Monthly Communicable Disease Surveillance Report

November 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: 153

Most frequently reported communicable diseases:

- Influenza-associated hospitalization (n=70)
- Chronic hepatitis C (n=25)
- Campylobacteriosis (n=8)
- Streptococcal, Group A (invasive) (n=7)
- Streptococcal pneumoniae (n=6)

Southwest Ohio (SWOH)

Number of Communicable Diseases Reported: 778

Most frequently reported communicable diseases:

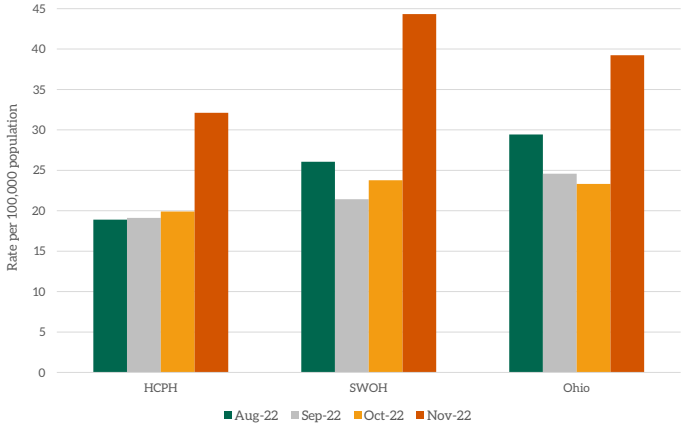
- Influenza-associated hospitalization (n=430)
- Chronic hepatitis C (n=110)
- Chronic hepatitis B (n=37)
- Streptococcal pneumoniae (invasive) (n=29)
- Streptococcal, Group A (invasive) (n=20)

Summary

The overall rates of reported communicable diseases for HCPH, SWOH, and Ohio in November increased by 61%, 87%, and 68% respectively (Figure 1). These rates are pro-rated to 30 days so they can be compared accurately. The SWOH rate (44.3) was the highest of the three rates, and the HCPH rate (32.1) was the lowest. The Ohio rate (39.2) was higher than the HCPH rate and lower than the SWOH rate. (Table 1).

Influenza-associated hospitalization was the most commonly reported disease across SWOH with Chronic hepatitis C and B 2nd and 3rd respectively (Table 2). Influenza-associated hospitalization cases accounted for 55.0% of the total communicable diseases reported during November. The number of cases of Influenza-associated hospitalization reported for SWOH in November (430) was higher than the number of cases in the previous month (69). The rate of Influenza-associated hospitalization within Hamilton County for November was 23.3 per 100,000 residents. This rate was 6% lower than the SWOH rate of 24.7 per 100,000 residents.

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



Chronic hepatitis C was the second most frequently reported communicable disease across SWOH. Chronic hepatitis (Hepatitis C and Hepatitis B combined) comprised 19.0% of the total communicable diseases reported during November. Southwest Ohio is currently on pace to have 24.7% less hepatitis cases than the previous year's average number of cases (197). The rate of chronic hepatitis within Hamilton County for November was 8.0 per 100,000 residents. This rate was 6% lower than the SWOH rate of 8.5 per 100,000 residents.

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

Location	Number of Reported Cases	Rate per 100,000	Rate Ratio†	Confidence Interval (99%)‡
HCPH	153	32.12	0.82	0.66 - 1.01
SWOH	778	44.34	1.13	1.02 - 1.25
Ohio	4,543	39.25	.	. - .

Streptococcal pneumoniae was the fourth most frequently reported disease in SWOH (Table 2). Streptococcal pneumoniae cases accounted for 3.7% of the total communicable diseases reported during November. The number of cases of Streptococcal pneumoniae reported for SWOH in November (29) was higher than the number of cases in the previous month (15). The rate ofStreptococcal pneumoniaeis within Hamilton County for November was 1.9 per 100,000 residents. This rate was 12% higher than the SWOH rate of 1.7 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 November 1-30, 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.

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

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
C. auris	9	.	.	.	.	.	.	.	**9**
C. auris - Investigation	10	.	.	2	.	.	.	.	**12**
CP-CRE	1	.	.	1	.	.	.	.	**2**
Campylobacteriosis	7	1	1	2	4	.	.	3	**18**
Coccidioidomycosis	1	.	.	.	.	.	.	.	**1**
Cryptosporidiosis	2	.	.	1	.	.	.	.	**3**
E.Coli (shiga toxin producing)	5	.	.	1	1	.	.	1	**8**
Giardiasis	5	.	.	.	.	.	.	1	**6**
Haemophilus influenzae (invasive)	2	.	.	1	1	.	.	.	**4**
Hepatitis A	.	.	.	.	.	.	1	.	**1**
Hepatitis B (acute)	2	.	.	1	.	.	.	.	**3**
Hepatitis B (chronic)	9	2	2	16	3	1	2	2	**37**
Hepatitis C (chronic)	55	1	4	26	8	1	1	14	**110**
Hepatitis C - Perinatal Infection	1	.	.	.	.	.	.	.	**1**
Influenza-associated hospitalization	187	7	11	100	57	6	12	50	**430**
Legionellosis	1	.	.	1	1	.	.	.	**3**
Lyme Disease	3	.	3	.	3	.	1	3	**13**
Meningitis (aseptic/viral)	.	.	.	1	.	.	.	1	**2**
Meningitis (bacterial)	1	.	.	1	.	.	.	1	**3**
Monkeypox	5	.	.	1	.	.	.	1	**7**
Mumps	2	.	.	.	.	.	.	.	**2**
Pertussis	1	.	.	2	.	.	.	.	**3**
Salmonellosis	5	.	.	4	3	.	.	5	**17**
Shigellosis	4	.	.	.	.	.	.	1	**5**
Streptococcal pneumoniae (invasive)	15	.	1	4	4	2	.	3	**29**
Streptococcal, Group A (invasive)	11	.	.	2	3	.	1	3	**20**
Syphilis	10	.	.	2	1	.	.	.	**13**
Tuberculosis	4	.	.	.	2	.	1	.	**7**
Varicella	4	.	.	.	1	.	.	3	**8**
Yersiniosis	.	.	.	.	1	.	.	.	**1**
Total	**362**	**11**	**22**	**169**	**93**	**10**	**19**	**92**	**778**

Table 3. YTD Cases of Notifiable Diseases in Southwest Ohio as Reported in ODRS by County, January - November 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	1	0	0	0	**3**
Botulism - wound	0	0	0	1	0	0	0	0	**1**
C. auris	53	0	1	1	2	0	1	0	**58**
C. auris - Investigation	86	0	0	6	8	0	0	0	**100**
CP-CRE	26	1	5	14	8	4	5	7	**70**
CP-CRE - Investigation	0	0	0	0	0	2	0	0	**2**
Campylobacteriosis	95	4	14	46	28	6	5	34	**232**
Chikungunya virus	0	0	0	1	0	0	0	0	**1**
Coccidioidomycosis	7	0	2	2	2	0	0	2	**15**
Creutzfeldt-Jakob Disease	4	0	0	1	0	0	0	0	**5**
Cryptosporidiosis	10	2	0	5	2	1	0	4	**24**
Cyclosporiasis	0	0	0	1	2	0	0	0	**3**
Dengue	1	0	0	2	0	0	0	0	**3**
E.Coli (shiga toxin producing)	28	1	1	16	7	0	2	10	**65**
Ehrlichiosis/Anaplasmosis	1	1	0	1	0	0	0	2	**5**
Giardiasis	34	0	2	8	5	0	2	12	**63**
Haemophilus influenzae (invasive)	20	0	0	9	5	0	0	2	**36**
Hemolytic uremic syndrome (HUS)	0	0	0	0	0	0	0	1	**1**
Hepatitis A	22	3	3	5	2	4	6	15	**60**
Hepatitis B (acute)	13	1	1	3	3	8	1	2	**32**
Hepatitis B (chronic)	186	23	16	141	25	14	28	73	**506**
Hepatitis C (acute)	9	0	0	0	0	0	0	1	**10**
Hepatitis C (chronic)	701	39	74	362	141	36	51	195	**1599**
Hepatitis C - Perinatal Infection	1	2	0	0	3	0	0	0	**6**
Hepatitis E	1	0	0	1	0	0	0	0	**2**
Influenza-associated hospitalization	335	8	27	165	103	11	29	85	**763**
Legionellosis	18	0	2	16	4	1	0	8	**49**
Listeriosis	2	0	0	0	1	0	0	0	**3**

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

Reportable Condition	County								Total
	Hamilton	Adams	Brown	Butler	Clermont	Clinton	Highland	Warren	
Lyme Disease	57	15	10	5	38	1	18	16	**160**
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	9	10	1	3	10	**60**
Meningitis (bacterial)	11	0	1	11	3	2	0	6	**34**
Meningococcal disease	1	0	0	0	0	0	0	0	**1**
Monkeypox	25	1	0	4	0	0	0	2	**32**
Mumps	3	1	0	0	0	0	0	2	**6**
Pertussis	9	0	1	8	2	1	1	1	**23**
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	81	5	5	36	27	3	5	24	**186**
Shigellosis	25	0	0	6	1	0	0	4	**36**
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)	77	0	3	32	15	7	6	12	**152**
Streptococcal, Group A (invasive)	58	0	3	29	18	1	3	18	**130**
Streptococcal, Group B (in newborn)	5	0	0	1	0	1	0	0	**7**
Syphilis	187	0	5	39	9	4	1	5	**250**
Tuberculosis	20	0	1	8	4	2	1	4	**40**
Tularemia	0	1	0	0	0	0	0	0	**1**
Typhus fever	0	0	0	1	0	0	0	0	**1**
Varicella	26	0	0	8	6	0	3	11	**54**
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	6	0	0	2	2	0	0	2	**12**
Total	**2297**	**113**	**182**	**1022**	**494**	**112**	**175**	**579**	**4974**

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

Reportable Disease	November 2021	YTD 2021	November 2022	YTD 2022
Amebiasis	0	1	0	2
Babesiosis	0	0	0	1
Botulism (Infant)	0	0	0	2
Brucellosis	0	1	0	0
C. auris	4	17	9	53
C. auris - Investigation	7	45	10	86
CP-CRE	0	20	1	16
Campylobacteriosis	5	68	7	95
Coccidioidomycosis	0	8	1	7
Creutzfeldt-Jakob Disease	0	3	0	4
Cryptosporidiosis	0	9	2	10
Cyclosporiasis	0	3	0	0
E.Coli (shiga toxin producing)	3	28	5	28
Ehrlichiosis/Anaplasmosis	0	2	0	1
Giardiasis	2	53	5	34
Haemophilus influenzae (invasive)	4	17	2	20
Hantavirus	0	1	0	0
Hemolytic uremic syndrome (HUS)	0	1	0	0
Hepatitis A	7	49	0	22
Hepatitis B (acute)	0	5	2	13
Hepatitis B (chronic)	30	270	9	186
Hepatitis C (acute)	0	6	0	9
Hepatitis C (chronic)	58	843	55	701
Hepatitis C - Perinatal Infection	0	4	1	1
Hepatitis E	1	1	0	1
Influenza-associated hospitalization	8	16	187	335
Legionellosis	3	26	1	18

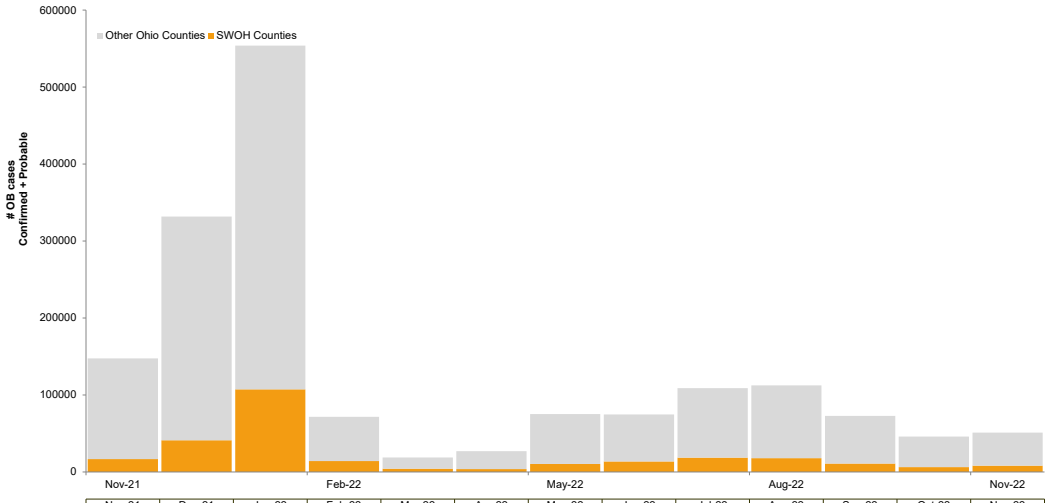
Reportable Disease	November 2021	YTD 2021	November 2022	YTD 2022
Listeriosis	0	6	0	2
Lyme Disease	4	58	3	57
MIS-C associated with COVID-19	3	28	0	8
Malaria	1	8	0	2
Measles	0	0	0	1
Meningitis (aseptic/viral)	2	31	0	25
Meningitis (bacterial)	4	21	1	11
Meningococcal disease	0	2	0	1
Monkeypox	0	0	5	25
Mumps	0	2	2	3
Pertussis	1	3	1	9
Psittacosis	0	2	0	1
Q fever (acute)	0	1	0	0
Q fever (chronic)	0	0	0	1
Salmonellosis	4	61	5	81
Shigellosis	2	17	4	25
Spotted Fever Rickettsiosis	1	12	0	9
Staphylococcal aureus (VISA)	0	1	0	0
Streptococcal pneumoniae (invasive)	6	44	15	77
Streptococcal, Group A (invasive)	5	41	11	58
Streptococcal, Group B (in newborn)	1	4	0	5
Syphilis	8	264	10	187
Tuberculosis	2	31	4	20
Typhus fever	0	1	0	0
Varicella	1	20	4	26
Vibriosis	0	5	0	1
Yersiniosis	1	3	0	6

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 November 30, 2022, cases in Ohio and SWOH are increasing. The SWOH counties account for 514,243 confirmed and probable cases.

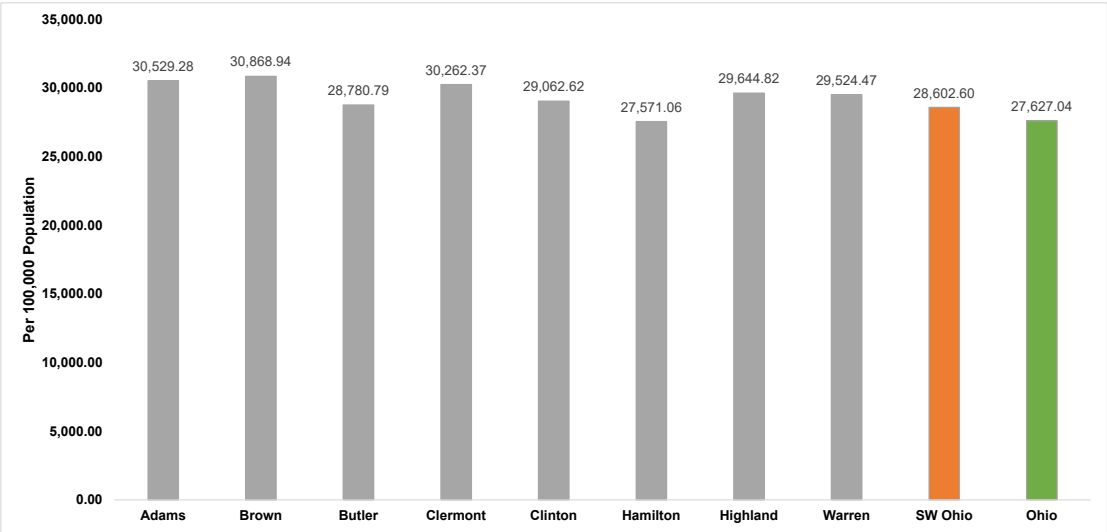
Overall, the SWOH rate is higher than the Ohio rate (Figure 3). The SWOH region accounts for 15.9 percent of Ohio cases. Brown County has the highest rate of the 8 SWOH counties, followed by Adams County and Clermont County. Currently the Hamilton County rate is lower than the Ohio rate, while all other 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, November 2021 - November 2022



	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22
Other Ohio Counties	130791	290501	446439	57538	14481	23231	64695	61072	90381	94416	61853	39608	42917
SWOH Counties	16737	41222	107391	14144	4259	3840	10463	13709	18561	18009	10984	6329	8142

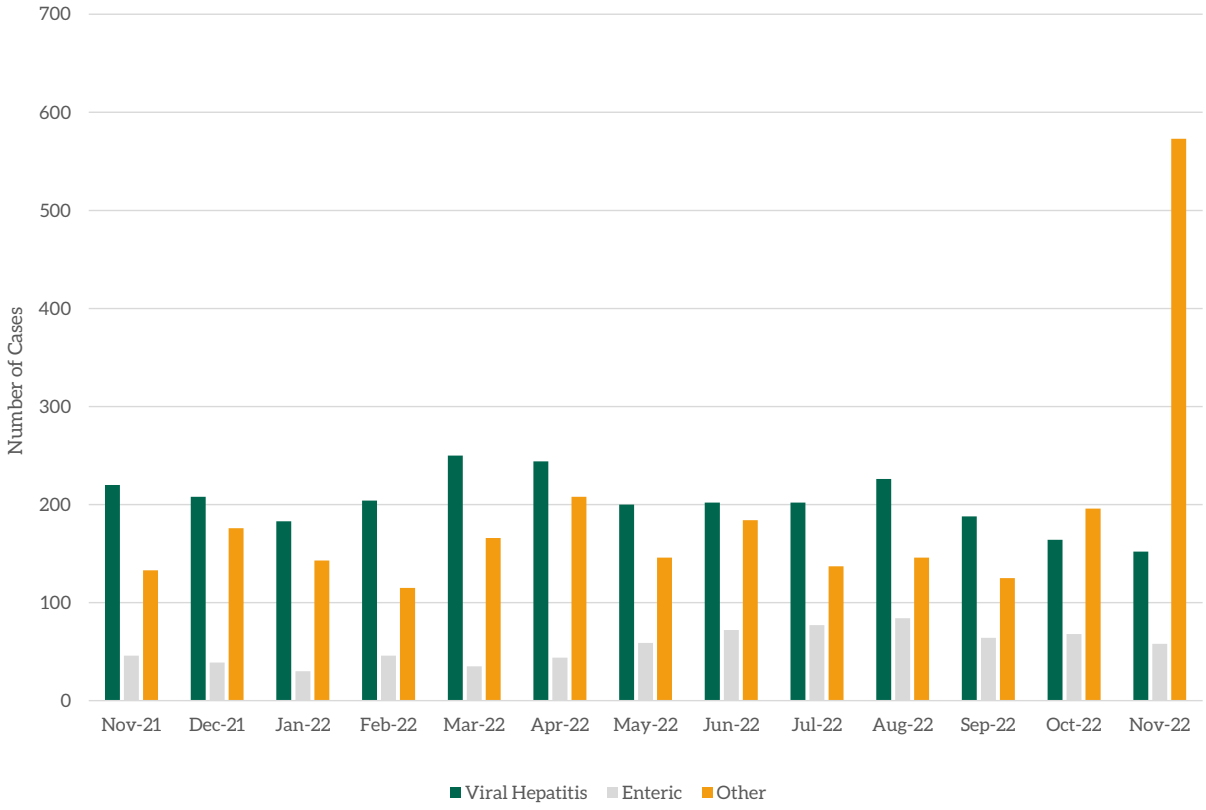
Figure 3. Rate of Confirmed and Probable Cases of COVID-19 in Ohio and Southwest Ohio Counties, March 9, 2020 - November 31, 2022



NOTES: This data is provisional and subject to change when additional information is gained. Outbreak confirmed positive cases between March 9, 2020 and November 30, 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 December 1, 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, November 2021 - November 2022*



SYNDROMIC SURVEILLANCE

Emergency Department Visits

Number of EpiCenter alerts received: 34

Types of EpiCenter alerts:

- Infectious Disease Symptoms (n=28)
- Syndromic Symptoms (n=6)

Three anomalies received in EpiCenter were dispositioned as not a health event, while fifteen anomalies were dispositioned as Seasonal Illness. The alerts received for Hamilton County for November 1 - November 30 are summarized in Table 5 (page 8). Constitutional and Respiratory related syndromic hospital visits are presented for the entire month for Hamilton County in Figures 5 and 6 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, November 2022

Anomaly Classifier	Event Date	Alert Category	Analysis Method	Aggregated By	Actual Value	Predicted Value	Threshold Value	Final Dispsition
Respiratory	11/29/2022	Syndromic	Cusum EMA	Facility Location	419	321.2	383.1	Active
Fever	11/28/2022	Infectious Disease	Cusum EMA	Home Location	156	113.9	154.7	Active
Headache	11/28/2022	Infectious Disease	Recursive Least Squares	Facility Location	82	41.1	67.5	Active
Cough	11/28/2022	Infectious Disease	Cusum EMA	Home Location	168	125.8	155.7	Active
Exacerbation	11/28/2022	Infectious Disease	Cusum EMA	Home Location	20	13.9	18.2	Active
Cough	11/27/2022	Infectious Disease	Cusum EMA	Facility Location	186	126.9	185.4	Active
Ear, Nose, Throat	11/26/2022	Infectious Disease	Cusum EMA	Facility Location	102	74.2	98.1	Active
Cough	11/25/2022	Infectious Disease	Cusum EMA	Home Location	149	103.0	145.4	Active
Fever	11/25/2022	Infectious Disease	Cusum EMA	Home Location	126	100.3	122.2	Active
Cough	11/25/2022	Infectious Disease	Cusum EMA	Facility Location	135	112.8	132.2	Active
Constitutional	11/24/2022	Syndromic	Cusum EMA	Facility Location	206	173.1	204.8	Active
Fever	11/23/2022	Infectious Disease	Recursive Least Squares	Facility Location	148	102.4	142.0	Active
Fever	11/23/2022	Infectious Disease	Cusum EMA	Facility Location	148	103.3	142.6	Active
Ear, Nose, Throat	11/22/2022	Infectious Disease	Exponential Moving Average	Facility Location	104	64.3	100.1	Active
Stiff Neck	11/19/2022	Infectious Disease	Recursive Least Squares	Home Location	19	7.0	15.4	Active
Stiff Neck	11/19/2022	Infectious Disease	Recursive Least Squares	Facility Location	19	8.5	17.4	Active
Eyes	11/13/2022	Infectious Disease	Recursive Least Squares	Facility Location	15	6.6	14.4	Not a health event
Shock	11/11/2022	Infectious Disease	Cusum EMA	Facility Location	10	4.2	8.8	Not a health event
Respiratory	11/10/2022	Syndromic	Cusum EMA	Facility Location	297	261.4	294.4	Seasonal Illness - ILI/Respiratory
Constitutional	11/9/2022	Syndromic	Cusum EMA	Facility Location	176	146.6	175.9	Seasonal Illness - ILI/Respiratory
Fever	11/8/2022	Infectious Disease	Cusum EMA	Home Location	114	84.1	110.0	Seasonal Illness - ILI/Respiratory
Cough	11/8/2022	Infectious Disease	Cusum EMA	Facility Location	114	92.9	106.8	Seasonal Illness - ILI/Respiratory
Respiratory	11/8/2022	Syndromic	Cusum EMA	Home Location	274	217.1	267.8	Seasonal Illness - ILI/Respiratory
Cough	11/8/2022	Infectious Disease	Cusum EMA	Home Location	133	88.0	126.9	Seasonal Illness - ILI/Respiratory
Constitutional	11/8/2022	Syndromic	Cusum EMA	Home Location	161	129.2	159.0	Seasonal Illness - ILI/Respiratory

Anomaly Classifier	Event Date	Alert Category	Analysis Method	Aggregated By	Actual Value	Predicted Value	Threshold Value	Final Dispsition
Fever	11/6/2022	Infectious Disease	Cusum EMA	Facility Location	106	81.3	102.0	Seasonal Illness - ILI/Respiratory
Fever	11/5/2022	Infectious Disease	Cusum EMA	Home Location	89	73.9	80.9	Seasonal Illness - ILI/Respiratory
Fever	11/3/2022	Infectious Disease	Cusum EMA	Home Location	86	70.3	82.0	Seasonal Illness - ILI/Respiratory
Stiff Neck	11/2/2022	Infectious Disease	Recursive Least Squares	Home Location	14	6.4	13.6	Not a health event
Fever	11/2/2022	Infectious Disease	Cusum EMA	Home Location	74	48.0	69.1	Seasonal Illness - ILI/Respiratory
Cough	11/2/2022	Infectious Disease	Recursive Least Squares	Facility Location	94	55.0	87.5	Seasonal Illness - ILI/Respiratory
Cough	11/2/2022	Infectious Disease	Recursive Least Squares	Home Location	101	59.2	98.8	Seasonal Illness - ILI/Respiratory
Cough	11/2/2022	Infectious Disease	Cusum EMA	Home Location	101	55.9	96.5	Seasonal Illness - ILI/Respiratory
Cough	11/1/2022	Infectious Disease	Cusum EMA	Facility Location	90	53.6	87.1	Seasonal Illness - ILI/Respiratory

Figure 5. Constitutional-related ED Visits, Hamilton County, Ohio, November 2022

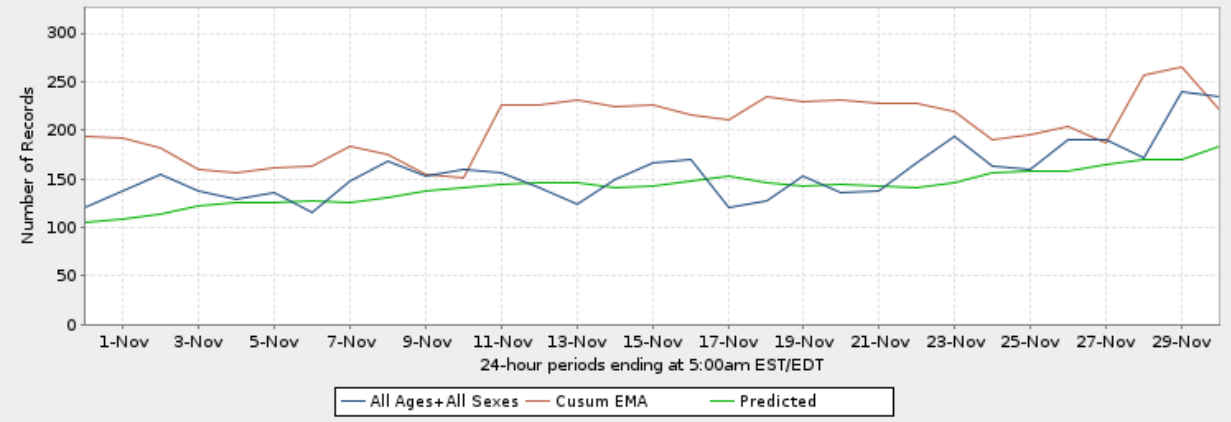


Figure 6. Respiratory-related ED Visits, Hamilton County, Ohio, November 2022