

NYSDOH WEEKLY INFLUENZA SURVEILLANCE REPORT

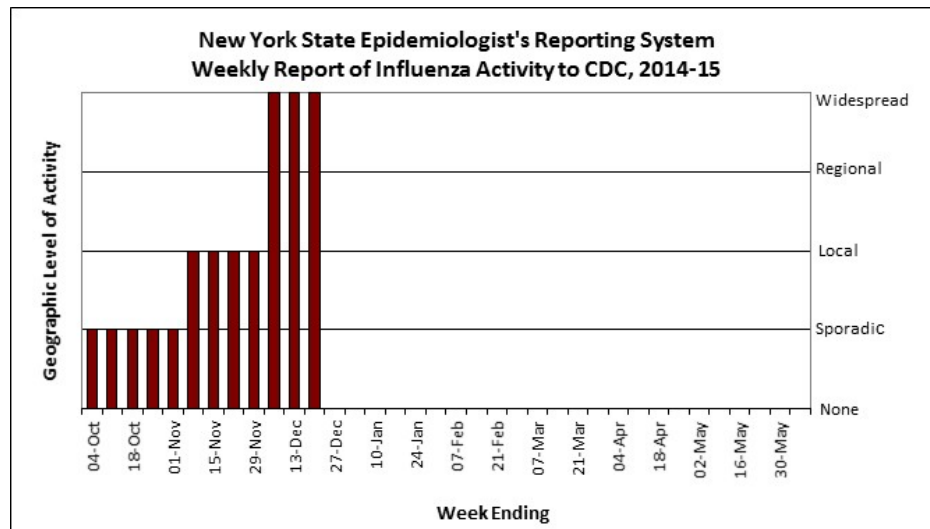
The New York State Department of Health (NYSDOH) collects, compiles, and analyzes information on influenza activity year round in New York State (NYS) and produces this weekly report during the influenza season (October through the following May).¹

DURING THE WEEK ENDING DECEMBER 20, 2014

- Influenza activity level was categorized as geographically **widespread**² with laboratory confirmed influenza reported in **49 counties** plus New York City .
- There were **2,066** laboratory-confirmed influenza reports, a **154% increase** over last week.
- Of the **1,300** specimens submitted to NYS WHO/NREVSS laboratories, **183** were positive for influenza.
- **34** of **77** specimens submitted to the NYSDOH laboratory were positive for influenza. All were **influenza A (H3)**.
- Reports of percent of patient visits for influenza-like illness (ILI³) from ILINet providers was **3.20%**, which is above the regional baseline of 2.3%.
- The number of patients admitted to the hospital with laboratory-confirmed influenza or hospitalized patients newly diagnosed with laboratory-confirmed influenza was **392**, a **61% increase** over last week.
- There were no influenza-associated pediatric deaths reported this week. There have been **no** influenza-associated pediatric deaths reported this season.

NYS Epidemiologist's Report to the Centers for Disease Control and Prevention (CDC)

This graph represents the geographic spread of laboratory confirmed influenza activity in NYS (including NYC), not necessarily the intensity of influenza activity.



¹Information about influenza monitoring in New York City (NYC) is available from the NYC Department of Health and Mental Hygiene website at: <http://www.nyc.gov/html/doh/>. National influenza surveillance data is available on CDC's FluView website at <http://www.cdc.gov/flu/weekly/>.

²**No Activity:** No laboratory-confirmed cases of influenza reported to the NYSDOH.

Sporadic: Small numbers of lab-confirmed cases of influenza reported.

Local: Increased or sustained numbers of lab-confirmed cases of influenza reported in a single region of New York State; sporadic in rest of state.

Regional: Increased or sustained numbers of lab-confirmed cases of influenza reported in at least three regions but in fewer than 31 of 62 counties.

Widespread: Increased or sustained numbers of lab-confirmed cases of influenza reported in at least 31 of the 62 counties

³ILI = influenza-like illness, defined as temperature 100° F with cough and/or sore throat in the absence of a known cause other than influenza

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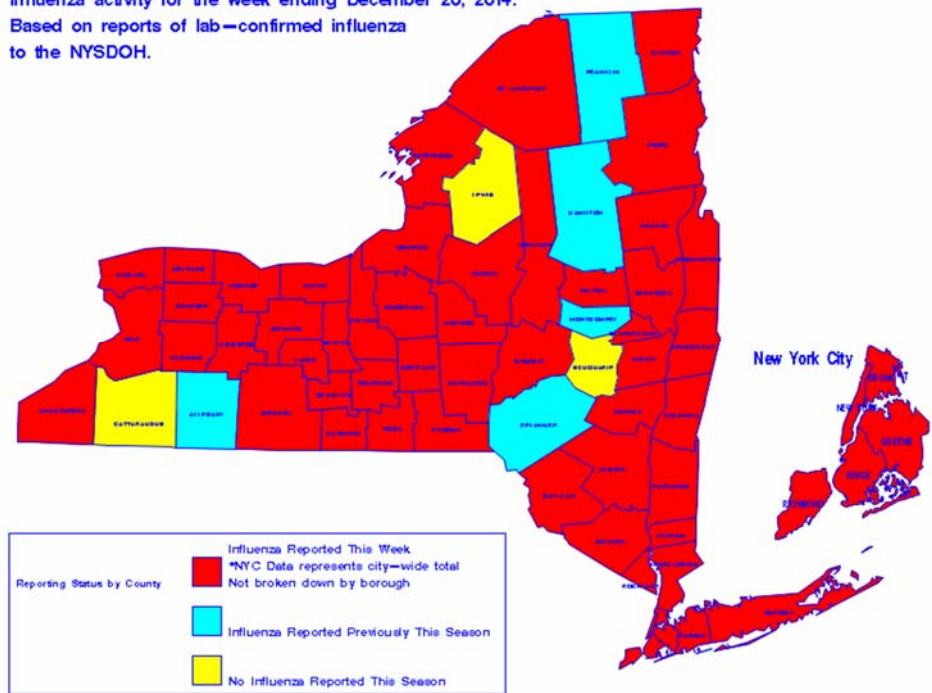
Laboratory Reports

All clinical laboratories that perform testing on residents of NYS report all positive influenza test results to NYSDOH.

Based on laboratory reports to NYSDOH:

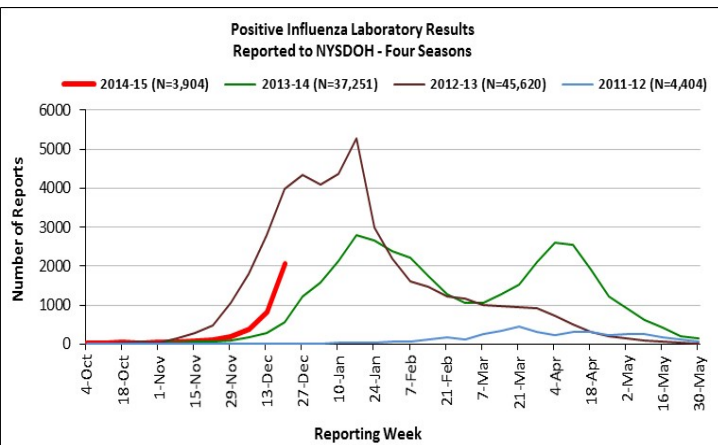
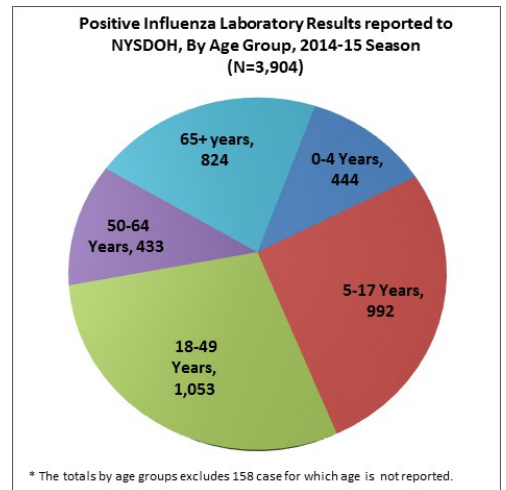
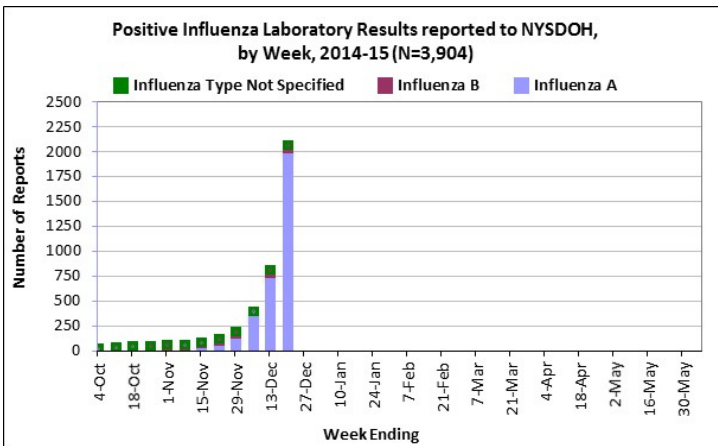
- Influenza was reported in 49 counties this week and all 5 boroughs of NYC.
- Influenza was reported in 5 counties previously this season, but not this week.

Influenza activity for the week ending December 20, 2014.
Based on reports of lab-confirmed influenza to the NYSDOH.



Reporting Status by County

- Influenza Reported This Week
- *NYC Data represents city-wide total Not broken down by borough
- Influenza Reported Previously This Season
- No Influenza Reported This Season

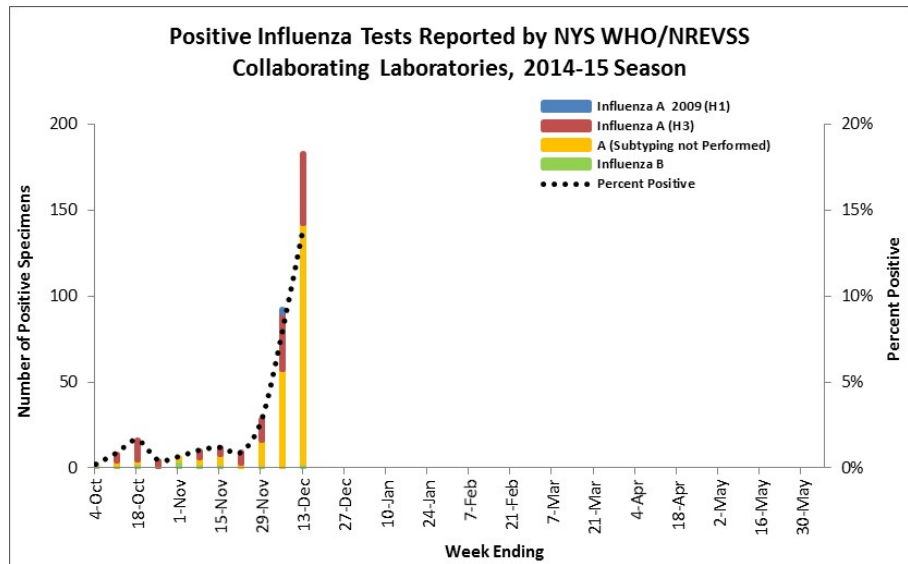


Test results may identify influenza Type A, influenza Type B, or influenza without specifying Type A or B. Some tests only give a positive or negative result and cannot identify influenza type (not specified).

World Health Organization (WHO) and National Respiratory & Enteric Virus Surveillance System (NREVSS) Collaborating Laboratories

Sixteen clinical virology laboratories in NYS and NYC, including the Wadsworth Center, are WHO and/or NREVSS collaborating laboratories for influenza virus surveillance.

These labs report the number of respiratory specimens tested and the number positive for influenza types A and B to CDC each week. Some of these labs also report the influenza A subtype (H1 or H3). Because denominator data is provided, the weekly percentage of specimens testing positive for influenza is calculated.

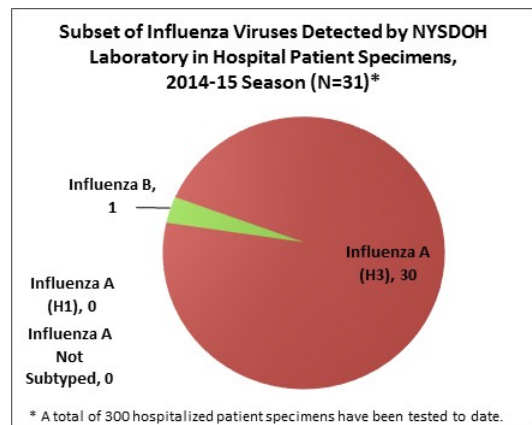
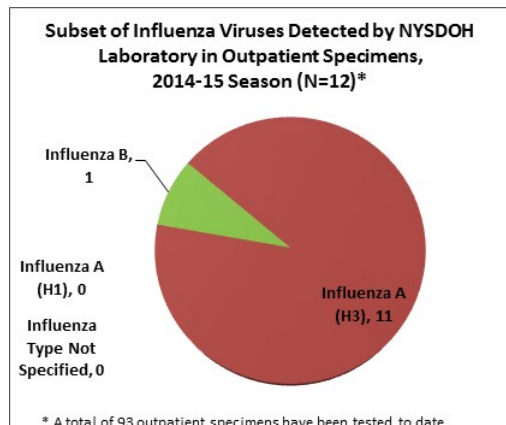
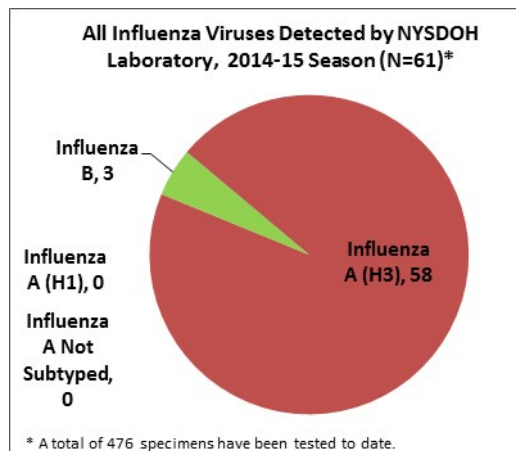


Influenza Virus Types and Subtypes Identified at Wadsworth Center (excluding NYC)

Wadsworth Center, the NYSDOH public health laboratory, tests specimens from sources including, but not limited to, outpatient healthcare providers (ILINet program) and hospitals (Emerging Infection Program (EIP)).

There are 2 common subtypes of Type A influenza viruses – H1 and H3. Each subtype has a slightly different genetic makeup from the other. Rarely, an influenza virus is unable to be subtyped by the laboratory.

Wadsworth sends a subset of positive influenza specimens to the CDC for further virus testing and characterization. To date, the influenza A (H3) samples submitted to CDC have been identified as being antigenically “drifted” from the influenza A (H3) virus strain found in the 2014-2015 influenza vaccine.⁴



⁴Additional information and recommendations regarding the drifted influenza A (H3) virus can be found at <http://emergency.cdc.gov/han/han00374.asp>.

Influenza Antiviral Resistance Testing

The Wadsworth Center Virology Laboratory performs surveillance testing for antiviral drug resistance.⁵

NYS Antiviral Resistance Testing Results on Samples Collected Season to date, 2014-15

	Oseltamivir		Zanamivir	
	Samples tested	Resistant Viruses, Number (%)	Samples tested	Resistant Viruses, Number (%)
Influenza A (H3N2) ⁱ	18	0 (0.0)	1	0 (0.0)
Influenza B ⁱⁱ	1	0 (0.0)	1	0 (0.0)
2009 Influenza A (H1N1) ⁱⁱⁱ	0	0 (0.0)	0	0 (0.0)

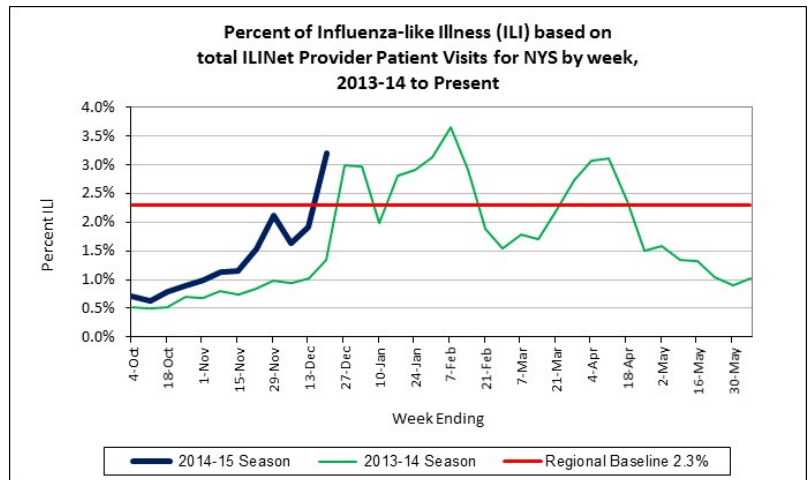
- I. All samples tested for oseltamivir resistance by pyrosequencing for E119V, R292K, and N294S in the neuraminidase gene (NA), and a subset tested by NA dideoxy sequencing for other variations known to cause, or suspected of causing, resistance to neuraminidase inhibitor drugs including zanamivir and oseltamivir.
- II. Samples tested by whole gene dideoxysequencing of the neuraminidase gene. Sequence data reviewed for variations known to cause, or suspected of causing, resistance to neuraminidase inhibitor drugs including zanamivir and oseltamivir.
- III. All samples tested by pyrosequencing for the H275Y variant in the neuraminidase gene which confers resistance to oseltamivir, and a subset tested by NA dideoxy sequencing for other variations known to cause, or suspected of causing, resistance to neuraminidase inhibitor drugs including zanamivir and oseltamivir.

Outpatient Doctors' Office Visits for ILI-ILINet Surveillance Program (excluding NYC)

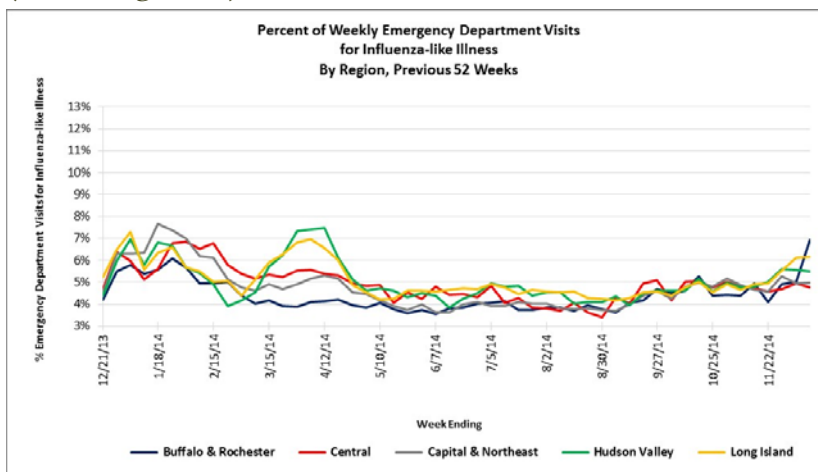
The NYSDOH works with ILINet healthcare providers who report the total number of patients seen and the total number of those with complaints of ILI every week.

The CDC uses trends from past years to determine a regional baseline rate of doctors' office visits for illness consistent with influenza. For NYS, the regional baseline is currently 2.3%. Numbers above this regional baseline suggest high levels of illness consistent with influenza in the state.

Note that surrounding holiday weeks, it is not uncommon to notice a fluctuation in the ILI rate. This is a result of the different pattern of patient visits for non-urgent needs.



Emergency Department Visits for ILI-Syndromic Surveillance (excluding NYC)



Hospitals around NYS report the number of patients seen in their emergency departments with complaints of ILI. This is called syndromic surveillance.

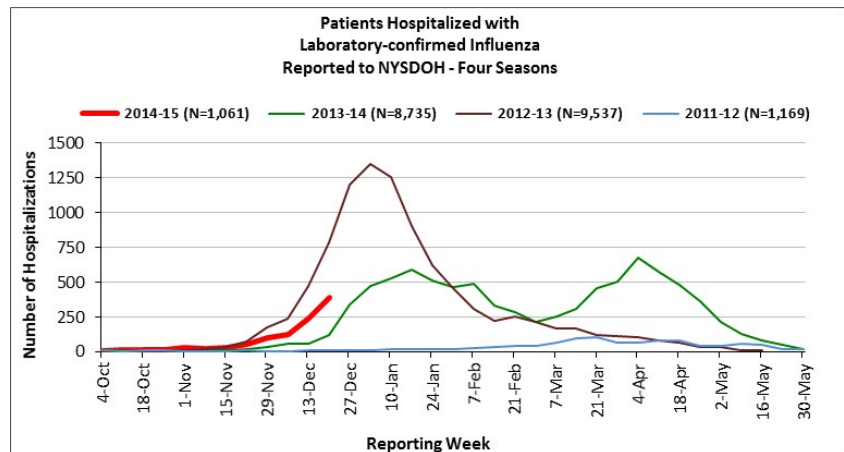
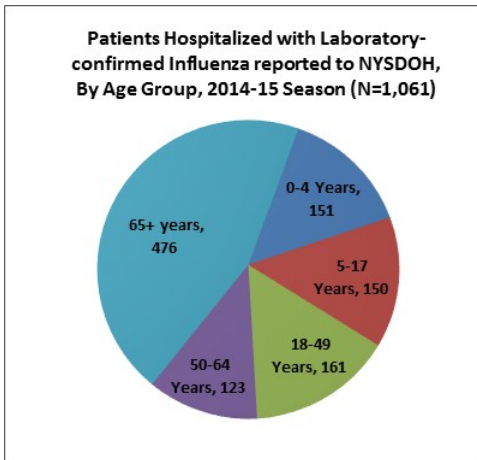
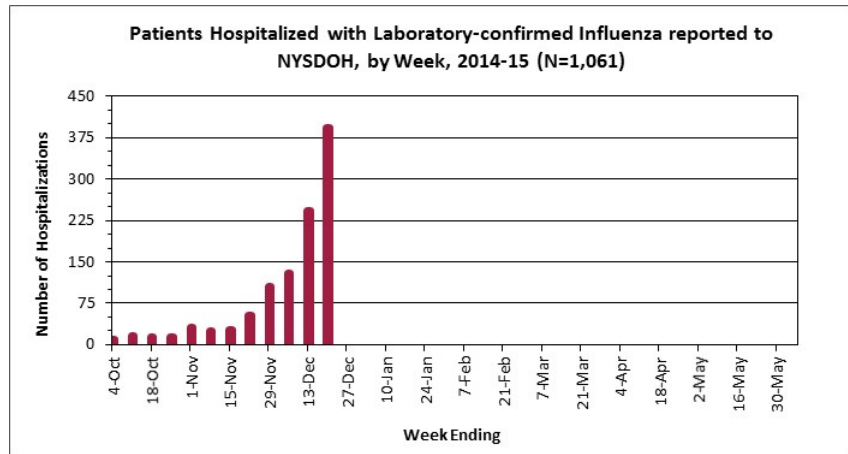
An increase in visits to hospital emergency departments for ILI can be one sign that influenza has arrived in that part of NYS.

Syndromic surveillance does not reveal the actual cause of illness, but is thought to correlate with emergency department visits for influenza.

⁵Additional information regarding national antiviral resistance testing, as well as recommendations for antiviral treatment and chemoprophylaxis of influenza virus infection, can be found at <http://www.cdc.gov/flu/weekly/>.

Patients Hospitalized with Laboratory-Confirmed Influenza (including NYC)

Hospitals in NYS and NYC report the number of hospitalized patients with laboratory-confirmed influenza to NYSDOH.⁶



Underlying Health Conditions among Hospitalized Patients (EIP)

As part of the CDC’s Influenza Hospitalization Network, the NYS EIP conducts enhanced surveillance for hospitalized cases of laboratory-confirmed influenza among residents of 15 counties.⁷

Medical chart reviews are completed on all identified cases from October 1 through April 30 of the following year. EIP estimated hospitalization rates will be updated weekly starting later this season.

⁶142 (71%) of 199 hospitals reported this week.

⁷Counties include, in the Capital District: Albany, Columbia, Greene, Montgomery, Rensselaer, Saratoga, Schenectady, and Schoharie; in the Western Region: Genesee, Livingston, Monroe, Ontario, Orleans, Wayne, and Yates

Healthcare-associated Influenza Activity (including NYC)

Hospitals and nursing homes in NYS self-report outbreaks of influenza. A healthcare-associated outbreak is defined as one or more confirmed or two or more suspect cases of influenza in persons who were admitted to the facility with no signs or symptoms of influenza infection. Outbreaks are considered confirmed only with positive laboratory testing. This may include a positive rapid antigen test if no other more advanced testing (polymerase chain reaction, viral culture) is performed.⁸

Week-to-Date (CDC week - 51)	Capital Region			Central Region			Metro Region			Western Region			Statewide (Total)		
12/14/14 through 12/20/14	ACF	LTCF	Total	ACF	LTCF	Total	ACF	LTCF	Total	ACF	LTCF	Total	ACF	LTCF	Total
# Outbreaks* Lab-confirmed Influenza (any type)		3	3		2	2	3	4	7		3	3	3	12	15
# Outbreaks* viral respiratory illness**		1	1			0		1	1			0	0	2	2
Total # Outbreaks	0	4	4	0	2	2	3	5	8	0	3	3	3	14	17

Season-to-Date (CDC week - 51)	Capital Region			Central Region			Metro Region			Western Region			Statewide (Total)		
9/28/14 through 12/20/14	ACF	LTCF	Total	ACF	LTCF	Total	ACF	LTCF	Total	ACF	LTCF	Total	ACF	LTCF	Total
# Outbreaks* Lab-confirmed Influenza (any type)	2	10	12		3	3	9	14	23	1	16	17	12	43	55
# Outbreaks* viral respiratory illness**		4	4		4	4		10	10		7	7	0	25	25
Total # Outbreaks	2	14	16	0	7	7	9	24	33	1	23	24	12	68	80

ACF - Article 28 Acute Care Facility

LTCF - Article 28 Long Term Care Facility

*Outbreaks are reported based on the onset date of symptoms in the first case

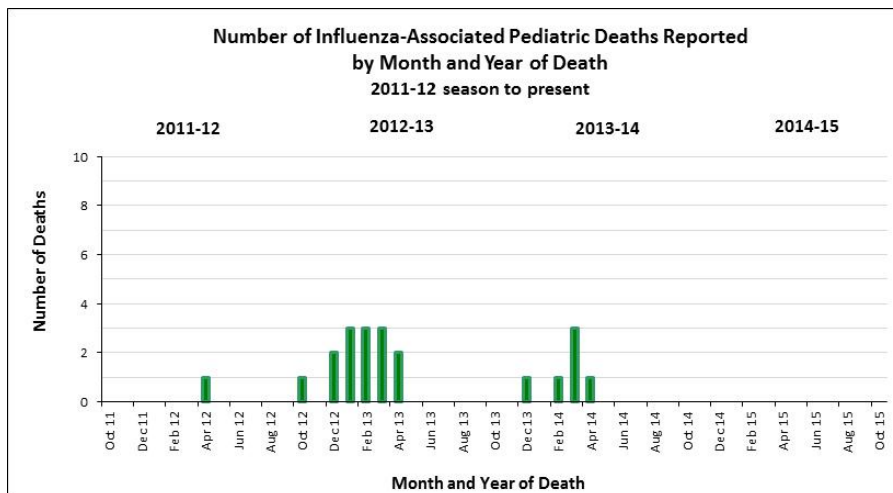
** Includes outbreaks of suspect influenza and/or other viral upper respiratory pathogens

Pediatric influenza-associated deaths reported (including NYC)

Local health departments report pediatric influenza-associated deaths to NYSDOH.

Flu-associated deaths in children younger than 18 years old are nationally notifiable. Influenza-associated deaths in persons 18 years and older are not notifiable.

All pediatric flu-associated deaths included in this report are laboratory-confirmed.



⁸ For more information on reporting of healthcare-associated influenza, visit http://www.health.ny.gov/diseases/communicable/control/respiratory_disease_checklist.htm