

Monthly Communicable Disease Surveillance Report

October 2022

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PREVENT. PROMOTE. PROTECT.



NOTIFIABLE COMMUNICABLE DISEASES

Hamilton County Public Health (HCPH) Jurisdiction

Number of Communicable Diseases Reported: 98

Most frequently reported communicable diseases:

- Chronic hepatitis C (n=27)
- Influenza-associated hospitalization (n=16)
- Salmonellosis (n=14)
- C. auris - Investigation (n=7)
- Chronic hepatitis B (n=6)

Southwest Ohio (SWOH)

Number of Communicable Diseases Reported: 431

Most frequently reported communicable diseases:

- Chronic hepatitis C (n=137)
- Influenza-associated hospitalization (n=69)
- Chronic hepatitis B (n=36)
- Salmonellosis (n=27)
- Campylobacteriosis (n=22)

Summary

The overall rates of reported communicable diseases for HCPH and SWOH in October increased by 4% and 11% respectively, while the Ohio rate decreased by 5% (Figure 1). These rates are pro-rated to 30 days so they can be compared accurately. The SWOH rate (23.8) was the highest of the three rates, and the HCPH rate (19.9) was the lowest. The Ohio rate (23.3) was higher than the HCPH rate and lower than the SWOH rate. (Table 1).

Chronic hepatitis C was the most commonly reported communicable disease across SWOH, with Influenza-associated hospitalization and chronic hepatitis B 2nd and 3rd respectively (Table 2). Chronic hepatitis (Hepatitis C and Hepatitis B combined) comprised 40.1% of the total communicable diseases reported during October. Southwest Ohio is currently on pace to have 18.1% less hepatitis cases than the previous year's average number of cases (204). The rate of chronic hepatitis within Hamilton County for October was 9.5 per 100,000 residents. This rate was 5% lower than the SWOH rate of 9.9 per 100,000 residents.

Influenza-associated hospitalization was the second most frequently reported disease in SWOH (Table 2). Influenza-associated hospitalization cases accounted for 16.0% of the total communicable diseases reported during October. The number of cases of Influenza-associated hospitalization reported for SWOH in October (69) was higher than the number of cases in the previous month (48). The rate of Influenza-associated hospitalization within Hamilton County for October was 5.4 per 100,000 residents. This rate was 35% higher than the SWOH rate of 4.0 per 100,000 residents.

Salmonellosis was the fourth most frequently reported disease in SWOH (Table 2). Salmonellosis cases accounted for 6.3% of the total communicable diseases reported during October. The number of cases of Salmonellosis reported for SWOH in October (27) was higher than the number of cases in the previous month (20). The rate of Salmonellosis within Hamilton County for October was 2.5 per 100,000 residents. This rate was 61% higher 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 October 1-31, 2022. Data was accessed from the Ohio Disease Reporting System on 11/3/2022.

†Ratio of local rate to the Ohio rate.

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

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

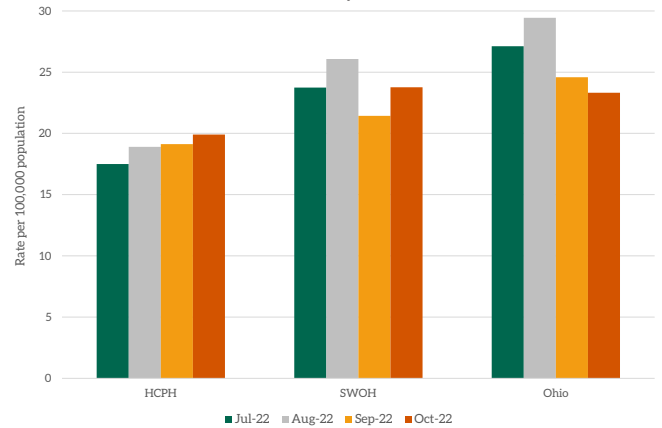


Table 1. Comparison of the Reported Cases of Notifiable Communicable Diseases by Location, October 2022

Location	Number of Reported Cases	Rate per 100,000	Rate Ratio†	Confidence Interval (99%)‡
HCPH	98	20.58	0.85	0.66 - 1.11
SWOH	431	24.56	1.02	0.89 - 1.16
Ohio	2,790	24.10	.	.-.

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

Reportable Condition	County										Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren			
C. auris	4	.	.	1	.	.	.	.	.	.	5
C. auris - Investigation	15	.	.	3	.	.	.	.	.	.	18
CP-CRE	2	.	.	1	.	1	.	1	.	.	5
CP-CRE - Investigation	.	.	.	.	.	2	.	.	.	.	2
Campylobacteriosis	8	.	.	7	2	.	.	5	.	.	22
Cryptosporidiosis	3	.	.	.	.	.	.	.	.	.	3
E.Coli (shiga toxin producing)	2	.	.	1	.	.	1	.	.	.	4
Giardiasis	5	.	1	1	.	.	.	.	.	.	7
Haemophilus influenzae (invasive)	1	.	.	1	1	.	.	.	.	.	3
Hepatitis A	4	.	1	.	.	.	.	1	.	.	6
Hepatitis B (acute)	1	.	.	1	1	.	.	1	.	.	4
Hepatitis B (chronic)	13	2	1	7	.	1	1	11	.	.	36
Hepatitis C (acute)	1	.	.	.	.	.	.	.	.	.	1
Hepatitis C (chronic)	63	3	7	24	11	6	6	17	.	.	137
Hepatitis C - Perinatal Infection	.	.	.	.	1	.	.	.	.	.	1
Influenza-associated hospitalization	43	.	5	10	9	.	.	2	.	.	69
Legionellosis	3	.	1	.	.	.	.	1	.	.	5
Lyme Disease	4	1	.	.	4	.	1	.	.	.	10
MIS-C associated with COVID-19	.	.	.	1	.	.	.	.	.	.	1
Malaria	.	.	.	1	.	.	.	.	.	.	1
Meningitis (aseptic/viral)	4	.	1	2	2	.	.	1	.	.	10
Meningitis (bacterial)	1	.	.	.	1	.	.	.	.	.	2
Monkeypox	2	.	.	.	.	.	.	.	.	.	2
Mumps	.	.	.	.	.	.	.	1	.	.	1
Salmonellosis	20	1	1	2	1	.	.	2	.	.	27
Shigellosis	3	.	.	1	.	.	.	.	.	.	4
Streptococcal pneumoniae (invasive)	7	.	1	3	3	1	.	.	.	.	15
Streptococcal, Group A (invasive)	1	.	1	1	2	.	.	4	.	.	9
Streptococcal, Group B (in newborn)	1	.	.	.	.	.	.	.	.	.	1
Syphilis	11	.	.	2	.	.	.	.	.	.	13
Tuberculosis	1	.	.	1	.	.	.	.	.	.	2
Varicella	2	.	.	1	1	.	.	.	.	.	4
Yersiniosis	1	.	.	.	.	.	.	.	.	.	1
Total	226	7	20	72	39	11	9	47	11	9	431

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

Reportable Condition	County										Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren			
Amebiasis	2	0	0	1	0	0	0	0	2	5	
Babesiosis	1	0	0	0	0	0	0	0	0	1	
Botulism (Infant)	2	0	0	0	1	0	0	0	0	3	
Botulism - wound	0	0	0	1	0	0	0	0	0	1	
C. auris	44	0	1	1	2	0	1	0	0	49	
C. auris - Investigation	76	0	0	3	8	0	0	0	0	87	
CP-CRE	24	1	4	10	7	4	5	7	7	62	
CP-CRE - Investigation	0	0	0	0	0	2	0	0	0	2	
Campylobacteriosis	88	3	13	44	24	6	5	31	31	214	
Chikungunya virus	0	0	0	1	0	0	0	0	0	1	
Coccidioidomycosis	6	0	2	2	2	0	0	2	2	14	
Creutzfeldt-Jakob Disease	4	0	0	1	0	0	0	0	0	5	
Cryptosporidiosis	9	2	0	4	2	1	0	4	4	22	
Cyclosporiasis	0	0	0	1	2	0	0	0	0	3	
Dengue	1	0	0	2	0	0	0	0	0	3	
E.Coli (shiga toxin producing)	23	1	1	15	6	0	2	9	9	57	
Ehrlichiosis/Anaplasmosis	1	1	0	1	0	0	0	2	2	5	
Giardiasis	30	0	2	8	5	0	2	11	11	58	
Haemophilus influenzae (invasive)	18	0	0	8	4	0	0	2	2	32	
Hemolytic uremic syndrome (HUS)	0	0	0	0	0	0	0	1	1	1	
Hepatitis A	22	3	3	5	2	4	5	15	15	59	
Hepatitis B (acute)	11	1	1	2	3	8	1	2	2	29	
Hepatitis B (chronic)	177	21	15	126	22	13	26	74	74	474	
Hepatitis C (acute)	7	0	0	0	0	0	0	1	1	8	
Hepatitis C (chronic)	648	38	73	342	136	37	52	189	189	1515	
Hepatitis C - Perinatal Infection	0	2	0	0	3	0	0	0	0	5	
Hepatitis E	1	0	0	1	0	0	0	0	0	2	
Influenza-associated hospitalization	147	1	16	65	46	5	17	35	35	332	
Legionellosis	17	0	2	15	3	1	0	8	8	46	
Listeriosis	2	0	0	0	1	0	0	0	0	3	

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

Reportable Condition	County										Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren			
Lyme Disease	54	15	7	5	35	1	17	13			147
MIS-C associated with COVID-19	8	1	0	7	0	0	0	2			18
Malaria	2	0	0	3	0	0	0	0			5
Measles	1	0	0	0	0	0	0	0			1
Meningitis (aseptic/viral)	25	0	2	8	10	1	3	9			58
Meningitis (bacterial)	10	0	1	10	3	2	0	5			31
Meningococcal disease	1	0	0	0	0	0	0	0			1
Monkeypox	20	1	0	3	0	0	0	1			25
Mumps	1	1	0	0	0	0	0	2			4
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	76	5	5	32	24	3	5	19			169
Shigellosis	21	0	0	6	1	0	0	3			31
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)	62	0	2	28	11	5	6	9			123
Streptococcal, Group A (invasive)	47	0	3	27	15	1	2	15			110
Streptococcal, Group B (in newborn)	5	0	0	1	0	1	0	0			7
Syphilis	167	0	5	35	8	4	1	5			225
Tuberculosis	17	0	1	8	2	2	0	5			35
Tularemia	0	1	0	0	0	0	0	0			1
Typhus fever	0	0	0	1	0	0	0	0			1
Varicella	22	0	0	8	5	0	3	8			46
Vibriosis	1	0	0	2	0	0	0	2			5
West Nile virus infection (WNV)	0	0	0	1	0	0	0	0			1
Yersiniosis	5	0	0	2	1	0	0	2			10
Total	1925	102	163	854	403	104	158	499			4208

Table 4. YTD Cases of Notifiable Diseases in Hamilton County, January - October 2022

Reportable Disease	October 2021	YTD 2021	October 2022	YTD 2022	Reportable Disease	October 2021	YTD 2021	October 2022	YTD 2022
Amebiasis	0	1	0	2	Listeriosis	1	6	0	2
Babesiosis	0	0	0	1	Lyme Disease	6	54	4	54
Botulism (Infant)	0	0	0	2	MIS-C associated with COVID-19	1	25	0	8
Brucellosis	0	1	0	0	Malaria	1	7	0	2
C. auris	5	13	4	44	Measles	0	0	0	1
C. auris - Investigation	19	38	15	76	Meningitis (aseptic/viral)	5	29	4	25
CP-CRE	1	19	2	14	Meningitis (bacterial)	2	17	1	10
Campylobacteriosis	8	63	8	88	Meningococcal disease	0	2	0	1
Coccidioidomycosis	1	8	0	6	Monkeypox	0	0	2	20
Creutzfeldt-Jakob Disease	0	3	0	4	Mumps	1	2	0	1
Cryptosporidiosis	2	9	3	9	Pertussis	0	2	0	8
Cyclosporiasis	0	3	0	0	Psittacosis	0	2	0	1
E.Coli (shiga toxin producing)	1	25	2	23	Q fever (acute)	0	1	0	0
Ehrlichiosis/Anaplasmosis	0	2	0	1	Q fever (chronic)	0	0	0	1
Giardiasis	7	51	5	30	Salmonellosis	8	57	20	76
Haemophilus influenzae (invasive)	2	13	1	18	Shigellosis	0	15	3	21
Hantavirus	0	1	0	0	Spotted Fever Rickettsiosis	0	11	0	9
Hemolytic uremic syndrome (HUS)	1	1	0	0	Staphylococcal aureus (VISA)	0	1	0	0
Hepatitis A	4	42	4	22	Streptococcal pneumoniae (invasive)	4	38	7	62
Hepatitis B (acute)	2	5	1	11	Streptococcal, Group A (invasive)	5	36	1	47
Hepatitis B (chronic)	15	240	13	177	Streptococcal, Group B (in newborn)	1	3	1	5
Hepatitis C (acute)	0	6	1	7	Syphilis	26	256	11	167
Hepatitis C (chronic)	83	785	63	648	Tuberculosis	2	29	1	17
Hepatitis C - Perinatal Infection	0	4	0	0	Typhus fever	0	1	0	0
Hepatitis E	0	0	0	1	Varicella	2	19	2	22
Influenza-associated hospitalization	1	8	43	147	Vibriosis	1	5	0	1
Legionellosis	5	23	3	17	Yersiniosis	0	2	1	5

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 October 31, 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 15.9 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, October 2021 - October 2022

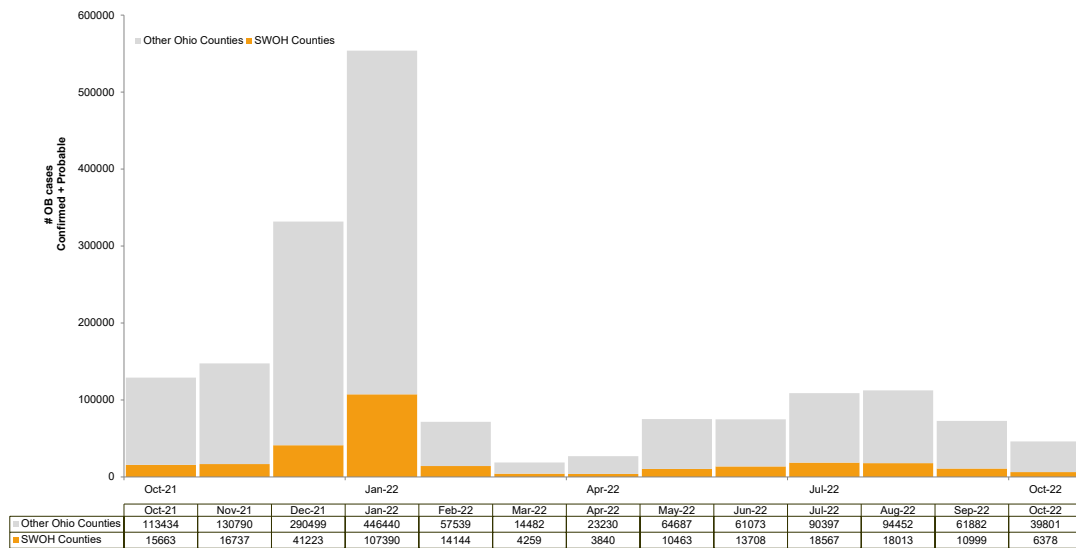
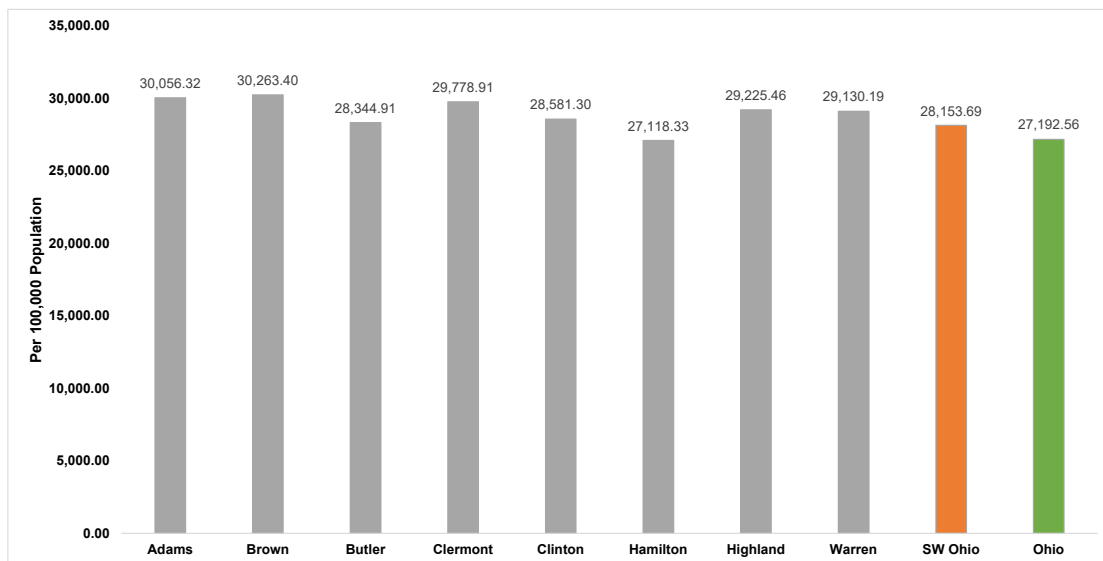


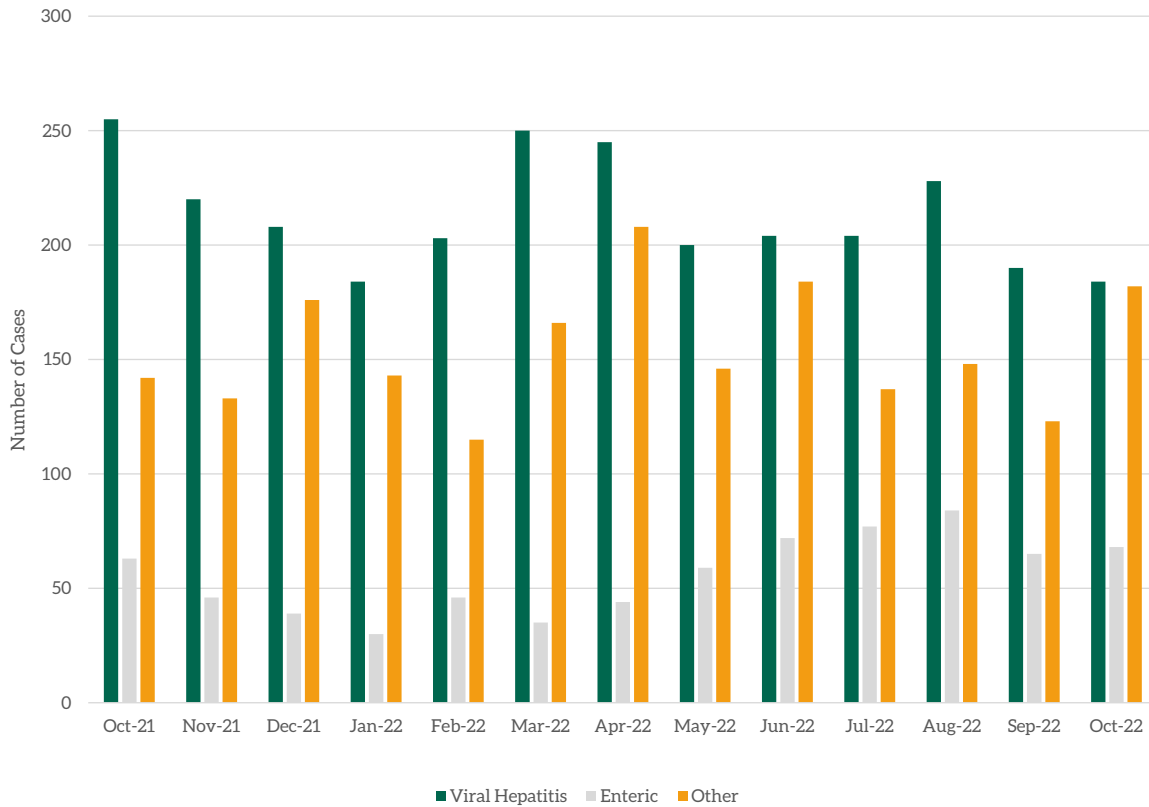
Figure 3. Rate of Confirmed and Probable Cases of COVID-19 in Ohio and Southwest Ohio Counties, March 9, 2020 - October 31, 2022



NOTES: This data is provisional and subject to change when additional information is gained. Outbreak confirmed positive cases between March 9, 2020 and October 31, 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 November 3, 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, October 2021 - October 2022*



SYNDROMIC SURVEILLANCE

Emergency Department Visits

Number of EpiCenter alerts received: 23

Types of EpiCenter alerts:

- Infectious Disease Symptoms (n=19)
- Syndromic Symptoms (n=4)

Some number of anomalies received in EpiCenter were dispositioned as not a health event. The alerts received for Hamilton County for October 1 - October 31 are summarized in Table 5 (page 8). Constitutional, botulinic, and gastrointestinal related syndromic hospital visits are presented for the entire month for Hamilton County in Figures 6, 7, and 8 respectively (page 9).

*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.

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

Anomaly Classifier	Event Date	Alert Category	Analysis Method	Aggregated By	Actual Value	Predicted Value	Threshold Value	Final Disposition
Cough	10/30/2022	Infectious Disease	Cusum EMA	Facility Location	68	49.1	67.9	New
Exacerbation	10/28/2022	Infectious Disease	Recursive Least Squares	Facility Location	15	6.1	14.1	Active
Exacerbation	10/28/2022	Infectious Disease	Recursive Least Squares	Home Location	14	6.8	13.0	Active
Cough	10/27/2022	Infectious Disease	Cusum EMA	Home Location	64	53.2	58.9	Active
Diarrhea - Not Watery/Bloody	10/26/2022	Infectious Disease	Exponential Moving Average	Facility Location	19	8.7	17.6	Active
Diarrhea - Not Watery/Bloody	10/26/2022	Infectious Disease	Recursive Least Squares	Facility Location	19	8.1	15.6	Active
Cough	10/26/2022	Infectious Disease	Cusum EMA	Facility Location	64	48.6	53.1	Active
Cough	10/26/2022	Infectious Disease	Cusum EMA	Home Location	69	49.4	67.0	Active
Constitutional	10/25/2022	Syndromic	Cusum EMA	Facility Location	126	90.5	116.5	Active
Cough	10/25/2022	Infectious Disease	Cusum EMA	Facility Location	65	45.2	59.6	Active
Constitutional	10/24/2022	Syndromic	Cusum EMA	Facility Location	124	83.2	121.5	Active
Fever	10/23/2022	Infectious Disease	Recursive Least Squares	Facility Location	55	34.2	53.6	Seasonal Illness - ILI/Respiratory
Fever	10/23/2022	Infectious Disease	Cusum EMA	Facility Location	48	35.5	47.7	Seasonal Illness - ILI/Respiratory
Fever	10/23/2022	Infectious Disease	Cusum EMA	Home Location	44	31.1	43.9	Seasonal Illness - ILI/Respiratory
Fever	10/20/2022	Infectious Disease	Cusum EMA	Home Location	38	30.0	37.0	Seasonal Illness - ILI/Respiratory
Headache	10/17/2022	Infectious Disease	Recursive Least Squares	Facility Location	64	37.0	62.8	Not a health event
Vomiting	10/15/2022	Infectious Disease	Exponential Moving Average	Facility Location	60	40.1	58.8	Not a health event
Vomiting	10/15/2022	Infectious Disease	Recursive Least Squares	Home Location	49	34.0	47.2	Not a health event
Vomiting	10/15/2022	Infectious Disease	Recursive Least Squares	Facility Location	58	39.5	55.2	Not a health event
Cough	10/13/2022	Infectious Disease	Cusum EMA	Facility Location	55	38.3	51.1	Seasonal Illness - ILI/Respiratory
Botulinic	10/13/2022	Syndromic	Recursive Least Squares	Home Location	18	6.6	17.1	Not a health event
Botulinic	10/12/2022	Syndromic	Recursive Least Squares	Facility Location	20	8.4	19.6	Not a health event
Eyes	10/10/2022	Infectious Disease	Recursive Least Squares	Home Location	11	5.1	10.3	Not a health event

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

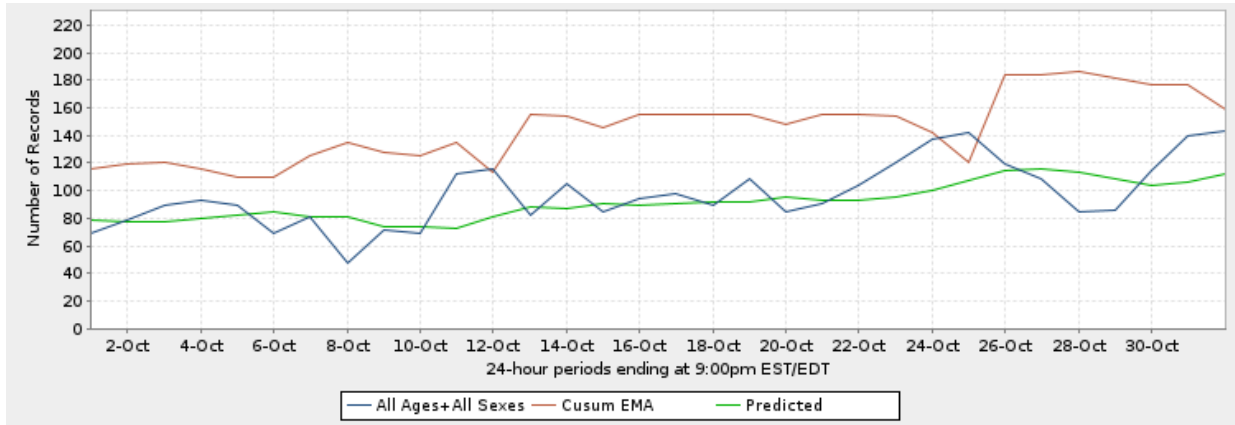


Figure 7. Botulinic-related ED Visits, Hamilton County, Ohio, October 2022

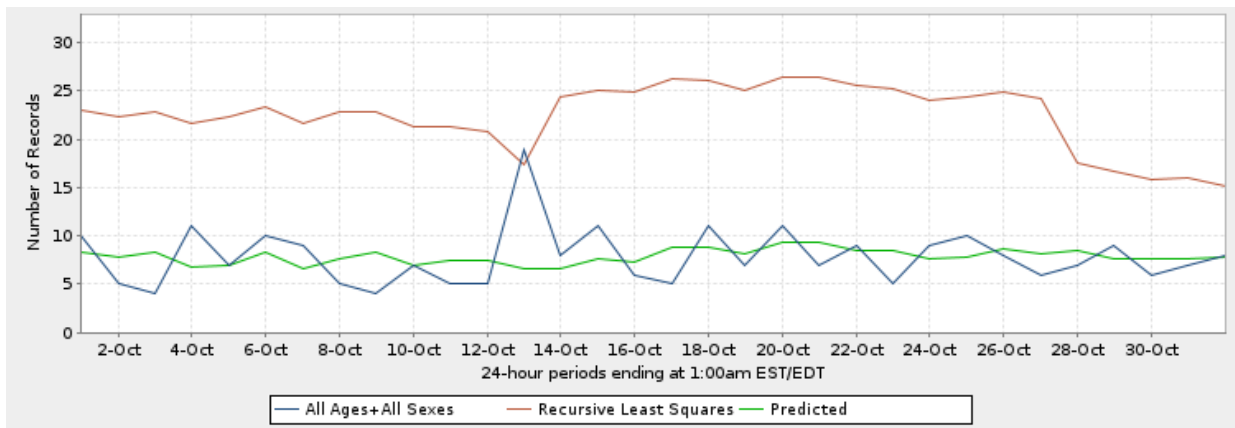


Figure 7. Gastrointestinal-related ED Visits, Hamilton County, Ohio, October 2022

