



2016 Communicable Disease Annual Report



2016 Communicable Disease Annual Report



SUMMARY OF 2016 EVENTS

The Licking County Health Department (LCHD) is dedicated to conducting disease surveillance and continues to evaluate investigation protocols to better serve county residents. Notable events from 2016 that members of the LCHD Epidemiological Team (**Epi Team**) participated in include: Ebola Functional Exercise, Granville Lead Screening Clinic, Zika Virus Preparedness and Response, Denison University Tabletop Exercise, and investigations of five outbreaks (Norovirus (**2**), Cryptosporidiosis/Clostridium difficile, Pertussis, and Acinetobacter). Working plans have been updated to account for the events from 2016, and new plans are being drafted to address other important issues.

Ebola Functional Exercise

Members of the Licking County Health Department participated in a Ebola Functional Exercise which simulated a traveler entering the jurisdiction from a country with active transmission of the Ebola virus. The individual required active monitoring and during the course of the exercise became symptomatic requiring activation of plans and transportation to a frontline hospital. Meanwhile, hospitals were working on an increase of admissions due to a fictitious disease infecting a large percentage of county residents. LCHD successfully tested and received credit for Community Preparedness, Community Recovery, Medical Surge, and Non-Pharmaceutical Interventions.

Granville Lead Screening

In April 2016, Granville School district reported to LCHD that high levels of lead were detected in their water system. LCHD coordinated a lead screening clinic at the high school and screened over 500 students and staff for elevated blood lead levels. Local emergency preparedness plans and procedures were utilized to conduct the screening clinic. LCHD staff along with Medical Reserve Corps (**MRC**) and Community Emergency Response Teams (**CERT**) volunteers worked the clinic during the response.

Zika Virus Preparedness and Response

In preparation for Zika virus, LCHD developed a Zika Virus Response Plan. The plan outlines the involvement of several divisions within LCHD including Nursing, Epidemiology, and Environmental Health. Guidance from the Centers for Disease Control and Prevention are also included in the plan. In June 2016, LCHD responded to a confirmed case of Zika Virus (**travel associated**) and followed the procedures outlined in the plan. Medical countermeasures were dispensed to prevent local transmission.

Denison University Tabletop Exercise

LCHD partnered with Denison University in August 2016 to conduct a tabletop exercise addressing medical countermeasure dispensing. Denison staff and other partner agencies participated in the exercise which resulted in increased awareness for community collaboration for a public health emergency. The scenario involved a student sick with a Class A reportable disease and other students with confirmed exposure to the student. Exercise participants discussed the needed response for each developing scenario.

2016 Communicable Disease Annual Report



REPORTABLE DISEASES

There are three classes of reportable diseases in Ohio which require different timeframes for notifications based on their importance and impact on the health of the public.

CLASS A = 1 case

Diseases of major public health concern because of the severity of disease or potential for epidemic spread – report immediately via telephone upon recognition that a case, a suspected case, or a positive laboratory result exists.

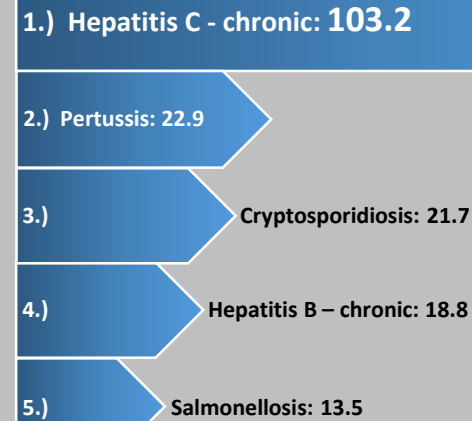
CLASS B = 1,319 cases

Disease of public health concern needing timely response because of potential for epidemic spread – report by the end of the next business day after the existence of a case, suspected case, or a positive laboratory result is known.

CLASS C = 5 outbreaks

Report an outbreak, unusual incident or epidemic of other diseases by the end of the next business day.

Top 5 Class B Incidence Rates (Rates per 100,000)



Sexually Transmitted Diseases

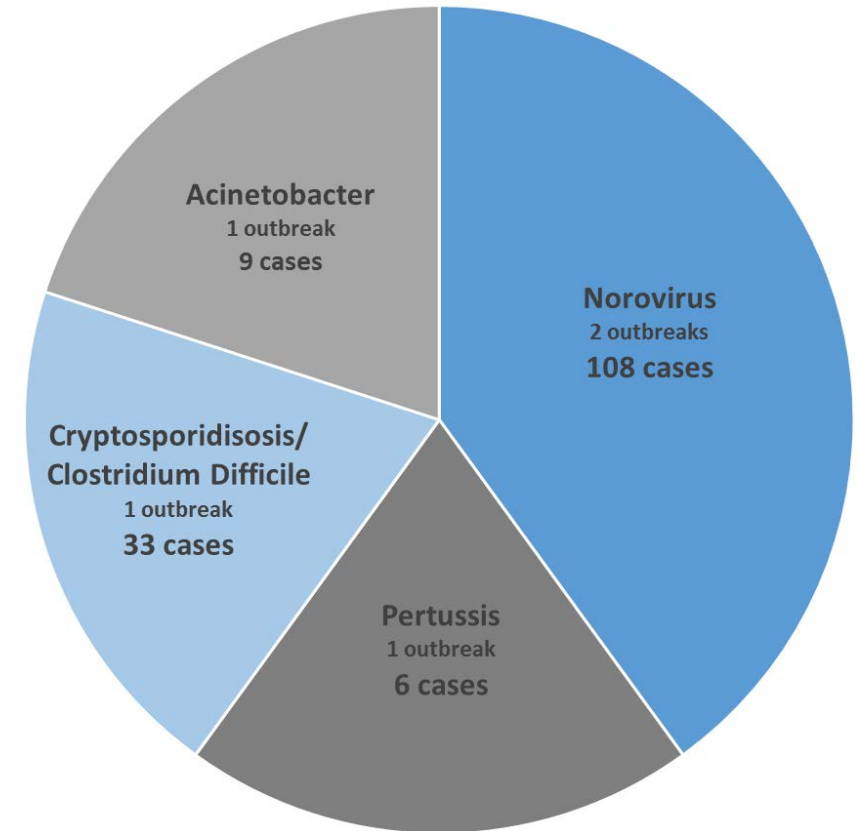
GONORRHEA

- 25.9% increase from 2015
- 28.3% of cases were coinfections with Chlamydia

CHLAMYDIA

- 15.9% increase from 2015
- 25.6% of cases had prior Chlamydia infections

2016 Licking County Confirmed Outbreaks



2016 Communicable Disease Annual Report



Top Reportable Diseases in Licking County in Comparison to Central Region Counties
(Rate per 100,000)

CENTRAL REGION COUNTIES	HEPATITIS C - CHRONIC		PERTUSSIS		CRYPTOSPORIDIOSIS		HEPATITIS B - CHRONIC		SALMONELLOSIS		CHLAMYDIA		GONORRHEA	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Crawford	89	210.4	3	7.1	6	14.2	18	42.5	9	21.3	172	406.6	17	40.2
Delaware	98	50.8	51	26.4	149	77.2	30	15.5	25	13.0	361	187.0	72	37.3
Fairfield	219	144.6	43	28.4	43	28.4	57	37.6	15	9.9	415	274.1	66	43.6
Fayette	83	289.4	0	0.0	1	3.5	22	76.7	4	13.9	91	317.3	21	73.2
Franklin	2,138	170.8	894	71.4	959	76.6	604	48.3	173	13.8	9,972	796.7	4,216	336.8
Hardin	68	214.6	1	3.2	4	12.6	11	34.7	9	28.4	88	277.8	6	18.9
Knox	60	98.3	4	6.6	24	39.3	18	29.5	14	22.9	155	253.8	15	24.6
Licking	176	103.2	39	22.9	37	21.7	32	18.8	23	13.5	640	375.2	219	128.4
Logan	31	68.3	1	2.2	40	88.1	3	6.6	3	6.6	113	249.0	16	35.3
Madison	105	238.1	7	15.9	5	11.3	25	56.7	8	18.1	139	315.2	27	61.2
Marion	233	356.5	50	76.5	22	33.7	36	55.1	6	9.2	331	506.5	71	108.6
Morrow	64	182.5	8	22.8	9	25.7	15	42.8	5	14.3	65	185.3	12	34.2
Pickaway	980	1,719.4	48	84.2	11	19.3	63	110.5	7	12.3	196	343.9	38	66.7
Union	470	865.9	12	22.1	28	51.6	58	106.9	12	22.1	210	386.9	47	86.6
Wyandot	19	85.4	0	0.0	5	22.5	2	9.0	4	18.0	43	193.3	3	13.5
OHIO	23,950	206.2	1,001	8.6	1,944	16.7	3,853	33.2	1,543	13.3	58,261	501.6	19,519	168.1

Healthy people living in healthy communities

2016 Communicable Disease Annual Report



Review of Top Reportable Diseases in Licking County

HEPATITIS C – CHRONIC: Increases in Hepatitis C cases continue to be seen across Ohio. The major contributing factor appears to be an increase in the use of injection drugs. Prescription drug abuse is resulting in cheaper alternatives, such as heroin, and leading to more Hepatitis cases. A breakdown of the population of Hepatitis C cases show 64.6 percent were classified below the cutoff for “baby boomers” (**cases born after 1964**).

PERTUSSIS: The 2016 Licking County Pertussis rate increased by 5.5 percent compared to 2015 and ranked second as one of the leading communicable diseases. LCHD continues to address historical issues with Pertussis cases including reporting lag, misdiagnoses, and cases not seeking medical attention immediately. Statistics for 2016 Pertussis cases: Median Age = 10 years; Mode Age = 6 years; Mean Age = 9 years. Age Range Distribution 1 – 52 years. *Mean is the average of a group of numbers, Median is the middle value in a list of numbers, and Mode is the value that occurs most often in a list of numbers.*

CRYPTOSPORIDIOSIS: Cryptosporidiosis was ranked (5th) in the 2015 top reportable disease list and in 2016 moved up in rank to 3rd. An explanation for this increase could be from a large outbreak linked to Zoombezi Bay in Delaware County over the summer. The Zoombezi Bay outbreak accounted for over 200 cases during a span of almost three months. Around 62 percent of all Crypto cases in Licking County occurred during the Zoombezi Bay timeframe and could have resulted in illness by either attending the water park or someone introducing Crypto into one of the water parks in Licking County. A Cryptosporidiosis/Clostridium Difficile outbreak was identified at a Licking County childcare facility but those cases were captured under Class C (**outbreaks**) reportable diseases.

HEPATITIS B - CHRONIC: Increases in Hepatitis B cases can also be attributed to the use of injection drugs.

SALMONELLOSIS: The Salmonellosis rate was 9.4 per 100,000 in 2015 and increased to 13.5 per 100,000 in 2016 (**43.6 percent increase**). Cases were isolated and spread out across Licking County.

CHLAMYDIA: The Licking County Chlamydia rate increased by 15.9 percent in 2016 compared to 2015. Licking County ranked 5th in the Central Region (**15 Counties**) for highest Chlamydia rate. Chlamydia is still a major issue needing addressed especially with one in four cases having had a prior positive test (**reinfection**).

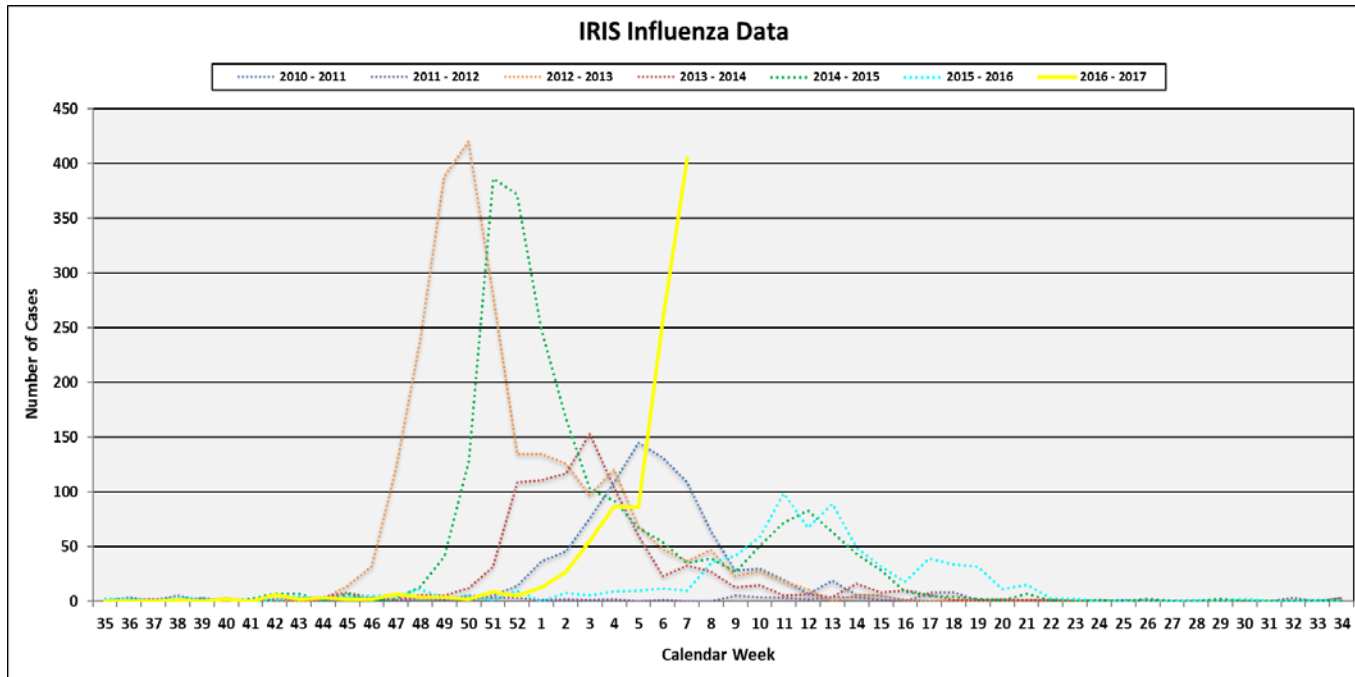
GONORRHEA: Another significant increase (**25.9 percent**) was seen in the Gonorrhea rate for 2016. Amongst the Central Region, Licking County ranked 2nd behind Franklin County for highest Gonorrhea rate. Also of note, 28.3 percent of all Gonorrhea cases were coinfections with Chlamydia.

2016 Communicable Disease Annual Report



INFLUENZA

The Licking County Health Department uses several different techniques to track local influenza activity. Influenza is not a reportable disease unless under certain conditions including a case being hospitalized, a pediatric death, or detection of a novel strain. In 2010, LCHD developed the Influenza Reporting Information System (IRIS) which collects weekly influenza statistics from local providers. Predicting influenza activity is a difficult task, but based on our historical data, flu seasons can start as early as Week 39 and last through Week 26. For this report, data will be included for the 2015 – 2016 season and 2016 – 2017 season.



Licking County Influenza Surveillance Flu Totals					
Flu Totals	Cases				
	IRIS	Hospitalizations	Pediatric Mortality	Novel	Total
2015 – 2016 Season	629	29	0	1	659
2016 – 2017 Season	979	30	0	0	1,009
Total Cases in 2016	735	39	0	1	775

**Flu seasons typically over-lap two calendar years. Total Cases in 2015 count from Jan. 1 - Dec. 31, 2015.*

Licking County Influenza Surveillance Flu Types				
Flu Totals	IRIS Flu Types			
	Rapid A's	Rapid B's	Symptomatic	Total
2015 – 2016 Season	328	128	173	629
2016 – 2017 Season	585	138	256	979
Total Cases in 2016	385	157	193	735

**Flu seasons typically over-lap two calendar years. Total Cases in 2015 count from Jan. 1 - Dec. 31, 2015.*

2016 Communicable Disease Annual Report



2016														
REPORTABLE DISEASE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD	+/-
Amebiasis	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Anaplasmosis - Anaplasma phagocytophilum	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Anthrax	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Botulism - foodborne	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Botulism - infant	0	0	0	0	0	0	1	0	0	0	0	0	1	+
Botulism - wound	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Brucellosis	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Campylobacteriosis	1	0	1	0	2	0	3	2	0	1	1	1	12	-
Chancroid	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Chlamydia	59	60	60	64	42	51	42	58	54	55	52	43	640	+
Cholera	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Coccidioidomycosis	0	1	0	0	0	0	0	0	0	0	0	0	1	+
Creutzfeldt - Jakob Disease	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Creutzfeldt - Jakob Disease - variant (vCJD)	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Cryptosporidiosis	5	0	0	0	1	1	6	7	16	0	1	0	37	+
Cyclosporiasis	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Cytomegalovirus - congenital (CMV)	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Dengue	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Dengue Hemorrhagic Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0	=
E.coli – (shiga toxin producing) - Not O157:H7	0	0	0	0	0	0	0	0	0	0	0	0	0	=
E.coli – (shiga toxin producing) - O157:H7	0	0	0	0	0	0	0	0	0	0	0	0	0	=
E.coli – (shiga toxin producing) Unknown serotype	0	0	0	0	0	0	0	0	0	0	0	0	0	=

+/- indicate an increase or decrease compared to 2015 Communicable Disease Totals. = represents no change.

2016 Communicable Disease Annual Report



2016														
REPORTABLE DISEASE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD	+/-
E.coli – (O157:H7, Not O157, Unknown)	0	0	0	0	2	0	0	0	0	1	0	0	3	-
Eastern equine encephalitis virus disease	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Ehrlichiosis/Anaplasmosis - Undetermined	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Ehrlichiosis-Ehrlichia chaffeensis	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Ehrlichiosis-Ehrlichia ewingii	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Encephalitis - post chickenpox	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Encephalitis - post mumps	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Encephalitis - post other infection	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Encephalitis - primary viral	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Giardiasis	0	0	1	0	1	1	0	1	2	1	0	0	7	=
Gonorrhea	22	24	21	11	25	8	10	14	17	26	17	24	219	+
Granuloma inguinale	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Haemophilus influenzae (invasive disease)	0	0	0	0	0	0	1	0	0	0	0	0	1	=
Hantavirus - infection	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Hantavirus - pulmonary syndrome	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Hemolytic uremic syndrome (HUS)	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Hepatitis - acute viral undetermined etiology	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Hepatitis A	0	0	0	0	1	0	0	0	0	0	0	0	1	=
Hepatitis B - investigation	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Hepatitis B - Perinatal Infection	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Hepatitis B (including delta) - acute	0	0	0	0	0	1	0	0	0	1	1	0	3	-
Hepatitis B (including delta) - acute/chronic	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Hepatitis B (including delta) - chronic	2	1	5	1	4	5	3	1	1	3	4	2	32	+

+/- indicate an increase or decrease compared to 2015 Communicable Disease Totals. = represents no change.

Healthy people living in healthy communities

2016 Communicable Disease Annual Report



2016														
REPORTABLE DISEASE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD	+/-
Hepatitis C - acute	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Hepatitis C - acute/chronic	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Hepatitis C - chronic	13	15	19	10	23	12	10	19	11	11	17	16	176	+
Hepatitis E	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Herpes - congenital	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Immigrant Investigation	0	0	0	1	0	0	0	0	0	0	0	0	1	-
Influenza – ODH Lab Results	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Influenza – associated hospitalization	0	7	19	7	2	0	0	0	0	1	0	3	39	-
Influenza – associated pediatric mortality	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Influenza Seasonal (IRIS)	23	67	356	172	61	2	3	2	3	11	15	20	735	-
Kawasaki disease	0	0	0	0	0	0	0	0	0	0	0	0	0	=
LaCrosse virus disease	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Legionellosis – Legionnaires’ Disease	1	0	0	0	0	0	0	1	1	0	0	1	4	+
Leprosy (Hansen Disease)	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Leptospirosis	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Listeriosis	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Lyme Disease	1	0	0	3	0	4	0	0	2	0	1	0	11	+
Lymphogranuloma venereum (LGV)	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Malaria	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Measles – imported from outside Ohio	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Measles – indigenous to Ohio	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Measles – status not determined	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Meningitis – aseptic/viral	1	0	0	2	0	1	2	0	0	0	0	1	7	=

+/- indicate an increase or decrease compared to 2015 Communicable Disease Totals. = represents no change.

2016 Communicable Disease Annual Report



2016														
REPORTABLE DISEASE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD	+/-
Meningitis – bacterial (Not N. meningitidis)	0	1	0	0	0	0	0	0	0	1	0	0	2	+
Meningococcal disease - Neisseria meningitidis	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Mumps	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Mycobacterial disease – other than tuberculosis	5	0	1	0	0	0	1	2	0	0	0	0	9	-
Pertussis	5	5	2	5	4	3	2	0	1	0	6	6	39	+
Plague	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Poliomyelitis – non-paralytic	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Poliomyelitis – paralytic	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Poliomyelitis – paralytic/non-paralytic	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Powassan virus disease	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Psittacosis	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Q fever, acute	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Q fever, chronic	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Rabies – animal	0	0	0	0	1	0	0	1	0	0	0	0	2	+
Reye syndrome	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Rheumatic fever	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Rocky Mountain spotted fever (RMSF)	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Rubella – congenital	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Rubella – not congenital	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Salmonellosis	0	0	3	3	4	0	2	3	3	0	3	2	23	+
Severe Acute Respiratory Syndrome (SARS)	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Shigellosis	2	0	0	0	1	0	2	5	1	0	1	0	12	+
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0	0	=

+/- indicate an increase or decrease compared to 2015 Communicable Disease Totals. = represents no change.

Healthy people living in healthy communities

2016 Communicable Disease Annual Report



2016														
REPORTABLE DISEASE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD	+/-
St. Louis encephalitis virus disease	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Staphylococcal aureus - intermediate (VISA)	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Staphylococcal aureus - vancomycin resistant (VRSA)	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Streptococcal – Group A – invasive	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Streptococcal – Group B – in newborn	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Streptococcal toxic shock syndrome (STSS)	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Streptococcus pneumoniae - unknown resistance	1	1	2	0	0	1	0	1	1	2	0	0	9	-
Streptococcus pneumoniae – intermediate resistance	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Syphilis – congenital	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Syphilis – early latent (<1 year)	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Syphilis – late latent (>1 year) asymptomatic	0	0	0	1	0	0	1	0	0	1	0	2	5	=
Syphilis – late with no neurosyphilis	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Syphilis – neurosyphilis	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Syphilis – primary	0	0	0	0	0	0	0	1	0	0	0	1	2	+
Syphilis – secondary	1	2	0	0	0	0	0	0	2	2	0	0	7	+
Syphilis – stage Unknown	0	0	0	0	0	0	0	0	0	0	0	1	1	=
Syphilis – unknown latent	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Tetanus	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Toxic shock syndrome (TSS)	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Toxoplasmosis – congenital	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Trichinosis	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Tuberculosis	0	0	0	1	0	0	0	0	0	0	0	0	1	+

+/- indicate an increase or decrease compared to 2015 Communicable Disease Totals. = represents no change

2016 Communicable Disease Annual Report



2016														
REPORTABLE DISEASE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD	+/-
Tuberculosis – multi-drug resistant (MDR-TB)	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Tularemia	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Typhoid fever	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Typhus fever	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Varicella	0	1	0	0	0	1	1	0	0	0	0	1	4	-
Vibrio parahaemolyticus infection	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Vibrio vulnificus infection	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Vibriosis – other (not cholera)	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Viral Hemorrhagic Fever (VHF)	0	0	0	0	0	0	0	0	0	0	0	0	0	=
West Nile virus disease	0	0	0	0	0	0	0	1	0	0	0	0	1	+
Western equine encephalitis virus disease	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Yellow fever	0	0	0	0	0	0	0	0	0	0	0	0	0	=
Yersiniosis	1	0	0	0	0	0	0	0	0	0	0	0	1	+
Zika virus disease	2	0	0	0	0	1	1	0	1	0	0	0	5	+

+/- indicate an increase or decrease compared to 2015 Communicable Disease Totals. = represents no change.