



Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season¹

Week 4: January 25 – January 31, 2015

All data are preliminary and may change as more reports are received.

Summary:

- Reported influenza activity in Missouri continues to decline, though the estimated influenza activity level remains at Widespread.²
- A season-to-date total of 40,161 laboratory-positive³ influenza cases have been reported in Missouri. Influenza A continued to be the predominant influenza type accounting for 83% of reported cases during Week 4. All five of the laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 4 were influenza A (H3).
- CDC has antigenically characterized ten influenza isolates so far this influenza season from Missouri: four A (H3N2) A/TEXAS/50/2012-like, four A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and one B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus and accounts for 66.7% of viruses from U.S. laboratories from October 1, 2014 – January 24, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 7.20% and 2.3% through ILINet and ESSENCE respectively⁴.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (50 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 119 deaths during Week 3, resulting in a season-to-date total of 1,468 P&I associated deaths in Missouri⁵.
- No outbreaks of influenza or ILI were reported during Week 4 in Missouri. No ILI-associated school closures were reported during Week 4.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

¹The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

²Widespread is defined as: Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the state.

³Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

⁴Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

⁵The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=ba76b15e14074c0f91f65c403e2f12bb>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 4
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

Data Tables and Graphs

Table 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 2 - 4 (January 11 – January 31, 2015)

Influenza Type	Week 2	Week 3	Week 4	2014-2015* Season-to-Date
Influenza A	2,130	1,761	831	37,231
Influenza B	198	172	134	1,929
Influenza Unknown Or Untyped	71	67	36	1,001
Total	2,399	2,000	1,001	40,161

[†]Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Table 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 4 (January 25 – January 31, 2015)

Age Group	Week 4 Cases	Week 4 Rate [‡]	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate [‡]
00-04	190	50	7,659	2,020
05-14	240	31	11,705	1,490
15-64	414	10	14,829	373
65+	157	18	5,968	676
Total	1,001	17	40,161	667

[†]Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

[‡]Incidence Rate per 100,000 population

Table 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 4 (January 25 – January 31, 2015)

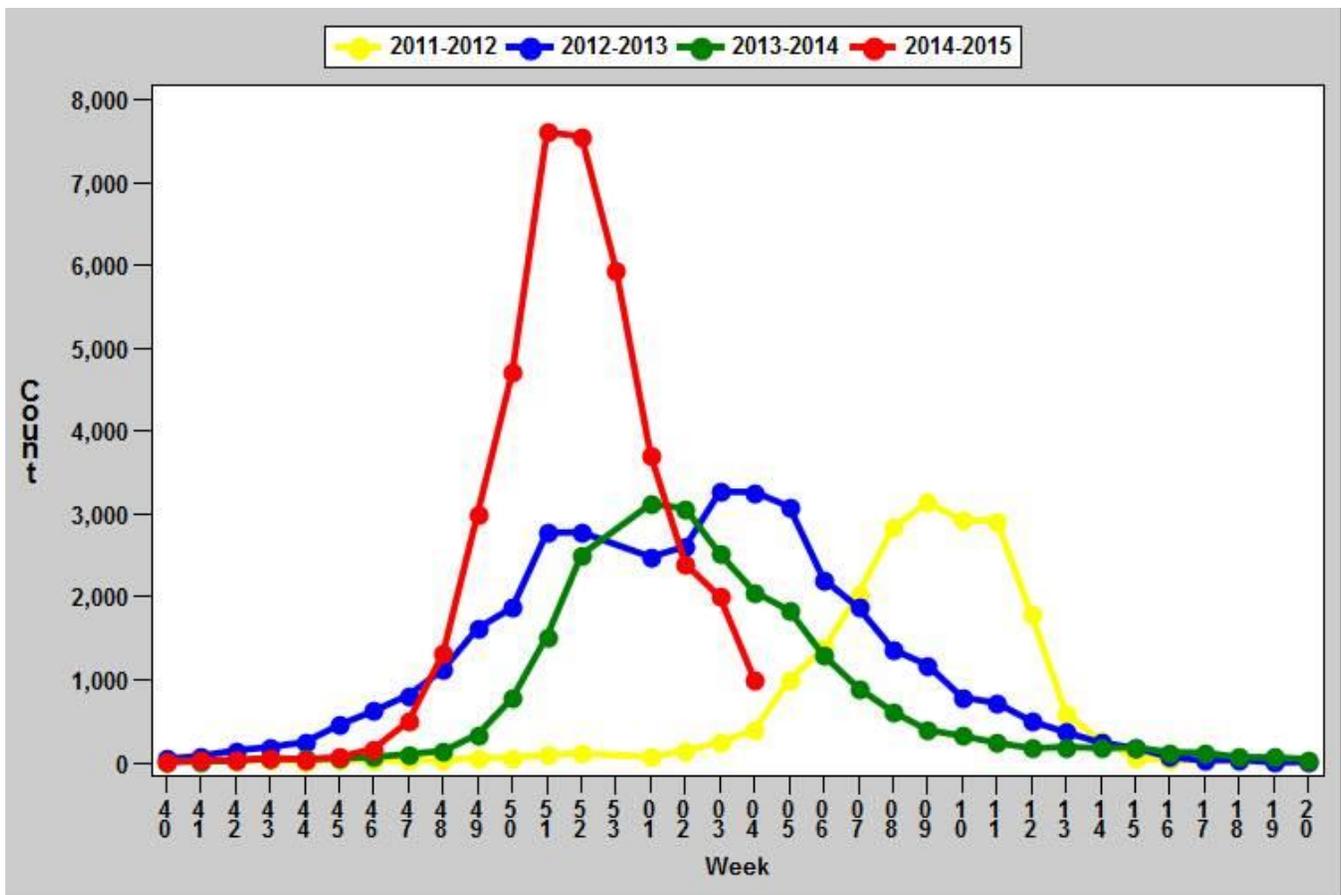
District	Week 4 Cases	Week 4 Rate [‡]	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate [‡]
CE	75	11	5,493	820
EA	149	7	11,572	516
NW	387	25	11,737	743
SE	161	34	4,713	993
SW	229	22	6,646	629
Total	1,001	17	40,161	667

[†] Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

[‡] Incidence Rate per 100,000 population

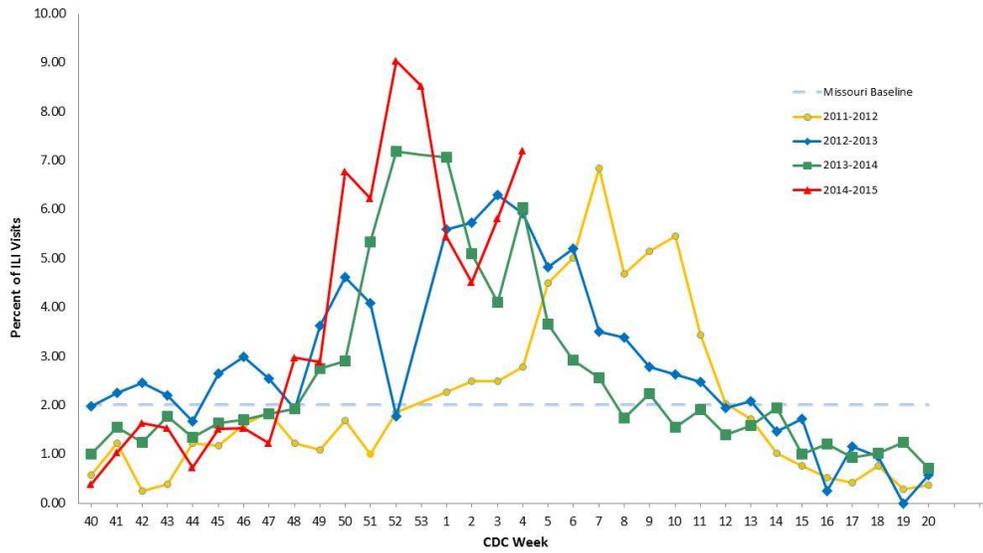
Graph 1. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2011-2015*



[†] Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

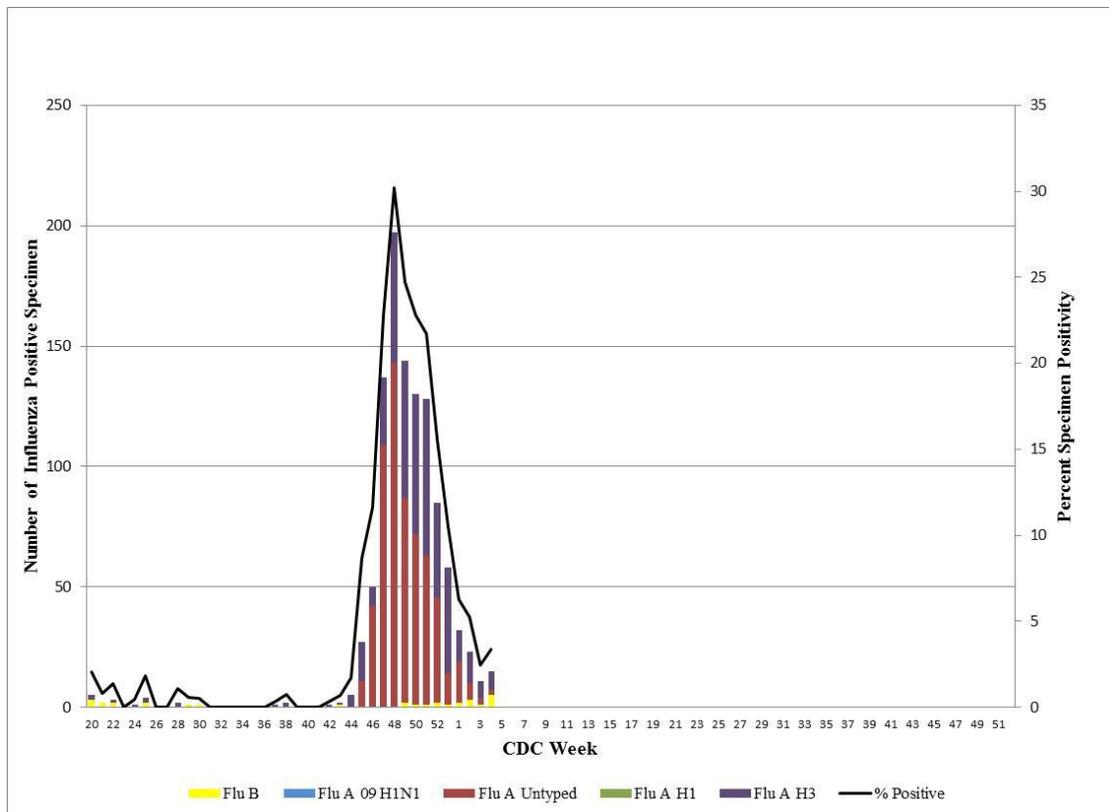
*2014-2015 Season-to-Date through the week ending January 31, 2015 (Week 4). Data Source: Missouri Health Information Surveillance System (WebSurv).

Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015*



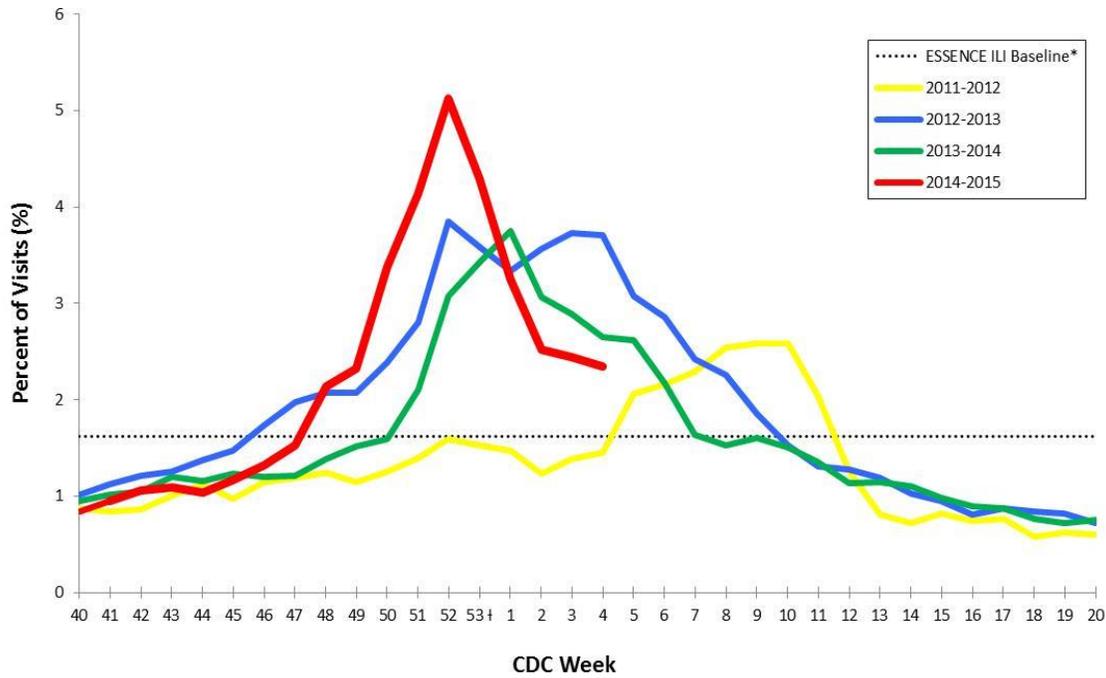
*2014-2015 Season-to-Date through the week ending January 31, 2015 (Week 4)

Graph 3. St. Louis Children’s Hospital Season-to-Date PCR (+) and Rapid Influenza Tests



*Data Source: St. Louis Children’s Hospitals
 *This data is based on testing in all age groups in St Louis metro and SE Missouri
 *Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015[†]



[†] Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

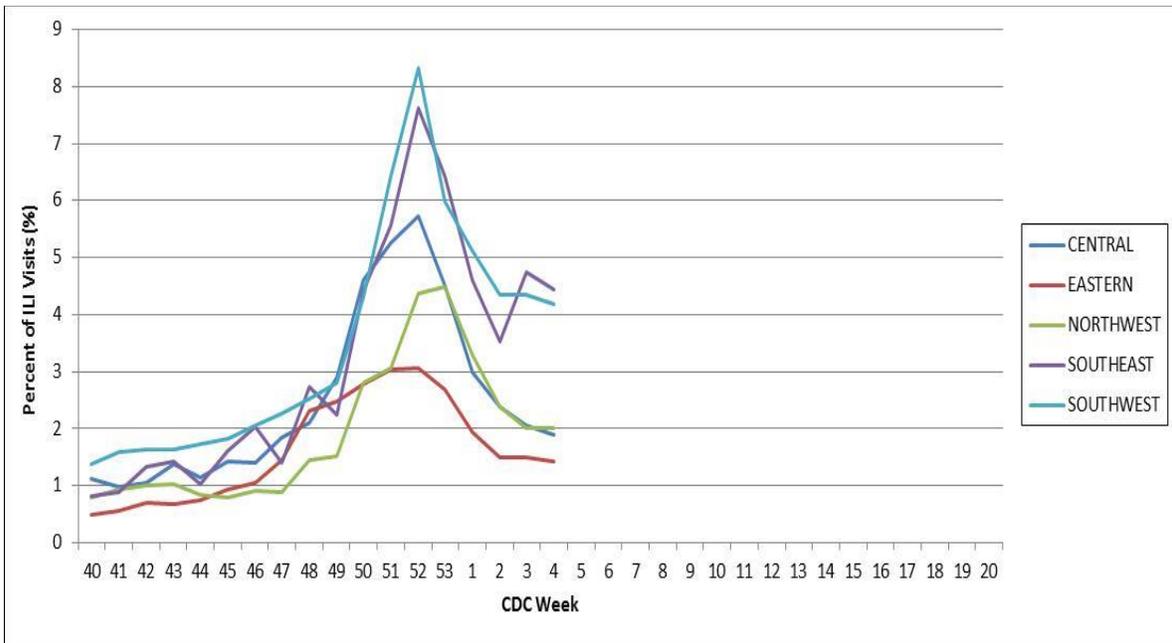
*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 4 (January 25 – January 31, 2015)

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	4.2%	2.9%	1.6%	1.4%	1.7%	2.0%
Central	4.9%	3.0%	1.5%	1.4%	1.3%	1.9%
Eastern	2.5%	1.8%	1.4%	1.2%	0.8%	1.4%
Southeast	13.6%	9.4%	3.3%	1.7%	1.8%	4.4%
Southwest	12.4%	10.4%	2.3%	1.5%	1.7%	4.2%
Statewide	5.5%	4.6%	1.7%	1.4%	1.3%	2.3%

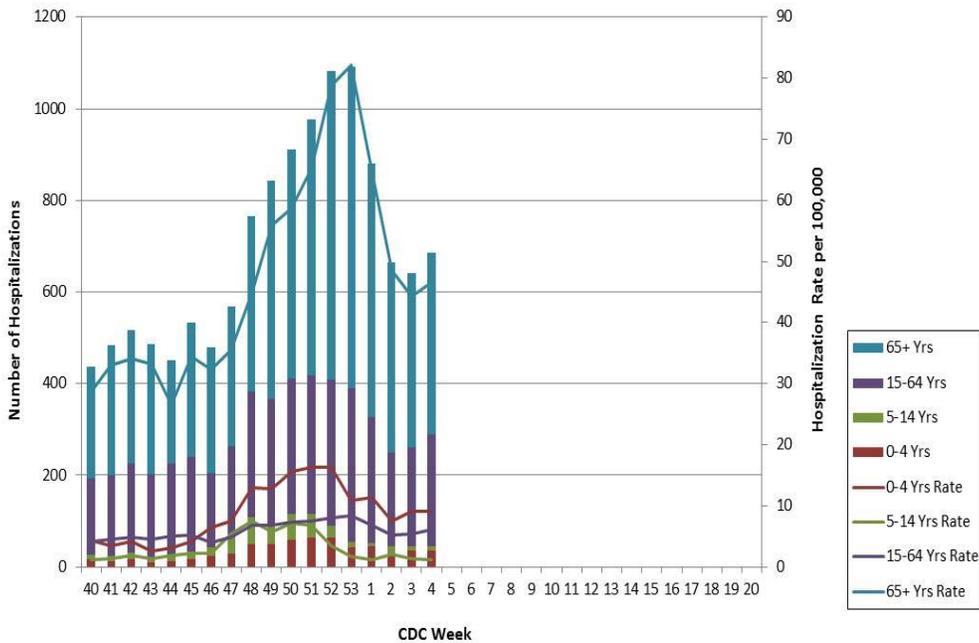
[†] Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015*



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moilmap.pdf>). *2014-2015 Season-to-Date through the week ending January 31, 2015 (Week 4)

Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015*



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moilmap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>). *2014-2015 Season-to-Date through the week ending January 31, 2015 (Week 4)

Additional Influenza Data Sources:

St Louis Children's Hospital Laboratory: <http://slchlptestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/