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Respiratory Disease Surveillance Report Jefferson County, Missouri

Week 16: April 16, 2023 – April 22, 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
4	1/22/2023	13	3	0	16
5	1/29/2023	5	6	0	11
6	2/5/2023	7	2	0	9
7	2/12/2023	7	6	0	13
8	2/19/2023	5	7	0	12
9	2/26/2023	6	2	0	8
10	3/5/2023	6	4	0	10
11	3/12/2023	4	5	0	9
12	3/19/2023	0	3	0	3
13	3/26/2023	2	5	0	7
14	4/2/2023	0	0	0	0
15	4/9/2023	1	2	0	3
16	4/16/2023	0	0	0	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.

Table 2. Number of Laboratory-Positive Influenza Cases by Age Group, Jefferson County, Missouri
For Cases Reported 10/2/2022- 4/22/2023

Age Group	Type A	Type B	Unknown Type	Total	% TOTAL
00 to <02	131	6	0	137	3.9%
02 to 04	277	13	0	290	8.2%
05 to 14	1122	23	0	1145	32.4%
15 to 24	493	29	0	522	14.8%
25 to 49	729	48	0	777	22.0%
50 to 64	377	25	0	402	11.4%
65+	245	14	0	259	7.3%
TOTAL	3374	158	0	3532	100.0%

Figure 1. Percentage of Influenza Cases by Type, Jefferson County, Missouri
For Cases Reported 10/2/2022- 4/22/2023

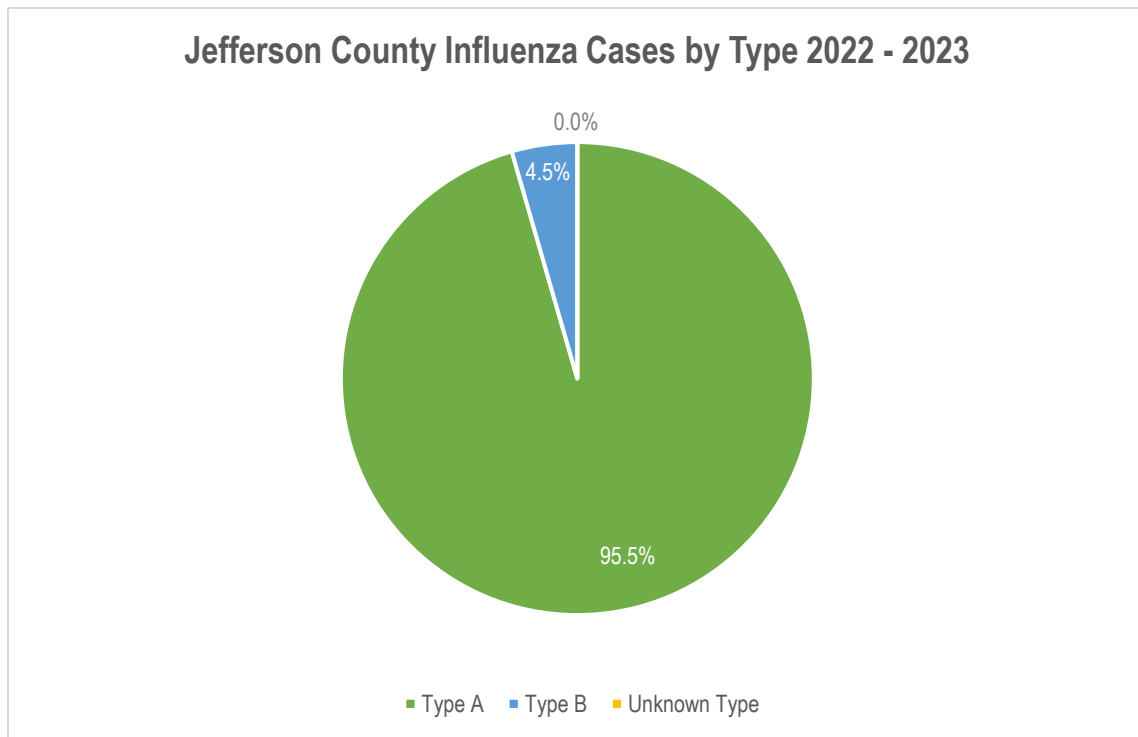
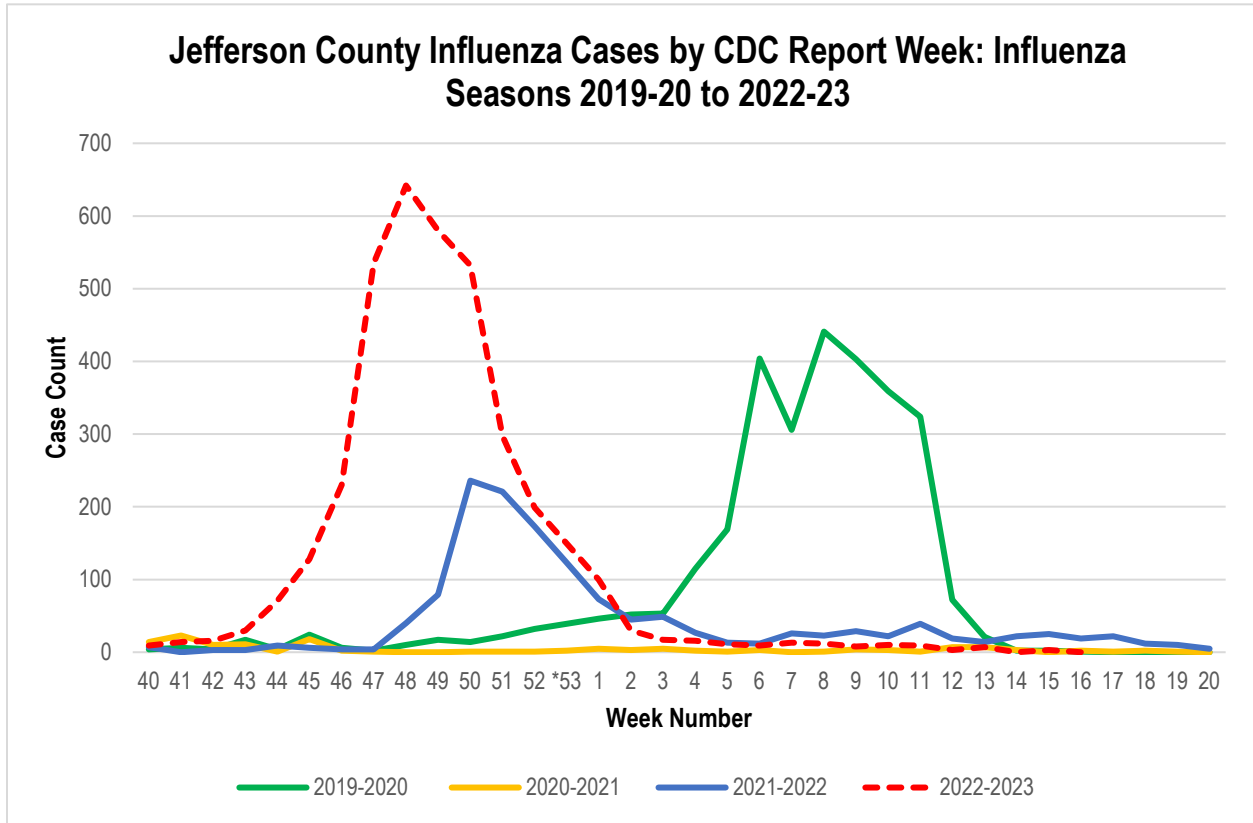


Figure 2. Number of Laboratory-Positive Influenza Cases by Week, Influenza Seasons 2019-20 to 2022-23, Jefferson County, Missouri

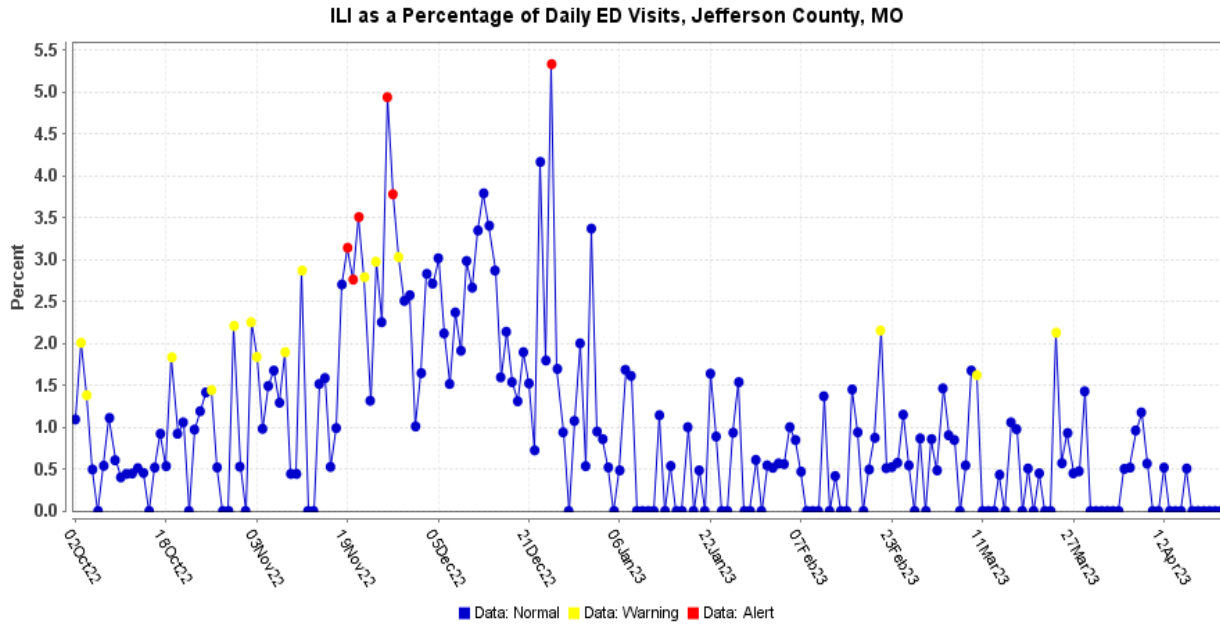


*There were 53 weeks in 2020. The estimates for the other three years' values for the weeks 53 are the averages of weeks 52 and weeks 1.

Syndromic Surveillance

As determined by ESSENCE, Influenza-Like-Illness (ILI³) accounted for 0.00% to 0.51% of daily visits to hospital emergency departments (EDs) for Jefferson County residents during Week 16. The number of visits to local hospital EDs for ILI ranged from zero to one per day during Week 16.

**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 16.

Jefferson County Influenza Deaths⁴

Six influenza-associated deaths have been reported in Jefferson County as of Week 16.

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

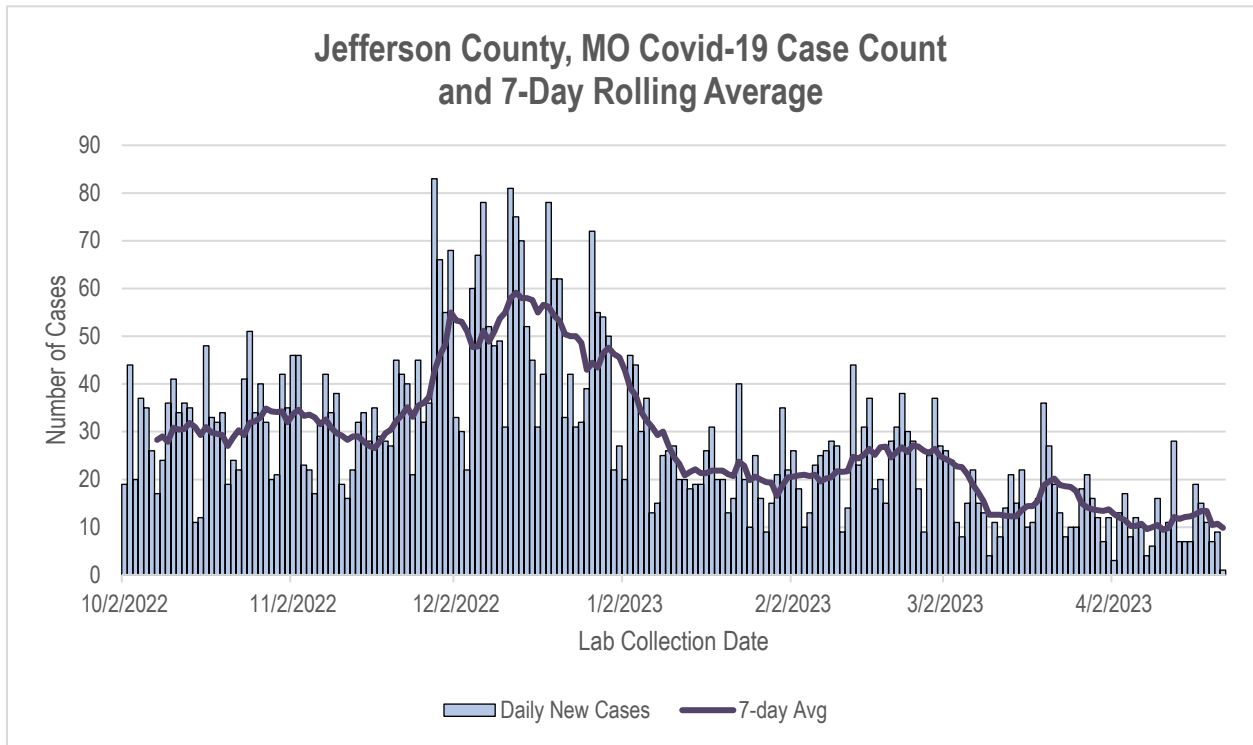
⁴ All influenza-associated deaths became reportable in Missouri in 2016.

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	240	857
44	10/30/2022	235	1092
45	11/6/2022	198	1290
46	11/13/2022	208	1498
47	11/20/2022	252	1750
48	11/27/2022	371	2121
49	12/4/2022	376	2497
50	12/11/2022	385	2882
51	12/18/2022	350	3232
52	12/25/2022	324	3556
1	1/1/2023	217	3773
2	1/8/2023	151	3924
3	1/15/2023	148	4072
4	1/22/2023	136	4208
5	1/29/2023	147	4355
6	2/5/2023	151	4506
7	2/12/2023	187	4693
8	2/19/2023	188	4881
9	2/26/2023	159	5040
10	3/5/2023	88	5128
11	3/12/2023	101	5229
12	3/19/2023	129	5358
13	3/26/2023	96	5454
14	4/2/2023	67	5521
15	4/9/2023	85	5606
16	4/16/2023	69	5675

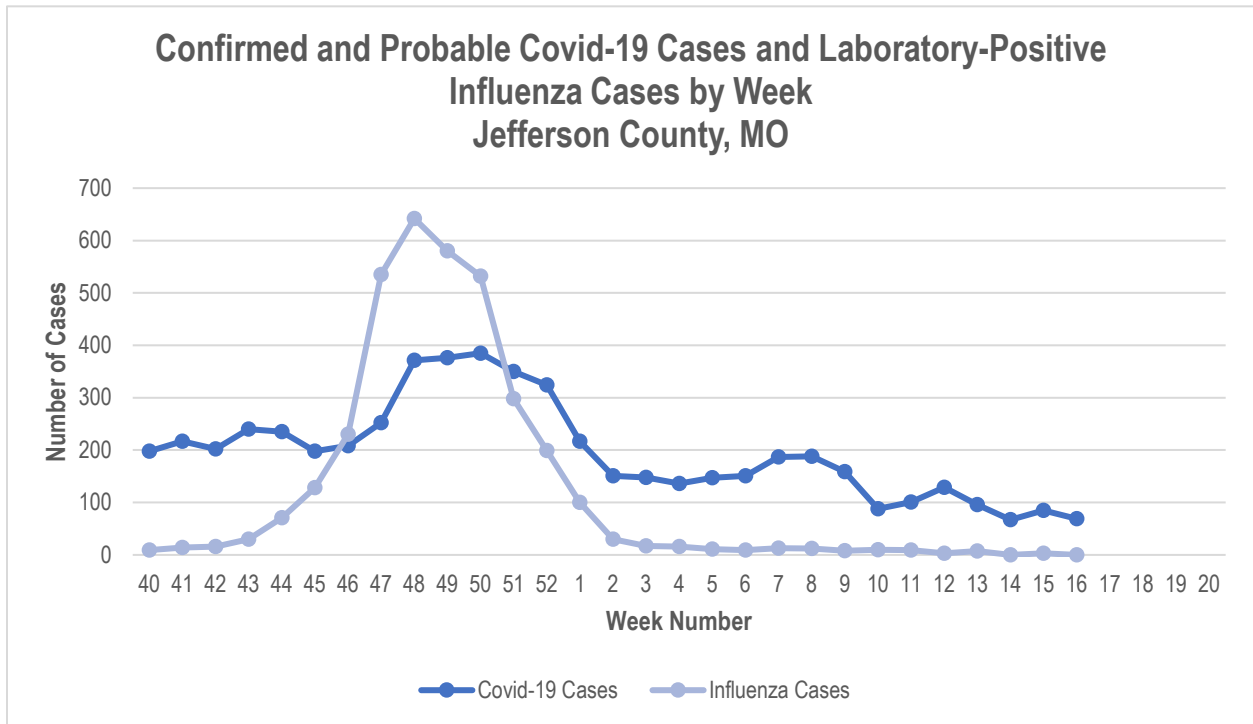
Figure 4. Confirmed and Probable Covid-19 Cases by Day and 7-Day Average, Jefferson County, Missouri
 For Cases Reported 10/2/2022- 4/22/2023



Jefferson County COVID-19 Deaths

Fifty- One COVID-19 associated deaths have been reported in Jefferson County as of Week 16.

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.