Monthly Communicable Disease Surveillance Report

March 2023

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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: 70

Most frequently reported communicable diseases:

- Chronic hepatitis C (n=23)
- Streptococcal, Group A (invasive) (n=8)
- Streptococcal pneumoniae (invasive) (n=7)
- Chronic Hepatitis B (n=5)
- CP-CRE (n=3)
- Campylobacteriosis (n=3)

Southwest Ohio (SWOH)

Number of Communicable Diseases Reported: 352

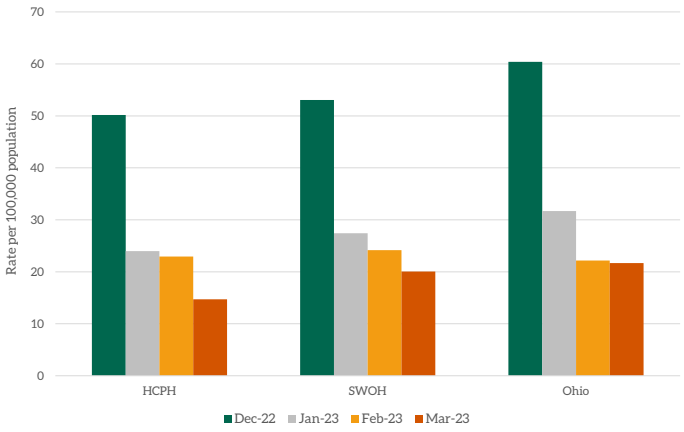
Most frequently reported communicable diseases:

- Chronic hepatitis C (n=137)
- Chronic hepatitis B (n=37)
- Streptococcal pneumoniae (invasive) (n=25)
- Streptococcal, Group A (invasive) (n=25)
- Campylobacteriosis (n=13)

Summary

In March, the overall rates of reported communicable diseases for HCPH, SWOH, and Ohio decreased by 36%, 17%, and 2% respectively (Figure 1). The Ohio rate (21.7) was the highest of the three rates, followed by the SWOH rate (20.1) and the HCPH rate (14.7) (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, December 2022 - March 2023



Chronic hepatitis C was the most commonly reported communicable disease across SWOH, with chronic hepatitis B and Streptococcal pneumoniae (invasive) 2nd and 3rd respectively (Table 2). Chronic hepatitis (Hepatitis C and Hepatitis B combined) comprised 47.7% of the total communicable diseases reported during March. Southwest Ohio is currently on pace to have a 10.3% decrease in hepatitis cases over the previous year's average number of cases (187). The rate of chronic hepatitis within Hamilton County for March was 8.7 per 100,000 residents. This rate was lower than the SWOH rate of 9.7 per 100,000 residents.

Streptococcal pneumoniae (invasive) was the third most frequently reported disease in SWOH (Table 2). Streptococcal pneumoniae (invasive) cases accounted for 7.1% of the total communicable diseases reported during March. The number of cases of Streptococcal pneumoniae (invasive) reported for SWOH in March (25) was lower than the number of cases reported in the previous month (27). The rate of Streptococcal pneumoniae (invasive) within Hamilton County for March was 1.5 per 100,000 residents. This rate was 4% higher than the SWOH rate of 1.4 per 100,000 residents.

Table 1. Comparison of the Reported Cases of Notifiable Communicable Diseases by Location, March 2023

Location	Number of Reported Cases	Rate per 100,000	Rate Ratio†	Confidence Interval (99%)‡
HCPH	70	14.70	0.68	0.50 - 0.93
SW OHIO	352	20.06	0.93	0.80 - 1.07
OHIO	2,510	21.68	.	. - .

Streptococcal, Group A (invasive) was the fourth most frequently reported disease in SWOH (Table 2). Streptococcal, Group A (invasive) cases accounted for 7.1% of the total communicable diseases reported during March. The number of cases of Streptococcal, Group A (invasive) reported for SWOH in March (25) was higher than the number of cases reported in the previous month (23). The rate of Streptococcal, Group A (invasive) within Hamilton County for March was 1.5 per 100,000 residents. This rate was 4% higher than the SWOH rate of 1.4 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 March 1-30, 2023. Data was accessed from the Ohio Disease Reporting System on 3/30/2023

†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, March 2023

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
Brucellosis	.	.	.	.	.	.	.	1	**1**
C. auris	6	.	.	.	.	.	.	.	**6**
C. auris - Investigation	4	.	.	.	.	.	.	.	**4**
CP-CRE	5	.	1	3	.	.	.	.	**9**
Campylobacteriosis	6	1	1	2	1	.	.	2	**13**
Coccidioidomycosis	1	.	.	.	.	.	.	.	**1**
Cryptosporidiosis	1	.	.	.	.	.	.	3	**4**
E.Coli (shiga toxin producing)	.	.	.	1	.	.	.	1	**2**
Giardiasis	2	.	.	.	1	.	.	1	**4**
Haemophilus influenzae (invasive)	4	.	1	.	1	.	1	.	**7**
Hepatitis A	6	.	.	1	.	1	2	1	**11**
Hepatitis B (acute)	2	.	.	.	.	.	.	.	**2**
Hepatitis B (chronic)	16	.	2	7	4	3	.	5	**37**
Hepatitis C (acute)	.	.	.	.	1	.	.	.	**1**
Hepatitis C (chronic)	54	5	9	35	8	3	5	12	**131**
Hepatitis E	1	.	.	.	.	.	.	.	**1**
Influenza-associated hospitalization	3	.	.	5	.	.	.	1	**9**
Legionellosis	2	.	.	3	.	.	.	1	**6**
Lyme Disease	3	1	.	2	1	.	.	.	**7**
Malaria	1	.	.	.	.	.	.	.	**1**
Meningitis (aseptic/viral)	5	.	.	.	.	.	.	.	**5**
Meningococcal disease	.	.	.	.	.	.	.	1	**1**
Mumps	.	.	.	.	1	.	.	.	**1**
Pertussis	.	.	.	1	.	.	.	.	**1**
Salmonellosis	3	.	.	1	4	.	.	1	**9**
Shigellosis	2	.	.	.	2	.	.	.	**4**
Spotted Fever Rickettsiosis (RMSF)	.	.	.	.	.	.	1	.	**1**
Streptococcal pneumoniae (invasive)	12	.	4	2	6	.	1	.	**25**

Table 2. Cases of Notifiable Diseases in Southwest Ohio as Reported in ODRS by County, March 2023, Continued

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
Streptococcal toxic shock syndrome (STSS)	1	.	.	.	.	.	.	.	**1**
Streptococcal, Group A (invasive)	12	1	1	7	1	.	2	1	**25**
Streptococcal, Group B (in newborn)	2	.	.	.	.	.	.	.	**2**
Syphilis	8	.	.	1	.	.	.	.	**9**
Tuberculosis	3	.	.	.	.	.	.	1	**4**
Varicella	.	.	.	.	.	1	1	2	**4**
Yersiniosis	2	.	.	.	1	.	.	.	**3**
Total	**167**	**8**	**19**	**71**	**32**	**8**	**13**	**34**	**352**

Table 3. YTD Cases of Notifiable Diseases in Southwest Ohio as Reported in ODRS by County, March 2023

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
Brucellosis	.	.	.	.	.	.	.	1	**1**
C. auris	18	.	.	.	.	.	.	.	**18**
C. auris - Investigation	22	.	1	.	2	.	.	2	**27**
CP-CRE	18	4	1	5	1	2	1	1	**33**
CP-CRE - Investigation	.	.	.	.	.	.	1	.	**1**
Campylobacteriosis	21	2	1	6	9	.	2	4	**45**
Coccidioidomycosis	3	.	.	.	1	.	.	.	**4**
Cryptosporidiosis	6	.	.	1	.	.	.	5	**12**
Dengue	1	.	.	.	.	.	.	.	**1**
E.Coli (shiga toxin producing)	7	.	.	3	.	.	.	1	**11**
Giardiasis	9	.	.	2	1	.	.	3	**15**
Haemophilus influenzae (invasive)	26	.	3	3	3	.	2	1	**38**
Hepatitis A	8	.	.	3	.	1	4	2	**18**
Hepatitis B (acute)	5	.	.	.	.	.	.	.	**5**
Hepatitis B (chronic)	57	3	4	30	9	4	4	10	**121**
Hepatitis C (acute)	.	.	.	.	1	.	.	.	**1**
Hepatitis C (chronic)	177	13	25	90	32	9	13	42	**401**
Hepatitis C - Perinatal Infection	.	.	.	.	1	1	.	.	**2**
Hepatitis E	1	.	.	.	.	.	.	.	**1**
Influenza-associated hospitalization	52	.	12	27	24	2	11	11	**139**
Legionellosis	3	.	.	3	2	.	.	2	**10**
Lyme Disease	10	4	2	4	3	.	1	1	**25**
MIS-C associated with COVID-19	.	.	.	1	.	.	.	.	**1**
Malaria	1	.	.	.	.	.	.	.	**1**
Meningitis (aseptic/viral)	12	.	.	2	.	.	.	.	**14**
Meningitis (bacterial)	2	.	.	1	.	.	.	1	**4**
Meningococcal disease	1	.	.	.	.	.	.	1	**2**
Monkeypox	1	.	.	.	.	.	.	.	**1**
Mumps	.	.	.	1	1	.	.	.	**2**
Pertussis	.	.	.	1	.	.	1	1	**3**

Table 3. YTD Cases of Notifiable Diseases in Southwest Ohio as Reported in ODRS by County, March 2023, Continued

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
Q fever (acute)	.	.	.	1	.	.	.	.	**1**
Salmonellosis	9	.	2	8	8	.	.	4	**31**
Shigellosis	7	.	.	1	2	.	.	.	**10**
Spotted Fever Rickettsiosis (RMSF)	.	.	.	.	.	.	1	.	**1**
Streptococcal pneumoniae (invasive)	35	.	6	12	13	2	2	6	**76**
Streptococcal toxic shock syndrome (STSS)	1	.	.	.	.	.	.	1	**2**
Streptococcal, Group A (invasive)	41	1	3	16	5	.	2	7	**75**
Streptococcal, Group B (in newborn)	2	.	.	.	.	.	.	.	**2**
Syphilis - unknown duration or late	55	1	1	10	3	.	1	.	**71**
Tuberculosis	8	.	.	1	.	.	.	1	**10**
Varicella	5	.	.	3	2	1	2	3	**16**
Vibriosis	1	.	.	.	.	.	.	.	**1**
West Nile virus infection (WNV)	1	.	.	.	.	.	.	.	**1**
Yersiniosis	5	.	.	3	1	.	.	.	**9**
Total	**631**	**28**	**61**	**238**	**124**	**22**	**48**	**111**	**1263**

Table 4. YTD Cases of Notifiable Diseases in Hamilton County[8], March 2023

Reportable Disease	March 2022	YTD 2022	March 2023	YTD 2023
Amebiasis	.	1	.	.
Babesiosis	1	1	.	.
Botulism (Infant)	.	1	.	.
C. auris	5	18	6	18
C. auris - Investigation	3	14	4	22
CP-CRE	.	10	5	13
Campylobacteriosis	7	21	6	21
Coccidioidomycosis	1	1	1	3
Creutzfeldt-Jakob Disease	.	2	.	.
Cryptosporidiosis	.	1	1	6
E.Coli (shiga toxin producing)	1	3	.	7
Giardiasis	4	6	2	9
Haemophilus influenzae (invasive)	.	2	4	26
Hepatitis A	1	4	6	8
Hepatitis B (acute)	.	3	2	5
Hepatitis B (chronic)	20	62	16	57
Hepatitis C (acute)	2	4	.	.
Hepatitis C (chronic)	70	197	54	177
Hepatitis E	.	.	1	1
Influenza-associated hospitalization	16	35	3	52
Legionellosis	1	1	2	3

Reportable Disease	March 2022	YTD 2022	March 2023	YTD 2023
Lyme Disease	1	6	3	10
MIS-C associated with COVID-19	.	7	.	.
Malaria	.	.	1	1
Meningitis (aseptic/viral)	2	4	5	12
Meningitis (bacterial)	1	1	.	2
Meningococcal disease	.	1	.	1
Monkeypox	.	.	.	1
Pertussis	3	3	.	.
Q fever (chronic)	1	1	.	.
Salmonellosis	5	6	3	9
Shigellosis	2	6	2	7
Spotted Fever Rickettsiosis (RMSF)	.	1	.	.
Streptococcal pneumoniae (invasive)	2	15	12	35
Streptococcal toxic shock syndrome (STSS)	.	.	1	1
Streptococcal, Group A (invasive)	6	13	12	41
Streptococcal, Group B (in newborn)	2	2	2	2
Syphilis	16	45	8	55
Tuberculosis	3	3	3	8
Varicella	8	11	.	5
Vibriosis	.	.	.	1
Yersiniosis	.	1	2	5

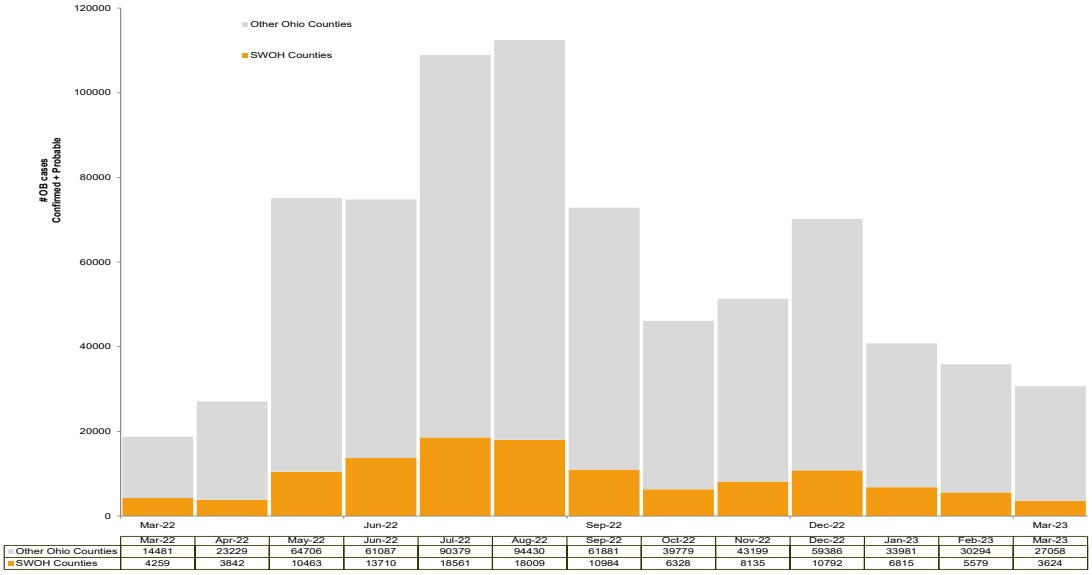
*Year to date totals for cases within the Hamilton County Public Health jurisdiction

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 2022 Ohio experienced increasing cases from April to July and from October to December. The Southwest Ohio (SWOH) counties recognize the same patter of confirmed and probable cases as Ohio. As of March 30, 2023, cases in Ohio and SWOH are decreasing. The SWOH region accounts for 541,039 (15.9%) of confirmed and probable cases in Ohio.

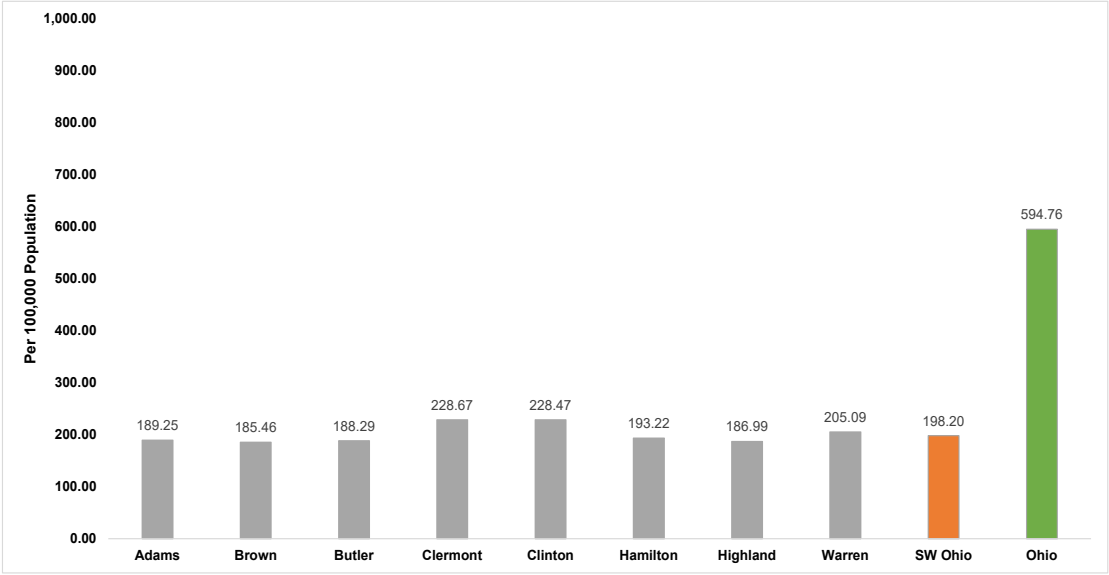
In March 2023, the SWOH rate was lower than the Ohio rate (Figure 3). Clermont County had the highest rate of the 8 SWOH counties, followed by Clinton County and Warren County. All SWOH county rates were lower than the Ohio rate.

Figure 2. Number of Confirmed and Probable Cases of COVID-19 in Ohio and Southwest Ohio Counties, March 2022 - March 2023



	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23
Other Ohio Counties	14481	23229	64706	61087	90379	94430	61881	39779	43199	59386	33981	30294	27058
SWOH Counties	4259	3842	10463	13710	18561	18009	10984	6328	8135	10792	6815	5579	3624

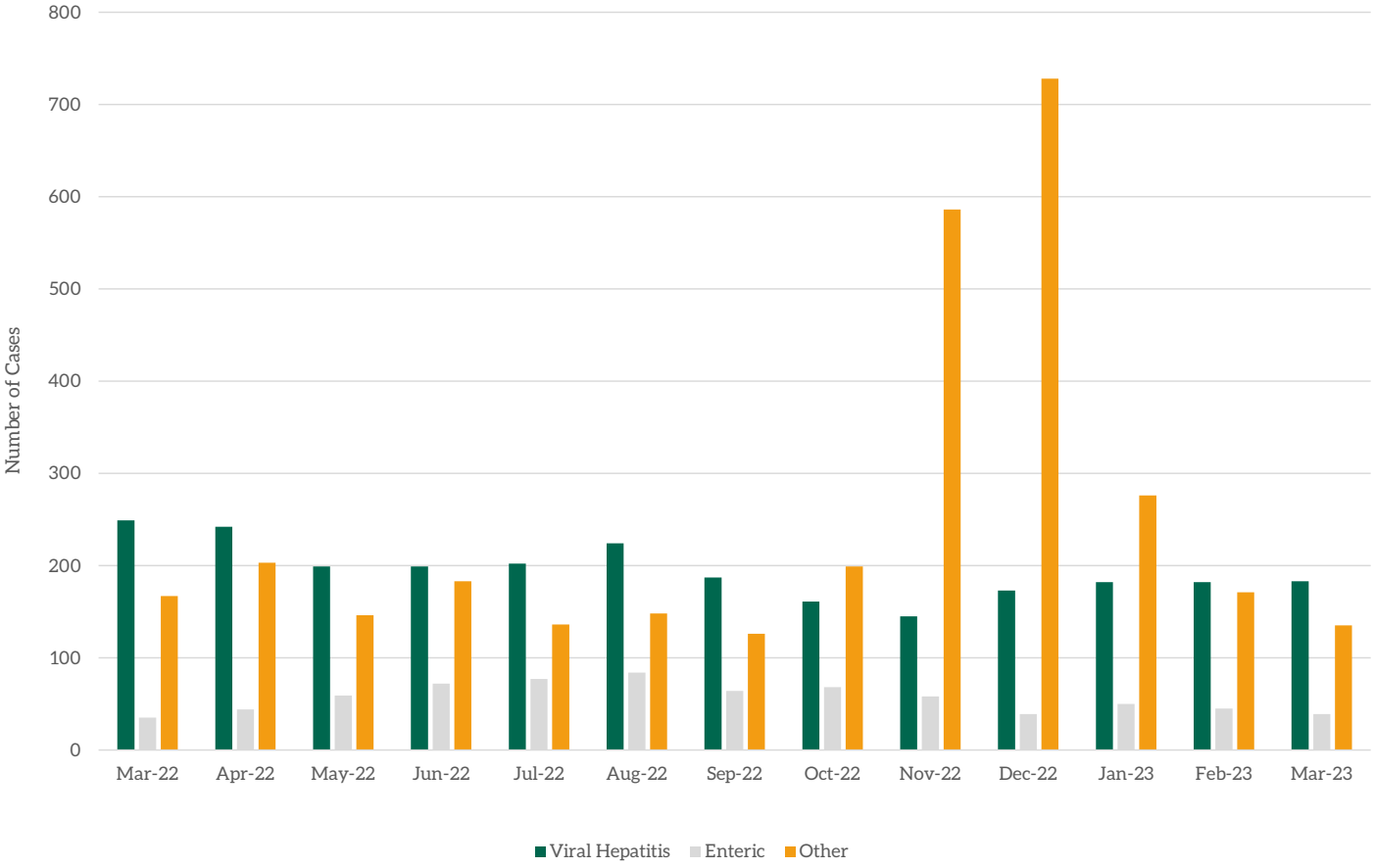
Figure 3. Rate of Confirmed and Probable Cases of COVID-19 in Ohio and Southwest Ohio Counties, March 2023



NOTES: This data is provisional and subject to change when additional information is gained. Outbreak confirmed positive cases between March 9, 2020 and March 30, 2023 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 March 30, 2023. 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, March 2022 - March 2023*



*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.

SYNDROMIC SURVEILLANCE

Emergency Department Visits

Number of EpiCenter alerts received: 15

Types of EpiCenter alerts:

- Infectious Disease Symptoms (n=12)
- Syndromic Symptoms (n=3)

The alerts received for Hamilton County for March 1 - March 30 are summarized in Table 5 below. Five of the anomalies received in EpiCenter were dispositioned as Not a health. Botulinic , constitutional, and respiratory 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, March 2023

Anomaly Classifier	Event Date	Alert Category	Analysis Method	Aggregated By	Actual Value	Predicted Value	Threshold Value	Final Dispsition
Vision	3/30/2023	Infectious Disease	Cusum EMA	Facility Location	18	10.0	16.4	Active
Botulinic	3/30/2023	Syndromic	Cusum EMA	Facility Location	20	11.2	18.2	Active
Exacerbation	3/29/2023	Infectious Disease	Cusum EMA	Home Location	12	9.1	11.9	Active
Paralysis	3/29/2023	Infectious Disease	Recursive Least Squares	Home Location	17	7.7	16.6	Active
Paralysis	3/29/2023	Infectious Disease	Recursive Least Squares	Facility Location	22	11.2	20.4	Active
Botulinic	3/28/2023	Syndromic	Recursive Least Squares	Facility Location	20	8.7	19.5	Active
Vision	3/27/2023	Infectious Disease	Exponential Moving Average	Facility Location	20	7.2	19.4	Active
Vision	3/27/2023	Infectious Disease	Recursive Least Squares	Facility Location	21	7.3	18.9	Active
Shock	3/23/2023	Infectious Disease	Recursive Least Squares	Facility Location	12	3.0	11.0	Active
Lymphadenitis	3/16/2023	Infectious Disease	Exponential Moving Average	Home Location	12	3.3	10.6	Active
Stiff Neck	3/8/2023	Infectious Disease	Recursive Least Squares	Home Location	15	6.1	12.6	Not a health event
Edema	3/8/2023	Infectious Disease	Exponential Moving Average	Home Location	41	18.2	34.2	Not a health event
Edema	3/8/2023	Infectious Disease	Recursive Least Squares	Home Location	38	16.9	35.8	Not a health event
Headache	3/6/2023	Infectious Disease	Recursive Least Squares	Home Location	51	31.1	49.4	Not a health event
Botulinic	3/1/2023	Syndromic	Cusum EMA	Facility Location	18	10.7	17.0	Not a health event

Figure 6. Botulinic-related ED Visits, Hamilton County, Ohio, March 2023

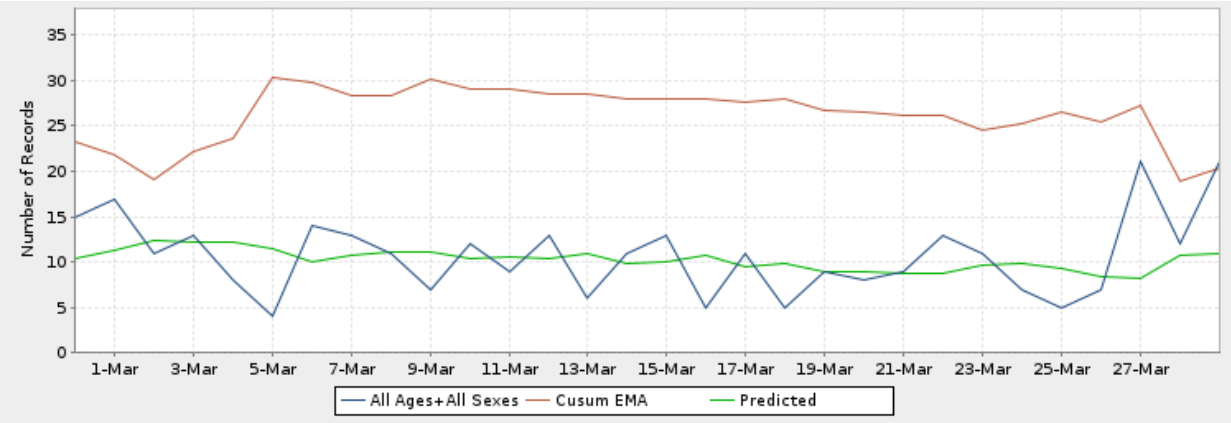


Figure 7. Constitutional-related ED Visits, Hamilton County, Ohio, March 2023

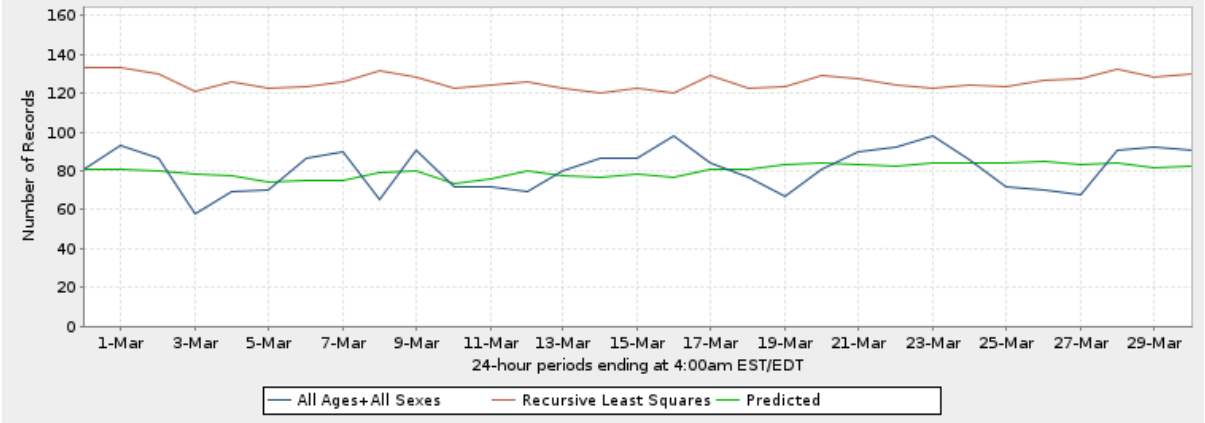


Figure 8. Respiratory-related ED Visits, Hamilton County, Ohio, March 2023