

ANNUAL SUMMARY OF
**REPORTABLE
DISEASES**
2016

Columbus & Franklin County, Ohio



THE CITY OF
COLUMBUS
ANDREW J. GINTHER, MAYOR

**COLUMBUS
PUBLIC HEALTH**



Franklin County
Public Health

ANNUAL SUMMARY OF REPORTABLE DISEASES 2016

Columbus & Franklin County, Ohio

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Cover Image: This is a digitally-colored transmission electron microscopic (TEM) image of Zika virus, which is a member of the family Flaviviridae. Virus particles, here colored blue, are 40 nm in diameter, with an outer envelope, and an inner dense core. Image obtained from phil.cdc.gov.

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INTRODUCTION

Infectious diseases are illnesses caused by microorganisms such as bacteria, viruses, parasites and fungi. The route of transmission varies by disease and may include direct contact with contaminated body fluids or excretions, contact with contaminated objects, inhalation of contaminated airborne particles, ingestion of contaminated food or water, or transmission from an animal or vector (i.e., arthropod) carrying the microorganism.

According to Ohio Administrative Code 3701-3-02, cases and suspected cases of selected infectious diseases are required to be reported to state and local public health agencies. These “reportable diseases” or “reportable conditions” were determined to be of public health significance in Ohio. Many of these diseases must also be reported by state health departments to the Centers for Disease Control and Prevention (CDC) as part of national public health surveillance of infectious diseases.

For over 15 years, Columbus Public Health and Franklin County Public Health have joined forces to make the reporting, tracking and investigation of infectious disease cases easier and more convenient through the centralized Infectious Disease Reporting System (IDRS). This system provides early identification of potential outbreaks and new trends in infectious diseases. Infectious disease staff ensure proper investigation, timely follow-up of case reports, and interventions to prevent secondary cases.

The 2016 Annual Summary includes cases of reportable diseases that were diagnosed among residents of Columbus and Franklin County, reported to public health, and found to meet the public health surveillance definition of a confirmed, probable or suspected case. These data do not represent all cases of reportable infectious diseases that occurred in the community, as individuals may not seek medical care for mild or asymptomatic infections. Additionally, a reported case of disease may not meet the surveillance definition of a confirmed, probable or suspected case. Surveillance definitions are designed to standardize data collection and reporting across public health jurisdictions and may differ slightly from clinical definitions used in patient management. Outbreaks or media coverage of a particular disease can also influence testing and reporting rates. Data in this summary are considered provisional.

This summary is intended to be a resource for individuals and public health partners concerned about infectious diseases in Columbus and Franklin County. Further information on infectious diseases and reporting procedures may be obtained by contacting Columbus Public Health or Franklin County Public Health or by visiting www.IDRSinfo.org.

KEY FINDINGS:

- In 2016, 3,454 cases of infectious disease* were reported among Columbus City and Franklin County residents, compared to 2,281 cases reported in 2015.
- Franklin County’s total rate of infectious disease* increased from 182.2 cases per 100,000 population in 2015 to 273.1 cases per 100,000 in 2016.
- The rate of cryptosporidiosis increased annually from 2014 to 2016. Outbreaks in Central Ohio led to an unusually high rate in 2016 (75.8 cases per 100,000 population). See “Community Cryptosporidiosis Outbreak” on page 14 for more information.
- The rate of shigellosis increased for the second year in a row, from 3.7 cases per 100,000 in 2014 to 32.2 cases per 100,000 in 2016.
- Rates of chlamydia, gonorrhea, hepatitis C and syphilis increased annually from 2014 through 2016.

**Includes confirmed, probable and suspected cases of disease, excluding hepatitis B and C and sexually transmitted infections*

DEMOGRAPHIC PROFILE OF FRANKLIN COUNTY

FRANKLIN COUNTY POPULATION, 2016¹

- The population of Franklin County increased 1.02%, from 1.25 million in 2015 to over 1.26 million in 2016.
- In 2016, 51.2% of Franklin County residents were female and 48.8% were male.
- In 2016, 68.5% of Franklin County residents were White; 22.9% were Black or African American; 5.1% were Asian; 0.3% were American Indian or Alaskan Native; 0.1% were Native Hawaiian or Other Pacific Islanders; and 3.1% identified as two or more races.
- In 2016, 5.3% of Franklin County residents were Hispanic or Latino.

TABLE 1: FRANKLIN COUNTY POPULATION BY GENDER, 2016

GENDER	2016	
	POPULATION	PERCENT
Female	647,359	51.2
Male	617,159	48.8
Total	1,264,518	100

TABLE 3: FRANKLIN COUNTY POPULATION BY ETHNICITY, 2016

ETHNICITY	2016	
	POPULATION	PERCENT
Hispanic or Latino	67,019	5.3
Non-Hispanic or Non-Latino	1,197,499	94.7
Total	1,264,518	100

TABLE 2: FRANKLIN COUNTY POPULATION BY RACE, 2016

RACE	2016	
	POPULATION	PERCENT
White	866,195	68.5
Black or African American	289,575	22.9
Asian	64,490	5.1
American Indian and Alaska Native	3,793	0.3
Native Hawaiian and Other Pacific Islander	1,265	0.1
Two or more races	39,200	3.1
Total	1,264,518	100

TABLE 4: FRANKLIN COUNTY POPULATION BY AGE GROUP, 2015

AGE (YEARS)	2016	
	POPULATION	PERCENT
0-4	91,957	7.3
5-14	160,219	12.7
15-24	169,893	13.4
25-34	229,564	18.2
35-44	168,050	13.3
45-54	156,967	12.4
55-64	144,575	11.4
65-74	86,413	6.8
75-84	39,184	3.1
85+	17,696	1.4
Total	1,264,518	100

COUNTS & RATES OF REPORTABLE DISEASES

TABLE 5: ENTERIC DISEASES AMONG FRANKLIN COUNTY RESIDENTS, 2013-2016

Year:		2013				2014				2015				2016			
		Confirmed & Probable		All Statuses		Confirmed & Probable		All Statuses		Confirmed & Probable		All Statuses		Confirmed & Probable		All Statuses	
Population:		1,212,263		1,231,393		1,251,722		1,264,518									
CLASS	DISEASE NAME	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†
B	Amebiasis	2	0.2	2	0.2	2	0.2	3	0.2	3	0.2	8	0.6	8	0.6	8	0.6
B	Campylobacteriosis	130	10.7	138	11.4	78	6.3	89	7.2	113	9.0	172	13.6	172	13.6	172	13.6
A	Cholera	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	Cryptosporidiosis	24	2.0	30	2.5	35	2.8	37	3.0	75	6.0	107	8.5	931	73.6	958	75.8
B	Cyclosporiasis	3	0.2	3	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	<i>Escherichia coli</i> O157:H7 and Shiga toxin-producing <i>E. coli</i> (STEC)	48	4.0	57	4.7	46	3.7	52	4.2	51	4.1	60	4.8	47	3.7	83	6.6
B	Giardiasis	65	5.4	65	5.4	46	3.7	46	3.7	69	5.5	71	5.7	90	7.1	97	7.7
B	Hemolytic uremic syndrome (HUS)	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	2	0.2
B	Hepatitis A*	7	0.6	11	0.9	5	0.4	12	1.0	6	0.5	6	0.5	13	1.0	19	1.5
B	Hepatitis E*	0	0.0	0	0.0	0	0	1	0.1	0	0.0	0	0.0	1	0.1	3	0.2
B	Listeriosis	2	0.2	2	0.2	4	0.3	4	0.3	2	0.2	3	0.2	2	0.2	2	0.2
B	Salmonellosis	147	12.1	149	12.3	148	12.0	158	12.8	150	12.0	156	12.5	185	14.6	194	15.3
B	Shigellosis	290	23.9	292	24.1	46	3.7	46	3.7	172	13.7	176	14.1	385	30.4	407	32.2
B	Trichinellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1	1	0.1
B	Typhoid fever	0	0.0	3	0.2	2	0.2	3	0.2	3	0.2	4	0.3	3	0.2	3	0.2
B	Vibriosis	1	0.1	1	0.1	0	0.0	0	0.0	1	0.1	1	0.1	1	0.1	1	0.1
B	Yersiniosis	6	0.5	6	0.5	6	0.5	6	0.5	4	0.3	4	0.3	5	0.4	5	0.4

† Rate per 100,000 population

*In previous Annual Summaries, hepatitis A and hepatitis E were included in the "Hepatitis" disease table.

TABLE 6: HEPATITIS B & C AMONG FRANKLIN COUNTY RESIDENTS, 2013-2016

HEPATITIS B & C		2013				2014				2015				2016			
		Confirmed & Probable		All Statuses		Confirmed & Probable		All Statuses		Confirmed & Probable		All Statuses		Confirmed & Probable		All Statuses	
CLASS	DISEASE NAME	# of Cases	Rate†	# of Cases	Rate†	# of Cases	Rate†	# of Cases	Rate†	# of Cases	Rate†	# of Cases	Rate†	# of Cases	Rate†	# of Cases	Rate†
Population:		1,212,263		1,231,393		1,251,722		1,264,518		1,251,722		1,264,518		1,251,722		1,264,518	
B	Hepatitis B, acute	*	*	*	*	*	*	*	*	72	5.8	72	5.8	73	5.8	73	5.8
B	Hepatitis B, chronic	*	*	*	*	*	*	*	*	533	42.6	533	42.6	464	36.7	464	36.7
B	Hepatitis B, perinatal**	0	--	0	--	2	--	0	--	0	--	0	--	0	--	0	--
B	Hepatitis C, acute	4	0.3	4	0.3	1	0.1	1	0.1	2	0.2	2	0.2	46	3.6	46	3.6
B	Hepatitis C, chronic	1,297	106.9	1,297	106.9	1,513	122.8	1,513	122.8	1,877	149.9	1,877	149.9	2,366	187.1	2,366	187.1

† Rate per 100,000 population
 * Data in the Ohio Disease Reporting System may not be accurate for this time period and are not included in this report.
 **This report includes changes to perinatal hepatitis B reporting. Please see Technical Notes for more details.
 -- Population data are not available for children 0-24 months old.

TABLE 7: SEXUALLY TRANSMITTED INFECTIONS AMONG FRANKLIN COUNTY RESIDENTS, 2013-2016

SEXUALLY TRANSMITTED INFECTIONS		2013				2014				2015				2016			
		Confirmed & Probable		All Statuses		Confirmed & Probable		All Statuses		Confirmed & Probable		All Statuses		Confirmed & Probable		All Statuses	
CLASS	DISEASE NAME	# of Cases	Rate†	# of Cases	Rate†	# of Cases	Rate†	# of Cases	Rate†	# of Cases	Rate†	# of Cases	Rate†	# of Cases	Rate†	# of Cases	Rate†
Population:		1,212,263		1,231,393		1,251,722		1,264,518		1,251,722		1,264,518		1,251,722		1,264,518	
^	HIV/AIDS*	227	18.7	227	18.7	215	17.5	215	17.5	197	15.7	197	15.7	199	15.7	199	15.7
B	Chancroid	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	<i>Chlamydia trachomatis</i> infections	8,106	668.7	8,106	668.7	8,353	678.3	8,353	678.3	9,442	754.3	9,442	754.3	9,892	782.3	9,892	782.3
B	Gonorrhea (<i>Neisseria gonorrhoeae</i>)	2,988	246.5	2,988	246.5	2,898	235.3	2,898	235.3	3,264	260.8	3,264	260.8	4,276	338.2	4,276	338.2
B	Syphilis**	162	13.3	162	13.3	227	18.4	227	18.4	252	20.1	252	20.1	278	22.0	278	22.0

† Rate per 100,000 population.
 ^Report on forms and in a manner prescribed by the director, described in Ohio Administrative Code Chapter 3701-3-12.
 *Case counts obtained from the Ohio Department of Health. (See Technical Notes.)
 **Syphilis data include primary and secondary cases only.

TABLE 8: VACCINE-PREVENTABLE DISEASES AMONG FRANKLIN COUNTY RESIDENTS, 2013-2016

VACCINE-PREVENTABLE DISEASES		2013				2014				2015				2016	
		Confirmed & Probable		All Statuses	Confirmed & Probable	All Statuses	# of Cases								
CLASS	DISEASE NAME	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†
Population:		1,212,263		1,231,393		1,251,722		1,264,518							
A	Diphtheria	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	<i>Haemophilus influenzae</i> (invasive disease)	10	0.8	10	0.8	14	1.1	15	1.2	12	1.0	10	0.8	10	0.8
B	Influenza-associated hospitalization	339	28.0	340	28.0	829	67.3	833	67.6	639	51.0	288	22.8	290	23.0
B	Influenza-associated pediatric mortality	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
A	Measles	0	0.0	0	0.0	1	0.1	2	0.2	1	0.1	2	0.2	0	0.0
A	Meningococcal disease	2	0.2	2	0.2	1	0.1	1	0.1	4	0.3	4	0.3	1	0.1
B	Mumps	3	0.2	4	0.3	415	33.7	458	37.2	6	0.5	21	1.7	2	0.2
B	Pertussis	324	26.7	423	34.9	279	22.7	365	29.6	230	18.4	332	26.5	372	29.4
B	Poliomyelitis (including vaccine-associated cases)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	Rubella (congenital)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
A	Rubella (not congenital)	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	<i>Streptococcus pneumoniae</i> , invasive disease (ISP)*	126	10.4	126	10.4	96	7.8	96	7.8	105	8.4	106	8.5	119	9.4
B	Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	Varicella	73	6.0	78	6.4	69	5.6	71	5.7	56	4.5	63	5.0	69	5.5

† Rate per 100,000 population

*In previous Annual Summaries, this condition was included in the "Other reportable infectious diseases" table.

COUNTS & RATES OF REPORTABLE DISEASES, continued

TABLE 9: VECTORBORNE AND ZOOTIC DISEASES AMONG FRANKLIN COUNTY RESIDENTS, 2013-2016
VECTORBORNE AND ZOOTIC DISEASES

		2013				2014				2015				2016			
		Confirmed & Probable		All Statuses		Confirmed & Probable		All Statuses		Confirmed & Probable		All Statuses		Confirmed & Probable		All Statuses	
		# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†
Population:		1,212,263		1,231,393		1,251,722		1,264,518									
CLASS	DISEASE NAME																
B	Babesiosis	N/A	N/A	N/A	N/A	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	1	0.1
B	Brucellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1	1	0.1
B	Chikungunya	N/A	N/A	N/A	N/A	N/A	N/A	4	0.3	4	0.3	0	0.0	0	0.0	0	0.0
B	Dengue	2	0.0	3	0.0	2	0.2	2	0.2	2	0.2	2	0.2	2	0.2	2	0.2
B	Eastern equine encephalitis virus disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	Ehrlichiosis/ Anaplasmosis	1	0.1	2	0.2	0	0.0	2	0.2	1	0.1	3	0.2	0	0.0	0	0.0
B	Hantavirus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	La Crosse virus disease (other California serogroup virus disease)	0	0.0	0	0.0	1	0.1	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0
B	Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	Lyme disease	22	1.8	53	4.4	19	1.5	43	3.5	21	1.7	44	3.5	19	1.5	51	4.0
B	Malaria	11	0.9	11	0.9	67	5.4	67	5.4	17	1.4	19	1.5	28	2.2	28	2.2
B	Other arthropod-borne disease*	0	0.0	1	0.1	4	0.3	5	0.4	0	0.0	0	0.0	0	0.0	0	0.0
A	Plague	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	Powassan virus disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	Psittacosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	Q fever	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1	0	0.0	0	0.0
A	Rabies, human	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	Spotted fever rickettsiosis, including Rocky Mountain spotted fever (RMSF)	5	0.4	10	0.8	1	0.1	7	0.6	1	0.1	4	0.3	2	0.2	6	0.5
B	St. Louis encephalitis virus disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
A	Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
A	Viral hemorrhagic fever (VHF)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	West Nile virus infection	2	0.2	2	0.2	0	0.0	0	0.0	7	0.6	7	0.6	2	0.2	3	0.2
B	Western equine encephalitis virus disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
A	Yellow fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	Zika virus infection	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14	1.1	16	1.3

† Rate per 100,000 population

N/A = not a reportable condition

*Includes cases of arthropod-borne disease that did not belong to an individual disease category during the reporting period.

COUNTS & RATES OF REPORTABLE DISEASES, continued

TABLE 10: OTHER REPORTABLE INFECTIOUS DISEASES AMONG FRANKLIN COUNTY RESIDENTS, 2013-2016
OTHER REPORTABLE INFECTIOUS DISEASES

CLASS	DISEASE NAME	2013				2014				2015				2016			
		Confirmed & Probable		All		Confirmed & Probable		All		Confirmed & Probable		All		Confirmed & Probable	All		
		# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†
Population:																	
		1,212,263				1,231,393				1,251,722				1,264,518			
A	Anthrax	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
A	Any unexpected pattern of cases, deaths or disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1
A	Botulism, foodborne	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	Botulism, infant	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1
B	Botulism, wound	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	Coccidioidomycosis	1	0.1	4	0.3	3	0.2	4	0.3	9	0.7	2	0.2	6	0.5	6	0.5
B	Creutzfeldt-Jakob disease	1	0.1	2	0.2	2	0.2	4	0.3	1	0.1	2	0.2	2	0.2	2	0.2
A	Influenza A- novel virus infection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	Legionnaires' disease	149	12.3	170	14.0	120	9.7	123	10.0	97	7.7	97	7.7	106	8.4	111	8.8
B	Leprosy (Hansen's disease)	0	0.0	1	0.1	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0
B	Meningitis, aseptic (viral)	165	13.6	165	13.6	67	5.4	67	5.4	83	6.6	86	6.9	85	6.7	86	6.8
B	Meningitis, bacterial (not N. meningitidis)	4	0.3	4	0.3	12	1.0	13	1.0	8	0.6	9	0.7	11	0.9	12	0.9
A	Middle East Respiratory Syndrome (MERS)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0.0	0	0.0	0	0.0	0	0.0
A	Severe acute respiratory syndrome (SARS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
A	Smallpox	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	<i>Staphylococcus aureus</i> , with resistance or intermediate resistance to vancomycin (VRSA, VISA)	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
B	Streptococcal disease, group A, invasive (IGAS)	57	4.7	57	4.7	36	3.0	36	3.0	47	3.8	47	3.8	51	4.0	55	4.3

Table continued on next page.

TABLE 10: OTHER REPORTABLE DISEASES AMONG FRANKLIN COUNTY RESIDENTS, 2013-2016, continued

OTHER REPORTABLE DISEASES		2013				2014				2015				2016	
		Confirmed & Probable		All Statuses	Confirmed & Probable	All Statuses									
CLASS	DISEASE NAME	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†	# of Cases	Case Rate†
Population:		1,212,263		1,231,393		1,251,722		1,264,518							
B	Streptococcal disease, group B, in newborn	5	0.3	5	0.3	8	0.4	17	0.9	17	0.9	12	0.6	12	0.6
B	Streptococcal toxic shock syndrome (STSS)	0	0.0	0	0.0	2	0.2	3	0.2	3	0.2	5	0.4	5	0.4
B	Toxic shock syndrome (TSS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1
B	Tuberculosis (TB), including multi-drug resistant TB (MDR-TB)	50	4.2	50	4.2	49	4.0	40	3.2	40	3.2	50	4.0	50	4.0

† Rate per 100,000 population for all diseases except "streptococcal disease, group B, in newborn," which is per 1,000 live births.²
 N/A = not a reportable condition

Additional Table Notes:

For additional information about these disease counts and rates, please see Technical Notes.
 For more information about a particular disease, please visit www.idrsinfo.org.

DEATHS ASSOCIATED WITH DISEASE

In 2016, a total of 34 deaths occurred among confirmed and probable cases of reportable disease in Franklin County. Six of these deaths were associated with multiple reportable conditions. Legionnaires' disease was associated with the most deaths (n=9), followed by *Streptococcus pneumoniae* invasive disease (n=7), and influenza-associated hospitalization (n=5). The greatest number of deaths occurred among individuals aged 71-80 years. Three deaths occurred among children less than 18 years old, including one death in a child less than one year of age.

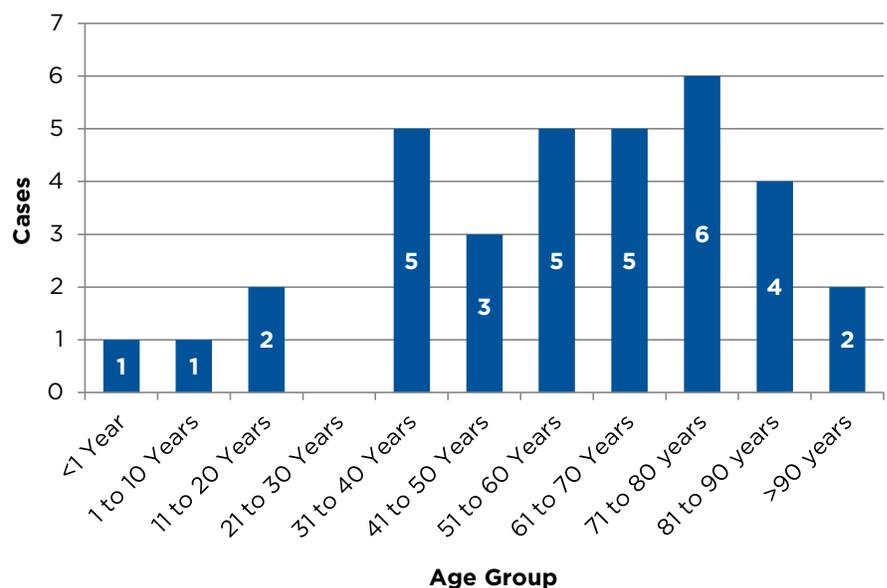
Death data were obtained from the Ohio Disease Reporting System (ODRS) and are subject to several limitations. A death is only captured in the ODRS record if the person dies during the course of a case or outbreak investigation. If a person dies after the investigation has ended, the record is not necessarily updated. Therefore, the number of deaths reported in Table 11 may underestimate the true number of deaths that occurred among reportable disease cases. Furthermore, investigators do not determine whether a reportable disease contributed to an individual's death. It is not possible to determine the true cause(s) of death without additional information from death or medical records.

TABLE 11: NUMBER OF DEATHS* AMONG CONFIRMED AND PROBABLE CASES OF REPORTABLE DISEASE, EXCLUDING SEXUALLY TRANSMITTED INFECTIONS, FRANKLIN COUNTY, 2016

REPORTABLE DISEASE	DEATHS*
Any unexpected pattern of cases, deaths or diseases	1
<i>Haemophilus influenzae</i> (invasive disease)	1
Hemolytic uremic syndrome (HUS)	1
Hepatitis B, chronic	1
Hepatitis C, chronic	2
Influenza-associated hospitalization	5
Legionnaires' disease	9
Meningitis, aseptic (viral)	1
Meningitis, bacterial (not <i>N. meningitidis</i>)	1
Shigellosis	1
Streptococcal disease, group A, invasive (IGAS)	3
Streptococcal disease, group B, in newborn	1
Streptococcal toxic shock syndrome (STSS)	2
<i>Streptococcus pneumoniae</i> , invasive disease (ISP)	7
Toxic shock syndrome (TSS)	1
Tuberculosis	2
West Nile virus infection	1

*The number of deaths is specific to the reportable disease category. Six deaths occurred in association with more than one reportable disease.

AGE DISTRIBUTION OF DEATHS AMONG CONFIRMED AND PROBABLE CASES OF REPORTABLE DISEASE, 2016 (N=34)



OUTBREAKS IN FRANKLIN COUNTY

TABLE 12: NUMBER OF CONFIRMED AND PROBABLE OUTBREAKS REPORTED BY YEAR*, FRANKLIN COUNTY, 2013-2016

OUTBREAK TYPE	2013		2014		2015		2016	
	Confirmed	Probable	Confirmed	Probable	Confirmed	Probable	Confirmed	Probable
Community	11	0	17	7	7	6	8	1
Foodborne	8	2	6	4	2	2	6	0
Health Care-Associated	3	3	10	3	24	1	7	2
Institutional	33	12	34	15	39	18	64	35
Unspecified (Class A)	0	0	0	0	1	0	0	0
Unusual Incidence	0	1	1	0	0	0	0	0
Waterborne	6	1	3	1	1	1	0	0
Zoonotic	1	0	0	1	1	1	1	1
Total	62	19	71	31	75	29	86	39

*"Year" is the year that the outbreak record was created in the Ohio Disease Reporting System (ODRS).

OUTBREAK DEFINITIONS³

Outbreaks are Class C reportable conditions unless otherwise specified.

Community: Two or more cases of similar illness with a common exposure in the community and not considered a foodborne, waterborne, zoonotic, health care-associated, or institutional disease outbreak.

Foodborne: Two or more cases of similar illness resulting from the ingestion of a common food.

Health Care-Associated: The occurrence of cases of a disease (illness) above the expected or baseline level, usually over a given period of time, as a result of being in a health care facility or receiving health care-associated products or procedures. The number of cases indicating the presence of an outbreak will vary according to the disease agent, size and type of population exposed, previous exposure to the agent, and the time and place of occurrence.

Institutional: Two or more cases of similar illness with a common exposure at an institution (e.g., correctional facility, day care center, group home, school, assisted-living facility) and not considered a foodborne or waterborne disease outbreak.

Unspecified (Class A Reporting): Any unexpected pattern of cases, suspected cases, deaths or increased incidence of any other disease of major public health concern which, because of the severity of disease or potential for epidemic spread, may indicate a newly recognized infectious agent, outbreak, epidemic, related public health hazard or act of bioterrorism.

Unusual Incidence: Two or more cases of infectious disease that can be connected by person, place and time, and do not meet the criteria for another type of outbreak.

Waterborne: Waterborne disease outbreaks are divided into two categories, depending on the type of water implicated in the outbreak. Outbreaks associated with drinking water, water not intended for drinking (excluding recreational water), or water of unknown intent must meet two criteria: 1) two or more persons are epidemiologically linked by location of water exposure, time and illness; and, 2) epidemiologic evidence implicates water as the probable source of illness. Outbreaks associated with recreational water must meet two criteria: 1) two or more persons are epidemiologically linked by location of recreational water exposure, time and illness; and, 2) epidemiologic evidence implicates water or volatilization of water associated compounds into the air surrounding an aquatic facility as the probable source of illness.

Zoonotic: Two or more cases of similar illness with exposure to the same animal or the same or similar species of animals and with epidemiologic evidence implicating animals as the probable source of illness.

DISEASE SPOTLIGHT: HEPATITIS C

HEPATITIS C		2016
Number of Cases	Acute	46
	Chronic	2,366
Franklin County Rate*	Acute	3.6
	Chronic	187.1
Chronic Rate*	Females	158.3
	Males	217.3

* Rate per 100,000 population

FACTS:

- The rate of chronic hepatitis C increased 75% from 2013 (106.9 cases per 100,000 population) to 2016 (187.1 cases per 100,000 population).
- Of chronic hepatitis C cases counted in Franklin County in 2016, 57% were male and 67% were non-Hispanic White. Individuals 25-34 years old had the highest number of cases and the highest rate of chronic hepatitis C.

EPIDEMIOLOGY:

Infectious Agents: Hepatitis C virus (HCV), an enveloped RNA virus of the *Flaviviridae* family

Case Definition: Please see the Ohio Infectious Disease Control Manual³: www.odh.ohio.gov/pdf/IDCM/hepc.pdf.

Mode of Transmission: Bloodborne. In the United States, HCV is transmitted primarily through injection drug use, needle stick injuries in health care settings, or birth to an HCV-infected mother. More rarely, HCV can be transmitted through sex with an HCV-infected person, sharing personal items contaminated with infectious blood (e.g., razors, toothbrushes), or undergoing a health care procedure with contaminated equipment (usually related to infection control breaches). Receiving donated blood, blood products or organs was once a common means of transmission, but is now rare in the U.S. since blood screening began in 1992.

Incubation Period: 2 weeks–6 months, with an average of 6–9 weeks, if symptoms are present. The time from exposure to development of viremia is 1–3 weeks.

Symptoms: Acute hepatitis C is defined as the first 6 months after an individual is infected with HCV. Approximately 70%-80% of newly infected individuals will show no symptoms. If symptoms are present, they may include fever, fatigue, dark urine, clay-colored stool, abdominal pain, loss of appetite, nausea, vomiting, joint pain and/or jaundice.

After acute HCV infection, 75%-85% of infected individuals will develop chronic infection, and the disease often progresses slowly without signs or symptoms for many years. Chronic liver disease develops in 60%-70% of chronically infected persons, cirrhosis in 5%-20%, and liver cancer in 1%-5%.

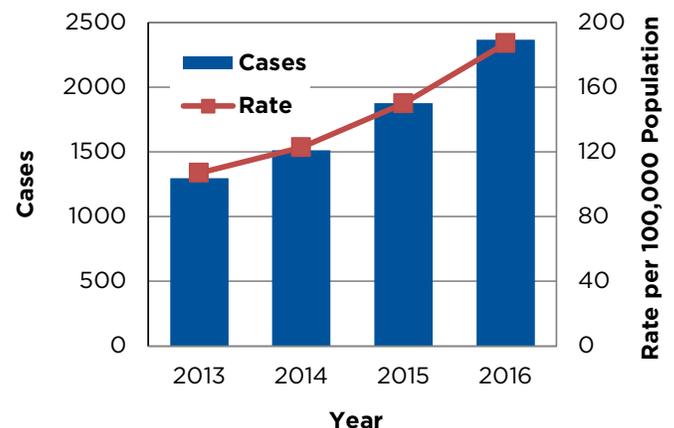
Treatment: Please visit www.hcvguidelines.org.

Prevention: Persons who inject drugs should not share needles or other drug paraphernalia. Hepatitis C can also be prevented by practicing safer sex and avoiding sharing personal items such as razors and toothbrushes. In health care and dental settings, all personnel should follow strict aseptic technique and Standard Precautions, including appropriate hand hygiene, use of protective barriers, and safe injection practices.

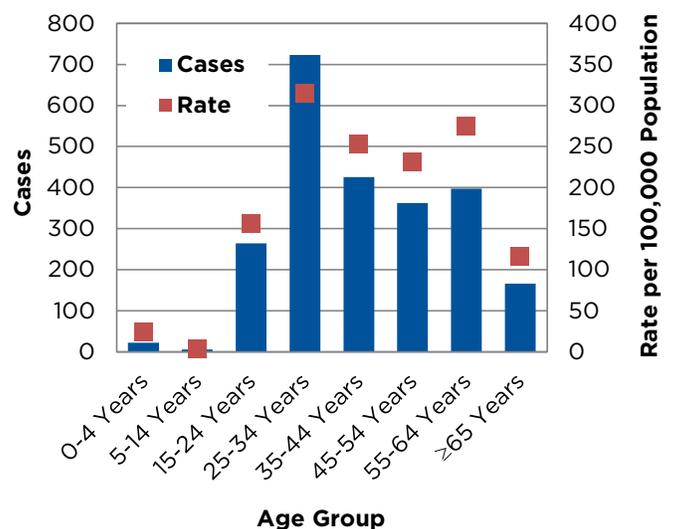
For more information, visit www.idrsinfo.org.

Case counts and rates include confirmed and probable cases counted by the Ohio Department of Health.

CHRONIC HEPATITIS C CASES AND RATES, FRANKLIN COUNTY, 2013-2016



AGE DISTRIBUTION OF CHRONIC HEPATITIS C CASES, FRANKLIN COUNTY, 2016



DISEASE SPOTLIGHT:

PRIMARY AMEBIC MENINGOENCEPHALITIS (PAM)

PAM	2016
Number of Cases	1
Franklin County Rate*	0.1

* Rate per 100,000 population

EPIDEMIOLOGY:^{4,5,6}

Infectious Agents: *Naegleria fowleri*, a free-living ameba, commonly referred to as a “brain-eating ameba”

Case Definition: Clinically compatible illness with laboratory confirmation of *N. fowleri* organisms, nucleic acid, or antigen in cerebrospinal fluid, biopsy, or tissue specimens.

Mode of Transmission: *N. fowleri* lives in warm freshwater and soil. Infection is rare and occurs when the ameba enters the nose during water-related activities. Once in the nose, the ameba travels to the brain via the olfactory nerve and causes primary meningoencephalitis. Most *N. fowleri* infections are associated with swimming in warm freshwater, but infections have also been associated with contaminated tap or faucet water going up the nose. Infection is not caused by drinking contaminated water.

Incubation Period: 1-9 days, with a median of 5 days

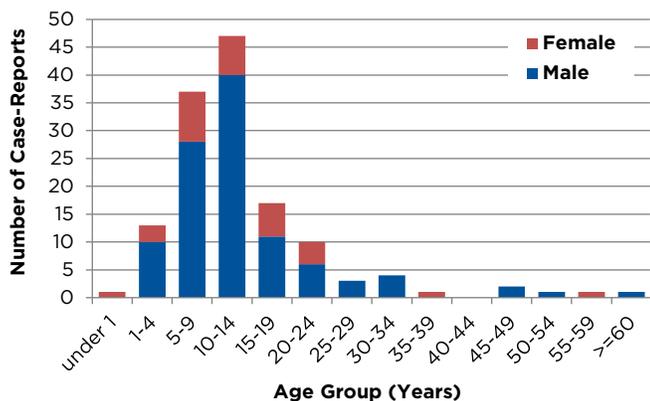
Symptoms: Initial signs and symptoms may include sudden onset of severe headache, fever, nausea and vomiting, followed by stiff neck, seizures, altered mental status, hallucinations and/or coma. Death usually occurs 1-18 days (median 5 days) after the onset of symptoms.

Treatment: Treatment recommendations should be obtained through the Centers for Disease Control and Prevention (CDC). Miltefosine, an investigational drug for treatment of free-living ameba infections, is available through the CDC.

Prevention: *N. fowleri* infection can be prevented by avoiding activities involving warm freshwater. For persons participating in freshwater-related activities, the risk of infection may be reduced by limiting the amount of water going up the nose by keeping the head above water or holding the nose shut under water. When using tap water for nasal rinses, persons should use only water that is sterile, distilled, or boiled and cooled.

Case counts and rates include confirmed and probable cases.

PAM CASE-REPORTS BY AGE GROUP AND GENDER, UNITED STATES, 1962-2015 (N=138)*

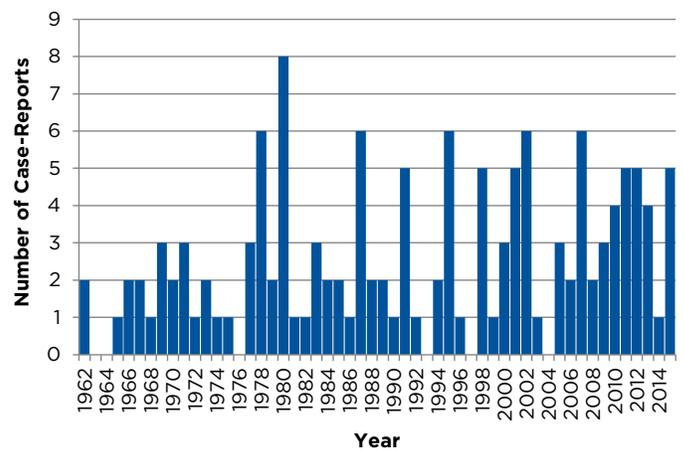


*Graph recreated using data from CDC.⁷

FACTS:

- In Ohio, primary amebic meningoencephalitis should be reported as the Class A condition “any unexpected pattern of cases, suspected cases, deaths or increased incidence of any other disease of major public health concern, because of the severity of disease or potential for epidemic spread, which may indicate a newly recognized infectious agent, outbreak, epidemic, related public health hazard or act of bioterrorism.”
- *N. fowleri* is commonly found in bodies of warm freshwater, but infections are rare. From 1962 through 2015, 138 infections were documented in the United States. Of these cases, 83% were children and more than 75% were males.⁵
- PAM is almost always fatal. There are only four known survivors among cases in North America.⁶

PAM CASE-REPORTS BY YEAR, UNITED STATES, 1962-2015 (N=138)*



*Year of exposure unknown for one case. Graph recreated using data from CDC.⁷

ZIKA VIRUS INFECTION

ZIKA VIRUS INFECTION		2016
Number of Cases		14
Franklin County Rate*		1.1
Ages of Cases (in yrs.)	Mean	43
	Median	38
	Range	18-68
Rate*	Females	1.9
	Males	0.3

* Rate per 100,000 population

EPIDEMIOLOGY:

Infectious agents: Zika virus, an RNA virus of the Flaviviridae family.

Case Definition: Please see the Ohio Infectious Disease Control Manual³: www.odh.ohio.gov/pdf/IDCM/zika.pdf.

Mode of Transmission: Zika virus transmission occurs primarily through the bite of an infected *Aedes aegypti* mosquito. Vertical transmission from mother to child, bloodborne, sexual, and laboratory exposure transmission have also been documented. Transmission from organ or tissue donation may be possible.

Incubation Period: The incubation period is currently unknown, but is likely to range from 3 days to 2 weeks.

Symptoms: About 1 in 5 people infected with Zika virus will develop symptoms. Symptoms are usually mild and last for several days to a week and commonly include fever, a maculopapular rash, joint pain or conjunctivitis (red eyes). Other symptoms may include headache and muscle pain. Complications are rare, but Guillain-Barré syndrome and other neurologic complications have been reported in patients following suspected Zika virus infection. Zika virus infection in pregnant women has been linked with adverse pregnancy outcomes and birth defects in infants.

Clinical Manifestations in Infants: Live-born infants with Zika virus infection may present with congenital microcephaly, intracranial calcifications, structural brain or eye abnormalities, or other congenital central nervous system (CNS)-related abnormalities.

Treatment: There is no specific antiviral drug treatment for Zika virus infection.

Prevention: No vaccine exists for Zika virus. If traveling to a Zika virus affected country, avoid mosquito bites by using insect repellent containing DEET. Wearing long sleeves, long pants, and socks can also help prevent mosquito bites. To prevent sexual transmission, abstain from sex or use a condom. For extensive information on sexual prevention, please visit www.cdc.gov/zika/prevention/sexual-transmission-prevention.html.

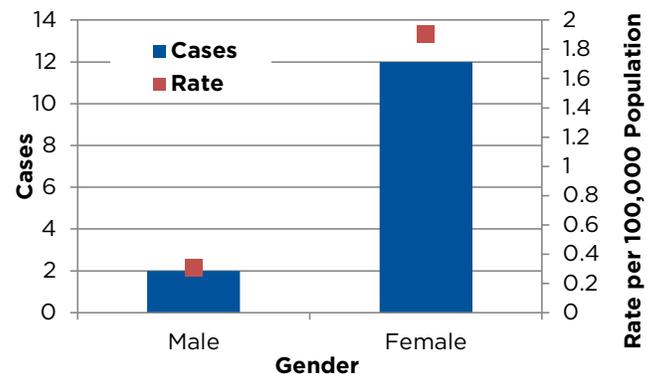
For more information, visit www.idrsinfo.org.

Case counts and rates include confirmed and probable cases.

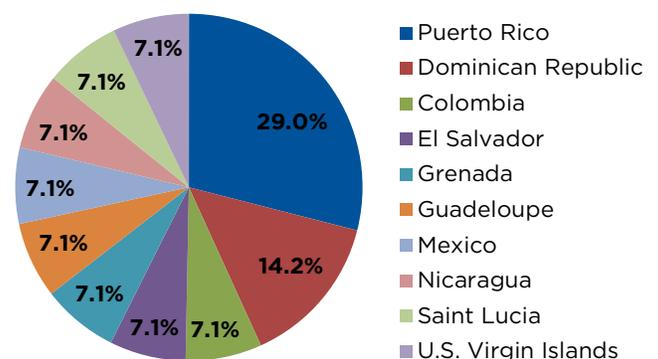
FACTS:

- Zika virus infection became a reportable condition in Ohio in 2016, and 14 cases were reported in Franklin County. In Ohio, 95 cases of Zika virus infection were reported in 2016.⁸
- All Franklin County cases in 2016 had prior travel history to a Zika virus affected country and likely acquired the infection while traveling.
- All pregnant women who test positive for Zika virus are eligible to be included in the U.S. Zika Pregnancy Registry, a CDC program dedicated to collecting information about pregnancy and infant outcomes following Zika virus infection.⁹
- Serologic testing for Zika virus infection may be complicated by cross-reaction with other flaviviruses (e.g., dengue, Japanese encephalitis, Powassan, St. Louis encephalitis, West Nile, and yellow fever viruses).

ZIKA VIRUS CASES AND RATES, BY GENDER, FRANKLIN COUNTY, 2016



COUNTRIES OR TERRITORIES VISITED BY ZIKA VIRUS CASES, FRANKLIN COUNTY, 2016



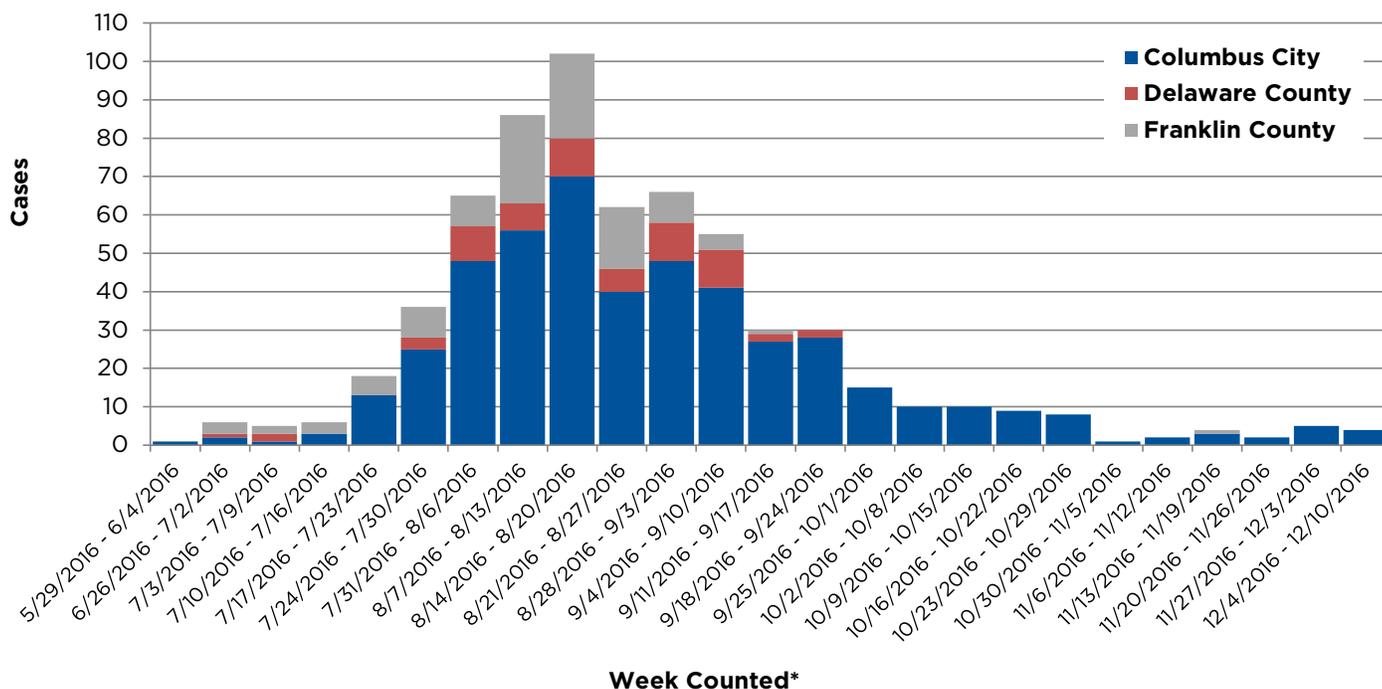
COMMUNITY CRYPTOSPORIDIOSIS OUTBREAK

On August 1, 2016, Columbus Public Health identified a small outbreak of cryptosporidiosis associated with swimming at a local pool. During the following week, the number of cryptosporidiosis cases continued to increase, with cases reporting recreational water exposures at a variety of local venues. Franklin County Public Health and Delaware General Health District reported similar increases in cryptosporidiosis incidence, and a community cryptosporidiosis outbreak was declared by the three agencies on August 11, 2016. Public health interventions to prevent disease transmission included environmental health inspection of pools and recommendations for disinfection, health care provider advisories, and education and outreach to child care providers, pool operators, and the public.

In total, the outbreak involved 638 confirmed and probable cryptosporidiosis cases in Columbus, Franklin County and Delaware County, with disease onsets ranging from June 1, 2016, to December 9, 2016. Cases ranged in age from 3 months to 86 years, with an average age of 20 years and a median age of 12 years; 55% were less than 18 years old. The majority of cases (56%) were female. Of cases who reported data on hospitalization, 7% were hospitalized.

Cryptosporidiosis, also known as “crypto,” is a contagious gastrointestinal illness caused by the *Cryptosporidium* parasite. Illness may last up to three weeks and is often characterized by watery diarrhea, stomach cramps, nausea, vomiting, fever, and/or loss of appetite. Immunosuppressed individuals are at risk for more severe disease. *Cryptosporidium* is spread via the fecal-oral route, including person-to-person, animal-to-person, waterborne, and foodborne transmission. Unlike many waterborne pathogens, *Cryptosporidium* is resistant to chlorine disinfection. In the U.S., cryptosporidiosis outbreaks linked to swimming doubled from 2014 to 2016.¹⁰ Waterborne transmission can be prevented by not drinking or swallowing water directly from rivers, lakes, streams, oceans, swimming pools, and other recreational water sources. Persons with diarrhea should not swim until two weeks after diarrhea ceases.

CRYPTOSPORIDIOSIS COMMUNITY OUTBREAK CASES BY WEEK (N=638)



*Earliest of: illness onset date, diagnosis date, specimen collection date, reported date.

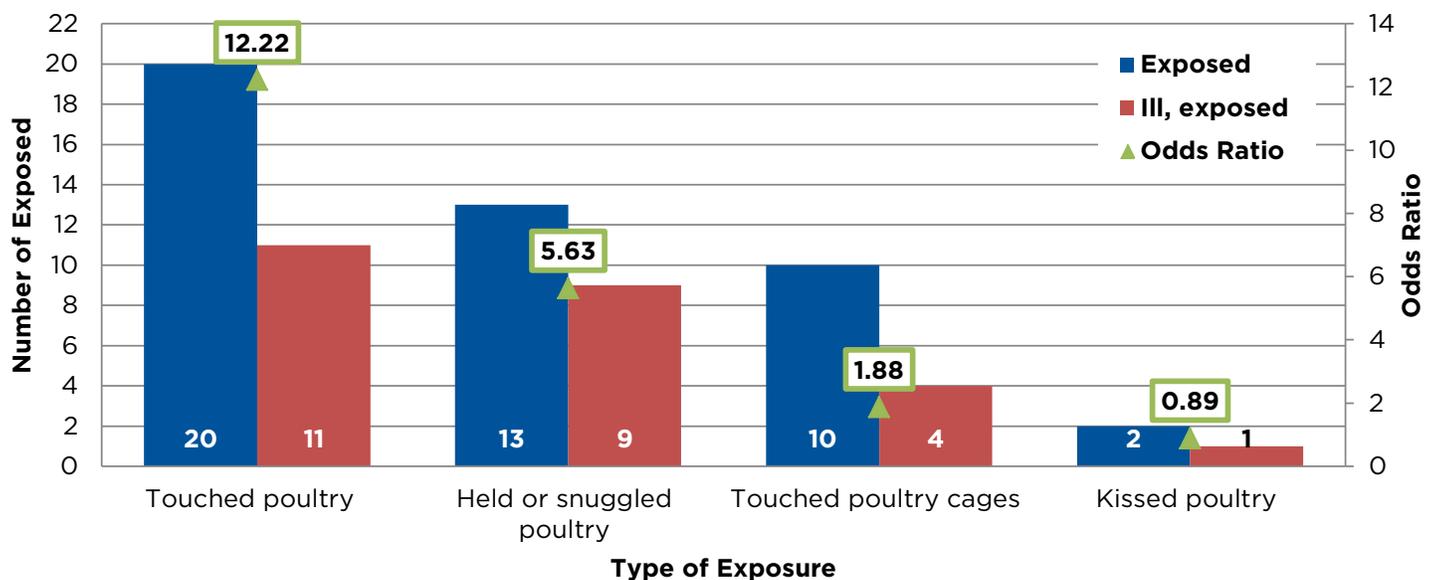
SALMONELLOSIS IN A PRE-K CLASSROOM

In May 2016, Franklin County Public Health (FCPH) received a call from the Ohio Department of Health's (ODH) FoodCORE program, reporting a possible outbreak of *Salmonella* in a pre-K classroom. Over half of the students in the class were reported to have similar diarrheal symptoms. Prior to the outbreak being reported, the class had a chick hatching project and a party had occurred outside the school with several children from the same classroom. FCPH provided education on the importance of hand hygiene and shared information from the Centers for Disease Control and Prevention (CDC) regarding chick exposures linked to *Salmonella* infections in young children.

A total of 14 confirmed, probable and suspected salmonellosis cases were linked to the outbreak. ODH laboratory testing confirmed that 9 cases were positive for *Salmonella* Enteritidis. Some cases were reported as secondary cases (e.g., a sibling) to an ill student. FCPH conducted an analytical epidemiologic study to help determine if the outbreak was related to the party held outside the school or to the chick hatching project in the classroom. A total of 24 ill and well individuals were interviewed regarding potential exposures. Results of the statistical analysis showed strong associations between illness and exposures to baby chicks in the classroom. The party outside the classroom was ruled out, and exposure to chicks in the classroom was determined to be the most probable source of exposure for this outbreak. This conclusion was further supported by whole genome sequencing, which matched *Salmonella* isolates from this outbreak to a multi-state outbreak of *Salmonella* related to chicks.

Salmonellosis is a gastrointestinal infection caused by *Salmonella* bacteria, with an incubation period of 6-72 hours. *Salmonella* are most commonly transmitted through contaminated food, but animals such as chicks, ducklings and other poultry can also carry and shed the bacteria in their feces. The bacteria can easily contaminate the birds' environment and can be trapped in birds' feathers. Humans and other animals can become infected through exposure to the contaminated birds or their environment, although poultry that carry *Salmonella* may appear healthy and clean.¹¹ Upon closure of the outbreak, a letter was issued to the school strongly recommending that they discontinue chick hatching projects in classroom settings to help prevent future outbreaks.

CLASSROOM CHICK EXPOSURES AND ODDS RATIOS*, MAY 2016



*An odds ratio (OR) is a measure of association between an exposure and disease. In a case-control study, the OR represents the odds of an exposure among cases compared to the odds of exposure among controls (non-ill). An odds ratio greater than 1 indicates that exposure may be a risk factor for disease.

SPECIAL HIGHLIGHT:

ZIKA VIRUS INFECTION RESPONSE

In February 2016, the World Health Organization declared Zika virus a Public Health Emergency of International Concern. Zika virus had spread rapidly throughout Central and South America, and there was concern that summer travel would bring the virus to the U.S. Although the principal mosquito vector (*Aedes aegypti*) is not native to Ohio, another potential vector species (*Aedes albopictus*) is native to Ohio. Thus, Columbus Public Health and Franklin County Public Health established a comprehensive response to prevent local Zika virus transmission. Staff from vector control, infectious disease investigation, outbreak response, epidemiology, and communications programs collaborated throughout the 2016 mosquito season to monitor suspected cases, track and spray for mosquitos, and educate the public on Zika prevention.

As warmer weather approached, vector control staff began preventive spraying around city areas with heavy mosquito activity such as tire facilities. Epidemiologists provided maps of city neighborhoods with high concentrations of standing water and other common mosquito habitats in order to target spraying. Vector control staff also trapped mosquitoes at various city locations to determine if *Aedes aegypti* were in the area and if *Aedes albopictus* were carrying Zika virus. Nurses interviewed cases and provided education on safe sexual practices. Special protocols were followed to monitor pregnant women with potential infections. To reduce the likelihood of local transmission, vector control staff sprayed for mosquitoes within a 150-yard radius of a case's home. Communications staff designed and distributed educational materials on how to prevent mosquito bites and reduce the number of mosquitoes around homes. Flyers and informational cards were placed throughout the John Glenn International Airport in order to target summer travelers. (See example at right.)

In 2016, CPH and FCPH investigated 152 potential Zika cases, and 14 confirmed and probable cases were identified. All confirmed and probable cases were associated with travel to a Zika-affected area. As of 2017, CPH and FCPH are continuing Zika monitoring and prevention efforts.

Prevent Mosquitoes Around Your Home

Get rid of standing water and water sources. Mosquitoes breed by laying eggs in and near standing water. You can do a lot to lower the number of mosquitoes around your home by getting rid of standing water in your yard.

Empty, turn over or get rid of anything that can hold water like buckets, toys, and tarps.

Fill holes with sand or dirt.

Clear clogged rain gutters.

Fix screens.

Fix leaky outdoor faucets.

Empty bird baths or change water at least weekly.

Empty wading pools when not in use.

Get rid of old tires. Drill holes in bottom of tire swings.

Treat rain barrels for mosquitoes and seal openings.

More at www.myfcp.org/standingwater

Franklin County Public Health

THE CITY OF COLUMBUS
Andrew J. Kosich, Mayor
COLUMBUS PUBLIC HEALTH

5/2/2016

ZIKA BASICS

Zika is spread mostly by being bitten by an infected mosquito. These mosquitoes may bite during the day or nite.

Common symptoms are fever, rash, joint pain, and conjunctivitis (red eyes) within two weeks of exposure. The symptoms are usually mild and only affect 1 in 5 infected people.

There is **no vaccine or medicine** for Zika. The best way to prevent Zika is to prevent mosquito bites.

Infection during pregnancy is linked to **birth defects in babies.**

Sexual transmission of Zika virus is possible.

Check for **updates on Zika-affected countries** and travel advisories at www.cdc.gov/zika.

This document was developed in partnership with Columbus Public Health, Franklin County Public Health, Mount Carmel Health System, Nationwide Children's Hospital, OhioHealth, and The Ohio State University Wexner Medical Center. Last updated 7/19/2016.

CHECK FOR UPDATES -
www.Columbus.gov/Zika

TIMELINESS OF DISEASE REPORTING

Timeliness of disease reporting is a key part of good public health practice.¹² In order to reduce the burden of disease in our community and to implement appropriate interventions, the public health system relies on health care providers and laboratories for identification of infectious diseases. Timeliness requirements for each reportable disease vary based on the communicability and severity of the disease.

In the Ohio Disease Reporting Systems (ODRS) application, it is possible to query the date when a health care provider diagnosed an illness and the date when the local health department received notification of the illness. Table 13 lists selected diseases and the corresponding median and mean number of days between health care provider diagnosis and reporting to the local health department. Only confirmed and probable cases were included in this analysis. As of 2016, Shiga toxin-producing *Escherichia coli* (STEC), hepatitis A, listeriosis, mumps, pertussis, and salmonellosis are Class B reportable conditions, which are required to be reported by the end of the next business day after a suspected case is identified. Measles, meningococcal disease and rubella are Class A reportable conditions due to their severity and potential for epidemic spread. Class A reportable conditions are required to be reported immediately via telephone upon recognition of a case, suspected case or positive laboratory result.

TABLE 13: REPORTING LAG TIME* FOR CONFIRMED AND PROBABLE CASES OF SELECTED REPORTABLE DISEASES, FRANKLIN COUNTY, 2016

REPORTABLE CONDITION	REPORTING REQUIREMENT	2016			
		CONFIRMED & PROBABLE CASES	MEDIAN (business days)	MEAN (business days)	% OF CASES MISSING DIAGNOSIS DATE
<i>E. coli</i> O157:H7 and Shiga toxin-producing <i>E. coli</i> (STEC)	By end of next business day	47	1.0	4.3	42.6%
Hepatitis A	By end of next business day	13	1.0	1.0	0.0%
Listeriosis	By end of next business day	2	2.0	2.0	0.0%
Measles	Immediately	0	N/A	N/A	N/A
Meningococcal disease	Immediately	1	1.0	1.0	0.0%
Mumps	By end of next business day	2	1.0	1.0	0.0%
Pertussis	By end of next business day	372	1.0	1.3	5.9%
Rubella	Immediately	0	N/A	N/A	N/A
Salmonellosis	By end of next business day	185	2.0	3.3	55.1%

*Reporting lag time = Difference between the date a case was reported to the local health department and the case's diagnosis date**

**"Diagnosis Date" in ODRS defaulted to the following date fields (in order) if blank: lab specimen collection date, lab result date, onset date, date reported to Ohio Department of Health, created date. If a diagnosis date occurred after the date of report to the local health department, then the diagnosis date defaulted to the next proxy.

Reporting lag is defined as the difference between the diagnosis date and the date that the case was reported to the local health department. For Class A diseases (immediately reportable), median and mean

Timeliness of Disease Reporting continued on next page.

TIMELINESS OF DISEASE REPORTS, continued

lag time values should be less than 1. In 2016, mean and median lag time were equal to 1.0 for meningococcal disease, exceeding the goal. No cases of measles or rubella were reported in Franklin County in 2016. For Class B diseases (reportable by end of next business day), mean and median lag time values should be less than 2. The median lag time goal was met for STEC, hepatitis A, mumps, and pertussis, and the mean lag time goal was met for hepatitis A, mumps, and pertussis. The median values for listeriosis (2.0 business days) and salmonellosis (2.0 business days) exceeded the goal, as did the mean values for STEC (4.3 business days), listeriosis (2.0 business days), and salmonellosis (3.3 business days).

If the diagnosis date field was empty or occurred after the date of report to the local health department, a proxy date was used according to the order listed in the notes for Table 13. For the conditions listed in Table 13, a proxy date was needed for 25% of confirmed and probable cases in 2016. The need for a proxy varied substantially by disease, with salmonellosis and STEC having the greatest proportion of cases missing diagnosis date (55.1% and 42.6%, respectively).

CPH and FCPH periodically monitor reporting lag times and continually work to improve timeliness of disease reporting. Regular monitoring helps to address two key issues: late reporters and missing data. If specific reporters are found to be contributing to longer lag times, this information will be shared with them, challenges to timely reporting will be identified and addressed, and closer monitoring of reports will follow. Additionally, ensuring completion of missing or incorrect dates will aid in better, timelier interventions and prevention efforts.

TECHNICAL NOTES

Ohio Administrative Code 3701-3-02, 3701-3-05, and 3701-3-12 require that communicable diseases be reported to local health departments.

TABLES OF DISEASE COUNTS AND RATES

Data:

Chlamydia, gonorrhea and syphilis Data are current as of June 21, 2017.

HIV/AIDS data from the Ohio Department of Health. Data are current as of June 30, 2017.

All other reportable conditions Data are current as of April 9, 2017.

Notes:

“All Statuses” includes confirmed, probable and suspected cases.

“Year” refers to: the case event date in the Ohio Disease Reporting System (ODRS) for sexually transmitted infections; the date the case was counted for hepatitis B, hepatitis C and tuberculosis; and the date the case record was created in ODRS for all other conditions.

“Event Date” is calculated automatically in ODRS. For sexually transmitted infections, event date is the earliest specimen collection date. If specimen collection date is blank, event date is the earliest of the following dates: illness onset date, diagnosis date, date reported to the local health department, date reported to the Ohio Department of Health.

HIV/AIDS: Counts of newly diagnosed HIV/AIDS cases were obtained from Ohio Department of Health HIV Infections Annual Surveillance Statistics. Diagnoses of HIV infection include persons with a diagnosis of HIV infection (not AIDS), a diagnosis of HIV infection and a later AIDS diagnosis, and concurrent diagnoses of HIV infection and AIDS. Yearly HIV case counts include all reported cases diagnosed in a given year.

CASE AND OUTBREAK CLASSIFICATIONS

Case definitions for nationally notifiable diseases are determined by the Council of State and Territorial Epidemiologists in conjunction with the Centers for Disease Control and Prevention (CDC). Definitions are published in the Morbidity and Mortality Weekly Report and posted to CDC’s National Notifiable Diseases Surveillance System website.⁷ In Ohio, case and outbreak definitions can be found in Section 3 of the Infectious Disease Control Manual.³

REPORTABLE DISEASE CLASS DEFINITIONS³

Reportable diseases in Ohio are grouped by class. Class definitions in 2016 were:

Class A: Diseases of major public health concern because of the severity of disease or potential for epidemic spread. Report by telephone immediately upon recognition that a case, a suspected case, or a positive laboratory result exists.

Class B: Diseases of public health concern needing timely response because of potential for epidemic spread. Report by the end of the next business day after the existence of a case, a suspected case, or a positive laboratory result is known.

Prior to January 1, 2014, Class B conditions were divided into Class B (1), requiring report by the end of the next business day, and Class B (2), requiring report by the end of the work week.

REPORTABLE DISEASE CHANGES IN OHIO IN 2016

The following changes took effect on September 16, 2016:

Additions: Zika virus infection, under arboviral neuroinvasive and non-neuroinvasive disease

Removals: Mycobacterial disease other than tuberculosis (MOTT); typhus fever

Technical Notes continued on next page.

CASE DEFINITION CHANGES FOR NATIONALLY NOTIFIABLE DISEASES¹³

Changes in 2016: Hepatitis C, acute and chronic; Zika virus disease and Zika virus infection, congenital and non-congenital

PERINATAL HEPATITIS B REPORTING

In prior Annual Summaries, perinatal hepatitis B data included all case statuses (confirmed, probable and suspected) reported by year that the case was created in the Ohio Disease Reporting System (ODRS). For consistency with surveillance data reported by the Ohio Department of Health (ODH) and the Centers for Disease Control and Prevention (CDC), perinatal hepatitis B data in this report include confirmed cases only, reported according to the date the case was counted by CDC.

REPORTING SYSTEMS

Data are from the Ohio Department of Health (ODH) and the Infectious Disease Reporting System (IDRS, a joint effort between Columbus Public Health and Franklin County Public Health). Cases of sexually transmitted infections, tuberculosis, HIV, and AIDS have separate reporting systems. Cases may have been excluded due to reporting time, onset date, or when supplemental information was received.

The Ohio Disease Reporting System (ODRS)¹⁴ was developed as a web-based system to make disease reporting more timely and efficient for disease reporters (e.g., hospitals, laboratories and physicians), and to improve communication about infectious diseases between disease reporters, local health departments and ODH. Currently, ODH, local health departments, and infection preventionists have the ability to enter and update case and laboratory reports in ODRS. The system uses patient address to determine the correct local health jurisdiction in which to electronically send the report for follow up and investigation. In addition, some laboratories have the ability to electronically upload batches of reports via Electronic Laboratory Reporting (ELR) from their databases into ODRS, minimizing paperwork and data re-entry. If a disease report is inadvertently assigned to an incorrect health jurisdiction, the health department receiving the report can redirect it to the correct jurisdiction. Updates to information can be made to the record in the database, and all fields in the ODH and CDC reporting forms are included in ODRS.

JURISDICTION

Each case is reported based on the address of residence, and each jurisdictional boundary is determined by tax district. Franklin County Public Health and Columbus Public Health jurisdictions have boundaries that include parts of other counties such as Delaware, Fairfield, Licking or Union. Cases represented in the tables may live in one of these neighboring counties. If a case lives in a neighboring county, but is served by Franklin County Public Health or Columbus Public Health, the case would not be represented in total population of Franklin County listed in the Demographic Profile in this report. Listed below are jurisdictions that Franklin County Public Health or Columbus Public Health serve that may be located in part of another county:

- Canal Winchester (Fairfield)
- Columbus (Delaware, Fairfield)
- Dublin (Delaware, Union)
- New Albany (Licking)
- Pickerington (Fairfield)
- Reynoldsburg (Fairfield, Licking)
- Westerville (Delaware)

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