



Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season¹

Week 50: December 7 – December 13, 2014

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

Summary:

- The estimated influenza activity in Missouri increased to Widespread².
- A season-to-date total of 7,498 laboratory-positive³ influenza cases have been reported in Missouri. Influenza A continued to be the predominant influenza type accounting for 94.9% of reported cases during Week 50. All 11 of the laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 50 were influenza A (H3).
- CDC has antigenically characterized four influenza isolates so far this influenza season from Missouri: three were influenza A (H3N2) A/TEXAS/50/2012-like and one was influenza A H3N2 virus antigenically similar to the A/Switzerland/9715293/2013. Influenza A/TEXAS/50/2012 is included in the 2014-2015 influenza vaccine for the Northern Hemisphere. A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus. The CDC reports 67.5% of viruses collected from U.S. laboratories from October 1, 2014 – December 6, 2014, were antigenically different (drifted) from the influenza A H3N2 component of the 2014-2015 influenza vaccine. <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 6.78% and 3.4% through ILINet and ESSENCE respectively⁴.
- The highest rates of laboratory-positive influenza cases among children aged 0-4 years (110 cases per 100,000 population) and children aged 5-14 years (109 cases per 100,000 population). No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records increased to 111 deaths during Week 49, resulting in a season-to-date total of 733 P&I associated deaths in Missouri⁵.
- Four outbreaks of influenza or ILI were reported during Week 50 in Missouri. Three ILI-associated school closures were reported during Week 50.
- 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.ia.mo.gov/DPS/BriefingMaps/?bookId=b7bdffcf668d44698ebfc3923e7dc8ea>. 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 50
- 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 48-50 (November 23 – December 13, 2014)

Influenza Type	Week 48	Week 49	Week 50	2014-2015* Season-to-Date
Influenza A	1,239	2,609	2,402	6,971
Influenza B	47	122	95	425
Influenza Unknown Or Untyped	7	49	35	102
Total	1,293	2,780	2,532	7,498

[†]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 50 (December 7 – December 13, 2014)

Age Group	Week 50 Cases	Week 50 Rate [‡]	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate [‡]
00-04	418	110	1,408	371
05-14	855	109	2,630	335
15-64	950	24	2,735	69
65+	309	35	725	82
Total	2,532	42	7,498	125

[†]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 50 (December 7 – December 13, 2014)

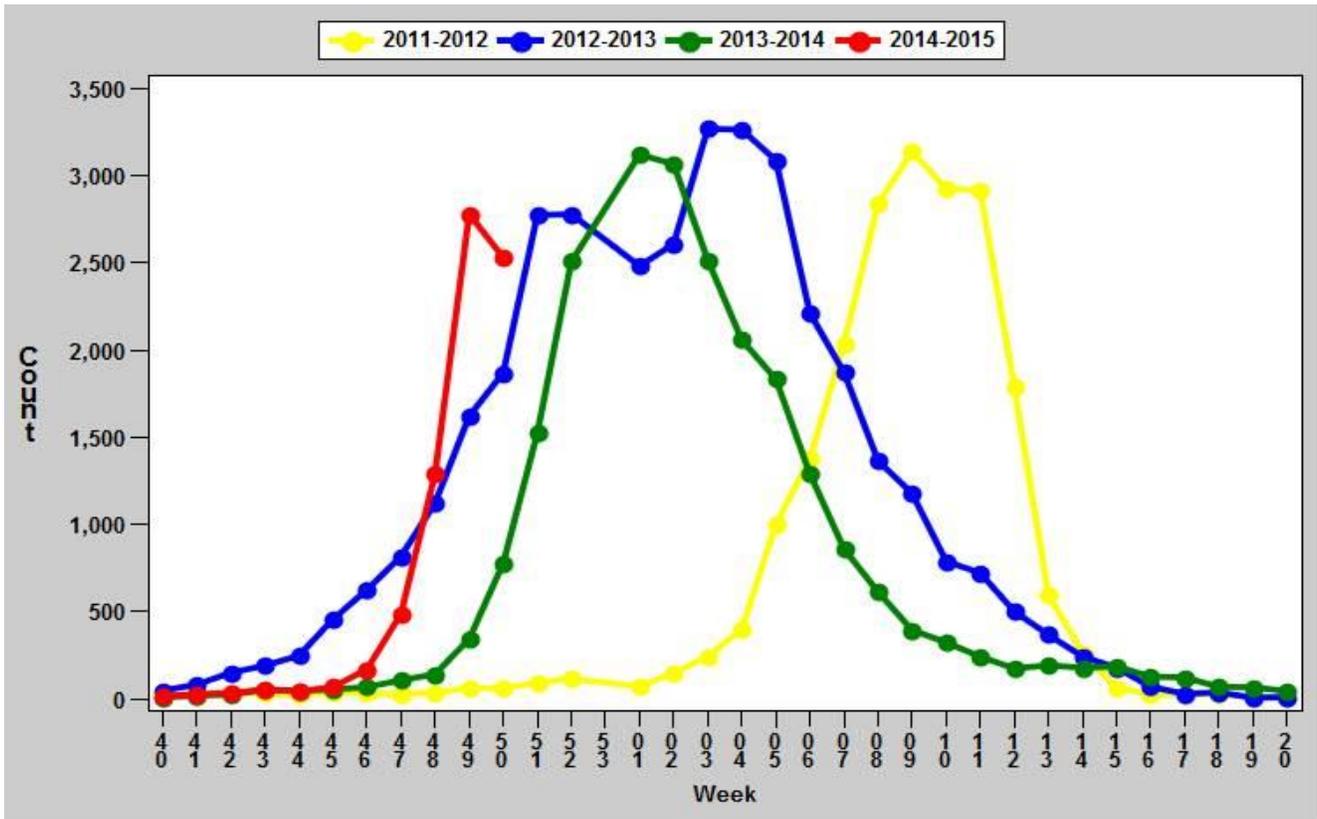
District	Week 50 Cases	Week 50 Rate [‡]	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate [‡]
CE	517	77	1,305	195
EA	949	42	3,450	154
NW	622	39	1,699	108
SE	259	55	694	146
SW	185	18	350	33
Total	2,532	42	7,498	125

[†] 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

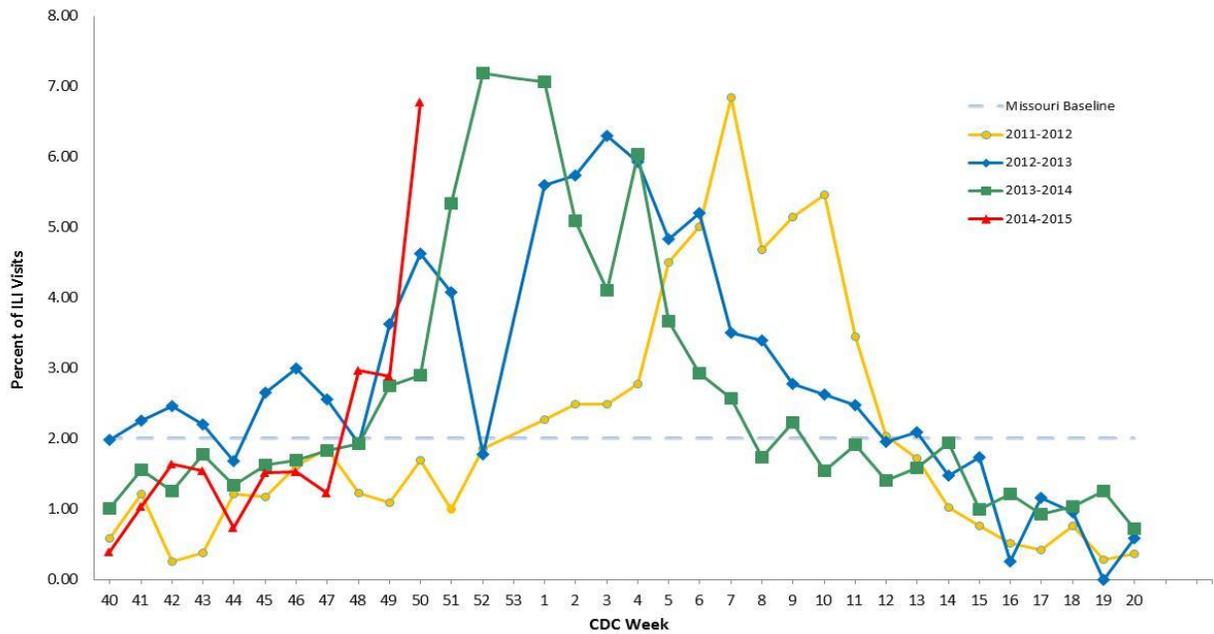
Graph 1. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2011-2015*



[†] 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.

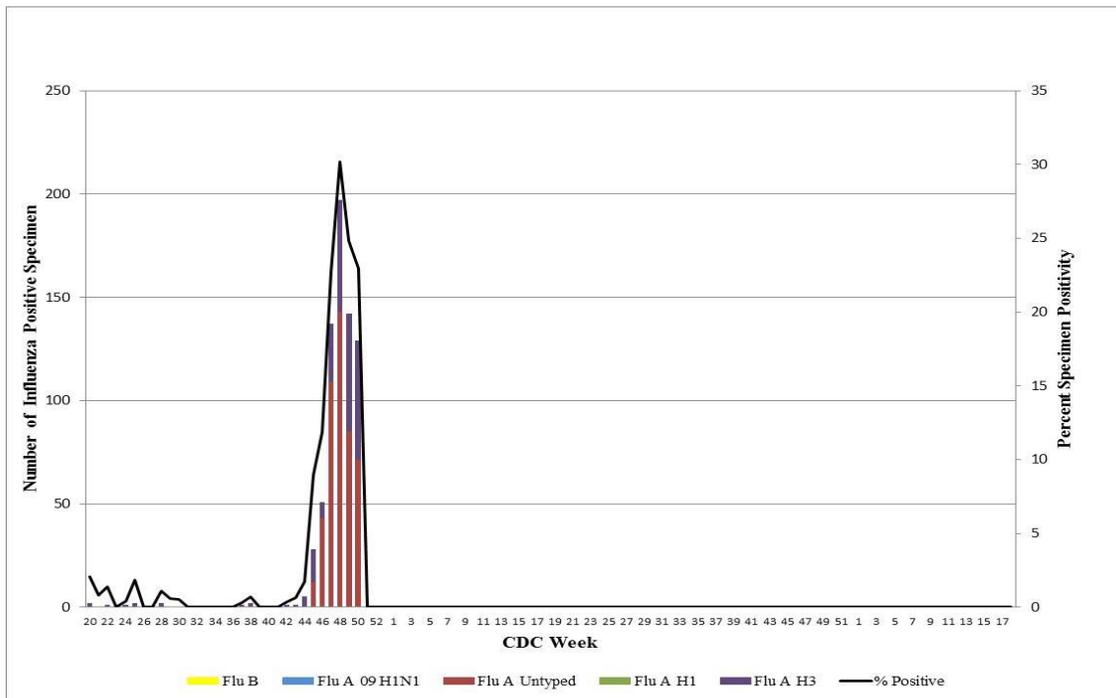
*2014-2015 Season-to-Date through the week ending December 13, 2014 (Week 50). Data Source: Missouri Health Information Surveillance System (WebSurv).

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



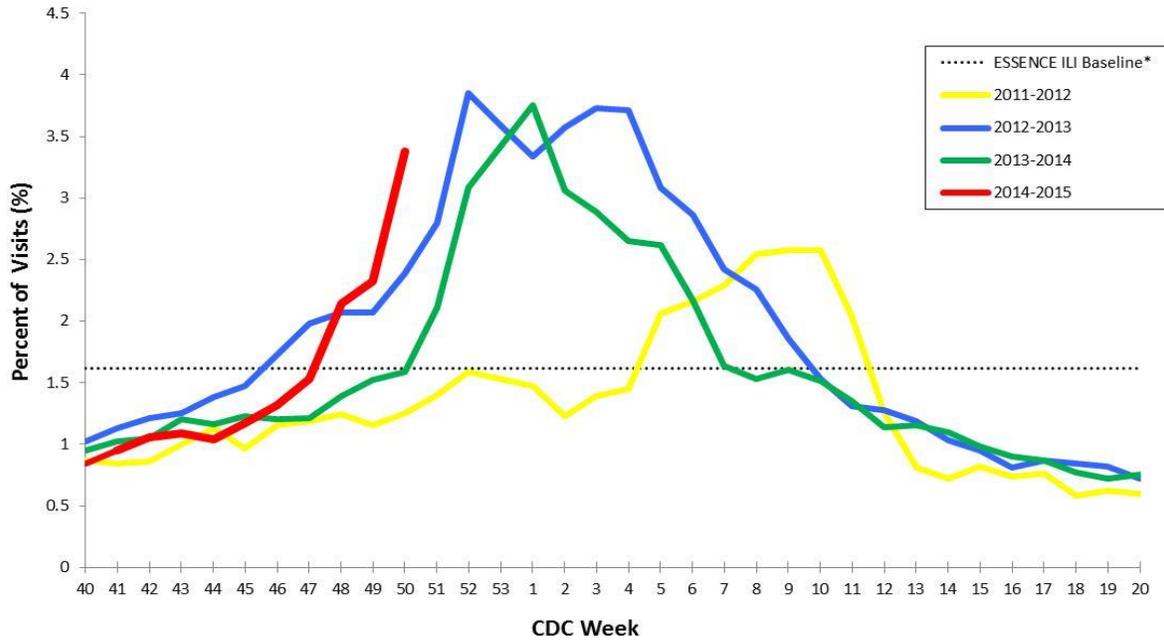
*2014-2015 Season-to-Date through the week ending December 13, 2014 (Week 50)

Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) Influenza Test by CDC Week



*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[†]



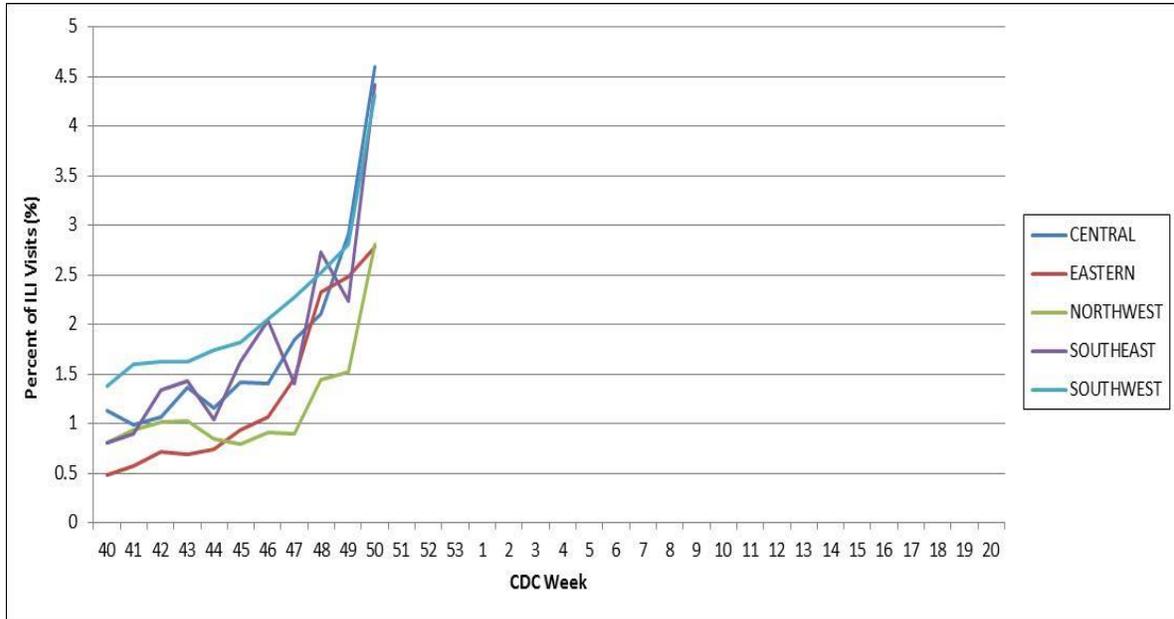
[†]Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).
 *ESSENCE ILI Baseline is the mean percent of ILI visits for each week 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 50 (December 7 – December 13, 2014)

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	3.7%	6.0%	2.6%	1.8%	1.3%	2.8%
Central	11.0%	9.1%	4.1%	2.3%	2.0%	4.6%
Eastern	4.2%	4.9%	2.8%	1.9%	1.7%	2.8%
Southeast	10.9%	10.9%	3.2%	1.8%	2.8%	4.4%
Southwest	11.9%	12.5%	2.5%	1.7%	1.0%	4.3%
Statewide	6.3%	7.7%	2.8%	1.9%	1.6%	3.4%

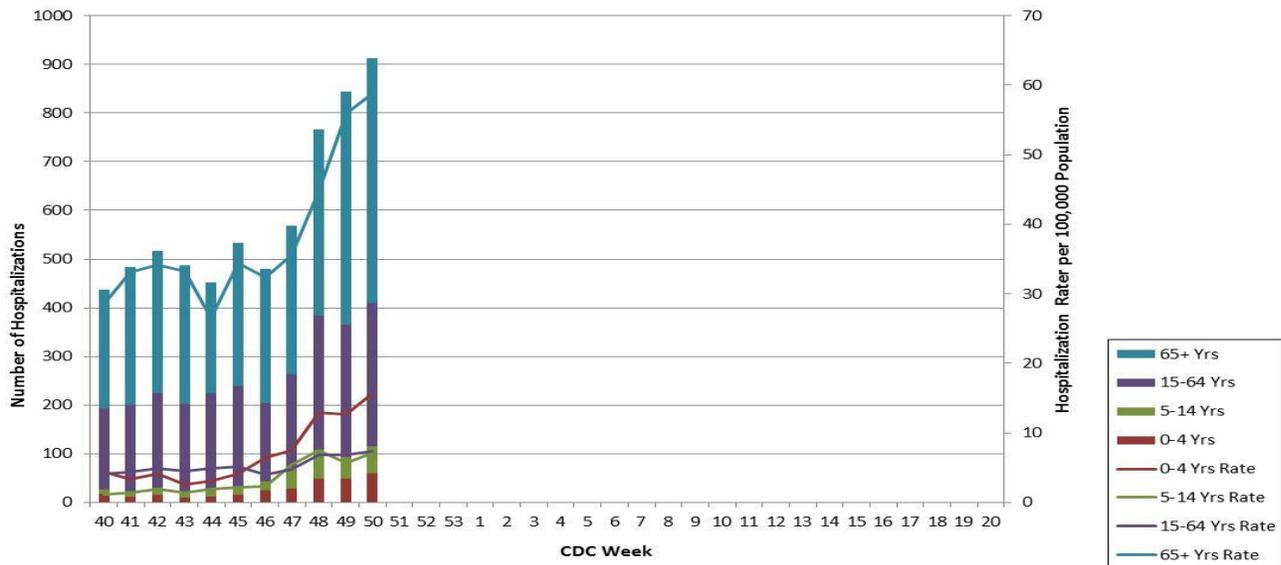
[†]Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

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 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).
 *2014-2015 Season-to-Date through the week ending December 13, 2014 (Week 50)

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/moimap.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 December 13, 2014 (Week 50)

Additional Influenza Data Sources:

St Louis Children's Hospital Laboratory: <http://slchlabbtestguide.bjc.org/Default.aspx?url=228e5af5-6e12-4f73-a451-f12f6ab1215e>

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/