Missouri Weekly Influenza Surveillance Report
2015-2016 Influenza Season[1]

Week 42: October 18 – October 24, 2015

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

Summary:

- The estimated influenza activity in Missouri is Sporadic.[2]
- A season-to-date total of 71 laboratory-positive[3] influenza cases have been reported in Missouri as of Week 42. Ten influenza cases (seven influenza B and three influenza A) were reported during Week 42. There were no laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 42.
- Influenza-like illness activity is above baseline for the Missouri Outpatient ILI Surveillance Network (ILINet) and below baseline for the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.90% and 1.05% through ILINet and ESSENCE respectively[4].
- No influenza-associated pediatric deaths have been reported in Missouri, to date, this influenza season. During Week 41, 65 deaths were reported involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records, resulting in a season-to-date total of 168 P&I associated deaths in Missouri[5].
- No influenza or ILI-associated outbreaks or school closures were reported in Missouri during Week 42.
- 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 2015-2016 influenza season in Missouri began CDC Week 40 (week ending October 10, 2015) through CDC Week 20 (week ending May 21, 2016).

[2]Sporadic is defined as: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of ILI.

[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 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".

[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 http://on.mo.gov/1GGwEz5. *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 42**
- **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 42 (October 18 – October 24, 2015)

Influenza Type	Week 40	Week 41	Week 42	2015-2016* Season-to-Date
Influenza A	14	18	3	35
Influenza B	11	16	7	34
Influenza Unknown Or Untyped	1	1	0	2
Total	26	35	10	71

†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† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 42 (October 18 – October 24, 2015)

Age Group	Week 42 Cases	Week 42 Rate‡	2015-2016* Season-to-Date	2015-2016* Season-to-Date Rate‡
00-04	3	1	17	5
05-14	1	0	3	0
15-64	4	0	32	1
65+	2	0	19	2
Total	10	0	71	1

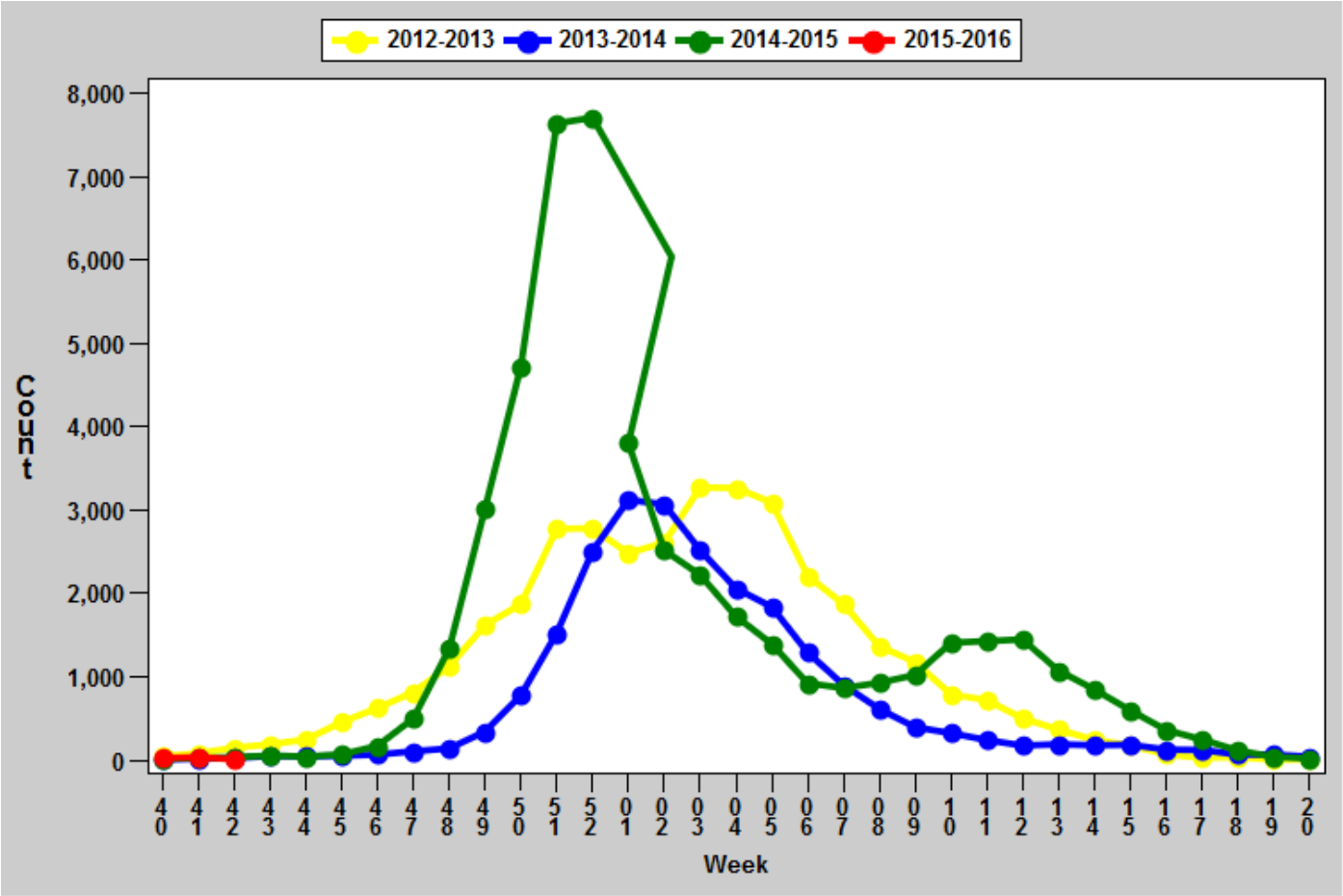
† Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza Season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

Table 3. Number of Laboratory-positive† Influenza Cases and Case Rates by Region, Missouri, CDC Week 42 (October 18 – October 24, 2015)

District	Week 42 Cases	Week 42 Rate‡	2015-2016* Season-to-Date	2015-2016* Season-to-Date Rate‡
CE	0	0	15	2
EA	8	0	14	1
NW	2	0	22	1
SE	0	0	8	2
SW	0	0	12	1
Total	10	0	71	1

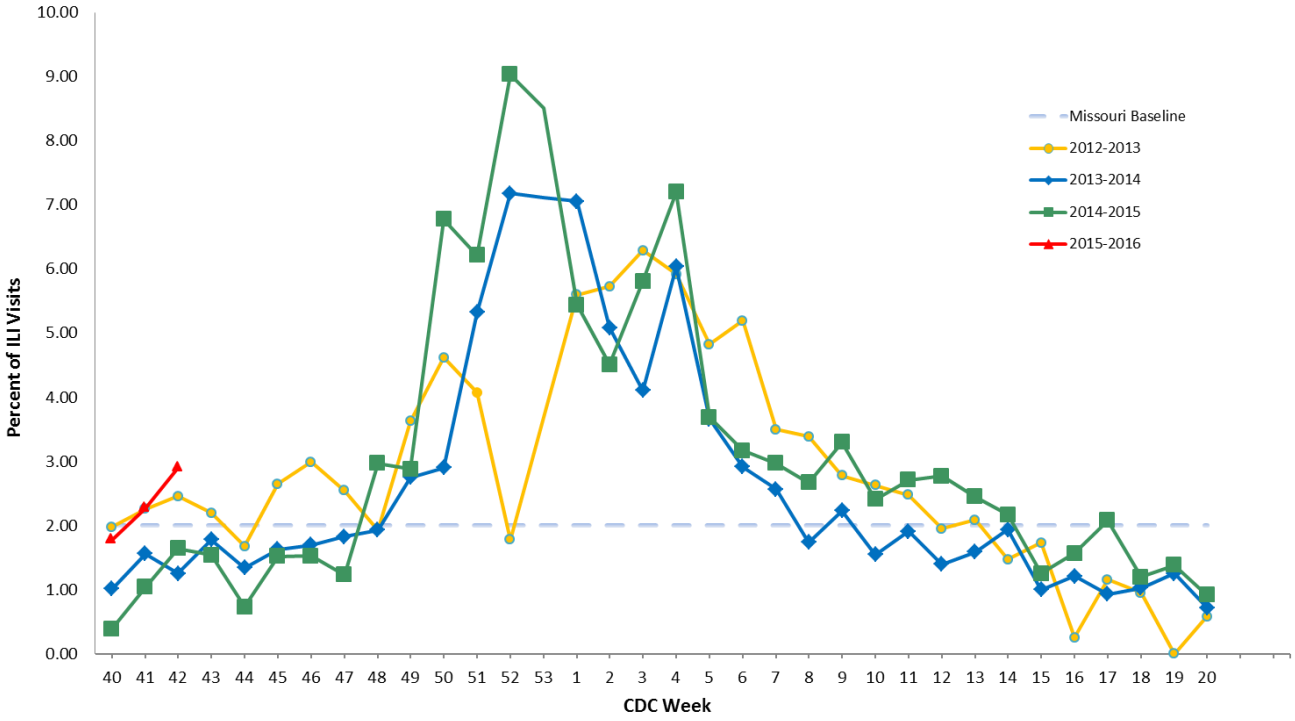
† Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza Season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

Graph 1. Number of Laboratory-positive† Influenza Cases by CDC Week, Missouri, 2012-2016*



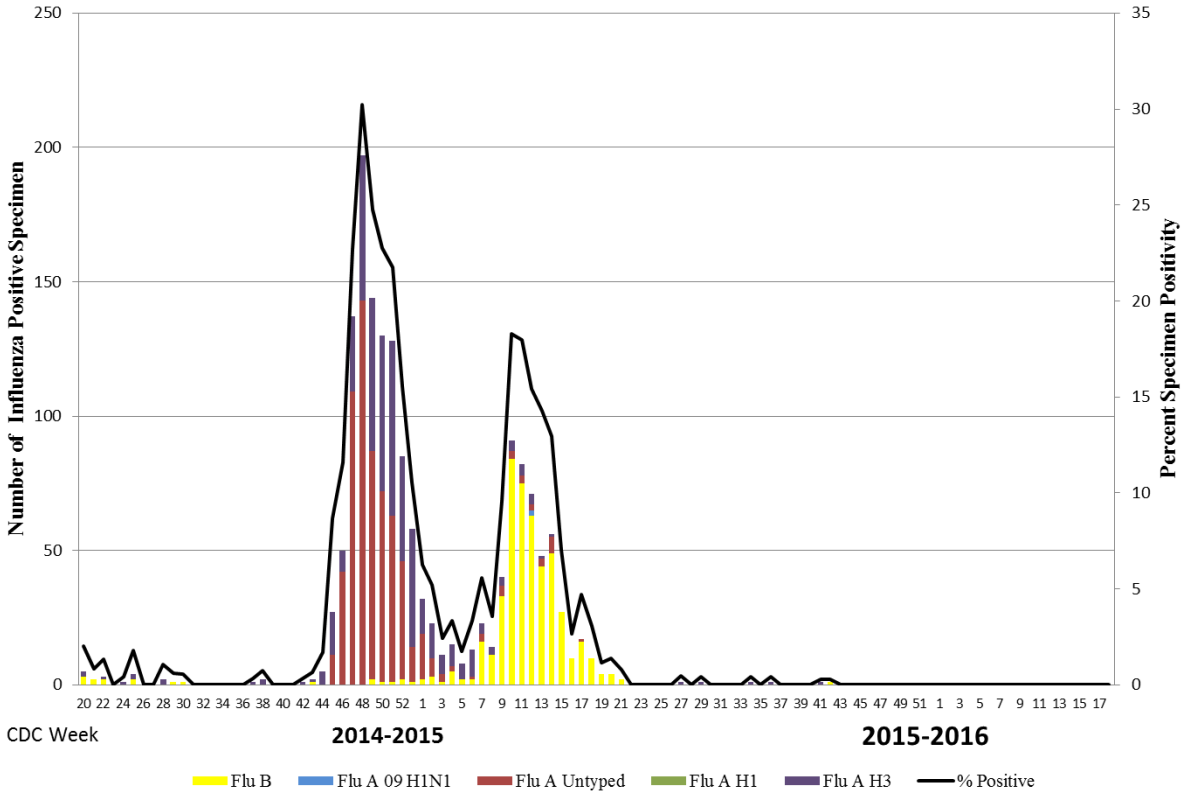
† Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*2015-2016 Season-to-Date through the week ending May 21, 2016 (Week 20). 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*



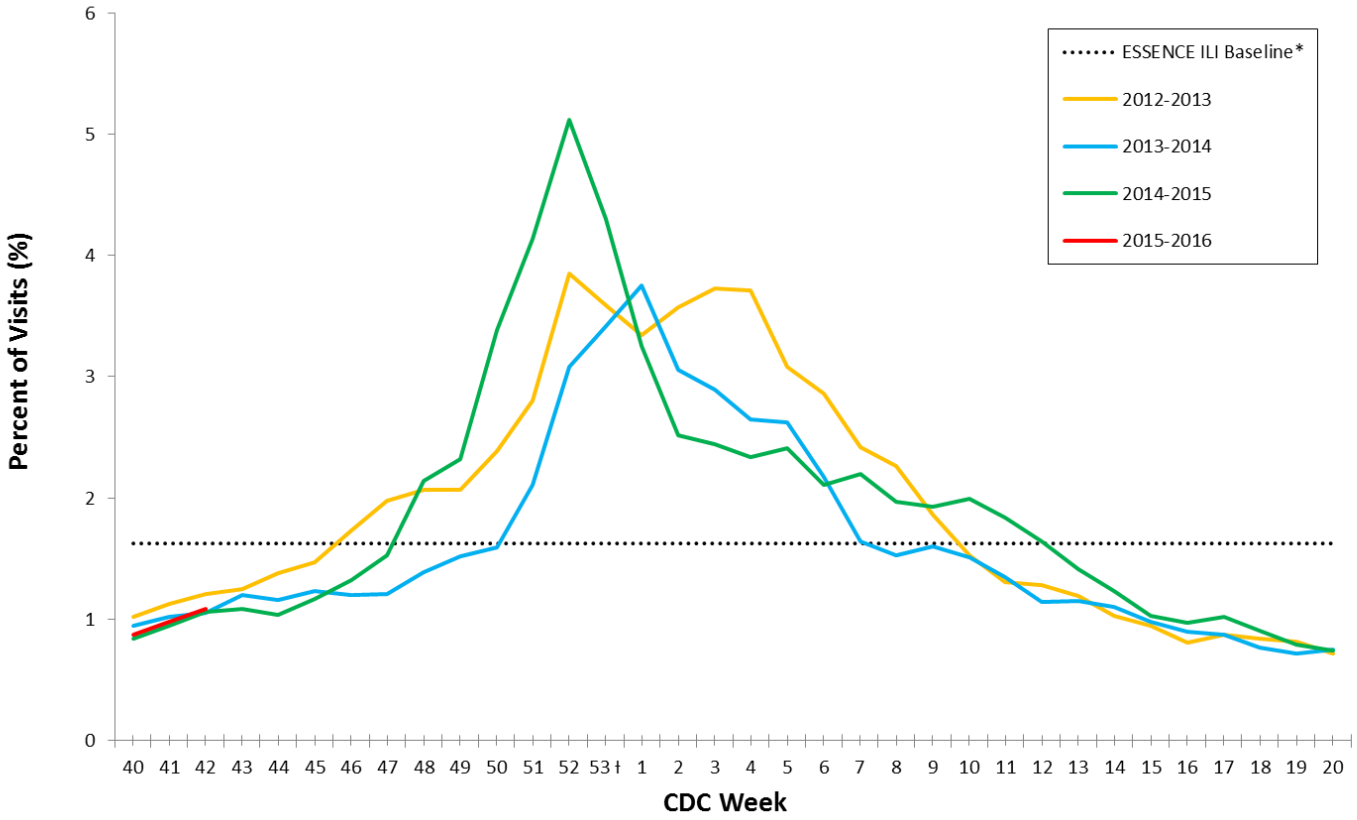
*2015-2016 Season-to-Date through the week ending May 21, 2016 (Week 20)

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



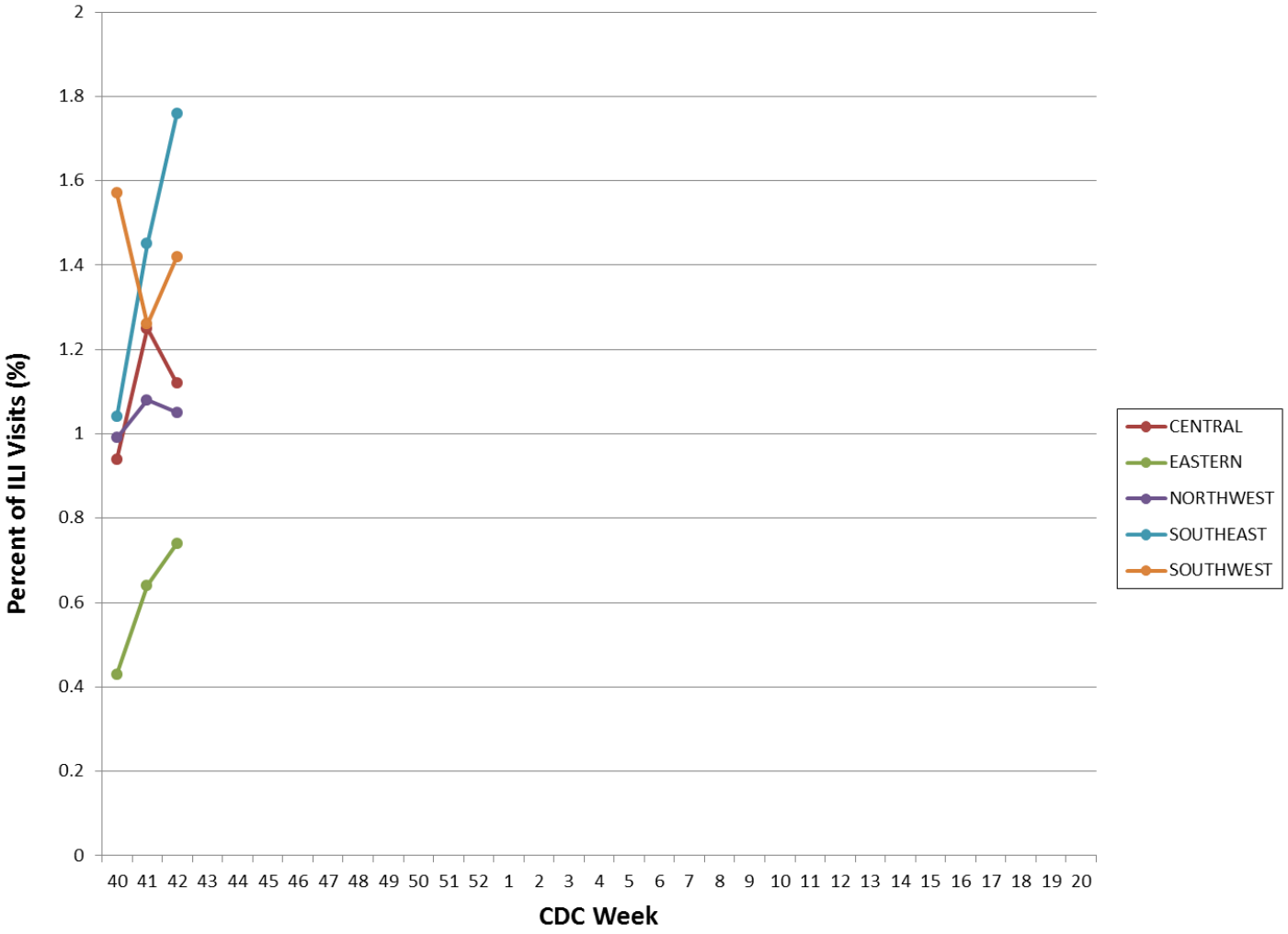
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 121 reporting facilities in Missouri (http://health.mo.gov/data/essence/pdf/missourimap.pdf).
* The ESSENCE ILI Baseline is the mean percent of ILI visits for each 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 October 24, 2015

District	Age 0-4 (%)	Age 5-17 (%)	Age 18-44 (%)	Age 45-64 (%)	Age 65+ (%)	Total Percentage
Northwest	2.32	2.31	0.86	0.56	0.38	1.05
Central	4.34	1.64	1.16	0.65	0.09	1.12
Eastern	1.54	1.27	0.8	0.42	0.29	0.74
Southeast	8.21	4.1	1.01	0.67	0.42	1.76
Southwest	5.42	3.92	0.81	0.29	0.42	1.42
Statewide	**3.06**	**2.26**	**0.87**	**0.48**	**0.32**	**1.05**

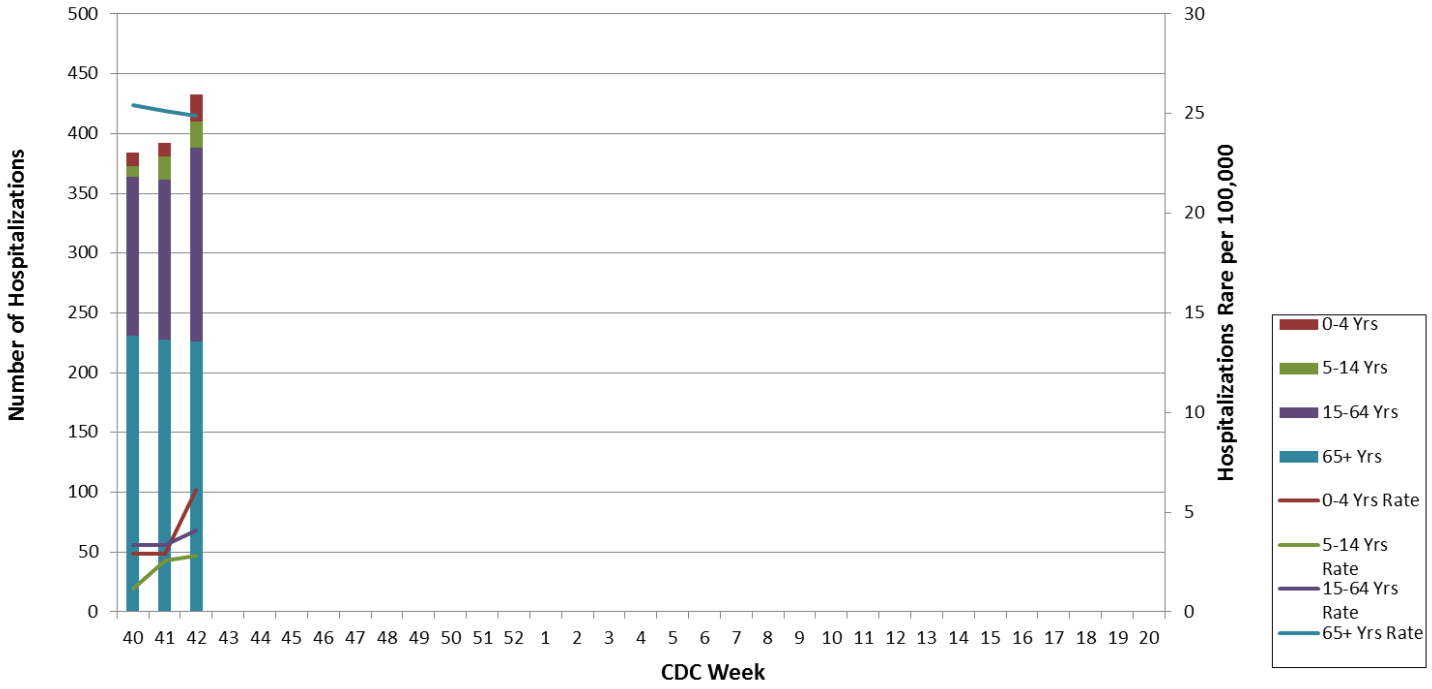
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 121 reporting facilities in Missouri (http://health.mo.gov/data/essence/pdf/missourimap.pdf).

Graph 5. Percentage of Influenza-like Illness (ILI) Visits per Total Visits to Hospital Emergency Rooms from ESSENCE by District for Week Ending October 24, 2015



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 121 reporting facilities in Missouri (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 October 24, 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 121 reporting facilities in Missouri (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://slchlabtestguide.bjc.org/Default.aspx?url=92557084-4e66-4faa-b976-afd50a759053

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/