Missouri Weekly Influenza Surveillance Report
2022-2023 Influenza Season[1]

Week 49: December 4, 2022 – December 10, 2022

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

Summary:

- Influenza activity remains high across Missouri. The estimated influenza activity for Week 49 is widespread[2], and the overall Influenza-like illness (ILI) activity remains at Level 11 in the very high category.[3]

- During Week 49, a total of 13,473 laboratory-positive[4] influenza cases (13,088 influenza A, 362 influenza B and 23 untyped) were reported. The influenza type for reported season-to-date cases includes 95.3% influenza A, 4.2% influenza B and 0.5% untyped. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) is 21.8% Week 49. The number of Missouri facilities reporting to NREVSS for Week 49 was limited at the time of this report.

- Influenza-like illness activity for the hospital emergency room visit chief complaint data reported through ESSENCE decreased slightly during Week 49. The reported percentage of visits for ILI through ESSENCE decreased to 6.24 % (Figure 6).[5]

- Seven influenza-associated deaths have been reported in Missouri as of Week 47 (week ending November 26, 2022).[6]

- Five influenza outbreaks and two influenza-associated school closures have been reported as of Week 49.

- Seasonal influenza activity continues to be high nationwide. 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.

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[1]The 2022- 2023 influenza season begins CDC Week 40 (week ending October 8, 2022) and ends CDC Week 39 (week ending September 30, 2023).

[2]Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[3] ILI Activity indicates levels of activity on a scale of 1-13 ranging from minimal to very high. For more information see https://gis.cdc.gov/grasp/fluview/main.html

[4]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.

[5]ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[6]Influenza deaths are collected from Missouri's death certificate data. Decedents with influenza listed as a cause or contributor to death are classified as an influenza-associated death. Death certificate data are generally available two weeks following the current CDC week.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at https://arcg.is/DKTSe0. *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 49**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 49**
- **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 Weeks 47-49 (November 20, 2022 – December 10, 2022)*

Influenza Type	Week 47	Week 48	Week 49	2022-2023* Season-to-Date
Influenza A	11,636	14,751	13,088	53,848
Influenza B	313	423	362	2,390
Influenza Unknown Or Untyped	33	54	23	257
Total	11,982	15,228	13,473	56,495

†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 with the week ending October 8, 2022 (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 49 (December 4, 2022 – December 10, 2022)*‡

Age Group	Week 49 Cases	Week 49 Rate‡	2022-23* Season-to-Date	2022-2023* Season-to-Date Rate‡
00-04	2,067	561.56	8,301	2,255.22
05-24	5,632	360.10	25,926	1,657.66
25-49	2,937	151.15	11,667	600.44
50-64	1,394	116.15	5,509	459.00
65+	1,443	135.87	5,092	479.46
Total	13,473	219.52	56,495	920.50

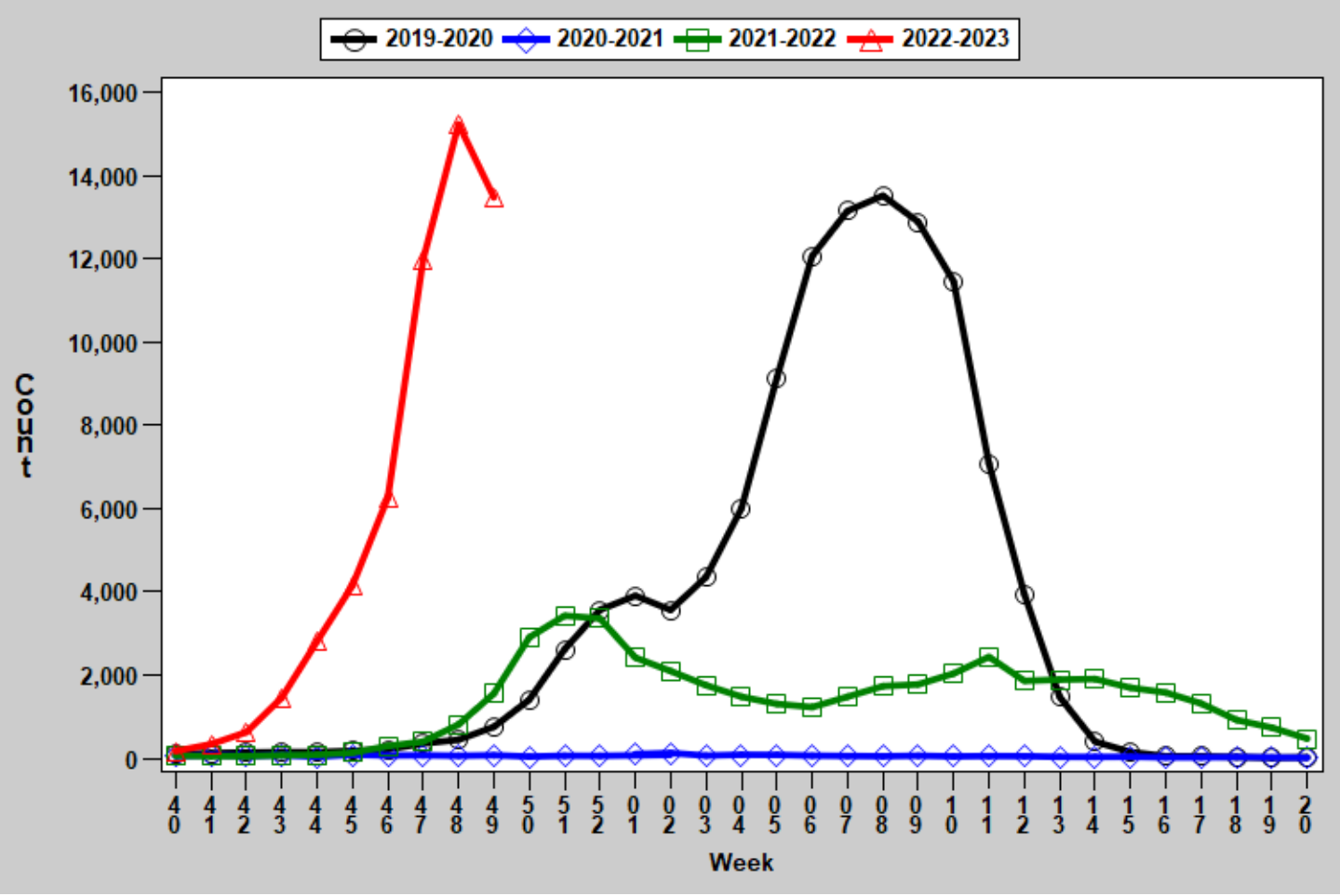
†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 8, 2022 (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 49 (December 4, 2022 – December 10, 2022)[*‡]

Region	Week 49 Cases	Week 49 Rate[‡]	2022-23* Season-to-Date	2022-23* Season-to-Date Rate[‡]
Central	1,107	164.04	3,849	570.38
Eastern	4,518	199.22	16,751	738.65
Northwest	3,044	185.98	19,587	1,196.71
Southeast	1,507	348.49	6,877	1,590.29
Southwest	3,297	313.81	9,431	897.65
Total	13,473	219.52	56,495	920.50

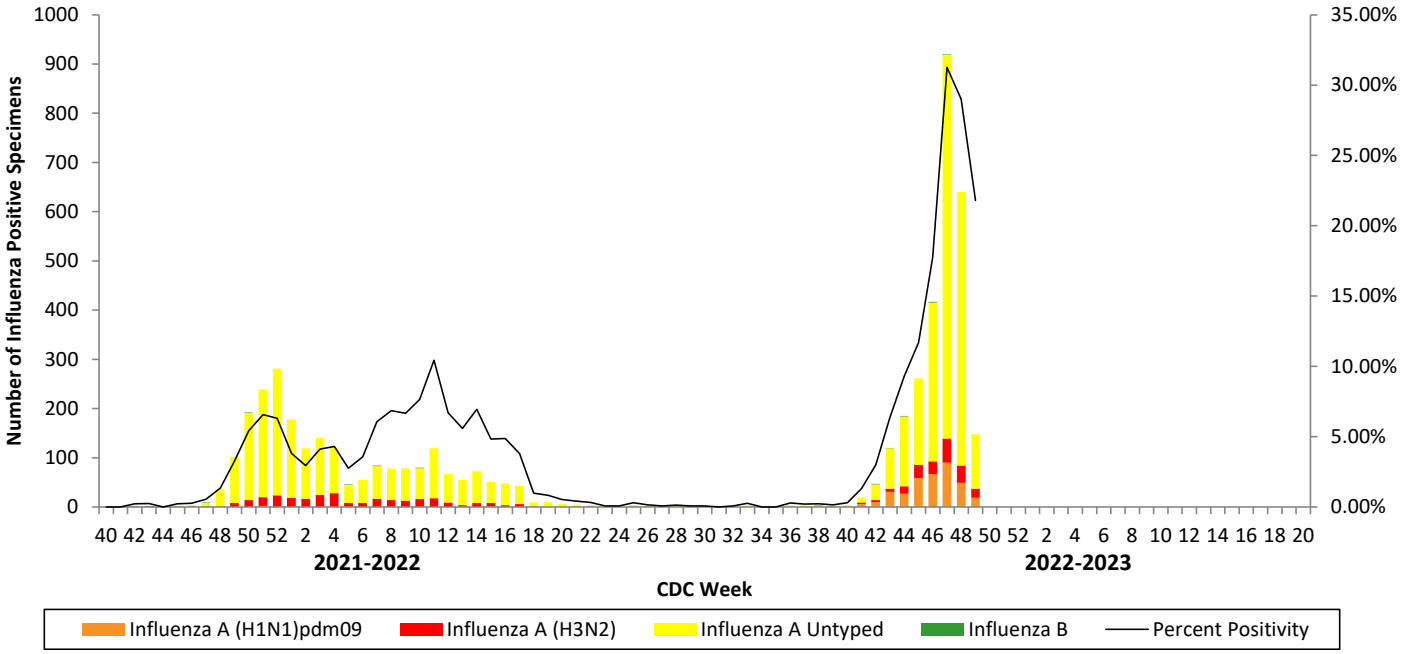
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 8, 2022 (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, 2019-2023[*]



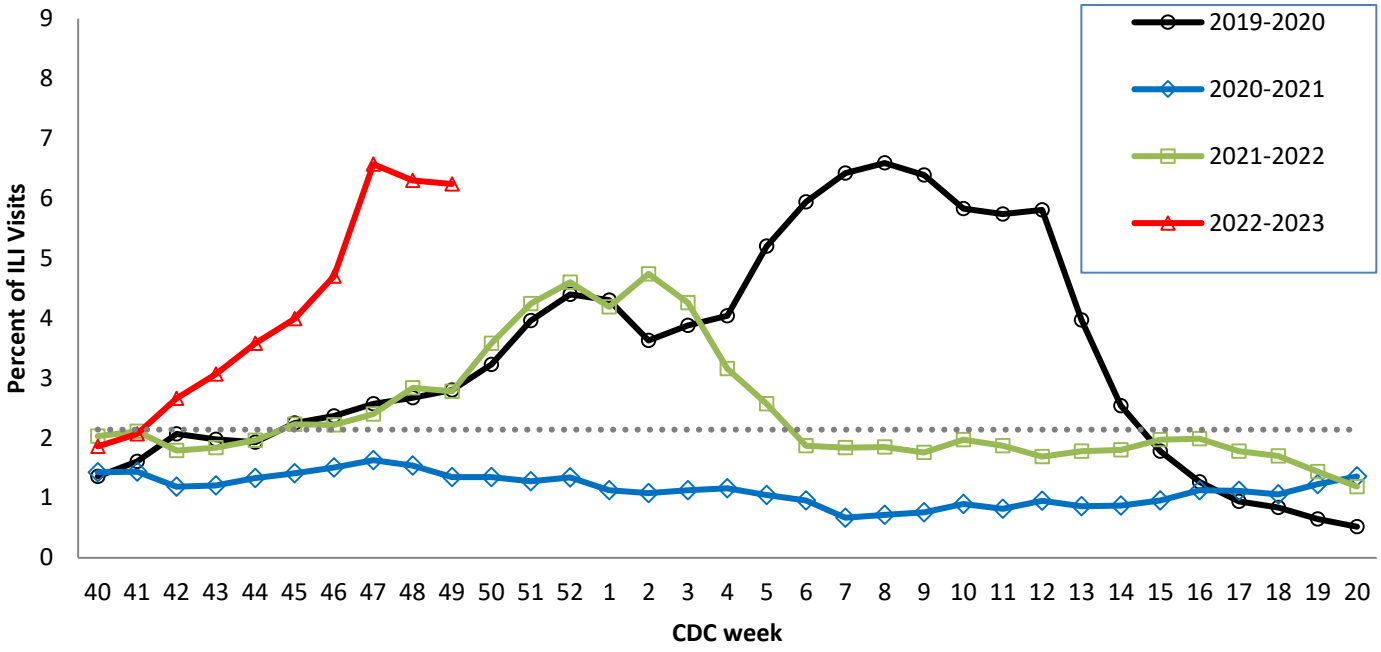
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2022-2023 season-to-date through the week ending December 10, 2022 (Week 49).Data Source: Missouri Health Information Surveillance System (WebSurv)

Figure 5. Season-to-Date PCR (+) Tests for Influenza in Missouri



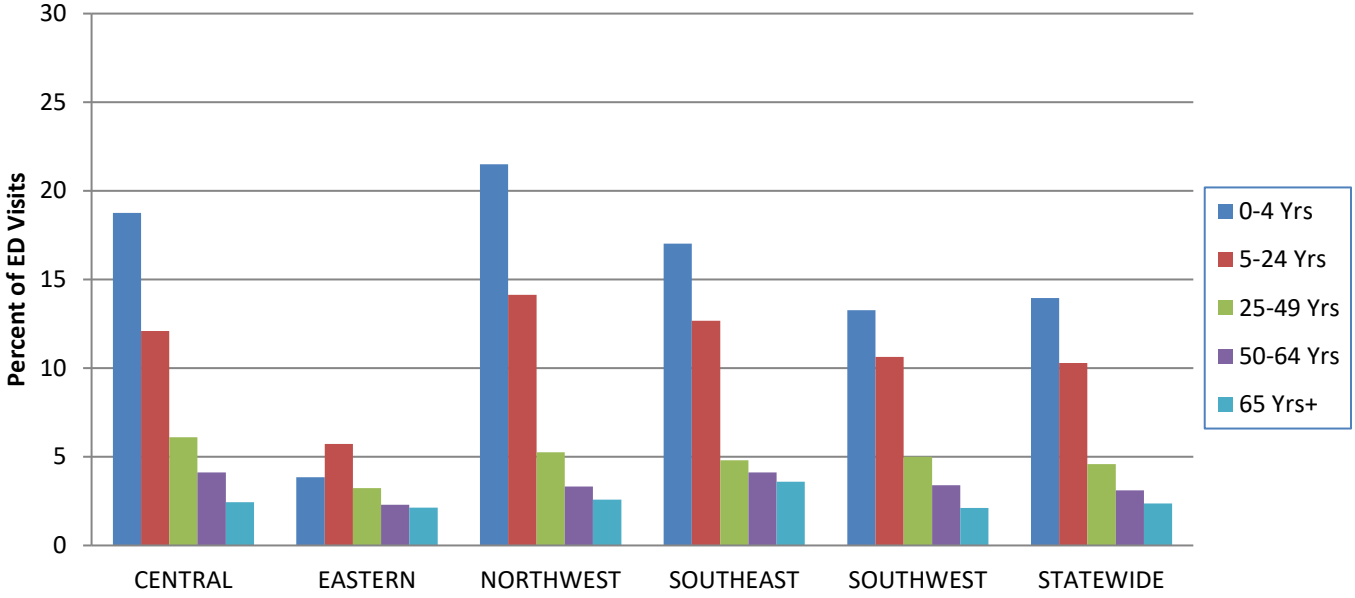
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC). 2022-2023 season-to-date through the week ending December 10, 2022 (Week 49).

Figure 6. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2019-2023 Influenza Seasons*‡



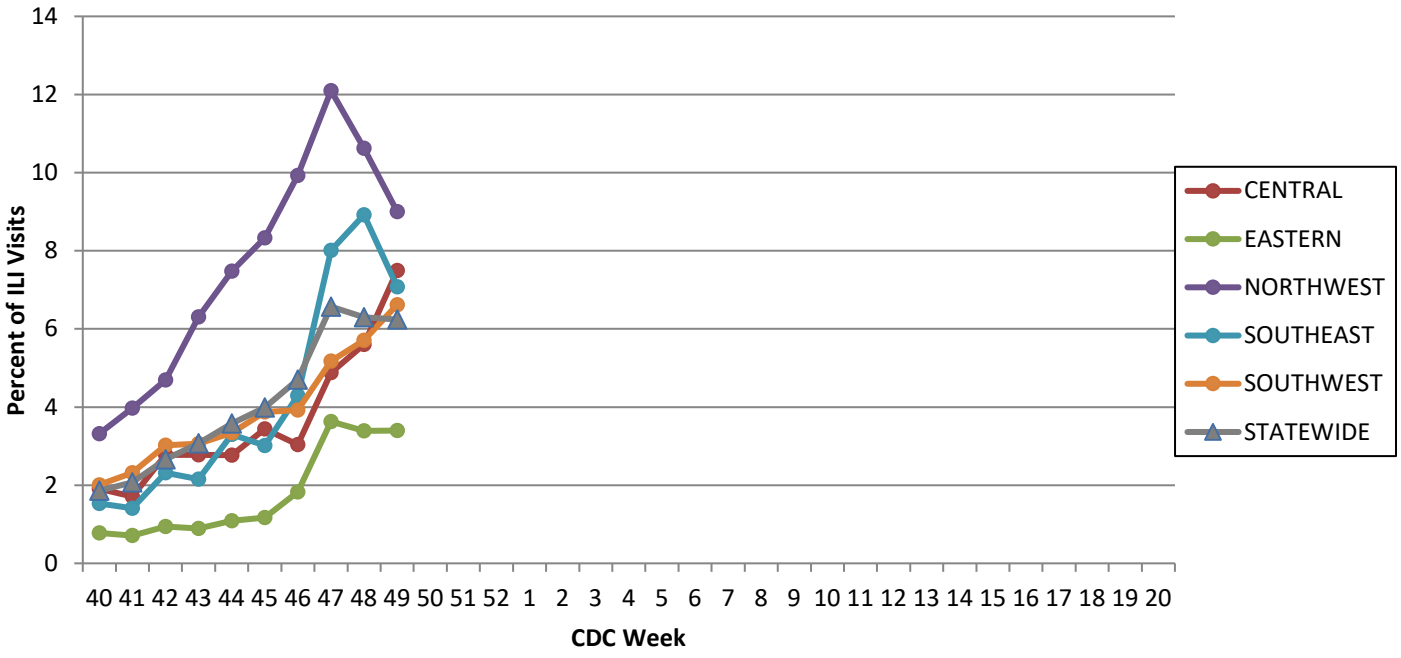
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three flu seasons when percentage of ILI visits were less than 2% of total visits, plus two standard deviations. Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease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

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 49, 2022*



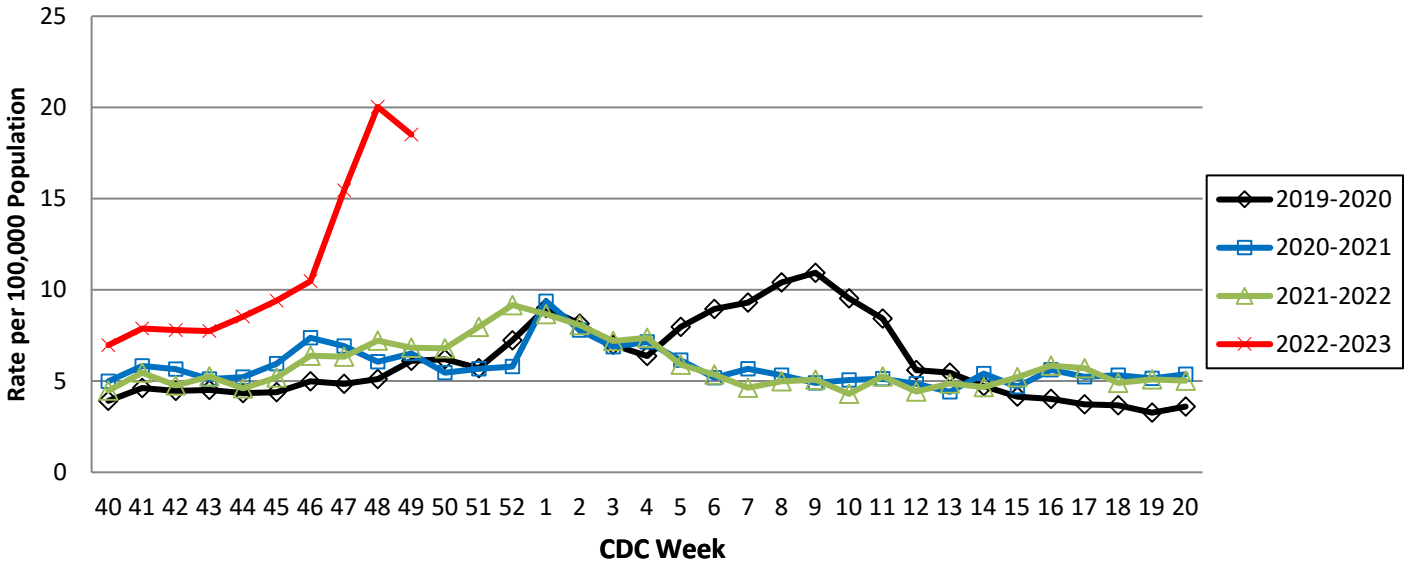
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest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

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2022-2023 Influenza Season*



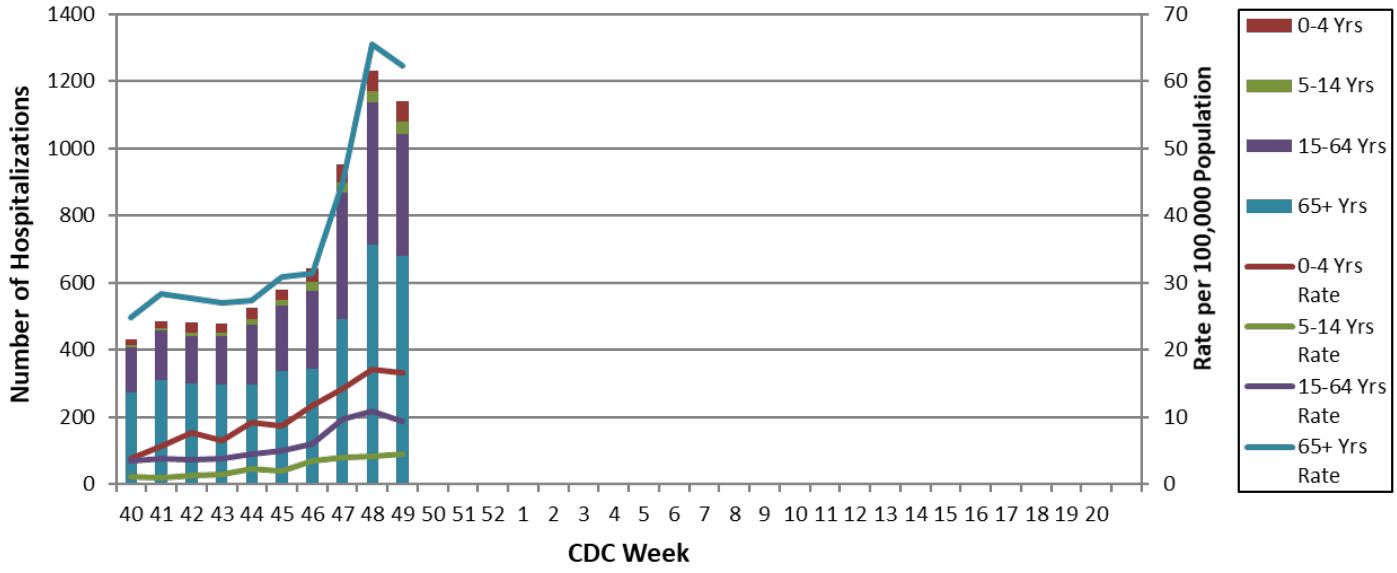
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest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

Figure 9. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2019-2023 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from Missouri Census Data Center 2017 (https://census.missouri.edu).

Figure 10. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals by Age Group, Week 49, 2022-2023 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/