

*mi*Ottawa Department of  
**Public Health**

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**Annual Summary of  
Reportable Diseases  
Ottawa County 2022**

**Prepared August 2023**

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# Table of Contents

## Reportable Diseases

### Summary 2022

*Click below to go directly to that section.*

<b>SECTION</b>	<b>PAGE</b>
<b>Executive Summary</b>	<b>3</b>
<b>Year End Summary – Data</b>	<b>5</b>
<b>Year End Summary – Charts</b>	<b>8</b>
<i>Foodborne Illnesses</i>	<i>9</i>
<i>Meningitis</i>	<i>12</i>
<i>Influenza</i>	<i>14</i>
<i>Novel Coronavirus (COVID-19)</i>	<i>14</i>
<i>Multisystem Inflammatory Syndrome (MIS)</i>	<i>15</i>
<i>Other Illnesses</i>	<i>16</i>
<i>Mpox</i>	<i>18</i>
<i>Sexually Transmitted Diseases</i>	<i>19</i>
<i>Tuberculosis</i>	<i>21</i>
<i>Vaccine Preventable Diseases</i>	<i>22</i>
<i>Vectorborne Diseases</i>	<i>24</i>
<i>Viral Hepatitis</i>	<i>26</i>

## Executive Summary

The 2022 Annual Summary of Reportable Diseases provides data on a select list of reportable diseases, almost all of which are considered communicable diseases. [Communicable diseases](#) are caused by microorganisms, or the toxins they produce, which spread from an infected person, animal, or environmental source. Sometimes spread occurs indirectly by contaminated animals, insects, or objects.

This report is intended to be a resource for individuals and organizations for whom communicable diseases are a concern or prevention a priority. Highlights from the report are summarized below.

### **Foodborne Illnesses (Enteric Diseases)**

The incidence of most foodborne illnesses declined during the COVID-19 pandemic. These decreases may have been due to reduced exposure to higher risk food or animals; improved hygiene; or changes in healthcare seeking behaviors, testing, and disease reporting. Although diseases in this section are commonly spread by contaminated food, some of these diseases can also be spread by contaminated water, animals, and sexual contact.

Although a general decline in reported foodborne illness cases occurred through the COVID-19 pandemic, the number of reported cases increased in 2022. One disease that saw a sharp increase in 2022 was Shiga toxin-producing Escherichia coli (STEC). A [multistate outbreak](#) was the primary reason for the increase in 2022, contributing over a dozen STEC cases in Ottawa County. Hemolytic Uremic Syndrome (HUS), a rare but serious condition that sometimes occurs as a complication of STEC infection, was reported among three (3) of the Ottawa County STEC cases reported in 2022.

### **Mpox, Influenza, and COVID-19**

Mpox was a newly reportable condition in 2022 following a [global outbreak of the disease](#). Ottawa County has had a total of seven (7) cases, all reported in 2022. [Influenza \(flu\) activity was reduced throughout the COVID-19 pandemic](#), likely due to heightened awareness, improved disease prevention, and reduced social interaction. However, flu activity returned to pre-pandemic levels during the 2022-23 flu season. COVID-19 cases declined about 21% in 2022 compared to 2021, despite the emergence of the highly contagious omicron variant(s). Decreased testing and reporting to public health agencies, as well as an increase in immunity among the general population may have contributed to the decline in reported COVID-19 cases in 2022.

### **Sexually Transmitted Diseases (STD)**

In Ottawa County, chlamydia remained the most reported STD in 2022. Reported cases in Ottawa County during 2022 (770 cases) were about 24% lower than the case counts reported in 2021 (1,010 cases). Similar patterns were observed for gonorrhea and syphilis with a decrease of about 41% and 15%, respectively.

### **Vaccine Preventable Diseases (VPD)**

Over the past five years Ottawa County experienced relatively low and stable case counts for Haemophilus influenzae and mumps; and over that same period, no cases of diphtheria, measles, polio, rubella, or tetanus were reported in Ottawa County. Chickenpox (varicella) and shingles continued to be reported in 2022, despite some temporary declines during the COVID-19 pandemic. From 2018-2022, pertussis exhibited a unique declining trend, falling from the

pre-pandemic level of 20 cases in 2018 and 19 cases in 2019, to five (5) cases in 2020, zero (0) cases in 2021, and one (1) case in 2022. This decline may be due to [COVID-19 prevention measures reducing pertussis transmission](#).

### **Vectorborne Diseases**

Vectorborne diseases are illnesses that result from infections transmitted to humans and other animals by blood-feeding arthropods, such as mosquitoes, ticks, and fleas. For most reportable vectorborne diseases, the number of cases reported in 2022 remained low. Lyme Disease was the most reported vectorborne disease (24 cases) in Ottawa County in 2022. For several years, Ottawa County has been [considered a county with known risk for Lyme Disease](#) by the Michigan Department of Health and Human Services.

Malaria, another vectorborne disease, is a rare condition in Ottawa County with one (1) case reported in 2022, the first reported case since 2016. The case reported in 2022 had recently travelled to an area where malaria was present. There have been no reports of locally acquired malaria cases in Ottawa County.

### **Viral Hepatitis**

Viral hepatitis is an infection that causes liver inflammation and damage. Several different viruses cause hepatitis, including hepatitis A, B, C, D, and E. Chronic hepatitis C remained the most reported type of viral hepatitis in Ottawa County in 2022, followed by chronic hepatitis B. Generally, the incidence rate of viral hepatitis in Ottawa County has remained below the statewide rate.

# 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 at the time this report was compiled. 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. Statewide disease counts may differ from that published elsewhere by the Michigan Department of Health and Human Services (MDHHS) for several reasons including the time frame of data acquisition and differences in data query criteria. Changes in disease counts from one year to the next can be due to several reasons including; changes in laboratory tests, case definitions, reporting mechanisms, newly added conditions, as well as actual increases or decreases in disease incidence. Changes in healthcare seeking behavior since the onset of the COVID-19 pandemic may have also affected the counts of reported diseases especially during the initial phase of the pandemic.

Specific data requests and questions should be directed to:

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

Disease Group	Reportable Condition	Ottawa County Cases Reported**					Michigan Cases Reported				
		2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
<b>Foodborne</b>	Amebiasis	1	-	-	1	-	2	9	7	6	11
	Botulism - Foodborne	-	-	-	-	-	-	-	-	1	-
	Campylobacter	61	58	38	58	78	1,705	1,705	1,221	1,517	1,506
	Cryptosporidiosis	24	22	15	12	19	383	419	246	249	333
	Giardiasis	15	11	13	17	10	464	428	379	439	400
	Listeriosis	-	4	-	-	-	23	30	29	35	36
	Norovirus***	88	262	108	36	13	1,009	1,481	582	587	1,391
	Salmonellosis	38	30	45	38	45	1,137	1,075	906	872	855
	Shiga toxin-producing Escherichia coli (STEC)	16	17	10	5	31	327	309	212	269	419
	Shigellosis	8	16	5	2	6	209	219	151	171	219
	Typhoid Fever	-	1	-	-	-	6	10	1	4	15
Yersinia enterocolitica	2	-	5	2	6	82	76	80	88	202	
<b>Foodborne Subtotal</b>	253	421	239	171	208	5,347	5,761	3,814	4,238	5,387	
<b>Influenza</b>	Flu Like Disease* ***	35,954	31,762	27,698	20,633	45,611	379,206	347,997	204,963	86,081	230,764
	Influenza	9	4	6	39	232	44,949	30,007	30,842	2,928	46,547
	Influenza, Novel	-	-	-	-	-	3	1	-	-	4
<b>Influenza Subtotal</b>	35,963	31,766	27,704	20,672	45,843	424,158	378,005	235,805	89,009	277,315	
<b>Meningitis</b>	Meningitis - Aseptic	8	9	2	2	6	826	457	260	259	293
	Meningitis - Bacterial Other	5	3	6	4	4	148	121	102	126	148
	Meningococcal Disease	-	-	-	-	-	4	8	3	5	5
	Streptococcus pneumoniae, Inv	10	10	8	15	11	791	936	529	522	804
<b>Meningitis Subtotal</b>	23	22	16	21	21	1,769	1,522	894	912	1,250	
<b>Other</b>	Acute Flaccid Myelitis (AFM)	1	-	-	-	-	6	3	4	1	2
	Anthrax	-	-	-	-	-	-	-	-	-	-
	Blastomycosis	-	-	1	-	-	20	26	24	24	31
	Botulism - Infant	-	-	-	-	-	1	-	2	-	1
	Botulism - Other	-	-	-	-	-	2	-	1	2	4
	Brucellosis	-	1	-	-	-	4	1	4	2	7
	CP-CRE	3	1	-	2	5	401	263	267	404	550
	Candida auris	-	-	-	-	-	-	-	-	3	136
	Cholera	-	-	-	-	-	1	2	1	-	-
	Coccidioidomycosis	2	4	1	3	2	39	52	54	75	58
	Creutzfeldt-Jakob Disease	1	-	1	-	-	13	16	10	16	16
	Cryptococcosis	1	-	-	-	-	14	18	24	25	23
	Cyclosporiasis	-	1	-	-	-	30	130	25	51	57
	Encephalitis, Post Chickenpox	-	-	-	-	-	1	1	-	-	2
	Encephalitis, Post Mumps	-	-	-	-	-	-	-	-	-	-
	Encephalitis, Post Other	-	-	1	-	1	10	14	10	16	16
	Encephalitis, Primary	-	-	-	-	-	18	14	16	11	8
	Gastrointestinal Illness	21,768	20,765	11,247	10,431	17,489	154,968	138,801	61,476	45,986	101,494
	Guillain-Barre Syndrome	-	-	2	1	4	48	65	50	60	76
	Hantavirus	-	-	-	-	-	-	-	-	-	-
	Hantavirus, Other	-	-	-	-	-	-	-	-	-	-
	Hantavirus, Pulmonary	-	-	-	-	-	-	-	-	1	-
	Hemolytic Uremic Syndrome	2	1	1	-	3	11	8	5	3	16
	Hemorrhagic Fever	-	-	-	-	-	-	-	-	-	-
	Histoplasmosis	11	24	10	22	29	172	236	198	273	357
	Kawasaki	1	-	2	-	-	35	55	63	44	55
	Legionellosis	11	8	7	8	6	643	561	385	583	373
	Leprosy	-	-	-	-	-	1	-	-	1	2
	Leptospirosis	-	-	-	-	-	1	3	3	1	2
	Melioidosis	-	-	-	-	-	-	-	-	-	-
	Mpox ***	-	-	-	-	7	-	-	-	-	456
	Multisystem Inflammatory Syndrome **	-	-	4	4	5	-	-	80	175	76
	Novel Coronavirus COVID-19 **	-	-	21,943	44,777	35,407	3	43	589,284	1,361,085	1,358,604
	Plague	-	-	-	-	-	-	-	-	-	-
	Psittacosis	-	-	-	-	-	4	-	2	2	6
	Q Fever Acute	1	-	-	-	-	4	5	4	4	2
	Q Fever Chronic	-	-	-	-	-	1	-	1	-	2
	Rabies Animal	-	1	-	3	3	76	58	55	48	49
	Rabies Human	-	-	-	-	-	-	-	-	-	-
	Reye Syndrome	-	-	-	-	-	-	-	-	-	-
	Rheumatic Fever	-	-	-	-	-	-	-	-	-	2
Rubella - Congenital	-	-	-	-	-	-	-	-	-	-	
Streptococcus pneumoniae, Drug Resistant	4	4	5	-	2	96	80	32	40	59	
Streptococcal Dis, Inv, Grp A	8	11	13	3	7	428	449	337	258	386	
Streptococcal Toxic Shock	-	-	-	-	1	5	5	4	2	4	

Disease Group	Reportable Condition	Ottawa County Cases Reported**					Michigan Cases Reported				
		2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
<b>Other</b>	Toxic Shock	-	-	-	-	1	4	7	3	5	2
	Trachoma	-	-	-	-	-	-	-	2	1	
	Trichinosis	-	-	-	-	-	-	-	-	-	
	Tularemia	-	-	-	-	-	2	1	-	1	
	Vibriosis - Non Cholera	-	3	-	2	2	45	39	27	35	
	VISA	2	1	-	-	-	8	11	-	4	
	VRSA	-	-	-	-	-	-	-	-	1	
	<b>Other Subtotal</b>	21,816	20,825	33,238	55,256	52,974	157,115	140,967	652,453	1,409,243	
<b>STD</b>	Chancroid	-	-	-	-	-	-	-	-	2	
	Chlamydia (Genital)	936	822	807	1,010	770	51,537	50,358	44,803	46,396	
	Gonorrhea	187	162	203	259	152	17,032	18,266	23,397	22,208	
	Granuloma Inguinale	-	-	-	-	-	-	-	-	-	
	Lymphogranuloma venereum	-	-	-	-	-	16	1	8	3	
	Syphilis - Primary, Secondary & Early Latent	8	8	18	14	11	1,066	1,241	1,349	1,714	
	All Syphilis	14	14	24	27	23	1,706	1,913	2,045	2,681	
	<b>STD Subtotal</b>	1,137	998	1,034	1,296	945	70,291	70,538	70,253	71,290	
<b>Tuberculosis</b>	Latent Tuberculosis Infection	65	50	24	62	60	1,126	2,054	1,352	1,482	
	Nontuberculous Mycobacterium	11	11	16	12	22	839	854	683	770	
	Tuberculosis	7	3	1	1	1	119	140	99	138	
	<b>Tuberculosis Subtotal</b>	83	64	41	75	83	2,084	3,048	2,134	2,390	
<b>VPD</b>	Chickenpox (Varicella)	27	14	14	22	8	434	416	185	183	
	Diphtheria	-	-	-	-	-	-	-	-	-	
	H. influenzae Disease - Inv. †	-	9	4	4	7	174	223	100	168	
	Measles	-	-	-	-	-	19	46	-	4	
	Mumps	1	-	1	-	-	81	29	7	11	
	Pertussis	20	19	5	-	1	658	546	116	74	
	Polio	-	-	-	-	-	-	-	-	-	
	Rubella	-	-	-	-	-	-	-	1	6	
	Shingles	26	21	9	15	41	1,252	1,222	818	629	
	Tetanus	-	-	-	-	-	2	1	-	1	
	VZ Infection, Unspecified	-	4	17	4	1	213	228	235	384	
	<b>VPD Subtotal</b>	74	67	50	45	58	2,833	2,711	1,462	1,460	
<b>Vectorborne</b>	Babesiosis	-	-	-	-	-	5	2	1	8	
	Chikungunya	-	-	-	-	-	-	-	-	1	
	Dengue Fever	-	1	-	-	-	12	23	7	5	
	Ehrlichiosis	2	1	-	1	-	25	22	25	82	
	Encephalitis, California Serogroup	-	-	1	-	-	2	3	4	9	
	Encephalitis, Eastern Equine	-	-	-	-	-	1	10	4	1	
	Encephalitis, Powassan	-	-	-	-	-	-	-	-	-	
	Encephalitis, St. Louis	-	-	-	-	-	-	-	-	1	
	Encephalitis, Western Equine	-	-	-	-	-	-	-	-	-	
	Lyme Disease	9	26	10	28	24	309	492	536	1,266	
	Malaria	-	-	-	-	1	29	26	14	15	
	Rickettsial Disease - Spotted Fever	-	-	1	-	1	23	12	48	12	
	Rickettsial Disease - Typhus	-	-	-	-	-	-	-	-	-	
	West Nile Virus	2	-	-	-	-	105	12	33	59	
	Yellow Fever	-	-	-	-	-	-	-	-	-	
	Zika	-	-	-	-	-	1	-	-	-	
	<b>Vectorborne Subtotal</b>	13	28	12	29	26	512	602	672	1,459	
<b>Viral Hepatitis</b>	Hepatitis A	-	1	-	1	-	331	78	22	31	
	Hepatitis B, Acute	2	1	-	-	-	80	65	45	36	
	Hepatitis B, Chronic	23	18	7	10	10	1,057	1,003	677	626	
	Hepatitis B, Perinatal	-	-	-	-	-	1	-	-	-	
	Hepatitis C, Acute*	1	1	5	-	-	175	129	142	128	
	Hepatitis C, Chronic*	107	62	31	33	37	9,778	5,657	4,088	3,851	
	Hepatitis C, Perinatal	-	-	-	-	1	11	10	8	9	
	Hepatitis C, Unknown*	-	-	-	-	-	-	21	-	-	
	Hepatitis D	-	2	-	-	1	4	6	6	8	
	Hepatitis E	-	1	-	-	-	9	5	9	11	
	<b>Viral Hepatitis Subtotal</b>	133	86	43	44	49	11,446	6,974	4,997	4,700	
<b>Total</b>		59,495	54,277	62,377	77,609	100,207	675,555	610,128	972,484	1,584,701	
										1,818,753	

\* 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 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 2020, which may affect the number of confirmed and probable cases.

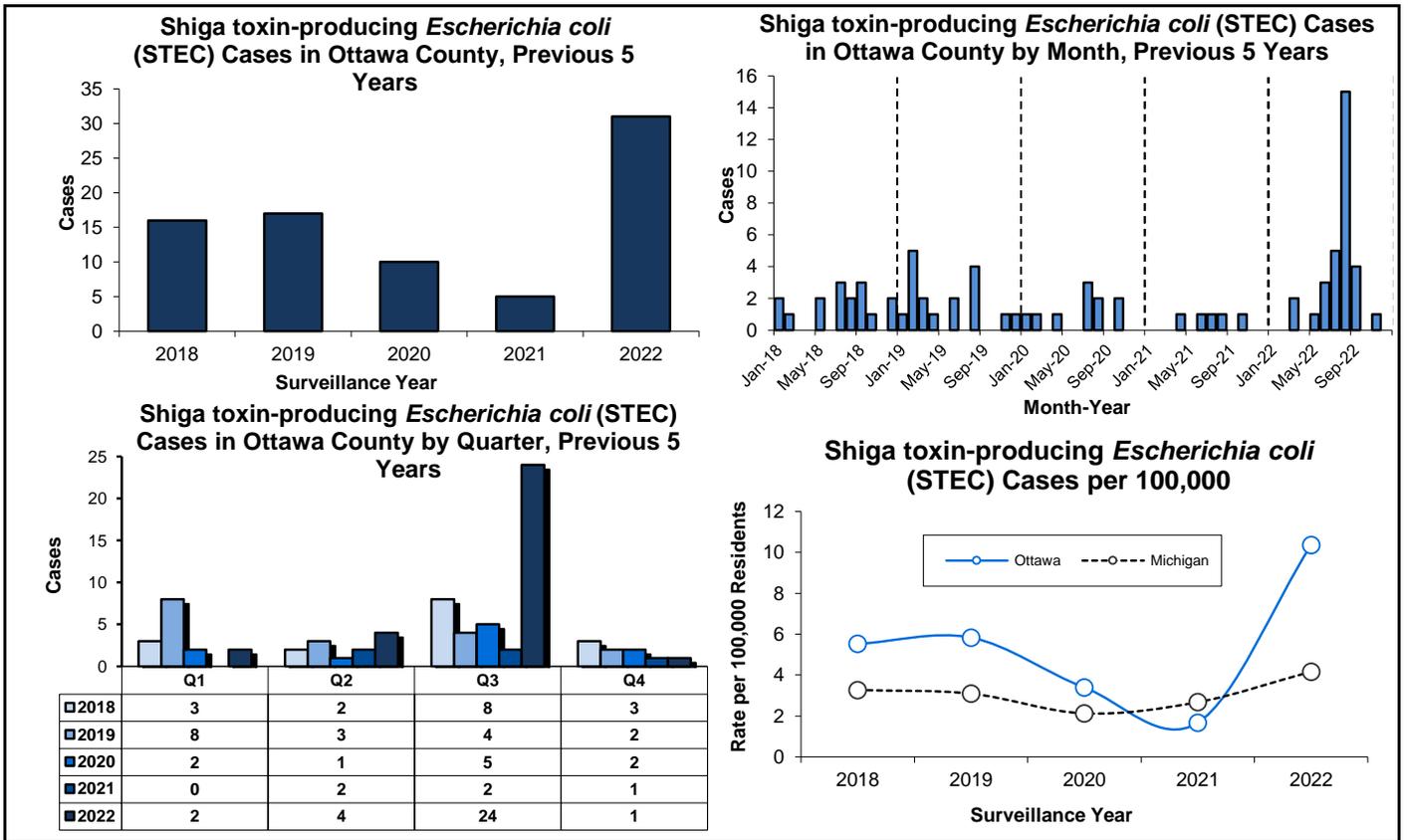
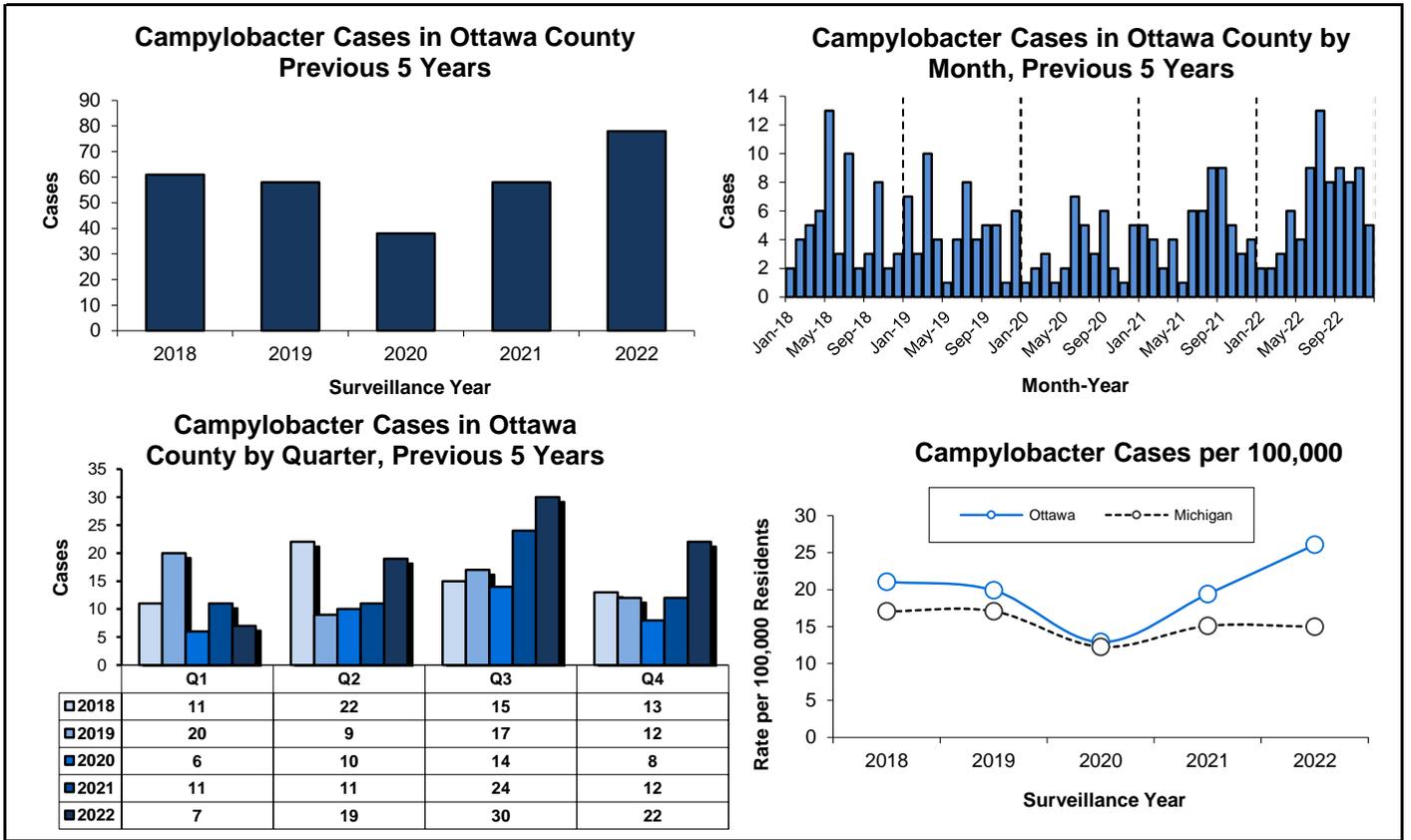
\*\* Indicates disease first reported in MDSS in 2020.

\*\*\* Indicates disease first reported in MDSS in 2022.

# **Annual Reportable Disease Summary**

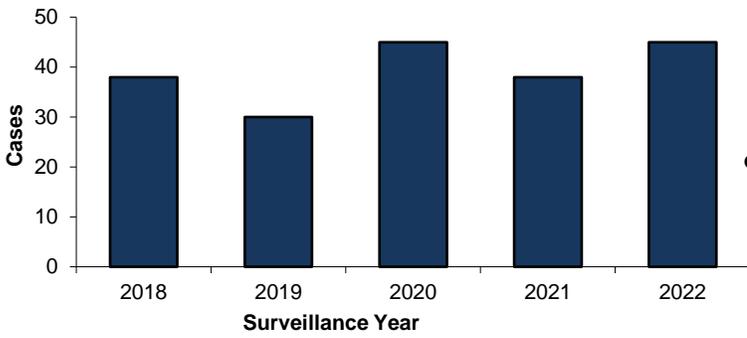
## **Charts**

## Foodborne Illness:

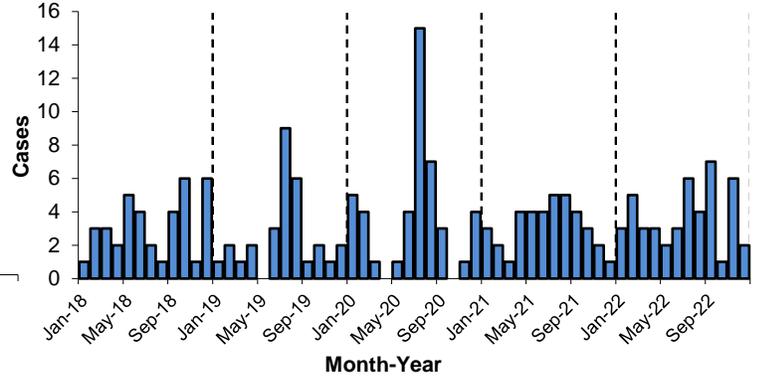


# Foodborne Illness:

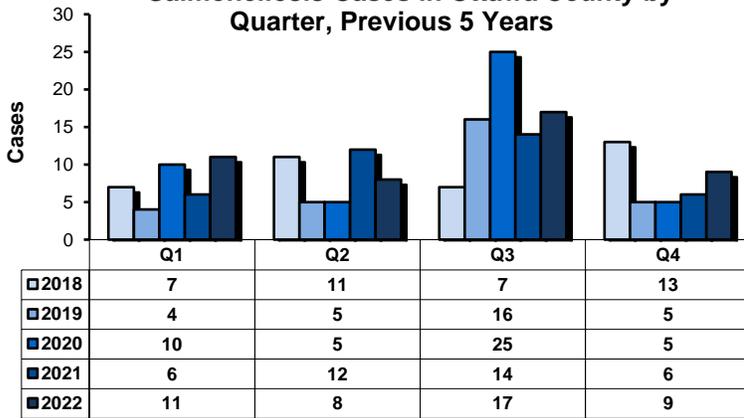
### Salmonellosis Cases in Ottawa County Previous 5 Years



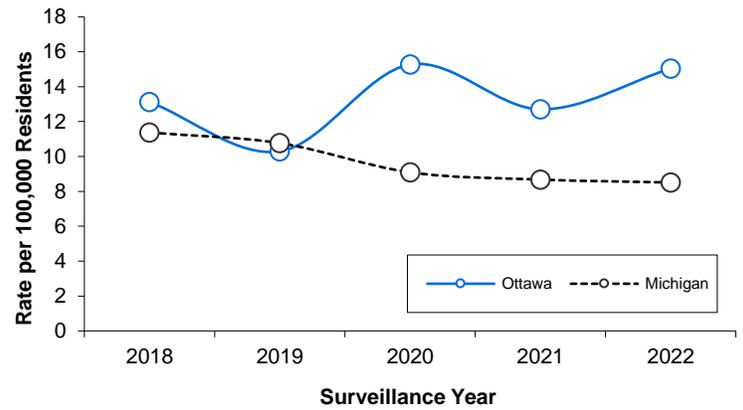
### Salmonellosis Cases in Ottawa County by Month Previous 5 Years



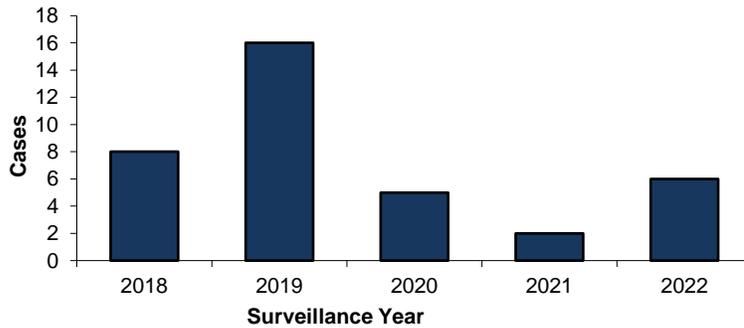
### Salmonellosis Cases in Ottawa County by Quarter, Previous 5 Years



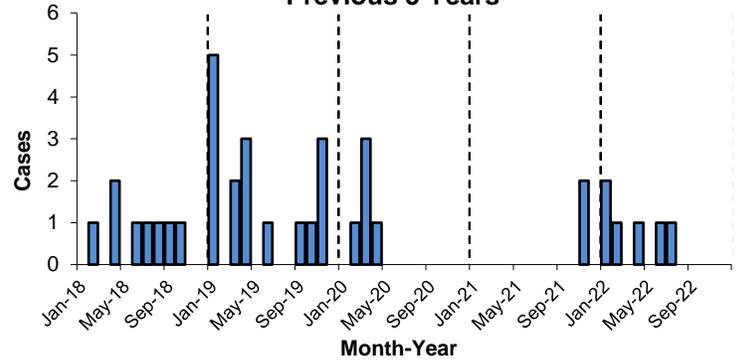
### Salmonellosis Cases per 100,000



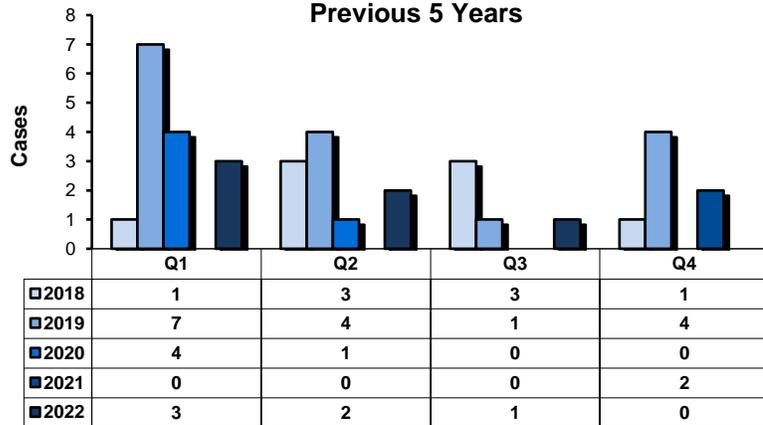
### Shigellosis Cases in Ottawa County Previous 5 Years



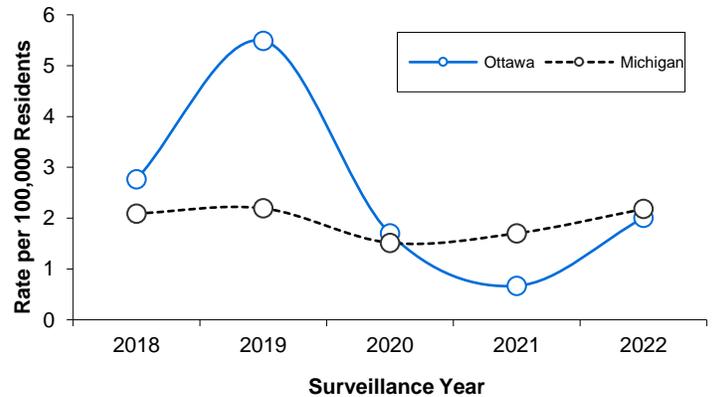
### Shigellosis Cases in Ottawa County by Month Previous 5 Years



### Shigellosis Cases in Ottawa County by Quarter Previous 5 Years

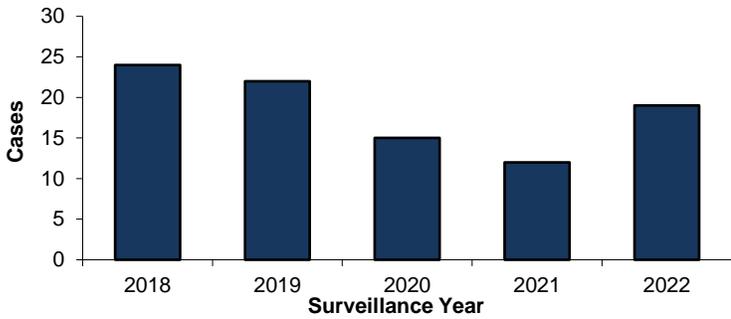


### Shigellosis Cases per 100,000

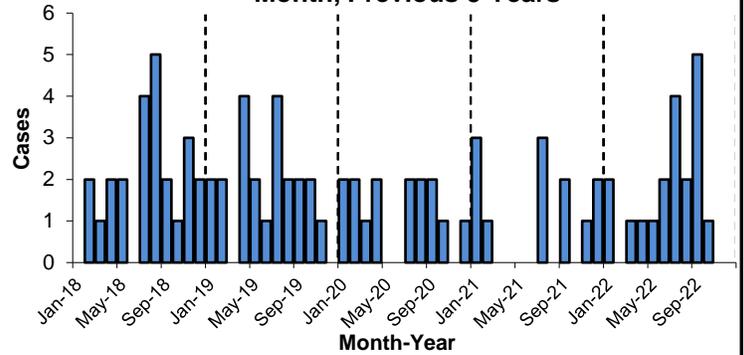


## Foodborne Illness:

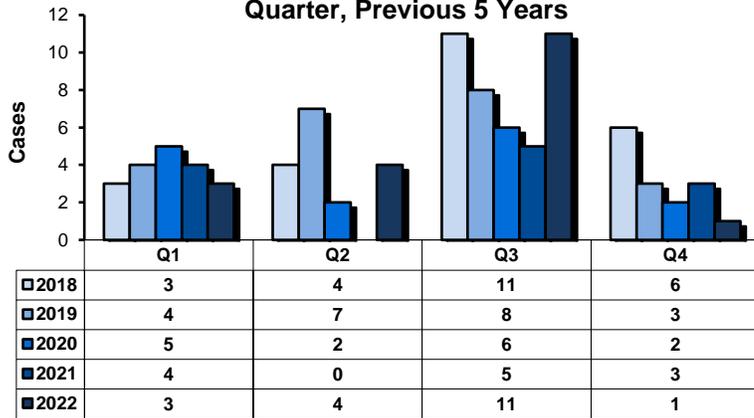
### Cryptosporidiosis Cases in Ottawa County, Previous 5 Years



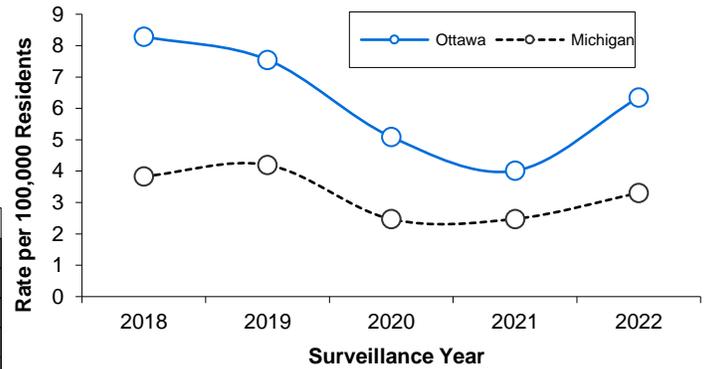
### Cryptosporidiosis Cases in Ottawa County by Month, Previous 5 Years



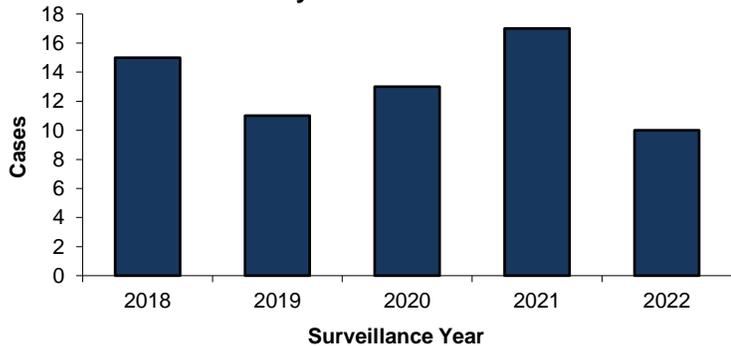
### Cryptosporidiosis Cases in Ottawa County by Quarter, Previous 5 Years



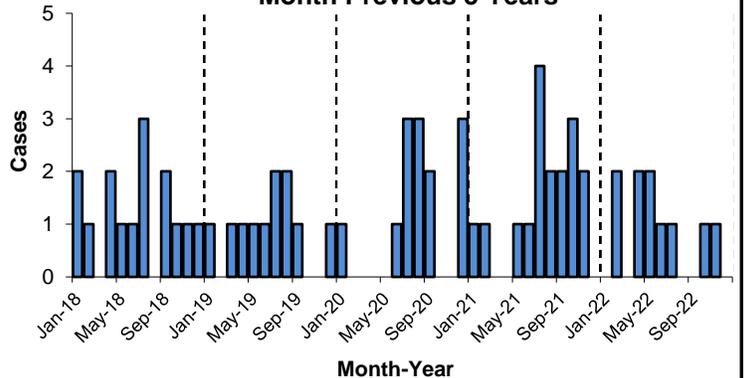
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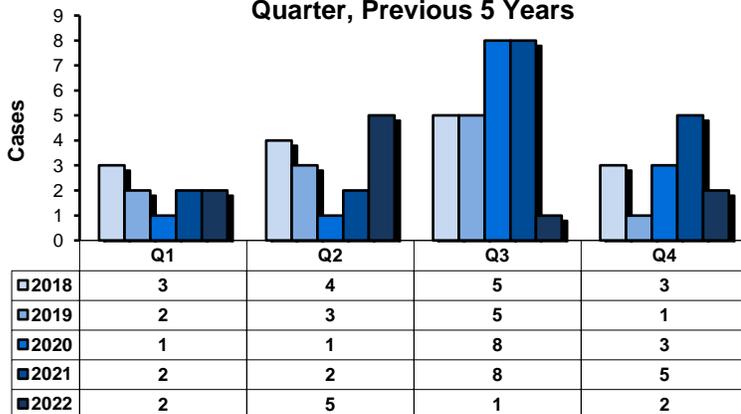
### Giardiasis Cases in Ottawa County Previous 5 Years



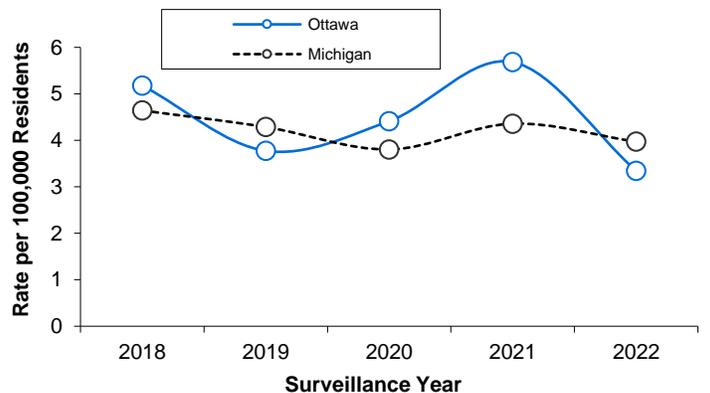
### Giardiasis Cases in Ottawa County by Month Previous 5 Years



### Giardiasis Cases in Ottawa County by Quarter, Previous 5 Years

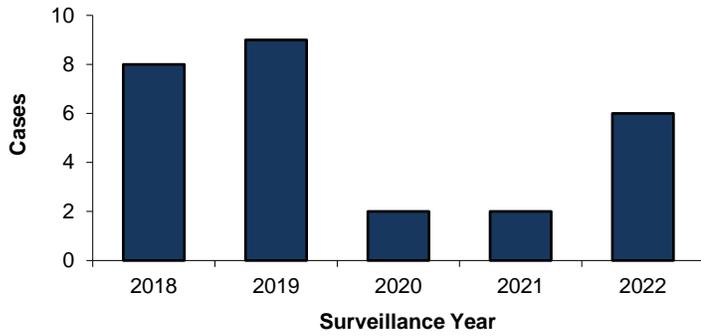


### Giardiasis Cases per 100,000

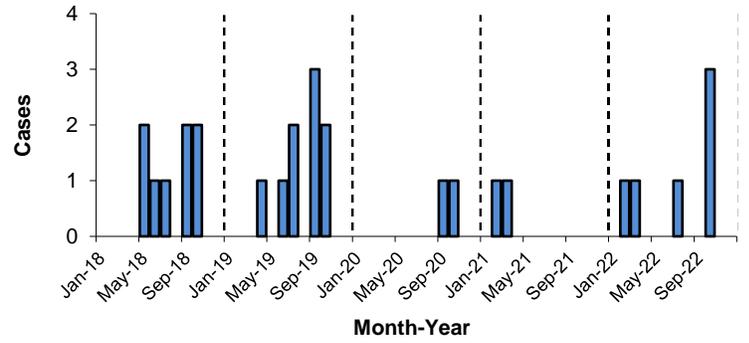


# Meningitis:

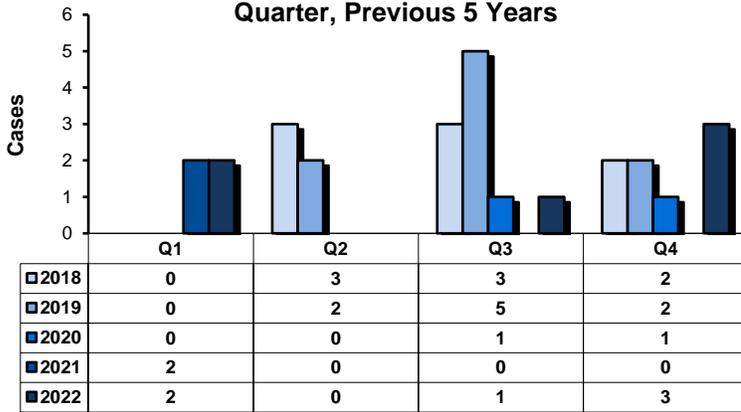
**Aseptic Meningitis Cases in Ottawa County, Previous 5 Years**



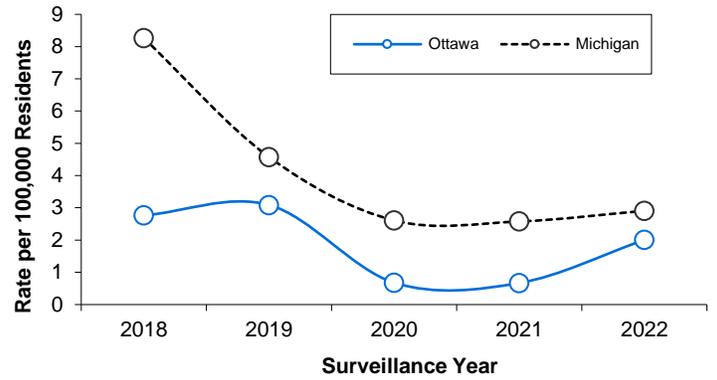
**Aseptic Meningitis Cases in Ottawa County by Month, Previous 5 Years**



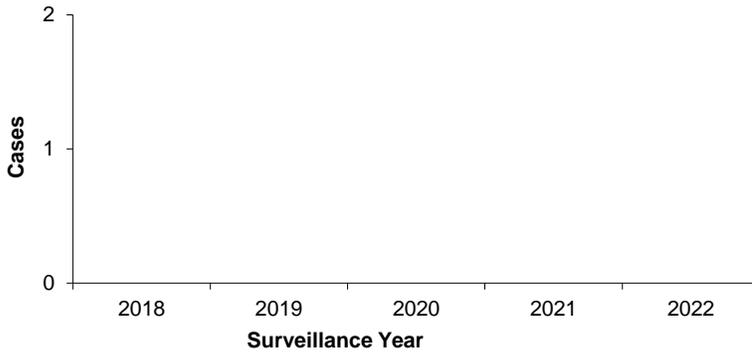
**Aseptic Meningitis Cases in Ottawa County by Quarter, Previous 5 Years**



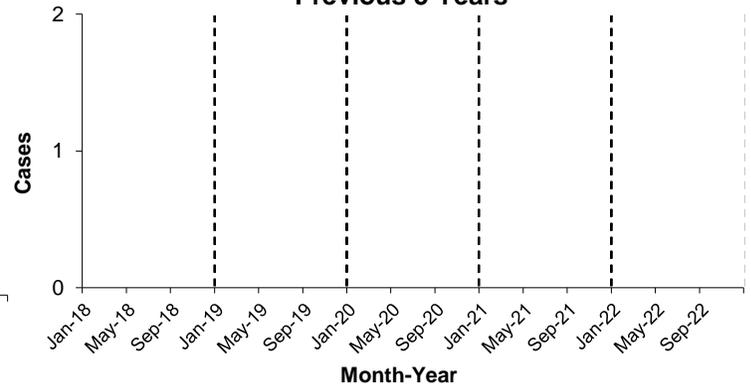
**Aseptic Meningitis Cases per 100,000**



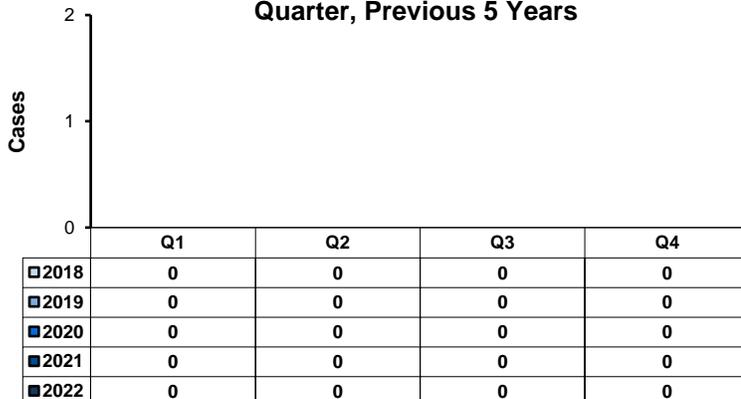
***N. meningitidis* Cases in Ottawa County Previous 5 Years**



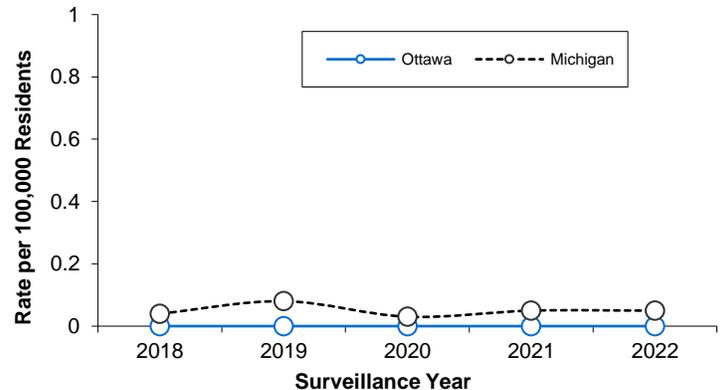
***N. meningitidis* Cases in Ottawa County by Month Previous 5 Years**



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

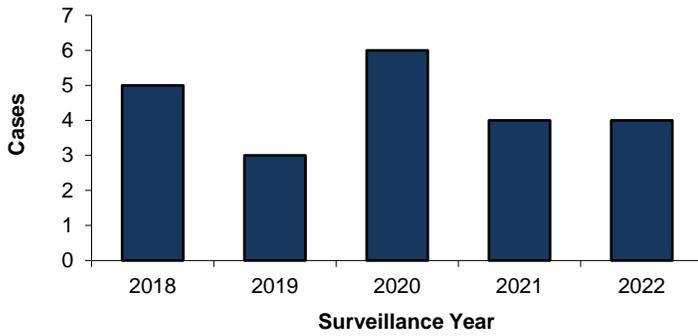


***N. meningitidis* Cases per 100,000**

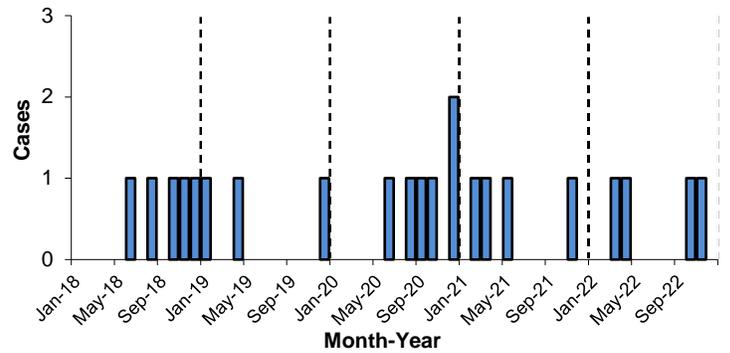


# Meningitis:

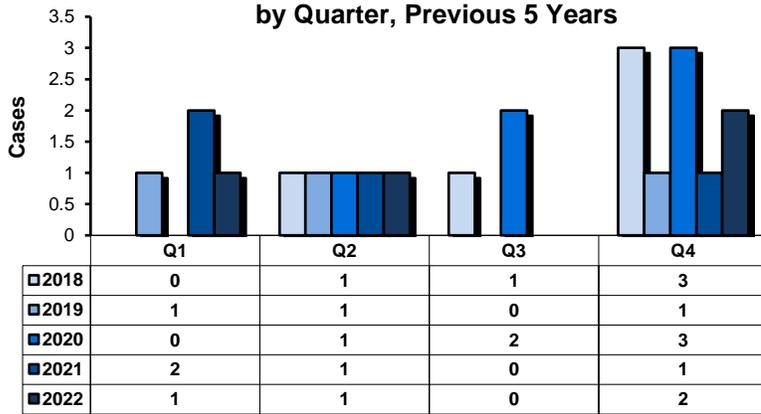
### Meningitis (Other Bacterial) Cases in Ottawa County, Previous 5 Years



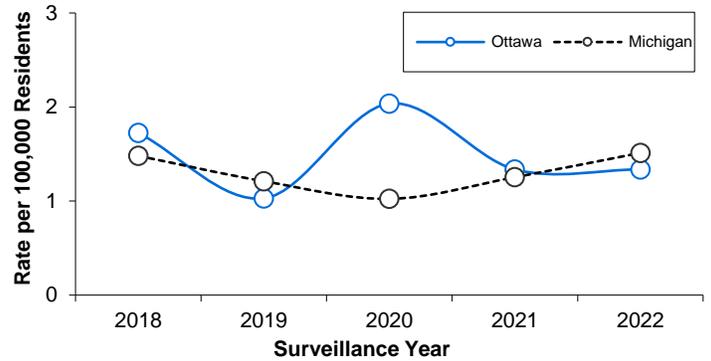
### Meningitis (Other Bacterial) Cases in Ottawa County by Month, Previous 5 Years



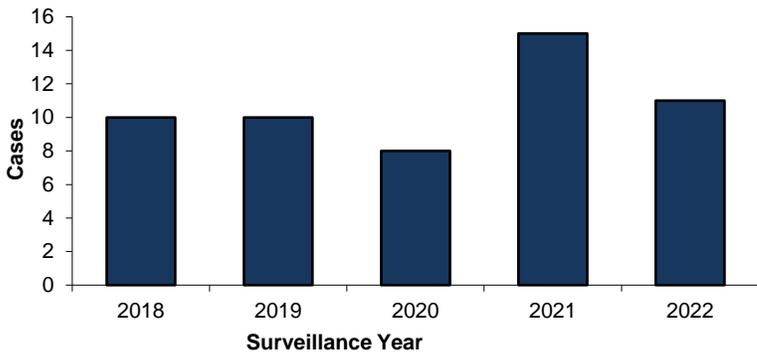
### Meningitis (Other Bacterial) Cases in Ottawa County by Quarter, Previous 5 Years



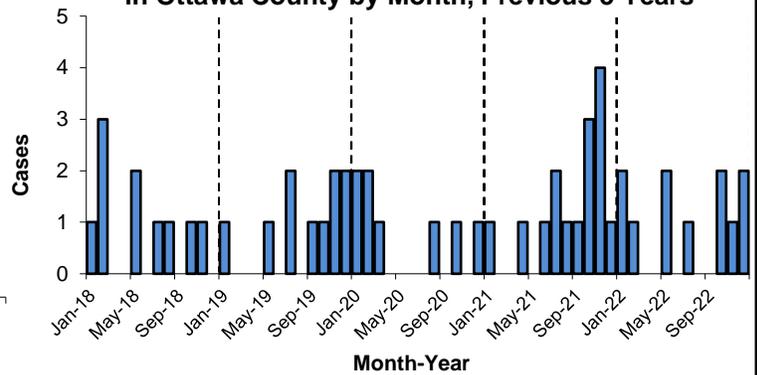
### Meningitis (Other Bacterial) Cases per 100,000



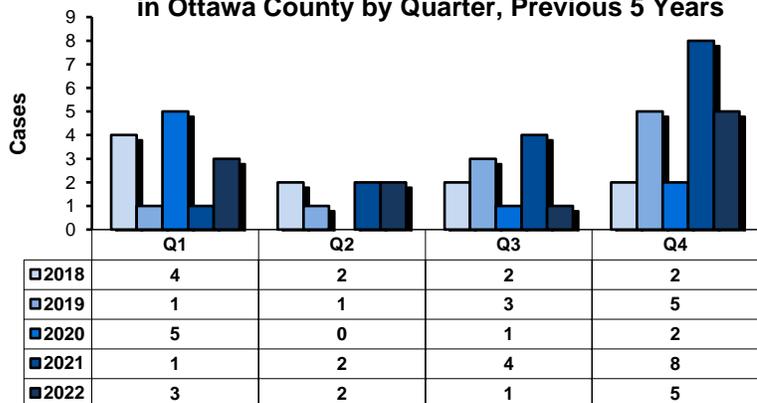
### Invasive *Streptococcus pneumoniae* Cases in Ottawa County, Previous 5 Years



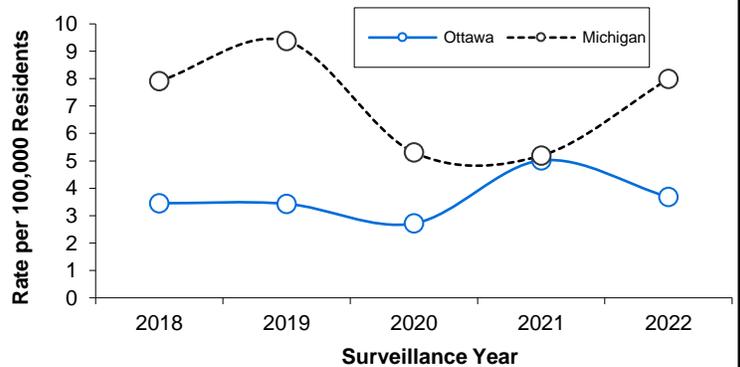
### Invasive *Streptococcus pneumoniae* Cases in Ottawa County by Month, Previous 5 Years



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

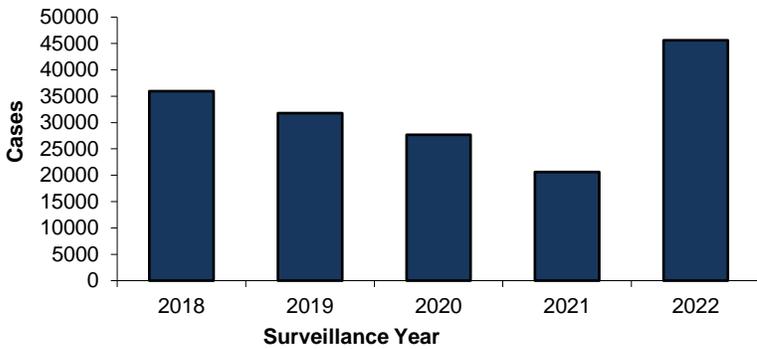


### Invasive *Streptococcus pneumoniae* Cases per 100,000

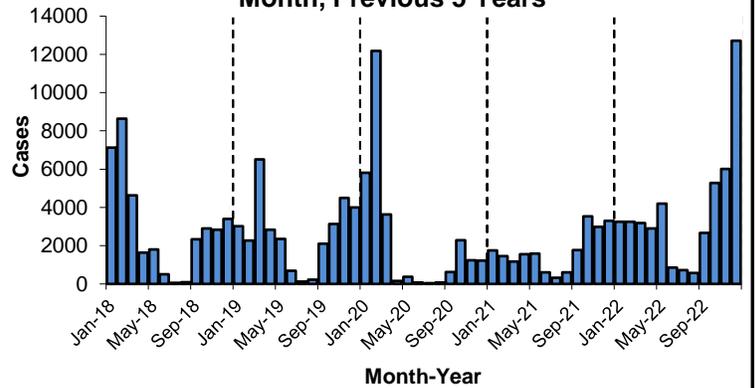


# Influenza and COVID-19:

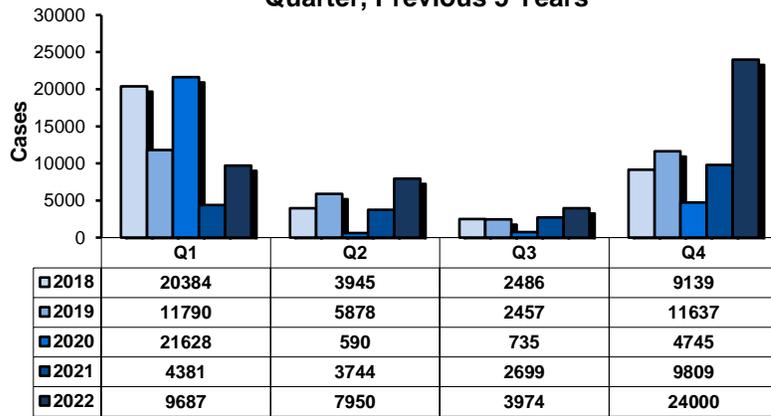
### Flu-Like Disease Cases in Ottawa County Previous 5 Years



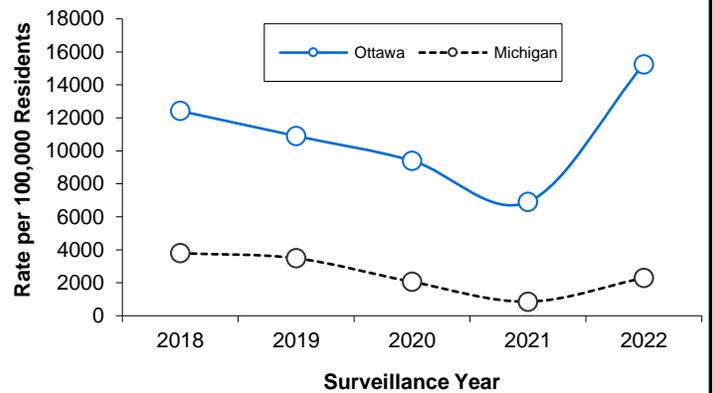
### Flu-Like Disease Cases in Ottawa County by Month, Previous 5 Years



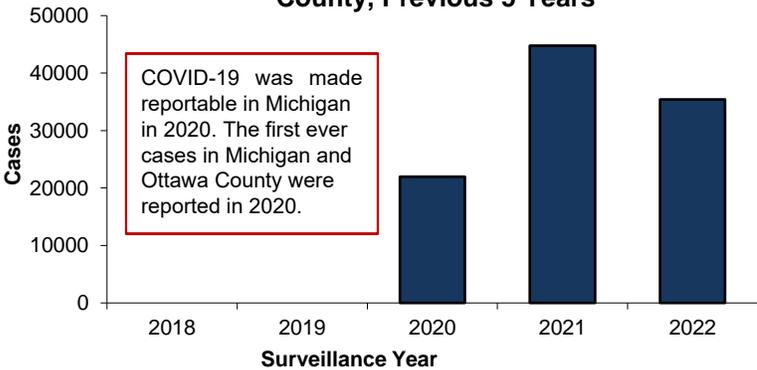
### Flu-Like Disease Cases in Ottawa County by Quarter, Previous 5 Years



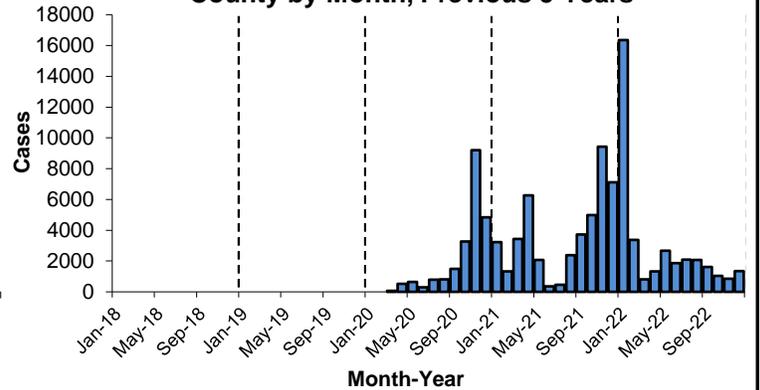
### Flu-Like Disease Cases per 100,000



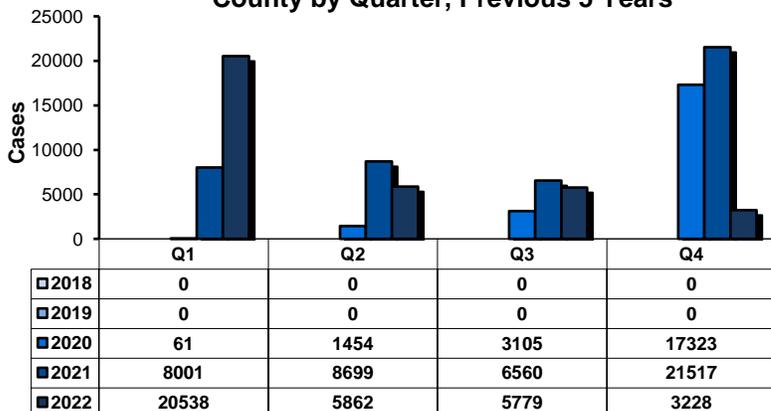
### Novel Coronavirus (COVID-19) Cases in Ottawa County, Previous 5 Years



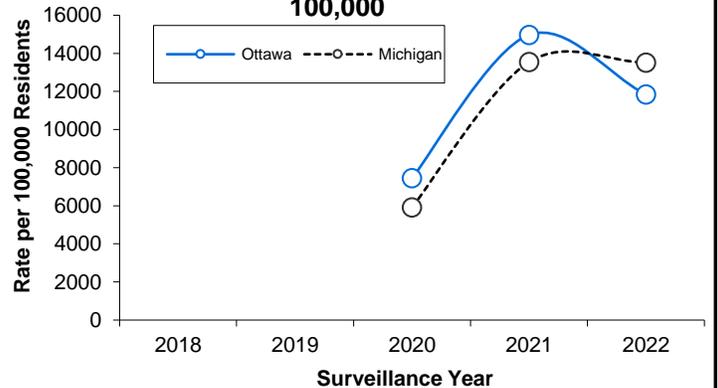
### Novel Coronavirus (COVID-19) Cases in Ottawa County by Month, Previous 5 Years



### Novel Coronavirus (COVID-19) Cases in Ottawa County by Quarter, Previous 5 Years

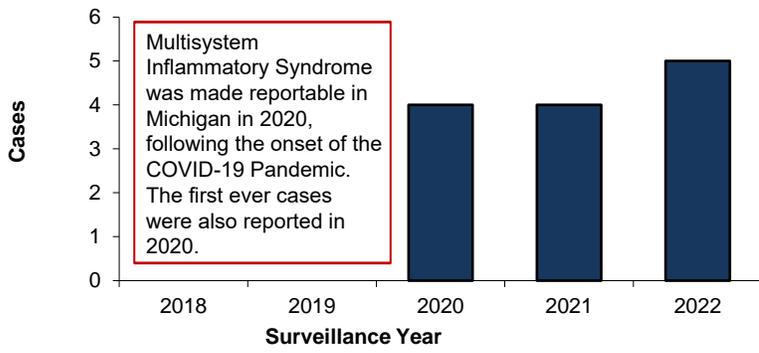


### Novel Coronavirus (COVID-19) Cases per 100,000

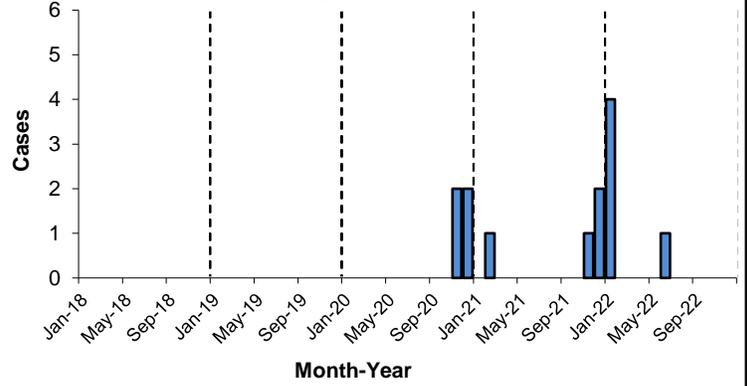


# Multisystem Inflammatory Syndrome:

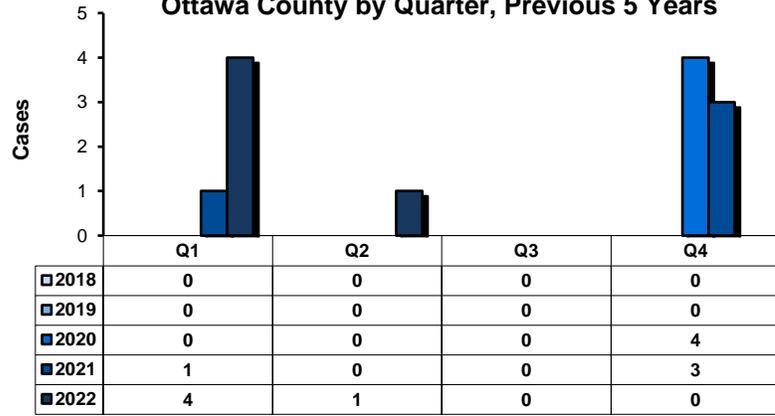
**Multisystem Inflammatory Syndrome Cases in Ottawa County Previous 5 Years**



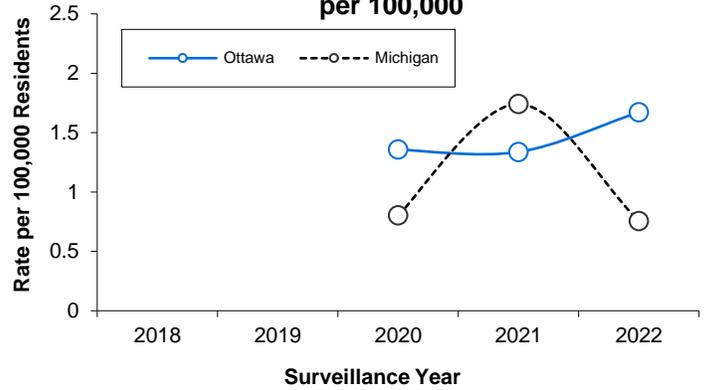
**Multisystem Inflammatory Syndrome Cases in Ottawa County by Month, Previous 5 Years**



**Multisystem Inflammatory Syndrome Cases in Ottawa County by Quarter, Previous 5 Years**

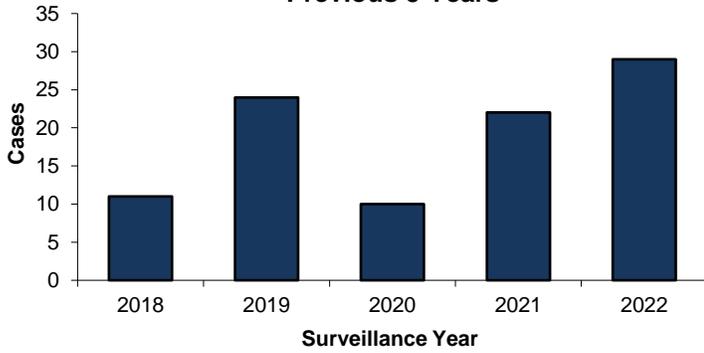


**Multisystem Inflammatory Syndrome Cases per 100,000**

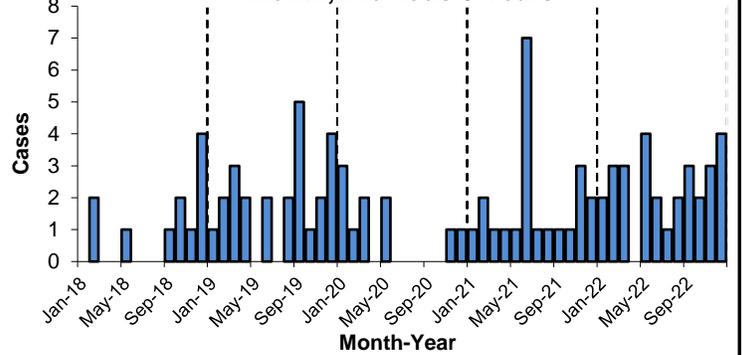


## Other Illnesses:

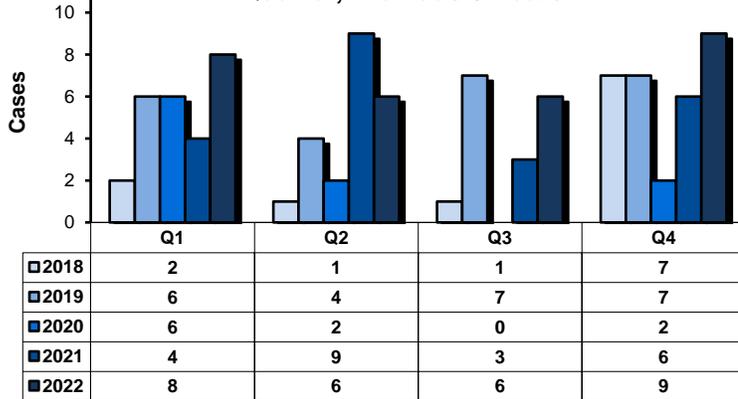
### Histoplasmosis Cases in Ottawa County Previous 5 Years



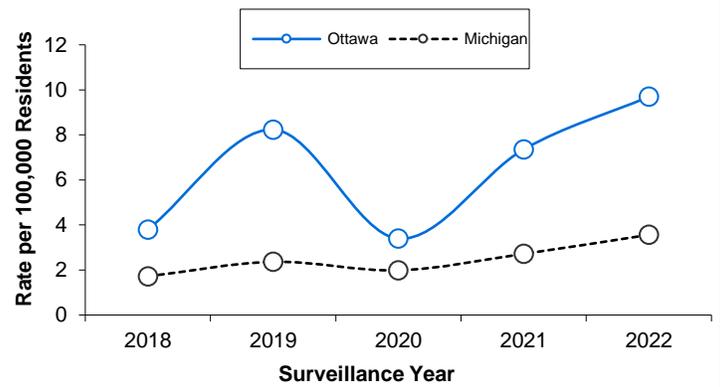
### Histoplasmosis Cases in Ottawa County by Month, Previous 5 Years



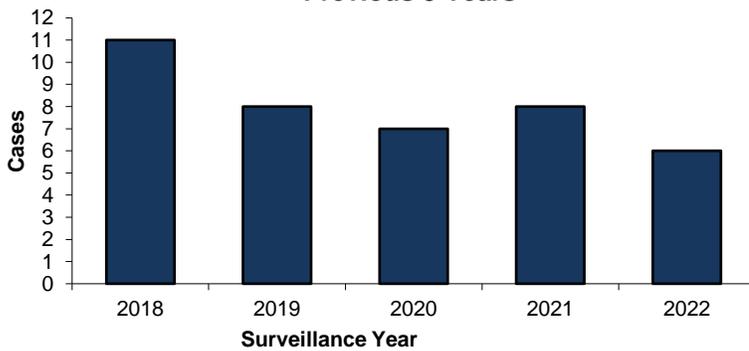
### Histoplasmosis Cases in Ottawa County by Quarter, Previous 5 Years



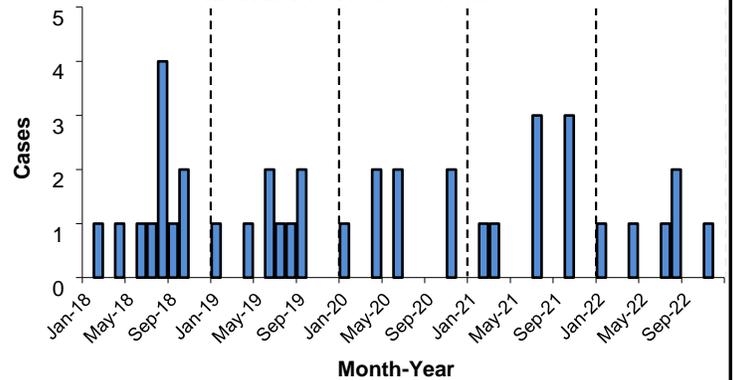
### Histoplasmosis Cases per 100,000



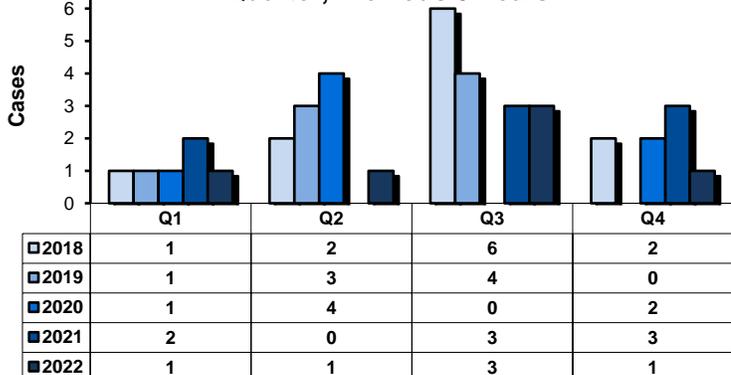
### Legionellosis Cases in Ottawa County Previous 5 Years



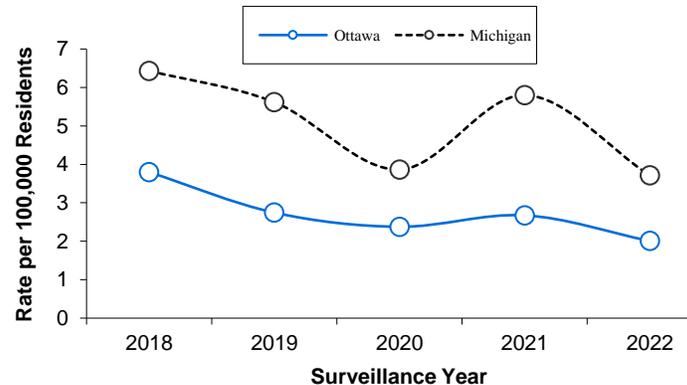
### Legionellosis Cases in Ottawa County by Month Previous 5 Years



### Legionellosis Cases in Ottawa County by Quarter, Previous 5 Years

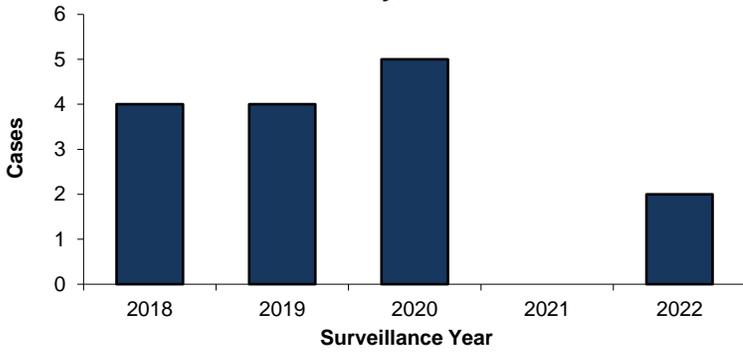


### Legionellosis Cases per 100,000

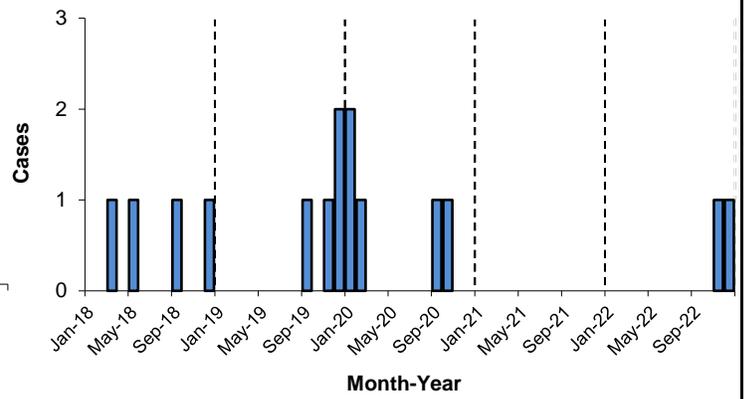


**Other Illnesses:**

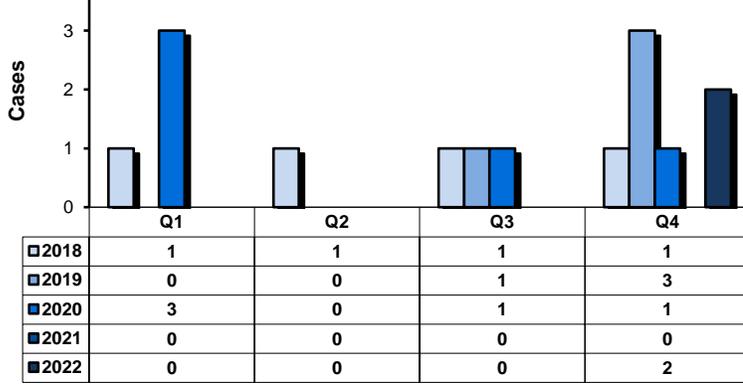
**Drug Resistant *Streptococcus pneumoniae* Cases in Ottawa County, Previous 5 Years**



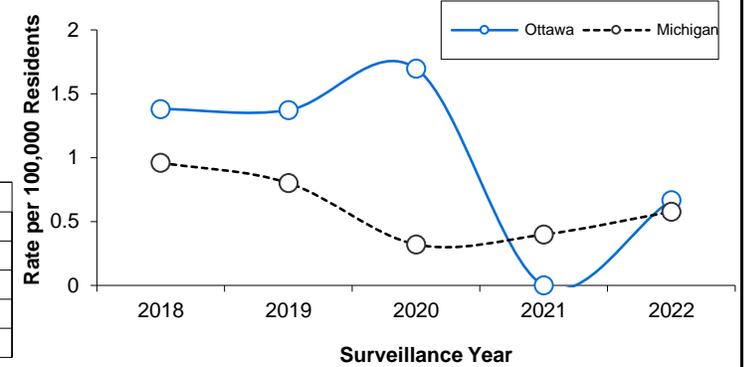
**Drug Resistant *Streptococcus pneumoniae* Cases in Ottawa County by Month, Previous 5 Years**



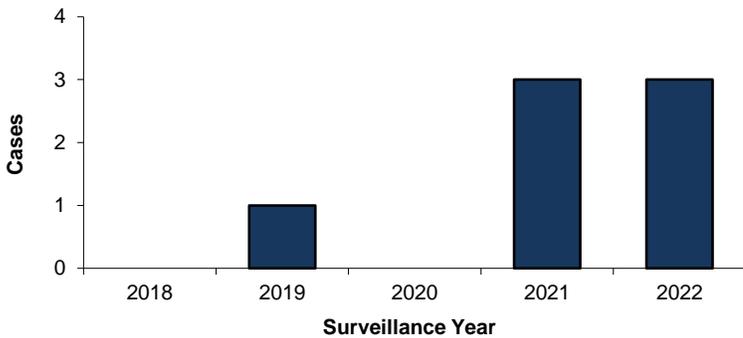
**Drug Resistant *Streptococcus pneumoniae* Cases in Ottawa County by Quarter, Previous 5 Years**



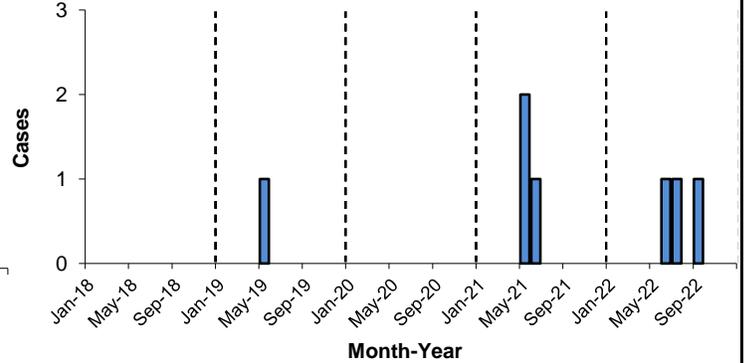
**Drug Resistant *Streptococcus pneumoniae* Cases per 100,000**



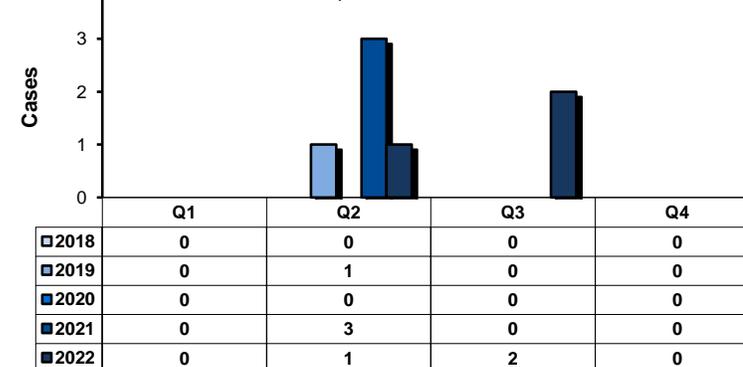
**Animal Rabies Cases in Ottawa County, Previous 5 Years**



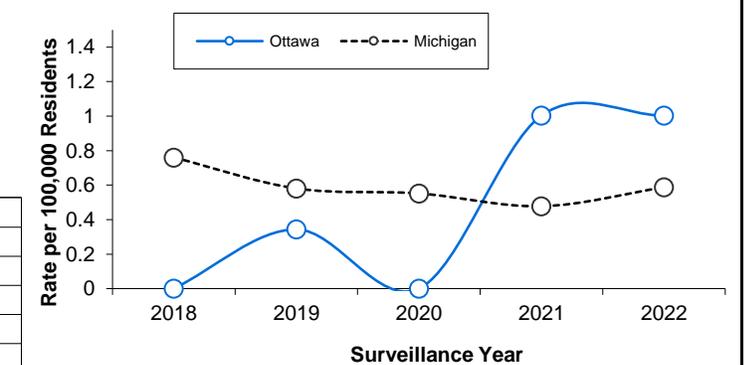
**Animal Rabies Cases in Ottawa County by Month, Previous 5 Years**



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

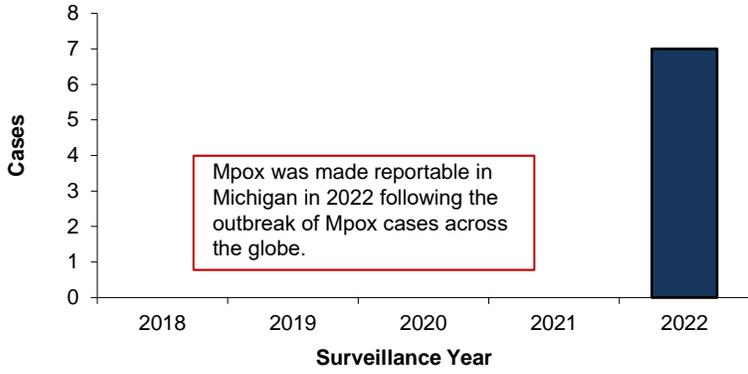


**Animal Rabies Cases per 100,000**

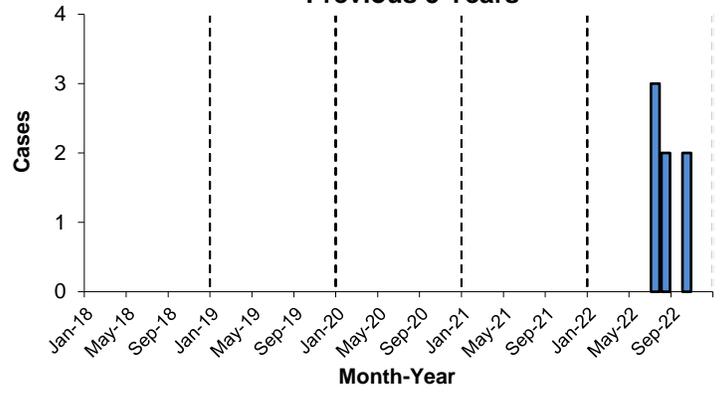


**Mpox (formerly, Monkeypox):**

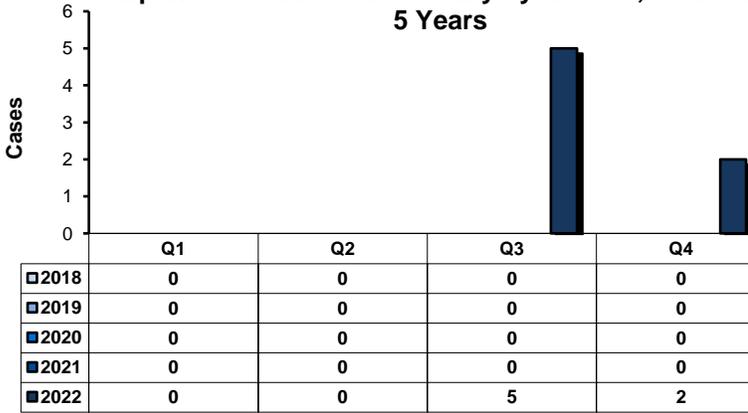
**Mpox Cases in Ottawa County, Previous 5 Years**



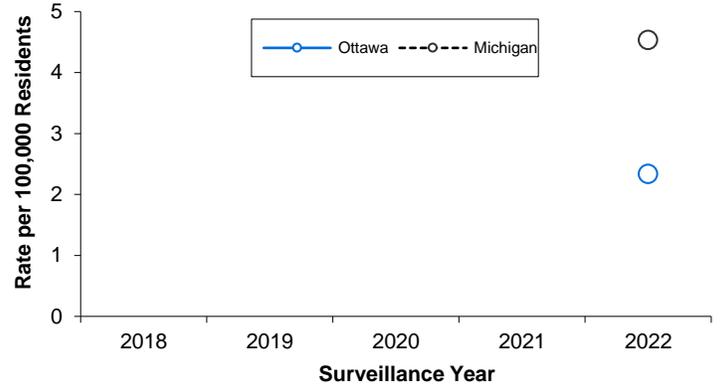
**Mpox Cases in Ottawa County by Month, Previous 5 Years**



**Mpox Cases in Ottawa County by Quarter, Previous 5 Years**

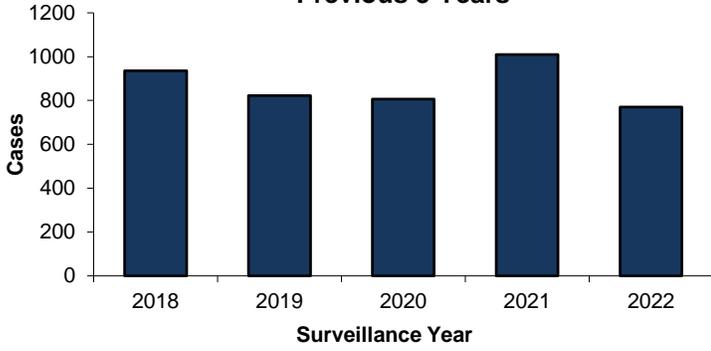


**Mpox Cases per 100,000**

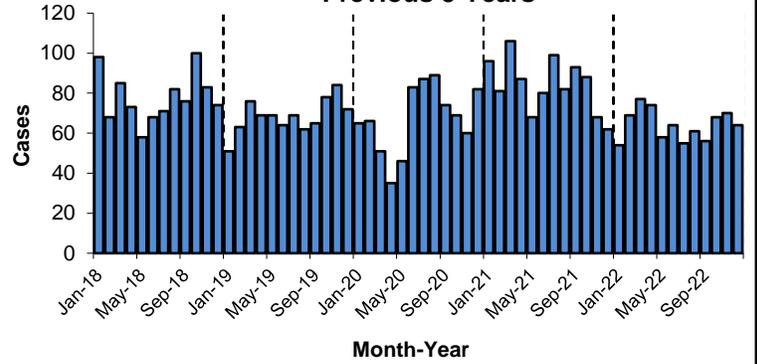


# Sexually Transmitted Diseases:

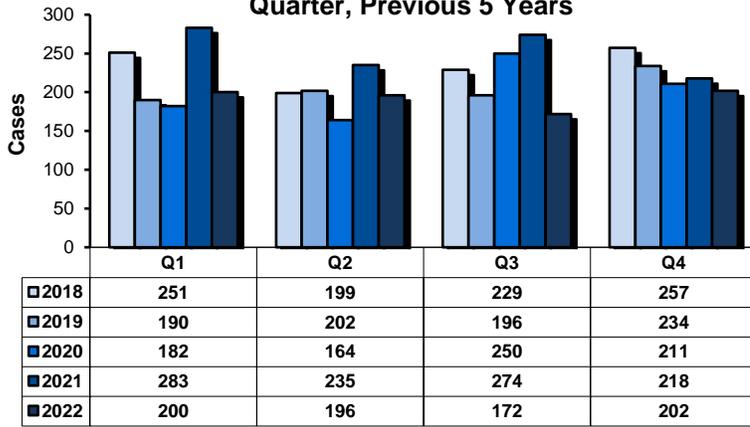
### Chlamydia Cases in Ottawa County Previous 5 Years



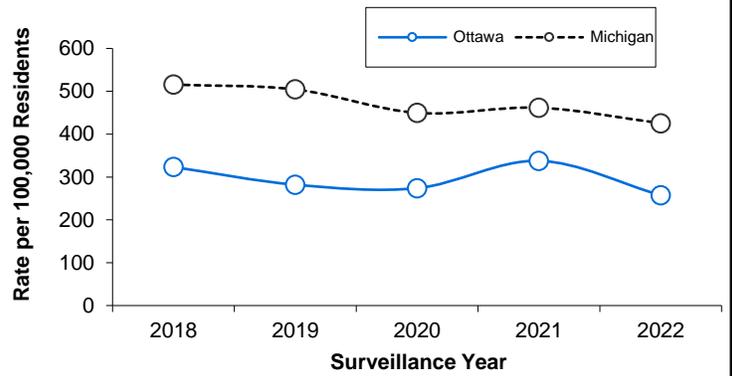
### Chlamydia Cases in Ottawa County by Month, Previous 5 Years



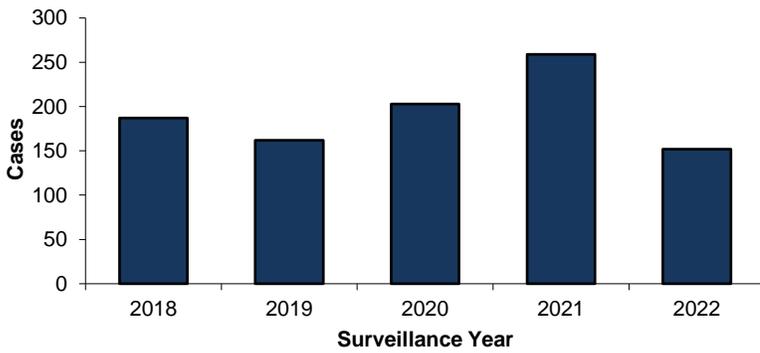
### Chlamydia Cases in Ottawa County by Quarter, Previous 5 Years



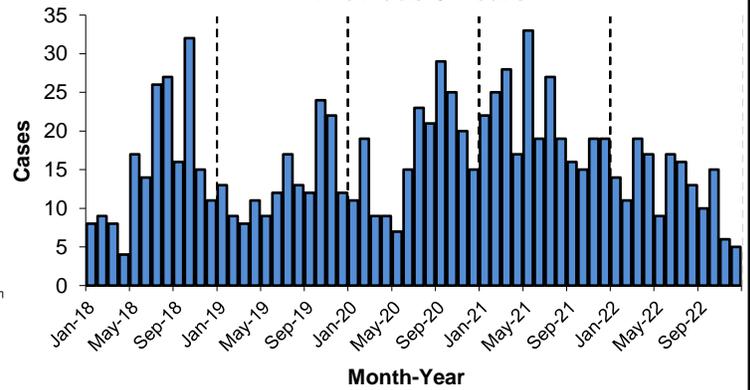
### Chlamydia Cases per 100,000



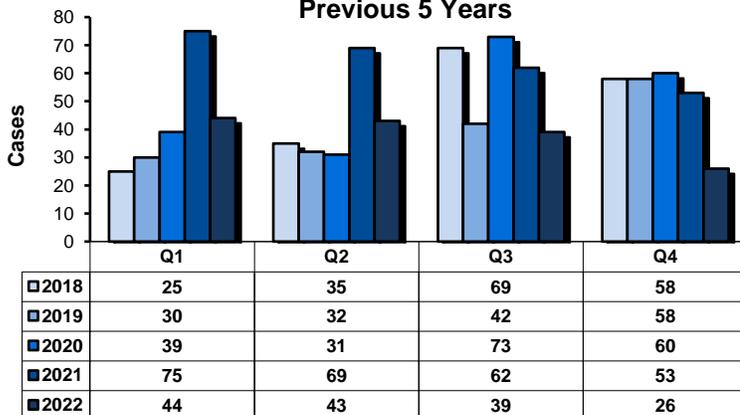
### Gonorrhea Cases in Ottawa County Previous 5 Years



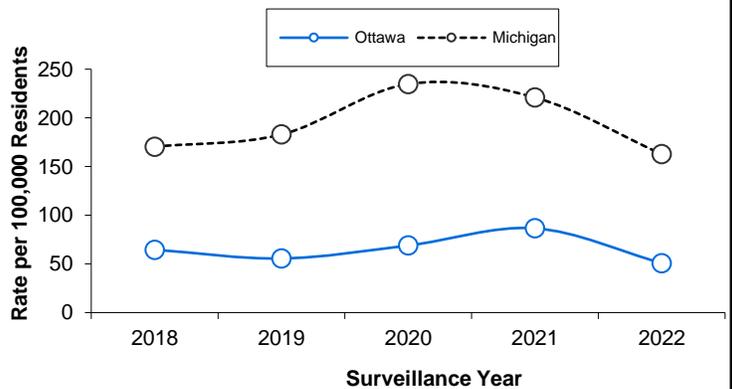
### Gonorrhea Cases in Ottawa County by Month, Previous 5 Years



### Gonorrhea Cases in Ottawa County by Quarter, Previous 5 Years

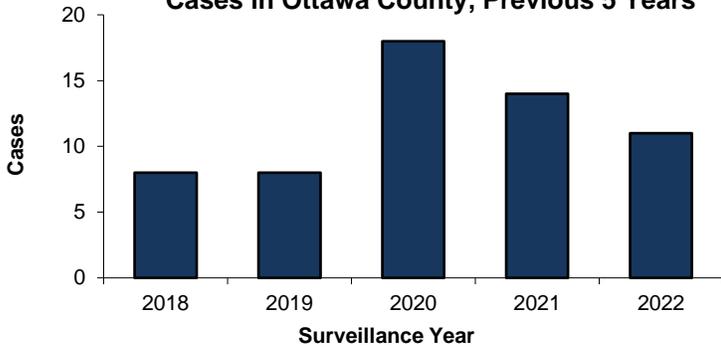


### Gonorrhea Cases per 100,000

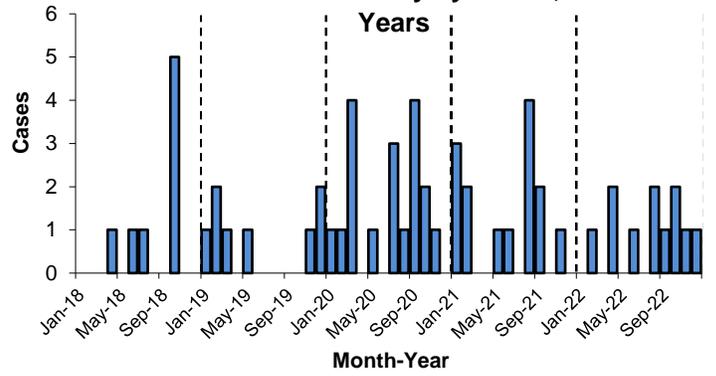


# Sexually Transmitted Diseases:

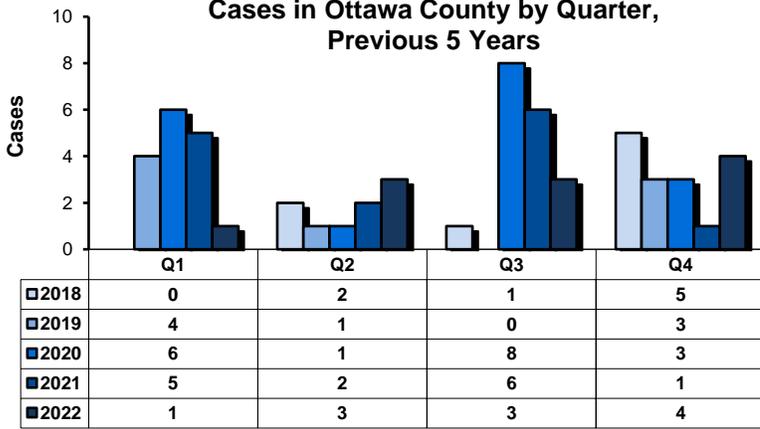
**Primary, Secondary & Early Latent Syphilis Cases in Ottawa County, Previous 5 Years**



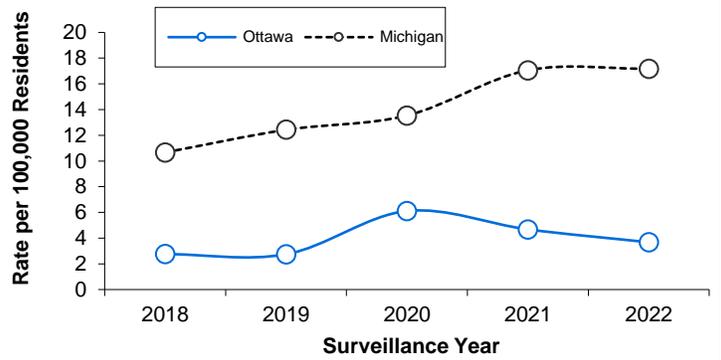
**Primary, Secondary & Early Latent Syphilis Cases in Ottawa County by Month, Previous 5 Years**



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

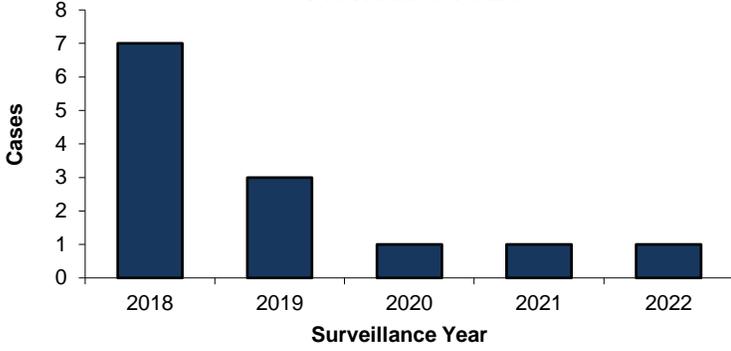


**Primary, Secondary & Early Latent Syphilis Cases per 100,000**

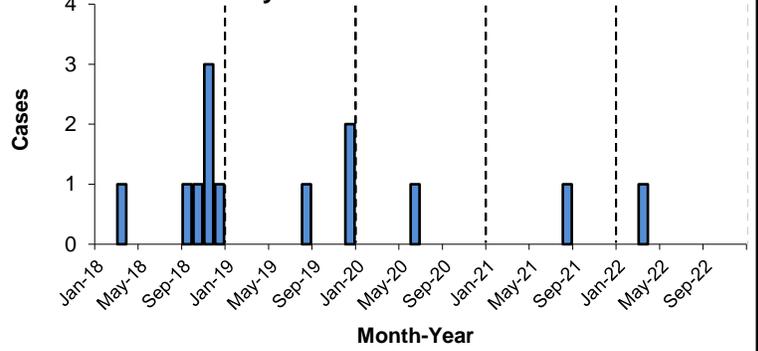


# Tuberculosis:

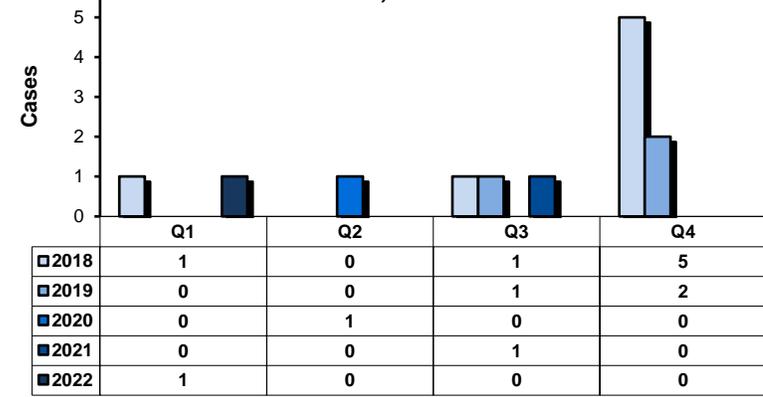
### Tuberculosis Disease Cases in Ottawa County Previous 5 Years



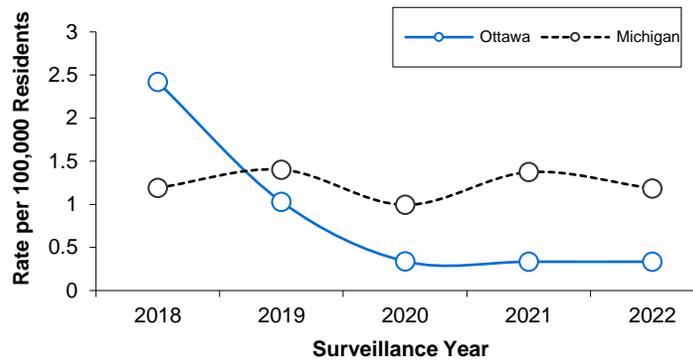
### Tuberculosis Disease Cases in Ottawa County by Month Previous 5 Years



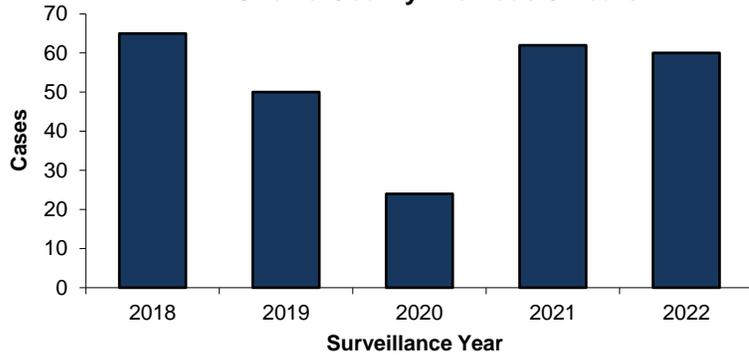
### Tuberculosis Disease Cases in Ottawa County by Quarter, Previous 5 Years



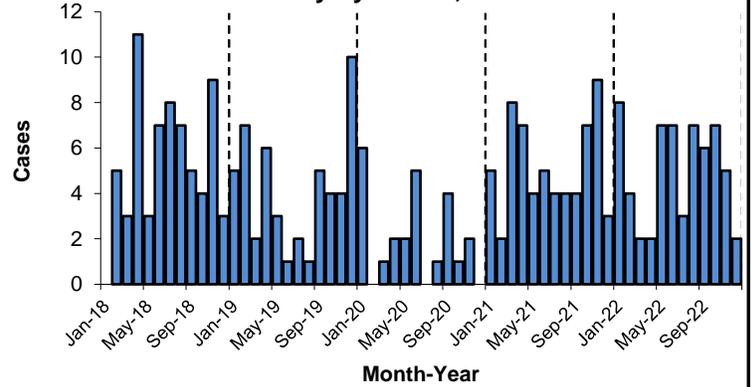
### Tuberculosis Disease Cases per 100,000



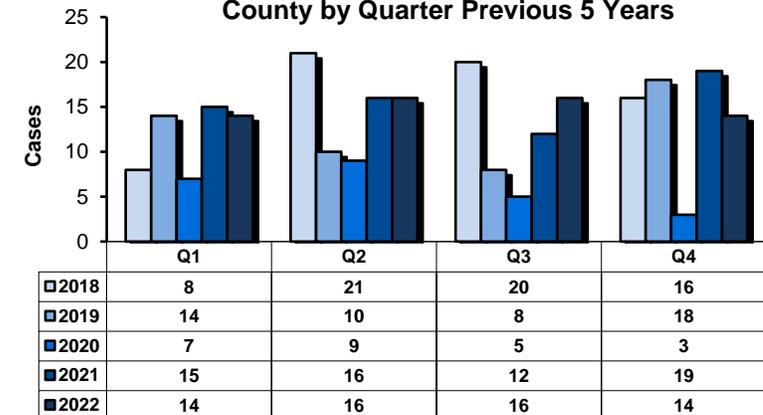
### Latent Tuberculosis Infection Cases in Ottawa County Previous 5 Years



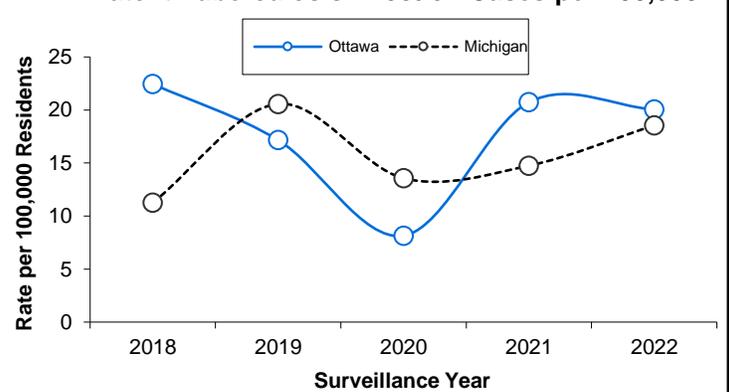
### Latent Tuberculosis Infection Cases in Ottawa County by Month, Previous 5 Years



### Latent Tuberculosis Infection Cases in Ottawa County by Quarter Previous 5 Years

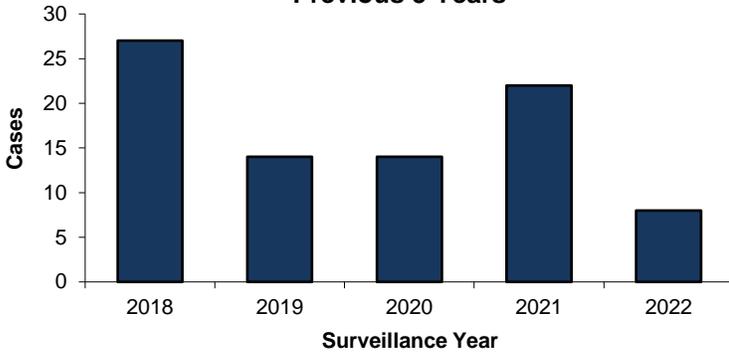


### Latent Tuberculosis Infection Cases per 100,000

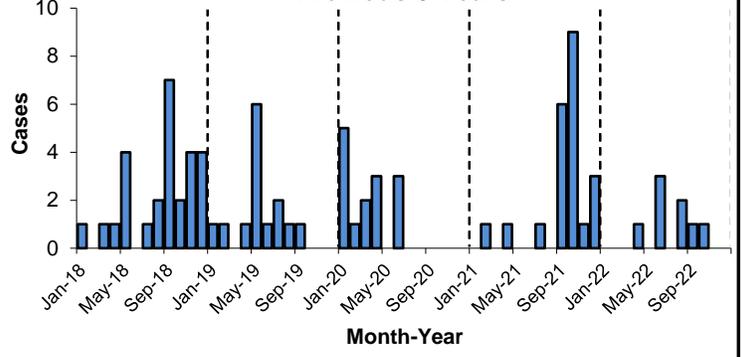


# Vaccine Preventable Diseases:

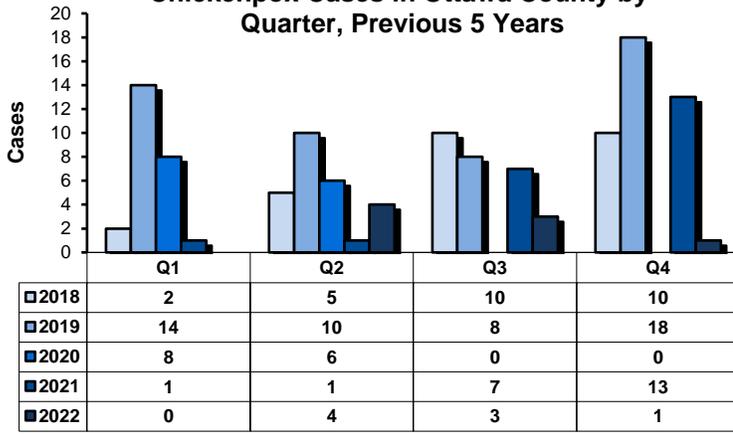
### Chickenpox Cases in Ottawa County Previous 5 Years



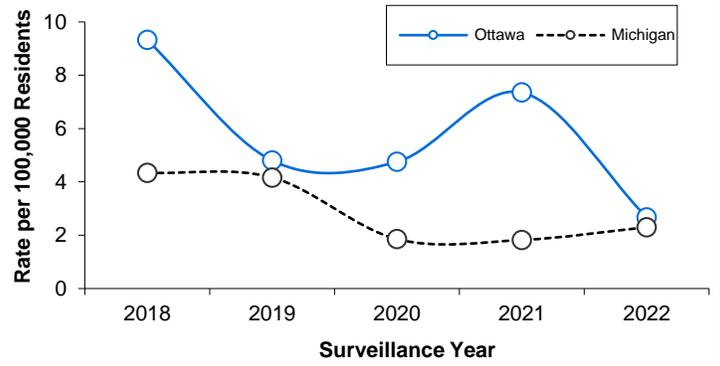
### Chickenpox Cases in Ottawa County by Month Previous 5 Years



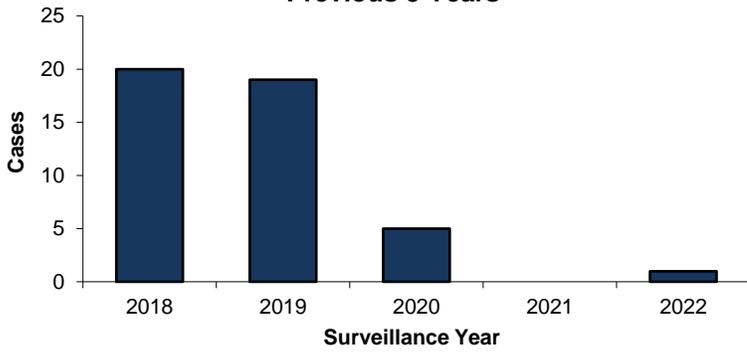
### Chickenpox Cases in Ottawa County by Quarter, Previous 5 Years



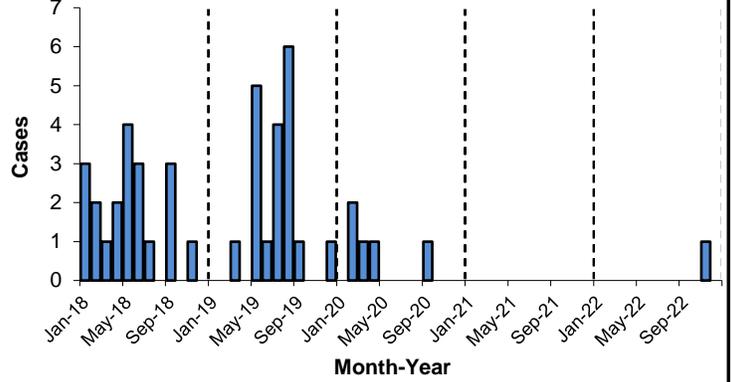
### Chickenpox Cases per 100,000



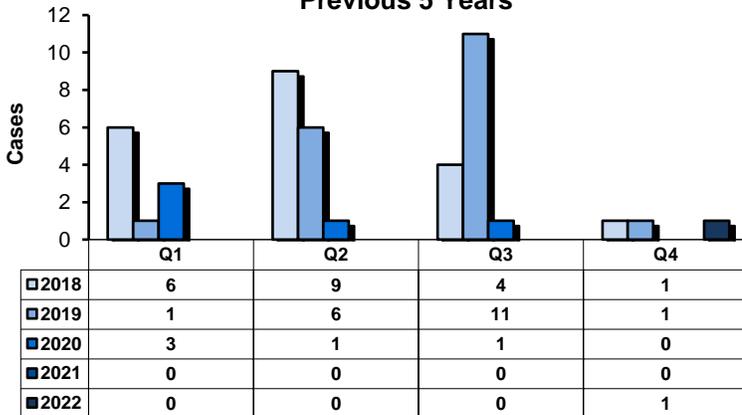
### Pertussis Cases in Ottawa County Previous 5 Years



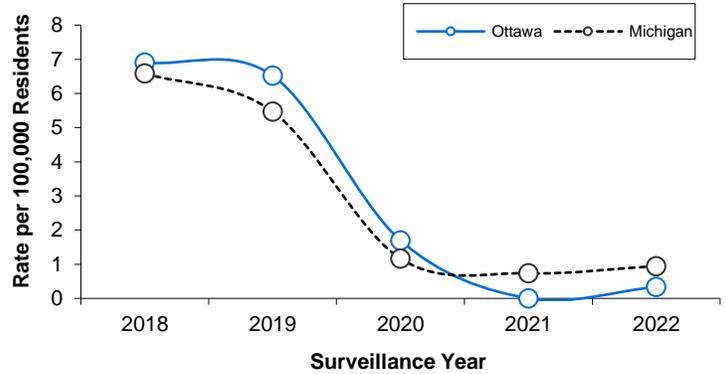
### Pertussis Cases in Ottawa County by Month Previous 5 Years



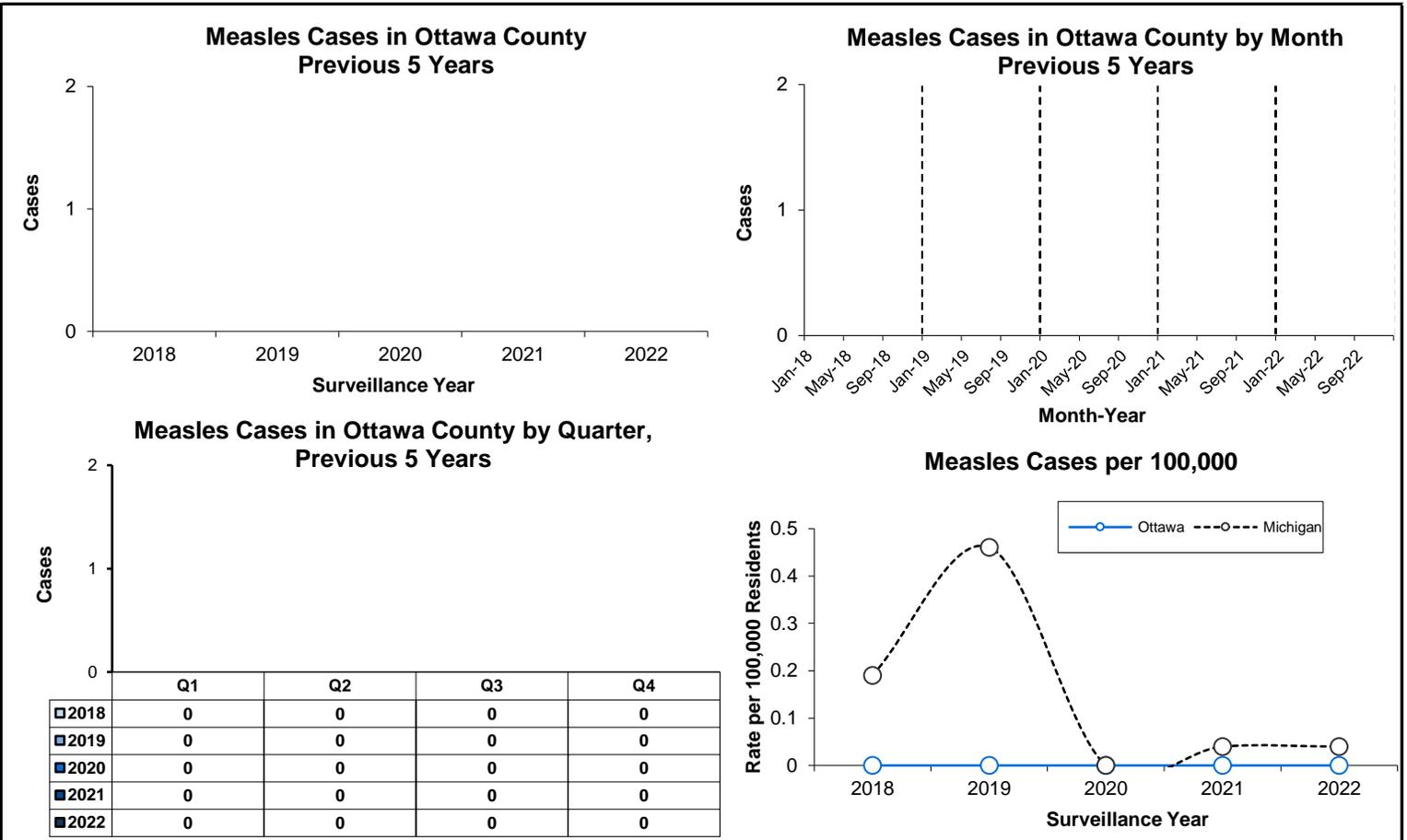
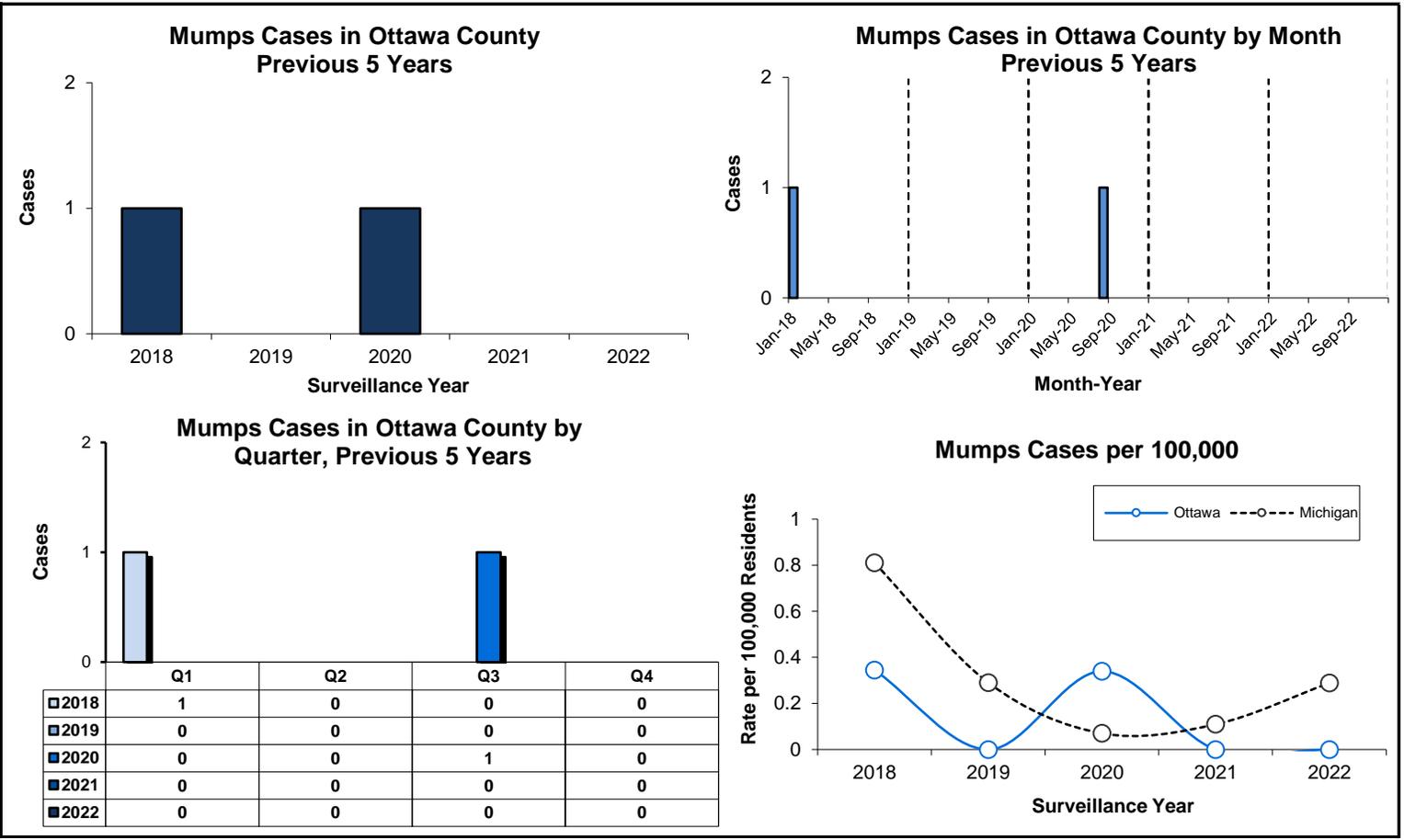
### Pertussis Cases in Ottawa County by Quarter Previous 5 Years



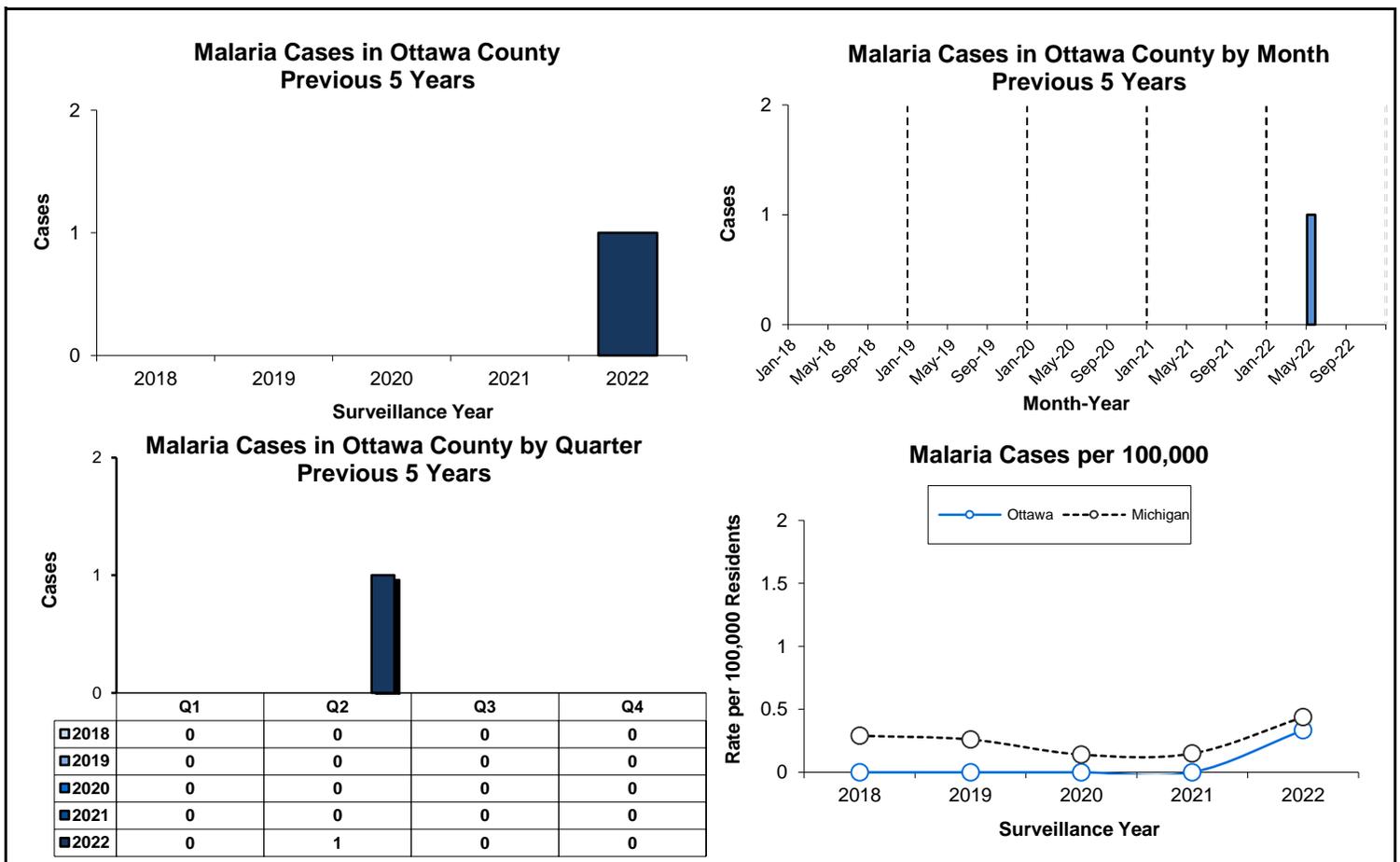
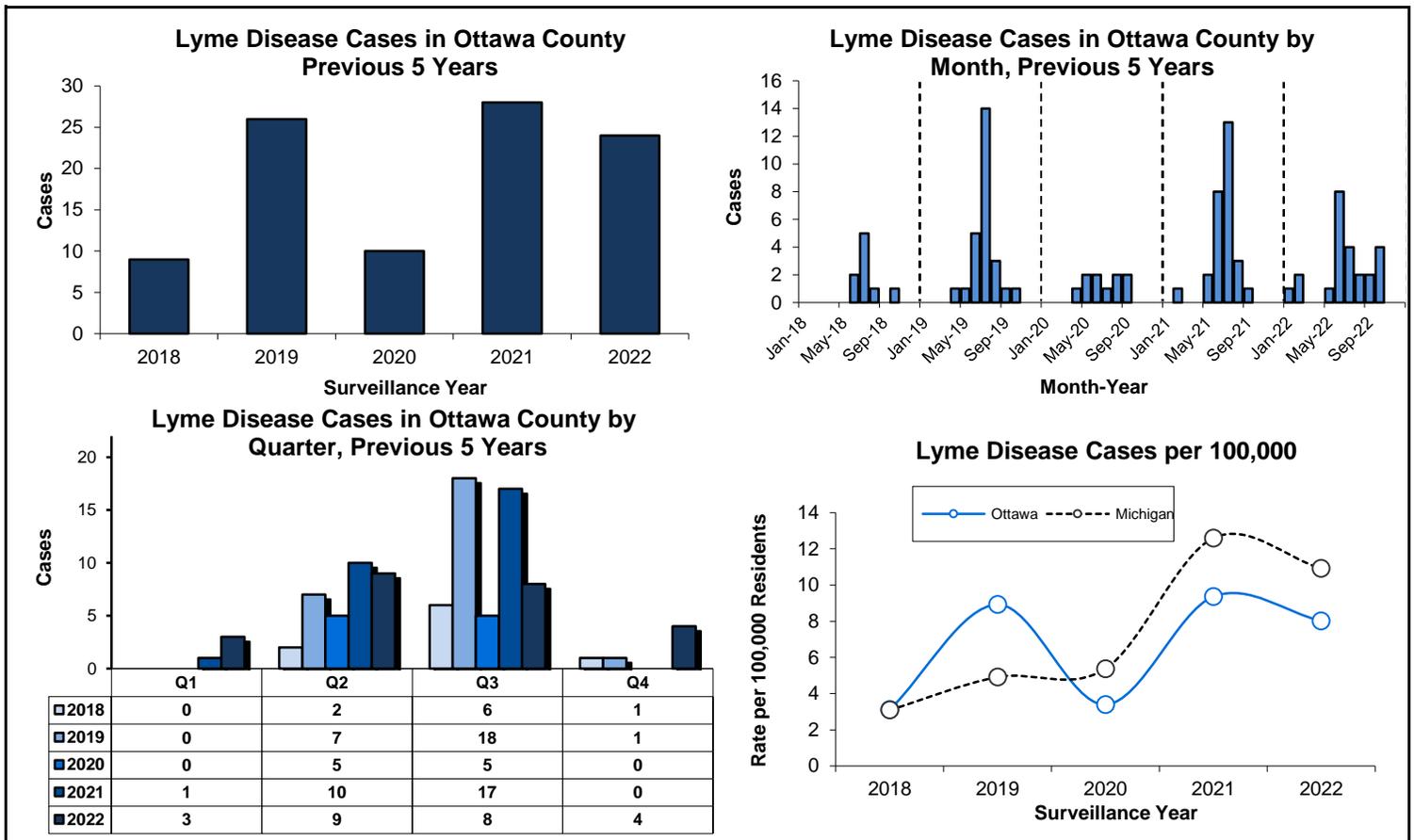
### Pertussis Cases per 100,000



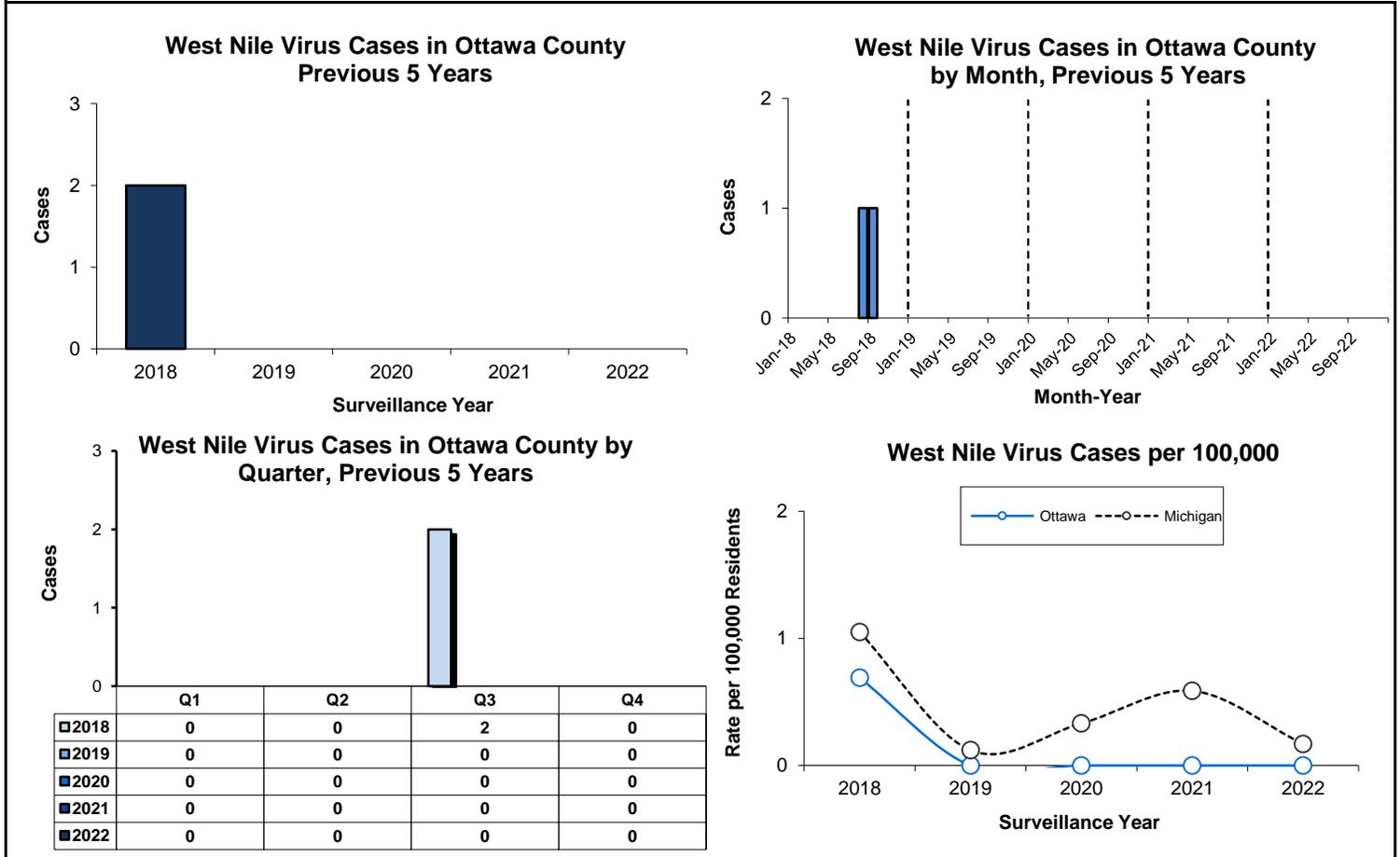
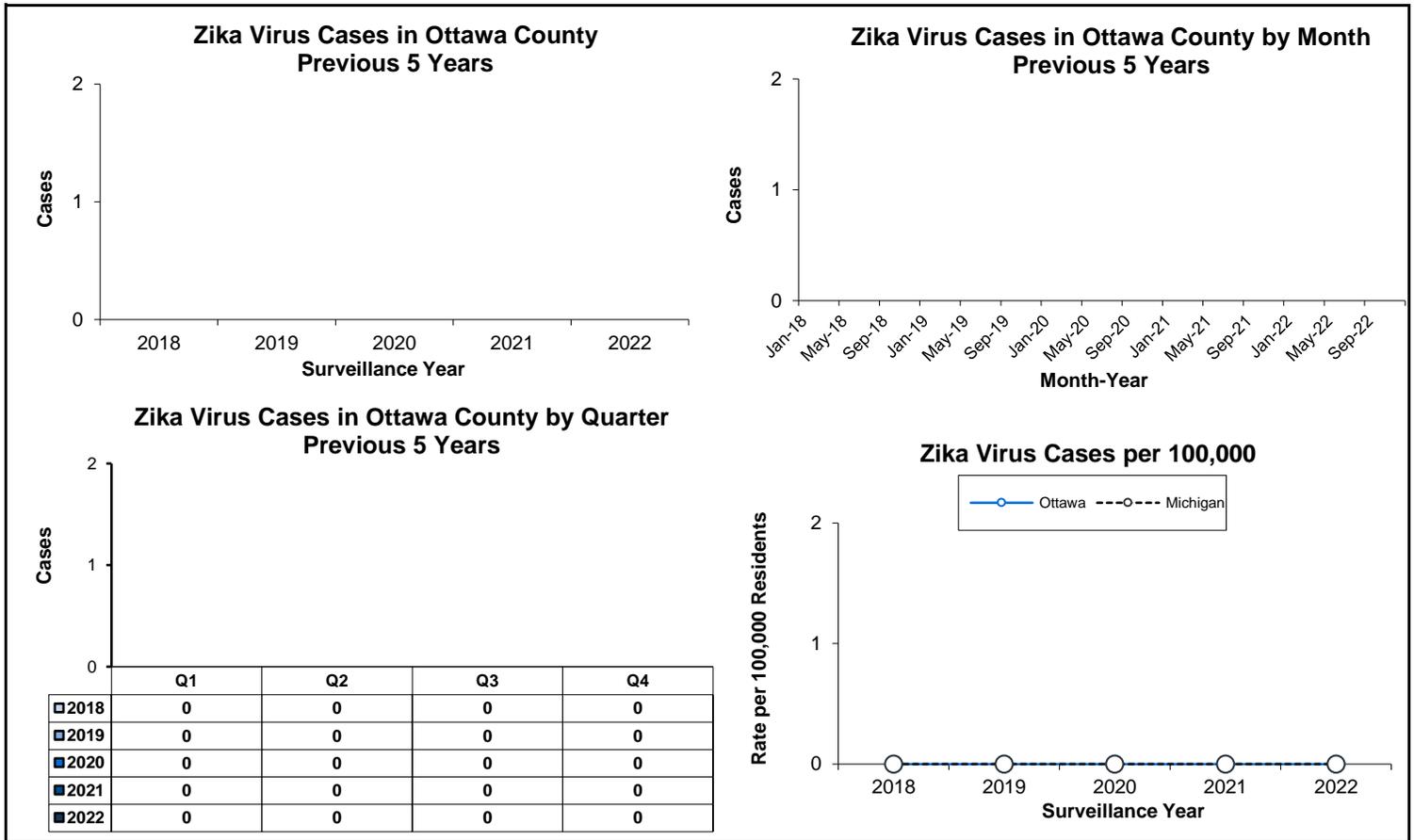
# Vaccine Preventable Diseases:



## Vectorborne Diseases:

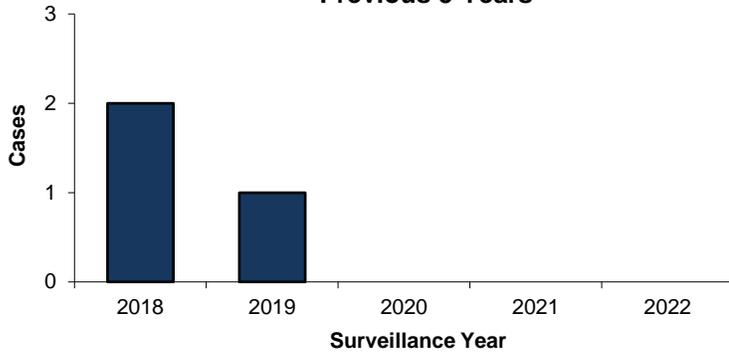


## Vectorborne Diseases:

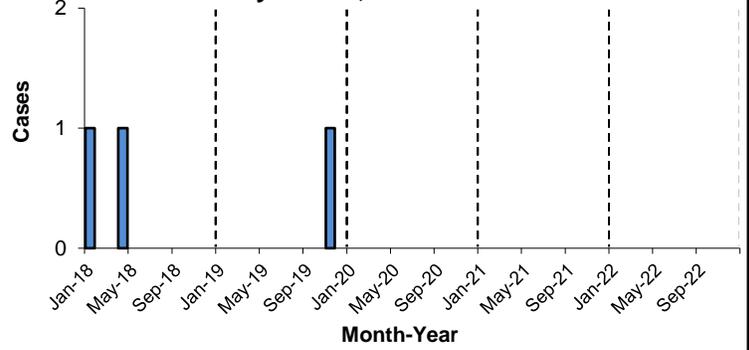


# Viral Hepatitis:

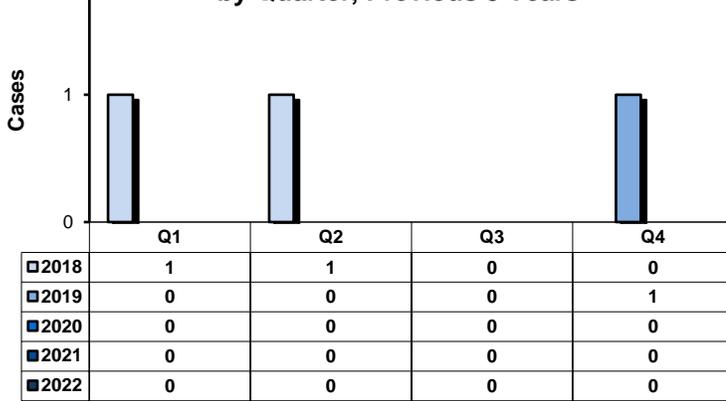
### Acute Hepatitis B Cases in Ottawa County Previous 5 Years



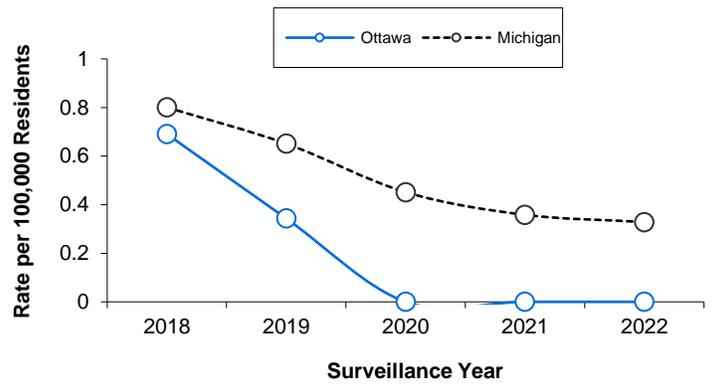
### Acute Hepatitis B Cases in Ottawa County by Month, Previous 5 Years



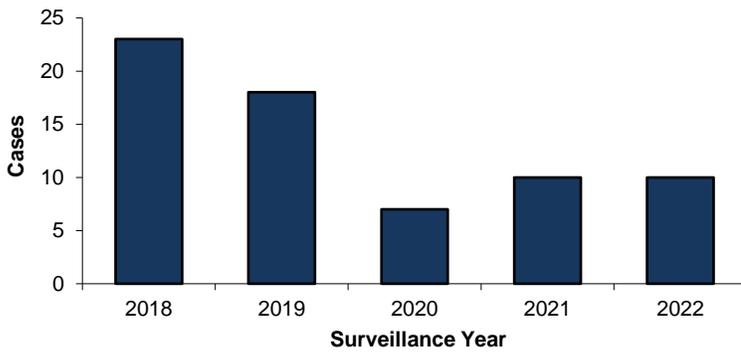
### Acute Hepatitis B Cases in Ottawa County by Quarter, Previous 5 Years



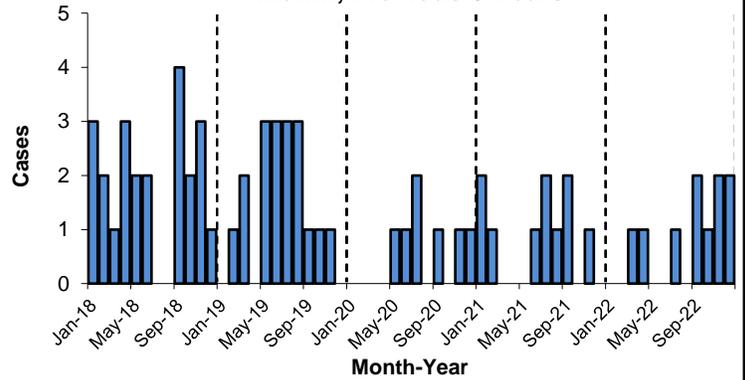
### Acute Hepatitis B Cases per 100,000



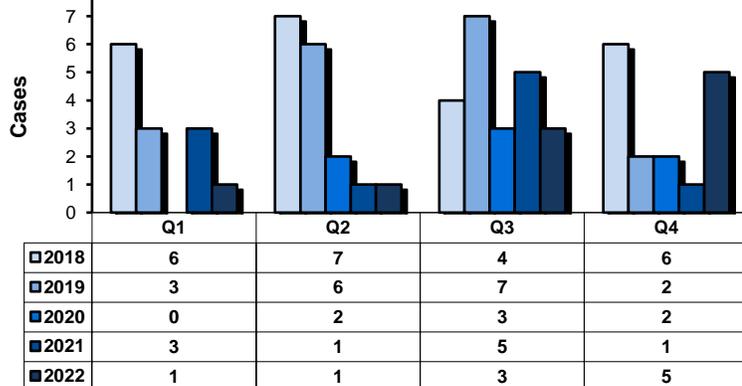
### Chronic Hepatitis B Cases in Ottawa County Previous 5 Years



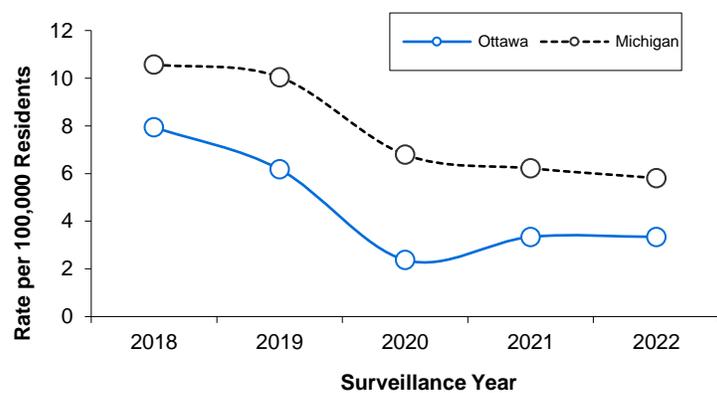
### Chronic Hepatitis B Cases in Ottawa County by Month, Previous 5 Years



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

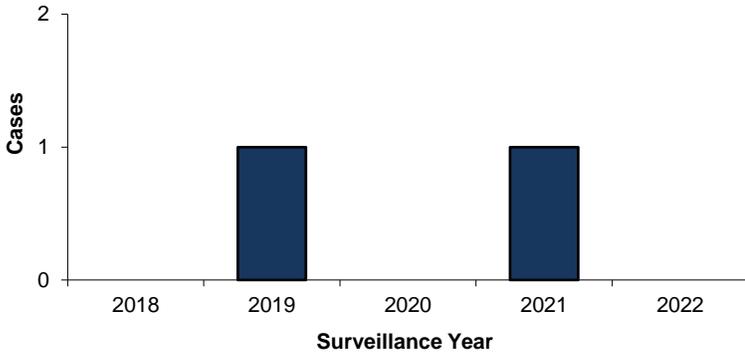


### Chronic Hepatitis B Cases per 100,000

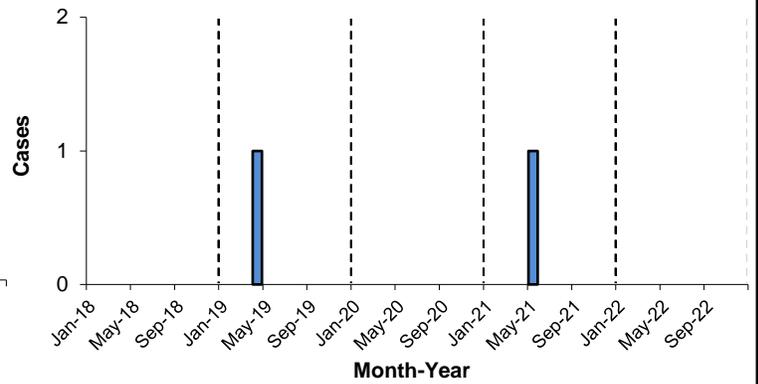


# Viral Hepatitis:

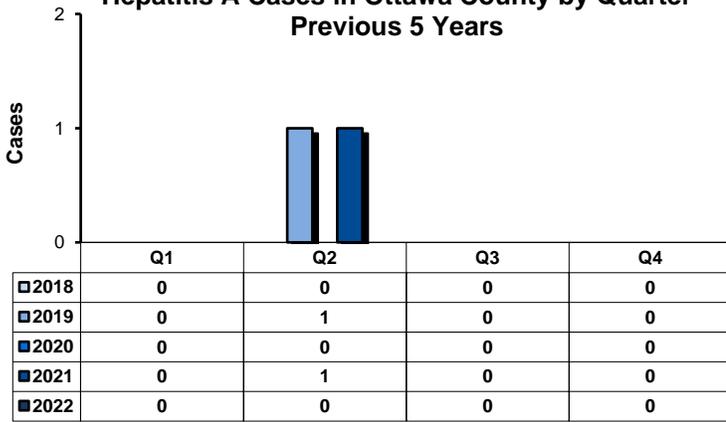
### Hepatitis A Cases in Ottawa County Previous 5 Years



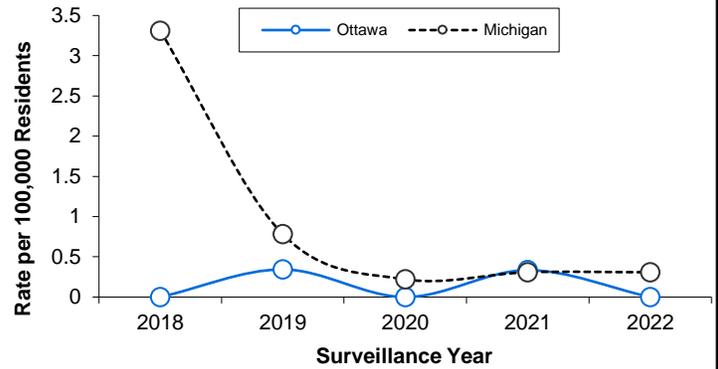
### Hepatitis A Cases in Ottawa County by Month Previous 5 Years



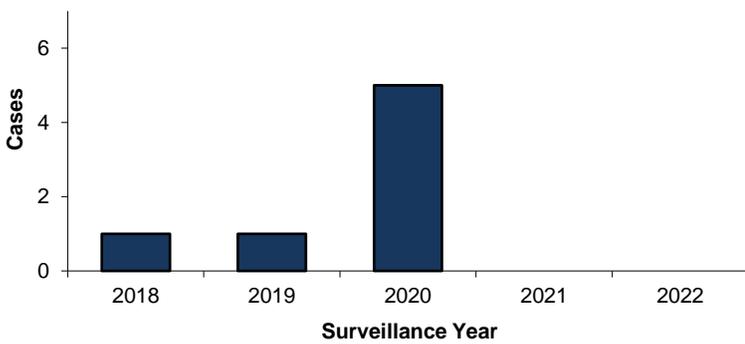
### Hepatitis A Cases in Ottawa County by Quarter Previous 5 Years



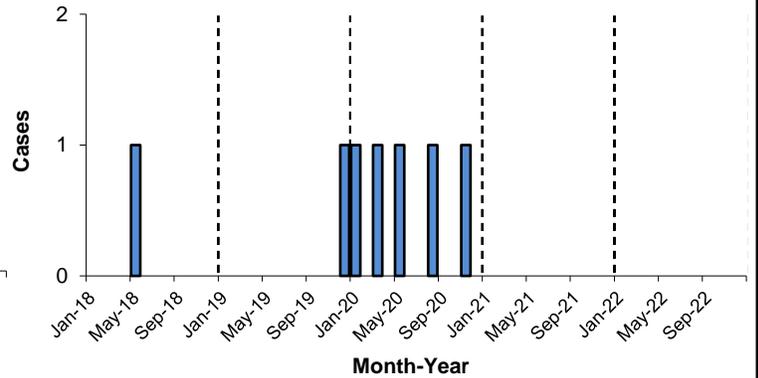
### Hepatitis A Cases per 100,000



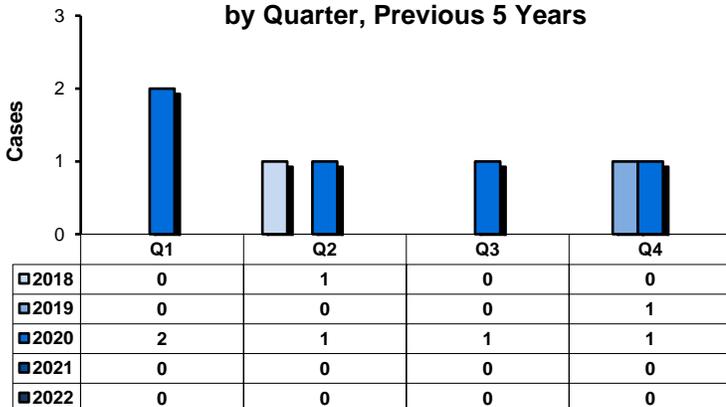
### Acute Hepatitis C Cases in Ottawa County Previous 5 Years



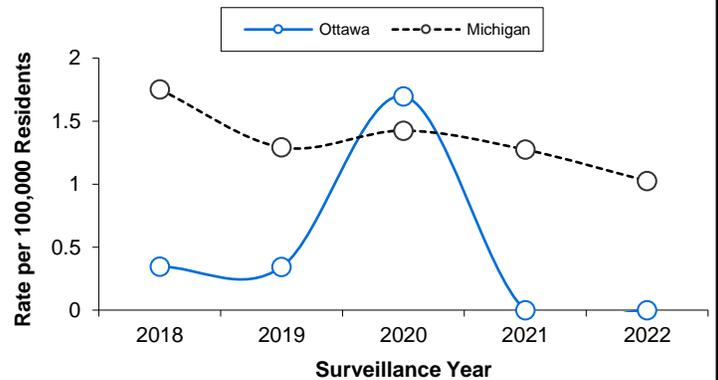
### Acute Hepatitis C Cases in Ottawa County by Month, Previous 5 Years



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

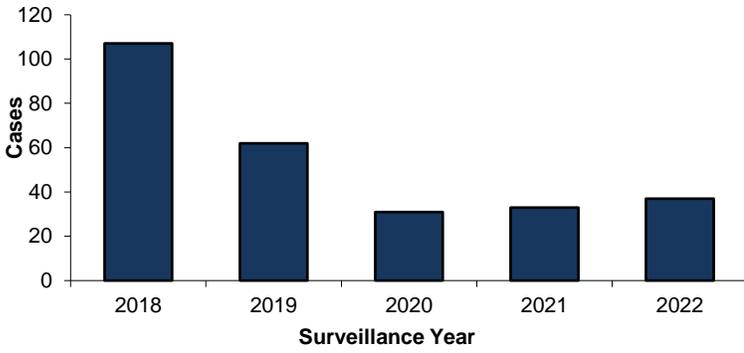


### Acute Hepatitis C Cases per 100,000

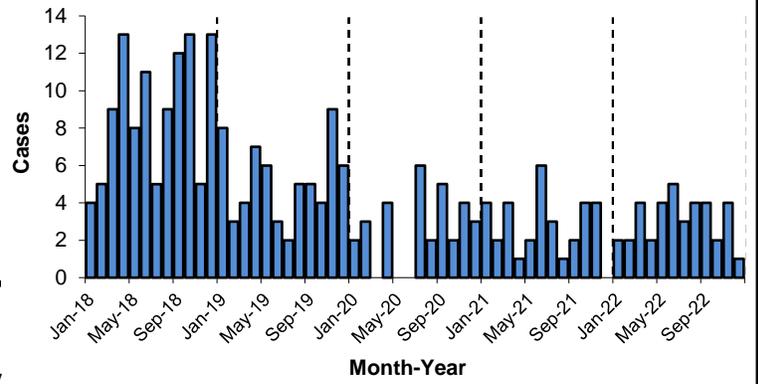


# Viral Hepatitis:

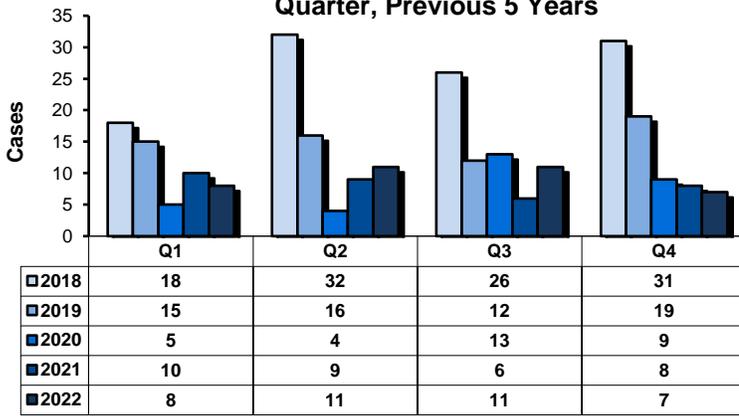
**Chronic Hepatitis C Cases in Ottawa County Previous 5 Years**



**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**

