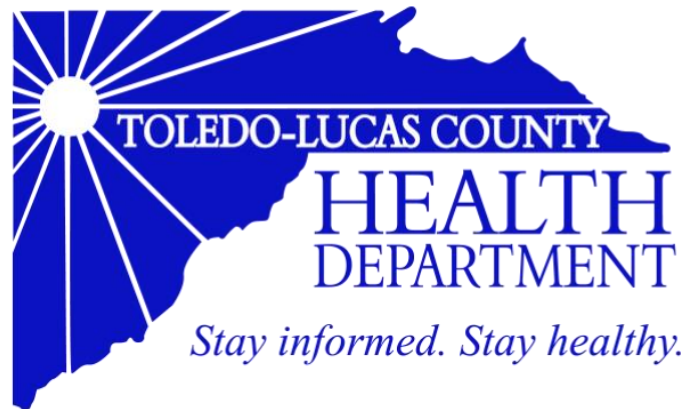


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ANNUAL COMMUNITY AND ENVIRONMENTAL HEALTH REPORT

2016

Annual Summary of the Division of Community Services and Environmental Health at the Toledo-Lucas County Health Department for 2016



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INFECTIOUS DISEASES

Infectious Disease Introduction

INFECTIOUS DISEASES

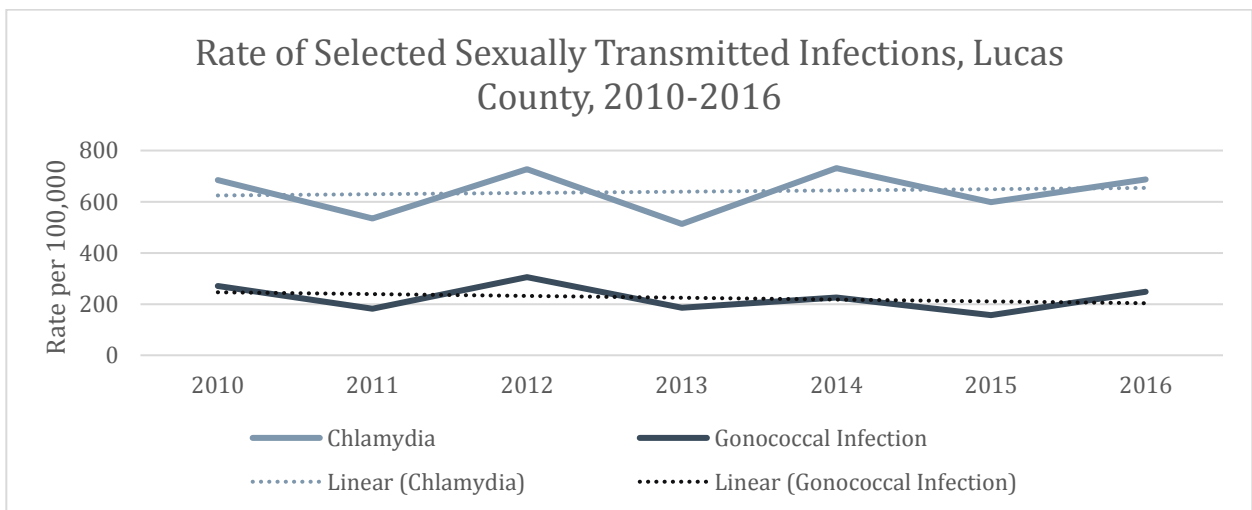
Infectious diseases, also commonly called communicable diseases, are illnesses caused by microorganisms, (bacteria, viruses, and parasites) and can be transmitted from an infected person or animal to another person or animal. The route of transmission varies by disease and may include direct contact with contaminated body fluids (e.g., blood) or respiratory secretions, contact with contaminated objects, inhalation of contaminated airborne particles, ingestion of contaminated food or water, or the bite of an animal or vector (e.g., insect) carrying the microorganism.

KEY FINDINGS

- 2016 saw a dramatic increase in the amount of many common enteric illnesses reported in Lucas County:

Disease	2015 (all statuses)	2016 (all statuses)
Cryptosporidiosis	20	45
E coli	5	7
Salmonellosis	43	53
Shigellosis	13	67

- Sexually transmitted infections continue to be a problem in Lucas County. The rate of Gonococcal infections appears to be on the decline (decreased 8.6% since 2010) whereas Chlamydia continues to be increasing (0.23% increase since 2010).



INFECTIOUS DISEASES

Demographic Profile of Lucas County

Table 1: Lucas County Population by Gender and Age Group, 2010 Census Data

Age	Number of Female	Percent	Number of Male	Percent
Under 5 years	14,680	3.3	15,052	3.4
5 to 9 years	13,984	3.2	14,772	3.3
10 to 14 years	14,004	3.2	14,625	3.3
15 to 19 years	16,510	3.7	17,137	3.9
20 to 24 years	17,029	3.9	16,792	3.8
25 to 29 years	14,875	3.4	14,536	3.3
30 to 34 years	13,500	3.1	13,032	2.9
35 to 39 years	14,112	3.2	13,492	3.1
40 to 44 years	13,837	3.1	13,209	3.0
45 to 49 years	16,132	3.7	15,064	3.4
50 to 54 years	17,088	3.9	16,157	3.7
55 to 59 years	15,338	3.5	14,411	3.3
60 to 64 years	12,720	2.9	11,918	2.7
65 to 69 years	9,020	2.0	7,676	1.7
70 to 74 years	7,105	1.6	5,622	1.3
75 to 79 years	6,212	1.4	4,244	1.0
80 to 84 years	5,761	1.3	3,572	0.8
85+ years	5,942	1.3	2,655	0.6
Total	227,849	51.6	213,966	48.4

Table 2: Lucas County Population by Race (alone or in combination with one or more other races*), 2010 Census Data

Race	Number of Persons	Percent
White	339,206	76.8
Black or African American	92,260	20.9
American Indian and Alaska Native	4,246	1.0
Asian	8,801	2.0
Native Hawaiian and Other Pacific Islander	382	0.1
Some Other Race	11,904	2.7
<i>*In combination with one or more of the other races listed. The six numbers may add to more than the total population, and the six percentages may add to more than 100 percent because individuals may report more than one race.</i>		

Table 3: Lucas County Population by Ethnicity, 2010 Census Data

Ethnicity	Number of Persons	Percent
Hispanic or Latino (of any race)	26,974	6.1
Mexican	22,028	5.0
Puerto Rican	1,482	0.3
Cuban	388	0.1
Other Hispanic or Latino **	3,076	0.7
Not Hispanic or Latino	414,841	93.9
Total population	441,815	100.0
<i>This category is composed of people whose origins are from the Dominican Republic, Spain, and Spanish-speaking Central or South American countries. It also includes general origin responses such as "Latino" or "Hispanic."</i>		

COUNTS AND RATES OF INFECTIOUS DISEASES

Counts and Rates of Reportable Diseases

OVERVIEW

According to the Ohio Administrative Code 3701-3-02, cases and suspected cases of selected infectious diseases are required to be reported to the Ohio Department of Health and local public health agencies. These reportable diseases 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.

The 2014 Annual Summary includes cases of reportable disease that were diagnosed among residents of Lucas County, reported to public health, and found to meet the public health surveillance definition of a suspected or confirmed case. These data do not represent all cases of reportable infectious disease 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 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. Please note that data in the following pages are grouped by type of disease.

This summary is intended to be a resource for individuals and public health partners concerned about infectious diseases in Lucas County. Further information on communicable disease may be obtained by contacting the Toledo-Lucas County Health Department.

REPORTABLE DISEASES

A comprehensive listing and guidance for reportable diseases and non-reportable diseases in the State of Ohio can be found in the Infectious Disease Control Manual (IDCM) (<http://www.odh.ohio.gov/pdf/idcm/intro1.pdf>). This document also includes rules contained within the Ohio Administrative Code (OAC) that pertain to infectious disease reporting. Services provided at the Ohio Department of Health Laboratory and processes for submission of specimens can be found within this document.

CHANGES FROM 2015

On September 16, Rule 3701-3 in the Ohio Administrative Code changed. The changes include:

- Addition of Zika virus infection in Class B diseases
- Removal of Mycobacterial disease other than Tuberculosis (MOTT) and Typhus Fever Conditions

COUNTS AND RATES OF INFECTIOUS DISEASES

	Reportable Condition	Class	2016				2015				2014				2013				2012			
			Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate
ENTERIC	Amebiasis	B	0	0.0	0	0.0	1	0.23	1	0.23	1	0.23	1	0.23	1	0.23	1	0.23	0	0.0	0	0.0
	Campylobacteriosis	B	71	16.07	71	16.07	73	16.52	73	16.52	47	10.64	61	13.81	49	11.09	76	17.20	57	12.90	70	15.84
	Cholera	A	0	0.0	0	0.0	0	0.00	0	0.00	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Cryptosporidiosis	B	45	10.19	45	10.19	20	4.53	20	4.53	17	3.85	17	3.85	14	3.17	14	3.17	19	4.3	19	4.30
	Cyclosporiasis	B	1	0.23	1	0.23	0	0.00	0	0.00	1	0.23	1	0.23	3	0.68	3	0.68	0	0.0	0	0.0
	<i>E. coli</i> - Not O157:H7	B	7	1.58	9	2.04	5	1.13	5	1.13	1	0.23	1	0.23	3	0.68	3	0.68	7	1.58	7	1.58
	<i>E. coli</i> - O157:H7	B	0	0.0	0	0.0	0	0.00	0	0.00	4	0.91	4	0.91	1	0.23	1	0.23	3	0.68	3	0.68
	<i>E. coli</i> - Unknown serotype	B	0	0.0	0	0.0	0	0.00	0	0.00	0	0.0	1	0.23	0	0.0	1	0.23	0	0.0	0	0.0
	Giardiasis	B	12	2.72	13	2.94	18	4.07	19	4.30	9	2.04	9	2.04	13	2.94	13	2.94	7	1.58	7	1.58
	Hemolytic uremic syndrome (HUS)	B	0	0.0	0	0.0	0	0.00	0	0.00	1	0.23	1	0.23	0	0.0	0	0.0	0	0.0	0	0.0
	Listeriosis	B	1	0.23	1	0.23	0	0.00	0	0.00	1	0.23	1	0.23	3	0.68	3	0.68	2	0.45	2	0.45
	Salmonellosis	B	53	12.00	53	12.00	43	9.73	43	9.73	37	8.37	37	8.37	53	12.00	53	12.00	52	11.77	52	11.77
	Shigellosis	B	67	15.16	69	15.62	13	2.94	13	2.94	19	4.3	19	4.3	7	1.58	7	1.58	11	2.49	11	2.49
	Trichinosis	B	0	0.0	0	0.0	0	0.00	0	0.00	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Typhoid fever	B	0	0.0	0	0.0	0	0.00	0	0.00	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	<i>Vibrio parahaemolyticus</i> infection	B	0	0.0	0	0.0	0	0.00	0	0.00	0	0.0	0	0.0	2	0.45	2	0.45	1	0.23	1	0.23
Yersiniosis	B	1	0.23	3	0.68	2	0.45	2	0.45	1	0.23	1	0.23	1	0.23	1	0.23	2	0.45	2	0.45	

Table 4: Rates and Counts of Enteric Diseases in Lucas County Ohio 2012-2016

COUNTS AND RATES OF INFECTIOUS DISEASES

	Reportable Condition	Class	2016				2015				2014				2013				2012			
			Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate
HEPATITIS	Hepatitis A	B	6	1.36	8	1.81	0	0.0	0	0.0	0	0.0	0	0.0	1	0.23	9	2.04	2	0.45	7	1.58
	Hepatitis B - Perinatal Infection	B	1	0.23	1	0.23	0	0.0	1	.023	0	0.0	7	1.58	0	0.0	2	0.45	0	0.0	1	0.23
	Hepatitis B - acute	B	2	0.45	4	0.91	4	0.91	6	1.36	1	0.23	6	1.36	0	0.0	10	2.26	4	0.91	17	3.85
	Hepatitis B - chronic	B	154	34.86	295	66.77	130	29.42	280	63.37	57	12.90	253	57.26	52	11.77	111	25.12	38	8.60	66	14.94
	Hepatitis C - acute	B	4	0.91	4	0.91	2	0.45	2	0.45	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.45
	Hepatitis C - chronic	B	2139	484.14	2454	555.44	466	100.95	466	100.95	237	53.64	756	171.11	292	66.09	631	142.82	242	54.77	478	108.19
	Hepatitis E	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Table 5: Rates and Counts of Hepatitis in Lucas County Ohio 2012-2016

	Reportable Condition	Class	2016				2015				2014				2013				2012			
			Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate
STI	Chancroid	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Chlamydia infection	B	3034	686.71	3034	686.71	2641	597.85	2641	597.76	3231	731.30	3231	731.30	2267	513.11	2267	513.11	3210	726.55	3210	726.55
	Gonococcal infection	B	1095	247.84	1095	247.84	693	156.85	693	156.85	995	225.21	995	225.21	819	185.37	819	185.37	1349	305.33	1349	305.33
	Herpes - congenital	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	HIV/AIDS		-	-	49*	11.09	-	-	33*	7.47	-	-	54*	12.22	-	-	39*	8.83	-	-	64*	14.49
	Syphilis		-	-	61*	13.81	-	-	40*	9.05	-	-	59*	13.35	-	-	26*	5.88	-	-	-	-

Table 6: Rates and Counts of Sexually Transmitted Infections in Lucas County Ohio 2012-2016

*Only Confirmed Counts

COUNTS AND RATES OF INFECTIOUS DISEASES

	Reportable Condition	Class	2016				2015				2014				2013				2012			
			Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate
VACCINE PREVENTABLE	Diphtheria	A	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	<i>Haemophilus influenzae</i> (invasive)	B	8	1.81	8	1.81	5	1.13	5	1.13	8	1.81	8	1.81	9	2.04	9	2.04	5	1.13	5	1.13
	Influenza A - novel virus infection	A	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Influenza-associated hospitalization	B	242	54.77	242	54.77	117	26.48	117	26.48	322	72.88	322	72.88	161	36.44	161	36.44	59	13.35	59	13.35
	Measles	A	0	0.0	1	0.23	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Meningococcal disease - <i>Neisseria meningitidis</i>	A	0	0.0	0	0.0	0	0.0	0	0.0	1	0.23	1	0.23	0	0.0	0	0.0	1	0.23	1	0.23
	Mumps	B	2	0.45	3	0.68	0	0.0	0	0.0	1	0.23	1	0.23	0	0.0	0	0.0	1	0.23	1	0.23
	Pertussis	B	11	2.49	15	3.40	9	2.04	13	2.94	26	5.88	34	7.70	36	8.15	40	9.05	6	1.36	10	2.26
	Poliomyelitis	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Rubella	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.23
	Tetanus	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.23	0	0.0	0	0.0
	Varicella	B	3	0.68	4	0.91	0	0.0	0	0.0	13	2.94	16	3.62	12	2.72	13	2.94	13	2.94	14	3.17

Table 7: Rates and Counts of Vaccine Preventable Illnesses in Lucas County Ohio 2012-2016

COUNTS AND RATES OF INFECTIOUS DISEASES

	Reportable Condition	Class	2016				2015				2014				2013				2012			
			Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate
ZOONOTIC OR VECTOR-BORNE	Anaplasmosis/Ehrlichiosis	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.23	0	0.0	1	0.23	0	0.0	0	0.0
	Brucellosis	B	1	0.23	1	0.23	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Chikungunya virus	B	0	0.0	0	0.0	0	0.0	0	0.0	Not individually reportable until 2015.											
	Dengue	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Encephalitis	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	LaCrosse virus disease	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Lyme Disease	B	7	1.58	12	2.72	2	0.45	8	1.81	2	0.45	13	2.94	3	0.68	12	2.72	1	0.23	17	3.85
	Malaria	B	1	0.23	1	0.23	2	0.45	2	0.45	1	0.23	2	0.45	2	0.45	2	0.45	0	0.0	0	0.0
	Other arthropod-borne disease	B	0	0.0	0	0.0	1	0.23	1	0.23	1	0.23	1	0.23	0	0.0	0	0.0	0	0.0	0	0.0
	Psittacosis	B	11	2.49	15	3.40	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Q Fever	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Rabies- Human	A	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Spotted Fever Rickettsiosis	B	3	0.68	4	0.91	1	0.23	1	0.23	0	0.0	1	0.23	1	0.23	2	0.45	0	0.0	1	0.23
	Tularemia	A	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Typhus fever	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Viral Hemorrhagic Fever (VHF)	A	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	West Nile Virus	B	0	0.0	0	0.0	5	1.13	6	1.36	0	0.0	1	0.23	8	1.81	9	2.04	4	0.91	4	0.91
Yellow Fever	A	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
Zika Virus	B	2	0.45	2	0.45	Not individually reportable until 2016.																

Table 8: Rates and Counts of Zoonotic or Vector-Borne Illnesses in Lucas County Ohio 2012-2016

COUNTS AND RATES OF INFECTIOUS DISEASES

	Reportable Condition	Class	2016				2015				2014				2013				2012			
			Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate
OTHER REPORTABLE	Anthrax	A	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Botulism- foodborne	A	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Coccidioidomycosis	B	2	0.45	2	0.45	3	0.68	3	0.68	1	0.23	1	0.23	1	0.23	1	0.23	0	0.0	1	0.23
	Creutzfeldt-Jakob Disease	B	0	0.0	0	0.0	0	0.0	1	0.23	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Cytomegalovirus - congenital (CMV)	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.23	1	0.23
	Ehrlichiosis-Ehrlichia chaffeensis	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.23	0	0.0	0	0.0
	Legionellosis	B	10	2.26	11	2.49	10	2.26	13	2.94	6	1.36	6	1.36	18	4.07	18	4.07	4	0.91	5	1.13
	Meningitis - aseptic/viral	B	57	12.90	58	13.13	55	12.45	56	12.67	38	8.60	41	9.28	55	12.45	55	12.45	46	10.41	46	10.41
	Meningitis - bacterial (Not <i>N. meningitidis</i>)	B	8	1.81	8	1.81	6	1.36	6	1.36	7	1.58	7	1.58	6	1.36	6	1.36	7	1.58	7	1.58
	Middle East Respiratory Virus (MERS)	A	0	0.0	0	0.0	0	0.0	0	0.0	<i>Not reportable prior to 2015.</i>											
	Mycobacterial disease - other than tuberculosis	B	31	7.02	31	7.02	35	7.92	35	7.92	39	8.89	39	8.83	32	7.24	32	7.24	27	6.11	27	6.11
	Plague	A	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Severe Acute Respiratory Syndrome (SARS)	A	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Smallpox	A	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Staphylococcal aureus - intermediate resistance to vancomycin (VISA)	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Streptococcal - Group A -invasive	B	17	3.85	17	3.85	10	2.26	13	2.94	15	3.40	15	3.40	13	2.94	13	2.94	12	2.72	12	2.72
Streptococcal - Group B - in newborn	B	4	0.91	4	0.91	3	0.68	3	0.68	0	0.0	0	0.0	4	0.91	4	0.91	3	0.68	3	0.68	
Streptococcal toxic shock syndrome (STSS)	B	5	1.13	5	1.13	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	1.13	5	1.13	

COUNTS AND RATES OF INFECTIOUS DISEASES

	Reportable Condition	Class	2016				2015				2014				2013				2012			
			Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate	Confirmed + Probable	Rate	All Statuses	Rate
OTHER REPORTABLE	Streptococcus pneumoniae - invasive antibiotic resistance unknown or non-resistant	B	20	4.53	20	4.53	26	5.88	26	5.88	19	4.3	19	4.30	32	7.24	32	7.24	33	7.47	33	7.47
	Streptococcus pneumoniae - invasive antibiotic resistant/intermediate	B	8	1.81	8	1.81	11	2.49	11	2.49	9	2.04	9	2.04	14	3.17	14	3.17	10	2.26	10	2.26
	Toxic shock syndrome (TSS)	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.23	0	0.0	0	0.0	0	0.0	1	0.23
	Tuberculosis	B	3	0.68	3	0.68	8	1.81	8	1.81	2	0.45	3	0.68	7	1.58	7	1.58	4	0.91	4	0.91

Table 9: Rates and Counts of Other Reportable Diseases in Lucas County Ohio 2012-2016

OUTBREAKS

Outbreaks

OVERVIEW

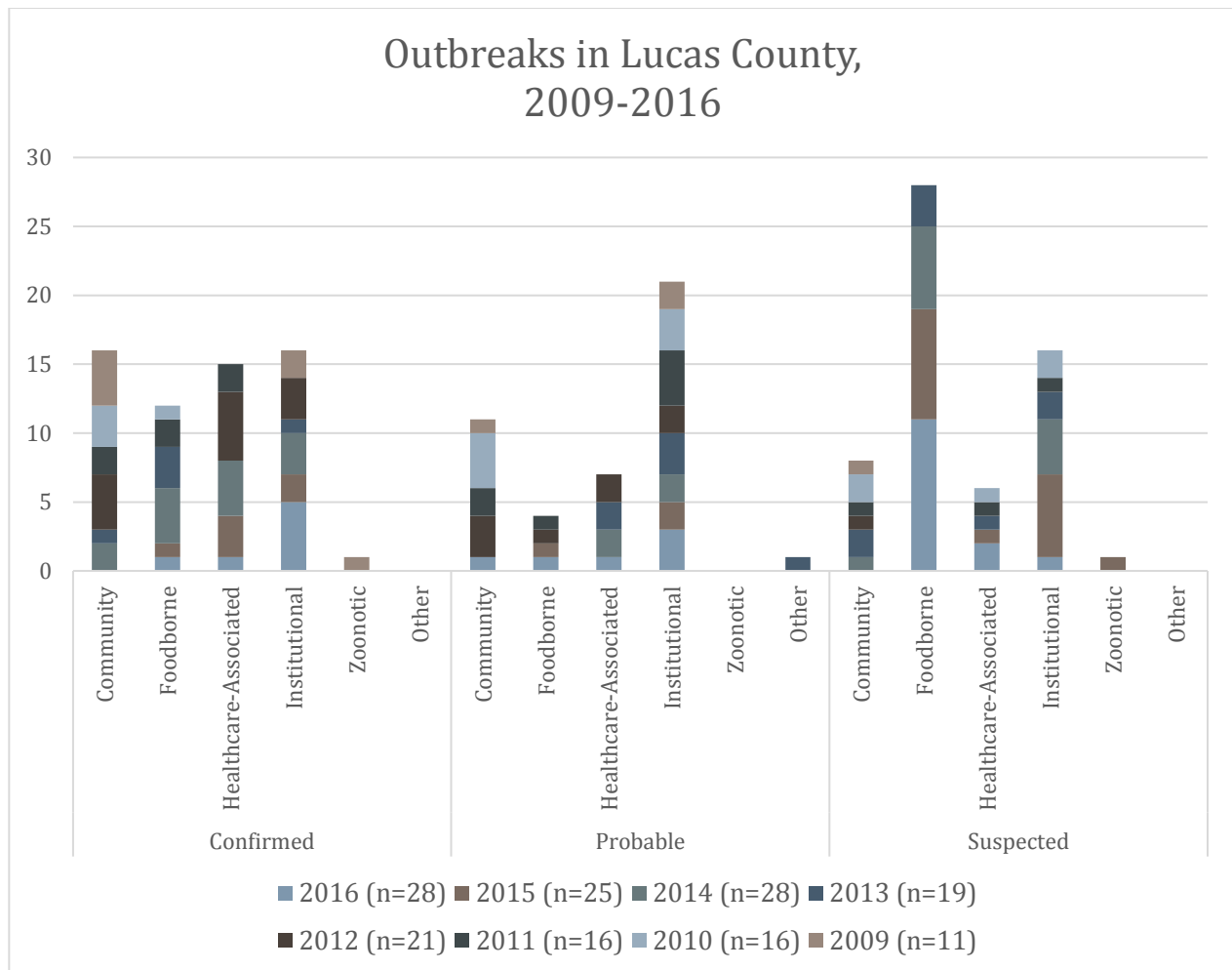
For the 2016 calendar year, there were 28 suspect, probable or confirmed outbreaks that were investigated in Lucas County by the epidemiology staff.

Outbreaks are Class C reportable conditions, unless otherwise specified. Ohio Department of Health classifies outbreaks into a number of categories including Community, Foodborne, Healthcare-Associated, Institutional, Waterborne, and Zoonotic. Definitions for each type of outbreak can be found in the Infectious Disease Control Manual (IDCM) (<http://www.odh.ohio.gov/pdf/idcm/intro1.pdf>).

Status	Outbreak Type	Agent	Count	Number of Ill
Confirmed	Foodborne	Norovirus	1	21
	Healthcare-associated	Norovirus	2	79
	Institutional	<i>Shigella</i>	1	44
		HFMD	1	6
		<i>Bordatella pertussis</i>	1	2
		Norovirus	2	79
Total			8	231
Probable	Foodborne	Norovirus	1	5
	Healthcare-associated	Norovirus	1	26
	Institutional	HFMD	3	22
	Community	Norovirus	1	4
	Total			6
Suspected	Foodborne	Unknown Agent	8	23
		Norovirus	3	10
	Healthcare-associated	Norovirus	1	26
		Influenza	1	4
	Institutional	<i>Enterobius vermicularis</i>	1	2
Total			14	65
Grand Total			28	353

Table 11: Outbreaks Investigated by Epidemiologists at Toledo-Lucas County Health Department, 2016

OUTBREAKS



Environmental Health Introduction

OVERVIEW

The Toledo-Lucas County Health Department's Division of Environmental Health is responsible for inspections, permits, and licenses. The Division covers over 50 different programs, including, but not limited to: food, wells, septic systems, and public swimming pools. In addition to regulatory responsibilities, the Division conducts educational sessions in the aforementioned programs.

FOOD PROTECTION

Food Protection

OVERVIEW

The Food Safety Program is responsible for the inspections of food service operations, temporary food service operations, food vending machines, micro-markets, mobile food operations, and retail food establishments. These inspections are conducted with consumer safety in mind. Local health departments have the authority to enforce state standards for safety and sanitation in Food Service Operations and Retail Food Establishments.

WHY IT IS A PUBLIC HEALTH CONCERN

Foodborne illness is a serious public health threat. According to the Centers for Disease Control and Prevention, each year in the United States, 76 million persons suffer symptoms (e.g. vomiting, diarrhea) caused by mishandled, tainted, or spoiled food. It is the goal of the Food Protection Division of Environmental Health to reduce the risk of foodborne illnesses through inspection, education, and enforcement.

2016 SNAPSHOT

Food Service Operations	
Licensed	1,724
Inspections Completed	4,795
Food Service Mobile	
Licensed	108
Inspections Completed	134
Food Service-Temporary License	
Licensed	276
Inspections Completed	276
Food Service-Vending Machines	
Licensed	245
Inspections Completed	175
Retail Food Establishment	
Licensed	712
Inspections Completed	1,149
Food Safety Complaints	
Complaints Investigated	451

LEAD PREVENTION

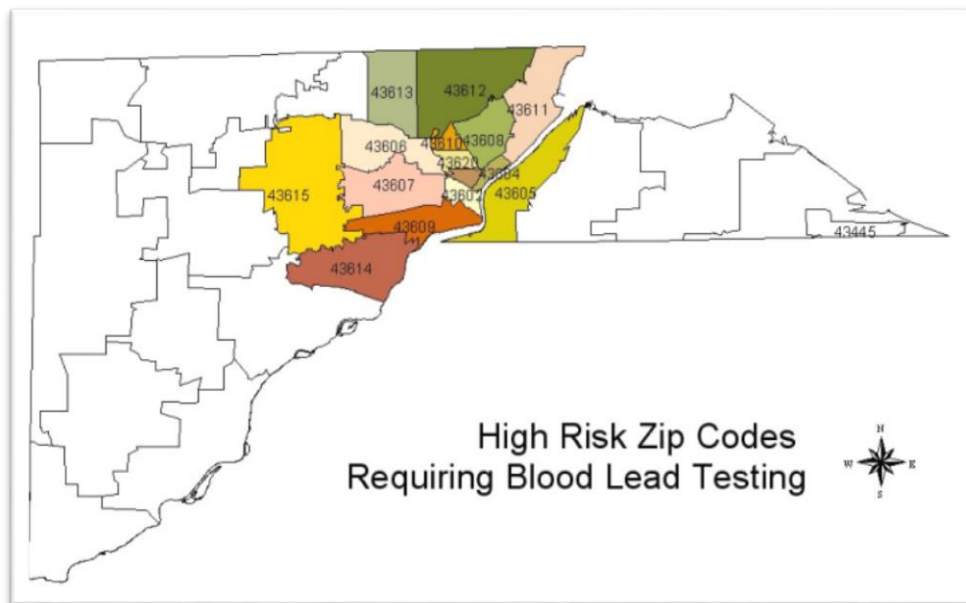
Lead Prevention

OVERVIEW

“Lead Poisoning” is defined as a confirmed level of lead in human blood of ten micrograms per deciliter (10 µ/dL) or greater. The State of Ohio mandates blood lead screening for all high risk children 72 months (6 years) of age and below. High risk children are defined as a child that meets one or more of the following criteria:

- Lives in or regularly visits a house built before 1950. (This includes a day care center, preschool, or home of a baby sitter or relative.)
- Lives in or visits a house that has peeling, chipping, dusting or chalking paint.
- Lives in or visits a house built before 1978 with recent, ongoing, or planned renovation/remodeling.
- Has a sibling or playmate who has or did have lead poisoning.
- Frequently comes in contact with an adult who has a hobby or works with lead. Examples are construction, welding, pottery, painting, and casting ammunition.
- Or any child residing in one of the following zip codes:
 - 43402
 - 43460
 - 43551
 - 43602
 - 43604
 - 43605
 - 43606
 - 43607
 - 43608
 - 43609
 - 43610
 - 43611
 - 43612
 - 43613
 - 43614
 - 43615
 - 43620
 - 43624

For the 2016 calendar year, 501 children were screened by the Toledo-Lucas County Health Department and 162 of those resulted in lead cases that the health department managed. Overall, 24 Risk Assessments (Inspections) were conducted from January to December of 2016.



LEAD PREVENTION

WHY IT IS A PUBLIC HEALTH CONCERN

Lead can damage nearly every system in the human body, and has harmful effects on both adults and children. Lead poisoning is the greatest environmental threat to children in Ohio.

Signs of lead poisoning are not always easy to see. Children can be poisoned by lead and may not look or act sick. Sometimes the non-specific symptoms may be mistaken for similar illnesses (e.g. upset stomach, influenza). Some possible signs and symptoms of lead poisoning are listed below.

CHILDREN	ADULTS
Tiredness or loss of energy	Tiredness or weakness
Hyperactivity	Irritability
Irritability or crankiness	Trouble sleeping
Reduced attention span	Headache
Poor appetite	Difficulty concentrating
Weight loss	Aches or pains in stomach
Trouble sleeping	Loss of appetite
Aches or pains in stomach	Constipation
	Nausea
	Weight loss

Lead poisoning can affect every organ and system in the body. Very high levels of lead exposure can cause coma, seizures, and even death. Even a little lead can make children slow learners. Other health effects include:

CHILDREN	ADULTS
Behavior and learning problems	Impotency
Hyperactivity	Brain and nervous system damage
Impaired speech and language	High blood pressure
Slowed growth	Digestive problems
Kidney and liver damage	Kidney problems
Hearing damage	Anemia
	Reproductive system problems
	Hearing, vision, and muscle coordination problems

Children and adults can get lead in their bodies by swallowing or breathing in dust that contains lead. Some individuals also have occupational exposures to lead that put them at higher risks of elevated blood lead levels. Your healthcare provider can ask you some questions to see if you or your child is at risk for lead poisoning and then can request blood to be tested. The blood testing is used to find out how much lead is in a person's blood.

SEPTIC AND WATER

Septic and Water

OVERVIEW

The primary purpose of the Septic and Well Program is to prevent disease resulting from human consumption of contaminated water. This is accomplished, in part, by assuring that waste-water handling systems do not contaminate the aquifers and surface water sources of drinking water.

An important component of the household sewage treatment system program is to ensure that all sewage systems are installed properly for effective treatment of sewage effluent to prevent contamination of drinking water. The Toledo-Lucas health department oversees sewage system designs and installation including conducting site reviews prior to sewage system approval to final inspections to ensure proper installation. The health department also assists homeowners with education on proper maintenance of sewage system to prolong the life of the sewage system and to prevent system failures.

In addition to the household sewage treatment system program, the TLCHD oversees proper installations and maintenance of private water systems including wells and hauled water storage tanks. Proper installation of private water systems is very crucial in providing safe drinking water for the homeowners. As part of monitoring the safety of the private water system, the TLCHD conducts water samples and transport the water to a lab to be tested.

Household Sewage Treatment

Permits	82
Inspections	76
Site Reviews Completed	80
Assessment Completed	105
Surface Water Samples Completed	35

Potable Water Systems

Permits	37
Inspections	16
Water Samples	188

WHY IT IS A PUBLIC HEALTH CONCERN

Safe septic and sewage treatment is an important component to public health. Sewage has the potential to pollute water systems with pathogens, excess nutrients, heavy metals, and other toxins. Improperly managed sewage systems can negatively impact aquatic life and contribute to bacterial growth in bodies of water. Pathogens carried in sewage can also end up in drinking water supplies and swimming areas, if systems are not properly maintained. The Environmental Protection Agency estimates that up to 3.5 million individuals fall ill from swimming in waters contaminated by sanitary sewer overflows alone every

SEPTIC AND WATER

year. Listed below are a number of pathogens, parasites and viruses that can be implicated in contaminated water systems:

	AGENT	ACUTE EFFECTS
BACTERIA	<i>E. coli</i> O157:H7	Diarrhea
	<i>Legionella pneumonia</i>	Fever, pneumonia
	<i>Helicobacter pylori</i>	Gastritis
	<i>Vibrio cholera</i>	Diarrhea
	<i>Vibrio vulnificus</i>	Skin and tissue damage
	<i>Campylobacter</i>	Diarrhea
	<i>Salmonella</i>	Diarrhea
	<i>Yersinia</i>	Diarrhea
	<i>Shigella</i>	Diarrhea
	<i>Cyanobacteria</i>	Diarrhea
	<i>Leptospirosis</i>	Fever, headache, chills, muscle aches, vomiting
	<i>Aeromonas hydrophila</i>	Diarrhea
	<i>Pseudomonas aeruginosa</i>	Fever, lethargy
PARASITE	<i>Giardia lamblia</i>	Diarrhea
	<i>Cryptosporidium</i>	Diarrhea
	<i>Toxoplasma gondii</i>	Newborn syndrome, hearing and visual loss, mental issues
	<i>Microsporidia</i>	Diarrhea
	<i>Entamoeba cayetanensis</i>	Amebiasis, amoebic dysentery, abscesses in liver or other organs
VIRUS	Hepatitis virus	Liver infection
	Adenoviruses	Eye infections, diarrhea, respiratory disease
	Caliciviruses	Diarrhea
	Coxsackieviruses	Encephalitis, aseptic meningitis
	Echoviruses	Aseptic meningitis
	Polyomaviruses	Gastroenteritis
	Norovirus	Nausea, vomiting, abdominal pain or cramps, watery or loose diarrhea, malaise, low-grade fever, muscle pain

Listing is not comprehensive to cover all waterborne illness pathogens/bacteria/viruses. Also not included are chemicals that have been implicated in previous waterborne illnesses.

CAMPGROUND/RECREATIONAL VEHICLE PARKS

Campground/Recreational Vehicle Parks

OVERVIEW

The Toledo-Lucas County Health Department is mandated by the Ohio Department of Health to enforce rules relating to recreational vehicle parks; these rules can be found in the Ohio Administrative Code (OAC) in Chapter 3701-25. Minimum standards have been established and are to be enforced for the design, installation, operation, and maintenance of these parks to protect the public from injury, minimize the potential for disease transmission, and provide a safe and healthy recreational environment.

2016 SNAPSHOT

For 2016, 14 facilities have been licensed and 27 inspections have been conducted during the 2016 calendar year.

RODENT PROGRAM

Rodent Program

OVERVIEW

The rodent control program is designed to manage one of the oldest public health problems known to humans. Rodents destroy property, have the potential to contaminate food supplies, and also carry diseases. Our goal is to control the spread of disease by limiting the growth of rodent populations and to correct conditions that contribute to rodent breeding. To accomplish this goal, the rodent control program conducts field inspections, issues orders to abate conditions that are conducive to proliferation of rodents, bait public areas, and meet with neighborhood groups to provide education on methods of rodent control and application of pesticides.

2016 SNAPSHOT

For the 2016 calendar year, the rodent program conducted 1,917 inspections and applied 239.69 pounds of bait within Lucas County.

WHY IT IS A PUBLIC HEALTH CONCERN

Aside from the obvious concerns relating to the presence of rodents, many diseases can be directly transmitted by rodents. Listed below are just a few of these diseases:

- Hantavirus pulmonary syndrome
- Hemorrhagic fever with renal syndrome
- Lassa fever
- Leptospirosis
- Lymphatic Chorio-meningitis (lcm)
- Omsk hemorrhagic fever
- Plague
- Rat-bite fever
- Salmonellosis
- South American arenaviruses
- Tularemia

Rodents also can indirectly transmit many diseases to humans. These diseases include, but are not limited to:

- Babesiosis
- Colorado tick fever
- Cutaneous leishmaniasis
- Human granulocytic anaplasmosis
- Lacrosse encephalitis
- Lyme disease
- Murine typhus
- Omsk hemorrhagic fever
- Powassan virus
- Scrub typhus
- Rickettsialpox
- Relapsing fever
- Rocky mountain spotted fever
- Sylvatic typhus
- West Nile virus

Schools

OVERVIEW

For the 2016 calendar year, the program inspected all public and private schools for environmental health and safety risks factors. In accordance to the U.S. Department of Education, office of the under Secretary, “Inadequate indoor environment in schools may decrease performance by causing health effects that either directly impair concentrations or memory or indirectly affect learning.” Our goal is to inspect schools and inform the school officials of the environmental health and safety risks found during our inspections and provide guidance on correcting any deficiencies. While this program is unfunded and there are no regulatory requirements for schools to correct any deficiencies, we believe that this program has helped provided a safe school environment for the children of Lucas County.

2016 SNAPSHOT

In 2016, a total of 278 inspections were completed.

WHY IT IS A PUBLIC HEALTH CONCERN

Approximately 20 percent of the US population spends their day in a school building. In 1994, a Government Accounting Office report to Congress indicated that 83% of Ohio’s schools had at least one unsatisfactory environmental factor. Nearly half (48 percent) of schools reported problems with the HVAC systems in their buildings. The rate of childhood asthma has increased dramatically over the years to one out of 10 children. Poor Indoor Air Quality (IAQ) has a direct impact on persons with asthma resulting in more frequent asthma episodes. According to a 2004 report to the Under Secretary of the U.S. Department of Education, “The overall evidence strongly suggests that poor environments in schools, due primarily to effects of indoor pollutants, adversely influence the health, performance and attendance of students.”*

*(Information taken from ODH School Inspection Guidance, 10-29-10)

PUBLIC SWIMMING POOLS

Public Swimming Pools

OVERVIEW

Public swimming pools, spas, and special use pools are regulated under the authority of Chapter 2749 of the Ohio Revised Code (ORC) and Chapter 3701-31 of the Ohio Administrative Code (OAC) and the enforcement of these regulations within Lucas County, Ohio falls to the responsibility of the Toledo-Lucas County Health Department.

These rules were created to establish minimum standards for the design, installation, operation, and maintenance of these facilities in order to protect the public from injury, minimize the potential for disease transmission, and provide a safe and healthy aquatic recreational environment. Public swimming pool collectively references public swimming pools, public spas, special use pools, wading pools, and spray grounds.

Most swimming pools are inspected by our staff prior to the pools opening during the early summer months and are inspected on a periodic basis throughout the summer. There are also several indoor swimming pools and spas that are located in hotels and health clubs that inspected year round. In addition to conducting regular inspections of swimming pools, the Toledo-Lucas County Health Department conducts inspections if there are complaints from a citizen or if investigating concerns associated with possible water borne illnesses.

2016 SNAPSHOT

The staff at the Toledo-Lucas County Health Department have licensed 256 public swimming pools and conducted 381 inspections for 2016.

WHY IT IS A PUBLIC HEALTH CONCERN

Chlorine, a common pool cleaning chemical, does not kill all germs instantly. Some bacteria and parasites have become very tolerant to chlorine and, until recently, have not been known to cause human illness. These resistant bacteria and parasites can take minutes to days to be killed by chlorine, so swallowing just a little water that contains these germs can make you sick.

Recreational water illnesses (RWIs) are caused by germs spread by swallowing, breathing in mists or aerosols of, or having contact with contaminated water in swimming pools, hot tubs, water parks, water play areas, interactive fountains, lakes, rivers, or oceans. RWIs can also be caused by chemicals in the water or chemicals that evaporate from the water and cause indoor air quality problems.

RWIs include a wide variety of infections, such as gastrointestinal, skin, ear, respiratory, eye, neurologic, and wound infections. The most commonly reported RWI is diarrhea. Diarrheal illnesses are caused by germs such as *Crypto* (short for *Cryptosporidium*), *Giardia*, *Shigella*, Norovirus and *E. coli* O157:H7. With RWI outbreaks on the rise, swimmers need to take an active role in helping to protect themselves and

PUBLIC SWIMMING POOLS

prevent the spread of germs. It is important for swimmers to learn the basic facts about RWIs so they can keep themselves and their family healthy every time they swim.

In the past two decades, there has been a substantial increase in the number of RWI outbreaks associated with swimming. Crypto, which can stay alive for days even in well-maintained pools, has become the leading cause of swimming pool-related outbreaks of diarrheal illness. As indicated in the Centers for Disease Control and Prevention's Morbidity and Mortality Weekly Report from 2012, 2004 to 2008, reported Crypto cases increased over 200% (from 3,411 cases in 2004 to 10,500 cases in 2008).

Although Crypto is tolerant to chlorine, most germs are not. Keeping chlorine at recommended levels is essential to maintain a healthy pool. However, a 2010 study posted in the Centers for Disease Control and Prevention's Morbidity and Mortality Weekly Report in 2010 found that 1 in 8 public pool inspections resulted in pools being closed immediately due to serious code violations such as improper chlorine levels.

For more information about recreational water illnesses, see www.cdc.gov/healthywater/swimming/rwi.

Body Art

OVERVIEW

Body art in the state of Ohio is regulated under the authority of Chapter 3730.01 of the Ohio Revised Code (ORC) and Chapter 3701-9 of the Ohio Administrative Code (OAC) and, for the jurisdiction of Lucas County Ohio, is to be enforced by the Toledo-Lucas County Health Department. These rules were created to establish minimum standards, applicable across the entire state of Ohio, for the operation and maintenance of body art facilities in order to protect the public from injury, minimize the potential for disease transmission, and provide a safe and healthy environment.

2016 SNAPSHOT

For the 2016 calendar year, the program in Lucas County has licensed 28 facilities and conducted 46 facility inspections.

WHY IT IS A PUBLIC HEALTH CONCERN

Popularity and decreased taboo associated with tattooing and body piercing has left many individuals believing that these procedures are extremely safe, especially when conducted in what may appear to be a well-respected tattoo artist in a seemingly sterile setting. Public health works to ensure that facilities are operating within licensing guidelines and that the risk of infectious diseases and hazardous situations are mitigated. Unsterile tattooing equipment and needles can transmit diseases such as HIV, hepatitis, and skin infections caused by many bacteria, including some species of *Staphylococcus*.

Smoke-Free Workplace

OVERVIEW

Public health in Lucas County has been a long-standing advocate for smoke-free environments. In 2003, many universities across Ohio, including some within Lucas County, banned smoking on campus. The Toledo-Lucas County Health Department has been responsible for enforcing Ohio's Smoke-Free Workplace Act and has been instrumental in tightening smoking legislation within the state. Ohio's Smoke-Free Workplace Act was voted upon in November of 2006 as Issue 5 in the state of Ohio; Issue 5 was a statute which set into law a requirement that all public places and places of employment in the state of Ohio prohibit smoking.

The new law went into effect December 7, 2006, thirty days after voters passed the law. Administrative rule for the Ohio Revised Code 3794 further defined the law and enforcement by outlining responsibilities of proprietors and individuals. They clarify the posting requirements for signs, outline due process for proprietors and individuals and state fines and penalties for violations.

2016 SNAPSHOT

For the calendar year of 2016, the Toledo-Lucas County Health Department conducted 79 smoke-free workplace inspections.

WHY IT IS A PUBLIC HEALTH CONCERN

Smoking is the leading preventable cause of death in the United States. The Centers for Disease Control and Prevention estimates that cigarette smoking causes more than 480,000 deaths in the United States annually. Smokers are also more likely than nonsmokers to develop heart disease, stroke, and lung cancer. Quitting smoking lowers your risk for smoking-related diseases and can add years to your life.

Secondhand smoke is the combination of smoke from the burning end of a cigarette and the smoke breathed out by smokers. Exposure to secondhand smoke has immediate adverse effects on the cardiovascular system and can cause coronary heart disease and stroke. Breathing secondhand smoke can have immediate adverse effects on your blood and blood vessels, increasing the risk of having a heart attack. Secondhand smoke harms not only adults, but children by increasing their likeliness to develop other illnesses (e.g. bronchitis, pneumonia, ear infections, asthma).

For additional information, see <http://www.cdc.gov/tobacco/index.htm>

ANIMAL BITES

Animal Bites

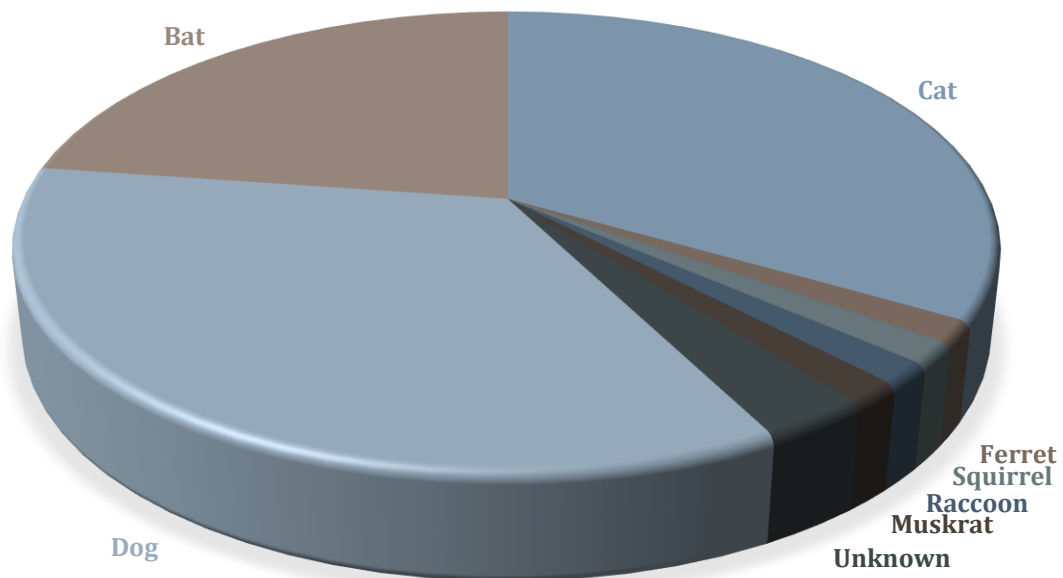
OVERVIEW

Ohio State law requires that owners of any animal that may have been involved in a bite follow specific rules. People can be exposed to diseases, such as rabies, when they are bitten by an infected animal, or less commonly, when saliva from infected animals get into an open wound or onto a mucous membrane. The Toledo-Lucas County Health Department works with the Ohio Department of Health Zoonotic Disease Program to conduct activities to protect Ohio residents from the spread of diseases carried by animals by providing education, providing testing of specimens, and collecting and maintaining data on rabies and animal bites within Lucas County, Ohio.

2016 SNAPSHOT

For the 2016 calendar year, 782 bite reports were completed. 72 samples were sent to the Ohio Department of Health Laboratories and 0 tested positive for rabies virus.

ANIMAL SPECIES TESTED FOR RABIES IN LUCAS COUNTY, 2016



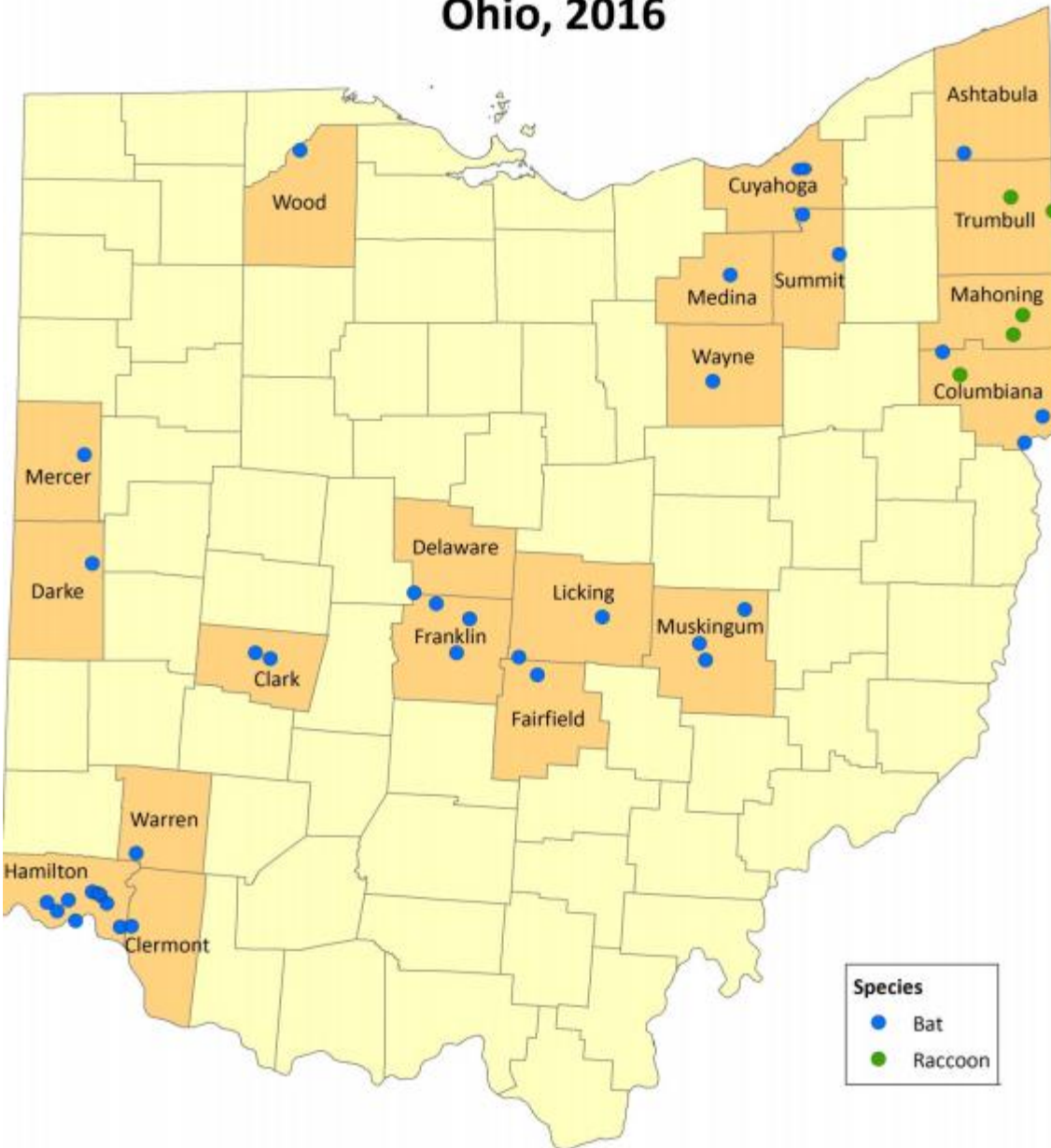
ANIMAL BITES

WHY IT IS A PUBLIC HEALTH CONCERN

Animal bites can result in serious injuries and potential exposures to diseases such as rabies. It is estimated that nearly 5 million people in the United States are bitten by dogs each year, and about 1 in 4 of those people require medical attention. Mammals are carriers for rabies and, though the presumed fear is primarily around contracting rabies from dogs, the more likely exposure to rabies is through the bite or contact with bats.

ANIMAL BITES

Animal Rabies Incidence by Species, Ohio, 2016



For more information, visit <http://www.odh.ohio.gov/animalrabies>

Nuisance

OVERVIEW

A public health nuisance is when a building or property is in a condition that threatens or potentially threatens the health of any person or community. The Toledo-Lucas County Health Department will often work with cities, townships and villages to abate public health nuisance conditions by inspections and enforcement actions. Examples of public health nuisances are unsanitary housing or living conditions, accumulation of trash, garbage, and other debris on properties and other conditions that attract roaches and rodents which may harbor diseases.

2016 SNAPSHOT

For the 2016 calendar year, the TLCHD inspected 484 nuisance complaints.

Response and Preparedness

GROUP OVERVIEW

- Community Services, Response and Preparedness (CSRP) was established in 2008 to look to the future and assure cutting edge epidemiological capabilities, infectious disease surveillance, emergency response services, emergency preparedness education and awareness to the community.
- The group directs the Health Department's support and response for any public health emergency or local disaster related event for Lucas County
- In addition, the group houses the Regional Public Health Coordinator for Northwest Ohio. Through the office of Community Services, Response and Preparedness, Toledo-Lucas County Health Department provides emergency preparedness coordination and support to the eighteen county Northwest Ohio Public Health Region.

EMERGENCY PREPAREDNESS

In 2016, the division of Community Services, Response and Preparedness Division (CSRP) continued to work on the supplement to its PHEP grant. This supplement aimed to increase local and state coordination and preparedness planning with regard to the concerns surrounding Ebola Virus Disease (EVD) and other special pathogens.

The CSRP division continued to collaborate with 17 other counties in the Northwest Ohio region to develop the Northwest Ohio Ebola and Other Special Pathogens Concept of Operations Plan. This plan was acknowledged by all 18 health commissioners in Northwest Ohio and accepted by the Ohio Department of Health in October 2016. This plan will be reviewed annually to ensure it is updated to the latest information.

The TLCHD Disaster Response Team is comprised of public health employees from across all divisions of the department to assist in immediate disaster response and preparedness. In 2016, the response team was able to engage with different partners from across Toledo and Lucas County including the United States Coast Guard, Toledo Police, Lucas County Emergency Management, and ProMedica Toledo Hospital. The disaster response team is also trained on incident command structure and personal protective equipment to properly respond to any public health emergency in Lucas County

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