

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: Colistin-resistant bacteria

In a May 2016 study published in the Antimicrobial Agents and Chemotherapy Journal, (a publication of the American Society for Microbiology), the first case of an *E. Coli* infection resistant to the antibiotic colistin was discovered in a 49 year old Pennsylvanian woman. It is the first time this colistin-resistant strain has been identified in a person in the United States. Although the patient’s strain of *E. Coli* could still be treated with other antibiotics, this discovery was of concern because colistin is an antibiotic of last resort for particularly dangerous types of “superbugs” and other bacteria with known resistance to antibiotics. With a now noted resistance to colistin, researchers worry that other bacteria may develop the colistin-resistance gene, known as *mcr-1*, and evade other antibiotics, seriously limiting routine treatment options. The *mcr-1* gene exists on a plasmid, a small piece of DNA that is not a part of a bacterium’s chromosome. Plasmids are capable of moving from one bacterium to another, sharing the gene with the antibiotic-resistant DNA among bacteria and spreading antibiotic resistance between bacterial species.

A coordinated public health response is underway to try to prevent its spread, beginning with the Department of Defense’s response to the finding of the *mcr-1* in a human isolate, and working with the CDC, the Pennsylvania Department of Health, local health departments and others to identify close contacts, including household and healthcare contacts, of the Pennsylvania patient to determine whether any of them may have been at risk for transmission of the bacteria containing the *mcr-1* gene.

Each year in the United States, at least 2 million people become infected with bacteria that are resistant to antibiotics and at least 23,000 people die each year as a direct result of these infections.

In 2013, CDC published a report outlining the top 18 drug-resistant threats to the United States. These threats were categorized based on level of concern: urgent, serious, and concerning, and can be found here: https://www.cdc.gov/drugresistance/biggest_threats.html

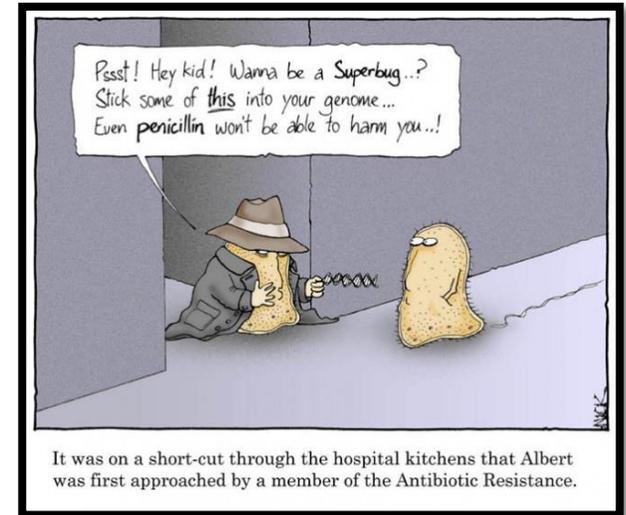


Table 1 Summary of Air Quality Index, Pollen, and Mold Counts for Stark County, Ohio, including historical data.

	May 2016				June 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	900	35	165	N/A	125	3	20	N/A
Mold Count	5950	400	990	Low	6580	1400	3540	1 Moderate
Air Quality Index	122	30	46	2 Unhealthy for Sensitive Groups	94	33	43.5	2 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 Summaries of Select Vital Statistics for Stark County

	May 2016	YTD 2016	2015
Live Births	327	1872	4,314
Births to Teens	22	73	308
Deaths	366	1946	4,362

Birth and Death Data is reported by the 4 health districts and may include non county residents.

If you have any questions, including how to receive copies of this report, please contact Julia Wagner at 330.493.9904 or Wagnerj@starkhealth.org or Amanda Archer at 330.489.3327 or aarcher@cantonhealth.org.

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, OH

(Provisional Data)

	Alliance City		Canton City		Massillon City		Stark County		All Departments	
	May	YTD	May	YTD	May	YTD	May	YTD	May	YTD
Campylobacteriosis	0	0	0	7	0	0	3	17	3	24
Chlamydia infection	12	50	54	385	20	80	59	270	145	785
Cryptosporidiosis	1	1	1	3	0	2	1	4	3	10
E. coli, Shiga Toxin-Producing	0	0	1	1	0	0	2	5	3	6
Giardiasis	0	0	0	4	0	0	1	5	1	9
Gonococcal infection	6	19	22	178	2	17	11	64	41	278
Haemophilus influenzae	0	0	1	2	0	0	0	1	1	3
Hepatitis B - Perinatal Infection	0	0	0	0	0	0	0	1	0	1
Hepatitis B - acute	0	0	0	0	0	0	0	1	0	1
Hepatitis B - chronic	0	0	3	8	0	2	5	15	8	25
Hepatitis C - acute	0	0	0	1	0	1	0	1	0	3
Hepatitis C - chronic	4	14	12	47	1	15	8	58	25	134
Hepatitis E	0	0	0	0	0	0	0	1	0	1
Immigrant Investigation	0	0	0	0	0	0	1	1	1	1
Influenza-associated hospitalization	1	7	1	47	0	24	5	79	7	157
Legionellosis	0	1	0	0	0	0	0	1	0	2
Listeriosis	0	0	0	0	0	0	0	1	0	1
Lyme Disease	0	1	1	2	0	0	0	5	1	8
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	0	0	0	0	0	7	0	7
Meningitis - bacterial (Not N. meningitidis)	0	0	0	0	0	0	0	1	0	1
Mumps	0	0	1	1	0	0	0	1	1	2
Mycobacterial disease - other than tuberculosis	0	0	0	0	0	0	3	15	3	15
Other arthropod-borne disease	0	0	0	1	0	0	0	2	0	3
Pertussis	0	0	0	3	0	5	0	3	0	11
Salmonellosis	0	1	1	4	0	2	1	6	2	13
Shigellosis	0	0	0	1	0	0	0	0	0	1
Streptococcal - Group A - invasive	0	0	0	3	0	0	1	2	1	5
Streptococcus pneumoniae - invasive antibiotic resistance unknown or non-resistant	1	1	0	10	1	4	6	14	8	29
Streptococcus pneumoniae - invasive antibiotic resistant/intermediate	0	0	0	5	1	1	1	6	2	12
Syphilis, Total	0	2	0	5	1	1	0	0	1	8
➤ Syphilis, Primary, Secondary and Early Latent	0	1	0	3	0	0	0	0	0	4
Tuberculosis	0	0	0	0	0	1	0	0	0	1
Varicella	0	1	0	6	0	3	2	11	2	21
Vibriosis (not cholera)	0	0	0	1	0	0	0	1	0	2
Yersiniosis	0	1	0	0	0	0	1	2	1	3
Total	25	100	98	728	26	159	111	602	260	1589

Source: Ohio Disease Reporting System, downloaded 06/09/2016.

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

	May-16	May-15	YTD 2016	YTD 2015	All of 2015	5 Yr Annual Average	Rate
Amebiasis	0	0	0	1	1	0.2	0.053
Anaplasmosis	0	0	0	0	0	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	3	7	24	16	58	61.0	16.241
Chlamydia	145	104	785	612	1651	1539.0	409.760
Coccidioidomycosis	0	0	0	0	0	0.4	0.107
Creutzfeldt-Jakob Disease	0	0	0	0	0	0.6	0.160
Cryptosporidiosis	3	0	10	7	30	29.2	7.775
Cyclosporiasis	0	0	0	0	1	0.4	0.107
Dengue	0	0	0	0	0	0.6	0.160
Escherichia coli , STP, Not O157:H7	3	1	6	3	17	4.4	1.172
Escherichia coli O157:H7	0	0	0	0	0	2.2	0.586
Escherichia coli , STP, Unk Serotype	0	0	0	0	0	0.2	0.053
Ehrlichiosis/Anaplasmosis	0	0	0	0	0	0.2	0.053
Giardiasis	1	2	9	8	28	36.2	9.638
Gonorrhea	41	29	278	164	510	586.8	156.236
Haemophilus influenzae , Invasive	1	2	3	5	8	7.4	1.970
Hemolytic Uremic Syndrome (HUS)	0	0	0	0	0	0.2	0.053
Hepatitis A	0	1	0	2	5	5.8	1.544
Hepatitis B, Perinatal	0	1	1	2	3	3.4	0.905
Hepatitis B, Acute	0	0	1	1	4	5.0	1.331
Hepatitis B, Chronic	8	2	25	20	43	33.6	8.946
Hepatitis C, Acute	0	0	3	7	13	7.8	2.077
Hepatitis C, Chronic	25	20	134	139	372	275.8	73.432
Hepatitis E	0	0	1	0	0	0.2	0.053
Influenza-associated hospitalization	7	9	157	281	284	263.6	70.184
Influenza-associated pediatric mortality	0	0	0	0	0	0.2	0.053
LaCrosse virus disease	0	0	0	0	0	0.4	0.107
Legionellosis	0	0	2	2	19	14.2	3.781
Listeriosis	0	0	1	0	1	1.4	0.373
Lyme Disease	1	0	8	3	18	13.6	3.621
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	0	1	7	8	30	35.2	9.372
Meningitis, Other Bacterial	0	0	1	1	3	3.4	0.905
Meningococcal Disease	0	0	0	3	3	1.2	0.320
Mumps	1	0	2	3	4	2.0	0.533
Mycobacterial disease - Not TB	3	1	15	9	23	31.0	8.254
Other arthropod-borne disease	0	0	3	0	0	0.2	0.053
Pertussis	0	0	11	24	45	34.6	9.212
Q fever, acute	0	0	0	0	0	0.4	0.106
Salmonellosis	2	8	13	14	50	41.6	11.076
Shigellosis	0	1	1	1	6	34.4	9.159
Spotted Fever Rickettsiosis	0	0	0	0	0	0.6	0.160
Streptococcal Dis, Group A, Invasive	1	0	5	5	9	15.2	4.047
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	0.320
Streptococcus pneumoniae - invasive antibiotic resistance unknown or non-resistant	8	3	29	11	27	36.8	9.800
Streptococcus pneumo - inv antibiotic resistant/intermediate	2	2	12	12	16	17.8	4.739
Syphilis, Total	1	3	8	4	7	10.4	2.769
Syphilis, Primary, Secondary and Early Latent	0	2	4	3	5	6.6	1.757
Toxic Shock Syndrome (TSS)	0	0	0	0	1	0.8*	0.213*
Tuberculosis	0	0	1	0	1	1.0	0.266
Thyphoid Fever	0	0	0	0	0	0.4	0.107
Typhus Fever	0	0	0	0	0	0.2	0.053
Varicella	2	6	21	11	26	29.2	7.775
Vibriosis - other (not cholera)	0	1	2	1	3	1.2	0.320
Vibriosis parahaemolyticus	0	0	0	0	0	0.2	0.053
West Nile Virus	0	0	0	0	1	0.6	0.160
Yersiniosis	1	1	3	3	8	2.8	0.746

Source: Ohio Disease Reporting System, downloaded 06/09/2016. Rates are per 100K population and based on 5 yr average incidence 09-13.*08-12 from ODH Stats pg.