

EPI Gram is a monthly publication of the Stark County Public Health Infrastructure Coalition. It contains a summary of provisional communicable disease reports and other key public health indicators, with summary tables for Stark County, Ohio. Some reportable conditions may be under investigation and, at any given time, data may fluctuate from month to month for a specific category. **If you have any questions please contact Avinash Joseph at 330.493.9914 or josepha@starkhealth.org, or Amanda Archer at 330.489.3327 or aarcher@cantonhealth.org.**

Monthly Highlight: Q Fever

Q fever is caused by infection with *Coxiella burnetii*, a bacterial pathogen that historically has been grouped with rickettsial organisms. Contemporary genetic studies, however, have revealed that the microbe is actually more closely related to *Legionella* species. Q fever has been a reportable disease in the United States since 1999, but because of chronic underreporting, its true incidence is not known.

Humans contract Q fever primarily by inhalation or ingestion, although *C. burnetii* can be vectored by ticks as well. In nature, the organism is maintained in mammals, birds and ticks. *C. burnetii* is commonly found in livestock on farms; as a result, infection in humans is strongly associated with exposure to farm animals -- primarily cows, sheep and goats. These animals usually do not manifest disease when infected, although spontaneous abortion occurs with some frequency. Interestingly, the organism appears to become more active in pregnant animals. Most commonly, humans acquire the pathogen by inhaling air contaminated with digestive waste products, birth fluids and/or placental remains of farm livestock. Thus, farms and food processing establishments are the most frequent sites of Q fever outbreaks. Person to person transmission is unlikely.

C. burnetii is highly infectious – susceptible humans can be infected by a single organism - and is also resistant to heat, drying and many disinfectants. Because of this, it is considered a significant threat for biowarfare and is classified as a Category B agent of bioterrorism.

Q fever is also a Class B reportable disease; however, both acute and chronic infections are rare in Ohio. From 2000 through 2012, 23 cases were reported from across the State (median per year = 1; range 0-8); this includes cases acquired outside the US. In Stark County, only 1 suspect case of chronic Q fever (2017) has been reported in recent years.

Signs and symptoms of Q fever include fever, chills or sweats, fatigue, headache, muscle aches, nausea/vomiting/diarrhea, chest pain, stomach pain, weight loss and/or nonproductive cough. Q fever infection, especially chronic Q fever, may be severe with complications requiring hospitalization that may include endocarditis (infection of the heart tissue), encephalitis (inflammation of the central nervous system), pneumonia (inflammation of the lungs), hepatitis (inflammation of the liver), and splenomegaly (enlargement of the spleen). Between 2002-2014 over 50% of cases required hospitalization. However, it is likely that mild Q fever infections which do not require hospitalization are more likely to be unrecognized and therefore may not be reported.

CATEGORY-B

These agents are second highest priority because,

- > They are moderately easy to spread.
- > They result in moderate illness rates & low death rates
- > They require specific enhancements of CDC's (Center for Disease Control & prevention) laboratory capacity & enhanced disease monitoring.
- > Ex.-Glander, Melioidosis, Ricin, Q fever, Typhus, Staphylococcal



RICIN



GLANDERS



TYPHUS

Additional information: <https://www.cdc.gov/qfever/index.html> http://columbia-lyme.org/patients/tbd_qfever.html

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

	Sept 2017				Oct 2016			
	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	46	0	6	N/A	5	0	2	N/A
Mold Count	6900	0	2850	1 (Moderate)	4110	1480	2090	0 (Good)
Air Quality Index	100	20	61	9 (Moderate)	52	18	34	1 (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. Data source for this table is the Air Quality Division of the Canton City Health Department.

Table 2 Select Vital Statistics for Stark County

	Sept 2017	YTD 2017	2016
Live Births	355	3112	4190
Births to Teens	33	227	263
Deaths	272	3273	4356

* Birth and death data may include non county residents.

Table 3 Stark County Crude Birth Rate and Death Rates

	2011	2012	2013	2014	2015
Birth	10.8	10.9	11.2	12.0	12.3
Death	11.3	11.4	11.3	11.4	11.6

*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	
	Sept	YTD	Sept	YTD	Sept	YTD	Sept	YTD	Sept	YTD
Amebiasis	0	0	0	0	0	1	0	0	0	1
Babesiosis	0	0	0	0	0	0	0	1	0	1
Brucellosis	0	0	1	1	0	0	0	0	1	1
Campylobacteriosis	3	4	4	21	2	2	4	40	13	67
Chlamydia infection	8	91	73	621	15	159	51	527	147	1398
Creutzfeldt-Jakob Disease	0	1	0	0	0	0	0	0	0	1
Cryptosporidiosis	1	3	0	1	0	3	1	14	2	21
Cyclosporiasis	0	0	0	0	0	0	0	2	0	2
E. coli, Shiga Toxin-Producing	0	0	0	1	0	1	1	7	1	9
Giardiasis	0	1	0	1	0	1	0	9	0	12
Gonococcal infection	4	13	23	253	5	32	18	112	50	410
Haemophilus influenzae (invasive disease)	0	0	0	2	0	0	0	5	0	7
Hepatitis A	0	1	0	0	0	1	0	5	0	7
Hepatitis B - Perinatal Infection	0	0	0	0	0	0	0	3	0	3
Hepatitis B (including delta) - acute	0	1	0	2	0	1	0	1	0	5
Hepatitis B (including delta) - chronic	0	2	3	16	1	5	4	27	8	50
Hepatitis C - acute	0	0	0	1	0	0	0	0	0	1
Hepatitis C - chronic	3	25	8	84	2	26	7	96	20	231
Immigrant Investigation	0	0	0	0	0	0	0	1	0	1
Influenza-associated hospitalization	0	18	0	81	0	22	0	163	0	284
Legionellosis - Legionnaires' Disease	0	1	1	4	0	0	0	8	1	13
Listeriosis	0	0	0	0	0	0	1	1	1	1
Lyme Disease	0	1	0	5	0	1	1	16	1	23
Meningitis - aseptic/viral	0	0	1	11	0	1	1	14	2	26
Meningitis - bacterial (Not N. meningitidis)	0	0	1	1	0	0	0	0	1	1
Mumps	0	0	0	1	0	1	0	1	0	3
Pertussis	0	2	0	4	0	0	1	8	1	14
Q fever, chronic	0	0	0	0	0	0	1	1	1	1
Salmonellosis	0	4	0	3	0	0	4	24	4	31
Shigellosis	0	0	0	1	0	0	0	2	0	3
Spotted Fever Rickettsiosis, including Rocky Mountain spotted fever (RMSF)	0	0	0	1	0	1	2	4	2	6
Streptococcal - Group A -invasive	0	0	0	3	0	2	0	11	0	16
Streptococcal - Group B - in newborn	0	0	0	0	0	0	0	1	0	1
Streptococcus pneumoniae - invasive antibiotic resistance unknown or non-resistant	0	2	0	7	0	3	0	14	0	26
Streptococcus pneumoniae - invasive antibiotic resistant/intermediate	0	2	1	5	0	4	0	2	1	13
Syphilis, Total	0	2	3	10	0	1	1	9	4	22
➤ Syphilis, Primary, Secondary and Early Latent	0	1	2	6	1	1	1	3	4	11
Tuberculosis	0	0	0	1	0	0	0	1	0	2
Varicella	0	0	0	2	1	2	2	6	3	10
Vibriosis (not cholera)	0	0	0	0	0	0	0	2	0	2
West Nile virus disease	0	0	0	0	0	0	1	1	1	1
Yersiniosis	0	0	0	1	0	0	0	7	0	8
Total	19	175	121	1151	27	271	102	1149	261	2713

Source: Ohio Disease Reporting System, downloaded 10/16/2017.



Alliance City Health Department
cityofalliance.com/health



Promoting and Protecting Health Since 1849

Canton City Health Department
cantonhealth.org



Massillon City Health Department
massillonohio.com/health



Stark County Health Department
starkhealth.org

Table 5 – Summary Table of Diseases Reported in the previous 5 years within Stark County (Provisional Data)	Sep-17	Sep-16	YTD 2017	YTD 2016	All of 2016	5 Yr annual average	Rate
Amebiasis	0	0	1	0	0	0.2	0.053
Anaplasmosis	0	1	0	1	1	0.4	0.107
Babesiosis	0	0	1	0	0	0.2	0.053
Brucellosis	1	0	1	0	0	0.2	0.053
Campylobacteriosis	13	12	67	68	83	69.4	18.499
Chlamydia	147	150	1398	1397	1899	1611.4	429.518
Coccidioidomycosis	0	1	0	1	1	0.6	0.160
Creutzfeldt-Jakob Disease	0	0	1	1	2	0.6	0.160
Cryptosporidiosis	2	11	21	38	47	35.4	9.425
Cyclosporiasis	0	1	2	4	4	1.2	0.320
Dengue	0	0	0	0	0	0.2	0.053
Escherichia coli , STP, Not O157:H7	1	3	9	13	16	4.0	1.065
Escherichia coli O157:H7	0	0	0	0	0	1.8	0.479
Escherichia coli , STP, Unk Serotype	0	0	0	0	0	3.4	0.905
Giardiasis	0	0	12	21	25	28.6	7.623
Gonorrhea	50	56	410	506	678	594.8	158.544
Haemophilus influenzae , Invasive	0	0	7	4	5	6.8	1.813
Hemolytic Uremic Syndrome (HUS)	0	0	0	0	0	0.2	0.053
Hepatitis A	0	1	7	2	3	6.2	1.653
Hepatitis B, Perinatal	0	0	3	0	1	1.6	0.426
Hepatitis B, Acute	0	0	5	3	4	4.8	1.279
Hepatitis B, Chronic	8	3	50	40	55	39.2	10.449
Hepatitis C, Acute	0	1	1	7	7	7.0	1.866
Hepatitis C, Chronic	20	30	231	240	328	279.0	74.367
Hepatitis E	0	0	0	1	1	0.2	0.053
Influenza-associated hospitalization	0	1	284	159	196	273.8	72.981
Influenza-associated pediatric mortality	0	0	0	0	0	0.2	0.053
LaCrosse virus disease	0	0	0	1	1	0.4	0.107
Legionellosis	1	4	13	13	16	15.6	4.158
Listeriosis	1	0	1	1	1	1.2	0.320
Lyme Disease	1	4	23	19	26	16.4	4.371
Malaria	0	0	0	1	1	0.6	0.160
Measles (indigenous to Ohio)	0	0	0	1	1	2.0	0.533
Meningitis, Aseptic	2	4	26	18	30	28.4	7.570
Meningitis, Other Bacterial	1	0	1	4	5	3.8	1.013
Meningococcal Disease	0	0	0	0	0	1.0	0.267
Mumps	0	0	3	2	2	2.4	0.640
Pertussis	1	2	14	23	31	37.4	9.969
Q fever, acute	0	0	0	0	0	0.4	0.107
Q fever, chronic	1	0	1	0	0	0.0	0.000
Salmonellosis	4	12	31	45	51	44.8	11.941
Shigellosis	0	0	3	3	8	35.6	9.489
Spotted Fever Rickettsiosis	2	0	6	0	0	0.0	0.000
Staphylococcal aureus - intermediate resistance to vancomycin (VISA)	0	0	0	1	1	0.2	0.053
Streptococcal Dis, Group A, Invasive	0	0	16	7	10	12.8	3.412
Streptococcal Dis, Group B, in Newborn	0	1	1	2	4	1.8	0.480
Streptococcal Toxic Shock Syndrome	0	0	0	1	1	1.0	0.267
Streptococcus pneumoniae - invasive antibiotic resistance unknown or non-resistant	0	0	26	29	37	36.0	9.596
Streptococcus pneumo - inv antibiotic resistant/intermediate	1	1	13	15	16	117.8	4.745
Syphilis, Total	4	2	22	13	21	12.0	3.195
➤ Syphilis, Primary, Secondary and Early Latent	3	1	11	8	15	7.6	2.024
Toxic Shock Syndrome (TSS)	0	0	0	0	0	0.8	0.213
Tuberculosis	0	0	2	2	2	1.2	0.320
Typhoid Fever	0	0	0	0	0	0.4	0.107
Varicella	3	2	10	27	35	29.4	7.837
Vibriosis - other (not cholera)	0	1	2	3	4	1.8	0.480
Vibrio parahaemolyticus infection	0	0	0	0	0	0.2	0.053
West Nile Virus	1	0	1	0	0	0.6	0.160
Yersiniosis	0	3	8	8	9	4.6	1.226
Zika virus infection	0	1	0	4	5	1.0	0.267

Source: Ohio Disease Reporting System, downloaded 10/16/2017. Rates are per 100K population and based on 5 yr average incidence '12-'16.