



Missouri Weekly Influenza Surveillance Report 2018-2019 Influenza Season¹

Week 50: December 9 – December 15, 2018

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

Summary:

- The estimated influenza activity in Missouri is Local².
- During Week 50, a total of 459 laboratory-positive³ influenza cases (392 influenza A, 62 influenza B, and five untyped) were reported. A season-to-date total of 2,569 laboratory-positive influenza cases have been reported in Missouri as of Week 50. The influenza type for reported season-to-date cases includes 67.7% influenza A, 31.2% influenza B and 1.1% untyped. There was one laboratory-positive case of influenza (influenza A, H1) reported by the Missouri State Public Health Laboratory (MSPHL) during Week 50. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) increased during Week 50 (Figure 6).
- Influenza-like illness (ILI) activity was above baseline for 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 2.39 % (Figure 5) and 1.91% (Figure 7) through ILINet and ESSENCE respectively.⁴ The ILI data from a small number of sites located in the Northwest Region of the state is currently unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.
- Two influenza-associated deaths have been reported in Missouri as of Week 50.⁵ During Week 49, 67 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 482 P&I associated deaths in Missouri.⁶
- One influenza outbreak has been reported in Missouri as of Week 50. No ILI-associated outbreaks or school closures have been reported.
- Influenza activity in the United States remained slightly elevated during Week 49. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

¹The 2018-2019 influenza season begins CDC Week 40 (week ending October 6, 2018) and ends CDC Week 39 (week ending September 28, 2019).

²Local is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of 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 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. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

⁵All influenza-associated deaths became reportable in Missouri in 2016.

⁶The 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 jurisdiction-specific influenza data are provided through interactive maps available at <http://bit.ly/MoFluMaps>. Click on the jurisdiction to view the influenza data specific to that jurisdiction.

- Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 50
- Reported Week-specific Rate per 100,000 Population, CDC Week 50
- Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date
- Reported Rate per 100,000 Population, Season-to-Date

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 50 (December 9, 2018 – December 15, 2018)*

Influenza Type	Week 48	Week 49	Week 50	2018-2019* Season-to-Date
Influenza A	187	224	392	1,739
Influenza B	101	67	62	801
Influenza Unknown Or Untyped	4	6	5	29
Total	292	297	459	2,569

[†]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 6, 2018 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 50 (December 9, 2018 – December 15, 2018)*[‡]

Age Group	Week 50 Cases	Week 50 Rate [‡]	2018-2019* Season-to-Date	2018-2019* Season-to-Date Rate [‡]
00-04	102	27.25	487	130.09
05-24	207	12.90	925	57.65
25-49	71	3.71	618	32.30
50-64	42	3.40	301	24.35
65+	37	3.87	238	24.92
Total	459	7.54	2,569	42.23

[†]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 6, 2018 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 50 (December 9, 2018 – December 15, 2018)^{*‡}

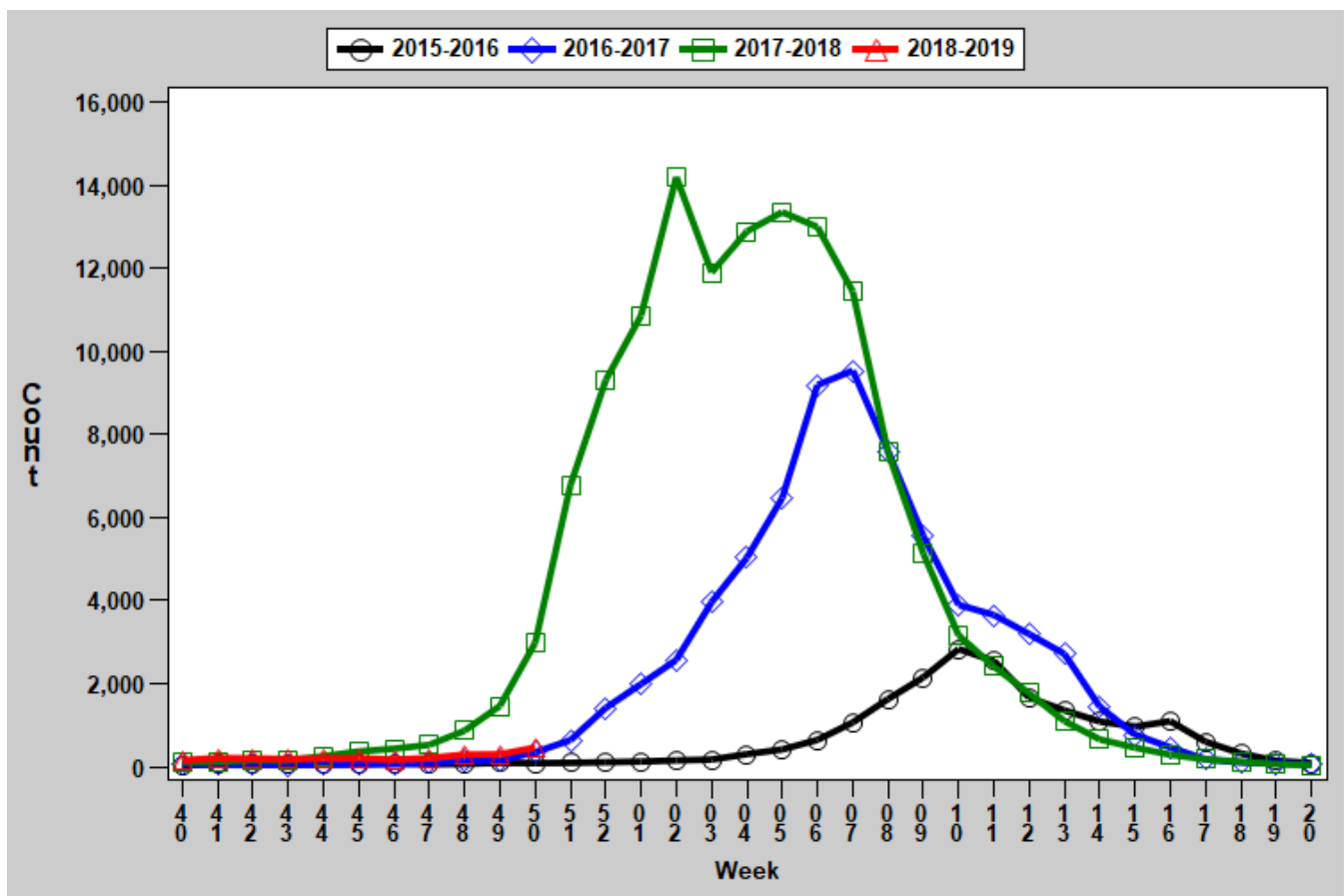
Region	Week 50 Cases	Week 50 Rate [‡]	2018-2019* Season-to-Date	2018-2019* Season-to-Date Rate [‡]
Central	49	7.24	271	40.03
Eastern	64	2.82	564	24.89
Northwest	286	17.90	792	49.58
Southeast	25	5.30	600	127.20
Southwest	35	3.27	342	31.92
Total	459	7.54	2,569	42.23

[†]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 6, 2018 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

[‡]Incidence Rate per 100,000 population

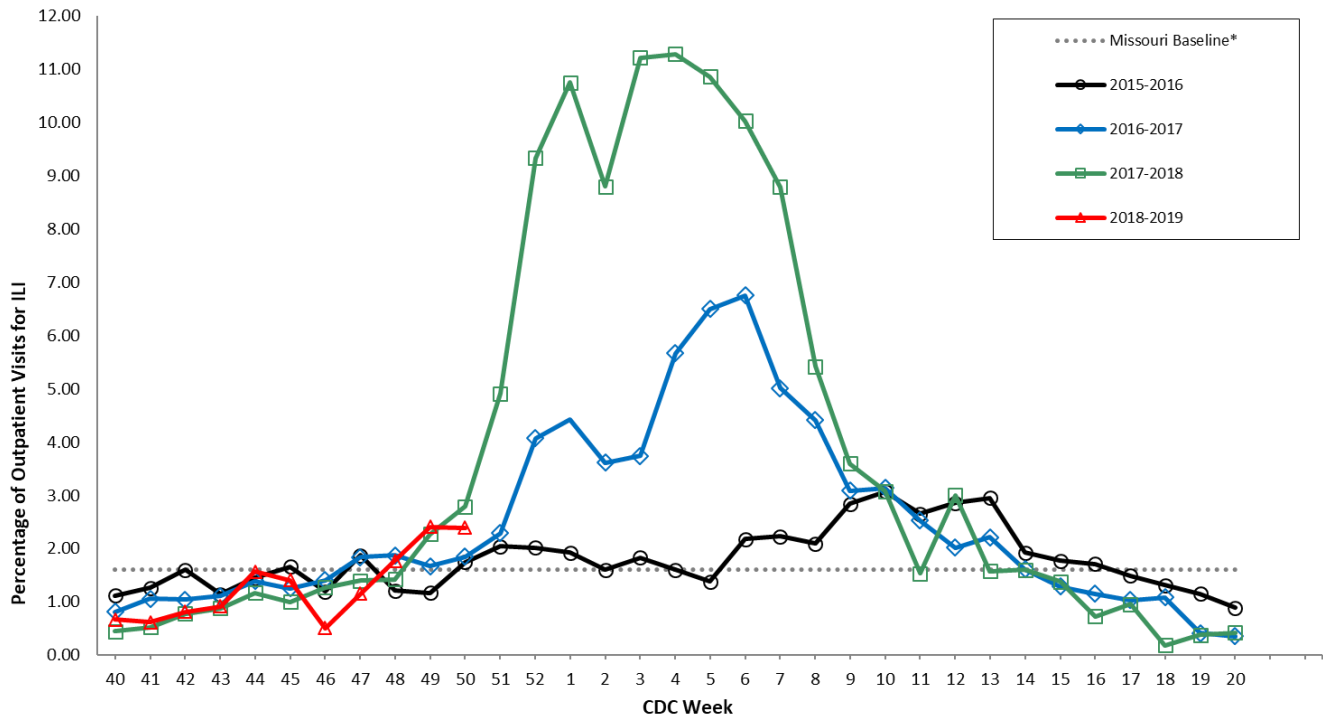
Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2015-2019^{*}



[†]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.

^{*}2018-2019 season-to-date through the week ending May 18, 2019 (Week 20).Data Source: Missouri Health Information Surveillance System (WebSurv).

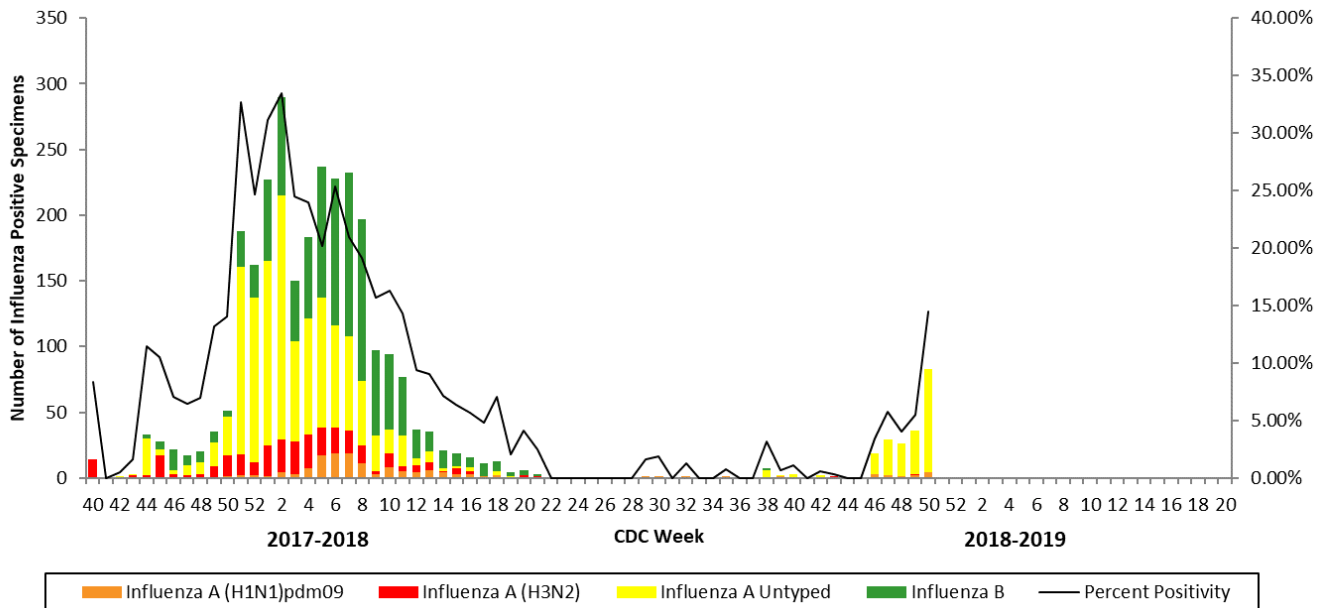
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2015-2019*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza. Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

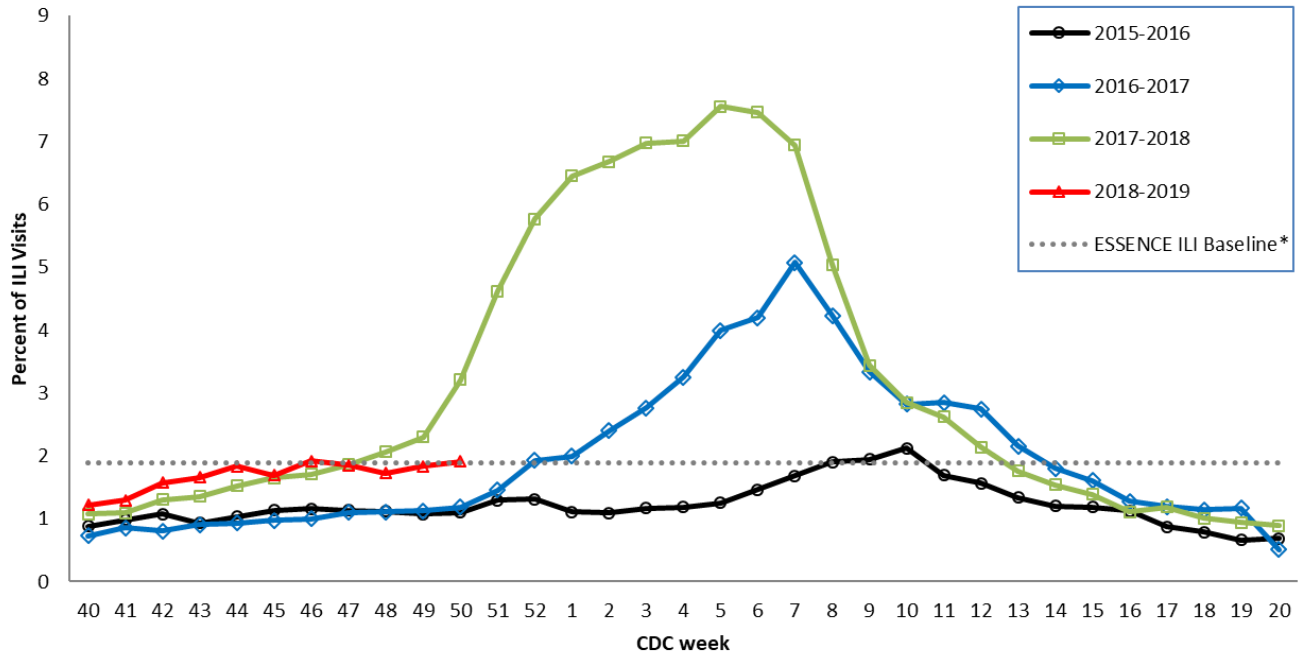
†2018-2019 season-to-date through the week ending May 18, 2019 (Week 20).

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC). 2018-2019 season-to-date through the week ending May 18, 2019 (Week 20).

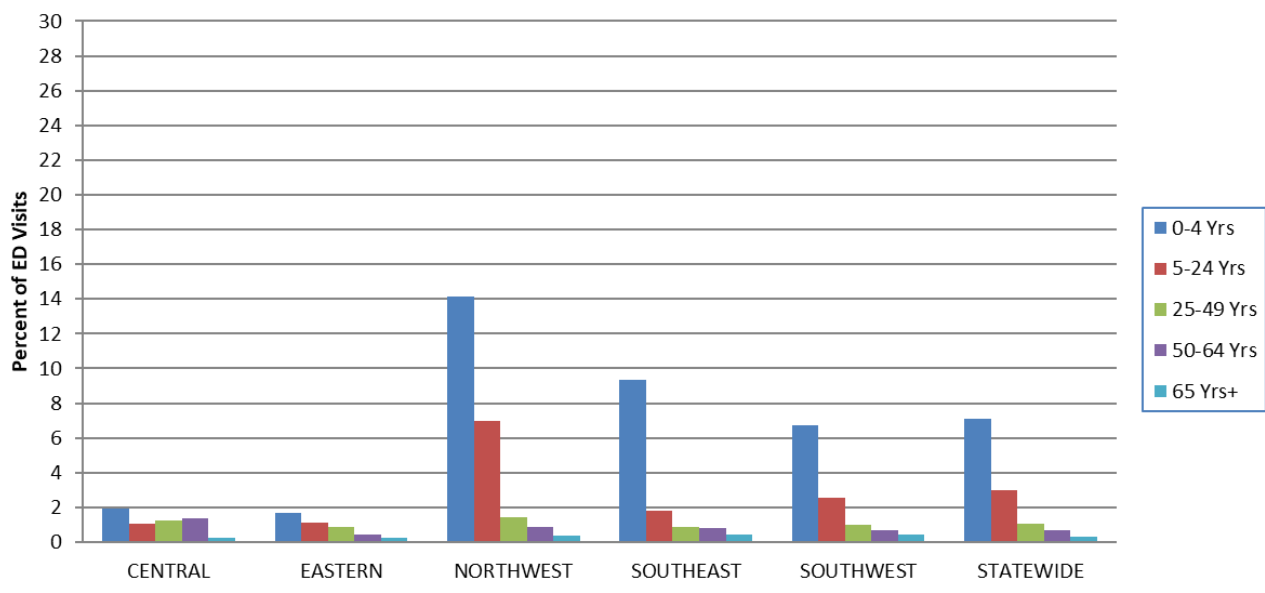
Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2015-2019 Influenza Seasons**



*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2015-17) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations. Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.

**The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

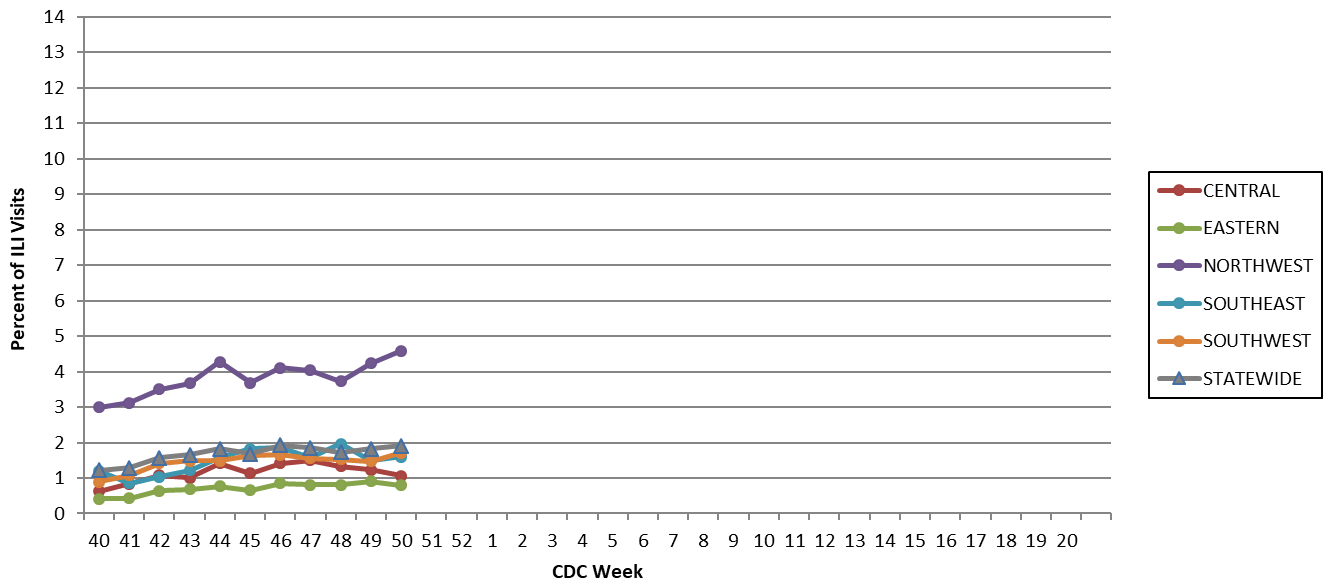
Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 50, 2018*



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.

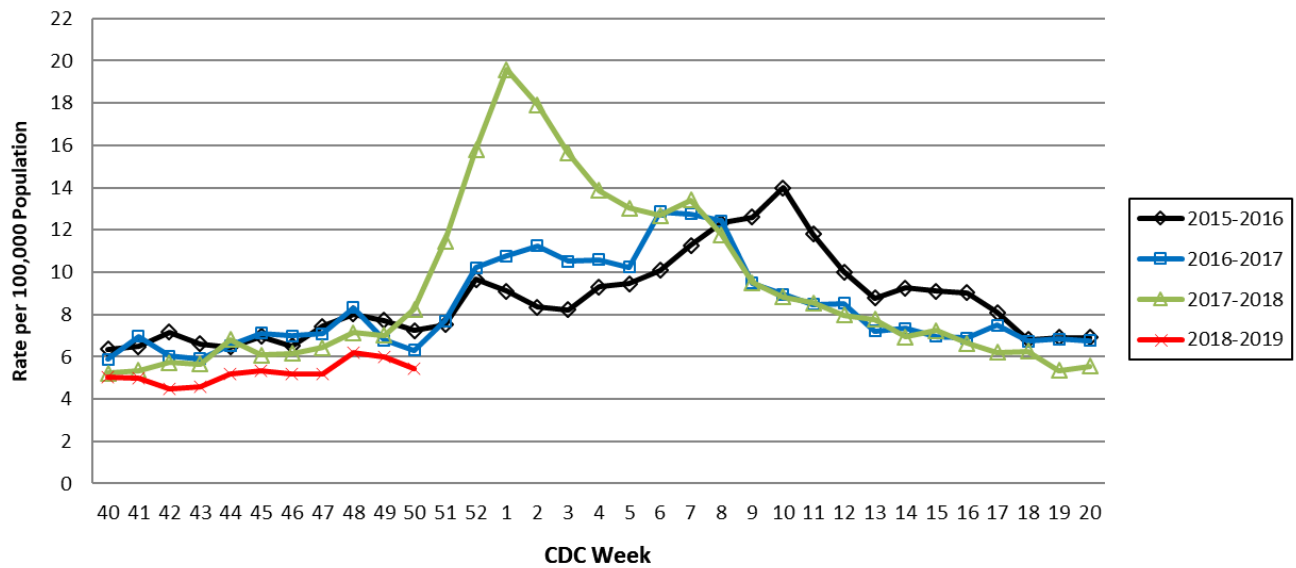
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2018-2019 Influenza Season*



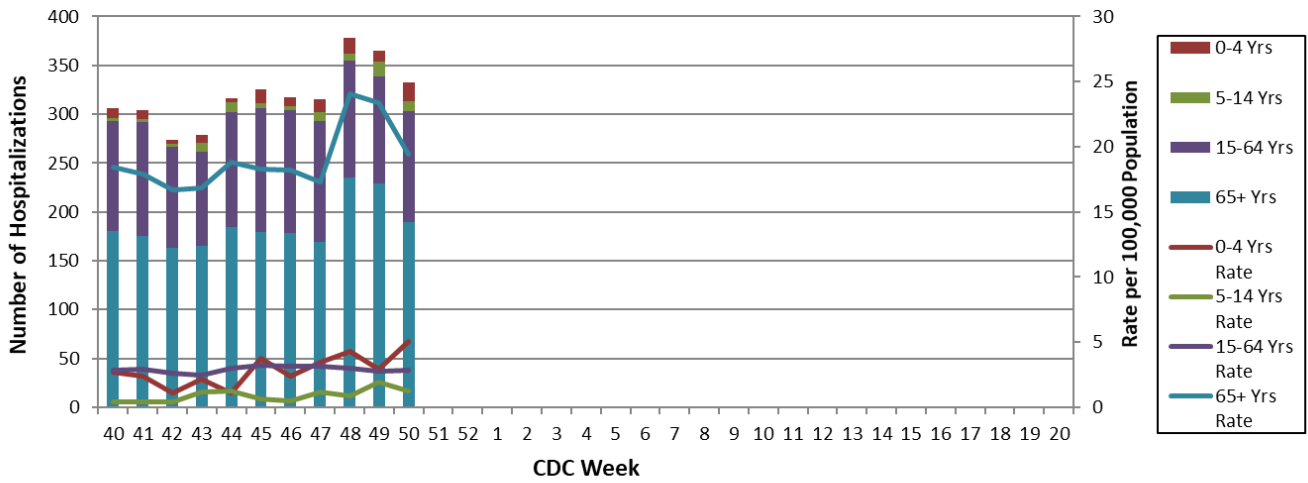
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
 *The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2015-2019 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
 Population data from DHSS Population MICA 2016 (<https://webapp01.dhss.mo.gov/MOPHIMS/QueryBuilder?qbc=PNM&q=1&m=1>).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 50, 2018-2019 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):

<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

The National Respiratory and Enteric Virus Surveillance System (NREVSS):

<https://www.cdc.gov/surveillance/nrevss/>

World Health Organization: International Influenza Surveillance:

http://www.who.int/influenza/surveillance_monitoring/en/