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Respiratory Disease Surveillance Report Jefferson County, Missouri

Week 3: January 15, 2023 – January 21, 2023

OVERVIEW: The Jefferson County Health Department (JCHD) monitors influenza and other respiratory pathogens, including COVID-19, throughout Jefferson County, Missouri. The Jefferson County Health Department conducts influenza surveillance using passive surveillance and syndromic surveillance. Although influenza illness can occur year-round, the seasonal influenza reporting begins on the Morbidity and Mortality Weekly Report (MMWR¹) Week 40 of a given year and continues through MMWR Week 20 of the following calendar year. COVID-19 surveillance began in March 2020 and has continued year-round. COVID-19 data reflects cases that are entered into Missouri's communicable disease database. *All data and information are conditional and may change as more reports are received.*

¹ Data is reported in epidemiologic weeks established by the CDC's Morbidity and Mortality Weekly Report (MMWR). The MMWR week starts on a Sunday and ends on Saturday. Values for MMWR week range from 1 to 53, although most years consist of 52 weeks.

INFLUENZA SURVEILLANCE

Passive Surveillance

Table 1. Number of Laboratory-Positive² Influenza Cases by Week, Jefferson County, Missouri

CDC Reporting Week	Week Start Date	A	B	Unknown	Total
40	10/2/2022	3	6	0	9
41	10/9/2022	12	2	0	14
42	10/16/2022	15	1	0	16
43	10/23/2022	26	4	0	30
44	10/30/2022	63	8	0	71
45	11/6/2022	123	5	0	128
46	11/13/2022	222	8	0	230
47	11/20/2022	528	7	0	535
48	11/27/2022	626	16	0	642
49	12/4/2022	572	8	0	580
50	12/11/2022	519	13	0	532
51	12/18/2022	288	10	0	298
52	12/25/2022	185	14	0	199
1	1/1/2023	93	7	0	100
2	1/8/2023	27	3	0	30
3	1/15/2023	16	1	0	17

Table 2. Number of Laboratory-Positive Influenza Cases by Age Group, Jefferson County, Missouri
For Cases Reported 10/2/2022- 1/21/2023

Age Group	Type A	Type B	Unknown Type	Total	% TOTAL
00 to <02	130	4	0	134	3.9%
02 to 04	270	11	0	281	8.2%
05 to 14	1111	16	0	1127	32.8%
15 to 24	487	22	0	509	14.8%
25 to 49	712	32	0	744	21.7%
50 to 64	368	17	0	385	11.2%
65+	240	11	0	251	7.3%
TOTAL	3318	113	0	3431	100.0%

² 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.

Figure 1. Percentage of Influenza Cases by Type, Jefferson County, Missouri
For Cases Reported 10/2/2022- 1/21/2023

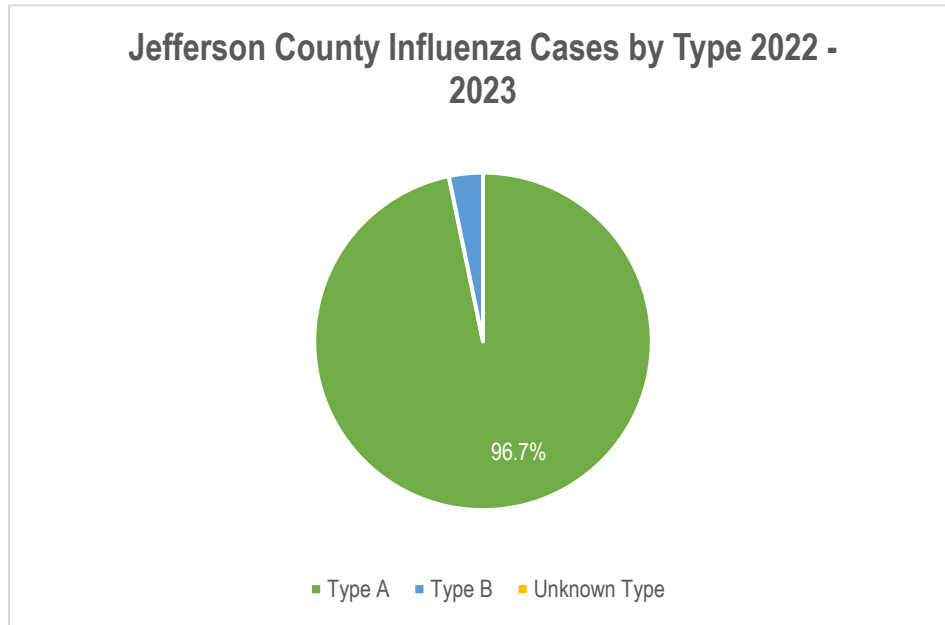
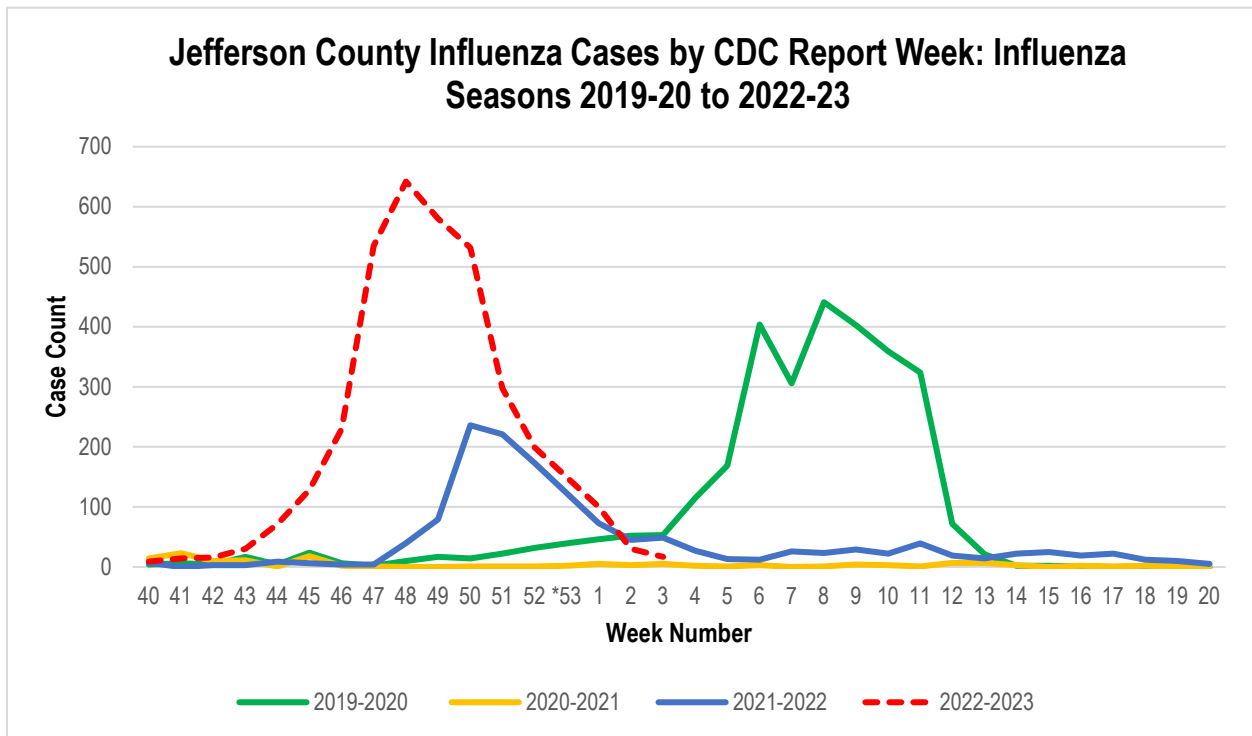


Figure 2. Number of Laboratory-Positive Influenza Cases by Week, Influenza Seasons 2019-20 to 2022-23, Jefferson County, Missouri

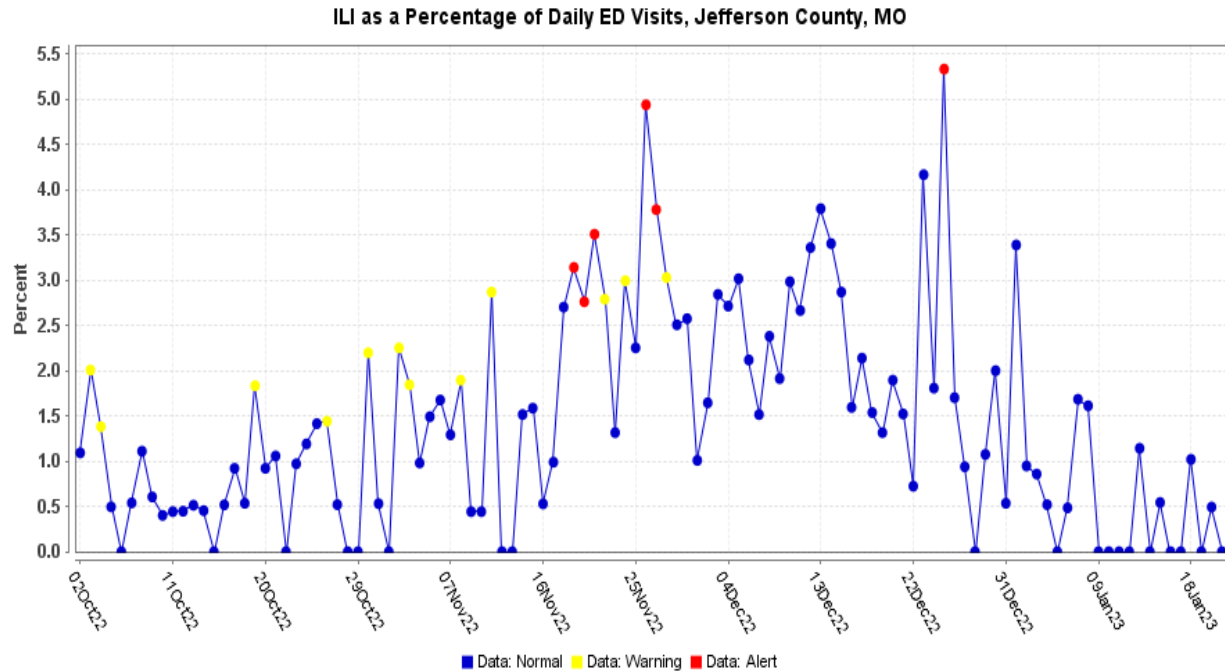


*There were 53 weeks in 2020. The estimates for the other three years' values for the weeks 53 are the averages of weeks 52 and weeks 1.

Syndromic Surveillance

As determined by ESSENCE, Influenza-Like-Illness (ILI³) accounted for 0.00% to 1.02% of daily visits to hospital emergency departments (EDs) for Jefferson County residents during Week 3. The number of visits to local hospital EDs for ILI ranged from zero to two per day during Week 3.

**Figure 3. Syndromic Surveillance for Influenza-Like-Illness (ILI)
Jefferson County, Missouri**



Jefferson County Influenza Outbreaks

No influenza outbreaks have been reported in Jefferson County as of Week 3.

Jefferson County Influenza Deaths⁴

Six influenza-associated deaths have been reported in Jefferson County as of Week 3.

³ ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

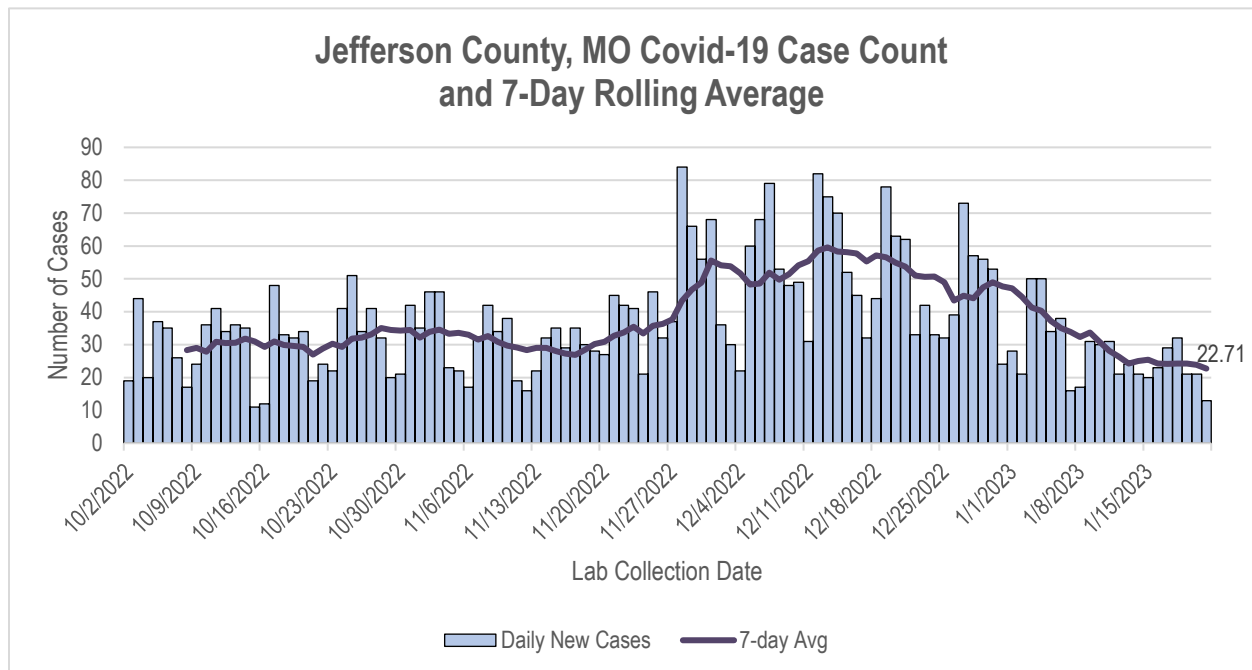
⁴ All influenza-associated deaths became reportable in Missouri in 2016.

COVID-19 SURVEILLANCE

Table 3. Number of Confirmed and Probable Covid-19 Cases by Week, Jefferson County, Missouri

CDC Reporting Week	Week Start Date	Covid-19 Cases	Cumulative Total
40	10/2/2022	198	198
41	10/9/2022	217	415
42	10/16/2022	202	617
43	10/23/2022	241	858
44	10/30/2022	235	1093
45	11/6/2022	198	1291
46	11/13/2022	211	1502
47	11/20/2022	254	1756
48	11/27/2022	377	2133
49	12/4/2022	379	2512
50	12/11/2022	387	2899
51	12/18/2022	355	3254
52	12/25/2022	334	3588
1	1/1/2023	237	3825
2	1/8/2023	175	4000
3	1/15/2023	159	4159

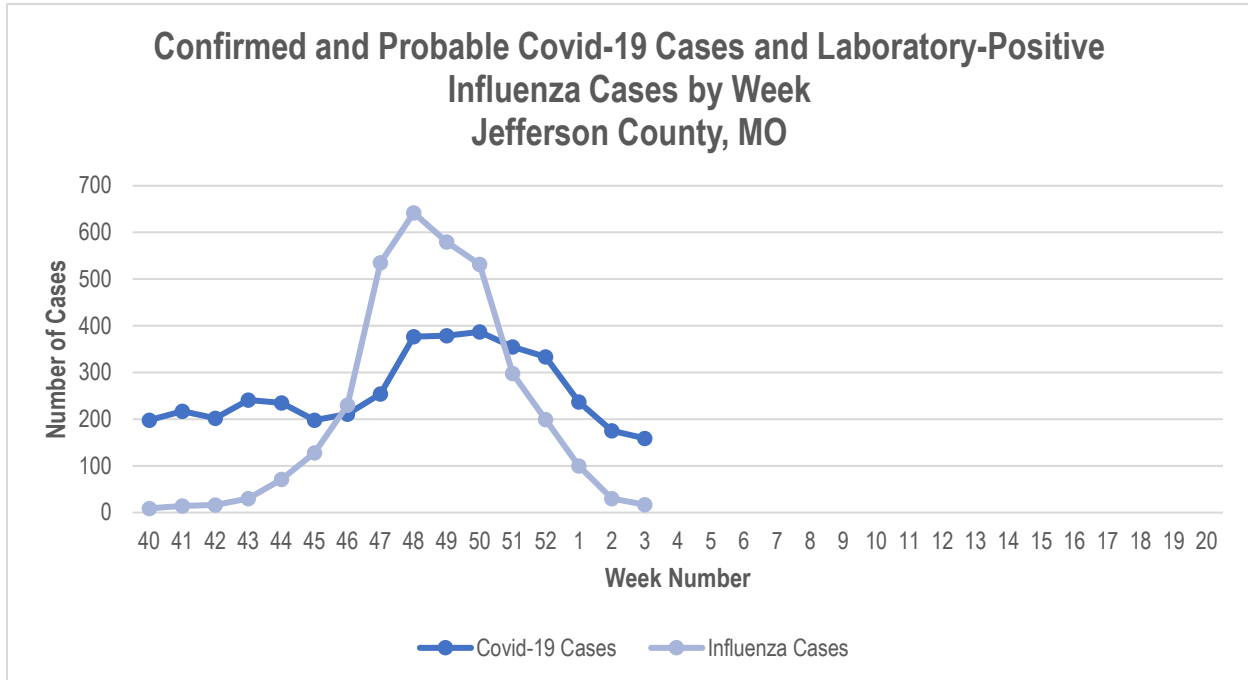
Figure 4. Confirmed and Probable Covid-19 Cases by Day and 7-Day Average, Jefferson County, Missouri
For Cases Reported 10/2/2022- 1/21/2023



Jefferson County COVID-19 Deaths

Thirty- three COVID-19 associated deaths have been reported in Jefferson County as of Week 3.

Figure 5. Simultaneous Circulation of Covid-19 and Influenza by Week, Jefferson County, Missouri



ADDITIONAL DATA SOURCES AND INFORMATION

Jefferson County Health Department's Covid-19 Data Dashboard

<https://www.jeffcohealth.org/covid19-data>

Centers for Disease Control and Prevention, National Influenza Surveillance:

<https://www.cdc.gov/flu/weekly/>

Missouri Department of Health and Senior Services, Statewide Influenza Surveillance:

<https://health.mo.gov/living/healthcondiseases/communicable/influenza/reports.php>

World Health Organization, International Influenza Surveillance:

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

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

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

Passive Surveillance

Influenza is a reportable condition in the state of Missouri. JCHD conducts passive influenza surveillance by collecting and aggregating data on all laboratory-positive influenza tests in Jefferson County residents. Passive surveillance provides information on the true burden of influenza illness in Jefferson County but is limited by variations in testing and reporting practices. If diagnostic tests are not conducted on patients presenting to health care providers with influenza-like-illness, or if test results (e.g., of rapid influenza tests) are not reported to JCHD, those persons will not be included in the passive surveillance data. Thus, passive surveillance is likely an underestimate of the true burden of influenza illness in Jefferson County. Passive surveillance helps the health department to keep track of the incidence of influenza cases in the community and facilitates early detection of potential outbreaks.

Syndromic Surveillance

JCHD uses the ESSENCE system to conduct syndromic surveillance for Influenza-Like-Illness (ILI) at Missouri hospital emergency departments (EDs). ESSENCE captures data on all ED visits in persons with chief complaints (rather than final diagnoses or positive laboratory tests) of ILI. ILI chief complaints are those which include the word "influenza" or those that the ESSENCE system parses to [fever and (cough or sore throat)]. The syndromic surveillance data presented above include all ED visits for ILI from those with a Jefferson County residential address. Data from private physicians, clinics, or urgent care centers are not included in ESSENCE. Syndromic surveillance contributes to our understanding of the burden of influenza experienced by the health care system, as well as demonstrating the relative impact over time of influenza with respect to other illnesses.