



Ohio Department of Health Seasonal Influenza Activity Summary MMWR Week 20

May 17 – May 23, 2015

** THIS WILL BE THE LAST INFLUENZA SURVEILLANCE WEEKLY REPORT OF THE 2014-2015 **
INFLUENZA SEASON. ODH WILL CONTINUE PERFORMING WEEKLY SURVEILLANCE BUT WILL
DISCONTINUE POSTING THE REPORT UNTIL THE START OF THE 2015-2016 INFLUENZA SEASON

Current Influenza Activity Levels:

- **Ohio:** Sporadic
 - **Definition:** Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of ILI.
- 1. **Ohio Summary:** During week 20 (May 17 - May 23, 2015), ILI activity decreased in Ohio; the proportion of outpatient visits for ILI was 0.29%, which is slightly above the average percentage of visits for this time period. 25 Influenza-associated hospitalizations were reported during MMWR week 20 from these regions: 5 from Central, 4 from East Central, 7 from Northeast, 1 from Northwest, 0 from Southeast, 2 from Southwest, and from 6 West Central. The percentage of emergency department visits with patients exhibiting constitutional symptoms are above baseline averages and fever/ILI symptoms are below baseline averages.
- **Regional:** During week 19 (May 10 - May 16, 2015), influenza-like illness activity among the states surrounding Ohio (Region 5) did not increase or decrease. The proportion of outpatient visits for ILI was 1.1%, which is below the regional baseline of 1.7%. Influenza activity was reported as Minimal for all states in Region 5. All states in Region 5 report Sporadic activity.
- **National:** During week 19 (May 10 - May 16, 2015), influenza-like illness activity increased slightly in the U.S. The proportion of outpatient visits for ILI was 1.3% which is below the national baseline of 2.0%. All 10 Regions reported a proportion of outpatient visits for ILI below their region-specific baseline levels (Ohio is in Region 5). The geographic spread of influenza activity was reported as follows: One state reported Widespread influenza activity; Regional influenza activity was reported by Guam and 1 state; Local activity was reported by the Puerto Rico and 9 states; Sporadic activity was reported by the District of Columbia and 31 states; the U.S. Virgin Islands and 8 states reported No Activity.

Ohio Influenza Activity Summary Dashboard:

Data Source	Current week value	Percent Change from last week ²	# of weeks ³	Trend Chart ⁴
Influenza-like Illness (ILI) Outpatient Data (Sentinel Provider Visits)	0.29%	-12.12%	↓ 2	
Thermometer Sales	830	2.98%	↑ 1	
Fever and ILI Specified ED Visits	1.51%	-0.66%	↓ 3	
Constitutional ED Visits	7.63%	-1.04%	↓ 2	
Confirmed Influenza-associated Hospitalizations	25	-46.81%	↓ 5	
Google Flu Trends (Flu-related Internet Search Queries)	0.55%	-22.54%	↓ 6	

²Interpret percent changes with caution. Large variability may be exhibited in data sources with low weekly values.

³Number of weeks that the % change is increasing or decreasing.

⁴Black lines are data from the current season and red lines are baseline averages. Data from the 2009-10 season was not used for baseline calculations due to the irregular pattern caused by the H1N1 pandemic.

State Surveillance Data:

- ODH Laboratory reports results for those cases that are PCR positive for influenza. Influenza results by submitter type are shown below (9/28/2014 – 5/23/2015).

Result	Submitter Type				Total
	IHSP Submitter	ILINet Provider	NREVSS Submitter	Other Submitter	
H1N1v	0	0	0	1	1
2014-15 LAIV ¹	0	0	2	0	2
2009pdmH1N1	1	0	1	0	2
Test Not Performed	1	5	0	3	9
FluB	10	20	26	5	61
Neg	13	92	7	18	130
H3N2	341	93	466	19	919
Total	366	210	502	46	1124

¹Specimen collected from a patient recently vaccinated with a live-attenuated influenza vaccine

- The National Respiratory and Enteric Virus Surveillance System (NREVSS) has reported **23,333** RT-PCR influenza tests performed at participating facilities during the 2014-2015 Season, the following represents those specimens that tested positive: **(1) H1N1, (532) H3N2, (936) Flu A Not Subtyped, and (903) Flu B** (through 05/23/15).
- Six influenza-associated pediatric mortalities** have been reported for the 2014-2015 season (through 05/23/15).
- The incidence of confirmed influenza-associated hospitalizations in 2014-2015 season=**9374** (through 05/23/15).
- Novel Influenza A Virus:** One human infection with a novel influenza A virus has been reported by the state of Ohio during the 2014-2015 influenza season (Confirmed during MMWR Week 18). The person was infected with an influenza **A (H1N1) variant (H1N1v)** virus and died from complications as a result of the infection. The patient worked at a livestock facility that housed swine but no direct contact with swine was reported in the week prior to illness onset. No ongoing human-to-human transmission has been identified. Early identification and investigation of human infections with novel influenza A viruses are critical in order to evaluate the extent of a possible outbreak or human-to-human transmission. Additional information on influenza in swine, variant influenza infection in humans, and strategies to interact safely with swine can be found at <http://www.cdc.gov/flu/swineflu/index.htm>.

2014-2015 Influenza Virus Characterization – CDC FluView:

CDC has characterized 2,083 influenza viruses [59 A(H1N1)pdm09, 1,272 A(H3N2), and 752 influenza B viruses] collected by U.S. laboratories since October 1, 2014.

Influenza A Virus [1,331]

- A (H1N1)pdm09 [59]:** All 59 H1N1 viruses tested were characterized as A/California/7/2009-like, the influenza A (H1N1) component of the 2014-2015 Northern Hemisphere influenza vaccine.
- A (H3N2) [1,272]:** 244 (19.2%) of the 1,272 H3N2 viruses tested have been characterized as A/Texas/50/2012-like, the influenza A (H3N2) component of the 2014-2015 Northern Hemisphere influenza vaccine. 1,028 (80.8%) of the 1,272 viruses tested showed either reduced titers with antiserum produced against A/Texas/50/2012 or belonged to a genetic group that typically shows reduced titers to A/Texas/50/2012. Among viruses that showed reduced titers with antiserum raised against A/Texas/50/2012, most were antigenically similar to A/Switzerland/9715293/2013, the H3N2 virus selected for the 2015 Southern Hemisphere influenza vaccine. A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable from, the A/Texas/50/2012 vaccine virus. A/Switzerland-like H3N2 viruses were first detected in the United States in small numbers in March of 2014 and began to increase through the spring and summer.

Influenza B Virus [752]

524 (69.7%) of the influenza B viruses tested belong to B/Yamagata/16/88 lineage and the remaining 228 (30.3%) influenza B viruses tested belong to B/Victoria/02/87 lineage.

- Yamagata Lineage [524]:** 513 (97.9%) of the 524 B/Yamagata-lineage viruses were characterized as B/Massachusetts/2/2012-like, which is included as an influenza B component of the 2014-2015 Northern

Hemisphere trivalent and quadrivalent influenza vaccines. Eleven (2.1%) of the B/Yamagata-lineage viruses tested showed reduced titers to B/Massachusetts/2/2012.

- **Victoria Lineage [228]:** 223 (97.8%) of the 228 B/Victoria-lineage viruses were characterized as B/Brisbane/60/2008-like, the virus that is included as an influenza B component of the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Five (2.2%) of the B/Victoria-lineage viruses tested showed reduced titers to B/Brisbane/60/2008.

Analysis Considerations:

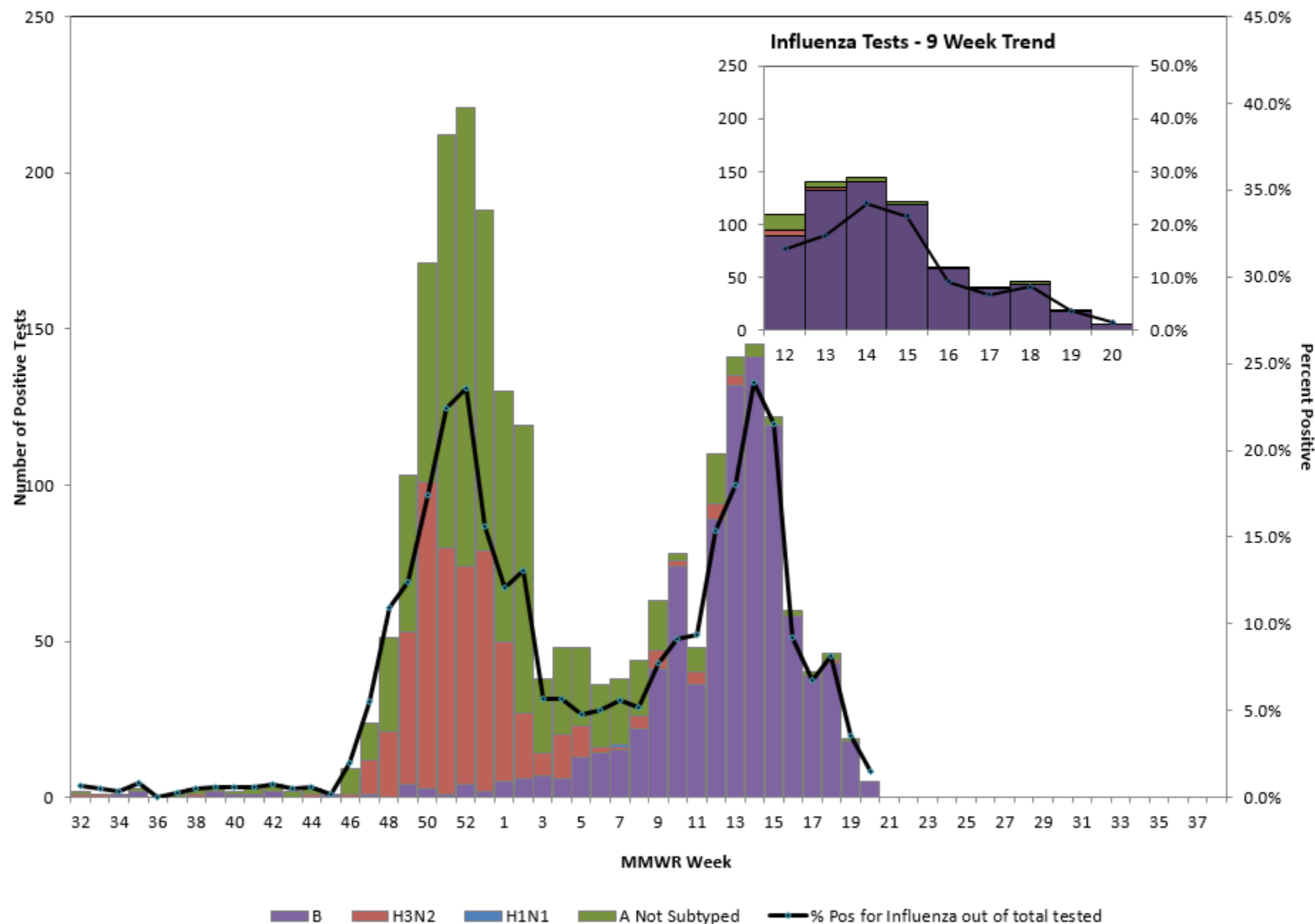
Historical data from the 2009-10 influenza season was not used for baseline calculations due to the irregular pattern caused by the H1N1 pandemic.

National activity levels and more information can be found at the following CDC pages:

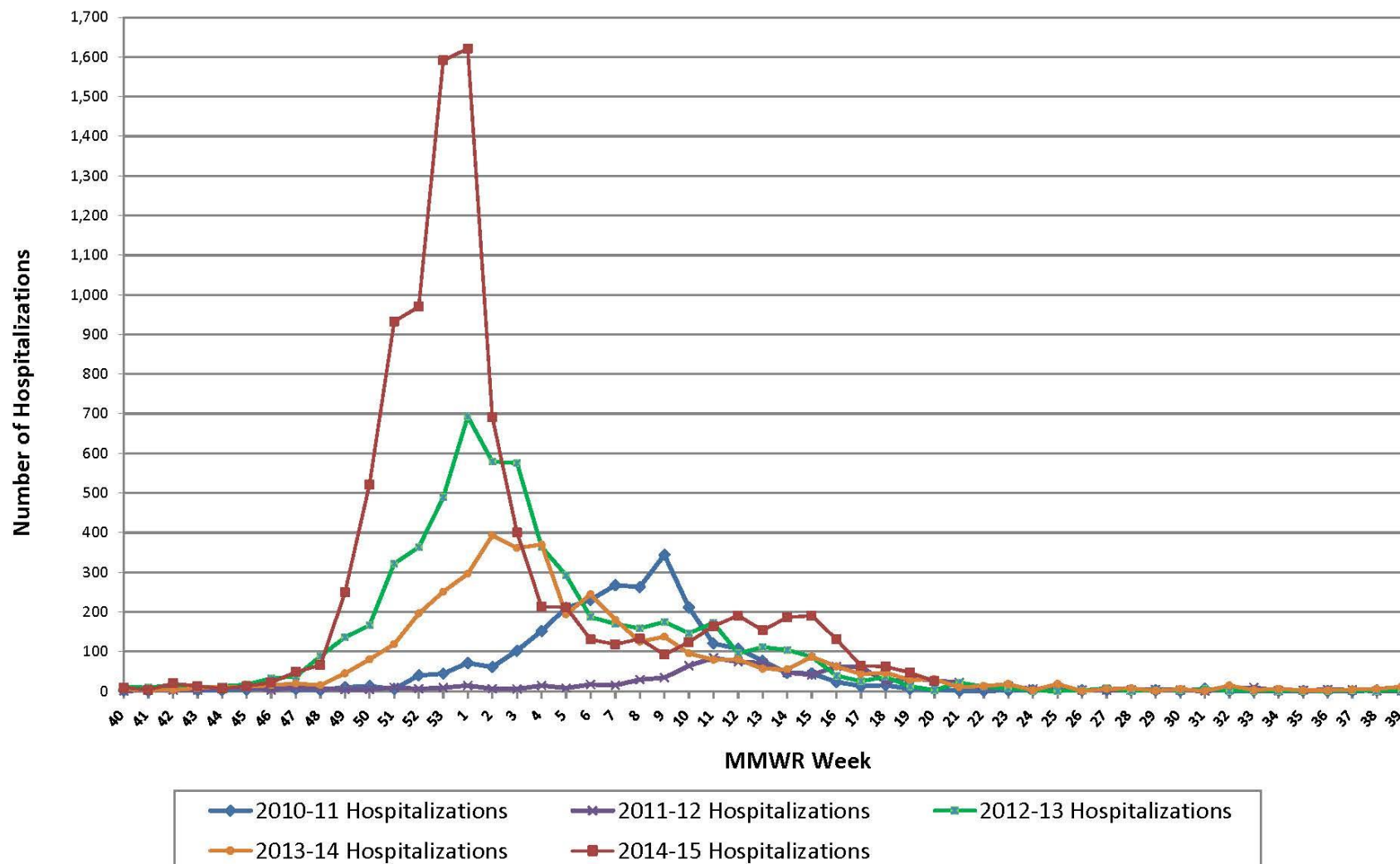
- <http://www.cdc.gov/flu/weekly/>
- <http://www.cdc.gov/flu/>

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

Positive Influenza Tests (PCR), National Respiratory and Enteric Virus Surveillance System (NREVSS), 2014-2015 Influenza Season, Ohio



Ohio Confirmed Influenza-associated Hospitalizations by MMWR Week, Influenza Seasons 2010-Present (2014-15 n=9374);

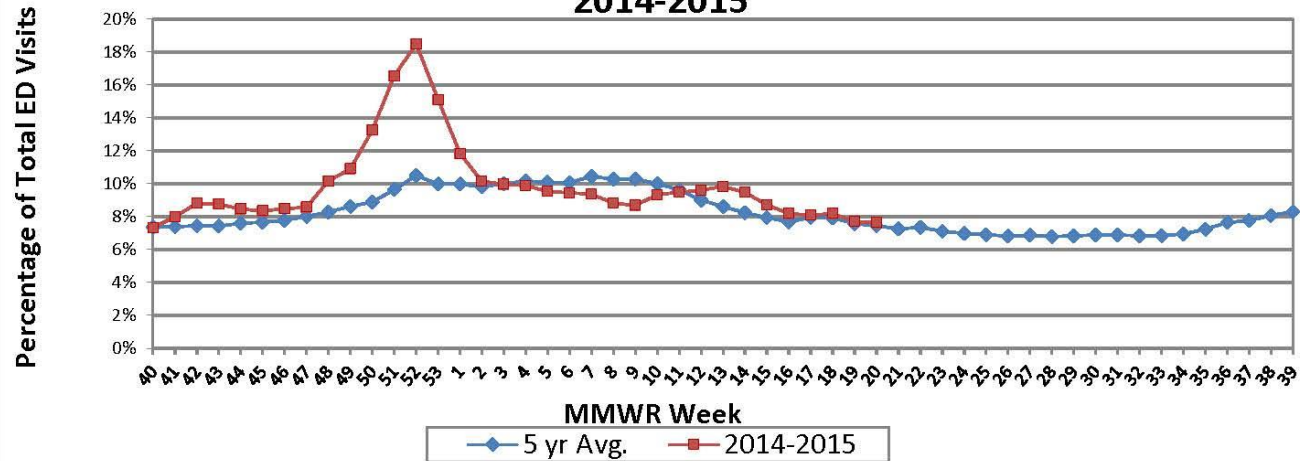


*2014-2015 Season 9/28/2014 thru 05/23/2015

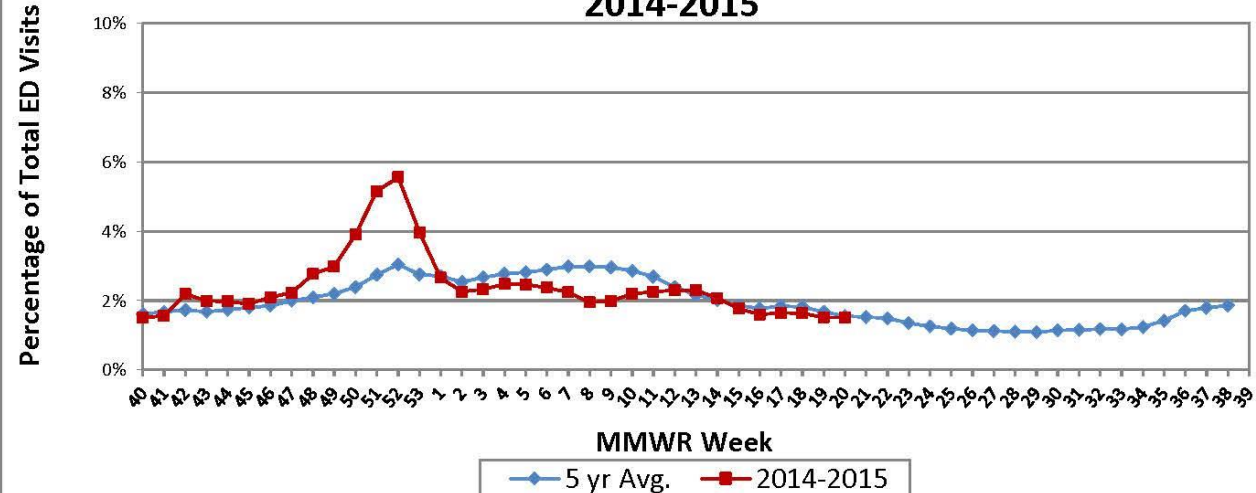
Source: Ohio Disease Reporting System

Public Health Informatics and Vaccine Preventable Disease Epidemiology, Bureau of Infectious Diseases, Ohio Department of Health

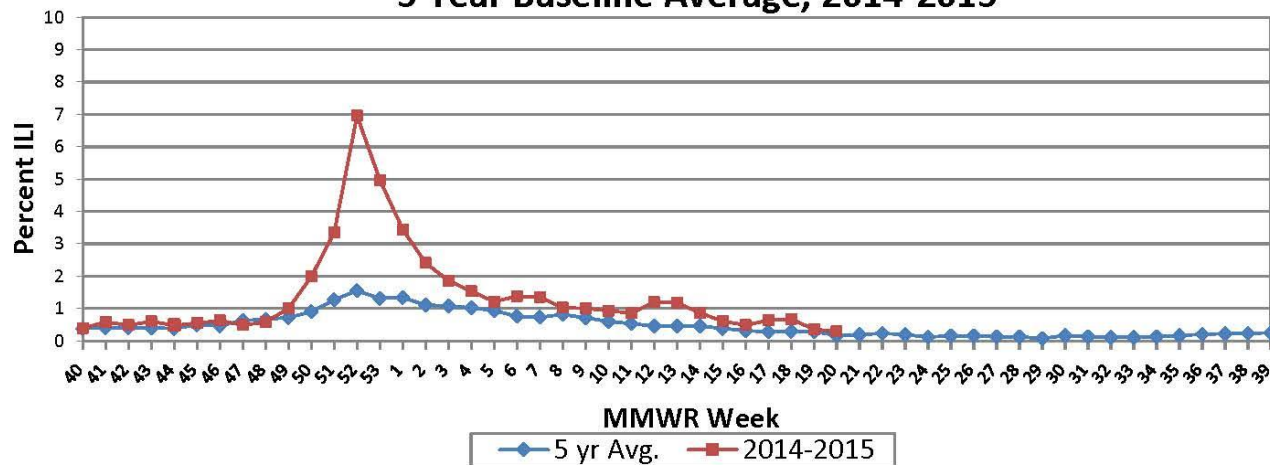
**Ohio Constitutional ED Visits with 5 Year Baseline Average;
2014-2015**



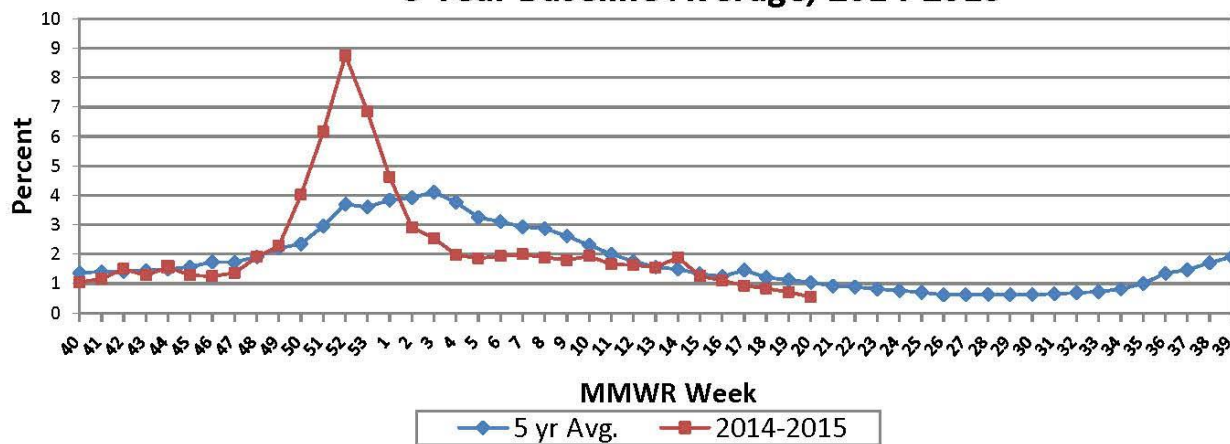
**Ohio Fever & ILI Specified ED Visits with 5 Year Baseline Average;
2014-2015**

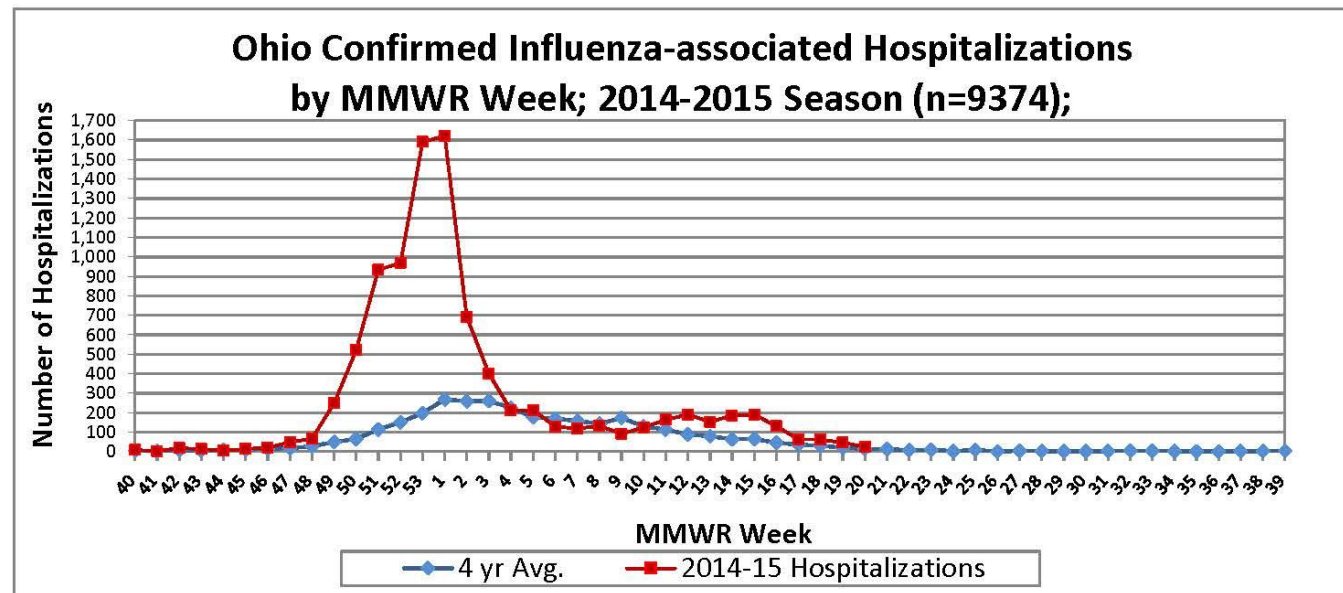
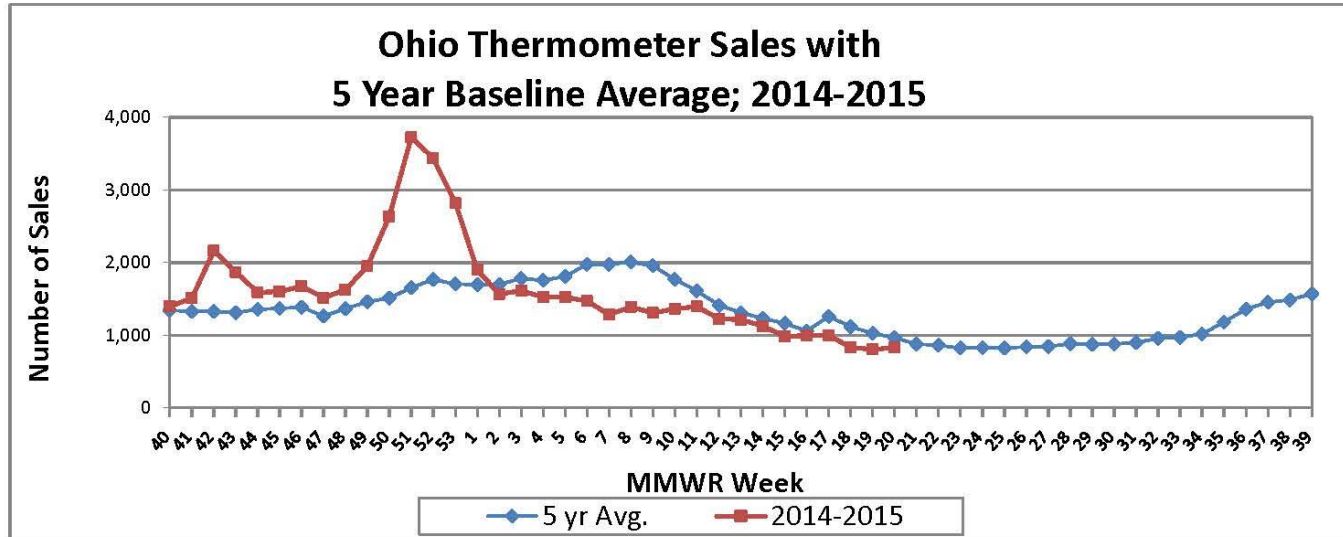


Ohio Outpatient Influenza-like Illness with 5 Year Baseline Average; 2014-2015



Google Flu Trends: Ohio influenza-related search queries with 5 Year Baseline Average; 2014-2015





**Influenza-Associated Hospitalizations, Ohio
2014-2015 Season***

County	Influenza-Associated Hospitalizations	Percent of All Influenza-Associated Hospitalizations	Rate per 100,000 Population†		County	Influenza-Associated Hospitalizations	Percent of All Influenza-Associated Hospitalizations	Rate per 100,000 Population†
ADAMS	5	0.1%	17.51		LOGAN	5	0.1%	10.90
ALLEN	209	2.2%	196.56		LORAIN	99	1.1%	32.85
ASHLAND	43	0.5%	80.92		LUCAS	330	3.5%	74.69
ASHTABULA	70	0.7%	68.97		MADISON	22	0.2%	50.65
ATHENS	15	0.2%	23.16		MAHONING	196	2.1%	82.07
AUGLAIZE	52	0.6%	113.17		MARION	38	0.4%	57.14
BELMONT	16	0.2%	22.73		MEDINA	145	1.6%	84.14
BROWN	9	0.1%	20.07		MEIGS	9	0.1%	37.86
BUTLER	354	3.8%	96.16		MERCER	32	0.3%	78.40
CARROLL	34	0.4%	117.91		MIAMI	59	0.6%	57.56
CHAMPAIGN	24	0.3%	59.85		MONROE	5	0.1%	34.15
CLARK	114	1.2%	82.41		MONTGOMERY	511	5.5%	95.49
CLERMONT	149	1.6%	75.50		MORGAN	15	0.2%	99.64
CLINTON	17	0.2%	40.44		MORROW	14	0.1%	40.20
COLUMBIANA	61	0.7%	56.56		MUSKINGUM	87	0.9%	101.08
COSHOCTON	7	0.1%	18.97		NOBLE	10	0.1%	68.28
CRAWFORD	22	0.2%	50.25		OTTAWA	20	0.2%	48.28
CUYAHOGA	1586	17.0%	123.89		PAULDING	3	0.0%	15.30
DARKE	31	0.3%	58.54		PERRY	18	0.2%	49.92
DEFIANCE	20	0.2%	51.23		PICKAWAY	33	0.4%	59.25
DELAWARE	112	1.2%	64.29		PIKE	22	0.2%	76.63
ERIE	48	0.5%	62.27		PORTAGE	92	1.0%	56.99
FAIRFIELD	56	0.6%	38.32		PREBLE	23	0.2%	54.41
FAYETTE	11	0.1%	37.89		PUTNAM	29	0.3%	84.06
FRANKLIN	978	10.5%	84.06		RICHLAND	70	0.7%	56.24
FULTON	23	0.2%	53.87		ROSS	57	0.6%	73.02
GALLIA	13	0.1%	42.02		SANDUSKY	35	0.4%	57.43
GEAUGA	69	0.7%	73.88		SCIOTO	19	0.2%	23.90
GREENE	152	1.6%	94.08		SENECA	32	0.3%	56.39
GUERNSEY	23	0.2%	57.38		SHELBY	16	0.2%	32.37
HAMILTON	765	8.2%	95.34		STARK	539	5.8%	143.51
HANCOCK	31	0.3%	41.45		SUMMIT	541	5.8%	99.86
HARDIN	12	0.1%	37.43		TRUMBULL	88	0.9%	41.84
HARRISON	4	0.0%	25.21		TUSCARAWAS	74	0.8%	79.93
HENRY	24	0.3%	85.06		UNION	37	0.4%	70.75
HIGHLAND	45	0.5%	103.24		VAN WERT	10	0.1%	34.79
HOCKING	7	0.1%	23.83		VINTON	3	0.0%	22.33
HOLMES	22	0.2%	51.93		WARREN	150	1.6%	70.52
HURON	35	0.4%	58.70		WASHINGTON	60	0.6%	97.12
JACKSON	24	0.3%	72.23		WAYNE	83	0.9%	72.48
JEFFERSON	41	0.4%	58.82		WILLIAMS	2	0.0%	5.31
KNOX	53	0.6%	87.00		WOOD	65	0.7%	51.80
LAKE	119	1.3%	51.73		WYANDOT	17	0.2%	75.17
LAWRENCE	23	0.2%	36.83		UNKNOWN	0	0.0%	*
LICKING	131	1.4%	78.68		TOTAL	9374	100%	81.26

*2014-2015 Season 9/28/2014 thru 5/23/2015

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

Source: Ohio Disease Reporting System

Sources of Influenza Surveillance Data

10 types of data sources are examined on a weekly basis to help determine the influenza activity level for Ohio:

- **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.
- **Google Flu Trends:** Google Flu Trends tracks influenza-related internet search queries and uses these counts as estimates of influenza-like illness (ILI) in each state. See <http://www.google.org/flutrends/> for more information.
- **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 (≥ 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. When less than 50% of enrolled sentinel providers report by the weekly reporting deadline, numbers are reported from the previous MMWR week's analysis. Sentinel providers also submit specimens for influenza testing to the ODH laboratory throughout the influenza season. There are 80 sentinel providers enrolled in Ohio for the 2014-2015 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.
- **122 Cities Mortality Reporting System (Vital Statistics):** Ohio's eight largest cities participate in this reporting on a weekly basis. Vital statistics offices from across the country report the number of death certificates received, along with how many of those have pneumonia or influenza listed as an underlying or contributing cause of death.
- **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. A subset of positive influenza specimens from NREVSS locations are tested at the Ohio Department of Health Laboratory as for novel influenza surveillance.
- **Centers for Disease Control and Prevention (CDC) Weekly U.S. Influenza Surveillance Report – FluView:** A weekly influenza surveillance report prepared by the CDC Influenza Division.