



*mi*Ottawa Department of
Public Health

Annual Summary of Reportable Diseases

Ottawa County

2019

**We value your feedback. Please use this QR code or click
on the link below to tell us what you think of this report:**

[Link to Survey](#)

Scan QR Code



Table of Contents

Reportable Diseases Summary

2019

Click below to go directly to that section.

SECTION	PAGE
Year End Summary – Data	3
Year End Summary – Charts	6
<i>Foodborne Illnesses</i>	<i>7</i>
<i>Meningitis</i>	<i>10</i>
<i>Influenza</i>	<i>12</i>
<i>Other Illnesses</i>	<i>13</i>
<i>Sexually Transmitted Diseases</i>	<i>15</i>
<i>Tuberculosis</i>	<i>17</i>
<i>Vaccine Preventable Diseases</i>	<i>18</i>
<i>Vectorborne Diseases</i>	<i>20</i>
<i>Viral Hepatitis</i>	<i>22</i>

Annual Reportable Disease Summary

Data

The data in the annual disease report is expected to be final, based on current reports in the Michigan Disease Surveillance System (MDSS) made by local health departments. The MDSS is a dynamic, continually active system and disease counts can change as cases are investigated, confirmed as cases, or ruled out as not meeting the case definition. Therefore, it should be kept in mind that numbers in the annual disease report may change and should be used only to generally monitor trends over time. Suspected, probable and confirmed cases of the reportable condition are included in the report.

Specific data requests and questions should be directed to one of the following:

Derel Glashower, MPH, CPH
Senior Epidemiologist
dglashower@miottawa.org
(616) 393-5785

Derick N. Chia, MPH
Epidemiologist
dchia@miOttawa.org
(616) 393-5765

12251 James Street • Holland, MI 49424-9661 • (616) 396-5266 • Fax (616) 393-5643
www.miOttawa.org/healthdata

Disease Group	Reportable Condition	Ottawa County Cases Reported**					Michigan Cases Reported				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Foodborne	Amebiasis	-	-	-	1	-	33	15	6	2	9
	Botulism - Foodborne	-	-	-	-	-	-	-	-	-	-
	Campylobacter	71	71	68	61	58	1,348	1,642	1,735	1,705	1,705
	Cryptosporidiosis	18	17	19	24	22	240	437	425	383	419
	Giardiasis	9	28	17	15	11	453	587	568	465	427
	Listeriosis	-	-	-	-	4	20	18	30	23	30
	Norovirus***	81	1	70	88	262	766	1,430	1,082	1,008	1,481
	Salmonellosis	20	26	44	38	30	970	1,067	1,086	1,137	1,075
	Shiga toxin-producing Escherichia coli (STEC)	9	10	9	16	17	147	201	201	327	308
	Shigellosis	19	5	23	8	16	515	706	460	209	219
	Typhoid Fever	-	-	-	-	1	9	7	14	6	10
	Yersinia enteritis	1	1	1	2	-	21	41	66	82	77
Foodborne Subtotal	228	159	251	253	421	4,522	6,151	5,673	5,347	5,760	
Influenza	Flu Like Disease* ***	30,342	31,669	32,924	35,954	31,762	298,594	321,126	394,863	379,206	323,372
	Influenza	5	4	4	10	3	7,370	14,458	26,018	47,203	32,010
	Novel Influenza	-	-	-	-	-	-	22	2	3	1
	Influenza Subtotal	30,347	31,673	32,928	35,964	31,765	305,964	335,606	420,883	426,412	355,383
Meningitis	Meningitis - Aseptic	21	22	16	8	9	809	665	659	826	457
	Meningitis - Bacterial Other	6	6	1	5	3	142	168	126	147	121
	Meningococcal Disease	-	1	-	-	-	8	7	6	4	8
	Streptococcus pneumoniae, Inv	13	12	16	10	10	694	813	841	791	936
	Meningitis Subtotal	40	41	33	23	22	1,653	1,653	1,632	1,768	1,522
Other	Anthrax	-	-	-	-	-	-	-	-	-	-
	Blastomycosis	-	1	-	-	-	13	15	22	19	26
	Botulism - Infant	-	-	-	-	-	1	1	-	1	-
	Botulism - Other	-	-	-	-	-	-	-	-	2	-
	Brucellosis	-	-	-	-	1	2	2	2	4	1
	CP-CRE ^	-	-	-	-	-	-	-	-	-	19
	Candida auris ^	-	-	-	-	-	-	-	-	-	-
	Cholera (combined)	-	-	-	-	-	-	1	1	1	2
	Coccidioidomycosis	1	1	2	2	4	27	37	42	39	50
	Creutzfeldt-Jakob Disease	-	1	-	-	-	18	14	13	12	15
	Cryptococcosis	1	-	-	1	-	34	12	15	14	18
	Cyclosporiasis	-	-	-	-	-	-	-	-	-	-
	Encephalitis, Post Chickenpox	-	-	-	-	-	-	-	-	1	1
	Encephalitis, Post Mumps	-	-	-	-	-	-	-	-	-	-
	Encephalitis, Post Other	-	1	-	-	-	21	16	21	10	14
	Encephalitis, Primary	-	-	-	-	-	12	10	15	18	14
	Guillain-Barre Syndrome	1	1	2	-	-	52	46	54	48	63
	Hantavirus	-	-	-	-	-	-	1	-	-	-
	Hantavirus, Other	-	-	-	-	-	-	-	-	-	-
	Hantavirus, Pulmonary	-	-	-	-	-	-	-	-	-	-
	Hemolytic Uremic Syndrome (combined)	-	-	-	2	1	12	9	6	11	8
	Hemorrhagic Fever	-	-	-	-	-	-	-	-	-	-
	Histoplasmosis	15	5	11	10	18	191	162	178	167	232
	Kawasaki	2	-	1	1	-	56	50	46	35	55
	Legionellosis	1	4	-	11	8	263	309	349	643	560
	Leprosy	-	-	-	-	-	1	-	-	1	-
	Leptospirosis	-	-	-	-	-	-	5	4	1	3
	Melioidosis	-	-	-	-	-	1	-	1	-	-
	Novel Coronavirus COVID-19	-	-	-	-	-	-	-	-	-	-
	Plague	-	-	-	-	-	1	-	-	-	-
	Psittacosis	-	-	-	-	-	-	2	1	4	-
	Q Fever Acute	-	1	-	1	-	2	1	3	4	5
	Q Fever Chronic	-	-	-	-	-	2	1	3	1	-
	Rabies Animal	2	1	-	-	1	36	45	44	76	58
	Rabies Human	-	-	-	-	-	-	-	-	-	-
	Reye Syndrome	-	-	-	-	-	-	-	-	-	-
	Rheumatic Fever	-	-	-	-	-	2	4	-	-	-
Rubella - Congenital	-	-	-	-	-	-	-	-	-	-	
Streptococcus pneumoniae, Drug Resistant	-	1	4	4	2	98	113	110	96	80	
Streptococcal Dis, Inv, Grp A	13	14	17	8	11	329	397	458	428	449	
Streptococcal Toxic Shock	-	1	-	-	-	11	2	2	5	5	

Disease Group	Reportable Condition	Ottawa County Cases Reported**					Michigan Cases Reported				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Other	Toxic Shock	-	-	-	-	-	7	7	2	4	7
	Trachoma	-	-	-	-	-	2	-	-	-	-
	Trichinosis	-	-	-	-	-	-	1	-	-	-
	Tularemia	-	-	-	-	-	-	1	-	2	1
	Vibriosis - Non Cholera (combined)	-	-	2	-	3	10	9	20	45	39
	VISA	-	-	-	2	-	4	4	7	8	11
	VRSA	-	-	-	-	-	1	-	-	-	-
Other Subtotal		36	32	39	42	49	1,209	1,277	1,419	1,700	1,736
STD	Chancroid	-	-	-	-	-	-	-	1	-	-
	Chlamydia (Genital)	858	863	981	932	816	47,988	49,325	51,647	51,540	50,326
	Gonorrhea	82	117	143	186	161	10,689	13,088	15,365	17,032	18,245
	Granuloma Inguinale	-	-	-	-	-	-	-	-	-	-
	Lymphogranuloma venereum	-	-	-	-	-	24	20	8	16	1
	Syphilis - Primary, Secondary & Early Latent	6	8	5	8	8	689	678	822	1,066	1,242
	All Syphilis	10	13	6	14	14	1,111	1,172	1,301	1,707	1,916
	STD Subtotal	950	993	1,130	1,132	991	59,812	63,605	68,322	70,295	70,488
Tuberculosis	Latent Tuberculosis Infection ^	-	-	2	66	50	-	8	122	1,125	2,053
	Nontuberculous Mycobacterium ^	2	3	5	11	11	127	183	314	839	854
	Tuberculosis	2	-	3	7	3	140	124	134	117	138
	Tuberculosis Subtotal	4	3	10	84	64	267	315	570	2,081	3,045
VPD	Chickenpox (Varicella)	17	26	14	27	14	563	547	542	434	416
	Diphtheria	-	-	-	-	-	-	-	-	-	-
	H. influenzae Disease - Inv. †	7	3	3	3	9	137	187	199	174	223
	Measles	-	-	-	-	-	1	1	2	19	46
	Mumps	-	1	4	1	-	21	37	47	81	29
	Pertussis	19	6	32	20	19	469	416	761	658	546
	Polio	-	-	-	-	-	-	-	-	-	-
	Rubella	-	-	-	-	-	-	-	-	-	-
	Shingles	25	19	34	26	21	706	866	976	1,252	1,222
	Tetanus	-	-	-	-	-	-	1	2	2	1
VZ Infection, Unspecified	-	-	-	-	4	187	172	270	213	228	
VPD Subtotal	68	55	87	77	67	2,084	2,227	2,799	2,833	2,711	
Vectorborne	Babesiosis	-	-	-	-	-	2	5	3	5	2
	Chikungunya	-	-	1	-	-	6	4	4	2	2
	Dengue Fever	1	-	-	-	1	-	-	-	-	2
	Ehrlichiosis (combined)	-	-	1	2	1	13	16	21	25	23
	Encephalitis, California	-	-	-	-	-	1	-	-	2	3
	Encephalitis, Eastern Equine	-	-	-	-	-	-	-	-	-	-
	Encephalitis, Powassan	-	-	-	-	-	-	-	-	-	-
	Encephalitis, St. Louis	-	-	-	-	-	-	-	-	-	-
	Encephalitis, Western Equine	-	-	-	-	-	-	-	-	-	-
	Lyme Disease	8	11	14	9	26	151	231	347	309	485
	Malaria	-	4	-	-	-	21	43	45	29	25
	Rickettsial Disease - Spotted Fever	1	-	-	-	-	2	14	13	23	10
	Rickettsial Disease - Typhus	-	1	-	-	-	-	1	-	-	-
	West Nile Virus	1	-	-	2	-	19	45	43	105	12
	Yellow Fever	-	-	-	-	-	-	-	-	-	-
	Zika °	-	10	1	-	-	-	75	10	1	-
Vectorborne Subtotal	11	26	17	13	28	215	434	486	501	564	
Viral Hepatitis	Hepatitis A	-	-	2	-	1	70	129	702	331	79
	Hepatitis B, Acute	2	2	-	2	1	60	51	62	80	65
	Hepatitis B, Chronic	13	22	19	23	17	1,059	1,239	1,195	1,064	1,008
	Hepatitis B, Perinatal	-	-	-	-	-	-	-	1	1	-
	Hepatitis C, Acute ~	1	2	2	1	1	88	157	230	174	129
	Hepatitis C, Chronic ~	78	115	129	108	63	7,170	11,106	11,262	9,799	5,843
	Hepatitis C, Perinatal ^	-	-	-	-	-	3	4	3	11	11
	Hepatitis C, Unknown*	-	-	-	-	-	10	15	-	-	23
	Hepatitis D	-	-	-	-	2	3	1	3	4	6
Hepatitis E	-	-	-	-	1	7	4	5	9	5	
Viral Hepatitis Subtotal	94	141	152	134	86	8,470	12,706	13,463	11,473	7,169	
Total		31,778	33,123	34,647	37,722	33,493	384,196	423,974	515,247	522,410	448,378

* Indicates disease no longer reported into the MDSS on an individual cases basis.

** Data for cases reported is based on date of symptom onset, if available, or date of referral to the public health department.

*** The Ottawa County Department of Public Health began reporting outbreak aggregate counts of these diseases to the MDSS in 2015.

† All serotypes of invasive H. influenzae (Hi) disease are included, though only H. influenzae serotype b disease (Hib) is vaccine-preventable.

~ Indicates a change in the case definition for 2016, which may increase the number of confirmed and probable cases.

° Indicates disease added to MDSS in 2016.

^ Indicates disease added to MDSS in late 2017.

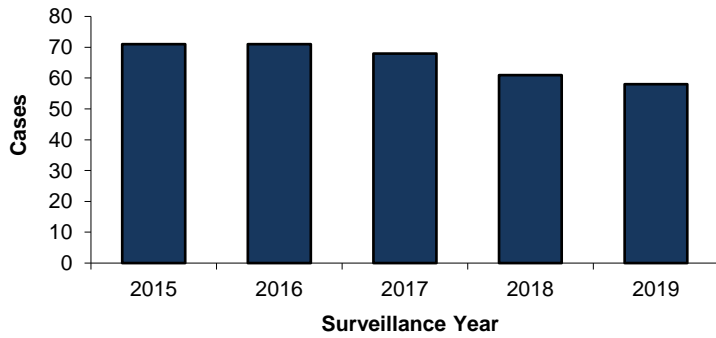
^^ Indicates disease added to MDSS in late 2018.

Annual Reportable Disease Summary

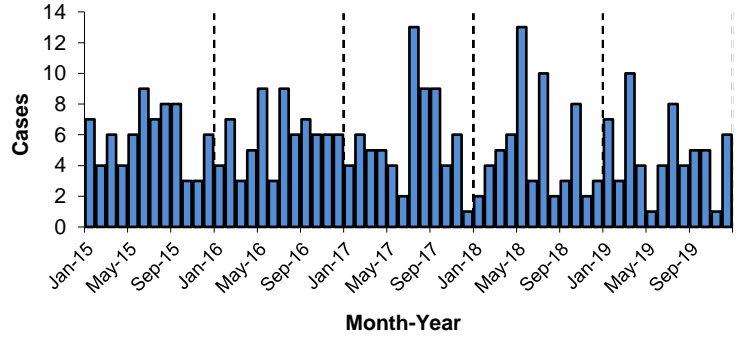
Charts

Foodborne Illness:

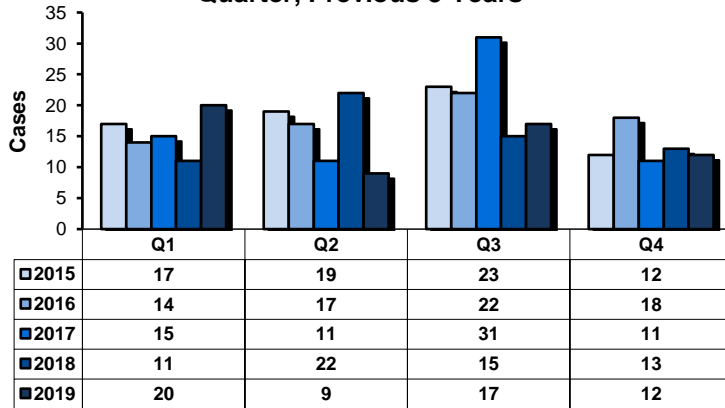
Campylobacter Cases in Ottawa County Previous 5 Years



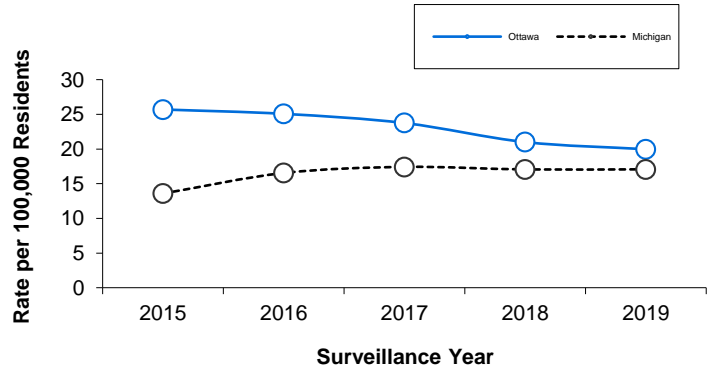
Campylobacter Cases in Ottawa County by Month, Previous 5 Years



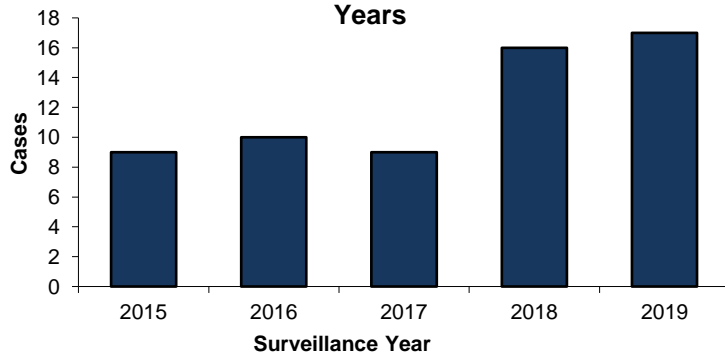
Campylobacter Cases in Ottawa County by Quarter, Previous 5 Years



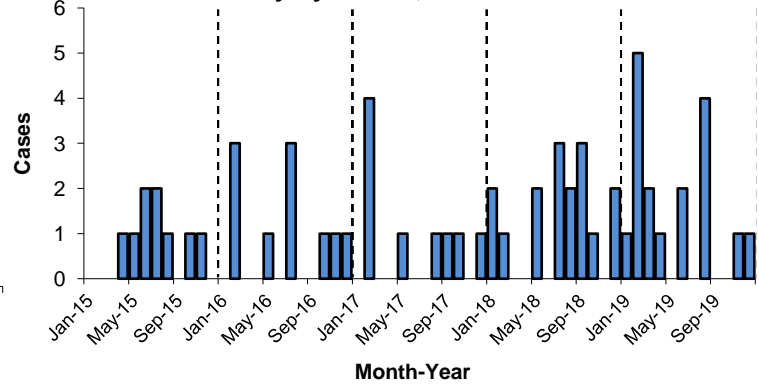
Campylobacter Cases per 100,000



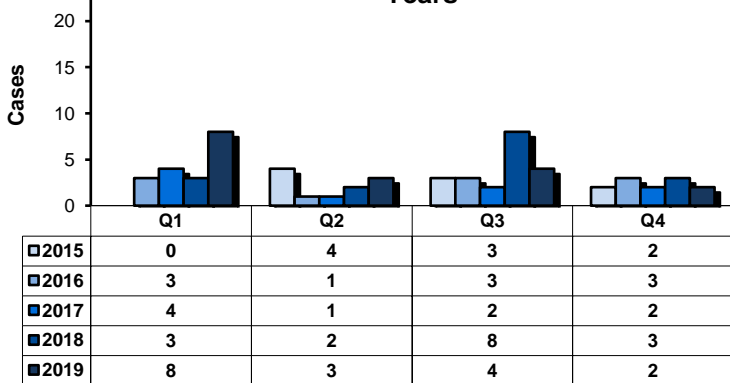
Shiga toxin-producing *Escherichia coli* (STEC) Cases in Ottawa County, Previous 5 Years



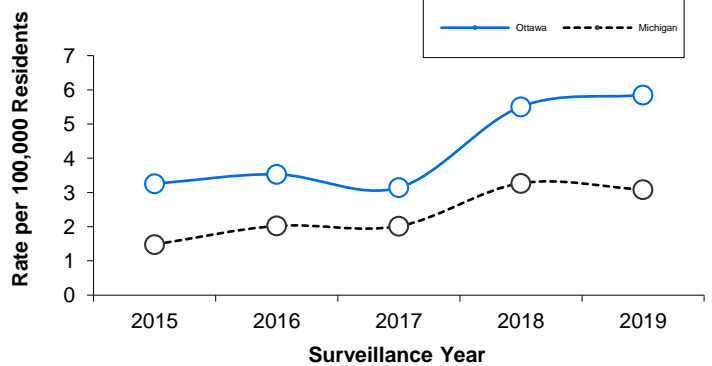
Shiga toxin-producing *Escherichia coli* (STEC) Cases in Ottawa County by Month, Previous 5 Years



Shiga toxin-producing *Escherichia coli* (STEC) Cases in Ottawa County by Quarter, Previous 5 Years

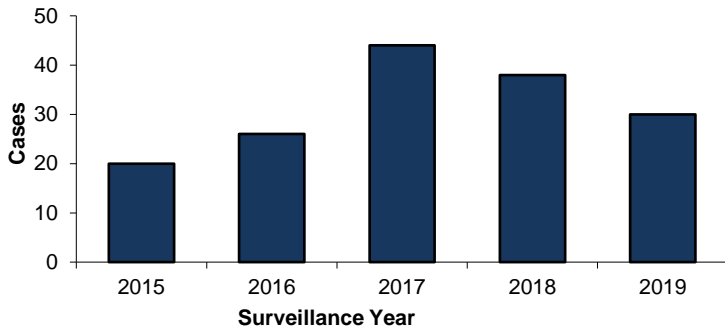


Shiga toxin-producing *Escherichia coli* (STEC) Cases per 100,000

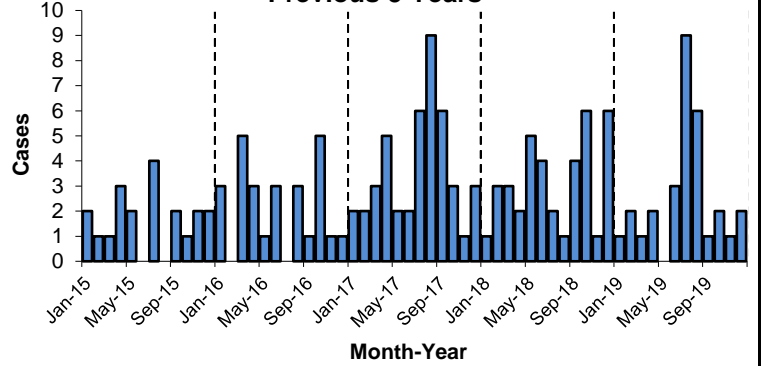


Foodborne Illness:

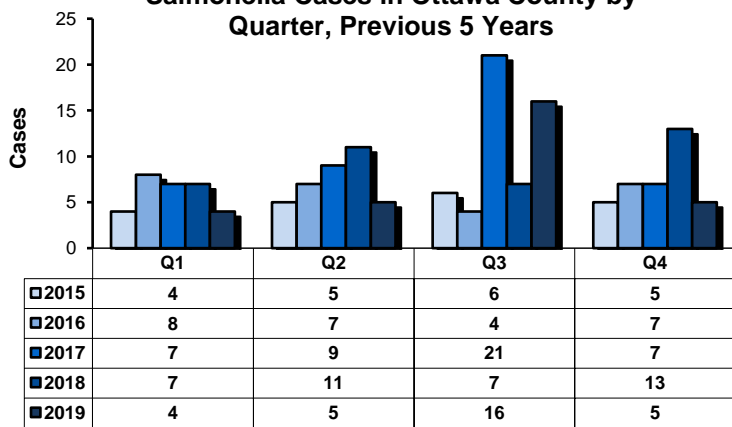
Salmonella Cases in Ottawa County Previous 5 Years



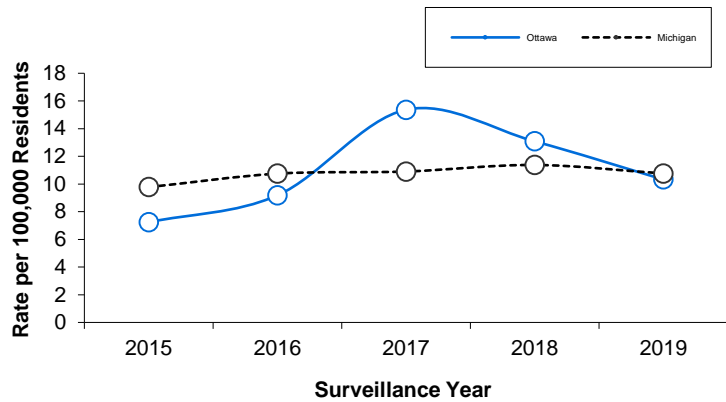
Salmonella Cases in Ottawa County by Month Previous 5 Years



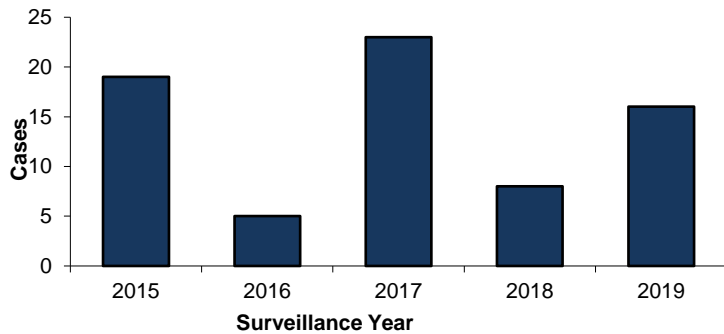
Salmonella Cases in Ottawa County by Quarter, Previous 5 Years



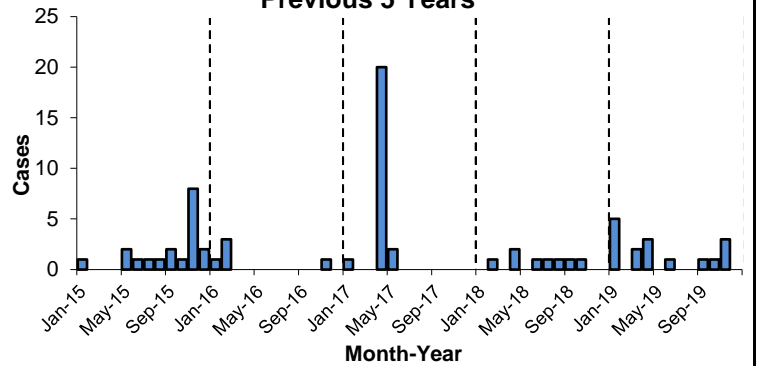
Salmonella Cases per 100,000



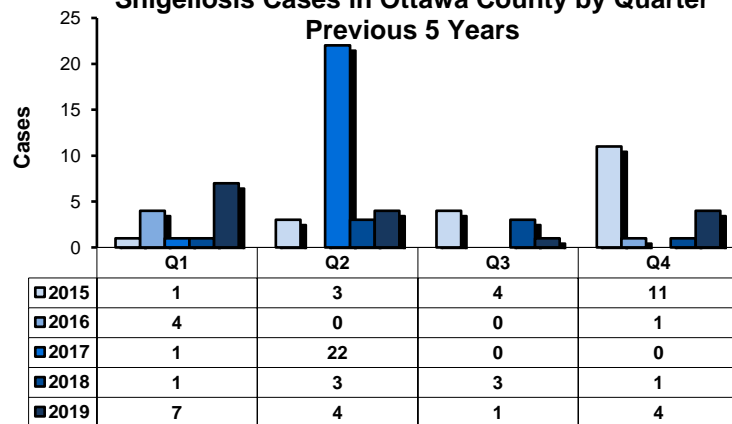
Shigellosis Cases in Ottawa County Previous 5 Years



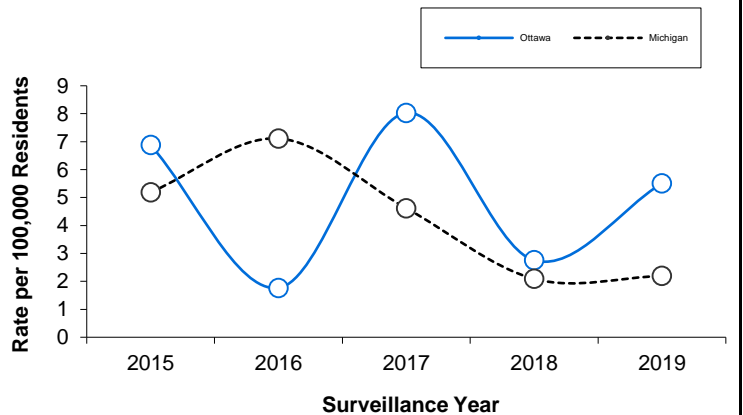
Shigellosis Cases in Ottawa County by Month Previous 5 Years



Shigellosis Cases in Ottawa County by Quarter Previous 5 Years

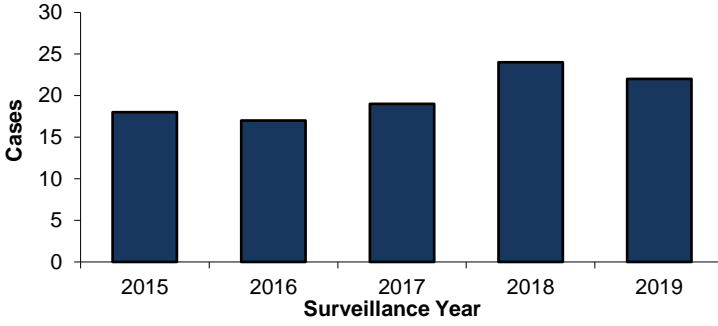


Shigellosis Cases per 100,000

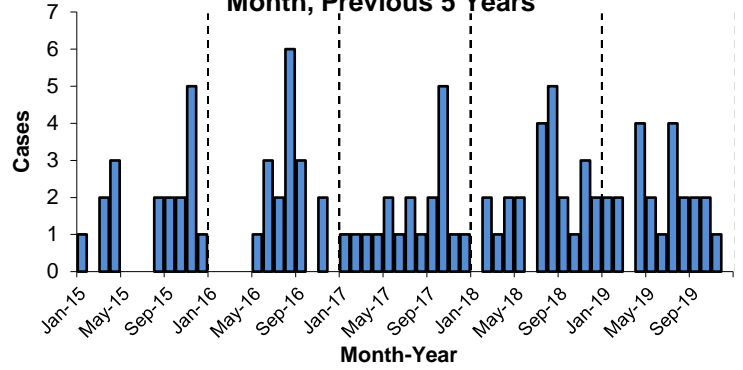


Foodborne Illness:

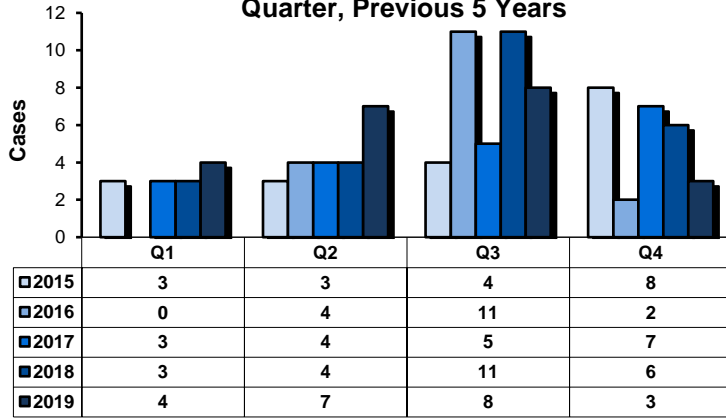
Cryptosporidiosis Cases in Ottawa County, Previous 5 Years



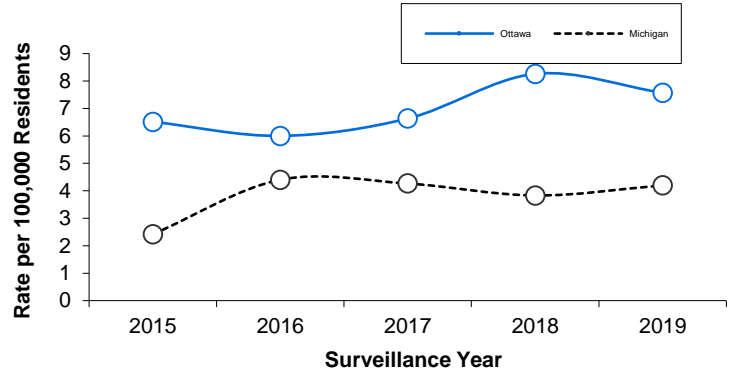
Cryptosporidiosis Cases in Ottawa County by Month, Previous 5 Years



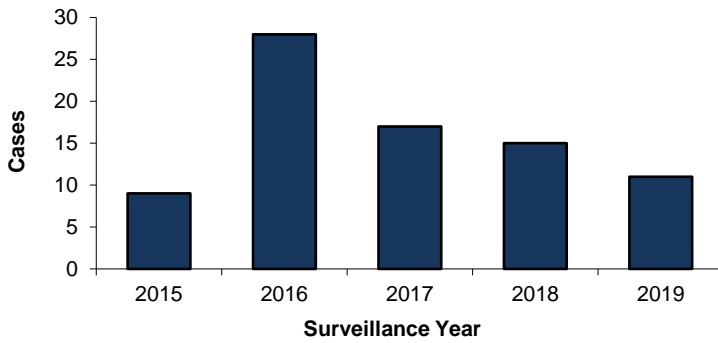
Cryptosporidiosis Cases in Ottawa County by Quarter, Previous 5 Years



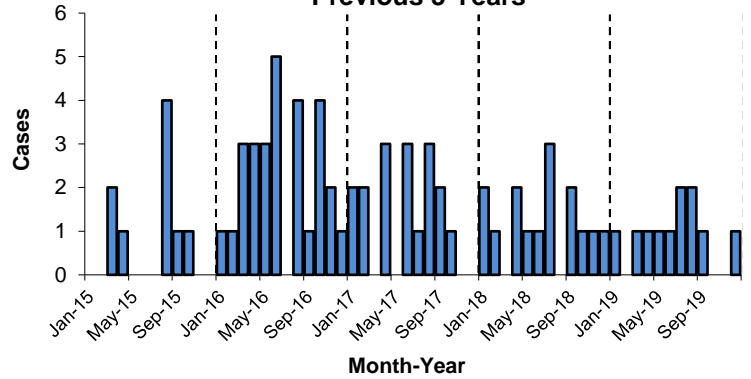
Cryptosporidiosis Cases per 100,000



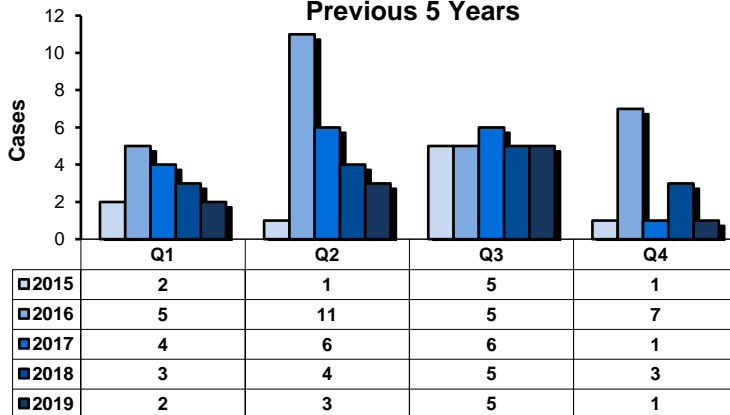
Giardia Cases in Ottawa County Previous 5 Years



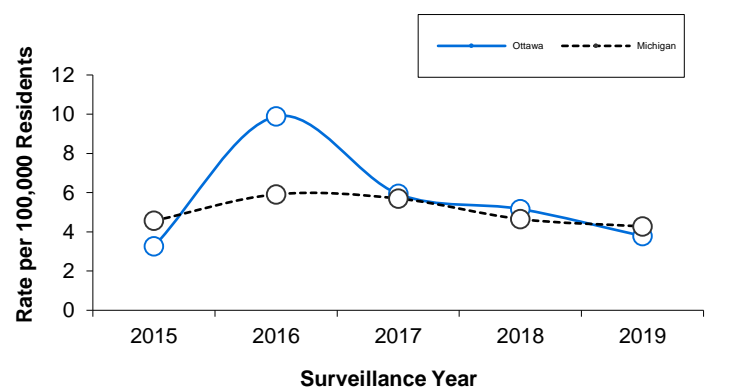
Giardia Cases in Ottawa County by Month Previous 5 Years



Giardia Cases in Ottawa County by Quarter, Previous 5 Years

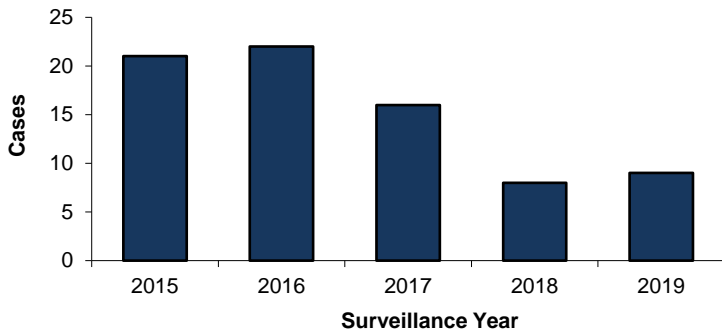


Giardia Cases per 100,000

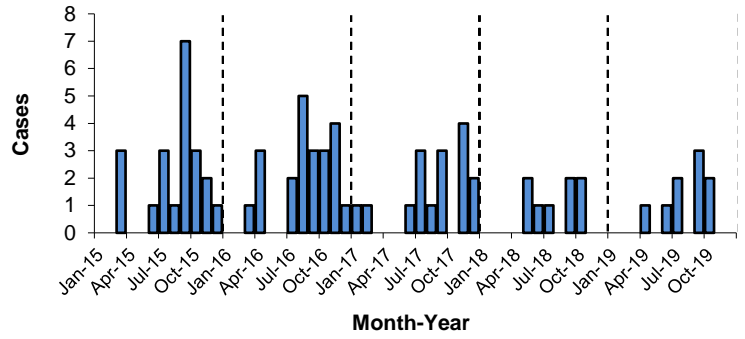


Meningitis:

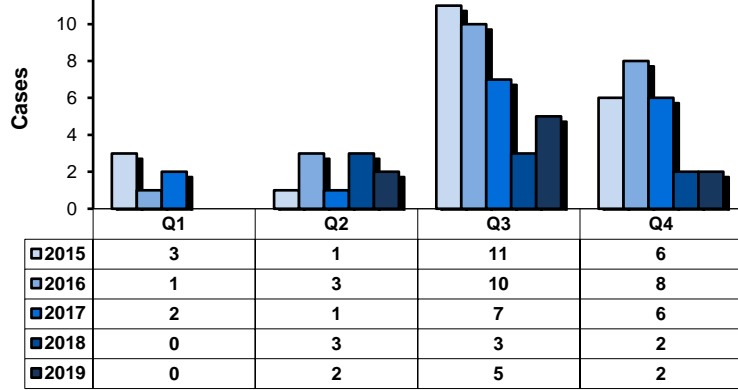
Aseptic Meningitis Cases in Ottawa County, Previous 5 Years



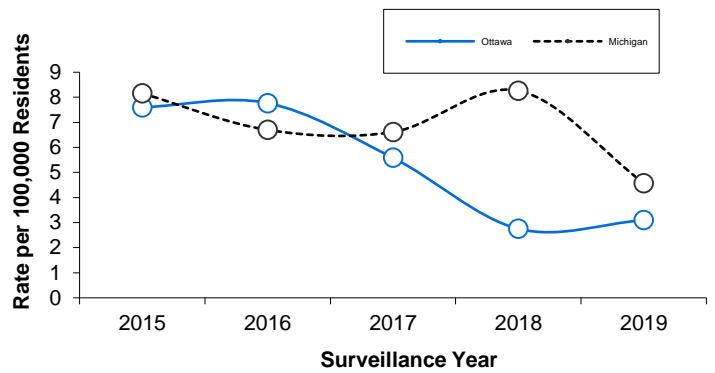
Aseptic Meningitis Cases in Ottawa County by Month, Previous 5 Years



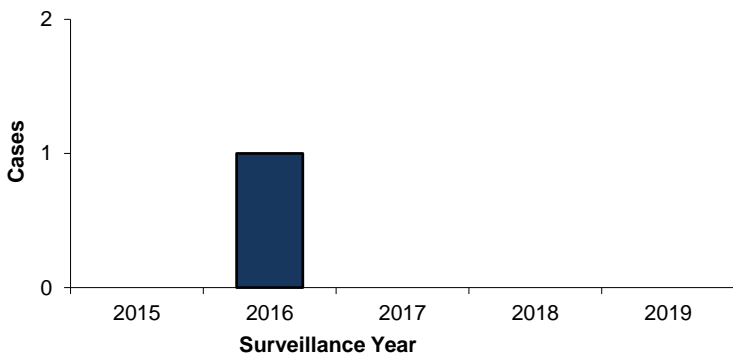
Aseptic Meningitis Cases in Ottawa County by Quarter, Previous 5 Years



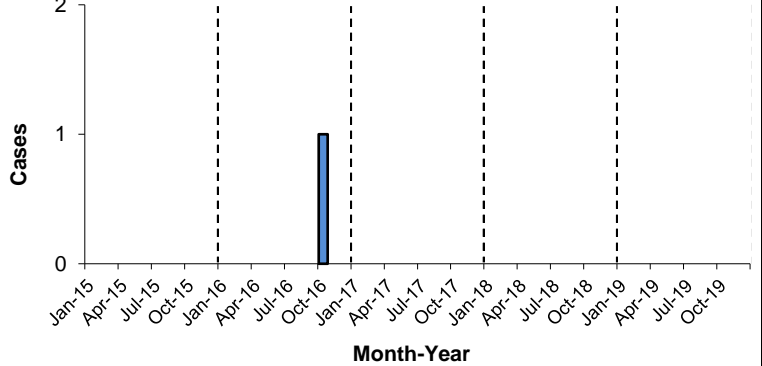
Aseptic Meningitis Cases per 100,000



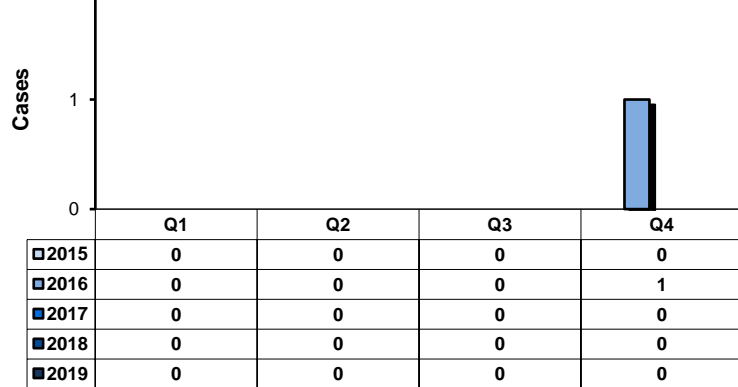
N. meningitidis Cases in Ottawa County Previous 5 Years



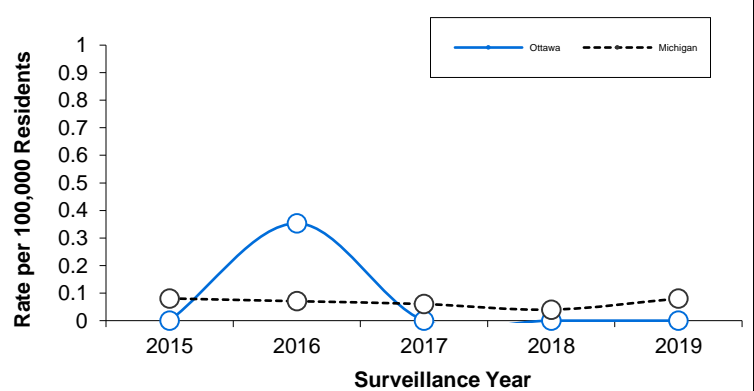
N. meningitidis Cases in Ottawa County by Month Previous 5 Years



N. meningitidis Cases in Ottawa County by Quarter, Previous 5 Years

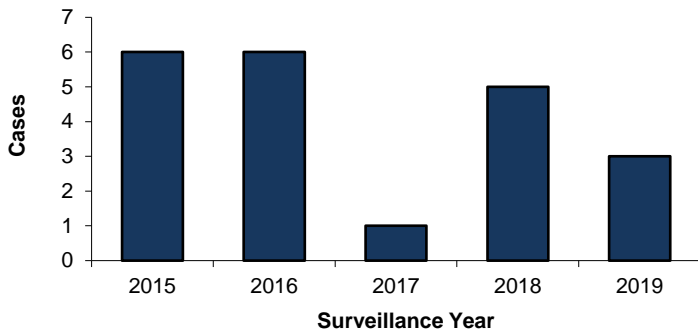


N. meningitidis Cases per 100,000

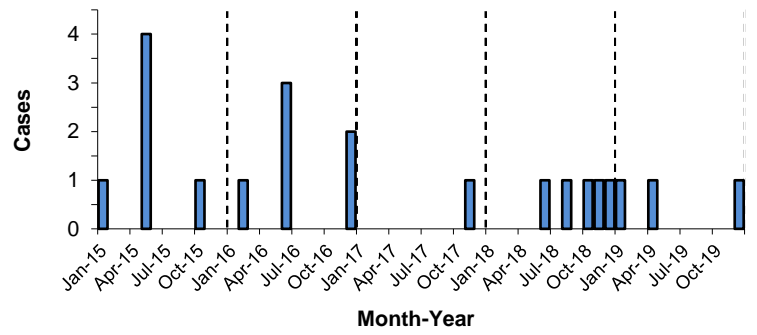


Meningitis:

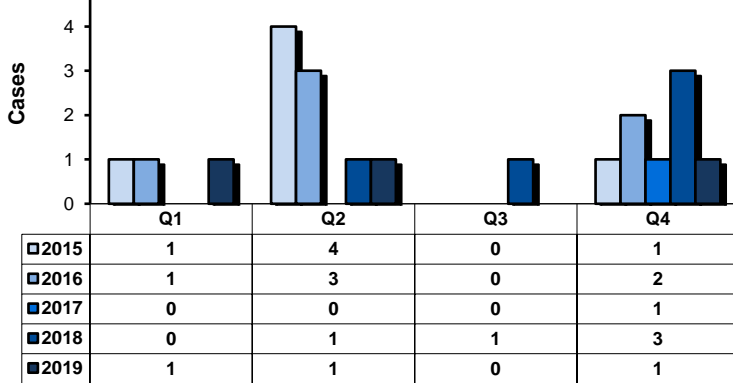
Meningitis (Other Bacterial) Cases in Ottawa County, Previous 5 Years



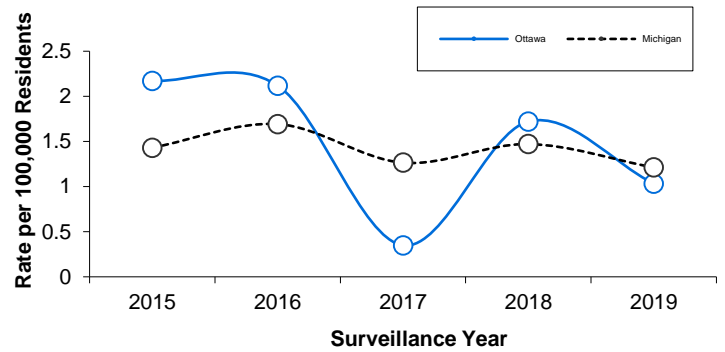
Meningitis (Other Bacterial) Cases in Ottawa County by Month, Previous 5 Years



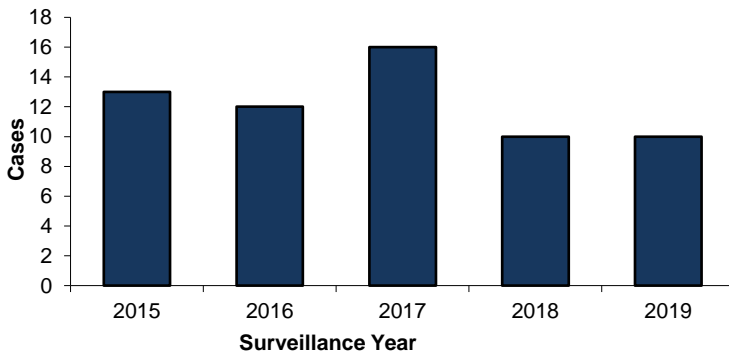
Meningitis (Other Bacterial) Cases in Ottawa County by Quarter, Previous 5 Years



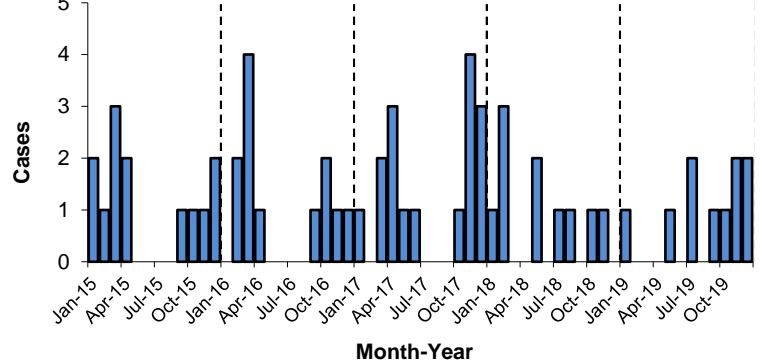
Meningitis (Other Bacterial) Cases per 100,000



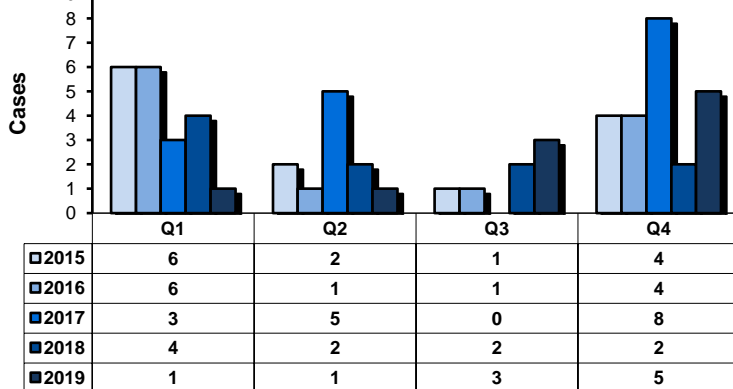
Invasive *Streptococcus pneumoniae* Cases in Ottawa County, Previous 5 Years



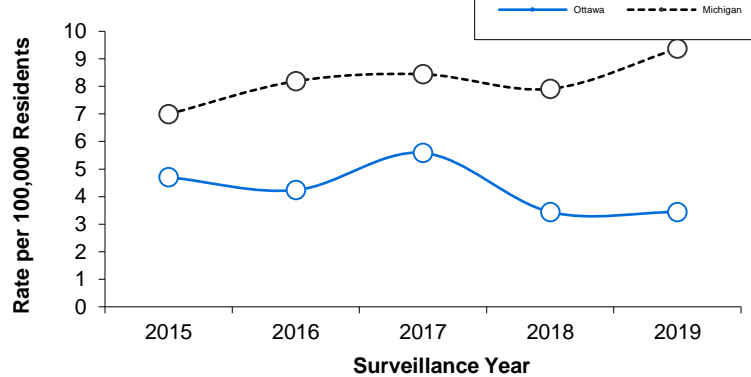
Invasive *Streptococcus pneumoniae* Cases in Ottawa County by Month, Previous 5 Years



Invasive *Streptococcus pneumoniae* Cases in Ottawa County by Quarter, Previous 5 Years

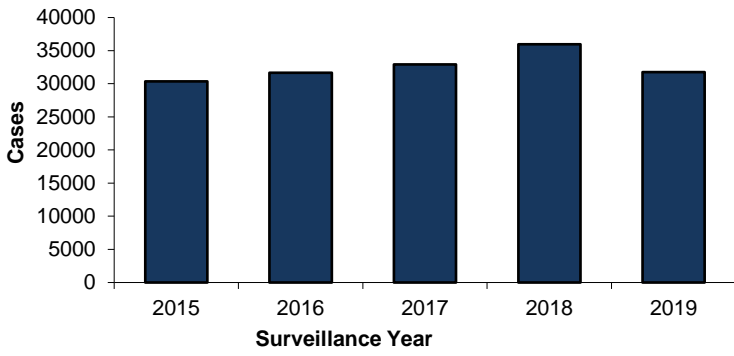


Invasive *Streptococcus pneumoniae* Cases per 100,000

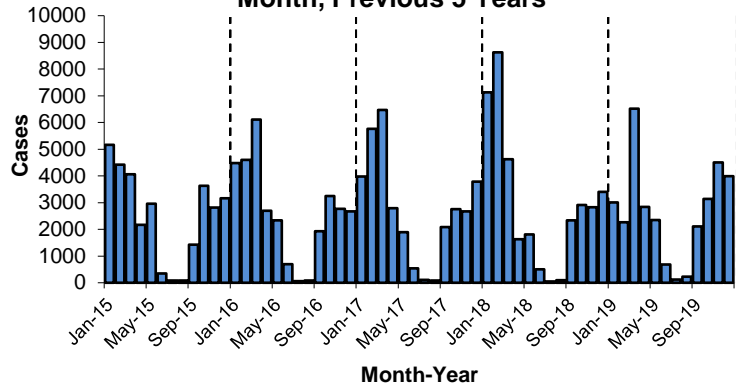


Influenza:

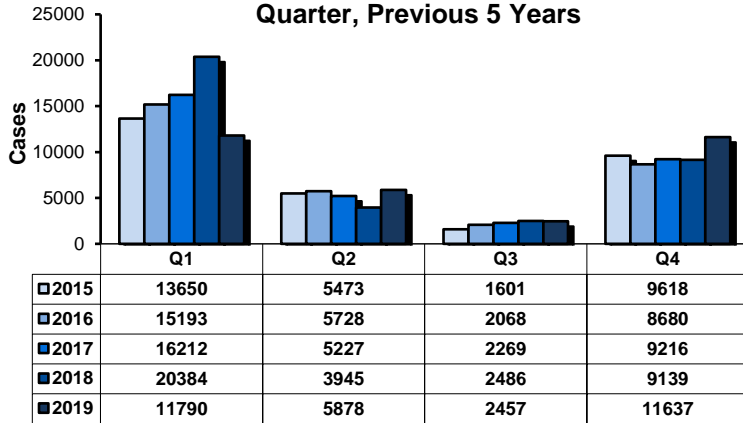
Flu-Like Disease Cases in Ottawa County Previous 5 Years



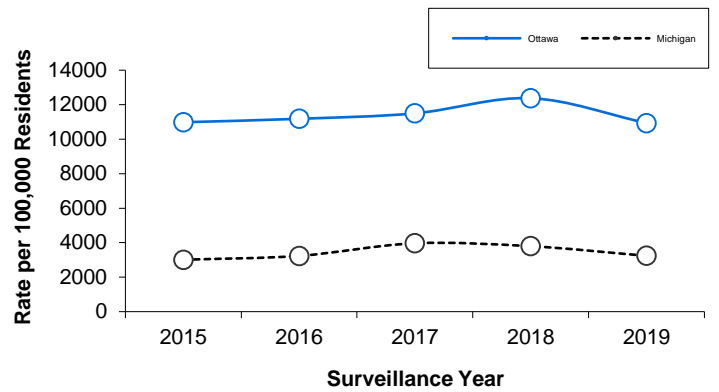
Flu-Like Disease Cases in Ottawa County by Month, Previous 5 Years



Flu-Like Disease Cases in Ottawa County by Quarter, Previous 5 Years

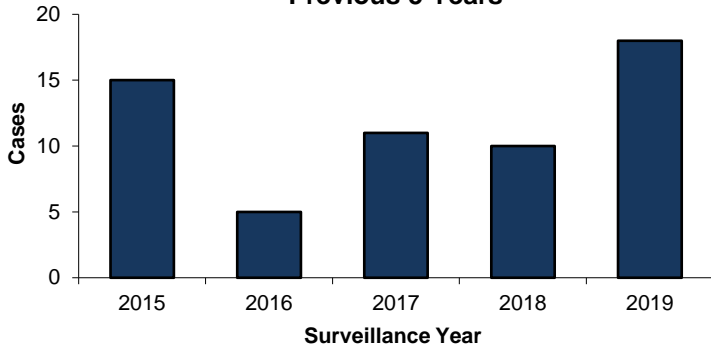


Flu-Like Disease Cases per 100,000

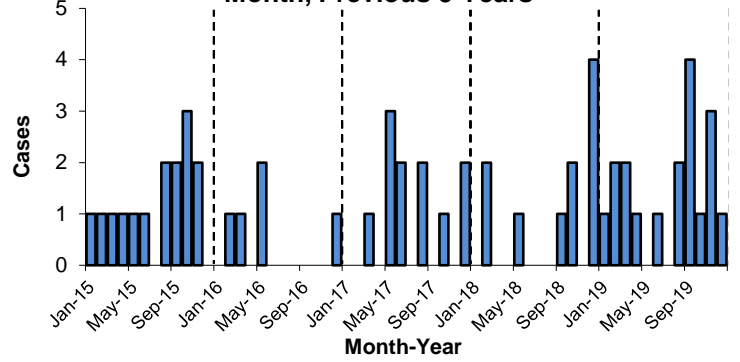


Other Illnesses:

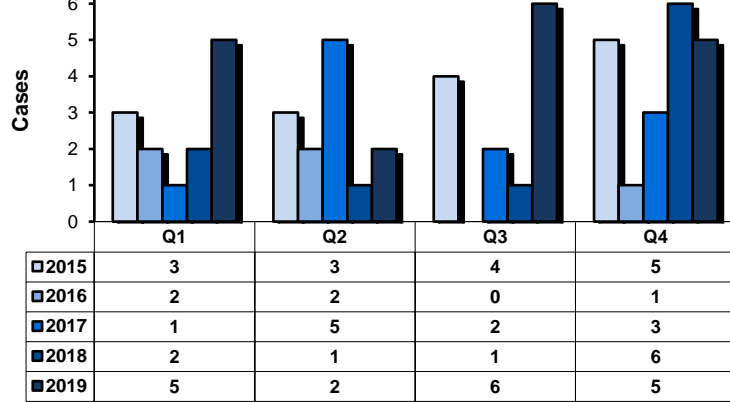
Histoplasmosis Cases in Ottawa County Previous 5 Years



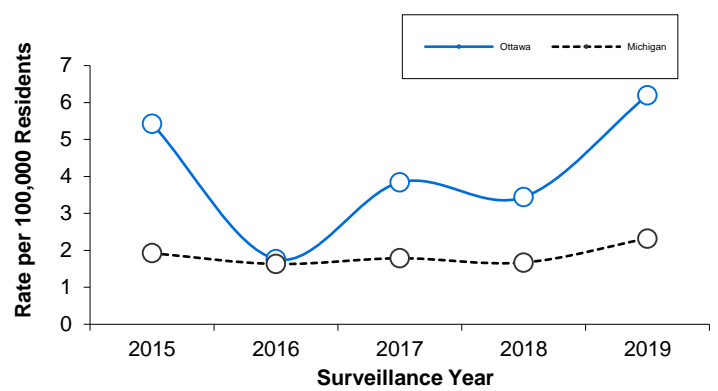
Histoplasmosis Cases in Ottawa County by Month, Previous 5 Years



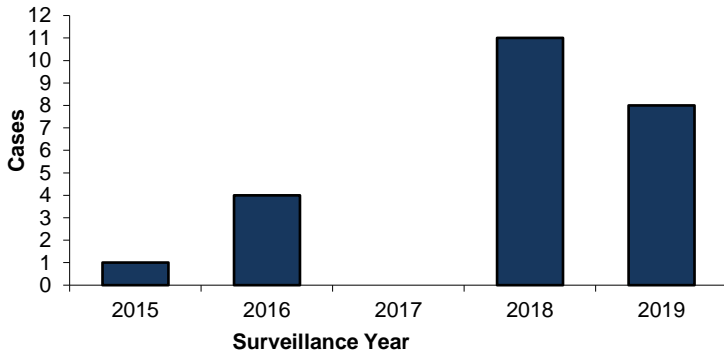
Histoplasmosis Cases in Ottawa County by Quarter, Previous 5 Years



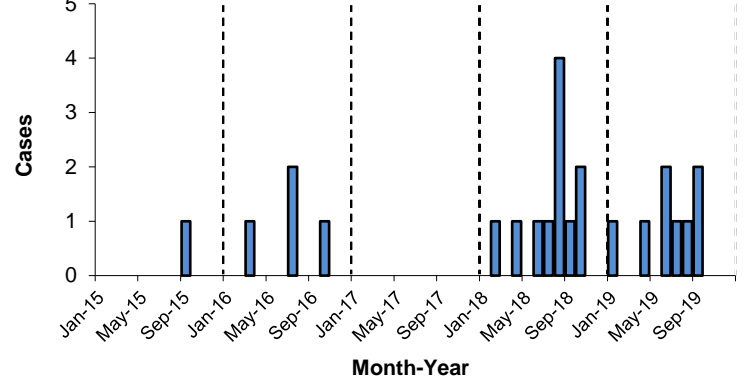
Histoplasmosis Cases per 100,000



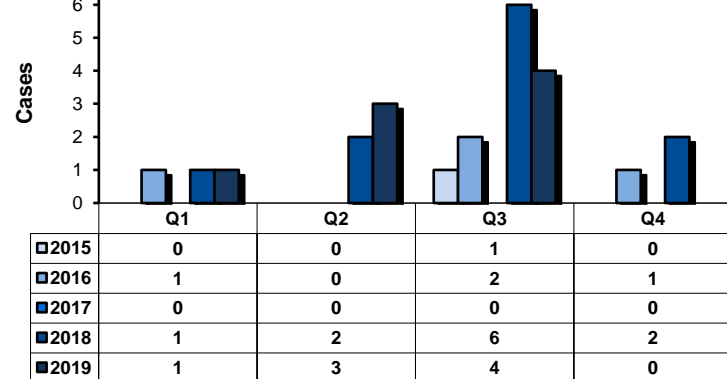
Legionellosis Cases in Ottawa County Previous 5 Years



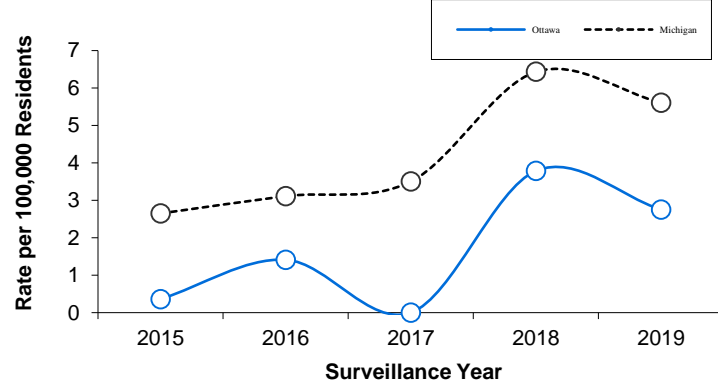
Legionellosis Cases in Ottawa County by Month Previous 5 Years



Legionellosis Cases in Ottawa County by Quarter, Previous 5 Years

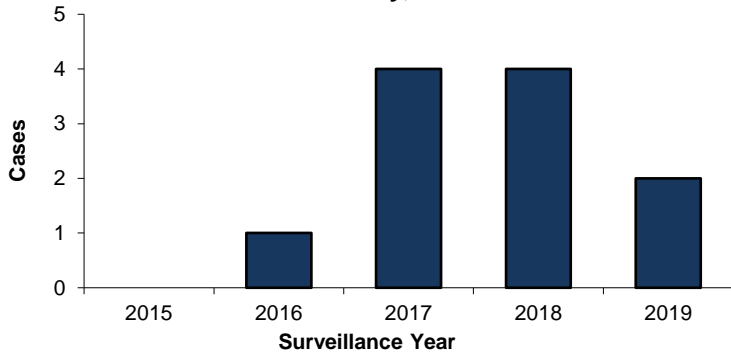


Legionellosis Cases per 100,000

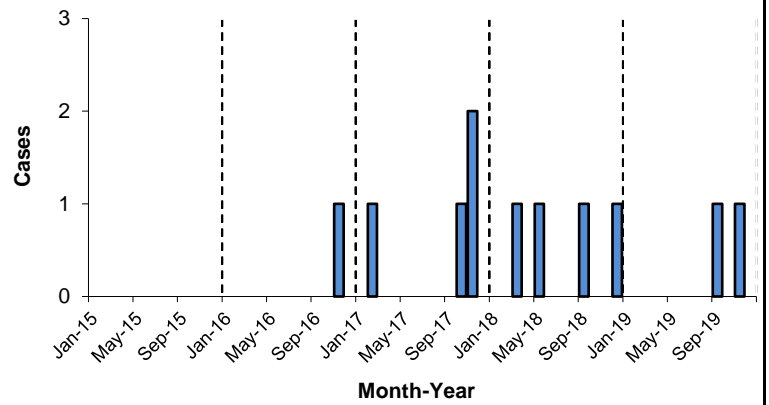


Other Illnesses:

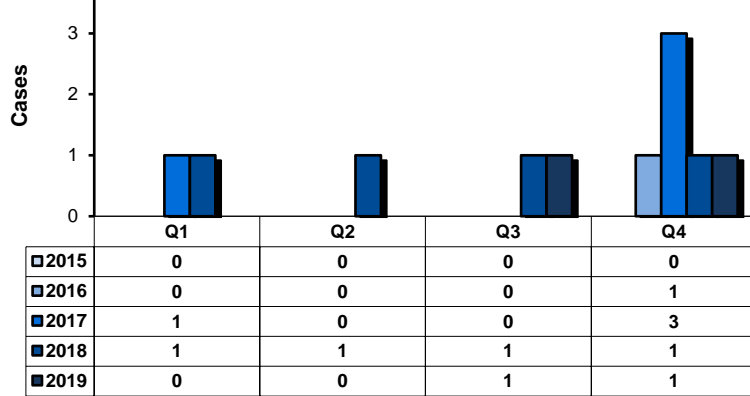
Drug Resistant *Streptococcus pneumoniae* Cases in Ottawa County, Previous 5 Years



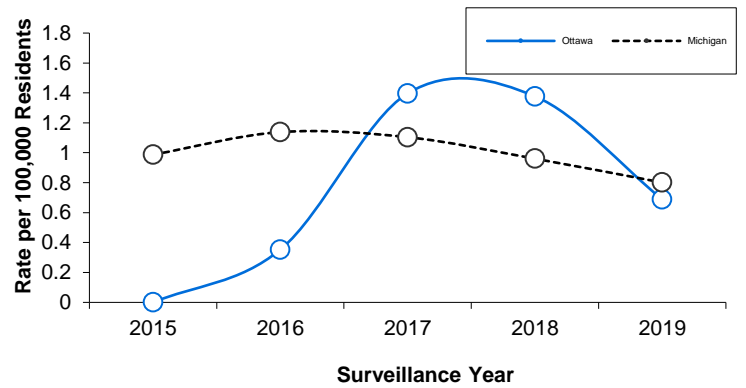
Drug Resistant *Streptococcus pneumoniae* Cases in Ottawa County by Month, Previous 5 Years



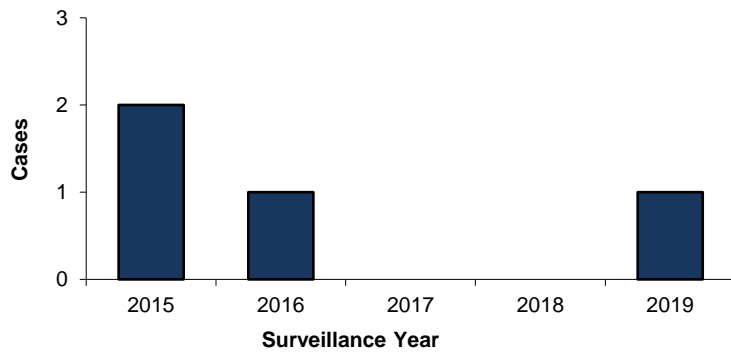
Drug Resistant *Streptococcus pneumoniae* Cases in Ottawa County by Quarter, Previous 5 Years



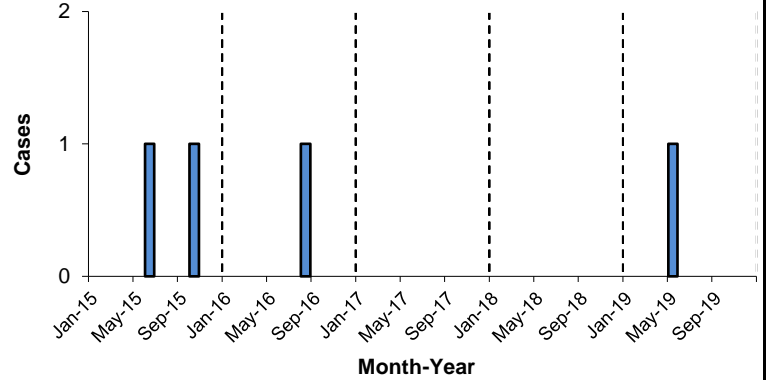
Drug Resistant *Streptococcus pneumoniae* Cases per 100,000



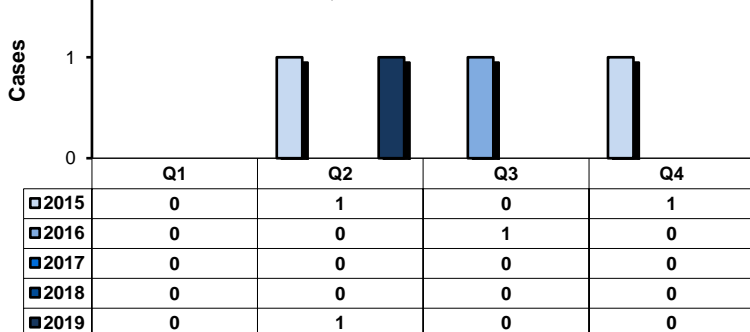
Animal Rabies Cases in Ottawa County, Previous 5 Years



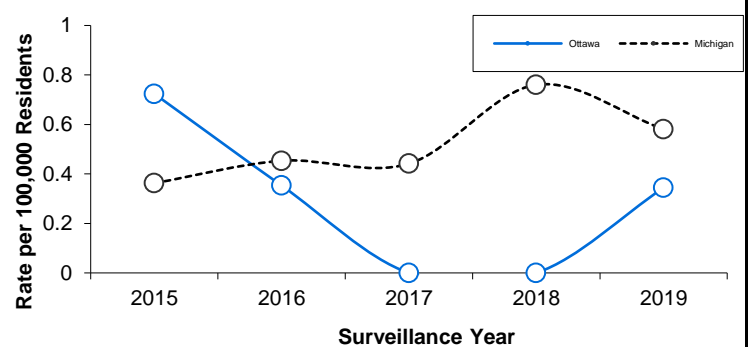
Animal Rabies Cases in Ottawa County by Month, Previous 5 Years



Animal Rabies Cases in Ottawa County by Quarter, Previous 5 Years

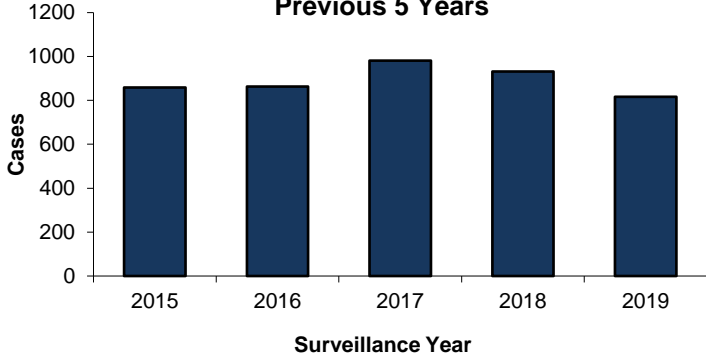


Animal Rabies Cases per 100,000

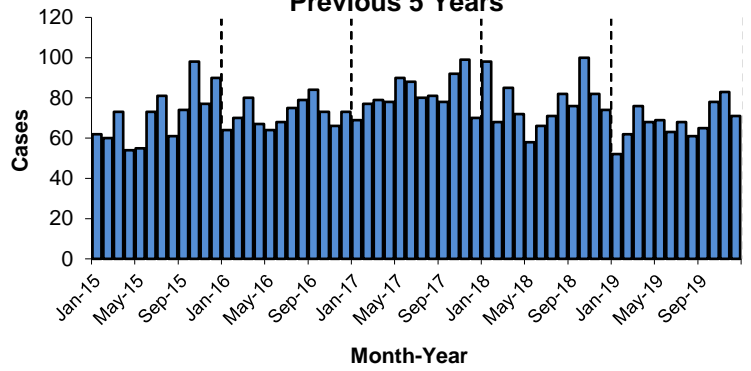


Sexually Transmitted Diseases:

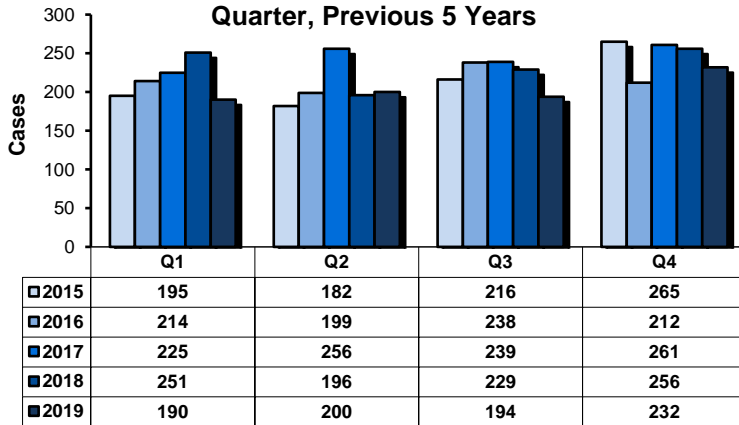
Chlamydia Cases in Ottawa County Previous 5 Years



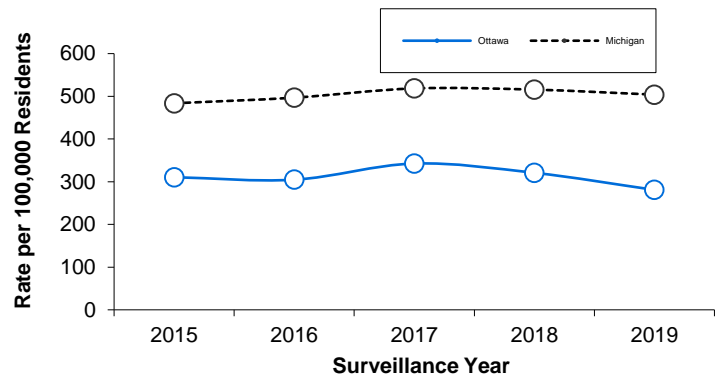
Chlamydia Cases in Ottawa County by Month, Previous 5 Years



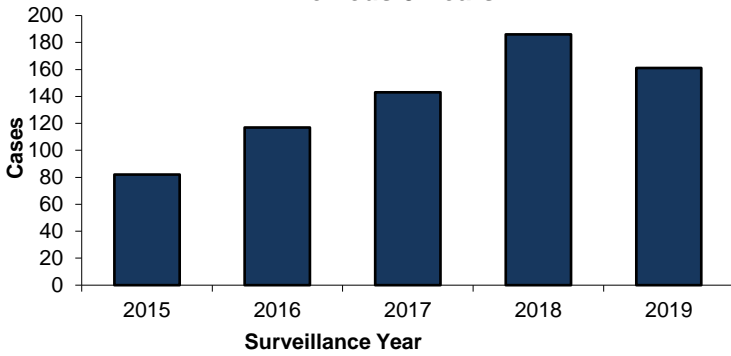
Chlamydia Cases in Ottawa County by Quarter, Previous 5 Years



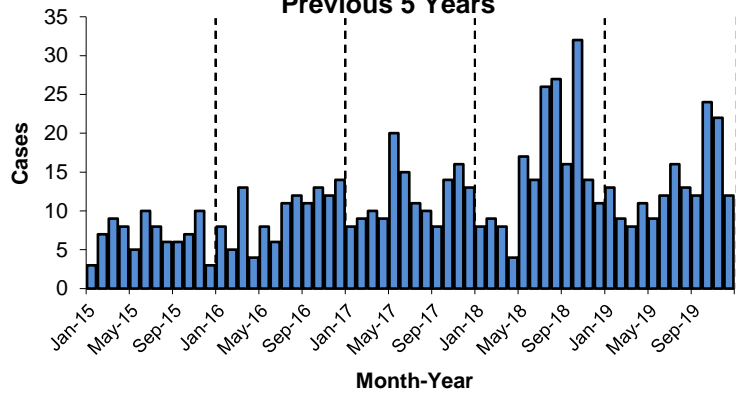
Chlamydia Cases per 100,000



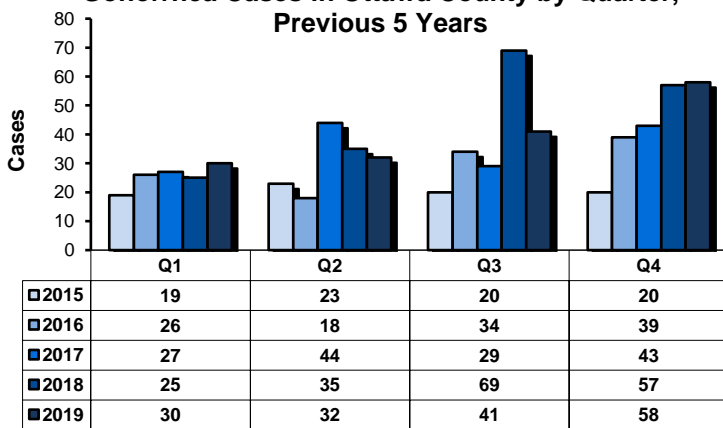
Gonorrhea Cases in Ottawa County Previous 5 Years



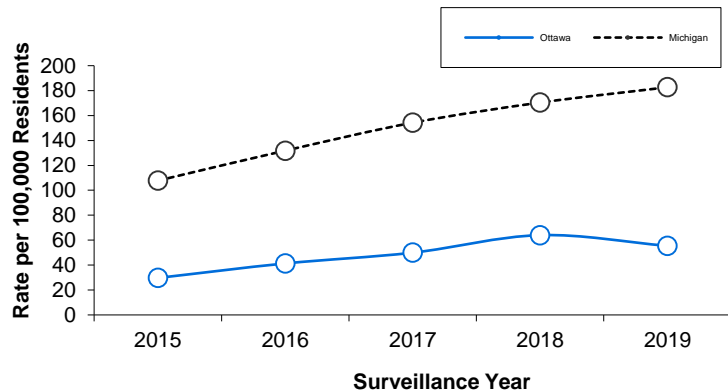
Gonorrhea Cases in Ottawa County by Month, Previous 5 Years



Gonorrhea Cases in Ottawa County by Quarter, Previous 5 Years

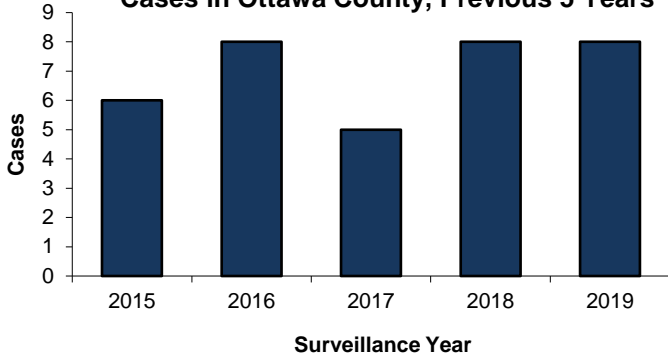


Gonorrhea Cases per 100,000

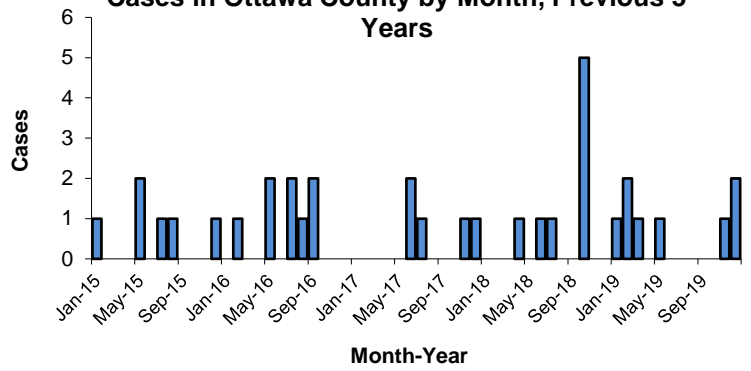


Sexually Transmitted Diseases:

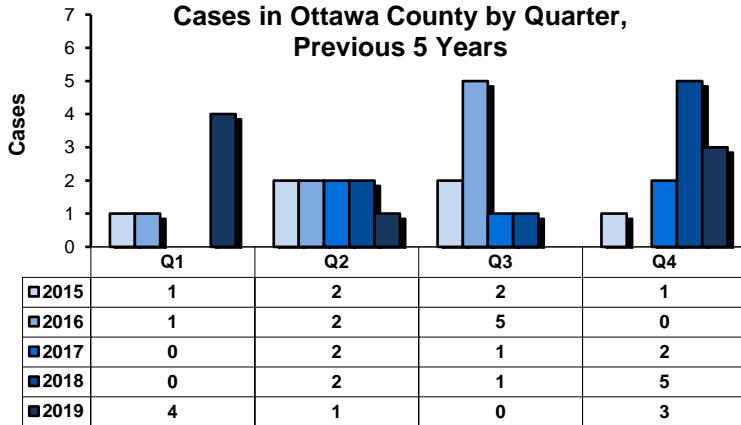
Primary, Secondary, Early Latent Syphilis Cases in Ottawa County, Previous 5 Years



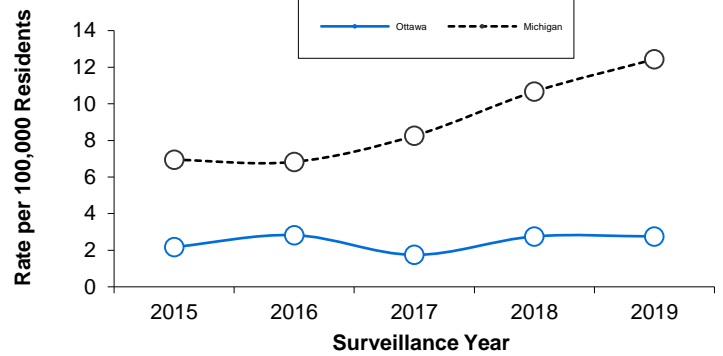
Primary, Secondary & Early Latent Syphilis Cases in Ottawa County by Month, Previous 5 Years



Primary, Secondary & Early Latent Syphilis Cases in Ottawa County by Quarter, Previous 5 Years

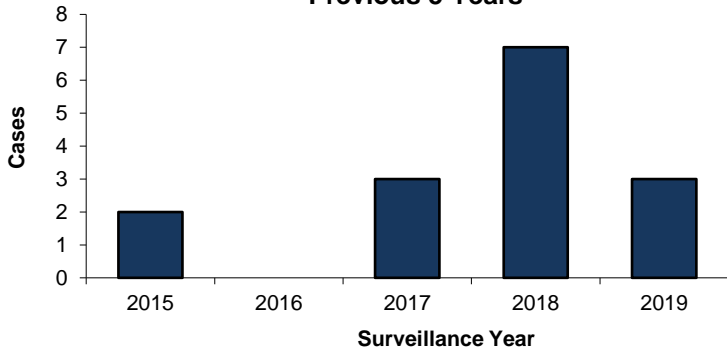


Primary, Secondary & Early Latent Syphilis Cases per 100,000

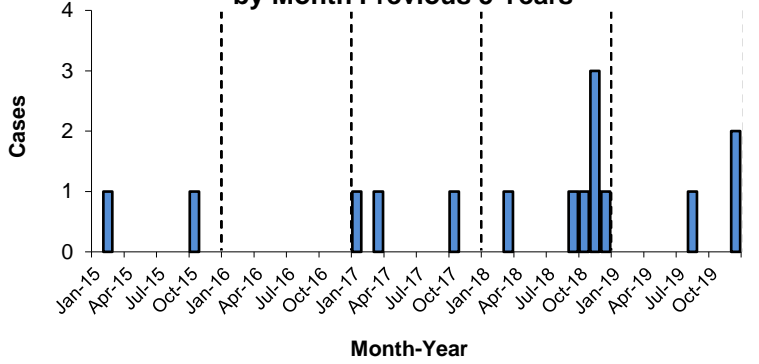


Tuberculosis:

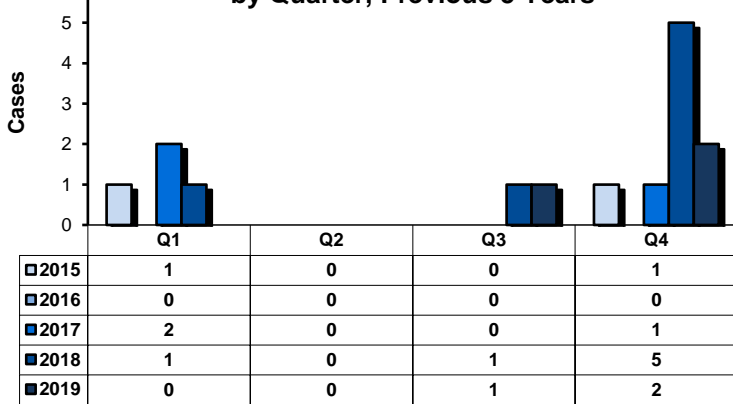
Tuberculosis Disease Cases in Ottawa County Previous 5 Years



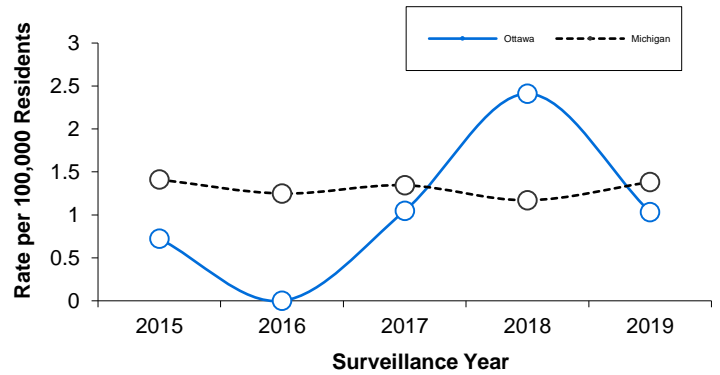
Tuberculosis Disease Cases in Ottawa County by Month Previous 5 Years



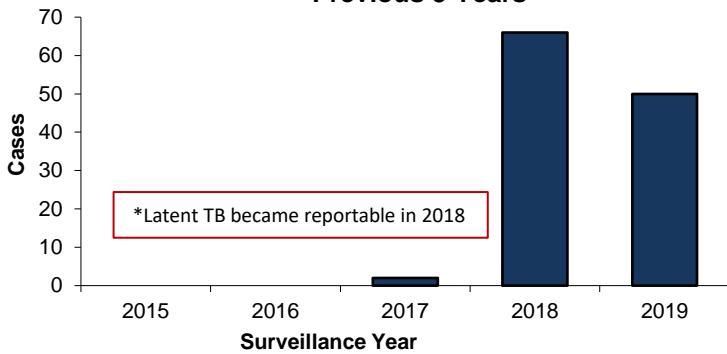
Tuberculosis Disease Cases in Ottawa County by Quarter, Previous 5 Years



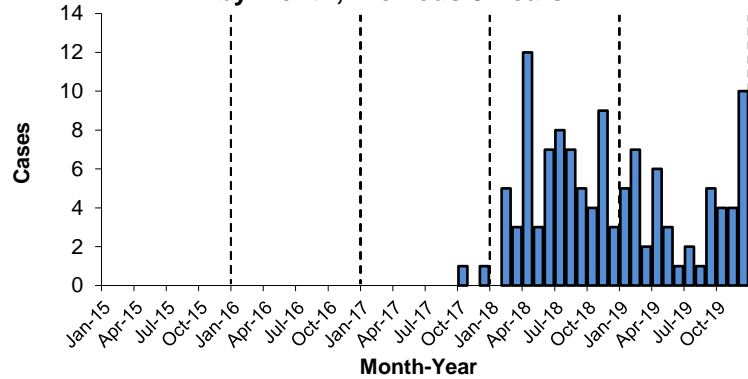
Tuberculosis Disease Cases per 100,000



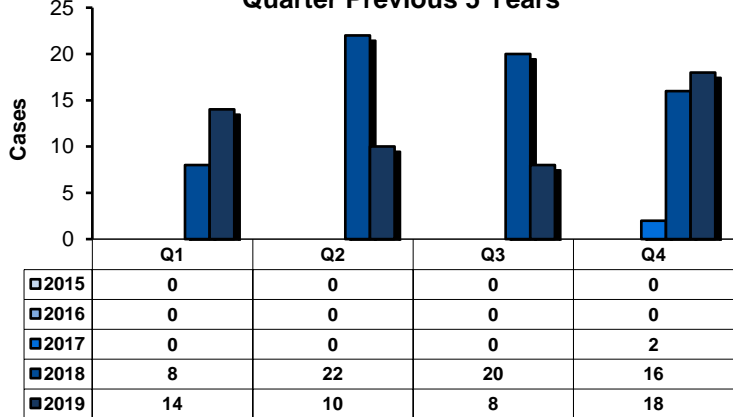
Latent Tuberculosis Cases in Ottawa County Previous 5 Years*



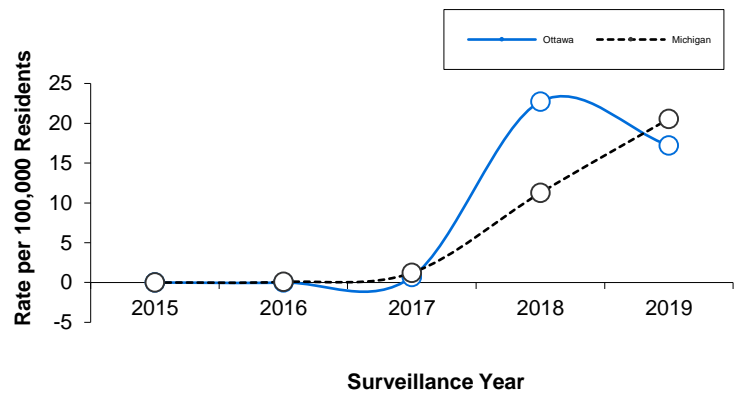
Latent Tuberculosis Cases in Ottawa County by Month, Previous 5 Years*



Latent Tuberculosis Cases in Ottawa County by Quarter Previous 5 Years*

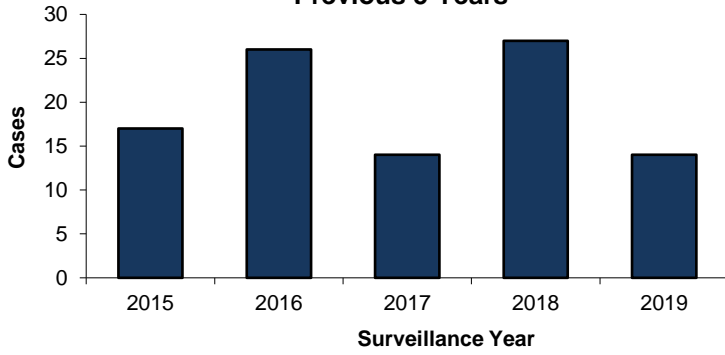


Latent Tuberculosis Cases per 100,000*

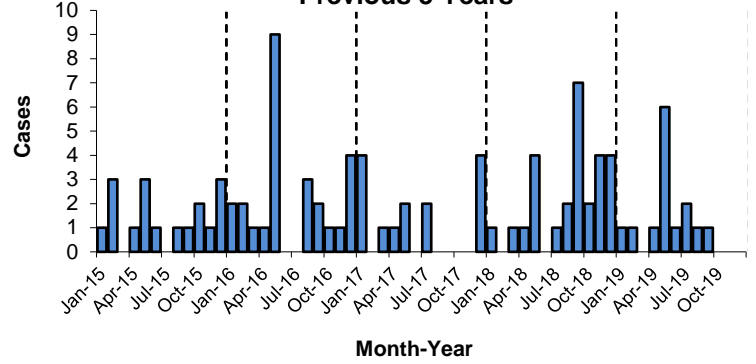


Vaccine Preventable Diseases:

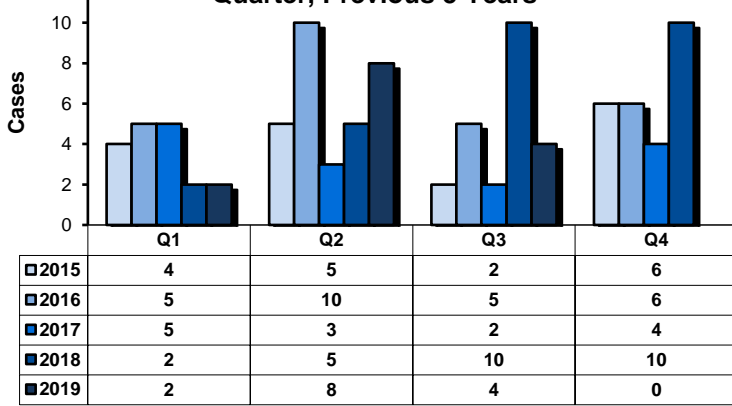
Chickenpox Cases in Ottawa County Previous 5 Years



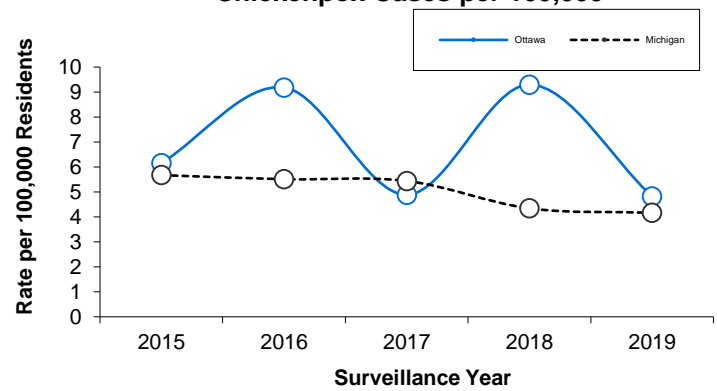
Chickenpox Cases in Ottawa County by Month Previous 5 Years



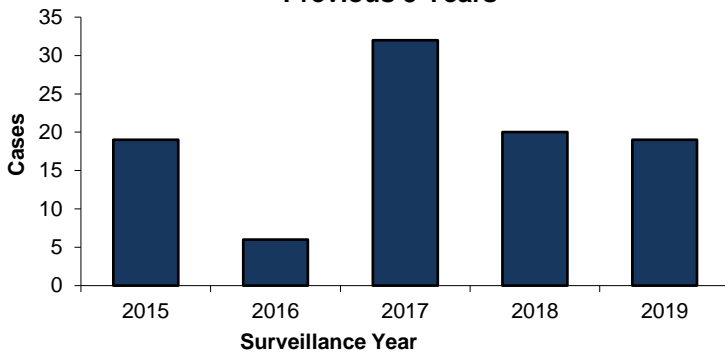
Chickenpox Cases in Ottawa County by Quarter, Previous 5 Years



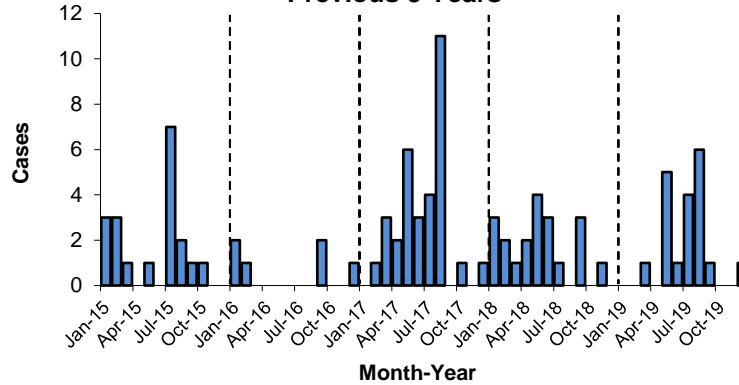
Chickenpox Cases per 100,000



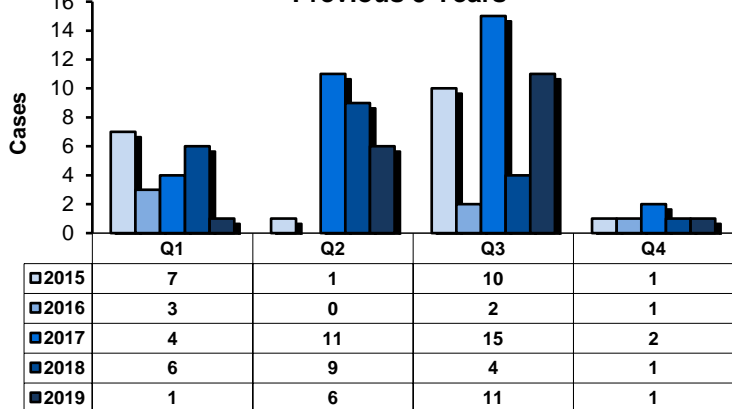
Pertussis Cases in Ottawa County Previous 5 Years



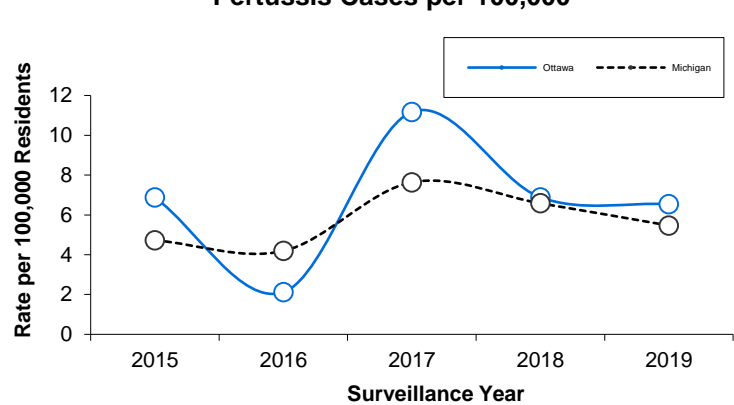
Pertussis Cases in Ottawa County by Month Previous 5 Years



Pertussis Cases in Ottawa County by Quarter Previous 5 Years

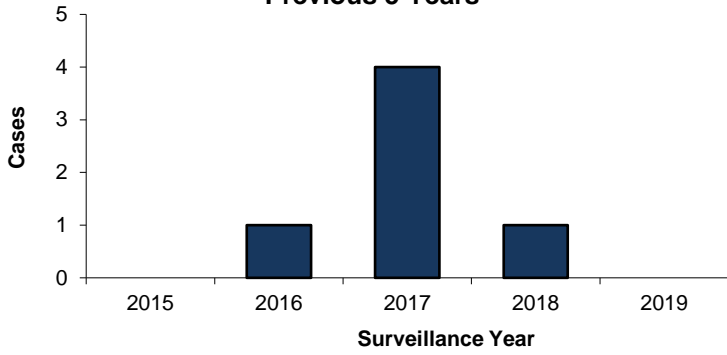


Pertussis Cases per 100,000

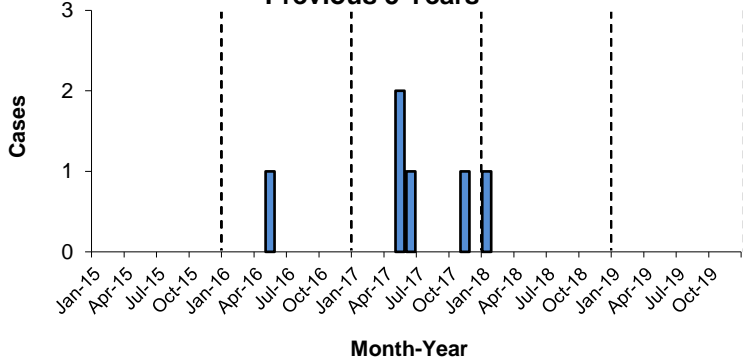


Vaccine Preventable Diseases:

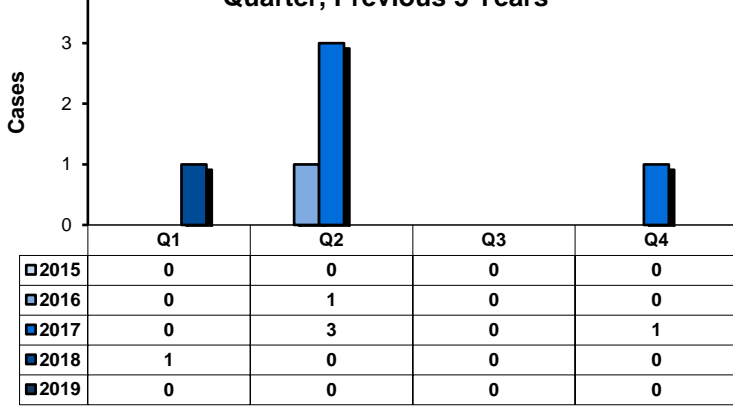
Mumps Cases in Ottawa County Previous 5 Years



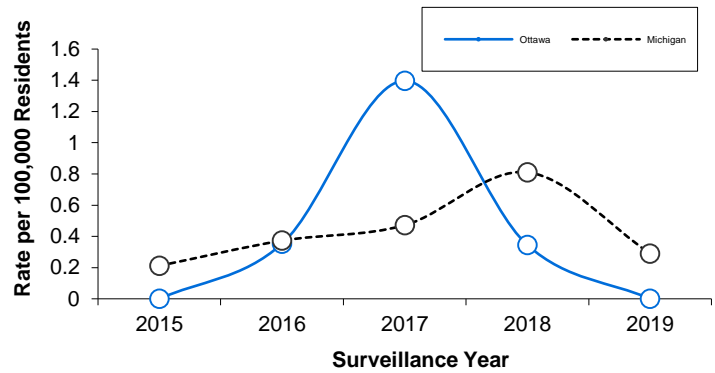
Mumps Cases in Ottawa County by Month Previous 5 Years



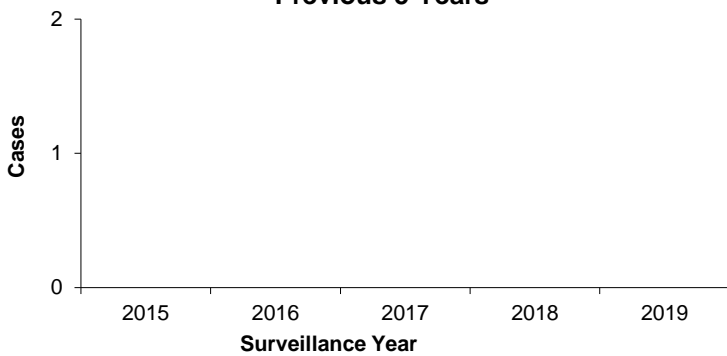
Mumps Cases in Ottawa County by Quarter, Previous 5 Years



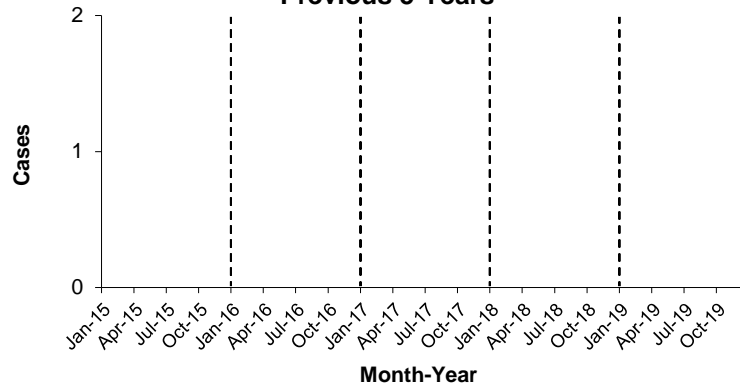
Mumps Cases per 100,000



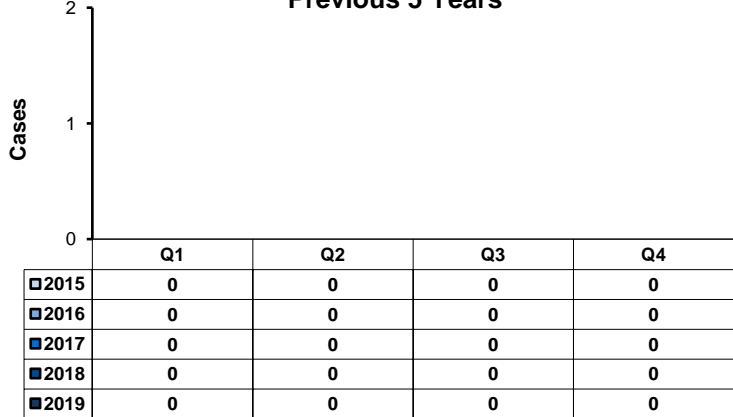
Measles Cases in Ottawa County Previous 5 Years



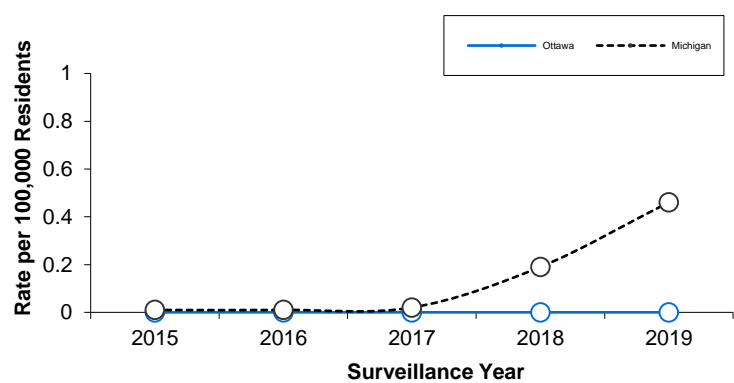
Measles Cases in Ottawa County by Month Previous 5 Years



Measles Cases in Ottawa County by Quarter, Previous 5 Years

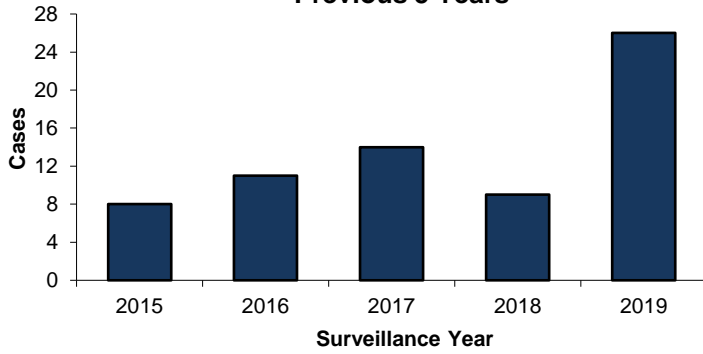


Measles Cases per 100,000

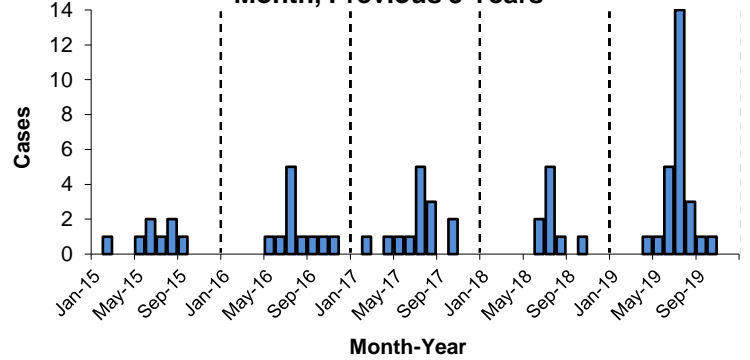


Vectorborne Diseases:

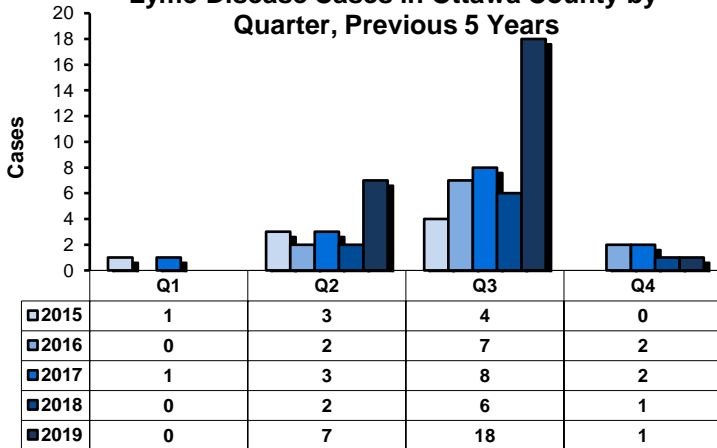
Lyme Disease Cases in Ottawa County Previous 5 Years



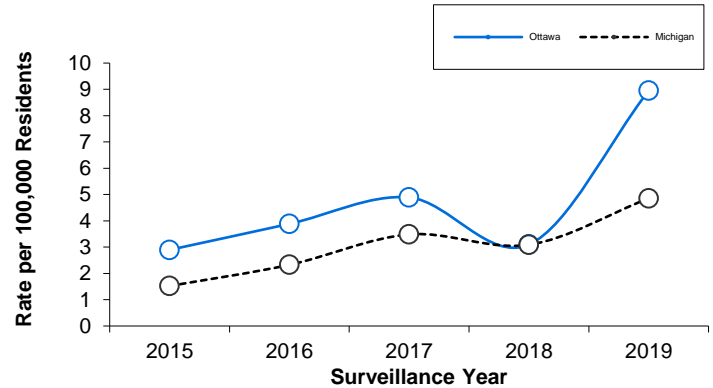
Lyme Disease Cases in Ottawa County by Month, Previous 5 Years



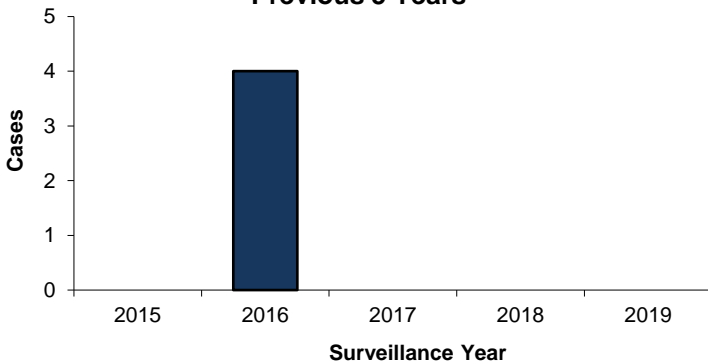
Lyme Disease Cases in Ottawa County by Quarter, Previous 5 Years



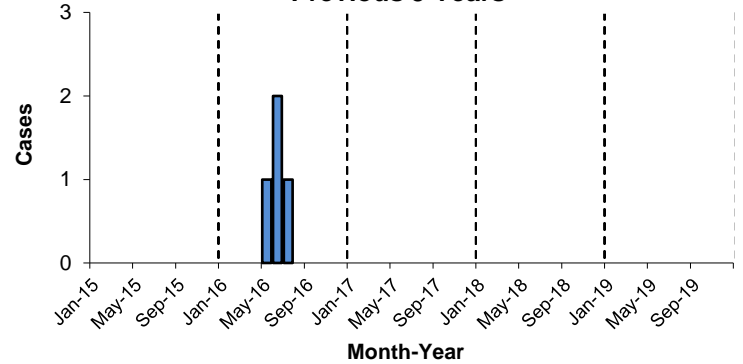
Lyme Disease Cases per 100,000



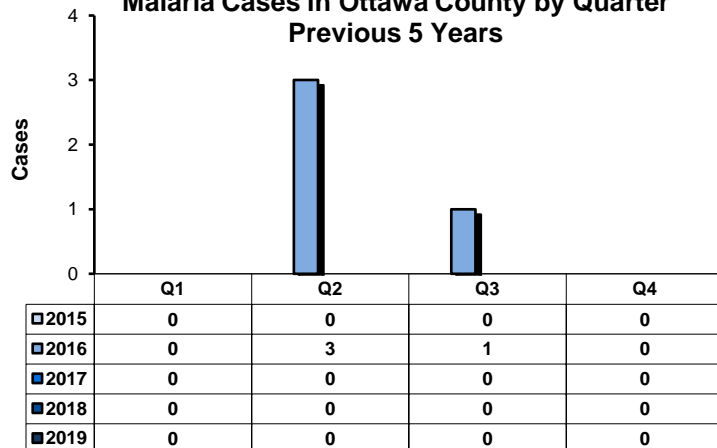
Malaria Cases in Ottawa County Previous 5 Years



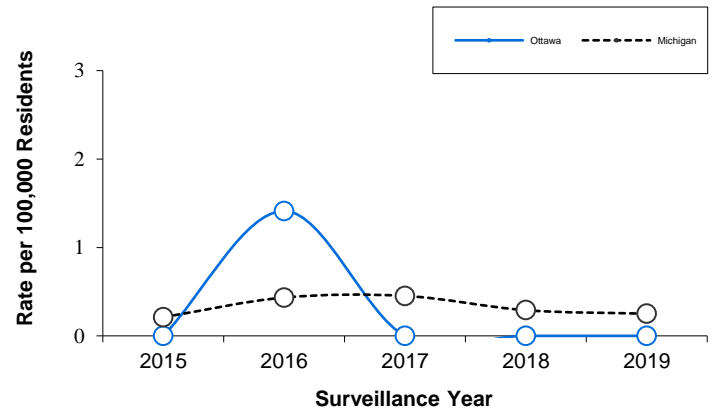
Malaria Cases in Ottawa County by Month Previous 5 Years



Malaria Cases in Ottawa County by Quarter Previous 5 Years

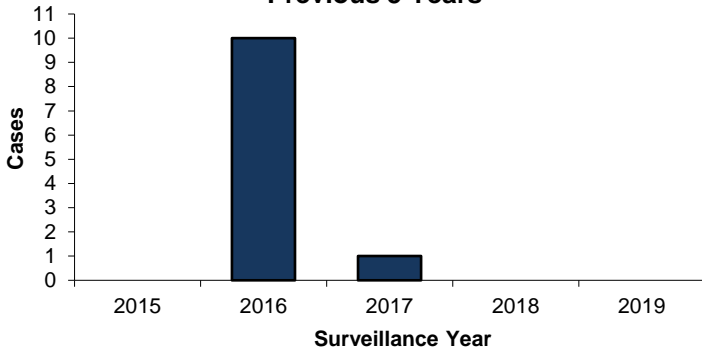


Malaria Cases per 100,000

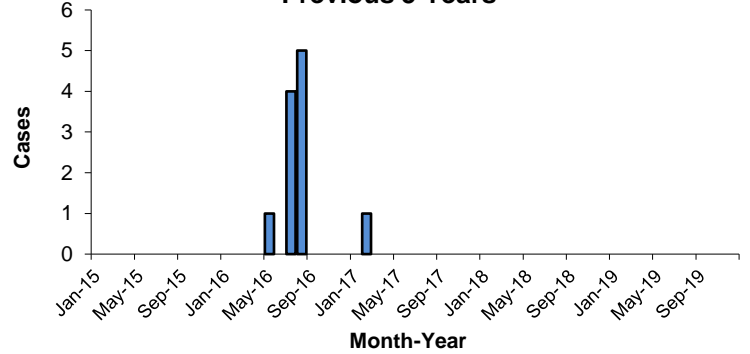


Vectorborne Diseases:

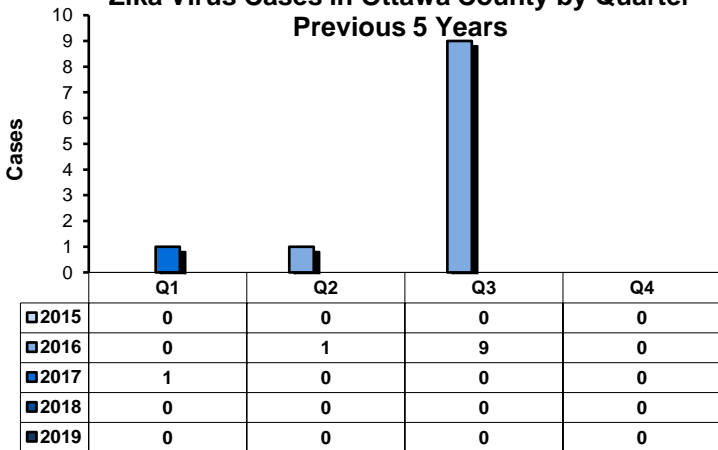
Zika Virus Cases in Ottawa County Previous 5 Years



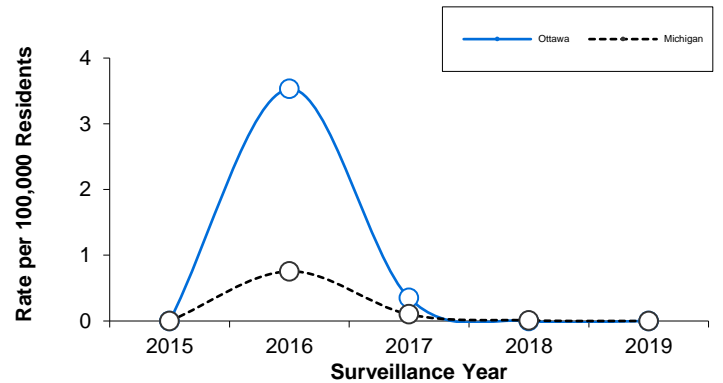
Zika Virus Cases in Ottawa County by Month Previous 5 Years



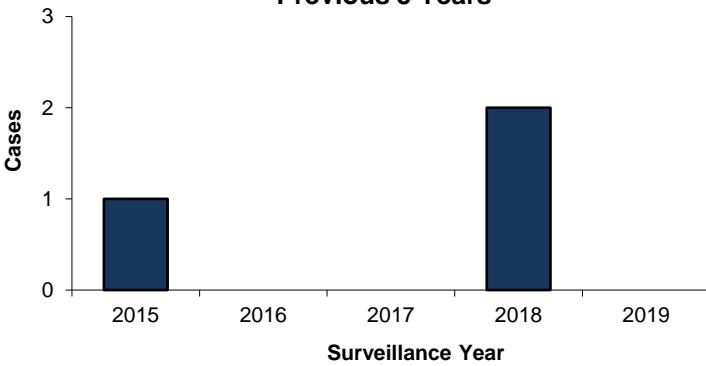
Zika Virus Cases in Ottawa County by Quarter Previous 5 Years



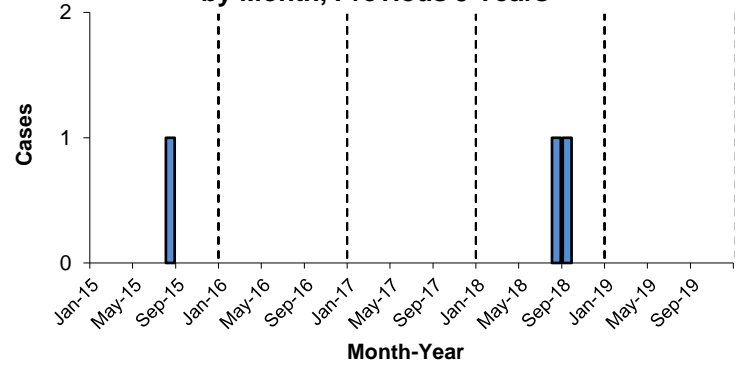
Zika Virus Cases per 100,000



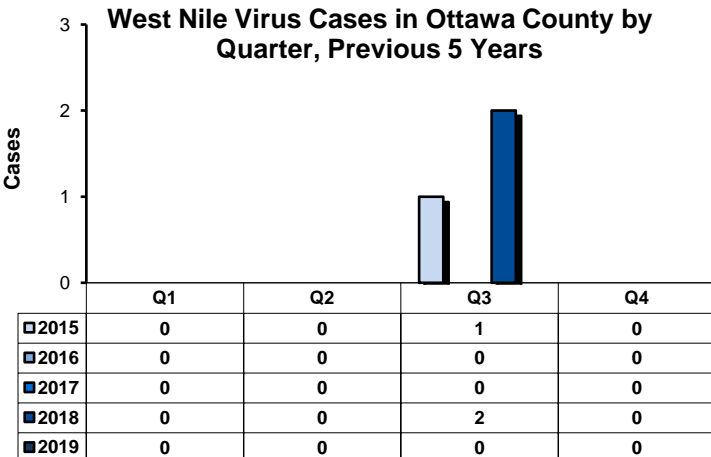
West Nile Virus Cases in Ottawa County Previous 5 Years



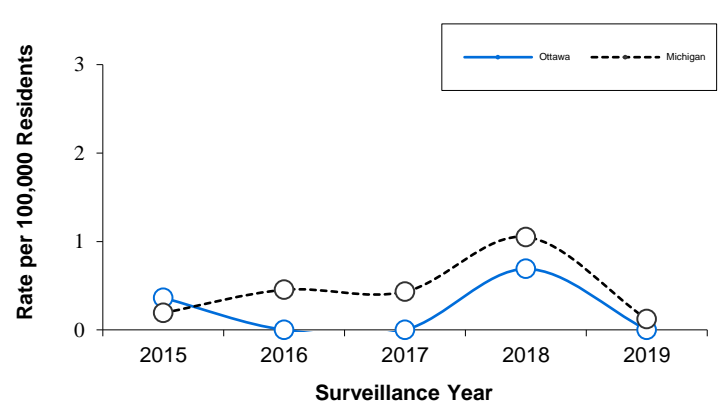
West Nile Virus Cases in Ottawa County by Month, Previous 5 Years



West Nile Virus Cases in Ottawa County by Quarter, Previous 5 Years

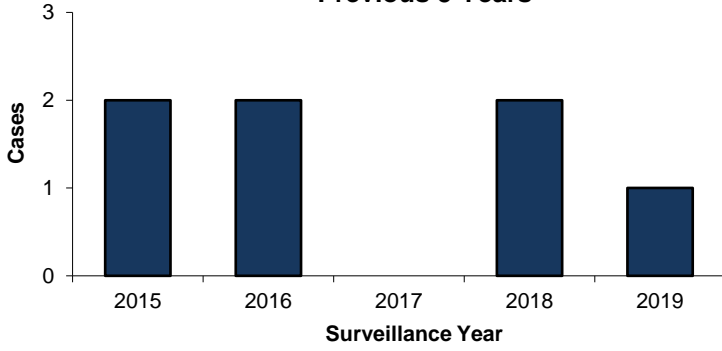


West Nile Virus Cases per 100,000

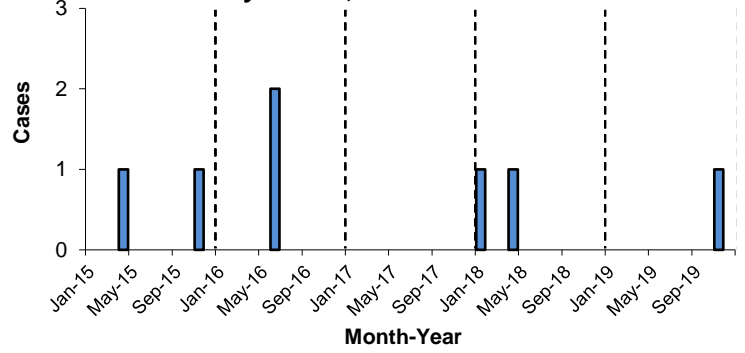


Viral Hepatitis:

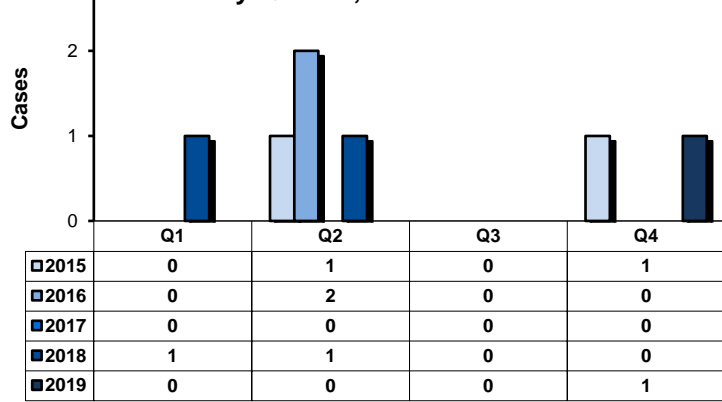
Acute Hepatitis B Cases in Ottawa County Previous 5 Years



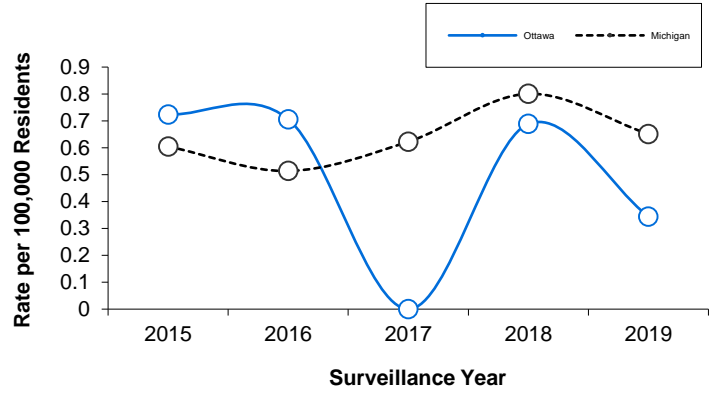
Acute Hepatitis B Cases in Ottawa County by Month, Previous 5 Years



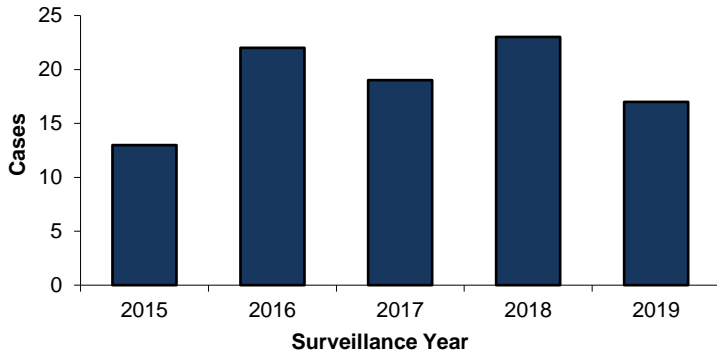
Acute Hepatitis B Cases in Ottawa County by Quarter, Previous 5 Years



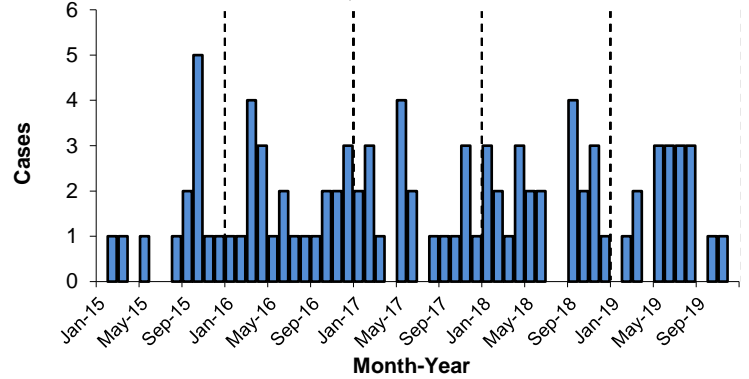
Acute Hepatitis B Cases per 100,000



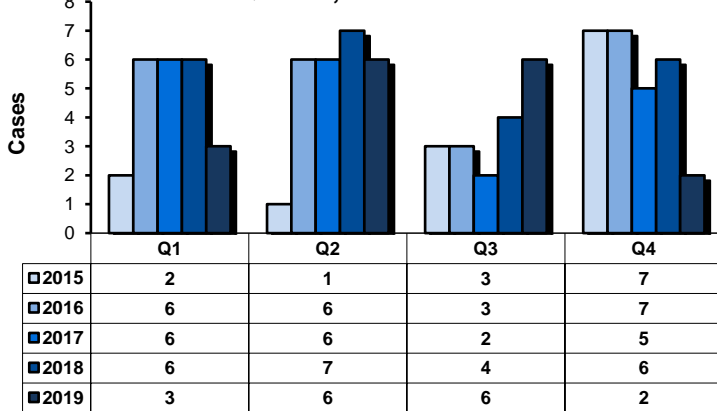
Chronic Hepatitis B Cases in Ottawa County Previous 5 Years



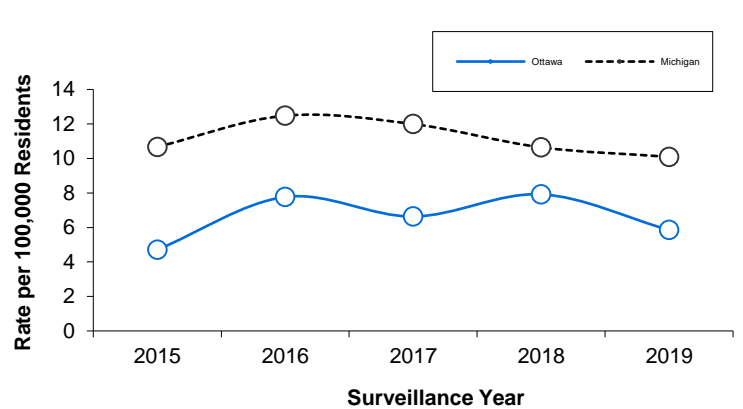
Chronic Hepatitis B Cases in Ottawa County by Month, Previous 5 Years



Chronic Hepatitis B Cases in Ottawa County by Quarter, Previous 5 Years

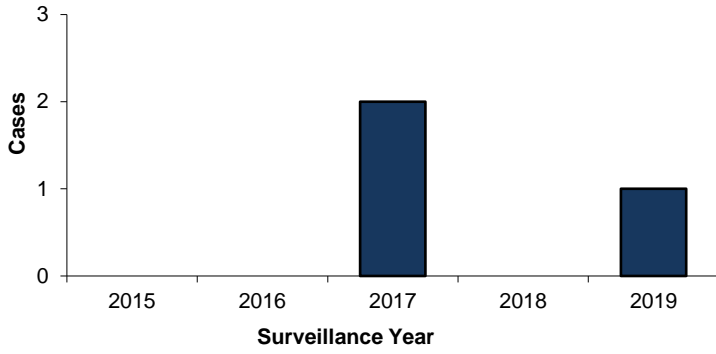


Chronic Hepatitis B Cases per 100,000

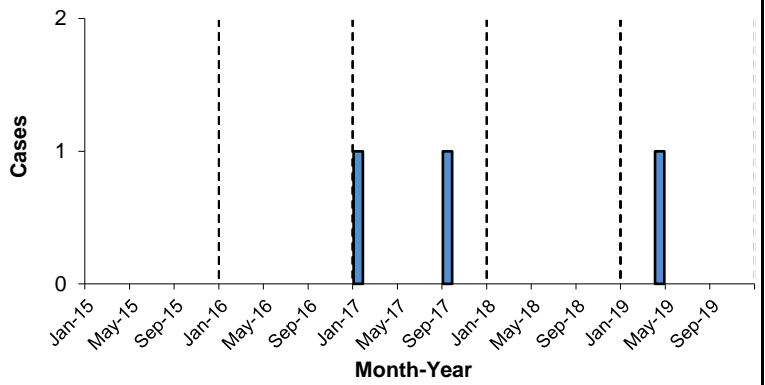


Viral Hepatitis:

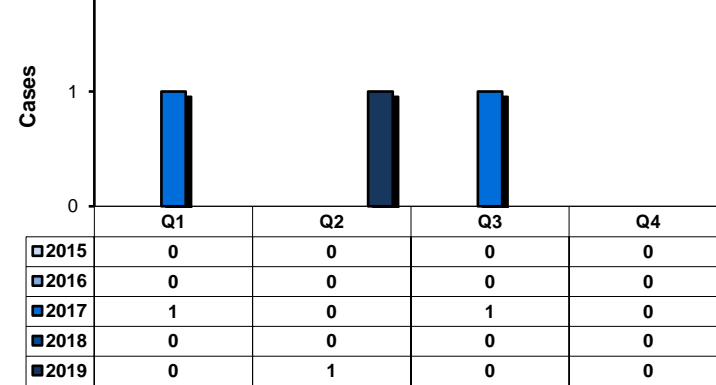
Hepatitis A Cases in Ottawa County Previous 5 Years



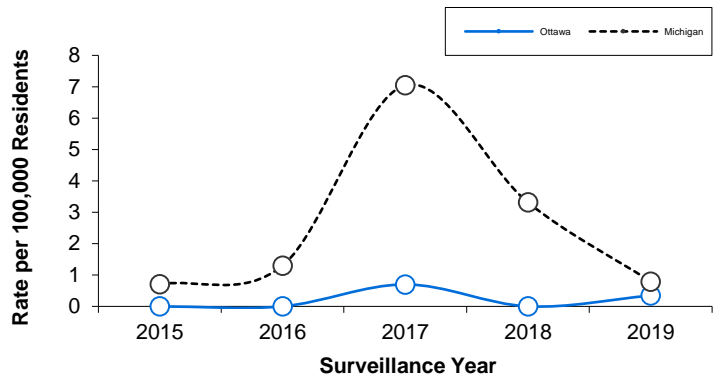
Hepatitis A Cases in Ottawa County by Month Previous 5 Years



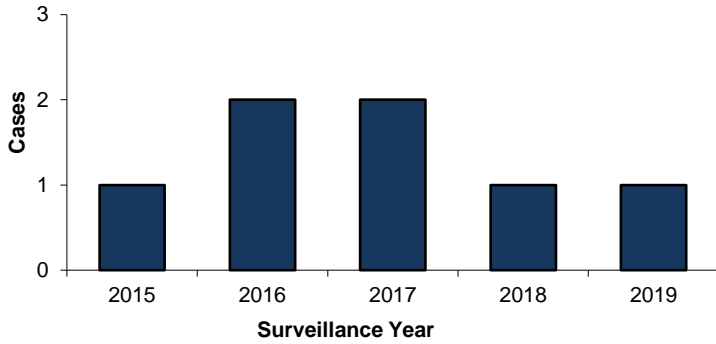
Hepatitis A Cases in Ottawa County by Quarter Previous 5 Years



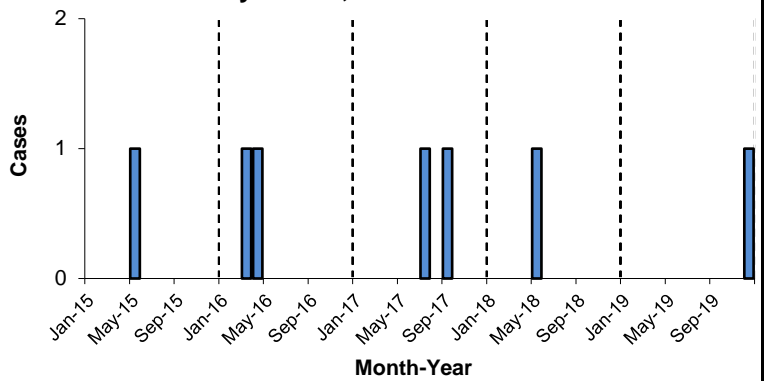
Hepatitis A Cases per 100,000



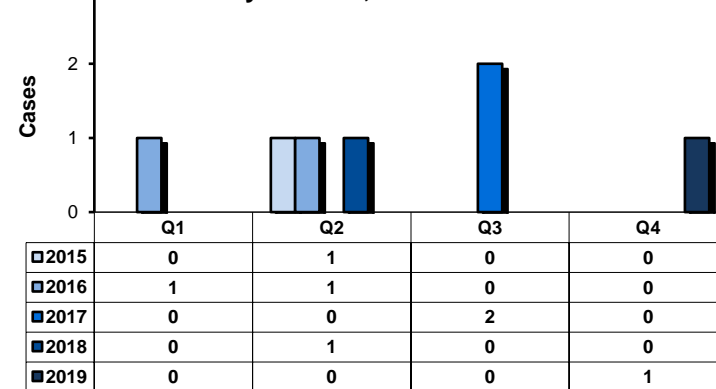
Acute Hepatitis C Cases in Ottawa County Previous 5 Years



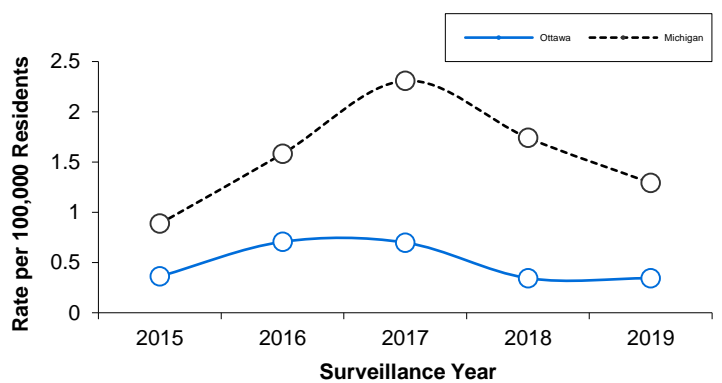
Acute Hepatitis C Cases in Ottawa County by Month, Previous 5 Years



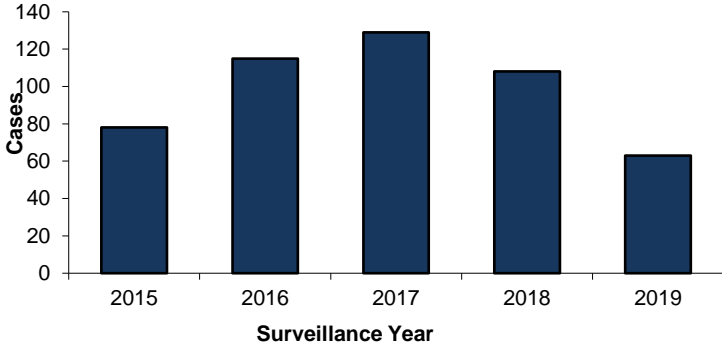
Acute Hepatitis C Cases in Ottawa County by Quarter, Previous 5 Years



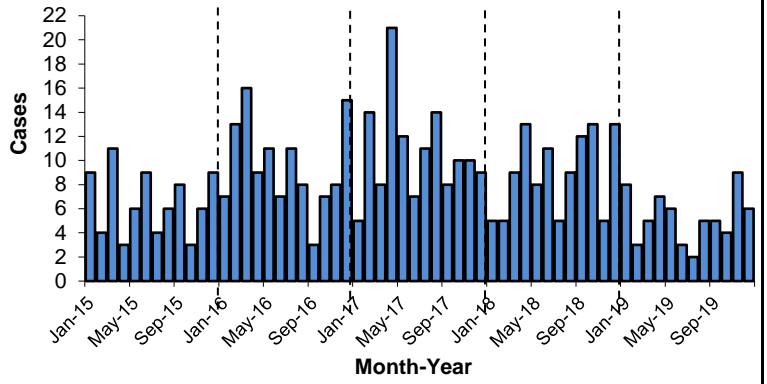
Acute Hepatitis C Cases per 100,000



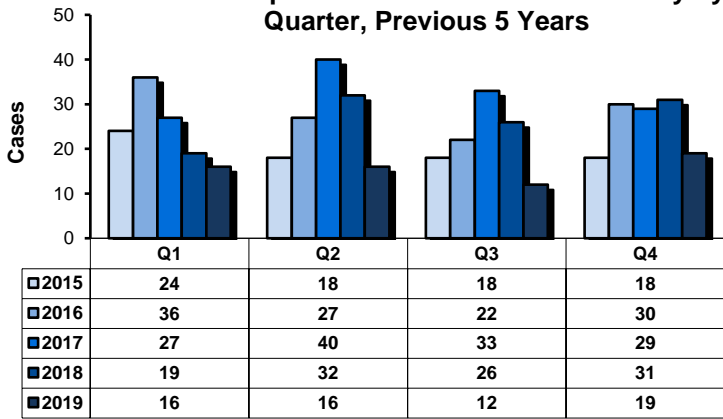
Chronic Hepatitis C Cases in Ottawa County Previous 5 Years



Chronic Hepatitis C Cases in Ottawa County by Month Previous 5 Years



Chronic Hepatitis C Cases in Ottawa County by Quarter, Previous 5 Years



Chronic Hepatitis C Cases per 100,000

