Ohio Department of Health Seasonal Influenza Activity Summary
MMWR Week 49
December 4th – December 10th, 2016

Current Influenza Activity:

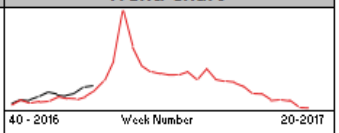
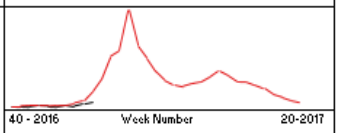
Current Ohio Activity Level (Geographic Spread) – *: Local*

Definition: Increased ILI in 1 region; ILI activity in other regions is not increased AND recent (within the past 3 weeks) lab evidence of influenza in region with increased ILI, OR 2 or more institutional outbreaks (ILI or lab confirmed) in 1 region; ILI activity in other regions is not increased AND recent (within the past 3 weeks) lab evidence of influenza in region with the outbreaks; virus activity is no greater than sporadic in other regions.

During MMWR Week 48, Ohio public health surveillance data sources indicate increasing activity for influenza-like illness (ILI) in outpatient settings reported by Ohio's sentinel providers. The percentage of emergency department visits with patients exhibiting constitutional symptoms and fever and ILI specified ED visits are below baseline levels. There were **29** influenza-associated hospitalizations reported.

Ohio Weekly Influenza-associated Hospitalizations by Ohio Public Health Region	
Central	7
East Central	6
Northeast	4
Northwest	5
Southeast	2
Southwest	1
West Central	4
Total	29

Ohio Influenza Activity Summary Dashboard:

Data Source	Current week value	Percent Change from last week[1]	# of weeks[2]	Trend Chart[3]
Influenza-like Illness (ILI) Outpatient Data (ILINet Sentinel Provider Visits)	1.04%	4.00%	↑ 3	
Thermometer Sales (National Retail Data Monitor)	1487	1.71%	↑ 2	
Fever and ILI Specified ED Visits (EpiCenter)	1.79%	3.47%	↑ 3	
Constitutional ED Visits (EpiCenter)	8.58%	4.13%	↑ 1	
Confirmed Influenza-associated Hospitalizations (Ohio Disease Reporting System)	29	52.63%	↑ 2	
Outpatient Medical Claims Data[4]	0.31%	14.81%	↑ 1	

[1]Interpret percent changes with caution. Large variability may be exhibited in data sources with low weekly values.
[2]Number of weeks that the % change is increasing or decreasing.
[3]Black lines represent current week's data; red lines represent baseline averages.
[4]Medical Claims Data provided by athenahealth®

State, Regional, and National Data:

Ohio Surveillance Data:

- **ODH lab** has reported **73** influenza tests from specimens sent from various submitters.
  2016-2017 influenza season positive results: **(0) A/pdmH1N1; (13) A/H3N2; (2) Influenza B;** (through 12/10/16).

- The **National Respiratory and Enteric Virus Surveillance System (NREVSS)** has reported **10,917** influenza tests performed at participating facilities. 2016-2017 influenza season positive results: **(0) H1N1, (4) A/H3N2, (70) Flu A Not Subtyped, and (33) Flu B** (through 12/10/16).

- 0 **pediatric influenza-associated mortalities** have been reported during the 2016-2017 season (through 12/10/16).

- No **novel influenza A virus infections** have been reported during the 2016-2017 season (through 12/10/16).

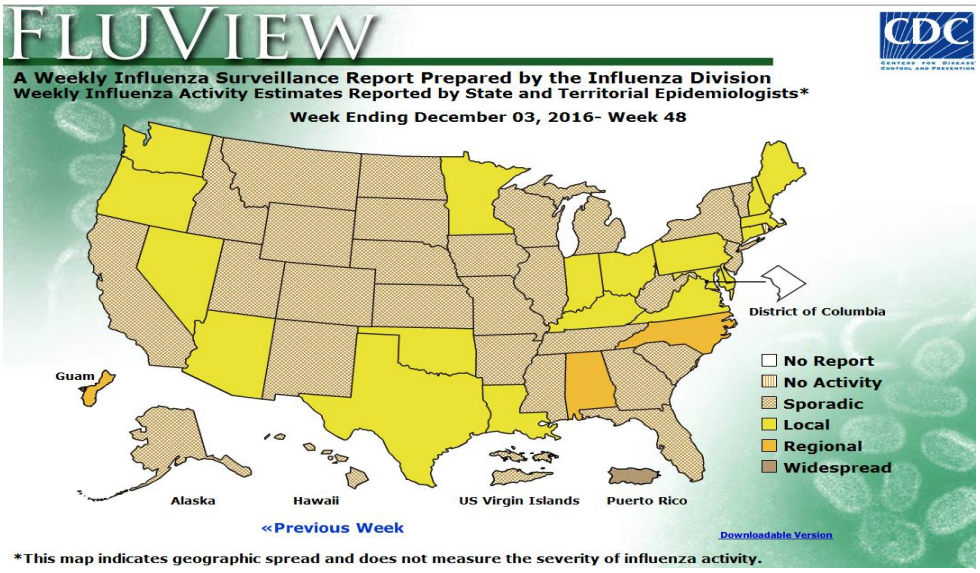
- Incidence of confirmed **influenza-associated hospitalizations** in 2016-2017 season = **112** (through 12/10/16).

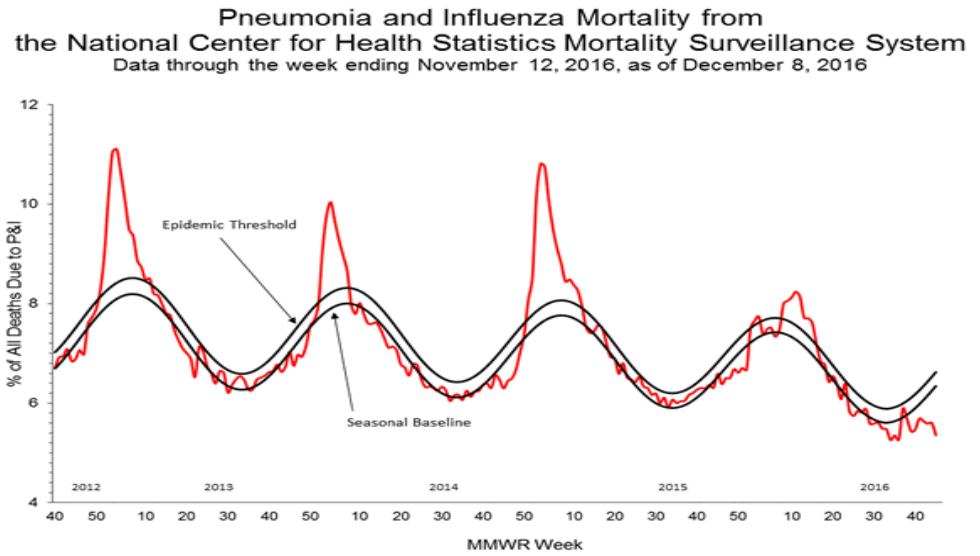
HHS Regional Surveillance Data*: During week 48 (November 27th – December 3rd, 2016), the proportion of outpatient visits for ILI in Region 5 (Ohio is in Region 5) was 1.2%, which is below the regional baseline of 1.8%. Ohio, Pennsylvania, Kentucky, and Indiana report Local Activity. Michigan and West Virginia report Sporadic activity.

National Surveillance Data*: During week 48 (November 27th – December 3rd, 2016), the majority U.S. states reported Minimal influenza activity, 4 states reported Low Activity. The proportion of outpatient visits for ILI was 1.8%, which is **below** the national baseline of 2.2%. Two HHS regions reported ILI levels at their region-specific baseline level. The most frequently identified influenza virus type reported by public health laboratories was **influenza A (H3N2)**.

Influenza Virus Characterization:
CDC has antigenically characterized 38 influenza viruses [8 influenza A (H1N1)pdm09, 16 influenza A (H3N2), and 14 influenza B viruses] collected by U.S. laboratories since October 1, 2016.

Ninety-three percent of the Influenza B viruses that have been antigenically characterized by CDC were similar to viruses included in either the trivalent or quadrivalent 2016-17 influenza vaccine. All of the influenza A viruses characterized matched the viruses included in the 2016-17 influenza vaccine.



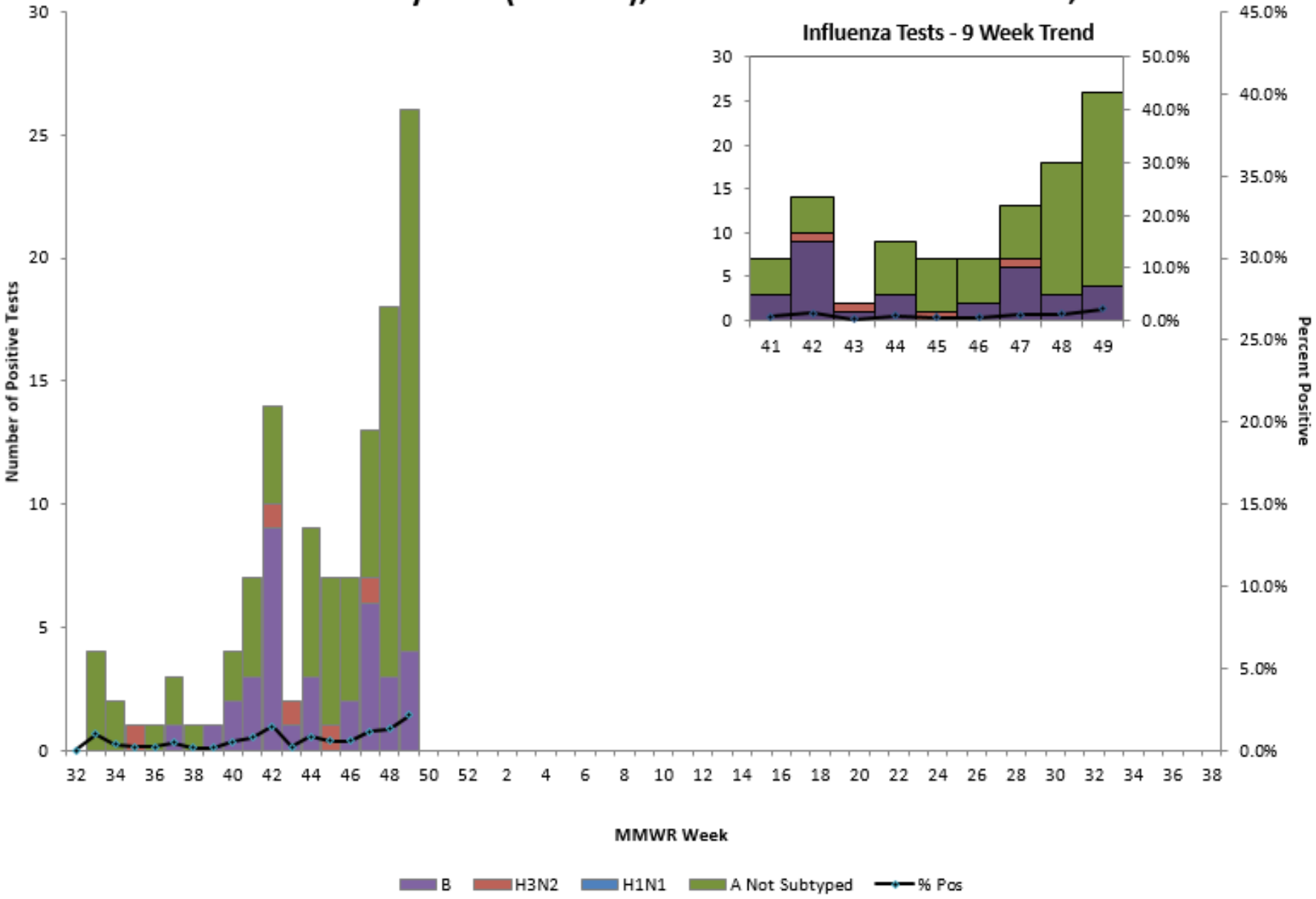


More information can be found at the following CDC pages:

- http://www.cdc.gov/flu/

***National-level and regional-level data are reported one week later than Ohio state-level data**

Positive Influenza Tests (PCR), National Respiratory and Enteric Virus Surveillance System (NREVSS), 2016-2017 Influenza Season, Ohio



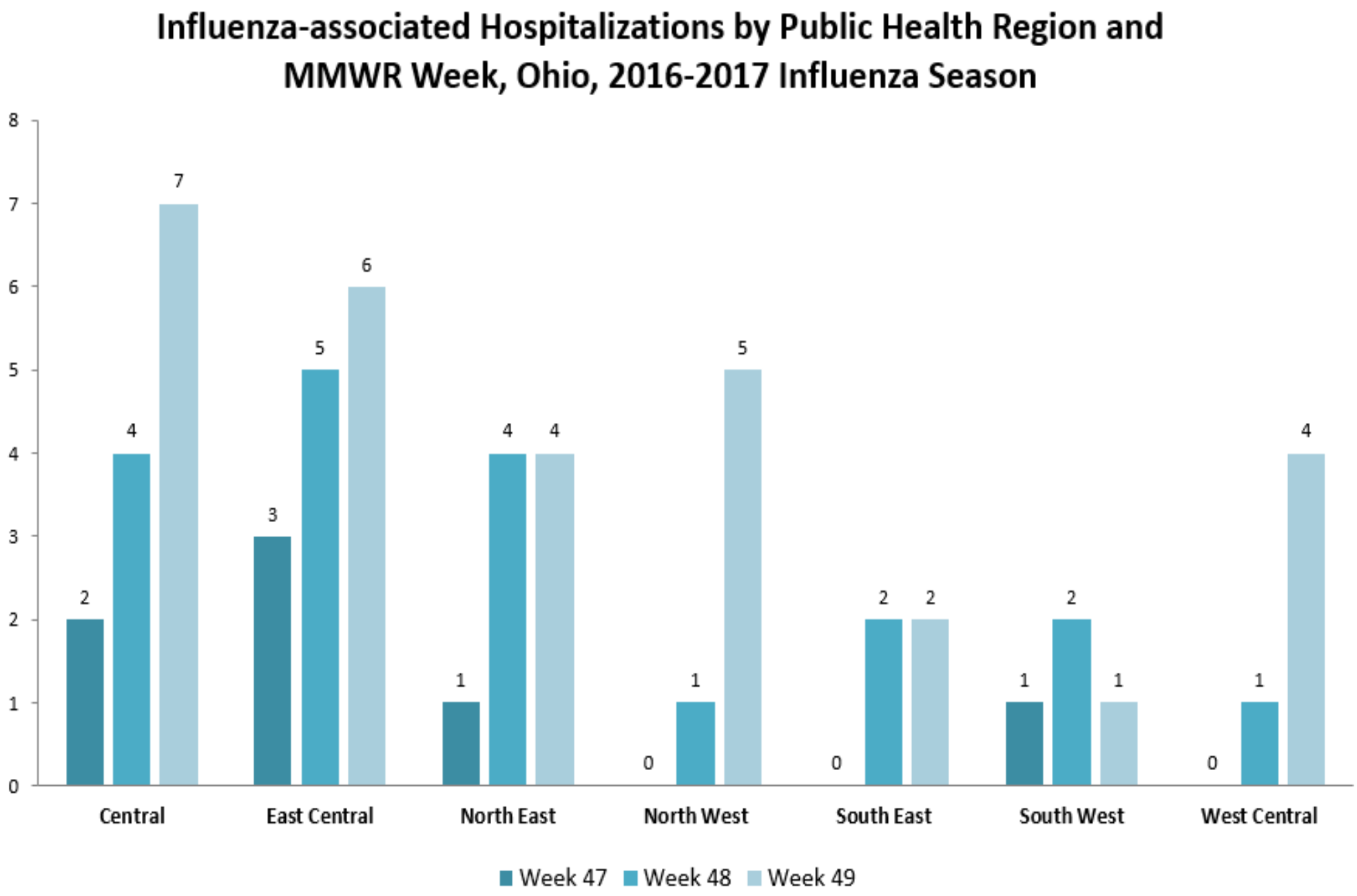
Influenza-Associated Hospitalizations, Ohio
2016-2017 Season*

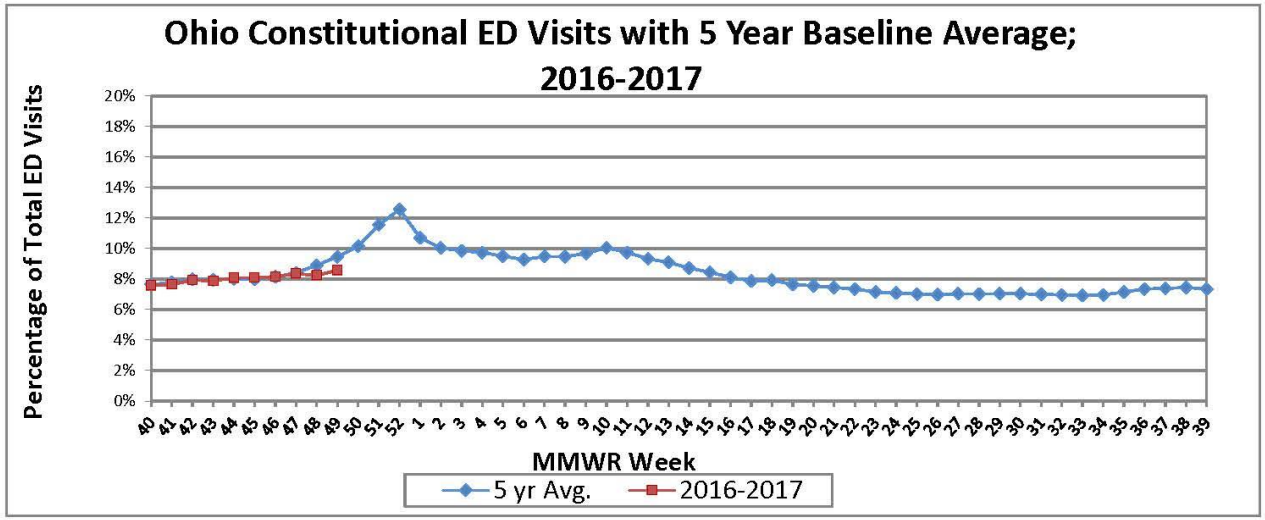
County	Influenza-Associated Hospitalizations	Percent of All Influenza-Associated Hospitalizations	Rate per 100,000 Population†
ADAMS	0	0.0%	0.00
ALLEN	6	5.4%	5.64
ASHLAND	1	0.9%	1.88
ASHTABULA	1	0.9%	0.99
ATHENS	0	0.0%	0.00
AUGLAIZE	1	0.9%	2.18
BELMONT	0	0.0%	0.00
BROWN	0	0.0%	0.00
BUTLER	9	8.0%	2.44
CARROLL	0	0.0%	0.00
CHAMPAIGN	0	0.0%	0.00
CLARK	2	1.8%	1.45
CLERMONT	1	0.9%	0.51
CLINTON	0	0.0%	0.00
COLUMBIANA	2	1.8%	1.85
COSHOCTON	0	0.0%	0.00
CRAWFORD	0	0.0%	0.00
CUYAHOGA	14	12.5%	1.09
DARKE	0	0.0%	0.00
DEFIANCE	0	0.0%	0.00
DELAWARE	1	0.9%	0.57
ERIE	0	0.0%	0.00
FAIRFIELD	2	1.8%	1.37
FAYETTE	0	0.0%	0.00
FRANKLIN	15	13.4%	1.29
FULTON	1	0.9%	2.34
GALLIA	1	0.9%	3.23
GEAUGA	1	0.9%	1.07
GREENE	1	0.9%	0.62
GUERNSEY	0	0.0%	0.00
HAMILTON	2	1.8%	0.25
HANCOCK	0	0.0%	0.00
HARDIN	1	0.9%	3.12
HARRISON	0	0.0%	0.00
HENRY	0	0.0%	0.00
HIGHLAND	1	0.9%	2.29
HOCKING	0	0.0%	0.00
HOLMES	0	0.0%	0.00
HURON	0	0.0%	0.00
JACKSON	0	0.0%	0.00
JEFFERSON	0	0.0%	0.00
KNOX	0	0.0%	0.00
LAKE	4	3.6%	1.74
LAWRENCE	1	0.9%	1.60
LICKING	3	2.7%	1.80
LOGAN	0	0.0%	0.00
LORAIN	2	1.8%	0.66
LUCAS	2	1.8%	0.45
MADISON	2	1.8%	4.60
MAHONING	9	8.0%	3.77
MARION	1	0.9%	1.50
MEDINA	1	0.9%	0.58
MEIGS	1	0.9%	4.21
MERCER	1	0.9%	2.45
MIAMI	0	0.0%	0.00
MONROE	0	0.0%	0.00
MONTGOMERY	6	5.4%	1.12
MORGAN	0	0.0%	0.00
MORROW	0	0.0%	0.00
MUSKINGUM	1	0.9%	1.16
NOBLE	0	0.0%	0.00
OTTAWA	0	0.0%	0.00
PAULDING	0	0.0%	0.00
PERRY	0	0.0%	0.00
PICKAWAY	1	0.9%	1.80
PIKE	0	0.0%	0.00
PORTAGE	0	0.0%	0.00
PREBLE	0	0.0%	0.00
PUTNAM	0	0.0%	0.00
RICHLAND	2	1.8%	1.61
ROSS	0	0.0%	0.00
SANDUSKY	0	0.0%	0.00
SCIOTO	0	0.0%	0.00
SENECA	0	0.0%	0.00
SHELBY	0	0.0%	0.00
STARK	0	0.0%	0.00
SUMMIT	7	6.3%	1.29
TRUMBULL	3	2.7%	1.43
TUSCARAWAS	0	0.0%	0.00
UNION	0	0.0%	0.00
VAN WERT	0	0.0%	0.00
VINTON	0	0.0%	0.00
WARREN	0	0.0%	0.00
WASHINGTON	0	0.0%	0.00
WAYNE	1	0.9%	0.87
WILLIAMS	0	0.0%	0.00
WOOD	1	0.9%	0.80
WYANDOT	0	0.0%	0.00
UNKNOWN	0	0.0%	*
TOTAL	**112**	**100%**	**0.97**

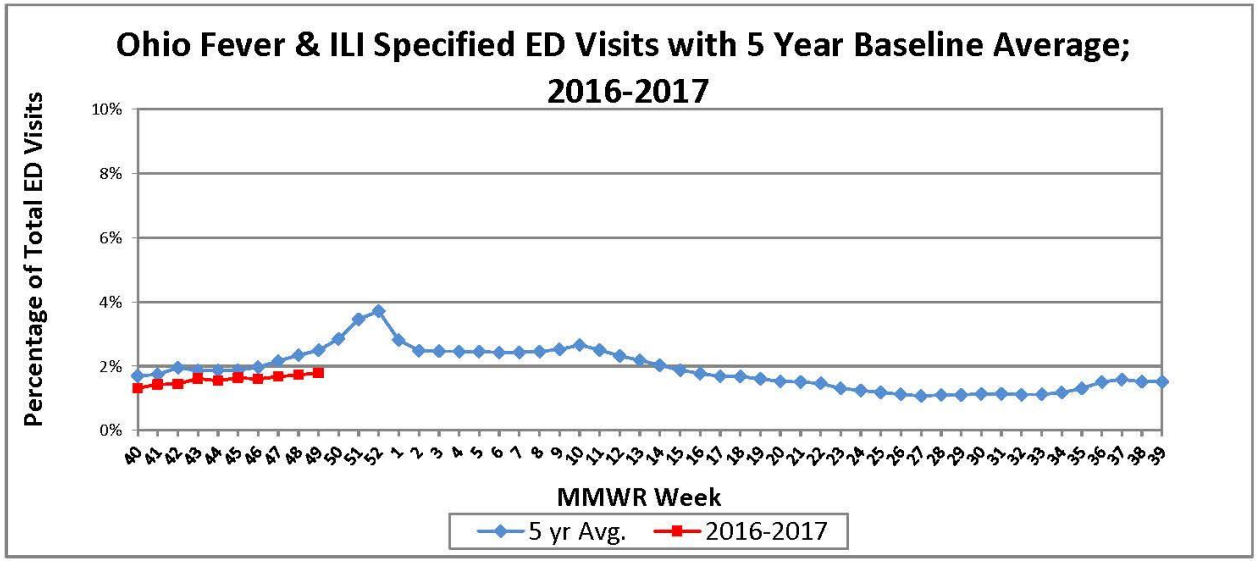
*2016-2017 Season 10/2/2016 thru 12/10/2016

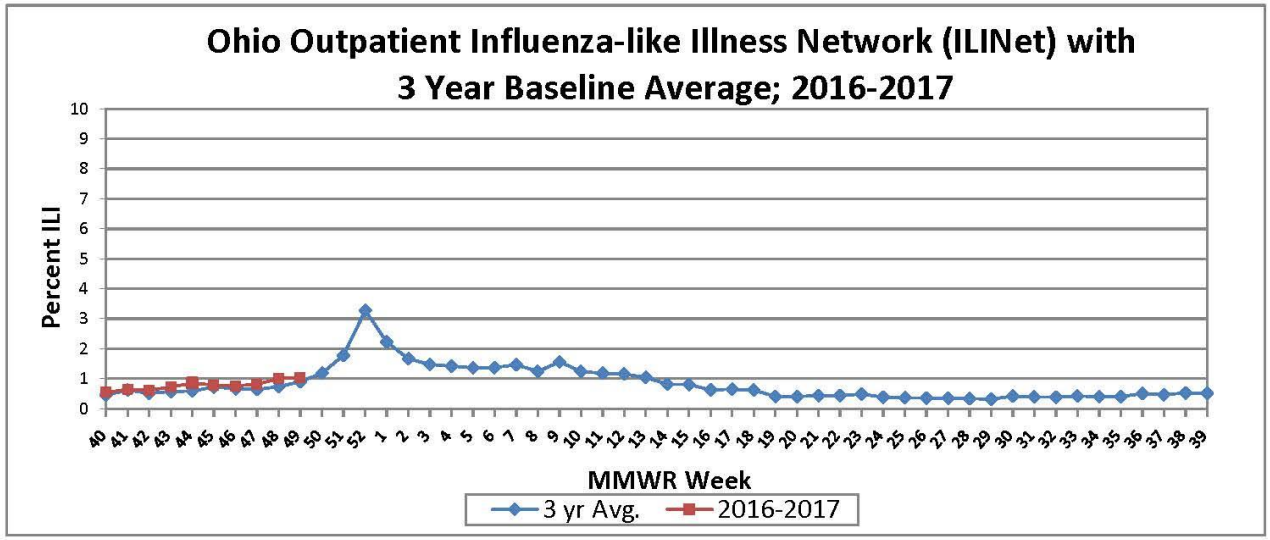
† Disease rates were calculated by number of cases per 100,000 residents using 2010 census data.

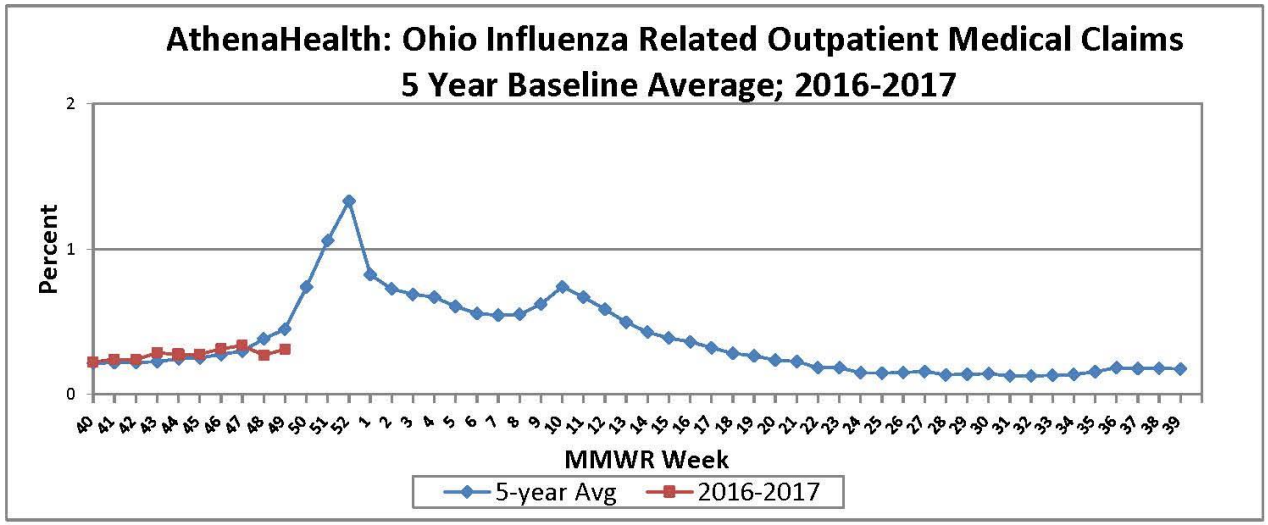
Source: Ohio Disease Reporting System

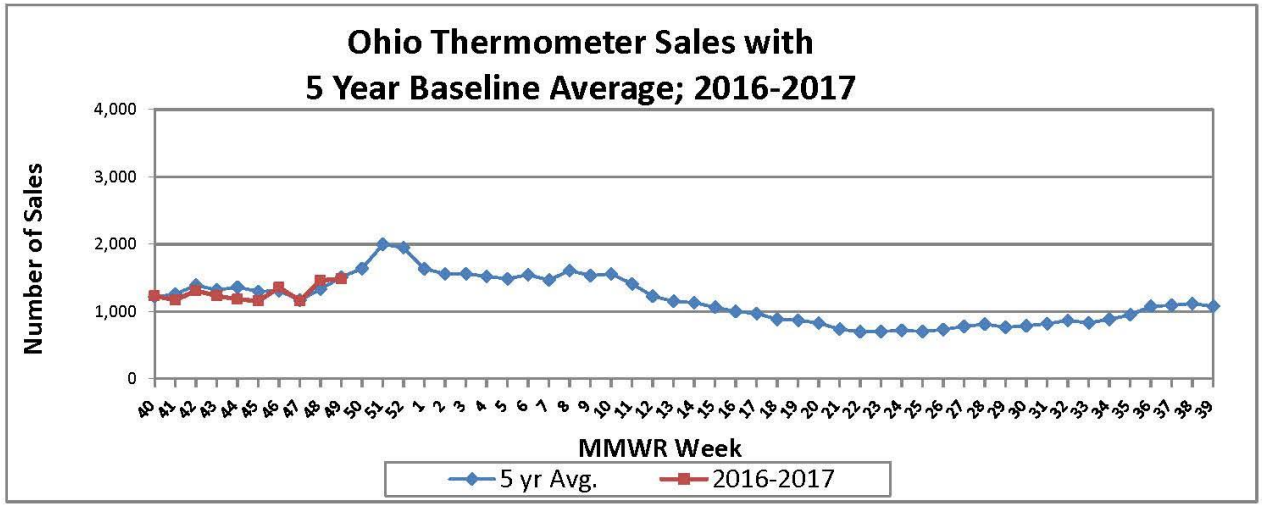

Influenza-associated Hospitalizations by Public Health Region and MMWR Week, Ohio, 2016-2017 Influenza Season
8
7
6
5
4
3
2
1
0
2
4
7
3
5
6
1
4
4
0
1
5
0
2
2
1
2
1
0
1
4
Central
East Central
North East
North West
South East
South West
West Central
Week 47
Week 48
Week 49

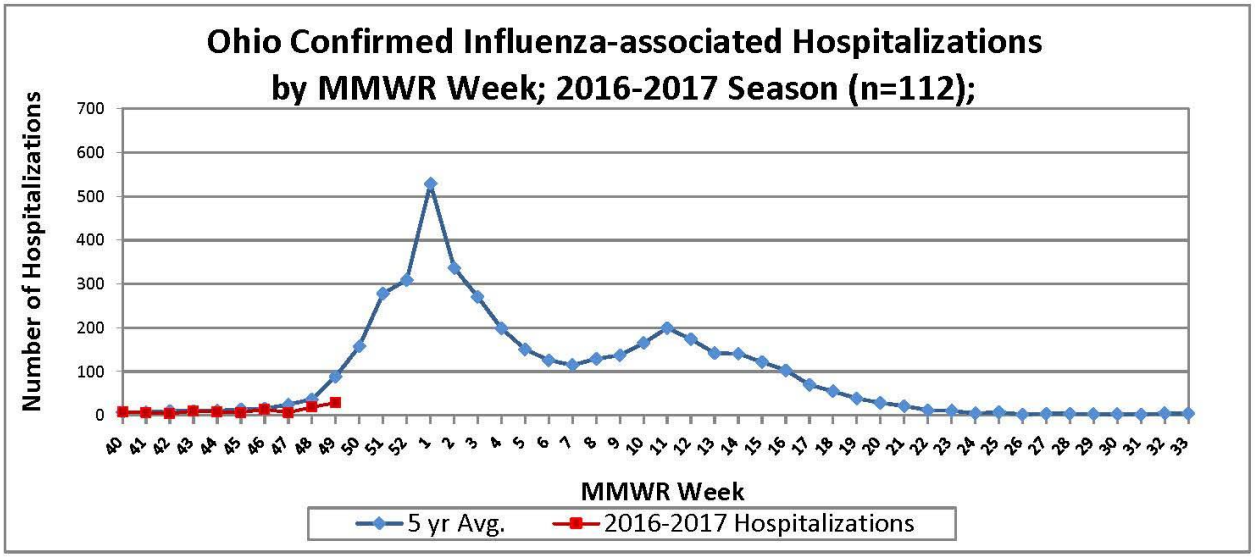

Ohio Constitutional ED Visits with 5 Year Baseline Average; 2016-2017
Percentage of Total ED Visits
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
MMWR Week
5 yr Avg.
2016-2017


Ohio Fever & ILI Specified ED Visits with 5 Year Baseline Average; 2016-2017
Percentage of Total ED Visits
10%
8%
6%
4%
2%
0%
MMWR Week
5 yr Avg.
2016-2017


Ohio Outpatient Influenza-like Illness Network (ILINet) with
3 Year Baseline Average; 2016-2017
Percent ILI
MMWR Week
3 yr Avg.
2016-2017


AthenaHealth: Ohio Influenza Related Outpatient Medical Claims
5 Year Baseline Average; 2016-2017
Percent
MMWR Week
5-year Avg
2016-2017


Ohio Thermometer Sales with
5 Year Baseline Average; 2016-2017
Number of Sales
4,000
3,000
2,000
1,000
0
MMWR Week
5 yr Avg.
2016-2017


Ohio Confirmed Influenza-associated Hospitalizations
by MMWR Week; 2016-2017 Season (n=112);
Number of Hospitalizations
700
600
500
400
300
200
100
0
MMWR Week
5 yr Avg.
2016-2017 Hospitalizations

Sources of Influenza Surveillance Data

- **National Retail Data Monitor (NRDM)-OTC Drug Purchases:** The NRDM collects over-the-counter (OTC) drug sales information from approximately 1,420 Ohio chain drug stores and grocery stores. For influenza surveillance, thermometer and adult cold relief sales are monitored on a weekly basis.
- **Emergency Department Visits (EpiCenter):** EpiCenter collects emergency department chief complaint data from 180 hospitals and urgent care facilities across Ohio in real time and classifies them into symptom and syndrome categories. Chief complaints from the constitutional syndrome category and the fever + ILI symptoms classifier are analyzed for influenza surveillance.
- **Sentinel Providers (ILINet):** Sentinel providers, through the US Influenza-like Illness Surveillance Network (ILINet), collect outpatient influenza-like illness (ILI) data. ILI is defined as a fever ($\geq$ 100 F), **and** cough and/or sore throat without another known cause. Providers report the total number of patients seen and the number of patients with ILI by age group on a weekly basis. Sentinel providers also submit specimens for influenza testing to the ODH laboratory throughout the influenza season. There are 83 sentinel providers enrolled in Ohio for the 2016-2017 season.
- **ODH Laboratory Surveillance:** The Ohio Department of Health Laboratory reports the number of specimens that test positive for influenza each week. Generally, specimens are submitted by sentinel provider participants. A subset of the positive specimens is sent to CDC for further testing during the season.
- **Influenza-associated Hospitalizations (ODRS):** Influenza-associated hospitalizations are reported to ODH from local health departments and hospitals by direct entry into the Ohio Disease Reporting System (ODRS). Hospitalizations can be used as an indicator of the severity of illness during a particular influenza season. This condition became reportable in 2009.
- **Influenza-associated Pediatric Mortality (ODRS):** Influenza-associated pediatric mortalities are reported into ODRS by local health department and hospital staff. Pediatric deaths can be an indicator of the severity of illness during the influenza season. This condition became reportable in 2005.
- **National Respiratory and Enteric Virus Surveillance System (NREVSS):** The National Respiratory and Enteric Virus Surveillance System (NREVSS) is a laboratory-based system that monitors temporal and geographic patterns associated with the detection of respiratory syncytial virus (RSV), human parainfluenza viruses (HPIV), respiratory and enteric adenoviruses and rotavirus. There are 19 facilities in Ohio that submit data to this system.
- **athenahealth®**: athenahealth is a technology and services company for medical billing and electronic health records. Diagnosis and procedure data from primary care visits are automatically queried to produce influenza related statistics.

If you have any further questions or comments about surveillance for seasonal influenza for the State of Ohio, please contact the Infectious Disease Informatics and Vaccine Preventable Disease Epidemiology Unit at SMED@odh.ohio.gov or call (614) 995-5599.