



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



**Respiratory virus surveillance report for the week ending May 16, 2015 week 19-15**

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**AT-A-GLANCE**

- Respiratory viruses identified this week :  
 Influenza B, rhinovirus, and parainfluenza were the predominant viruses this week.

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

|                       |          |
|-----------------------|----------|
| Wisconsin             | Moderate |
| Wisconsin (CDC level) | Low      |
| Northwestern Region   | Low      |
| Northeastern Region   | Low      |
| Southeastern Region   | Moderate |
| Southern Region       | Low      |

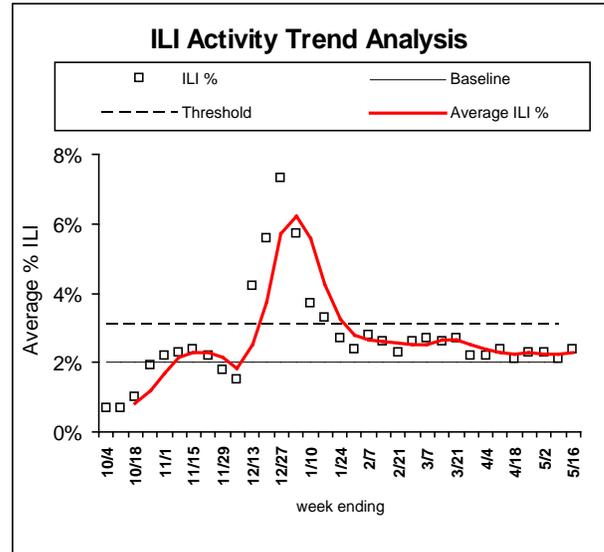
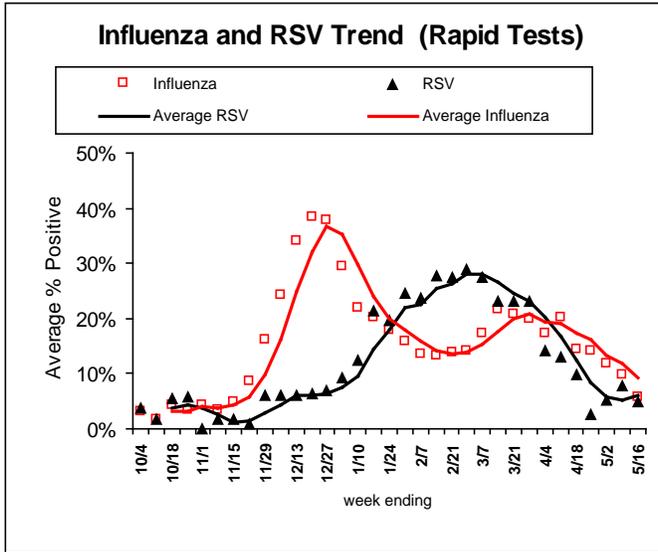
- ILI activity in Region V of the U.S. (WI, MN, IL, MI, OH, IN) is below baseline levels
- ILI activity in the U.S. is below baseline levels
- The Predictive Value Positive (PVP) for rapid influenza and RSV tests is: Moderate  
 (PVP is the probability of disease in a patient with a positive test result)
- The Predictive Value Negative (PVN) for rapid influenza and RSV tests is: Moderate  
 (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 19-15</u> | <u>Total to Date</u> |
|------------|-------------------|----------------------|
| Wisconsin  | 0                 | 6                    |
| Nationwide | 3                 | 13                   |

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

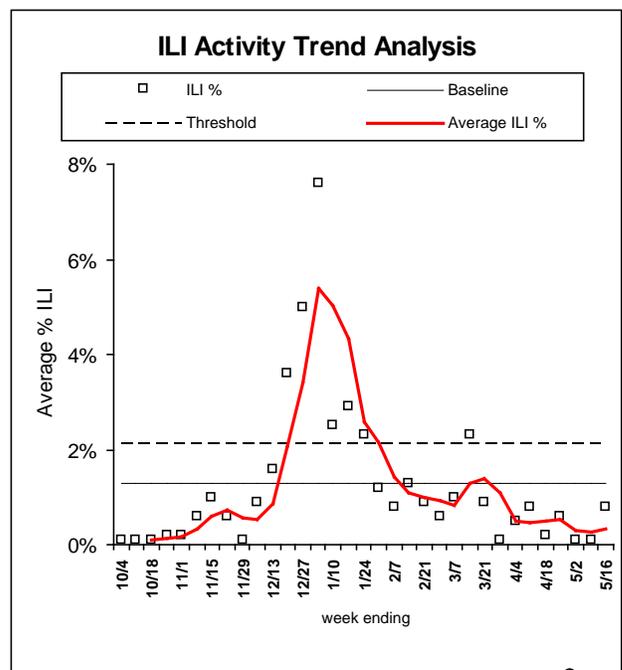
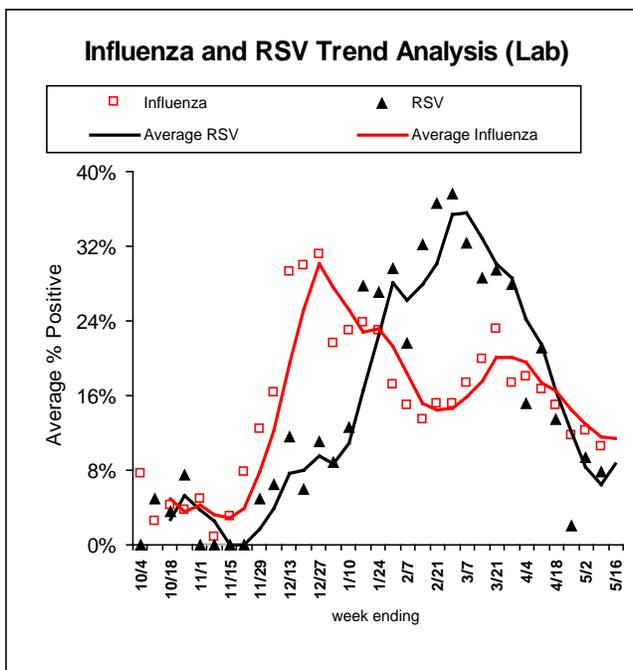
**Wisconsin (ILI activity is Moderate)**

| 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 |            |                         |          |            |                        |          |           |
| 376                           | 2        | 20    | 22    | 5.9%       | 83                      | 4        | 4.8%       | 2.4%                   | 2.0%     | 3.1%      |



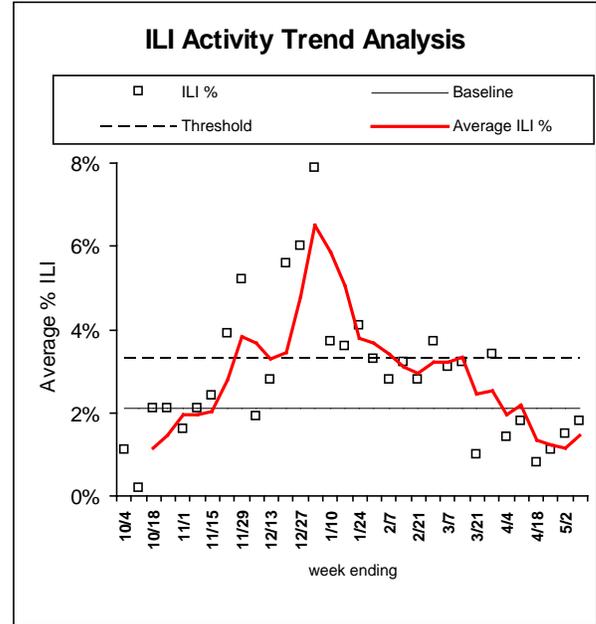
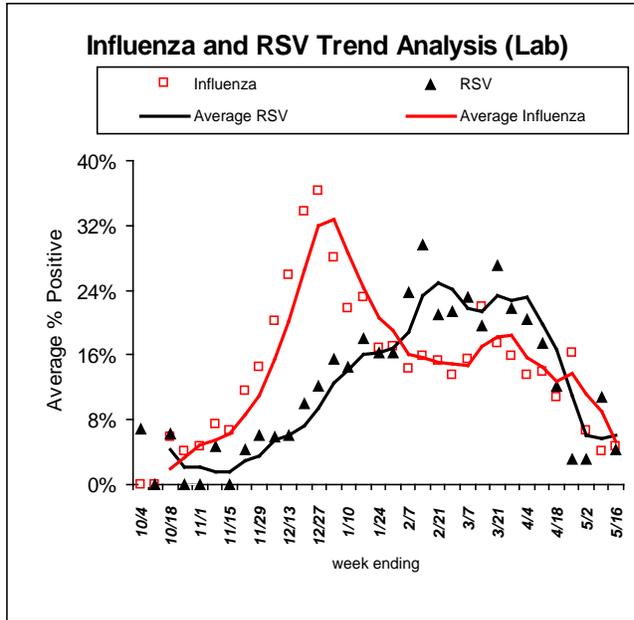
**Northwestern Region (ILI activity is Low)**

| 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 |            |                         |          |            |                        |          |           |
| 67                            | 0        | 8     | 8     | 11.9%      | 19                      | 0        | 0%         | 0.8%                   | 1.3%     | 2.1%      |



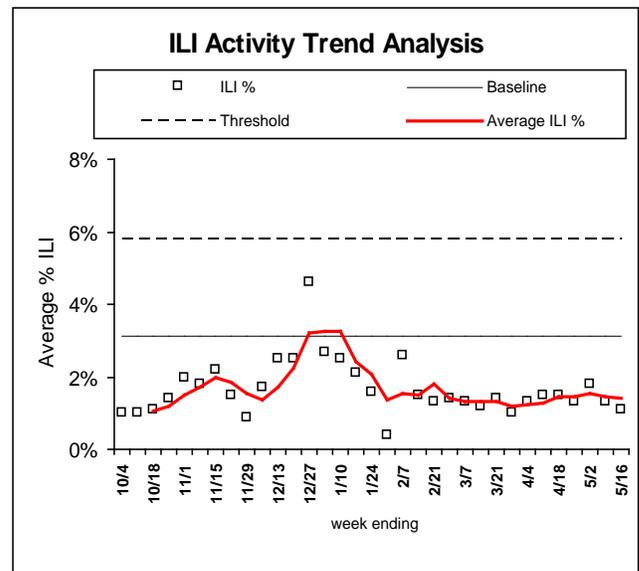
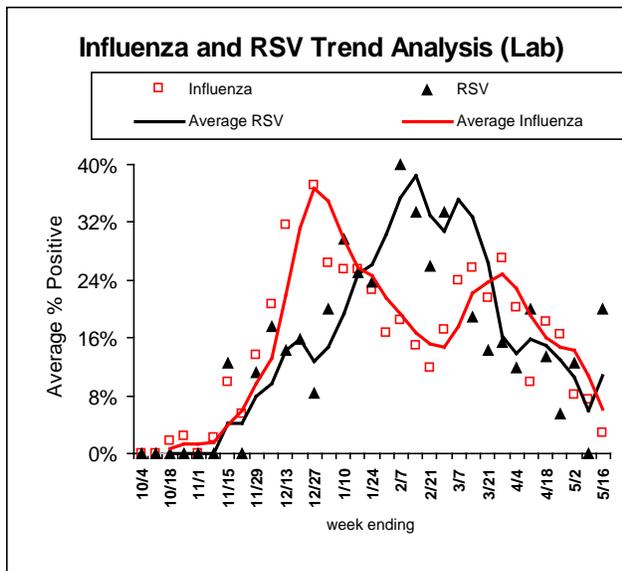
**Northeastern Region (ILI activity is Low)**

| 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 |                         |        |          |                        |       |          |           |
| 64                            | 1        | 2     | 3     | 4.7%                    | 23     | 1        | 4.3%                   | 0.5%  | 2.1%     | 3.3%      |



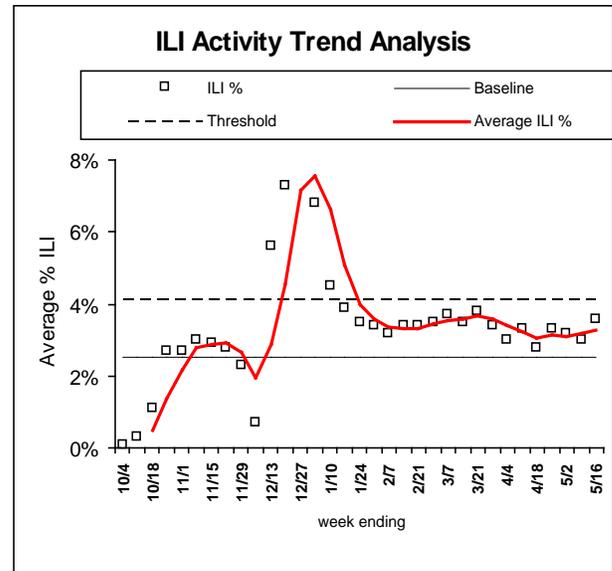
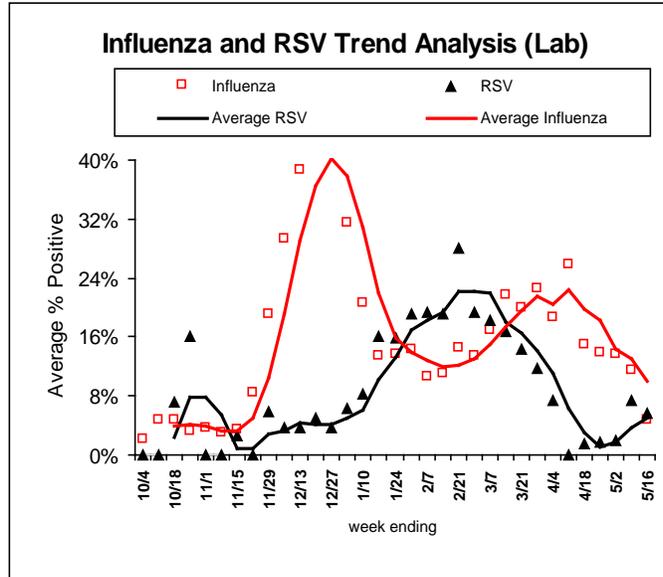
**Southern Region (ILI activity is Low)**

| 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 |                         |        |          |                        |       |          |           |
| 36                            | 0        | 1     | 1     | 2.8%                    | 5      | 1        | 20%                    | 1.1%  | 3.1%     | 5.8%      |



**Southeastern Region (ILI activity is Moderate)**

| 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 |                         |        |          |                        |       |          |           |
| 209                           | 1        | 9     | 10    | 4.8%                    | 36     | 2        | 5.6%                   | 3.6%  | 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         | 487    | 25       | 5.1%       | 0               | 0                 | 0           | 25    |

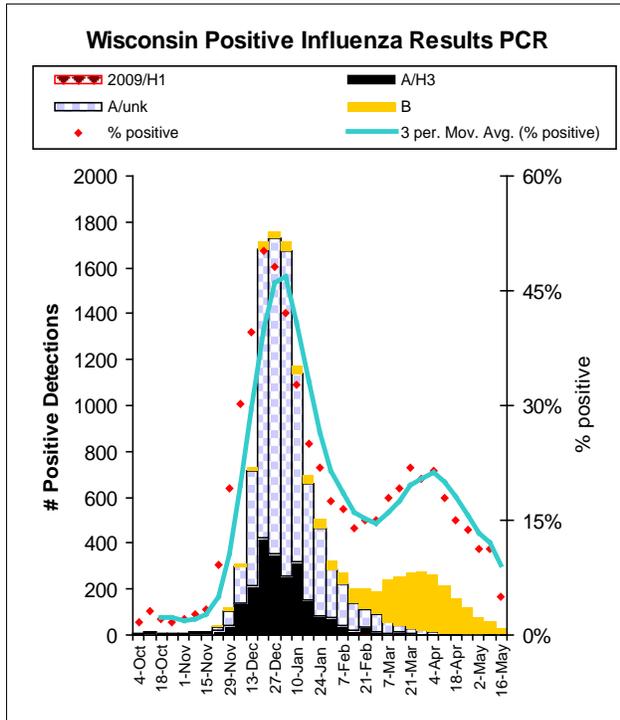
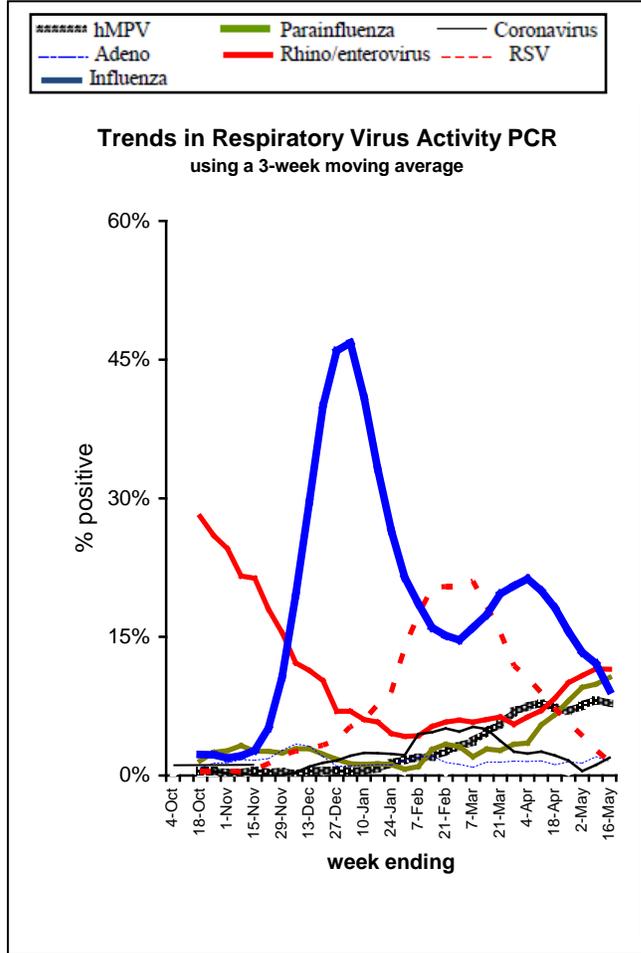
  

| Respiratory Agent | Tested | Positive | % Positive | P1 | P2 | P3 | P4 |
|-------------------|--------|----------|------------|----|----|----|----|
| Parainfluenza     | 324    | 37       | 11.4%      | 0  | 0  | 35 | 2  |

| Respiratory Agent | Tested | Positive | % Positive | CoV-229E | CoV-OC43 | CoV-NL63 | CoV-HKU1 |
|-------------------|--------|----------|------------|----------|----------|----------|----------|
| Coronavirus       | 157    | 4        | 2.5%       | 4        | 0        | 0        | 0        |

| Respiratory Agent     | Tested | Positive | % Positive |
|-----------------------|--------|----------|------------|
| RSV                   | 350    | 2        | 0.5%       |
| Human Metapneumovirus | 326    | 19       | 5.8%       |
| Rhino-entero          | 281    | 37       | 13.1%      |
| Adenovirus            | 205    | 2        | 0.9%       |

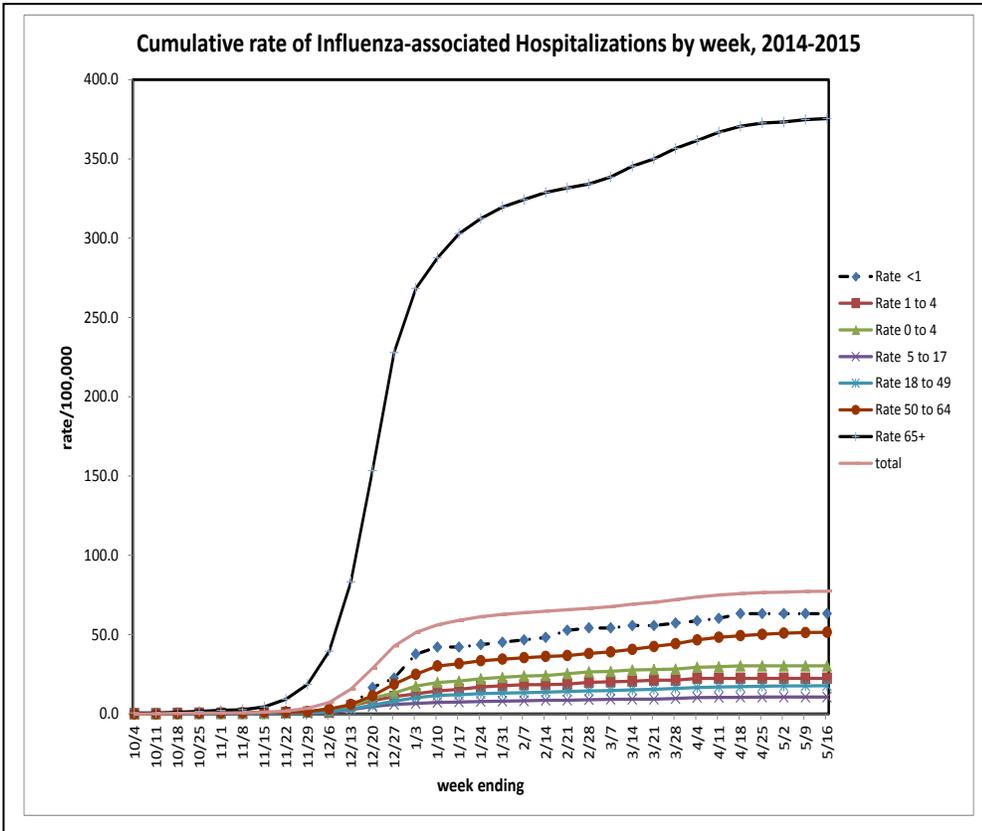


**Cumulative number of positive influenza tests  
By subtype, October 4, 2014 to present**

|                                   | 2009 A/H3 N2v              | 2009 A/H1 | Seasonal A/H3 | A/Unknown | B                          | Total  |
|-----------------------------------|----------------------------|-----------|---------------|-----------|----------------------------|--------|
| <b>Total Number positive</b>      | 1                          | 25        | 2367          | 7409      | 2389                       | 12,191 |
| <b>% of Total number positive</b> | <1%                        | <1%       | 20%           | 60%       | 20%                        | 100%   |
|                                   | <b>Total Influenza A %</b> |           |               |           | <b>Total Influenza B %</b> |        |
|                                   | 81%                        |           |               |           | 19%                        |        |

## 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     | 48                              | 0                  | 15         | 23                        | 7          | 3            | 4               | 1                               |
| 1 to 4       | 62                              | 0                  | 9          | 40                        | 11         | 2            | 10              | 2                               |
| 5 to 17      | 99                              | 2                  | 15         | 52                        | 27         | 3            | 20              | 9                               |
| 18 to 49     | 453                             | 2                  | 56         | 276                       | 103        | 16           | 69              | 26                              |
| 50 to 64     | 742                             | 2                  | 96         | 409                       | 213        | 22           | 112             | 29                              |
| 65 and over  | 3297                            | 10                 | 482        | 2247                      | 446        | 112          | 326             | 67                              |
| <b>Total</b> | <b>4701</b>                     | <b>16</b>          | <b>673</b> | <b>3047</b>               | <b>807</b> | <b>158</b>   | <b>541</b>      | <b>134</b>                      |

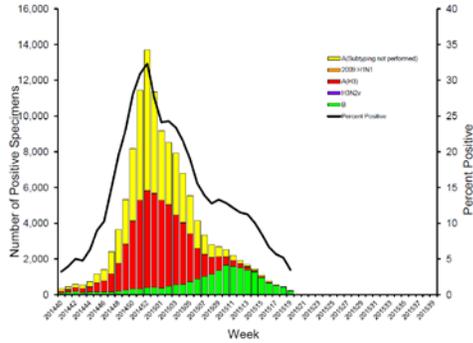


| Incidence/100,000 |             |             |
|-------------------|-------------|-------------|
| Age group         | Wisconsin   | National    |
| <1                | 63.2        | N/A         |
| 1 to 4            | 22.4        | N/A         |
| 0 to 4            | 30.3        | 57.2        |
| 5 to 17           | 10.6        | 16.5        |
| 18 to 49          | 17.8        | 18.9        |
| 50 to 64          | 51.5        | 54.8        |
| 65+               | 375.5       | 322.2       |
| <b>total</b>      | <b>77.3</b> | <b>65.4</b> |

# NATIONAL INFLUENZA SURVEILLANCE

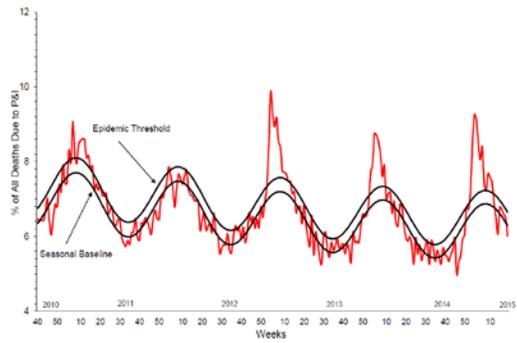
|   | Week 19     | Data Cumulative since September 28, 2014 (Week 40) |
|---|-------------|--|
| No. of specimens tested                   | 6,553       | 683,037  |
| No. of positive specimens (%)             | 228 (3.5%)  | 124,958 (18.3%)                                    |
| <b>Positive specimens by type/subtype</b> |             |  |
| Influenza A                               | 28 (12.3%)  | 104,678 (83.8%)                                    |
| A(H1N1)pdm09                              | 0 (0.0%)    | 218 (0.2%)   |
| H3  | 7 (25.0%)   | 52,181 (49.8%)                                     |
| Subtyping not performed                   | 21 (75.0%)  | 52,278 (49.9%)                                     |
| Influenza B                               | 200 (87.7%) | 20,280 (16.2%)                                     |

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

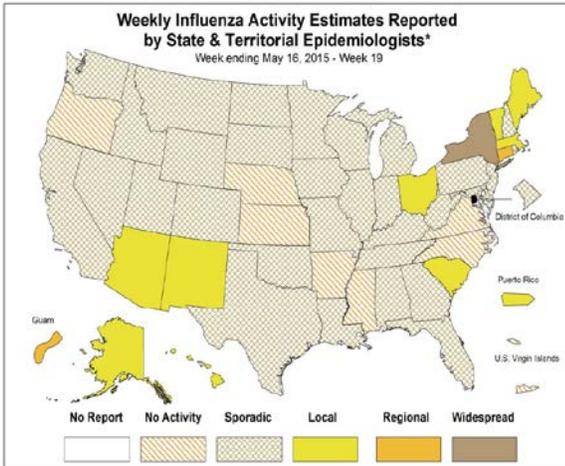


**Pneumonia and Influenza (P&I) Mortality Surveillance:** During week 19, 6.0% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 6.6% for week 19.

Pneumonia and Influenza Mortality for 122 U.S. Cities  
Week ending May 16, 2015

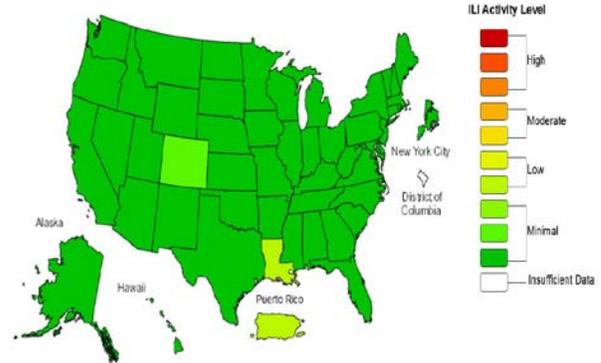


Weekly Influenza Activity Estimates Reported by State & Territorial Epidemiologists\*  
Week ending May 16, 2015 - Week 19



\* 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 19 ending May 16, 2015



\*This map uses the proportion of outpatient visits to health care providers for influenza-like illness to measure the ILI activity level within 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 2,083 influenza viruses [59 A(H1N1)pdm09, 1,272 A(H3N2), and 752 influenza B viruses] collected by U.S. laboratories since October 1, 2014.

### Influenza A Virus [1,331]

- A(H1N1)pdm09 [59]:** All 59 H1N1 viruses tested were characterized as A/California/7/2009-like, the influenza A (H1N1) component of the 2014-2015 Northern Hemisphere influenza vaccine.
- A(H3N2) [1,272]:** 244 (19.2%) of the 1,272 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. 1,028 (80.8%) of the 1,272 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 [752]

- 524 (69.7%) of the influenza B viruses tested belong to B/Yamagata/16/88 lineage and the remaining 228 (30.3%) influenza B viruses tested belong to B/Victoria/02/87 lineage.
- Yamagata Lineage [524]:** 513 (97.9%) of the 524 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. Eleven (2.1%) of the B/Yamagata-lineage viruses tested showed reduced titers to B/Massachusetts/2/2012.
- Victoria Lineage [228]:** 223 (97.8%) of the 228 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. Five (2.2%) of the B/Victoria-lineage viruses tested showed reduced titers to B/Brisbane/60/2008.

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

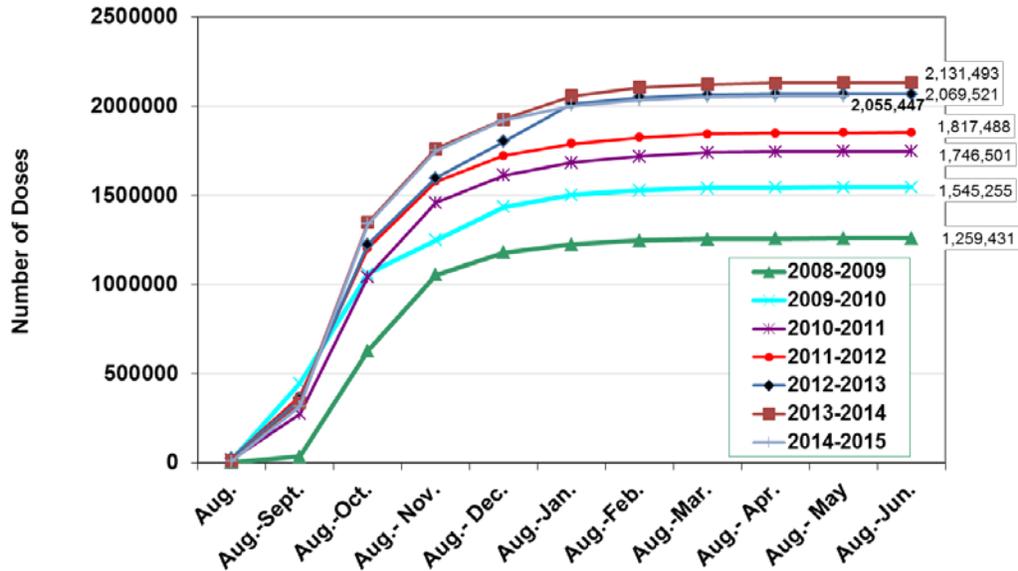
|                        | Oseltamivir              |                               | Zanamivir                |                               | Peramivir                |                               |
|------------------------|--------------------------|-------------------------------|--------------------------|-------------------------------|--------------------------|-------------------------------|
|                        | Virus Samples tested (n) | Resistant Viruses, Number (%) | Virus Samples tested (n) | Resistant Viruses, Number (%) | Virus Samples tested (n) | Resistant Viruses, Number (%) |
| Influenza A(H1N1)pdm09 | 55                       | 1 (1.8)                       | 49                       | 0 (0.0)                       | 55                       | 1 (1.8)                       |
| Influenza A (H3N2)     | 3,133                    | 0 (0.0)                       | 3,133                    | 0 (0.0)                       | 1,638                    | 0 (0.0)                       |
| Influenza B            | 729                      | 0 (0.0)                       | 729                      | 0 (0.0)                       | 729                      | 0 (0.0)                       |

## Seasonal Influenza Vaccination in Wisconsin Based on Doses Reported to the Wisconsin Immunization Registry (WIR) May 15, 2015

**Data for 2014-2015 Season Reported for 8.1.14-5.14.2015**

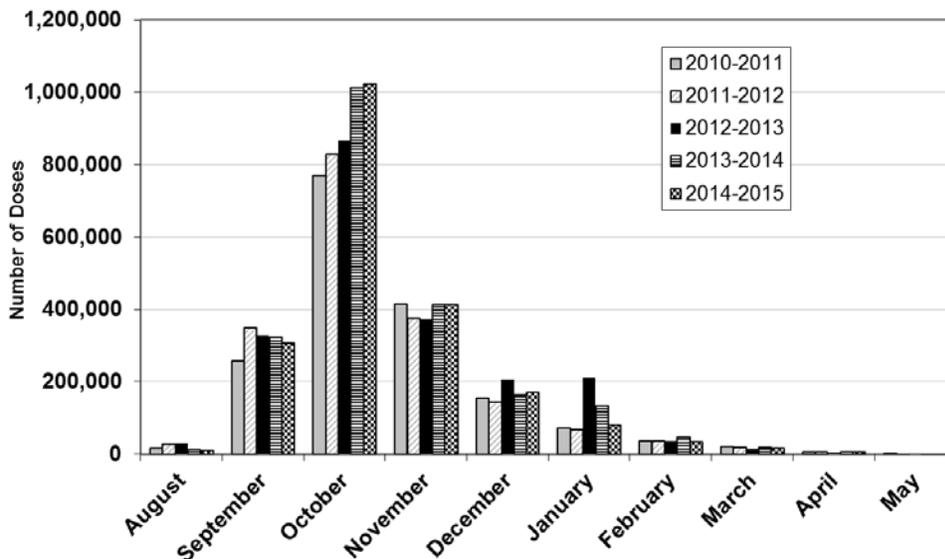
**Next week's report (May 29, 2015 will contain a year-end summary of Influenza Vaccination in Wisconsin**

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



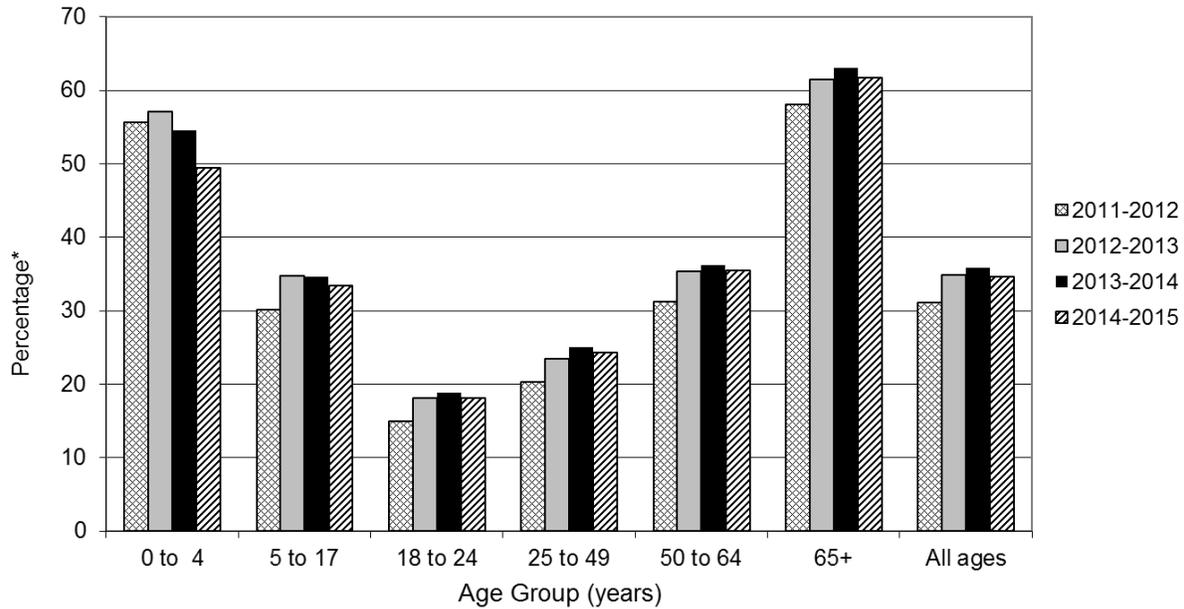
Data source: WIR  
2014-2015 data 8.1.14 through 5.14.15

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



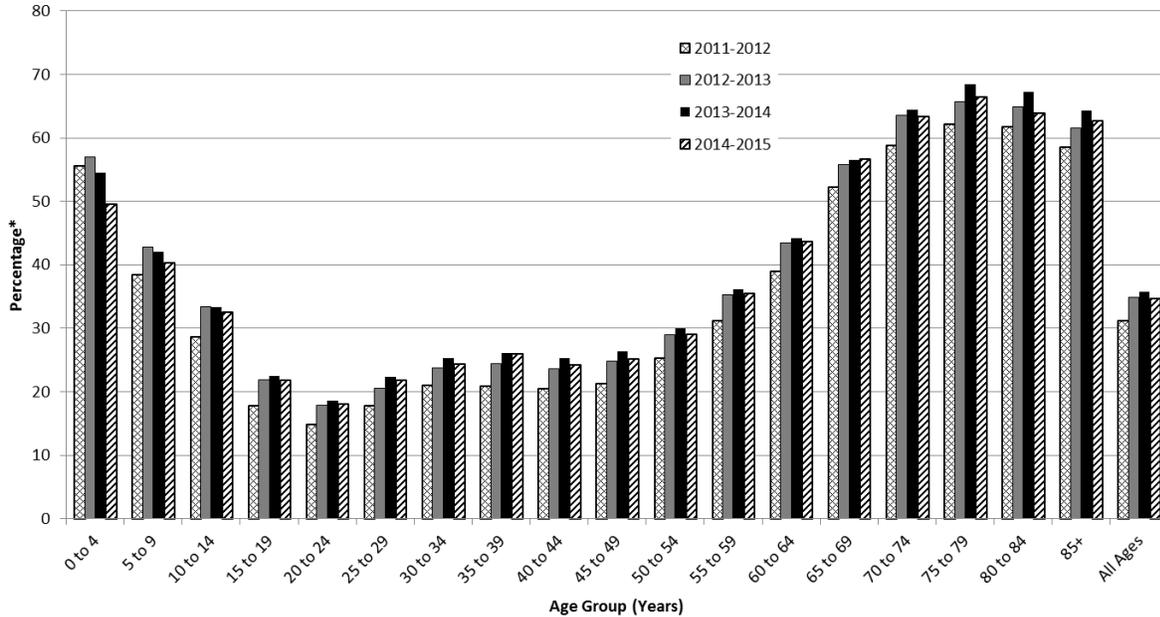
\*Data source: WIR,  
2014-2015 data through 5.14.2015

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



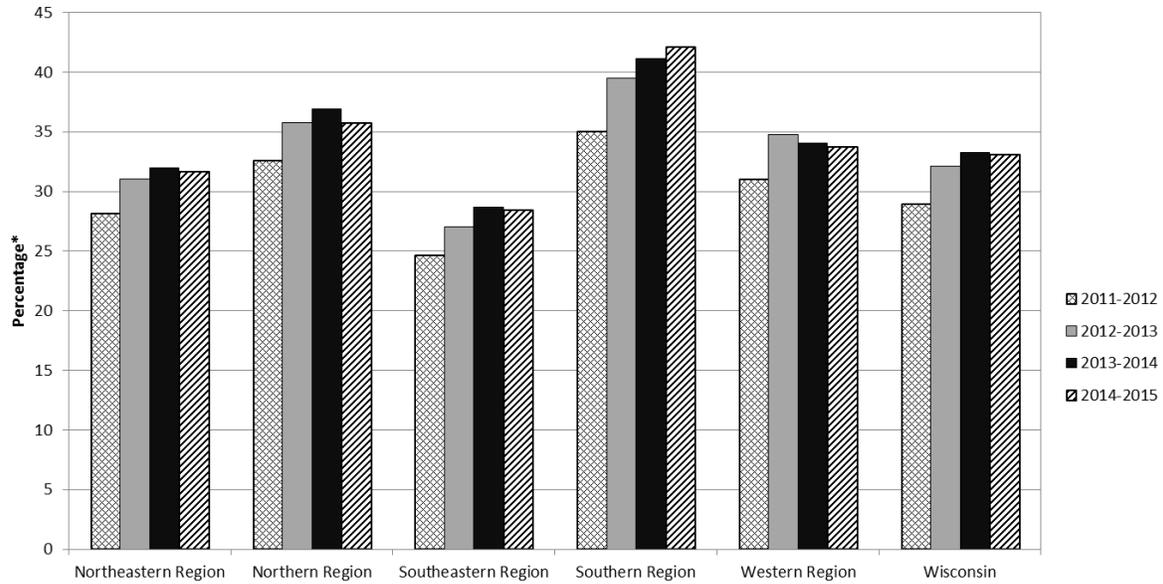
\* Numerator: Number of persons recorded in the WIR as having received at least one dose of seasonal influenza vaccine by age group. For 2011-2012 season, receipt of vaccine between 8/1/11 and 7/31/12, assessed 12/2/2013. For 2012-2013 season, doses administered between 8/1/12 to 7/31/13, assessed 12/2/2013. 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 5/14/2015, assessed 5/15/2015. 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 5/14/2015, assessed 5/15/2015. 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 5/14/15, assessed on 5/15/15. 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.