

OHIO DEPARTMENT OF HEALTH

ANNUAL SUMMARY OF INFECTIOUS DISEASES OHIO 2018

REPORTED INCIDENCE OF SELECTED
NOTIFIABLE DISEASES



Department
of Health

PREPARED AND DISTRIBUTED BY:

BUREAU OF INFECTIOUS DISEASES

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INTRODUCTION

The *Annual Summary of Infectious Diseases, Ohio, 2018* provides an overview of the incidence of selected notifiable infectious diseases. The report includes tables of disease by year of onset, age group, sex, month of onset and county of residence and tables of Shiga toxin-producing *Escherichia coli* serogroups, invasive *Haemophilus influenzae* serotypes in children <5 years of age, meningococcal disease serogroups and *Salmonella* serotypes. In addition, there are graphs of selected disease incidence, profiles of selected diseases and outbreak summaries.

The sources of these data are individual case and laboratory reports submitted to the Ohio Department of Health (ODH) by infection preventionists, healthcare providers, laboratories and city, county and combined health districts throughout the state and entered into the Ohio Disease Reporting System (ODRS). Data reflect disease incidence for Ohio residents only, but include diseases acquired by Ohio residents while traveling out of state or overseas.

This summary includes confirmed and probable cases. For all diseases, the case criteria used are those provided in:

- The [ODH Infectious Disease Control Manual \(IDCM\)](#)
- The Centers for Disease Control and Prevention (CDC) National Notifiable Diseases Surveillance System's [2018 nationally notifiable infectious disease case definitions](#)

[HIV/AIDS](#), [non-perinatal hepatitis B](#), [hepatitis C](#), [sexually transmitted diseases](#) and [tuberculosis](#) surveillance data are not included in this report. Please refer to each program's Web site for summary reports of these diseases as well as previous annual summaries.

Thanks to all Ohio infection preventionists, healthcare providers, laboratories and local health departments for their hard work and dedication to reporting infectious diseases in the most accurate, complete and timely manner. These efforts are essential in protecting and improving the health of all Ohioans.

Questions or comments regarding this annual summary may be directed to the ODH Bureau of Infectious Diseases at (614) 995-5599.

OHIO NOTIFIABLE DISEASES

Ohio Administrative Code (OAC) 3701-3, effective Mar. 22, 2018

CLASS A

Diseases of major public health concern because of the severity of disease or potential for epidemic spread. Report immediately via telephone upon recognition that a case, a suspected case or a positive laboratory result exists.

- Anthrax
- Botulism, foodborne
- Cholera
- Diphtheria
- Influenza A, novel virus
- Measles
- Meningococcal disease
- Middle East respiratory syndrome
- Any unexpected pattern of cases, suspected cases, deaths or increased incidence of any other disease of major public health concern because of the severity of disease or potential for epidemic spread, which may indicate a newly recognized infectious agent, outbreak, epidemic, related public health hazard or act of bioterrorism.
- Plague
- Rabies, human
- Rubella, not congenital
- Severe acute respiratory syndrome
- Smallpox
- Tularemia
- Viral hemorrhagic fever
 - Ebola virus disease
 - Lassa fever
 - Marburg hemorrhagic fever
 - Crimean-Congo hemorrhagic fever
 - Yellow fever

CLASS B

Diseases of public health concern needing timely response because of potential for epidemic spread. Report by the end of the next business day after the existence of a case, a suspected case or a positive laboratory result is known.

- Amebiasis
- Arboviral neuroinvasive and non-neuroinvasive disease:
 - Chikungunya virus infection
 - Eastern equine encephalitis virus disease
 - La Crosse virus disease
 - Powassan virus disease
 - St. Louis encephalitis virus disease
 - West Nile virus infection
 - Western equine encephalitis virus disease
 - Zika virus infection
- Other arthropod-borne disease
 - Babesiosis
 - Botulism, infant
 - Botulism, wound
 - Brucellosis
 - Campylobacteriosis
 - Carbapenemase-producing carbapenem-resistant *Enterobacteriaceae* (CP-CRE)
 - CP-CRE *Enterobacter* spp.
 - CP-CRE *Escherichia coli*
 - CP-CRE *Klebsiella* spp.
 - CP-CRE other
 - Chancroid
- *Chlamydia trachomatis* infection
- Coccidioidomycosis
- Creutzfeldt-Jakob disease
- Cryptosporidiosis
- Cyclosporiasis
- Dengue
- *Escherichia coli*, Shiga toxin-producing
- Ehrlichiosis/Anaplasmosis
- Giardiasis
- Gonorrhea
- *Haemophilus influenzae*, invasive disease
- Hantavirus
- Hemolytic uremic syndrome
- Hepatitis A

OHIO NOTIFIABLE DISEASES

Ohio Administrative Code (OAC) 3701-3, effective Mar. 22, 2018

CLASS B, CONTINUED

Diseases of public health concern needing timely response because of potential for epidemic spread. Report by the end of the next business day after the existence of a case, a suspected case or a positive laboratory result is known.

- Hepatitis B, non-perinatal
- Hepatitis B, perinatal
- Hepatitis C, non-perinatal
- Hepatitis C, perinatal
- Hepatitis D
- Hepatitis E
- Influenza-associated hospitalization
- Influenza-associated pediatric mortality
- Legionellosis
- Leprosy (Hansen disease)
- Leptospirosis
- Listeriosis
- Lyme disease
- Malaria
- Meningitis, aseptic
- Meningitis, other bacterial
- Mumps
- Pertussis
- Poliomyelitis
- Psittacosis
- Q fever
- Rubella, congenital
- Salmonellosis
- Shigellosis
- Spotted fever rickettsiosis
- *Staphylococcus aureus*, vancomycin resistant or intermediate resistant
- Streptococcal disease, group A, invasive
- Streptococcal disease, group B, in newborn
- Streptococcal toxic shock syndrome
- *Streptococcus pneumoniae*, invasive disease
- Syphilis
- Tetanus
- Toxic shock syndrome
- Trichinellosis
- Tuberculosis
- Typhoid fever
- Varicella
- Vibriosis
- Yersiniosis

CLASS C

Report an outbreak, unusual incidence or epidemic (e.g., histoplasmosis, pediculosis, scabies, staphylococcal infections) by the end of the next business day.

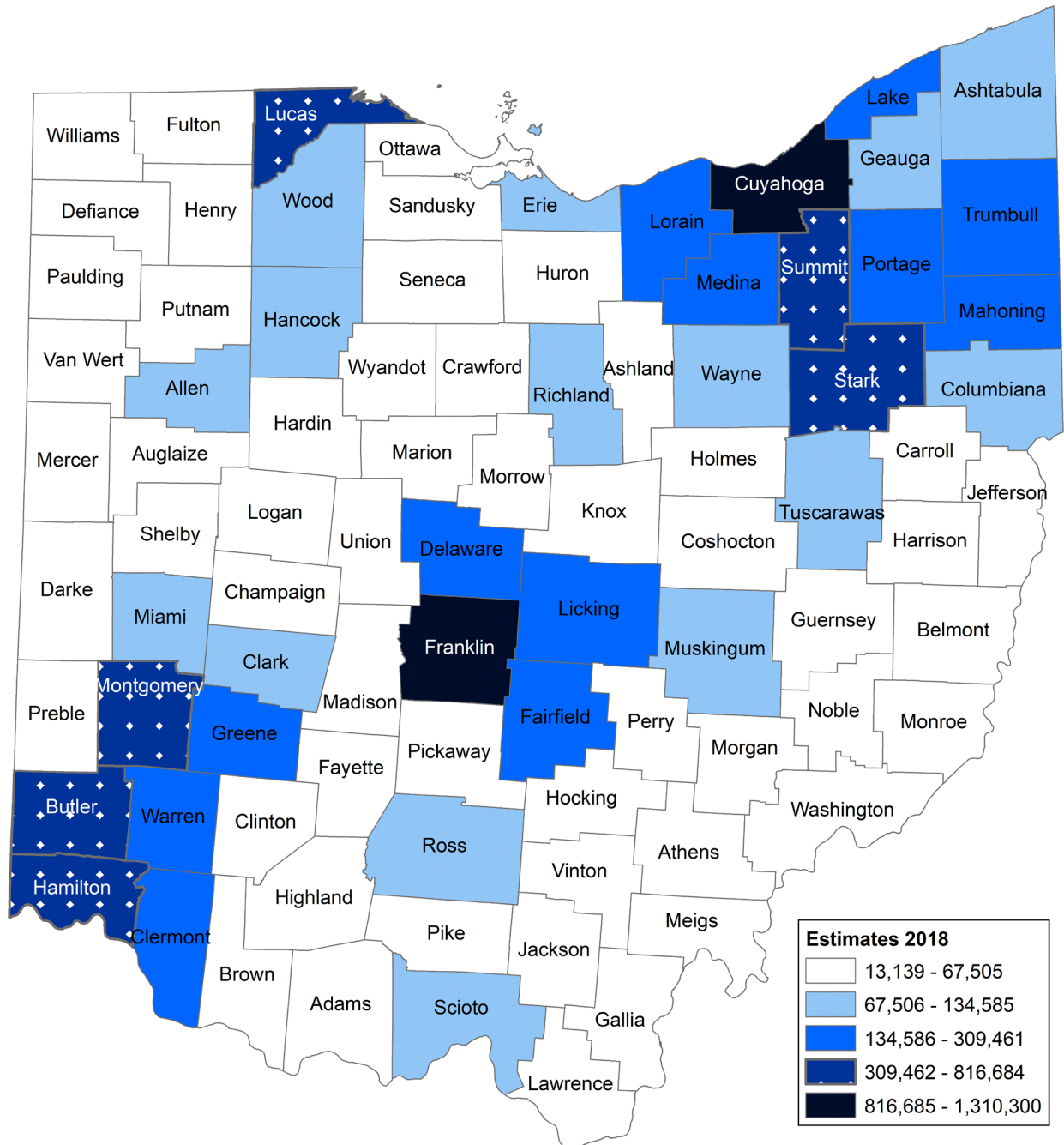
- Community
- Foodborne
- Healthcare-associated
- Institutional
- Waterborne
- Zoonotic

AIDS AND HIV REPORTING

Cases of AIDS (acquired immune deficiency syndrome), AIDS-related conditions, HIV (human immunodeficiency virus) infection, perinatal exposure to HIV, all CD4 T-lymphocyte counts and all tests used to diagnose HIV must be reported on forms and in a manner prescribed by the director.

For the current list of reportable diseases in Ohio, please see [Know Your ABCs: A Quick Guide to Reportable Infectious Diseases in Ohio](#) or OAC [3701-3-02](#) and [3701-3-12](#).

OHIO COUNTY POPULATION MAP



Source of population data: 2018 U.S. Census estimates.

TABLES OF SELECTED NOTIFIABLE DISEASES

BY YEAR OF ONSET TABLE

Pages 6-7

This table displays case counts and rates for five years of data and the median and mean counts and rates during 2014-2018. Medians and means were calculated only when five years of data were available. Population data come from the U.S. Census estimates for each year. Data are by year of onset with the exception of outbreaks, which are shown by date of report for all years.

BY AGE TABLE

Pages 8-11

This table provides case counts and rates by age group (in years) for 2018. Age refers to the patient's age at the earliest known date associated with the case. Population data come from the 2018 U.S. Census estimates. Outbreak data are not included in this table.

BY SEX TABLE

Pages 12-13

This table contains case counts and rates by sex for 2018. Population data come from the 2018 U.S. Census estimates. Outbreak data are not included in this table.

BY MONTH OF ONSET TABLE

Pages 14-17

Case counts and percentages by month of onset for 2018 are presented in this table. Month refers to the month of symptom onset except for outbreaks, which are by month of report, and for influenza-associated pediatric mortality, which is by month of death.

BY COUNTY OF RESIDENCE TABLE

Pages 18-43

This table displays case counts and rates by county for 2018. County refers to the patient's county of residence. If the county of residence is unknown, then the county in which the physician, hospital or local health department is located is used. Population data come from the 2018 U.S. Census estimates.

ESCHERICHIA COLI, SHIGA TOXIN-PRODUCING SEROGROUPS TABLE

Page 44

This table shows Shiga toxin-producing *Escherichia coli* case counts by serogroup during 2014-2018. The bacteriology laboratory at ODH performs serogrouping of Shiga toxin-producing *E. coli* isolates.

HAEMOPHILUS INFLUENZAE, INVASIVE DISEASE SEROTYPES TABLE

Page 45

This table shows invasive *Haemophilus influenzae* case counts in children <5 years of age by serotype during 2014-2018. The meningitis laboratory at CDC performs serogrouping of *H. influenzae* isolates.

MENINGOCOCCAL SEROGROUPS TABLE

Page 46

This table shows meningococcal disease case counts by serogroup during 2014-2018. The bacteriology laboratory at ODH performs serogrouping of *Neisseria meningitidis* isolates.

SALMONELLA SEROTYPES TABLE

Pages 47-50

Salmonella case counts by serotype during 2014-2018 are contained in this table. Serotypes, untyped serogroups and untyped/ungrouped isolates are provided. The bacteriology laboratory at ODH performs serotyping of *Salmonella* isolates.

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY YEAR OF ONSET, OHIO, 2014-2018

GENERAL INFECTIOUS DISEASES	2014		2015		2016		2017		2018		MEDIAN		MEAN	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	9	0.1	16	0.1	19	0.2	6	0.1	12	0.1	12	0.1	12	0.1
Botulism	5	0.0	35	0.3	8	0.1	3	0.0	2	0.0	5	0.0	11	0.1
Foodborne	2	0.0	29	0.2	0	0.0	0	0.0	0	0.0	0	0.0	6	0.0
Infant*	3	*	5	*	8	*	3	*	2	*	3	*	4	*
Wound	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Campylobacteriosis	923	8.0	1,786	15.4	1,962	16.9	2,080	17.8	2,192	18.8	1,962	16.9	1,789	15.4
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	—	n/a	—	n/a	—	n/a	—	n/a	393	3.4	—	n/a	—	n/a
Coccidioidomycosis	15	0.1	13	0.1	23	0.2	28	0.2	19	0.2	19	0.2	20	0.2
Creutzfeldt-Jakob Disease (CJD)	12	0.1	8	0.1	4	0.0	20	0.2	14	0.1	12	0.1	12	0.1
Cryptosporidiosis	322	2.8	429	3.7	1,949	16.8	643	5.5	638	5.5	638	5.5	796	6.9
Cyclosporiasis	2	0.0	1	0.0	6	0.1	23	0.2	92	0.8	6	0.1	25	0.2
<i>Escherichia coli</i> , Shiga Toxin-Producing	203	1.8	265	2.3	263	2.3	287	2.5	537	4.6	265	2.3	311	2.7
O157:H7	92	0.8	105	0.9	77	0.7	60	0.5	68	0.6	77	0.7	80	0.7
Not O157:H7	105	0.9	135	1.2	159	1.4	166	1.4	135	1.2	135	1.2	140	1.2
Unknown Serotype	6	0.1	25	0.2	27	0.2	61	0.5	334	2.9	27	0.2	91	0.8
Giardiasis	380	3.3	376	3.2	395	3.4	427	3.7	499	4.3	395	3.4	415	3.6
<i>Haemophilus influenzae</i> , Invasive Disease	129	1.1	162	1.4	180	1.5	256	2.2	272	2.3	180	1.5	200	1.7
Hemolytic Uremic Syndrome (HUS)	8	0.1	3	0.0	7	0.1	5	0.0	4	0.0	5	0.0	5	0.0
Hepatitis A	27	0.2	36	0.3	38	0.3	51	0.4	1,838	15.7	38	0.3	398	3.4
Hepatitis E	0	0.0	1	0.0	5	0.0	2	0.0	2	0.0	2	0.0	2	0.0
Legionellosis	409	3.5	566	4.9	510	4.4	583	5.0	950	8.1	566	4.9	604	5.2
Leprosy (Hansen Disease)	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Listeriosis	29	0.3	25	0.2	36	0.3	26	0.2	30	0.3	29	0.3	29	0.3
Meningitis, Aseptic	530	4.6	746	6.4	664	5.7	482	4.1	634	5.4	634	5.4	611	5.2
Meningitis, Other Bacterial*	91	0.8	81	0.7	134	1.2	146	1.3	143	1.2	134	1.2	119	1.0
Salmonellosis	1,188	10.2	1,373	11.8	1,528	13.2	1,390	11.9	1,507	12.9	1,390	11.9	1,397	12.0
Shigellosis	591	5.1	748	6.4	1,076	9.3	616	5.3	517	4.4	616	5.3	710	6.1
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	8	0.1	12	0.1	8	0.1	4	0.0	8	0.1	8	0.1	8	0.1
Streptococcal Disease, Group A, Invasive	319	2.8	310	2.7	419	3.6	635	5.4	682	5.8	419	3.6	473	4.1
Streptococcal Disease, Group B, in Newborn*	63	*	73	*	67	*	62	*	63	*	63	*	66	*
Streptococcal Toxic Shock Syndrome (STSS)	9	0.1	6	0.1	11	0.1	10	0.1	25	0.2	10	0.1	12	0.1
Toxic Shock Syndrome (TSS)	9	0.1	1	0.0	3	0.0	1	0.0	1	0.0	1	0.0	3	0.0
Typhoid Fever	7	0.1	8	0.1	11	0.1	37	0.3	6	0.1	8	0.1	14	0.1
Vibriosis	12	0.1	15	0.1	13	0.1	39	0.3	52	0.4	15	0.1	26	0.2
<i>Vibrio parahaemolyticus</i> Infection	7	0.1	9	0.0	6	0.0	13	0.1	13	0.1	9	0.1	10	0.1
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	1	0.0	2	0.0	0	0.0	1	0.0
Other (Not Cholera)	5	0.0	6	0.1	7	0.1	25	0.2	37	0.3	7	0.1	16	0.1
Yersiniosis	52	0.4	44	0.4	57	0.5	51	0.4	54	0.5	52	0.4	52	0.4
SUB-TOTAL	5,353	46.2	7,140	61.5	9,396	80.9	7,913	67.9	11,186	95.7	7,913	67.9	8,198	70.4

OUTBREAKS*														
Community*	72	n/a	49	n/a	46	n/a	30	n/a	38	n/a	46	n/a	47	n/a
Foodborne*	75	n/a	81	n/a	83	n/a	65	n/a	79	n/a	79	n/a	77	n/a
Healthcare-Associated*	70	n/a	97	n/a	79	n/a	103	n/a	122	n/a	97	n/a	94	n/a
Institutional*	202	n/a	163	n/a	292	n/a	228	n/a	258	n/a	228	n/a	229	n/a
Waterborne*	14	n/a	8	n/a	20	n/a	9	n/a	8	n/a	9	n/a	12	n/a
Zoonotic*	13	n/a	11	n/a	17	n/a	13	n/a	15	n/a	13	n/a	14	n/a
SUB-TOTAL	446	n/a	409	n/a	537	n/a	448	n/a	520	n/a	448	n/a	472	n/a

N = number of cases reported.

Rates use U.S. Census estimates for each year and are per 100,000 population.

n/a = not applicable.

(-) indicates a condition not reportable at the time.

* Please see Technical Notes (pp.96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY YEAR OF ONSET, OHIO, 2014-2018

VACCINE-PREVENTABLE	2014		2015		2016		2017		2018		MEDIAN		MEAN	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Diphtheria	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis B, Perinatal Infection*	2	*	0	*	0	*	3	*	2	*	2	*	1	*
Influenza-Associated Hospitalization	8,247	71.1	3,799	32.7	4,130	35.6	11,819	101.4	14,438	123.5	8,247	71.1	8,487	72.9
Influenza-Associated Pediatric Mortality*	4	*	2	*	1	*	9	*	2	*	2	*	4	*
Influenza A Virus, Novel Human Infection*	2	0.0	1	0.0	6	0.1	18	0.2	4	0.0	4	0.0	6	0.1
Measles	382	3.3	1	0.0	0	0.0	1	0.0	0	0.0	1	0.0	77	0.7
Imported	3	0.0	1	0.0	0	0.0	1	0.0	0	0.0	1	0.0	1	0.0
Indigenous	379	3.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	76	0.7
Meningococcal Disease	12	0.1	18	0.2	8	0.1	12	0.1	7	0.1	12	0.1	11	0.1
Mumps	554	4.8	14	0.1	74	0.6	60	0.5	38	0.3	60	0.5	148	1.3
Pertussis	1,310	11.3	798	6.9	971	8.4	830	7.1	668	5.7	830	7.1	915	7.9
<i>Streptococcus pneumoniae</i> , Invasive Disease	924	8.0	965	8.3	977	8.4	1,235	10.6	1,293	11.1	977	8.4	1,079	9.3
Ages < 5 Years*	47	*	56	*	58	*	85	*	62	*	58	*	62	*
Drug Resistant, Ages 5+ Years*	216	*	269	*	249	*	314	*	347	*	269	*	279	*
Drug Susceptible, Ages 5+ Years*	661	*	640	*	670	*	836	*	884	*	670	*	738	*
Tetanus	1	0.0	1	0.0	2	0.0	0	0.0	2	0.0	1	0.0	1	0.0
Varicella	513	4.4	494	4.3	450	3.9	471	4.0	444	3.8	471	4.0	474	4.1
SUB-TOTAL	11,952	103.1	6,093	52.5	6,619	57.0	14,458	124.0	16,898	144.6	11,952	103.1	11,204	96.2
ZOOONOSES														
Babesiosis	0	0.0	1	0.0	0	0.0	1	0.0	1	0.0	1	0.0	1	0.0
Brucellosis	0	0.0	1	0.0	3	0.0	0	0.0	2	0.0	1	0.0	1	0.0
Chikungunya Virus Infection*	43	0.4	10	0.1	4	0.0	4	0.0	3	0.0	4	0.0	13	0.1
Dengue	9	0.1	11	0.1	6	0.1	6	0.1	7	0.1	7	0.1	8	0.1
Ehrlichiosis/Anaplasmosis	6	0.1	19	0.2	13	0.1	20	0.2	20	0.2	19	0.2	16	0.2
<i>Anaplasma phagocytophilum</i> *	1	0.0	1	0.0	5	0.0	3	0.0	3	0.0	3	0.0	3	0.0
<i>Ehrlichia chaffeensis</i> *	4	0.0	17	0.1	8	0.1	17	0.1	17	0.1	17	0.1	13	0.1
Unknown	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
La Crosse Virus Disease*	31	0.3	24	0.2	9	0.1	13	0.1	39	0.3	24	0.2	23	0.2
Leptospirosis	2	0.0	0	0.0	1	0.0	2	0.0	3	0.0	2	0.0	2	0.0
Lyme Disease	120	1.0	147	1.3	159	1.4	270	2.3	295	2.5	159	1.4	198	1.7
Malaria	39	0.3	36	0.3	63	0.5	60	0.5	56	0.5	56	0.5	51	0.4
Q Fever	2	0.0	4	0.0	3	0.0	1	0.0	3	0.0	3	0.0	3	0.0
Acute	1	0.0	4	0.0	2	0.0	0	0.0	2	0.0	2	0.0	2	0.0
Chronic	1	0.0	0	0.0	1	0.0	1	0.0	1	0.0	1	0.0	1	0.0
Rabies, Animal*	25	n/a	26	n/a	41	n/a	20	n/a	55	n/a	26	n/a	33	n/a
Spotted Fever Rickettsiosis*	10	0.1	13	0.1	23	0.2	39	0.3	35	0.3	23	0.2	24	0.2
Trichinellosis	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tularemia	1	0.0	1	0.0	0	0.0	2	0.0	1	0.0	1	0.0	1	0.0
West Nile Virus Infection	11	0.1	35	0.3	17	0.1	34	0.3	65	0.6	34	0.3	32	0.3
Zika Virus Infection*	—	n/a	—	n/a	95	0.8	4	0.0	0	0.0	—	n/a	—	n/a
SUB-TOTAL	299	2.4	328	2.6	438	3.4	476	3.9	585	4.5	438	3.4	425	3.4
GRAND TOTAL	18,050	151.6	13,970	116.5	16,990	141.3	23,295	195.8	29,189	244.8	18,050	151.6	20,299	170.0
POPULATION	11,594,163		11,613,423		11,614,373		11,658,609		11,689,442		11,614,373		11,634,002	

N = number of cases reported.

Rates use U.S. Census estimates for each year and are per 100,000 population.

n/a = not applicable.

(-) indicates a condition not reportable at the time.

* Please see Technical Notes (pp.96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY AGE IN YEARS, OHIO, 2018

GENERAL INFECTIOUS DISEASES	0-4		5-9		10-14		15-19		20-29		30-39	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	0	0.0	0	0.0	0	0.0	1	0.1	2	0.1	2	0.1
Botulism	2	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Infant*	2	*	0	*	0	*	0	*	0	*	0	*
Campylobacteriosis	233	33.5	76	10.7	46	6.2	101	13.3	228	14.6	206	14.1
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	3	0.4	0	0.0	0	0.0	0	0.0	11	0.7	28	1.9
Coccidioidomycosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.2
Creutzfeldt-Jakob Disease (CJD)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cryptosporidiosis	85	12.2	34	4.8	39	5.3	63	8.3	109	7.0	75	5.1
Cyclosporiasis	1	0.1	0	0.0	1	0.1	2	0.3	8	0.5	7	0.5
<i>Escherichia coli</i> , Shiga Toxin-Producing	107	15.4	25	3.5	36	4.9	58	7.6	72	4.6	48	3.3
O157:H7	15	2.2	7	1.0	8	1.1	8	1.1	13	0.8	6	0.4
Not O157:H7	29	4.2	7	1.0	10	1.4	16	2.1	23	1.5	15	1.0
Unknown Serotype	63	9.1	11	1.6	18	2.4	34	4.5	36	2.3	27	1.8
Giardiasis	50	7.2	23	3.2	14	1.9	23	3.0	82	5.2	57	3.9
<i>Haemophilus influenzae</i> , Invasive Disease	24	3.5	6	0.8	0	0.0	2	0.3	15	1.0	15	1.0
Hemolytic Uremic Syndrome (HUS)	1	0.1	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
Hepatitis A	7	1.0	1	0.1	4	0.5	16	2.1	417	26.6	635	43.4
Hepatitis E	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
Legionellosis	0	0.0	0	0.0	0	0.0	2	0.3	18	1.1	56	3.8
Listeriosis	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
Meningitis, Aseptic	270	38.9	17	2.4	14	1.9	18	2.4	73	4.7	61	4.2
Meningitis, Other Bacterial*	24	3.5	1	0.1	5	0.7	4	0.5	17	1.1	17	1.2
Salmonellosis	178	25.6	62	8.8	56	7.6	67	8.8	181	11.6	149	10.2
Shigellosis	195	28.1	60	8.5	18	2.4	19	2.5	49	3.1	51	3.5
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1
Streptococcal Disease, Group A, Invasive	17	2.4	13	1.8	5	0.7	5	0.7	71	4.5	94	6.4
Streptococcal Disease, Group B, in Newborn*	63	*	0	*	0	*	0	*	0	*	0	*
Streptococcal Toxic Shock Syndrome (STSS)	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1	5	0.3
Toxic Shock Syndrome (TSS)	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
Typhoid Fever	0	0.0	0	0.0	0	0.0	1	0.1	4	0.3	1	0.1
Vibriosis	1	0.1	0	0.0	1	0.1	3	0.4	5	0.3	4	0.3
<i>Vibrio parahaemolyticus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other (Not Cholera)	1	0.1	0	0.0	1	0.1	3	0.4	4	0.3	3	0.2
Yersiniosis	9	1.3	1	0.1	2	0.3	2	0.3	5	0.3	4	0.3
SUB-TOTAL	1,270	182.8	319	45.0	241	32.7	390	51.2	1,371	87.6	1,519	103.9

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY AGE IN YEARS, OHIO, 2018

VACCINE-PREVENTABLE	0-4		5-9		10-14		15-19		20-29		30-39	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	2	*	0	*	0	*	0	*	0	*	0	*
Influenza-Associated Hospitalization	666	95.9	278	39.3	112	15.2	123	16.1	442	28.2	490	33.5
Influenza-Associated Pediatric Mortality*	2	*	0	*	0	*	0	*	0	*	0	*
Influenza A Virus, Novel Human Infection*	1	0.1	1	0.1	1	0.1	1	0.1	0	0.0	0	0.0
Meningococcal Disease	3	0.4	0	0.0	1	0.1	1	0.1	0	0.0	0	0.0
Mumps	8	1.2	8	1.1	2	0.3	2	0.3	7	0.4	2	0.1
Pertussis	235	33.8	97	13.7	124	16.8	118	15.5	10	0.6	21	1.4
<i>Streptococcus pneumoniae</i> , Invasive Disease	62	8.9	28	4.0	7	0.9	10	1.3	36	2.3	64	4.4
Ages < 5 Years*	62	8.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Drug Resistant, Ages 5+ Years*	0	0.0	9	1.3	0	0.0	1	0.1	7	0.4	18	1.2
Drug Susceptible, Ages 5+ Years*	0	0.0	19	2.7	7	0.9	9	1.2	29	1.9	46	3.1
Tetanus	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
Varicella	137	19.7	64	9.0	41	5.6	34	4.5	10	0.6	6	0.4
SUB-TOTAL	1,116	160.6	476	67.2	288	39.0	290	38.1	505	32.3	583	39.9

ZOOLOSES												
Babesiosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Brucellosis	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
Chikungunya Virus Infection*	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1
Dengue	0	0.0	1	0.1	0	0.0	1	0.1	0	0.0	3	0.2
Ehrlichiosis/Anaplasmosis	0	0.0	1	0.1	0	0.0	2	0.3	2	0.1	0	0.0
<i>Anaplasma phagocytophilum</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Ehrlichia chaffeensis</i> *	0	0.0	1	0.1	0	0.0	2	0.3	2	0.1	0	0.0
La Crosse Virus Disease*	5	0.7	20	2.8	11	1.5	3	0.4	0	0.0	0	0.0
Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
Lyme Disease	14	2.0	43	6.1	42	5.7	13	1.7	29	1.9	21	1.4
Malaria	5	0.7	2	0.3	4	0.5	1	0.1	8	0.5	12	0.8
Q Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Acute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chronic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rabies, Animal*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Spotted Fever Rickettsiosis*	0	0.0	1	0.1	1	0.1	0	0.0	1	0.1	6	0.4
Tularemia	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
West Nile Virus Infection	0	0.0	1	0.1	0	0.0	0	0.0	5	0.3	4	0.3
SUB-TOTAL	24	3.5	69	9.7	58	7.9	21	2.8	48	3.1	47	3.2

GRAND TOTAL	2,410	346.9	864	0.0	587	79.6	701	92.0	1,924	122.9	2,149	146.9
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POPULATION	694,789	708,148	737,787	761,897	1,565,788	1,462,599
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY AGE IN YEARS, OHIO, 2018

GENERAL INFECTIOUS DISEASES	40-49		50-59		60 +		Unknown		TOTAL	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	2	0.1	3	0.2	2	0.1	0	n/a	12	0.1
Botulism	0	0.0	0	0.0	0	0.0	0	n/a	2	0.0
Infant*	0	*	0	*	0	*	0	n/a	2	*
Campylobacteriosis	250	17.9	357	22.7	694	24.9	1	n/a	2,192	18.8
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	30	2.1	66	4.2	255	9.2	0	n/a	393	3.4
Coccidioidomycosis	2	0.1	3	0.2	11	0.4	0	n/a	19	0.2
Creutzfeldt-Jakob Disease (CJD)	2	0.1	3	0.2	9	0.3	0	n/a	14	0.1
Cryptosporidiosis	67	4.8	48	3.1	117	4.2	1	n/a	638	5.5
Cyclosporiasis	21	1.5	24	1.5	27	1.0	1	n/a	92	0.8
<i>Escherichia coli</i> , Shiga Toxin-Producing	45	3.2	38	2.4	108	3.9	0	n/a	537	4.6
O157:H7	1	0.1	2	0.1	8	0.3	0	n/a	68	0.6
Not O157:H7	8	0.6	11	0.7	16	0.6	0	n/a	135	1.2
Unknown Serotype	36	2.6	25	1.6	84	3.0	0	n/a	334	2.9
Giardiasis	69	4.9	66	4.2	115	4.1	0	n/a	499	4.3
<i>Haemophilus influenzae</i> , Invasive Disease	18	1.3	32	2.0	160	5.7	0	n/a	272	2.3
Hemolytic Uremic Syndrome (HUS)	0	0.0	0	0.0	2	0.1	0	n/a	4	0.0
Hepatitis A	381	27.2	251	15.9	125	4.5	1	n/a	1,838	15.7
Hepatitis E	0	0.0	0	0.0	1	0.0	0	n/a	2	0.0
Legionellosis	118	8.4	218	13.9	538	19.3	0	n/a	950	8.1
Listeriosis	1	0.1	5	0.3	23	0.8	0	n/a	30	0.3
Meningitis, Aseptic	51	3.6	44	2.8	86	3.1	0	n/a	634	5.4
Meningitis, Other Bacterial*	17	1.2	18	1.1	40	1.4	0	n/a	143	1.2
Salmonellosis	166	11.9	219	13.9	429	15.4	0	n/a	1,507	12.9
Shigellosis	41	2.9	32	2.0	52	1.9	0	n/a	517	4.4
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	1	0.1	1	0.1	4	0.1	0	n/a	8	0.1
Streptococcal Disease, Group A, Invasive	69	4.9	88	5.6	320	11.5	0	n/a	682	5.8
Streptococcal Disease, Group B, in Newborn*	0	*	0	*	0	*	0	n/a	63	*
Streptococcal Toxic Shock Syndrome (STSS)	3	0.2	7	0.4	8	0.3	0	n/a	25	0.2
Toxic Shock Syndrome (TSS)	0	0.0	0	0.0	0	0.0	0	n/a	1	0.0
Typhoid Fever	0	0.0	0	0.0	0	0.0	0	n/a	6	0.1
Vibriosis	7	0.5	5	0.3	26	0.9	0	n/a	52	0.4
<i>Vibrio parahaemolyticus</i> Infection	3	0.2	2	0.1	6	0.2	0	n/a	13	0.1
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	2	0.1	0	n/a	2	0.0
Other (Not Cholera)	4	0.3	3	0.2	18	0.6	0	n/a	37	0.3
Yersiniosis	5	0.4	7	0.4	19	0.7	0	n/a	54	0.5
SUB-TOTAL	1,366	97.6	1,535	97.5	3,171	113.9	4	n/a	11,186	95.7

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY AGE IN YEARS, OHIO, 2018

VACCINE-PREVENTABLE	40-49		50-59		60 +		Unknown		TOTAL	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	0	*	0	*	0	*	0	n/a	2	*
Influenza-Associated Hospitalization	813	58.1	1,858	118.1	9,639	346.1	17	n/a	14,438	123.5
Influenza-Associated Pediatric Mortality*	0	*	0	*	0	*	0	n/a	2	*
Influenza A Virus, Novel Human Infection*	0	0.0	0	0.0	0	0.0	0	n/a	4	0.0
Meningococcal Disease	0	0.0	0	0.0	2	0.1	0	n/a	7	0.1
Mumps	0	0.0	5	0.3	4	0.1	0	n/a	38	0.3
Pertussis	19	1.4	22	1.4	22	0.8	0	n/a	668	5.7
<i>Streptococcus pneumoniae</i> , Invasive Disease	117	8.4	281	17.9	688	24.7	0	n/a	1,293	11.1
Ages < 5 Years*	0	0.0	0	0.0	0	0.0	0	n/a	62	8.9
Drug Resistant, Ages 5+ Years*	30	2.1	79	5.0	203	7.3	0	n/a	347	3.2
Drug Susceptible, Ages 5+ Years*	87	6.2	202	12.8	485	17.4	0	n/a	884	8.0
Tetanus	0	0.0	0	0.0	1	0.0	0	n/a	2	0.0
Varicella	141	10.1	6	0.4	5	0.2	0	n/a	444	3.8
SUB-TOTAL	1,090	77.9	2,172	138.0	10,361	372.0	17	n/a	16,898	144.6

ZOO NOSES										
Babesiosis	0	0.0	0	0.0	1	0.0	0	n/a	1	0.0
Brucellosis	0	0.0	0	0.0	1	0.0	0	n/a	2	0.0
Chikungunya Virus Infection*	0	0.0	1	0.1	0	0.0	0	n/a	3	0.0
Dengue	1	0.1	0	0.0	1	0.0	0	n/a	7	0.1
Ehrlichiosis/Anaplasmosis	1	0.1	5	0.3	9	0.3	0	n/a	20	0.2
<i>Anaplasma phagocytophilum</i> *	0	0.0	1	0.1	2	0.1	0	n/a	3	0.0
<i>Ehrlichia chaffeensis</i> *	1	0.1	4	0.3	7	0.3	0	n/a	17	0.1
La Crosse Virus Disease*	0	0.0	0	0.0	0	0.0	0	n/a	39	0.3
Leptospirosis	2	0.1	0	0.0	0	0.0	0	n/a	3	0.0
Lyme Disease	26	1.9	36	2.3	71	2.5	0	n/a	295	2.5
Malaria	10	0.7	7	0.4	7	0.3	0	n/a	56	0.5
Q Fever	1	0.1	1	0.1	1	0.0	0	n/a	3	0.0
Acute	0	0.0	1	0.1	1	0.0	0	n/a	2	0.0
Chronic	1	0.1	0	0.0	0	0.0	0	n/a	1	0.0
Rabies, Animal*	0	n/a	0	n/a	0	n/a	55	n/a	55	n/a
Spotted Fever Rickettsiosis*	5	0.4	6	0.4	15	0.5	0	n/a	35	0.3
Tularemia	0	0.0	0	0.0	0	0.0	0	n/a	1	0.0
West Nile Virus Infection	7	0.5	12	0.8	36	1.3	0	n/a	65	0.6
SUB-TOTAL	53	3.8	68	4.3	142	5.1	55	n/a	585	4.5

GRAND TOTAL	2,509	179.3	3,775	239.9	13,674	491.0	76	n/a	28,669	244.8
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POPULATION	1,399,513	1,573,753	2,785,168	0	11,689,442
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY SEX, OHIO, 2018

GENERAL INFECTIOUS DISEASES	Female		Male		Unknown		TOTAL	
	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	4	0.1	8	0.1	0	n/a	12	0.1
Botulism	1	0.0	1	0.0	0	n/a	2	0.0
Infant*	1	*	1	*	0	n/a	2	*
Campylobacteriosis	1,106	18.6	1,082	18.9	4	n/a	2,192	18.8
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	217	3.6	176	3.1	0	n/a	393	3.4
Coccidioidomycosis	5	0.1	14	0.2	0	n/a	19	0.2
Creutzfeldt-Jakob Disease (CJD)	8	0.1	4	0.1	2	n/a	14	0.1
Cryptosporidiosis	322	5.4	316	5.5	0	n/a	638	5.5
Cyclosporiasis	58	1.0	34	0.6	0	n/a	92	0.8
<i>Escherichia coli</i> , Shiga Toxin-Producing	283	4.7	254	4.4	0	n/a	537	4.6
O157:H7	34	0.6	34	0.6	0	n/a	68	0.6
Not O157:H7	76	1.3	59	1.0	0	n/a	135	1.2
Unknown Serotype	173	2.9	161	2.8	0	n/a	334	2.9
Giardiasis	198	3.3	301	5.3	0	n/a	499	4.3
<i>Haemophilus influenzae</i> , Invasive Disease	141	2.4	131	2.3	0	n/a	272	2.3
Hemolytic Uremic Syndrome (HUS)	3	0.1	1	0.0	0	n/a	4	0.0
Hepatitis A	744	12.5	1,092	19.1	2	n/a	1,838	15.7
Hepatitis E	2	0.0	0	0.0	0	n/a	2	0.0
Legionellosis	379	6.4	571	10.0	0	n/a	950	8.1
Listeriosis	18	0.3	12	0.2	0	n/a	30	0.3
Meningitis, Aseptic	303	5.1	328	5.7	3	n/a	634	5.4
Meningitis, Other Bacterial*	57	1.0	86	1.5	0	n/a	143	1.2
Salmonellosis	848	14.2	659	11.5	0	n/a	1,507	12.9
Shigellosis	241	4.0	274	4.8	2	n/a	517	4.4
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	4	0.1	4	0.1	0	n/a	8	0.1
Streptococcal Disease, Group A, Invasive	362	6.1	317	5.5	3	n/a	682	5.8
Streptococcal Disease, Group B, in Newborn*	29	*	32	*	2	n/a	63	*
Streptococcal Toxic Shock Syndrome (STSS)	12	0.2	13	0.2	0	n/a	25	0.2
Toxic Shock Syndrome (TSS)	1	0.0	0	0.0	0	n/a	1	0.0
Typhoid Fever	2	0.0	4	0.1	0	n/a	6	0.1
Vibriosis	21	0.4	31	0.5	0	n/a	52	0.4
<i>Vibrio parahaemolyticus</i> Infection	3	0.1	10	0.2	0	n/a	13	0.1
<i>Vibrio vulnificus</i> Infection	0	0.0	2	0.0	0	n/a	2	0.0
Other (Not Cholera)	18	0.3	19	0.3	0	n/a	37	0.3
Yersiniosis	32	0.5	22	0.4	0	n/a	54	0.5
SUB-TOTAL	5,401	90.6	5,767	100.6	18	n/a	11,186	95.7

VACCINE-PREVENTABLE

Hepatitis B, Perinatal Infection*	1	*	1	*	0	n/a	2	*
Influenza-Associated Hospitalization	7,941	133.3	6,412	111.9	85	n/a	14,438	123.5
Influenza-Associated Pediatric Mortality*	0	*	2	*	0	n/a	2	*
Influenza A Virus, Novel Human Infection*	2	0.0	2	0.0	0	n/a	4	0.0
Meningococcal Disease	5		2		0	n/a	7	0.1
Mumps	14	0.2	24	0.4	0	n/a	38	0.3
Pertussis	362	6.1	306	5.3	0	n/a	668	5.7
<i>Streptococcus pneumoniae</i> , Invasive Disease	624		669	11.7	0	n/a	1,293	11.1
Ages < 5 Years*	32	*	30	*	0	n/a	62	*
Drug Resistant, Ages 5+ Years*	184	*	163	*	0	n/a	347	*
Drug Susceptible, Ages 5+ Years*	408	*	476	*	0	n/a	884	*
Tetanus	2	0.0	0	0.0	0	n/a	2	0.0
Varicella	214	3.6	230	4.0	0	n/a	444	3.8
SUB-TOTAL	9,165	153.8	7,648	133.5	85	n/a	16,898	144.6

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY SEX, OHIO, 2018

ZOO NOSES	Female		Male		Unknown		TOTAL	
	N	Rate	N	Rate	N	Rate	N	Rate
Babesiosis	0	0.0	1	0.0	0	n/a	1	0.0
Brucellosis	1	0.0	1	0.0	0	n/a	2	0.0
Chikungunya Virus Infection*	3	0.1	0	0.0	0	n/a	3	0.0
Dengue	4	0.1	3	0.1	0	n/a	7	0.1
Ehrlichiosis/Anaplasmosis	10	0.2	10	0.2	0	n/a	20	0.2
<i>Anaplasma phagocytophilum</i> *	2	0.0	1	0.0	0	n/a	3	0.0
<i>Ehrlichia chaffeensis</i> *	8	0.1	9	0.2	0	n/a	17	0.1
La Crosse Virus Disease*	20	0.3	19	0.3	0	n/a	39	0.3
Leptospirosis	0	0.0	3	0.1	0	n/a	3	0.0
Lyme Disease	115	1.9	180	3.1	0	n/a	295	2.5
Malaria	23	0.4	31	0.5	2	n/a	56	0.5
Q Fever	1	0.0	2	0.0	0	n/a	3	0.0
Acute	1	0.0	1	0.0	0	n/a	2	0.0
Chronic	0	0.0	1	0.0	0	n/a	1	0.0
Rabies, Animal*	0	n/a	0	n/a	55	n/a	55	n/a
Spotted Fever Rickettsiosis*	13	0.2	22	0.4	0	n/a	35	0.3
Tularemia	1	0.0	0	0.0	0	n/a	1	0.0
West Nile Virus Infection	25	0.4	40	0.7	0	n/a	65	0.6
SUB-TOTAL	216	3.6	312	5.4	57	n/a	585	4.5
GRAND TOTAL	14,782	248.1	13,727	239.5	160	n/a	28,669	244.8
POPULATION	5,958,724		5,730,718		0		11,689,442	

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY MONTH OF ONSET, OHIO, 2018

GENERAL INFECTIOUS DISEASES	January		February		March		April		May		June		July	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Amebiasis	2	17%	0	0%	1	8%	3	25%	3	25%	2	17%	0	0%
Botulism	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Infant*	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Campylobacteriosis	116	5%	110	5%	120	5%	141	6%	182	8%	260	12%	303	14%
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	1	0%	1	0%	23	6%	45	11%	56	14%	46	12%	46	12%
Coccidioidomycosis	2	11%	1	5%	4	21%	5	26%	1	5%	1	5%	2	11%
Creutzfeldt-Jakob Disease (CJD)	0	0%	0	0%	0	0%	3	21%	0	0%	0	0%	1	7%
Cryptosporidiosis	40	6%	49	8%	53	8%	37	6%	54	8%	54	8%	98	15%
Cyclosporiasis	0	0%	0	0%	0	0%	0	0%	4	4%	48	52%	38	41%
<i>Escherichia coli</i> , Shiga Toxin-Producing	30	6%	22	4%	46	9%	38	7%	49	9%	74	14%	87	16%
O157:H7	3	4%	6	9%	3	4%	6	9%	7	10%	9	13%	7	10%
Not O157:H7	16	12%	4	3%	6	4%	10	7%	3	2%	19	14%	22	16%
Unknown Serotype	11	3%	12	4%	37	11%	22	7%	39	12%	46	14%	58	17%
Giardiasis	50	10%	29	6%	38	8%	33	7%	39	8%	49	10%	57	11%
<i>Haemophilus influenzae</i> , Invasive Disease	24	9%	19	7%	22	8%	19	7%	24	9%	17	6%	18	7%
Hemolytic Uremic Syndrome (HUS)	0	0%	0	0%	0	0%	0	0%	0	0%	3	75%	0	0%
Hepatitis A	17	1%	9	0%	11	1%	24	1%	31	2%	69	4%	142	8%
Hepatitis E	0	0%	0	0%	1	50%	0	0%	0	0%	0	0%	0	0%
Legionellosis	26	3%	23	2%	13	1%	26	3%	63	7%	184	19%	101	11%
Listeriosis	0	0%	3	10%	2	7%	1	3%	3	10%	1	3%	3	10%
Meningitis, Aseptic	26	4%	26	4%	36	6%	31	5%	36	6%	57	9%	79	12%
Meningitis, Other Bacterial*	8	6%	16	11%	12	8%	14	10%	12	8%	14	10%	15	10%
Salmonellosis	61	4%	73	5%	90	6%	80	5%	144	10%	170	11%	216	14%
Shigellosis	35	7%	38	7%	49	9%	47	9%	58	11%	44	9%	34	7%
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	0	0%	0	0%	1	13%	3	38%	0	0%	0	0%	1	13%
Streptococcal Disease, Group A, Invasive	92	13%	70	10%	76	11%	77	11%	60	9%	46	7%	43	6%
Streptococcal Disease, Group B, in Newborn*	4	6%	4	6%	5	8%	4	6%	6	10%	5	8%	7	11%
Streptococcal Toxic Shock Syndrome (STSS)	1	4%	4	16%	6	24%	3	12%	1	4%	0	0%	1	4%
Toxic Shock Syndrome (TSS)	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Typhoid Fever	2	33%	1	17%	0	0%	0	0%	0	0%	0	0%	0	0%
Vibriosis	1	2%	2	4%	2	4%	1	2%	3	6%	5	10%	6	12%
<i>Vibrio parahaemolyticus</i> Infection	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	5	38%
<i>Vibrio vulnificus</i> Infection	0	0%	0	0%	1	50%	0	0%	0	0%	0	0%	0	0%
Other (Not Cholera)	1	3%	2	5%	1	3%	1	3%	3	8%	5	14%	1	3%
Yersiniosis	4	7%	3	6%	8	15%	4	7%	4	7%	2	4%	2	4%
SUB-TOTAL	542	5%	503	4%	619	6%	639	6%	833	7%	1,151	10%	1,300	12%
OUTBREAKS*														
Community*	3	8%	3	8%	2	5%	6	16%	1	3%	1	3%	4	11%
Foodborne*	6	8%	7	9%	4	5%	14	18%	7	9%	7	9%	4	5%
Healthcare-Associated*	50	41%	11	9%	8	7%	13	11%	4	3%	5	4%	2	2%
Institutional*	20	8%	19	7%	21	8%	20	8%	13	5%	16	6%	18	7%
Waterborne*	0	0%	0	0%	0	0%	0	0%	0	0%	3	38%	2	25%
Zoonotic*	0	0%	2	13%	0	0%	1	7%	1	7%	2	13%	2	13%
SUB-TOTAL	79	15%	42	8%	35	7%	54	10%	26	5%	34	7%	32	6%

N = number of cases reported.

% = percentage of cases occurring in the month for the disease.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY MONTH OF ONSET, OHIO, 2018

VACCINE-PREVENTABLE	January		February		March		April		May		June		July	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Hepatitis B, Perinatal Infection*	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	1	50%
Influenza-Associated Hospitalization	6,336	44%	3,739	26%	2,047	14%	1,170	8%	153	1%	15	0%	9	0%
Influenza-Associated Pediatric Mortality*	2	100%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Influenza A Virus, Novel Human Infection*	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Meningococcal Disease	1	14%	3	43%	0	0%	0	0%	1	14%	0	0%	1	14%
Mumps	3	8%	2	5%	1	3%	6	16%	4	11%	3	8%	1	3%
Pertussis	41	6%	35	5%	40	6%	45	7%	38	6%	54	8%	47	7%
<i>Streptococcus pneumoniae</i> , Invasive Disease	183	14%	147	11%	134	10%	136	11%	117	9%	59	5%	38	3%
Ages < 5 Years*	3	5%	6	10%	5	8%	6	10%	8	13%	8	13%	3	5%
Drug Resistant, Ages 5+ Years*	64	18%	32	9%	34	10%	35	10%	36	10%	15	4%	5	1%
Drug Susceptible, Ages 5+ Years*	116	13%	109	12%	95	11%	95	11%	73	8%	36	4%	30	3%
Tetanus	0	0%	1	50%	0	0%	0	0%	0	0%	0	0%	0	0%
Varicella	54	12%	35	8%	44	10%	44	10%	45	10%	27	6%	13	3%
SUB-TOTAL	6,620	39%	3,962	23%	2,266	13%	1,401	8%	358	2%	158	1%	110	1%

ZOO NOSES														
Babesiosis	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Brucellosis	0	0%	0	0%	2	100%	0	0%	0	0%	0	0%	0	0%
Chikungunya Virus Infection*	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Dengue	0	0%	0	0%	0	0%	1	14%	0	0%	0	0%	2	29%
Ehrlichiosis/Anaplasmosis	0	0%	0	0%	0	0%	2	10%	2	10%	6	30%	1	5%
<i>Anaplasma phagocytophilum</i> *	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
<i>Ehrlichia chaffeensis</i> *	0	0%	0	0%	0	0%	2	12%	2	12%	6	35%	1	6%
La Crosse Virus Disease*	0	0%	0	0%	0	0%	0	0%	0	0%	3	8%	7	18%
Leptospirosis	0	0%	0	0%	0	0%	0	0%	1	33%	1	33%	1	33%
Lyme Disease	5	2%	5	2%	7	2%	9	3%	26	9%	69	23%	74	25%
Malaria	4	7%	1	2%	3	5%	4	7%	8	14%	6	11%	5	9%
Q Fever	0	0%	0	0%	0	0%	1	33%	2	67%	0	0%	0	0%
Acute	0	0%	0	0%	0	0%	1	50%	1	50%	0	0%	0	0%
Chronic	0	0%	0	0%	0	0%	0	0%	1	100%	0	0%	0	0%
Rabies, Animal*	0	0%	0	0%	0	0%	0	0%	8	15%	2	4%	4	7%
Spotted Fever Rickettsiosis*	1	3%	1	3%	2	6%	1	3%	5	14%	6	17%	8	23%
Tularemia	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
West Nile Virus Infection	0	0%	0	0%	0	0%	0	0%	0	0%	2	3%	4	6%
SUB-TOTAL	10	2%	7	1%	14	2%	18	3%	52	9%	95	16%	106	18%

N = number of cases reported.

% = percentage of cases occurring in the month for the disease.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY MONTH OF ONSET, OHIO, 2018

GENERAL INFECTIOUS DISEASES	August		September		October		November		December		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Amebiasis	0	0%	1	8%	0	0%	0	0%	0	0%	12	100%
Botulism	0	0%	0	0%	0	0%	1	50%	1	50%	2	100%
Infant*	0	0%	0	0%	0	0%	1	50%	1	50%	2	100%
Campylobacteriosis	234	11%	199	9%	179	8%	206	9%	142	6%	2,192	100%
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	52	13%	29	7%	46	12%	24	6%	24	6%	393	100%
Coccidioidomycosis	0	0%	0	0%	0	0%	1	5%	2	11%	19	100%
Creutzfeldt-Jakob Disease (CJD)	4	29%	2	14%	2	14%	1	7%	1	7%	14	100%
Cryptosporidiosis	92	14%	50	8%	45	7%	32	5%	34	5%	638	100%
Cyclosporiasis	1	1%	1	1%	0	0%	0	0%	0	0%	92	100%
<i>Escherichia coli</i> , Shiga Toxin-Producing	63	12%	56	10%	32	6%	22	4%	18	3%	537	100%
O157:H7	12	18%	9	13%	5	7%	0	0%	1	1%	68	100%
Not O157:H7	20	15%	17	13%	6	4%	5	4%	7	5%	135	100%
Unknown Serotype	31	9%	30	9%	21	6%	17	5%	10	3%	334	100%
Giardiasis	57	11%	36	7%	34	7%	40	8%	37	7%	499	100%
<i>Haemophilus influenzae</i> , Invasive Disease	20	7%	24	9%	28	10%	26	10%	31	11%	272	100%
Hemolytic Uremic Syndrome (HUS)	1	25%	0	0%	0	0%	0	0%	0	0%	4	100%
Hepatitis A	214	12%	271	15%	341	19%	353	19%	356	19%	1,838	100%
Hepatitis E	1	50%	0	0%	0	0%	0	0%	0	0%	2	100%
Legionellosis	138	15%	129	14%	108	11%	88	9%	51	5%	950	100%
Listeriosis	3	10%	6	20%	5	17%	3	10%	0	0%	30	100%
Meningitis, Aseptic	94	15%	85	13%	73	12%	55	9%	36	6%	634	100%
Meningitis, Other Bacterial*	5	3%	13	9%	10	7%	9	6%	15	10%	143	100%
Salmonellosis	172	11%	189	13%	111	7%	109	7%	92	6%	1,507	100%
Shigellosis	35	7%	40	8%	40	8%	55	11%	42	8%	517	100%
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	0	0%	0	0%	1	13%	1	13%	1	13%	8	100%
Streptococcal Disease, Group A, Invasive	33	5%	26	4%	44	6%	41	6%	74	11%	682	100%
Streptococcal Disease, Group B, in Newborn*	7	11%	7	11%	3	5%	5	8%	6	10%	63	100%
Streptococcal Toxic Shock Syndrome (STSS)	2	8%	2	8%	1	4%	2	8%	2	8%	25	100%
Toxic Shock Syndrome (TSS)	0	0%	0	0%	0	0%	0	0%	1	100%	1	100%
Typhoid Fever	2	33%	0	0%	1	17%	0	0%	0	0%	6	100%
Vibriosis	18	35%	4	8%	7	13%	2	4%	1	2%	52	100%
<i>Vibrio parahaemolyticus</i> Infection	6	46%	2	15%	0	0%	0	0%	0	0%	13	100%
<i>Vibrio vulnificus</i> Infection	1	50%	0	0%	0	0%	0	0%	0	0%	2	100%
Other (Not Cholera)	11	30%	2	5%	7	19%	2	5%	1	3%	37	100%
Yersiniosis	2	4%	8	15%	8	15%	4	7%	5	9%	54	100%
SUB-TOTAL	1,250	11%	1,178	11%	1,119	10%	1,080	10%	972	9%	11,186	100%
OUTBREAKS*												
Community*	3	8%	3	8%	3	8%	6	16%	3	8%	38	100%
Foodborne*	6	8%	6	8%	7	9%	3	4%	8	10%	79	100%
Healthcare-Associated*	3	2%	4	3%	3	2%	10	8%	9	7%	122	100%
Institutional*	19	7%	27	10%	47	18%	17	7%	21	8%	258	100%
Waterborne*	2	25%	0	0%	0	0%	0	0%	1	13%	8	100%
Zoonotic*	2	13%	2	13%	1	7%	0	0%	2	13%	15	100%
SUB-TOTAL	35	7%	42	8%	61	12%	36	7%	44	8%	520	100%

N = number of cases reported.

% = percentage of cases occurring in the month for the disease.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY MONTH OF ONSET, OHIO, 2018

VACCINE-PREVENTABLE	August		September		October		November		December		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Hepatitis B, Perinatal Infection*	0	0%	0	0%	0	0%	1	50%	0	0%	2	100%
Influenza-Associated Hospitalization	5	0%	22	0%	49	0%	122	1%	771	5%	14,438	100%
Influenza-Associated Pediatric Mortality*	0	0%	0	0%	0	0%	0	0%	0	0%	2	100%
Influenza A Virus, Novel Human Infection*	4	100%	0	0%	0	0%	0	0%	0	0%	4	100%
Meningococcal Disease	0	0%	0	0%	0	0%	1	14%	0	0%	7	100%
Mumps	1	3%	2	5%	4	11%	9	24%	2	5%	38	100%
Pertussis	56	8%	42	6%	82	12%	101	15%	87	13%	668	100%
<i>Streptococcus pneumoniae</i> , Invasive Disease	52	4%	44	3%	60	5%	134	10%	189	15%	1,293	100%
Ages < 5 Years*	5	8%	2	3%	1	2%	7	11%	8	13%	62	100%
Drug Resistant, Ages 5+ Years*	13	4%	20	6%	17	5%	29	8%	47	14%	347	100%
Drug Susceptible, Ages 5+ Years*	34	4%	22	2%	42	5%	98	11%	134	15%	884	100%
Tetanus	0	0%	1	50%	0	0%	0	0%	0	0%	2	100%
Varicella	34	8%	33	7%	45	10%	44	10%	26	6%	444	100%
SUB-TOTAL	152	1%	144	1%	240	1%	412	2%	1,075	6%	16,898	100%

ZOO NOSES												
Babesiosis	0	0%	1	100%	0	0%	0	0%	0	0%	1	100%
Brucellosis	0	0%	0	0%	0	0%	0	0%	0	0%	2	100%
Chikungunya Virus Infection*	1	33%	0	0%	0	0%	0	0%	2	67%	3	100%
Dengue	1	14%	0	0%	1	14%	1	14%	1	14%	7	100%
Ehrlichiosis/Anaplasmosis	3	15%	4	20%	0	0%	1	5%	1	5%	20	100%
<i>Anaplasma phagocytophilum</i> *	0	0%	3	100%	0	0%	0	0%	0	0%	3	100%
<i>Ehrlichia chaffeensis</i> *	3	18%	1	6%	0	0%	1	6%	1	6%	17	100%
La Crosse Virus Disease*	11	28%	10	26%	8	21%	0	0%	0	0%	39	100%
Leptospirosis	0	0%	0	0%	0	0%	0	0%	0	0%	3	100%
Lyme Disease	38	13%	20	7%	25	8%	10	3%	7	2%	295	100%
Malaria	5	9%	8	14%	5	9%	4	7%	3	5%	56	100%
Q Fever	0	0%	0	0%	0	0%	0	0%	0	0%	3	100%
Acute	0	0%	0	0%	0	0%	0	0%	0	0%	2	100%
Chronic	0	0%	0	0%	0	0%	0	0%	0	0%	1	100%
Rabies, Animal*	18	33%	10	18%	7	13%	2	4%	4	7%	55	100%
Spotted Fever Rickettsiosis*	5	14%	5	14%	0	0%	0	0%	1	3%	35	100%
Tularemia	1	100%	0	0%	0	0%	0	0%	0	0%	1	100%
West Nile Virus Infection	28	43%	24	37%	7	11%	0	0%	0	0%	65	100%
SUB-TOTAL	111	19%	82	14%	53	9%	18	3%	19	3%	585	100%

GRAND TOTAL	1,548	5%	1,446	5%	1,473	5%	1,546	5%	2,110	7%	29,189	100%
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N = number of cases reported.

% = percentage of cases occurring in the month for the disease.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

GENERAL INFECTIOUS DISEASES	Adams		Allen		Ashland		Ashtabula		Athens		Auglaize		Belmont	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	0	0.0	1	1.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Infant*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Campylobacteriosis	6	21.6	31	30.2	25	46.5	23	23.6	16	24.3	22	48.0	7	10.4
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	0	0.0	5	4.9	5	9.3	14	14.4	0	0.0	2	4.4	0	0.0
Coccidioidomycosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Creutzfeldt-Jakob Disease (CJD)	0	0.0	0	0.0	2	3.7	0	0.0	0	0.0	0	0.0	0	0.0
Cryptosporidiosis	0	0.0	2	1.9	10	18.6	4	4.1	0	0.0	5	10.9	3	4.4
Cyclosporiasis	0	0.0	1	1.0	1	1.9	0	0.0	0	0.0	4	8.7	0	0.0
<i>Escherichia coli</i> , Shiga Toxin-Producing	0	0.0	4	3.9	9	16.7	1	1.0	2	3.0	6	13.1	1	1.5
O157:H7	0	0.0	0	0.0	0	0.0	0	0.0	1	1.5	1	2.2	0	0.0
Not O157:H7	0	0.0	1	1.0	4	7.4	1	1.0	0	0.0	2	4.4	0	0.0
Unknown Serotype	0	0.0	3	2.9	5	9.3	0	0.0	1	1.5	3	6.5	1	1.5
Giardiasis	0	0.0	10	9.7	6	11.2	2	2.1	5	7.6	2	4.4	0	0.0
<i>Haemophilus influenzae</i> , Invasive Disease	1	3.6	2	1.9	1	1.9	2	2.1	2	3.0	2	4.4	2	3.0
Hemolytic Uremic Syndrome (HUS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis A	4	14.4	4	3.9	0	0.0	0	0.0	24	36.5	3	6.5	2	3.0
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Legionellosis	2	7.2	8	7.8	4	7.4	7	7.2	1	1.5	3	6.5	7	10.4
Listeriosis	1	3.6	0	0.0	0	0.0	1	1.0	0	0.0	0	0.0	0	0.0
Meningitis, Aseptic	0	0.0	26	25.3	2	3.7	0	0.0	1	1.5	4	8.7	2	3.0
Meningitis, Other Bacterial*	0	0.0	1	1.0	0	0.0	0	0.0	1	1.5	0	0.0	0	0.0
Salmonellosis	6	21.6	16	15.6	19	35.4	12	12.3	6	9.1	15	32.7	6	8.9
Shigellosis	0	0.0	6	5.8	0	0.0	1	1.0	2	3.0	1	2.2	2	3.0
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Streptococcal Disease, Group A, Invasive	1	3.6	3	2.9	2	3.7	2	2.1	1	1.5	1	2.2	5	7.4
Streptococcal Disease, Group B, in Newborn*	0	*	1	*	0	*	0	*	0	*	0	*	0	*
Streptococcal Toxic Shock Syndrome (STSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Toxic Shock Syndrome (TSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Typhoid Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Vibriosis	1	3.6	4	3.9	1	1.9	0	0.0	0	0.0	0	0.0	0	0.0
<i>Vibrio parahaemolyticus</i> Infection	0	0.0	0	0.0	1	1.9	0	0.0	0	0.0	0	0.0	0	0.0
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other (Not Cholera)	1	3.6	4	3.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yersiniosis	0	0.0	2	1.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SUB-TOTAL	22	79.4	127	123.7	87	161.9	69	70.8	61	92.7	70	152.8	37	54.8
OUTBREAKS*														
Community*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Foodborne*	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a	0	n/a	1	n/a
Healthcare-Associated*	0	n/a	1	n/a	1	n/a	0	n/a	0	n/a	2	n/a	0	n/a
Institutional*	0	n/a	3	n/a	0	n/a	0	n/a	0	n/a	1	n/a	0	n/a
Waterborne*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Zoonotic*	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a	1	n/a	0	n/a
SUB-TOTAL	0	n/a	4	n/a	3	n/a	0	n/a	0	n/a	4	n/a	1	n/a

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

VACCINE-PREVENTABLE	Adams		Allen		Ashland		Ashtabula		Athens		Auglaize		Belmont	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza-Associated Hospitalization	10	36.1	188	183.1	48	89.3	116	119.0	60	91.2	57	124.4	63	93.3
Influenza-Associated Pediatric Mortality*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza A Virus, Novel Human Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	6.5	0	0.0
Meningococcal Disease	2	7.2	0	0.0	0	0.0	0	0.0	1	1.5	0	0.0	1	1.5
Mumps	0	0.0	0	0.0	1	1.9	0	0.0	0	0.0	0	0.0	0	0.0
Pertussis	0	0.0	1	1.0	4	7.4	0	0.0	1	1.5	1	2.2	1	1.5
<i>Streptococcus pneumoniae</i> , Invasive Disease	3	10.8	11	10.7	6	11.2	16	16.4	11	16.7	3	6.5	11	16.3
Ages < 5 Years*	2	*	2	*	1	*	0	*	0	*	0	*	0	*
Drug Resistant, Ages 5+ Years*	0	*	2	*	1	*	4	*	1	*	1	*	1	*
Drug Susceptible, Ages 5+ Years*	1	*	7	*	4	*	12	*	10	*	2	*	10	*
Tetanus	0	0.0	0	0.0	1	1.9	0	0.0	0	0.0	0	0.0	0	0.0
Varicella	0	0.0	6	5.8	4	7.4	0	0.0	4	6.1	2	4.4	4	5.9
SUB-TOTAL	15	54.1	206	200.7	64	119.1	132	135.4	77	117.0	66	144.1	80	118.5

ZOO NOSES														
Babesiosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Brucellosis	0	0.0	0	0.0	0	0.0	1	1.0	0	0.0	0	0.0	0	0.0
Chikungunya Virus Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Dengue	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ehrlichiosis/Anaplasmosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Anaplasma phagocytophilum</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Ehrlichia chaffeensis</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
La Crosse Virus Disease*	0	0.0	0	0.0	1	1.9	0	0.0	0	0.0	0	0.0	0	0.0
Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lyme Disease	0	0.0	0	0.0	2	3.7	1	1.0	0	0.0	0	0.0	21	31.1
Malaria	0	0.0	0	0.0	0	0.0	1	1.0	1	1.5	0	0.0	0	0.0
Q Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Acute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chronic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rabies, Animal*	0	n/a	0	n/a	0	n/a	1	n/a	1	n/a	0	n/a	0	n/a
Spotted Fever Rickettsiosis*	1	3.6	0	0.0	1	1.9	0	0.0	0	0.0	0	0.0	0	0.0
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
West Nile Virus Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	4.4	1	1.5
SUB-TOTAL	1	3.6	0	0.0	4	7.4	4	3.1	2	1.5	2	4.4	22	32.6

GRAND TOTAL	38	137.1	337	324.4	158	288.4	205	209.2	140	211.2	142	301.3	140	205.9
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POPULATION	27,724	102,663	53,745	97,493	65,818	45,804	67,505
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

GENERAL INFECTIOUS DISEASES	Brown		Butler		Carroll		Champaign		Clark		Clermont		Clinton	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	0	0.0	2	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Infant*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Campylobacteriosis	4	9.2	33	8.6	5	18.5	8	20.6	28	20.8	26	12.7	18	42.8
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	0	0.0	8	2.1	1	3.7	2	5.2	9	6.7	0	0.0	0	0.0
Coccidioidomycosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.5	0	0.0
Creutzfeldt-Jakob Disease (CJD)	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cryptosporidiosis	1	2.3	4	1.0	0	0.0	7	18.1	12	8.9	3	1.5	3	7.1
Cyclosporiasis	0	0.0	4	1.0	0	0.0	1	2.6	0	0.0	1	0.5	0	0.0
<i>Escherichia coli</i> , Shiga Toxin-Producing	0	0.0	13	3.4	0	0.0	3	7.7	7	5.2	14	6.8	1	2.4
O157:H7	0	0.0	0	0.0	0	0.0	0	0.0	1	0.7	1	0.5	0	0.0
Not O157:H7	0	0.0	1	0.3	0	0.0	3	7.7	0	0.0	2	1.0	1	2.4
Unknown Serotype	0	0.0	12	3.1	0	0.0	0	0.0	6	4.5	11	5.4	0	0.0
Giardiasis	1	2.3	13	3.4	2	7.4	2	5.2	3	2.2	10	4.9	0	0.0
<i>Haemophilus influenzae</i> , Invasive Disease	3	6.9	17	4.4	1	3.7	1	2.6	3	2.2	7	3.4	1	2.4
Hemolytic Uremic Syndrome (HUS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis A	6	13.8	300	78.5	1	3.7	3	7.7	28	20.8	46	22.4	16	38.0
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Legionellosis	2	4.6	17	4.4	2	7.4	4	10.3	14	10.4	3	1.5	1	2.4
Listeriosis	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningitis, Aseptic	2	4.6	16	4.2	0	0.0	1	2.6	4	3.0	18	8.8	2	4.8
Meningitis, Other Bacterial*	0	0.0	3	0.8	0	0.0	0	0.0	3	2.2	4	1.9	1	2.4
Salmonellosis	5	11.5	31	8.1	6	22.2	4	10.3	10	7.4	24	11.7	5	11.9
Shigellosis	0	0.0	40	10.5	1	3.7	0	0.0	3	2.2	1	0.5	2	4.8
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	1	2.4
Streptococcal Disease, Group A, Invasive	2	4.6	22	5.8	0	0.0	1	2.6	11	8.2	10	4.9	0	0.0
Streptococcal Disease, Group B, in Newborn*	0	*	3	*	0	*	0	*	1	*	2	*	0	*
Streptococcal Toxic Shock Syndrome (STSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Toxic Shock Syndrome (TSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Typhoid Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Vibriosis	0	0.0	2	0.5	0	0.0	0	0.0	0	0.0	2	1.0	0	0.0
<i>Vibrio parahaemolyticus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.5	0	0.0
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.5	0	0.0
Other (Not Cholera)	0	0.0	2	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yersiniosis	0	0.0	0	0.0	0	0.0	0	0.0	1	0.7	1	0.5	0	0.0
SUB-TOTAL	26	59.6	531	138.9	19	70.2	37	95.5	137	101.8	173	84.2	51	121.3
OUTBREAKS*														
Community*	0	n/a	2	n/a	0	n/a	0	n/a	7	n/a	0	n/a	0	n/a
Foodborne*	0	n/a	2	n/a	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a
Healthcare-Associated*	0	n/a	3	n/a	0	n/a	0	n/a	1	n/a	0	n/a	1	n/a
Institutional*	0	n/a	9	n/a	1	n/a	0	n/a	5	n/a	5	n/a	0	n/a
Waterborne*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Zoonotic*	0	n/a	0	n/a	0	n/a	0	n/a	2	n/a	0	n/a	0	n/a
SUB-TOTAL	0	n/a	16	n/a	1	n/a	0	n/a	16	n/a	5	n/a	1	n/a

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

VACCINE-PREVENTABLE	Brown		Butler		Carroll		Champaign		Clark		Clermont		Clinton	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza-Associated Hospitalization	4	9.2	428	111.9	58	214.2	44	113.5	275	204.3	237	115.3	26	61.8
Influenza-Associated Pediatric Mortality*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza A Virus, Novel Human Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningococcal Disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mumps	0	0.0	2	0.5	0	0.0	1	2.6	2	1.5	2	1.0	0	0.0
Pertussis	1	2.3	13	3.4	3	11.1	0	0.0	5	3.7	6	2.9	2	4.8
<i>Streptococcus pneumoniae</i> , Invasive Disease	8	18.3	50	13.1	4	14.8	0	0.0	18	13.4	20	9.7	12	28.5
Ages < 5 Years*	0	*	3	*	0	*	0	*	0	*	1	*	0	*
Drug Resistant, Ages 5+ Years*	2	*	9	*	4	*	0	*	7	*	7	*	4	*
Drug Susceptible, Ages 5+ Years*	6	*	38	*	0	*	0	*	11	*	12	*	8	*
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Varicella	0	0.0	12	3.1	2	7.4	0	0.0	6	4.5	13	6.3	1	2.4
SUB-TOTAL	13	29.8	505	132.1	67	247.4	45	116.1	306	227.4	278	135.3	41	97.5

ZOOZOOSES														
Babesiosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Brucellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chikungunya Virus Infection*	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Dengue	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ehrlichiosis/Anaplasmosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.5	0	0.0
<i>Anaplasma phagocytophilum</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.5	0	0.0
<i>Ehrlichia chaffeensis</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
La Crosse Virus Disease*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lyme Disease	0	0.0	4	1.0	5	18.5	0	0.0	2	1.5	1	0.5	0	0.0
Malaria	0	0.0	2	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Q Fever	0	0.0	0	0.0	0	0.0	1	2.6	0	0.0	0	0.0	0	0.0
Acute	0	0.0	0	0.0	0	0.0	1	2.6	0	0.0	0	0.0	0	0.0
Chronic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rabies, Animal*	0	n/a	1	n/a	3	n/a	0	n/a	3	n/a	0	n/a	0	n/a
Spotted Fever Rickettsiosis*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	1.5	0	0.0
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
West Nile Virus Infection	0	0.0	0	0.0	0	0.0	0	0.0	2	1.5	1	0.5	0	0.0
SUB-TOTAL	0	0.0	8	1.8	8	18.5	1	2.6	7	3.0	6	2.9	0	0.0

GRAND TOTAL	39	89.4	1,060	272.8	95	336.0	83	214.2	466	332.1	462	222.4	93	218.8
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POPULATION	43,602	382,378	27,081	38,754	134,585	205,466	42,057
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

GENERAL INFECTIOUS DISEASES	Columbiana		Coshocton		Crawford		Cuyahoga		Darke		Defiance		Delaware	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	0	0.0	0	0.0	0	0.0	3	0.2	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Infant*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Campylobacteriosis	16	15.6	13	35.5	1	2.4	140	11.3	29	56.5	5	13.1	46	22.5
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	10	9.7	0	0.0	0	0.0	97	7.8	0	0.0	0	0.0	1	0.5
Coccidioidomycosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Creutzfeldt-Jakob Disease (CJD)	0	0.0	0	0.0	0	0.0	3	0.2	0	0.0	0	0.0	0	0.0
Cryptosporidiosis	10	9.7	2	5.5	1	2.4	27	2.2	11	21.4	9	23.6	14	6.8
Cyclosporiasis	0	0.0	0	0.0	0	0.0	2	0.2	0	0.0	1	2.6	6	2.9
<i>Escherichia coli</i> , Shiga Toxin-Producing	4	3.9	3	8.2	0	0.0	33	2.7	0	0.0	4	10.5	13	6.3
O157:H7	0	0.0	1	2.7	0	0.0	4	0.3	0	0.0	1	2.6	1	0.5
Not O157:H7	2	1.9	1	2.7	0	0.0	13	1.0	0	0.0	0	0.0	4	2.0
Unknown Serotype	2	1.9	1	2.7	0	0.0	16	1.3	0	0.0	3	7.9	8	3.9
Giardiasis	5	4.9	4	10.9	5	12.0	38	3.1	2	3.9	1	2.6	7	3.4
<i>Haemophilus influenzae</i> , Invasive Disease	5	4.9	1	2.7	4	9.6	32	2.6	2	3.9	2	5.2	3	1.5
Hemolytic Uremic Syndrome (HUS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis A	2	1.9	0	0.0	0	0.0	25	2.0	12	23.4	0	0.0	4	2.0
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Legionellosis	8	7.8	1	2.7	8	19.3	150	12.1	4	7.8	2	5.2	17	8.3
Listeriosis	0	0.0	0	0.0	1	2.4	3	0.2	0	0.0	0	0.0	1	0.5
Meningitis, Aseptic	3	2.9	0	0.0	3	7.2	47	3.8	3	5.8	2	5.2	7	3.4
Meningitis, Other Bacterial*	1	1.0	1	2.7	0	0.0	20	1.6	1	1.9	0	0.0	1	0.5
Salmonellosis	16	15.6	6	16.4	5	12.0	125	10.0	8	15.6	6	15.7	26	12.7
Shigellosis	1	1.0	0	0.0	0	0.0	27	2.2	0	0.0	1	2.6	3	1.5
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	1	1.0	1	2.7	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
Streptococcal Disease, Group A, Invasive	7	6.8	0	0.0	5	12.0	104	8.4	1	1.9	1	2.6	5	2.4
Streptococcal Disease, Group B, in Newborn*	0	*	0	*	0	*	12	*	1	*	1	*	0	*
Streptococcal Toxic Shock Syndrome (STSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Toxic Shock Syndrome (TSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Typhoid Fever	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
Vibriosis	0	0.0	0	0.0	0	0.0	3	0.2	0	0.0	1	2.6	1	0.5
<i>Vibrio parahaemolyticus</i> Infection	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other (Not Cholera)	0	0.0	0	0.0	0	0.0	2	0.2	0	0.0	1	2.6	1	0.5
Yersiniosis	1	1.0	0	0.0	0	0.0	3	0.2	0	0.0	0	0.0	1	0.5
SUB-TOTAL	90	87.7	32	87.4	33	79.4	896	72.0	74	144.2	36	94.3	156	76.2
OUTBREAKS*														
Community*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	1	n/a
Foodborne*	0	n/a	0	n/a	0	n/a	2	n/a	0	n/a	0	n/a	4	n/a
Healthcare-Associated*	0	n/a	0	n/a	0	n/a	20	n/a	3	n/a	0	n/a	3	n/a
Institutional*	0	n/a	0	n/a	3	n/a	22	n/a	2	n/a	0	n/a	12	n/a
Waterborne*	0	n/a	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a	1	n/a
Zoonotic*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
SUB-TOTAL	0	n/a	0	n/a	3	n/a	45	n/a	5	n/a	0	n/a	21	n/a

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

VACCINE-PREVENTABLE	Columbiana		Coshocton		Crawford		Cuyahoga		Darke		Defiance		Delaware	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza-Associated Hospitalization	149	145.1	19	51.9	27	65.0	2,408	193.6	85	165.6	32	83.8	96	46.9
Influenza-Associated Pediatric Mortality*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza A Virus, Novel Human Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningococcal Disease	0	0.0	0	0.0	1	2.4	0	0.0	0	0.0	0	0.0	0	0.0
Mumps	1	1.0	0	0.0	1	2.4	5	0.4	0	0.0	0	0.0	0	0.0
Pertussis	5	4.9	4	10.9	0	0.0	16	1.3	1	1.9	0	0.0	17	8.3
<i>Streptococcus pneumoniae</i> , Invasive Disease	11	10.7	5	13.7	5	12.0	125	10.0	3	5.8	2	5.2	15	7.3
Ages < 5 Years*	1	*	0	*	0	*	6	*	0	*	0	*	1	*
Drug Resistant, Ages 5+ Years*	5	*	1	*	1	*	43	*	0	*	1	*	5	*
Drug Susceptible, Ages 5+ Years*	5	*	4	*	4	*	76	*	3	*	1	*	9	*
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Varicella	6	5.8	1	2.7	0	0.0	21	1.7	1	1.9	3	7.9	17	8.3
SUB-TOTAL	172	167.5	29	79.2	34	81.8	2,575	207.0	90	175.4	37	96.9	145	70.8

ZOO NOSES														
Babesiosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Brucellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chikungunya Virus Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Dengue	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ehrlichiosis/Anaplasmosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Anaplasma phagocytophilum</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Ehrlichia chaffeensis</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
La Crosse Virus Disease*	0	0.0	1	2.7	1	2.4	0	0.0	0	0.0	0	0.0	0	0.0
Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lyme Disease	17	16.6	6	16.4	0	0.0	28	2.3	0	0.0	0	0.0	7	3.4
Malaria	0	0.0	0	0.0	0	0.0	3	0.2	0	0.0	0	0.0	1	0.5
Q Fever	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
Acute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chronic	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
Rabies, Animal*	0	n/a	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a	0	n/a
Spotted Fever Rickettsiosis*	1	1.0	1	2.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
West Nile Virus Infection	1	1.0	0	0.0	0	0.0	9	0.7	0	0.0	1	2.6	0	0.0
SUB-TOTAL	19	18.5	8	21.8	1	2.4	42	3.3	0	0.0	1	2.6	8	3.9

GRAND TOTAL	281	273.7	69	188.4	71	163.7	3,558	282.3	169	319.5	74	193.9	330	150.9
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POPULATION	102,665	36,629	41,550	1,243,857	51,323	38,165	204,826
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

GENERAL INFECTIOUS DISEASES	Erie		Fairfield		Fayette		Franklin		Fulton		Gallia		Geauga	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	0	0.0	0	0.0	1	3.5	1	0.1	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
Infant*	0	*	0	*	0	*	1	*	0	*	0	*	0	*
Campylobacteriosis	12	16.1	26	16.7	5	17.4	239	18.2	21	49.7	12	40.0	13	13.8
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	4	5.4	4	2.6	0	0.0	25	1.9	0	0.0	1	3.3	6	6.4
Coccidioidomycosis	0	0.0	3	1.9	0	0.0	3	0.2	1	2.4	0	0.0	1	1.1
Creutzfeldt-Jakob Disease (CJD)	0	0.0	1	0.6	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
Cryptosporidiosis	2	2.7	1	0.6	2	7.0	68	5.2	8	18.9	1	3.3	0	0.0
Cyclosporiasis	0	0.0	0	0.0	0	0.0	17	1.3	0	0.0	0	0.0	0	0.0
<i>Escherichia coli</i> , Shiga Toxin-Producing	0	0.0	8	5.1	2	7.0	99	7.6	2	4.7	3	10.0	3	3.2
O157:H7	0	0.0	1	0.6	0	0.0	13	1.0	0	0.0	0	0.0	1	1.1
Not O157:H7	0	0.0	0	0.0	0	0.0	28	2.1	0	0.0	0	0.0	2	2.1
Unknown Serotype	0	0.0	7	4.5	2	7.0	58	4.4	2	4.7	3	10.0	0	0.0
Giardiasis	2	2.7	11	7.1	0	0.0	97	7.4	2	4.7	1	3.3	7	7.4
<i>Haemophilus influenzae</i> , Invasive Disease	2	2.7	3	1.9	0	0.0	23	1.8	1	2.4	2	6.7	2	2.1
Hemolytic Uremic Syndrome (HUS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis A	1	1.3	42	27.0	0	0.0	194	14.8	1	2.4	31	103.4	0	0.0
Hepatitis E	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
Legionellosis	2	2.7	13	8.3	2	7.0	213	16.3	0	0.0	0	0.0	5	5.3
Listeriosis	0	0.0	2	1.3	0	0.0	4	0.3	0	0.0	0	0.0	0	0.0
Meningitis, Aseptic	2	2.7	5	3.2	3	10.5	87	6.6	4	9.5	1	3.3	1	1.1
Meningitis, Other Bacterial*	0	0.0	1	0.6	0	0.0	17	1.3	2	4.7	0	0.0	0	0.0
Salmonellosis	10	13.4	20	12.8	6	20.9	192	14.7	12	28.4	9	30.0	16	17.0
Shigellosis	0	0.0	4	2.6	0	0.0	195	14.9	0	0.0	1	3.3	2	2.1
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Streptococcal Disease, Group A, Invasive	2	2.7	9	5.8	1	3.5	122	9.3	3	7.1	0	0.0	1	1.1
Streptococcal Disease, Group B, in Newborn*	1	*	0	*	0	*	9	*	0	*	0	*	1	*
Streptococcal Toxic Shock Syndrome (STSS)	0	0.0	0	0.0	0	0.0	23	1.8	0	0.0	0	0.0	0	0.0
Toxic Shock Syndrome (TSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Typhoid Fever	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
Vibriosis	0	0.0	1	0.6	0	0.0	8	0.6	0	0.0	0	0.0	0	0.0
<i>Vibrio parahaemolyticus</i> Infection	0	0.0	1	0.6	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other (Not Cholera)	0	0.0	0	0.0	0	0.0	7	0.5	0	0.0	0	0.0	0	0.0
Yersiniosis	0	0.0	0	0.0	0	0.0	10	0.8	0	0.0	1	3.3	0	0.0
SUB-TOTAL	40	53.6	154	98.9	22	76.7	1,650	125.9	57	134.8	63	210.1	58	61.7

OUTBREAKS*

Community*	0	n/a	0	n/a	0	n/a	8	n/a	1	n/a	0	n/a	1	n/a
Foodborne*	0	n/a	0	n/a	1	n/a	16	n/a	1	n/a	0	n/a	0	n/a
Healthcare-Associated*	4	n/a	1	n/a	0	n/a	19	n/a	1	n/a	0	n/a	1	n/a
Institutional*	7	n/a	10	n/a	1	n/a	74	n/a	0	n/a	0	n/a	0	n/a
Waterborne*	0	n/a	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a	0	n/a
Zoonotic*	0	n/a	0	n/a	0	n/a	1	n/a	0	n/a	1	n/a	0	n/a
SUB-TOTAL	11	n/a	11	n/a	2	n/a	119	n/a	3	n/a	1	n/a	2	n/a

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

VACCINE-PREVENTABLE	Erie		Fairfield		Fayette		Franklin		Fulton		Gallia		Geauga	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza-Associated Hospitalization	117	156.8	73	46.9	12	41.9	967	73.8	43	101.7	40	133.4	111	118.0
Influenza-Associated Pediatric Mortality*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza A Virus, Novel Human Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningococcal Disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mumps	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.1
Pertussis	1	1.3	10	6.4	1	3.5	132	10.1	0	0.0	3	10.0	8	8.5
<i>Streptococcus pneumoniae</i> , Invasive Disease	2	2.7	16	10.3	1	3.5	136	10.4	5	11.8	4	13.3	6	6.4
Ages < 5 Years*	0	*	3	*	0	*	8	*	0	*	0	*	0	*
Drug Resistant, Ages 5+ Years*	1	*	4	*	1	*	25	*	2	*	2	*	3	*
Drug Susceptible, Ages 5+ Years*	1	*	9	*	0	*	103	*	3	*	2	*	3	*
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Varicella	7	9.4	7	4.5	0	0.0	57	4.4	3	7.1	2	6.7	8	8.5
SUB-TOTAL	127	170.2	106	68.0	14	48.8	1,292	98.6	51	120.6	49	163.4	134	142.5

ZOOZNOSES														
Babesiosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Brucellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chikungunya Virus Infection*	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
Dengue	0	0.0	0	0.0	0	0.0	2	0.2	0	0.0	0	0.0	0	0.0
Ehrlichiosis/Anaplasmosis	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	3	10.0	0	0.0
<i>Anaplasma phagocytophilum</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Ehrlichia chaffeensis</i> *	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	3	10.0	0	0.0
La Crosse Virus Disease*	0	0.0	1	0.6	0	0.0	2	0.2	0	0.0	0	0.0	0	0.0
Leptospirosis	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
Lyme Disease	1	1.3	2	1.3	0	0.0	16	1.2	0	0.0	0	0.0	4	4.3
Malaria	0	0.0	1	0.6	0	0.0	29	2.2	0	0.0	0	0.0	0	0.0
Q Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Acute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chronic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rabies, Animal*	0	n/a	2	n/a	0	n/a	12	n/a	0	n/a	0	n/a	0	n/a
Spotted Fever Rickettsiosis*	0	0.0	0	0.0	1	3.5	2	0.2	0	0.0	0	0.0	0	0.0
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
West Nile Virus Infection	1	1.3	0	0.0	0	0.0	2	0.2	1	2.4	0	0.0	0	0.0
SUB-TOTAL	2	2.7	7	3.2	1	3.5	67	4.2	1	2.4	3	10.0	4	4.3

GRAND TOTAL	180	226.5	278	170.1	39	129.1	3,128	228.7	112	257.8	116	383.6	198	208.4
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POPULATION	74,615	155,782	28,666	1,310,300	42,276	29,979	94,031
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

GENERAL INFECTIOUS DISEASES	Greene		Guernsey		Hamilton		Hancock		Hardin		Harrison		Henry	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Infant*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Campylobacteriosis	21	12.5	15	38.4	110	13.5	5	6.6	14	44.5	4	26.4	5	18.5
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	0	0.0	1	2.6	7	0.9	2	2.6	1	3.2	0	0.0	1	3.7
Coccidioidomycosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Creutzfeldt-Jakob Disease (CJD)	0	0.0	0	0.0	1	0.1	0	0.0	1	3.2	0	0.0	0	0.0
Cryptosporidiosis	5	3.0	1	2.6	24	2.9	4	5.3	1	3.2	0	0.0	1	3.7
Cyclosporiasis	0	0.0	0	0.0	5	0.6	0	0.0	0	0.0	0	0.0	0	0.0
<i>Escherichia coli</i> , Shiga Toxin-Producing	6	3.6	3	7.7	31	3.8	3	4.0	5	15.9	0	0.0	1	3.7
O157:H7	2	1.2	0	0.0	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0
Not O157:H7	0	0.0	1	2.6	8	1.0	2	2.6	2	6.4	0	0.0	1	3.7
Unknown Serotype	4	2.4	2	5.1	21	2.6	1	1.3	3	9.5	0	0.0	0	0.0
Giardiasis	1	0.6	6	15.4	48	5.9	1	1.3	2	6.4	2	13.2	2	7.4
<i>Haemophilus influenzae</i> , Invasive Disease	6	3.6	4	10.3	34	4.2	0	0.0	2	6.4	0	0.0	1	3.7
Hemolytic Uremic Syndrome (HUS)	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis A	21	12.5	3	7.7	170	20.8	7	9.2	2	6.4	0	0.0	1	3.7
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Legionellosis	7	4.2	2	5.1	51	6.2	1	1.3	2	6.4	0	0.0	0	0.0
Listeriosis	1	0.6	0	0.0	3	0.4	1	1.3	0	0.0	0	0.0	0	0.0
Meningitis, Aseptic	3	1.8	3	7.7	60	7.3	4	5.3	0	0.0	0	0.0	1	3.7
Meningitis, Other Bacterial*	1	0.6	2	5.1	12	1.5	1	1.3	0	0.0	0	0.0	0	0.0
Salmonellosis	16	9.5	8	20.5	96	11.8	18	23.7	6	19.1	2	13.2	6	22.2
Shigellosis	6	3.6	0	0.0	110	13.5	1	1.3	0	0.0	0	0.0	1	3.7
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Streptococcal Disease, Group A, Invasive	5	3.0	4	10.3	60	7.3	1	1.3	1	3.2	0	0.0	0	0.0
Streptococcal Disease, Group B, in Newborn*	0	*	0	*	6	*	0	*	0	*	0	*	0	*
Streptococcal Toxic Shock Syndrome (STSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Toxic Shock Syndrome (TSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Typhoid Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Vibriosis	0	0.0	1	2.6	5	0.6	0	0.0	0	0.0	0	0.0	0	0.0
<i>Vibrio parahaemolyticus</i> Infection	0	0.0	1	2.6	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other (Not Cholera)	0	0.0	0	0.0	3	0.4	0	0.0	0	0.0	0	0.0	0	0.0
Yersiniosis	0	0.0	1	2.6	4	0.5	0	0.0	0	0.0	0	0.0	1	3.7
SUB-TOTAL	99	58.9	54	138.4	838	102.6	49	64.5	37	117.5	8	52.7	21	77.5
OUTBREAKS*														
Community*	0	n/a	0	n/a	2	n/a	1	n/a	0	n/a	0	n/a	0	n/a
Foodborne*	2	n/a	0	n/a	2	n/a	1	n/a	0	n/a	0	n/a	0	n/a
Healthcare-Associated*	1	n/a	0	n/a	7	n/a	0	n/a	0	n/a	0	n/a	1	n/a
Institutional*	0	n/a	2	n/a	44	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Waterborne*	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Zoonotic*	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a	0	n/a	0	n/a
SUB-TOTAL	3	n/a	2	n/a	57	n/a	2	n/a	0	n/a	0	n/a	1	n/a

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

VACCINE-PREVENTABLE	Greene		Guernsey		Hamilton		Hancock		Hardin		Harrison		Henry	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza-Associated Hospitalization	221	131.6	31	79.4	972	119.0	71	93.5	32	101.7	5	33.0	41	151.4
Influenza-Associated Pediatric Mortality*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza A Virus, Novel Human Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningococcal Disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mumps	0	0.0	0	0.0	10	1.2	0	0.0	0	0.0	0	0.0	0	0.0
Pertussis	14	8.3	0	0.0	60	7.3	1	1.3	0	0.0	1	6.6	0	0.0
<i>Streptococcus pneumoniae</i> , Invasive Disease	14	8.3	5	12.8	108	13.2	14	18.4	2	6.4	0	0.0	0	0.0
Ages < 5 Years*	0	*	0	*	4	*	0	*	0	*	0	*	0	*
Drug Resistant, Ages 5+ Years*	4	*	3	*	42	*	5	*	0	*	0	*	0	*
Drug Susceptible, Ages 5+ Years*	10	*	2	*	62	*	9	*	2	*	0	*	0	*
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Varicella	8	4.8	3	7.7	19	2.3	2	2.6	0	0.0	0	0.0	1	3.7
SUB-TOTAL	257	153.0	39	99.9	1,169	143.1	88	115.9	34	108.0	6	39.5	42	155.1

ZOOZOOSES														
Babesiosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Brucellosis	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0
Chikungunya Virus Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Dengue	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ehrlichiosis/Anaplasmosis	0	0.0	0	0.0	1	0.1	0	0.0	1	3.2	0	0.0	0	0.0
<i>Anaplasma phagocytophilum</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Ehrlichia chaffeensis</i> *	0	0.0	0	0.0	1	0.1	0	0.0	1	3.2	0	0.0	0	0.0
La Crosse Virus Disease*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Leptospirosis	0	0.0	0	0.0	0	0.0	1	1.3	0	0.0	0	0.0	0	0.0
Lyme Disease	1	0.6	13	33.3	7	0.9	1	1.3	0	0.0	9	59.3	0	0.0
Malaria	0	0.0	0	0.0	7	0.9	1	1.3	0	0.0	0	0.0	0	0.0
Q Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Acute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chronic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rabies, Animal*	3	n/a	0	n/a	3	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Spotted Fever Rickettsiosis*	0	0.0	0	0.0	5	0.6	0	0.0	0	0.0	0	0.0	0	0.0
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
West Nile Virus Infection	0	0.0	1	2.6	5	0.6	0	0.0	1	3.2	0	0.0	0	0.0
SUB-TOTAL	4	0.6	14	35.9	29	3.2	3	4.0	2	6.4	9	59.3	0	0.0

GRAND TOTAL	363	212.5	109	274.2	2,093	248.9	142	184.4	73	231.9	23	151.6	64	232.6
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POPULATION	167,995	39,022	816,684	75,930	31,480	15,174	27,086
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

GENERAL INFECTIOUS DISEASES	Highland		Hocking		Holmes		Huron		Jackson		Jefferson		Knox	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Infant*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Campylobacteriosis	16	37.2	4	14.1	8	18.2	9	15.4	17	52.5	12	18.2	16	25.9
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	0	0.0	0	0.0	0	0.0	6	10.3	1	3.1	2	3.0	2	3.2
Coccidioidomycosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.6
Creutzfeldt-Jakob Disease (CJD)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cryptosporidiosis	2	4.6	0	0.0	0	0.0	4	6.8	3	9.3	5	7.6	1	1.6
Cyclosporiasis	0	0.0	0	0.0	0	0.0	1	1.7	0	0.0	0	0.0	0	0.0
<i>Escherichia coli</i> , Shiga Toxin-Producing	4	9.3	1	3.5	6	13.7	0	0.0	2	6.2	1	1.5	3	4.8
O157:H7	1	2.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.6
Not O157:H7	1	2.3	0	0.0	2	4.6	0	0.0	0	0.0	0	0.0	0	0.0
Unknown Serotype	2	4.6	1	3.5	4	9.1	0	0.0	2	6.2	1	1.5	2	3.2
Giardiasis	0	0.0	2	7.0	0	0.0	7	12.0	3	9.3	3	4.6	4	6.5
<i>Haemophilus influenzae</i> , Invasive Disease	2	4.6	0	0.0	1	2.3	3	5.1	0	0.0	1	1.5	1	1.6
Hemolytic Uremic Syndrome (HUS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis A	16	37.2	9	31.7	0	0.0	0	0.0	29	89.6	0	0.0	6	9.7
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Legionellosis	1	2.3	4	14.1	1	2.3	1	1.7	1	3.1	3	4.6	2	3.2
Listeriosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningitis, Aseptic	1	2.3	1	3.5	5	11.4	9	15.4	3	9.3	2	3.0	2	3.2
Meningitis, Other Bacterial*	0	0.0	0	0.0	1	2.3	0	0.0	1	3.1	0	0.0	0	0.0
Salmonellosis	2	4.6	1	3.5	2	4.6	13	22.2	9	27.8	14	21.3	5	8.1
Shigellosis	0	0.0	0	0.0	0	0.0	0	0.0	2	6.2	1	1.5	1	1.6
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	0	0.0	1	3.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Streptococcal Disease, Group A, Invasive	2	4.6	1	3.5	1	2.3	2	3.4	1	3.1	1	1.5	5	8.1
Streptococcal Disease, Group B, in Newborn*	1	*	0	*	0	*	0	*	0	*	0	*	0	*
Streptococcal Toxic Shock Syndrome (STSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.5	0	0.0
Toxic Shock Syndrome (TSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Typhoid Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Vibriosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Vibrio parahaemolyticus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other (Not Cholera)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yersiniosis	0	0.0	0	0.0	1	2.3	2	3.4	0	0.0	0	0.0	0	0.0
SUB-TOTAL	47	109.2	24	84.6	26	59.2	57	97.4	72	222.3	46	69.9	49	79.2
OUTBREAKS*														
Community*	0	n/a	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a	0	n/a
Foodborne*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Healthcare-Associated*	0	n/a	0	n/a	2	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Institutional*	0	n/a	0	n/a	0	n/a	0	n/a	1	n/a	0	n/a	1	n/a
Waterborne*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Zoonotic*	0	n/a	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a	0	n/a
SUB-TOTAL	0	n/a	0	n/a	2	n/a	2	n/a	1	n/a	0	n/a	1	n/a

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

VACCINE-PREVENTABLE	Highland		Hocking		Holmes		Huron		Jackson		Jefferson		Knox	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza-Associated Hospitalization	38	88.3	19	66.9	32	72.9	60	102.6	55	169.8	116	176.4	54	87.2
Influenza-Associated Pediatric Mortality*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza A Virus, Novel Human Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningococcal Disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mumps	1	2.3	1	3.5	0	0.0	1	1.7	0	0.0	0	0.0	0	0.0
Pertussis	1	2.3	1	3.5	7	15.9	0	0.0	0	0.0	3	4.6	3	4.8
<i>Streptococcus pneumoniae</i> , Invasive Disease	5	11.6	1	3.5	1	2.3	6	10.3	2	6.2	17	25.8	9	14.5
Ages < 5 Years*	0	*	0	*	0	*	0	*	0	*	0	*	2	*
Drug Resistant, Ages 5+ Years*	2	*	0	*	0	*	2	*	0	*	7	*	2	*
Drug Susceptible, Ages 5+ Years*	3	*	1	*	1	*	4	*	2	*	10	*	5	*
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Varicella	6	13.9	1	3.5	5	11.4	3	5.1	0	0.0	2	3.0	1	1.6
SUB-TOTAL	51	118.4	23	81.0	45	102.5	70	119.6	57	176.0	138	209.8	67	108.3

ZOOZNOSES														
Babesiosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Brucellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chikungunya Virus Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.5	0	0.0
Dengue	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ehrlichiosis/Anaplasmosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Anaplasma phagocytophilum</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Ehrlichia chaffeensis</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
La Crosse Virus Disease*	0	0.0	3	10.6	2	4.6	0	0.0	0	0.0	0	0.0	2	3.2
Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lyme Disease	0	0.0	0	0.0	4	9.1	4	6.8	3	9.3	24	36.5	6	9.7
Malaria	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Q Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Acute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chronic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rabies, Animal*	0	n/a	1	n/a	0	n/a	0	n/a	0	n/a	0	n/a	1	n/a
Spotted Fever Rickettsiosis*	1	2.3	0	0.0	0	0.0	0	0.0	1	3.1	0	0.0	0	0.0
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
West Nile Virus Infection	0	0.0	0	0.0	2	4.6	0	0.0	0	0.0	0	0.0	0	0.0
SUB-TOTAL	1	2.3	4	10.6	8	18.2	4	6.8	4	12.4	25	38.0	9	12.9

GRAND TOTAL	99	229.9	51	176.1	81	180.0	133	223.9	134	410.7	209	317.8	126	200.3
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POPULATION	43,058	28,385	43,892	58,504	32,384	65,767	61,893
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

GENERAL INFECTIOUS DISEASES	Lake		Lawrence		Licking		Logan		Lorain		Lucas		Madison	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	0	0.0	4	6.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Infant*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Campylobacteriosis	35	15.2	32	53.5	34	19.3	10	22.0	55	17.8	91	21.2	12	27.0
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	7	3.0	1	1.7	6	3.4	2	4.4	18	5.8	9	2.1	1	2.3
Coccidioidomycosis	0	0.0	0	0.0	0	0.0	1	2.2	0	0.0	2	0.5	0	0.0
Creutzfeldt-Jakob Disease (CJD)	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3	0	0.0	0	0.0
Cryptosporidiosis	3	1.3	5	8.4	8	4.6	4	8.8	7	2.3	47	10.9	2	4.5
Cyclosporiasis	0	0.0	0	0.0	0	0.0	1	2.2	5	1.6	4	0.9	1	2.3
<i>Escherichia coli</i> , Shiga Toxin-Producing	6	2.6	2	3.3	7	4.0	2	4.4	13	4.2	21	4.9	4	9.0
O157:H7	1	0.4	0	0.0	0	0.0	0	0.0	1	0.3	2	0.5	0	0.0
Not O157:H7	2	0.9	0	0.0	3	1.7	0	0.0	4	1.3	4	0.9	0	0.0
Unknown Serotype	3	1.3	2	3.3	4	2.3	2	4.4	8	2.6	15	3.5	4	9.0
Giardiasis	9	3.9	1	1.7	6	3.4	0	0.0	5	1.6	15	3.5	2	4.5
<i>Haemophilus influenzae</i> , Invasive Disease	2	0.9	3	5.0	2	1.1	0	0.0	4	1.3	3	0.7	0	0.0
Hemolytic Uremic Syndrome (HUS)	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis A	3	1.3	79	132.0	9	5.1	1	2.2	3	1.0	21	4.9	2	4.5
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Legionellosis	17	7.4	4	6.7	12	6.8	4	8.8	23	7.4	24	5.6	4	9.0
Listeriosis	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	1	0.2	0	0.0
Meningitis, Aseptic	1	0.4	2	3.3	13	7.4	1	2.2	11	3.6	42	9.8	2	4.5
Meningitis, Other Bacterial*	6	2.6	4	6.7	1	0.6	0	0.0	1	0.3	8	1.9	0	0.0
Salmonellosis	26	11.3	12	20.0	20	11.4	15	33.1	36	11.6	58	13.5	6	13.5
Shigellosis	3	1.3	1	1.7	5	2.8	1	2.2	6	1.9	3	0.7	0	0.0
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Streptococcal Disease, Group A, Invasive	14	6.1	2	3.3	9	5.1	2	4.4	9	2.9	19	4.4	2	4.5
Streptococcal Disease, Group B, in Newborn*	0	*	1	*	0	*	0	*	0	*	4	*	0	*
Streptococcal Toxic Shock Syndrome (STSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Toxic Shock Syndrome (TSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Typhoid Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
Vibriosis	1	0.4	0	0.0	0	0.0	1	2.2	4	1.3	3	0.7	0	0.0
<i>Vibrio parahaemolyticus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	2	0.6	0	0.0	0	0.0
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other (Not Cholera)	1	0.4	0	0.0	0	0.0	1	2.2	2	0.6	3	0.7	0	0.0
Yersiniosis	0	0.0	0	0.0	0	0.0	1	2.2	0	0.0	1	0.2	0	0.0
SUB-TOTAL	134	58.1	153	255.6	133	75.7	46	101.4	201	65.0	377	87.7	38	85.6
OUTBREAKS*														
Community*	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a	1	n/a	0	n/a
Foodborne*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	8	n/a	0	n/a
Healthcare-Associated*	2	n/a	0	n/a	1	n/a	1	n/a	0	n/a	7	n/a	0	n/a
Institutional*	0	n/a	0	n/a	1	n/a	1	n/a	1	n/a	6	n/a	1	n/a
Waterborne*	0	n/a	0	n/a	0	n/a	1	n/a	1	n/a	0	n/a	0	n/a
Zoonotic*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
SUB-TOTAL	2	n/a	0	n/a	3	n/a	3	n/a	2	n/a	22	n/a	1	n/a

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

VACCINE-PREVENTABLE	Lake		Lawrence		Licking		Logan		Lorain		Lucas		Madison	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza-Associated Hospitalization	231	100.2	43	71.8	170	96.7	18	39.7	264	85.3	645	150.0	65	146.4
Influenza-Associated Pediatric Mortality*	0	*	0	*	0	*	0	*	0	*	1	*	0	*
Influenza A Virus, Novel Human Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningococcal Disease	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0
Mumps	0	0.0	0	0.0	1	0.6	0	0.0	2	0.6	0	0.0	0	0.0
Pertussis	3	1.3	0	0.0	12	6.8	7	15.4	3	1.0	14	3.3	4	9.0
<i>Streptococcus pneumoniae</i> , Invasive Disease	16	6.9	10	16.7	15	8.5	0	0.0	25	8.1	35	8.1	4	9.0
Ages < 5 Years*	0	*	0	*	1	*	0	*	2	*	1	*	0	*
Drug Resistant, Ages 5+ Years*	4	*	0	*	3	*	0	*	10	*	10	*	0	*
Drug Susceptible, Ages 5+ Years*	12	*	10	*	11	*	0	*	13	*	24	*	4	*
Tetanus	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Varicella	4	1.7	0	0.0	4	2.3	3	6.6	11	3.6	13	3.0	19	42.8
SUB-TOTAL	255	110.6	53	88.5	203	115.5	28	61.7	305	98.6	708	164.7	92	207.1

ZOO NOSES														
Babesiosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Brucellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chikungunya Virus Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Dengue	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ehrlichiosis/Anaplasmosis	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0
<i>Anaplasma phagocytophilum</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Ehrlichia chaffeensis</i> *	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0
La Crosse Virus Disease*	0	0.0	0	0.0	6	3.4	0	0.0	1	0.3	0	0.0	0	0.0
Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lyme Disease	4	1.7	2	3.3	5	2.8	0	0.0	1	0.3	4	0.9	0	0.0
Malaria	0	0.0	0	0.0	1	0.6	0	0.0	1	0.3	1	0.2	0	0.0
Q Fever	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3	0	0.0	0	0.0
Acute	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3	0	0.0	0	0.0
Chronic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rabies, Animal*	1	n/a	0	n/a	0	n/a	0	n/a	0	n/a	2	n/a	0	n/a
Spotted Fever Rickettsiosis*	0	0.0	2	3.3	0	0.0	0	0.0	0	0.0	2	0.5	0	0.0
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
West Nile Virus Infection	3	1.3	0	0.0	0	0.0	0	0.0	1	0.3	2	0.5	0	0.0
SUB-TOTAL	8	3.0	4	6.7	13	7.4	0	0.0	5	1.6	11	2.1	0	0.0

GRAND TOTAL	399	171.8	210	350.8	352	198.6	77	163.1	513	165.1	1,118	254.5	131	292.7
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POPULATION	230,514	59,866	175,769	45,358	309,461	429,899	44,413
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

GENERAL INFECTIOUS DISEASES	Mahoning		Marion		Medina		Meigs		Mercer		Miami		Monroe	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Infant*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Campylobacteriosis	14	6.1	21	32.2	33	18.4	17	73.6	46	112.3	13	12.2	3	21.8
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	7	3.0	0	0.0	5	2.8	0	0.0	1	2.4	4	3.8	0	0.0
Coccidioidomycosis	0	0.0	1	1.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Creutzfeldt-Jakob Disease (CJD)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cryptosporidiosis	12	5.2	12	18.4	8	4.5	1	4.3	27	65.9	2	1.9	0	0.0
Cyclosporiasis	0	0.0	0	0.0	1	0.6	0	0.0	1	2.4	0	0.0	0	0.0
<i>Escherichia coli</i> , Shiga Toxin-Producing	9	3.9	3	4.6	11	6.1	2	8.7	10	24.4	2	1.9	2	14.5
O157:H7	4	1.7	0	0.0	0	0.0	0	0.0	2	4.9	0	0.0	1	7.3
Not O157:H7	3	1.3	1	1.5	4	2.2	1	4.3	7	17.1	0	0.0	1	7.3
Unknown Serotype	2	0.9	2	3.1	7	3.9	1	4.3	1	2.4	2	1.9	0	0.0
Giardiasis	1	0.4	3	4.6	8	4.5	2	8.7	1	2.4	8	7.5	0	0.0
<i>Haemophilus influenzae</i> , Invasive Disease	4	1.7	1	1.5	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0
Hemolytic Uremic Syndrome (HUS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis A	5	2.2	11	16.9	2	1.1	6	26.0	0	0.0	22	20.7	1	7.3
Hepatitis E	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0
Legionellosis	11	4.8	2	3.1	11	6.1	2	8.7	4	9.8	3	2.8	0	0.0
Listeriosis	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningitis, Aseptic	10	4.4	7	10.7	5	2.8	1	4.3	4	9.8	2	1.9	1	7.3
Meningitis, Other Bacterial*	0	0.0	1	1.5	3	1.7	0	0.0	0	0.0	5	4.7	0	0.0
Salmonellosis	17	7.4	13	19.9	29	16.2	0	0.0	10	24.4	4	3.8	0	0.0
Shigellosis	2	0.9	2	3.1	0	0.0	0	0.0	2	4.9	1	0.9	0	0.0
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	0	0.0	0	0.0	0	0.0	0	0.0	1	2.4	0	0.0	0	0.0
Streptococcal Disease, Group A, Invasive	7	3.0	2	3.1	11	6.1	1	4.3	1	2.4	2	1.9	0	0.0
Streptococcal Disease, Group B, in Newborn*	4	*	0	*	0	*	0	*	0	*	0	*	0	*
Streptococcal Toxic Shock Syndrome (STSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Toxic Shock Syndrome (TSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Typhoid Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Vibriosis	0	0.0	0	0.0	2	1.1	0	0.0	0	0.0	0	0.0	0	0.0
<i>Vibrio parahaemolyticus</i> Infection	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other (Not Cholera)	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0
Yersiniosis	0	0.0	1	1.5	4	2.2	0	0.0	1	2.4	0	0.0	0	0.0
SUB-TOTAL	104	45.3	80	122.6	135	75.4	32	138.5	109	266.1	68	64.0	7	50.8
OUTBREAKS*														
Community*	0	n/a	0	n/a	2	n/a	0	n/a	1	n/a	0	n/a	0	n/a
Foodborne*	6	n/a	0	n/a	3	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Healthcare-Associated*	0	n/a	6	n/a	3	n/a	0	n/a	1	n/a	3	n/a	0	n/a
Institutional*	0	n/a	0	n/a	4	n/a	0	n/a	3	n/a	0	n/a	0	n/a
Waterborne*	0	n/a	0	n/a	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a
Zoonotic*	0	n/a	1	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
SUB-TOTAL	6	n/a	7	n/a	12	n/a	0	n/a	6	n/a	3	n/a	0	n/a

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

VACCINE-PREVENTABLE	Mahoning		Marion		Medina		Meigs		Mercer		Miami		Monroe	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	0	*	0	*	1	*	0	*	0	*	0	*	0	*
Influenza-Associated Hospitalization	421	183.3	109	167.0	236	131.7	25	108.2	47	114.7	101	95.1	12	87.0
Influenza-Associated Pediatric Mortality*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza A Virus, Novel Human Infection*	0	0.0	0	0.0	0	0.0	0	0.0	1	2.4	0	0.0	0	0.0
Meningococcal Disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mumps	0	0.0	1	1.5	0	0.0	0	0.0	0	0.0	1	0.9	0	0.0
Pertussis	1	0.4	0	0.0	23	12.8	1	4.3	1	2.4	7	6.6	1	7.3
<i>Streptococcus pneumoniae</i> , Invasive Disease	33	14.4	7	10.7	13	7.3	2	8.7	5	12.2	17	16.0	1	7.3
Ages < 5 Years*	1	*	0	*	1	*	0	*	0	*	0	*	0	*
Drug Resistant, Ages 5+ Years*	12	*	1	*	3	*	0	*	0	*	0	*	0	*
Drug Susceptible, Ages 5+ Years*	20	*	6	*	9	*	2	*	5	*	17	*	1	*
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Varicella	3	1.3	1	1.5	12	6.7	0	0.0	1	2.4	5	4.7	0	0.0
SUB-TOTAL	458	199.4	118	180.8	285	159.1	28	121.2	55	134.3	131	123.3	14	101.5

ZOO NOSES														
Babesiosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Brucellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chikungunya Virus Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Dengue	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ehrlichiosis/Anaplasmosis	0	0.0	0	0.0	0	0.0	1	4.3	0	0.0	1	0.9	0	0.0
<i>Anaplasma phagocytophilum</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Ehrlichia chaffeensis</i> *	0	0.0	0	0.0	0	0.0	1	4.3	0	0.0	1	0.9	0	0.0
La Crosse Virus Disease*	0	0.0	0	0.0	1	0.6	1	4.3	0	0.0	1	0.9	0	0.0
Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lyme Disease	3	1.3	0	0.0	5	2.8	0	0.0	0	0.0	1	0.9	0	0.0
Malaria	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Q Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Acute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chronic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rabies, Animal*	3	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Spotted Fever Rickettsiosis*	0	0.0	0	0.0	0	0.0	1	4.3	1	2.4	0	0.0	0	0.0
Tularemia	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
West Nile Virus Infection	2	0.9	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0
SUB-TOTAL	9	2.6	0	0.0	7	3.9	3	13.0	1	2.4	3	2.8	0	0.0

GRAND TOTAL	577	247.3	205	303.4	439	238.4	63	272.7	171	402.8	205	190.2	21	152.3
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POPULATION	229,642	65,256	179,146	23,106	40,959	106,222	13,790
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

GENERAL INFECTIOUS DISEASES	Montgomery		Morgan		Morrow		Muskingum		Noble		Ottawa		Paulding	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Infant*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Campylobacteriosis	50	9.4	12	82.2	14	39.9	26	30.2	7	48.8	23	56.4	3	16.0
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	5	0.9	0	0.0	0	0.0	1	1.2	0	0.0	0	0.0	1	5.3
Coccidioidomycosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Creutzfeldt-Jakob Disease (CJD)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cryptosporidiosis	16	3.0	2	13.7	2	5.7	13	15.1	1	7.0	6	14.7	3	16.0
Cyclosporiasis	0	0.0	0	0.0	1	2.8	0	0.0	0	0.0	0	0.0	0	0.0
<i>Escherichia coli</i> , Shiga Toxin-Producing	17	3.2	2	13.7	5	14.2	3	3.5	2	13.9	0	0.0	0	0.0
O157:H7	2	0.4	1	6.8	1	2.8	0	0.0	0	0.0	0	0.0	0	0.0
Not O157:H7	3	0.6	1	6.8	0	0.0	0	0.0	2	13.9	0	0.0	0	0.0
Unknown Serotype	12	2.3	0	0.0	4	11.4	3	3.5	0	0.0	0	0.0	0	0.0
Giardiasis	5	0.9	1	6.8	0	0.0	5	5.8	0	0.0	0	0.0	1	5.3
<i>Haemophilus influenzae</i> , Invasive Disease	14	2.6	0	0.0	0	0.0	1	1.2	0	0.0	0	0.0	0	0.0
Hemolytic Uremic Syndrome (HUS)	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis A	221	41.5	1	6.8	7	19.9	8	9.3	3	20.9	2	4.9	1	5.3
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Legionellosis	60	11.3	1	6.8	1	2.8	6	7.0	0	0.0	2	4.9	2	10.7
Listeriosis	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningitis, Aseptic	18	3.4	1	6.8	1	2.8	3	3.5	1	7.0	0	0.0	1	5.3
Meningitis, Other Bacterial*	19	3.6	0	0.0	1	2.8	2	2.3	0	0.0	1	2.5	1	5.3
Salmonellosis	55	10.3	4	27.4	3	8.5	8	9.3	2	13.9	5	12.3	2	10.7
Shigellosis	14	2.6	0	0.0	0	0.0	0	0.0	0	0.0	2	4.9	0	0.0
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Streptococcal Disease, Group A, Invasive	53	10.0	1	6.8	2	5.7	7	8.1	2	13.9	0	0.0	0	0.0
Streptococcal Disease, Group B, in Newborn*	1	*	0	*	0	*	2	*	0	*	0	*	0	*
Streptococcal Toxic Shock Syndrome (STSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Toxic Shock Syndrome (TSS)	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Typhoid Fever	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Vibriosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Vibrio parahaemolyticus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other (Not Cholera)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yersiniosis	0	0.0	0	0.0	0	0.0	2	2.3	0	0.0	0	0.0	0	0.0
SUB-TOTAL	553	103.9	25	171.2	37	105.4	87	100.9	18	125.4	41	100.6	15	80.0
OUTBREAKS*														
Community*	1	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Foodborne*	1	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Healthcare-Associated*	2	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Institutional*	4	n/a	0	n/a	1	n/a	0	n/a	0	n/a	1	n/a	0	n/a
Waterborne*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Zoonotic*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
SUB-TOTAL	8	n/a	0	n/a	1	n/a	0	n/a	0	n/a	1	n/a	0	n/a

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

VACCINE-PREVENTABLE	Montgomery		Morgan		Morrow		Muskingum		Noble		Ottawa		Paulding	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza-Associated Hospitalization	728	136.8	14	95.9	35	99.7	100	116.0	11	76.6	61	149.6	13	69.3
Influenza-Associated Pediatric Mortality*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza A Virus, Novel Human Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningococcal Disease	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mumps	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	1	2.5	0	0.0
Pertussis	86	16.2	0	0.0	0	0.0	2	2.3	0	0.0	1	2.5	0	0.0
<i>Streptococcus pneumoniae</i> , Invasive Disease	81	15.2	2	13.7	8	22.8	9	10.4	3	20.9	6	14.7	2	10.7
Ages < 5 Years*	4	*	0	*	0	*	1	*	1	*	0	*	0	*
Drug Resistant, Ages 5+ Years*	19	*	0	*	1	*	1	*	1	*	1	*	0	*
Drug Susceptible, Ages 5+ Years*	58	*	2	*	7	*	7	*	1	*	5	*	2	*
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Varicella	16	3.0	4	27.4	0	0.0	3	3.5	0	0.0	2	4.9	4	21.3
SUB-TOTAL	913	171.5	20	136.9	43	122.5	114	132.3	14	97.5	71	174.2	19	101.3

ZOO NOSES														
Babesiosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Brucellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chikungunya Virus Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Dengue	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ehrlichiosis/Anaplasmosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Anaplasma phagocytophilum</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Ehrlichia chaffeensis</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
La Crosse Virus Disease*	0	0.0	1	6.8	3	8.5	2	2.3	0	0.0	0	0.0	0	0.0
Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lyme Disease	5	0.9	0	0.0	0	0.0	7	8.1	0	0.0	2	4.9	0	0.0
Malaria	2	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Q Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Acute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chronic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rabies, Animal*	1	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Spotted Fever Rickettsiosis*	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
West Nile Virus Infection	3	0.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	5.3
SUB-TOTAL	12	2.1	1	6.8	3	8.5	9	10.4	0	0.0	2	4.9	1	5.3

GRAND TOTAL	1,486	277.5	46	315.0	84	236.4	210	243.7	32	222.9	115	279.6	35	186.6
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POPULATION	532,331	14,604	35,112	86,183	14,354	40,769	18,760
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

GENERAL INFECTIOUS DISEASES	Perry		Pickaway		Pike		Portage		Preble		Putnam		Richland	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Infant*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Campylobacteriosis	13	36.1	6	10.3	6	21.4	26	16.0	5	12.2	12	35.5	23	19.0
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	0	0.0	0	0.0	0	0.0	5	3.1	0	0.0	1	3.0	7	5.8
Coccidioidomycosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	3.0	0	0.0
Creutzfeldt-Jakob Disease (CJD)	0	0.0	0	0.0	1	3.6	1	0.6	0	0.0	0	0.0	0	0.0
Cryptosporidiosis	2	5.6	3	5.2	2	7.1	10	6.1	1	2.4	6	17.8	7	5.8
Cyclosporiasis	0	0.0	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0
<i>Escherichia coli</i> , Shiga Toxin-Producing	2	5.6	4	6.9	1	3.6	10	6.1	2	4.9	3	8.9	4	3.3
O157:H7	0	0.0	0	0.0	0	0.0	4	2.5	1	2.4	0	0.0	1	0.8
Not O157:H7	1	2.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Unknown Serotype	1	2.8	4	6.9	1	3.6	6	3.7	1	2.4	3	8.9	3	2.5
Giardiasis	2	5.6	2	3.4	2	7.1	6	3.7	0	0.0	2	5.9	4	3.3
<i>Haemophilus influenzae</i> , Invasive Disease	1	2.8	1	1.7	2	7.1	0	0.0	2	4.9	0	0.0	9	7.4
Hemolytic Uremic Syndrome (HUS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis A	3	8.3	54	93.0	34	121.1	1	0.6	33	80.5	2	5.9	1	0.8
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Legionellosis	4	11.1	3	5.2	0	0.0	14	8.6	4	9.8	1	3.0	13	10.7
Listeriosis	1	2.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningitis, Aseptic	2	5.6	2	3.4	1	3.6	8	4.9	2	4.9	1	3.0	3	2.5
Meningitis, Other Bacterial*	1	2.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Salmonellosis	3	8.3	7	12.1	2	7.1	16	9.8	5	12.2	7	20.7	15	12.4
Shigellosis	0	0.0	1	1.7	1	3.6	1	0.6	0	0.0	1	3.0	1	0.8
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Streptococcal Disease, Group A, Invasive	1	2.8	6	10.3	1	3.6	4	2.5	6	14.6	1	3.0	5	4.1
Streptococcal Disease, Group B, in Newborn*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Streptococcal Toxic Shock Syndrome (STSS)	0	0.0	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0
Toxic Shock Syndrome (TSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Typhoid Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Vibriosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.8
<i>Vibrio parahaemolyticus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.8
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other (Not Cholera)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yersiniosis	0	0.0	0	0.0	0	0.0	1	0.6	0	0.0	1	3.0	0	0.0
SUB-TOTAL	35	97.1	89	153.2	53	188.8	105	64.4	60	146.4	39	115.5	93	76.8
OUTBREAKS*														
Community*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	1	n/a
Foodborne*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Healthcare-Associated*	0	n/a	0	n/a	1	n/a	1	n/a	0	n/a	1	n/a	0	n/a
Institutional*	0	n/a	2	n/a	1	n/a	6	n/a	0	n/a	0	n/a	3	n/a
Waterborne*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Zoonotic*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
SUB-TOTAL	0	n/a	2	n/a	2	n/a	7	n/a	0	n/a	1	n/a	4	n/a

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

VACCINE-PREVENTABLE	Perry		Pickaway		Pike		Portage		Preble		Putnam		Richland	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza-Associated Hospitalization	24	66.6	80	137.7	28	99.8	203	124.6	39	95.1	38	112.5	124	102.4
Influenza-Associated Pediatric Mortality*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza A Virus, Novel Human Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningococcal Disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mumps	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pertussis	0	0.0	8	13.8	0	0.0	9	5.5	6	14.6	0	0.0	13	10.7
<i>Streptococcus pneumoniae</i> , Invasive Disease	7	19.4	5	8.6	7	24.9	18	11.0	6	14.6	4	11.8	17	14.0
Ages < 5 Years*	0	*	0	*	0	*	0	*	0	*	1	*	0	*
Drug Resistant, Ages 5+ Years*	0	*	2	*	2	*	8	*	2	*	0	*	2	*
Drug Susceptible, Ages 5+ Years*	7	*	3	*	5	*	10	*	4	*	3	*	15	*
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Varicella	1	2.8	0	0.0	1	3.6	3	1.8	1	2.4	0	0.0	4	3.3
SUB-TOTAL	32	88.8	93	160.1	36	128.3	233	143.0	52	126.8	42	124.3	158	130.5

ZOOZOOSES														
Babesiosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Brucellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chikungunya Virus Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Dengue	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	1.7
Ehrlichiosis/Anaplasmosis	0	0.0	1	1.7	3	10.7	1	0.6	0	0.0	0	0.0	1	0.8
<i>Anaplasma phagocytophilum</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.8
<i>Ehrlichia chaffeensis</i> *	0	0.0	1	1.7	3	10.7	1	0.6	0	0.0	0	0.0	0	0.0
La Crosse Virus Disease*	1	2.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.8
Leptospirosis	0	0.0	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0
Lyme Disease	0	0.0	1	1.7	0	0.0	5	3.1	0	0.0	1	3.0	0	0.0
Malaria	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Q Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Acute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chronic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rabies, Animal*	0	n/a	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a	0	n/a
Spotted Fever Rickettsiosis*	0	0.0	0	0.0	2	7.1	0	0.0	0	0.0	0	0.0	0	0.0
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
West Nile Virus Infection	0	0.0	0	0.0	0	0.0	0	0.0	1	2.4	0	0.0	0	0.0
SUB-TOTAL	1	2.8	2	3.4	5	17.8	8	4.3	1	2.4	1	3.0	4	3.3

GRAND TOTAL	68	188.7	186	316.8	96	334.9	353	211.8	113	275.6	83	242.7	259	210.6
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POPULATION	36,033	58,086	28,067	162,927	40,997	33,780	121,099
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

GENERAL INFECTIOUS DISEASES	Ross		Sandusky		Scioto		Seneca		Shelby		Stark		Summit	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Infant*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Campylobacteriosis	23	29.9	9	15.3	19	25.2	7	12.7	13	26.7	85	22.9	99	18.3
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	0	0.0	5	8.5	3	4.0	2	3.6	0	0.0	23	6.2	18	3.3
Coccidioidomycosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	0.7
Creutzfeldt-Jakob Disease (CJD)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2
Cryptosporidiosis	13	16.9	3	5.1	6	7.9	7	12.7	2	4.1	32	8.6	37	6.8
Cyclosporiasis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	8	2.2	23	4.2
<i>Escherichia coli</i> , Shiga Toxin-Producing	3	3.9	0	0.0	1	1.3	2	3.6	5	10.3	16	4.3	24	4.4
O157:H7	0	0.0	0	0.0	0	0.0	0	0.0	1	2.1	0	0.0	9	1.7
Not O157:H7	0	0.0	0	0.0	0	0.0	1	1.8	2	4.1	2	0.5	4	0.7
Unknown Serotype	3	3.9	0	0.0	1	1.3	1	1.8	2	4.1	14	3.8	11	2.0
Giardiasis	3	3.9	0	0.0	2	2.6	7	12.7	0	0.0	18	4.8	27	5.0
<i>Haemophilus influenzae</i> , Invasive Disease	3	3.9	2	3.4	2	2.6	1	1.8	0	0.0	5	1.3	10	1.8
Hemolytic Uremic Syndrome (HUS)	0	0.0	0	0.0	0	0.0	1	1.8	0	0.0	0	0.0	0	0.0
Hepatitis A	74	96.2	2	3.4	83	109.9	2	3.6	1	2.1	0	0.0	12	2.2
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Legionellosis	10	13.0	1	1.7	3	4.0	0	0.0	1	2.1	32	8.6	38	7.0
Listeriosis	0	0.0	1	1.7	0	0.0	0	0.0	0	0.0	1	0.3	2	0.4
Meningitis, Aseptic	7	9.1	5	8.5	3	4.0	2	3.6	0	0.0	43	11.6	33	6.1
Meningitis, Other Bacterial*	0	0.0	0	0.0	0	0.0	1	1.8	0	0.0	3	0.8	4	0.7
Salmonellosis	12	15.6	8	13.6	12	15.9	14	25.4	5	10.3	61	16.4	68	12.5
Shigellosis	1	1.3	1	1.7	2	2.6	1	1.8	0	0.0	23	6.2	12	2.2
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Streptococcal Disease, Group A, Invasive	6	7.8	2	3.4	1	1.3	1	1.8	0	0.0	25	6.7	25	4.6
Streptococcal Disease, Group B, in Newborn*	0	*	0	*	0	*	0	*	0	*	2	*	4	*
Streptococcal Toxic Shock Syndrome (STSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Toxic Shock Syndrome (TSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Typhoid Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2
Vibriosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3	1	0.2
<i>Vibrio parahaemolyticus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other (Not Cholera)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3	1	0.2
Yersiniosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.8	3	0.6
SUB-TOTAL	155	201.5	39	66.3	137	181.5	48	86.9	27	55.5	381	102.5	446	82.3
OUTBREAKS*														
Community*	1	n/a	0	n/a	1	n/a	0	n/a	0	n/a	0	n/a	1	n/a
Foodborne*	0	n/a	1	n/a	0	n/a	0	n/a	0	n/a	0	n/a	1	n/a
Healthcare-Associated*	0	n/a	0	n/a	0	n/a	4	n/a	0	n/a	2	n/a	2	n/a
Institutional*	2	n/a	0	n/a	0	n/a	0	n/a	0	n/a	11	n/a	1	n/a
Waterborne*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	1	n/a	0	n/a
Zoonotic*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	1	n/a	0	n/a
SUB-TOTAL	3	n/a	1	n/a	1	n/a	4	n/a	0	n/a	15	n/a	5	n/a

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

VACCINE-PREVENTABLE	Ross		Sandusky		Scioto		Seneca		Shelby		Stark		Summit	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	1	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza-Associated Hospitalization	107	139.1	79	134.4	95	125.8	47	85.1	52	106.9	540	145.3	899	165.9
Influenza-Associated Pediatric Mortality*	0	*	0	*	0	*	0	*	0	*	0	*	1	*
Influenza A Virus, Novel Human Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningococcal Disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mumps	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3	0	0.0
Pertussis	7	9.1	0	0.0	1	1.3	0	0.0	0	0.0	31	8.3	49	9.0
<i>Streptococcus pneumoniae</i> , Invasive Disease	12	15.6	10	17.0	6	7.9	10	18.1	9	18.5	37	10.0	55	10.1
Ages < 5 Years*	1	*	0	*	0	*	0	*	0	*	3	*	5	*
Drug Resistant, Ages 5+ Years*	3	*	4	*	3	*	3	*	4	*	10	*	17	*
Drug Susceptible, Ages 5+ Years*	8	*	6	*	3	*	7	*	5	*	24	*	33	*
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Varicella	3	3.9	7	11.9	1	1.3	3	5.4	1	2.1	15	4.0	12	2.2
SUB-TOTAL	130	169.0	96	163.3	103	136.4	60	108.7	62	127.5	624	167.9	1,016	187.5

ZOOZOOSES														
Babesiosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Brucellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chikungunya Virus Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Dengue	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2
Ehrlichiosis/Anaplasmosis	1	1.3	0	0.0	0	0.0	1	1.8	0	0.0	0	0.0	1	0.2
<i>Anaplasma phagocytophilum</i> *	0	0.0	0	0.0	0	0.0	1	1.8	0	0.0	0	0.0	0	0.0
<i>Ehrlichia chaffeensis</i> *	1	1.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2
La Crosse Virus Disease*	1	1.3	0	0.0	0	0.0	0	0.0	0	0.0	4	1.1	0	0.0
Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lyme Disease	3	3.9	0	0.0	2	2.6	1	1.8	0	0.0	14	3.8	6	1.1
Malaria	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.6
Q Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Acute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chronic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rabies, Animal*	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a	2	n/a	1	n/a
Spotted Fever Rickettsiosis*	2	2.6	0	0.0	4	5.3	0	0.0	0	0.0	1	0.3	1	0.2
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
West Nile Virus Infection	2	2.6	0	0.0	0	0.0	0	0.0	0	0.0	6	1.6	3	0.6
SUB-TOTAL	9	11.7	0	0.0	7	7.9	2	3.6	0	0.0	27	6.7	16	2.8

GRAND TOTAL	297	382.2	136	229.6	248	325.8	114	199.3	89	183.0	1,047	277.2	1,483	272.6
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POPULATION	76,931	58,799	75,502	55,207	48,627	371,574	541,918
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

GENERAL INFECTIOUS DISEASES	Trumbull		Tuscarawas		Union		Van Wert		Vinton		Warren		Washington	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0
Infant*	0	*	0	*	0	*	0	*	0	*	1	*	0	*
Campylobacteriosis	12	6.0	21	22.8	16	27.7	13	46.0	1	7.6	27	11.6	44	73.1
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	25	12.6	4	4.3	1	1.7	1	3.5	0	0.0	3	1.3	5	8.3
Coccidioidomycosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Creutzfeldt-Jakob Disease (CJD)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cryptosporidiosis	12	6.0	3	3.3	10	17.3	6	21.2	5	38.1	8	3.4	3	5.0
Cyclosporiasis	0	0.0	0	0.0	1	1.7	0	0.0	0	0.0	0	0.0	0	0.0
<i>Escherichia coli</i> , Shiga Toxin-Producing	5	2.5	2	2.2	6	10.4	3	10.6	2	15.2	2	0.9	0	0.0
O157:H7	0	0.0	0	0.0	1	1.7	0	0.0	0	0.0	1	0.4	0	0.0
Not O157:H7	0	0.0	0	0.0	2	3.5	0	0.0	1	7.6	0	0.0	0	0.0
Unknown Serotype	5	2.5	2	2.2	3	5.2	3	10.6	1	7.6	1	0.4	0	0.0
Giardiasis	2	1.0	5	5.4	0	0.0	0	0.0	0	0.0	6	2.6	0	0.0
<i>Haemophilus influenzae</i> , Invasive Disease	2	1.0	3	3.3	1	1.7	0	0.0	0	0.0	6	2.6	0	0.0
Hemolytic Uremic Syndrome (HUS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis A	18	9.1	0	0.0	7	12.1	0	0.0	11	83.7	31	13.4	40	66.5
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Legionellosis	17	8.6	5	5.4	4	6.9	2	7.1	1	7.6	8	3.4	4	6.6
Listeriosis	0	0.0	1	1.1	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0
Meningitis, Aseptic	7	3.5	2	2.2	6	10.4	1	3.5	1	7.6	16	6.9	8	13.3
Meningitis, Other Bacterial*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	1.3	3	5.0
Salmonellosis	15	7.6	12	13.0	17	29.4	8	28.3	2	15.2	19	8.2	9	15.0
Shigellosis	0	0.0	3	3.3	0	0.0	1	3.5	0	0.0	8	3.4	0	0.0
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Streptococcal Disease, Group A, Invasive	5	2.5	6	6.5	5	8.6	1	3.5	2	15.2	13	5.6	4	6.6
Streptococcal Disease, Group B, in Newborn*	2	*	1	*	1	*	0	*	1	*	0	*	0	*
Streptococcal Toxic Shock Syndrome (STSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Toxic Shock Syndrome (TSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Typhoid Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0
Vibriosis	0	0.0	0	0.0	1	1.7	1	3.5	1	7.6	1	0.4	0	0.0
<i>Vibrio parahaemolyticus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	1	7.6	0	0.0	0	0.0
Other (Not Cholera)	0	0.0	0	0.0	1	1.7	1	3.5	0	0.0	0	0.0	0	0.0
Yersiniosis	1	0.5	3	3.3	2	3.5	0	0.0	0	0.0	0	0.0	0	0.0
SUB-TOTAL	123	61.9	71	77.0	78	134.9	37	130.8	27	205.5	154	66.3	120	199.5
OUTBREAKS*														
Community*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Foodborne*	1	n/a	0	n/a	1	n/a	0	n/a	0	n/a	2	n/a	0	n/a
Healthcare-Associated*	0	n/a	1	n/a	0	n/a	0	n/a	0	n/a	3	n/a	0	n/a
Institutional*	0	n/a	1	n/a	0	n/a	0	n/a	0	n/a	1	n/a	0	n/a
Waterborne*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Zoonotic*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
SUB-TOTAL	1	n/a	2	n/a	1	n/a	0	n/a	0	n/a	6	n/a	0	n/a

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

VACCINE-PREVENTABLE	Trumbull		Tuscarawas		Union		Van Wert		Vinton		Warren		Washington	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza-Associated Hospitalization	349	175.7	96	104.1	30	51.9	13	46.0	18	137.0	212	91.3	80	133.0
Influenza-Associated Pediatric Mortality*	0	*	0	*	0	*	0	*	0	*	0	*	0	*
Influenza A Virus, Novel Human Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningococcal Disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mumps	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pertussis	8	4.0	5	5.4	4	6.9	3	10.6	0	0.0	11	4.7	1	1.7
<i>Streptococcus pneumoniae</i> , Invasive Disease	23	11.6	9	9.8	1	1.7	2	7.1	4	30.4	16	6.9	20	33.2
Ages < 5 Years*	2	*	2	*	0	*	0	*	0	*	1	*	0	*
Drug Resistant, Ages 5+ Years*	4	*	2	*	0	*	0	*	0	*	2	*	2	*
Drug Susceptible, Ages 5+ Years*	17	*	5	*	1	*	2	*	4	*	13	*	18	*
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Varicella	6	3.0	8	8.7	11	19.0	4	14.1	0	0.0	13	5.6	0	0.0
SUB-TOTAL	386	194.3	118	128.0	46	79.5	22	77.8	22	167.4	252	108.5	101	167.9

ZOO NOSES														
Babesiosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Brucellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chikungunya Virus Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Dengue	1	0.5	0	0.0	1	1.7	0	0.0	0	0.0	0	0.0	0	0.0
Ehrlichiosis/Anaplasmosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0
<i>Anaplasma phagocytophilum</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<i>Ehrlichia chaffeensis</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0
La Crosse Virus Disease*	0	0.0	0	0.0	1	1.7	0	0.0	1	7.6	0	0.0	0	0.0
Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lyme Disease	6	3.0	18	19.5	0	0.0	0	0.0	1	7.6	0	0.0	2	3.3
Malaria	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0
Q Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Acute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chronic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rabies, Animal*	1	n/a	8	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Spotted Fever Rickettsiosis*	0	0.0	0	0.0	0	0.0	0	0.0	1	7.6	0	0.0	0	0.0
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
West Nile Virus Infection	4	2.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.9	0	0.0
SUB-TOTAL	12	5.5	26	19.5	2	3.5	0	0.0	3	22.8	4	1.7	2	3.3

GRAND TOTAL	522	261.8	217	224.6	127	217.9	59	208.6	52	395.8	416	176.6	223	370.7
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POPULATION	198,627		92,176		57,835		28,281		13,139		232,173		60,155	
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

GENERAL INFECTIOUS DISEASES	Wayne		Williams		Wood		Wyandot		Unknown		TOTAL	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Amebiasis	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	12	0.1
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	2	0.0
Infant*	0	*	0	*	0	*	0	*	0	n/a	2	*
Campylobacteriosis	27	23.3	11	29.9	20	15.3	17	77.5	0	n/a	2,192	18.8
Carbapenemase-Producing Carbapenem-Resistant <i>Enterobacteriaceae</i> (CP-CRE)*	3	2.6	0	0.0	2	1.5	0	0.0	0	n/a	393	3.4
Coccidioidomycosis	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	19	0.2
Creutzfeldt-Jakob Disease (CJD)	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	14	0.1
Cryptosporidiosis	5	4.3	3	8.2	10	7.7	0	0.0	0	n/a	638	5.5
Cyclosporiasis	1	0.9	0	0.0	0	0.0	0	0.0	0	n/a	92	0.8
<i>Escherichia coli</i> , Shiga Toxin-Producing	11	9.5	1	2.7	4	3.1	0	0.0	0	n/a	537	4.6
O157:H7	2	1.7	0	0.0	1	0.8	0	0.0	0	n/a	68	0.6
Not O157:H7	3	2.6	0	0.0	1	0.8	0	0.0	0	n/a	135	1.2
Unknown Serotype	6	5.2	1	2.7	2	1.5	0	0.0	0	n/a	334	2.9
Giardiasis	6	5.2	4	10.9	7	5.4	2	9.1	0	n/a	499	4.3
<i>Haemophilus influenzae</i> , Invasive Disease	2	1.7	0	0.0	3	2.3	0	0.0	0	n/a	272	2.3
Hemolytic Uremic Syndrome (HUS)	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	4	0.0
Hepatitis A	2	1.7	0	0.0	4	3.1	2	9.1	0	n/a	1,838	15.7
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	2	0.0
Legionellosis	12	10.3	0	0.0	3	2.3	1	4.6	0	n/a	950	8.1
Listeriosis	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	30	0.3
Meningitis, Aseptic	7	6.0	2	5.4	5	3.8	0	0.0	0	n/a	634	5.4
Meningitis, Other Bacterial*	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	143	1.2
Salmonellosis	17	14.7	7	19.0	15	11.5	6	27.4	0	n/a	1,507	12.9
Shigellosis	0	0.0	0	0.0	3	2.3	0	0.0	0	n/a	517	4.4
<i>Staphylococcus aureus</i> , Intermediate Resistance to Vancomycin (VISA)	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	8	0.1
Streptococcal Disease, Group A, Invasive	6	5.2	1	2.7	3	2.3	0	0.0	0	n/a	682	5.8
Streptococcal Disease, Group B, in Newborn*	0	*	1	*	0	*	0	*	0	n/a	63	*
Streptococcal Toxic Shock Syndrome (STSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	25	0.2
Toxic Shock Syndrome (TSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	1	0.0
Typhoid Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	6	0.1
Vibriosis	0	0.0	0	0.0	4	3.1	0	0.0	0	n/a	52	0.4
<i>Vibrio parahaemolyticus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	13	0.1
<i>Vibrio vulnificus</i> Infection	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	2	0.0
Other (Not Cholera)	0	0.0	0	0.0	4	3.1	0	0.0	0	n/a	37	0.3
Yersiniosis	0	0.0	0	0.0	1	0.8	0	0.0	0	n/a	54	0.5
SUB-TOTAL	99	85.4	30	81.5	84	64.3	28	127.6	0	n/a	11,186	95.7
OUTBREAKS*												
Community*	0	n/a	0	n/a	1	n/a	0	n/a	0	n/a	35	n/a
Foodborne*	0	n/a	0	n/a	1	n/a	1	n/a	0	n/a	60	n/a
Healthcare-Associated*	0	n/a	1	n/a	6	n/a	1	n/a	0	n/a	121	n/a
Institutional*	0	n/a	0	n/a	1	n/a	2	n/a	0	n/a	257	n/a
Waterborne*	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	8	n/a
Zoonotic*	1	n/a	0	n/a	0	n/a	0	n/a	0	n/a	11	n/a
SUB-TOTAL	1	n/a	1	n/a	9	n/a	4	n/a	0	n/a	492	n/a

N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY COUNTY OF RESIDENCE, OHIO, 2018

VACCINE-PREVENTABLE	Wayne		Williams		Wood		Wyandot		Unknown		TOTAL	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Hepatitis B, Perinatal Infection*	0	*	0	*	0	*	0	*	0	n/a	2	*
Influenza-Associated Hospitalization	147	126.8	48	130.4	176	134.7	25	114.0	0	n/a	14,438	123.5
Influenza-Associated Pediatric Mortality*	0	*	0	*	0	*	0	*	0	n/a	2	*
Influenza A Virus, Novel Human Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	4	0.0
Meningococcal Disease	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	7	0.1
Mumps	0	0.0	0	0.0	1	0.8	0	0.0	0	n/a	38	0.3
Pertussis	14	12.1	3	8.2	2	1.5	0	0.0	0	n/a	668	5.7
<i>Streptococcus pneumoniae</i> , Invasive Disease	11	9.5	3	8.2	11	8.4	3	13.7	0	n/a	1,293	11.1
Ages < 5 Years*	0	*	0	*	1	*	0	*	0	n/a	62	*
Drug Resistant, Ages 5+ Years*	2	*	0	*	4	*	1	*	0	n/a	347	*
Drug Susceptible, Ages 5+ Years*	9	*	3	*	6	*	2	*	0	n/a	884	*
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	2	0.0
Varicella	4	3.4	0	0.0	2	1.5	1	4.6	0	n/a	444	3.8
SUB-TOTAL	176	151.8	54	146.7	192	146.9	29	132.2	0	n/a	16,898	144.6

ZOO NOSES												
Babesiosis	0	0.0	0	0.0	1	0.8	0	0.0	0	n/a	1	0.0
Brucellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	2	0.0
Chikungunya Virus Infection*	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	3	0.0
Dengue	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	7	0.1
Ehrlichiosis/Anaplasmosis	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	20	0.2
<i>Anaplasma phagocytophilum</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	3	0.0
<i>Ehrlichia chaffeensis</i> *	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	17	0.1
La Crosse Virus Disease*	1	0.9	0	0.0	0	0.0	0	0.0	0	n/a	39	0.3
Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	3	0.0
Lyme Disease	6	5.2	0	0.0	1	0.8	0	0.0	0	n/a	295	2.5
Malaria	0	0.0	0	0.0	1	0.8	0	0.0	0	n/a	56	0.5
Q Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	3	0.0
Acute	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	2	0.0
Chronic	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	1	0.0
Rabies, Animal*	1	n/a	0	n/a	1	n/a	0	n/a	0	n/a	55	n/a
Spotted Fever Rickettsiosis*	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	35	0.3
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	n/a	1	0.0
West Nile Virus Infection	2	1.7	1	2.7	0	0.0	1	4.6	0	n/a	65	0.6
SUB-TOTAL	10	7.8	1	2.7	4	2.3	1	4.6	0	n/a	585	4.5

GRAND TOTAL	286	244.9	86	231.0	289	213.5	62	264.4	0	n/a	29,161	244.8
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POPULATION	115,967	36,804	130,696	21,935	0	11,689,442
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N = number of cases reported.

Rates use 2018 U.S. Census estimates and are per 100,000 population.

n/a = not applicable.

* Please see Technical Notes (pp. 96-98).

**ESCHERICHIA COLI, SHIGA TOXIN-PRODUCING
SEROGROUPS BY YEAR OF ONSET, OHIO, 2014-2018**

SEROGROUP	2014	2015	2016	2017	2018
O1	0	0	1	1	0
O5	1	3	3	3	0
O8	1	0	2	2	0
O15	0	0	0	1	0
O22	0	0	1	0	0
O23	0	0	0	1	0
O25	0	0	0	0	1
O26*	21	32	30	28	25
O33	0	0	0	0	1
O39	1	1	0	0	0
O45*	10	3	8	6	5
O55	0	0	1	0	0
O61	0	1	0	0	0
O69	0	0	1	0	0
O71	7	9	2	4	0
O76	1	2	1	1	0
O77	1	1	1	1	0
O79	0	0	2	0	0
O80	0	1	1	0	0
O84	1	0	2	0	0
O91	2	3	1	3	0
O93	0	0	1	0	0
O100	0	0	1	0	0
O103*	27	35	49	43	47
O111*	11	13	21	29	35
O113	0	0	0	3	0
O117	0	0	0	1	0
O118	0	8	4	7	2
O119	0	0	2	0	0
O121*	2	2	6	5	7
O123	1	0	0	0	0
O124	1	0	1	2	0
O128	0	1	0	0	0
O136	0	0	1	0	0
O141	0	0	1	0	0
O145*	2	6	2	5	4
O146	2	0	0	3	0
O153	0	0	0	1	0
O156	0	0	0	2	0
O157	89	105	77	60	68
O158	0	0	0	1	0
O159	0	0	0	0	1
O165	1	1	1	0	0
O166	0	1	0	0	0
O168	0	0	1	0	0
O174	1	0	0	1	0
O177	0	0	1	0	0
O178	1	1	0	0	0
O180	1	0	0	0	0
O181	0	2	0	0	0
O182	0	0	0	1	0
O185	1	0	0	0	0
O186	5	5	4	2	7
O Rough	1	1	0	3	0
O Undetermined	2	3	6	6	0
Unknown	9	25	27	61	334
TOTAL	203	265	263	287	537

* ODH Lab began testing the top 6 non-O157 STEC isolates in 2011; prior to 2011, all non-O157 isolates were sent to CDC for typing.

**HAEMOPHILUS INFLUENZAE , INVASIVE DISEASE
SEROTYPES IN CHILDREN <5 YEARS OF AGE
BY YEAR OF ONSET, OHIO, 2014-2018**

SEROTYPE	2014	2015	2016	2017	2018
Type A	0	1	3	6	5
Type B	0	2	2	2	4
Type C	0	0	0	0	0
Type E	0	0	0	1	2
Type F	4	2	2	1	2
Non-Typeable	13	12	12	17	11
Unknown	2	0	1	2	0
TOTAL	19	17	20	29	24

**MENINGOCOCCAL DISEASE SEROGROUPS BY
YEAR OF ONSET, OHIO, 2014-2018**

SEROGROUP	2014	2015	2016	2017	2018
Group A	2	0	0	0	0
Group B	2	13	6	8	5
Group C	0	2	0	1	1
Group W	5	0	0	0	0
Group Y	1	1	2	2	1
Not Groupable	0	2	0	1	0
Unknown	2	0	0	0	0
TOTAL	12	18	8	12	7

**SALMONELLA SEROTYPES BY YEAR OF ONSET,
OHIO, 2014-2018**

SEROTYPE	2014	2015	2016	2017	2018
Abony	1	0	0	1	1
Adelaide	0	0	0	2	6
Agbeni	7	9	15	26	32
Agona	10	5	10	12	15
Alachua	1	0	0	0	1
Albany	0	0	0	0	1
Albert	0	2	0	0	0
Altona	1	1	0	0	0
Anatum	4	4	10	5	5
Antsalova	0	0	0	1	0
Apapa	2	1	0	0	3
Arechavaleta	0	0	0	0	1
Baildon	5	6	2	2	1
Bareilly	7	10	6	20	19
Barranquilla	0	0	0	1	0
Benin	0	0	0	1	0
Berta	6	6	22	11	20
Blockley	1	0	0	1	2
Bonariensis	0	0	1	0	1
Bongori	0	2	0	0	1
Bonn	0	0	0	0	1
Bovis-morbificans	3	9	9	6	5
Braenderup	28	24	40	61	38
Brandenburg	2	1	2	2	2
Bredeney	1	0	1	1	1
Buzu	0	0	1	0	0
Cannstatt	0	0	0	1	0
Cerro	1	0	0	3	1
Chailey	0	3	0	0	0
Chandans	0	0	0	1	0
Charity	0	0	0	0	1
Chester	3	3	0	5	1
Choleraesuis	0	0	1	0	0
Corvallis	0	0	2	2	0
Cotham	2	3	1	2	2
Cubana	1	0	0	2	3
Derby	4	0	4	2	6
Dublin	2	11	11	6	7
Durban	2	0	1	0	0
Ealing	0	1	0	1	0
Eastbourne	0	0	4	1	0
Enteritidis	305	397	412	328	301
Fluntern	0	0	0	0	1
Fresno	1	0	0	0	0
Gaminara	0	2	3	2	2
Gatuni	0	0	0	1	0
Give	0	1	2	2	3
Glostrup	0	0	1	1	1
Goldcoast	0	0	0	1	0
Grumpensis	0	0	0	1	0
Guinea	0	0	1	1	0
Hadar	4	6	2	24	9
Haifa	0	0	2	1	0
Hartford	12	15	37	31	27
Hato	0	0	2	0	0
Havana	0	0	1	1	1
Heidelberg	32	44	35	16	14
Holcomb	1	1	1	1	2
Hvittingfoss	2	1	2	1	8
Indiana	0	1	1	0	1
Infantis	40	33	40	35	60
Inverness	0	0	0	1	0
Irumu	0	1	0	0	0
Isangi	0	2	0	0	0
Javiana	35	35	40	28	37
Johannesburg	0	2	1	2	5
Kentucky	0	6	0	2	6

**SALMONELLA SEROTYPES BY YEAR OF ONSET,
OHIO, 2014-2018**

SEROTYPE	2014	2015	2016	2017	2018
Kiambu	1	1	2	0	1
Kingston	1	0	0	0	0
Kintambo	0	2	0	0	1
Kisarawe	0	0	0	0	1
Kokomlemle	1	0	0	0	0
Kottbus	0	1	0	0	0
Larochelle	0	0	0	1	0
Legon	0	1	0	0	0
Lexington	1	0	0	0	0
Litchfield	4	6	4	15	10
Loma Linda	0	0	1	0	0
Lome	1	0	1	0	0
London	0	0	2	2	1
Madelia	0	1	0	0	0
Manhattan	0	1	1	1	2
Matadi	1	0	1	0	0
Mbandaka	5	2	15	8	8
Miami	5	2	2	2	9
Michigan	1	0	0	0	1
Mikawasima	0	1	0	0	0
Minnesota	1	1	0	0	0
Mississippi	12	3	1	1	2
Monschau	2	2	0	2	4
Montevideo	19	20	29	28	21
Muenchen	15	27	24	13	16
Muenster	3	4	9	7	2
Napoli	1	4	2	1	2
New Mexico	1	0	0	0	0
Newport	62	60	98	87	88
Norwich	2	9	2	0	5
Nottingham	0	1	0	0	0
Nyanza	0	1	0	0	0
Offa	1	0	0	0	1
Ohio	2	2	1	0	3
Okatie	0	0	1	1	0
Onderstepoort	0	1	0	0	0
Oranienburg	25	39	49	34	33
Oslo	1	2	3	2	0
Pakistan	0	1	0	0	0
Panama	2	5	0	4	6
Paratyphi A	6	1	1	3	1
Paratyphi B	0	0	0	2	0
Paratyphi B, var L - Tartrate +	38	17	12	9	5
Pensacola	1	0	0	0	1
Pomona	2	3	0	1	4
Poona	6	8	7	6	7
Putten	1	0	0	0	0
Reading	1	4	2	1	9
Rissen	2	1	0	0	1
Rubislaw	1	2	1	1	0
Saarbruecken	0	1	0	0	0
Saint Paul	27	13	18	26	35
San Diego	4	5	3	3	5
Schwartzengrund	2	9	10	5	3
Senftenberg	1	3	1	2	3
Shubra	0	1	0	1	0
Singapore	0	0	2	0	1
Skansen	1	0	0	0	0
Southbank	0	0	0	1	0
Stanley	5	14	3	4	7
Stanleyville	1	0	0	0	0
Takoradi	0	1	0	0	0
Tallahassee	0	1	0	0	0
Tarshyne	2	0	0	0	0
Teddington	0	1	0	0	0
Teitelkebir	0	2	3	2	1
Tennessee	1	1	7	0	0

**SALMONELLA SEROTYPES BY YEAR OF ONSET,
OHIO, 2014-2018**

SEROTYPE	2014	2015	2016	2017	2018
Thompson	15	18	38	29	30
Toucra	0	0	1	0	0
Tudu	0	1	0	0	0
Typhi*	7	8	10	26	6
Typhimurium	155	194	195	145	151
Typhimurium, var Copenhagen	0	0	1	0	1
Uganda	4	1	4	2	2
Urbana	3	2	1	1	1
Uzaramo	1	0	0	0	0
Virchow	2	3	6	2	5
Waycross	1	1	0	0	0
Weltevreden	2	4	2	4	3
Wien	0	1	0	1	0
Woodinville	0	0	0	1	0
Worthington	0	1	3	4	1
(I) 1,3,19:Non-motile	0	0	0	1	0
(I) 3,10:Non-motile	1	0	0	0	0
(I) 4,5,12:-:1,2	1	0	0	0	0
(I) 4,5,12:-:2	1	0	0	0	0
(I) 4,5,12:b:-	0	3	13	1	0
(I) 4,5,12:b:-, var L + Tartrate +	1	0	0	0	0
(I) 4,5,12:b:-, var L - Tartrate +	0	21	21	22	49
(I) 4,5,12:d:-	1	0	0	0	0
(I) 4,5,12:i:-	72	85	82	74	80
(I) 4,5,12:Non-motile	1	1	0	0	0
(I) 4:i:-	0	0	0	1	0
(I) 6,7:-:1,5	1	0	0	0	0
(I) 6,7:-:5	3	0	0	0	0
(I) 6,7:k:-	1	0	0	0	0
(I) 6,7:Non-motile	1	1	0	0	0
(I) 6,8:Non-motile	1	1	0	0	0
(I) 9,12:g,z51:-	1	0	0	0	0
(I) 9,12:Non-motile	1	1	1	0	0
(I) 16:l,v:-	0	0	0	1	0
(I) 45:d:-	0	0	0	0	1
(I) 47:b:-	0	1	0	0	0
(I) 47:m,t:-	0	0	0	0	0
(I) Rough Os:e,h:e,n,z15	0	0	1	0	0
(I) Rough Os:f,g:-	0	0	0	0	1
(I) Rough Os:g,m:-	1	0	0	0	0
(I) Rough Os:i:2	1	0	0	0	0
(I) Rough Os:m,t:-	0	1	1	0	0
(I) Rough Os:Non-motile	0	1	0	0	1
(I) O Undetermined:r:1,5	0	0	0	0	1
(II) 42:r:-	0	0	0	0	1
(II) 50:b:z6	0	0	0	0	1
(II) 58:l,z13,z28:z6	0	0	1	2	1
(III) Arizona	1	0	0	0	0
(IIIa) 13,23:z4,z23:-	0	0	1	0	0
(IIIa) 35:z29:-	0	0	0	0	1
(IIIa) 41:z4,z23:-	0	0	0	0	1
(IIIa) 50:z4,z23:-	0	0	1	0	0
(IIIa) 56:z4:-	0	0	0	1	0
(IIIb) 16:z10:e,n,x,z15	0	0	0	0	1
(IIIb) 35:k:e,n,x,z15	0	0	0	0	1
(IIIb) 47:k:-	1	0	0	0	0
(IIIb) 47:k:z53	0	1	0	0	0
(IIIb) 47:Non-motile	1	0	0	0	0
(IIIb) 48:i:z	1	0	0	2	0
(IIIb) 48:l,v:1,5,7	0	0	0	0	1
(IIIb) 48:z52:z	0	2	1	0	0
(IIIb) 50:k:e,n,x	0	1	0	0	0
(IIIb) 50:k:z	0	0	0	1	0
(IIIb) 50:r:z	0	1	0	0	0
(IIIb) 53:z10:z	0	0	0	0	1
(IIIb) 60:i:e,n,x,z15	0	0	1	0	0
(IIIb) 60:r:e,n,x,z15	1	1	1	2	1

**SALMONELLA SEROTYPES BY YEAR OF ONSET,
OHIO, 2014-2018**

SEROTYPE	2014	2015	2016	2017	2018
(IIIb) 60:z52:z53	0	0	1	0	0
(IIIb) 61:-:1,5,7	0	0	1	0	0
(IIIb) 61:-:z53	1	0	0	0	0
(IIIb) 61:c:z35	0	1	0	0	0
(IIIb) 61:i:z53	0	0	0	1	0
(IIIb) 61:l,v,z13:1,5	1	0	0	0	0
(IIIb) 61:l,v,z13:1,5,7	0	0	1	0	0
(IIIb) 61:z52:z53	0	1	0	0	0
(IIIb) 65:k:-	1	0	0	0	0
(IIIb) Rough Os:k:-	0	0	0	1	0
(IIIb) Rough Os:k:z35	0	0	1	0	0
(IIIb) Rough Os:Undetermined	0	0	0	1	0
(IIIb) Rough Os:Non-motile	1	0	0	0	1
(IV) 6,7:z4,z24:-	0	0	0	0	1
(IV) 17:z29:-	1	0	0	0	0
(IV) 40:z4,z24:-	0	0	0	1	0
(IV) 44:z4,z23:-	1	2	1	0	2
(IV) 45:g,z51:-	1	0	2	0	0
(IV) 48:g,z51:- (Marina)	1	0	0	1	3
(IV) 50:g,z51:- (Wassenaar)	1	1	0	3	1
(IV) 50:z4,z23:- (Flint)	1	0	0	0	0
Rough Os:f,g:-	0	0	1	0	0
Rough Os:g,m,s:-	1	0	0	1	0
Rough Os:i:1,2	1	0	0	0	0
Rough Os:i:2	1	0	0	0	0
Rough Os:k:-	0	0	0	0	1
Rough Os:m,t:-	0	0	1	0	0
Rough Os:r:1,5	0	0	0	1	0
Rough Os:Non-motile	0	1	0	0	0
SUB-TOTAL	1,095	1,298	1,439	1,268	1,307

SEROGROUP					
Group A	0	1	0	0	0
Group B	5	4	1	1	2
Group C	4	0	5	2	2
Group C1	1	0	0	0	0
Group D	7	1	3	3	4
Group E	0	0	0	1	0
Group G	0	0	1	0	0
Group H	0	0	1	0	0
SUB-TOTAL	17	6	11	7	8

UNGROUPEd, UNTYPED	83	77	88	141	198
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GRAND TOTAL	1,195	1,381	1,538	1,416	1,513
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GRAPHS OF SELECTED NOTIFIABLE DISEASE INCIDENCE

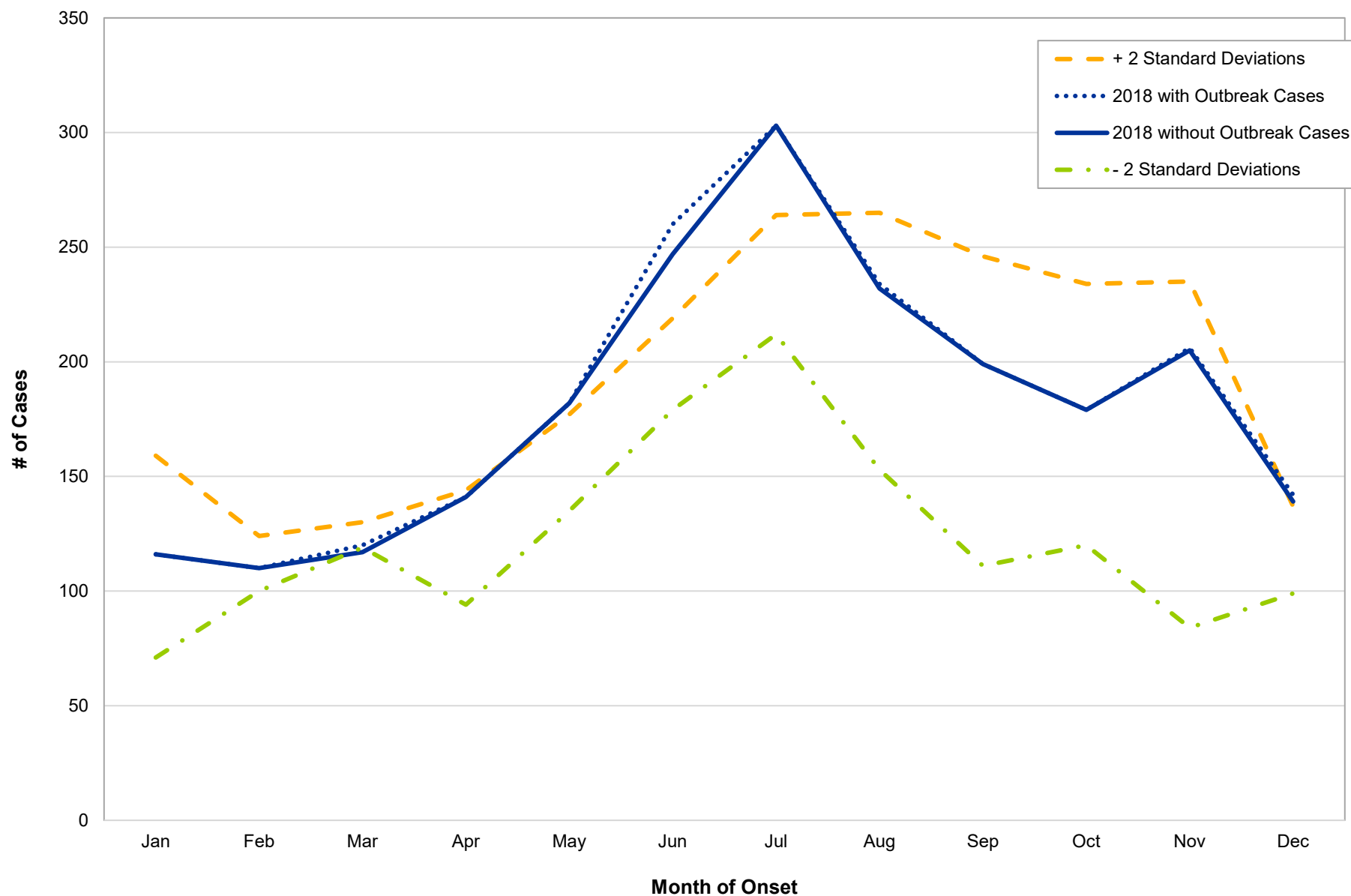
Disease incidence from 2018 is graphically presented to demonstrate general trends in surveillance data for selected Ohio reportable infectious diseases, including any statistically significant changes in the incidence observed. The trend graphs compare disease incidence from 2018 (i.e., observed cases) to baseline disease incidence (i.e., expected cases) by month. Baseline disease incidence was determined by calculating the average disease incidence, excluding outbreak- and cluster-associated cases, throughout the previous three years, 2015-2017. Statistically significant changes in incidence are demonstrated by graphing two standard deviations above and below the average baseline disease incidence. A statistically significant difference in 2018 disease incidence compared to baseline disease incidence suggests the difference is unlikely to have occurred by chance.

General surveillance trends are graphed statewide. The 2018 data represent confirmed and probable cases of selected reportable diseases. In many instances, two trend lines can be seen graphed for 2018 incidence data: one for all cases, including those linked to a known outbreak or cluster, and one for cases not linked to a known outbreak or cluster. It should be noted that not every graph will include a trend line for cases linked to a known outbreak or cluster as not all cases are outbreak- or cluster-associated. For statistical reliability/stability purposes, only diseases for which 10 or more cases were reported in a given month are included in the statewide trends.

Disease data for 2018 and data used in the calculation of the baseline (2015-2017) average are finalized. All data are by month and year of illness onset. The source of the data is the Ohio Disease Reporting System.

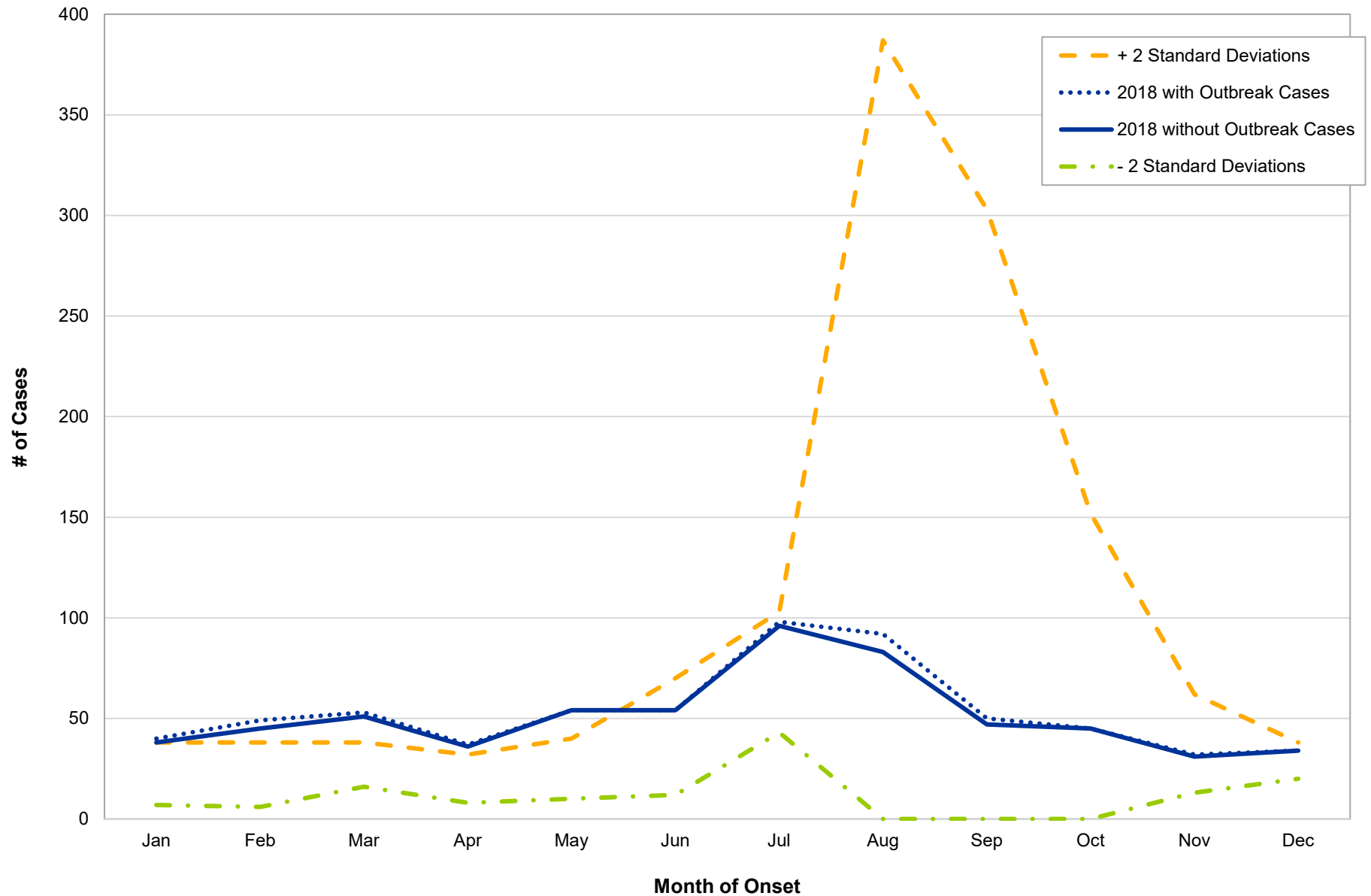
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Campylobacteriosis



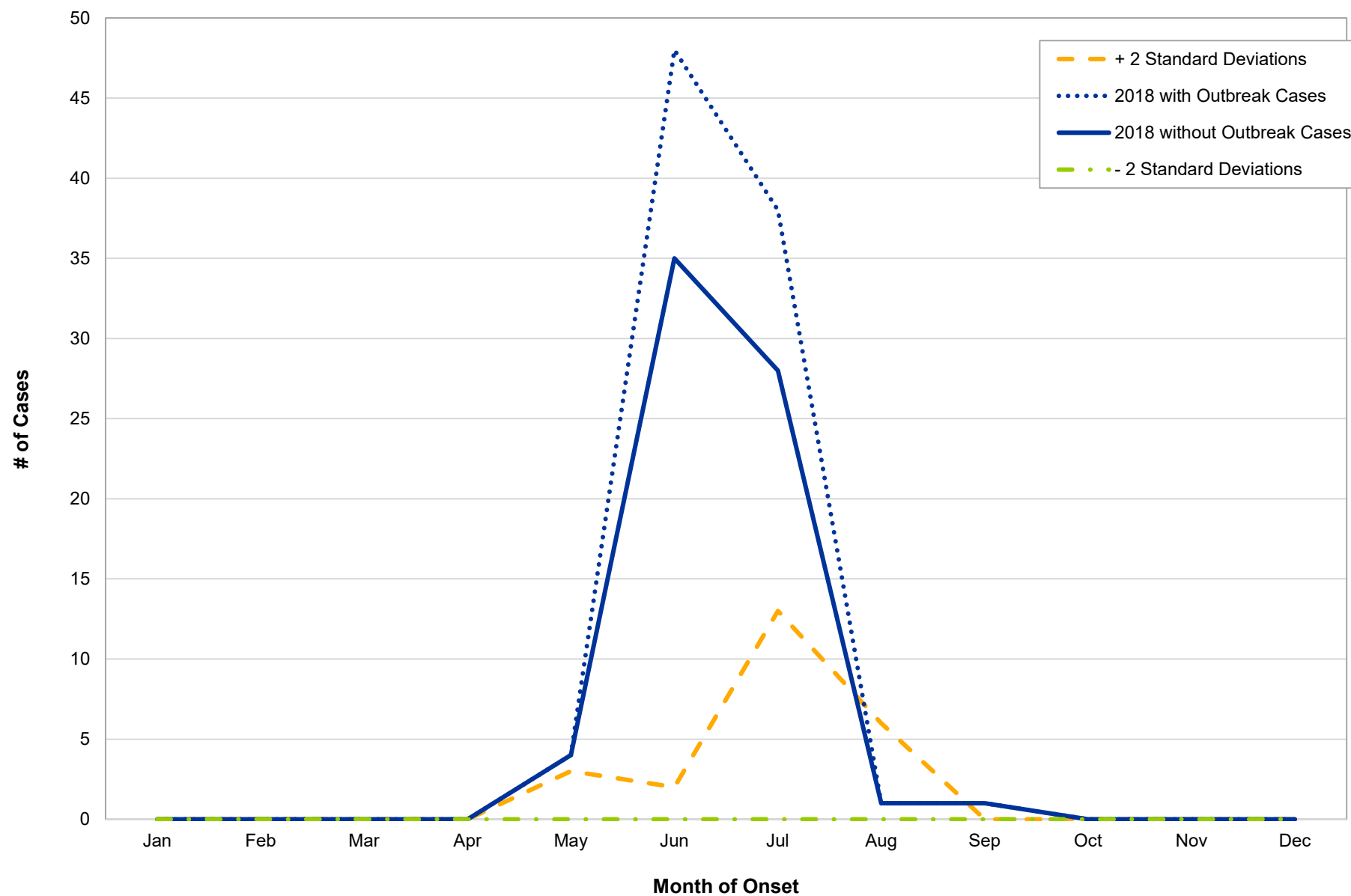
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Cryptosporidiosis



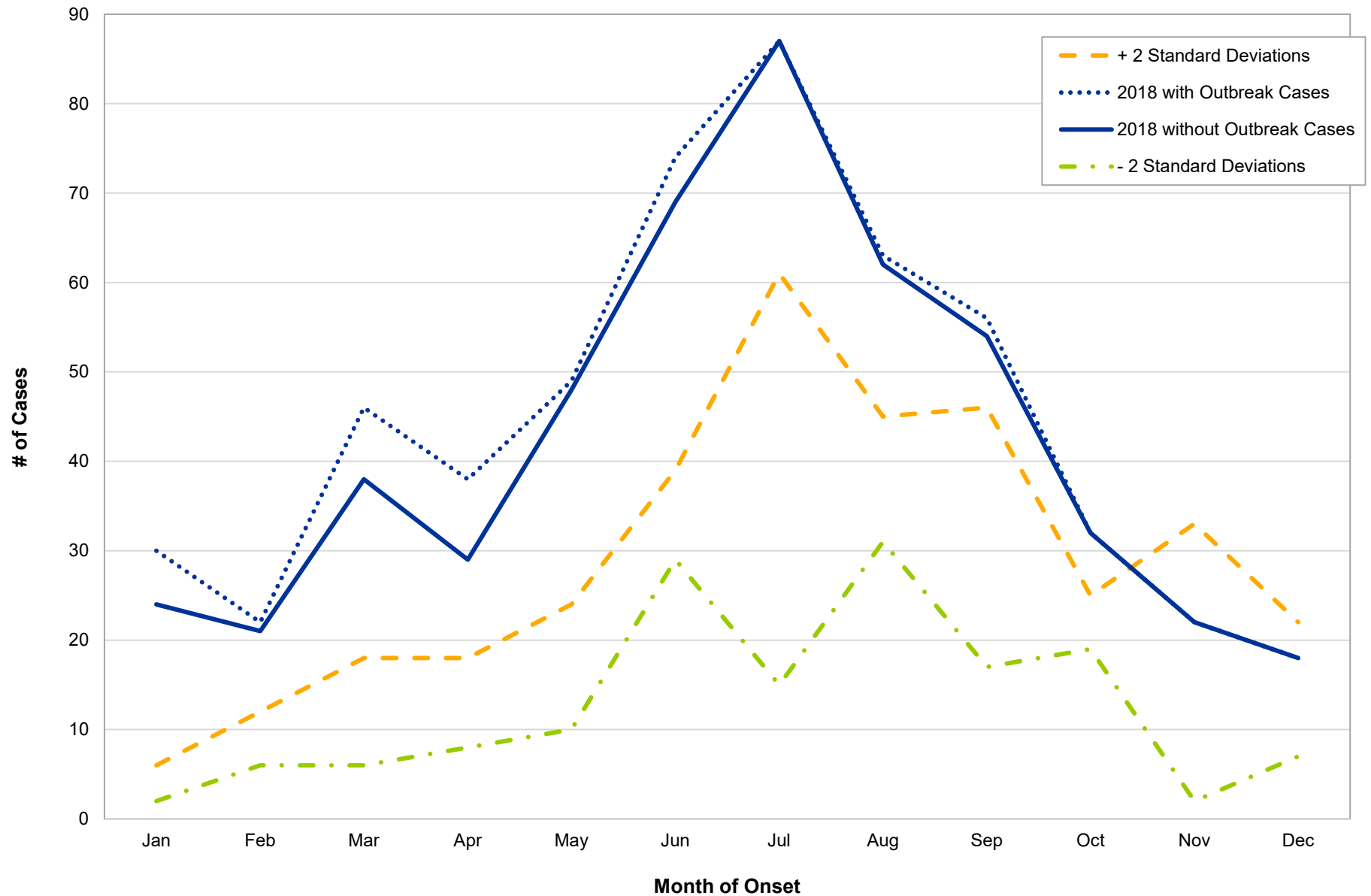
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Cyclosporiasis



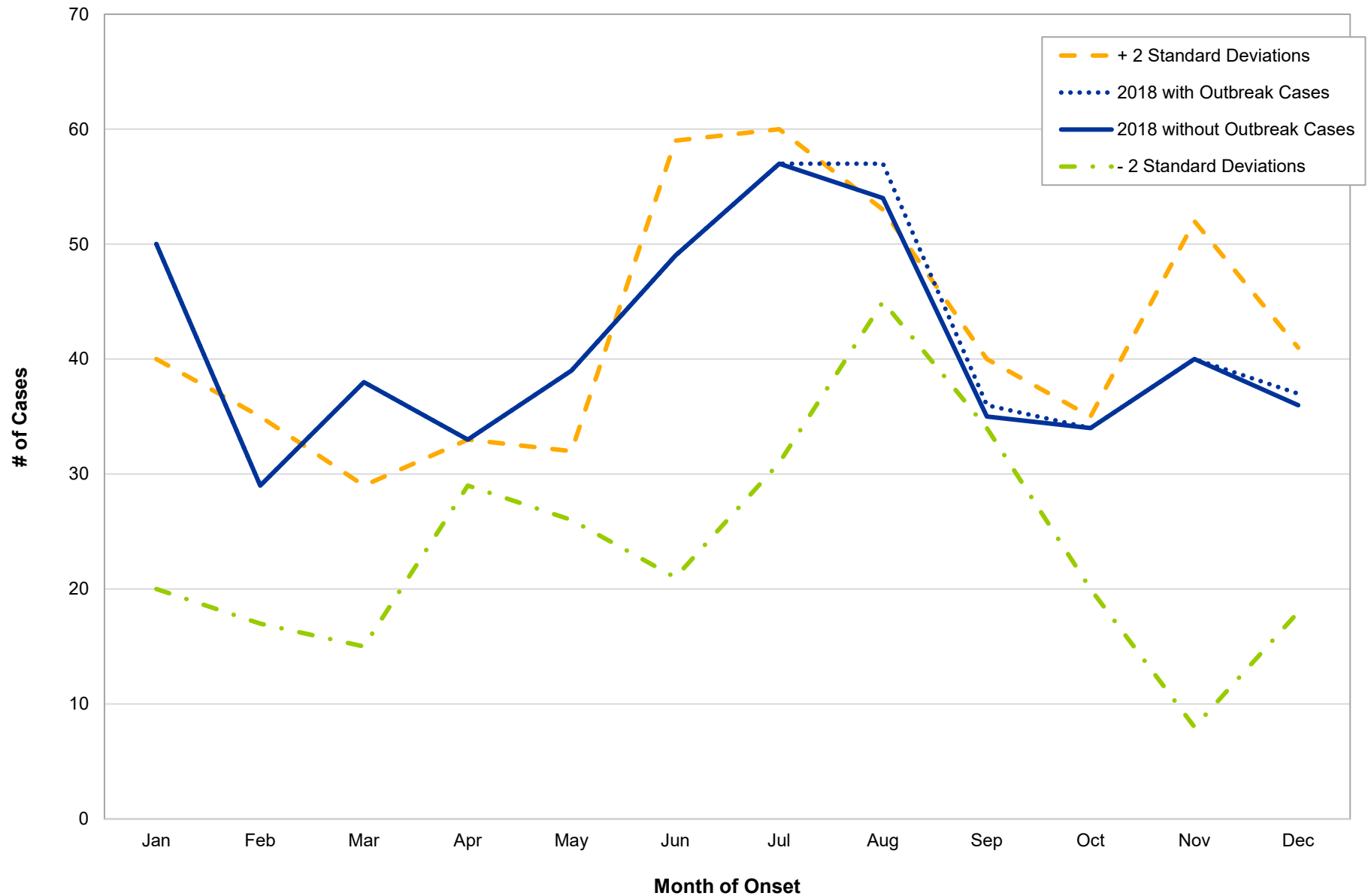
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Escherichia coli, Shiga Toxin-Producing



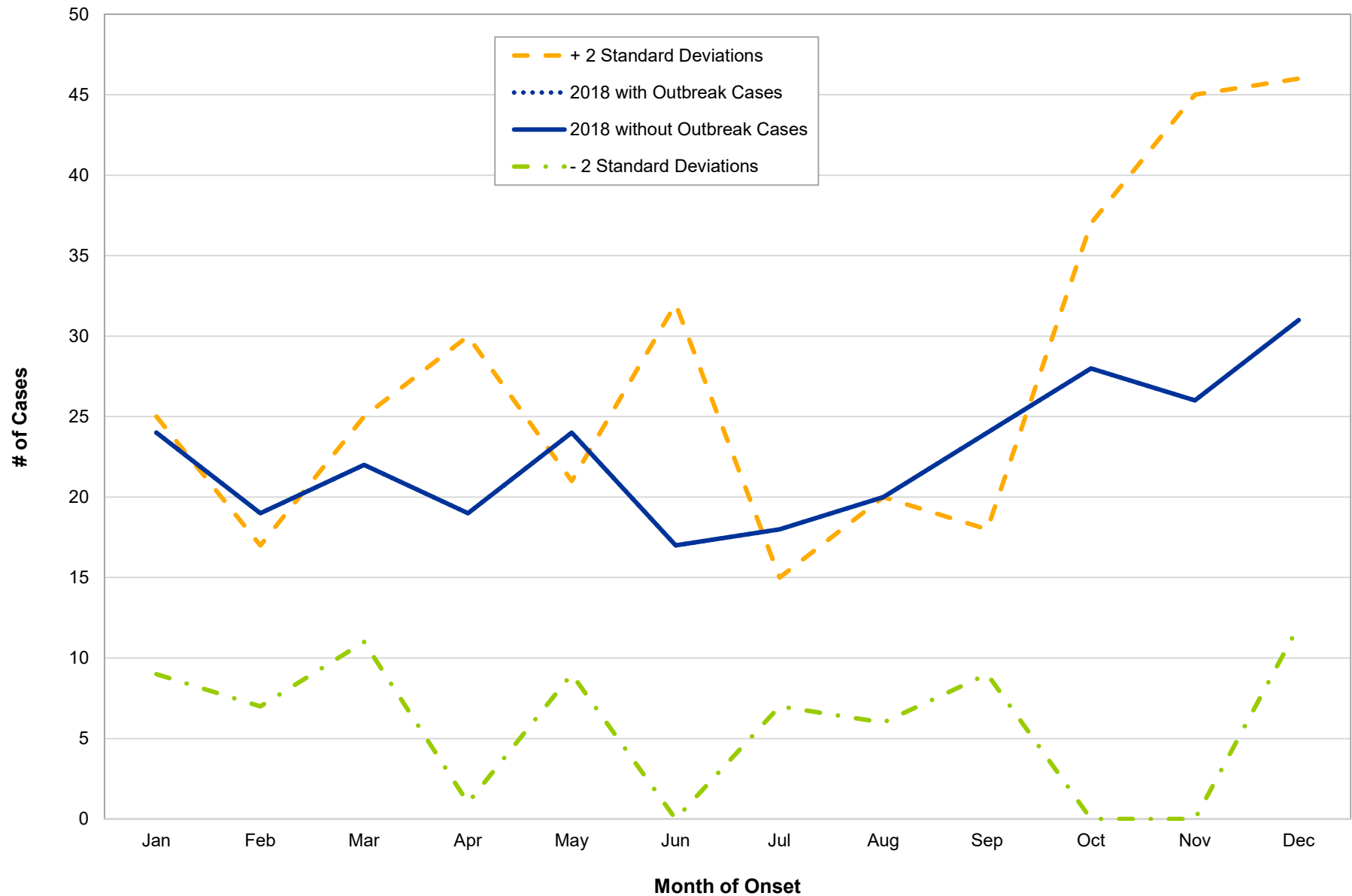
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Giardiasis



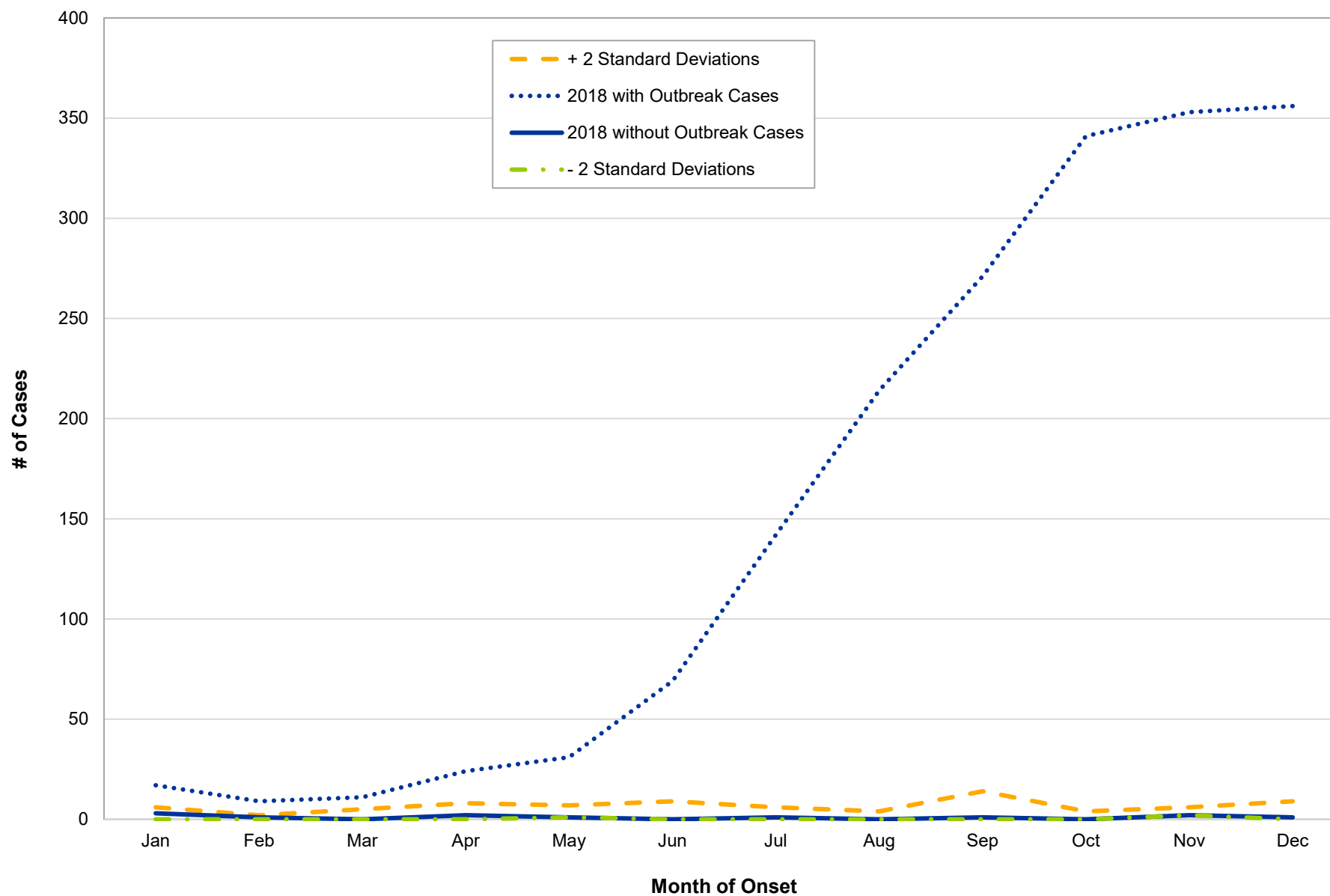
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Haemophilus influenzae, Invasive Disease



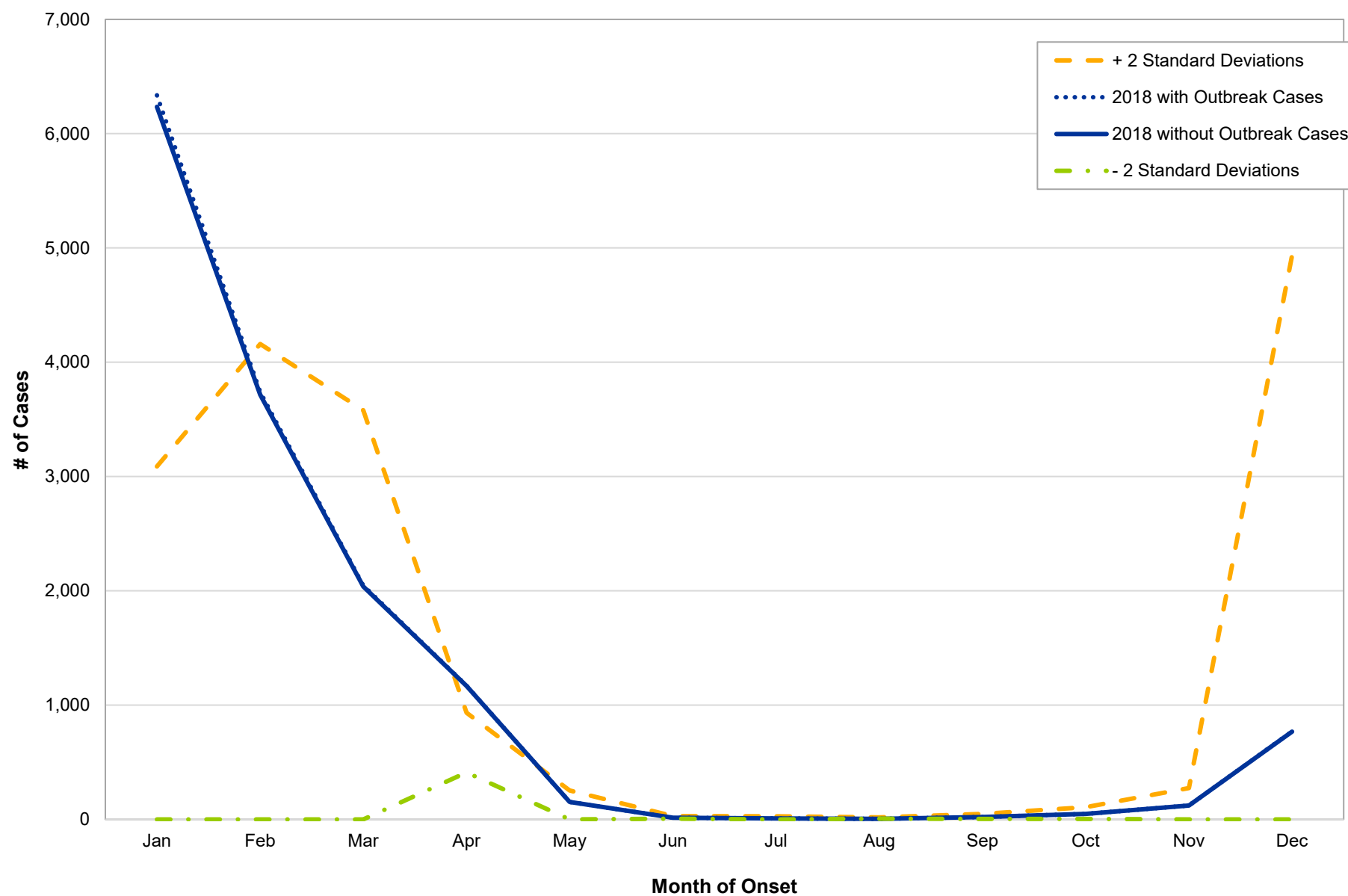
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Hepatitis A

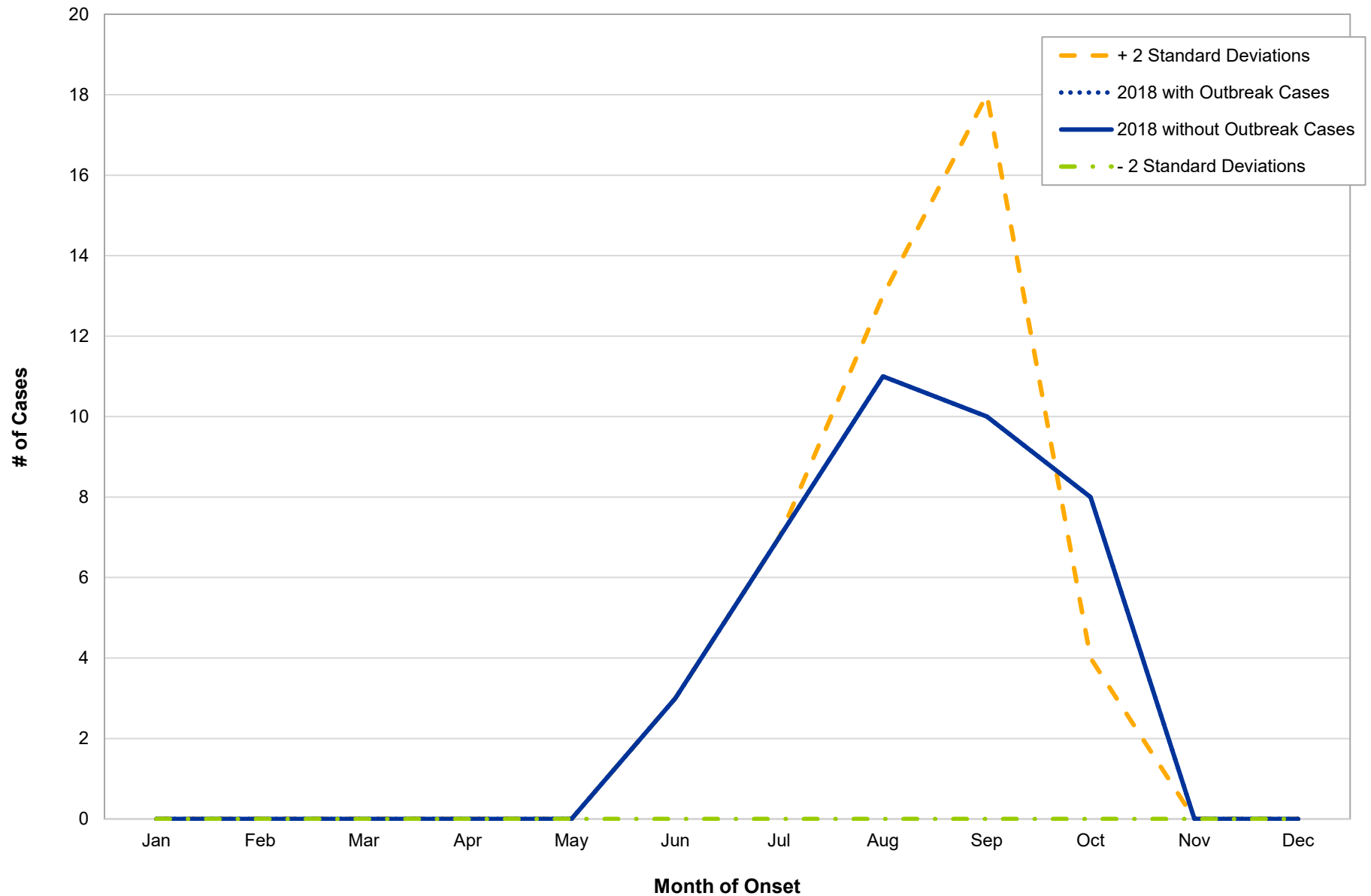


INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Influenza-Associated Hospitalization

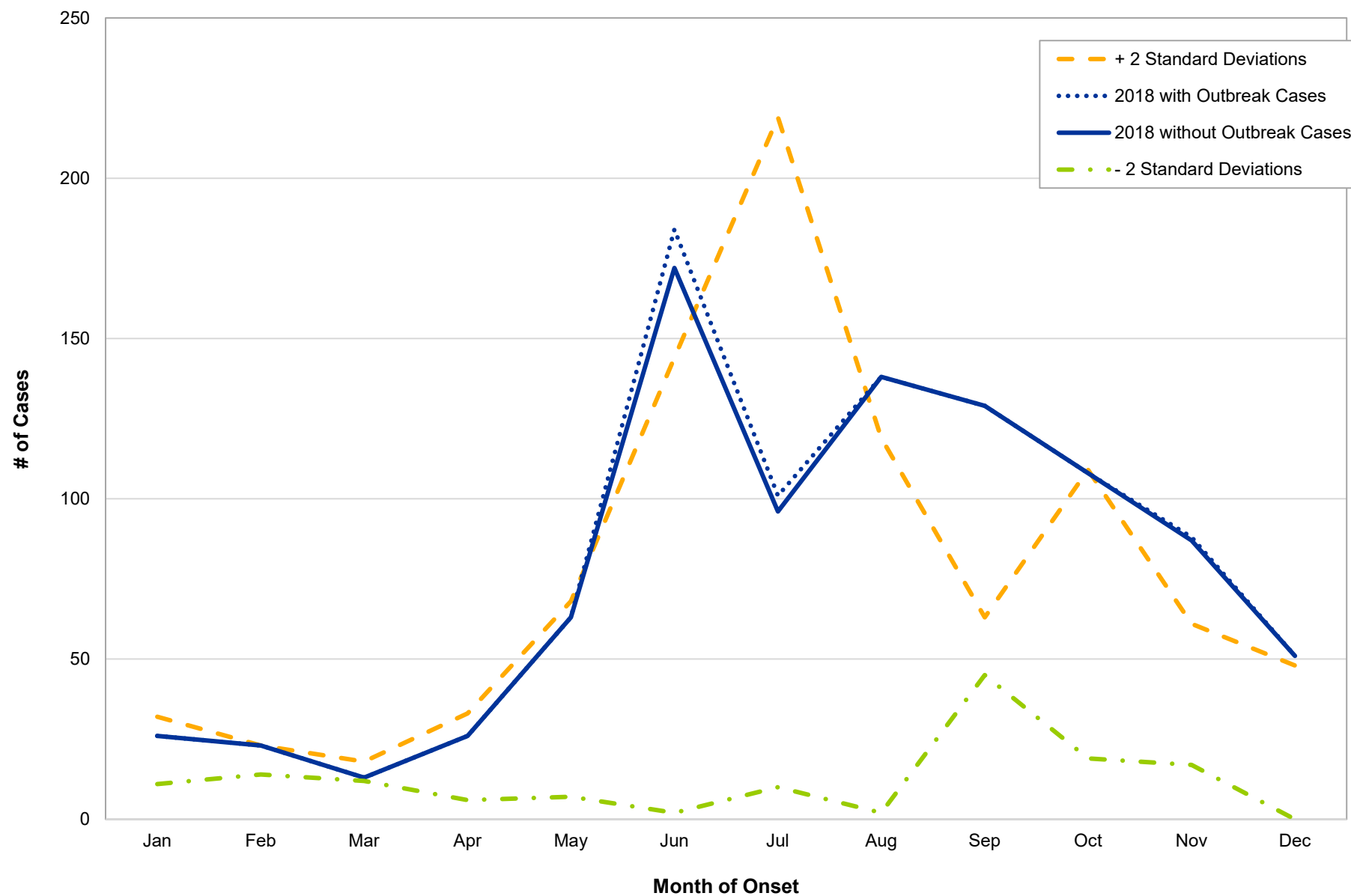


INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018 La Crosse Virus Disease



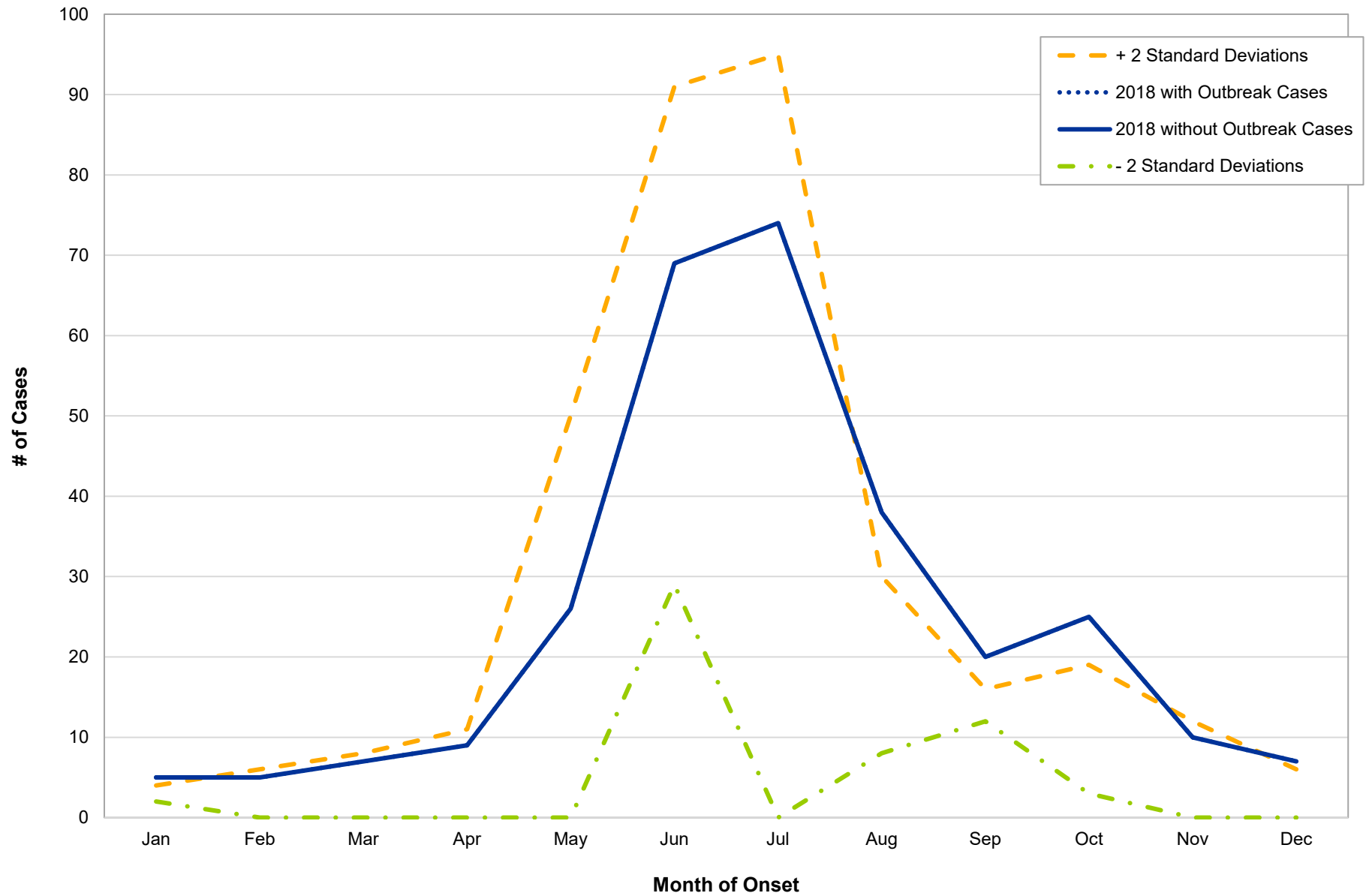
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Legionellosis



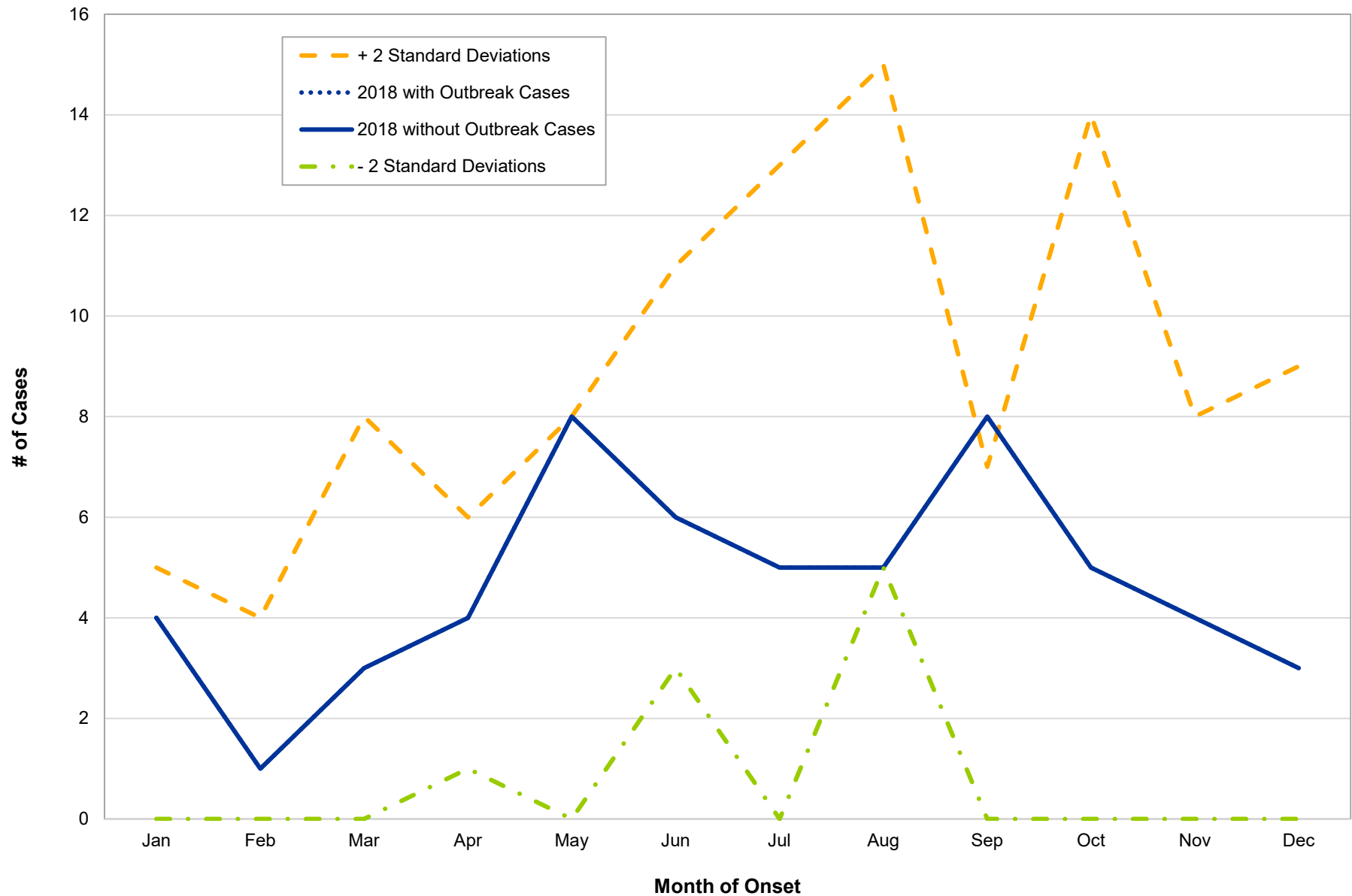
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Lyme Disease



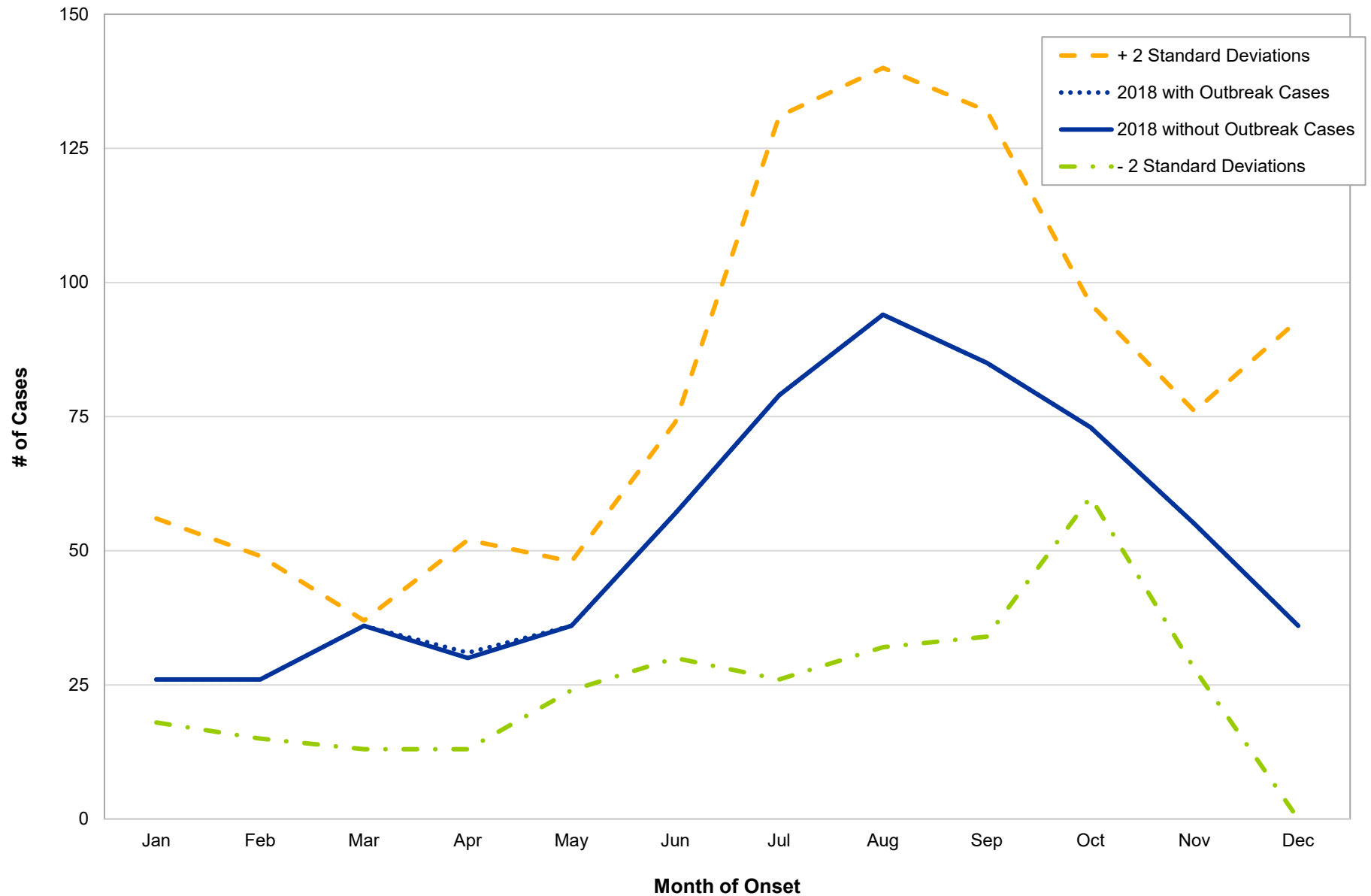
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Malaria



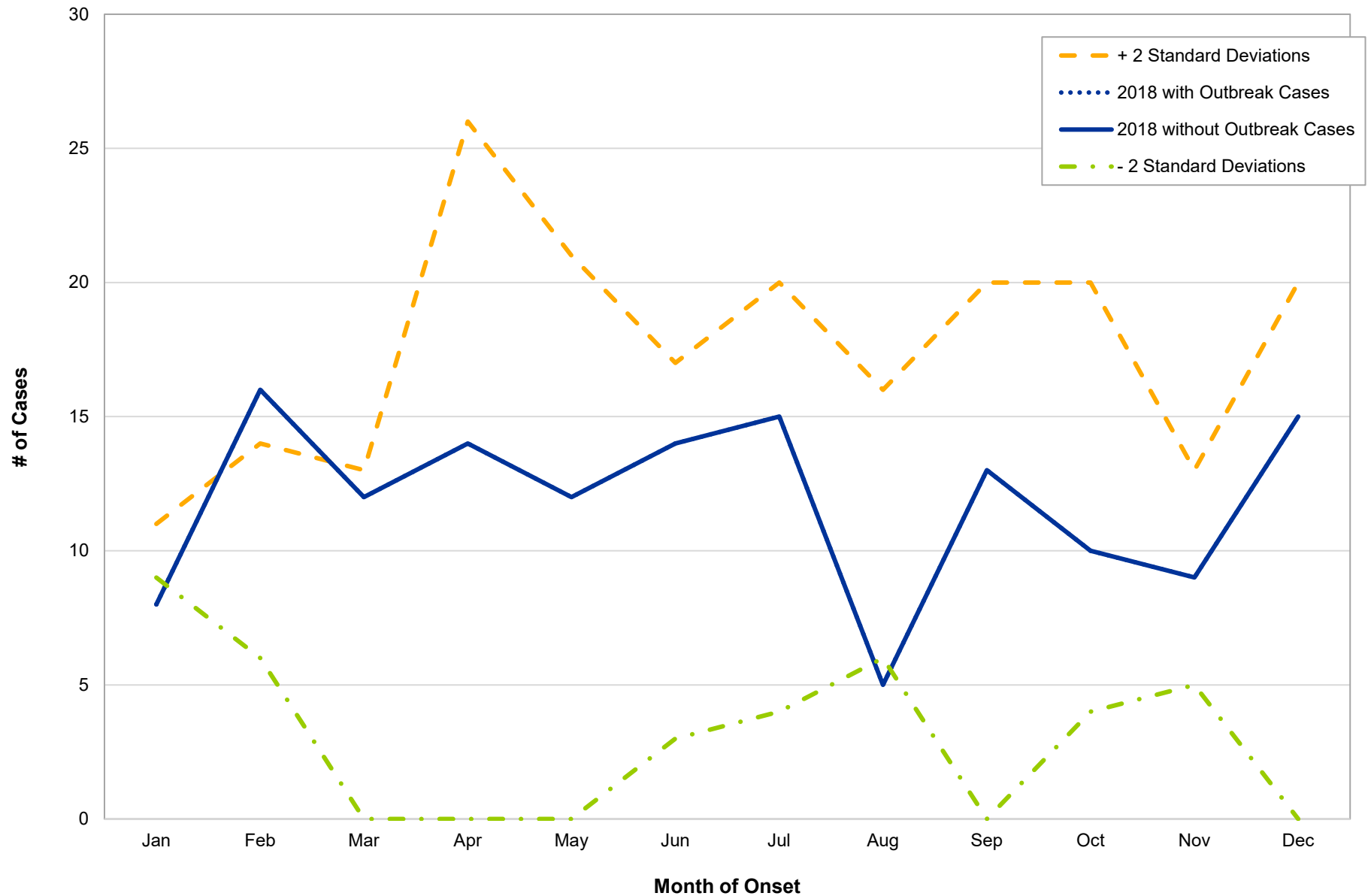
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Meningitis, Aseptic



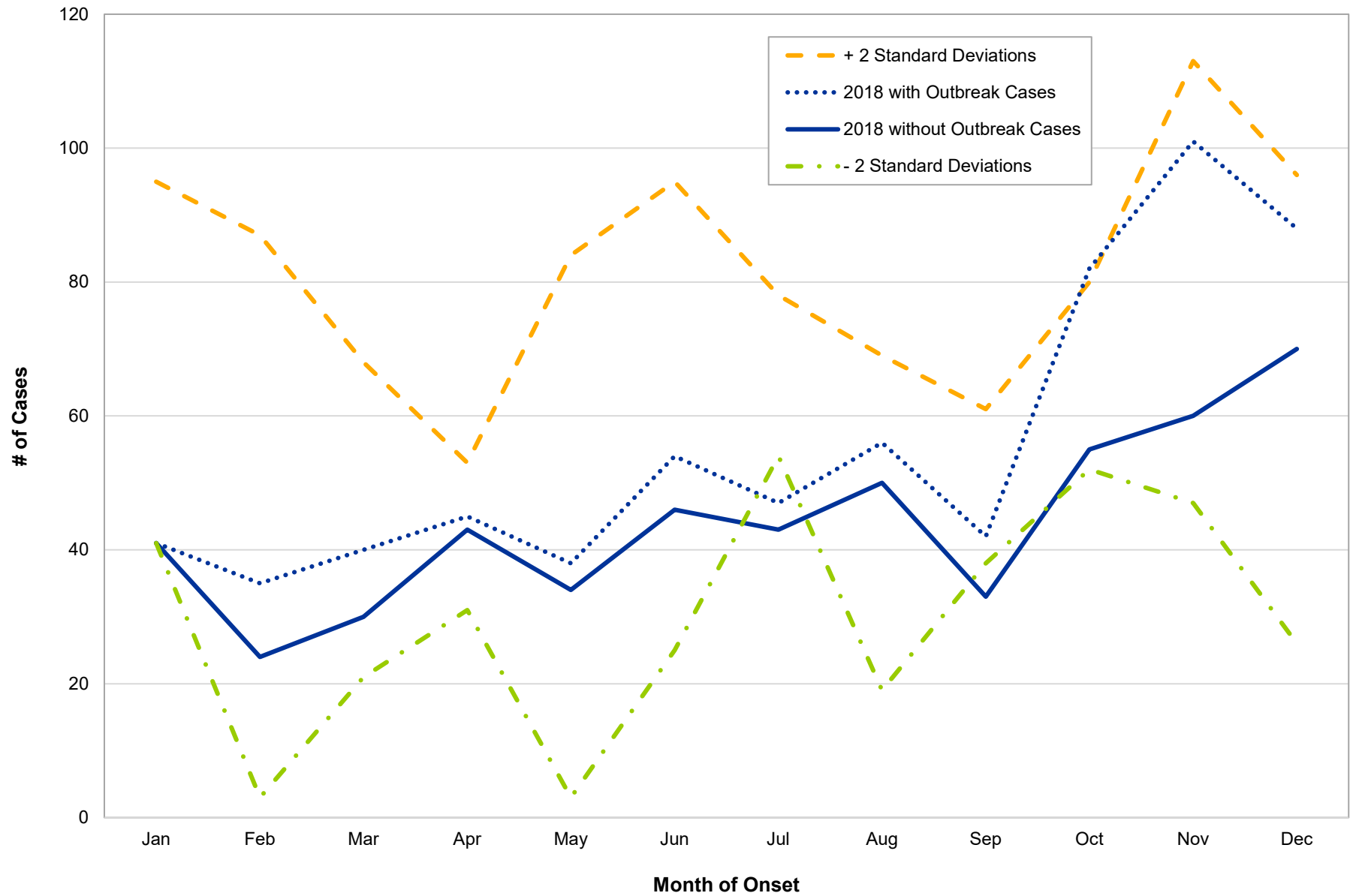
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Meningitis, Other Bacterial



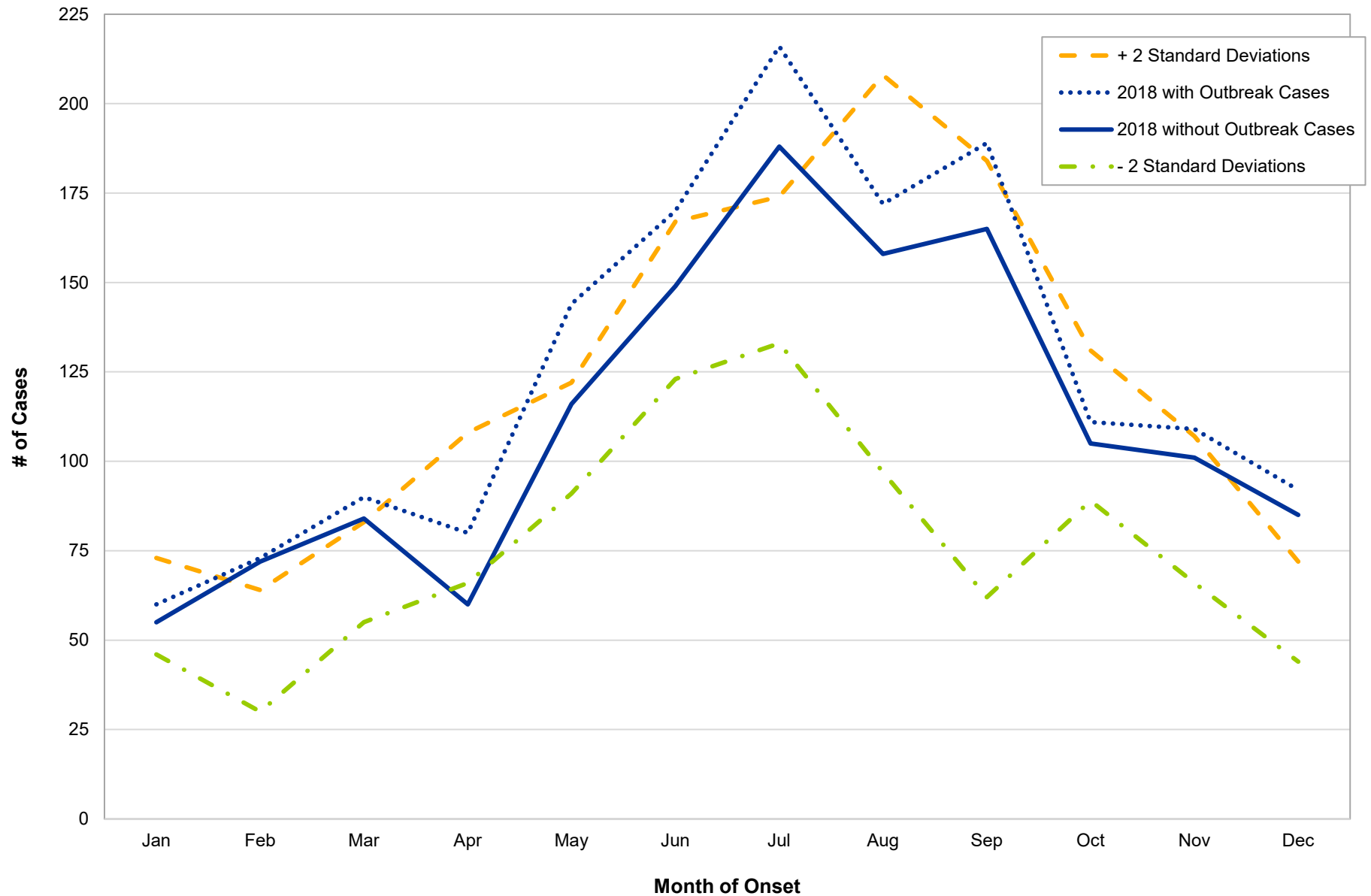
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Pertussis



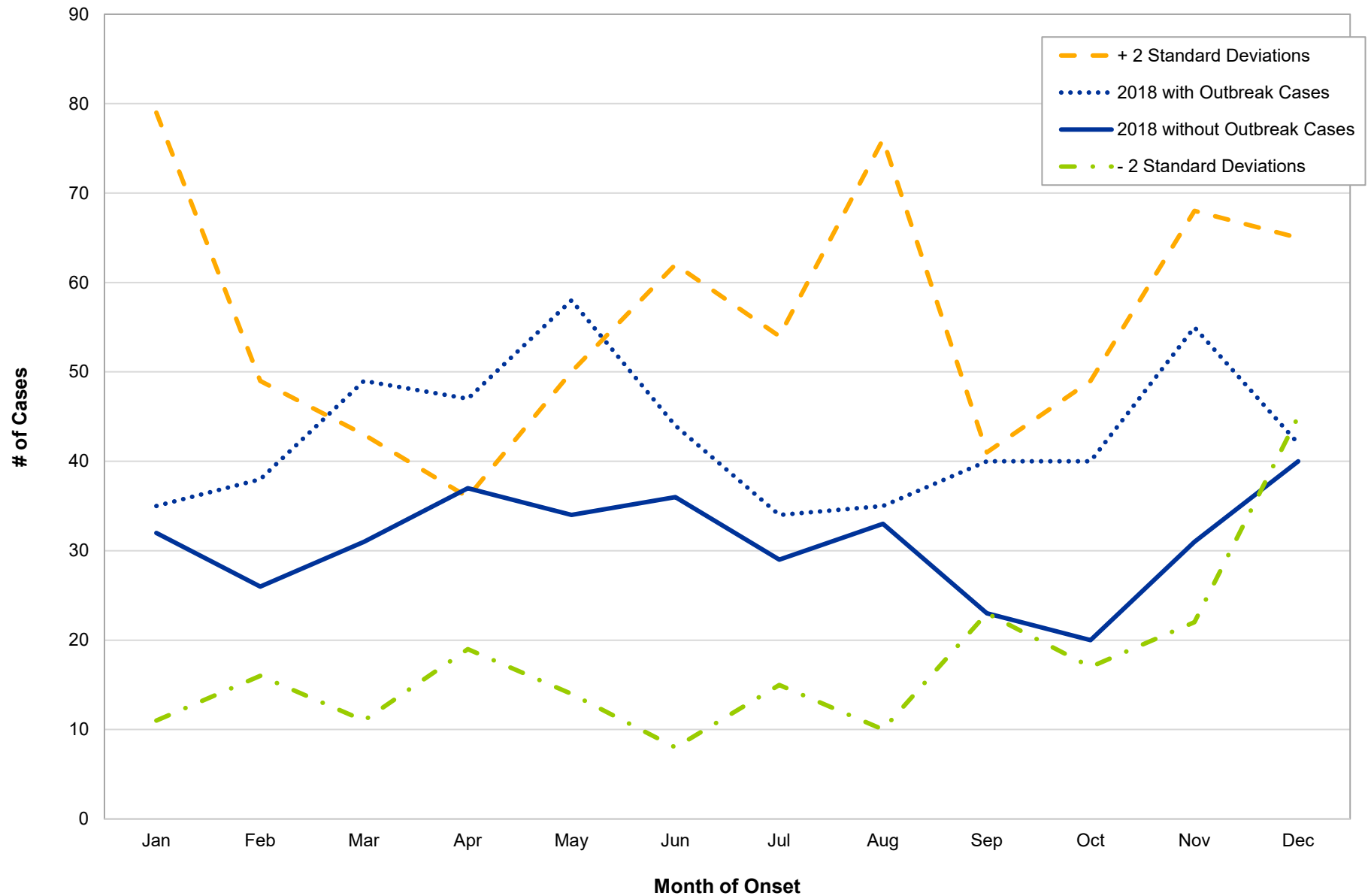
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Salmonellosis



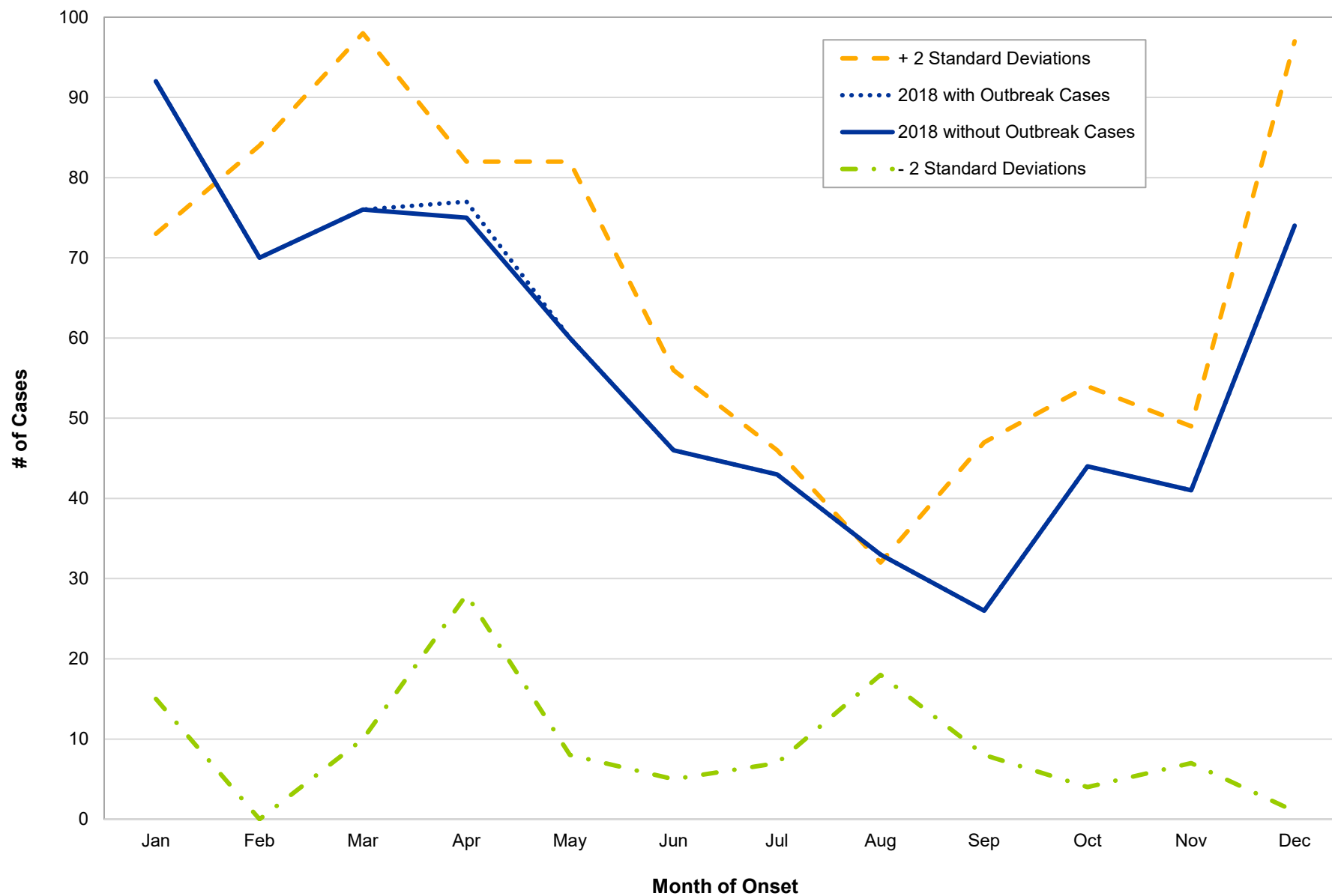
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Shigellosis



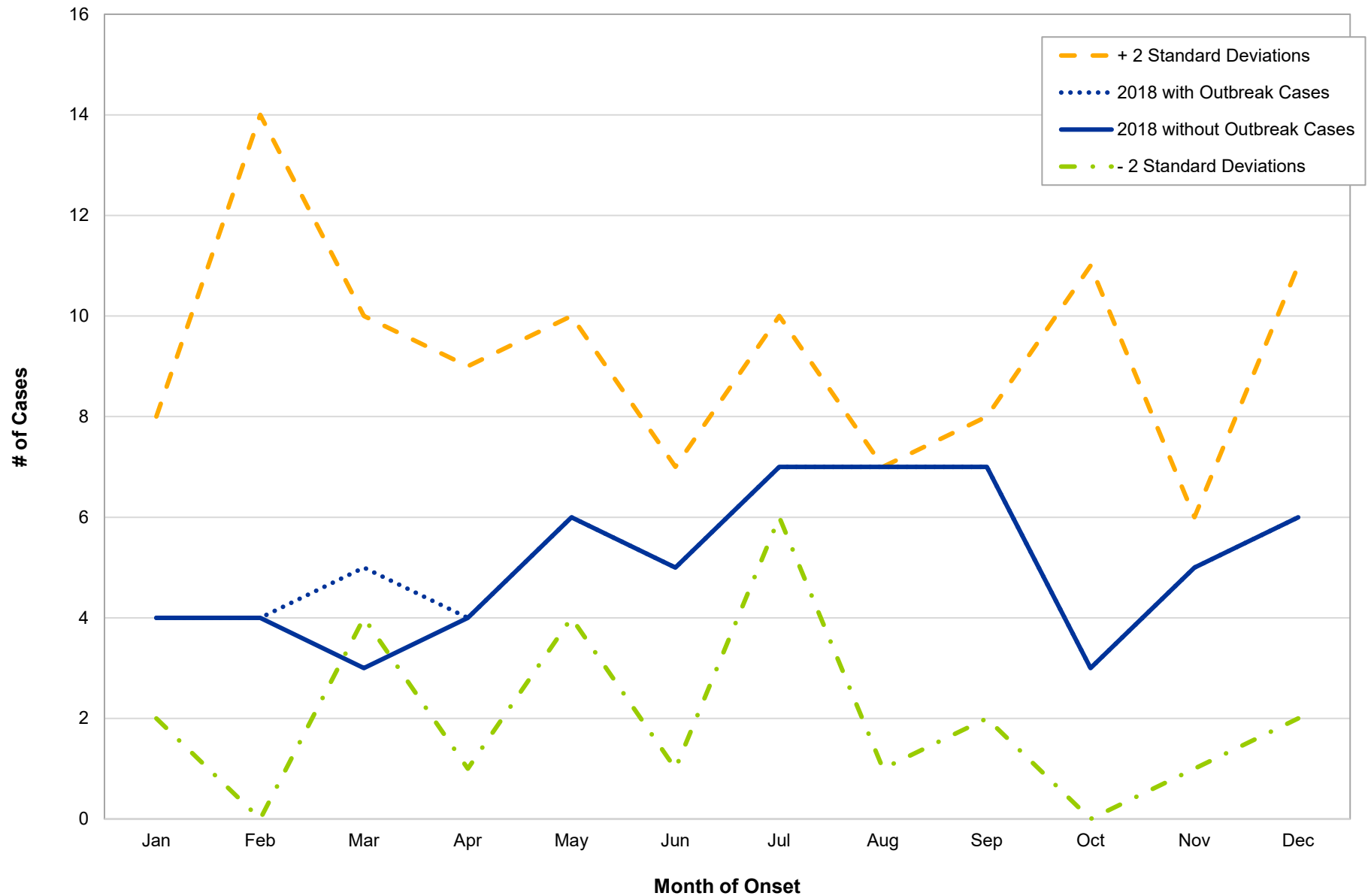
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Streptococcal Disease, Group A, Invasive



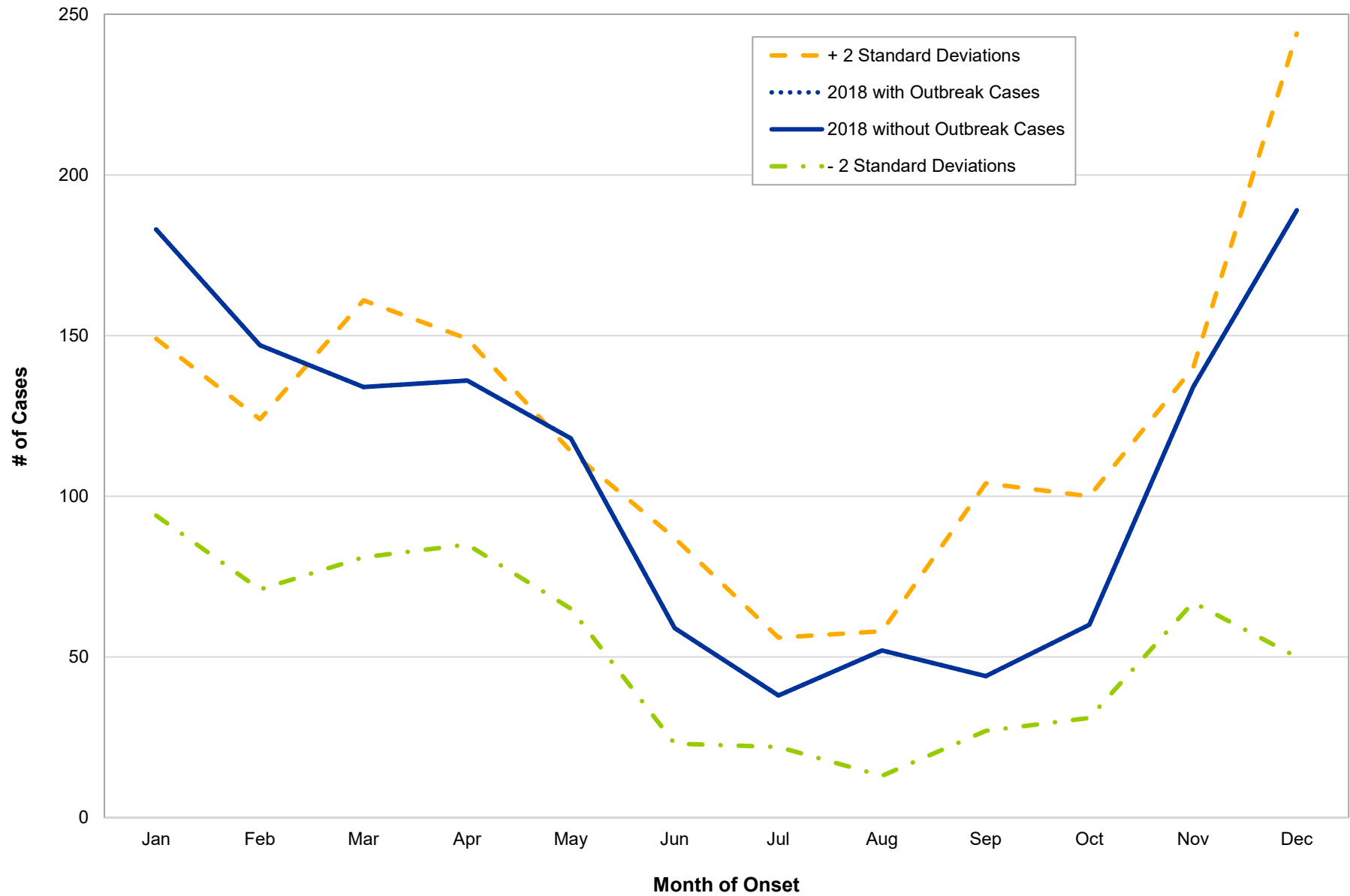
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Streptococcal Disease, Group B, in Newborn



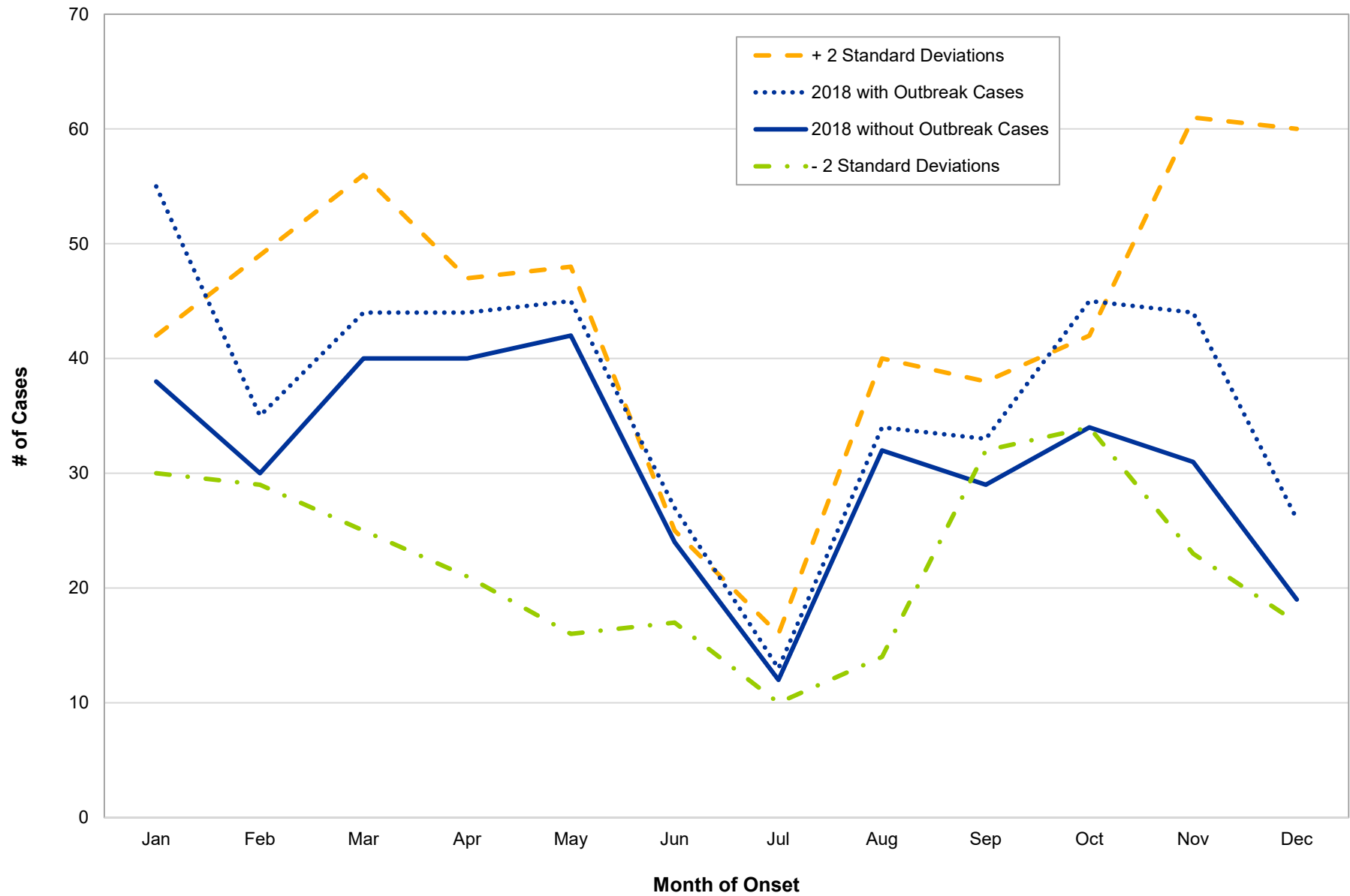
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Streptococcus pneumoniae, Invasive Disease



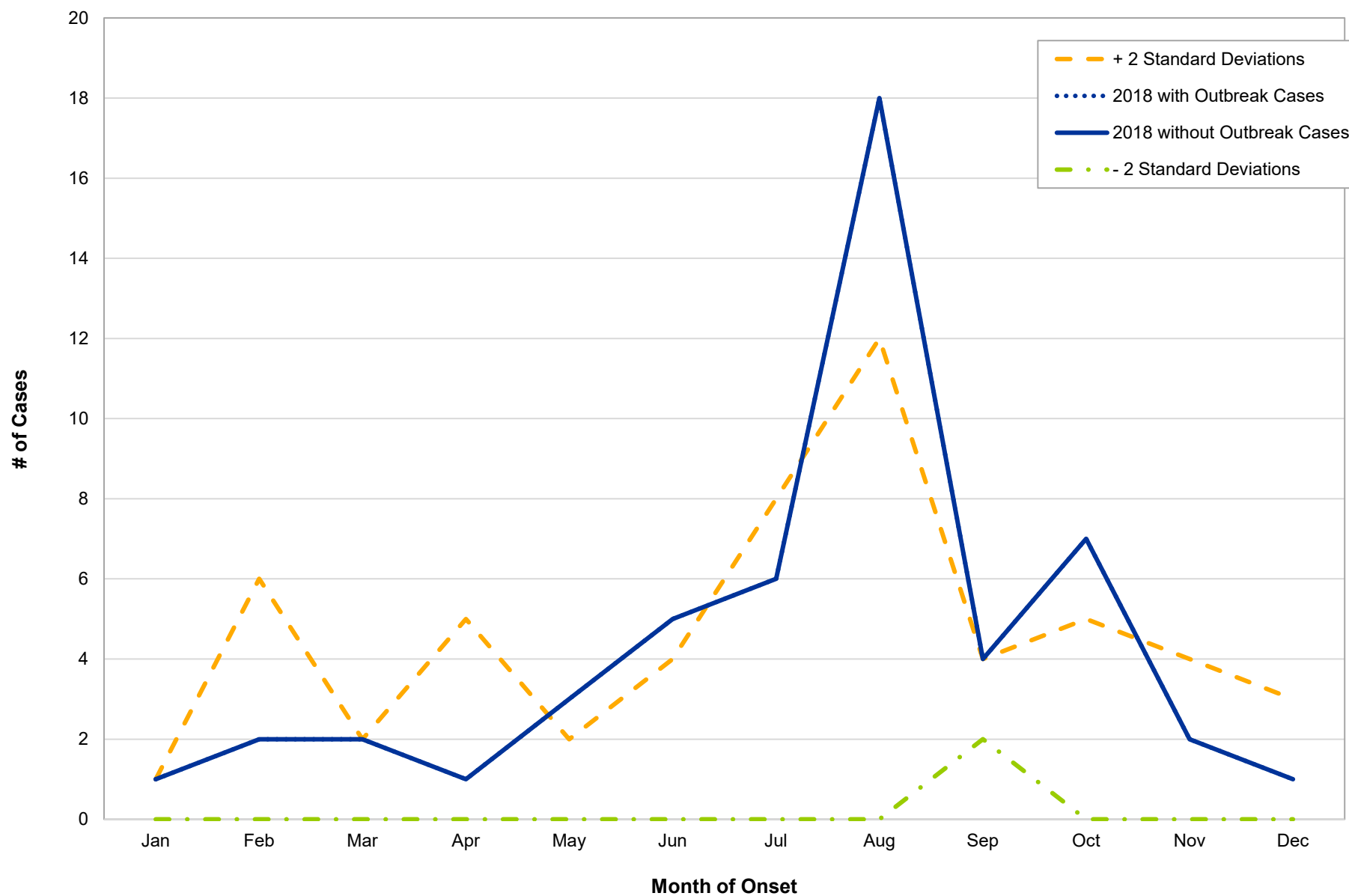
INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Varicella

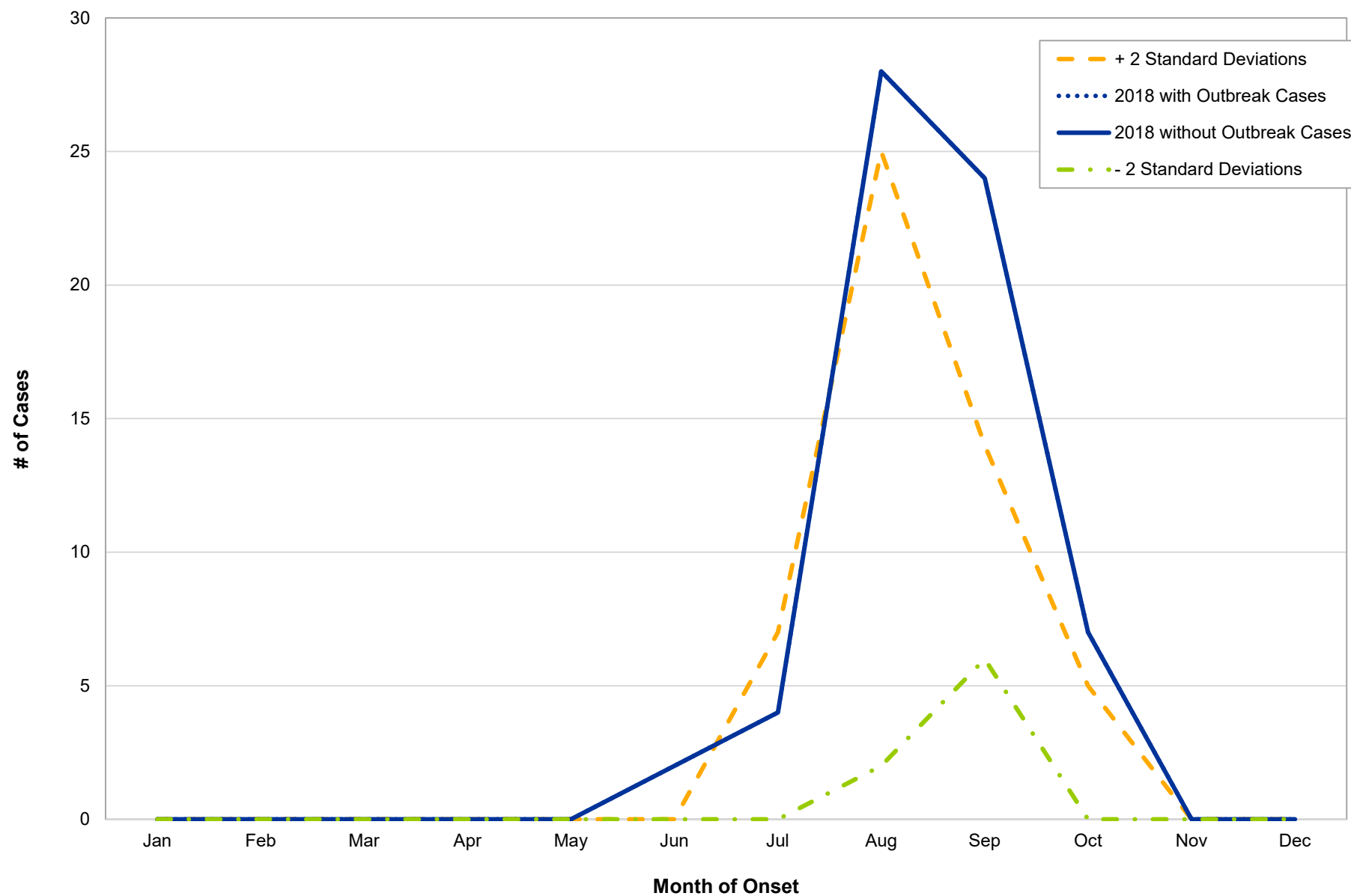


INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018

Vibriosis



INCIDENCE TRENDS BY MONTH OF ONSET, OHIO, 2018 West Nile Virus Infection



PROFILES OF SELECTED NOTIFIABLE DISEASES

CARBAPENEMASE-PRODUCING CARBAPENEM-RESISTANT *ENTEROBACTERIACEAE* (CP-CRE)

<i>Number of cases in 2018:</i>	393	<i>Rate in 2018:</i>	3.4
<i>Number of cases in 2017:</i>	n/a	<i>Rate in 2017:</i>	n/a

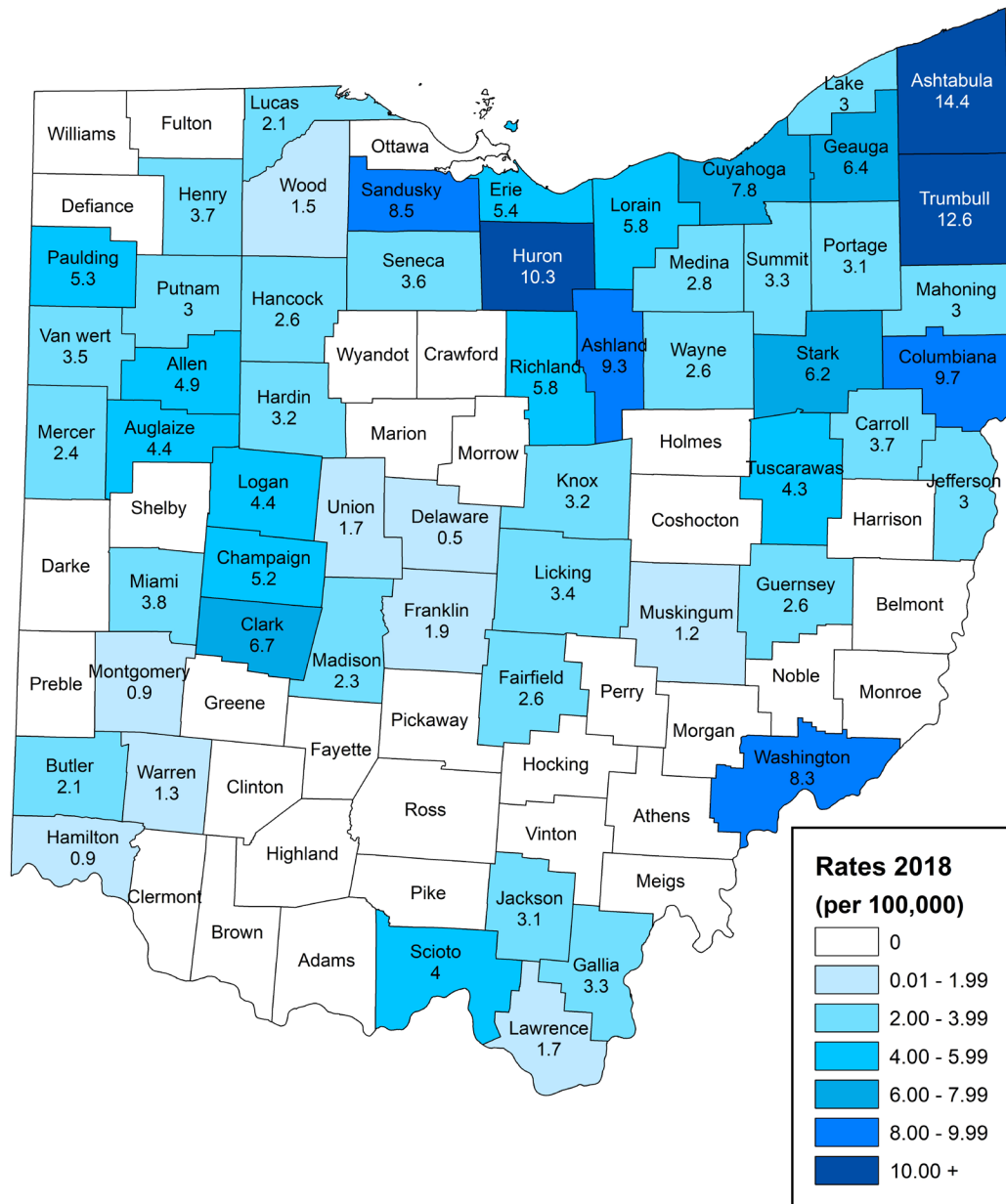
* Rates are based on the 2017 and 2018 U.S. Census estimates and are per 100,000 population.

Enterobacteriaceae is a family of gram-negative opportunistic bacteria. Most species are found naturally in the human gut but can become pathogenic when they migrate to other areas of the body. Carbapenemase-producing carbapenem-resistant *Enterobacteriaceae* (CP-CRE) produce an enzyme called carbapenemase that makes them resistant to multiple classes of antibiotics, including carbapenems, making them difficult to treat. These drug-resistant bacteria are easily transmitted person-to-person in healthcare settings, often by the hands of healthcare personnel or contaminated indwelling devices. The genes that code for production of the carbapenemase can also be passed between bacteria once in the body, contributing to CP-CRE's spread. CP-CRE became reportable in Ohio on Mar. 22, 2018.

Figure 1 shows case counts of CP-CRE by county of residence reported in 2018. Data is shown by specimen collection date and based on testing results from the Ohio Department of Health Laboratory of submitted clinical isolates. Counts represent number of cases; a single person can have multiple cases of CP-CRE at any given time if specimens test positive for a different organism or mechanism of carbapenemase production. Figure 2 shows the rate of CP-CRE per 100,000 in 2018 by county of residence. The overall rate of CP-CRE for the state in 2018 was 3.4 per 100,000.

[illegible]

Figure 2: Rates of CP-CRE per 100,000 in Ohio, 2018



Source of disease data: Ohio Disease Reporting System.

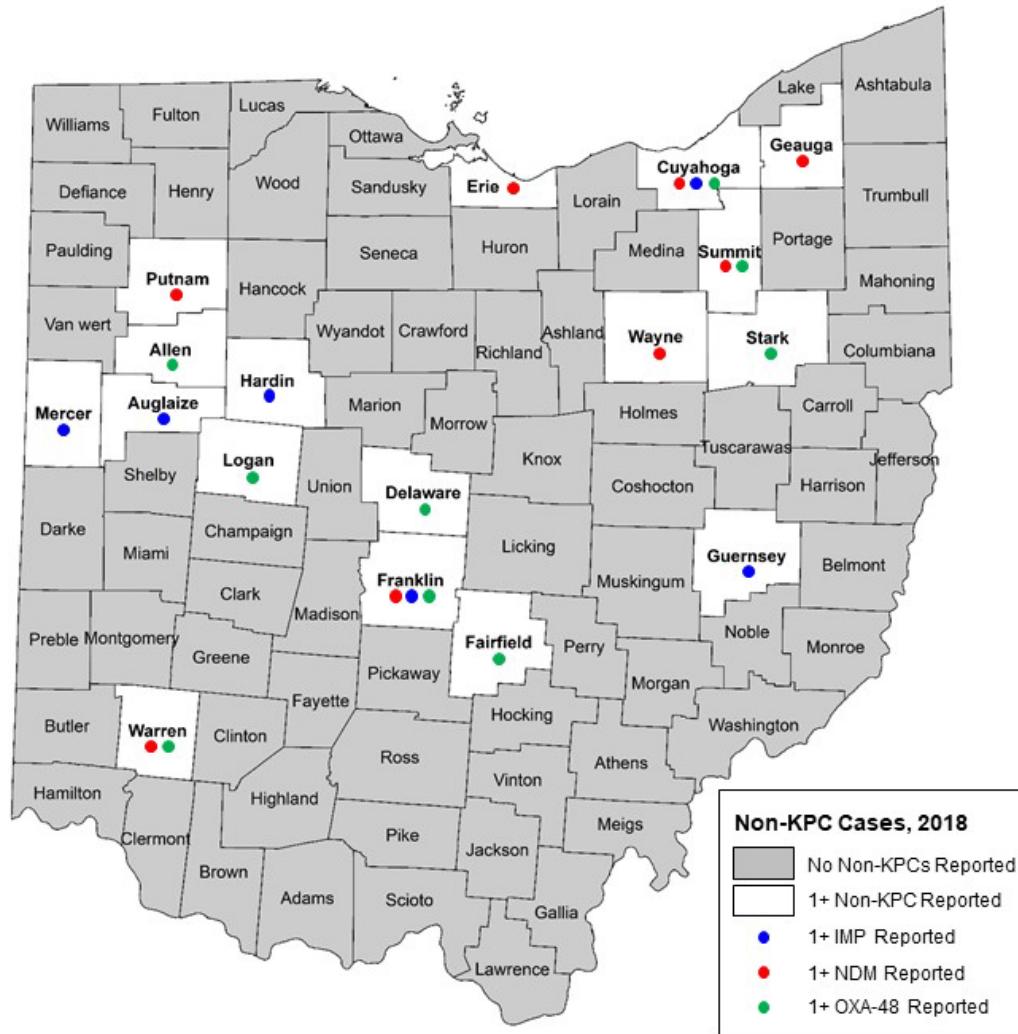
There are several different mechanisms of carbapenemase production. *Klebsiella pneumoniae* carbapenemase (KPC) is the most common carbapenemase in Ohio cases, accounting for 90% of those testing positive for carbapenemase production and is most common in northeast Ohio. More rare forms of resistance mechanisms include New Delhi metallo-beta-lactamase (NDM), Imipenemase metallo-beta-lactamase (IMP), Oxacillinase-48-like metallo-beta-lactamase (OXA-48) and Verona integron-encoded metallo-beta-lactamase (VIM). NDM and OXA-48 follow KPC as the next most common resistance mechanisms in Ohio with 12 cases each; 75% of these cases are associated with travel outside the United States. No cases of VIM were reported in 2018. Figures 3 and 4 show the geographic distribution of KPC and non-KPC resistance mechanisms, respectively, reported across the state in 2018.

Figure 3: CP-CRE Cases Positive for KPC in Ohio, 2018

The map displays the number of CP-CRE cases positive for KPC in Ohio by county for the year 2018. The data is as follows:

County	Number of Cases
Ashtabula	14
Cuyahoga	91
Franklin	21
Lorain	18
Stark	22
Trumbull	25
Cuyahoga	91
Lucas	9
Clark	9
Butler	7
Hamilton	7
Washington	5
Sandusky	5
Summit	15
Portage	5
Richland	7
Licking	6
Huron	6
Seneca	2
Wood	2
Allen	4
Champaign	2
Logan	1
Union	1
Madison	1
Fairfield	3
Perry	1
Morgan	1
Athens	1
Meigs	1
Vinton	1
Hocking	1
Pike	1
Adams	1
Brown	1
Clermont	1
Highland	1
Ross	1
Pickaway	1
Fayette	1
Clinton	1
Warren	1
Greene	1
Montgomery	5
Preble	1
Miami	4
Shelby	1
Auglaize	1
Mercer	1
Darke	1
Delaware	1
Morrow	1
Marion	1
Wyandot	1
Crawford	1
Knox	2
Delaware	1
Coshocton	1
Muskingum	1
Guernsey	1
Belmont	1
Monroe	1
Noble	1
Morgan	1
Athens	1
Meigs	1
Vinton	1
Hocking	1
Pike	1
Adams	1
Brown	1
Clermont	1
Highland	1
Ross	1
Pickaway	1
Fayette	1
Clinton	1
Warren	1
Greene	1
Montgomery	5
Preble	1
Miami	4
Shelby	1
Auglaize	1
Mercer	1
Darke	1
Delaware	1
Morrow	1
Marion	1
Wyandot	1
Crawford	1
Knox	2
Delaware	1
Coshocton	1
Muskingum	1
Guernsey	1
Belmont	1
Monroe	1
Noble	1
Morgan	1
Athens	1
Meigs	1
Vinton	1
Hocking	1
Pike	1
Adams	1
Brown	1
Clermont	1
Highland	1
Ross	1
Pickaway	1
Fayette	1
Clinton	1
Warren	1
Greene	1
Montgomery	5
Preble	1
Miami	4
Shelby	1
Auglaize	1
Mercer	1
Darke	1
Delaware	1
Morrow	1
Marion	1
Wyandot	1
Crawford	1
Knox	2
Delaware	1
Coshocton	1
Muskingum	1
Guernsey	1
Belmont	1
Monroe	1
Noble	1
Morgan	1
Athens	1
Meigs	1
Vinton	1
Hocking	1
Pike	1
Adams	1
Brown	1
Clermont	1
Highland	1
Ross	1
Pickaway	1
Fayette	1
Clinton	1
Warren	1
Greene	1
Montgomery	5
Preble	1
Miami	4
Shelby	1
Auglaize	1
Mercer	1
Darke	1
Delaware	1
Morrow	1
Marion	1
Wyandot	1
Crawford	1
Knox	2
Delaware	1
Coshocton	1
Muskingum	1
Guernsey	1
Belmont	1
Monroe	1
Noble	1
Morgan	1
Athens	1
Meigs	1
Vinton	1
Hocking	1
Pike	1
Adams	1
Brown	1
Clermont	1
Highland	1
Ross	1
Pickaway	1
Fayette	1
Clinton	1
Warren	1
Greene	1
Montgomery	5
Preble	1
Miami	4
Shelby	1
Auglaize	1
Mercer	1
Darke	1
Delaware	1
Morrow	1
Marion	1
Wyandot	1
Crawford	1
Knox	2
Delaware	1
Coshocton	1
Muskingum	1
Guernsey	1
Belmont	1
Monroe	1
Noble	1
Morgan	1
Athens	1
Meigs	1
Vinton	1
Hocking	1
Pike	1
Adams	1
Brown	1
Clermont	1
Highland	1
Ross	1
Pickaway	1
Fayette	1
Clinton	1
Warren	1
Greene	1
Montgomery	5
Preble	1
Miami	4
Shelby	1
Auglaize	1
Mercer	1
Darke	1
Delaware	1
Morrow	1
Marion	1

Figure 4: CP-CRE Cases Positive for Non-KPC Mechanism in Ohio, 2018



Source of disease data: Ohio Disease Reporting System.

LYME DISEASE AND OTHER OHIO TICKBORNE DISEASES

<i>Number of Lyme disease cases in 2018:</i>	<i>295</i>	<i>Rate in 2018:</i>	<i>2.6</i>
<i>Number of Lyme disease cases in 2017:</i>	<i>270</i>	<i>Rate in 2017:</i>	<i>2.3</i>

* Rates are based on the 2017 and 2018 U.S. Census estimates and are per 100,000 population.

Tickborne diseases have been increasing in Ohio over the past ten years (Figure 5 and Table 1). The increase has primarily been driven by Lyme disease. This increase coincides with the spread and increase of the principal vector, *Ixodes scapularis* (the blacklegged tick), throughout the state. Black-legged ticks, which can carry the agents for Lyme disease, anaplasmosis and babesiosis, are most commonly found in the eastern and southern areas of the state but are likely to occur in suitable wooded habitat throughout most or all of Ohio. This distribution is similar to the distribution of human cases in Ohio. Figure 6 below shows distribution of cases (green dots) by county of residence (Note: the location of a dot does not necessarily mean that Lyme disease was acquired in that county or even in Ohio). The map below shows the geographic relationship of 2018 cases with the incidence over the previous 10 years.

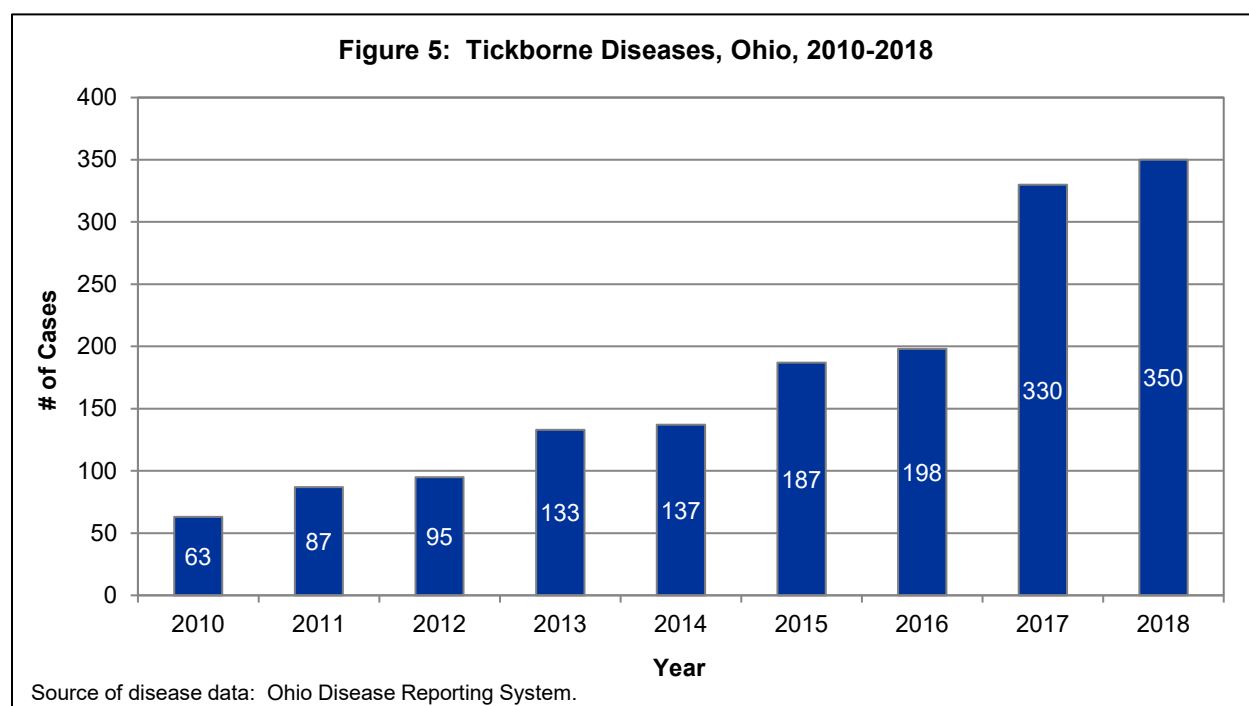
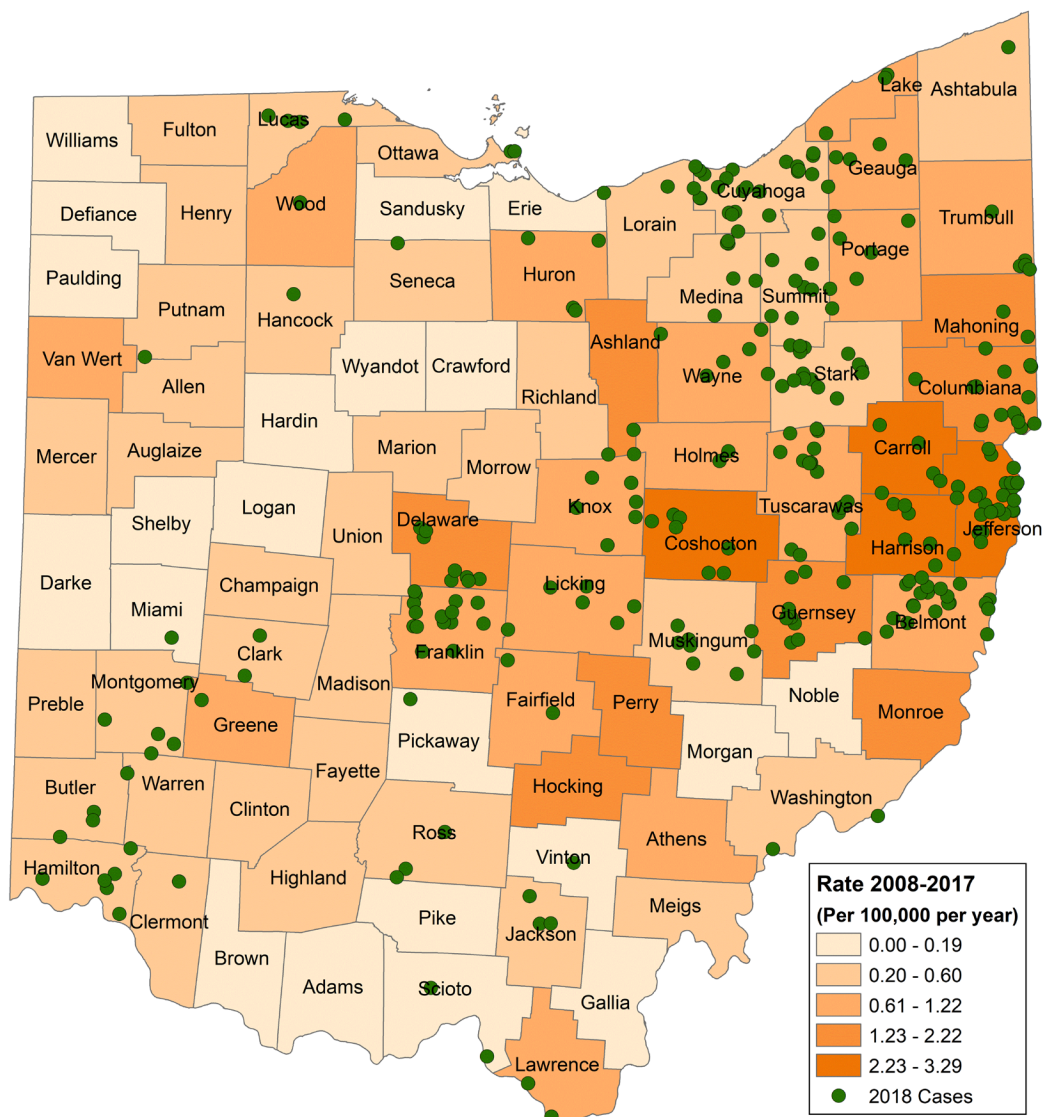


Table 1: Ohio Tickborne Diseases Reported to the Ohio Department of Health, 2017-2018

Tickborne Disease	Vector	2017 Cases	2018 Cases
Anaplasmosis	Blacklegged tick	3	2
Babesiosis	Blacklegged tick	1	0
Ehrlichiosis	Lone Star tick	17	15
Lyme disease	Blacklegged tick	270	295
Rocky Mountain spotted fever	American dog tick	39	35

Source of disease data: Ohio Disease Reporting System.

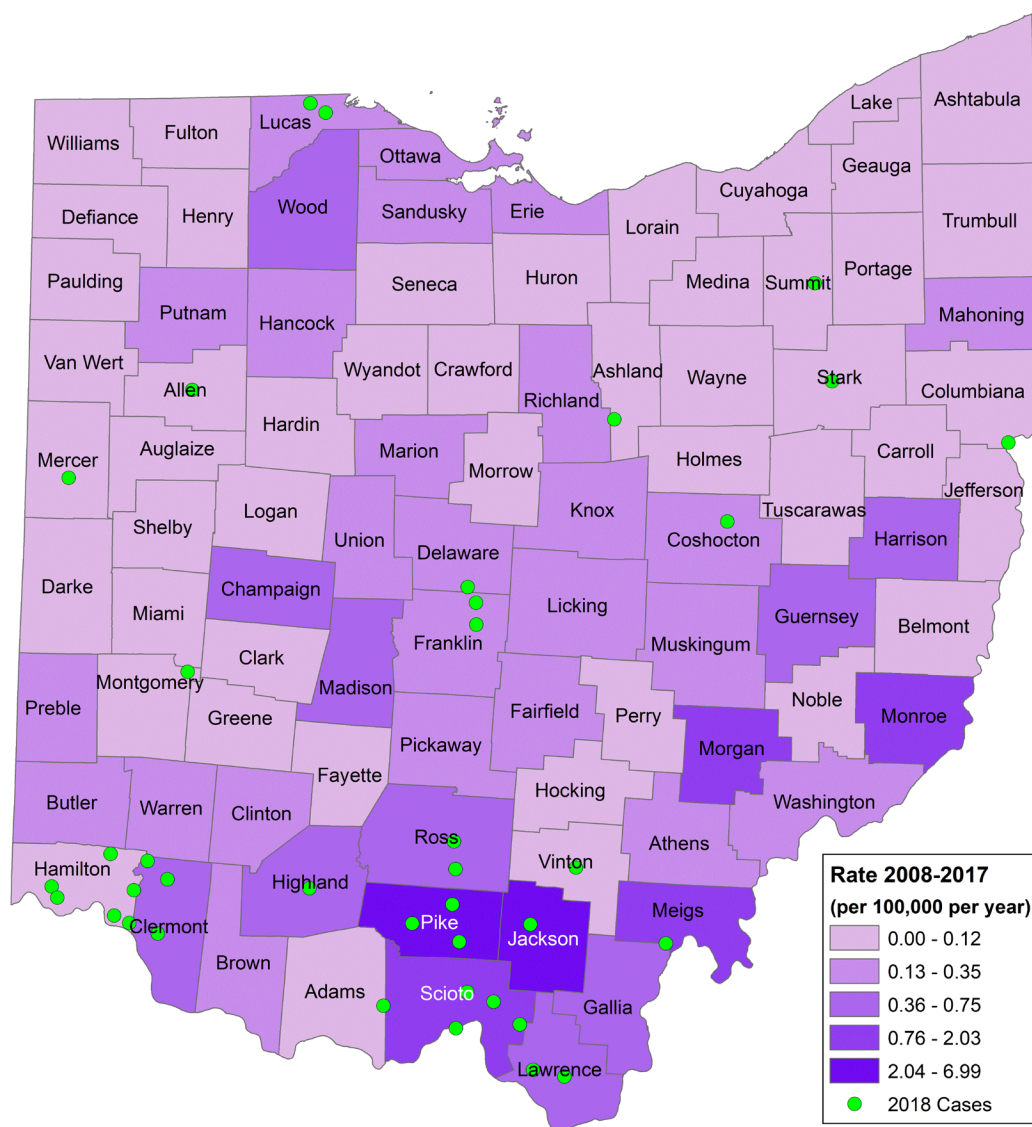
Figure 6: Lyme Disease in Ohio, 2018 Cases Compared to Incidence 2008-2017



Source of disease data: Ohio Disease Reporting System.

Rocky Mountain spotted fever is transmitted by the American dog tick in Ohio. This is the most common tick in Ohio. Disease can rapidly progress to a serious and life-threatening illness without treatment. As with Lyme disease, Figure 7 shows the distribution of cases (green dots) by county of residence (Note: the location of a dot does not necessarily mean that Rocky Mountain spotted fever was acquired in that county or even in Ohio.) The map below shows the geographic relationship of 2018 cases with the incidence over the previous 10 years.

Figure 7: Rocky Mountain Spotted Fever in Ohio, 2018 Cases Compared to Incidence 2008-2017



Source of disease data: Ohio Disease Reporting System.

WEST NILE VIRUS INFECTION

<i>Number of cases in 2018:</i>	<i>65</i>	<i>Rate in 2018:</i>	<i>0.6</i>
<i>Number of cases in 2017:</i>	<i>34</i>	<i>Rate in 2017:</i>	<i>0.3</i>

* Rates are based on the 2017 and 2018 U.S. Census estimates and are per 100,000 population.

West Nile virus is spread by infected mosquitoes, especially the common northern house mosquito, *Culex pipiens*, in Ohio. Mosquitoes become infected when they feed on infected birds. Infected mosquitoes can then spread the virus to humans and other animals when they bite. West Nile virus was first identified in Ohio birds and mosquitoes in 2001. The following year, the first human cases and deaths were reported. By the end of 2002, all but one of the state's 88 counties reported positive humans (441 total human cases), mosquitoes, birds or horses. West Nile virus is now established in Ohio where cases occur each year and seasonal epidemics can flare up under certain conditions in the summer and continue into the fall.

During the summer of 2018, Ohio experienced an increase in West Nile virus activity noted among humans, equines and mosquitoes. The incidence nearly doubled from 2017 to 2018 among nearly all aspects of surveillance (Table 2). By the end of 2018, Ohio reported 65 human cases of West Nile virus disease with six deaths, 16 asymptomatic blood donors with evidence of recent infection, one asymptomatic organ donor with evidence of recent infection, 50 equine cases with 19 horses euthanized/dead, and 3,281 pools mosquitoes that tested positive for West Nile virus collected from 54 of Ohio's 88 counties. West Nile virus activity was recorded throughout the state with 77% of Ohio countries reporting some type of West Nile virus activity; however, clustering of cases and asymptomatic donors was seen in northeastern Ohio, northeast central Ohio, and southwestern Ohio (Figure 8).

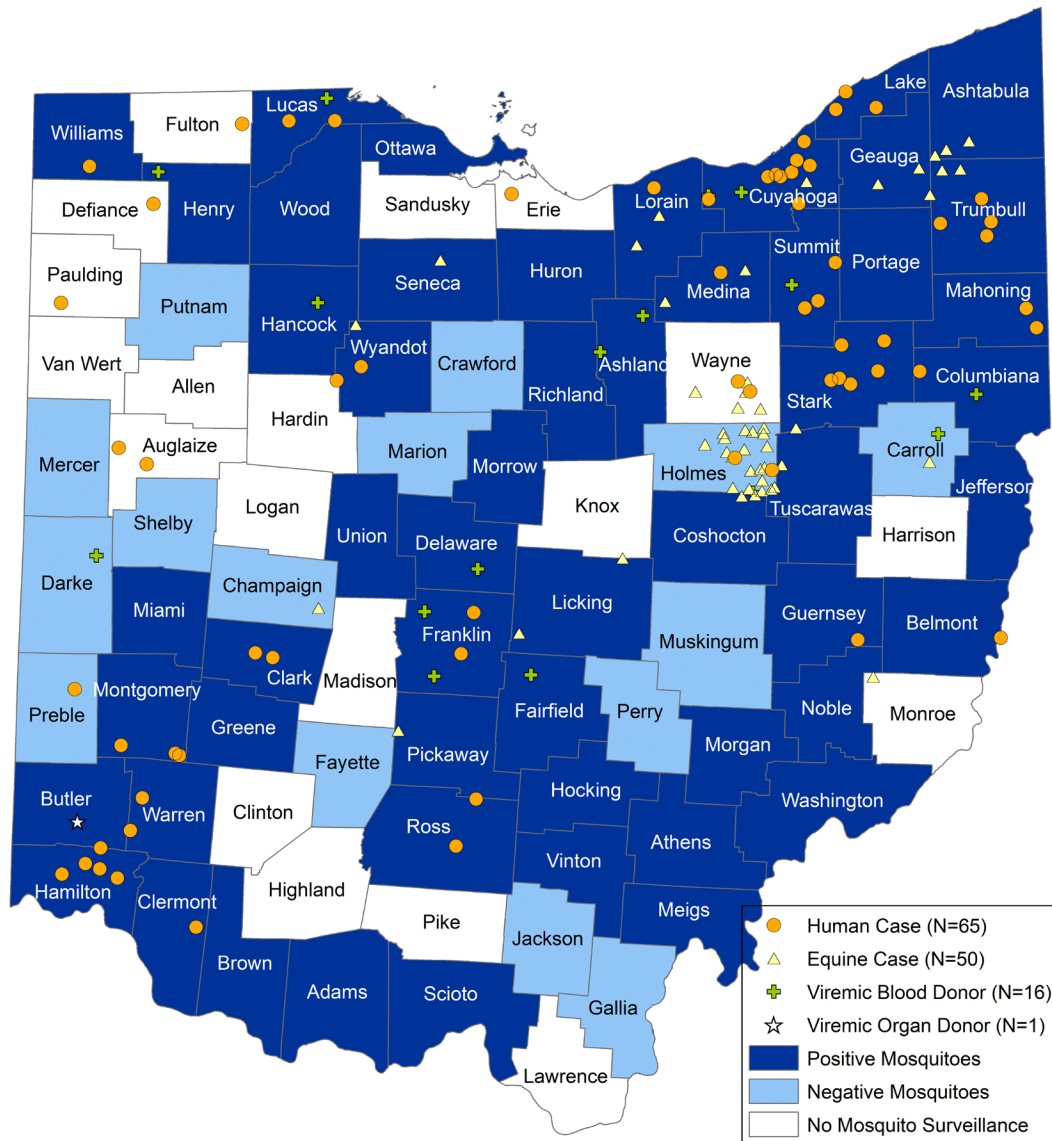
Table 2: West Nile Virus Activity, Ohio, 2017-2018

West Nile Virus Surveillance	2017	2018
Human Surveillance		
Cases	34	65
Deaths	5	6
Asymptomatic Blood Donors	8	16
Asymptomatic Organ Donors	0	1
Veterinary Surveillance		
Equine Cases	14	50
Equine Deaths/Euthanasia	8	19
Mosquito Surveillance		
Positive Mosquito Pools	2,328	3,281
Mosquitoes Tested	447,079	501,366
Minimum Infection Rate (MIR)*	5.2	6.5
Counties with Positive Pools	42	54
Total		
Counties with Any Activity	51 (58%)	68 (77%)

Source of disease data: Ohio Disease Reporting System, Ohio Department of Health, Ohio Department of Agriculture.

* Minimum infection rate (MIR) = Number of positive mosquito samples / Number of mosquitoes tested * 1000.

Figure 8: West Nile Virus Activity in Ohio, 2018



Source of disease data: Ohio Disease Reporting System, Ohio Department of Health, Ohio Department of Agriculture.

OUTBREAK SUMMARIES

Starting in 2009, the categories for outbreak reporting changed (see Ohio Administrative Code [Chapter 3701-03](#)). These are referred to as “Class C: Report an outbreak, unusual incidence or epidemic by the end of the next business day.” The categories for outbreak reporting are: community outbreak, foodborne outbreak, healthcare-associated outbreak, institutional outbreak, waterborne outbreak and zoonotic outbreak.

In 2018, the Bureau of Infectious Diseases (BID) assisted local health jurisdictions in Ohio in the investigation of 520 outbreaks. These outbreaks were detected in 62 of 88 counties throughout the state. The number of Ohioans known to be ill from these outbreaks was 10,340 (median 8, range 1-1,821). The outbreaks were classified as: community (38), foodborne (79), healthcare-associated (122), institutional (258), waterborne (8) and zoonotic (15). Causative agents identified during the outbreak investigations included: adenovirus, *Bordetella pertussis*, *Campylobacter* spp., ciguatoxin, *Clostridium difficile*, *Clostridium perfringens*, coxsackievirus, *Cryptosporidium* spp., *Cyclospora cayetanensis*, enterovirus, *Escherichia coli* (various serotypes), hepatitis A virus, influenza virus, *Legionella pneumophila*, mumps virus, *Mycobacterium* spp., *Mycoplasma pneumoniae*, norovirus genotypes GI and GII, parainfluenza virus, parvovirus, *Pediculus capitis*, *Plesiomonas shigelloides*, respiratory syncytial virus, rotavirus, *Salmonella* (various serotypes), sapovirus, *Sarcoptes scabiei* (scabies mite), *Serratia marcescens*, Shiga toxin-producing *E. coli* (various serotypes), *Shigella sonnei*, *Staphylococcus aureus* (various strains), *Streptococcus* spp., *Tinea* spp. and varicella-zoster virus.

This is the ninth year that norovirus sequencing data has been available in the annual summary. Viral sequencing, as well as most serotyping, was performed at the Ohio Department of Health Laboratory.

Details on the types of 2018 outbreaks are discussed below.

COMMUNITY OUTBREAKS

In 2018, 38 community outbreaks were reported from a variety of settings. Twenty-two of these outbreaks were confirmed, with the causative agent as follows: *B. pertussis* (7), coxsackievirus (1), *Cryptosporidium* spp. (1), *E. coli* O157 (1), hepatitis A virus (1), norovirus (6), rotavirus (1), *Salmonella* spp. (1), *Shigella* spp. (1), *Streptococcus* spp. (1) and varicella-zoster virus (1).

The confirmed community outbreaks of 2018 are listed in Table 1.

Table 1: Confirmed Community Outbreaks, Ohio, 2018

Month of Onset	Causative Agent	County	# Ill
November 2017	Varicella-zoster virus	Multicounty	33
December 2017	<i>Bordetella pertussis</i>	Franklin	6
December 2017	<i>Bordetella pertussis</i>	Franklin	5
January 2018	Hepatitis A virus	Multicounty	1,821
January 2018	<i>Streptococcus</i> spp.	Clark	14
February 2018	Norovirus GII.P16-GII.4 Sydney	Huron	2
February 2018	Norovirus GII.P16-GII.4 Sydney	Wood	68
April 2018	<i>Bordetella pertussis</i>	Medina	16
April 2018	Norovirus GII.P16-GII.4 Sydney	Franklin	2

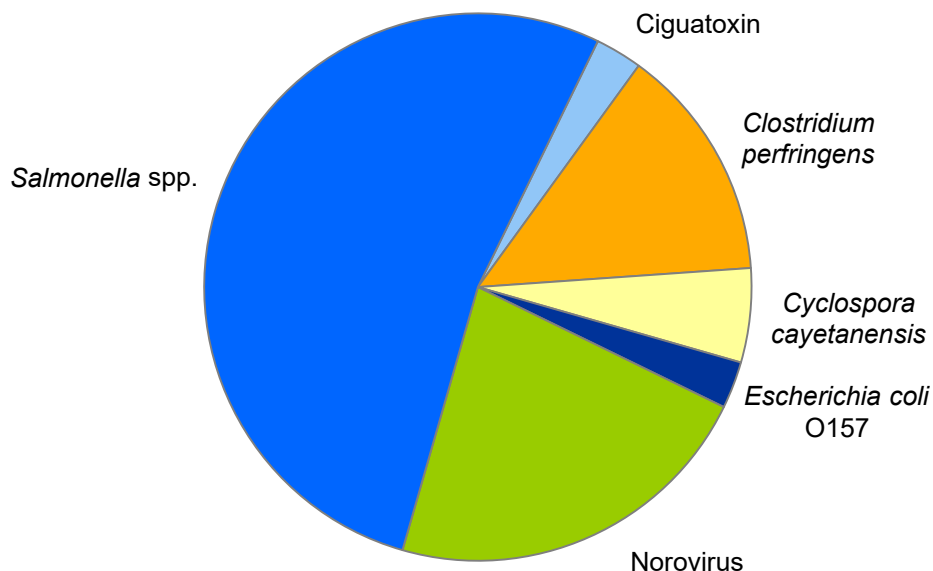
Month of Onset	Causative Agent	County	# Ill
April 2018	Rotavirus type A	Clark	40
April 2018	<i>Shigella flexneri</i> ; <i>Shigella sonnei</i>	Franklin	12
July 2018	<i>Salmonella</i> Stanley	Franklin	2
August 2018	<i>Cryptosporidium</i> spp.	Ross	19
August 2018	<i>Escherichia coli</i> O157	Franklin	5
September 2018	<i>Bordetella pertussis</i>	Licking	12
September 2018	<i>Bordetella pertussis</i>	Multicounty	5
October 2018	Norovirus GI.P3-GI.3	Clark	34
November 2018	<i>Bordetella pertussis</i>	Franklin	4
November 2018	<i>Bordetella pertussis</i>	Summit	7
November 2018	Coxsackievirus	Clark	6
November 2018	Norovirus GI.P3-GI.3	Delaware	11
December 2018	Norovirus GII.P17-GII.17	Lucas	3

Source of outbreak data: Ohio Disease Reporting System.

FOODBORNE OUTBREAKS

In 2018, 36 of the 79 foodborne outbreaks reported were confirmed. These 36 outbreaks in Ohio met the general [definition of a foodborne outbreak](#): “An incident in which two or more persons experience a similar illness after ingestion of a common food, and epidemiologic analysis implicates the food as the source of the illness.” (Some outbreaks with one person ill are multistate outbreaks.) The 36 confirmed outbreaks also met the agent-specific [criteria for confirmation](#) of outbreaks. As shown in Figure 1, for these 36 foodborne outbreaks, the causative agent was distributed as follows: ciguatoxin (1), *C. perfringens* (5), *C. cayetanensis* (2), *E. coli* O157 (1), norovirus (8) and *Salmonella* spp. (19).

Figure 1: Confirmed Foodborne Outbreaks by Etiologic Agent, Ohio, 2018



Source of outbreak data: Ohio Disease Reporting System.

There were no individual cases of foodborne botulism in Ohio in 2018.

The 36 confirmed foodborne outbreaks are detailed in Table 2.

Table 2: Confirmed Foodborne Outbreaks, Ohio, 2018

Month of Onset	Causative Agent	County	# Ill	Suspected Food Vehicle	Event / Setting
August 2017	<i>Salmonella</i> (I) 4,5,12:i:-, var L - Tartrate +; <i>Salmonella</i> Thompson	Multistate	7	Kratom	Commercial product
December 2017	Norovirus GI.P3-GI.3	Franklin	10	Unknown	Wedding reception
January 2018	<i>Clostridium perfringens</i>	Clark	18	Unknown	Unknown
January 2018	<i>Clostridium perfringens</i>	Medina	7	Unknown	Assisted living facility; long-term care facility; home care
January 2018	Norovirus GII.P16-GII.4 Sydney	Franklin	8	Unknown	Restaurant
January 2018	Norovirus GII.P16-GII.4 Sydney	Franklin	3	Unknown	Restaurant
February 2018	Norovirus GII.P16-GII.4 Sydney	Lucas	12	Unknown	Restaurant
March 2018	<i>Escherichia coli</i> O157	Multistate	7	Romaine lettuce	Multiple restaurants, institutions
March 2018	Norovirus GI.P6-GI.6	Franklin	16	Unknown	Sports facility
March 2018	<i>Salmonella</i> Newport	Multistate	1	Alfalfa sprouts	Private home
March 2018	<i>Salmonella</i> Reading	Multistate	8	Turkey	Private home
April 2018	<i>Clostridium perfringens</i>	Sandusky	22	Shredded chicken	Private home
April 2018	Norovirus GII.P16-GII.4 Sydney	Franklin	3	Unknown	Restaurant
April 2018	Norovirus GII.P16-GII.4 Sydney	Mahoning	19	Chips	Restaurant
April 2018	<i>Salmonella</i> Cubana; <i>Salmonella</i> Montevideo	Multistate	1	Alfalfa sprouts	Private home; restaurant
April 2018	<i>Salmonella</i> Infantis	Multistate	8	Chicken	Private home; restaurant
April 2018	<i>Salmonella</i> Mbandaka	Multistate	3	Honey Smacks cereal	Private home
May 2018	<i>Salmonella</i> Adelaide	Multistate	5	Pre-cut melon	Commercial product
June 2018	<i>Cyclospora cayetanensis</i>	Multistate	16	Romaine, carrots	Restaurant
June 2018	Norovirus GII.P untypeable	Delaware	6	Pepperoni pizza and/or salad	Restaurant
June 2018	<i>Salmonella</i> Agbeni	Multistate	2	Cake mix	Private home
June 2018	<i>Salmonella</i> Enteritidis	Medina	3	Unknown	Unknown
June 2018	<i>Salmonella</i> Infantis	Multicounty	4	Pamilo (rib steak); tamales	Grocery store
July 2018	Ciguatoxin	Delaware	4	Jack fish	Private home
July 2018	<i>Clostridium perfringens</i>	Delaware	647	Unknown	Restaurant
July 2018	<i>Cyclospora cayetanensis</i>	Cuyahoga	6	Unknown	Caterer

Month of Onset	Causative Agent	County	# Ill	Suspected Food Vehicle	Event / Setting
July 2018	<i>Salmonella</i> (I) 4,5,12:i:-	Multistate	1	Kosher chicken	Private home
July 2018	<i>Salmonella</i> Enteritidis	Multistate	4	Eggs	Restaurant
July 2018	<i>Salmonella</i> Newport	Multistate	9	Ground beef; soft cheese	Private home
July 2018	<i>Salmonella</i> Typhimurium	Multistate	3	Chicken	Private home
August 2018	<i>Salmonella</i> Blockley	Multistate	1	Chicken	Unknown
September 2018	<i>Salmonella</i> Javiana	Multistate	2	Onions	Restaurant
September 2018	<i>Salmonella</i> Miami	Franklin	5	Unknown	Restaurant
October 2018	<i>Salmonella</i> Typhimurium	Multistate	1	Pork	Private home
November 2018	<i>Salmonella</i> Enteritidis	Fulton	15	Smoked pulled chicken	Private home; caterer
December 2018	<i>Clostridium perfringens</i>	Delaware	15	Chicken	Restaurant

Source of outbreak data: Ohio Disease Reporting System.

Here are the links to the outbreak report for some of the foodborne multistate outbreaks:

[Multistate Outbreak of *Salmonella* Infections Linked to Kratom](#)

[Multistate Outbreak of *E. coli* O157:H7 Infections Linked to Romaine Lettuce](#)

[Outbreak of Multidrug-Resistant *Salmonella* Infections Linked to Raw Turkey Products](#)

[Multistate Outbreak of *Salmonella* Mbandaka Infections Linked to Kellogg's Honey Smacks Cereal](#)

[Multistate Outbreak of *Salmonella* Adelaide Infections Linked to Pre-Cut Melon](#)

[Multistate Outbreak of Cyclosporiasis Linked to Fresh Express Salad Mix Sold at McDonald's Restaurants – United States 2018](#)

[Outbreak of *Salmonella* Infections Linked to Cake Mix](#)

[Outbreak of *Salmonella* Infections Linked to Chicken](#)

[Outbreak of *Salmonella* Infections Linked to Gravel Ridge Farms Shell Eggs](#)

[Outbreak of *Salmonella* Infections Linked to Ground Beef](#)

[Outbreak of Multidrug-Resistant *Salmonella* Infections Linked to Raw Chicken Products](#)

HEALTHCARE-ASSOCIATED OUTBREAKS

There were 122 healthcare-associated outbreaks reported in 2018, 84 of which were confirmed as shown in Table 3.

Table 3: Confirmed Healthcare-Associated Outbreaks, Ohio, 2018

Month of Onset	Causative Agent	# Ill	Setting
December 2017	Influenza virus	34	Assisted living facility; long-term care facility
December 2017	Influenza virus	14	Assisted living facility; long-term care facility
December 2017	Influenza virus	13	Assisted living facility; long-term care facility
December 2017	Influenza virus	9	Assisted living facility; long-term care facility
December 2017	Influenza virus	10	Assisted living facility; memory unit
December 2017	Influenza virus	58	Long-term care facility
December 2017	Influenza virus	37	Long-term care facility
December 2017	Influenza virus	37	Long-term care facility
December 2017	Influenza virus	36	Long-term care facility
December 2017	Influenza virus	30	Long-term care facility
December 2017	Influenza virus	26	Long-term care facility
December 2017	Influenza virus	17	Long-term care facility
December 2017	Influenza virus	12	Long-term care facility
December 2017	Influenza virus	11	Long-term care facility
December 2017	Influenza virus	6	Long-term care facility
December 2017	Influenza virus	4	Long-term care facility
December 2017	Influenza virus	29	Long-term care facility; memory unit; rehab facility
December 2017	Norovirus GII.P16-GII.2	49	Memory unit
January 2018	Influenza virus	54	Assisted living facility; long-term care facility
January 2018	Influenza virus	22	Assisted living facility; long-term care facility
January 2018	Influenza virus	17	Assisted living facility; long-term care facility
January 2018	Influenza virus	4	Assisted living facility; long-term care facility
January 2018	Influenza virus	33	Assisted living facility; long-term care facility; memory unit
January 2018	Influenza virus	20	Assisted living facility; long-term care facility; memory unit
January 2018	Influenza virus	13	Assisted living facility; long-term care facility; memory unit
January 2018	Influenza virus	27	Long-term care facility
January 2018	Influenza virus	22	Long-term care facility
January 2018	Influenza virus	19	Long-term care facility
January 2018	Influenza virus	18	Long-term care facility

Month of Onset	Causative Agent	# Ill	Setting
January 2018	Influenza virus	16	Long-term care facility
January 2018	Influenza virus	16	Long-term care facility
January 2018	Influenza virus	15	Long-term care facility
January 2018	Influenza virus	15	Long-term care facility
January 2018	Influenza virus	12	Long-term care facility
January 2018	Influenza virus	10	Long-term care facility
January 2018	Influenza virus	10	Long-term care facility
January 2018	Influenza virus	10	Long-term care facility
January 2018	Influenza virus	10	Long-term care facility
January 2018	Influenza virus	10	Long-term care facility
January 2018	Influenza virus	9	Long-term care facility
January 2018	Influenza virus	6	Long-term care facility
January 2018	Influenza virus	5	Long-term care facility
January 2018	Influenza virus	5	Long-term care facility
January 2018	Influenza virus	5	Long-term care facility
January 2018	Influenza virus	4	Long-term care facility
January 2018	Influenza virus	4	Long-term care facility
January 2018	Influenza virus	15	Long-term care facility; memory unit
January 2018	Influenza virus	3	Long-term care facility; rehab facility
January 2018	Influenza virus	8	Developmental disabilities facility
January 2018	Norovirus GII.P16-GII.4 Sydney	50	Long-term care facility; rehab facility
January 2018	Norovirus GII.P16-GII.4 Sydney	49	Long-term care facility; rehab facility
February 2018	Influenza virus	7	Assisted living facility; memory unit
February 2018	Influenza virus	5	Long-term care facility
February 2018	Influenza virus	4	Long-term care facility
February 2018	Influenza virus	4	Long-term care facility
February 2018	Influenza virus	9	Rehab facility
February 2018	<i>Serratia marcescens</i>	3	Hospital
March 2018	Extended spectrum Beta-lactamase- producing <i>Escherichia coli</i> ; <i>Mycoplasma pneumoniae</i>	4	Developmental disabilities facility; Long-term care facility
March 2018	Group B <i>Streptococcus</i>	2	Hospital
March 2018	Influenza virus	5	Assisted living facility; long-term care facility
March 2018	Influenza virus	27	Long-term care facility
March 2018	Influenza virus	14	Long-term care facility
March 2018	Influenza virus	6	Long-term care facility
March 2018	Influenza virus	5	Long-term care facility
March 2018	Norovirus GII.P16-GII.2	40	Assisted living facility; memory unit
March 2018	Norovirus GII.P16-GII.4 Sydney	49	Long-term care facility

Month of Onset	Causative Agent	# Ill	Setting
March 2018	Norovirus GII.P16-GII.4 Sydney	37	Long-term care facility
March 2018	Norovirus GII.P16-GII.4 Sydney	21	Long-term care facility
April 2018	<i>Clostridium difficile</i>	4	Long-term care facility; memory unit
April 2018	Influenza virus	5	Long-term care facility
April 2018	Influenza virus	4	Long-term care facility
April 2018	Norovirus genotype unknown	17	Long-term care facility
April 2018	Norovirus GII.P16-GII.4	49	Assisted living facility; memory unit
April 2018	Norovirus GII.P16-GII.4 Sydney	62	Assisted living facility; memory unit
July 2018	<i>Salmonella</i> Braenderup	2	Long-term care facility
July 2018	<i>Sarcoptes scabiei</i>	6	Long-term care facility
August 2018	Norovirus GII	46	Assisted living facility; long-term care facility; memory unit
August 2018	<i>Sarcoptes scabiei</i>	3	Long-term care facility
November 2018	<i>Bordetella pertussis</i>	2	Physician's office
November 2018	<i>Mycobacterium</i> spp. (other than tuberculosis) cluster A; <i>Staphylococcus aureus</i>	19	Workplace; mobile vaccination company
November 2018	Norovirus GII.P7-GII.6	12	Assisted living facility
November 2018	Norovirus GII.P16-GII.12	28	Assisted living facility
November 2018	Respiratory syncytial virus	17	Developmental disabilities facility
December 2018	Norovirus genotype unknown	37	Assisted living facility; long-term care facility; memory unit

Source of outbreak data: Ohio Disease Reporting System.

INSTITUTIONAL OUTBREAKS

In 2018, 258 institutional outbreaks were reported. Of these, 84 were confirmed. See Table 4 below for the confirmed institutional outbreaks.

Table 4: Confirmed Institutional Outbreaks, Ohio, 2018

Month of Onset	Causative Agent	County	# Ill	Setting
November 2017	<i>Salmonella</i> Typhimurium	Multistate	1	College/university
December 2017	Group A <i>Streptococcus</i>	Franklin	29	School
December 2017	Influenza virus	Ottawa	3	Assisted living facility
January 2018	<i>Escherichia coli</i> non-O157	Franklin	6	Day care center; private home
January 2018	Group A <i>Streptococcus</i>	Morrow	12	School
January 2018	Influenza virus	Cuyahoga	3	Assisted living facility
January 2018	Influenza virus	Delaware	34	College/university

Month of Onset	Causative Agent	County	# Ill	Setting
January 2018	Influenza virus	Delaware	65	School
January 2018	Influenza virus	Erie	43	Day care center; school
January 2018	Influenza virus	Erie	334	School
January 2018	Influenza virus	Erie	14	School
January 2018	Influenza virus	Franklin	17	Day care center
January 2018	Influenza virus	Franklin	12	School
January 2018	Influenza virus	Hamilton	346	School
January 2018	Influenza virus	Medina	11	Assisted living facility
January 2018	Norovirus GII.P16-GII.4 Sydney	Franklin	57	Assisted living facility; memory unit
January 2018	Norovirus GII.Pe-GII.4 Sydney	Franklin	12	Day care center
January 2018	<i>Pediculus capitis</i>	Franklin	4	School
February 2018	<i>Bordetella pertussis</i>	Logan	4	School
February 2018	<i>Bordetella pertussis</i>	Montgomery	8	School
February 2018	Group A <i>Streptococcus</i>	Franklin	31	School
February 2018	Group A <i>Streptococcus</i>	Franklin	8	School
February 2018	Influenza virus	Franklin	18	Assisted living facility
February 2018	Influenza virus	Franklin	4	School
February 2018	<i>Shigella sonnei</i>	Franklin	10	Day care center
February 2018	<i>Shigella sonnei</i>	Franklin	9	Day care center
February 2018	<i>Streptococcus</i> spp.	Franklin	20	Day care center; school
March 2018	<i>Bordetella pertussis</i>	Franklin	2	School
March 2018	<i>Bordetella pertussis</i>	Ross	2	School
March 2018	<i>Escherichia coli</i>	Franklin	3	Day care center
March 2018	Influenza virus	Carroll	8	Religious facility
March 2018	Influenza virus	Franklin	10	Assisted living facility
March 2018	Norovirus GII.P16-GII.2	Summit	23	Psychiatric floor
March 2018	Norovirus GII.P16-GII.4 Sydney	Jackson	62	Assisted living facility; long-term care facility
March 2018	Norovirus GII.P16-GII.4 Sydney	Medina	32	Assisted living facility; memory unit
March 2018	Varicella-zoster virus	Clermont	6	Day care center
April 2018	Conjunctivitis	Pike	4	School
April 2018	<i>Escherichia coli</i> O103; Norovirus GII.P7-GII.6	Mercer	7	Day care center
April 2018	Group A <i>Streptococcus</i>	Franklin	9	School
April 2018	Mumps virus	Hamilton	9	College/university
April 2018	Norovirus GII.P16-GII.4 Sydney	Delaware	36	Assisted living facility; long-term care facility; memory unit
April 2018	<i>Pediculus capitis</i>	Crawford	3	School
April 2018	<i>Shigella sonnei</i>	Franklin	7	Day care center
April 2018	<i>Streptococcus</i> spp.	Franklin	8	School

Month of Onset	Causative Agent	County	# Ill	Setting
May 2018	Coxsackievirus	Hamilton	3	Day care center
May 2018	<i>Shigella sonnei</i>	Franklin	17	Day care center; school
June 2018	Coxsackievirus	Hamilton	7	Day care center
June 2018	<i>Escherichia coli</i> O132:H34; Astrovirus	Franklin	9	Day care center
June 2018	<i>Escherichia coli</i> , Shiga toxin-producing	Franklin	4	Private home; babysitter
June 2018	Methicillin-resistant <i>Staphylococcus aureus</i>	Cuyahoga	6	Correctional facility
June 2018	Methicillin-resistant <i>Staphylococcus aureus</i>	Hamilton	15	Workplace
July 2018	Norovirus GII.P7-GII.6	Franklin	12	Day care center
July 2018	<i>Shigella sonnei</i>	Hamilton	3	Day care center
August 2018	<i>Bordetella pertussis</i>	Butler	6	School
August 2018	<i>Bordetella pertussis</i>	Stark	2	Day care center
August 2018	Methicillin-resistant <i>Staphylococcus aureus</i>	Hamilton	5	School
September 2018	<i>Bordetella pertussis</i>	Hamilton	5	School
September 2018	<i>Bordetella pertussis</i>	Knox	4	School
September 2018	Coxsackievirus	Clark	9	Day care center
September 2018	Croup	Hamilton	3	School
September 2018	Methicillin-resistant <i>Staphylococcus aureus</i>	Stark	5	School; sports team
September 2018	<i>Mycoplasma pneumoniae</i>	Franklin	29	School
September 2018	Norovirus GI.P4-GI.4	Mercer	26	Assisted living facility
September 2018	<i>Pediculus capitis</i>	Hamilton	21	School
September 2018	<i>Sarcoptes scabiei</i>	Stark	8	Day care center
September 2018	<i>Shigella sonnei</i>	Franklin	16	Day care center
September 2018	<i>Shigella sonnei</i>	Hamilton	34	Day care center
September 2018	Varicella-zoster virus	Madison	16	School; private home
October 2018	<i>Bordetella pertussis</i>	Hamilton	17	School
October 2018	<i>Bordetella pertussis</i>	Hamilton	2	School
October 2018	<i>Bordetella pertussis</i>	Hamilton	2	School
October 2018	Coxsackievirus	Delaware	11	School
October 2018	<i>Shigella sonnei</i>	Hamilton	16	Day care center
October 2018	Varicella-zoster virus	Delaware	4	School
November 2018	<i>Bordetella pertussis</i>	Franklin	3	Day care center
November 2018	<i>Bordetella pertussis</i>	Franklin	6	School
November 2018	<i>Bordetella pertussis</i>	Franklin	3	School
November 2018	<i>Bordetella pertussis</i>	Hamilton	7	School
November 2018	Norovirus GII.P16-GII.1	Franklin	48	Day care center
November 2018	Norovirus GII.P16-GII.12	Franklin	20	Day care center
November 2018	Varicella-zoster virus	Montgomery	6	College/university
December 2018	Norovirus GI.P4-GI.4	Franklin	15	Assisted living facility
December 2018	Norovirus GI.P4-GI.4	Franklin	21	College/university; hotel/motel; restaurant
December 2018	Norovirus GII.7	Lorain	137	School

Source of outbreak data: Ohio Disease Reporting System.

WATERBORNE OUTBREAKS

In 2018, 7 confirmed and probable waterborne outbreaks were reported. These are detailed in Table 5.

Table 5: Confirmed and Probable Waterborne Outbreaks, Ohio, 2018

Month of Onset	Causative Agent	County	# Ill	Setting
March 2017	<i>Legionella pneumophila</i> serogroup 1	Lorain	5	Hotel
June 2018	<i>Legionella pneumophila</i> serogroup 1	Cuyahoga	11	Church
June 2018	<i>Legionella pneumophila</i> serogroup 1	Franklin	6	Healthcare facility
June 2018	<i>Plesiomonas shigelloides</i>	Logan	6	Camp
June 2018	<i>Staphylococcus aureus</i>	Stark	10	Camp
July 2018	<i>Cryptosporidium</i> spp.	Hamilton	11	Private home
July 2018	<i>Cryptosporidium</i> spp.	Mercer	13	Vacation rental

Source of outbreak data: Ohio Disease Reporting System.

ZOONOTIC OUTBREAKS

In 2018, 15 confirmed and probable zoonotic outbreaks were reported, as seen in Table 6.

Table 6: Confirmed and Probable Zoonotic Outbreaks, Ohio, 2018

Month of Onset	Causative Agent	County	# Ill	Type of Animal	Setting
January 2018	<i>Campylobacter</i> spp.; <i>Cryptosporidium</i> spp.	Clark	33	Cattle	Farm; private home
January 2018	<i>Cryptosporidium</i> spp.	Marion	4	Cattle	Private home
April 2018	<i>Cryptosporidium parvum</i>	Hamilton	2	Sheep	Farm
April 2018	<i>Salmonella</i> (I) 4,5,12:i:-	Gallia	5	Swine	Farm; private home
April 2018	<i>Salmonella</i> Enteritidis; <i>Salmonella</i> Litchfield; <i>Salmonella</i> Senftenberg; <i>Salmonella</i> Enteritidis; <i>Salmonella</i> Montevideo	Multistate	14	Live poultry	Feed store; private home
April 2018	<i>Salmonella</i> Offa	Multistate	1	Bearded dragons	Day care center; private home
June 2018	<i>Campylobacter jejuni</i>	Stark	3	Dog/puppy	Animal shelter
July 2018	<i>Cryptosporidium</i> spp.	Ashland	4	Livestock	Private home
August 2018	<i>Campylobacter jejuni</i>	Wayne	2	Puppies	Private home
August 2018	Influenza virus	Auglaize	4	Swine	Agricultural event
August 2018	<i>Salmonella</i> Agona	Multistate	1	Live poultry	Feed store; private home

Month of Onset	Causative Agent	County	# Ill	Type of Animal	Setting
September 2018	<i>Cryptosporidium parvum</i> ; <i>Salmonella</i> spp.	Franklin	4	Calf	Vet clinic
September 2018	<i>Salmonella</i> Infantis	Multistate	3	Live poultry	Private home
November 2018	<i>Campylobacter</i> spp.	Clark	4	Dog	Animal shelter
November 2018	<i>Cryptosporidium</i> spp.; <i>Giardia</i> spp.; <i>Salmonella</i> spp.	Huron	3	Calves	Farm

Source of outbreak data: Ohio Disease Reporting System.

Here is a link to a report of a multistate zoonotic outbreak:

[Multistate Outbreaks of *Salmonella* Infections Linked to Contact with Live Poultry in Backyard Flocks, 2018](#)

Please refer to the [Technical Notes](#) for additional information on the outbreak data.

Acknowledgements: These outbreak investigations were performed by local public health personnel (nurses, sanitarians, epidemiologists) and healthcare professionals in the medical community. Laboratory analysis was done in local clinical labs, the Ohio Department of Health Laboratory and the Ohio Department of Agriculture Laboratory. Our thanks to all these partners for their work in the investigation of outbreaks and the prevention of disease.

TECHNICAL NOTES

SPECIFIC DISEASES

Anaplasmosis: formerly known as human granulocytic ehrlichiosis (HGE).

Carbapenemase-Producing Carbapenem-Resistant *Enterobacteriaceae* (CP-CRE): became reportable in Ohio Mar. 22, 2018. Counts are number of cases; a single person can have multiple cases of CP-CRE at any given time (different organism or mechanism). Data is shown by specimen collection date.

Chikungunya Virus Infection: not explicitly reportable in Ohio until May 1, 2015, but prior reporting was captured under “Other Arthropod-borne Diseases.” Case reporting prior to 2015 may not be complete since this was not listed by name on Ohio’s reportable disease list at that time.

Ehrlichiosis: formerly known as human monocytic ehrlichiosis (HME).

Hepatitis B, Perinatal Infection: shown by date of confirmatory testing.

Influenza-Associated Pediatric Mortality: includes cases for children less than 18 years of age. Data in the “Month of Onset” table are by the month of death.

Influenza A Virus, Novel Human Infection: listed in the Vaccine-Preventable Diseases tables as it is an influenza A virus infection, even though in all likelihood there will not be a readily available vaccine for a novel virus infection.

La Crosse Virus Disease: also known as California serogroup virus disease.

Meningitis, Other Bacterial: includes cases of bacterial meningitis for which the agent was specified, excluding group A *Streptococcus*, group B *Streptococcus* (in newborns less than three months of age), *Haemophilus influenzae*, *Listeria monocytogenes*, *Mycobacterium tuberculosis*, *Neisseria meningitidis* and *Streptococcus pneumoniae*. Cases of meningitis due to these agents are reported as those specific conditions.

Rabies, Animal: refers only to cases among animal species. The last reported case of human rabies in Ohio occurred in 1971.

Salmonella Paratyphi Infection: became reportable in Ohio Mar. 22, 2018. Reporting prior to Mar. 22, 2018 was facilitated under “Salmonellosis.”

Spotted Fever Rickettsiosis: includes Rocky Mountain Spotted Fever (RMSF) and other spotted fever group *Rickettsia*.

Streptococcus pneumoniae, Invasive Disease, Ages <5 Years: numbers include cases for all children less than five years of age, regardless of drug-resistance pattern.

Streptococcus pneumoniae, Invasive Disease, Drug Resistant, Ages 5+ Years: numbers include cases five years of age and older with intermediate resistance or resistance to one or more antimicrobial agents.

***Streptococcus pneumoniae*, Invasive Disease, Drug Susceptible, Ages 5+ Years:** numbers include cases five years of age and older with invasive *Streptococcus pneumoniae* that are susceptible or of unknown susceptibility to all antimicrobial agents tested.

Zika Virus Infection: became explicitly reportable in Ohio Sep. 16, 2016. Reporting prior to Sep. 16, 2016 was facilitated under “Other Arthropod-borne Diseases.”

OUTBREAKS

Numbers indicate the number of outbreaks reported and do not reflect the number of cases involved in the outbreak, except as noted. Outbreak data for vaccine-preventable diseases (i.e., influenza, pertussis, varicella-zoster virus) only include confirmed outbreaks. All other outbreaks are confirmed, probable or suspected.

Outbreak data are not included in the “Age in Years” and “Sex” tables, and rates were not calculated in any table. Outbreak data are by year of report, so “Month” refers to the month of report, except as noted. The source of outbreak data is the ODH Bureau of Infectious Diseases, the Ohio Disease Reporting System and local health jurisdictions. ***Twenty-eight multistate and multicounty outbreaks are not included in the “County” table; thus, county totals do not match totals. (There were three community, 19 foodborne, one healthcare-associated, one institutional and four zoonotic outbreaks that were multistate or multicounty.)*** A multistate outbreak is an outbreak where the exposure occurred in more than one state while a multicounty outbreak is an outbreak where the exposure occurred in more than one county.

Cases in the non-influenza vaccine-preventable outbreaks (i.e., pertussis, varicella-zoster virus) are either confirmed or probable status. Cases in all other outbreaks are confirmed, probable or suspected.

Definitions for the six categories of outbreaks are from the ODH [Infectious Disease Control Manual](#) (IDCM). Foodborne outbreaks and waterborne outbreaks are also defined on the CDC’s Nationally Notifiable Disease Surveillance System’s [website](#). Outbreak definitions for vaccine-preventable diseases are located in the [disease-specific chapters](#) of the IDCM.

Community: defined as two or more cases of similar illness with a common exposure in the community and not considered a foodborne or waterborne disease outbreak.

Foodborne: an incident in which two or more persons experience a similar illness after ingestion of a common food, and epidemiologic analysis implicates the food as the source of the illness. In addition, there are [agent-specific criteria](#) to confirm foodborne outbreaks.

Healthcare-associated: defined as the occurrence of a disease (illness) above the expected or baseline level, usually over a given period of time, as a result of being in a healthcare facility (e.g., hospital, long-term care facility) or receiving healthcare-associated products or procedures. The number of cases indicating the presence of an outbreak will vary according to the disease agent, size and type of population exposed, previous exposure to the agent and the time and place of occurrence.

Institutional: defined as two or more cases of similar illness with a common exposure at an institution (e.g., correctional facility, day care center, group home, school) and not considered a foodborne or waterborne disease outbreak.

Waterborne: defined as any outbreak of an infectious disease, chemical poisoning or toxin-mediated illness where water is indicated as the source by an epidemiological investigation.

Zoonotic: defined as the occurrence of two or more cases of a similar illness with a common exposure to an animal source and not considered a foodborne or waterborne disease outbreak.

RATE CALCULATIONS

Population estimates for rates in the “Age in Years,” “Sex” and “County of Residence” tables come from the 2018 U.S. Census estimates. Population data for rates in the “Year of Onset” table come from the U.S. Census estimates for each year. Rates were not calculated for the following conditions because they pertain to selected age populations and not the entire population. Rates were calculated in the “Age in Years” table only for the conditions below containing an asterisk (*) because appropriate population data were available for the denominator:

- Botulism, infant
- Hepatitis B, perinatal infection
- Influenza-associated pediatric mortality
- Streptococcal disease, group B, in newborn
- *Streptococcus pneumoniae*, invasive disease, ages < 5 years*
- *Streptococcus pneumoniae*, invasive disease, drug resistant, ages 5+ years*
- *Streptococcus pneumoniae*, invasive disease, drug susceptible, ages 5+ years*

DISEASES NOT INCLUDED IN TABLES

There were no known cases in Ohio of the following reportable diseases during at least the past five years; thus, they are not included in the 2014-2018 disease tables (pp. 6-7):

- | | |
|---|---|
| • Anthrax | • Rubella, not congenital |
| • Cholera | • Severe acute respiratory syndrome |
| • Eastern equine encephalitis virus disease | • Smallpox |
| • Hantavirus | • St. Louis encephalitis virus disease |
| • Middle East respiratory syndrome | • <i>Staphylococcus aureus</i> , resistant to Vancomycin (VRSA) |
| • Plague | • Typhus fever, murine* |
| • Poliomyelitis | • Viral hemorrhagic fever |
| • Powassan virus disease | • Western equine encephalitis virus disease |
| • Psittacosis | • Yellow fever |
| • Rabies, human | |
| • Rubella, congenital | |

* no longer reportable Sept. 16, 2016

Reportable diseases not included in the “Age in Years,” “Sex,” “Month of Onset” and “County of Residence” tables (pp. 8-43) had no known cases reported in 2018.

SEROTYPES AND SEROGROUPS

The ODH Laboratory (ODHL), Microbiology Section performs serogrouping of Shiga toxin-producing *Escherichia coli* isolates, serogrouping of *Neisseria meningitidis* isolates and serotyping of *Salmonella* isolates. Hospital and other clinical laboratories are encouraged to send *Salmonella*, *Neisseria meningitidis* and Shiga toxin-producing *Escherichia coli* isolates to ODH for serotyping and serogrouping. ODH also requests *Listeria* and *Vibrio* isolates. *Haemophilus influenzae* (in children under 5 years of age) and Vancomycin-resistant *Staphylococcus aureus* isolates with a minimum inhibitory concentration (MIC) of 8 or greater are requested to be sent directly to the Centers for Disease Control and Prevention (CDC) Laboratory. For further information on the submission of isolates, please contact ODHL at (614) 644-4656.