

EPI GRAM July, 2019

A Monthly Publication of the Stark Public Health Infrastructure Coalition

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: Varicella

In Ohio, varicella (or chicken pox) is a Class B reportable disease, which requires cases, suspect cases or positive laboratory results to be reported to local public health by the end of the next business day. Laboratory confirmation of cases of varicella is not routinely recommended outside of an outbreak setting. Because of this, the majority of cases are classified as probable, meaning they meet the clinical case definition only (an illness with acute onset of diffuse (generalized) papulovesicular rash without other apparent cause). Two probable cases that are epidemiologically linked are considered confirmed, even in the absence of laboratory confirmation.

Because of the lack of laboratory testing, cases of varicella in Stark County might be under-reported. Currently, the majority of cases reported to local public health are through Varicella reporting forms often initiated by school nurses (versus physician's offices or laboratories). Our county 5-year annual average is at 24.2/year, but has shown a steady decrease over the last 10 years (Figure 1). However, through July 2019, Stark County has recorded 15 cases, which is one less case than what was reported in all of 2018. Sixty percent of the 2019 cases have been connected with a cluster or an outbreak, either associated with a familial unit or a daycare center. An outbreak of varicella is defined as the occurrence of five or more cases in a specific setting (e.g. school) that are epidemiologically linked. A cluster is defined as three to four cases. Clusters should also be reported and investigated in the same manner as an outbreak.

Vaccination against varicella is key to prevention. A live attenuated varicella vaccine was licensed in the United States in 1995. Studies show that one dose of varicella vaccine is 85% effective and that two doses will provide additional protection (88 to 98% vaccine effectiveness). Starting in the 2010-2011 school year, Ohio required all students to receive two doses of varicella vaccine for school entry. It is important to note that the CDC's Advisory Committee on Immunization Practices (ACIP) did not recommend the second dose of varicella vaccine until 2006. Although the introduction of the single dose vaccine prompted widespread use of the vaccine with a coverage rate of 88%, and the vaccine had proven to be 85% effective, with an 87% decline in hospitalizations, 66% decline in deaths, and an 87% decline in costs between 1995 and 2001, sporadic outbreaks continued to occur in schools—even where high rates of immunization were achieved. Varicella outbreaks involved both infections in unvaccinated children and “breakthrough disease” in those who had been vaccinated. If a vaccinated person is exposed to varicella, the risk of suffering a breakthrough infection is about 15%. A 2-dose series of varicella vaccine reduces the risk by about 75%. It was this ongoing risk of varicella that prompted the ACIP to recommend this change. This change has created a cohort of mid-late adolescents and 20 year olds who may not have received their ‘catch up’ second dose and who may be more susceptible to illness.

For more information: <https://www.cdc.gov/chickenpox/vaccination.html>

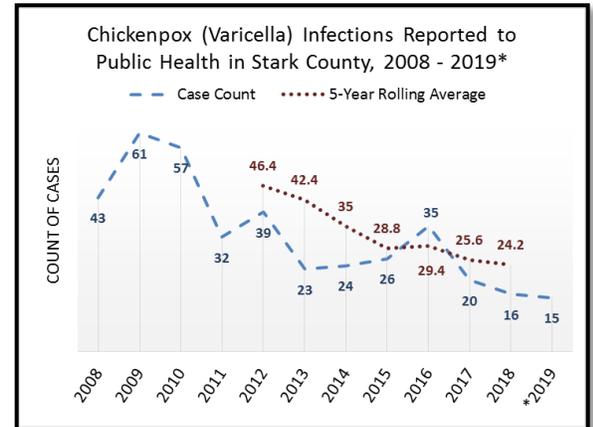


Figure 1: *2019 case count is current through 7/31/2019

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

	July 2019				August 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	22	1	4	n/a	163	1	42	n/a
Mold Count	8500	880	2530	(2) Moderate	6680	2220	4100	(1) Moderate
Air Quality Index	100	36	52	(11) Moderate	71	40	51	(12) 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 Canton City Public Health

Table 2 Select Vital Statistics for Stark County

	July 2019	YTD 2019	2018
Live Births	333	2439	4060
Births to Teens	17	159	230
Deaths	314	2499	4230*

* Death data are preliminary

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	11.4*

*Source: Ohio Department of Health Data Warehouse. Rates are per 1,000 population. 2018 death data are preliminary.

Table 4: Jurisdictional Summary of Reportable Diseases in Stark County, OH (Provisional Data)	Alliance City		Canton City		Massillon City		Stark County		All Departments	
	Jul	YTD	Jul	YTD	Jul	YTD	Jul	YTD	Jul	YTD
Campylobacteriosis	0	0	2	7	0	3	9	38	11	48
Chlamydia infection	12	88	74	473	16	98	68	391	170	1050
CP-CRE	0	0	0	3	0	4	1	7	1	14
Creutzfeldt-Jakob Disease	0	0	0	0	0	0	0	2	0	2
Cryptosporidiosis	0	3	1	2	0	0	5	17	6	22
Cyclosporiasis	0	0	1	1	0	0	2	3	3	4
E. coli, Shiga Toxin-Producing	0	0	0	1	0	2	0	3	0	6
Giardiasis	0	0	1	3	1	2	0	7	2	12
Gonococcal infection	2	19	23	192	2	35	18	83	45	329
Haemophilus influenzae (invasive disease)	0	0	0	1	0	0	0	2	0	3
Hepatitis A	1	2	0	1	0	3	2	7	3	13
Hepatitis B - Perinatal Infection	0	0	0	0	0	0	0	1	0	1
Hepatitis B (including delta) - acute	1	1	1	3	0	2	0	0	2	6
Hepatitis B (including delta) - chronic	1	2	1	12	0	3	3	24	5	41
Hepatitis C - acute	0	0	1	1	0	0	0	0	1	1
Hepatitis C - chronic	5	17	10	75	8	26	10	90	33	208
Hepatitis C - Perinatal Infection	0	0	1	1	0	0	1	2	2	3
Hepatitis E	0	0	0	0	0	0	0	1	0	1
Immigrant Investigation	0	0	0	0	0	0	0	3	0	3
Influenza-associated hospitalization	0	15	1	115	0	32	2	250	3	412
Legionellosis - Legionnaires' Disease	0	1	1	4	0	2	0	5	1	12
Listeriosis	0	0	0	0	0	0	1	2	1	2
Lyme Disease	1	1	1	1	0	0	13	29	15	31
Measles - imported from outside Ohio	0	0	0	0	0	0	1	1	1	1
Measles - indigenous/imported Status Not Determined	0	0	1	1	0	0	0	0	1	1
Meningitis - aseptic/viral	0	1	1	2	0	3	2	2	3	8
Meningitis - bacterial (Not N. meningitidis)	0	0	0	0	0	0	1	1	1	1
Mumps	0	0	0	0	0	0	0	1	0	1
Pertussis	0	2	2	9	0	2	3	17	5	30
Salmonellosis	0	0	0	3	0	3	3	12	3	18
Shigellosis	0	0	0	3	0	0	0	18	0	21
Streptococcal - Group A -invasive	0	0	0	2	0	1	1	8	1	11
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	0	3	0	0	0	10	0	14
Streptococcus pneumoniae - inv antibiotic resistant/intermediate	0	2	0	1	0	2	0	3	0	8
Syphilis, Total	0	2	2	11	1	1	1	8	4	22
➤ Syphilis, Primary, Secondary and Early Latent	0	2	0	6	1	1	1	7	2	16
Tuberculosis	0	0	0	1	0	0	1	2	1	3
Varicella	0	0	0	6	0	1	0	8	0	15
Vibriosis (not cholera)	0	0	0	0	0	1	0	0	0	1
Yersiniosis	0	0	0	0	0	0	1	3	1	3
Total	23	157	125	938	28	226	149	1062	325	2383

Source: Ohio Disease Reporting System, downloaded 08/12/2019



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Table 5 – Summary Table of Diseases Reported in the Previous 5 years within Stark County (Provisional Data)	Jul-19	Jul-18	YTD 2019	YTD 2018	All of 2018	5 Yr Annual Average	Rate
Amebiasis	0	0	0	0	0	0.4	0.107
Anaplasmosis	0	1	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	11	18	48	48	85	77.6	20.761
Chlamydia	170	130	1050	979	1712	1720.0	460.169
CP-CRE	1	3	14	7	23	24.0	6.421
Coccidioidomycosis	0	0	0	0	0	0.4	0.107
Creutzfeldt-Jakob Disease	0	0	2	0	1	1.2	0.321
Cryptosporidiosis	6	7	22	18	33	33.8	9.043
Cyclosporiasis	3	6	4	7	8	3.0	0.803
E. coli, Shiga Toxin-Producing	0	3	6	10	17	14.0	3.746
Giardiasis	2	2	12	11	23	21.8	5.832
Gonorrhea	45	58	329	329	641	580.2	155.227
Haemophilus influenzae , Invasive	0	0	3	2	4	6.4	1.712
Hemolytic Uremic Syndrome (HUS)	0	0	0	0	0	0.2	0.054
Hepatitis A	3	0	13	3	11	7.6	2.033
Hepatitis B, Perinatal	0	0	1	0	1	1.8	0.482
Hepatitis B, Acute	2	2	6	7	11	6.4	1.712
Hepatitis B, Chronic	5	11	41	54	84	57.6	15.410
Hepatitis C, Acute	1	1	1	4	7	6.2	1.659
Hepatitis C, Chronic	33	34	208	192	301	313.0	83.740
Hepatitis C - Perinatal Infection	2	0	3	0	4	4.0	1.070
Hepatitis E	0	0	1	0	0	0.2	0.054
Influenza-associated hospitalization	3	0	412	580	595	379.0	101.398
LaCrosse virus disease	0	1	0	2	4	1.0	0.268
Legionellosis	1	3	12	13	33	18.0	4.816
Listeriosis	1	0	2	0	1	1.0	0.268
Lyme Disease	15	11	31	21	38	24.0	6.421
Malaria	0	0	0	0	0	0.4	0.107
Measles - imported from outside Ohio	1	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	1	0	1	0	0	0.0	0.000
Meningitis, Aseptic	3	4	8	22	46	34.6	9.257
Meningitis, Other Bacterial	1	1	1	3	4	3.4	0.910
Meningococcal Disease	0	0	0	0	0	1.0	0.268
Mumps	0	0	1	2	2	3.2	0.856
Pertussis	5	5	30	31	54	50.4	13.484
Q fever, chronic	0	0	0	0	0	0.2	0.054
Salmonellosis	3	8	18	32	61	47.8	12.788
Shigellosis	0	1	21	22	25	26.2	7.010
Spotted Fever Rickettsiosis	0	1	0	3	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	11	22	25	15.2	4.067
Streptococcal Dis, Group B, in Newborn	0	1	1	1	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	0	1	14	19	29	30.6	8.187
Streptococcus pneumo - inv antibiotic resistant/intermediate	0	0	8	4	10	13.4	3.585
Syphilis, Total	4	1	22	16	33	19.4	5.190
> Syphilis, Primary, Secondary and Early Latent	2	0	16	7	20	11.8	3.157
Toxic Shock Syndrome (TSS)	0	0	0	0	0	0.2	0.054
Tuberculosis	1	0	3	1	5	2.4	0.642
Varicella	0	1	15	8	16	24.2	6.474
Vibriosis - other (not cholera)	0	0	1	0	1	2.2	0.589
Vibrio parahaemolyticus infection	0	0	0	0	0	0.0	0.000
West Nile Virus	0	0	0	0	8	2.2	0.589
Yersiniosis	1	0	3	1	3	6.4	1.712
Zika virus infection	0	0	0	0	0	1.0	0.268

Source: Ohio Disease Reporting System, downloaded 08/12/2019. Rates are per 100K population and based on 5 yr average incidence '14 – '18.