Monthly Communicable Disease Surveillance Report

September 2022

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HAMILTON COUNTY PUBLIC HEALTH
PREVENT. PROMOTE. PROTECT.

NOTIFIABLE COMMUNICABLE DISEASES

Hamilton County Public Health (HCPH) Jurisdiction

Number of Communicable Diseases Reported: 85

Most frequently reported communicable diseases:

- Chronic hepatitis C (n=39)
- Campylobacteriosis (n=7)
- C. auris (n=5)
- Lyme Disease (n=5)
- Chronic hepatitis B (n=4)
- Salmonellosis (n=4)

Southwest Ohio (SWOH)

Number of Communicable Diseases Reported: 351

Most frequently reported communicable diseases:

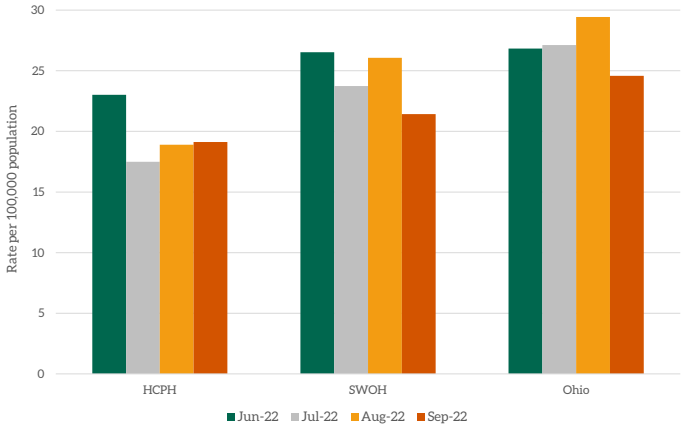
- Chronic hepatitis C (n=154)
- Chronic hepatitis B (n=32)
- Campylobacteriosis (n=20)
- Salmonellosis (n=20)
- C. auris - Investigation (n=12)
- Syphilis (n=12)

Summary

In September, the overall rates of reported communicable diseases for HCPH increased by 1%, while the rates for SWOH and Ohio decreased by 18%, and 16% respectively. (Figure 1). The Ohio rate (24.6) was the highest of the three rates, followed by the SWOH rate (21.4) and the HCPH rate (19.1) (Table 1). These rates are pro-rated to 30 days so they can be compared accurately.

Chronic hepatitis C was the most commonly reported communicable disease across SWOH, with chronic hepatitis B and Campylobacteriosis 2nd and 3rd respectively (Table 2). Chronic hepatitis (Hepatitis C and Hepatitis B combined) comprised 53.0% of the total communicable diseases reported during September. Southwest Ohio is currently on pace to have a 3.8% decrease in hepatitis cases over the previous year's average number of cases (207). The rate of chronic hepatitis within Hamilton County for September was 10.7 per 100,000 residents. This rate was equal to the SWOH rate of 10.7 per 100,000 residents.

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



Campylobacteriosis was the third most frequently reported disease in SWOH (Table 2). Campylobacteriosis cases accounted for 5.7% of the total communicable diseases reported during September. The number of cases of Campylobacteriosis reported for SWOH in September (20) was lower than the number of cases reported in the previous month (22). The rate of Campylobacteriosis within Hamilton County for September was 1.5 per 100,000 residents. This rate was 30% higher than the SWOH rate of 1.1 per 100,000 residents.

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

Location	Number of Reported Cases	Rate per 100,000	Rate Ratio†	Confidence Interval (99%)‡
HCPH	85	17.85	0.78	0.59 - 1.03
SWOH	351	20.00	0.87	0.75 - 1.01
Ohio	2,656	22.94	.	. - .

Salmonellosis was the fourth most frequently reported disease in SWOH (Table 2). Salmonellosis cases accounted for 5.7% of the total communicable diseases reported during September. The number of cases of Salmonellosis reported for SWOH in September (20) was higher than the number of cases reported in the previous month (16). The rate Salmonellosis within Hamilton County for September was 0.7 per 100,000 residents. This rate was 35% lower than the SWOH rate of 1.1 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 September 1-28, 2022. Data was accessed from the Ohio Disease Reporting System on 9/29/2022.

†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, September 2022

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
Botulism (Foodborne)	1	.	.	.	.	.	.	.	**1**
Botulism - wound	.	.	.	1	.	.	.	.	**1**
C. auris	10	.	.	.	1	.	.	.	**11**
C. auris - Investigation	6	.	.	.	6	.	.	.	**12**
CP-CRE	.	.	.	.	1	.	.	.	**1**
Campylobacteriosis	12	.	.	3	2	.	2	1	**20**
Coccidioidomycosis	.	.	.	.	1	.	.	.	**1**
Creutzfeldt-Jakob Disease	.	.	.	1	.	.	.	.	**1**
Cryptosporidiosis	1	.	.	.	1	.	.	.	**2**
Cyclosporiasis	.	.	.	.	1	.	.	.	**1**
Diphtheria	1	.	.	.	.	.	.	.	**1**
E.Coli (shiga toxin producing)	2	.	.	1	.	.	.	.	**3**
Ehrlichiosis/Anaplasmosis	.	.	.	1	.	.	.	.	**1**
Giardiasis	5	.	.	.	.	.	.	3	**8**
Haemophilus influenzae (invasive)	2	.	.	1	1	.	.	.	**4**
Hepatitis A	1	.	.	.	.	.	.	1	**2**
Hepatitis B (acute)	1	.	.	.	.	.	.	.	**1**
Hepatitis B (chronic)	12	2	2	8	.	1	1	6	**32**
Hepatitis C (chronic)	74	6	5	28	17	3	7	14	**154**
Hepatitis C - Perinatal Infection	.	1	.	1	1	.	.	.	**3**
Influenza-associated hospitalization	2	.	.	1	.	.	.	.	**3**
Legionellosis	2	.	.	1	.	.	.	.	**3**
Listeriosis	1	.	.	.	.	.	.	.	**1**
Lyme Disease	7	.	1	.	2	.	.	.	**10**
Malaria	1	.	.	.	.	.	.	.	**1**
Measles	1	.	.	.	.	.	.	.	**1**
Meningitis (aseptic/viral)	.	.	.	1	.	.	.	.	**1**
Meningitis (bacterial)	.	.	.	3	1	.	.	1	**5**
Monkeypox	3	1	.	1	.	.	.	1	**6**
Psittacosis	1	.	.	.	.	.	.	.	**1**

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

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
Salmonellosis	6	1	.	7	5	.	.	1	**20**
Shigellosis	1	.	.	.	.	.	.	.	**1**
Spotted Fever Rickettsiosis	3	.	.	.	.	.	.	.	**3**
Streptococcal pneumoniae (invasive)	4	.	.	.	.	.	.	.	**4**
Streptococcal, Group A (invasive)	5	.	1	2	.	.	.	1	**9**
Syphilis	11	.	.	1	.	.	.	.	**12**
Tuberculosis	3	.	.	1	.	.	1	.	**5**
Varicella	.	.	.	.	3	.	1	.	**4**
Yersiniosis	.	.	.	1	.	.	.	.	**1**
Total	**179**	**11**	**9**	**64**	**43**	**4**	**12**	**29**	**351**

Table 3. YTD Cases of Notifiable Diseases in Southwest Ohio as Reported in ODRS by County, September 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 (Foodborne)	1	0	0	0	0	0	0	0	**1**
Botulism (Infant)	2	0	0	0	1	0	0	0	**3**
Botulism - wound	0	0	0	1	0	0	0	0	**1**
C. auris	39	0	1	0	2	0	1	0	**43**
C. auris - Investigation	62	0	0	0	8	0	0	0	**70**
CP-CRE	21	1	4	8	6	5	5	6	**56**
Campylobacteriosis	79	3	13	37	22	6	4	24	**188**
Chikungunya virus	0	0	0	1	0	0	0	0	**1**
Coccidioidomycosis	6	0	2	2	2	0	0	2	**14**
Creutzfeldt-Jakob Disease	4	0	0	1	0	0	0	0	**5**
Cryptosporidiosis	5	2	0	4	2	1	0	4	**18**
Cyclosporiasis	0	0	0	1	2	0	0	0	**3**
Dengue	1	0	0	2	0	0	0	0	**3**
Diphtheria	1	0	0	0	0	0	0	0	**1**
E.Coli (shiga toxin producing)	21	1	1	14	6	0	1	9	**53**
Ehrlichiosis/Anaplasmosis	1	1	0	1	0	0	0	2	**5**
Giardiasis	25	0	1	7	5	0	2	11	**51**
Haemophilus influenzae (invasive)	17	0	0	7	3	0	0	2	**29**
Hemolytic uremic syndrome (HUS)	0	0	0	0	0	0	0	1	**1**
Hepatitis A	17	3	2	5	2	4	5	14	**52**
Hepatitis B (acute)	10	1	1	1	2	8	1	1	**25**
Hepatitis B (chronic)	162	19	15	121	22	12	25	64	**440**
Hepatitis C (acute)	6	0	0	0	0	0	0	1	**7**
Hepatitis C (chronic)	582	33	66	324	124	32	45	173	**1379**
Hepatitis C - Perinatal Infection	0	2	0	1	2	0	0	0	**5**
Hepatitis E	1	0	0	1	0	0	0	0	**2**
Influenza-associated hospitalization	104	1	11	55	37	5	17	33	**263**
Legionellosis	14	0	1	15	3	1	0	7	**41**

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

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
Listeriosis	2	0	0	0	1	0	0	0	**3**
Lyme Disease	50	14	7	5	31	1	16	13	**137**
MIS-C associated with COVID-19	8	1	0	6	0	0	0	2	**17**
Malaria	2	0	0	2	0	0	0	0	**4**
Measles	1	0	0	0	0	0	0	0	**1**
Meningitis (aseptic/viral)	21	0	1	6	8	1	3	8	**48**
Meningitis (bacterial)	9	0	1	10	2	2	0	5	**29**
Meningococcal disease	1	0	0	0	0	0	0	0	**1**
Monkeypox	18	1	0	3	0	0	0	1	**23**
Mumps	1	1	0	0	0	0	0	1	**3**
Pertussis	8	0	1	6	2	1	1	1	**20**
Psittacosis	1	0	0	0	0	0	0	0	**1**
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	54	5	3	30	22	3	5	17	**139**
Shigellosis	18	0	0	5	1	0	0	3	**27**
Spotted Fever Rickettsiosis	9	4	3	1	5	2	4	2	**30**
St. Louis encephalitis virus disease	0	0	0	1	0	0	0	0	**1**
Streptococcal pneumoniae (invasive)	55	0	1	25	8	4	6	9	**108**
Streptococcal, Group A (invasive)	47	0	2	26	13	1	2	11	**102**
Streptococcal, Group B (in newborn)	4	0	0	1	0	1	0	0	**6**
Syphilis	145	0	4	28	7	3	1	6	**194**
Tuberculosis	19	1	1	7	2	2	1	4	**37**
Typhus fever	0	0	0	1	0	0	0	0	**1**
Varicella	20	0	0	7	4	0	3	7	**41**
Vibriosis	1	0	0	2	0	0	0	3	**6**
West Nile virus infection (WNV)	1	0	0	1	0	0	0	0	**2**
Yersiniosis	4	0	0	2	1	0	0	2	**9**
Total	**1684**	**94**	**142**	**785**	**360**	**95**	**148**	**452**	**3760**

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

Reportable Disease	September 2021	YTD 2021	September 2022	YTD 2022
Amebiasis	0	1	0	2
Babesiosis	0	0	0	1
Botulism (Foodborne)	0	0	1	1
Botulism (Infant)	0	0	0	2
Brucellosis	0	1	0	0
C. auris	3	8	10	39
C. auris - Investigation	19	19	6	62
CP-CRE	2	18	0	12
Campylobacteriosis	5	55	12	79
Coccidioidomycosis	1	7	0	6
Creutzfeldt-Jakob Disease	0	3	0	4
Cryptosporidiosis	1	7	1	5
Cyclosporiasis	0	3	0	0
Diphtheria	0	0	1	1
E.Coli (shiga toxin producing)	5	24	2	21
Ehrlichiosis/Anaplasmosis	0	2	0	1
Giardiasis	3	44	5	25
Haemophilus influenzae (invasive)	3	11	2	17
Hantavirus	0	1	0	0
Hepatitis A	7	38	1	17
Hepatitis B (acute)	0	3	1	10
Hepatitis B (chronic)	25	225	12	162
Hepatitis C (acute)	0	6	0	6
Hepatitis C (chronic)	61	702	74	582
Hepatitis C - Perinatal Infection	0	4	0	0
Hepatitis E	0	0	0	1
Influenza-associated hospitalization	0	7	2	104
Legionellosis	2	18	2	14

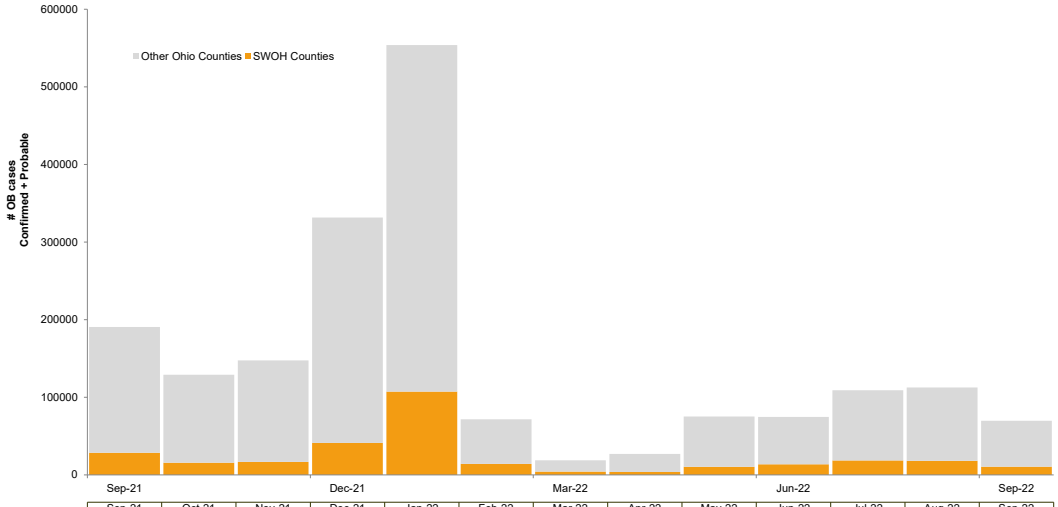
Reportable Disease	September 2021	YTD 2021	September 2022	YTD 2022
Listeriosis	0	5	1	2
Lyme Disease	10	48	7	50
MIS-C associated with COVID-19	3	24	0	8
Malaria	0	6	1	2
Measles	0	0	1	1
Meningitis (aseptic/viral)	1	24	0	21
Meningitis (bacterial)	0	15	0	9
Meningococcal disease	0	2	0	1
Monkeypox	0	0	3	18
Mumps	0	1	0	1
Pertussis	0	2	0	8
Psittacosis	1	2	1	1
Q fever (acute)	0	1	0	0
Q fever (chronic)	0	0	0	1
Salmonellosis	11	49	6	54
Shigellosis	3	15	1	18
Spotted Fever Rickettsiosis	0	11	3	9
Staphylococcal aureus (VISA)	0	1	0	0
Streptococcal pneumoniae (invasive)	4	34	4	55
Streptococcal, Group A (invasive)	2	31	5	47
Streptococcal, Group B (in newborn)	0	2	0	4
Syphilis	28	230	11	145
Tuberculosis	1	27	3	19
Typhus fever	0	1	0	0
Varicella	1	17	0	20
Vibriosis	1	4	0	1
Yersiniosis	0	2	0	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. From April to August 2022 Ohio experienced increasing cases. The Southwest Ohio (SWOH) counties recognize the same pattern of confirmed and probable cases as Ohio. As of September 28, 2022, cases in Ohio and SWOH are decreasing. The SWOH counties account for 499,419 confirmed and probable cases.

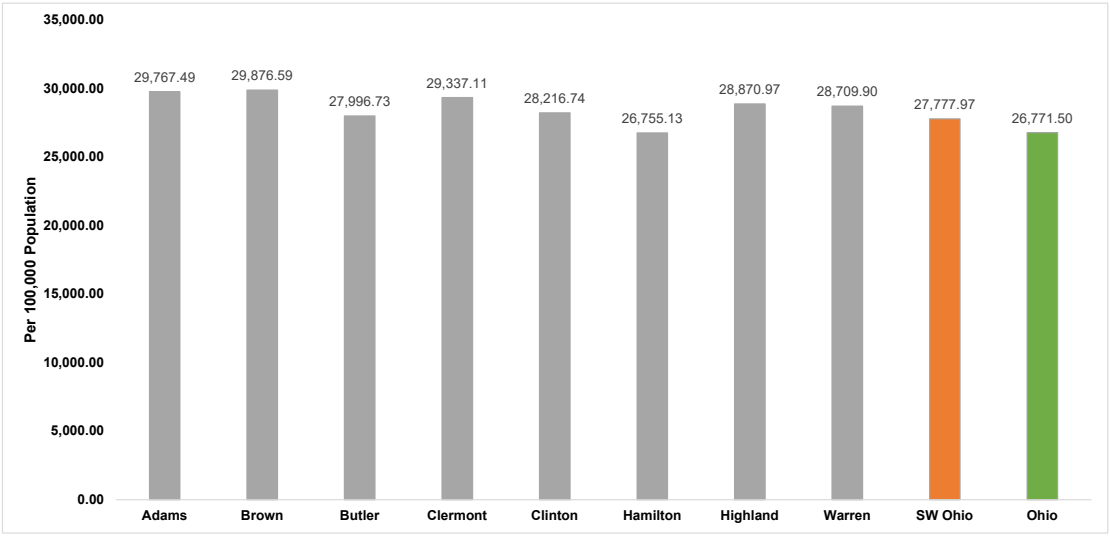
Overall, the SWOH rate is higher than the Ohio rate (Figure 3). The SWOH region accounts for 16.0 percent of Ohio cases. Brown County has the highest rate of the 8 SWOH counties, followed by Adams County and Clermont County. Currently the Hamilton County rate is lower than the Ohio rate, while all other 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, September 2021 - September, 2022



	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
Other Ohio Counties	161999	113435	130788	290489	446440	57539	14484	23222	64683	61055	90476	94654	59131
SWOH Counties	28551	15661	16737	41219	107391	14144	4259	3839	10461	13668	18566	18055	10633

Figure 3. Rate of Confirmed and Probable Cases of COVID-19 in Ohio and Southwest Ohio Counties, March 9, 2020 - September 28, 2022



NOTES: This data is provisional and subject to change when additional information is gained. Outbreak confirmed positive cases between March 9, 2020 and September 28, 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 September 29, 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, September 2021 - September 2022*

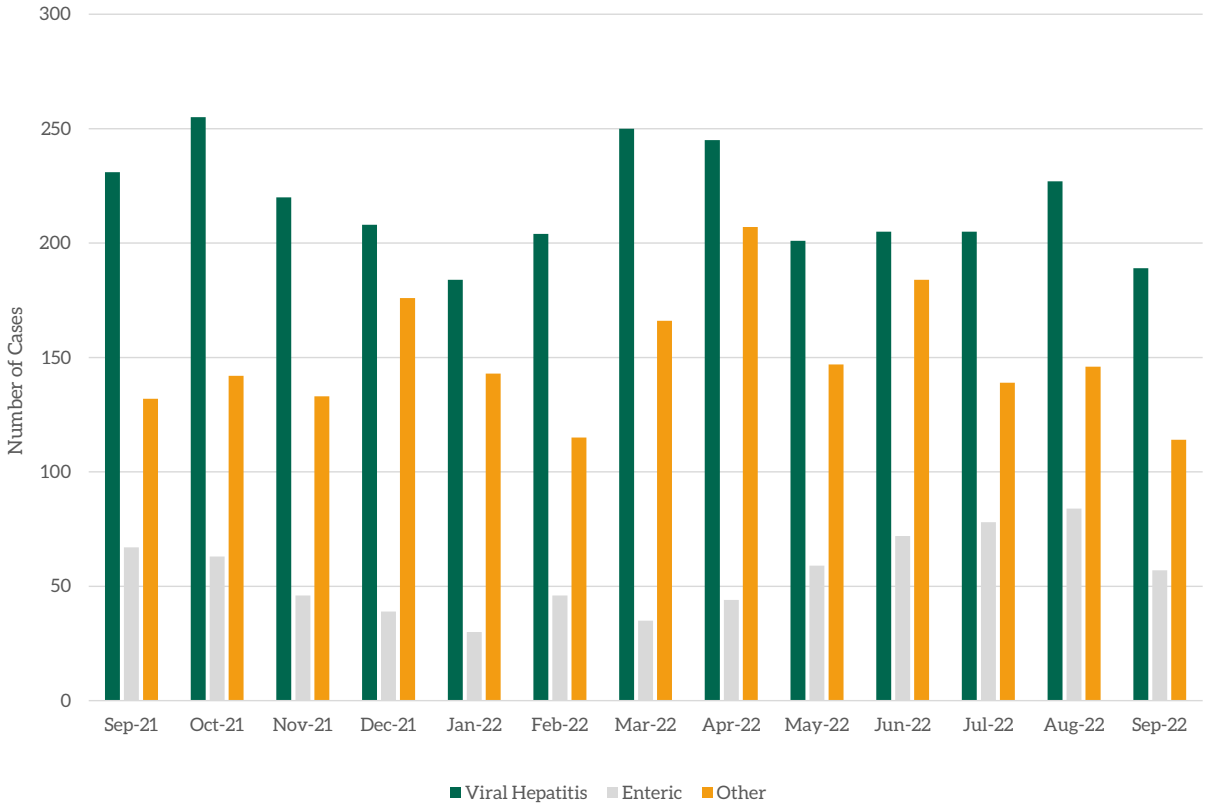
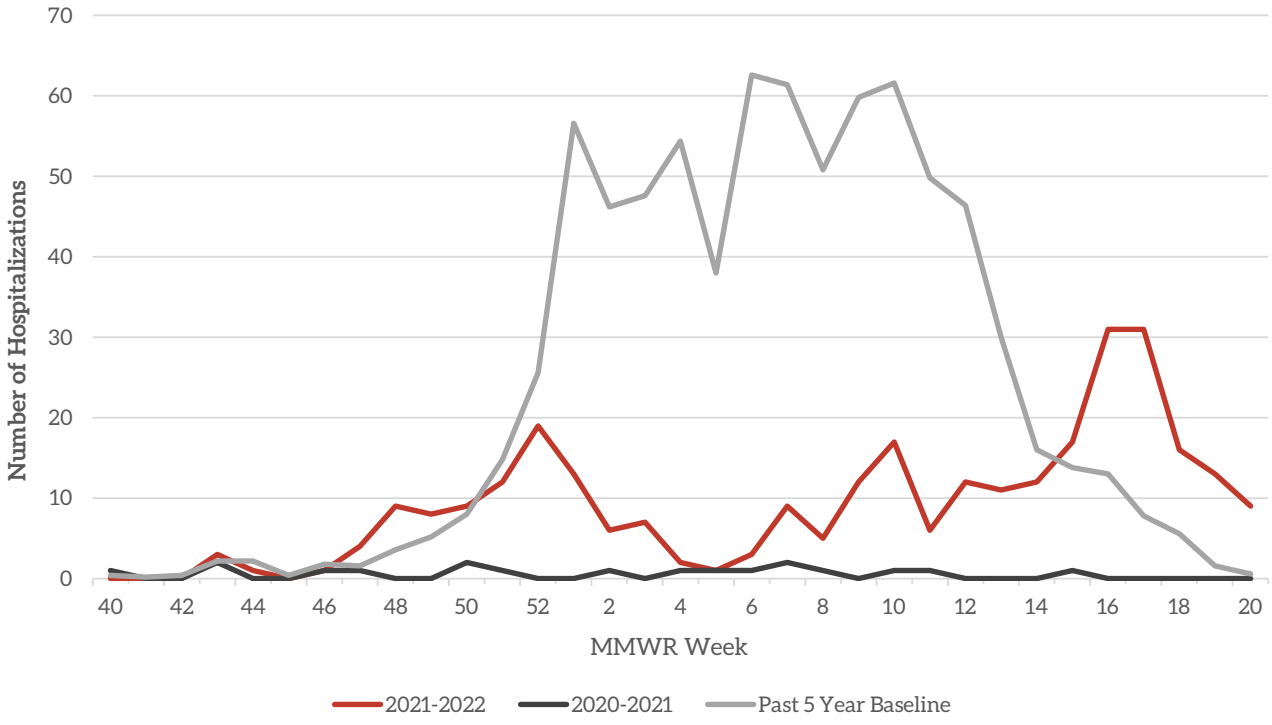


Figure 5. Confirmed Influenza-associated Hospitalizations, 2020-2021 Season - 2021-2022 Season†



*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: 14

Types of EpiCenter alerts:

- Infectious Disease Symptoms (n=13)
- Syndromic Symptoms (n=1)

The alerts received for Hamilton County for September 1 - September 28 are summarized in Table 5 below. Five of the anomalies received in EpiCenter were dispositioned as not a health event. Constitutional, botulinic, 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, September 2022

Anomaly Classifier	Event Date	Alert Category	Analysis Method	Aggregated By	Actual Value	Predicted Value	Threshold Value	Final Dispsition
Exacerbation	9/28/2022	Infectious Disease	Exponential Moving Average	Home Location	14	4.4	13.6	Active
Paralysis	9/27/2022	Infectious Disease	Recursive Least Squares	Home Location	17	7.6	16.9	Active
Vision	9/24/2022	Infectious Disease	Recursive Least Squares	Facility Location	16	6.8	14.6	Active
Botulinic	9/24/2022	Syndromic	Recursive Least Squares	Facility Location	17	7.7	15.5	Active
Edema	9/20/2022	Infectious Disease	Cusum EMA	Facility Location	34	25.1	32.0	Active
Diarrhea - Not Watery/Bloody	9/18/2022	Infectious Disease	Recursive Least Squares	Home Location	18	7.0	16.6	Indeterminate
Diarrhea - Not Watery/Bloody	9/18/2022	Infectious Disease	Exponential Moving Average	Facility Location	22	8.3	19.5	Indeterminate
Diarrhea - Not Watery/Bloody	9/18/2022	Infectious Disease	Recursive Least Squares	Facility Location	17	8.3	16.7	Indeterminate
Hemorrhaging	9/17/2022	Infectious Disease	Recursive Least Squares	Home Location	23	11.8	22.0	Not a health event
Edema	9/17/2022	Infectious Disease	Recursive Least Squares	Facility Location	39	21.2	37.6	Not a health event
Edema	9/17/2022	Infectious Disease	Exponential Moving Average	Home Location	33	17.7	31.8	Not a health event
Edema	9/17/2022	Infectious Disease	Exponential Moving Average	Facility Location	38	19.5	37.7	Not a health event
Congestion	9/12/2022	Infectious Disease	Recursive Least Squares	Facility Location	10	3.9	9.3	Seasonal Illness - ILI/Respiratory
Headache	9/2/2022	Infectious Disease	Recursive Least Squares	Home Location	57	37.7	56.8	Not a health event

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

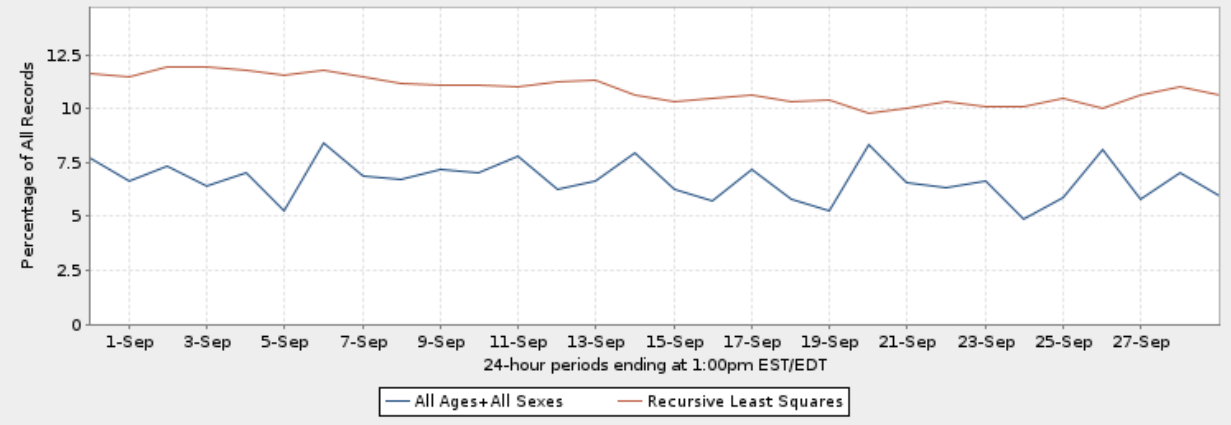


Figure 7. Botulinic-related ED Visits, Hamilton County, Ohio, September 2022

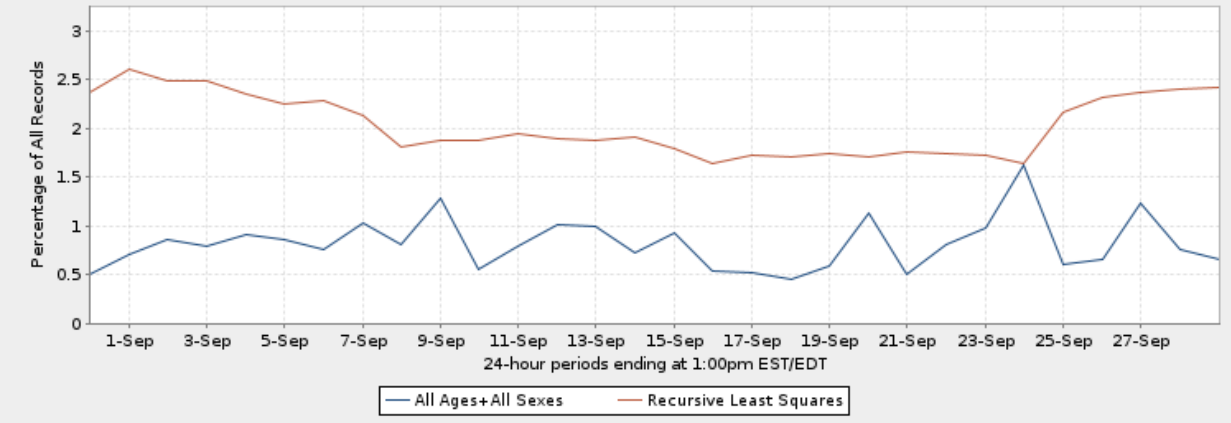


Figure 8. Gastrointestinal-related ED Visits, Hamilton County, Ohio, September 2022