



HEALTH
Department

2023

Allegan County Health Department

YEARLY COMMUNICABLE DISEASE

REPORT



Disease Group	Reportable Condition	Allegan County Cases Reported					Michigan Cases Reported				
		2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Foodborne	Botulism - Foodborne	-	-	-	-	-	-	-	1	-	2
	Campylobacter	32	26	23	36	38	1,708	1,225	1,516	1,510	1,715
	Cryptosporidiosis	6	8	4	2	12	420	247	249	334	330
	Giardiasis	5	3	12	8	12	433	380	440	402	498
	Listeriosis *	-	-	1	1	1	31	29	35	36	34
	Norovirus	-	36	2	1	53	1,460	574	556	1,321	959
	Paratyphoid Fever	-	-	-	-	-	4	4	1	2	-
	Salmonellosis	23	9	12	12	12	1,094	912	874	855	1,084
	Shiga toxin-producing Escherichia coli --(STEC)	7	3	5	11	9	305	201	258	403	346
	Shigellosis	5	3	-	3	3	219	151	172	217	218
	Typhoid Fever	-	-	-	-	-	10	1	4	15	16
	Yersinia enterocolitica	2	2	-	-	4	77	80	86	203	199
Foodborne Subtotal	80	92	59	74	144	5,770	3,811	4,198	5,309	5,410	
Influenza	Flu Like Disease*	3,128	2,859	1,388	2,969	3,129	323,012	191,024	82,743	217,587	202,863
	Influenza	175	226	26	161	125	29,996	29,918	2,865	45,216	28,560
	Influenza, Novel	-	-	-	-	-	1	-	-	4	4
	Influenza Subtotal	3,303	3,085	1,414	3,130	3,254	353,009	220,942	85,653	263,997	232,335
COVID19/MIS	Multisystem Inflammatory Syndrome	-	-	-	1	-	-	80	174	75	8
	Novel Coronavirus COVID-19	-	6,205	14,930	11,574	2,339	3	541,207	1,230,326	1,281,345	286,246
	COVID19/MIS Subtotal	-	6,205	14,930	11,575	2,339	3	541,287	1,230,500	1,281,420	286,254
Meningitis	Cronobacter (infant)	-	-	-	-	-	-	-	-	-	-
	Meningitis - Aseptic	11	7	3	4	3	461	254	243	294	271
	Meningitis - Bacterial Other	2	-	3	2	1	123	97	124	150	158
	Meningococcal Disease	-	-	-	-	-	8	3	5	7	9
	Streptococcus pneumoniae, Inv	22	8	5	14	11	937	504	487	807	927
	Meningitis Subtotal	35	15	11	20	15	1,529	858	859	1,258	1,365
Other	Acute Flaccid Myelitis (AFM)	-	-	-	-	-	3	4	1	2	-
	Anthrax	-	-	-	-	-	-	-	-	-	-
	Blastomycosis	1	-	-	1	1	26	24	20	32	159
	Botulism - Infant	-	-	-	1	-	-	2	-	1	2
	Brucellosis	-	-	-	1	-	1	3	2	5	6
	CPO *	1	-	-	-	1	180	243	256	313	369
	Candida auris	-	-	-	-	-	-	-	3	135	474
	Cholera *	-	-	-	-	-	2	1	-	-	1
	Coccidioidomycosis	-	1	-	-	-	55	60	82	63	63
	Creutzfeldt-Jakob Disease	-	-	-	1	-	13	8	9	12	17
	Cyclosporiasis *	5	-	1	2	-	130	23	51	57	42
	Encephalitis, Post Chickenpox	-	-	-	-	-	1	-	-	3	1
	Encephalitis, Post Mumps	-	-	-	-	-	-	-	-	-	-
	Encephalitis, Post Other	-	1	-	-	-	14	10	16	16	22
	Encephalitis, Primary	-	-	-	-	-	14	16	11	8	9
	Guillain-Barre Syndrome	1	-	-	2	-	64	50	56	73	70
	Hantavirus	-	-	-	-	-	-	-	-	-	-
	Hantavirus, Other	-	-	-	-	-	-	-	-	-	-
	Hantavirus, Pulmonary	-	-	-	-	-	-	-	1	-	-
	Hemolytic Uremic Syndrome *	-	-	-	-	-	8	5	3	16	8
	Hemorrhagic Fever	-	-	-	-	-	-	-	-	-	-
	Histoplasmosis	4	17	7	15	16	242	222	298	382	317
	Kawasaki	-	-	1	-	-	55	65	44	55	59
	Legionellosis	5	2	2	2	4	557	385	584	369	426
	Leprosy	-	-	-	-	-	-	-	1	2	1
	Leptospirosis	-	-	-	-	-	3	3	1	2	4
	Melioidosis	-	-	-	-	-	-	-	-	-	-
	Mpox	-	-	-	2	-	-	-	-	395	4
	Novel Coronavirus SARS/MERS	-	-	-	-	-	-	-	-	-	-
	Plague	-	-	-	-	-	-	-	-	-	-
	Psittacosis	-	-	-	-	-	-	2	2	3	-
	Q Fever Acute	-	-	-	-	-	5	4	4	3	-
	Q Fever Chronic	-	-	-	-	-	1	1	-	2	1
	Rheumatic Fever	-	-	-	-	-	-	-	-	2	-
Rubella - Congenital	-	-	-	-	-	-	-	-	-	-	
Streptococcus pneumoniae, Drug Resistant	-	-	-	-	-	80	32	40	60	54	

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		2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Other	Streptococcal Dis, Inv, Grp A	5	6	-	-	11	449	338	258	387	987
	Streptococcal Toxic Shock	-	-	-	-	-	5	4	2	4	15
	Toxic Shock	-	-	1	-	-	7	3	5	2	6
	Trachoma	-	-	-	-	-	-	2	1	-	1
	Trichinosis	-	-	-	-	-	-	-	-	-	-
	Tularemia	-	-	-	-	-	1	-	1	4	3
	Vibriosis-non Cholera *	-	1	-	-	1	40	27	36	45	27
	VISA	-	-	-	-	-	11	-	4	3	2
	VRSA	-	-	-	-	-	-	-	1	-	1
	Other Subtotal	22	28	12	27	34	1,967	1,537	1,793	2,456	3,151
Rabies	Rabies Animal	1	2	-	2	1	59	54	48	49	48
	Rabies: Potential Exposure & PEP *	9	8	7	24	27	5,938	3,426	3,673	3,841	4,590
	Rabies Subtotal	10	11	7	26	28	5,997	3,480	3,721	3,890	4,638
STD	Chancroid	-	-	-	-	-	-	-	2	-	1
	Chlamydia (Genital)	404	322	322	292	251	50,445	44,835	46,436	42,772	35,775
	Gonorrhea	110	108	104	95	81	18,293	23,419	22,224	16,361	14,655
	Granuloma Inguinale	-	-	-	-	-	-	-	-	-	-
	Lymphogranuloma venereum	-	-	-	-	-	1	8	3	2	-
	Syphilis - Congenital	-	-	-	1	1	16	29	42	37	55
	Syphilis - Early Latent	3	4	4	3	7	559	569	741	752	877
	Syphilis - Unknown Duration or Late	2	4	3	9	4	669	683	961	1,104	1,310
	Syphilis - To Be Determined	-	-	-	-	-	22	5	14	10	10
	Syphilis - Primary	1	1	3	1	-	275	311	358	411	354
	Syphilis - Secondary	1	2	3	7	2	412	471	624	562	494
	STD Subtotal	521	441	439	408	346	70,692	70,331	71,405	62,011	53,531
Tuberculosis	Latent Tuberculosis Infection	12	6	5	16	11	905	454	644	721	872
	Nontuberculous Mycobacterium	7	7	10	8	10	854	687	771	834	774
	Tuberculosis	-	1	-	-	1	142	105	135	133	113
	Tuberculosis Subtotal	19	14	15	24	22	1,901	1,246	1,550	1,688	1,759
VPD	Chickenpox (Varicella)	6	5	2	5	13	416	184	184	233	363
	Diphtheria	-	-	-	-	-	-	-	-	-	-
	H. influenzae Disease - Inv.	4	1	1	-	1	224	100	158	251	256
	Measles	-	-	-	-	-	46	-	1	1	-
	Mumps	1	-	-	-	-	25	4	5	14	22
	Pertussis	1	-	-	-	2	548	116	72	85	110
	Polio	-	-	-	-	-	-	-	-	-	-
	Rubella	-	-	-	-	-	-	1	4	4	20
	Shingles	6	6	4	4	16	1,222	819	629	762	1,308
	Tetanus	-	-	-	-	-	1	-	1	-	1
	VZ Infection, Unspecified	2	2	9	4	3	229	198	327	371	400
	VPD Subtotal	20	14	16	13	35	2,711	1,422	1,381	1,721	2,480
Vectorborne	Babesiosis	-	-	-	-	-	1	-	4	9	9
	Chikungunya *	-	-	-	-	-	1	-	1	2	1
	Dengue Fever *	1	-	-	-	-	20	3	5	8	19
	Ehrlichiosis, Anaplasma phagocytophilum *	1	-	1	-	-	13	18	58	54	67
	Ehrlichiosis, Anaplasmosis Undetermined	-	-	-	-	-	-	-	-	-	-
	Ehrlichiosis, Ehrlichia chaffeensis *	-	-	-	-	-	5	1	3	3	6
	Ehrlichiosis, Ehrlichia ewingii *	-	-	-	-	-	-	-	-	-	-
	Encephalitis, California Serogroup *	-	-	-	-	-	3	4	9	4	6
	Encephalitis, Eastern Equine *	-	-	-	-	-	10	4	1	-	-
	Encephalitis, Powassan *	-	-	-	-	-	-	-	-	-	-
	Encephalitis, St. Louis *	-	-	-	-	-	-	-	1	-	-
	Encephalitis, Western Equine *	-	-	-	-	-	-	-	-	-	-
	Lyme Disease	14	6	29	22	43	424	473	878	566	1,286
	Malaria	-	-	-	-	-	26	13	14	44	37
	Rickettsial Disease - Spotted Fever *	-	-	-	-	-	10	5	6	8	3
	Rickettsial Disease - Typhus	-	-	-	-	-	-	-	-	-	1
	West Nile Virus *	-	-	-	-	-	13	32	49	13	30
	Yellow Fever *	-	-	-	-	-	-	-	-	-	-
	Zika *	-	-	-	-	-	-	-	-	-	-
	Vectorborne Subtotal	16	6	30	22	43	526	553	1,029	711	1,465
Viral Hepatitis	Hepatitis A	-	-	-	-	-	81	25	26	24	22
	Hepatitis B, Acute	-	-	-	1	-	94	88	147	100	77
	Hepatitis B, Chronic	16	14	18	27	45	2,574	2,071	1,825	2,324	2,953
	Hepatitis B, Perinatal	-	-	-	-	-	2	5	-	-	-
Viral Hepatitis	Hepatitis C, Acute	-	1	-	2	1	140	144	138	105	81
	Hepatitis C, Chronic	37	21	26	14	14	5,734	4,142	4,023	3,578	3,039
	Hepatitis C, Perinatal	-	-	-	-	-	10	8	9	7	8
	Viral Hepatitis Subtotal	53	36	44	44	61	8,668	6,499	6,178	6,157	6,189
	Total	4,079	9,947	16,977	15,363	6,321	452,773	851,966	1,408,267	1,630,618	598,577
	* Indicates includes historic and current forms in MDSS										
	** Data for cases reported is based on week case was referred to the health department										

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Summary

The 2023 year-end report summarizes trends of 148 communicable diseases. Of these qualified diseases, 26 (17.6%) showed an increase in case counts from 2022 to 2023. 91 (61.5%) of these disease categories had 0 cases in both 2022 and 2023, leaving 31 (20.9%) that either show the same case count or have declined since 2022.

Due to many contributing factors including reporting criteria and requirements changes, in Allegan County, COVID-19 cases continued to decrease from the previous year (79.8% decrease in case count totals from 2022 to 2023). Flu-like disease did show growth from 2022 to 2023, though only a 3.9% increase, showing a more severe flu-like disease trend as compared to the past few years. Trends in gastrointestinal illness decreased slightly (1.3%) from the previous year. The largest increase in cases across the board was from strep throat, increasing from 654 in 2022 to 2077 in 2023 (217.6% increase), of note this could be from a change in reporting practices.

For the following information, please see the below charts and graphs for further data of each disease category. Diseases of note in 2023 include Norovirus, Shiga toxin-producing Escherichia coli (STEC), Lyme disease, Rabies, Hepatitis, Chickenpox and Shingles. Foodborne diseases almost doubled in Allegan County from 2022 to 2023 (74 up to 144), with the majority of the increase coming from norovirus (39 cases from 2019-2022, 53 cases in 2023). Of note, most of the norovirus cases in 2023 were produced by a single outbreak, and norovirus is only reportable when related to an outbreak. Looking at the foodborne category without norovirus, it shows an upward trend in cases since 2020, though more gradual. STEC, at 9 cases was still slightly elevated as compared to 2019 to 2021, but did decrease from the 11 cases in 2022. Trends in vector-borne diseases increased mostly due to Lyme disease almost doubling year to year (22 cases in 2022, 43 cases in 2023). This jump in cases more than doubled the average of 18 Lyme disease cases per year from 2019 to 2022. This is consistent with Michigan, as they also had a large jump in Lyme disease cases (566 in 2022 up to 1,286 in 2023). After a large jump in cases from 2021 to 2022 (7 to 24) Rabies: Post Exposure and PEP still showed an increase in 2023 (27 cases up from 24). Rabid animal cases in Allegan County decreased from 2 animal cases in 2022 to a single case in 2023. Sexually transmitted infections (STIs) have been decreasing over the past five years (2019-2023), down 33.6% from 2019 to 2023, and down 15.2% in cases from 2022 to 2023. Vaccine preventable disease had also been showing a decrease from 2019 to 2022, however from 2022 to 2023 there was a 169.2% increase in total cases. After no cases in 2022, Allegan saw H. influenzae disease, and pertussis back in 2023, along with increases in chickenpox and shingles.

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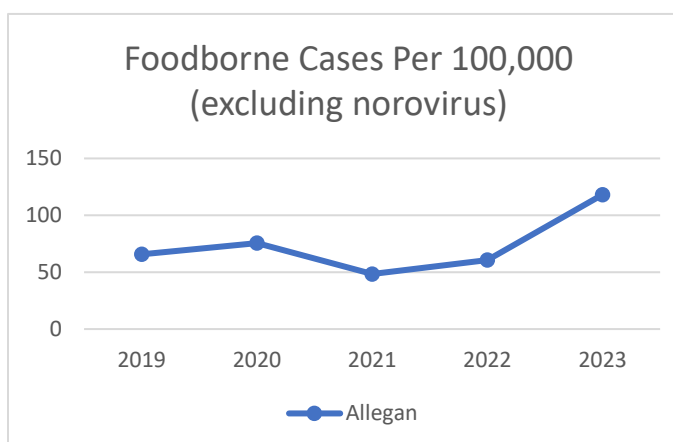
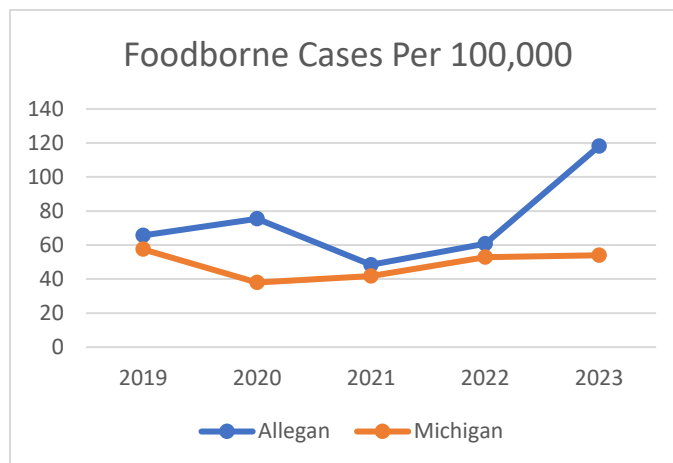
The tables above show each individual disease on a large table, while the tables below show cases by disease group, for ease of review. All data in the tables is from the MDSS report and help to show trends for both Allegan County and the State of Michigan over the past five years (2019-2023). Represented below are disease categories and a comparison between Allegan County and the state of Michigan over the past five years (2019-2023). Each disease groups data is shown along with graphs showing disease counts per 100,000 population to help show a more accurate representation of how the two compare. Both population counts were taken from the U.S. Census, both from the July 2023 population estimates. Allegan County with a population of 121,939, and the state of Michigan with a population of 10,037,261.

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Foodborne

Foodborne diseases are those that are caused by contamination of food and can occur at any stage of the food production, delivery, and consumption change¹. Allegan County has been slightly above trend compared to the Michigan average from 2019-2022, with 2023 showing Allegan jumping up to more than twice the Michigan cases per 100,000. The leading foodborne diseases in Allegan County for 2023 include Norovirus, Campylobacter, Salmonellosis, and Giardiasis. Removing norovirus, we see a much closer trend between Allegan and Michigan, both still showing a gradual increase since 2021.

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Foodborne	Botulism - Foodborne	-	-	-	-	-	-	-	1	-	2
	Campylobacter	32	26	23	36	38	1,708	1,225	1,516	1,510	1,715
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	Norovirus	-	36	2	1	53	1,460	574	556	1,321	959
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	Salmonellosis	23	9	12	12	12	1,094	912	874	855	1,084
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	Yersinia enterocolitica	2	2	-	-	4	77	80	86	203	199
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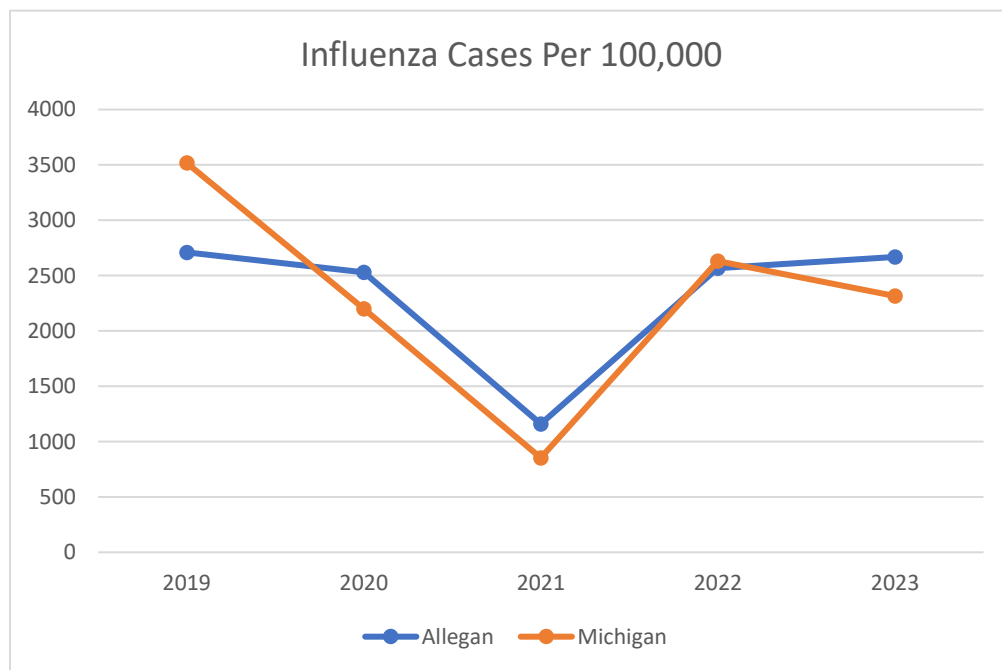


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Influenza

This category contains contagious respiratory illnesses caused by influenza viruses that can infect individuals through the nose, throat, and lungs². Both Allegan County and the state of Michigan had rebound years in 2022 after a three-year decline period from 2019-2022, both showed a relative plateau of cases in 2023. Each flu season varies in severity, and years during the COVID pandemic may have been more mild due to prevention measures that were used to limit COVID-19 spread.

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	Influenza	175	226	26	161	125	29,996	29,918	2,865	45,216	28,560
	Influenza, Novel	-	-	-	-	-	1	-	-	4	4
	Influenza Subtotal	3,303	3,085	1,414	3,130	3,254	353,009	220,942	85,653	263,997	232,335

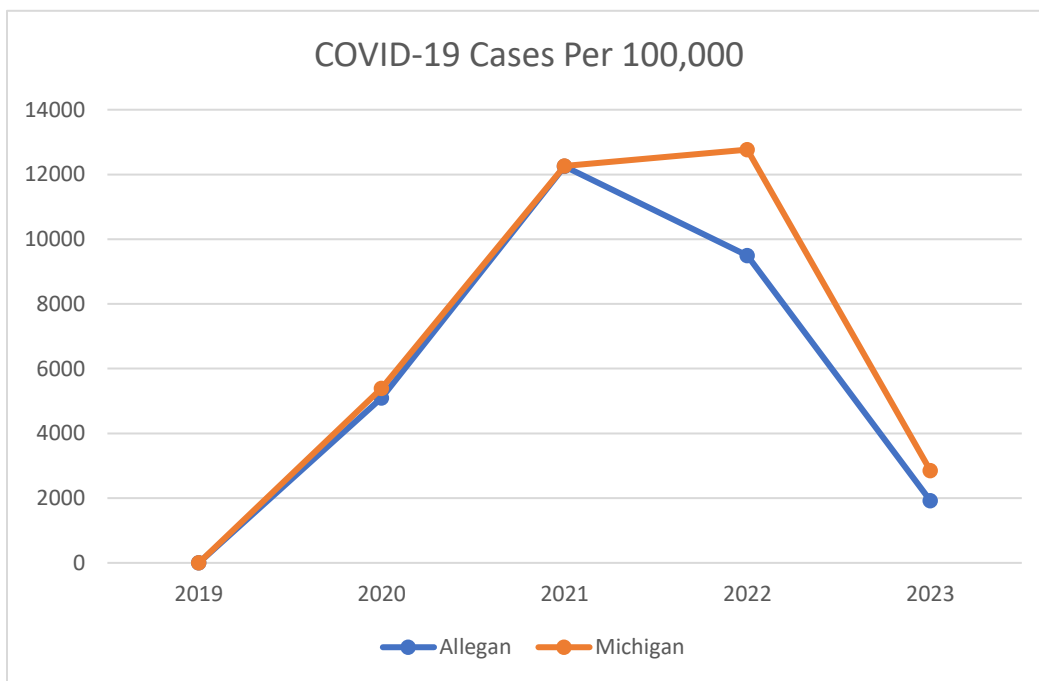


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COVID-19

Caused by the SARS-CoV-2 virus, the Coronavirus disease known as COVID-19 was declared an outbreak in January 2020. As shown in the chart below, starting in 2019 there had been a sharp increase in cases over 2020 and 2021, with the state of Michigan plateauing and Allegan County showing a slight decrease in 2022. Both Allegan County and the State of Michigan showed a sharp decrease in 2023, which also could have been from changes in reporting. For more information on COVID-19 please visit the Allegan County COVID [dashboard](#).

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COVID19/MIS	Multisystem Inflammatory Syndrome	-	-	-	1	-	-	80	174	75	8
	Novel Coronavirus COVID-19	-	6,205	14,930	11,574	2,339	3	541,207	1,230,326	1,281,345	286,246
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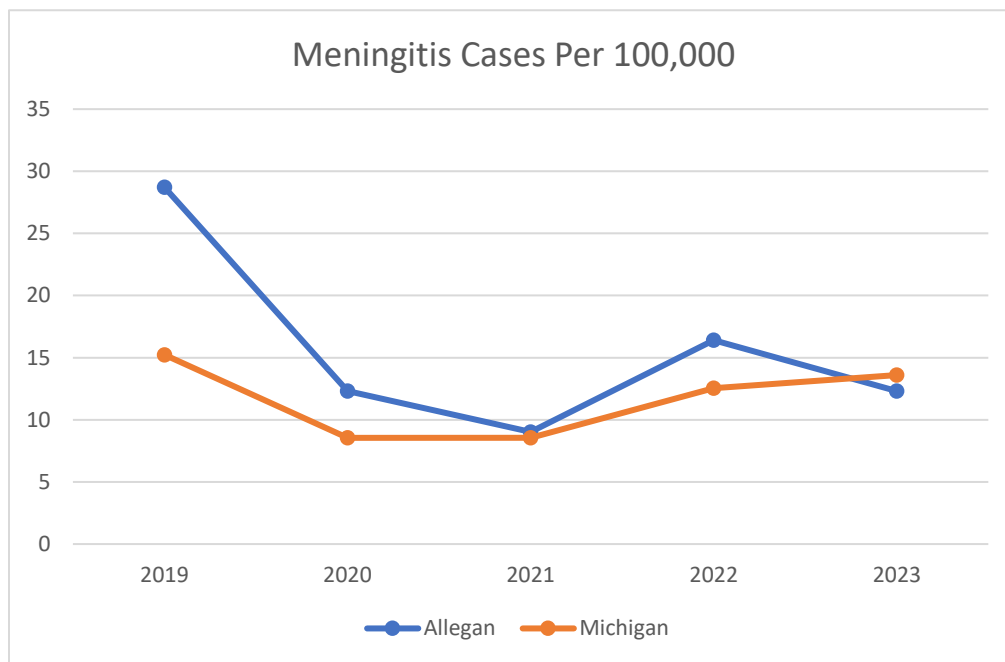


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Meningitis

An inflammation (swelling) of the protective membranes covering the brain and spinal cord⁴. Can be caused by either a bacterial or viral infection. Since 2019, Allegan County has been staying slightly above the state of Michigan's average and has in 2023 dipped below the Michigan average.

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	Streptococcus pneumoniae, Inv	22	8	5	14	11	937	504	487	807	927
	Meningitis Subtotal	35	15	11	20	15	1,529	858	859	1,258	1,365

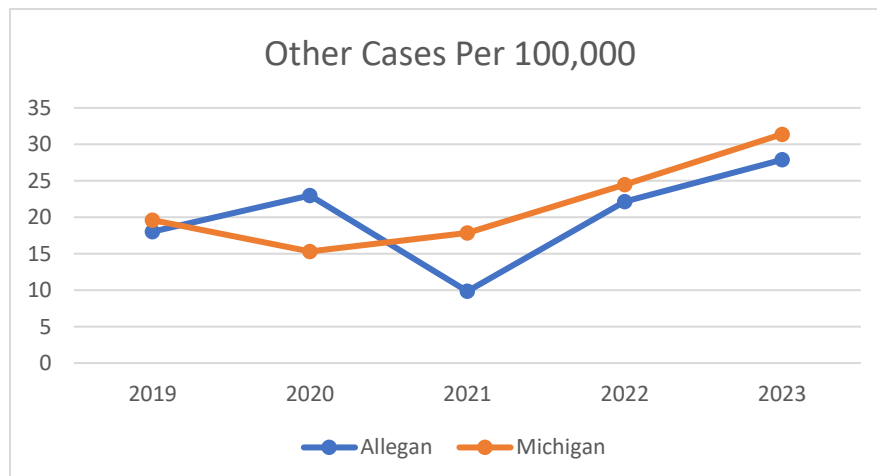


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Other

Including a total of 45 diseases the other category covers a broad range of diseases. Of these 45 diseases Allegan only had 6 of the diseases show at least one case in 2023, with the State of Michigan having 30 of these diseases show at least one case in 2023. Many of the diseases are quite rare, or uncommon, for a full list see the chart at the beginning of the document.

Disease Group	Reportable Condition	Allegan County Cases Reported					Michigan Cases Reported				
		2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Other	Acute Flaccid Myelitis (AFM)	-	-	-	-	-	3	4	1	2	-
	Anthrax	-	-	-	-	-	-	-	-	-	
	Blastomycosis	1	-	-	1	1	26	24	20	32	159
	Botulism - Infant	-	-	-	1	-	-	2	-	1	2
	Brucellosis	-	-	-	1	-	1	3	2	5	6
	CPO *	1	-	-	-	1	180	243	256	313	369
	Candida auris	-	-	-	-	-	-	-	3	135	474
	Cholera *	-	-	-	-	-	2	1	-	-	1
	Coccidioidomycosis	-	1	-	-	-	55	60	82	63	63
	Creutzfeldt-Jakob Disease	-	-	-	1	-	13	8	9	12	17
	Cyclosporiasis *	5	-	1	2	-	130	23	51	57	42
	Encephalitis, Post Chickenpox	-	-	-	-	-	1	-	-	3	1
	Encephalitis, Post Mumps	-	-	-	-	-	-	-	-	-	-
	Encephalitis, Post Other	-	1	-	-	-	14	10	16	16	22
	Encephalitis, Primary	-	-	-	-	-	14	16	11	8	9
	Guillain-Barre Syndrome	1	-	-	2	-	64	50	56	73	70
	Hantavirus	-	-	-	-	-	-	-	-	-	-
	Hantavirus, Other	-	-	-	-	-	-	-	-	-	-
	Hantavirus, Pulmonary	-	-	-	-	-	-	-	1	-	-
	Hemolytic Uremic Syndrome *	-	-	-	-	-	8	5	3	16	8
	Hemorrhagic Fever	-	-	-	-	-	-	-	-	-	-
	Histoplasmosis	4	17	7	15	16	242	222	298	382	317
	Kawasaki	-	-	1	-	-	55	65	44	55	59
	Legionellosis	5	2	2	2	4	557	385	584	369	426
	Leprosy	-	-	-	-	-	-	-	1	2	1
	Leptospirosis	-	-	-	-	-	3	3	1	2	4
	Melioidosis	-	-	-	-	-	-	-	-	-	-
	Mpox	-	-	-	2	-	-	-	-	395	4
	Novel Coronavirus SARS/MERS	-	-	-	-	-	-	-	-	-	-
	Plague	-	-	-	-	-	-	-	-	-	-
	Psittacosis	-	-	-	-	-	-	2	2	3	-
	Q Fever Acute	-	-	-	-	-	5	4	4	3	-
	Q Fever Chronic	-	-	-	-	-	1	1	-	2	1
	Rheumatic Fever	-	-	-	-	-	-	-	-	2	-
	Rubella - Congenital	-	-	-	-	-	-	-	-	-	-
	Streptococcus pneumoniae, Drug Resistant	-	-	-	-	-	80	32	40	60	54
Other	Streptococcal Dis, Inv, Grp A	5	6	-	-	11	449	338	258	387	987
	Streptococcal Toxic Shock	-	-	-	-	-	5	4	2	4	15
	Toxic Shock	-	-	1	-	-	7	3	5	2	6
	Trachoma	-	-	-	-	-	-	2	1	-	1
	Trichinosis	-	-	-	-	-	-	-	-	-	-
	Tularemia	-	-	-	-	-	1	-	1	4	3
	Vibriosis-non Cholera *	-	1	-	-	1	40	27	36	45	27
	VISA	-	-	-	-	-	11	-	4	3	2
	VRSA	-	-	-	-	-	-	-	1	-	1
	Other Subtotal	22	28	12	27	34	1,967	1,537	1,793	2,456	3,151

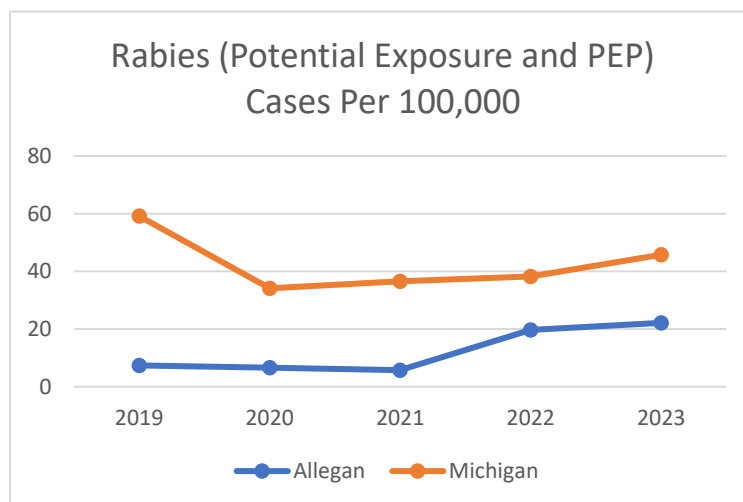
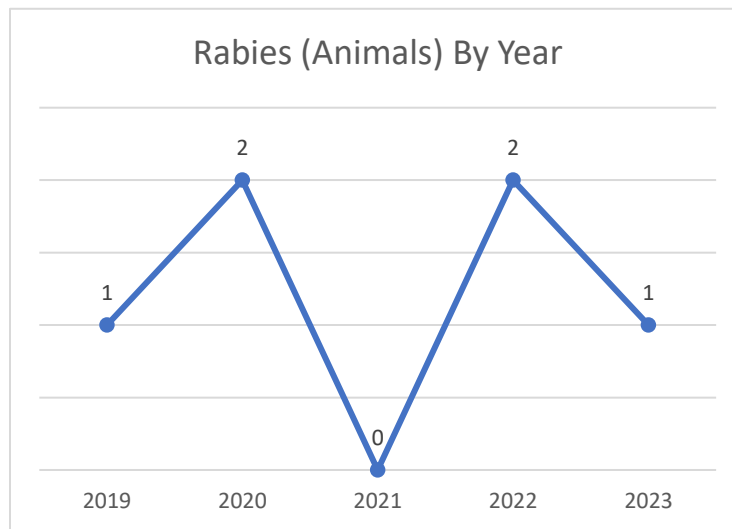


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Rabies

A preventable viral disease most commonly transmitted through the bite of a rabid animal. The rabies virus infects the central nervous system of mammals, ultimately causing disease in the brain and death⁵. Allegan County has on average been above the State of Michigan average for animal cases, but far below the potential exposure and PEP cases from 2019-2023. Of Allegan's total rabies cases in 2023, 96.4% were from the potential exposure & PEP category, with the State of Michigan showing 99.0% of their rabies cases coming from the same category.

Disease Group	Reportable Condition	Allegan County Cases Reported					Michigan Cases Reported				
		2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Rabies	Rabies Animal	1	2	-	2	1	59	54	48	49	48
	Rabies: Potential Exposure & PEP *	9	8	7	24	27	5,938	3,426	3,673	3,841	4,590
	Rabies Subtotal	10	11	7	26	28	5,997	3,480	3,721	3,890	4,638

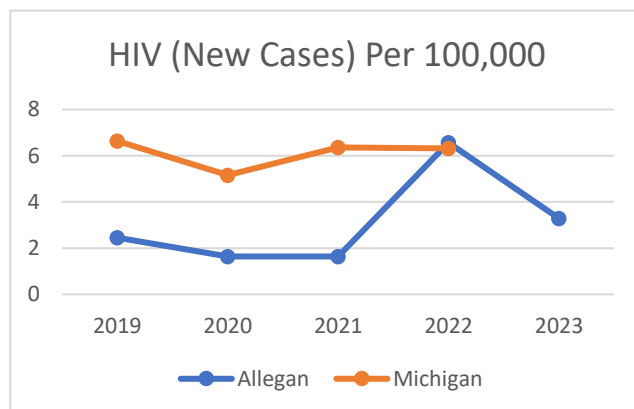
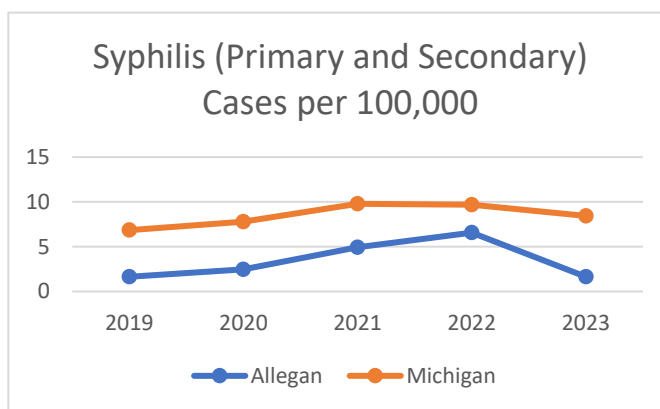
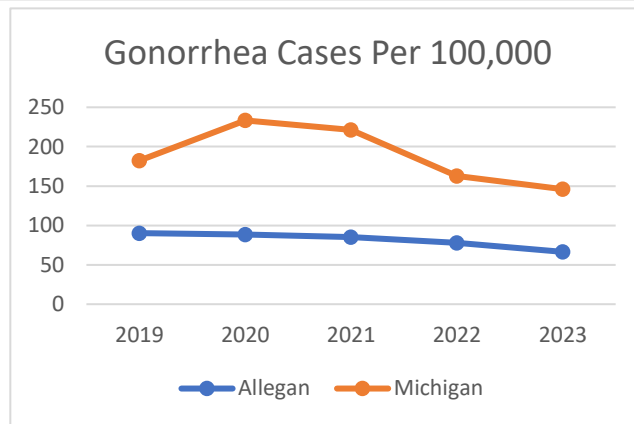
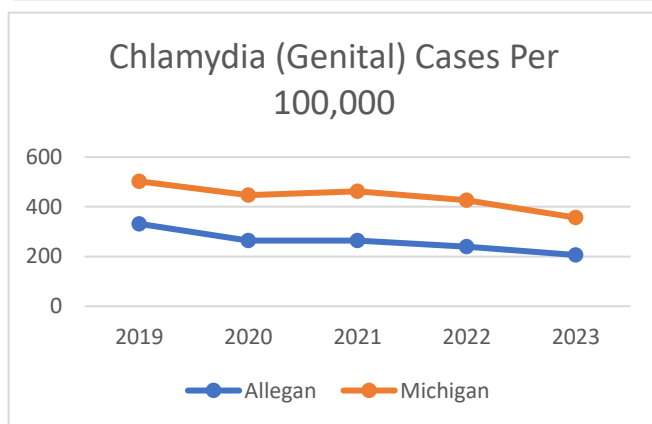
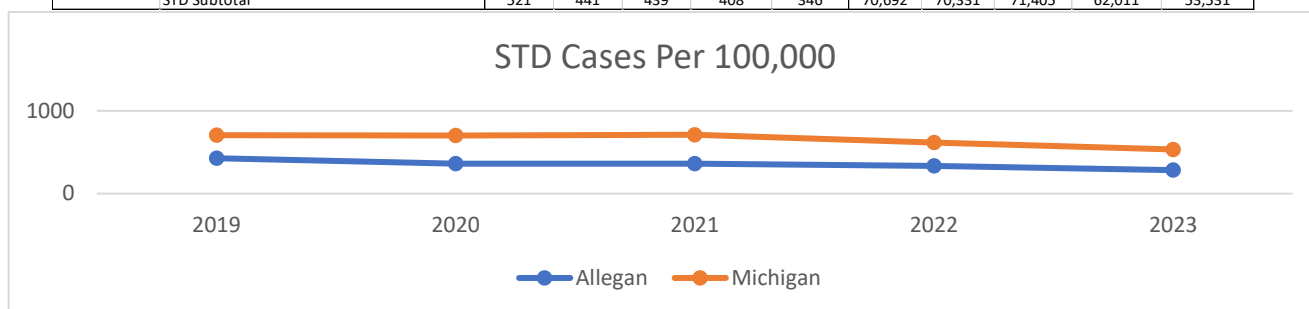


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Sexually Transmitted Infections

Sexually transmitted infections (STIs) are infections transmitted from an infected person to an uninfected person through sexual contact, can be caused by bacteria, viruses, or parasites⁶. Allegan County has been on a decline since 2019, with the state of Michigan plateauing from 2019 to 2021 and then showing a decline in 2022 and 2023. For more information please visit Allegan County's STD [homepage](#). The STI Cases per 100,000 chart below contains all STD's except for HIV (see separate chart below). HIV data provided from SHOARS for Allegan County and MDHHS for the State of Michigan¹⁰

Disease Group	Reportable Condition	Allegan County Cases Reported					Michigan Cases Reported				
		2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
STD	Chancroid	-	-	-	-	-	-	-	2	-	1
	Chlamydia (Genital)	404	322	322	292	251	50,445	44,835	46,436	42,772	35,775
	Gonorrhea	110	108	104	95	81	18,293	23,419	22,224	16,361	14,655
	Granuloma Inguinale	-	-	-	-	-	-	-	-	-	-
	Lymphogranuloma venereum	-	-	-	-	-	1	8	3	2	-
	Syphilis - Congenital	-	-	-	1	1	16	29	42	37	55
	Syphilis - Early Latent	3	4	4	3	7	559	569	741	752	877
	Syphilis - Unknown Duration or Late	2	4	3	9	4	669	683	961	1,104	1,310
	Syphilis - To Be Determined	-	-	-	-	-	22	5	14	10	10
	Syphilis - Primary	1	1	3	1	-	275	311	358	411	354
	Syphilis - Secondary	1	2	3	7	2	412	471	624	562	494
	STD Subtotal	521	441	439	408	346	70,692	70,331	71,405	62,011	53,531



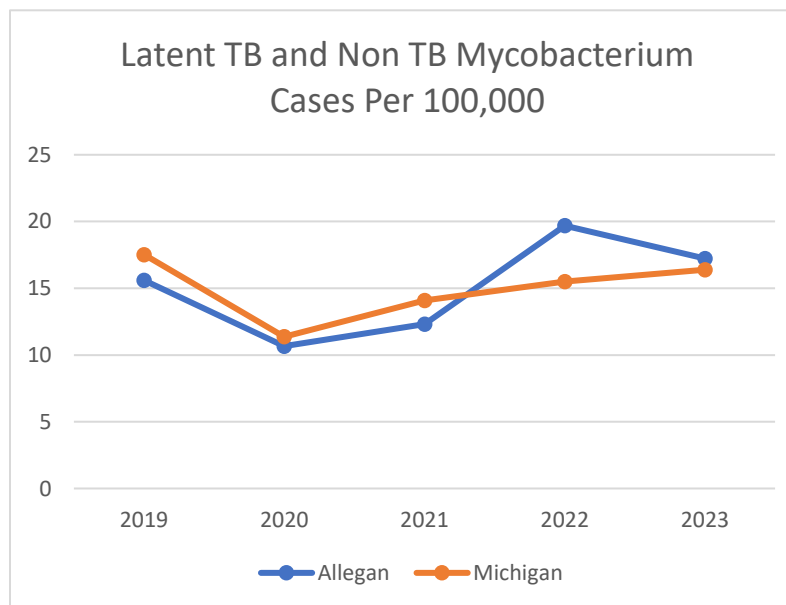
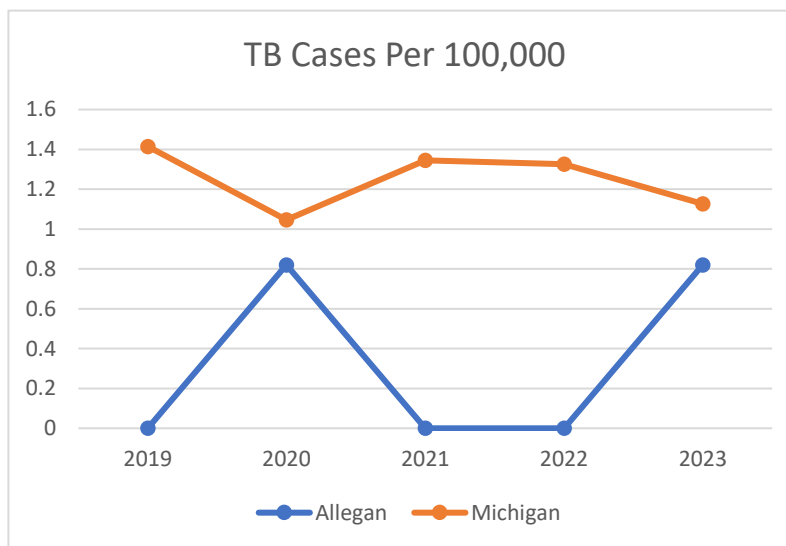
*No data for new HIV cases for the State of Michigan in 2023 at time of data analysis

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Tuberculosis

Tuberculosis (TB) is a disease caused by a bacterium called *Mycobacterium tuberculosis*. Not everyone infected with TB will become sick, and due to this, two TB related conditions exist: Latent-TB and TB disease⁷. The first chart below shows TB cases with the second showing nontuberculous mycobacterium along with Latent TB cases. Latent-TB makes up the majority of cases for both Allegan County and the state of Michigan. Allegan County had its second TB case in the past 5 years appear in 2023, the majority of cases are from the Latent TB category. The State of Michigan has had more TB cases on average, however the majority of their cases still come from the other two categories.

Disease Group	Reportable Condition	Allegan County Cases Reported					Michigan Cases Reported				
		2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Tuberculosis	Latent Tuberculosis Infection	12	6	5	16	11	905	454	644	721	872
	Nontuberculous Mycobacterium	7	7	10	8	10	854	687	771	834	774
	Tuberculosis	-	1	-	-	1	142	105	135	133	113
	Tuberculosis Subtotal	19	14	15	24	22	1,901	1,246	1,550	1,688	1,759

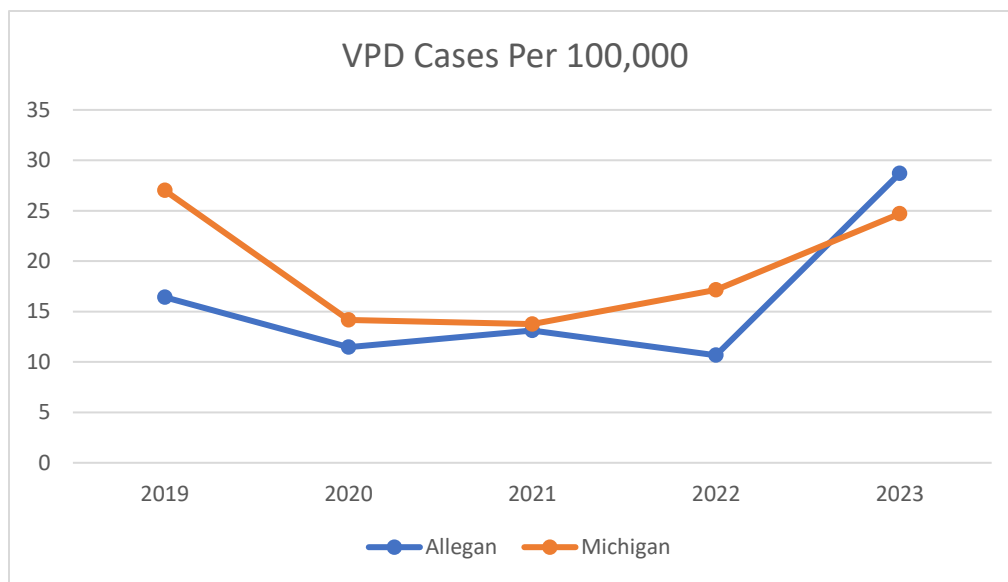


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Vaccine Preventable Diseases

Vaccine preventable diseases (VPDs) are diseases caused by bacteria and viruses that can be prevented by vaccines. Examples including Chickenpox (Varicella), Measles, Mumps & Pertussis. From 2019 through 2021 there was a decrease shown in VPDs for both Allegan and the state of Michigan (this is likely due to control measures used during the COVID-19 pandemic). However, Michigan started to show an increase in 2022 and the trend continued in 2023. Allegan showed a sharp increase in 2023 after a slight dip in 2022. For more information visit Allegan County's immunizations [homepage](#).

Disease Group	Reportable Condition	Allegan County Cases Reported					Michigan Cases Reported				
		2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
VPD	Chickenpox (Varicella)	6	5	2	5	13	416	184	184	233	363
	Diphtheria	-	-	-	-	-	-	-	-	-	
	H. influenzae Disease - Inv.	4	1	1	-	1	224	100	158	251	256
	Measles	-	-	-	-	-	46	-	1	1	-
	Mumps	1	-	-	-	-	25	4	5	14	22
	Pertussis	1	-	-	-	2	548	116	72	85	110
	Polio	-	-	-	-	-	-	-	-	-	-
	Rubella	-	-	-	-	-	-	1	4	4	20
	Shingles	6	6	4	4	16	1,222	819	629	762	1,308
	Tetanus	-	-	-	-	-	1	-	1	-	1
	VZ Infection, Unspecified	2	2	9	4	3	229	198	327	371	400
	VPD Subtotal	20	14	16	13	35	2,711	1,422	1,381	1,721	2,480

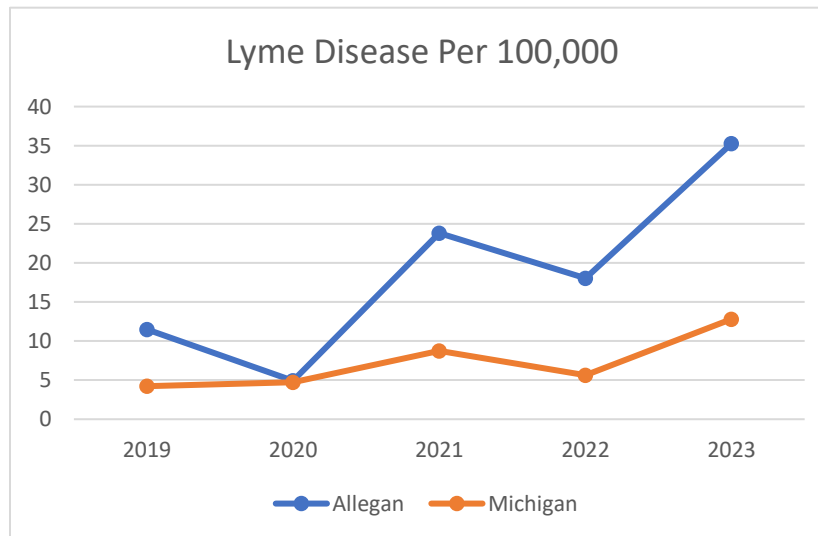
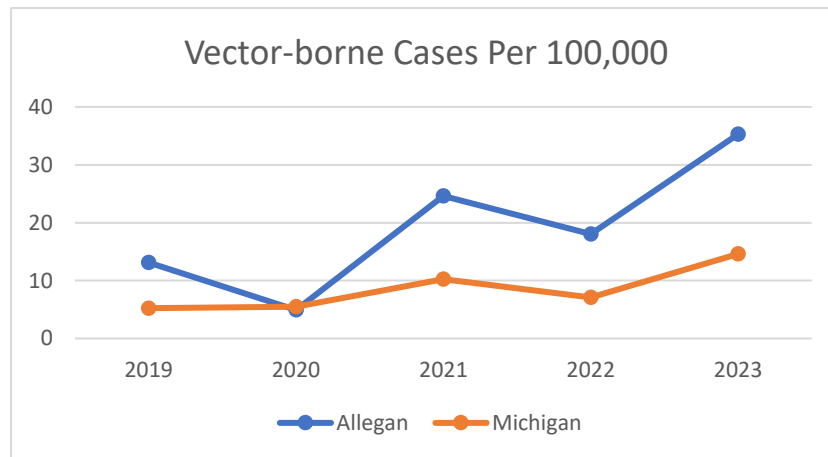


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Vector-borne

Vector-borne diseases are caused by parasites, viruses and bacteria that are transmitted by vectors (living organisms that can transmit infectious pathogens between humans, or from animals to humans, many are bloodsucking insects such as mosquitos)⁸. The vast majority of these cases for both Allegan County and the state of Michigan come from Lyme Disease. Allegan has shown a jump due to increases in Lyme disease, while Michigan has shown an increase, but more subtle.

Disease Group	Reportable Condition	Allegan County Cases Reported					Michigan Cases Reported				
		2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Vectorborne	Babesiosis	-	-	-	-	-	1	-	4	9	9
	Chikungunya *	-	-	-	-	-	1	-	1	2	1
	Dengue Fever *	1	-	-	-	-	20	3	5	8	19
	Ehrlichiosis, Anaplasma phagocytophilum *	1	-	1	-	-	13	18	58	54	67
	Ehrlichiosis, Anaplasmosis Undetermined	-	-	-	-	-	-	-	-	-	-
	Ehrlichiosis, Ehrlichia chaffeensis *	-	-	-	-	-	5	1	3	3	6
	Ehrlichiosis, Ehrlichia ewingii *	-	-	-	-	-	-	-	-	-	-
	Encephalitis, California Serogroup *	-	-	-	-	-	3	4	9	4	6
	Encephalitis, Eastern Equine *	-	-	-	-	-	10	4	1	-	-
	Encephalitis, Powassan *	-	-	-	-	-	-	-	-	-	-
	Encephalitis, St. Louis *	-	-	-	-	-	-	-	1	-	-
	Encephalitis, Western Equine *	-	-	-	-	-	-	-	-	-	-
	Lyme Disease	14	6	29	22	43	424	473	878	566	1,286
	Malaria	-	-	-	-	-	26	13	14	44	37
	Rickettsial Disease - Spotted Fever *	-	-	-	-	-	10	5	6	8	3
	Rickettsial Disease - Typhus	-	-	-	-	-	-	-	-	-	1
	West Nile Virus *	-	-	-	-	-	13	32	49	13	30
	Yellow Fever *	-	-	-	-	-	-	-	-	-	-
	Zika *	-	-	-	-	-	-	-	-	-	-
	Vectorborne Subtotal	16	6	30	22	43	526	553	1,029	711	1,465

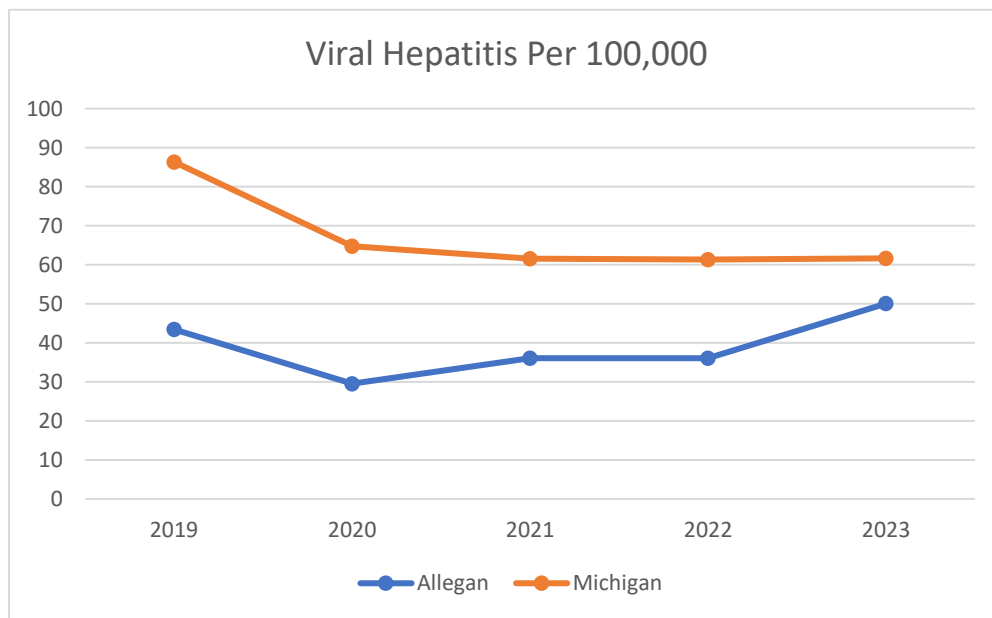


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Viral Hepatitis

Often caused by a virus, Hepatitis is the inflammation (swelling) of the liver. Allegan County had shown a gradual decline from 2019 through 2022 until a jump in 2023. Meanwhile, Michigan has showed a gradual decline over the past five years. The chart below contains Hep A, B, and C, all acute, chronic, and perinatal cases. Hep A is the least common in both Allegan and Michigan, followed by Hep B, and then Hep C as the most common.

Disease Group	Reportable Condition	Allegan County Cases Reported					Michigan Cases Reported				
		2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Viral Hepatitis	Hepatitis A	-	-	-	-	-	81	25	26	24	22
	Hepatitis B, Acute	-	-	-	1	-	94	88	147	100	77
	Hepatitis B, Chronic	16	14	18	27	45	2,574	2,071	1,825	2,324	2,953
	Hepatitis B, Perinatal	-	-	-	-	-	2	5	-	-	-



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