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Respiratory Disease Surveillance Report Jefferson County, Missouri

Week 13: March 26, 2023 – April 1, 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	4	0	6

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- 4/1/2023

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	22	0	1144	32.4%
15 to 24	493	29	0	522	14.8%
25 to 49	729	47	0	776	22.0%
50 to 64	377	24	0	401	11.4%
65+	244	14	0	258	7.3%
TOTAL	3373	155	0	3528	100.0%

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

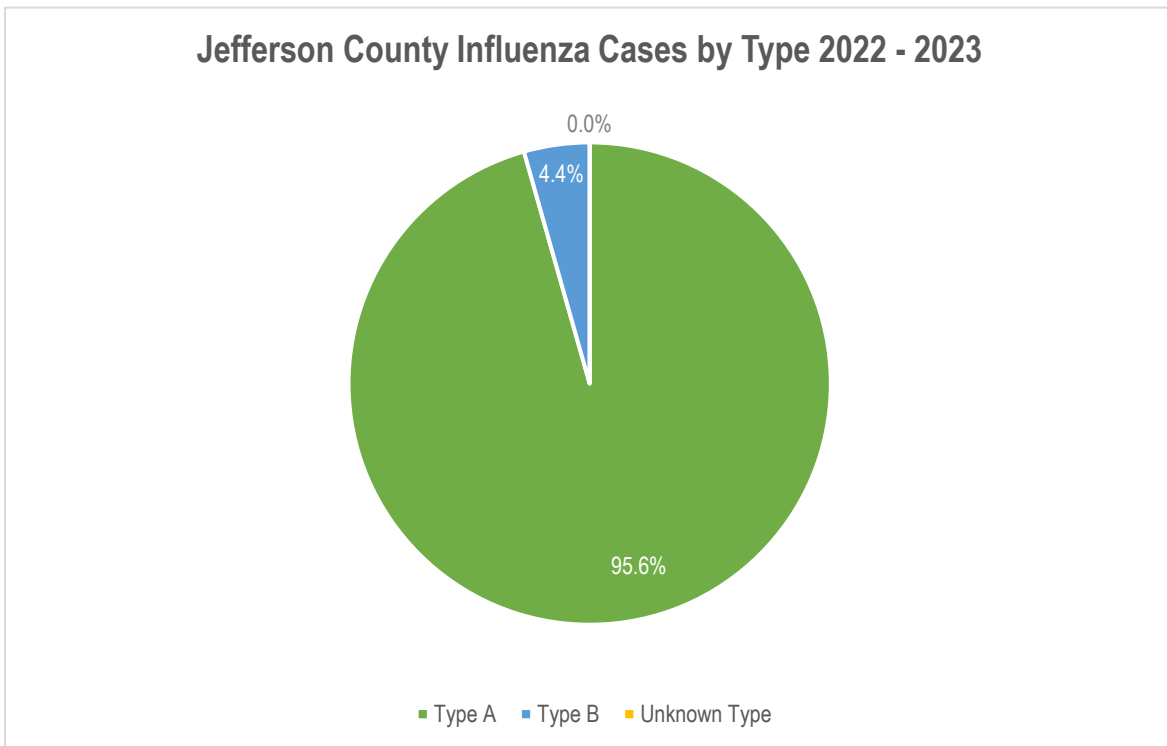
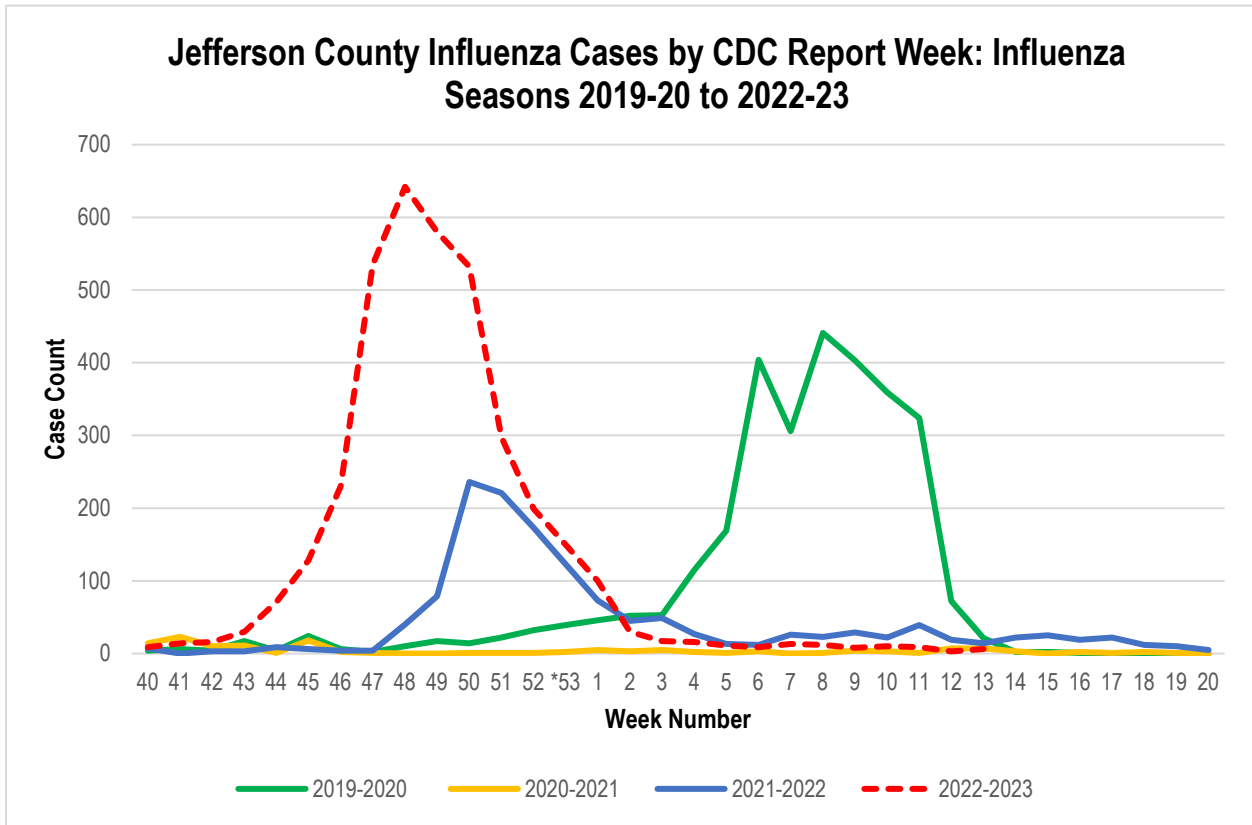


Figure 2. Number of Laboratory-Positive Influenza Cases by Week, Influenza Seasons 2019-20 to 2022-23, Jefferson County, Missouri

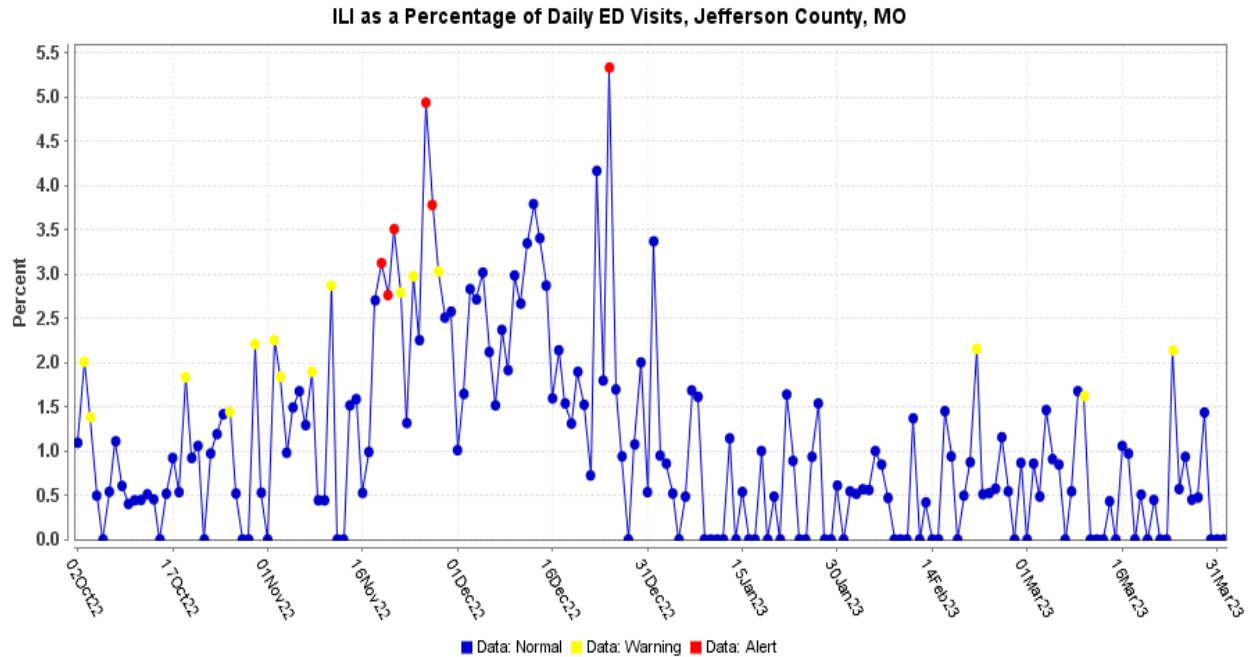


*There were 53 weeks in 2020. The estimates for the other three years' values for the weeks 53 are the averages of weeks 52 and weeks 1.

Syndromic Surveillance

As determined by ESSENCE, Influenza-Like-Illness (ILI³) accounted for 0.00% to 1.44% of daily visits to hospital emergency departments (EDs) for Jefferson County residents during Week 13. The number of visits to local hospital EDs for ILI ranged from zero to three per day during Week 13.

**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 13.

Jefferson County Influenza Deaths⁴

Six influenza-associated deaths have been reported in Jefferson County as of Week 13.

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

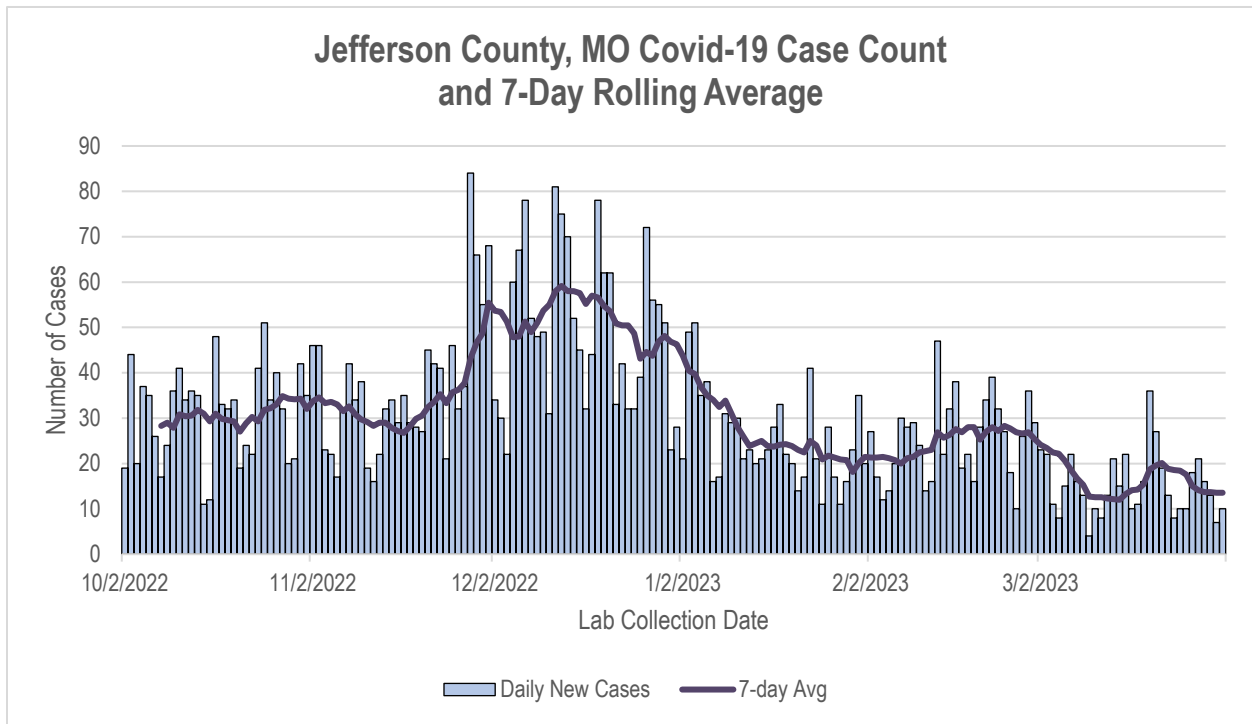
⁴ All influenza-associated deaths became reportable in Missouri in 2016.

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	209	1499
47	11/20/2022	254	1753
48	11/27/2022	374	2127
49	12/4/2022	376	2503
50	12/11/2022	386	2889
51	12/18/2022	353	3242
52	12/25/2022	328	3570
1	1/1/2023	238	3808
2	1/8/2023	171	3979
3	1/15/2023	161	4140
4	1/22/2023	146	4286
5	1/29/2023	150	4436
6	2/5/2023	159	4595
7	2/12/2023	196	4791
8	2/19/2023	194	4985
9	2/26/2023	157	5142
10	3/5/2023	88	5230
11	3/12/2023	100	5330
12	3/19/2023	129	5459
13	3/26/2023	95	5554

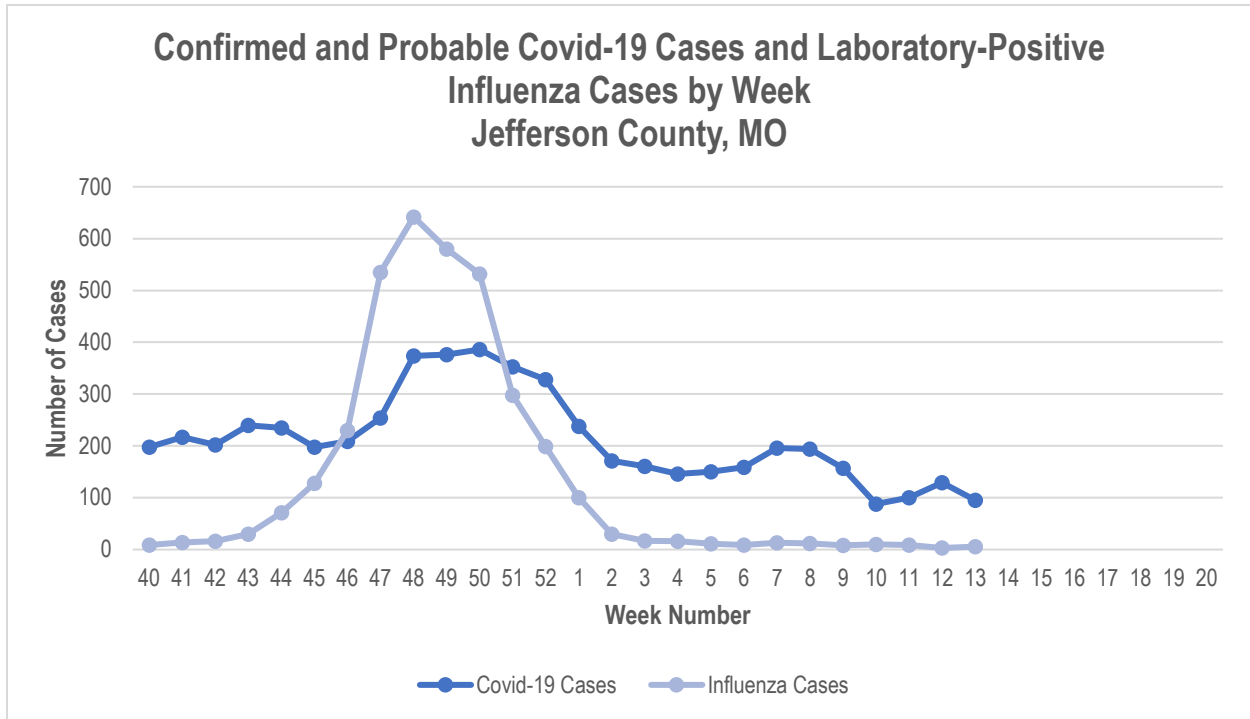
Figure 4. Confirmed and Probable Covid-19 Cases by Day and 7-Day Average, Jefferson County, Missouri
 For Cases Reported 10/2/2022- 4/1/2023



Jefferson County COVID-19 Deaths

Forty-eight COVID-19 associated deaths have been reported in Jefferson County as of Week 13.

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.