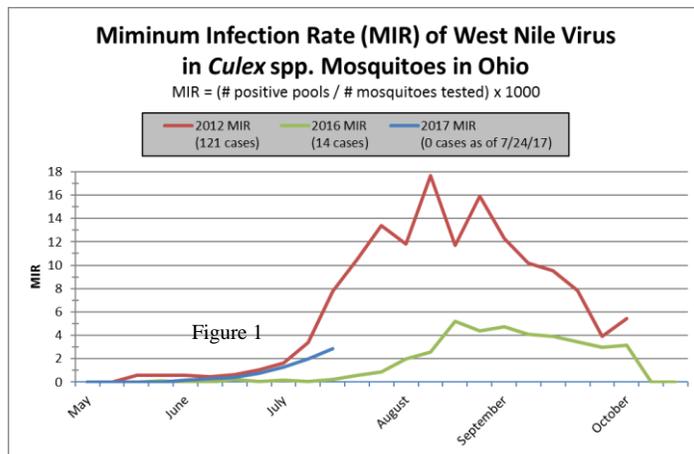




EPI Gram is a monthly publication of the Stark County Public Health Infrastructure Coalition. It contains a summary of provisional communicable disease reports and other key public health indicators, with summary tables for Stark County, Ohio. Some reportable conditions may be under investigation and, 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: West Nile Virus Disease

Although none of the health departments in Stark County have received a human case of West Nile virus disease (WNV) since 2015, the Ohio Arbovirus Surveillance program is reporting an increase in the number of WNV infected mosquitoes for 2017. Stark County is one of 13 Ohio counties with current WNV activity reported through this surveillance program. The program also collects data on the minimum infection rates (MIR) in *Culex pipiens* mosquitoes, or the northern house mosquito (the species responsible for carrying WNV). As of July 24, 2017, the MIR is increasing earlier this year than what is seen historically during a non-outbreak year. Figure 1 provides a comparison of weekly WNV infection rates of mosquitoes collected and tested in 2012 (the most recent WNV Outbreak year), 2016 and 2017. No human cases have been reported in Ohio as of July 24, 2017, but the risk for human disease will increase significantly as we enter peak months and the MIR continues to increase. (**Update:** One case of WNV was diagnosed in Ohio in August, 2017).



Preliminary diagnosis is often based on the patient's clinical features, places and dates of travel (if patient is from a non-endemic country or area), activities and epidemiologic history of the location where infection occurred. Laboratory diagnosis of West Nile virus infections is generally accomplished by testing of serum or CSF to detect virus-specific IgM and neutralizing antibodies. The presence of West Nile virus IgM antibodies is usually good evidence of recent West Nile virus infection, but may indicate infection with another closely related flavivirus (e.g., St. Louis encephalitis). The plaque reduction neutralization test (PRNT) is recommended for differentiating between flavivirus infections. Because West Nile virus IgM antibodies can remain detectable in some patients for >1 year, a positive IgM antibody test result occasionally may reflect past infection unrelated to the current illness.

Approximately 80 percent of people who are infected with WNV will not show any symptoms at all. Those who do develop symptoms usually do so between three to 14 days after they are bitten by the infected mosquito.

- **Neuroinvasive disease with serious symptoms in a few people.** About one in 150 people infected with WNV will develop severe illness. The severe symptoms can include high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness, paralysis and meningitis, encephalitis or acute flaccid paralysis (ASP). These symptoms may last several weeks, and neurological effects may be permanent.
- **Non-neuroinvasive disease with milder symptoms in some people.** Up to 20 percent of people who become infected will have symptoms that can include fever, headache, body aches, nausea, vomiting and sometimes swollen lymph glands or a skin rash on the chest, stomach and back. Symptoms can last for a few days to as long as several weeks.

For more information: <https://www.cdc.gov/westnile/index.html>

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

	July 2017				August 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	15	1	5	N/A	80	5	15	N/A
Mold Count	6400	1600	2430	Low	8360	1600	3790	(5) Moderate
Air Quality Index	93	34	46.5	(7) Moderate	79	30	48	(8) 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

	July 2017	YTD 2017	2016
Live Births	384	2375	4190
Births to Teens	17	170	263
Deaths	289	2547	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	
	July	YTD	July	YTD	July	YTD	July	YTD	July	YTD
Amebiasis	0	0	0	0	0	1	0	0	0	1
Babesiosis	0	0	0	0	0	0	0	1	0	1
Campylobacteriosis	0	0	4	16	0	0	12	30	16	46
Chlamydia infection	19	80	58	469	13	135	49	411	139	1095
Creutzfeldt-Jakob Disease	1	1	0	0	0	0	0	0	1	1
Cryptosporidiosis	1	1	0	1	0	1	1	9	2	12
Cyclosporiasis	0	0	0	0	0	0	1	2	1	2
E. coli, Shiga Toxin-Producing	0	0	0	1	1	1	3	5	4	7
Giardiasis	0	0	0	1	0	1	2	9	2	11
Gonococcal infection	0	7	25	206	1	22	11	82	37	317
Haemophilus influenzae	0	0	0	2	0	0	0	5	0	7
Hepatitis A	1	1	0	0	0	1	0	4	1	6
Hepatitis B - Perinatal Infection	0	0	0	0	0	0	0	3	0	3
Hepatitis B - acute	0	1	0	2	0	1	0	1	0	5
Hepatitis B - chronic	0	1	2	12	0	3	2	20	4	36
Hepatitis C - acute	0	0	0	1	1	1	0	0	1	2
Hepatitis C - chronic	0	21	1	64	3	21	11	80	15	186
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	0	2	0	0	4	7	4	10
Lyme Disease	0	0	3	5	0	0	0	10	3	15
Meningitis - aseptic/viral	0	0	2	8	1	1	1	11	4	20
Mumps	0	0	0	1	1	1	0	1	1	3
Pertussis	0	0	0	2	0	0	0	6	0	8
Salmonellosis	1	4	0	3	0	0	5	15	6	22
Shigellosis	0	0	0	1	0	0	0	2	0	3
Spotted Fever Rickettsiosis, including Rocky Mountain spotted fever (RMSF)	0	0	0	0	0	0	0	1	0	1
Streptococcal - Group A -invasive	0	0	0	3	0	2	0	10	0	15
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	6	1	3	1	12	2	23
Streptococcus pneumoniae - invasive antibiotic resistant/intermediate	0	2	0	4	0	4	0	2	0	12
Syphilis, Total	0	2	1	6	0	1	0	7	1	16
> Syphilis, Primary, Secondary and Early Latent	0	1	1	3	0	1	0	1	1	6
Tuberculosis	0	0	0	1	0	0	0	2	0	3
Varicella	0	0	0	2	0	1	2	4	2	7
Vibriosis (not cholera)	0	0	0	0	0	0	0	2	0	2
West Nile virus disease (also current infection)	0	0	0	0	0	0	0	0	0	0
Yersiniosis	0	0	0	1	0	0	0	5	0	6
Total	23	143	97	904	22	224	105	925	245	2174

Source: Ohio Disease Reporting System, downloaded 08/07/2017.



Alliance City Health Department
cityofalliance.com/health



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)

	Jul-17	Jul-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	0	0	0	1	0.4	0.107
Babesiosis	0	0	1	0	0	0.2	0.053
Brucellosis	0	0	0	0	0	0.2	0.053
Campylobacteriosis	16	8	46	45	83	69.4	18.499
Chlamydia	139	151	1095	1084	1899	1611.4	429.518
Coccidioidomycosis	0	0	0	0	1	0.6	0.160
Creutzfeldt-Jakob Disease	1	0	1	1	2	0.6	0.160
Cryptosporidiosis	2	5	12	16	47	35.4	9.425
Cyclosporiasis	1	2	2	3	4	1.2	0.320
Dengue	0	0	0	0	0	0.2	0.053
Escherichia coli , STP, Not O157:H7	4	1	7	8	16	4.0	1.065
Giardiasis	2	3	11	15	25	28.6	7.623
Gonorrhea	37	52	317	373	678	594.8	158.544
Haemophilus influenzae , Invasive	0	0	7	3	5	6.8	1.813
Hemolytic Uremic Syndrome (HUS)	0	0	0	0	0	0.2	0.053
Hepatitis A	1	1	6	1	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	4	6	36	33	56	39.2	10.449
Hepatitis C, Acute	1	0	2	5	7	7.0	1.866
Hepatitis C, Chronic	15	29	186	175	326	279.0	74.367
Hepatitis E	0	0	0	1	1	0.2	0.053
Influenza-associated hospitalization	0	0	284	158	196	273.8	72.981
Influenza-associated pediatric mortality	0	0	0	0	0	0.2	0.053
LaCrosse virus disease	0	0	0	0	1	0.4	0.107
Legionellosis	4	2	10	6	16	15.6	4.158
Listeriosis	0	0	0	1	1	1.2	0.320
Lyme Disease	3	2	15	12	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	4	4	20	13	30	28.4	7.570
Meningitis, Other Bacterial	0	1	0	2	5	3.8	1.013
Meningococcal Disease	0	0	0	0	0	1.0	0.267
Mumps	1	0	3	2	2	2.4	0.640
Pertussis	0	3	8	16	31	37.4	9.969
Q fever, acute	0	0	0	0	0	0.4	0.107
Q fever, chronic	0	0	0	0	0	0.0	0.000
Salmonellosis	6	5	22	24	51	44.8	11.941
Shigellosis	0	0	3	3	8	35.6	9.489
Spotted Fever Rickettsiosis	0	0	1	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	1	15	6	10	12.8	3.412
Streptococcal Dis, Group B, in Newborn	0	1	1	1	4	1.8	0.480
Streptococcal Toxic Shock Syndrome	0	0	0	0	1	1.0	0.267
Streptococcus pneumoniae - invasive antibiotic resistance unknown or non-resistant	2	0	23	29	37	36.0	9.596
Streptococcus pneumo - inv antibiotic resistant/intermediate	0	1	12	14	16	117.8	4.745
Syphilis, Total	1	1	16	11	21	12.0	3.195
Syphilis, Primary, Secondary and Early Latent	1	1	6	7	15	7.6	2.024
Toxic Shock Syndrome (TSS)	0	0	0	0	0	0.8	0.213
Tuberculosis	0	0	3	1	2	1.2	0.320
Thyphoid Fever	0	0	0	0	0	0.4	0.107
Varicella	2	1	7	22	35	29.4	7.837
Vibriosis - other (not cholera)	0	0	2	2	4	1.8	0.480
Vibrio parahaemolyticus infection	0	0	0	0	0	0.2	0.053
West Nile Virus	0	0	0	0	0	0.6	0.160
Yersiniosis	0	0	6	3	9	4.6	1.226
Zika virus infection	0	0	0	3	5	1.0	0.267

Source: Ohio Disease Reporting System, downloaded 08/07/2017. Rates are per 100K population and based on 5 yr average incidence '12-'16.