Monthly Communicable Disease Surveillance Report

July 2022

Sara Cannon, MPH, Epidemiologist

HAMILTON COUNTY PUBLIC HEALTH
PREVENT. PROMOTE. PROTECT.

NOTIFIABLE COMMUNICABLE DISEASES

Hamilton County Public Health (HCPH) Jurisdiction

Number of Communicable Diseases Reported: 75

Most frequently reported communicable diseases:

- Chronic hepatitis C (n=27)
- Campylobacteriosis (n=8)
- Lyme Disease (n=5)
- C. auris- Investigation (n=3)
- Meningitis (aseptic/viral) (n=3)
- Salmonellosis (n=3)

Southwest Ohio (SWOH)

Number of Communicable Diseases Reported: 375

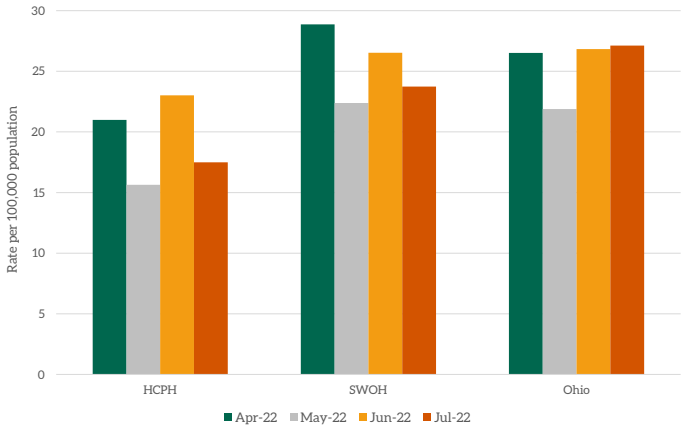
Most frequently reported communicable diseases:

- Chronic hepatitis C (n=135)
- Chronic hepatitis B (n=40)
- Lyme Disease (n=29)
- Campylobacteriosis (n=28)
- Salmonellosis (n=22)

Summary

The overall rates of reported communicable diseases for HCPH and SWOH decreased In July by 24% and 10% respectively, while the Ohio rate increased by 1%. (Figure 1). The Ohio rate (27.1) was the highest of the three rates, followed by the SWOH rate (23.7) and the HCPH rate (17.5) (Table 1). These rates are pro-rated to 30 days so they can be compared accurately.

Figure 1. 30-Day Rates of Reported Communicable Diseases in Ohio, Southwest Ohio, and Hamilton County Public Health Jurisdiction, April 2022 - July 2022



Chronic hepatitis C was the most commonly reported communicable disease across SWOH, with chronic hepatitis B and Lyme Disease 2nd and 3rd respectively (Table 2). Chronic hepatitis (Hepatitis C and Hepatitis B combined) comprised 46.9% of the total communicable diseases reported during July. Southwest Ohio is currently on pace to have a 7.9% decrease in hepatitis cases over the previous year's average number of cases (212). The rate of chronic hepatitis within Hamilton County for July was 7.7 per 100,000 residents. This rate was 23% lower than the SWOH rate of 10.1 per 100,000 residents.

Lyme Disease was the third most frequently reported disease in SWOH (Table 2). Lyme Disease cases accounted for 7.7% of the total communicable diseases reported during July. The number of cases of Lyme Disease reported for SWOH in July (29) was lower than the number of cases in the previous month (45). The rate of Lyme Disease within Hamilton County for July was 0.7 per 100,000 residents. This rate was 55% lower than the SWOH rate of 1.7 per 100,000 residents.

Table 1. Comparison of the Reported Cases of Notifiable Communicable Diseases by Location, July 2022

Location	Number of Reported Cases	Rate per 100,000	Rate Ratio†	Confidence Interval (99%)‡
HCPH	75	15.75	0.65	0.48 - 0.87
SWOH	375	21.37	0.88	0.76 - 1.01
Ohio	2,825	24.40	.	. - .

Campylobacteriosis was the fourth most frequently reported disease in SWOH (Table 2). Campylobacteriosis cases accounted for 7.5% of the total communicable diseases reported during July. The number of cases of Campylobacteriosis reported for SWOH in July (28) was consistent with the number of cases reported in the previous month (29). The rate of Campylobacteriosis within Hamilton County for July was 1.4 per 100,000 residents. This rate was 15% lower than the SWOH rate of 1.6 per 100,000 residents.

NOTES: Data are provisional and are subject to change as data becomes finalized. Suspected, probable and confirmed cases are included in counts except for arboviral encephalitis and Zika virus diseases, of which only probable and confirmed cases are reported. Novel Influenza A cases are only confirmed cases. COVID-19, chlamydia and gonorrhea are not reported within this report. The completeness of reporting varies by region and can impact the incidences of reported diseases. This report reflects the time period of July 1-27, 2022. Data was accessed from the Ohio Disease Reporting System on 7/28/2022.

†Ratio of local rate to the Ohio rate.

‡Confidence intervals that do not contain the value of one are considered statistically significant.

Table 2. Cases of Notifiable Diseases in Southwest Ohio as Reported in ODRS by County, July 2022

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
C. auris	3	.	.	.	.	.	.	.	**3**
C. auris - Investigation	9	.	.	.	2	.	.	.	**11**
CP-CRE	1	.	.	.	1	.	.	.	**2**
Campylobacteriosis	11	.	3	6	2	1	.	5	**28**
Cryptosporidiosis	.	.	.	.	.	.	.	2	**2**
E.Coli (shiga toxin producing)	3	.	.	2	.	.	.	2	**7**
Ehrlichiosis/Anaplasmosis	.	1	.	.	.	.	.	.	**1**
Giardiasis	2	.	.	.	1	.	.	2	**5**
Haemophilus influenzae (invasive)	.	.	.	.	1	.	.	.	**1**
Hepatitis A	2	1	.	.	1	1	2	.	**7**
Hepatitis B (acute)	1	.	.	1	.	2	1	.	**5**
Hepatitis B (chronic)	6	3	.	15	3	.	4	9	**40**
Hepatitis C (acute)	1	.	.	.	.	.	.	.	**1**
Hepatitis C (chronic)	56	5	4	33	16	4	4	13	**135**
Influenza-associated hospitalization	1	.	1	.	.	.	.	.	**2**
Legionellosis	2	.	.	1	.	.	.	.	**3**
Lyme Disease	6	7	3	.	7	.	4	2	**29**
MIS-C associated with COVID-19	.	1	.	2	.	.	.	.	**3**
Malaria	1	.	.	.	.	.	.	.	**1**
Meningitis (aseptic/viral)	4	.	1	1	.	1	1	3	**11**
Meningitis (bacterial)	2	.	.	1	.	.	.	.	**3**
Monkeypox	5	.	.	.	.	.	.	.	**5**
Pertussis	.	.	.	.	.	.	1	.	**1**
Rubella (not congenital)	.	.	.	.	1	.	.	.	**1**
Salmonellosis	7	.	1	6	3	.	1	4	**22**
Shigellosis	2	.	.	.	.	.	.	2	**4**
Spotted Fever Rickettsiosis	2	2	.	.	.	.	.	1	**5**
Streptococcal pneumoniae (invasive)	3	.	.	1	.	.	1	.	**5**
Streptococcal, Group A (invasive)	2	.	.	1	.	.	.	3	**6**
Streptococcal, Group B (in newborn)	.	.	.	.	1	1	.	.	**2**

Table 2. Cases of Notifiable Diseases in Southwest Ohio as Reported in ODRS by County, July 2022, Continued

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
Syphilis	6	.	.	4	1	.	.	.	**11**
Tuberculosis	3	.	1	2	.	1	.	.	**7**
Varicella	.	.	.	.	.	.	1	.	**1**
Vibriosis	.	.	.	.	.	.	.	2	**2**
Yersiniosis	2	.	.	.	.	.	.	1	**3**
Total	**143**	**20**	**14**	**76**	**40**	**11**	**20**	**51**	**375**

Table 3. YTD Cases of Notifiable Diseases in Southwest Ohio as Reported in ODRS by County, July 2022

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
Amebiasis	2	0	0	1	0	0	0	2	**5**
Babesiosis	1	0	0	0	0	0	0	0	**1**
Botulism (Infant)	2	0	0	0	0	0	0	0	**2**
C. auris	26	0	1	0	1	0	1	0	**29**
C. auris - Investigation	47	0	0	0	2	0	0	0	**49**
CP-CRE	20	0	4	7	4	2	5	5	**47**
Campylobacteriosis	62	2	9	28	14	6	1	20	**142**
Chikungunya virus	0	0	0	1	0	0	0	0	**1**
Coccidioidomycosis	3	0	2	2	1	0	0	1	**9**
Creutzfeldt-Jakob Disease	3	0	0	0	0	0	0	0	**3**
Cryptosporidiosis	2	1	0	3	1	1	0	3	**11**
Dengue	1	0	0	1	0	0	0	0	**2**
E.Coli (shiga toxin producing)	14	1	0	10	4	0	0	7	**36**
Ehrlichiosis/Anaplasmosis	0	1	0	0	0	0	0	2	**3**
Giardiasis	17	0	0	6	3	0	1	7	**34**
Haemophilus influenzae (invasive)	12	0	0	5	2	0	0	2	**21**
Hemolytic uremic syndrome (HUS)	0	0	0	0	0	0	0	1	**1**
Hepatitis A	14	3	2	3	2	4	4	11	**43**
Hepatitis B (acute)	7	0	1	1	3	8	1	1	**22**
Hepatitis B (chronic)	130	18	13	94	17	8	21	50	**351**
Hepatitis C (acute)	3	0	0	0	0	0	0	1	**4**
Hepatitis C (chronic)	430	24	47	264	101	25	34	139	**1064**
Hepatitis C - Perinatal Infection	0	0	0	0	1	0	0	0	**1**
Hepatitis E	0	0	0	1	0	0	0	0	**1**
Influenza-associated hospitalization	99	1	11	53	37	5	17	33	**256**
Legionellosis	10	0	1	11	3	1	0	7	**33**
Lyme Disease	30	11	6	4	26	1	12	12	**102**
MIS-C associated with COVID-19	8	1	0	6	0	0	0	2	**17**
Malaria	1	0	0	1	0	0	0	0	**2**

Table 3. YTD Cases of Notifiable Diseases in Southwest Ohio as Reported in ODRS by County, July 2022, Continued

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
Meningitis (aseptic/viral)	17	0	1	4	4	1	3	8	**38**
Meningitis (bacterial)	6	0	1	7	1	2	0	4	**21**
Meningococcal disease	1	0	0	0	0	0	0	0	**1**
Monkeypox	5	0	0	0	0	0	0	0	**5**
Mumps	0	1	0	0	0	0	0	1	**2**
Pertussis	8	0	1	5	2	0	1	1	**18**
Q fever (acute)	0	0	0	0	0	0	0	1	**1**
Q fever (chronic)	1	0	0	0	0	0	0	0	**1**
Rubella (not congenital)	0	0	0	0	1	0	0	0	**1**
Salmonella Typhi	0	0	0	0	1	0	0	0	**1**
Salmonellosis	34	4	2	20	15	3	5	14	**97**
Shigellosis	16	0	0	4	0	0	0	2	**22**
Spotted Fever Rickettsiosis	6	4	3	1	4	2	3	2	**25**
St. Louis encephalitis virus disease	0	0	0	1	0	0	0	0	**1**
Streptococcal pneumoniae (invasive)	46	0	1	24	8	4	6	9	**98**
Streptococcal, Group A (invasive)	34	0	1	22	11	1	2	9	**80**
Streptococcal, Group B (in newborn)	4	0	0	0	1	1	0	0	**6**
Syphilis	106	0	1	18	5	2	1	3	**136**
Tuberculosis	16	0	2	5	2	2	0	3	**30**
Varicella	18	0	0	5	0	0	2	6	**31**
Vibriosis	0	0	0	1	0	0	0	2	**3**
West Nile virus infection (WNV)	0	0	0	1	0	0	0	0	**1**
Yersiniosis	4	0	0	1	0	0	0	2	**7**
Total	**1266**	**72**	**110**	**621**	**277**	**79**	**120**	**373**	**2918**

Table 4. YTD Cases of Notifiable Diseases in Hamilton County, July 2022

Reportable Disease	July 2021	YTD 2021	July 2022	YTD 2022
Amebiasis	1	1	0	2
Babesiosis	0	0	0	1
Botulism (Infant)	0	0	0	2
C. auris	2	2	3	26
C. auris - Investigation	0	0	9	47
CP-CRE	3	14	1	10
Campylobacteriosis	18	39	11	62
Coccidioidomycosis	1	5	0	3
Creutzfeldt-Jakob Disease	0	3	0	3
Cryptosporidiosis	1	3	0	2
Cyclosporiasis	2	3	0	0
E.Coli (shiga toxin producing)	6	16	3	14
Ehrlichiosis/Anaplasmosis	1	2	0	0
Giardiasis	4	37	2	17
Haemophilus influenzae (invasive)	2	8	0	12
Hantavirus	1	1	0	0
Hepatitis A	4	29	2	14
Hepatitis B (acute)	1	3	1	7
Hepatitis B (chronic)	26	175	6	130
Hepatitis C (acute)	0	6	1	3
Hepatitis C (chronic)	74	561	56	430
Hepatitis C - Perinatal Infection	0	4	0	0
Influenza-associated hospitalization	1	7	1	99
Legionellosis	4	15	2	10
Listeriosis	0	3	0	0

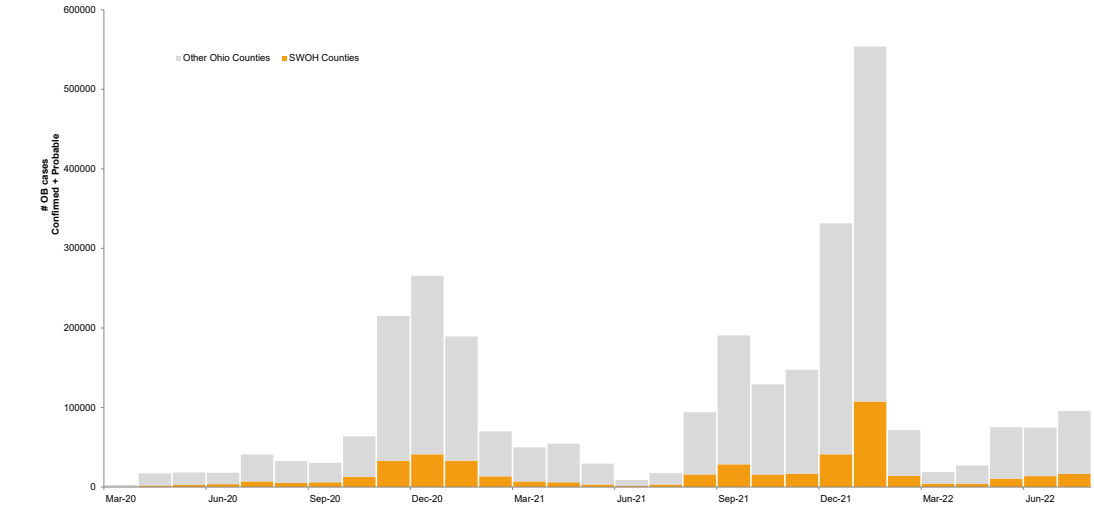
Reportable Disease	July 2021	YTD 2021	July 2022	YTD 2022
Lyme Disease	7	29	6	30
MIS-C associated with COVID-19	0	21	0	8
Malaria	0	5	1	1
Meningitis (aseptic/viral)	3	23	4	17
Meningitis (bacterial)	3	12	2	6
Meningococcal disease	0	1	0	1
Monkeypox	0	0	5	5
Mumps	0	1	0	0
Pertussis	1	2	0	8
Psittacosis	0	1	0	0
Q fever (acute)	0	1	0	0
Q fever (chronic)	0	0	0	1
Salmonellosis	6	29	7	34
Shigellosis	4	11	2	16
Spotted Fever Rickettsiosis	1	8	2	6
Staphylococcal aureus (VISA)	0	1	0	0
Streptococcal pneumoniae (invasive)	2	27	3	46
Streptococcal, Group A (invasive)	1	25	2	34
Streptococcal, Group B (in newborn)	0	1	0	4
Syphilis	33	173	6	106
Tuberculosis	2	26	3	16
Varicella	2	15	0	18
Vibriosis	0	3	0	0
Yersiniosis	1	2	2	4

SARS-CoV-2 (COVID-19) Outbreak

Chinese Health Officials identified the novel coronavirus, now known as SARS-CoV-2 or COVID-19, in December, 2019. Due to rapid global spread of disease, the World Health Organization declared COVID-19 a pandemic March 11, 2020. The United States identified its first case of COVID-19 January 21, 2020 and declared COVID-19 a national emergency March 13, 2020. Outbreak confirmed and probable cases increased rapidly between March and April, 2020. After remaining steady through May and June, 2020, Ohio experienced a spike in confirmed and probable cases in July, 2020. After a decrease in cases through August and September, 2020, Ohio experienced a significant spike in November and December, 2020. Cases began to decrease in January, 2021 and continued to decline through June, 2021, with the exception of a slight increase in cases in April, 2021. From July through September 2021 Ohio experienced an increase in confirmed and probable cases. After a decline in October 2021, Ohio experienced a rapid increase from November, 2021 through January, 2022. In April and May, 2022 Ohio experienced increasing cases. The Southwest Ohio (SWOH) counties recognize the same pattern of confirmed and probable cases as Ohio through July 2022. As of July 27, 2022, cases in Ohio and SWOH are increasing. The SWOH counties account for 468,627 confirmed and probable cases (Figure 2).

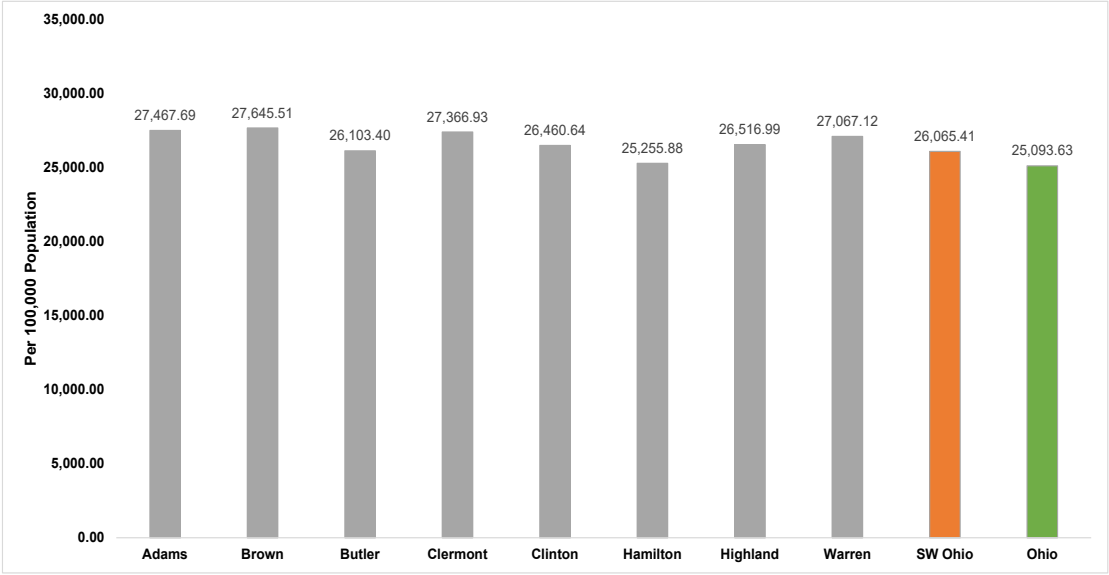
Overall, the SWOH rate is higher than the Ohio rate (Figure 3). The SWOH region accounts for 16.0 percent of Ohio cases. Brown County has the highest rate of the 8 SWOH counties, followed by Adams County and Clermont County. Currently all eight counties in the SWOH region have rates that are higher than the Ohio rate.

Figure 2. Number of Confirmed and Probable Cases of COVID-19 in Ohio and Southwest Ohio Counties, March 9, 2020 - July 27, 2022



	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22
Other Ohio Counties	2436	15398	15665	14229	33979	27272	24574	51058	182090	224479	156091	56647	42894	48437	26160	7517	14282	78252	161990	113424	130773	290394	446398	57534	14477	23222	64661	61061	79199
SWOH Counties	265	1802	2559	3690	6952	5308	5909	12692	32974	41166	33089	13452	7007	6004	3235	1211	3114	15800	28550	15662	16737	41218	107391	14144	4259	3838	10461	13667	16471

Figure 3. Rate of Confirmed and Probable Cases of COVID-19 in Ohio and Southwest Ohio Counties, March 9, 2020 - July 27, 2022



NOTES: This data is provisional and subject to change when additional information is gained. Outbreak confirmed positive cases between March 9, 2020 and July 27, 2022 were used for analysis. Cases were selected based on address at diagnosis. Confirmed and probable cases determined by date reported to local health department.
Source: Ohio Department of Health, Ohio Disease Reporting System. Data reported as of July 28, 2022. Outbreak confirmed and probable cases have to meet the criteria set by ODH. Detailed information regarding the statewide COVID-19 outbreak is available at: https://coronavirus.ohio.gov/wps/portal/gov/covid-19/home

Figure 4. Notifiable Communicable Diseases in Southwest Ohio by Disease Category as Reported in ODRS, July 2021 - July 2022*

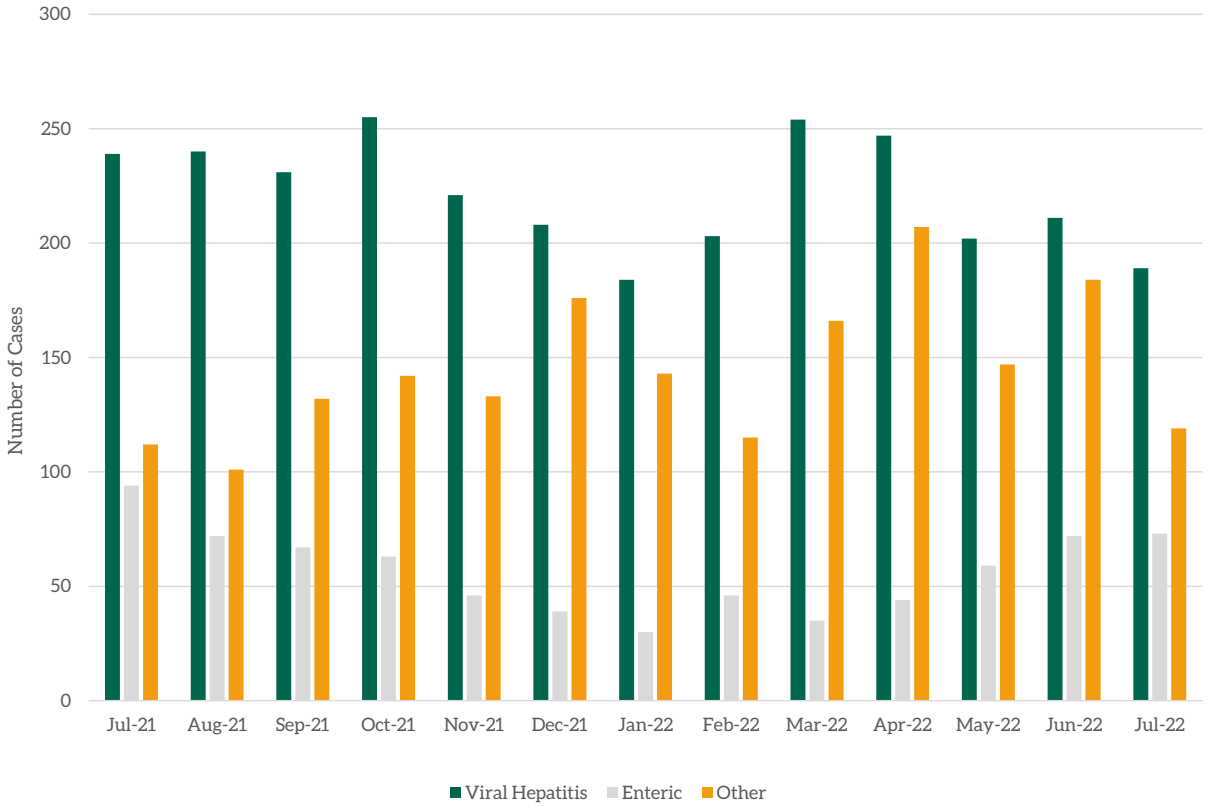
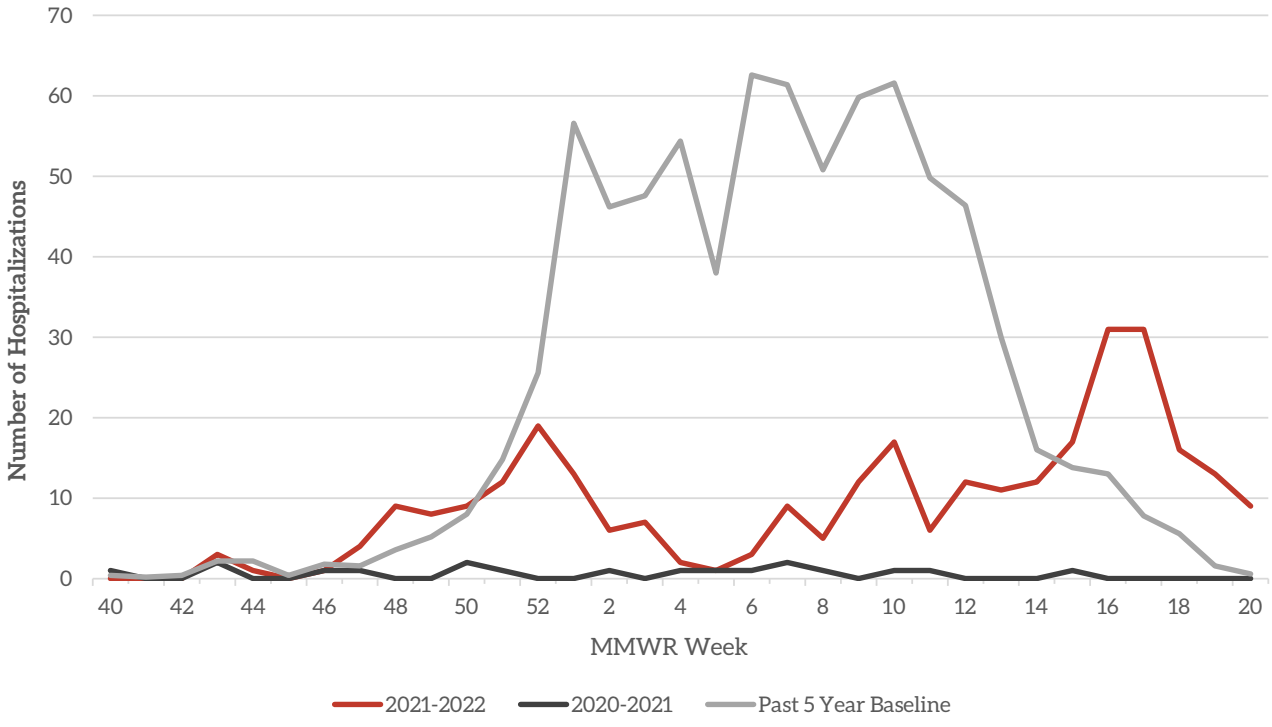


Figure 5. Confirmed Influenza-associated Hospitalizations, 2020-2021 Season - 2021-2022 Season†



*Suspected, Probable and Confirmed cases included in the counts. Cases counted by month reported to the local health department. STIs (i.e., Chlamydia, Gonorrhea, and Syphilis) are excluded from the analysis. Diseases are assigned to mutually exclusive categories, this means that disease cases are NOT included in more than one category shown in Figure 4. All cases are assigned to one of the categories.

†Influenza-associated hospitalizations are reported to ODH from local health departments and hospitals by direct entry into the Ohio Disease Reporting System (ODRS). Hospitalizations can be used as an indicator of the severity of illness during a particular influenza season. This condition became reportable in 2009. The 2020-2021 influenza season has been omitted from the five-year baseline average due to abnormal counts reported during the COVID-19 pandemic. A 5-year average including data from the 2015-2016 season through the 2019-2020 season is shown. The 2020-2021 season is plotted for reference.

SYNDROMIC SURVEILLANCE

Emergency Department Visits

Number of EpiCenter alerts received: 15

Types of EpiCenter alerts:

- Infectious Disease Symptoms (n=13)
- Syndromic Symptoms (n=2)

The alerts received for Hamilton County for July 1 - July 27 are summarized in Table 5 below. Seven of the anomalies received in EpiCenter were dispositioned as not a health event. Constitutional, respiratory, and gastrointestinal related syndromic hospital visits are presented for the entire month for Hamilton County in Figures 6, 7, and 8 respectively.

Table 5. Emergency Department Visit Anomalies for Hamilton County, July 2022

Anomaly Classifier	Event Date	Alert Category	Analysis Method	Aggregated By	Actual Value	Predicted Value	Threshold Value	Final Dispsition
Eyes	7/23/2022	Infectious Disease	Recursive Least Squares	Home Location	18	9.7	17.9	Active
Ear, Nose, Throat	7/18/2022	Infectious Disease	Recursive Least Squares	Home Location	97	64.3	96.3	Not a health event
Cough	7/18/2022	Infectious Disease	Recursive Least Squares	Facility Location	83	47.5	79.1	COVID-19 related
Hemorrhaging	7/17/2022	Infectious Disease	Recursive Least Squares	Facility Location	37	23.2	36.9	Not a health event
Congestion	7/12/2022	Infectious Disease	Exponential Moving Average	Home Location	12	4.2	9.7	COVID-19 related
Congestion	7/12/2022	Infectious Disease	Recursive Least Squares	Home Location	12	3.6	10.7	COVID-19 related
Congestion	7/12/2022	Infectious Disease	Cusum EMA	Home Location	12	4.2	10.5	COVID-19 related
Botulinic	7/9/2022	Syndromic	Recursive Least Squares	Facility Location	15	7.6	14.8	Not a health event
Vision	7/9/2022	Infectious Disease	Recursive Least Squares	Facility Location	14	6.8	12.2	Not a health event
Rash	7/8/2022	Infectious Disease	Recursive Least Squares	Home Location	70	44.0	69.2	Not a health event
Gastrointestinal	7/6/2022	Syndromic	Recursive Least Squares	Facility Location	262	178.4	233.0	Indeterminate
Gastrointestinal	7/6/2022	Syndromic	Exponential Moving Average	Home Location	217	142.4	193.1	Indeterminate
Gastrointestinal	7/6/2022	Syndromic	Recursive Least Squares	Home Location	217	145.4	192.8	Indeterminate
Vomiting	7/6/2022	Infectious Disease	Recursive Least Squares	Home Location	73	48.0	67.4	Not a health event
Edema	7/1/2022	Infectious Disease	Recursive Least Squares	Home Location	35	20.9	34.4	Not a health event

Figure 6. Constitutional-related ED Visits, Hamilton County, Ohio, July 2022

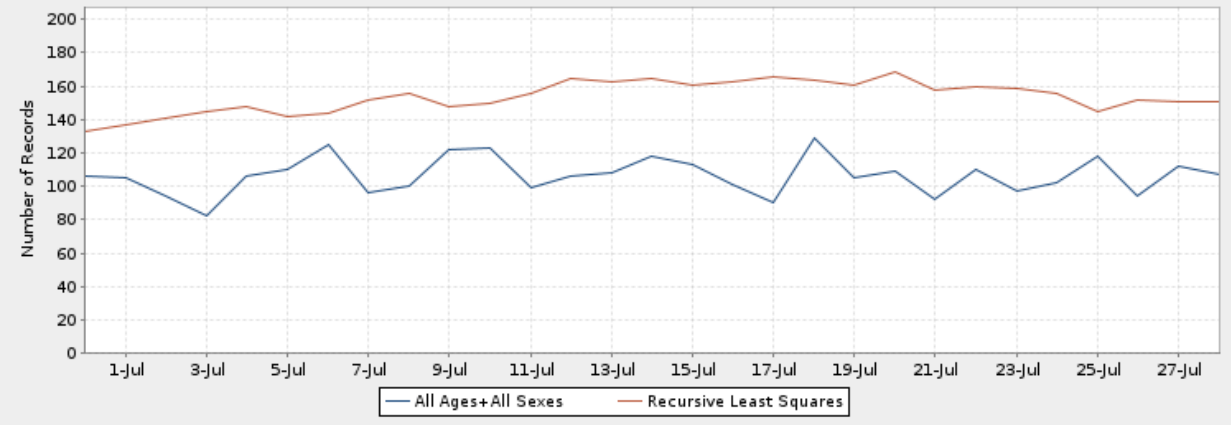


Figure 7. Respiratory-related ED Visits, Hamilton County, Ohio, July 2022

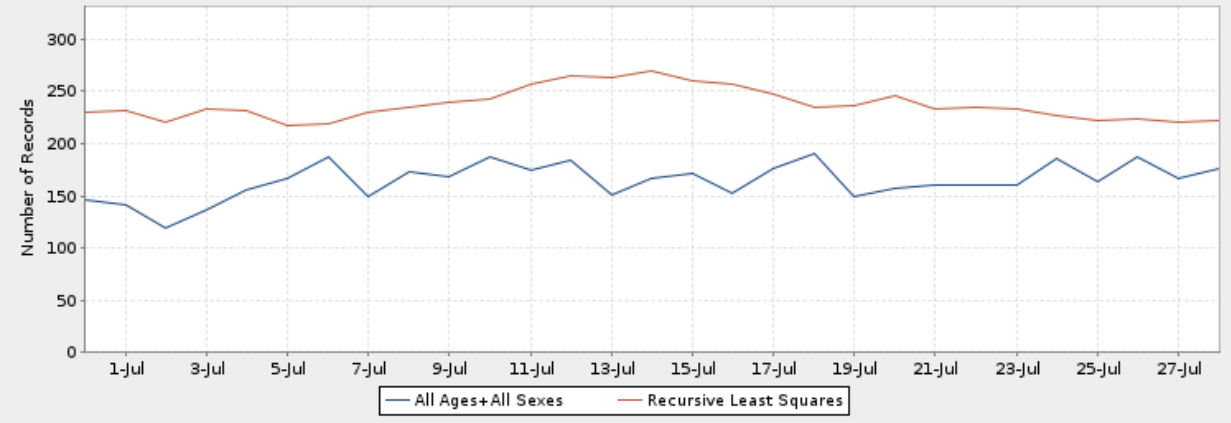


Figure 8. Gastrointestinal-related ED Visits, Hamilton County, Ohio, July 2022