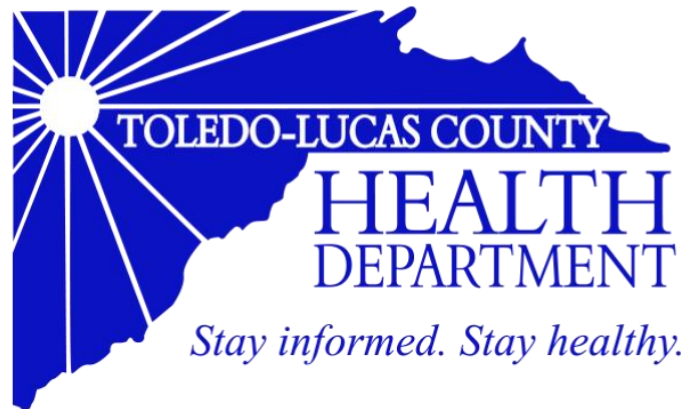


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ANNUAL COMMUNITY AND ENVIRONMENTAL HEALTH REPORT

2014

Annual Summary of the Division of Community Services and Environmental Health at the Toledo-Lucas County Health Department for 2014



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GEOGRAPHIC DISTRIBUTION OF SELECTED 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

- Lucas County has seen an increase in the number of sexually transmitted infections over the 2014 calendar year. Chlamydia has increased from 513.11 cases per 100,000 in 2013 to 731.30 cases per 100,000 in 2014 and Gonococcal Infections have increased from 184.69 cases per 100,000 to 225.21 cases per 100,000. The number of syphilis cases has doubled over the past year, going from 5.88 cases per 100,000 in 2013 to 13.35 cases per 100,000 in 2014.
- Confirmed cases of Pertussis have decreased significantly from 12.67 cases per 100,000 in 2013 to 5.43 cases per 100,000 in 2014.

LOOKING AHEAD

The Toledo-Lucas County Health Department is continually striving to decrease the number of infectious diseases acquired by residents of our county, as well as those visiting our jurisdiction. Increasing community awareness and education are goals for our upcoming calendar year.

GEOGRAPHIC DISTRIBUTION OF SELECTED 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

**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.*

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

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."

GEOGRAPHIC DISTRIBUTION OF SELECTED 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.

GEOGRAPHIC DISTRIBUTION OF SELECTED DISEASES

	Reportable Condition	Class	2014				2013				2012				2011				2010			
			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	1	0.23	1	0.23	1	0.23	1	0.23	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Campylobacteriosis	B	47	10.64	61	13.81	49	11.09	76	17.20	57	12.90	70	15.84	31	7.02	183	41.42	43	9.73	123	27.84
	Cholera	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
	Cryptosporidiosis	B	17	3.85	17	3.85	14	3.17	14	3.17	19	4.3	19	4.30	18	4.07	18	4.07	20	4.53	20	4.53
	Cyclosporiasis	B	1	0.23	1	0.23	3	0.68	3	0.68	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	<i>E. coli</i> - Not O157:H7	B	1	0.23	1	0.23	3	0.68	3	0.68	7	1.58	7	1.58	1	0.23	1	0.23	0	0.0	0	0.0
	<i>E. coli</i> - O157:H7	B	4	0.91	4	0.91	1	0.23	1	0.23	3	0.68	3	0.68	1	0.23	1	0.23	0	0.0	0	0.0
	<i>E. coli</i> - Unknown serotype	B	0	0.0	1	0.23	0	0.0	1	0.23	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.68
	Giardiasis	B	9	2.04	9	2.04	13	2.94	13	2.94	7	1.58	7	1.58	15	3.4	15	3.40	20	4.53	20	4.53
	Hemolytic uremic syndrome (HUS)	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
	Listeriosis	B	1	0.23	1	0.23	3	0.68	3	0.68	2	0.45	2	0.45	0	0.0	0	0.0	0	0.0	0	0.0
	Salmonellosis	B	37	8.37	37	8.37	53	12.00	53	12.00	52	11.77	52	11.77	81	18.33	81	18.33	47	10.64	48	10.86
	Shigellosis	B	19	4.3	19	4.3	7	1.58	7	1.58	11	2.49	11	2.49	31	7.02	31	7.02	42	9.51	42	9.51
	Trichinosis	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
	Typhoid 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
<i>Vibrio parahaemolyticus</i> infection	B	0	0.0	0	0.0	2	0.45	2	0.45	1	0.23	1	0.23	0	0.0	0	0.0	0	0.0	0	0.0	
Yersiniosis	B	1	0.23	1	0.23	1	0.23	1	0.23	2	0.45	2	0.45	1	0.23	1	0.23	0	0.0	0	0.0	

Table 4: Rates and Counts of Enteric Diseases in Lucas County Ohio 2010-2014

GEOGRAPHIC DISTRIBUTION OF SELECTED DISEASES

	Reportable Condition	Class	2014				2013				2012				2011				2010			
			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	0	0.0	0	0.0	1	0.23	9	2.04	2	0.45	7	1.58	2	0.45	5	1.13	1	0.23	8	1.81
	Hepatitis B - Perinatal Infection	B	0	0.0	7	1.58	0	0.0	2	0.45	0	0.0	1	0.23	0	0	18	4.07	0	0.0	0	0.0
	Hepatitis B - acute	B	1	0.23	6	1.36	0	0.0	10	2.26	4	0.91	17	3.85	2	0.45	7	1.58	2	0.45	4	0.91
	Hepatitis B - chronic	B	57	12.90	253	57.26	52	11.77	111	25.12	38	8.60	66	14.94	87	19.69	134	30.33	102	23.09	214	48.44
	Hepatitis C - acute	B	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.45	0	0.0	0	0.0	0.0	0.0	4	0.91
	Hepatitis C - chronic	B	237	53.64	756	171.11	292	66.09	631	142.82	242	54.77	478	108.19	443	108.19	794	179.71	356	80.58	881	199.40
	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 2010-2014

	Reportable Condition	Class	2014				2013				2012				2011				2010			
			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	3231	731.30	3231	731.30	2267	513.11	2267	513.11	3210	726.55	3210	726.55	2359	533.93	2359	533.93	3027	685.13	3027	685.13
	Gonococcal infection	B	995	225.21	995	225.21	819	185.37	819	185.37	1349	305.33	1349	305.33	805	182.20	805	182.20	1197	270.93	1198	270.93
	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		-	-	54*	12.22	-	-	39*	8.83	-	-	64*	14.49	-	-	56*	12.67	-	-	39*	8.83
	Syphilis		-	-	59*	13.35	-	-	26*	5.88	-	-	-	-	-	-	-	-	-	-	-	-

GEOGRAPHIC DISTRIBUTION OF SELECTED DISEASES

Table 6: Rates and Counts of Sexually Transmitted Infections in Lucas County Ohio 2010-2014

*Only Confirmed Counts

	Reportable Condition	Class	2014				2013				2012				2011				2010			
			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	9	2.04	9	2.04	5	1.13	5	1.13	14	3.17	14	3.17	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	322	72.88	322	72.88	161	36.44	161	36.44	59	13.35	59	13.35	121	27.39	122	27.61	11	2.49	11	2.49
	Measles	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
	Meningococcal disease - <i>Neisseria meningitidis</i>	A	1	0.23	1	0.23	0	0.0	0	0.0	1	0.23	1	0.23	3	0.68	3	0.68	2	0.45	2	0.45
	Mumps	B	1	0.23	1	0.23	0	0.0	0	0.0	1	0.23	1	0.23	1	0.23	2	0.45	0	0.0	2	0.45
	Pertussis	B	26	5.88	34	7.70	36	8.15	40	9.05	6	1.36	10	2.26	14	3.17	18	4.07	33	7.47	55	12.45
	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	1	0.23	0	0.0	0	0.0	0	0.0	0	0.0
	Tetanus	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
	Varicella	B	13	2.94	16	3.62	12	2.72	13	2.94	13	2.94	14	3.17	17	3.85	17	3.85	27	6.11	28	6.34

Table 7: Rates and Counts of Vaccine Preventable Illnesses in Lucas County Ohio 2010-2014

GEOGRAPHIC DISTRIBUTION OF SELECTED DISEASES

	Reportable Condition	Class	2014				2013				2012				2011				2010			
			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
ZOOBOTIC OR VECTOR-BORNE	Anaplasmosis/Ehrlichiosis		0	0.0	1	0.23	0	0.0	1	0.23	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Brucellosis	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
	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	2	0.45	13	2.94	3	0.68	12	2.72	1	0.23	17	3.85	6	1.36	10	2.26	1	0.23	2	0.45
	Malaria	B	1	0.23	2	0.45	2	0.45	2	0.45	0	0.0	0	0.0	1	0.23	2	0.45	0	0.0	0	0.0
	Other arthropod-borne disease	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
	Psittacosis	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
	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	0	0.0	1	0.23	1	0.23	2	0.45	0	0.0	1	0.23	2	0.45	2	0.45	0	0.0	0	0.0
	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	1	0.23	8	1.81	9	2.04	4	0.91	4	0.91	6	1.36	6	1.36	0	0.0	0	0.0	
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	

Table 8: Rates and Counts of Zoonotic or Vector-Borne Illnesses in Lucas County Ohio 2010-2014

GEOGRAPHIC DISTRIBUTION OF SELECTED DISEASES

	Reportable Condition	Class	2014				2013				2012				2011				2010			
			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	1	0.23	1	0.23	1	0.23	1	0.23	0	0.0	1	0.23	1	0.23	1	0.23	2	0.45	2	0.45
	Creutzfeldt-Jakob 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	1	0.23	1	0.23
	Cytomegalovirus - congenital (CMV)	B	0	0.0	0	0.0	0	0.0	0	0.0	1	0.23	1	0.23	1	0.23	1	0.23	3	0.68	3	0.68
	Ehrlichiosis-Ehrlichia chaffeensis	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
	Legionellosis	B	6	1.36	6	1.36	18	4.07	18	4.07	4	0.91	5	1.13	7	1.58	7	1.58	7	1.58	10	2.26
	Meningitis - aseptic/viral	B	38	8.60	41	9.28	55	12.45	55	12.45	46	10.41	46	10.41	73	16.52	73	16.52	37	8.37	37	8.37
	Meningitis - bacterial (Not <i>N. meningitidis</i>)	B	7	1.58	7	1.58	6	1.36	6	1.36	7	1.58	7	1.58	2	0.45	2	0.45	8	1.81	9	2.04
	Mycobacterial disease - other than tuberculosis	B	39	8.89	39	8.83	32	7.24	32	7.24	27	6.11	27	6.11	28	6.34	28	6.34	28	6.34	28	6.34
	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	1	0.23	1	0.23
	Streptococcal - Group A -invasive	B	15	3.40	15	3.40	13	2.94	13	2.94	12	2.72	12	2.72	19	4.30	19	4.30	20	4.53	20	4.53
	Streptococcal - Group B - in newborn	B	0	0.0	0	0.0	4	0.91	4	0.91	3	0.68	3	0.68	3	0.91	3	0.91	3	0.68	3	0.68
	Streptococcal toxic shock syndrome (STSS)	B	0	0.0	0	0.0	0	0.0	0	0.0	5	1.13	5	1.13	4	0.91	4	0.91	6	1.36	9	2.04

GEOGRAPHIC DISTRIBUTION OF SELECTED DISEASES

	Reportable Condition	Class	2014				2013				2012				2011				2010			
			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	19	4.3	19	4.30	32	7.24	32	7.24	33	7.47	33	7.47	36	8.15	36	8.15	40	9.05	40	9.05
	Streptococcus pneumoniae - invasive antibiotic resistant/intermediate	B	9	2.04	9	2.04	14	3.17	14	3.17	10	2.26	10	2.26	12	2.72	12	2.72	18	4.07	18	4.07
	Toxic shock syndrome (TSS)	B	0	0.0	1	0.23	0	0.0	0	0.0	0	0.0	1	0.23	0	0.0	0	0.0	0	0.0	0	0.0
	Tuberculosis	B	2	0.45	3	0.68	7	1.58	7	1.58	4	0.91	4	0.91	4	0.91	4	0.91	4	0.91	4	0.91

Table 9: Rates and Counts of Other Reportable Diseases in Lucas County Ohio 2010-2014

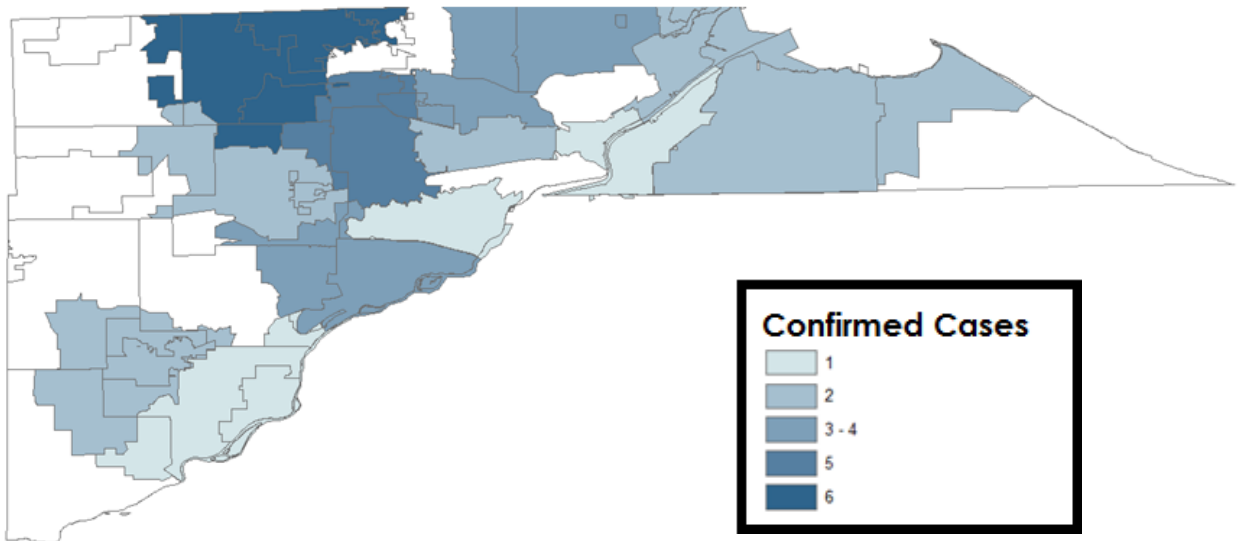
GEOGRAPHIC DISTRIBUTION OF SELECTED DISEASES

Geographic Distribution of Selected Diseases

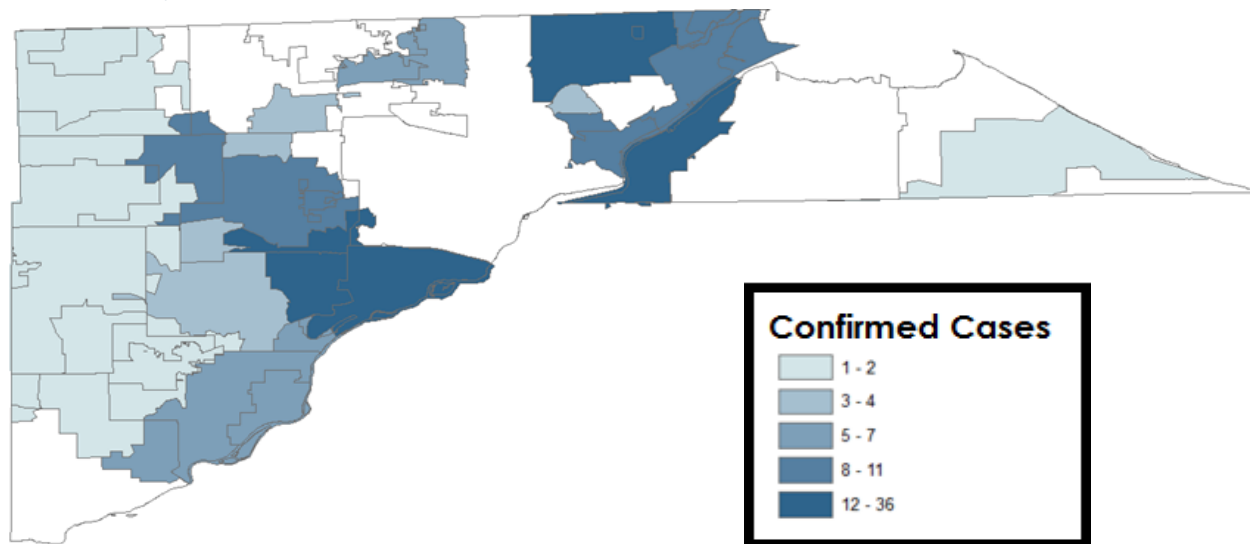
OVERVIEW

Highlighted below is a geographic distribution of selected diseases within Lucas County.

CAMPYLOBACTER, 2014

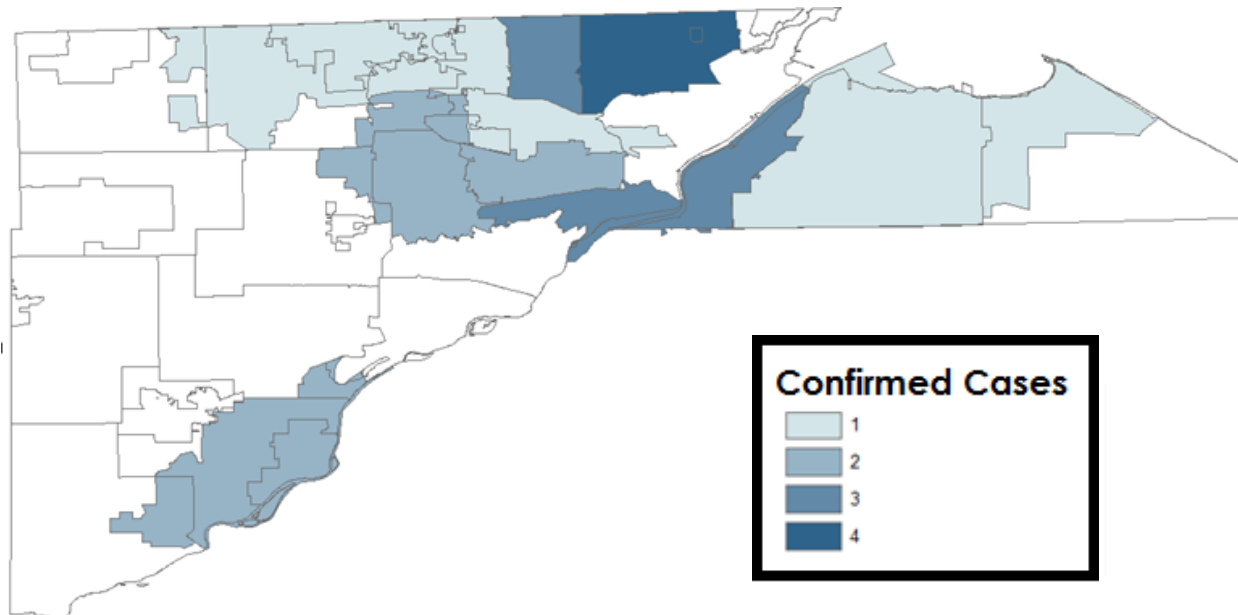


SALMONELLA, 2014

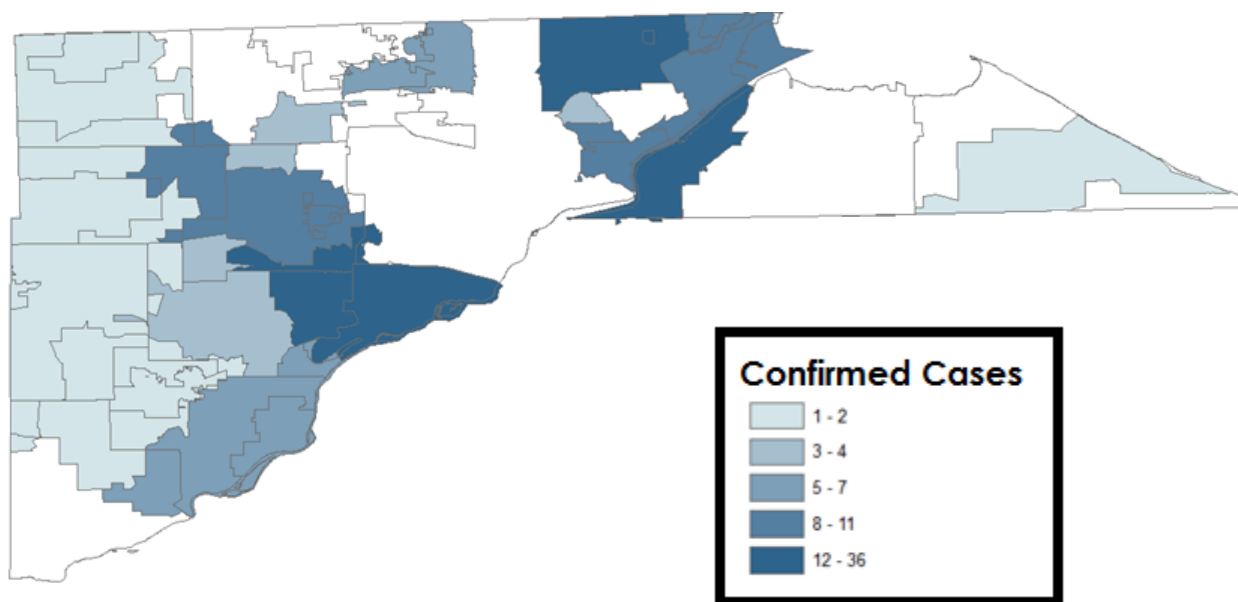


GEOGRAPHIC DISTRIBUTION OF SELECTED DISEASES

PERTUSSIS, 2014

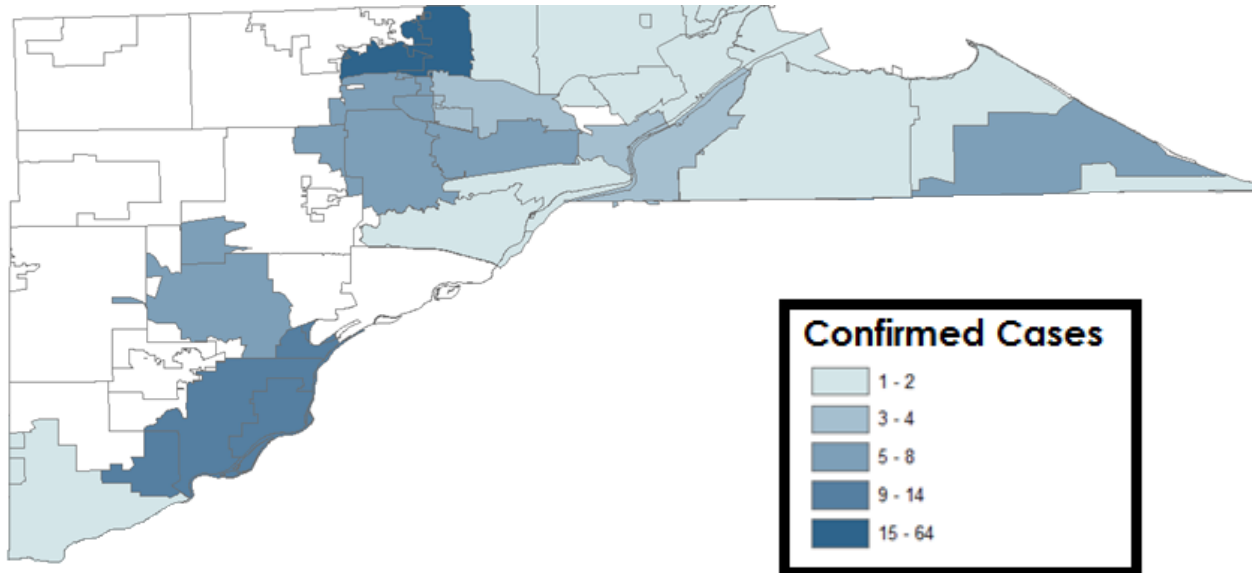


INFLUENZA-ASSOCIATED HOSPITAL INFECTION, 2014

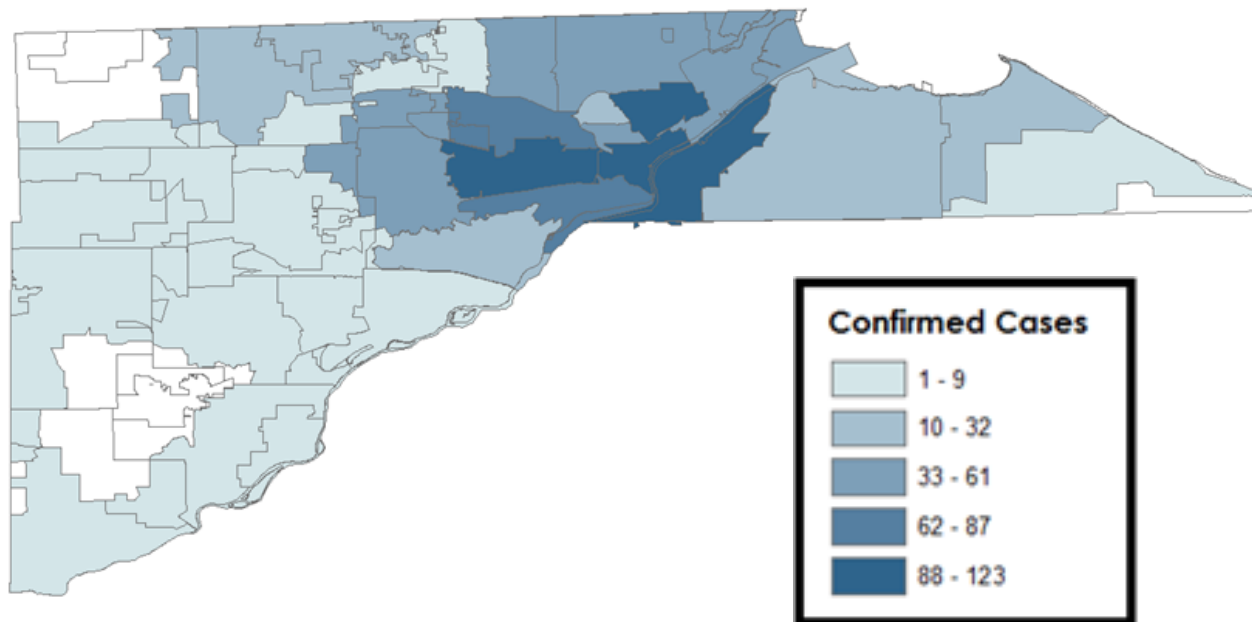


GEOGRAPHIC DISTRIBUTION OF SELECTED DISEASES

CHLAMYDIA, 2014

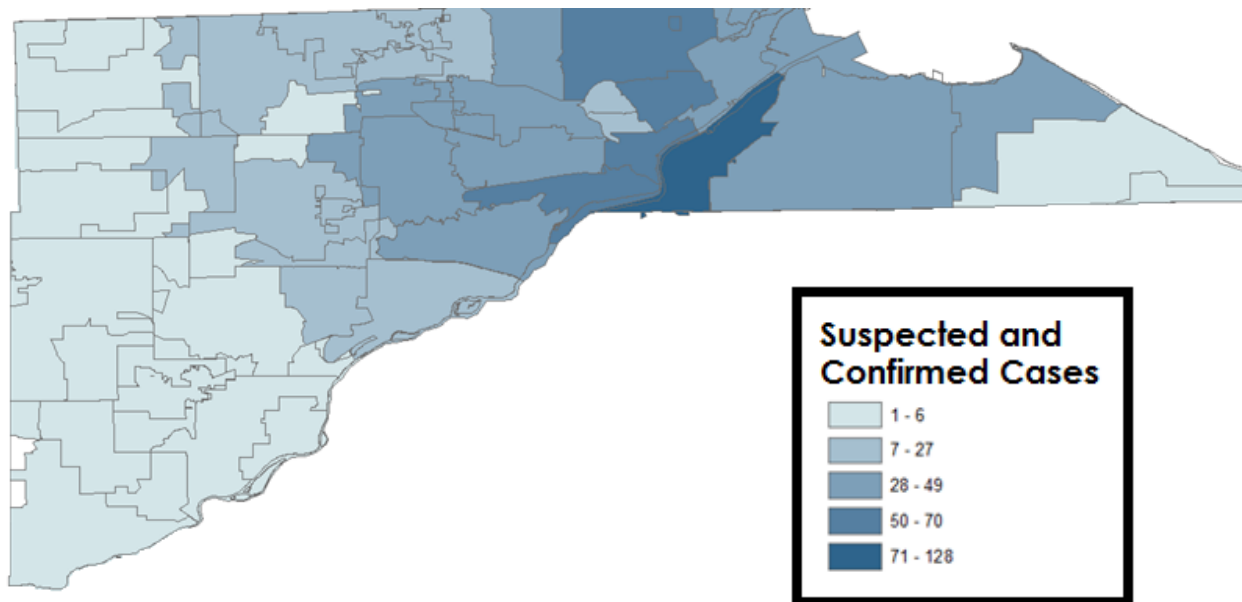


GONOCOCCAL INFECTION, 2014



GEOGRAPHIC DISTRIBUTION OF SELECTED DISEASES

HEPATITIS C



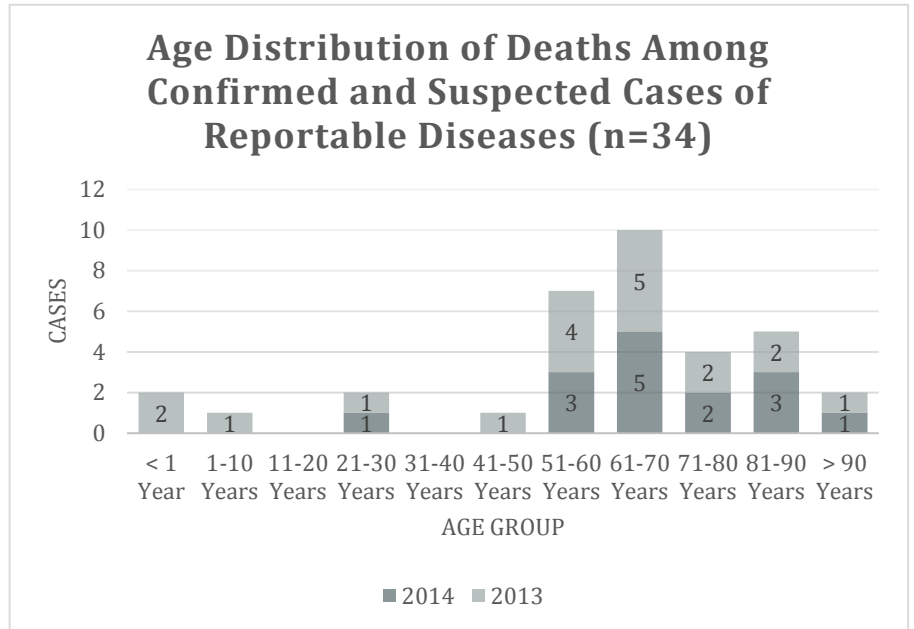
DEATHS ASSOCIATED WITH DISEASE

Deaths Associated with Disease

OVERVIEW

Over the past two calendar years, 34 deaths occurred among confirmed and suspected cases of reportable diseases in Lucas County, Ohio. Of these 34 deaths, the greatest number of deaths were reported among cases of influenza-associated hospitalizations.

As a note, death information was obtained from the Ohio Disease Reporting System (ODRS) and is subject to several limitations. Deaths that are identified during case or outbreak investigation are entered in ODRS, but cases are not followed to determine if death occurred after the investigation ended. Therefore, the number of deaths reported in the table below 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 the death certificate or medical records.



Disease	2014	2013
Campylobacteriosis	1	0
Haemophilus influenzae (invasive disease)	1	0
Hepatitis B (including delta) - chronic	1	1
Hepatitis C - chronic	2	2
Influenza-associated hospitalization	6	3
Legionellosis	0	2
Malaria	0	1
Meningitis - bacterial (Not <i>N. meningitidis</i>)	0	1
Meningococcal disease - <i>Neisseria meningitidis</i>	1	0
Mycobacterial disease - other than tuberculosis	1	0
Streptococcal - Group A -invasive	1	3
Streptococcal - Group B - in newborn	0	1
Streptococcus pneumoniae - invasive antibiotic resistance unknown or non-resistant	1	3
Tuberculosis	0	1
West Nile Virus Disease	0	1
Total	15	19

Table 10: Counts of Deaths Among Suspected and Confirmed Cases of Reportable Infectious Diseases 2013-2014

OUTBREAKS

Outbreaks

OVERVIEW

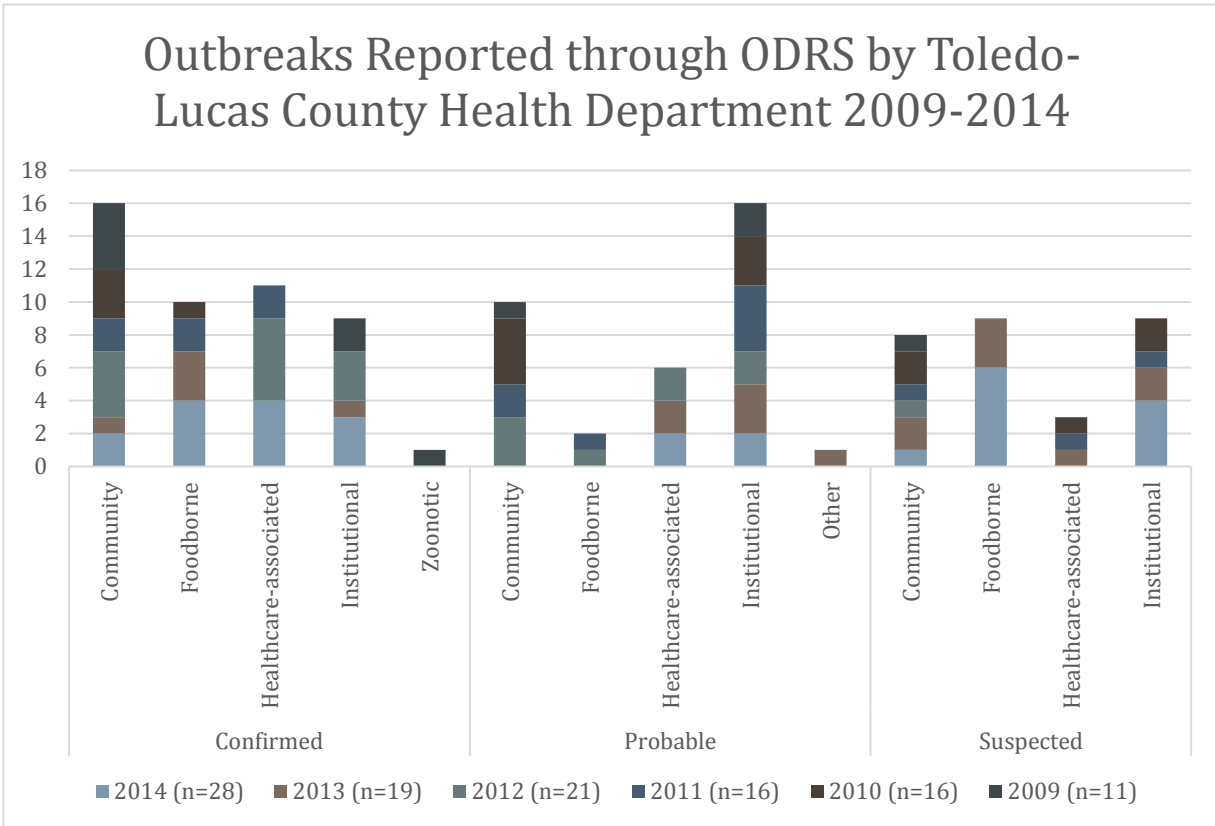
For the 2014 calendar year, there were 28 suspect, probable or confirmed outbreaks that were investigated in Lucas County by the epidemiology staff.

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	Community	Norovirus	1	2
		Unknown Agent	1	110
	Foodborne	Campylobacter	1	2
		Norovirus	3	30
	Healthcare-associated	Norovirus	4	120
	Institutional	Coxsackie Virus	2	14
		Norovirus	1	19
Total			13	297
Probable	Healthcare-associated	Sarcoptes scabiei	1	3
		Unknown Agent	1	35
	Institutional	Sarcoptes scabiei	1	4
		Coxsackie Virus	1	7
	Total			4
Suspected	Foodborne	Unknown Agent	6	22
	Community	Unknown Agent	1	10
	Institutional	Influenza	1	51
		Norovirus	1	12
		Unknown Agent	2	140
	Total			11
Grand Total			28	581

Table 11: Outbreaks Investigated by Epidemiologists at Toledo-Lucas County Health Department, 2014

OUTBREAKS



Multi-State Escherichia coli O157:H7 Outbreak

OVERVIEW

In May of 2014, a Detroit, Michigan establishment recalled approximately 1.8 million pounds of ground beef products that may have been contaminated with *E. coli O157:H7*. It was noted that the United States Department of Agriculture's Food Safety Inspection Service (FSIS) was alerted to *E. coli O157:H7* cases through the Centers for Disease Control and Prevention. Based on epidemiological and traceback investigations, 12 case-patients have been identified in 4 states with illness onset dates ranging from April 22 to May 22, 2014.

Five of the 12 case-patients identified reside in Ohio, and the Toledo-Lucas County Health Department was involved in the investigation of 3 of these cases. The duration of illness ranged from 7-12 days, with an average of 10 days. Tabulated below are the symptoms experienced by all 5 cases residing in Ohio. Due to the number of cases residing in Lucas County, sanitarians within the Toledo-Lucas County Health Department worked to spot-check facilities throughout the county to ensure no recalled products were still in use.

EPIDEMIOLOGY OVERVIEW OF *ESCHERICHIA COLI*

Infectious agents: A group of bacterium named *Escherichia coli*.

Mode of transmission: *E. coli* is transmitted from person-to-person via the fecal-oral route, eating contaminated beef that has been cross-contaminated with raw meat juices, or drinking something or putting hands on something that has been contaminated. Transmission also occurs from swimming in contaminated water.

Incubation Period: 10 hours – 8 days, usually 3-4 days

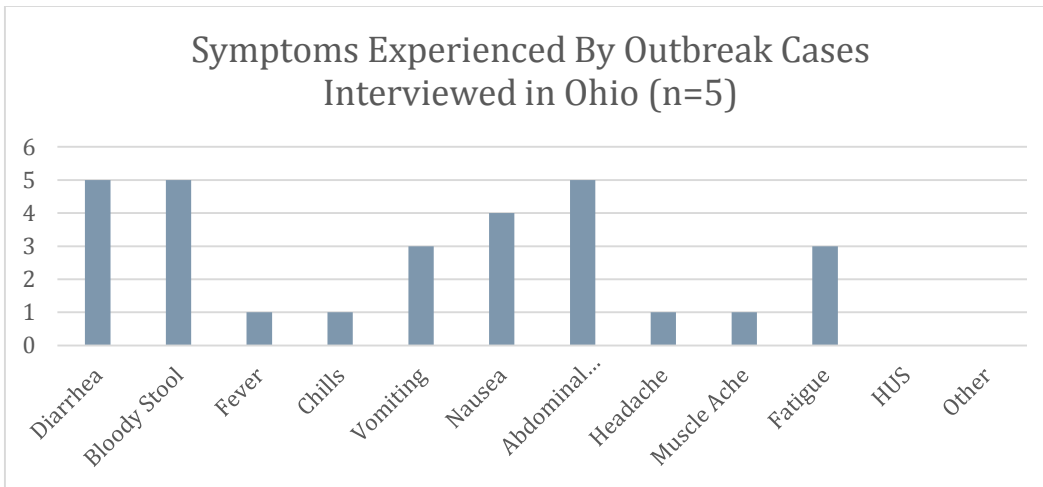
Symptoms: Abdominal cramping, diarrhea, and occasionally vomiting. Usually little to no fever is present.

Treatment: Most people recover in 5 to 10 days without the need for medicine. Getting rest and fluids to help prevent dehydration and fatigue are recommended. Antibiotics and anti-diarrheal medication are not recommended.

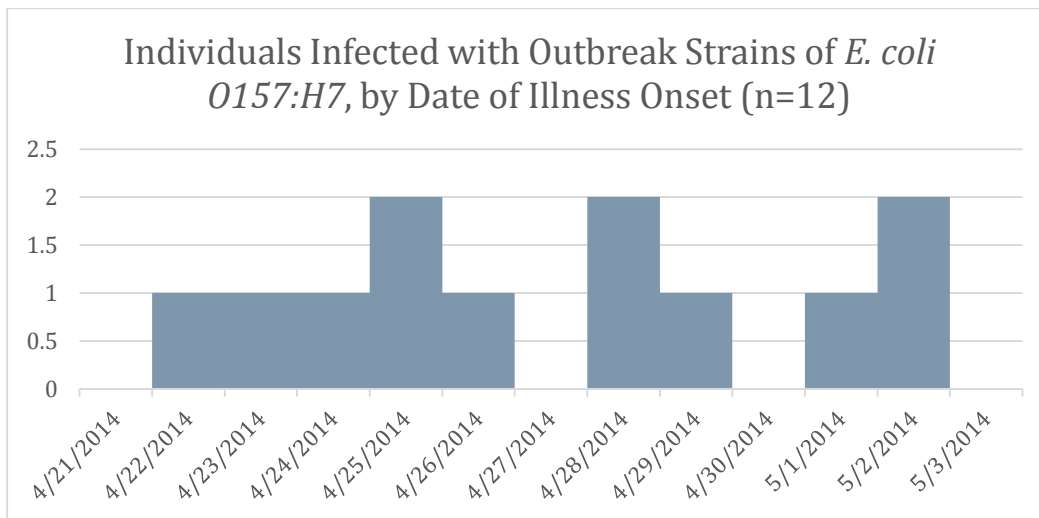
Prevention: Washing hands, counters, and utensils with hot soapy water after touching raw meat. Always cook meat, especially ground meat, until the juices run absolutely clear and to the temperature of 160°. Avoid swallowing lake or pool water while swimming.

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

DISEASE HIGHLIGHTS



STATE	NUMBER OF CASES
Ohio	5
Michigan	5
Massachusetts	1
Missouri	1
Total	12



Ebola Virus Disease

OVERVIEW

The 2014 Ebola epidemic is the largest in history, affecting multiple countries in West Africa. There were a small number of cases reported in Nigeria and Mali and a single case reported in Senegal, however, these cases were contained, with no further spread in these countries.

Two imported cases, including one death, and two locally acquired cases in healthcare workers were reported in the United States. Centers for Disease Control and Prevention, the Ohio Department of Health, and the Toledo-Lucas County Health Department are taking precautions to prevent additional Ebola cases in the United States.

In late September 2014, the Centers for Disease Control unveiled a plan to ensure all travelers from the affected West African countries underwent screening at 5 airports (LaGuardia, Newark, Washington Dulles, Chicago, and Atlanta). Once these travelers have gone through screening upon arrival, they are provided with information about monitoring, a thermometer and, in some cases, a disposable cellular telephone. The Ohio Department of Health is notified if these individuals travel to the state of Ohio and this information is then sent along to the health department whose jurisdiction it is that the traveler is visiting. This monitoring occurred well into the 2015 calendar year.

The Toledo-Lucas County Health Department has responded, and continues to respond to, cases of community concern, all of which have turned out not to be suspected cases of Ebola. Between October 8, 2014 and December 31, 2014, health jurisdictions in Ohio monitored approximately 145 travelers; staff at the Toledo-Lucas County Health Department had monitored 1 out of those 145 travelers during that time frame.

EPIDEMIOLOGY OVERVIEW OF EBOLA

Infectious agents: Ebola, also known as Ebola virus disease, caused by infections with one of the Ebola virus strains, Zaire, Sudan, Bundibugyo, or Tai Forest virus.

Mode of transmission: Humans are not infectious until they develop symptoms. Ebola is not spread through the air, food, or water routes. Ebola virus is spread through direct contact with the blood or body fluids of a person who is sick with Ebola, entering another's person body through broken skin or unprotected mucous membranes. Objects such as needles contaminated with infected secretions can also transmit Ebola.

Incubation Period: 2-21 days after exposure

Symptoms: Sudden onset of fever fatigue, muscle pain, severe headache, and sore throat. This is followed by vomiting, diarrhea, rash, symptoms of impaired kidney and liver function, and in some cases, both internal and external bleeding.

Treatment: There is no proven treatment for Ebola. Providing fluids and electrolytes, maintaining oxygen status and blood pressure, and treating other infections if they occur may increase the chance of survival. However, a range of potential treatments including blood products, immune therapies and drug therapies are currently being evaluated. Two potential vaccines are undergoing human safety testing.

DISEASE HIGHLIGHTS

Prevention: Raising awareness of risk factors for Ebola infection and protective measures that individuals can take is an effective way to reduce human transmission. Avoiding areas of known outbreaks, washing hands frequently, avoid contact with infected people, follow infection control procedures, and do not handle remains of someone who died with Ebola without protective equipment.

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

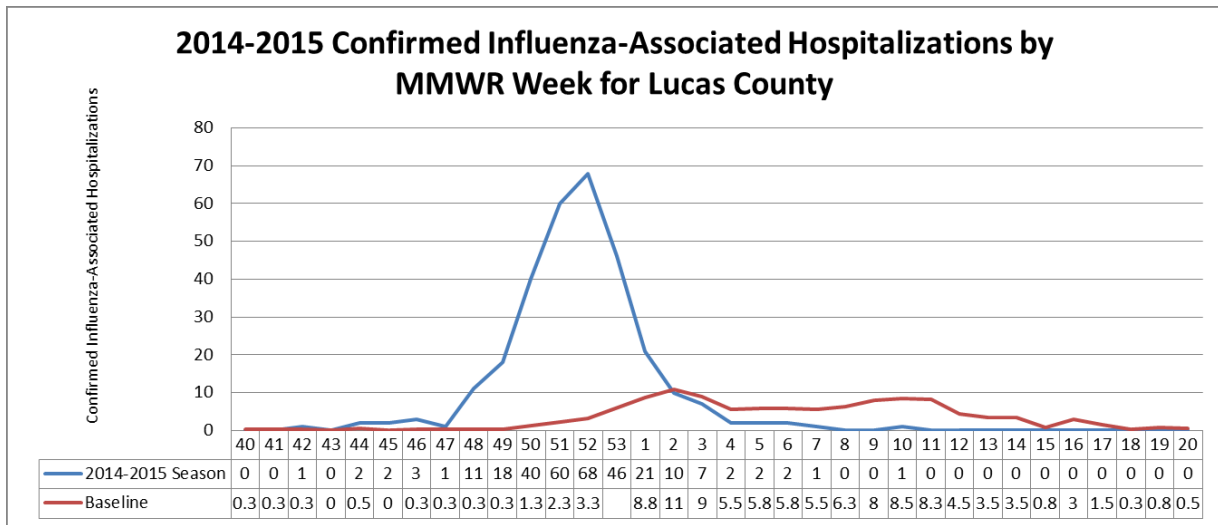
DISEASE HIGHLIGHTS

Influenza

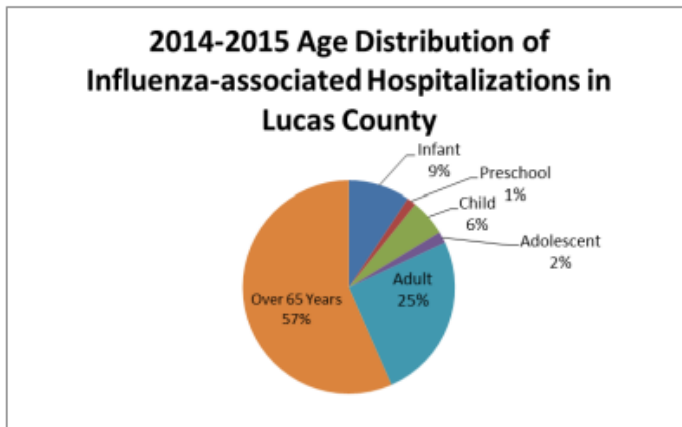
OVERVIEW

In the Northern hemisphere, winter is the typical time for influenza, but the exact timing and duration of flu season varies. Typically seasonal flu can occur any time between October and May with peaks often observed between December and February. Because of the differing seasonality of disease, influenza reporting is summarized by flu year (MMWR Week 40 to MMWR Week 20).

Five of the 12 case-patients identified reside in Ohio, and the Toledo-Lucas County Health Department was involved in the investigation of 3 of these cases. The duration of illness ranged from 7-12 days, with an average of 10 days. Tabulated below are the symptoms experienced by all 5 cases residing in Ohio. Due to the number of cases residing in Lucas County, sanitarians within the Toledo-Lucas County Health Department worked to spot-check facilities throughout the county to ensure no recalled products were still in use.



DISEASE HIGHLIGHTS



Infant: 0-2 years

Preschool: 3-5 years

Child: 6-12 years

Adolescent: 13-17 years

Adult: 18-64 years

Over 65 years

****According to the CDC, There are early indications that this season may be severe, especially for people aged 65 years and older and young children.**

EPIDEMIOLOGY OVERVIEW OF INFLUENZA

Infectious agents: Influenza viruses A, B and C. Influenza has two main types: A and B. Influenza C occurs sporadically. Each type includes many different strains which tend to change each year.

Mode of transmission: Direct person-to-person contact through airborne via large droplets produced by coughing and sneezing. The virus enters the nose, throat or lungs of the other people and begins to multiply. Influenza may be spread when a person touches a surface that has flu virus on it and then touches his or her nose or mouth.

Incubation Period: 1-4 days, usually 2 days

Symptoms: Fever, chills, cough, runny nose, headache, body aches, fatigue, muscle pain, and sore throat

Treatment: Usually rest and plenty of fluids can treat the flu. Antiviral medicines can be used to treat or prevent influenza. The medicine does not eliminate flu symptoms, although it can reduce the severity and duration of symptoms by about one day.

Prevention: Getting the influenza vaccine every year is the best way to prevent the flu. Frequent and careful hand washing and covering mouth and nose when sneezing or coughing are good preventive measures for the flu.

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

TIMELINESS OF DISEASE REPORTS

Timeliness of Disease Reports

OVERVIEW

Examining the timeliness of disease reporting is a key part of good public health practice. 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 healthcare provider diagnosed an illness and the date when the local health department received notification of the illness (i.e., the date the case was entered into ODRS). When the date of diagnosis was unavailable (for some cases), the date laboratory results were available was used. If both of the aforementioned dates were absent from case files, the date specimen(s) were collected serve as the date the healthcare provider was suspecting illness. This absence of data is an area that the department of epidemiology will be focusing on to improve in 2015.

The table below lists selected diseases and the corresponding median and mean number of days between healthcare provider diagnosis and reporting to the local health department in 2014. This includes any case reported to the health department, regardless of final disease classification. In 2009, E. coli, hepatitis A, listeriosis, mumps, pertussis, and salmonellosis became Class B (1) reportable conditions, which are required to be reported by the end of the next business day after the existence of a case is known. Measles, meningococcal disease, and rubella are Class A reportable conditions (designated in red in the following table) 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.

Reporting lag is defined as the difference between the diagnosis date and when the case was reported to the local health department. *It is to be noted that an increase in the lag time of some diseases that require minimal health department follow-up (e.g. chlamydia, hepatitis B, hepatitis C, gonococcal infection) is inflated, due to management of high volume of cases received by TLCHD. It is anticipated that 2015 data will be a more accurate reflection of reporting for these diseases due to an increase in TLCHD staff.*

TLCHD will periodically monitor the reporting lag times for selected diseases. Regular monitoring will help 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, filling in missing or incorrect dates will aid in better, timelier interventions and prevention efforts.

TIMELINESS OF DISEASE REPORTS

Reportable Condition	Lag Time (in days)
Amebiasis	1.00
Anaplasmosis-Anaplasma phagocytophilum	8.00
Botulism, foodborne	4.00
Campylobacteriosis	3.84
Chlamydia infection	32.71*
Coccidioidomycosis	1.00
Cyclosporiasis	1.00
Diphtheria	1.00
E. coli	1.57
Giardiasis	6.82
Gonococcal infection	79.15*
<i>Haemophilus influenzae</i> (invasive disease)	6.63
Hemolytic uremic syndrome (HUS)	6.00
Hepatitis A	7.00
Hepatitis B (including delta) - acute	1.83
Hepatitis B (including delta) - chronic	178.11*
Hepatitis C - chronic	105.14*
Influenza-associated hospitalization	2.46
Legionellosis - Legionnaires' Disease	67.00
Listeriosis	0.00
Lyme Disease	10.41
Malaria	35.67
Measles	5.00
Meningitis - aseptic/viral	3.68
Meningitis - bacterial (Not N. meningitidis)	5.14
Meningococcal disease - <i>Neisseria meningitidis</i>	0.00
Mumps	3.75
Mycobacterial disease - other than tuberculosis	6.00
Other arthropod-borne disease	8.00
Pertussis	4.55
Rabies - human	0.00
Salmonellosis	20.26
Shigellosis	7.65
Spotted Fever Rickettsiosis, including Rocky Mountain spotted fever (RMSF)	4.00
Streptococcal - Group A -invasive	4.38
<i>Streptococcus pneumoniae</i> - invasive	3.79
Toxic shock syndrome (TSS)	4.00
Tuberculosis	0.00
Varicella	9.58
West Nile virus disease (also current infection)	2.83
Yersiniosis	1.00

Diseases designated in Red are Class A Reportable Diseases

**It is to be noted that an increase in the lag time of some diseases that require minimal health department follow-up (e.g. chlamydia, hepatitis B, hepatitis C, gonococcal infection) is inflated, due to management of high volume of cases received by TLCHD. It is anticipated that 2015 data will be a more accurate reflection of reporting for these diseases due to an increase in TLCHD staff.*

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.

PROGRAMMATIC UPDATE

Food facility inspections that have been conducted as of July 9, 2014 are available on-line through the Toledo-Lucas County Health Department. This advancement illustrates our continued commitment to increased communication and improving the health of Lucas County residents.

2014 SNAPSHOT

Food Service Operations

Licensed	1,740
Inspections Completed	4,767

Food Service Mobile

Licensed	137
Inspections Completed	196

Food Service-Temporary License

Licensed	331
Inspections Completed	331

Food Service-Vending Machines

Licensed	271
Inspections Completed	60

Retail Food Establishment

Licensed	723
Inspections Completed	1,022

LEAD PREVENTION

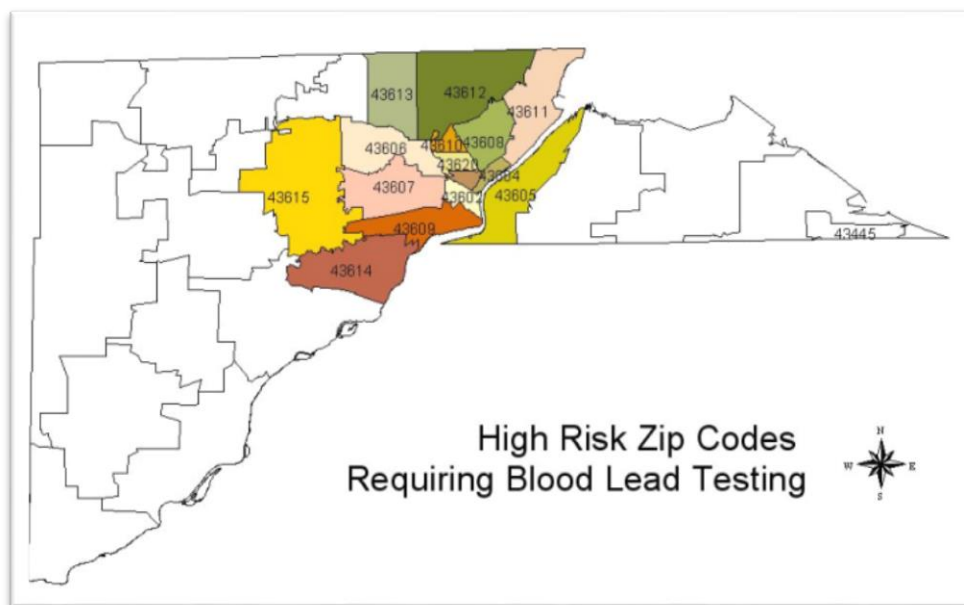
Lead Prevention

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 2014 calendar year, 528 children were screened by the Toledo-Lucas County Health Department and 69 of those resulted in lead cases that the health department managed. Overall, 26 Risk Assessments (Inspections) were conducted from January to December of 2014.



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	156
Inspections	210

Aerobic Sewage Systems

Facilities Licensed	25
Inspections	25

Potable Water Systems

Permits	73
Inspections	86
Water Samples	196

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.

RECREATIONAL VEHICLE PARKS

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.

2014 SNAPSHOT

For 2014, 14 facilities have been licensed and 17 inspections have been conducted during the 2014 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.

2014 SNAPSHOT

For the 2014 calendar year, the rodent program conducted 1,324 inspections and applied 182 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 2014 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.

2014 SNAPSHOT

In 2014, 180 facilities were licensed and a total of 234 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.

2014 SNAPSHOT

The staff at the Toledo-Lucas County Health Department have licensed 248 public swimming pools and conducted 312 inspections for 2014.

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.

TATTOO AND BODY PIERCING

Tattoo and Body Piercing

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.

2014 SNAPSHOT

For the 2014 calendar year, the program in Lucas County has licensed 27 facilities and conducted 69 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

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.

2014 SNAPSHOT

For the calendar year of 2014, the Toledo-Lucas County Health Department conducted 130 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

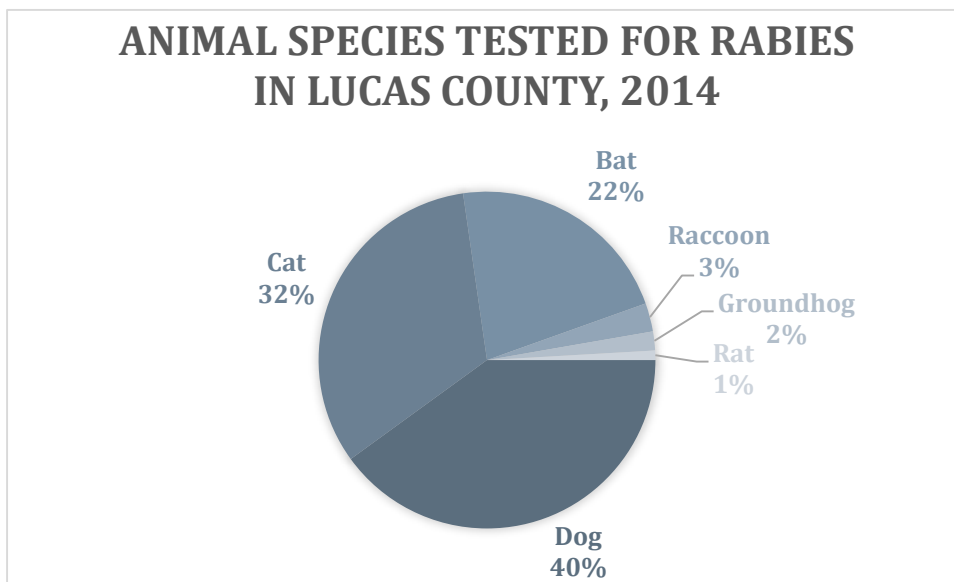
Animal Bites

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.

2014 SNAPSHOT

For the 2014 calendar year, 637 bite reports were completed. 110 samples were sent to the Ohio Department of Health Laboratories and 0 tested positive for rabies virus.

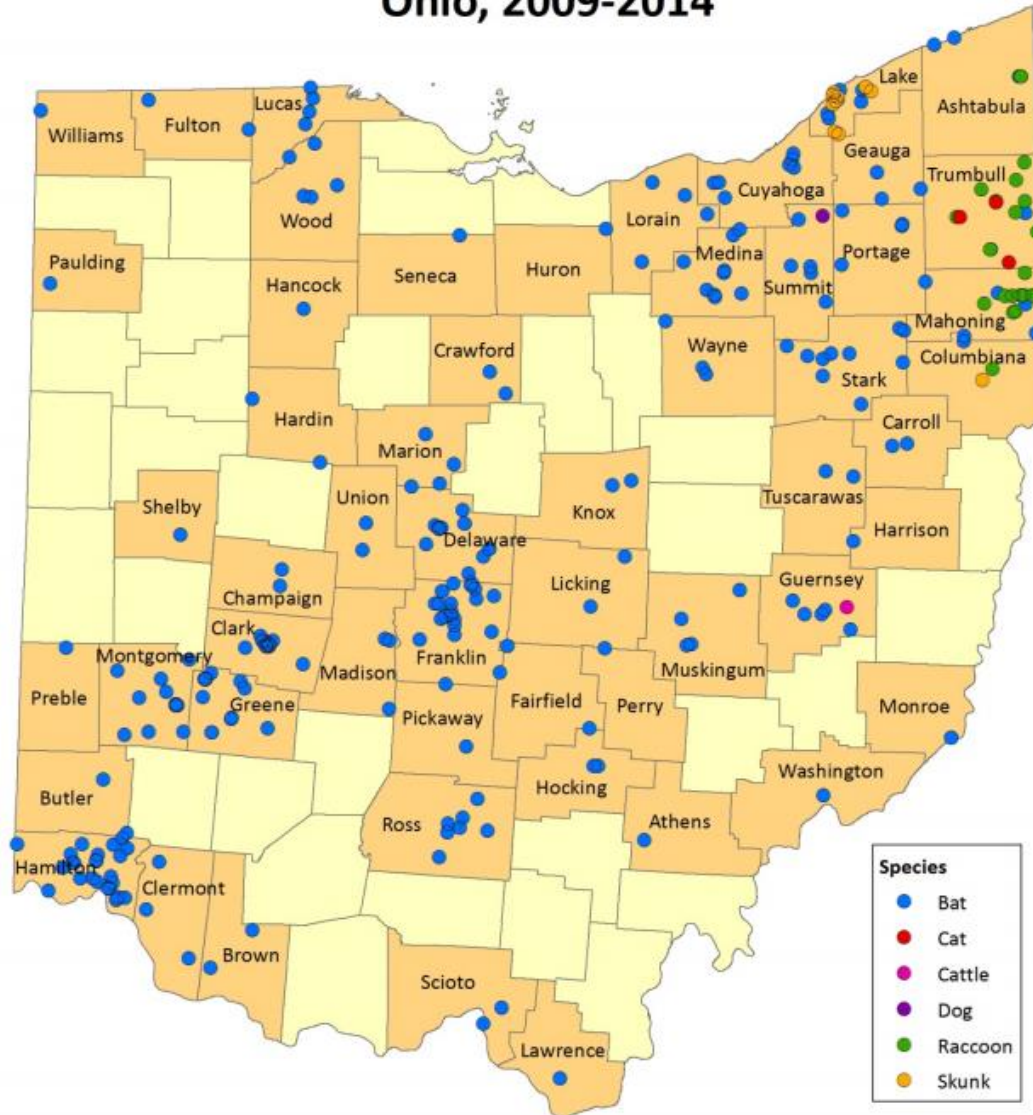


WHY IT IS A PUBLIC HEALTH CONCERN

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, 2009-2014



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.

2014 SNAPSHOT

For the 2014 calendar year, the TLCHD inspected 415 nuisance complaints.

RESPONSE AND PREPAREDNESS

Response and Preparedness

DIVISION OVERVIEW

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



RESPONSE AND PREPAREDNESS

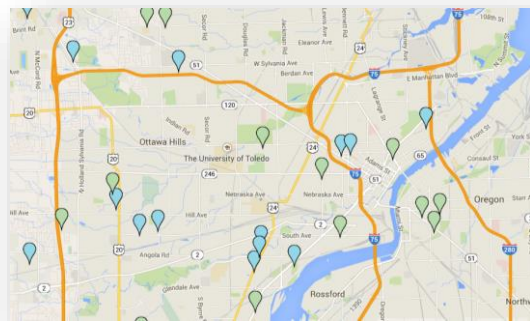
EMERGENCY PREPAREDNESS

The Division of Community Services, Response and Preparedness is primarily funded through the Public Health Emergency Preparedness (PHEP) Grant. This grant is annually used to support, sustain and build emergency preparedness capabilities within Lucas County, Ohio and the Northwest Ohio Region. Resources obtained and projects accomplished with these resources benefit the general population within Toledo-Lucas County Health Department's jurisdictions; the 11 specified community sectors within Lucas County also receive benefit through these planning efforts (business; community leadership; cultural and faith-based groups and organizations; emergency management; healthcare; social services; housing and sheltering; media; mental/behavioral health; state office of aging or its equivalent; education and childcare settings). TLCHD strives to meet all the grant deliverables annually through the outlined attachments to the PHEP grant, the annual SNS self-assessment and improvement plan, and by conducting a training and exercise plan to address gaps/inefficiencies in meeting the 15 core PHEP capabilities.

- For the 2014 calendar year, TLCHD staff participated in a regional functional exercise focusing on mass fatality planning and response. This exercise tested the capacity of the NW Ohio region, in the event of an incident causing wide-spread death of approximately 30% of the population in Northwest Ohio (approximately 330,000 persons in the 18 county region).
- Throughout the span of this grant (FY13-17), numerous capabilities have been sustained and improved.
- 12 of 15 of TLCHD's Disaster Plan Annexes have been reviewed and signed off on by the health commissioner and deputy health commissioner within the 2014 calendar year

POINT OF DISPENSING (POD) PROGRAM

- Points of dispensing, PODs, are used for mass prophylaxis or medication dispersal to Toledo and Lucas County. TLCHD manages both open and closed PODs throughout the county. Open PODs are locations where the general public receives prophylaxis or medications. Closed PODs are for businesses that strictly serve their employees and their immediate family members.
- Below is a table listing the number and type of PODs TLCHD manages. The map at the right shows a small sample of the various POD locations located throughout Lucas County.



Type of POD	Number Managed
Open (Primary)	11
Open (Secondary)	9
Closed	36

EXERCISE PLANNING

- In 2014, Ebola has been at the forefront of public health emergency preparedness. In light of the large focus on Ebola over the past year, several provisions have been made to assist in the response

RESPONSE AND PREPAREDNESS

to any highly infectious disease should it be found in Lucas County. The highly infectious disease plan will contain the following sections:

- Surveillance and Monitoring
- Transportation
- Waste Management
- PPE and training
- Patient referral
- Infection control activities
- Non Pharmaceutical Interventions
- TLCHD will be testing our Continuity of Operations Plan (COOP) through a regional functional exercise in April 2015. A COOP plan provides protocols on what essential services public health would need to continue during an emergency. Functional exercises test current plans and utilize all contacts, resources, etc. through a simulated situation. The emergency preparedness team has been working on revisions and updates to the current COOP plan in preparation for the functional exercise.

COMMUNITY COLLABORATION

- TLCHD actively participates with various regional and community partners for a better prepared Toledo-Lucas County.

Local Partners	Regional Partners
Lucas County Integrated Healthcare Planning Team	Regional Healthcare Emergency Management Coalition
Emergency Management Agency (EMA)	Regional Public Health Coordination Team
United Way	Northwest Ohio Planners Group
American Red Cross	Northwest Ohio Public Information Officer Group

- A conscious effort is being made to sustain and build relationships both locally and regionally. These relationships allow TLCHD and emergency preparedness to collaborate, share insight on planning, and identify potential resources.

MEDICAL RESERVE CORPS

- The Medical Reserve Corps (MRC) is a voluntary organization comprised of physicians, nurses, dentists, and other medical/non-medical professionals to assist public health during a disaster.
- As of the beginning of 2015, the Lucas County MRC has approximately 100 registered volunteers.
- A new logo (picture at left) has been created and will be used for all marketing and published materials.
- Facebook and Twitter are used to communicate socially with volunteers.



RESPONSE AND PREPAREDNESS

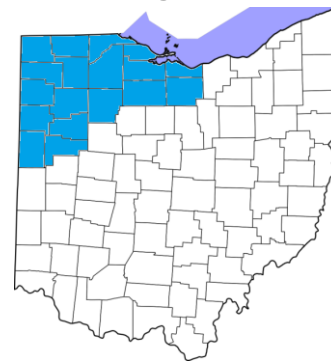
VISION FOR 2015

- Utilize Wireless Emergency Notification System (WENS) for public health recall purposes and emergency notifications
- Increase marketing and communication to MRC volunteers
- Provide ample training and exercise opportunities to MRC volunteers
- Continue working with community partners to increase visibility and mission of public health

REGIONAL COORDINATION BY TLCHD

The Division of Community Services, Response and Preparedness houses the Regional Public Health Coordination Team for Northwest Ohio. This team provides the following services for the NW Ohio Region:

- Facilitator for meetings/trainings for the NW Ohio Public Information Officers, Disaster Planners, Epidemiologists and Health Commissioners
- Liaison for Hospital Planners in NW Ohio
- 24/7 liaison with Ohio Department of Health, Local Health Departments and the Regional Healthcare Coalition to assist with information sharing during a response



INTRA-AGENCY COORDINATION

The PHEP grant has afforded TLCHD the opportunity to work with the Hospital Council of NW Ohio to locally develop the Lucas County Integrated Healthcare Planning Coalition, and to regionally develop the NW Ohio Healthcare Emergency Management Coalition (NOW-HEMC). Both of these groups are a great success in how partnerships with EMA, hospitals, and other stakeholders can work together in healthcare planning. Both groups meet regularly; TLCHD and the Hospital Council of NW Ohio sit on the steering committees. For the upcoming year, public health's membership on the steering committee will be re-evaluated due to the language in the current RFP that regionally, PHEP and HPP are to co-lead healthcare coalition activities. The mission of the NWO HEMC is:

To promote regional cooperation and the sharing of healthcare system and regional healthcare resources, the NWO-HEMC will continue to prepare through cooperative planning, training, and exercising to jointly respond to man-made or natural emergencies.

Coalition activities for 2014 included:

- Adoption of the Multi-Agency Coordination (MAC) System in NW Ohio
- Participation in Communication Drills and Exercises with EMA and hospital systems in NW Ohio
- Providing training on Severe Weather Preparedness and education on identification of special needs populations within jurisdictions
- Attending the Statewide Functional Needs Summit in Worthington, Ohio in May of 2014 to represent NW Ohio
- Responding to the Water Event in August 2014
- Providing Public Information Officer training to NW Ohio Region in September 2014
- Coordinating response and communication during response to Ebola Viral Hemorrhagic Fever beginning October 2014

PUBLIC HEALTH ACCREDITATION

Public Health Accreditation

OVERVIEW

Public Health Accreditation was established as a measurement of health department performance against a set of nationally recognized, practice-focused, and evidenced-based standards. The underlying goal for the voluntary national accreditation program is to advance the quality and performance of public health departments in an effort to improve and protect the health of the entire U.S. population. The Public Health Accreditation Board (PHAB) has modeled their accreditation requirements on the Ten Essential Public Health Services, ensuring that all public health accreditation applicants are working towards improved standards of service and care while continually evaluating the best practices to keep America's communities healthy and happy.

The state of Ohio has mandated that all public health departments reach an accredited status by the year 2020. The following is a performance snapshot of the Toledo-Lucas County Health Department's progress towards accreditation readiness throughout the 2014 calendar year.

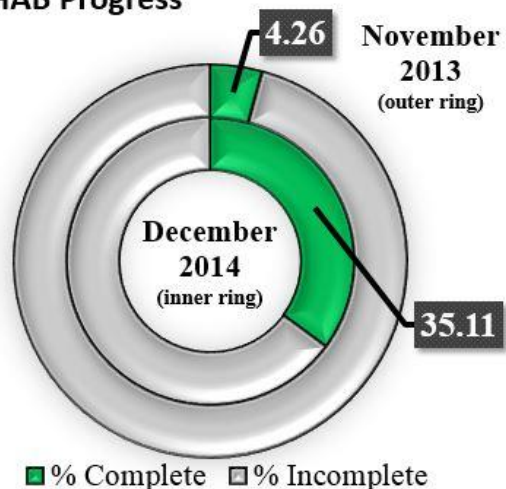
2014 SNAPSHOT

Public Health Accreditation is structured into twelve domains; the first ten domains are each associated with one of the Ten Essential Public Health Services while the remaining two domains focus on internal policy and governance respectively. Local Health Departments are responsible for demonstrating fulfillment of 100 multi-part measures through the submission of approximately 350 examples.

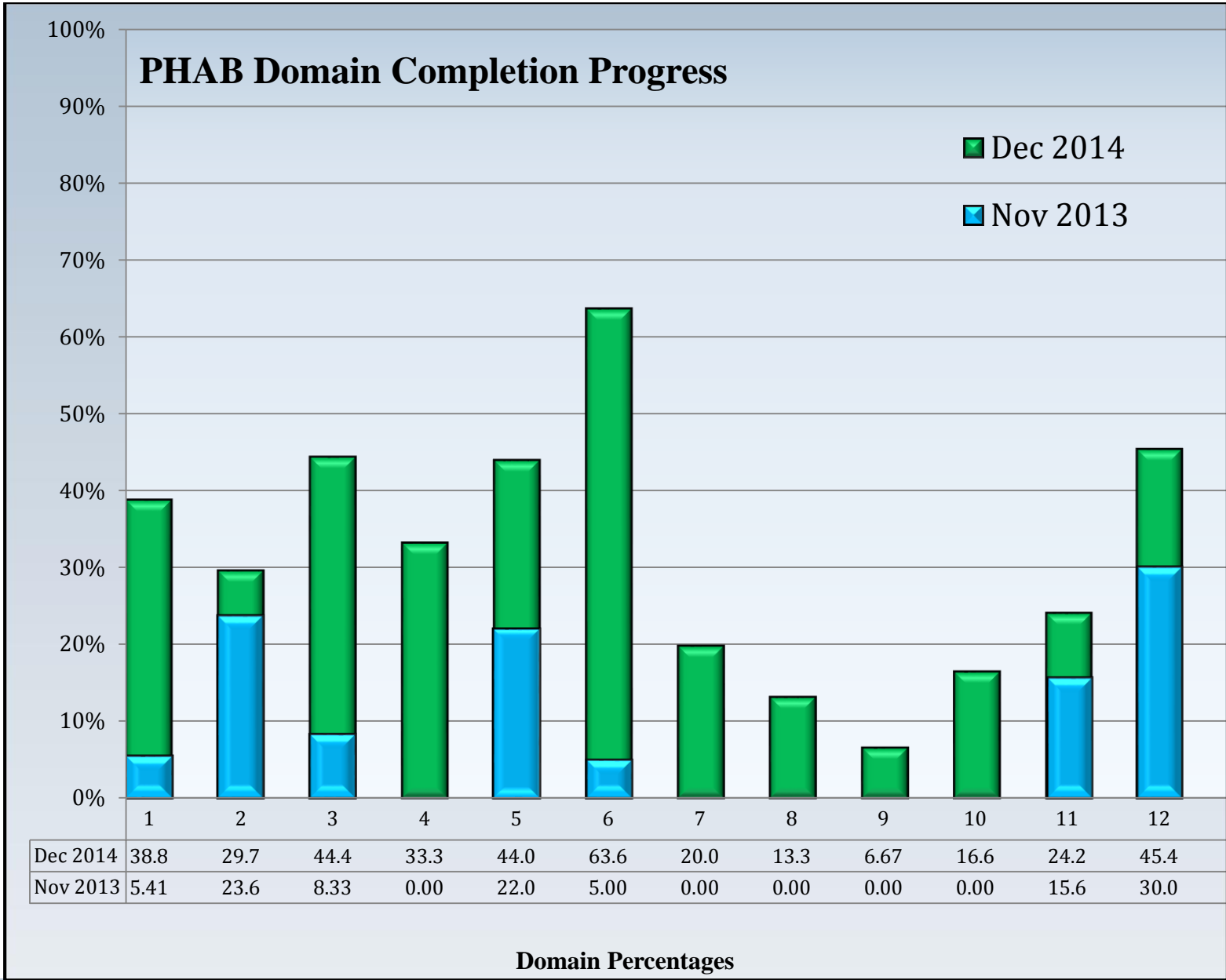
At the beginning of 2014, the Health Department had collected approximately 5% of the total documentation necessary to apply for accreditation. Throughout 2014, TLCHD staff prepared and collected an additional 30% of the required documentation, bringing TLCHD's accreditation readiness to 35.11% in December of 2014.

The PHAB Accreditation Team dramatically increased the pace of progress in the latter half of 2014 by meeting on a weekly basis at the request of TLCHD's Deputy-Health Commissioner. Weekly meetings facilitated better incremental progress and kept PHAB fresh in the minds of all Domain Champions, preventing daily duties from overshadowing PHAB-related tasks assigned in each meeting.

Overall PHAB Progress



PUBLIC HEALTH ACCREDITATION



Quality Improvement

OVERVIEW

Quality Improvement (QI) in Public Health is a formalized process designed to examine and improve the delivery and efficacy of public health services. QI involves the use of a deliberate and defined improvement process, such as Plan-Do-Check-Act (PDCA), to dissect a problem, discover its root cause, implement a solution, and measure the success or failure of the change initiative. QI is a continuous process that empowers employees at all levels of an organization to support and participate in the improvement of the processes, programs, and services they work to deliver to the public on a daily basis.

Quality Improvement is most successful when embedded within the culture of the organization.

Organizational culture is the very essence of how work is accomplished; it matures over several years, during which norms are passed on from one "generation" of staff to the next. Because culture is ingrained in an organization, transforming culture to embrace QI when minimal knowledge or experience with QI exists requires strong commitment and deliberate management of change over time.

2014 SNAPSHOT

In 2014, the Toledo-Lucas County Health Department was awarded the Accreditation Support Initiative (ASI) grant sponsored by the National Association of City and County Health Officials (NACCHO). TLCHD was one of 29 recipients from a national applicant pool of 130 health departments. The ASI grant served as the catalyst sparking TLCHD's journey towards the establishment of a Culture of Quality Improvement. This grant allowed the Health Department to contract with the Center for Public Health Practice (CPHP) at The Ohio State University. In February, a representative from the CPHP guided a multi-disciplinary team of TLCHD staff through the development of the agency's first Quality Improvement Plan. The QI Plan provides the framework for the selection of quality improvement projects, the formation of multi-disciplinary quality improvement teams, and was written to ultimately help instill a culture of quality improvement within TLCHD over time.

Throughout April, agency-wide trainings in the fundamentals of quality improvement were also facilitated by our CPHP representative, and have provided the foundation for TLCHD staff to adopt the Plan, Do, Check, Act QI methodology. One-hundred ten (110) staff were in attendance for the in-person trainings, while staff unable to attend received their foundational knowledge of QI through the CPHP's online modules. In addition, all new hires at the agency are required to complete these modules to ensure all staff have a firm foundation in the principles of quality improvement and to aid in the development of a QI culture.



In September, a multi-disciplinary Quality Improvement Council met for the first time. The QI Council was formed to guide quality improvement initiatives within the department and to review staff input on processes or programs that may have inefficient outcomes. In late 2014, the QI Council set the agency's first QI project in motion and has since been reviewing employee suggestions that were generated during a "Keep-Start-Stop Doing" exercise during the December Staff Retreat.

The Toledo-Lucas County Health Department has embarked on the journey towards continuous quality improvement, striving to improve *how* we do *what* we do to better serve all of Lucas County.

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