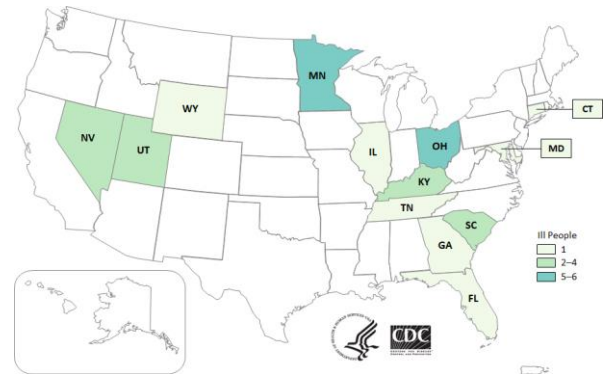




**Monthly Highlight: 2019 Outbreak of Multidrug-resistant *Campylobacter* Infections Linked to Contact with Pet Store Puppies**

From 2016 through 2018, the Centers for Disease Control and Prevention (CDC) investigated an [outbreak of multidrug-resistant \*Campylobacter\* infections linked to pet store puppies](#). In all, this outbreak affected 113 people in 17 states, with Ohio reporting the highest number of infections. Illness onset ranged from 1/12/2016 to 1/7/2018. Ninety-nine percent of people reported contact with a puppy in the week before illness started, and 87% reported they had contact with a puppy from Petland stores, or had contact with a person who became sick after contact with a puppy from a Petland store. Twenty-five ill people worked at Petland stores. Whole genome sequencing (WGS) showed that isolates from people infected with *Campylobacter* were closely related genetically. Using WGS, CDC identified multiple antimicrobial resistance genes and mutations in most isolates from 38 ill people and 10 puppies in this outbreak. This finding matched results from standard antibiotic susceptibility testing methods used by CDC's National Antimicrobial Resistance Monitoring System laboratory on isolates from five ill people and seven puppies in this outbreak. The 12 isolates tested by standard methods were resistant to azithromycin, ciprofloxacin, clindamycin, erythromycin, nalidixic acid, telithromycin, and tetracycline. In addition, 10 were resistant to gentamicin, and 2 were resistant to florfenicol.



Map of Reported Cases: People infected with the outbreak strains, by state of residence, as of December 11, 2019

In December 2019, CDC began investigating another multistate outbreak of multidrug-resistant *Campylobacter jejuni* infections linked to puppies purchased from pet store with evidence that the infections in this outbreak are also resistant to commonly recommended, first-line antibiotics. Ohio, along with Minnesota is experiencing the most cases. Outbreak data includes:

- Laboratory evidence indicates that bacteria from ill people in this outbreak are closely related genetically to bacteria from ill people in the [2016–2018 outbreak of multidrug-resistant \*Campylobacter\* infections linked to pet store puppies](#).
- 30 people infected with the outbreak strain of *Campylobacter jejuni* have been reported from 13 states;
- Illness onset: 1/6/2019 through 11/10/2019
- 4 hospitalizations have been reported; No deaths have been reported.

Among 24 people interviewed:

- 21 (88%) of the 24 people reported contact with a puppy;
- 15 (71%) of these 21 people reported contact with a puppy from a pet store;
- 12 (80%) of these 15 people were linked to Petland, a national pet store chain;
- 5 (42%) of these 12 people were Petland employees.

CDC has provided recommendations for both pet owners and pet store workers, which includes always [wash your hands](#) thoroughly with soap and water after touching your puppy or dog, after handling their food, and after cleaning up after them. Additional prevention tips and outbreak information can be found [here](#).

**Table 1 Summary of Air Quality Index, Pollen, and Mold Counts for Stark County, Ohio, including historical data.**

	Nov 2019				Dec 2018			
	Monthly High	Monthly Low	Monthly Median	Counts in highest reported health risk category	Monthly High	Monthly Low	Monthly Median	Counts in highest reported health risk category
Pollen Count	Data collected seasonally and currently				Data collected seasonally and currently			
Mold Count	not available				not available			
Air Quality Index	96	8	42	(6) Moderate	89	15	45	(9) Moderate

\*\*See the following websites for updated Air Quality Index and mold index terminology and color coding: <http://www.airnow.gov/index.cfm?action=aqibasics.aqi> [https://pollen.aaaai.org/nab/index.cfm?p=reading\\_charts](https://pollen.aaaai.org/nab/index.cfm?p=reading_charts). Data source for this table is the Air Quality Division of Canton City Public Health

**Table 2 Select Vital Statistics for Stark County**

	Nov 2019	YTD 2019	2018
Live Births	302	3755	4060
Births to Teens	21	241	230
Deaths	329	3864	4421

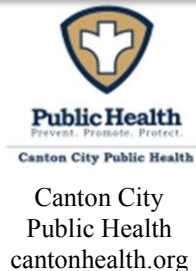
**Table 3 Stark County Crude Birth Rate and Death Rates**

	2014	2015	2016	2017	2018
Birth	11.3	11.2	11.3	10.7	10.9
Death	11.4	11.6	11.7	11.9	11.9

\*Source: Ohio Department of Health Data Warehouse. Rates are per 1,000 population.

Table 4: Jurisdictional Summary of Reportable Diseases in Stark County, OH (Provisional Data)	Alliance City		Canton City		Massillon City		Stark County		All Departments	
	Nov	YTD	Nov	YTD	Nov	YTD	Nov	YTD	Nov	YTD
Campylobacteriosis	0	2	0	16	1	6	2	60	3	84
Chlamydia infection	12	134	75	772	11	174	66	655	164	1735
CP-CRE	1	1	2	5	0	4	0	11	3	21
Creutzfeldt-Jakob Disease	0	0	0	0	0	0	0	2	0	2
Cryptosporidiosis	0	4	0	4	0	0	0	34	0	42
Cyclosporiasis	0	0	0	1	0	0	0	3	0	4
E. coli, Shiga Toxin-Producing	0	0	0	3	0	3	1	8	1	14
Giardiasis	0	0	1	5	0	2	2	16	3	23
Gonococcal infection	0	27	24	291	4	48	13	149	41	515
Haemophilus influenzae (invasive disease)	0	0	1	2	0	0	0	4	1	6
Hemolytic uremic syndrome (HUS)	0	0	0	0	0	0	0	1	0	1
Hepatitis A	0	2	0	3	0	3	1	10	1	18
Hepatitis B - Perinatal Infection	0	0	0	0	0	0	0	1	0	1
Hepatitis B (including delta) - acute	0	2	0	3	0	2	0	1	0	8
Hepatitis B (including delta) - chronic	1	4	2	19	0	8	2	35	5	66
Hepatitis C - acute	0	0	0	1	0	1	0	0	0	2
Hepatitis C - chronic	2	31	7	103	1	42	9	126	19	302
Hepatitis C - Perinatal Infection	0	0	0	0	0	0	0	2	0	2
Hepatitis E	0	0	0	1	0	0	0	1	0	2
Immigrant Investigation	0	0	0	0	0	0	0	4	0	4
Influenza - ODH Lab Results	0	0	0	0	0	0	0	1	0	1
Influenza-associated hospitalization	0	16	0	117	0	32	0	251	0	416
Legionellosis - Legionnaires' Disease	0	2	0	7	1	4	0	9	1	22
Listeriosis	0	0	0	0	0	0	0	2	0	2
Lyme Disease	0	1	0	2	1	2	3	43	4	48
Measles - imported from outside Ohio	0	0	0	0	0	0	0	1	0	1
Meningitis - aseptic/viral	0	2	0	6	0	3	0	5	0	16
Meningitis - bacterial (Not N. meningitidis)	0	0	0	0	0	0	0	1	0	1
Mumps	0	0	0	0	0	0	1	3	1	3
Pertussis	0	2	1	11	0	5	0	21	1	39
Salmonellosis	1	2	0	4	1	7	1	30	3	43
Shigellosis	0	0	0	3	0	0	0	20	0	23
Spotted Fever Rickettsiosis, including Rocky Mountain spotted fever	0	0	0	0	0	0	0	1	0	1
Streptococcal - Group A -invasive	0	0	0	2	0	1	1	11	1	14
Streptococcal - Group B - in newborn	0	0	0	0	0	0	0	1	0	1
Streptococcus pneumoniae – inv. antibiotic resistance unknown or non-resistant	0	1	1	6	0	0	1	13	2	20
Streptococcus pneumoniae – inv. antibiotic resistant/intermediate	0	3	0	2	0	2	0	3	0	10
Syphilis, Total	0	2	1	15	1	2	1	13	3	32
➤ Syphilis, Primary, Secondary and Early Latent	0	2	0	7	0	1	1	12	1	22
Tuberculosis	0	0	0	1	0	0	0	1	0	2
Varicella	0	0	0	8	0	2	0	10	0	20
Vibriosis (not cholera)	0	0	0	0	0	1	0	2	0	3
Yersiniosis	0	0	1	1	0	0	0	5	1	6
Zika virus infection	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>17</b>	<b>240</b>	<b>116</b>	<b>1421</b>	<b>21</b>	<b>355</b>	<b>105</b>	<b>1582</b>	<b>259</b>	<b>3598</b>

Source: Ohio Disease Reporting System. downloaded 12/18/2019



<b>Table 5 – Summary Table of Diseases Reported in the Previous 5 years within Stark County (Provisional Data)</b>	<b>Nov-19</b>	<b>Nov-18</b>	<b>YTD 2019</b>	<b>YTD 2018</b>	<b>All of 2018</b>	<b>5 Yr Annual Average</b>	<b>Rate</b>
Amebiasis	0	0	0	0	0	0.4	0.107
Anaplasmosis	0	0	0	2	2	0.6	0.161
Babesiosis	0	0	0	2	2	0.8	0.214
Brucellosis	0	0	0	0	0	0.2	0.054
Campylobacteriosis	3	7	84	83	85	77.6	20.761
Chlamydia	164	148	1735	1588	1712	1720.0	460.169
CP-CRE	3	1	21	19	26	24.0	6.421
Coccidioidomycosis	0	0	0	0	0	0.4	0.107
Creutzfeldt-Jakob Disease	0	1	2	1	1	1.2	0.321
Cryptosporidiosis	0	2	42	33	33	33.8	9.043
Cyclosporiasis	0	0	4	8	8	3.0	0.803
E. coli, Shiga Toxin-Producing (O157:H7, Not O157, Unknown Serotype)	1	2	14	16	17	14.0	3.746
Giardiasis	3	1	23	19	23	21.8	5.832
Gonorrhea	41	56	515	579	641	580.2	155.227
Haemophilus influenzae , Invasive	1	0	6	3	4	6.4	1.712
Hemolytic Uremic Syndrome (HUS)	0	0	1	0	0	0.2	0.054
Hepatitis A	1	0	18	11	12	7.6	2.033
Hepatitis B, Perinatal	0	0	1	0	0	1.8	0.482
Hepatitis B, Acute	0	1	8	10	11	6.4	1.712
Hepatitis B, Chronic	5	4	66	75	85	57.6	15.410
Hepatitis C, Acute	0	1	2	6	6	6.2	1.659
Hepatitis C, Chronic	19	21	302	282	300	313.0	83.740
Hepatitis C - Perinatal Infection	0	0	2	3	4	4.0	1.070
Hepatitis E	0	0	2	0	0	0.2	0.054
Influenza-associated hospitalization	0	1	416	585	595	379.0	101.398
LaCrosse virus disease	0	0	0	4	4	1.0	0.268
Legionellosis	1	5	22	32	33	18.0	4.816
Listeriosis	0	0	2	1	1	1.0	0.268
Lyme Disease	4	1	48	36	38	24.0	6.421
Malaria	0	0	0	0	0	0.4	0.107
Measles - imported from outside Ohio	0	0	1	0	0	0.0	0.000
Measles (indigenous to Ohio)	0	0	0	0	0	2.0	0.535
Measles - indigenous/imported Status Not Determined	0	0	0	0	0	0.0	0.000
Meningitis, Aseptic	0	7	16	43	46	34.6	9.257
Meningitis, Other Bacterial	0	0	1	4	4	3.4	0.910
Meningococcal Disease	0	0	0	0	0	1.0	0.268
Mumps	1	0	3	2	2	3.2	0.856
Pertussis	1	3	39	44	54	50.4	13.484
Q fever, chronic	0	0	0	0	0	0.2	0.054
Salmonellosis	3	3	43	58	61	47.8	12.788
Shigellosis	0	0	23	25	25	26.2	7.010
Spotted Fever Rickettsiosis	0	0	1	5	5	2.2	0.589
Staphylococcal aureus - intermediate resistance to vancomycin (VISA)	0	0	0	0	0	0.2	0.054
Streptococcal Dis, Group A, Invasive	1	0	14	24	25	15.2	4.067
Streptococcal Dis, Group B, in Newborn	0	0	1	2	2	1.6	0.428
Streptococcal Toxic Shock Syndrome	0	0	0	0	0	0.8	0.214
Streptococcus pneumoniae - inv antibiotic resistance unknown or non-resistant	2	3	20	24	29	30.6	8.187
Streptococcus pneumo - inv antibiotic resistant/intermediate	0	2	10	9	10	13.4	3.585
Syphilis, Total	3	2	32	31	33	19.4	5.190
Syphilis, Primary, Secondary and Early Latent	1	2	22	19	20	11.8	3.157
Toxic Shock Syndrome (TSS)	0	0	0	0	0	0.2	0.054
Tuberculosis	0	1	2	3	5	2.4	0.642
Varicella	0	1	20	14	16	24.2	6.474
Vibriosis - other (not cholera)	0	0	3	1	1	2.2	0.589
Vibrio parahaemolyticus infection	0	0	0	0	0	0.0	0.000
West Nile Virus	0	0	0	8	8	2.2	0.589
Yersiniosis	1	0	6	3	3	6.4	1.712
Zika virus infection	0	0	0	0	0	1.0	0.268

Source: Ohio Disease Reporting System, downloaded 12/18/2019. Rates are per 100K population and based on 5 yr average incidence '14 – '18.