Monthly Communicable Disease Surveillance Report

February 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: 102

Most frequently reported communicable diseases:

- Chronic hepatitis C (n=28)
- Chronic Hepatitis B (n=11)
- Streptococcal pneumoniae (invasive) (n=9)
- Streptococcal, Group A (invasive) (n=7)
- Influenza-associated hospitalization (n=6)
- Syphilis (n=6)

Southwest Ohio (SWOH)

Number of Communicable Diseases Reported: 396

Most frequently reported communicable diseases:

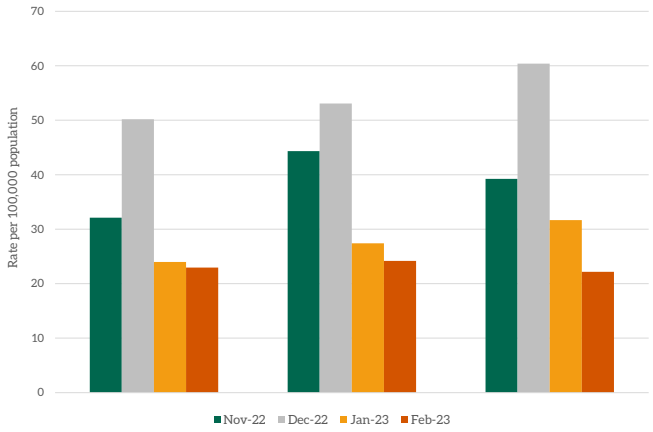
- Chronic hepatitis C (n=137)
- Chronic hepatitis B (n=48)
- Streptococcal, Group A (invasive) (n=27)
- Streptococcal pneumoniae (invasive) (n=23)
- Influenza-associated hospitalization (n=21)

Summary

In February, the overall rates of reported communicable diseases for HCPH, SWOH, and Ohio decreased by 4%, 12%, and 30% respectively. (Figure 1). The SWOH rate (24.2) was the highest of the three rates, followed by the HCPH rate (22.9) and the Ohio rate (22.2) (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 Streptococcal, Group A (invasive) 2nd and 3rd respectively (Table 2). Chronic hepatitis (Hepatitis C and Hepatitis B combined) comprised 46.7% of the total communicable diseases reported during February. Southwest Ohio is currently on pace to have a 4.8% increase in hepatitis cases over the previous year's average number of cases (189). The rate of chronic hepatitis within Hamilton County for February was 10.6 per 100,000 residents. This rate was equal to the SWOH rate of 10.6 per 100,000 residents.

Figure 1. 30-Day Rates of Reported Communicable Diseases in Ohio, Southwest Ohio, and Hamilton County Public Health Jurisdiction, November 2022 - February 2023



Streptococcal, Group A (invasive) was the third most frequently reported disease in SWOH (Table 2). Streptococcal, Group A (invasive) cases accounted for 6.8% of the total communicable diseases reported during February. The number of cases of Streptococcal, Group A (invasive) reported for SWOH in February (27) was higher than the number of cases reported in the previous month (25). The rate of Streptococcal, Group A (invasive) within Hamilton County for February was 2.1 per 100,000 residents. This rate was 37% higher than the SWOH rate of 1.6 per 100,000 residents.

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

Location	Number of Reported Cases	Rate per 100,000	Rate Ratio†	Confidence Interval (99%)‡
HCPH	102	21.42	0.76	0.59 - 0.96
SWOH	396	22.57	0.87	0.77 - 0.98
Ohio	2,396	20.70	.	. - .

Streptococcal pneumoniae (invasive) was the fourth most frequently reported disease in SWOH (Table 2). Streptococcal pneumoniae (invasive) cases accounted for 5.8% of the total communicable diseases reported during February. The number of cases of Streptococcal pneumoniae (invasive) reported for SWOH in February (23) was lower than the number of cases reported in the previous month (28). The rate of Streptococcal pneumoniae (invasive) within Hamilton County for February was 1.4 per 100,000 residents. This rate was 4% higher than the SWOH rate of 1.3 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 February 1-28, 2023. Data was accessed from the Ohio Disease Reporting System on 3/2/2023

†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, February 2023

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
C. auris	3	.	.	.	.	.	.	.	**3**
C. auris - Investigation	4	.	1	.	1	.	.	2	**8**
CP-CRE	5	.	.	1	.	.	1	.	**7**
CP-CRE - Investigation	.	.	.	.	.	.	1	.	**1**
Campylobacteriosis	7	1	.	1	4	.	2	1	**16**
Coccidioidomycosis	1	.	.	.	.	.	.	.	**1**
Cryptosporidiosis	2	.	.	.	.	.	.	.	**2**
E.Coli (shiga toxin producing)	2	.	.	.	.	.	.	.	**2**
Giardiasis	4	.	.	1	.	.	.	1	**6**
Haemophilus influenzae (invasive)	6	.	2	2	1	.	1	1	**13**
Hepatitis A	1	.	.	1	.	.	1	.	**3**
Hepatitis B (acute)	1	.	.	.	.	.	.	.	**1**
Hepatitis B (chronic)	22	1	1	14	3	1	2	4	**48**
Hepatitis C (chronic)	63	4	4	31	12	2	4	17	**137**
Hepatitis C - Perinatal Infection	.	.	.	.	1	1	.	.	**2**
Influenza-associated hospitalization	10	.	1	3	5	.	.	2	**21**
Legionellosis	1	.	.	.	1	.	.	1	**3**
Lyme Disease	5	.	1	2	1	.	.	1	**10**
MIS-C associated with COVID-19	.	.	.	1	.	.	.	.	**1**
Meningitis (aseptic/viral)	5	.	.	.	.	.	.	.	**5**
Meningitis (bacterial)	2	.	.	1	.	.	.	.	**3**
Monkeypox	1	.	.	.	.	.	.	.	**1**
Pertussis	.	.	.	.	.	.	1	1	**2**
Q fever (acute)	.	.	.	1	.	.	.	.	**1**
Salmonellosis	5	.	2	2	1	.	.	1	**11**
Shigellosis	3	.	.	.	.	.	.	.	**3**
Streptococcal pneumoniae (invasive)	11	.	.	5	2	1	1	3	**23**
Streptococcal toxic shock syndrome (STSS)	.	.	.	.	.	.	.	1	**1**

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

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
Streptococcal, Group A (invasive)	17	.	2	3	2	.	.	3	**27**
Syphilis	14	.	1	1	1	.	1	.	**18**
Tuberculosis	5	.	.	.	.	.	.	.	**5**
Varicella	3	.	.	1	2	.	.	1	**7**
Vibriosis	1	.	.	.	.	.	.	.	**1**
Yersiniosis	2	.	.	1	.	.	.	.	**3**
Total	**206**	**6**	**15**	**72**	**37**	**5**	**15**	**40**	**396**

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

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
C. auris	12	0	0	0	0	0	0	0	**12**
C. auris - Investigation	17	0	1	0	3	0	0	2	**23**
CP-CRE	9	4	0	2	1	2	1	1	**20**
CP-CRE - Investigation	0	0	0	0	0	0	1	0	**1**
Campylobacteriosis	15	1	0	4	8	0	2	2	**32**
Coccidioidomycosis	2	0	0	0	1	0	0	0	**3**
Cryptosporidiosis	5	0	0	1	0	0	0	2	**8**
Dengue	1	0	0	0	0	0	0	0	**1**
E.Coli (shiga toxin producing)	7	0	0	2	0	0	0	0	**9**
Giardiasis	7	0	0	2	0	0	0	2	**11**
Haemophilus influenzae (invasive)	23	0	2	3	2	0	1	1	**32**
Hepatitis A	2	0	0	2	0	0	2	1	**7**
Hepatitis B (acute)	3	0	0	0	0	0	0	0	**3**
Hepatitis B (chronic)	41	3	2	23	5	1	4	5	**84**
Hepatitis C (chronic)	126	8	16	58	27	6	8	29	**278**
Hepatitis C - Perinatal Infection	0	0	0	0	1	1	0	0	**2**
Influenza-associated hospitalization	49	0	12	22	24	2	11	10	**130**
Legionellosis	1	0	0	0	2	0	0	1	**4**
Lyme Disease	7	3	2	2	2	0	1	1	**18**
MIS-C associated with COVID-19	0	0	0	1	0	0	0	0	**1**
Meningitis (aseptic/viral)	7	0	0	2	0	0	0	0	**9**
Meningitis (bacterial)	2	0	0	1	0	0	0	1	**4**
Meningococcal disease	1	0	0	0	0	0	0	0	**1**
Monkeypox	1	0	0	0	0	0	0	0	**1**
Mumps	0	0	0	1	0	0	0	0	**1**
Pertussis	0	0	0	0	0	0	1	1	**2**
Q fever (acute)	0	0	0	1	0	0	0	0	**1**
Salmonellosis	6	0	2	7	4	0	0	3	**22**
Shigellosis	4	0	0	1	0	0	0	0	**5**
Streptococcal pneumoniae (invasive)	23	0	2	10	7	2	1	6	**51**

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

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
Streptococcal toxic shock syndrome (STSS)	0	0	0	0	0	0	0	1	**1**
Streptococcal, Group A (invasive)	30	0	2	9	4	0	0	6	**51**
Syphilis	39	1	1	9	2	0	1	0	**53**
Tuberculosis	8	0	0	1	0	0	0	0	**9**
Varicella	6	0	0	3	2	0	1	1	**13**
Vibriosis	1	0	0	0	0	0	0	0	**1**
Yersiniosis	3	0	0	3	0	0	0	0	**6**
Total	**458**	**20**	**42**	**170**	**95**	**14**	**35**	**76**	**910**

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

Reportable Disease	February 2022	YTD 2022	February 2023	YTD 2023
C. auris	0	0	3	12
C. auris - Investigation	0	0	4	17
CP-CRE	4	6	5	8
Campylobacteriosis	2	2	7	15
Coccidioidomycosis	0	0	1	2
Creutzfeldt-Jakob Disease	0	1	0	0
Cryptosporidiosis	1	1	2	5
E.Coli (shiga toxin producing)	0	1	2	7
Giardiasis	6	12	4	7
Haemophilus influenzae (invasive)	2	3	6	23
Hepatitis A	4	8	1	2
Hepatitis B (acute)	0	1	1	3
Hepatitis B (chronic)	21	51	22	41
Hepatitis C (acute)	1	4	0	0
Hepatitis C (chronic)	85	159	63	126
Hepatitis C - Perinatal Infection	1	2	0	0
Influenza-associated hospitalization	2	4	10	49
Legionellosis	0	0	1	1
Lyme Disease	7	10	5	7

Reportable Disease	February 2022	YTD 2022	February 2023	YTD 2023
MIS-C associated with COVID-19	3	7	0	0
Malaria	3	5	0	0
Meningitis (aseptic/viral)	5	6	5	7
Meningitis (bacterial)	1	2	2	2
Meningococcal disease	0	0	0	1
Monkeypox	0	0	1	1
Psittacosis	0	1	0	0
Salmonellosis	3	7	5	6
Shigellosis	2	4	3	4
Spotted Fever Rickettsiosis (RMSF)	2	2	0	0
Streptococcal pneumoniae (invasive)	3	7	11	23
Streptococcal, Group A (invasive)	5	11	17	30
Syphilis	19	34	14	39
Tuberculosis	5	7	5	8
Varicella	3	3	3	6
Vibriosis	0	0	1	1
Yersiniosis	0	0	2	3

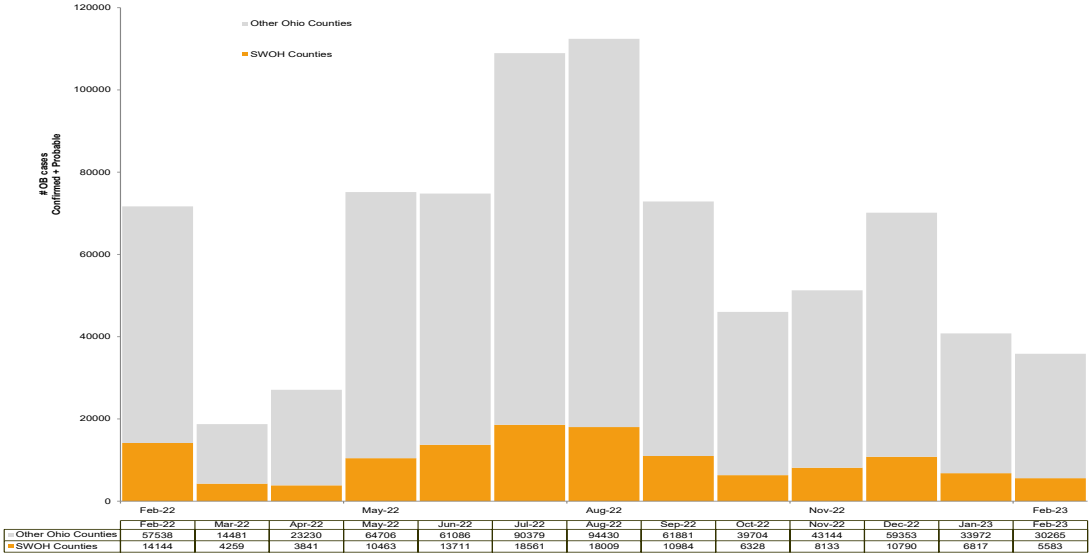
*Year to date totals for cases within the Hamilton County Public Health jurisdiction

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 February 28, 2023, cases in Ohio and SWOH are decreasing. The SWOH region accounts for 537,415 (15.9%) of confirmed and probable cases in Ohio.

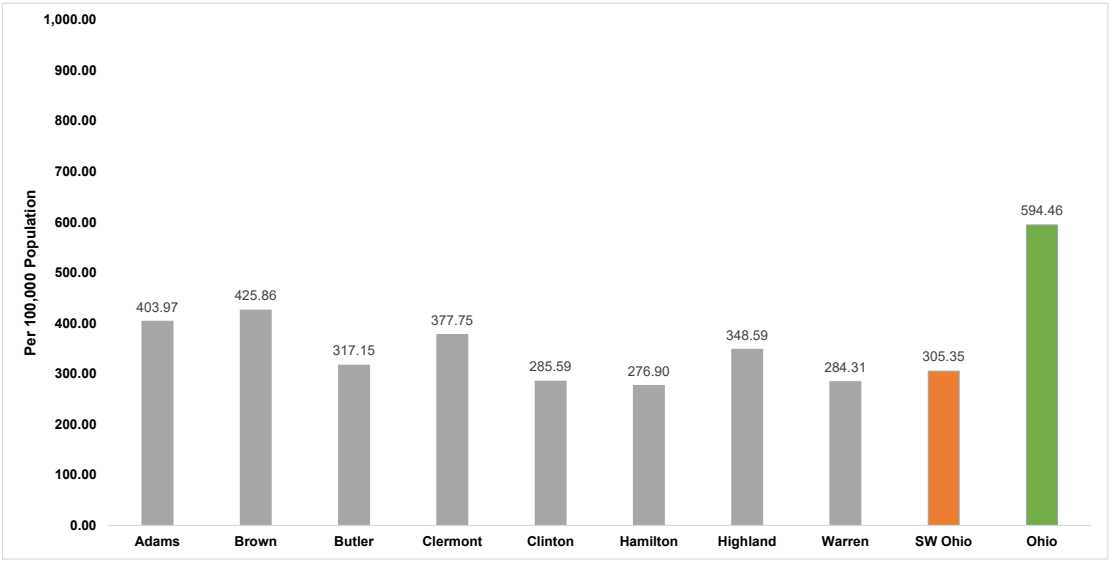
In February 2023, the SWOH rate was lower than the Ohio rate (Figure 3). Brown County had the highest rate of the 8 SWOH counties, followed by Adams County and Clermont County. All SWOH county rates were lower than the Ohio rate.

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



	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23
Other Ohio Counties	57538	14481	23230	64706	61086	90379	94430	61881	39704	43144	59353	33972	30265
SWOH Counties	14144	4259	3841	10463	13711	18561	18009	10984	6328	8133	10790	6817	5583

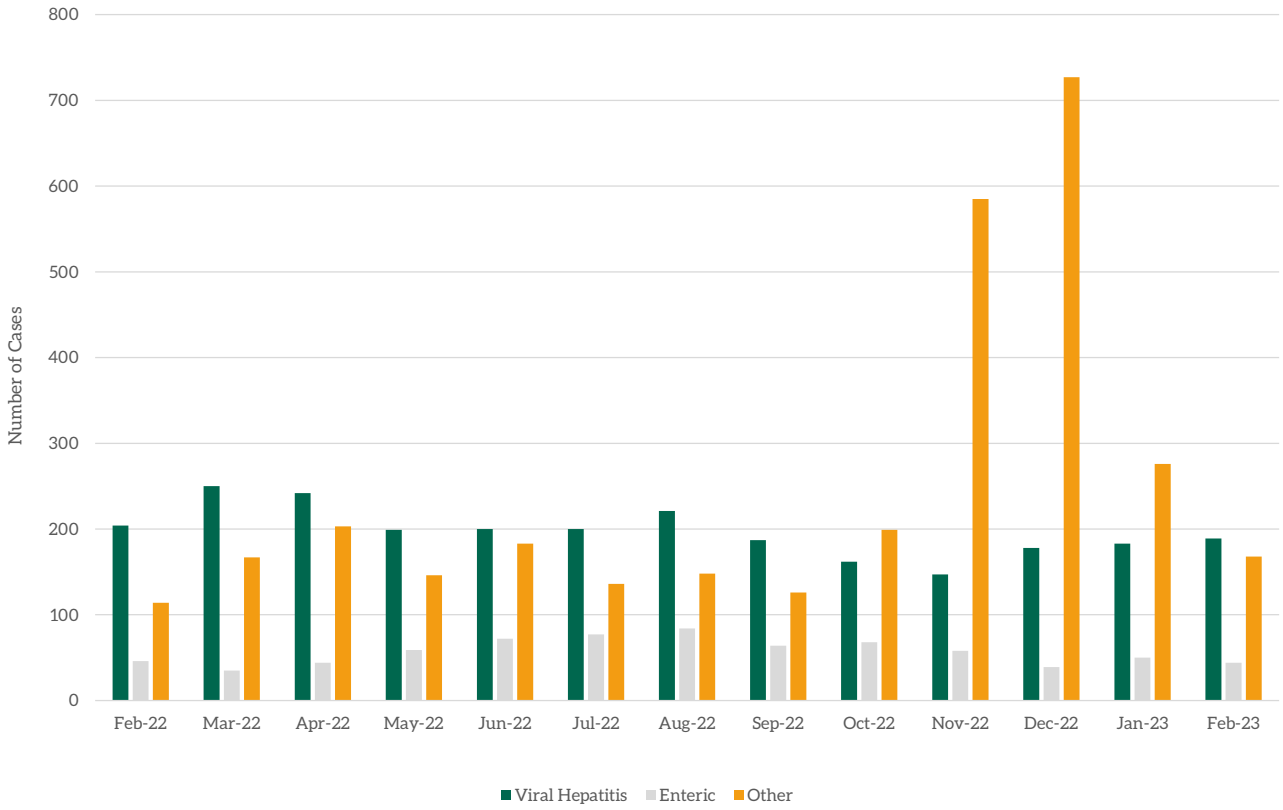
Figure 3. Rate of Confirmed and Probable Cases of COVID-19 in Ohio and Southwest Ohio Counties, February 2023



NOTES: This data is provisional and subject to change when additional information is gained. Outbreak confirmed positive cases between March 9, 2020 and February 28, 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 2, 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, February 2022 - February 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: 12

Types of EpiCenter alerts:

- Infectious Disease Symptoms (n=10)
- Syndromic Symptoms (n=2)

The alerts received for Hamilton County for February 1 - February 28 are summarized in Table 5 below. Three of the anomalies received in EpiCenter were dispositioned as Not a health event and one anomaly was dispositioned as Indeterminate. 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, February 2023

Anomaly Classifier	Event Date	Alert Category	Analysis Method	Aggregated By	Actual Value	Predicted Value	Threshold Value	Final Dispsition
Shock	2/28/2023	Infectious Disease	Exponential Moving Average	Facility Location	14	4.3	12.9	Active
Shock	2/28/2023	Infectious Disease	Cusum EMA	Facility Location	14	4.3	12.4	Active
Shock	2/28/2023	Infectious Disease	Recursive Least Squares	Facility Location	13	4.0	11.6	Active
Paralysis	2/20/2023	Infectious Disease	Recursive Least Squares	Home Location	17	7.2	16.4	Active
Stiff Neck	2/20/2023	Infectious Disease	Recursive Least Squares	Facility Location	14	6.0	13.5	Active
Hemorrhaging	2/18/2023	Infectious Disease	Recursive Least Squares	Home Location	29	15.0	25.2	Active
Exacerbation	2/17/2023	Infectious Disease	Exponential Moving Average	Home Location	14	6.3	14.0	Active
Exacerbation	2/17/2023	Infectious Disease	Recursive Least Squares	Home Location	14	6.5	12.5	Active
Vision	2/7/2023	Infectious Disease	Exponential Moving Average	Home Location	16	5.6	15.0	Not a health event
Botulinic	2/7/2023	Syndromic	Recursive Least Squares	Home Location	18	6.3	16.4	Not a health event
Botulinic	2/7/2023	Syndromic	Exponential Moving Average	Home Location	18	6.2	16.7	Not a health event
Diarrhea - Not Watery/Bloody	2/4/2023	Infectious Disease	Recursive Least Squares	Facility Location	22	11.9	21.2	Indeterminate

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

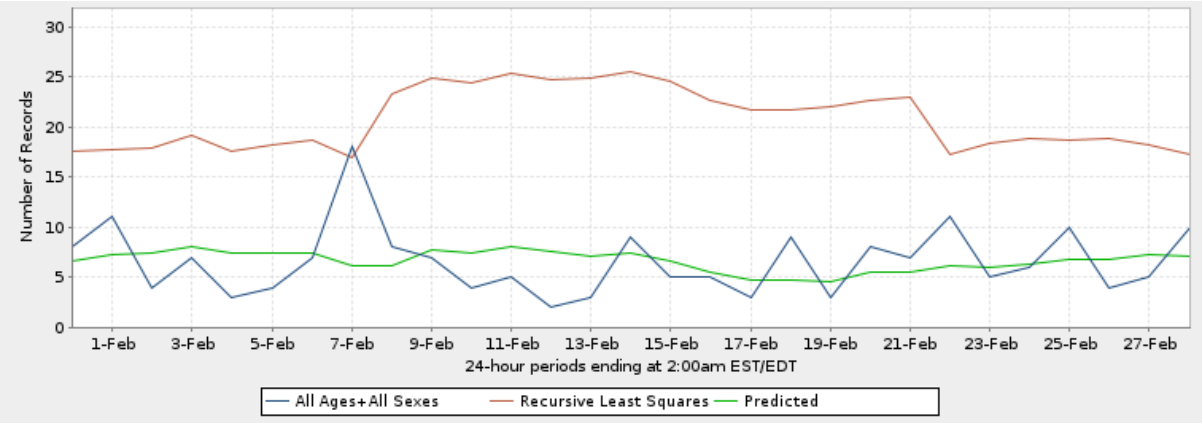


Figure 7. Consitutional-related ED Visits, Hamilton County, Ohio, February 2023

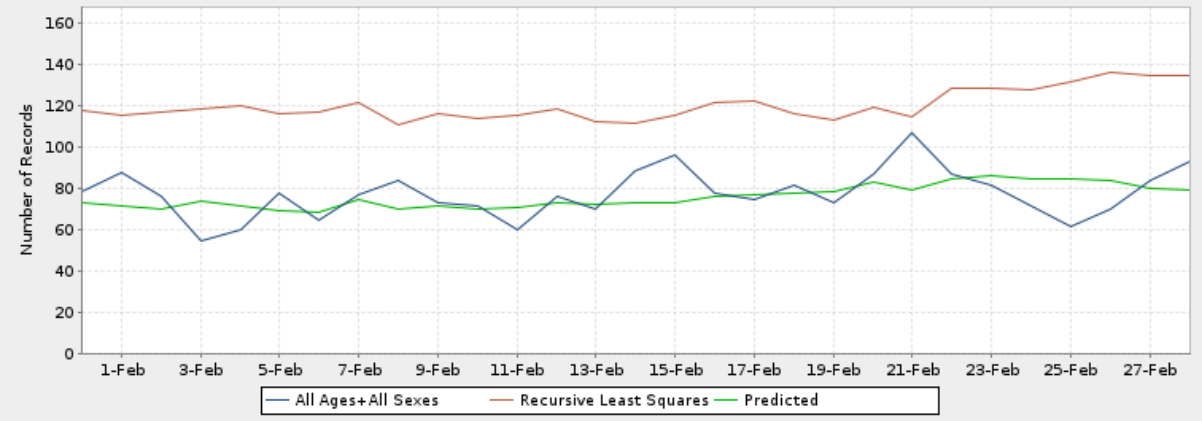


Figure 8. Respiratory-related ED Visits, Hamilton County, Ohio, February 2023