ILLINOIS DEPARTMENT OF PUBLIC HEALTH

Illinois Influenza Surveillance Report

Week 19: Week Ending Saturday, May 10, 2014

Division of Infectious Diseases Communicable Disease Section

5/16/2014

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

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Summary

- For this reporting week, the proportion of outpatient visits for influenza-like illness (ILI)[1] was **0.94%,** which is **Below** the regional baseline of **1.60%.**
- Based on CDC criteria, Illinois influenza activity is classified as **Sporadic** (see CDC FluView Section) for this reporting week.
- For this reporting week there were **123** influenza specimens tested by WHO/NREVSS collaborating Illinois laboratories (which includes all Illinois Department of Public Health Laboratories). **11** specimens tested positive for Influenza.
- **Ten** 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, **three** influenza outbreaks were reported.

Novel Influenza A

H7N9

- There are multiple cases of H7N9 being reported daily.
- For up-to-date information, please visit the WHO Global Alert and Response & Center for Infectious Disease Research and Policy
    - http://www.flutrackers.com/forum/showthread.php?t=202713 – human H7N9 Case List
    - http://www.who.int/csr/don/en/
    - http://www.cidrap.umn.edu/news-perspective/2014/05/news-scan-may-09-2014
    - http://www.cidrap.umn.edu/news-perspective/2014/05/avian-flu-scan-may-14-2014
    - http://www.cidrap.umn.edu/news-perspective/2014/05/avian-flu-scan-may-15-2014

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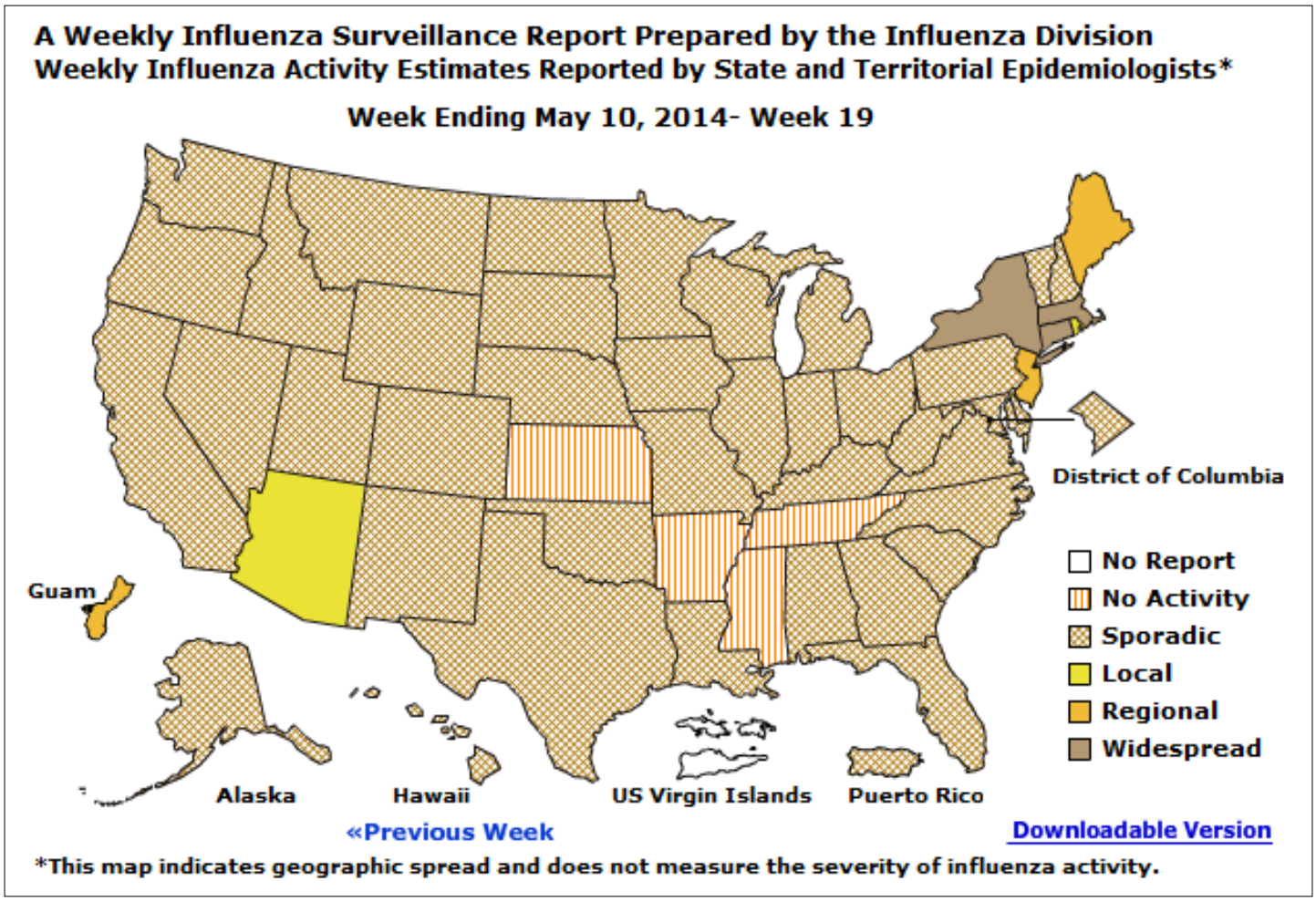
[1] ILI "Influenza like Illness" is defined as fever ≥ 100°F and cough and/or sore throat.
[2] FRI surveillance is ongoing at 8 U.S. military basic training centers, representing all service branches. FRI Rate Status is classified into one of 3 categories:
1. At or below expected value
2. Moderately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

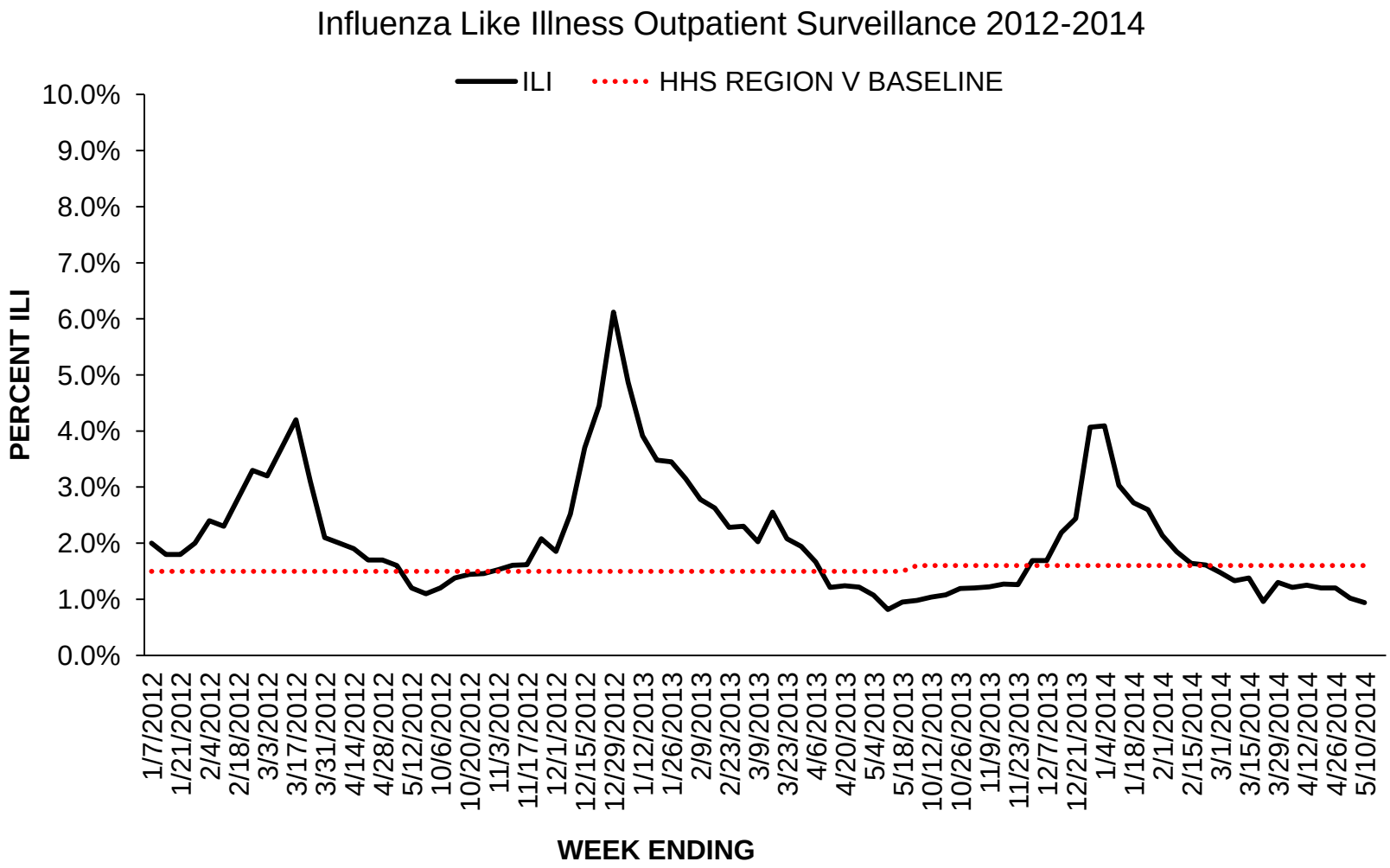
[3] For the purpose of diagnosis, influenza can be diagnosed by using the following test: reverse transcription polymerase chain reaction RT-PCR], viral culture, Immunofluorescence [Direct Fluorescent Antibody (DFA) or Indirect Fluorescent Antibody (IFA) Staining], Enzyme Immuno Assay (EIA) or any rapid 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

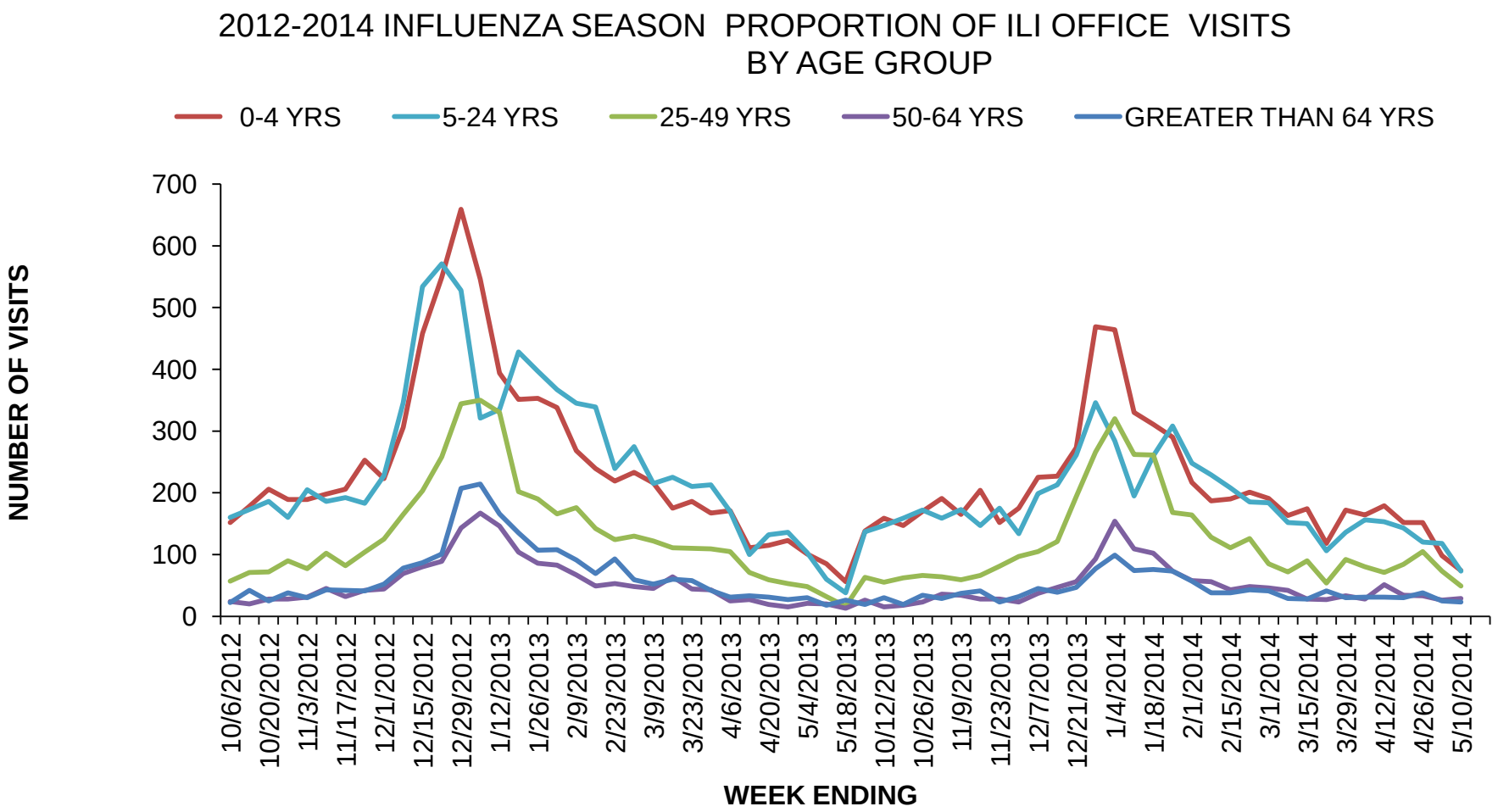


No activity: No laboratory confirmed cases of influenza and no reported increase in cases of influenza like illness (ILI).
Sporadic: Small numbers of laboratory confirmed influenza cases or a single laboratory confirmed influenza in a single region of the state.
Local: Outbreaks of influenza or increases 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



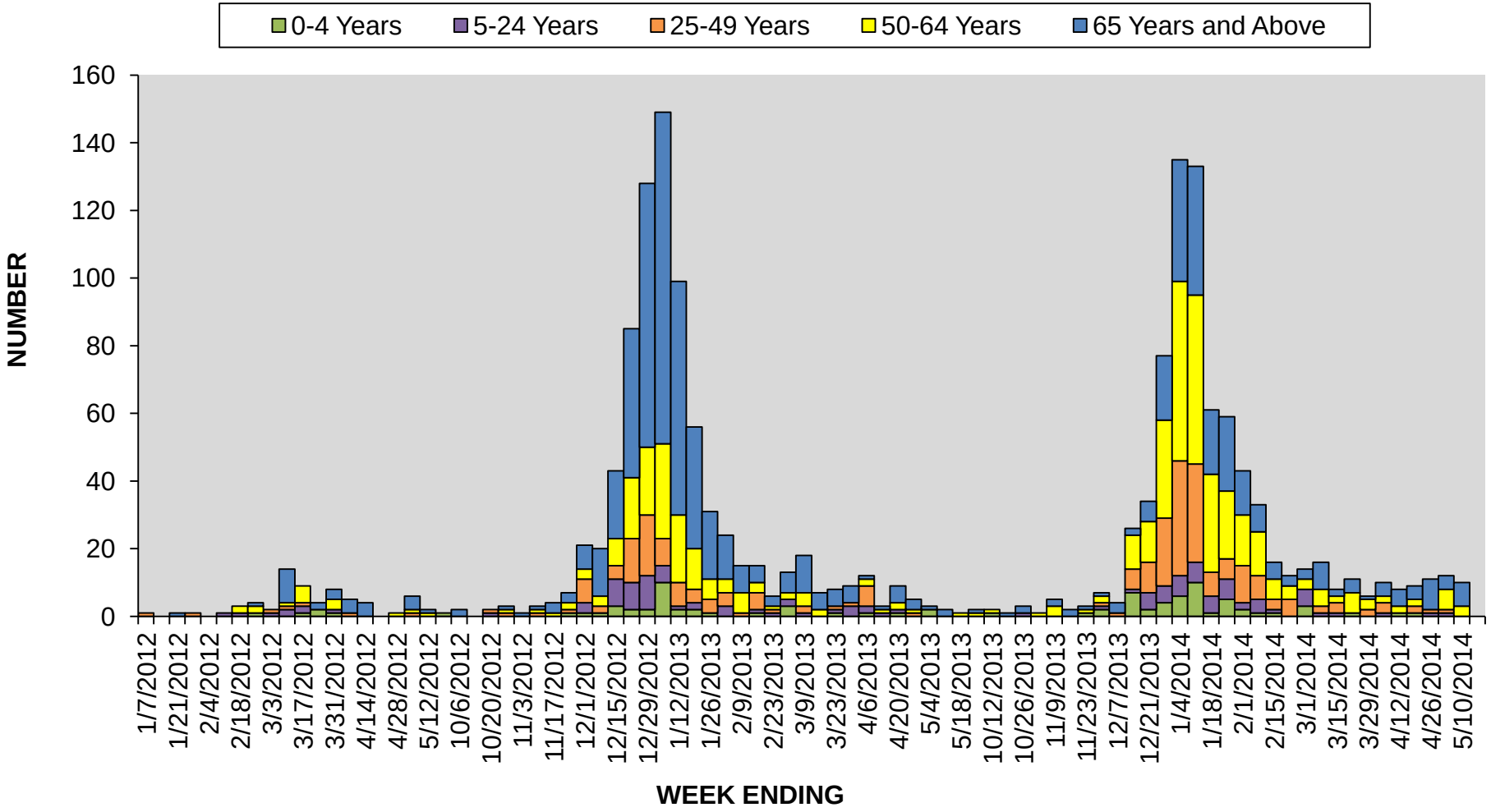
Influenza Intensive Care Unit (ICU) Admissions and Deaths

There were **10** influenza related ICU admissions and **0** deaths for this reporting week.

Year	Week No	Admissions	Deaths[4]
2013/2014	40-03	496	40
2014	04	59	10
2014	05	43	14
2014	06	33	6
2014	07	16	3
2014	08	12	5
2014	09	14	3
2014	10	16	4
2014	11	8	5
2014	12	11	0
2014	13	6	0
2014	14	10	2
2014	15	8	0
2014	16	9	1
2014	17	11	2
2014	18	12	1
2014	19	10	0
Total (Provisional) for 2013-14 Season		**774**	**96**

[4] Deaths are reported for a) adults admitted to an intensive care unit who have a positive test for influenza and b) hospitalized and non- hospitalized children (less than 18 years of age) with a positive influenza test. The degree to which influenza infection is an immediate or underlying cause of death is not ascertained. CDC Influenza-Associated Pediatric Mortality data: http://gis.cdc.gov/GRASP/Fluview/PedFluDeath.html

Influenza Related ICU Admissions by Age Group, 2012-2014



Laboratory Surveillance

- For this reporting week there were **123** influenza specimens tested by WHO/NREVSS collaborating Illinois laboratories (which includes all Illinois Department of Public Health Laboratories). **11** specimens tested positive for Influenza.

For more information about circulating viruses visit:

- St Louis Children's Hospital Weekly Virus/Microbiology Update: http://slchlabtestguide.bjc.org/Default.aspx?url=63e0653d-fe31-466f-9228-d4de90fa7424

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	13	0	6	0	0	2	8	182	16	9.0%
2014	14	0	1	0	0	6	4	204	11	5.0%
2014	15	0	1	2	0	0	14	169	17	10.0%
2014	16	0	0	0	0	2	8	163	10	6.1%
2014	17	0	0	0	0	0	11	98	11	11.2%
2014	18	0	0	1	0	1	7	92	9	9.8%
2014	19	0	0	0	0	3	8	123	11	8.9%
Season Totals		**0**	**440**	**13**	**0**	**648**	**101**	**7475**	**1202**	**16.1%**

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

There were **three** outbreaks reported for this reporting week.

Region	2013-2014 Influenza Season - Number of outbreaks (%)
Rockford (1)	4 (9%)
Peoria (2),	7 (16%)
Edwardsville (4),	5 (12%)
Marion (5),	5 (12%)
Champaign (6),	1 (2%)
West Chicago (7)	11 (26%)
Chicago/Cook (8)	10 (23%)
Total	**43**

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). As a result, data from adamantine resistance testing are not presented below.

Neuraminidase Inhibitor Resistance Testing Results on Samples Collected Since October 1, 2013

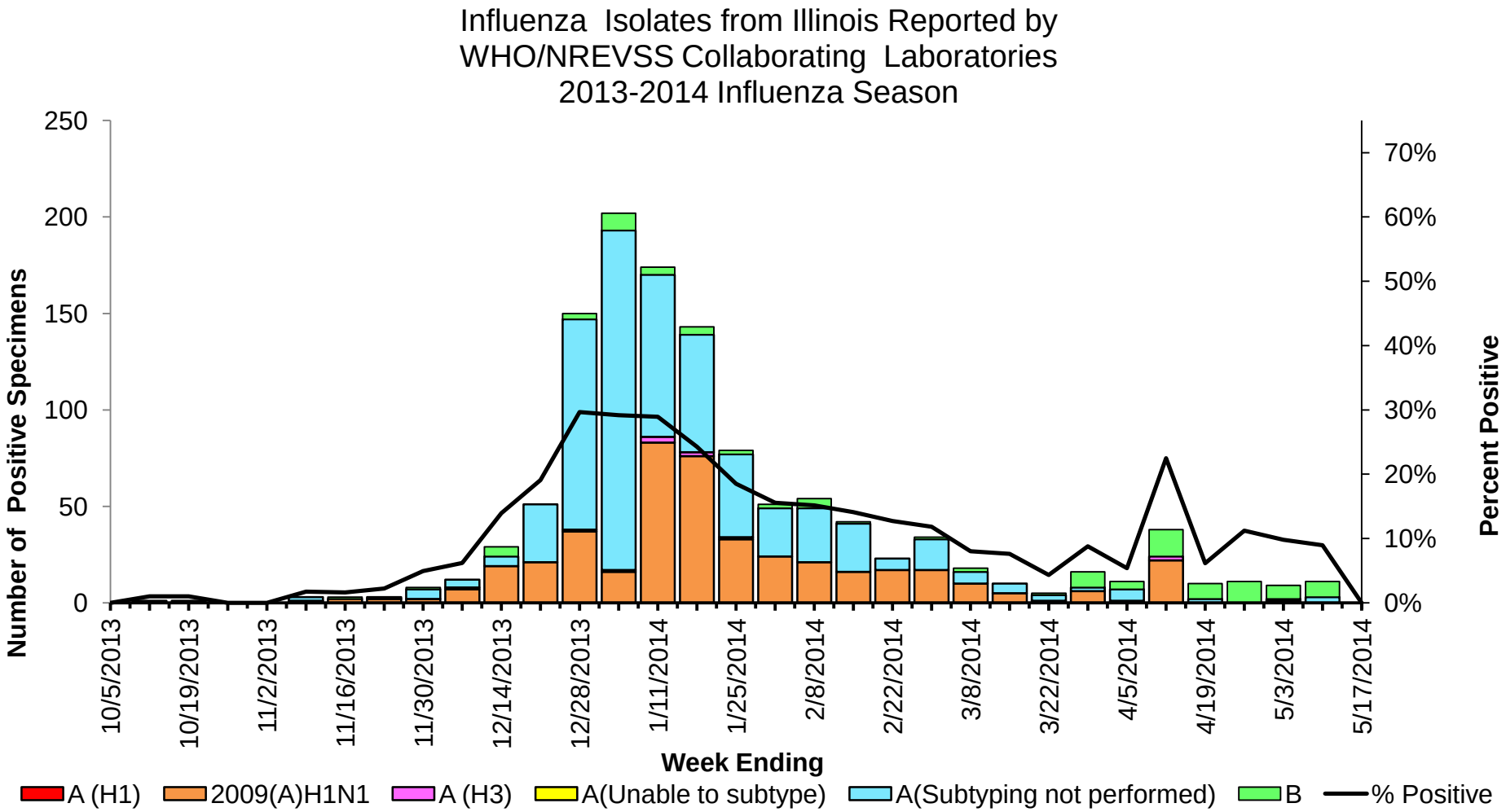
	Oseltamivir		Zanamivir	
	Virus Samples tested (n)	Resistant Viruses, Number (%)	Virus Samples tested (n)	Resistant Viruses, Number (%)
Influenza A (H3N2)	601	0 (0.0)	601	0 (0.0)
Influenza B	440	0 (0.0)	440	0 (0.0)
2009 H1N1	5,092*	59 (1.2)	1,883	0 (0.0)

*Includes specimens tested in national surveillance and additional specimens tested at public health laboratories in 19 states (AZ, CA, CO, DE, FL, GA, HI, ID, MA, ME, MD, MI, MN, NY, PA, TX, UT, WA, and WI) who share testing results with CDC.

The majority of currently circulating influenza viruses are susceptible to the neuraminidase inhibitor antiviral medications oseltamivir and zanamivir; however, rare sporadic cases 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 greater 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, 2013-2014 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

*** The numbers in red that are located on this map indicate the number of participating Sentinel Sites per county.**

Resources

- Centers for Disease Control and Prevention Influenza Website:
  - http://www.cdc.gov/flu/
- Flu Trackers H7N9 Forum (Human Cases Line List)
  - http://www.flutrackers.com/forum/showthread.php?t=202713
- 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
- WHO Global Alert and Response H7N9:
  - http://www.who.int/csr/don/en/
- Center for Infectious Disease Research and Policy:
  - http://www.cidrap.umn.edu/news-perspective/2014/05/news-scan-may-09-2014
  - http://www.cidrap.umn.edu/news-perspective/2014/05/avian-flu-scan-may-14-2014
  - http://www.cidrap.umn.edu/news-perspective/2014/05/avian-flu-scan-may-15-2014