ILLINOIS DEPARTMENT OF PUBLIC HEALTH

Illinois Influenza Surveillance Report

Week 02: Week Ending Saturday, January 17

Division of Infectious Diseases, Communicable Disease Section

1/23/2015

Please note that all data are preliminary and may change as more reports are received.

Contents

Summary

- For this reporting week, the proportion of outpatient visits for influenza-like illness (ILI)[1] was **1.54%,** which is **below** the regional baseline of **1.70%.**
- Based on CDC criteria, Illinois influenza activity is classified as **Widespread** (see CDC FluView Section) for this reporting week.
- For this reporting week there were **499** influenza specimens tested by WHO/NREVSS collaborating Illinois laboratories and **114** tested by Illinois Department of Public Health Laboratories for a total of **613** specimens tested. **97** specimens tested positive for Influenza.
- **37** influenza-associated Intensive Care Unit (ICU) admissions[3] were reported for this reporting week.
- **No** influenza-associated pediatric deaths were reported for this reporting week.
- For this reporting week, **14** influenza outbreaks were reported.

Influenza A (H3N2) viruses are most common so far this season. During past seasons when influenza A (H3N2) viruses have predominated, higher overall and age-specific hospitalization rates and more mortality have been observed, especially among older people, very young children, and persons with certain chronic medical conditions compared with seasons during which influenza A (H1N1) or influenza B viruses have predominated.

More two-thirds of the influenza A (H3N2) viruses analyzed since October 1 are antigenically or genetically different from the H3N2 vaccine virus component this season. In past seasons during which predominant circulating influenza viruses have been antigenically drifted, decreased vaccine effectiveness has been observed. However, vaccination has been found to provide some protection against drifted viruses. Though reduced, this cross-protection might reduce the likelihood of severe outcomes such as hospitalization and death. In addition, vaccination will offer protection against circulating influenza strains that have not undergone significant antigenic drift from the vaccine viruses (such as influenza A (H1N1) and B viruses).

Vaccination continues to be recommended for persons who have not yet received influenza vaccine this season. Additionally, because **of the detection of these drifted influenza A (H3N2) viruses, clinicians are reminded of the use of neuraminidase inhibitor antiviral medications when indicated for treatment and prevention of influenza, as an adjunct to vaccination.**

For more information see the CDC Health Advisory Regarding the Potential for Circulation of Drifted Influenza A (H3N2) Virus.

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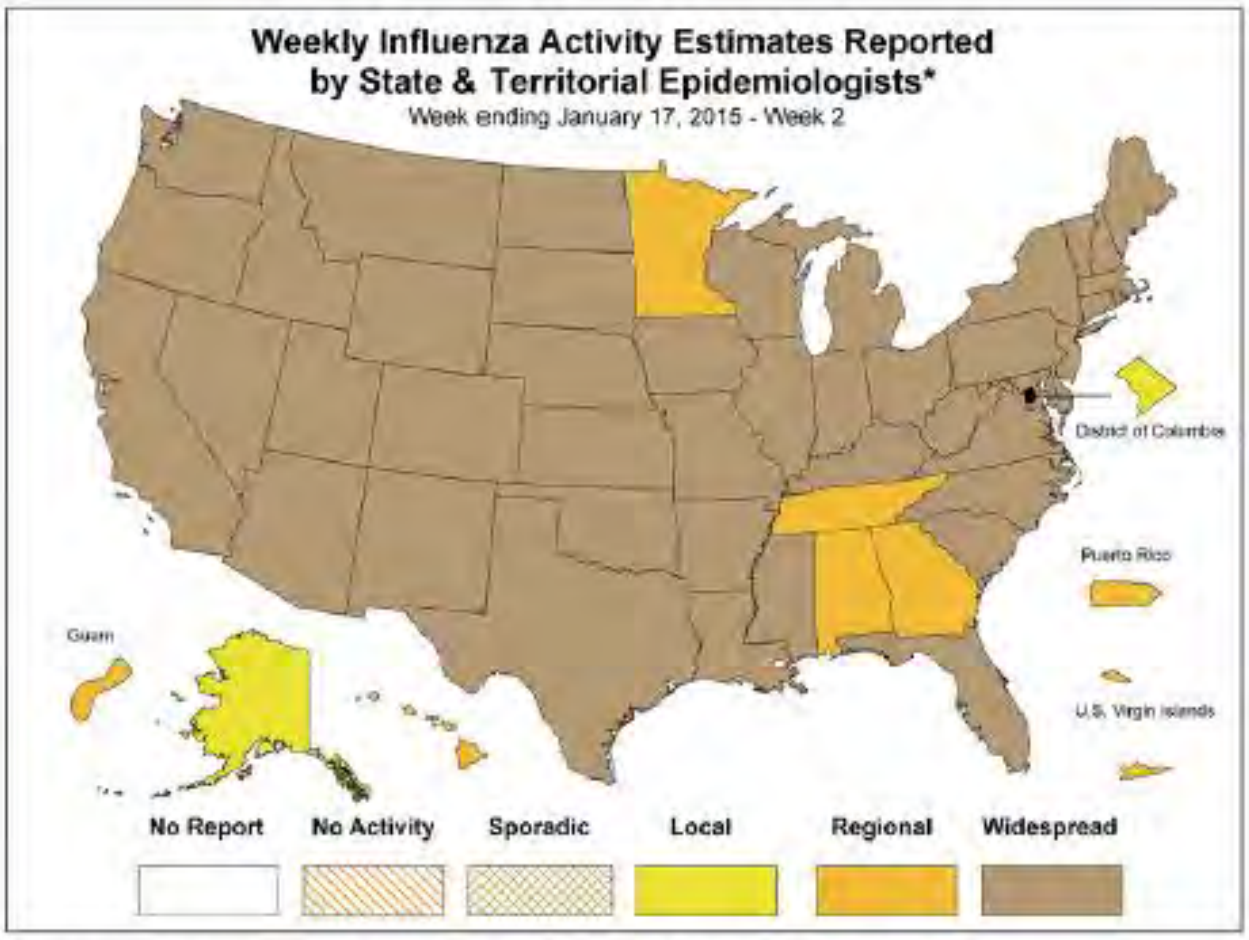
[1] ILI "Influenza like Illness" is defined as fever ≥ 100°F and cough and/or sore throat.
[2] FRI surveillance is ongoing at 8 U.S. military basic training centers, representing all service branches. FRI Rate Status is classified into one of 3 categories:
1. At or below expected value
2. Moderately elevated
3. Substantially elevated

[3] For the purpose of diagnosis, influenza can be diagnosed by using the following test: reverse transcription polymerase chain reaction RT-PCR], viral culture, Immunofluorescence [Direct Fluorescent Antibody (DFA) or Indirect Fluorescent Antibody (IFA) Staining], Enzyme Immuno Assay (EIA) or any rapid diagnostic test. Sensitivities of rapid diagnostic tests are approximately 50-70% when compared with viral culture or reverse transcription polymerase chain reaction (RT-PCR), and specificities of rapid diagnostic tests for influenza are approximately 90-95%. False-positive (and true-negative) results are more likely to occur when disease prevalence in the community is low, which is generally at the beginning and end of the influenza seasons. False-negative (and true-positive) results are more likely to occur when disease prevalence is high in the community, which is typically at the height of the influenza season.

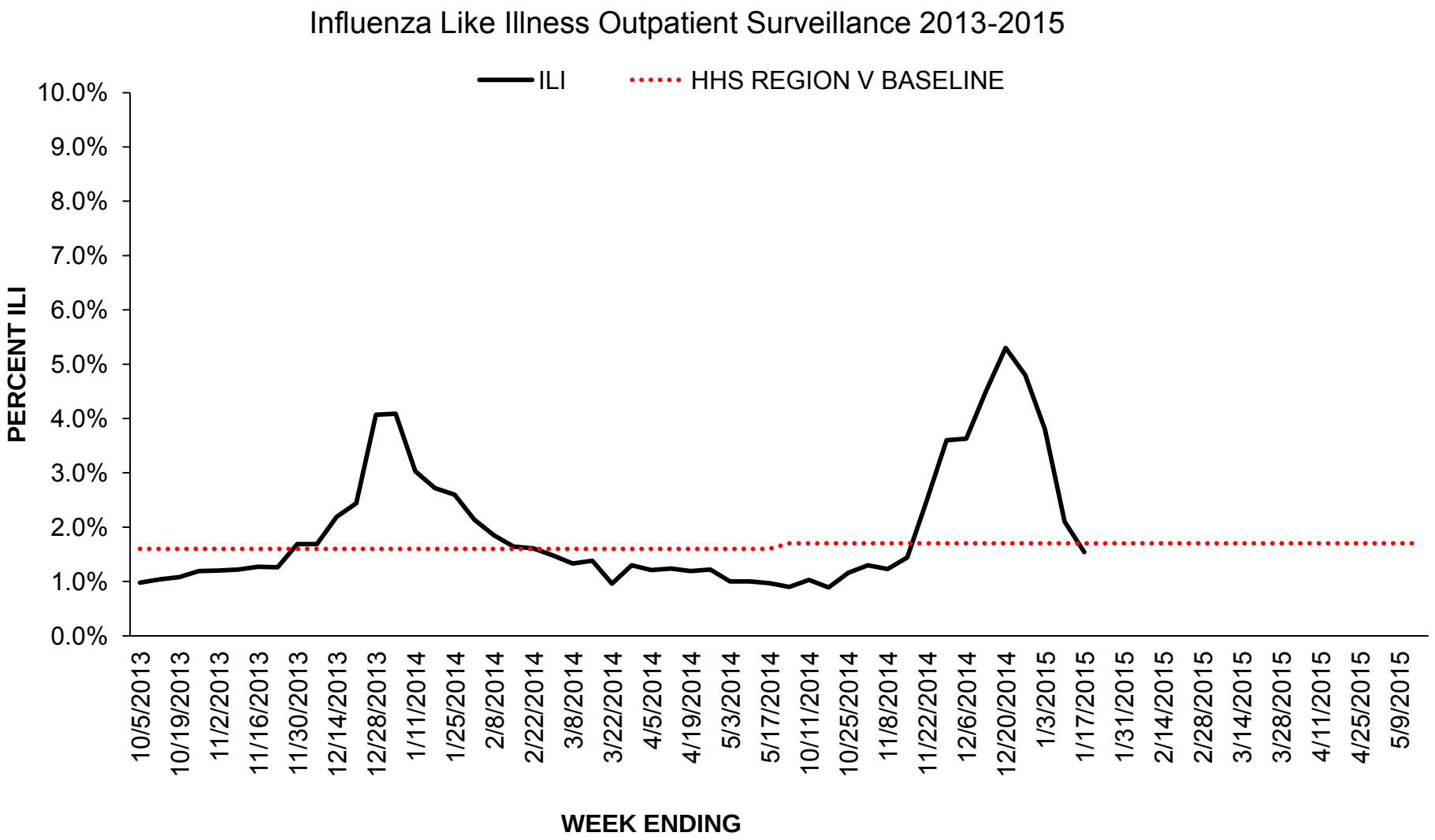
CDC FluView



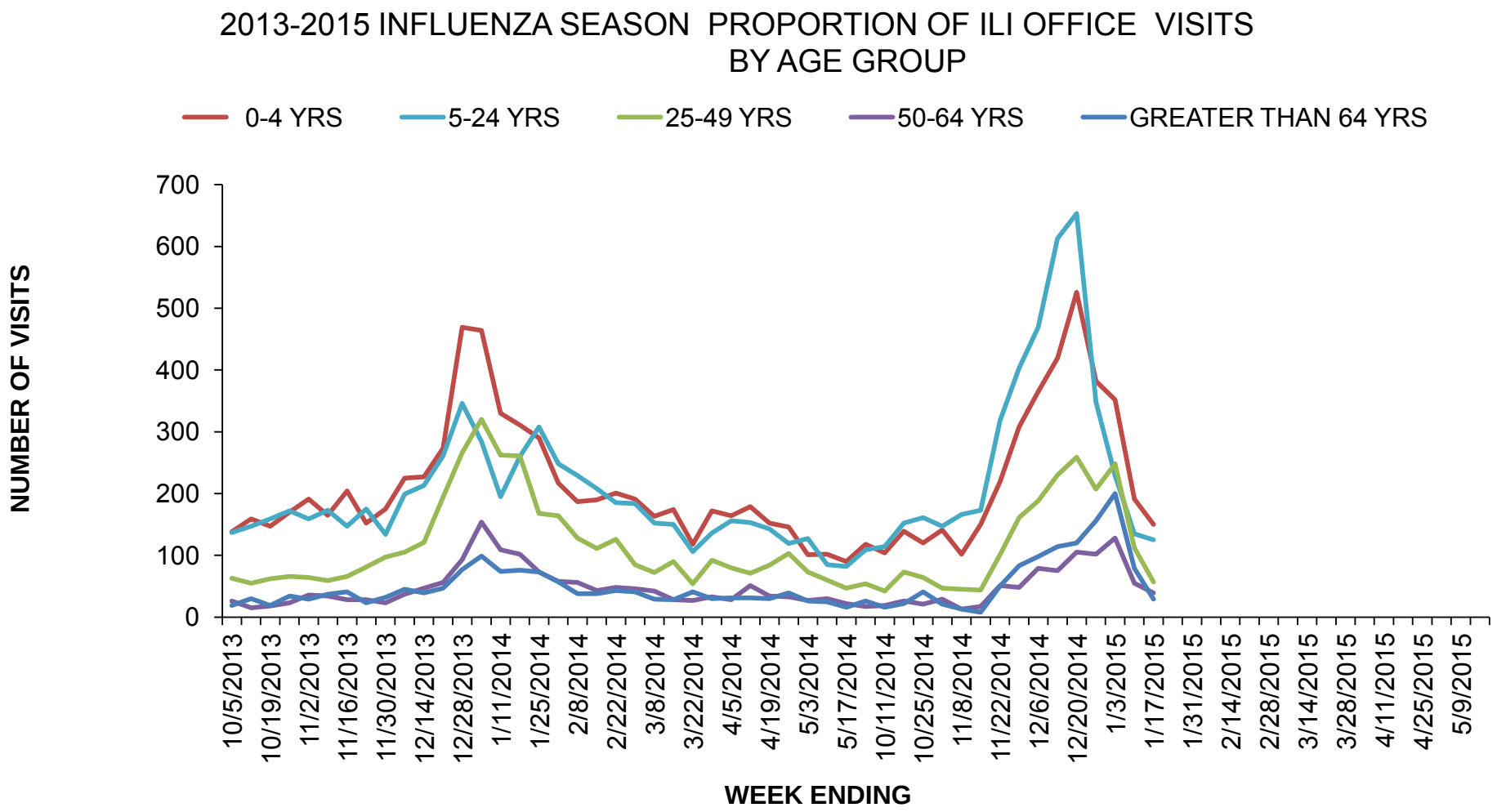
* This map indicates geographic spread & does not measure the severity of influenza activity

No activity: No laboratory confirmed cases of influenza and no reported increase in cases of influenza like illness (ILI).
Sporadic: Small numbers of laboratory confirmed influenza cases or a single laboratory confirmed influenza in a single region of the state.
Local: Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in a single region of the state.
Regional: Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in at least two but less than half the regions of the state.
Widespread: Outbreaks of influenza or increases in ILI cases and recent laboratory confirmed influenza in at least half the regions in the state.

ILINet Provider Surveillance



ILI Visits by Age Group

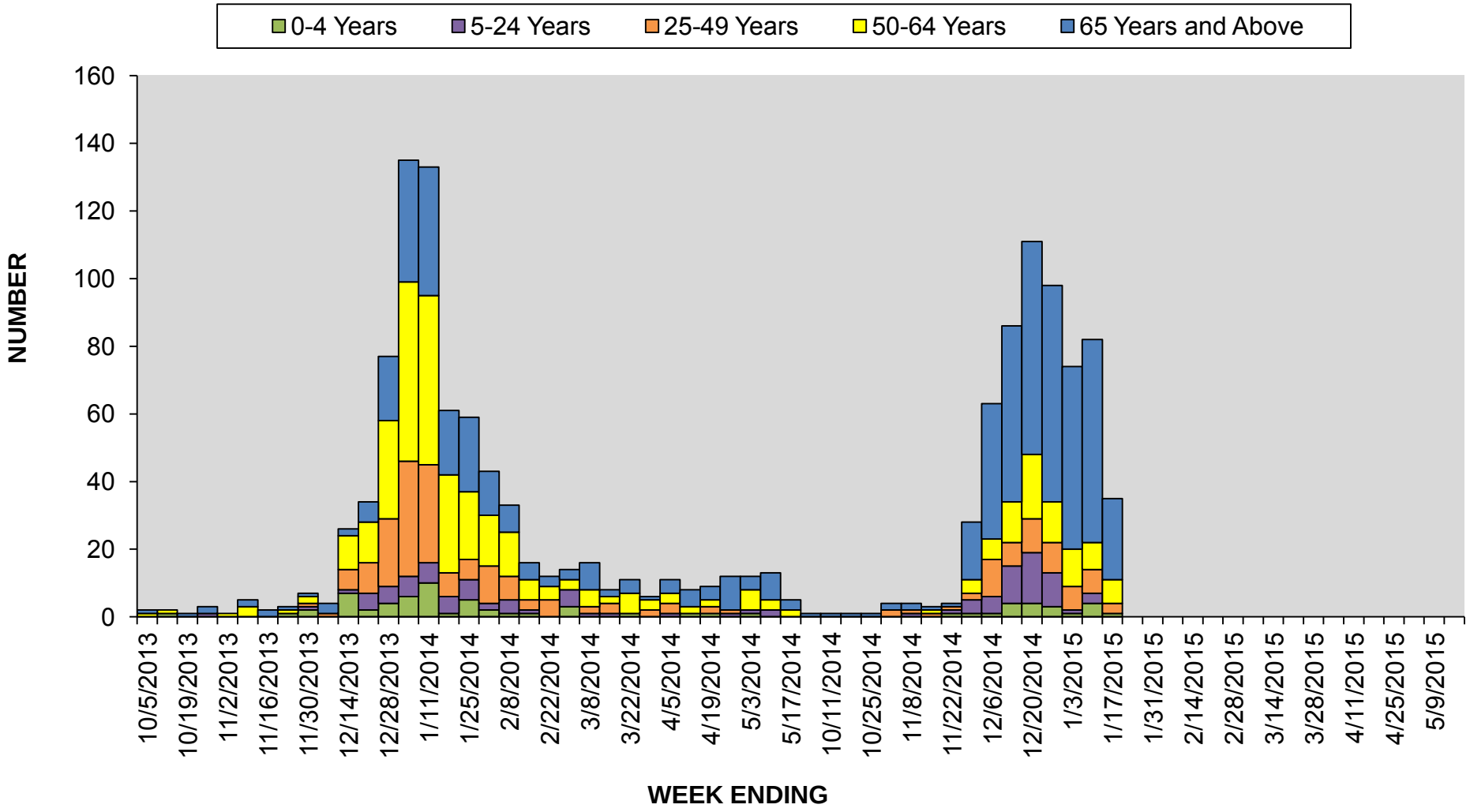


Influenza Intensive Care Unit (ICU) Admissions and Deaths

There were **37** influenza related ICU admissions and **0** pediatric death for this reporting week.

Year	Week No	Admissions	Pediatric Deaths
2014	40	1	0
2014	41	1	0
2014	42	1	0
2014	43	1	0
2014	44	4	0
2014	45	4	0
2014	46	3	0
2014	47	5	0
2014	48	29	0
2014	49	66	0
2014	50	93	0
2014	51	115	0
2014	52	98	0
2014	53	76	0
2015	01	83	0
2015	02	37	0
Total (Provisional) for 2014-15 Season		**617**	**0**

Influenza Related ICU Admissions by Age Group, 2013-2015



Laboratory Surveillance

- For this reporting week there were **499** influenza specimens tested by WHO/NREVSS collaborating Illinois laboratories and **114** influenza specimens tested by Illinois Department of Public Health Laboratories for a **total of 613** specimens**. 97** specimens tested positive for Influenza.

Year	Week	A (H1)	2009(A) H1N1	A (H3)	A (Unable to subtype)	A (Sub typing not performed)	B	Total # Tested	Total # Positive	% Positive
2014	40-42	0	0	1	0	10	1	493	12	2.4%
2014	43	0	0	0	0	12	0	199	12	6.0%
2014	44	0	1	0	0	19	2	279	22	8.0%
2014	45	0	0	2	0	56	2	335	60	17.9%
2014	46	0	0	7	0	81	2	475	90	19.0%
2014	47	0	0	7	0	147	0	595	154	25.9%
2014	48	0	0	14	0	199	2	724	215	29.7%
2014	49	0	0	48	0	282	9	1116	339	30.4%
2014	50	0	0	137	0	154	3	1039	294	28.3%
2014	51	0	0	119	0	277	10	1387	406	29.3%
2014	52	0	0	91	0	85	4	656	180	27.4%
2014	53	0	0	42	0	72	5	673	119	17.7%
2015	01	0	0	33	0	40	5	577	78	13.5%
2015	02	0	1	61	0	24	11	613	97	15.8%
Season Totals		0	2	562	0	1458	56	9161	2078	22.7%

Influenza Outbreaks Reported in Long-Term Facilities (LTC) and Correctional Facilities

There were **14** outbreak reported for this reporting week.

Region	2014-2015 Influenza Season -Number of outbreaks (%)
Rockford (1)	22 (13.4)
Peoria (2),	26 (15.9)
Edwardsville (4),	33 (20.1)
Marion (5),	10 (6.1)
Champaign (6),	11 (6.7)
West Chicago (7)	49 (29.9)
Chicago/Cook (8)	13 (7.9)
Total	**164**

Viral Resistance:

Antiviral Resistance: Testing of 2009 H1N1, influenza A (H3N2), and influenza B virus isolates for resistance to neuraminidase inhibitors (oseltamivir and zanamivir) is performed at CDC using a functional assay. Additional 2009 H1N1 and influenza A (H3N2) clinical samples are tested for mutations of the virus known to confer oseltamivir resistance. The data summarized below combine the results of both testing methods. These samples are routinely obtained for surveillance purposes rather than for diagnostic testing of patients suspected to be infected with antiviral-resistant virus.

High levels of resistance to the adamantanes (amantadine and rimantadine) persist among 2009 influenza A (H1N1) and A (H3N2) viruses (the adamantanes are not effective against influenza B viruses). Therefore, data from adamantane resistance testing are not presented below.

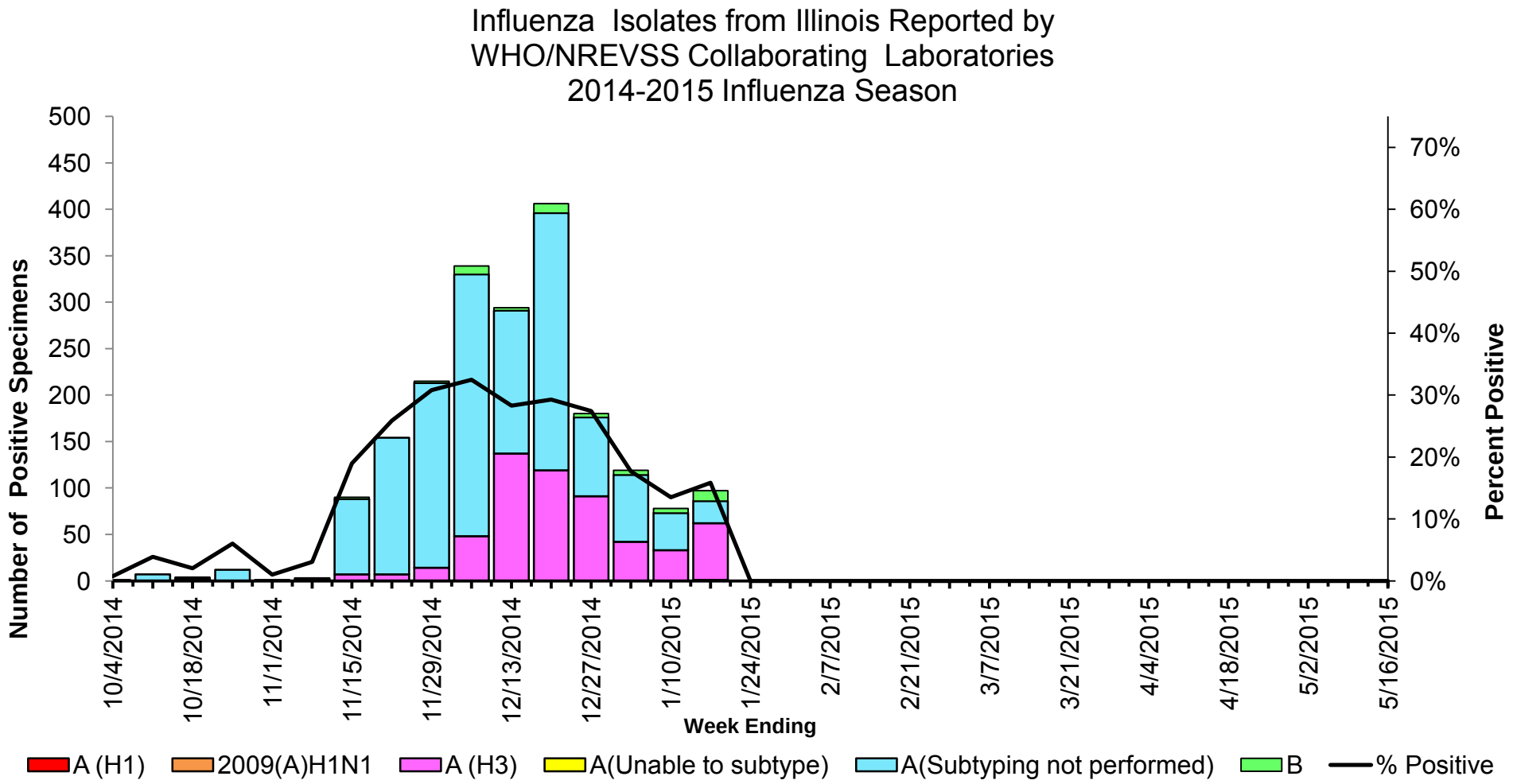
Neuraminidase Inhibitor Resistance Testing Results on Samples Collected Since October 1, 2014

	Oseltamivir		Zanamivir		Peramivir	
	Virus Samples tested (n)	Resistant Viruses, Number (%)	Virus Samples tested (n)	Resistant Viruses, Number (%)	Virus Samples tested (n)	Resistant Viruses, Number (%)
Influenza A (H3N2)	724	0 (0.0)	724	0 (0.0)	589	0 (0.0)
Influenza B	127	0 (0.0)	127	0 (0.0)	127	0 (0.0)
Influenza A(H1N1)pmd09	14	1 (7.1)	12	0 (0.0)	14	1 (7.1)

In the United States, all recently circulating influenza viruses have been susceptible to the neuraminidase inhibitor antiviral medications, oseltamivir and zanamivir; however, rare sporadic instances of oseltamivir-resistant 2009 H1N1 and A (H3N2) viruses have been detected worldwide. Antiviral treatment with oseltamivir or zanamivir is recommended as early as possible for patients with confirmed or suspected influenza who have severe, complicated, or progressive illness; who require hospitalization; or who are at high risk for serious influenza-related complications. Additional information on recommendations for treatment and chemoprophylaxis of influenza virus infection with antiviral agents is available at http://www.cdc.gov/flu/antivirals/index.htm

Weekly Viral Subtype

Influenza Isolates from Illinois Reported by WHO/NREVSS Collaborating Laboratories, 2014-2015 Influenza Season.



IDPH Infectious Diseases Regional Map

1 – Rockford Region

2 – Peoria Region

4 – Edwardsville Region

5 – Marion Region

6 – Champaign Region

7 – West Chicago Region

8 – Chicago/Cook Co Region

Resources

- Centers for Disease Control and Prevention Influenza Website:
  - http://www.cdc.gov/flu/
- Immunization Action Coalition Website: http://immunize.org/
- IDPH Seasonal Influenza Website: http://www.idph.state.il.us/flu/surveillance.htm
- National Respiratory and Enteric Virus Surveillance System (NREVSS), CDC website: https://wwwn.cdc.gov/nrevss/account/export.aspx
- St Louis Children's Hospital Weekly Virus/Microbiology Update: http://slchlabtestguide.bjc.org/Default.aspx?url=63e0653d-fe31-466f-9228-d4de90fa7424