



Missouri Weekly Influenza Surveillance Report 2018-2019 Influenza Season¹

Week 14: March 31, 2019 – April 6, 2019

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

Summary:

- The estimated influenza activity in Missouri is Regional².
- During Week 14, a total of 1,965 laboratory-positive³ influenza cases (1,824 influenza A, 133 influenza B, and 8 untyped) were reported. A season-to-date total of 72,546 laboratory-positive influenza cases have been reported in Missouri as of Week 14. The influenza type for reported season-to-date cases includes 92.9% influenza A, 6.3% influenza B and 0.8% untyped. One laboratory-positive case of influenza A (H3) was reported by the Missouri State Public Health Laboratory (MSPHL) during Week 14. The number of specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 14 (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 4.35% (Figure 5) and 2.13% (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.
- A season-to-date total of 65 influenza-associated deaths have been reported in Missouri as of Week 14.⁵ During Week 13, 74 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,474 P&I associated deaths in Missouri.⁶
- A season-to-date total of 20 influenza outbreaks and 12 influenza or ILI-associated school closures have been reported in Missouri as of Week 14.
- Influenza activity decreased but remained elevated in the United States during Week 13. 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).

²Regional 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..

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 14
- Reported Week-specific Rate per 100,000 Population, CDC Week 14
- 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 14 (March 31, 2019 – April 6, 2019)^{*}

Influenza Type	Week 12	Week 13	Week 14	2018-2019* Season-to-Date
Influenza A	6,118	3,566	1,824	67,402
Influenza B	319	224	133	4,587
Influenza Unknown Or Untyped	40	33	8	557
Total	6,477	3,823	1,965	72,546

[†]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 14 (March 31, 2019 – April 6, 2019)[‡]

Age Group	Week 14 Cases	Week 14 Rate [‡]	2018-2019* Season-to-Date	2018-2019* Season-to-Date Rate [‡]
00-04	400	106.85	13,789	3,683.35
05-24	717	44.69	31,341	1,953.30
25-49	308	16.10	13,952	729.14
50-64	201	16.26	7,303	590.68
65+	339	35.50	6,161	645.18
Total	1,965	32.30	72,546	1,192.47

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^{*}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 14 (March 31, 2019 – April 6, 2019)^{*‡}

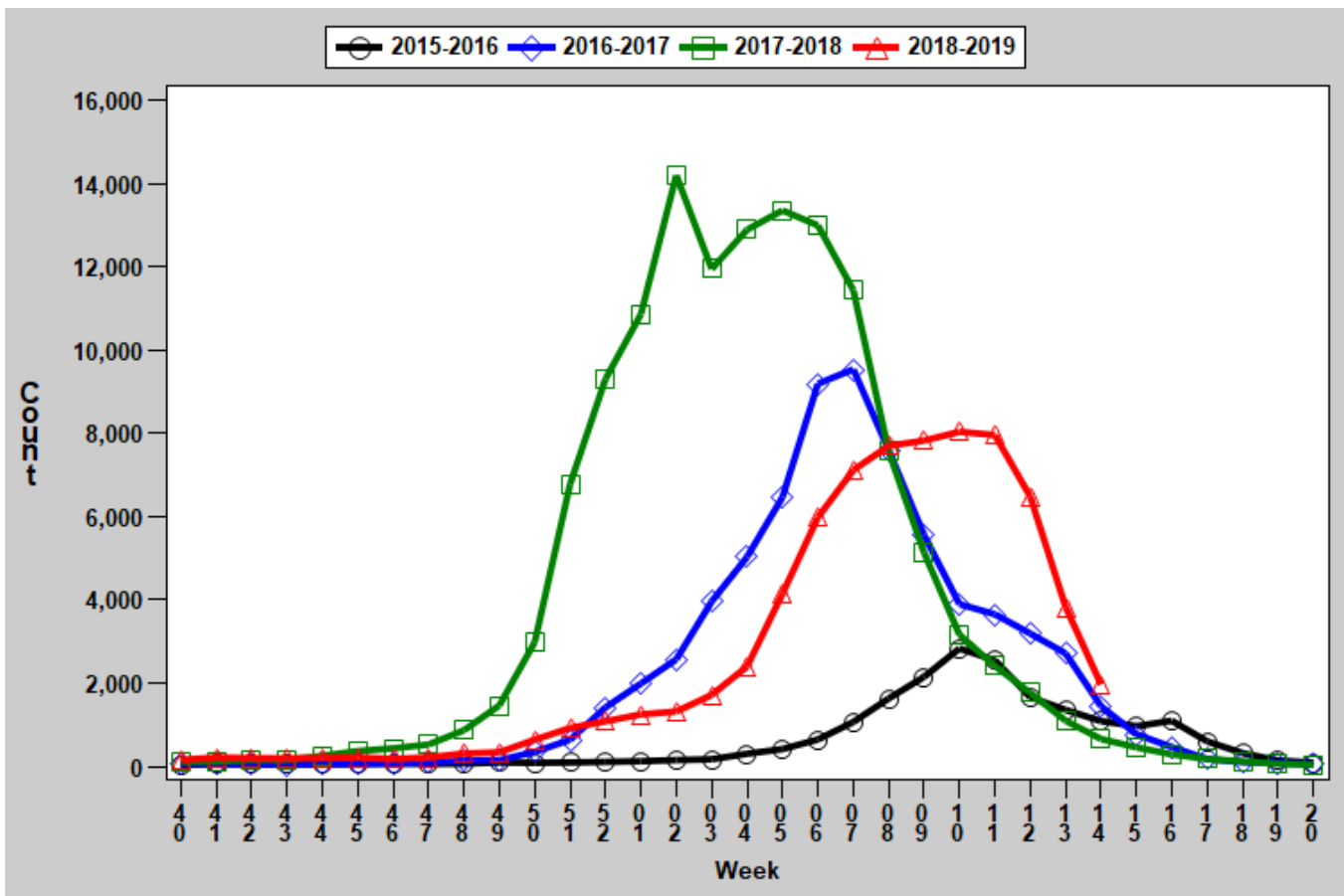
Region	Week 14 Cases	Week 14 Rate [‡]	2018-2019* Season-to-Date	2018-2019* Season-to-Date Rate [‡]
Central	321	47.42	8,391	1,239.44
Eastern	440	19.42	21,350	942.12
Northwest	629	39.37	15,297	957.55
Southeast	334	70.81	10,903	2,311.43
Southwest	241	22.50	16,605	1,549.99
Total	1,965	32.30	72,546	1,192.47

[†]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

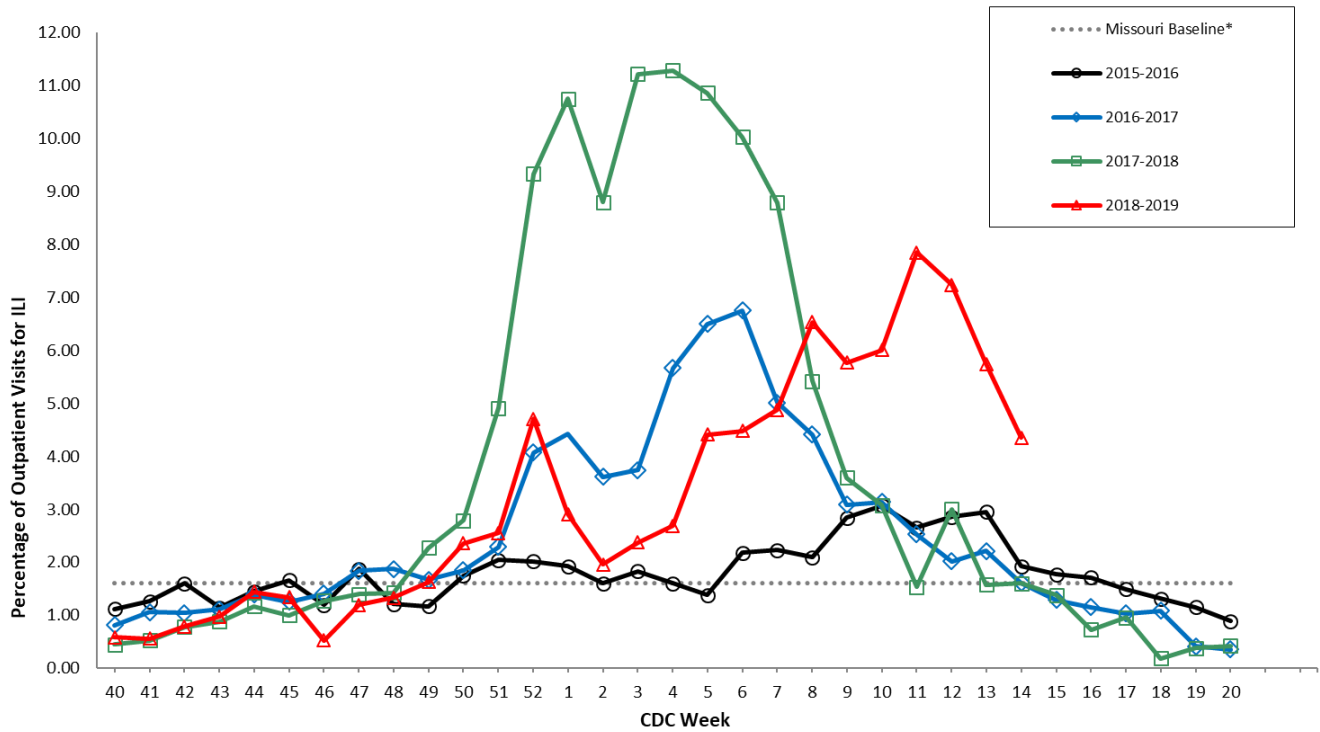
Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2015-2019^{*}



[†]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).

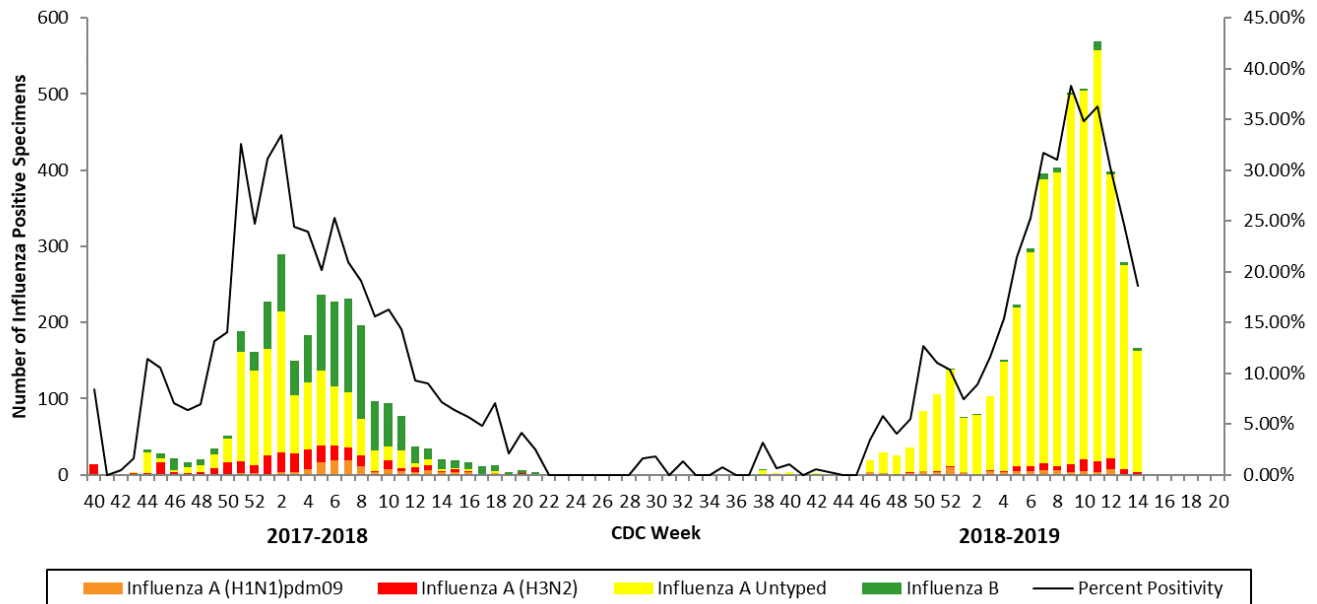
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2015-2019*†



*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).

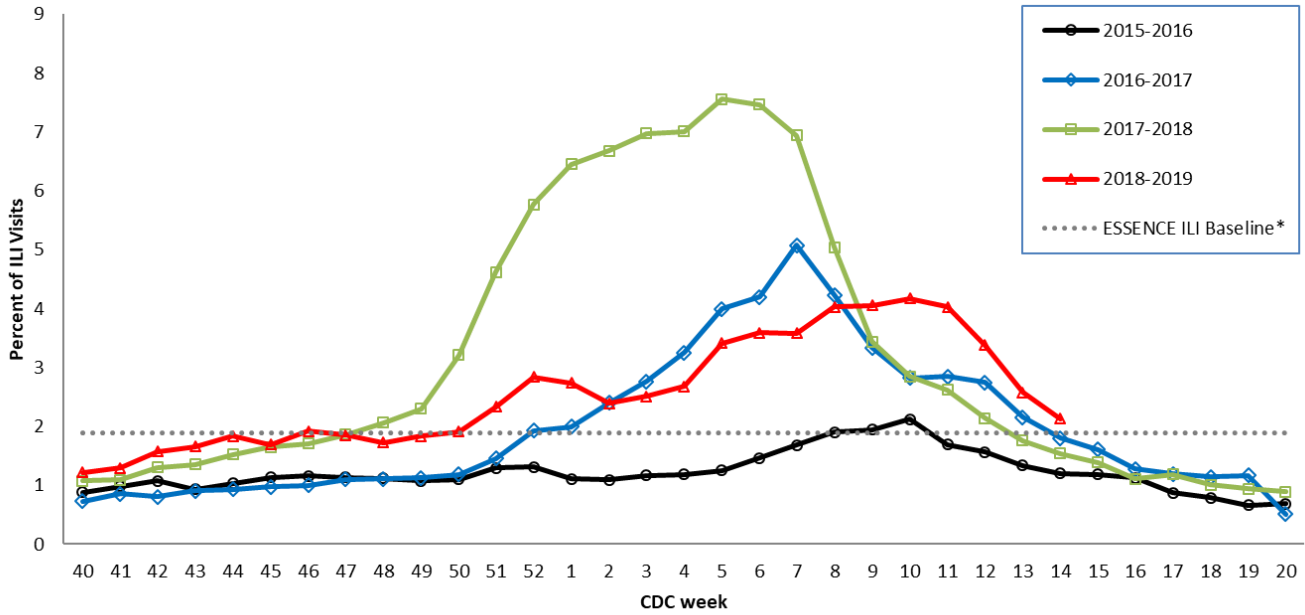
†2018-2019 season-to-date through the week ending May 18, 2019 (Week 20).

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).

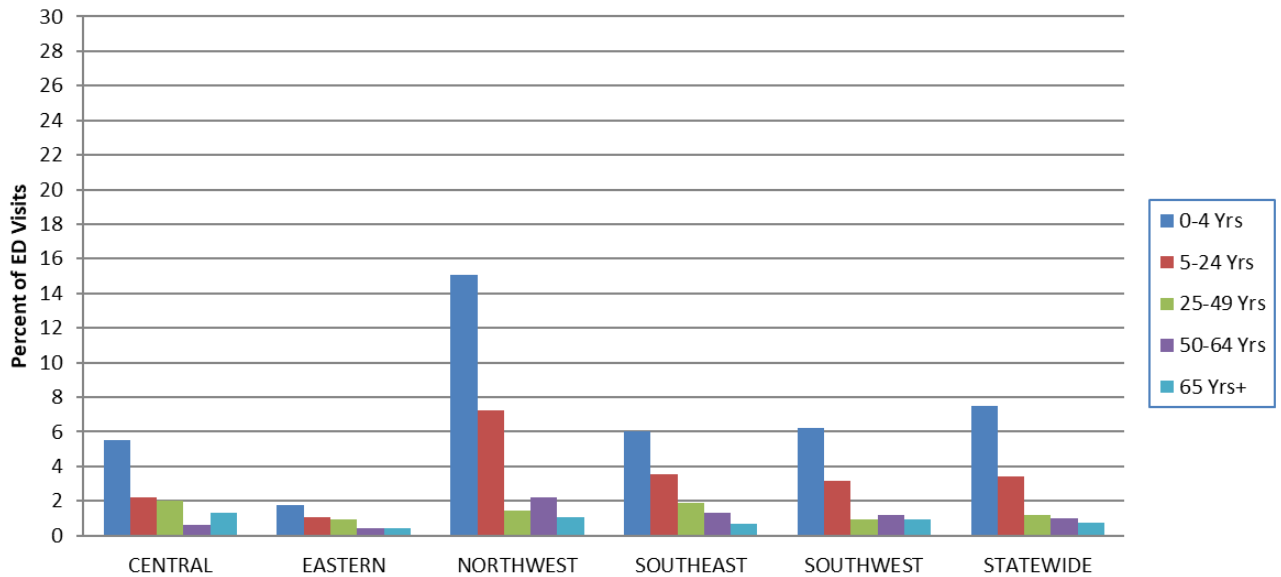
Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2015-2019 Influenza Seasons**



*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.

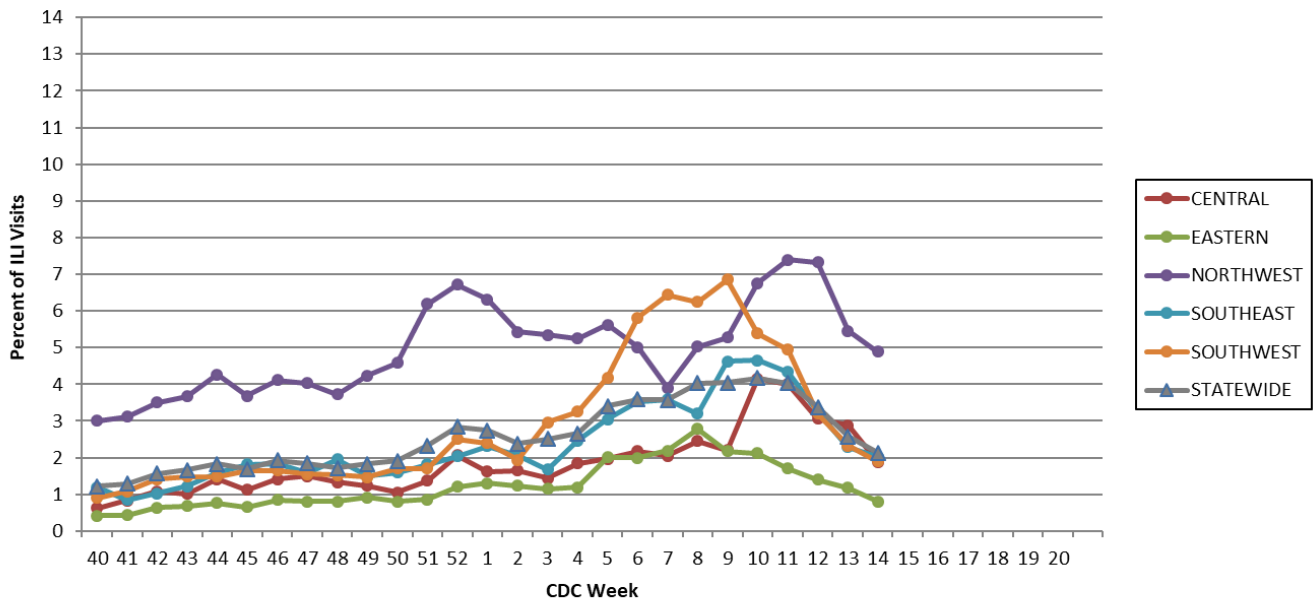
Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 14, 2019*



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

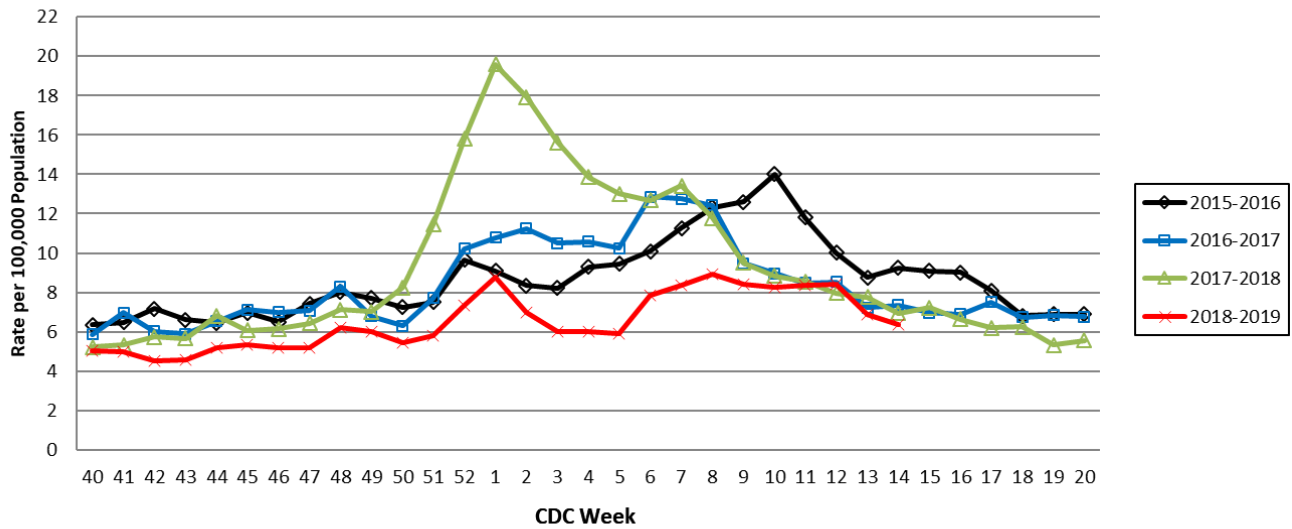
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

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*



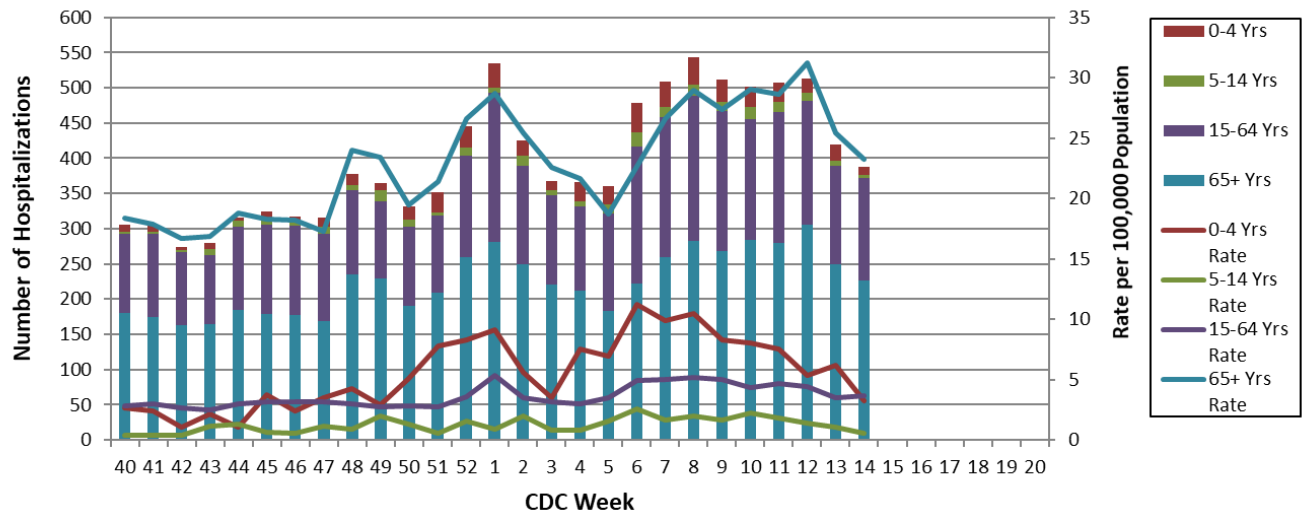
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
 *The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest 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 14, 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/