



# Missouri Weekly Influenza Surveillance Report 2015-2016 Influenza Season<sup>1</sup>

**Week 9: February 28 – March 5, 2016**

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

## Summary:

- Influenza activity increased in Missouri during Week 9 and remained at Regional<sup>2</sup>.
- A season-to-date total of 6,884 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. The influenza type for reported cases season-to-date includes 75% influenza A, 22% influenza B, and 3% untyped. Influenza A accounted for 79% of reported cases during Week 9 and remains the predominant virus type reported this season. The highest season-to-date rates of laboratory-positive influenza cases are among children aged 0-4 years (362 cases per 100,000 population) and children aged 5-14 years (164 cases per 100,000 population). There was one laboratory-confirmed influenza A (H1N1) case reported by the Missouri State Public Health Laboratory (MSPHL) during Week 9.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized three influenza isolates so far this influenza season from Missouri. Two viruses were antigenically similar to the A/Switzerland/9715293/2013-like (H3N2) virus and one virus was antigenically similar to the A/California/7/2009-like (H1N1)pdm09 virus. Both an A/Switzerland/9715293/2013-like virus and an A/California/7/2009-like virus are included in the 2015-2016 Northern Hemisphere vaccine formulation.
- Influenza-like illness activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and for the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 3.47% and 1.88% through ILINet and ESSENCE respectively<sup>4</sup>.
- No influenza-associated pediatric deaths have been reported in Missouri, to date, this influenza season. During Week 8, 94 deaths were reported involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,400 P&I associated deaths in Missouri<sup>5</sup>.
- Two influenza or ILI-associated outbreaks have been reported in Missouri, to date, this influenza season. No influenza or ILI-associated school closures have been reported in Missouri, to date, this influenza season.
- Influenza activity remained elevated in the U.S. during Week 8. National influenza surveillance information is prepared by the CDC and is included in the weekly FLUVIEW report, which is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2015-2016 influenza season in Missouri began CDC Week 40 (week ending October 10, 2015) through CDC Week 20 (week ending May 21, 2016).

<sup>2</sup>Regional is defined as: Outbreaks of influenza or increases in ILI and recent laboratory-confirmed influenza in at least two but less than half the regions of the state with recent laboratory evidence of influenza in those regions.

<sup>3</sup>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.

<sup>4</sup>Influenza-like Illness (ILI) is defined by ILINet 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. Influenza-like Illness (ILI) is defined by ESSENCE as Emergency Department chief complaints that contain keywords such as “flu”, “flulike”, “influenza” or “fever” plus “cough” or “fever” plus “sore throat”.

<sup>5</sup>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 through interactive maps available at <http://on.mo.gov/1Lbtlma>. 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 9
- 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<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 9 (February 28 – March 5, 2016)**

Influenza Type	Week 7	Week 8	Week 9	2015-2016* Season-to-Date
Influenza A	757	1,188	1,392	5,152
Influenza B	231	261	332	1,540
Influenza Unknown Or Untyped	24	39	32	192
<b>Total</b>	<b>1,012</b>	<b>1,488</b>	<b>1,756</b>	<b>6,884</b>

<sup>†</sup>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 10, 2015 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 9 (February 28 – March 5, 2016)**

Age Group	Week 9 Cases	Week 9 Rate <sup>‡</sup>	2015-2016* Season-to-Date	2015-2016* Season-to-Date Rate <sup>‡</sup>
00-04	348	92	1,365	362
05-14	386	49	1,285	164
15-64	898	23	3,654	92
65+	124	14	579	64
<b>Total</b>	<b>1,756</b>	<b>29</b>	<b>6,884</b>	<b>114</b>

<sup>†</sup>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 10, 2015 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

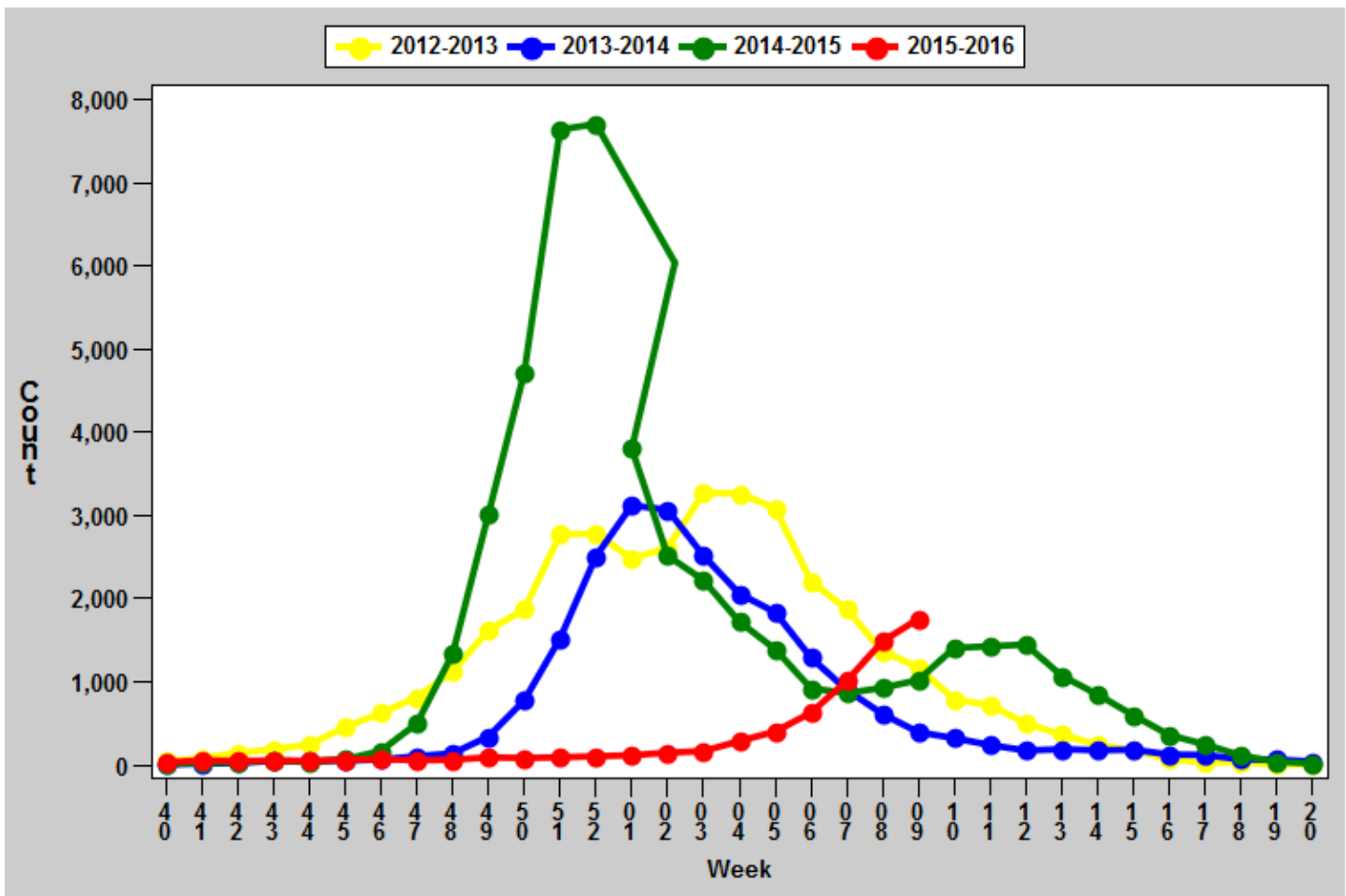
<sup>‡</sup>Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 9 (February 28 – March 5, 2016)**

District	Week 9 Cases	Week 9 Rate <sup>‡</sup>	2015-2016* Season-to-Date	2015-2016* Season-to-Date Rate <sup>‡</sup>
CE	234	35	832	126
EA	608	27	2,578	115
NW	670	42	2,188	138
SE	43	9	412	86
SW	201	19	874	82
<b>Total</b>	<b>1,756</b>	<b>29</b>	<b>6,884</b>	<b>114</b>

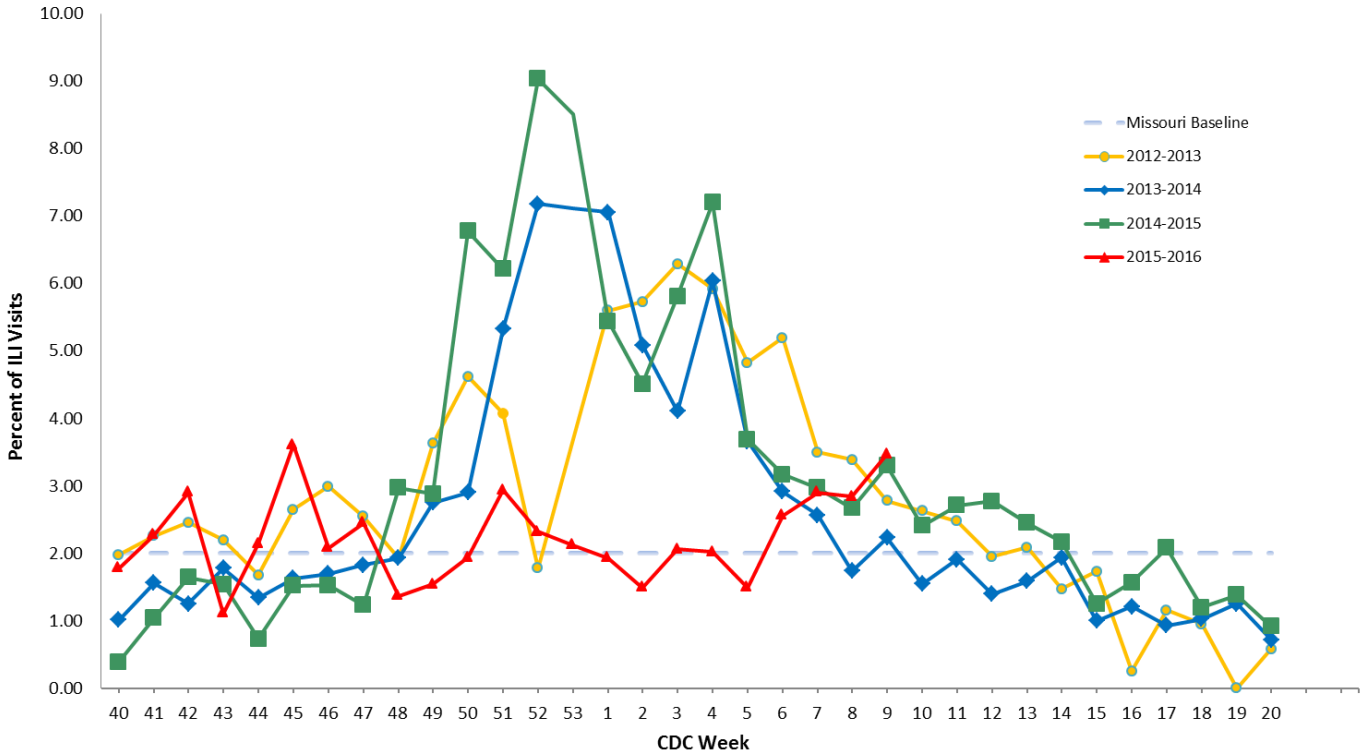
<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.  
<sup>\*</sup>Influenza Season begins Week Ending October 10, 2015 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)  
<sup>‡</sup> Incidence Rate per 100,000 population

**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2012-2016\***



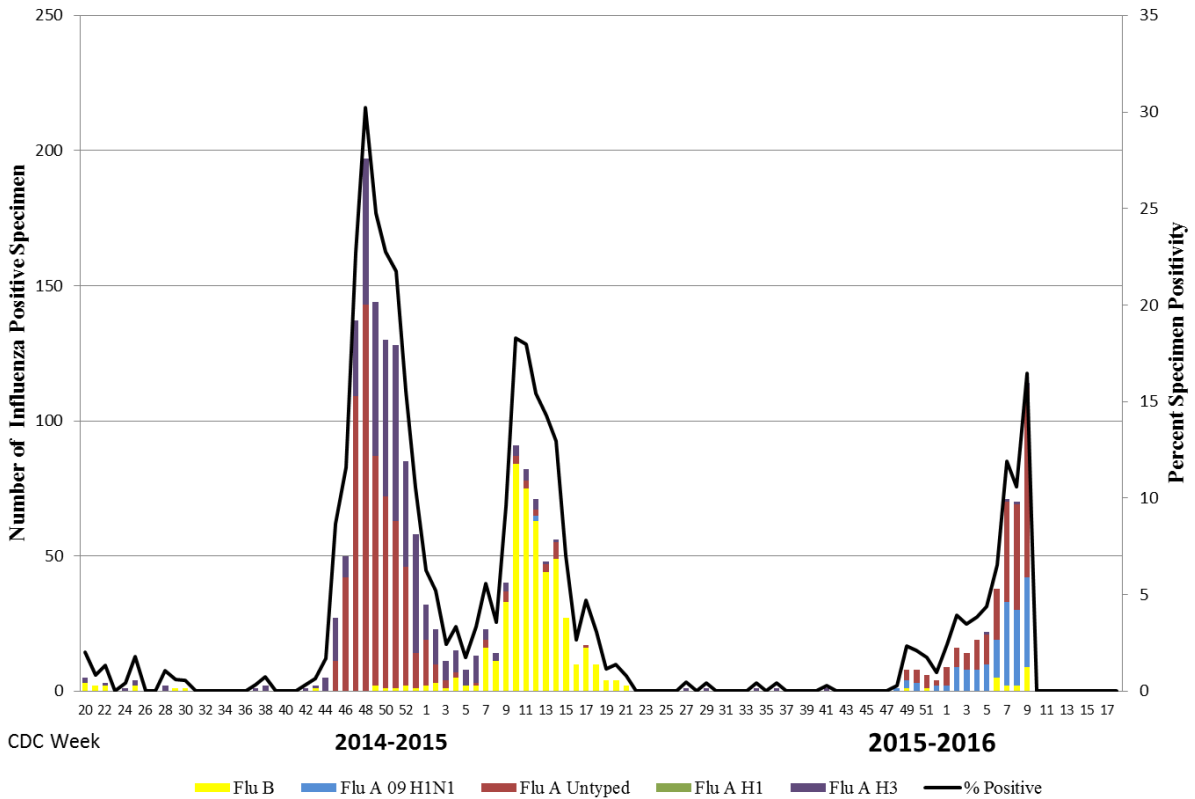
<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.  
<sup>\*</sup>2015-2016 Season-to-Date through the week ending May 21, 2016 (Week 20). 2014-2015 Season had 53 weeks rather than the usual 52. Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2012-2016\***



\*2015-2016 Season-to-Date through the week ending May 21, 2016 (Week 20). 2014-2015 Season had 53 weeks rather than the usual 52.

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

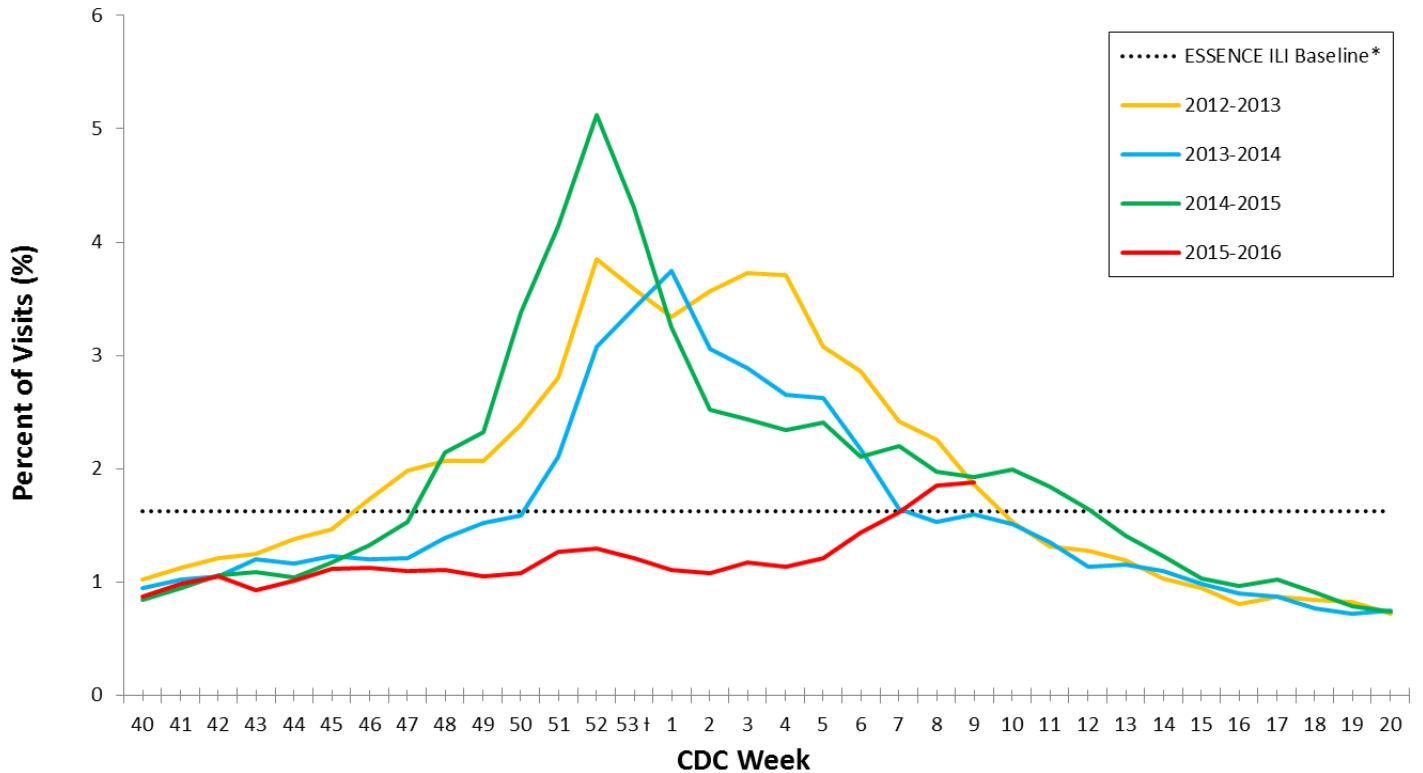


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis Metro and SE Missouri

\*Influenza Season begins Week Ending October 10, 2015 (CDC Week 40)

**Graph 4. Weekly Percentage of Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, for 2012-2016 Influenza Seasons**



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 120 reporting facilities in Missouri ESSENCE (<http://health.mo.gov/data/essence/pdf/missourimap.pdf>).

\* The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2012-14) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

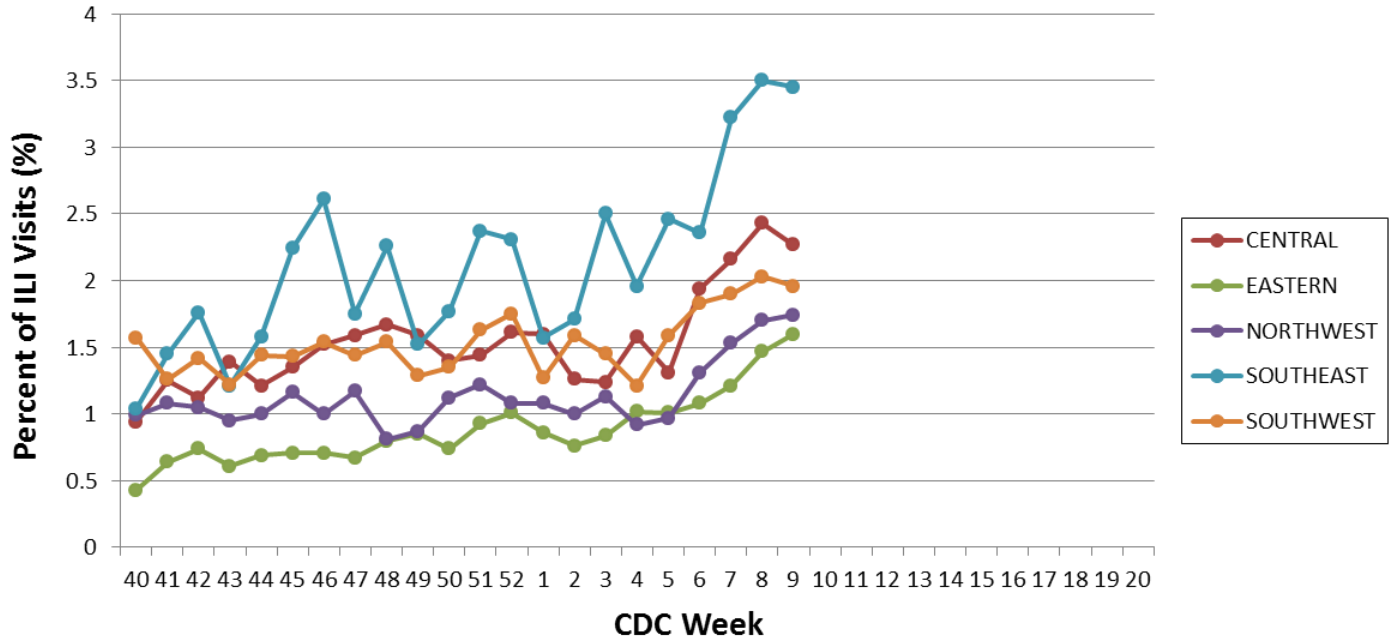
† ILI % for week 53 was estimated for previous seasons by averaging values for weeks 52 and 1 in order to compare to the ILI % for week 53 of the 2014-15 influenza season.

**Table 4. Percentage of Influenza-like Illness (ILI) Visits per Total Visits to Hospital Emergency Rooms from ESSENCE by District and Statewide for Week Ending March 5, 2016**

District	Age 0-4 (%)	Age 5-17 (%)	Age 18-44 (%)	Age 45-64 (%)	Age 65+ (%)	Total Percentage
Northwest	2.74	3.18	1.59	1.34	0.72	1.74
Central	6.96	3.76	1.88	1.34	0.53	2.27
Eastern	3.07	2.96	1.51	1.20	0.54	1.60
Southeast	13.59	8.04	1.62	1.40	0.82	3.45
Southwest	6.97	4.54	0.56	1.33	0.65	1.96
Statewide	4.59	3.69	1.42	1.28	0.62	1.88

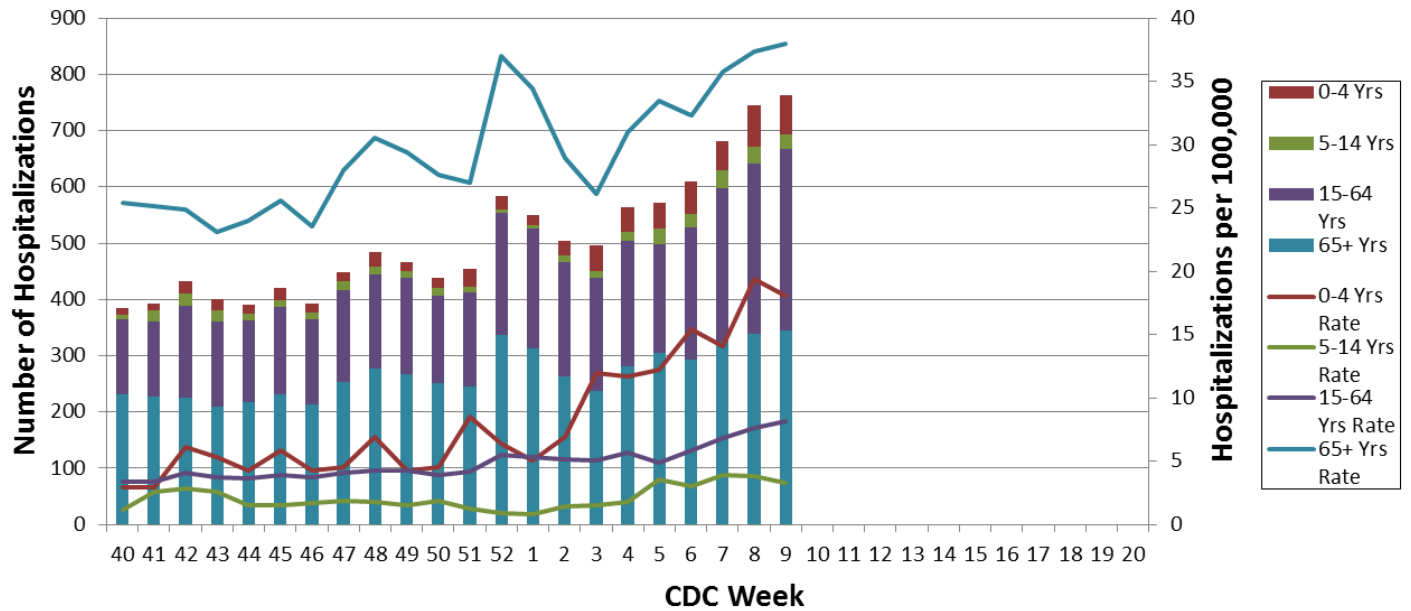
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 120 reporting facilities in Missouri ESSENCE (<http://health.mo.gov/data/essence/pdf/missourimap.pdf>).

**Graph 5. Percentage of Influenza-like Illness (ILI) Visits per Total Visits to Hospital Emergency Rooms from ESSENCE by District for Week Ending March 5, 2016**



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 120 reporting facilities in Missouri ESSENCE (<http://health.mo.gov/data/essence/pdf/missourimap.pdf>).

**Graph 6. Patients Hospitalized with Influenza and/or Pneumonia Syndromes from Participating Missouri Hospitals, by Age Group, Week Ending March 5, 2016**



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 120 reporting facilities in Missouri ESSENCE (<http://health.mo.gov/data/essence/pdf/missourimap.pdf>). Population data from DHSS Population MICA 2014 (<http://health.mo.gov/data/mica/mica/population.php>).

**Additional Influenza Data Sources:**

St Louis Children’s Hospital Laboratory: <http://slchlabbtestguide.bjc.org/Default.aspx?url=9c76310f-bdee-4057-a987-b13c6b2d1c89>

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/](http://www.who.int/influenza/surveillance_monitoring/en/)