Missouri Weekly Influenza Surveillance Report
2014-2015 Influenza Season[1]

Week 2: January 11 – January 17, 2015

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

Summary:

- The estimated influenza activity in Missouri remained at Widespread.[2]

- A season-to-date total of 34,714 laboratory-positive[3] influenza cases have been reported in Missouri. Influenza A continued to be the predominant influenza type accounting for 91% of reported cases during Week 2. All ten of the laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 2 were influenza A (H3).

- CDC has antigenically characterized eight influenza isolates so far this influenza season from Missouri: four A (H3N2) A/TEXAS/50/2012-like, two 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 65% of viruses from U.S. laboratories from October 1, 2014 – January 10, 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 4.51% and 2.5% through ILINet and ESSENCE respectively[4].

- 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 increased to 149 deaths during Week 1, resulting in a season-to-date total of 1,219 P&I associated deaths in Missouri[5].

- No outbreaks of influenza or ILI were reported during Week 2 in Missouri. No ILI-associated school closures were reported during Week 2.

- 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.

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

[2]Widespread 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.

[3]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.

[4]Influenza-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.

[5]The 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 though interactive maps available at https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=961e399d74df4609b70d603f91a98f43 . *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 2**
- **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 53-2 (December 28, 2014 – January 17, 2015)

Influenza Type	Week 53	Week 1	Week 2	2014-2015* Season-to-Date
Influenza A	5,313	2,939	948	32,440
Influenza B	243	187	79	1,472
Influenza Unknown Or Untyped	138	124	17	802
Total	5,694	3,250	1,044	34,714

†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 2 (January 11 – January 17, 2015)

Age Group	Week 2 Cases	Week 2 Rate‡	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate‡
00-04	189	50	6,713	1,770
05-14	173	22	10,427	1,327
15-64	415	10	12,546	316
65+	267	30	5,028	569
Total	1,044	17	34,714	576

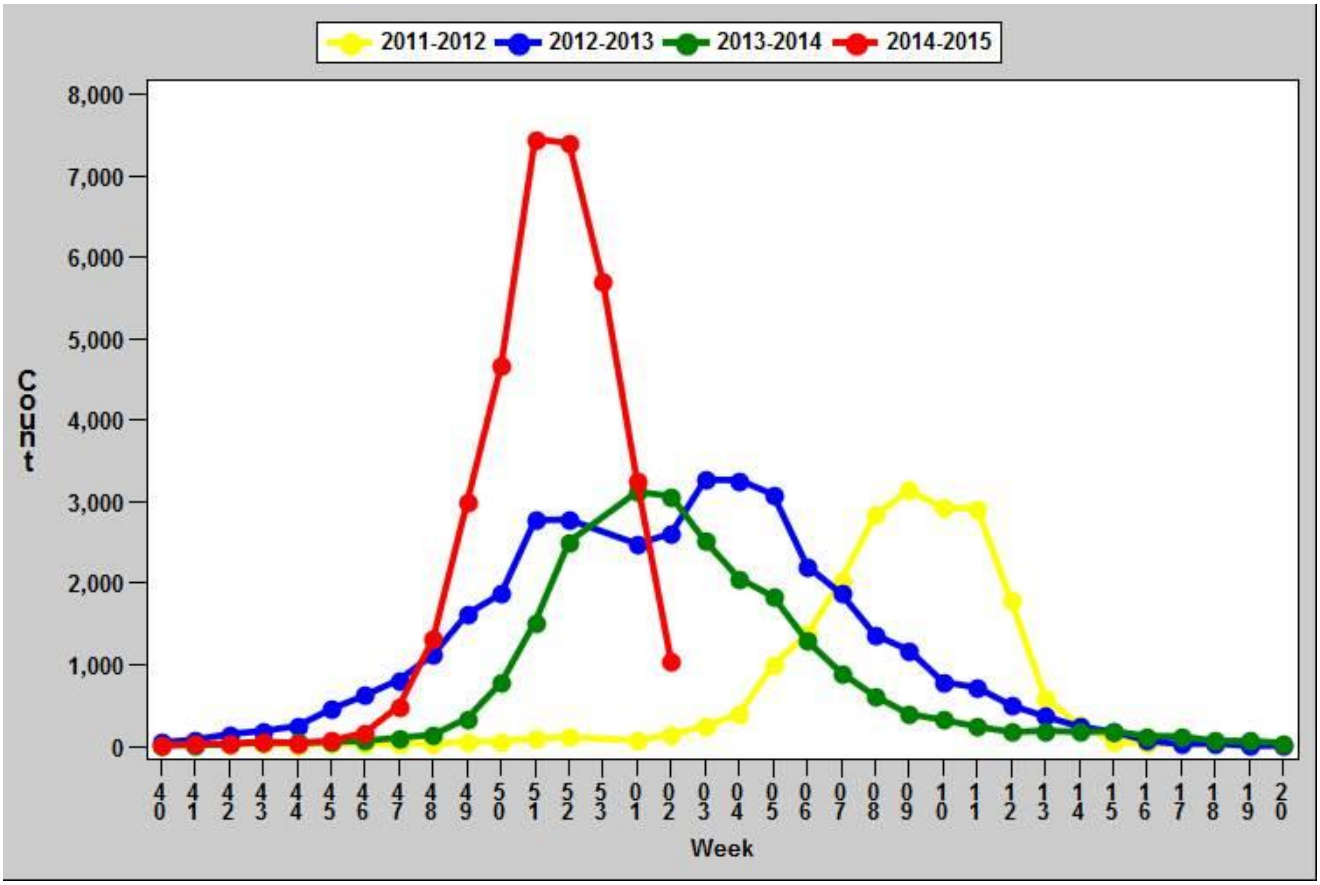
† Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza Season 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 2 (January 11 – January 17, 2015)

District	Week 2 Cases	Week 2 Rate‡	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate‡
CE	77	11	4,961	740
EA	267	12	10,925	487
NW	302	19	9,713	615
SE	162	34	3,999	842
SW	236	22	5,116	484
Total	1,044	17	34,714	576

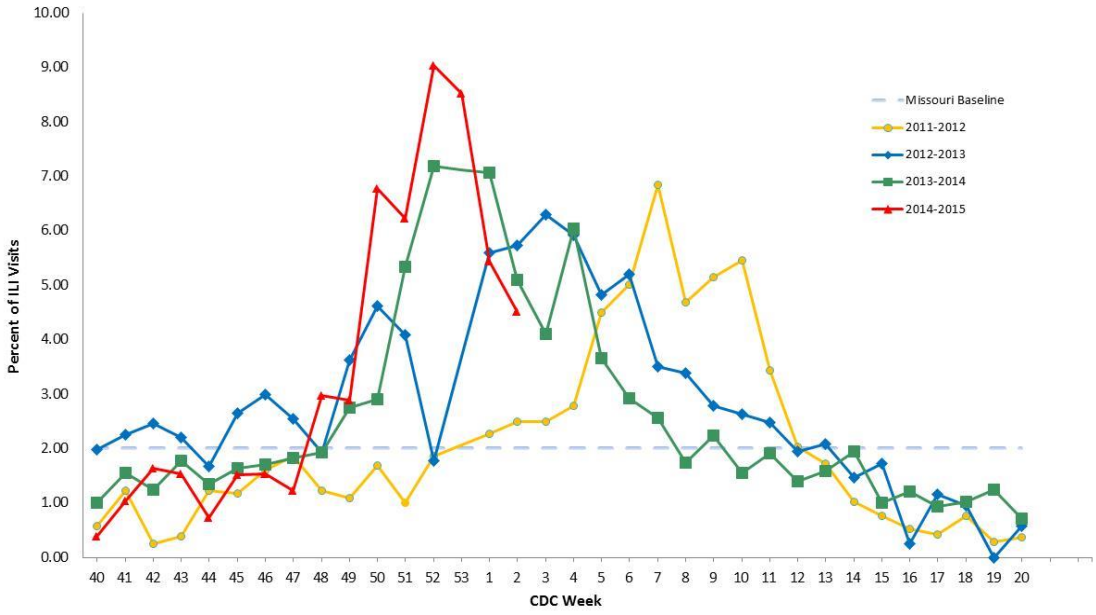
† Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza Season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



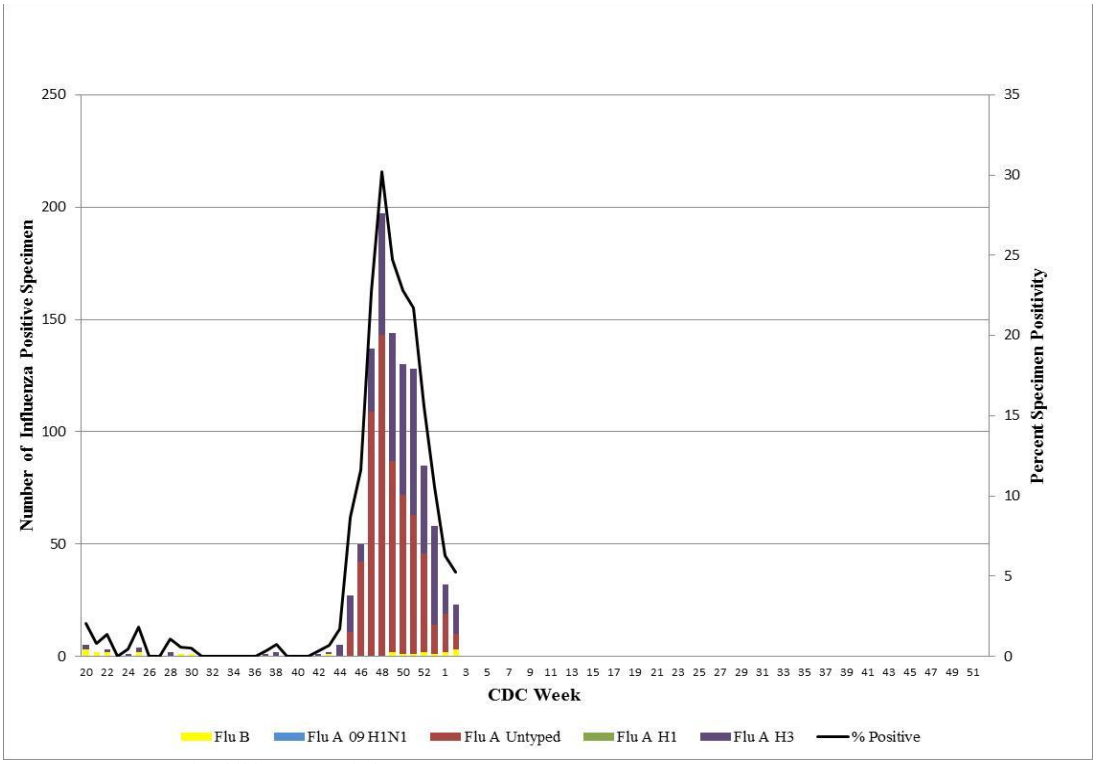
† Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*2014-2015 Season-to-Date through the week ending January 17, 2015 (Week 2). 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*



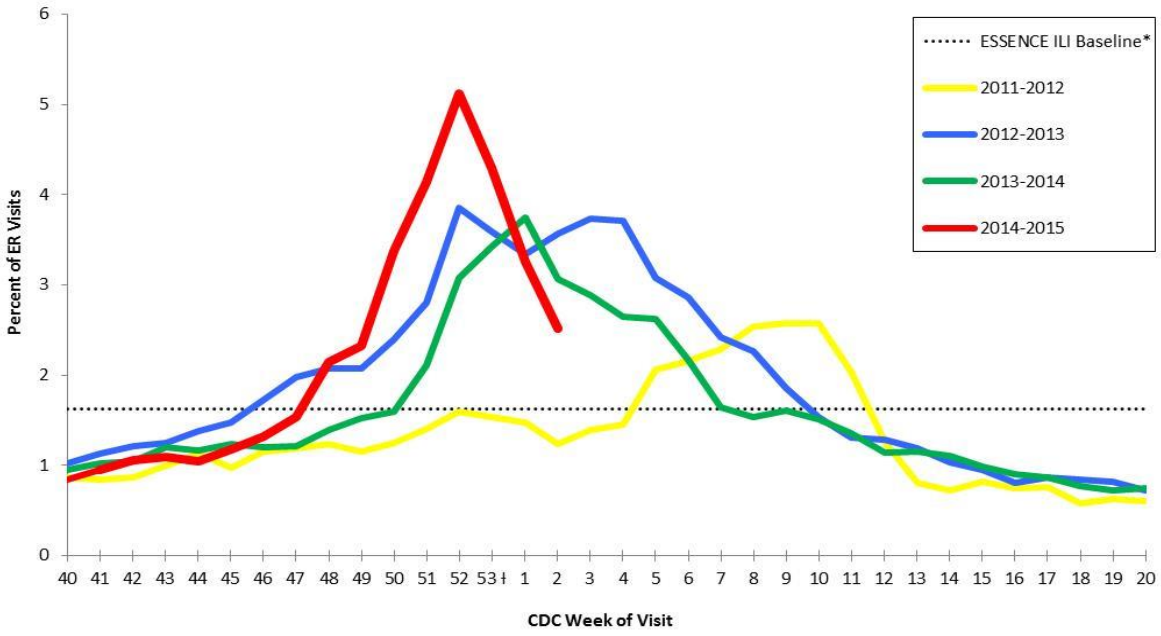
*2014-2015 Season-to-Date through the week ending January 17, 2015 (Week 2)

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†



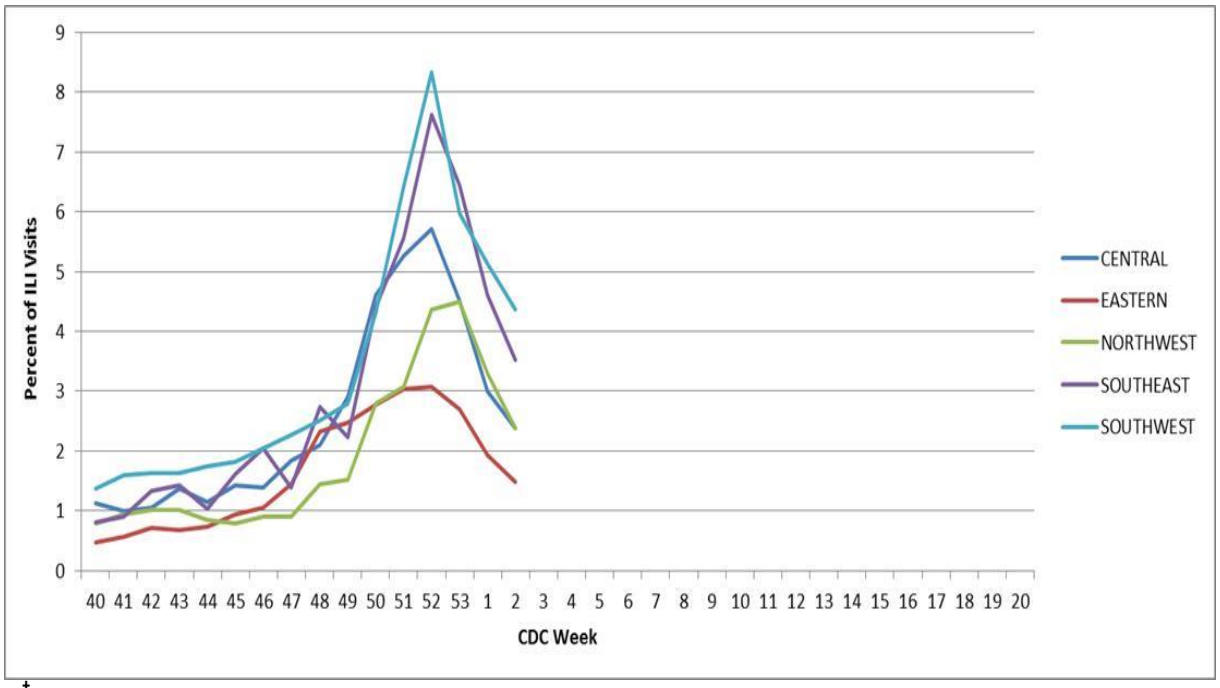
†Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 96 reporting facilities in Missouri (http://health.mo.gov/data/essence/pdf/moilmap.pdf).
*ESSENCE ILI Baseline is the mean percent of ILI visits for each week 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 2 (January 11 – January 17, 2015)

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	3.1%	3.2%	2.5%	2.1%	1.5%	2.4%
Central	5.3%	3.5%	2.3%	1.5%	1.9%	2.4%
Eastern	2.5%	2.0%	1.7%	1.2%	0.7%	1.5%
Southeast	10.3%	9.0%	1.7%	2.9%	1.9%	3.5%
Southwest	12.9%	9.9%	3.4%	2.4%	1.0%	4.4%
Statewide	**5.2%**	**4.7%**	**2.3%**	**1.8%**	**1.2%**	**2.5%**

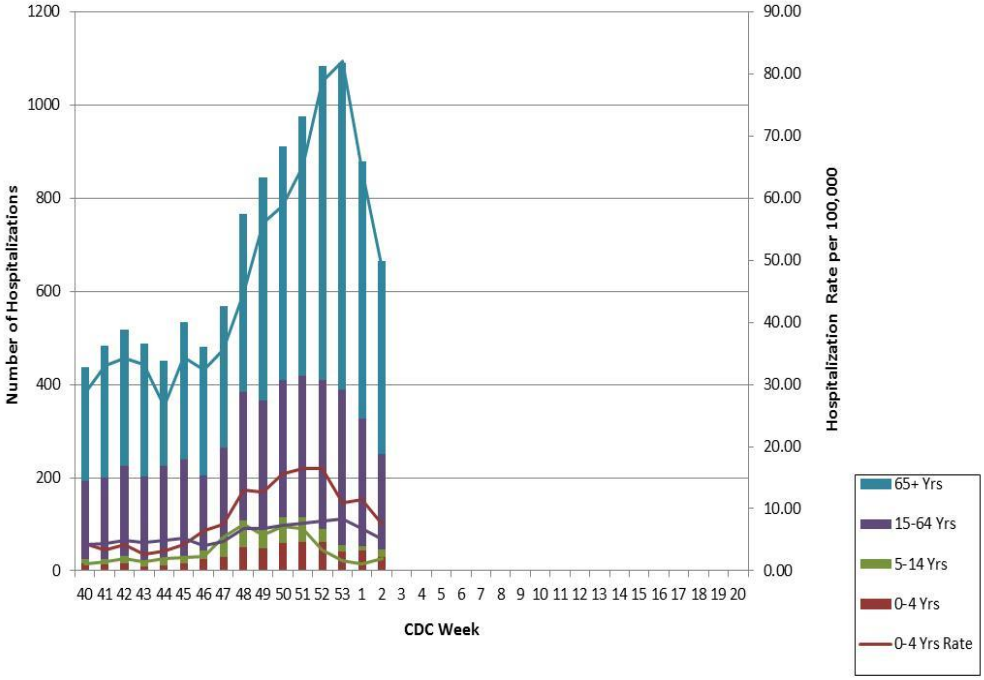
†Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (http://health.mo.gov/data/essence/pdf/moilmap.pdf).

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 17, 2015 (Week 2)

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 17, 2015 (Week 2)

Additional Influenza Data Sources:

St Louis Children's Hospital Laboratory: http://slchlabtestguide.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/