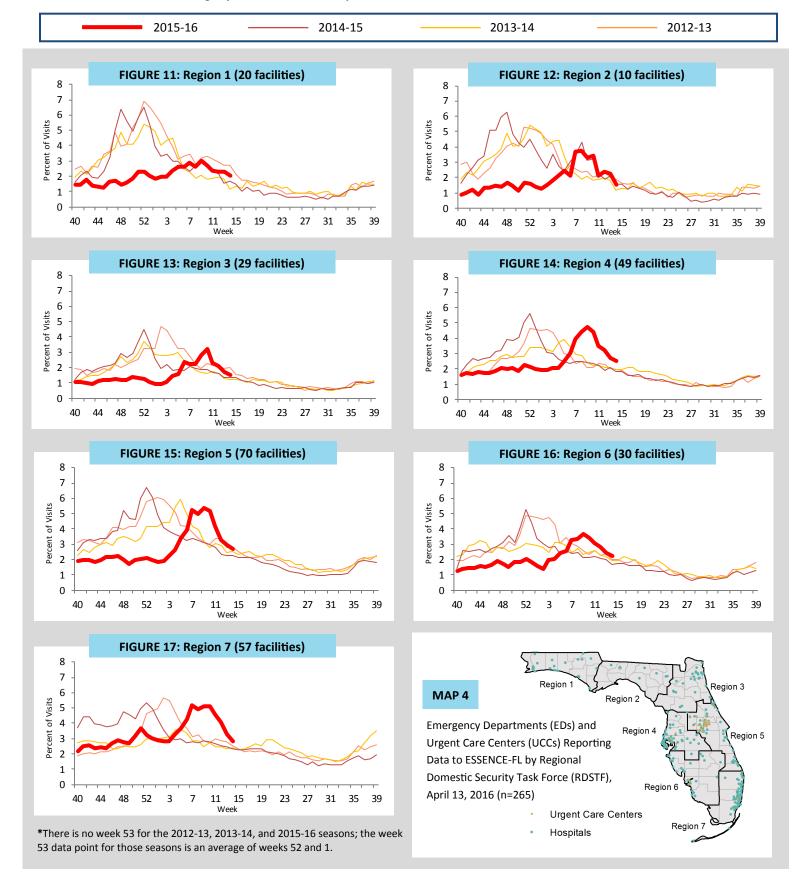
<sup>\*\*</sup>Influenza A inconclusive test results are due to technical difficulties including an insufficient sample for testing or internal sample control failure and occur occasionally in routine laboratory testing.

#### **ED and UCC Visits for ILI by Region**

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

**Figures 11-17** show the percent of visits for ILI from ED and UCC chief complaints for ESSENCE-FL participating facilities (n=265), by ESSENCE-FL Regional Domestic Security Task Force (RDSTF) regions (see map 4) from week 40, 2012 to week 14, 2016\*. **In week 14, ED** 

and UCC ILI visits decreased in all regions. ED and UCC visits are similar to levels seen in previous seasons in all regions except for regions 4 and 7, where levels remain slightly above those seen in previous seasons at this time.



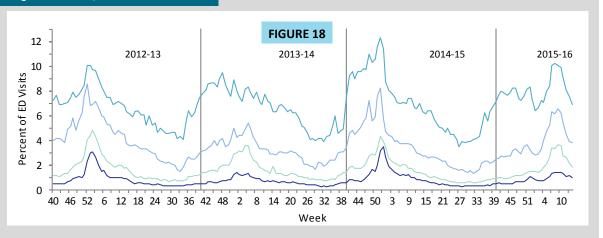
0 to 4 years old 5 to 24 years old 25 to 64 years old ≥65 years old

# **ED and UCC Visits for ILI by Age Group**

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

Figure 18 shows the percent of visits for ILI from ED and UCC chief complaints by age group for ESSENCE-FL participating facilities (N=265), week 40, 2012 to week 14, 2016.

In week 14, ED and UCC visits for ILI decreased in all age groups. ED and UCC visits for ILI remain above levels seen in previous seasons in the 5-24 age group at this time. ED and UCC visits for ILI are similar to levels seen in previous seasons in all other age groups at this time.



## Visits to Outpatient Providers for ILI by Age Group\*

ILI = influenza-like illness

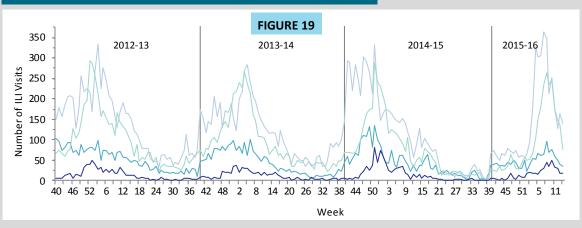


Figure 19 shows the number of visits for ILI reported by ILINet outpatient providers statewide (n=43) by age group, week 40, 2012 to week 14, 2016.

In week 14, the number of visits for ILI decreased in all age groups. The number of visits for ILI is above levels seen in previous seasons in the 5-24 age group at this time. The number of visits for ILI is similar to levels seen in previous seasons in all other age groups at this time.

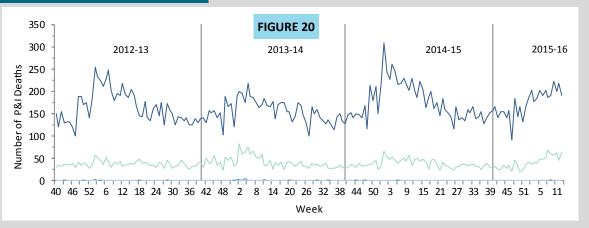
\*Data presented here are counts, not proportions. This is because age group denominator data is not available through ILINet.

## **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 13, 2016.

As of week 13 (ending April 2, 2016), the number of P&I deaths increased in the 25-64 age group, and decreased in all other age groups. Levels are above those seen in previous seasons in the 25-64 age group at this time. Levels are similar to those seen in previous seasons in all other age groups at this time.



<sup>\*</sup>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 13, 2016.

ESSENCE-FL collects data daily from 265 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

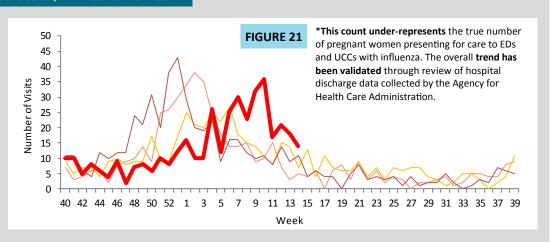
#### ED and UCC Visits for ILI by Pregnant Women

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 ESSSENCE-FL, week 40, 2012 to week 14, 2016.

In week 14, the number of visits to EDs and UCCs by pregnant women with mention of influenza decreased, but remains above levels seen in previous seasons 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

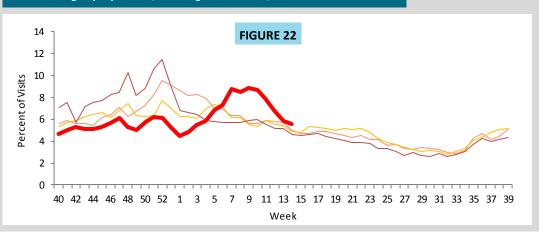


Figure 22 shows the percent of ILI visits among all ED and UCC visits for children ≤18 years old, as reported into ESSSENCE-FL, week 40, 2012 to week 14, 2016.

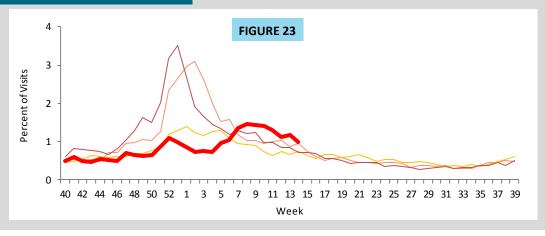
In week 14, the percent of ILI visits among all ED and UCC visits for children ≤18 years old decreased, but is slightly above levels seen in previous seasons at this time.

# 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 ESSSENCE-FL, week 40, 2012 to week 14, 2016.

In week 14, the percent of ILI visits among all ED and UCC visits for adults ≥65 years old decreased, but is slightly above levels seen in previous seasons at this time. Influenza activity typically increases in children before older age groups. Increased activity in older age groups is expected at this point in the influenza season.



# ILI Activity by Population and Setting Type

#### **ILI Activity by Setting Type**

ILI = influenza-like illness

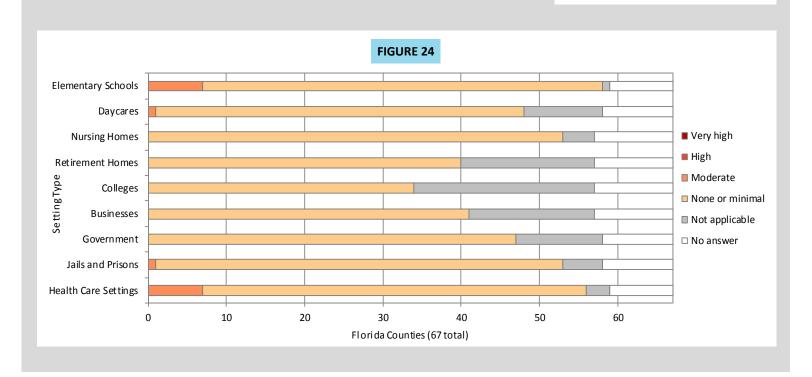
County health departments are asked to evaluate influenza activity in certain settings within their county. The assessment scale for activity ranges from no or minimal activity to very high activity.

Figure 24 shows the results of the influenza activity assessment for week 14, 2016.

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



### Settings for Children under 18

**In elementary schools**, seven counties (11%) reported moderate influenza or ILI activity.

In daycare settings, one county (2%) reported moderate influenza or ILI activity.

#### Settings for Adults over 65

**In nursing homes**, 53 counties (84%) reported no or minimal influenza or ILI activity.

**In retirement homes**, 40 counties (80%) reported no or minimal influenza or ILI activity.

## Settings for Adults ages 18 to 65

**In colleges**, 34 of 44 counties (77%) reported no or minimal influenza or ILI activity.

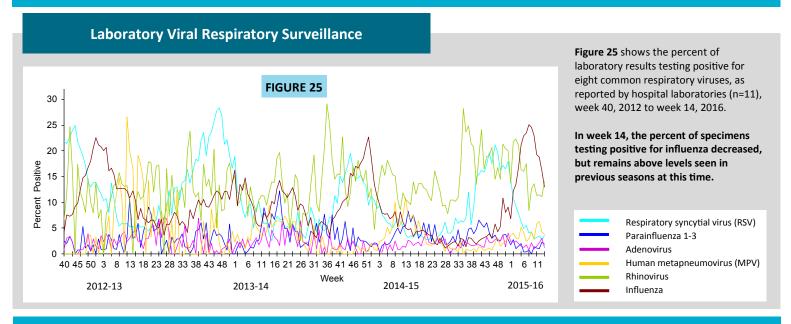
**In businesses**, 41 counties (80%) reported no or minimal influenza or ILI activity.

In government offices, 47 counties (84%) reported no or minimal influenza or ILI activity.

#### Other Unique settings

**In jails and prisons**, one county (2%) reported moderate influenza or ILI activity.

In health care settings, including rehabilitation facilities and mental health facilities, seven counties (11%) reported moderate influenza or ILI activity.



# 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 health care 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.

#### Laboratory Viral Respiratory Surveillance- Data sources for figure 25

 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 six 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).

#### Case-Based Influenza Surveillance

**Influenza-Associated Pediatric Deaths (Merlin)** • Data source for figure 5-7 **Influenza due to Novel or Pandemic Strains (Merlin)**