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

Week 19: May 10 – May 16, 2015

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

- The estimated influenza activity in Missouri is Sporadic.[2]

- A season-to-date total of 54,264 laboratory-positive[3] influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 100% of the reported cases during Week 19. There were no laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 19.

- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 21 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, seven A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, four B/MASSACHUSETTS/02/2012-like, and five 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 A/Texas/50/2012 vaccine virus and accounts for 80.7% of the influenza A (H3N2) viruses characterized from U.S. laboratories from October 1, 2014 – May 9, 2015. http://www.cdc.gov/flu/weekly/

- Influenza-like illness activity is below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.38% and 0.8% through ILINet and ESSENCE respectively[4].

- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years and 5-14 years (1 case per 100,000 population each). 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 58 deaths during Week 18, resulting in a season-to-date total of 2,867 P&I associated deaths in Missouri[5].

- No outbreaks of influenza or ILI were reported during Week 19 in Missouri. No ILI-associated school closures were reported during Week 19.

- National influenza activity and surveillance information is prepared by the 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]Sporadic is defined as: influenza-like illness activity has not increased and there are isolated lab-confirmed cases or a lab-confirmed outbreak in a single institution 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.

Interactive Maps

The county specific influenza data are provided though interactive maps available at https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=5c1e26c9328744efb288dd616fefa3bb. *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 19**
- **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 17 - 19 (April 26 – May 16, 2015)

Influenza Type	Week 17	Week 18	Week 19	2014-2015* Season-to-Date
Influenza A	26	9	0	41,949
Influenza B	205	86	20	10,929
Influenza Unknown Or Untyped	0	0	0	1,386
Total	231	95	20	54,264

†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 19 (May 10 – May 16, 2015)

Age Group	Week 19 Cases	Week 19 Rate‡	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate‡
00-04	3	1	9,907	2,612
05-14	4	1	15,151	1,928
15-64	12	0	21,598	544
65+	1	0	7,608	861
Total	20	0	54,264	901

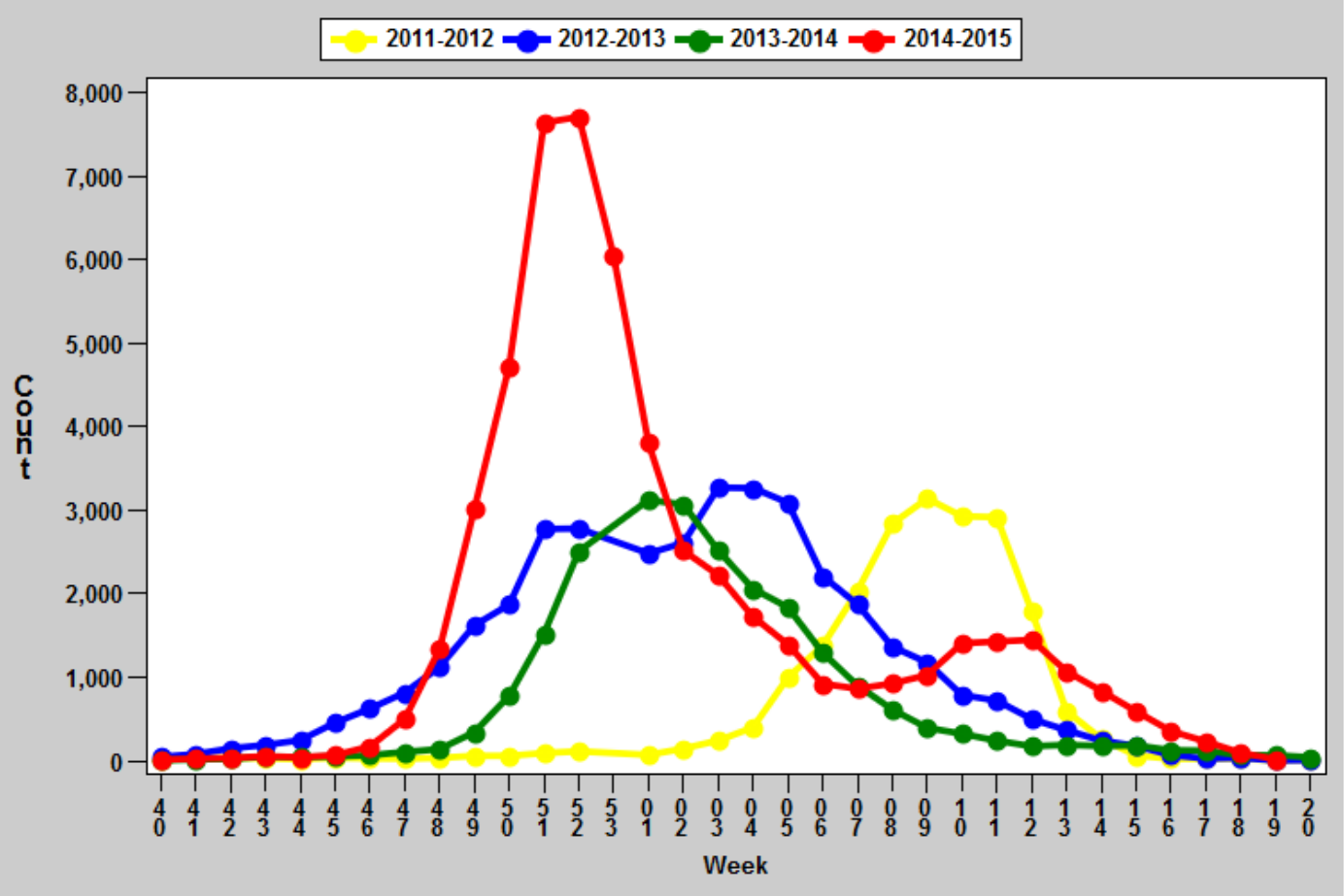
† Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza Season 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 19 (May 10 – May 16, 2015)

District	Week 19 Cases	Week 19 Rate[‡]	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate[‡]
CE	0	0	7,383	1,101
EA	10	0	15,735	702
NW	4	0	15,577	987
SE	1	0	5,771	1,215
SW	5	0	9,798	927
Total	20	0	54,264	901

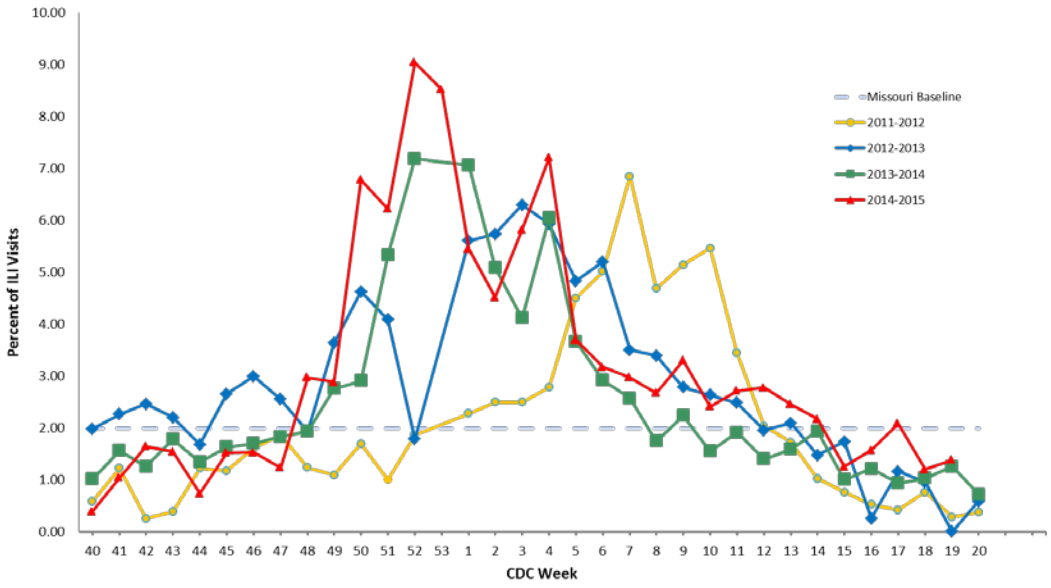
[†] Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza Season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



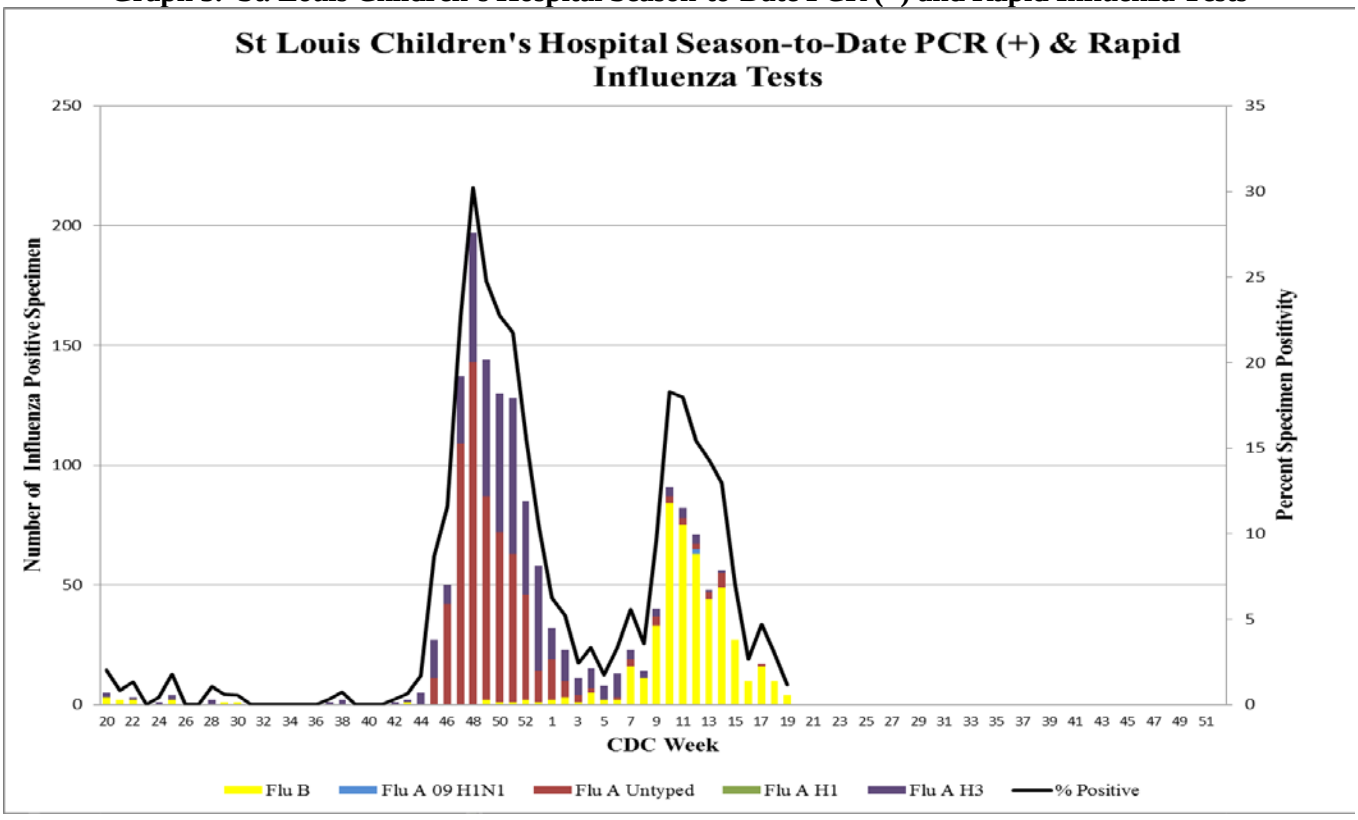
[†] Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*2014-2015 Season-to-Date through the week ending May 16, 2015 (Week 19). 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*



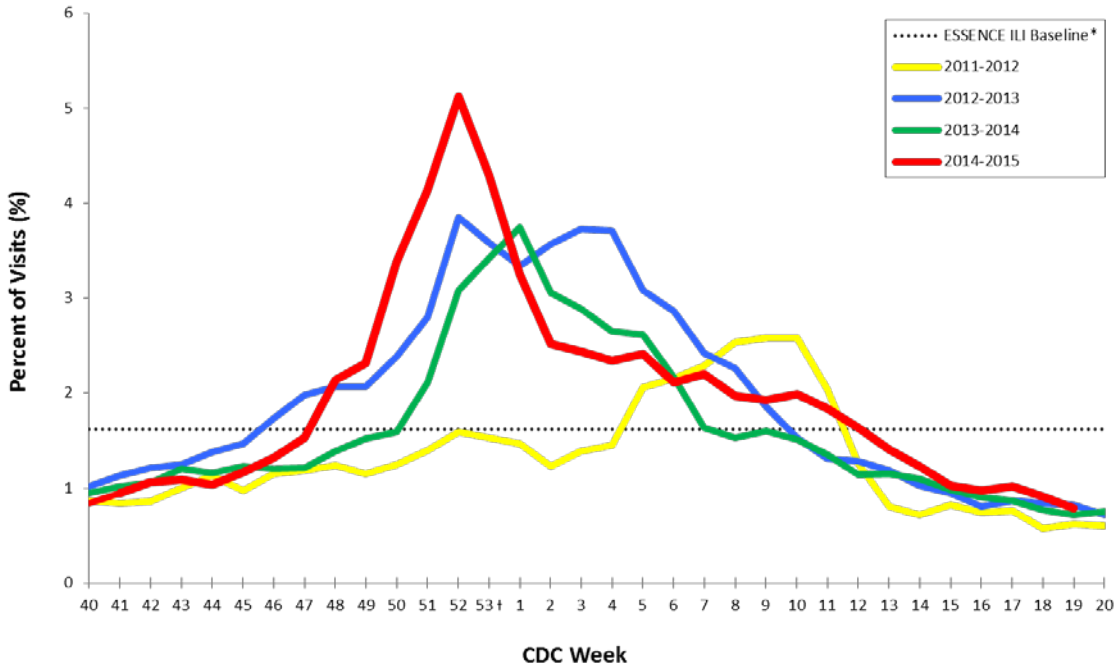
*2014-2015 Season-to-Date through the week ending May 16, 2015 (Week 19)

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



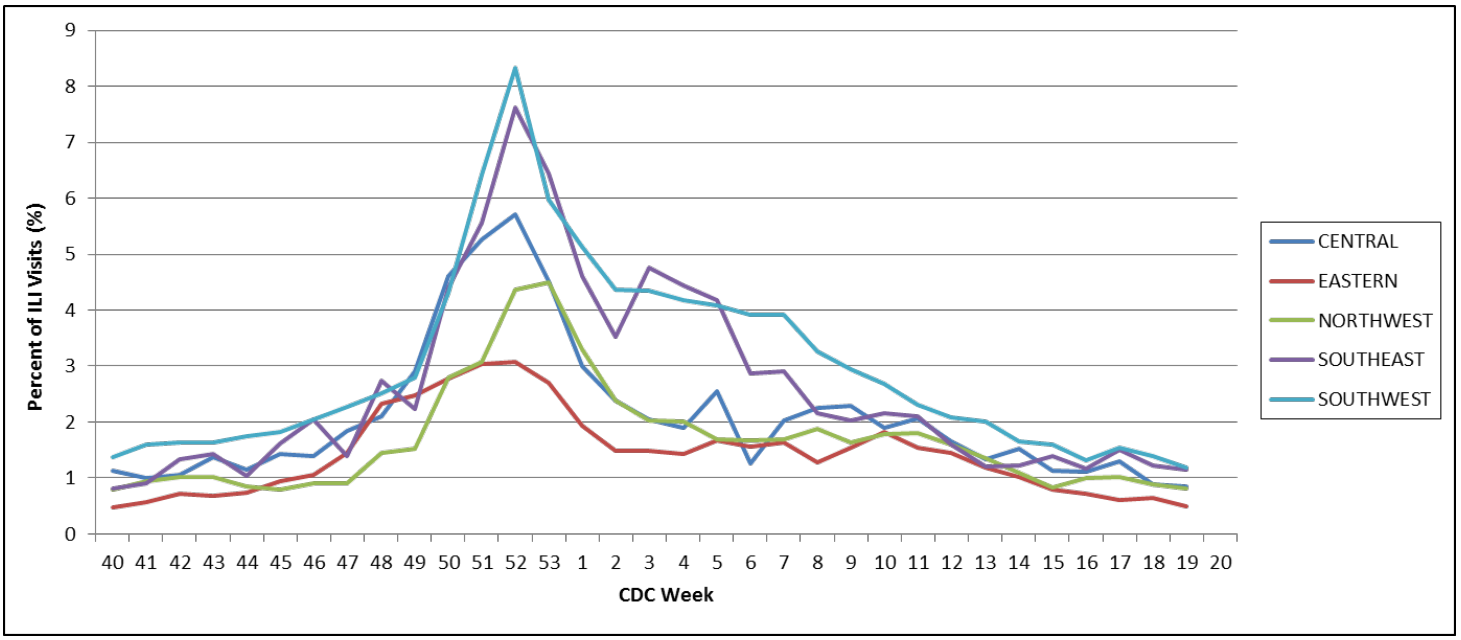
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (http://health.mo.gov/data/essence/pdf/moilmap.pdf).
* The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
† ILI % for week 53 was estimated for previous seasons by averaging values for weeks 52 and 1 in order to compare to the ILI % for week 53 of the 2014-15 influenza season.

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 19 (May 10 – May 16, 2015)

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	1.9%	1.3%	0.7%	0.7%	0.4%	0.8%
Central	2.8%	1.5%	0.7%	0.5%	0.4%	0.8%
Eastern	1.3%	0.9%	0.5%	0.3%	0.1%	0.5%
Southeast	4.8%	2.3%	0.5%	1.1%	0.3%	1.2%
Southwest	5.0%	3.3%	0.6%	0.3%	0.5%	1.2%
Statewide	**2.5%**	**1.6%**	**0.6%**	**0.5%**	**0.3%**	**0.8%**

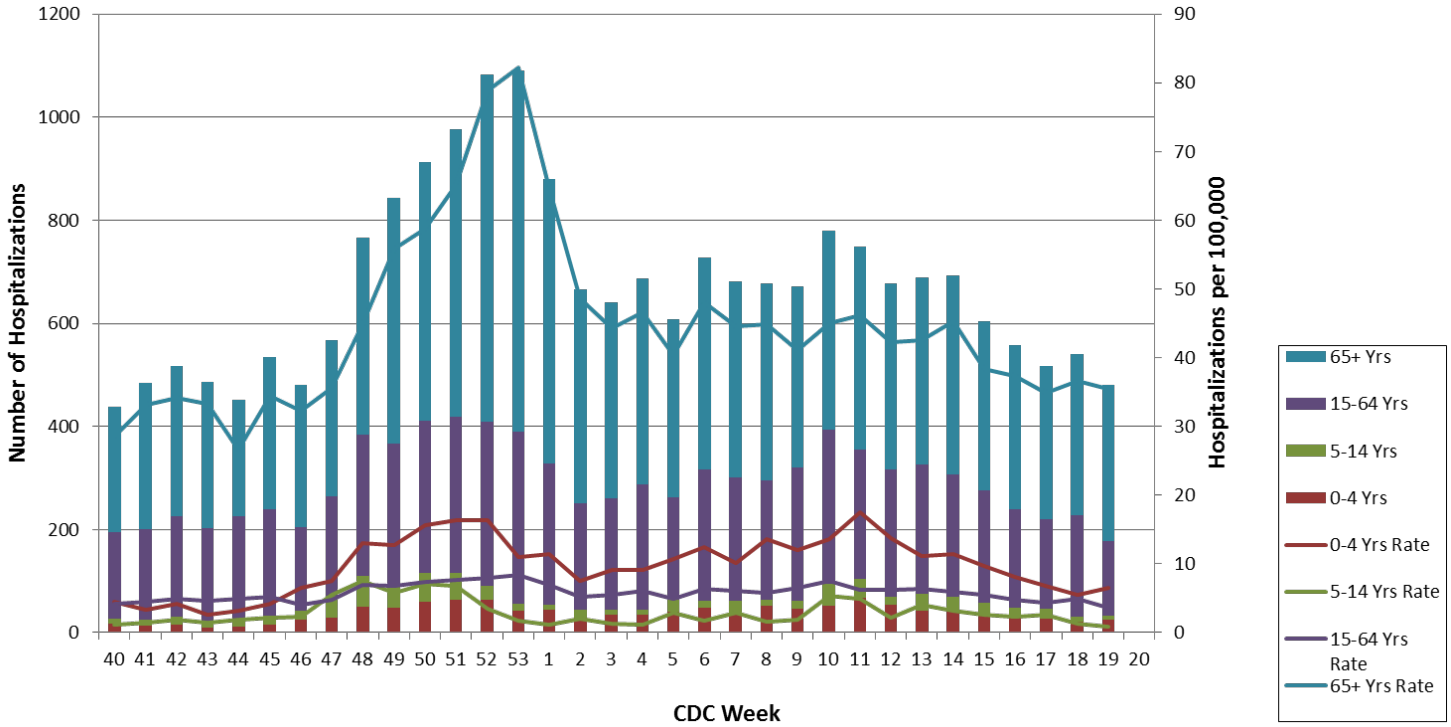
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (http://health.mo.gov/data/essence/pdf/moilmap.pdf).

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 103 reporting facilities in Missouri (http://health.mo.gov/data/essence/pdf/moilmap.pdf).
*2014-2015 Season-to-Date through the week ending May 16, 2015 (Week 19).

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 103 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 May 16, 2015 (Week 19).

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/