

Ohio Department of Health Seasonal Influenza Activity Summary MMWR Week 46 November 13th – November 19th, 2022

Current Influenza Activity:

During MMWR Week 46, public health surveillance data sources indicate high intensity for influenza-like illness (ILI) in outpatient settings reported by Ohio’s sentinel ILINet providers. The percentage of emergency department visits with patients exhibiting constitutional symptoms and Fever/ILI specified ED visits increased and are above baseline levels statewide. Reported cases of influenza-associated hospitalizations increased. There were 433 influenza-associated hospitalizations reported during MMWR Week 46.

Ohio Week 46 Influenza-associated Hospitalizations by Ohio Public Health Region

Central	51
East Central	36
Northeast1	58
Northwest	17
Southeast	54
Southwest	85
West Central	132
Total	433

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)	7.10%	16.39%	↑8	
Thermometer Sales (National Retail Data Monitor)⁴	0.59%	3.51%	↑1	
Fever and ILI Specified ED Visits (EpiCenter)	3.53%	1.44%	↑8	
Constitutional ED Visits (EpiCenter)	14.41%	4.80%	↑8	
Confirmed Influenza-associated Hospitalizations (Ohio Disease Reporting System)	433	76.73%	↑8	

¹Interpret percent changes with caution. Large variability may be exhibited in data sources with low weekly values.

²Number of weeks that the % change is increasing or decreasing.

³Black lines represent current week's data; red lines represent baseline averages. The 2020-2021 influenza season has been omitted from the five-year baseline averages due to abnormal counts reported during the COVID-19 pandemic. A five-year average, which includes data from the 2016-2017 season through the 2021-2022 season, is displayed.

⁴Due to abnormally high thermometer sales during the COVID-19 pandemic, the 2019-2020 and 2020-2021 season data has been omitted. A 5-year average, which includes data from the 2015-2016 season through the 2021-2022 season, is shown.

State, Regional, and National Data:

Ohio Surveillance Data:

- The **U.S. World Health Organization (WHO) Collaborating Laboratories System and the National Respiratory and Enteric Virus Surveillance System (NREVSS)** has reported **36,500** tests for influenza performed at participating facilities; of these, **287 tested positive for influenza A(H1N1pdm09), 319 for influenza A(H3N2), 2,573 for influenza A (subtyping not performed), and 38 for influenza B** (through 11/19/2022).
- One **pediatric influenza-associated mortality** has been reported so far during the 2022-2023 influenza season (through 11/19/2022).
- No **novel influenza A virus infections** have been reported so far during the 2022-2023 influenza season (through 11/19/2022).
- Incidence of confirmed **influenza-associated hospitalizations** in 2022-2023 season = 1,058 (through 11/19/2022).

HHS Regional Surveillance Data*: During week 45 (November 6th – November 12th, 2022), the percentage of outpatient visits for influenza-like illness (ILI) in Region 5 (Ohio is in Region 5) was 4.0%, which is **above** the regional baseline of 2.5%.

National Surveillance Data*: During week 45 (November 6th – November 12th, 2022), the majority of U.S. states reported High or Very High activity, though some states are reporting Minimal, Low, or Moderate activity. The percentage of outpatient visits for ILI was 5.8%, which is **above** the national baseline of 2.5%. All 10 HHS regions reported ILI levels above their region-specific baseline level.

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

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

Antigenic Characterization:

Influenza A Viruses

- **A (H1N1)pdm09:** Thirty-three A(H1N1)pdm09 viruses were antigenically characterized by HI, and 31 (94%) were well recognized (reacting at titers that were within 4-fold of the homologous virus titer) by ferret antisera to cell-grown A/Wisconsin/588/2019-like reference viruses representing the A(H1N1)pdm09 component for the cell- and recombinant-based influenza vaccines and 31 (94%) were well recognized by ferret antisera to egg-grown A/Victoria/2570/2019-like reference viruses representing the A(H1N1)pdm09 component for the egg-based influenza vaccines.
- **A (H3N2):** Fifty A(H3N2) viruses were antigenically characterized by HINT; all were well-recognized (reacting at titers that were within 8-fold of the homologous virus titer) by ferret antisera to cell-grown A/Darwin/6/2021-like reference viruses representing the A(H3N2) component for the cell- and recombinant-based influenza vaccines and 48 (96%) were well-recognized by ferret antisera to egg-grown A/Darwin/9/2021-like reference viruses representing the A(H3N2) component for egg-based influenza vaccines.

Influenza B Viruses

- **B/Victoria:** One influenza B/Victoria-lineage virus was antigenically characterized by HI; it was well recognized (reacting at titers that were within 4-fold of the homologous virus titer) by ferret antisera to cell-grown B/Austria/1359417/2021-like reference viruses representing the B/Victoria component for the cell- and recombinant-based influenza vaccines and by ferret antisera to egg-grown B/Austria/1359417/2021-like reference viruses representing the B/Victoria component for the egg-based influenza vaccines.
- **B/Yamagata:** No influenza B/Yamagata-lineage viruses were available for antigenic characterization.

2022-2023 Influenza Vaccine Components:

Egg-Based Vaccines		
A/B	Virus	Quadrivalent
A	A/Victoria/2570/2019 (H1N1)pdm09-like virus	X
A	A/Darwin/9/2021 (H3N2)-like virus (updated)	X
B	B/Austria/1359417/2021-like virus (B/Victoria lineage) (updated)	X
B	Phuket/3073/2013-like (B/Yamagata lineage)	X
Cell- and Recombinant-Based Vaccines*		
A	A/Wisconsin/588/2019 (H1N1)pdm09-like virus	X
A	A/Darwin/6/2021 (H3N2)-like virus (updated)	X
B	B/Austria/1359417/2021-like virus (B/Victoria lineage) (updated)	X
B	Phuket/3073/2013-like (B/Yamagata lineage)	X

*No trivalent preparations are available for cell and recombinant-based vaccines or for egg-based vaccine for the 2022–23 season.

**Influenza-Associated Hospitalizations, Ohio
2022-2023 Season***

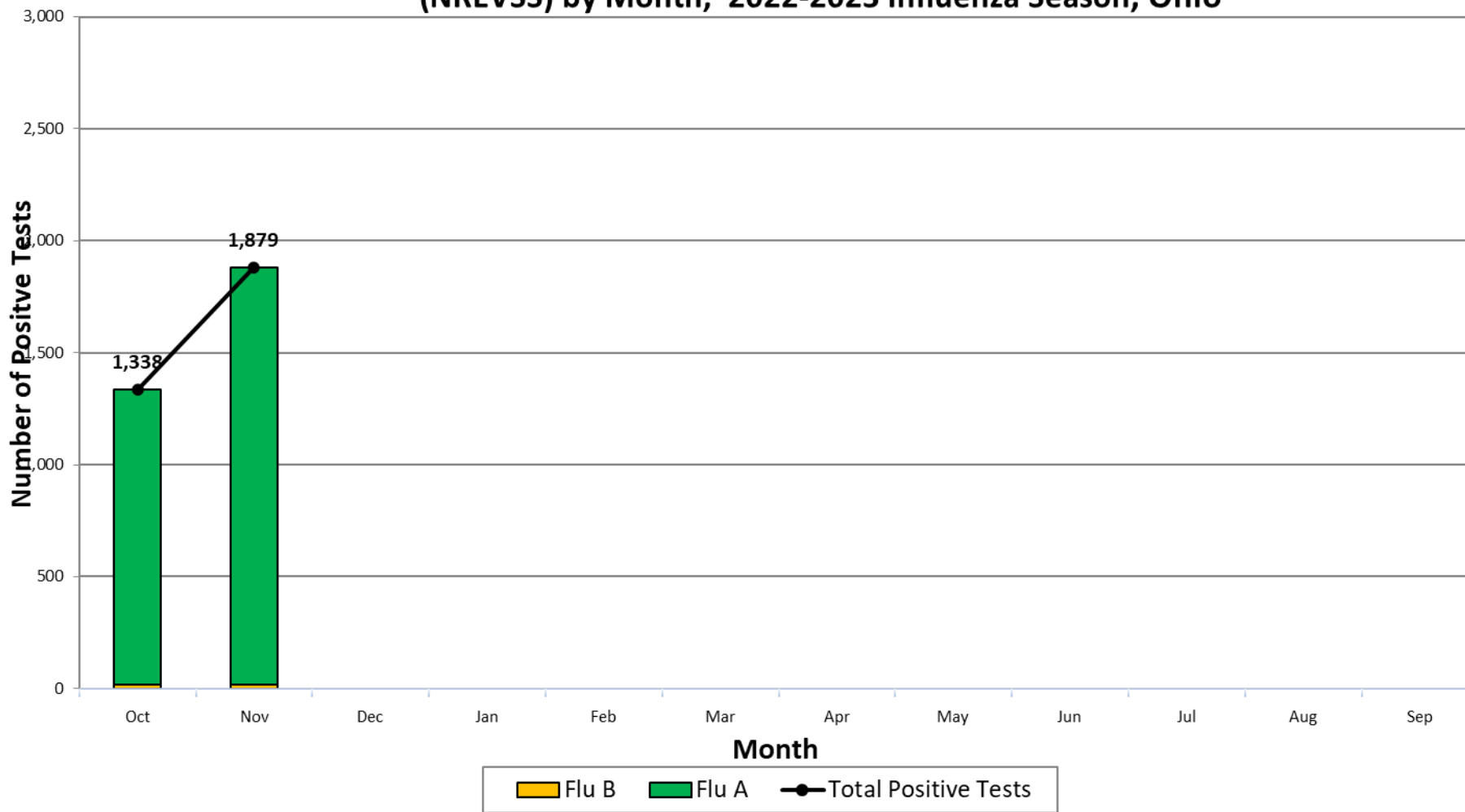
County	Influenza-Associated Hospitalizations	Percent of All Influenza-Associated Hospitalizations	Rate per 100,000 Population†	County	Influenza-Associated Hospitalizations	Percent of All Influenza-Associated Hospitalizations	Rate per 100,000 Population†
ADAMS	0	0.0%	0.00	LOGAN	1	0.1%	2.17
ALLEN	9	0.9%	8.81	LORAIN	5	0.5%	1.60
ASHLAND	1	0.1%	1.91	LUCAS	19	1.8%	4.41
ASHTABULA	6	0.6%	6.15	MADISON	3	0.3%	6.85
ATHENS	2	0.2%	3.20	MAHONING	12	1.1%	5.25
AUGLAIZE	8	0.8%	17.23	MARION	2	0.2%	3.06
BELMONT	1	0.1%	1.50	MEDINA	8	0.8%	4.38
BROWN	13	1.2%	29.76	MEIGS	3	0.3%	13.51
BUTLER	42	4.0%	10.76	MERCER	2	0.2%	4.70
CARROLL	2	0.2%	7.48	MIAMI	14	1.3%	12.87
CHAMPAIGN	5	0.5%	12.92	MONROE	1	0.1%	7.47
CLARK	68	6.4%	50.00	MONTGOMERY	213	20.1%	39.64
CLERMONT	41	3.9%	19.65	MORGAN	2	0.2%	14.49
CLINTON	3	0.3%	7.14	MORROW	2	0.2%	5.72
COLUMBIANA	5	0.5%	4.91	MUSKINGUM	21	2.0%	24.30
COSHOCTON	1	0.1%	2.73	NOBLE	2	0.2%	14.17
CRAWFORD	0	0.0%	0.00	OTTAWA	2	0.2%	4.95
CUYAHOGA	73	6.9%	5.77	PAULDING	0	0.0%	0.00
DARKE	1	0.1%	1.93	PERRY	7	0.7%	19.77
DEFIANCE	0	0.0%	0.00	PICKAWAY	4	0.4%	6.83
DELAWARE	9	0.9%	4.20	PIKE	1	0.1%	3.69
ERIE	2	0.2%	2.64	PORTAGE	4	0.4%	2.47
FAIRFIELD	10	0.9%	6.29	PREBLE	2	0.2%	4.88
FAYETTE	1	0.1%	3.45	PUTNAM	2	0.2%	5.81
FRANKLIN	85	8.0%	6.42	RICHLAND	2	0.2%	1.60
FULTON	0	0.0%	0.00	ROSS	4	0.4%	5.19
GALLIA	6	0.6%	20.53	SANDUSKY	1	0.1%	1.70
GEAUGA	2	0.2%	2.10	SCIOTO	18	1.7%	24.32
GREENE	34	3.2%	20.24	SENECA	0	0.0%	0.00
GUERNSEY	9	0.9%	23.41	SHELBY	3	0.3%	6.22
HAMILTON	124	11.7%	14.93	STARK	14	1.3%	3.73
HANCOCK	0	0.0%	0.00	SUMMIT	21	2.0%	3.89
HARDIN	0	0.0%	0.00	TRUMBULL	6	0.6%	2.97
HARRISON	0	0.0%	0.00	TUSCARAWAS	3	0.3%	3.22
HENRY	0	0.0%	0.00	UNION	0	0.0%	0.00
HIGHLAND	3	0.3%	6.93	VAN WERT	0	0.0%	0.00
HOCKING	0	0.0%	0.00	VINTON	2	0.2%	15.63
HOLMES	4	0.4%	9.05	WARREN	24	2.3%	9.90
HURON	3	0.3%	5.12	WASHINGTON	7	0.7%	11.71
JACKSON	7	0.7%	21.44	WAYNE	2	0.2%	1.71
JEFFERSON	0	0.0%	0.00	WILLIAMS	0	0.0%	0.00
KNOX	3	0.3%	4.78	WOOD	1	0.1%	0.76
LAKE	12	1.1%	5.16	WYANDOT	2	0.2%	9.13
LAWRENCE	12	1.1%	20.60	UNKNOWN	0	0.0%	*
LICKING	9	0.9%	5.04	TOTAL	1058	100%	8.97

*2022-2023 Season began on 10/2/2022; data as of 11/20/2022

† Disease rates were calculated by number of cases per 100,000 residents using 2020 census data.

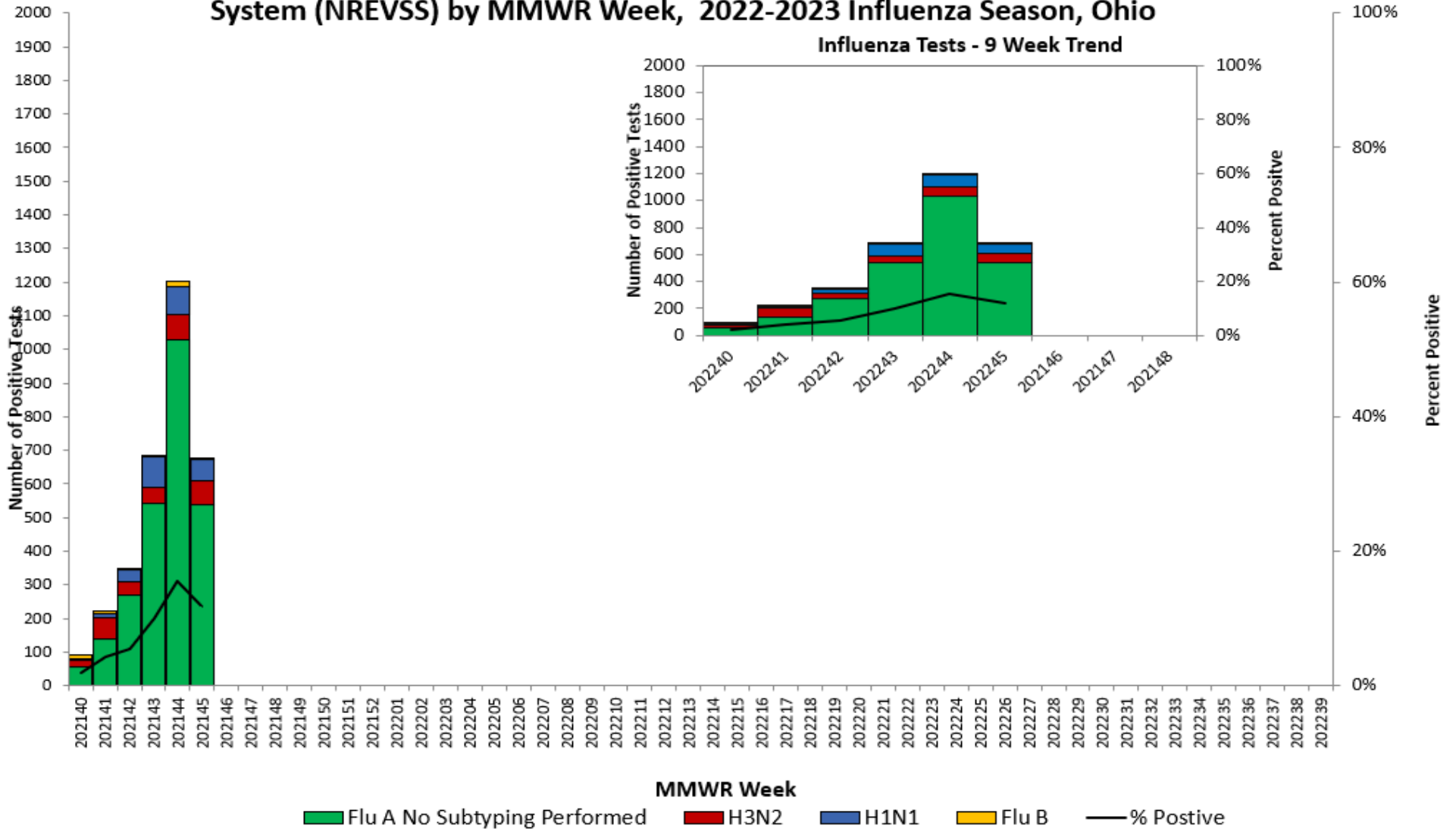
Source: Ohio Disease Reporting System

Positive Influenza Testing from Public Health Laboratories and Selected Clinical Laboratories Participating in the National Respiratory and Enteric Virus Surveillance System (NREVSS) by Month, 2022-2023 Influenza Season, Ohio



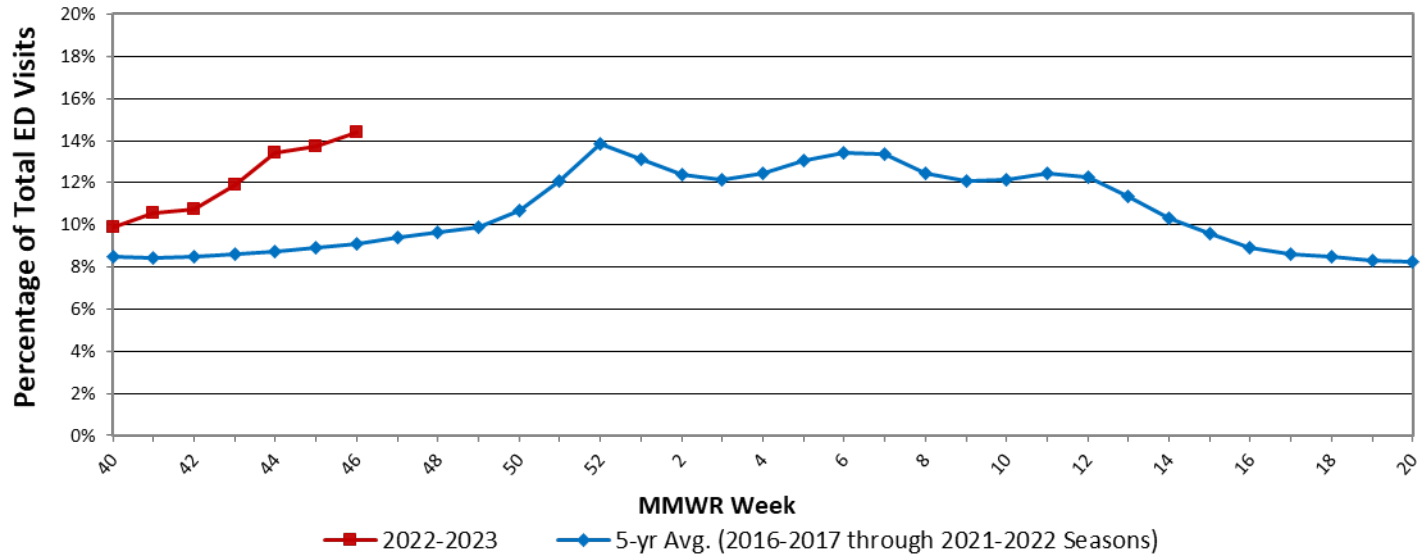
Note: NREVSS/Public Health Laboratory data are reported one week later than Ohio state-level data to ensure data completeness.

Positive Influenza Testing from Public Health Laboratories and Selected Clinical Laboratories Participating in the National Respiratory and Enteric Virus Surveillance System (NREVSS) by MMWR Week, 2022-2023 Influenza Season, Ohio

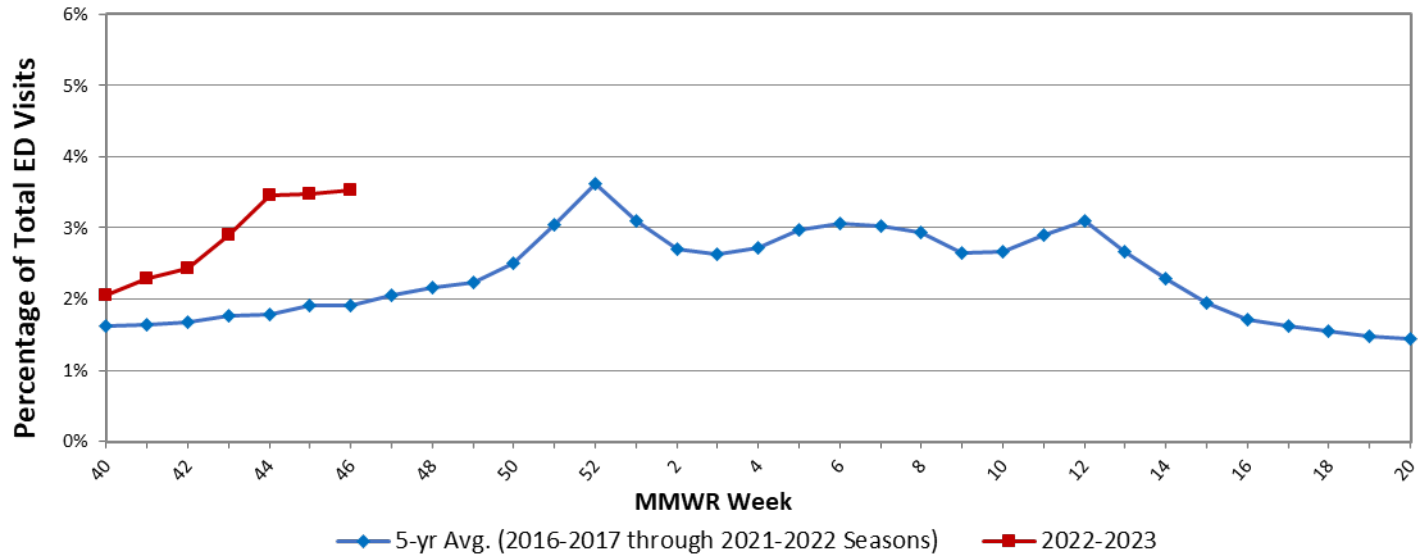


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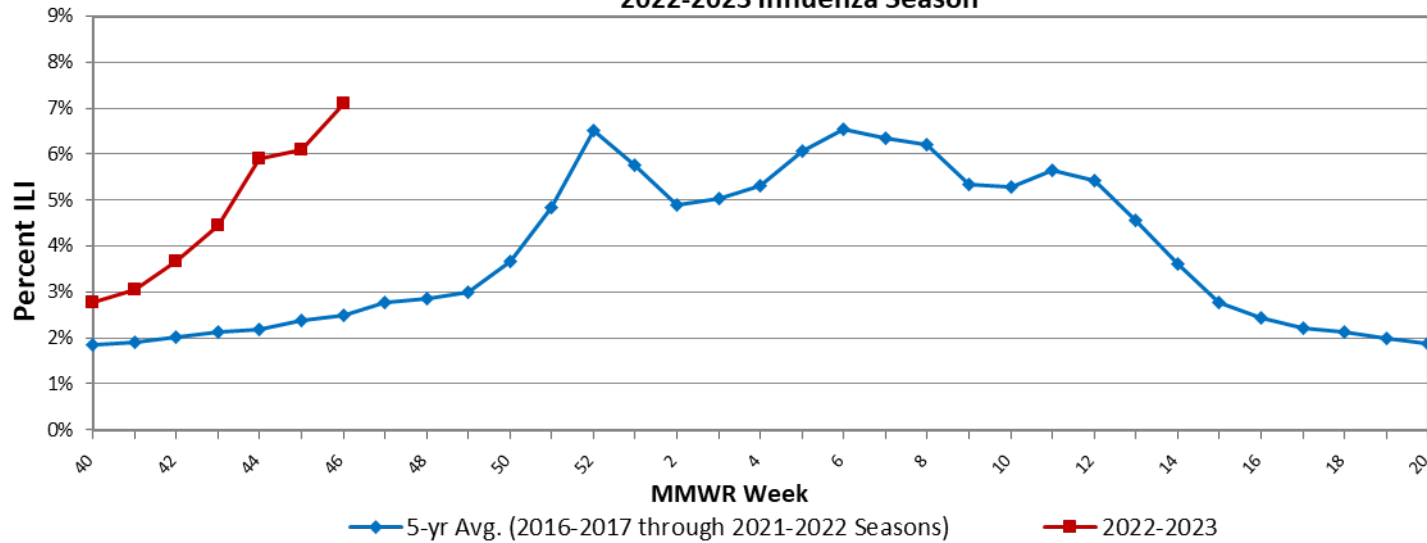
Ohio Constitutional ED Visits with 5 Year Baseline Average; 2022-2023 Influenza Season



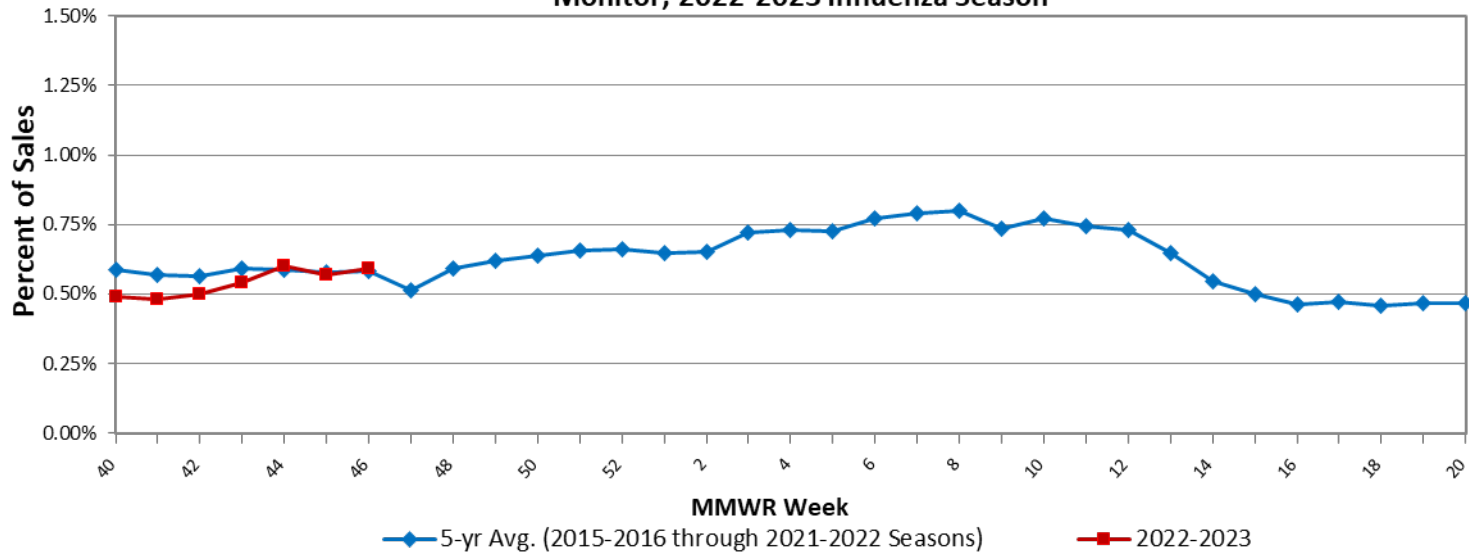
Ohio Fever & ILI Specified ED Visits with 5 Year Baseline Average; 2022-2023 Influenza Season



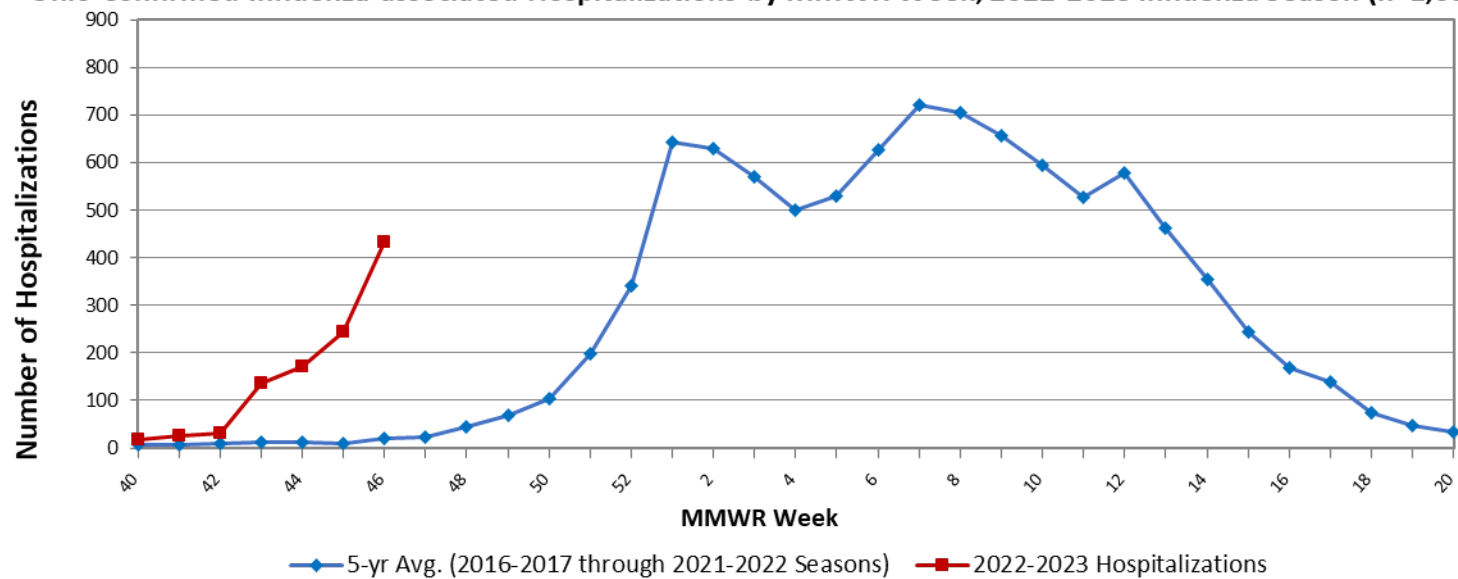
**Ohio Outpatient Influenza-like Illness Network (ILINet) with 5 Year Baseline Average;
2022-2023 Influenza Season**



**Percent of Ohio Thermometer Sales with 5 Year Baseline Average; National Retail Data
Monitor; 2022-2023 Influenza Season**



Ohio Confirmed Influenza-associated Hospitalizations by MMWR Week; 2022-2023 Influenza Season (n=1,058)



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. Due to abnormally high thermometer sales during the COVID-19 pandemic, the data from the 2019-2020 and 2020-2021 influenza seasons has been omitted from the baseline average in the figure above. A five-year average, which includes data from the 2015-2016 season through the 2018-2019 season, and the 2021-2022 season is displayed.
- **Emergency Department Visits (EpiCenter):** EpiCenter collects emergency department chief complaint data from 206 hospitals and 15 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. A five-year average, which includes data from the 2016-2017 season through the 2021-2022 season, is displayed in the figure above. EpiCenter data from the 2020-2021 influenza season has been omitted from the five-year baseline average due to data instability and effects of the COVID-19 pandemic.
- **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. 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 107 sentinel providers enrolled in Ohio for the 2022-2023 influenza season. A five-year average, which includes data from the 2016-2017 season through the 2021-2022 season, is displayed in the figure above. ILINet data from the 2020-2021 influenza season has been omitted from the five-year baseline average due to abnormally low percent ILI counts reported during the COVID-19 pandemic.
- **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. A five-year average, which includes data from the 2016-2017 season through the 2021-2022 season, is displayed in the figure above. Influenza-associated hospitalization data from the 2020-2021 influenza season has been omitted from the five-year baseline average due to abnormally low counts reported during the COVID-19 pandemic.
- **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.

- U.S. World Health Organization (WHO) Collaborating Laboratories System** and the **National Respiratory and Enteric Virus Surveillance System (NREVSS)**: The Ohio Department of Health Laboratory, Wright Patterson Airforce Base (both WHO Collaborating Laboratories), and 19 clinical laboratories located throughout Ohio participate in virologic surveillance for influenza through either the U.S. WHO Collaborating Laboratories System or NREVSS. Influenza testing data from these systems are compiled by the Centers for Disease Control and Prevention's (CDC) National Center for Immunization and Respiratory Diseases (NCIRD) and made available to the influenza surveillance coordinators in each state for analysis.

Ohio Public Health Regions: These counties comprise the Ohio Public Health Regions described in the figures shown on pages 1 and 5.

Central		East Central		Noth East	North West		South East		South West	West Central
CRAWFORD	LOGAN	ASHLAND	RICHLAND	ASHTABULA	ALLEN	MERCER	ATHENS	MONROE	ADAMS	CHAMPAIGN
DELAWARE	MADISON	CARROLL	STARK	CUYAHOGA	AUGLAIZE	OTTAWA	BELMONT	MORGAN	BROWN	CLARK
FAIRFIELD	MARION	COLUMBIANA	SUMMIT	GEAUGA	DEFIANCE	PAULDING	COSHOCTON	MUSKINGUM	BUTLER	DARKE
FAYETTE	MORROW	HOLMES	TRUMBULL	LAKE	ERIE	PUTNAM	GALLIA	NOBLE	CLERMONT	GREENE
FRANKLIN	PICKAWAY	MAHONING	TUSCARAWAS	LORAIN	FULTON	SANDUSKY	GUERNSEY	PERRY	CLINTON	MIAMI
HARDIN	UNION	MEDINA	WAYNE		HANCOCK	SENECA	HARRISON	PIKE	HAMILTON	MONTGOMERY
KNOX	WYANDOT	PORTAGE			HENRY	VAN WERT	HOCKING	ROSS	HIGHLAND	PREBLE
LICKING					HURON	WILLIAMS	JACKSON	SCIOTO	WARREN	SHELBY
					LUCAS	WOOD	JEFFERSON	VINTON		
							LAWRENCE	WASHINGTON		
							MEIGS			

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 vpdepi@odh.ohio.gov or call (614) 995-5599.