



WISCONSIN DEPARTMENT OF HEALTH SERVICES
Division of Public Health
Bureau of Communicable Diseases and Emergency Response



Respiratory virus surveillance report for the week ending November 29, 2014 week 14-48

AT-A-GLANCE

- Respiratory viruses identified this week :
 Influenza A/H3N2 was the predominant virus this week.

- Influenza-like illness (ILI) activity for this week

Wisconsin	Low
Wisconsin (CDC level)	Minimal
Northwestern Region	Low
Northeastern Region	High
Southeastern Region	Low
Southern Region	Low

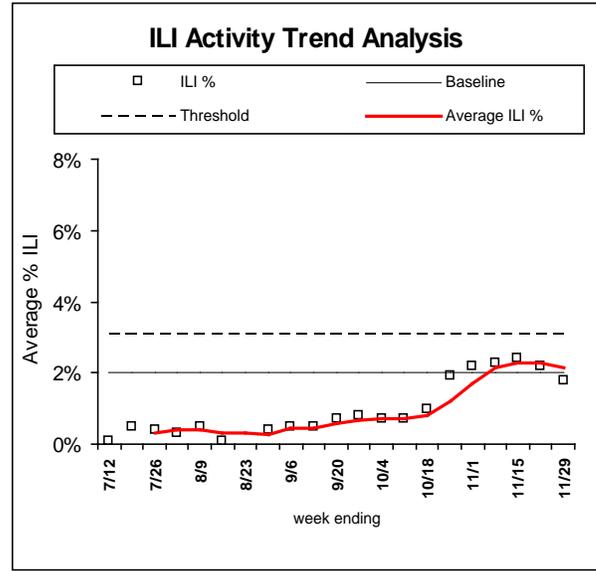
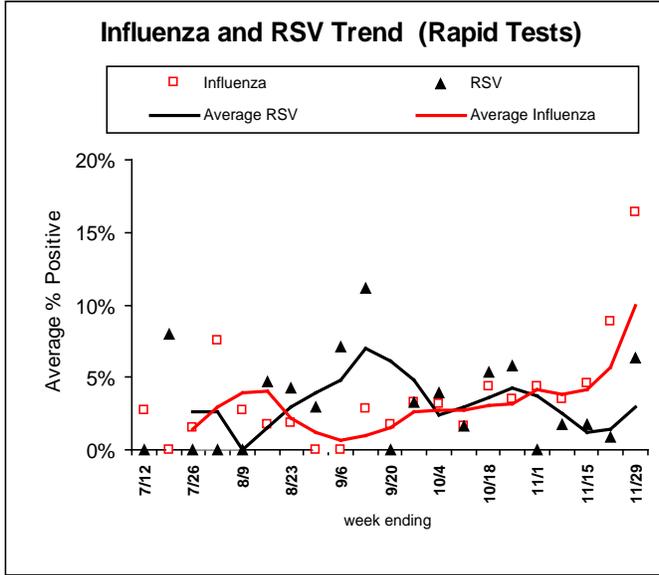
- ILI activity in Region V of the U.S. (WI, MN, IL, MI, OH, IN) is above baseline levels
- ILI activity in the U.S. is above baseline levels
- The Predictive Value Positive (PVP) for rapid influenza and RSV tests is: Increasing (PVP is the probability of disease in a patient with a positive test result)
- The Predictive Value Negative (PVN) for rapid influenza and RSV tests is: Decreasing (PVN is the probability of not having disease when the test result is negative)
- Influenza-associated pediatric deaths reported (October 4, 2014-present)

	<u>Week 14-48</u>	<u>Total to Date</u>
Wisconsin	0	0
Nationwide	0	5

WISCONSIN and REGIONAL SUMMARIES
(Trend analysis based on 3-week moving averages)

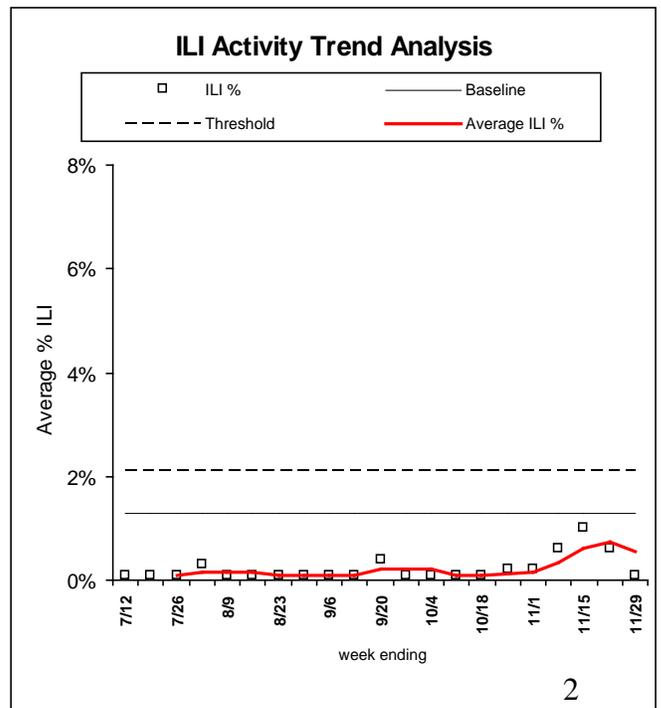
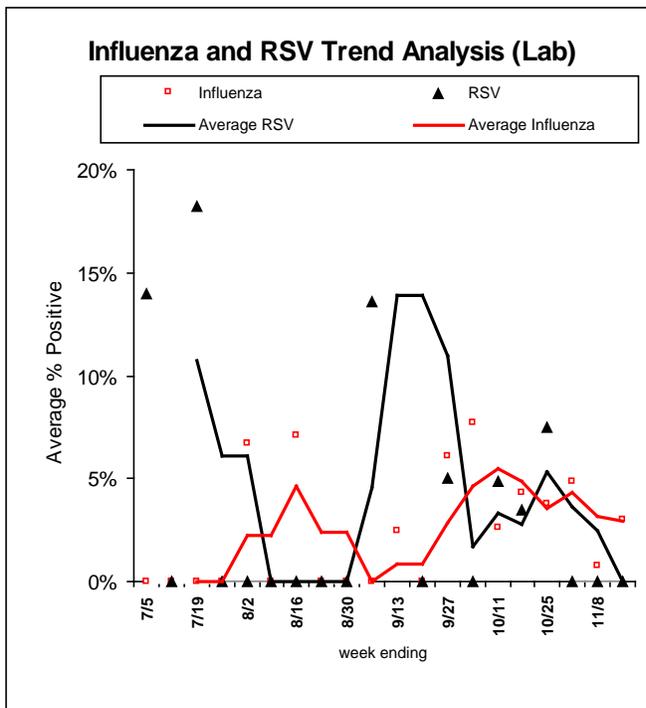
Wisconsin (ILI activity is Low)

INFLUENZA RAPID ANTIGEN TESTS				RSV RAPID ANTIGEN TESTS			INFLUENZA-LIKE ILLNESS			
Tested	Positive			% Positive	Tested	Positive	% Positive	ILI %	Baseline	Threshold
	Flu A	Flu B	Total							
566	81	12	93	16.4%	94	6	6.3%	1.8%	2.0%	3.1%



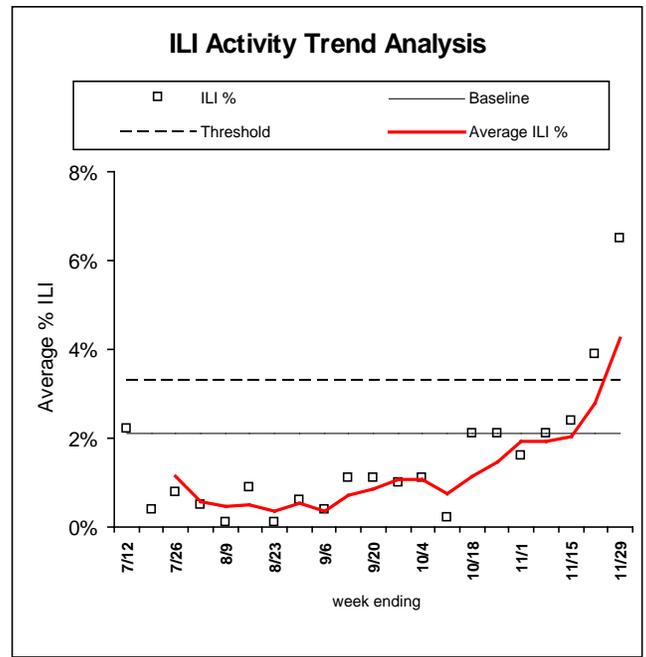
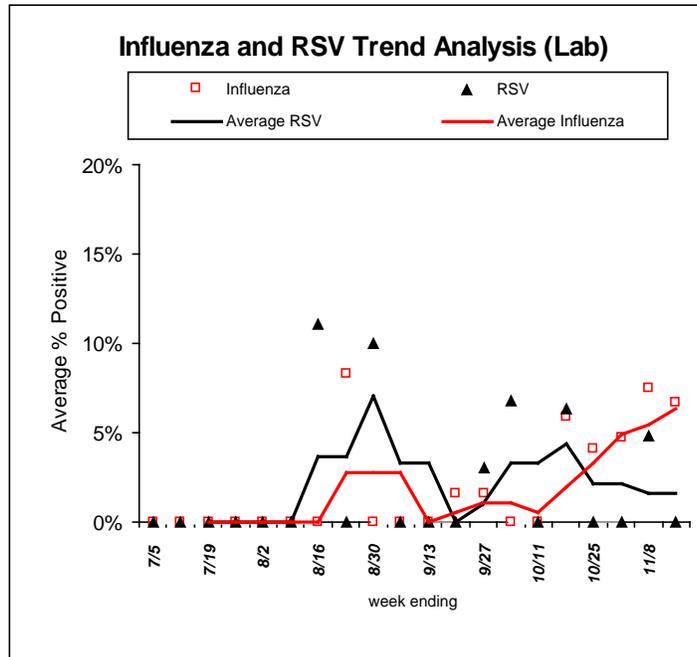
Northwestern Region (ILI activity is Low)

INFLUENZA RAPID ANTIGEN TESTS				RSV RAPID ANTIGEN TESTS			INFLUENZA-LIKE ILLNESS			
Tested	Positive			% Positive	Tested	Positive	% Positive	ILI %	Baseline	Threshold
	Flu A	Flu B	Total							
								0.1%	1.3%	2.1%



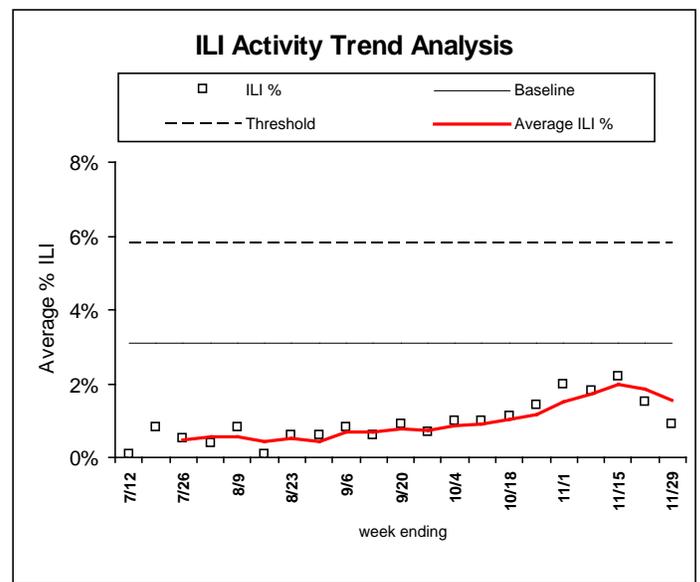
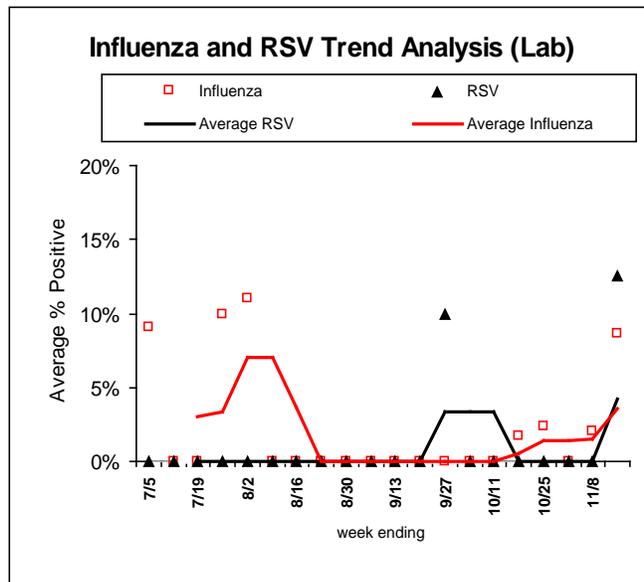
Northeastern Region (ILI activity is high)

INFLUENZA RAPID ANTIGEN TESTS				RSV RAPID ANTIGEN TESTS			INFLUENZA-LIKE ILLNESS			
Tested	Positive			% Positive	Tested	Positive	% Positive	ILI %	Baseline	Threshold
	Flu A	Flu B	Total							
								6.5%	2.1%	3.3%



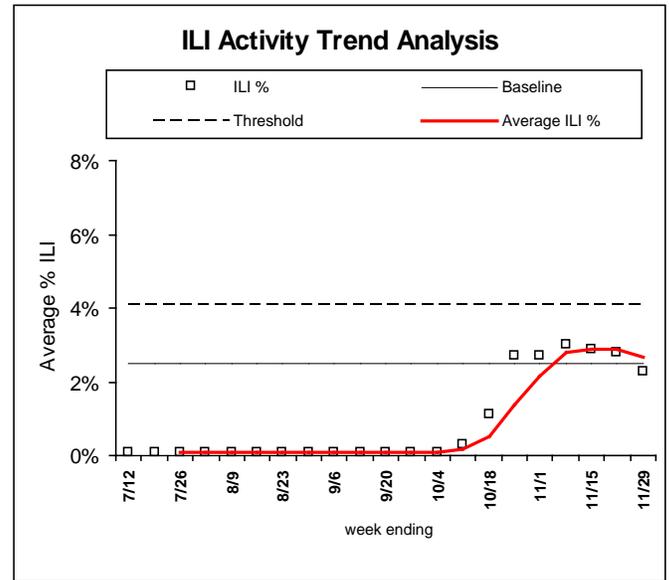
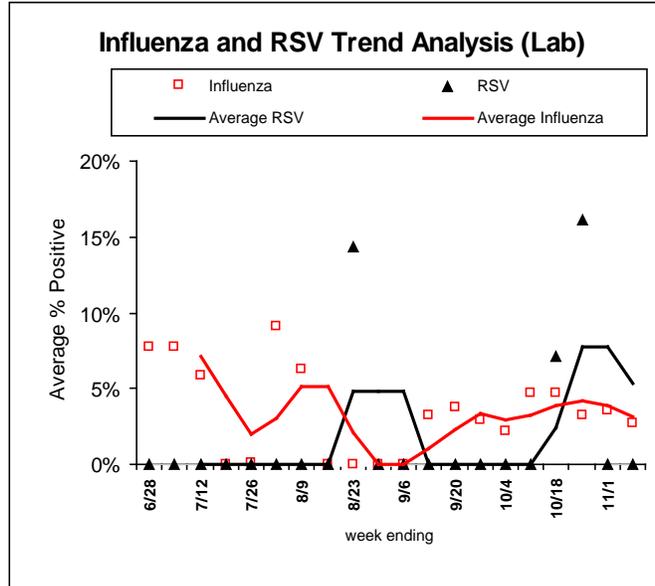
Southern Region (ILI activity is Low)

INFLUENZA RAPID ANTIGEN TESTS				RSV RAPID ANTIGEN TESTS			INFLUENZA-LIKE ILLNESS			
Tested	Positive			% Positive	Tested	Positive	% Positive	ILI %	Baseline	Threshold
	Flu A	Flu B	Total							
							0.9%	2.2%	3.1%	5.8%



Southeastern Region (ILI activity is Low)

INFLUENZA RAPID ANTIGEN TESTS				RSV RAPID ANTIGEN TESTS			INFLUENZA-LIKE ILLNESS			
Tested	Positive			% Positive	Tested	Positive	% Positive	ILI %	Baseline	Threshold
	Flu A	Flu B	Total							
								2.3%	2.5%	4.1%



For the 2014-15 influenza season, data from the Western Region and the Northern Region will be combined and referred to as the Northwestern Region. This change was made in response to the small number of providers who participate in our weekly surveillance in the Northern Region.

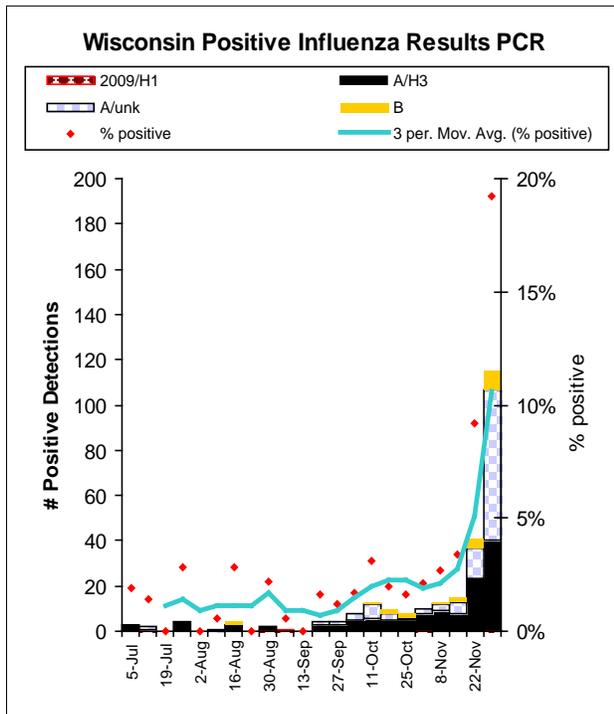
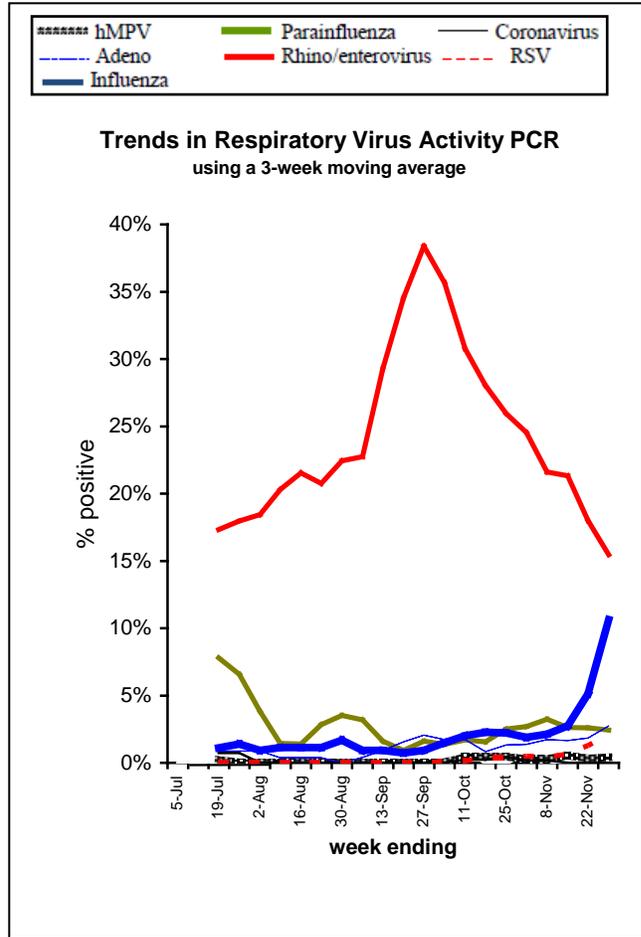
LABORATORY SURVEILLANCE FOR RESPIRATORY VIRUSES (PCR)

Respiratory Agent	Tested	Positive	% Positive	Flu A 2009/H1N1	Flu A Seasonal H3	Flu A (Unk)	Flu B
Influenza	599	115	19.2%	1	39	67	8

Respiratory Agent	Tested	Positive	% Positive	P1	P2	P3	P4
Parainfluenza	260	9	3.5%	1	8	0	0

Respiratory Agent	Tested	Positive	% Positive	CoV-229E	CoV-OC43	CoV-NL63	CoV-HKU1
Coronavirus	133	0	0%	0	0	0	0

Respiratory Agent	Tested	Positive	% Positive
RSV	293	9	3.1%
Human Metapneumovirus	260	1	0.4%
Rhino-entero	261	27	10.4%
Adenovirus	159	6	3.8%

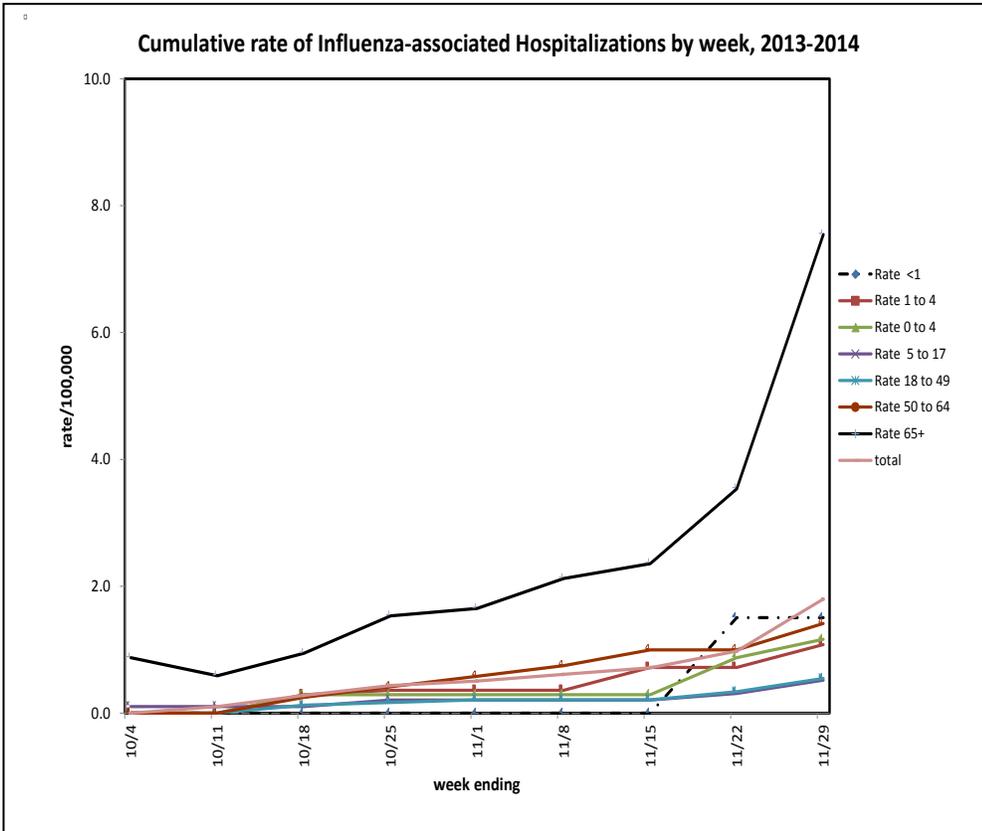


Cumulative number of positive influenza tests
By subtype, October 4, 2014 to present

	2009 A/H3 N2v	2009 A/H1	Seasonal A/H3	A/Unknown	B	Total
Total Number positive	1	2	107	104	20	234
% of Total number positive	<1%	1%	46%	44%	9%	100%
Total Influenza A %					Total Influenza B %	
91%					9%	

Influenza-associated Hospitalizations, October 4, 2014 to present

Age Group	Total Number Reported (2014-15)	Influenza Subtypes				Not reported	Admitted to ICU	Required Mechanical Ventilation
		2009 H1N1	H3N2	A/Unknown or undetermined	B			
< 1 year	1	0	0	1	0	0	1	0
1 to 4	3	0	0	2	1	0	1	1
5 to 17	5	0	1	2	1	1	2	1
18 to 49	18	0	3	12	3	0	3	1
50 to 64	28	1	4	14	7	2	4	4
65 and over	85	1	10	57	11	6	13	1
Total	140	2	18	88	23	9	24	8

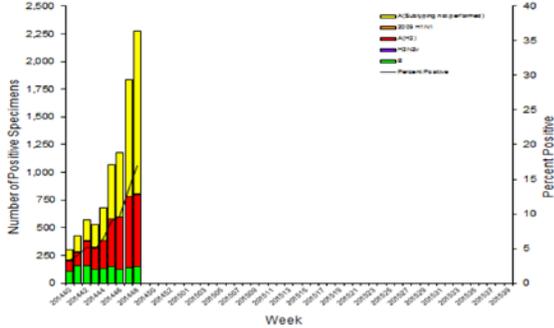


Incidence/100,000*		
Age group	Wisconsin	National
<1	1.5	NA
1 to 4	1.1	NA
5 to 17	0.5	1.4
18 to 49	0.5	0.8
50 to 64	1.4	1.6
65+	7.5	5.9
total	1.8	1.8

NATIONAL INFLUENZA SURVEILLANCE

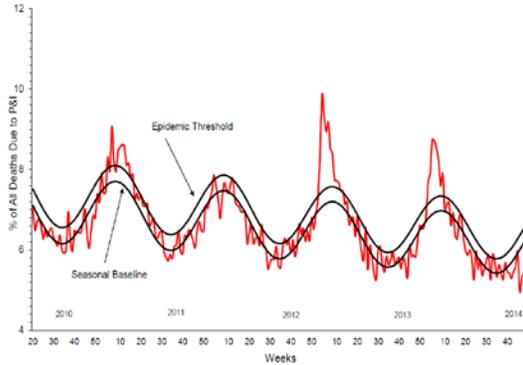
	Week 48
No. of specimens tested	13,398
No. of positive specimens (%)	2,274 (17.0%)
Positive specimens by type/subtype	
Influenza A	2,129 (93.6%)
A(H1N1)pdm09	5 (0.2%)
H3	656 (30.8%)
Subtyping not performed	1,468 (69.0%)
Influenza B	145 (6.4%)

Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2014-15

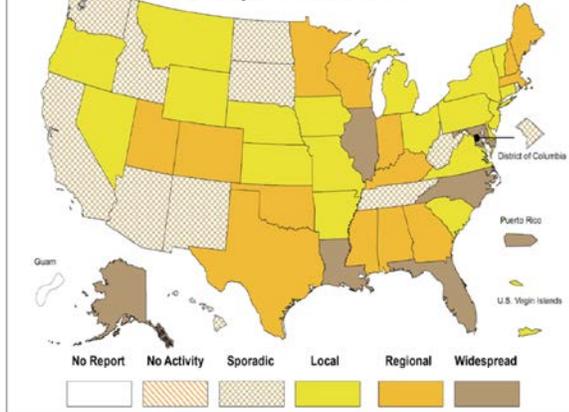


Pneumonia and Influenza (P&I) Mortality Surveillance: During week 48, 5.4% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 6.5% for week 48.

Pneumonia and Influenza Mortality for 122 U.S. Cities
Week ending November 29, 2014

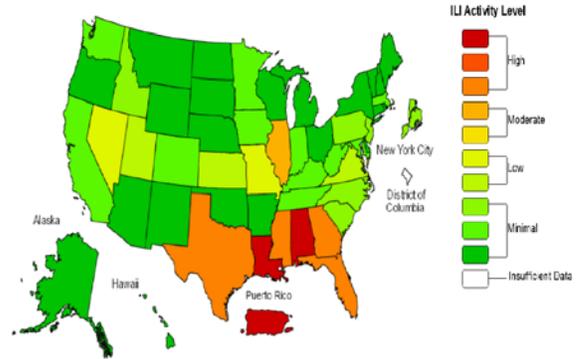


Weekly Influenza Activity Estimates Reported by State & Territorial Epidemiologists*
Week ending November 29, 2014 - Week 48



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

Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2014-15 Influenza Season Week 48 ending Nov 29, 2014



*This map uses the proportion of outpatient visits to health care providers for influenza-like illness to measure the ILI activity level within a state. It does not, however, measure the extent of geographic spread of flu within a state. Therefore, outbreaks occurring in a single city could cause the state to display high activity levels.

Influenza Virus Characterization*

CDC has characterized 132 influenza viruses [1 A(H1N1)pdm09, 114 A(H3N2), and 17 influenza B viruses] collected by U.S. laboratories since October 1, 2014.

Influenza A Virus [115]

- A(H1N1)pdm09 [1]:** The one H1N1 virus tested was characterized as A/California/7/2009-like, the influenza A (H1N1) component of the 2014-2015 Northern Hemisphere influenza vaccine.
- A(H3N2) [114]:** Forty-eight (42%) of the 114 H3N2 viruses tested have been characterized as A/Texas/50/2012-like, the influenza A (H3N2) component of the 2014-2015 Northern Hemisphere influenza vaccine. Sixty-six (58%) of the 114 viruses tested showed either reduced titers with antiserum produced against A/Texas/50/2012 or belonged to a genetic group that typically shows reduced titers to A/Texas/50/2012. Among viruses that showed reduced titers with antiserum raised against A/Texas/50/2012, most were antigenically similar to A/Switzerland/9715293/2013, the H3N2 virus selected for the 2015 Southern Hemisphere influenza vaccine. A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus. A/Switzerland-like H3N2 viruses were first detected in the United States in small numbers in March of 2014 and began to increase through the spring and summer.

Influenza B Virus [17]

Ten (58.8%) of the influenza B viruses tested belong to B/Yamagata/16/88 lineage and the remaining seven (41.2%) influenza B viruses tested belong to B/Victoria/02/87 lineage.

- Yamagata Lineage [10]:** All ten B/Yamagata-lineage viruses were characterized as B/Massachusetts/2/2012-like, which is included as an influenza B component of the 2014-2015 Northern Hemisphere trivalent and quadrivalent influenza vaccines.
- Victoria Lineage [7]:** All seven B/Victoria-lineage viruses were characterized as B/Brisbane/60/2008-like, the virus that is included as an influenza B component of the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine.

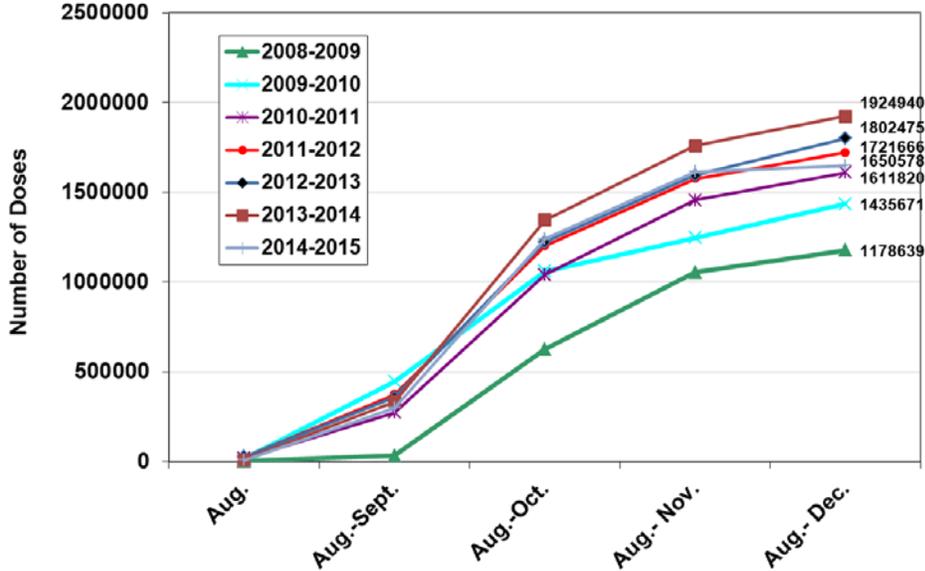
Neuraminidase Inhibitor Resistance Testing Results on Samples Collected Since October 1, 2014

	Oseltamivir		Zanamivir	
	Virus Samples tested (n)	Resistant Viruses, Number (%)	Virus Samples tested (n)	Resistant Viruses, Number (%)
Influenza A (H3N2)	71	0 (0.0)	71	0 (0.0)
Influenza B	24	0 (0.0)	24	0 (0.0)
Influenza A(H1N1)pdm09	5	0 (0.0)	5	0 (0.0)

Seasonal Influenza Vaccination in Wisconsin Based on Doses Reported to the Wisconsin Immunization Registry (WIR) December 5, 2014

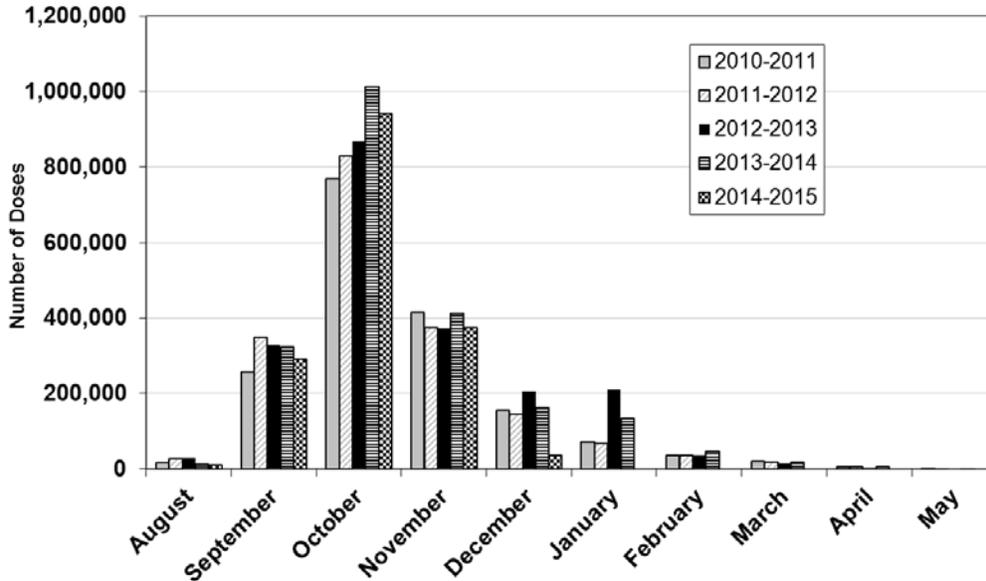
Data for 2014-2015 Season Reported for 8.1.14-12.04.2014

**Cumulative Doses of Seasonal Influenza Administered and Reported to the WIR,
2008-2015 Influenza Seasons**



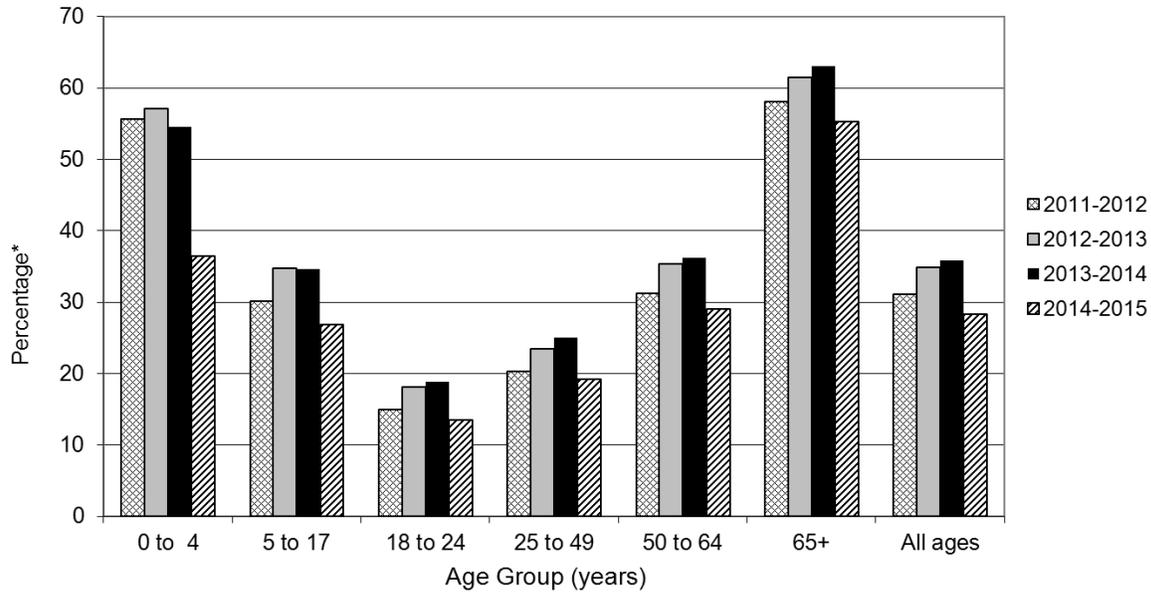
Data source: WIR
2014-2015 data 8.1.14 through 12.05.2014

**Number of Doses of Seasonal Influenza Vaccine Administered and Reported to
the WIR, by Month for Influenza Seasons 2010-2015**



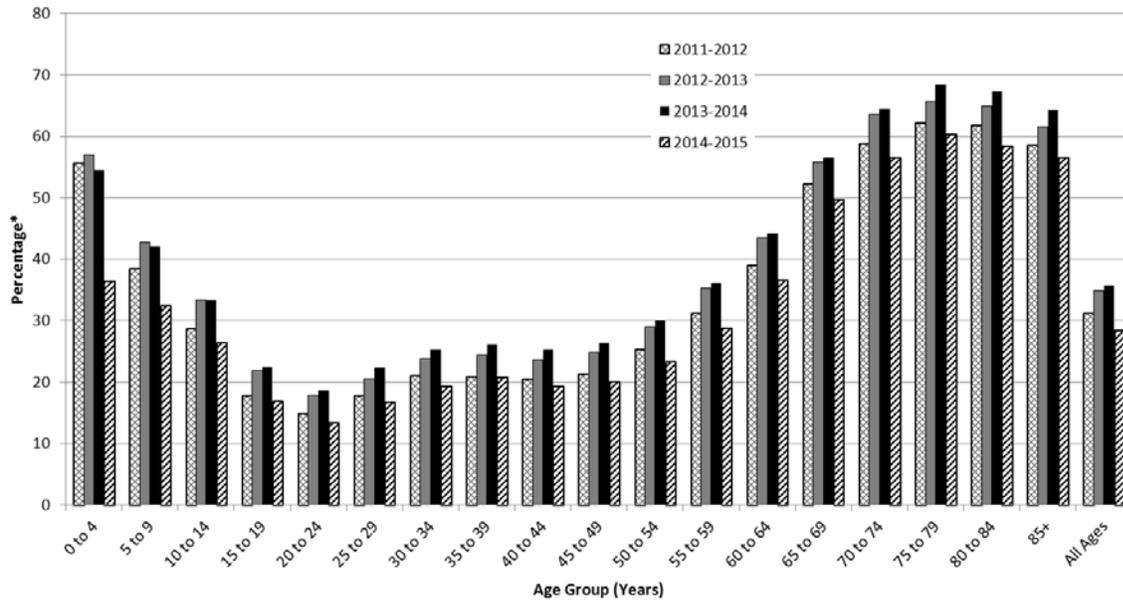
*Data source: WIR,
2014-2015 data through 12.04.2014

Rates of Influenza Vaccination in Wisconsin by Age Group, 2011-2015 Influenza Seasons, Based on Doses Reported to the Wisconsin Immunization Registry (WIR)



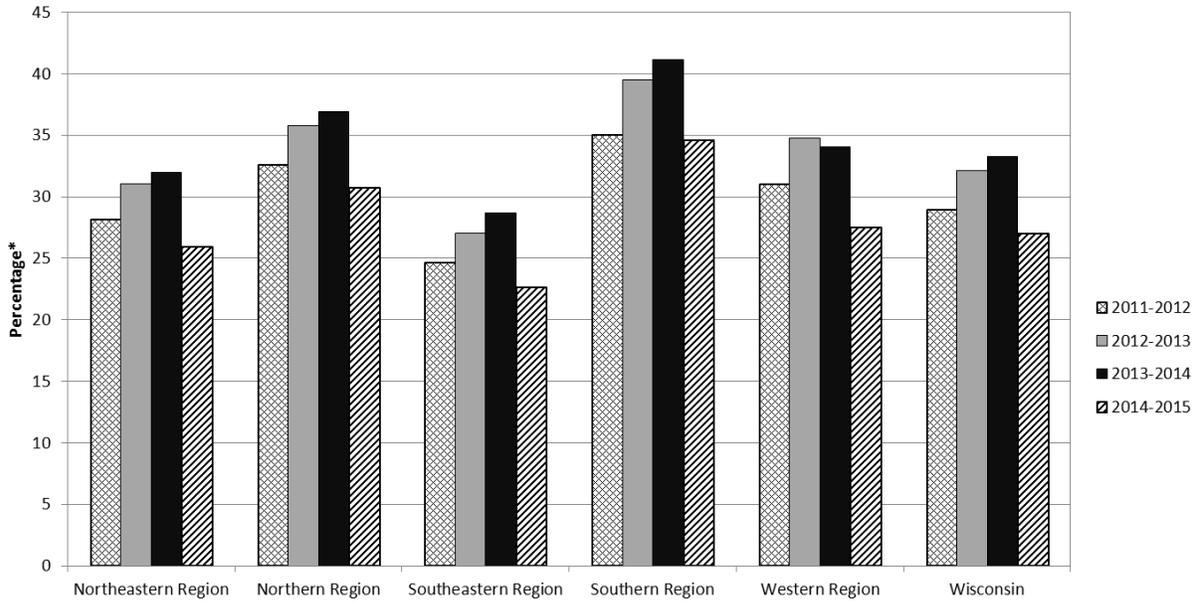
* Numerator: Number of persons recorded in the WIR as having received at least one dose of seasonal influenza vaccine by age group. For 2011-2012 season, receipt of vaccine between 8/1/11 and 7/31/12, assessed 12/2/2013. For 2012-2013 season, doses administered between 8/1/12 to 7/31/13, assessed 12/2/2013. For 2013-2014, doses administered between 8/1/13 to 7/31/2014, assessed 8/15/14. For 2014-2015, doses administered between 8/1/14 to 12/04/2014, assessed 12/05/14. Denominator source: 2011, 2012 and 2013 Wisconsin Interactive Statistics on Health (WISH) population estimates, by age group.

Rates of Influenza Vaccination in Wisconsin by Age Group, 2011-2015 Influenza Seasons, Based on Doses Reported to the Wisconsin Immunization Registry (WIR)



* Numerator: Number of persons recorded in the WIR as having received at least one dose of seasonal influenza vaccine by age group. For 2011-2012 season, receipt of vaccine between 8/1/11 and 7/31/12, assessed 12/2/2013. For 2012-2013 season, doses administered between 8/1/12 to 7/31/13, assessed 12/2/2013. For 2013-2014, doses administered between 8/1/13 to 7/31/14, assessed 8/15/14. For 2014-2015, doses administered between 8/1/14 to 12/04/14, assessed 12/05/14. Denominator source: 2011, 2012 and 2013 Wisconsin Interactive Statistics on Health (WISH) population estimates, by age group.

**Rates of Influenza Vaccination in Wisconsin by Region, 2011-2015 Influenza Seasons,
Based on Doses Reported to the Wisconsin Immunization Registry (WIR)**



* Numerator: Number of persons recorded in the WIR as having received at least one dose of seasonal influenza vaccine by region. For 2011-2012 season, receipt of vaccine between 8/1/11 and 7/31/12, assessed 11/27/13. For 2012-2013 season, doses administered between 8/1/12 to 7/31/13, assessed 11/27/13. For 2013-2014, doses administered between 8/1/13 to 7/31/14, assessed 8/15/14. For 2014-2015, doses administered between 8/1/14 to 12/04/14, assessed on 12/05/14. Denominator source: 2011, 2012 and 2013 Wisconsin Interactive Statistics on Health (WISH) population estimates, by region.

- These graphs include only doses of seasonal influenza vaccine administered and reported to the Wisconsin Immunization Registry (WIR).
- Data for 2014-15 season is incomplete because of the expected lag between the vaccine administration date and the date reported to the WIR, which may be as short as one day or as long as several months, depending on the submitter. Therefore, the current season's data will be adjusted as additional data is received.
- While use of the WIR is not mandatory, the WIR receives data from a variety of sources, including health care providers, health maintenance organizations, local health departments and tribal health centers/clinics, schools and pharmacies.
- For additional information regarding the immunization data, please contact Ashley Petit, epidemiologist, with the Wisconsin Immunization Program at (608) 266-7797.