

## Ohio Department of Health Seasonal Influenza Activity Summary

### MMWR Week 4

### January 22<sup>nd</sup> – January 28<sup>th</sup>, 2023



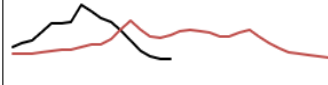
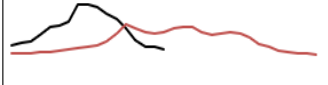
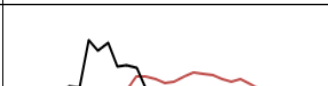
#### Current Influenza Activity:

During MMWR Week 4, public health surveillance data sources indicate minimal intensity for influenza-like illness (ILI) in outpatient settings reported by Ohio's sentinel ILINet providers. The percentage of emergency department (ED) visits with patients exhibiting constitutional symptoms and fever/ILI specified ED visits are below baseline levels statewide. Reported cases of influenza-associated hospitalizations decreased. There were 98 influenza-associated hospitalizations reported during MMWR Week 4.

#### Ohio Week 4 Influenza-associated Hospitalizations by Ohio Public Health Region

Central	13
East Central	14
Northeast <sup>1</sup>	20
Northwest	13
Southeast	11
Southwest	13
West Central	14
Total	98

#### Ohio Influenza Activity Summary Dashboard:

Data Source	Current week value	Percent Change from last week <sup>1</sup>	# of weeks <sup>2</sup>	Trend Chart <sup>3</sup>
Influenza-like Illness (ILI) Outpatient Data (ILINet Sentinel Provider Visits)	2.30%	-4.56%	↓ 9	
Thermometer Sales (National Retail Data Monitor) <sup>4</sup>	0.52%	-3.70%	↓ 3	
Fever and ILI Specified ED Visits (EpiCenter)	1.36%	1.49%	↑ 1	
Constitutional ED Visits (EpiCenter)	9.25%	-3.65%	↓ 9	
Confirmed Influenza-associated Hospitalizations (Ohio Disease Reporting System)	98	-39.13%	↓ 4	

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

<sup>2</sup>Number of weeks that the % change is increasing or decreasing.

<sup>3</sup>Black 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.

<sup>4</sup>Due 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 **117,493** tests for influenza performed at participating facilities; of these, **1,013** tested positive for influenza A(H1N1pdm09), **1,207** for influenza A(H3N2), **21,187** for influenza A (subtyping not performed), and **114** for influenza B (through 01/28/2023).
- Four **influenza-associated pediatric mortalities** have been reported so far during the 2022-2023 influenza season (through 01/28/2023).
- No **novel influenza A virus infections** have been reported so far during the 2022-2023 influenza season (through 01/28/2023).
- Incidence of confirmed **influenza-associated hospitalizations** in 2022-2023 season = 8,584 (through 01/28/2023).

**HHS Regional Surveillance Data\*:** During week 3 (January 15<sup>th</sup> – January 21<sup>st</sup>, 2023), the percentage of outpatient visits for influenza-like illness (ILI) in Region 5 (Ohio is in Region 5) was 1.4%, which is **below** the regional baseline of 2.5%.

**National Surveillance Data\*:** During week 3 (January 15<sup>th</sup> – January 21<sup>st</sup>, 2023), the majority of U.S. states reported Minimal or Low activity, though some states are reporting Moderate or High activity. The percentage of outpatient visits for ILI was 2.6%, which is **above** the national baseline of 2.5%. Four of 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: Seventy-four A(H1N1)pdm09 viruses were antigenically characterized by HI, and 73 (99.9%) 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.
- A (H3N2): One hundred and fifty-eight A(H3N2) viruses were antigenically characterized by HINT, and 147 (93%) 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.

#### **Influenza B Viruses**

- B/Victoria: Ten influenza B/Victoria-lineage virus were antigenically characterized by HI, and all were 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.
- B/Yamagata: No influenza B/Yamagata-lineage viruses were available for antigenic characterization.

**2022-2023 Influenza Vaccine Components:**

<b>Egg-Based Vaccines</b>		
<b>A/B</b>	<b>Virus</b>	<b>Quadrivalent</b>
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
<b>Cell- and Recombinant-Based Vaccines*</b>		
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.

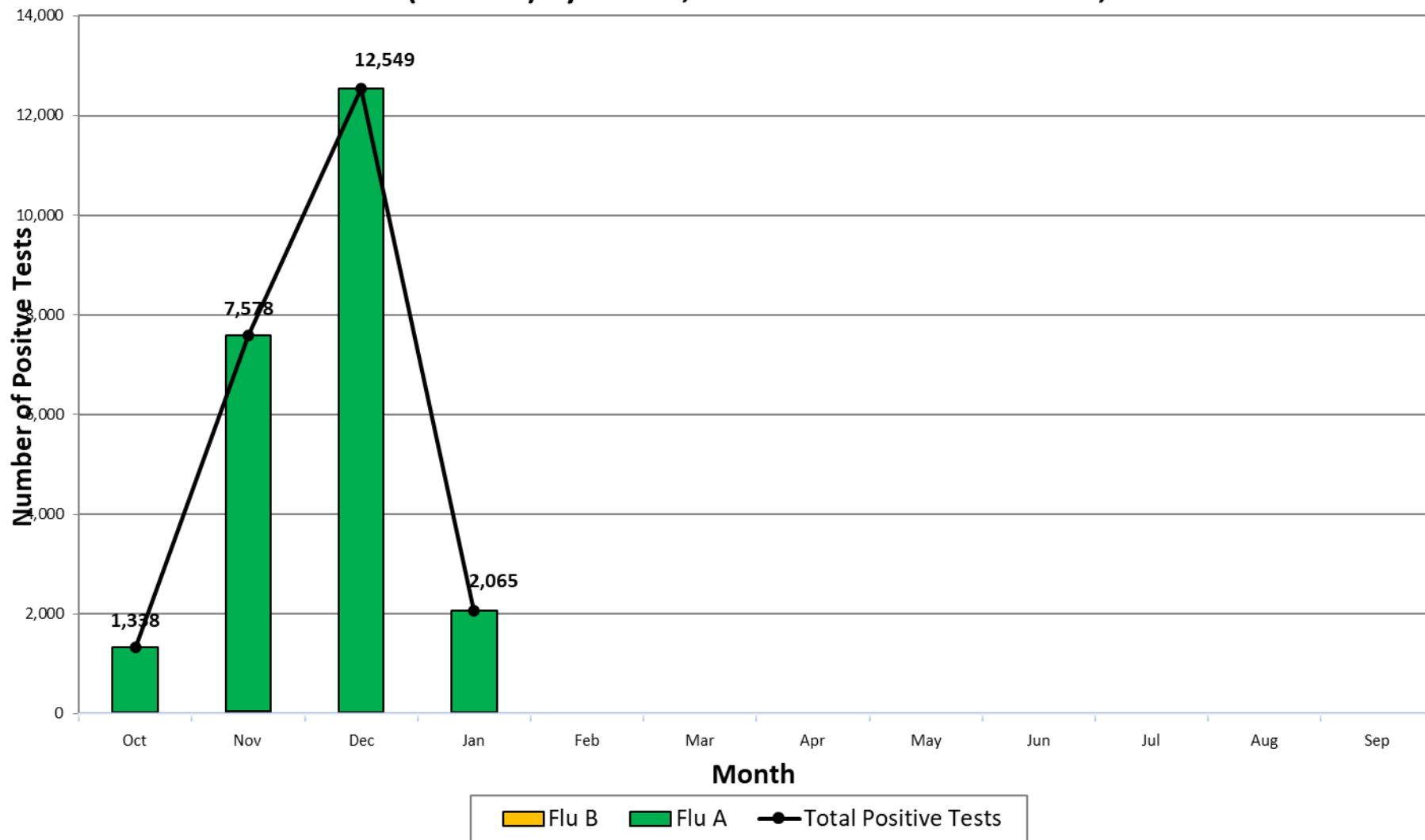
Influenza-Associated Hospitalizations, Ohio 2022-2023 Season*								
County	Influenza-Associated Hospitalizations	Percent of All Influenza-Associated Hospitalizations	Rate per 100,000 Population†		County	Influenza-Associated Hospitalizations	Percent of All Influenza-Associated Hospitalizations	Rate per 100,000 Population†
ADAMS	5	0.1%	18.20		LOGAN	25	0.3%	54.17
ALLEN	134	1.6%	131.11		LORAIN	130	1.5%	41.54
ASHLAND	41	0.5%	78.17		LUCAS	401	4.7%	92.98
ASHTABULA	67	0.8%	68.67		MADISON	24	0.3%	54.76
ATHENS	45	0.5%	72.08		MAHONING	189	2.2%	82.67
AUGLAIZE	55	0.6%	118.48		MARION	72	0.8%	110.16
BELMONT	21	0.2%	31.58		MEDINA	105	1.2%	57.54
BROWN	38	0.4%	87.00		MEIGS	16	0.2%	72.04
BUTLER	264	3.1%	67.63		MERCER	42	0.5%	98.76
CARROLL	29	0.3%	108.53		MIAMI	114	1.3%	104.80
CHAMPAIGN	32	0.4%	82.66		MONROE	3	0.0%	22.41
CLARK	213	2.5%	156.62		MONTGOMERY	801	9.3%	149.08
CLERMONT	143	1.7%	68.55		MORGAN	23	0.3%	166.64
CLINTON	13	0.2%	30.94		MORROW	15	0.2%	42.92
COLUMBIANA	78	0.9%	76.56		MUSKINGUM	125	1.5%	144.66
COSHOCTON	22	0.3%	60.09		NOBLE	19	0.2%	134.61
CRAWFORD	18	0.2%	42.83		OTTAWA	25	0.3%	61.94
CUYAHOGA	1121	13.1%	88.63		PAULDING	8	0.1%	42.54
DARKE	39	0.5%	75.17		PERRY	31	0.4%	87.55
DEFIANCE	30	0.3%	78.36		PICKAWAY	62	0.7%	105.91
DELAWARE	67	0.8%	31.29		PIKE	18	0.2%	66.45
ERIE	86	1.0%	113.72		PORTAGE	68	0.8%	42.03
FAIRFIELD	68	0.8%	42.79		PREBLE	28	0.3%	68.29
FAYETTE	21	0.2%	72.54		PUTNAM	33	0.4%	95.79
FRANKLIN	548	6.4%	41.40		RICHLAND	106	1.2%	84.84
FULTON	26	0.3%	60.87		ROSS	63	0.7%	81.72
GALLIA	41	0.5%	140.31		SANDUSKY	41	0.5%	69.61
GEAUGA	36	0.4%	37.74		SCIOTO	123	1.4%	166.20
GREENE	156	1.8%	92.88		SENECA	39	0.5%	70.82
GUERNSEY	51	0.6%	132.68		SHELBY	24	0.3%	49.76
HAMILTON	507	5.9%	61.04		STARK	297	3.5%	79.23
HANCOCK	55	0.6%	73.41		SUMMIT	241	2.8%	44.59
HARDIN	20	0.2%	65.16		TRUMBULL	114	1.3%	56.44
HARRISON	7	0.1%	48.33		TUSCARAWAS	93	1.1%	99.72
HENRY	11	0.1%	39.77		UNION	16	0.2%	25.48
HIGHLAND	61	0.7%	140.82		VAN WERT	9	0.1%	31.11
HOCKING	9	0.1%	32.09		VINTON	11	0.1%	85.94
HOLMES	33	0.4%	74.62		WARREN	106	1.2%	43.74
HURON	44	0.5%	75.13		WASHINGTON	58	0.7%	97.04
JACKSON	42	0.5%	128.63		WAYNE	65	0.8%	55.61
JEFFERSON	16	0.2%	24.52		WILLIAMS	12	0.1%	32.34
KNOX	64	0.7%	102.04		WOOD	103	1.2%	77.88
LAKE	153	1.8%	65.78		WYANDOT	19	0.2%	86.76
LAWRENCE	77	0.9%	132.21		UNKNOWN	0	0.0%	*
LICKING	60	0.7%	33.61		TOTAL	8584	100%	72.75

\*2022-2023 Season began on 10/2/2022; data as of 01/30/2023

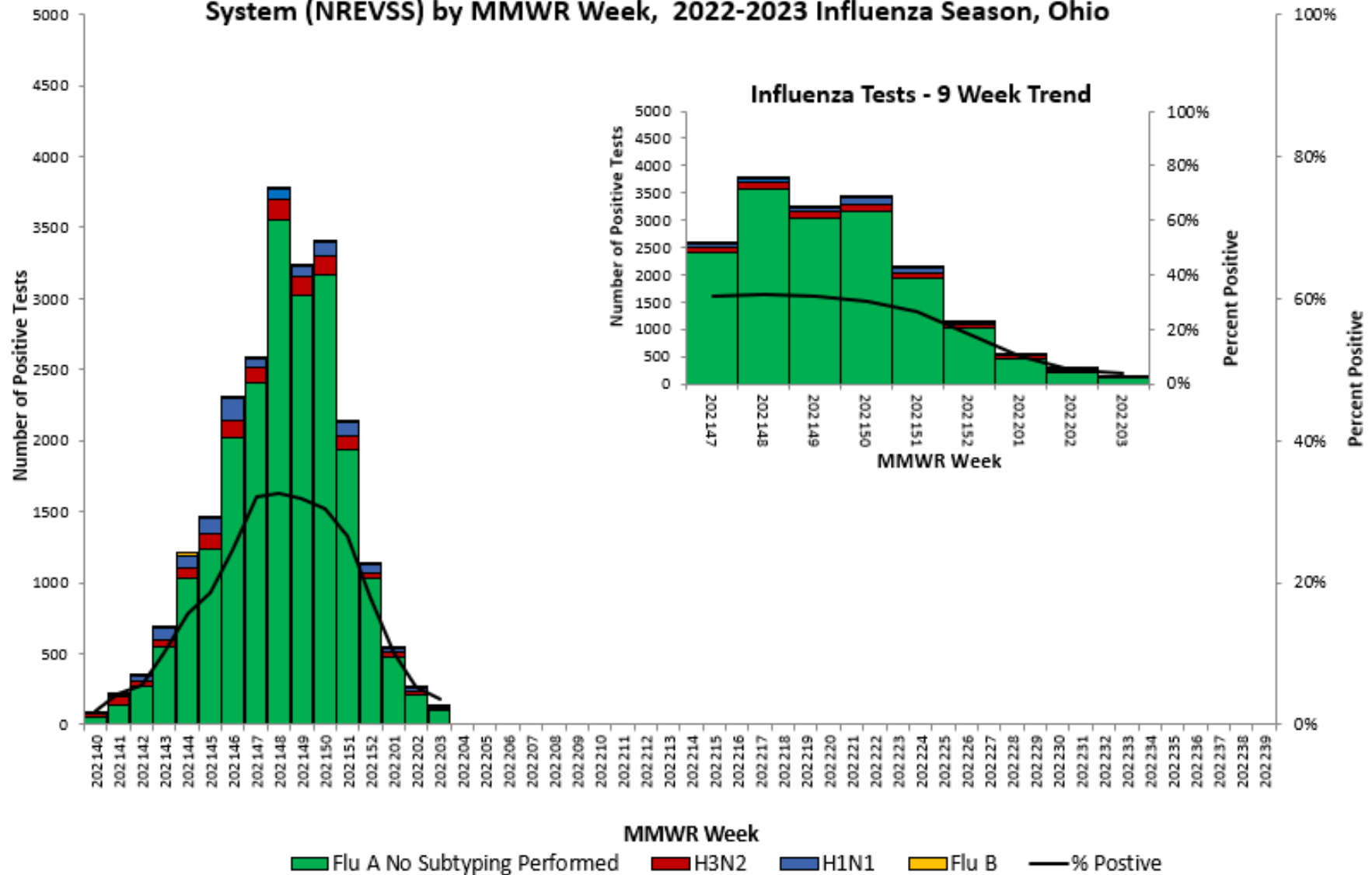
† Disease rates were calculated by number of cases per 100,000 residents using 2020 census data.

Source: Ohio Disease Reporting System

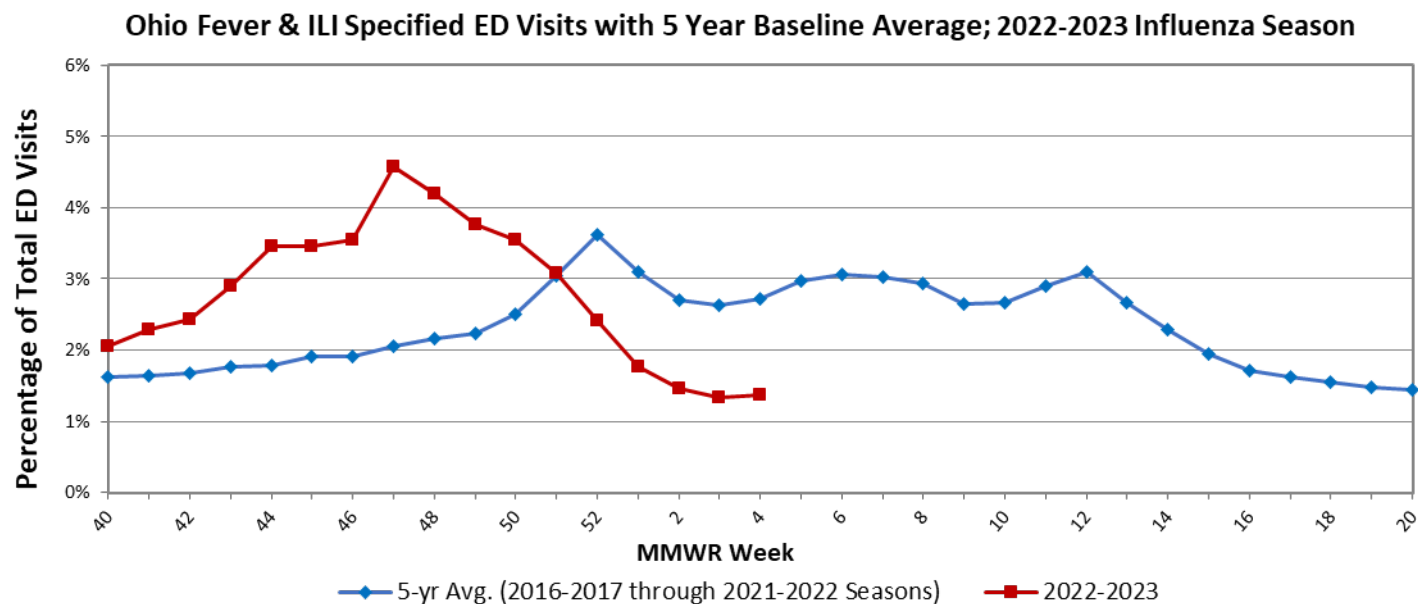
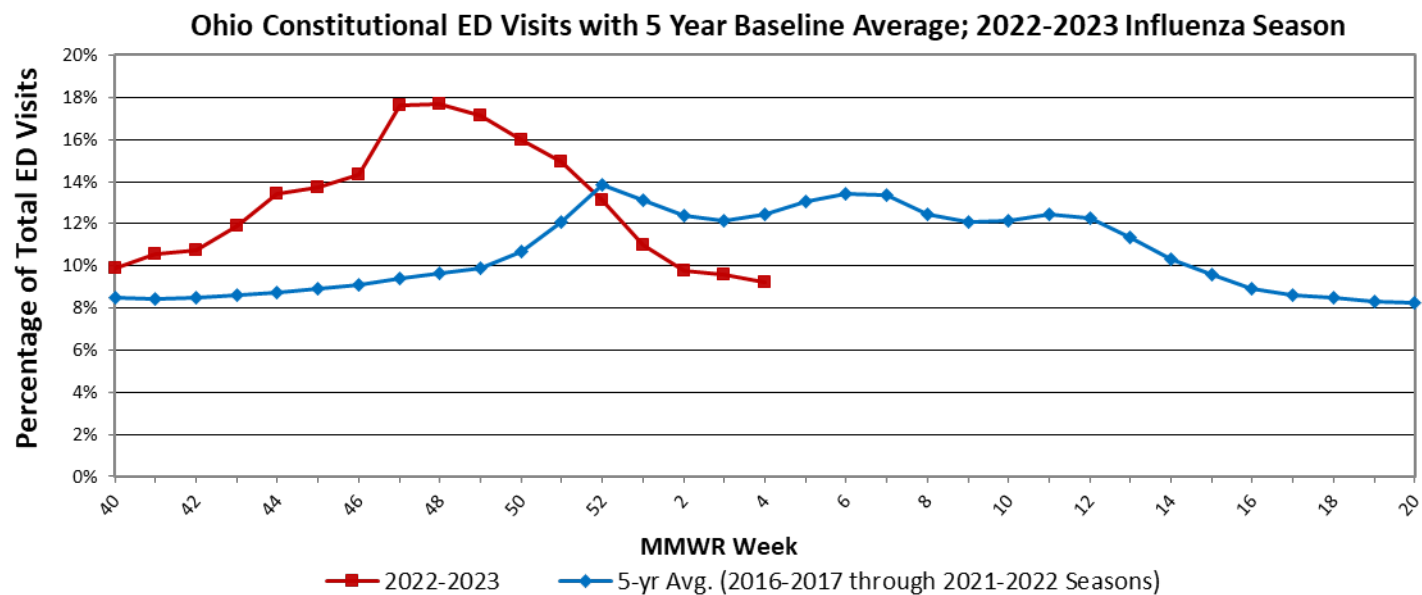
**Positive Influenza Testing from Public Health Laboratories and Selected Clinical Laboratories Participating in the National Respiratory and Enteric Virus Surveillance System (NREVSS) by Month, 2022-2023 Influenza Season, Ohio**



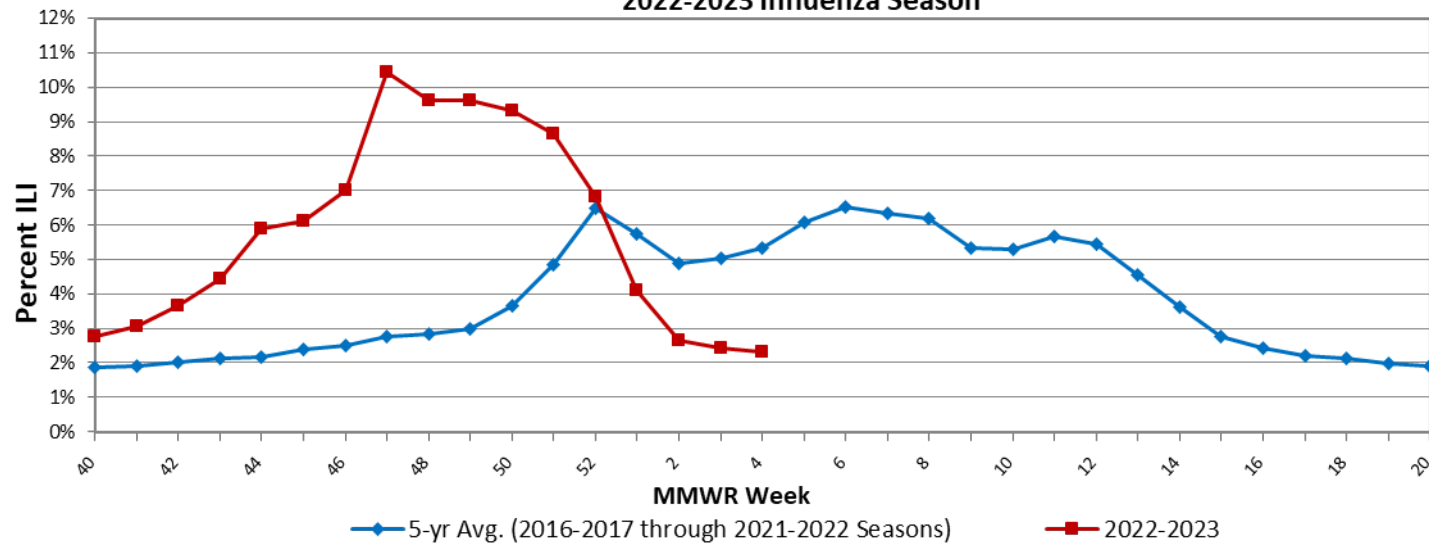
# **Positive Influenza Testing from Public Health Laboratories and Selected Clinical Laboratories Participating in the National Respiratory and Enteric Virus Surveillance System (NREVSS) by MMWR Week, 2022-2023 Influenza Season, Ohio**



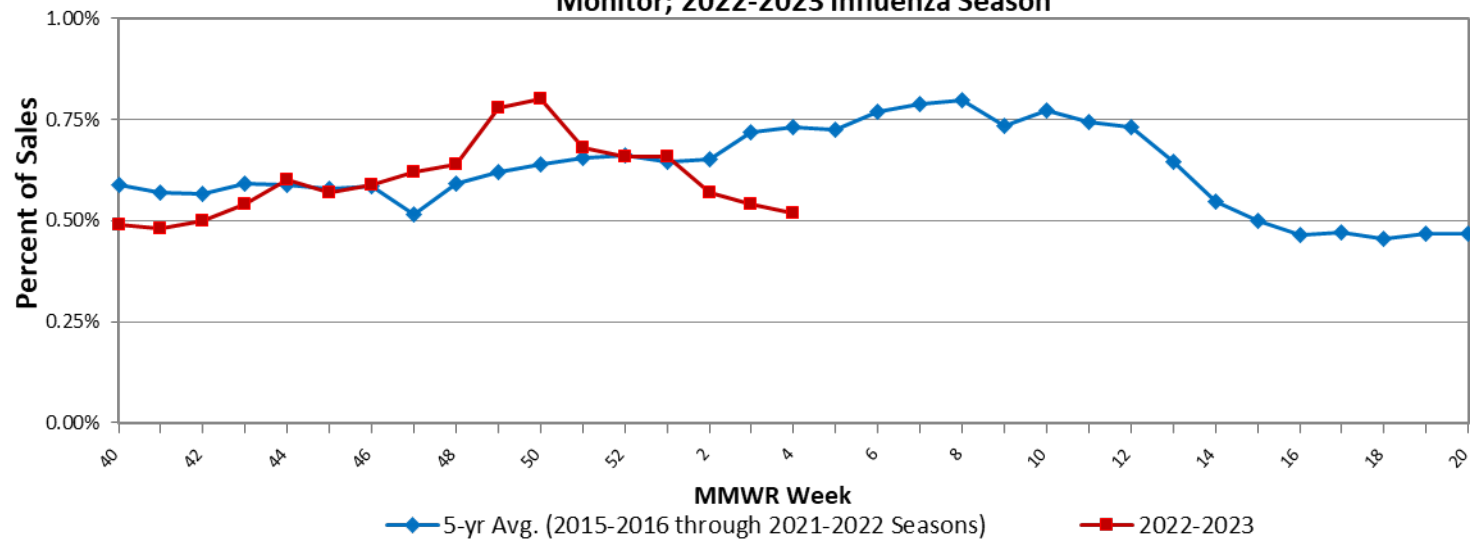
Note: NREVSS/Public Health Laboratory data are reported one week later than Ohio state-level data to ensure data completeness.



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

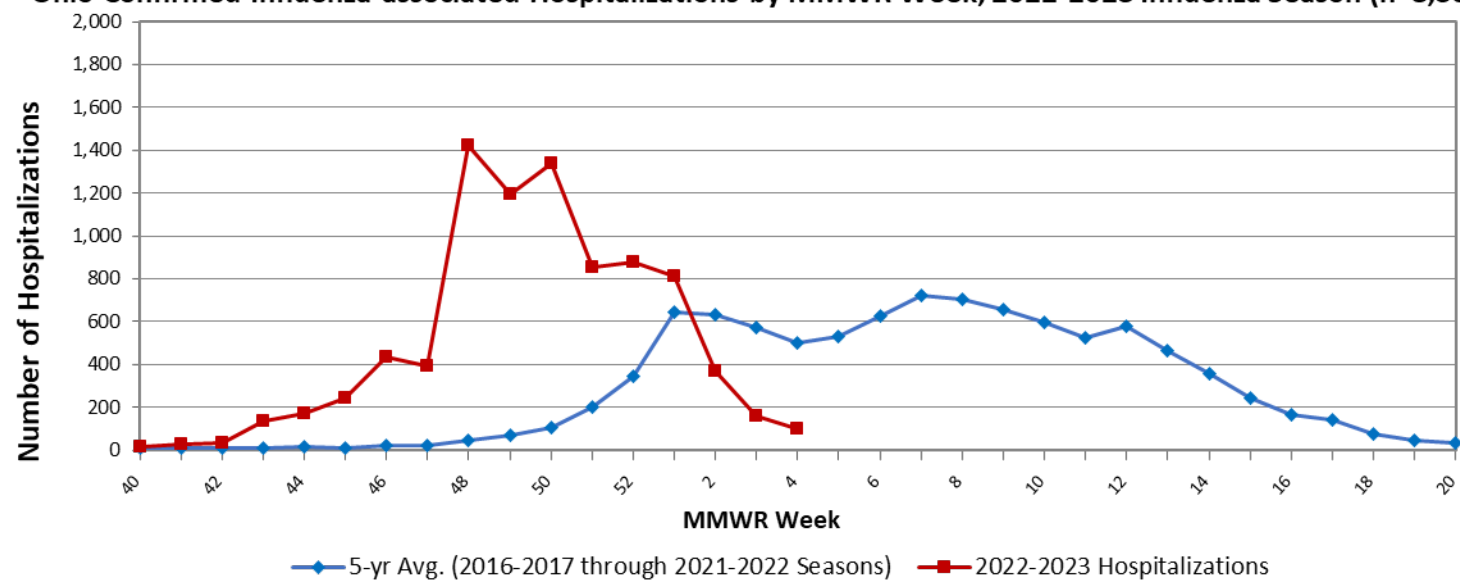


**Percent of Ohio Thermometer Sales with 5 Year Baseline Average; National Retail Data  
Monitor; 2022-2023 Influenza Season**





Ohio Confirmed Influenza-associated Hospitalizations by MMWR Week; 2022-2023 Influenza Season (n=8,584)



## 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 ( $\geq 100$  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](mailto:vpdepi@odh.ohio.gov) or call (614) 995-5599.