

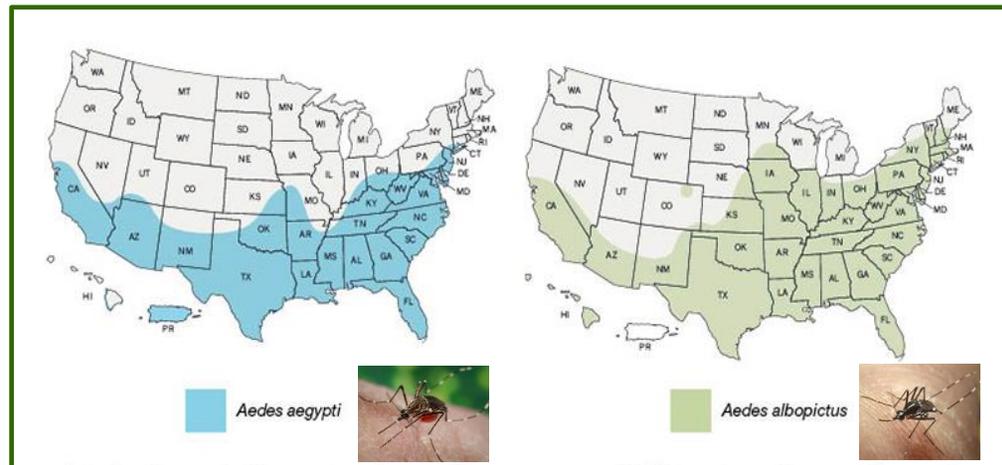
*EPI Gram* is a monthly publication of the Stark County Public Health Infrastructure Coalition. It contains a summary of provisional communicable disease reports and other key public health indicators, with summary tables for Stark County, Ohio. Some reportable conditions may be under investigation and, at any given time, data may fluctuate from month to month for a specific category.

**Monthly Highlight: Mosquitoes and Flaviviruses**

Recently the *Aedes aegypti* and *Aedes albopictus* mosquitoes have received notable attention due to the current research on the Zika Virus Disease and its correlation with birth defects among infected pregnant women. However, these two mosquitoes also transmit Dengue, Chikungunya Virus Infection, and Yellow Fever. Outside of Chikungunya, these are all known as flaviviruses, a specific family of viruses. In addition to being transmitted by the same mosquito they also share similar symptoms. Zika, Dengue, and Chikungunya all cause febrile illness, rash, muscle and joint pain. If an individual has these acute symptoms and has recently traveled to a country with ongoing transmission of these illnesses then all should be considered during diagnosis.

During the first week of illness viral RNA can be identified in the serum from the preferred RT-PCR. However, the presence of viruses in the blood decreases over time and a negative result from this test collected even five days after symptom onset does not exclude a flavivirus infection. Virus specific IgM antibodies may be detectable four or more days after symptom onset, but are not reliable until after seven days. This is due to the time it takes for the body to build up antibodies when fighting an infection. IgM antibodies usually remain detectable for up to twelve weeks. Though a negative RT-PCR or IgM antibody test would suggest there is no infection it does not rule it out. In addition, the IgM antibody assay cannot reliably distinguish between different flaviviruses. A plaque-reduction neutralization test (PRNT) can then be used to measure specific neutralizing antibodies and help distinguish the specific cause of infection. Unfortunately this test is quite cumbersome and takes a bit more time to complete. Many of these flaviviruses infect individuals, but leave them without symptoms. Testing for infection among individuals without symptoms is still uncertain.

The Distribution of *Aedes aegypti* and *Aedes albopictus* mosquitoes in the United States. <http://www.cdc.gov/chikungunya/resources/vector-control.html>



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

	June 2016				July 2015			
	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	300	4	32.5	N/A	20	1	5	N/A
Mold Count	6,190	410	2,195	0 (Absent)	7,390	1,490	3,560	1 (Low)
Air Quality Index	92	33	56.5	12 (Moderate)	93	40	49.5	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 the Canton City Health Department.

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

	June 2016	YTD 2016	2015
Live Births	334	2,090	4,314
Births to Teens	18	152	308
Deaths	363	2,317	4,362

Birth and death data is reported by the four health districts and may include non county residents.

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

	2010	2011	2012	2013	2014
Birth	10.8	10.8	10.9	11.2	12.0
Death	10.9	11.3	11.4	11.3	11.4

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

**Table 4: Jurisdictional Summary of Reportable Diseases in Stark County**

	Alliance City		Canton City		Massillon City		Stark County		Total	
	June	YTD	June	YTD	June	YTD	June	YTD	June	YTD
Campylobacteriosis	0	0	4	12	0	0	9	26	13	38
Chlamydia infection	6	60	72	468	13	92	59	346	150	966
Creutzfeldt-Jakob Disease	0	0	0	0	0	0	1	1	1	1
Cryptosporidiosis	0	1	0	3	0	2	2	7	2	13
Cyclosporiasis	0	0	0	0	0	0	1	1	1	1
E. coli, Shiga Toxin-Producing	0	0	0	1	0	1	1	6	1	8
Giardiasis	1	1	0	5	0	0	2	7	3	13
Gonococcal infection	3	24	29	216	2	20	9	76	43	336
Haemophilus influenzae	0	0	0	2	0	0	0	1	0	3
Hepatitis A	0	0	0	1	0	0	0	0	0	1
Hepatitis B – acute	0	0	1	1	0	0	0	2	1	3
Hepatitis B - chronic	0	0	1	10	1	3	1	16	3	29
Hepatitis B - perinatal	0	0	1	1	0	0	2	3	3	4
Hepatitis C - acute	0	0	1	2	0	1	1	2	2	5
Hepatitis C - chronic	3	17	13	60	6	22	14	71	36	170
Hepatitis E	0	0	0	0	0	0	0	1	0	1
Influenza-associated hospitalization	0	7	0	47	0	24	0	80	0	158
Influenza-associated pediatric mortality	0	0	0	0	0	0	0	0	0	0
Legionellosis	0	1	0	0	0	0	2	5	2	6
Listeriosis	0	0	0	0	0	0	0	1	0	1
Lyme Disease	0	1	1	3	1	1	1	6	3	11
Malaria	0	0	0	0	0	1	0	0	0	1
Measles - indigenous to Ohio	0	0	0	0	0	0	0	1	0	1
Meningitis - aseptic/viral	0	0	1	1	0	0	1	8	2	9
Meningitis-bacterials (not N. meningitides)	0	0	0	0	0	0	0	1	0	2
Mumps	0	0	0	1	0	0	0	1	0	2
Mycobacterial Disease- other than tuberculosis	0	0	3	3	0	0	1	16	4	19
Other Arthropod-borne Disease	0	0	0	1	0	0	0	2	0	3
Pertussis	0	0	0	3	0	5	2	5	2	13
Q fever, acute	0	0	0	0	0	0	0	1	0	1
Salmonellosis	0	1	0	4	0	2	6	15	6	22
Shigellosis	1	1	0	1	0	0	1	1	2	3
Staphylococcal aureus	0	0	0	1	0	0	0	0	0	1
Streptococcal-Group A, invasive	0	0	0	3	0	0	0	2	0	5
Streptococcus pneumoniae - invasive antibiotic resistance unknown or non-resistant	0	1	0	10	0	4	0	14	0	29
Streptococcus pneumoniae - invasive antibiotic resistant/intermediate	0	0	0	5	0	1	1	7	1	13
Syphilis, Total	1	3	1	6	0	0	0	1	2	10
➤ Primary, Secondary and Early Latent	0	1	1	4	0	0	0	0	1	5
Tuberculosis	0	0	0	0	0	0	1	1	1	1
Varicella	0	1	0	6	0	3	0	12	0	22
Vibriosis (not cholera)	0	0	0	1	0	0	0	1	0	2
Yersiniosis	0	1	0	0	0	0	0	2	0	3
<b>Total</b>	<b>14</b>	<b>117</b>	<b>127</b>	<b>827</b>	<b>23</b>	<b>182</b>	<b>119</b>	<b>750</b>	<b>283</b>	<b>1,921</b>

Source: Ohio Disease Reporting System, downloaded 07/11/2016.

**Table 5 – Summary Table of Diseases Reported in the Previous 5 years within Stark County (Provisional Data)**

	June 2016	June 2015	YTD 2016	YTD 2015	All of 2015	5 Yr Annual Average	5 Yr. Annual Rate
Amebiasis	0	0	0	1	1	0.2	0.053
Babesiosis	0	0	0	1	1	0.2	0.053
Brucellosis	0	0	0	0	0	0.2	0.053
Campylobacteriosis	13	10	38	26	59	61.0	16.235
Chlamydia	150	152	966	764	1,702	1,539.0	409.596
Coccidioidomycosis	0	0	0	0	0	0.4	0.106
Creutzfeldt-Jakob Disease	1	0	1	0	0	0.6	0.160
Cryptosporidiosis	2	0	13	7	30	29.2	7.771
Cyclosporiasis	1	1	1	1	1	0.4	0.106
Dengue	0	0	0	0	0	0.6	0.160
Ehrlichiosis/ Anaplasmosis	0	0	0	0	0	0.4	0.106
Escherichia coli, Shiga Toxin-Producing	1	0	8	3	17	6.8	1.810
Giardiasis	3	2	13	10	29	36.2	9.634
Gonorrhea	43	47	336	212	530	586.8	156.173
Haemophilus influenzae , Invasive	0	2	3	7	8	7.4	1.969
Hemolytic Uremic Syndrome (HUS)	0	0	0	0	0	0.2	0.053
Hepatitis A	0	0	1	2	5	5.8	1.544
Hepatitis B, Perinatal	3	0	4	2	5	3.4	0.905
Hepatitis B, Acute	1	0	3	1	4	5.0	1.331
Hepatitis B, Chronic	3	2	29	22	45	33.6	8.942
Hepatitis C, Acute	2	0	5	7	13	7.8	2.076
Hepatitis C, Chronic	36	40	170	180	374	275.8	73.403
Hepatitis E	0	0	1	0	0	0.2	0.053
Influenza-associated hospitalization	0	0	158	281	284	263.6	70.156
Influenza-associated pediatric mortality	0	0	0	0	0	0.2	0.053
LaCrosse virus disease	0	0	0	0	0	0.4	0.106
Legionellosis	2	5	6	7	19	14.2	3.779
Listeriosis	0	0	1	0	1	1.4	0.373
Lyme Disease	3	4	11	7	18	13.6	3.620
Malaria	0	0	1	0	0	0.6	0.160
Measles (indigenous to Ohio)	0	0	1	0	0	1.8	0.479
Meningitis, Aseptic	2	1	9	9	31	35.2	9.368
Meningitis, Other Bacterial	0	1	1	2	3	3.4	0.905
Meningococcal Disease	0	0	0	3	3	1.2	0.319
Mumps	0	0	2	3	4	2.0	0.532
Mycobacterial disease - Not TB	4	1	19	10	36	31.0	8.250
Other arthropod-borne disease	0	0	3	0	0	0.2	0.052
Pertussis	2	6	13	30	51	34.6	9.209
Q fever, acute	0	0	1	0	0	0.4	0.106
Salmonellosis	6	9	22	23	53	41.6	11.072
Shigellosis	2	1	3	2	6	34.4	9.155
Spotted Fever Rickettsiosis	0	0	0	0	0	0.4	0.106
Staphylococcal aureaus	0	0	1	0	0	0.0	0.000
Streptococcal Dis, Group A, Invasive	0	0	5	5	9	15.2	4.045
Streptococcal Dis, Group B, in Newborn	0	0	0	0	0	1.6	0.426
Streptococcal Toxic Shock Syndrome	0	0	0	1	1	1.2	0.319
Streptococcus pneumo. – inv. antibiotic resistance unknown or non-resistant	0	0	29	12	29	36.8	9.794
Streptococcus pneumo. – inv. antibiotic resistant/intermediate	1	1	13	12	15	17.8	4.737
Syphilis, Total	2	1	10	7	7	10.4	2.768
> Syphilis, Primary, Secondary and Early Latent	1	1	5	5	5	6.6	1.757
Toxic Shock Syndrome (TSS)	0	0	0	0	1	0.8	0.213
Tuberculosis	1	0	1	0	1	1.0	0.266
Typhoid Fever	0	0	0	0	0	0.4	0.106
Typhus Fever	0	0	0	0	0	0.2	0.053
Varicella	0	2	22	13	26	29.2	7.771
Vibriosis - other (not cholera)	0	1	2	2	3	1.2	0.319
Vibriosis parahaemolyticus	0	0	0	0	0	0.2	0.053
West Nile Virus	0	0	0	0	1	0.6	0.160
Yersiniosis	0	0	3	3	8	2.8	0.745

Source: Ohio Disease Reporting System, downloaded 07/11/16. Rates are per 100K population and based on 5 yr average incidence '11-'15.