



GENESEE COUNTY
HEALTH DEPARTMENT

2022 ANNUAL COMMUNICABLE DISEASE REPORT

TABLE OF CONTENTS

Introduction.....	2
Selected Reportable Diseases.....	3
Reportable Disease Summaries.....	4
• Chlamydia.....	4-5
• Gonorrhea.....	5-6
• Syphilis.....	7
• Hepatitis A, B, and C.....	8-9
• Legionnaires' Disease.....	9-10
• Lyme Disease.....	11
• COVID-19.....	12

INTRODUCTION

What is a communicable disease?

A communicable disease is an illness that results from infection by a pathogenic agent, such as a bacterium, virus, or fungus. Some common ways that humans are exposed to pathogens include inhalation of contaminated droplets produced by coughing or sneezing, ingestion of contaminated food or water, exposure to bodily fluids of an infected individuals, or contact with an animal carrying a disease. Communicable diseases are reported to the Genesee County Health Department (GCHD) because they pose health risks to the residents of Genesee County. It is the Health Department's mission to limit the impact of communicable diseases and to protect the county's residents.

2022 Report

The 2022 Communicable Disease Report provides an overview of 32 selected reportable diseases in Genesee County in 2022. This report includes both confirmed and probable cases, as defined by the CDC. For comparative purposes, disease quantities over the previous 5 years are also included. Several diseases of particular relevance to Genesee County are described in additional detail below.

Michigan Disease Surveillance System (MDSS)

Data presented in this report was obtained from the Michigan Disease Surveillance System (MDSS). MDSS is a web-based communicable disease reporting system, which assists local, state, and federal public health agencies with the secure transfer, maintenance, and analysis of communicable disease information. Disease information was also gathered from the Michigan Department of Health and Human Services website (<https://www.michigan.gov/mdhhs>) and the Center of Disease Control and Prevention Website (www.cdc.gov).

SELECTED REPORTABLE COMMUNICABLE DISEASES IN GENESEE COUNTY

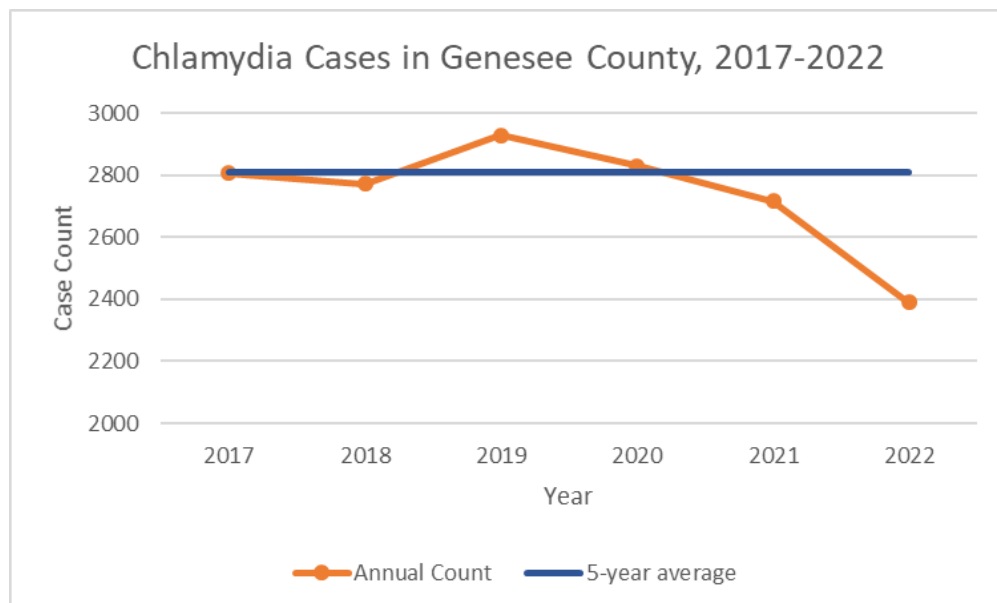
Disease	2017	2018	2019	2020	2021	5 Year Average	2022
Novel Coronavirus COVID-19	0	0	0	23268	52979	15249.4	49516
Campylobacteriosis	24	39	32	21	29	29	33
Chickenpox (Varicella)	15	10	11	5	4	9	5
Chlamydia (Genital)	2807	2772	2929	2831	2716	2811	2390
Cryptosporidiosis	11	23	15	8	8	13	9
Giardiasis	14	12	11	13	13	12.6	9
Gonorrhea	951	906	1086	1717	1740	1280	1273
Haemophilus influenzae - Invasive	11	5	4	5	9	6.8	8
Hepatitis A	11	22	2	1	0	7.2	1
Hepatitis B, Acute	4	13	11	5	2	7	4
Hepatitis B, Chronic	38	38	35	22	25	31.6	14
Hepatitis C, Acute	9	13	6	7	0	7	8
Hepatitis C, Chronic	640	520	225	153	176	342.8	161
HIV (new diagnoses)	34	24	34	23	34	29.8	21
Influenza	896	1453	861	1162	68	888	1012
Legionellosis	13	26	28	28	32	25.4	18
Listeriosis	2	1	3	0	0	1.2	5
Lyme Disease	1	1	7	8	3	4	7
Measles	0	0	0	0	0	0	0
Meningitis - Bacterial Other	9	6	7	5	3	6	5
Meningococcal Disease	0	0	0	0	0	0	0
Multisystem Inflammatory Syndrome	0	0	0	4	3	1.4	8
Mumps	0	1	2	0	1	0.8	2
Pertussis	9	17	27	4	1	11.6	2
Salmonellosis	19	41	36	40	39	35	22
Shiga toxin-producing E. coli (STEC)	3	7	6	3	4	4.6	12
Shigellosis	8	8	6	2	3	5.4	3
Streptococcal Dis, Inv, Grp A	19	20	20	16	17	18.4	21
Streptococcus pneumoniae, Inv	26	21	20	25	26	23.6	21
Syphilis, Primary	10	2	8	11	9	8	18
Syphilis, Secondary	11	7	14	15	10	11.4	22
West Nile Virus	1	3	1	0	1	1.2	0

COMMUNICABLE DISEASE SUMMARIES

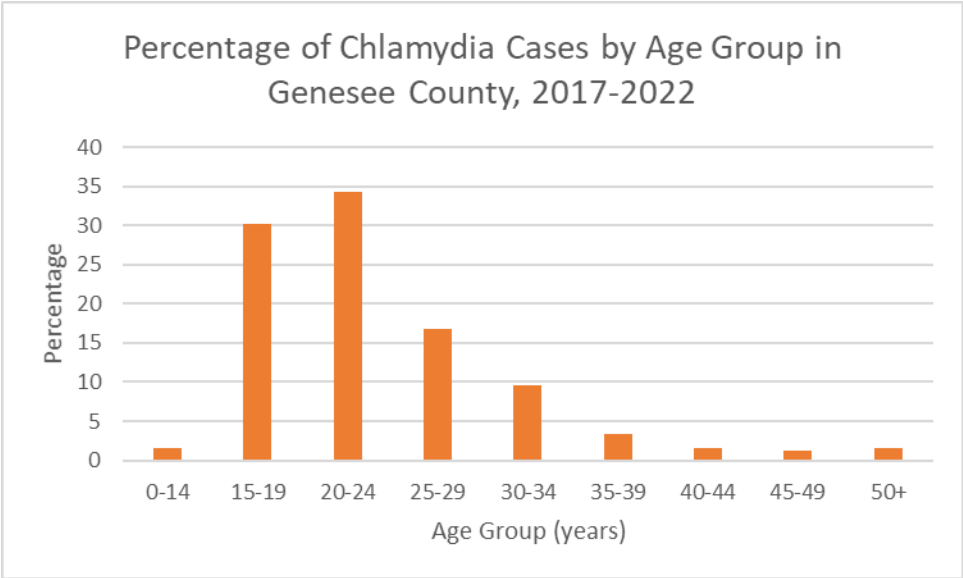
CHLAMYDIA

Chlamydia is a Sexually Transmitted Infection (STI) caused by the bacterium *Chlamydia trachomatis*. Chlamydia is spread by vaginal, oral, or anal sex. Pregnant individuals can spread the disease to their baby during childbirth. While some cases do not have symptoms, others may experience vaginal/penile discharge, a burning sensation when urinating, or pain in genital areas. Chlamydia can cause serious issues when untreated, especially for women: untreated cases can result in pelvic inflammatory disease, infertility, and chronic pain. The best way to prevent Chlamydia is to practice safe sex using condoms. If you are sexually active, it is recommended that you undergo regular testing for STIs, even if you do not have symptoms.

Between 2017 and 2021, there was an average of 2,811 cases per year in Genesee County; In 2022, there were 2,390 cases – about 15% lower than the previous five-year average.



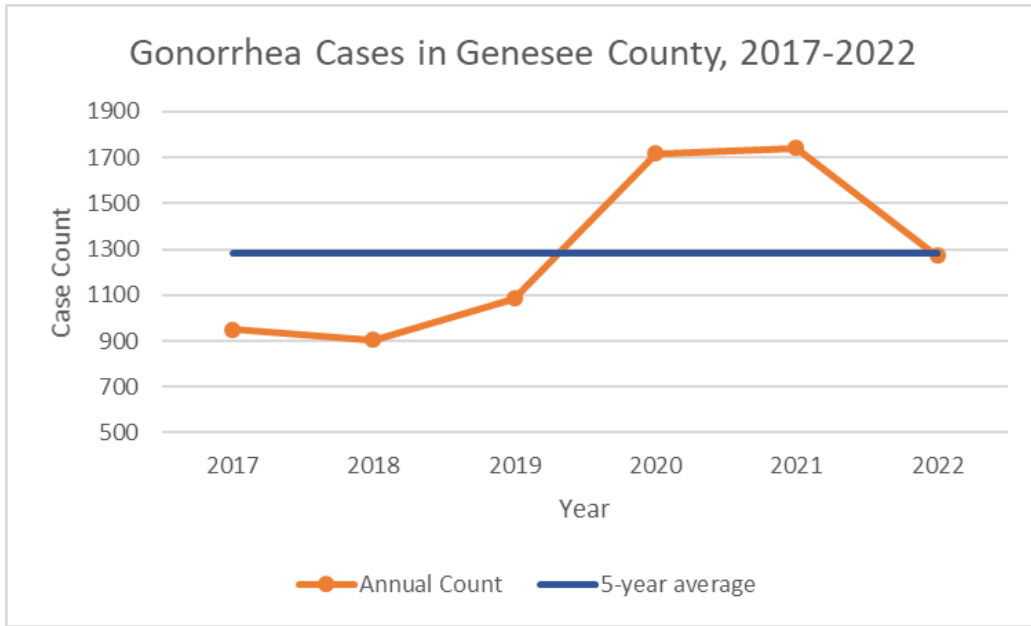
Chlamydia, like to other STIs, is more common among young adults. From 2017 through 2022, 81% of all Chlamydia cases were between the ages of 15 and 29. The City of Flint is disproportionately affected by Chlamydia. Although Flint’s population only accounts for roughly 20% of Genesee County’s population, Flint residents accounted for nearly 66% of Chlamydia cases in 2022.



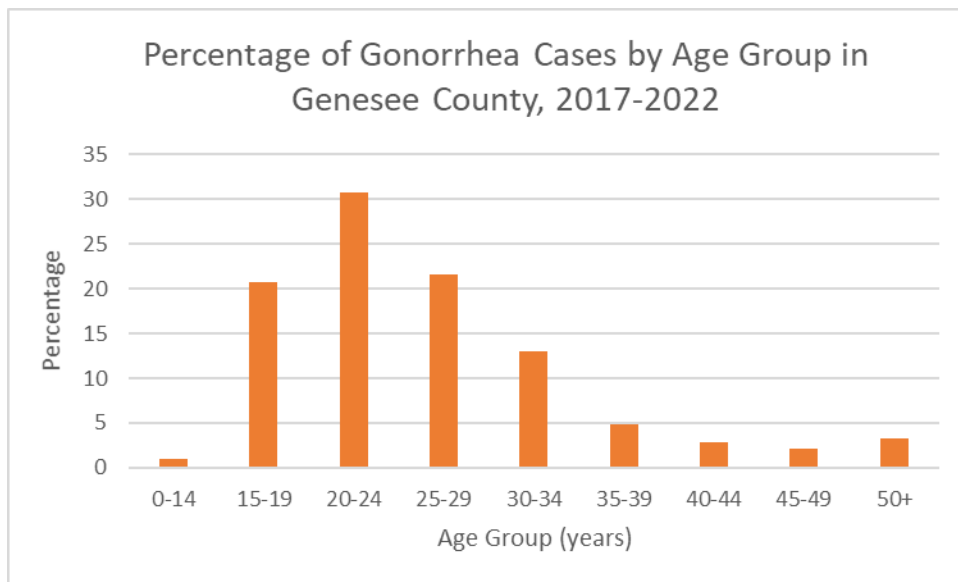
GONORRHEA

Gonorrhea is a STI caused by the bacterium *Neisseria gonorrhoeae*. Infections usually occur in the genital area, but can also occur in the mouth, throat, eyes, and rectum. While men who have contracted gonorrhea might not always have symptoms, common clinical manifestations include dysuria or urethral discharge (which can be white, yellow, or green in color). Symptoms usually appear between 1 and 14 days after infection. Women are also frequently asymptomatic. Common symptoms in women include dysuria, increased vaginal discharge, or vaginal bleeding between periods. Even though symptoms are often absent or mild, untreated gonorrhea infections can have serious complications, such as pelvic inflammatory disease in women. Infections can also spread to the blood, resulting in a life-threatening condition known as disseminated gonococcal infection. In addition to practicing safe sex, regular testing is especially important for preventing gonorrhea, because symptoms are often absent or mild at first.

There were 1,273 cases in Genesee County in 2022 – a 27% decrease from the previous year. This decrease marks a departure from the previous years’ trend: from 2017 through 2021, Gonorrhea cases had increased by 182%.



Gonorrhea is more common amongst young adults. In 2022, 73% of all cases were between the ages of 15 and 29. Flint residents accounted for 79% of cases in 2022.



SYPHILIS

Syphilis is a STI caused by the bacterium *Treponema pallidum*. It is usually transmitted by direct contact with a syphilis sore during vaginal, anal, or oral sex. Syphilis is a serious concern for pregnant mothers, as it can threaten the health of the baby even before birth. The best way to prevent syphilis is to practice safe sex and to test for STIs regularly. If you experience any of the symptoms above, or observe new sores around the genital area, seek medical care. Pregnant women should receive syphilis testing during their pregnancy, regardless of symptoms.

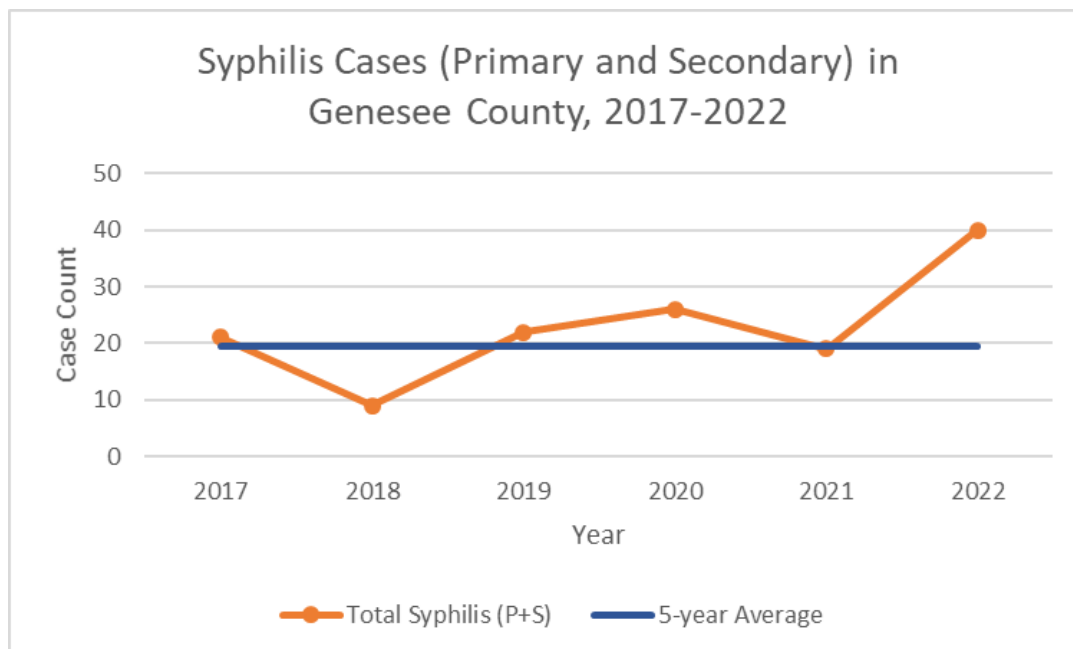
The disease manifests clinically in three distinct stages:

Primary Syphilis is characterized by sores (often round and painless) where the bacterium entered the body. Sores will typically disappear after 3-6 weeks, even without treatment. Even if these sores disappear on their own, it is critical that treatment is still received to prevent disease progression.

Secondary Syphilis typically begins when the primary sores begin to heal, or after they disappear. This stage is characterized by a rash on one or more areas of the body – on or near the mouth, anus, vagina, palms of the hands, or bottoms of the feet. Other symptoms at this stage include fever, swollen lymph nodes, sore throat, patchy hair loss, headaches, weight loss, muscle aches and fatigue. Like the primary stage, the rash might clear up without treatment, but this doesn't mean the disease is gone.

Tertiary Syphilis can appear years or even decades after the initial infection. Untreated syphilis that progresses to the tertiary stage is extremely serious, resulting in damage to major organs and death.

There were 18 new cases of primary syphilis in Genesee County in 2022, and 22 new cases of secondary syphilis. This is a substantial increase over previous years – more than double the previous 5-year average. The CDC reports that syphilis cases are rising nationally, too – the rate of primary and secondary syphilis increased by 28.6% from 2020 to 2021 in the United States. In Genesee County, syphilis disproportionately affects Black or African American males. In 2022, the average syphilis case was 33 years old; 85% of cases were male, 65% were Black or African American, and 80% were Flint residents. Typically, syphilis cases are often men who have sex with men (MSM), but rates have also increased among women and men who identify as heterosexual.

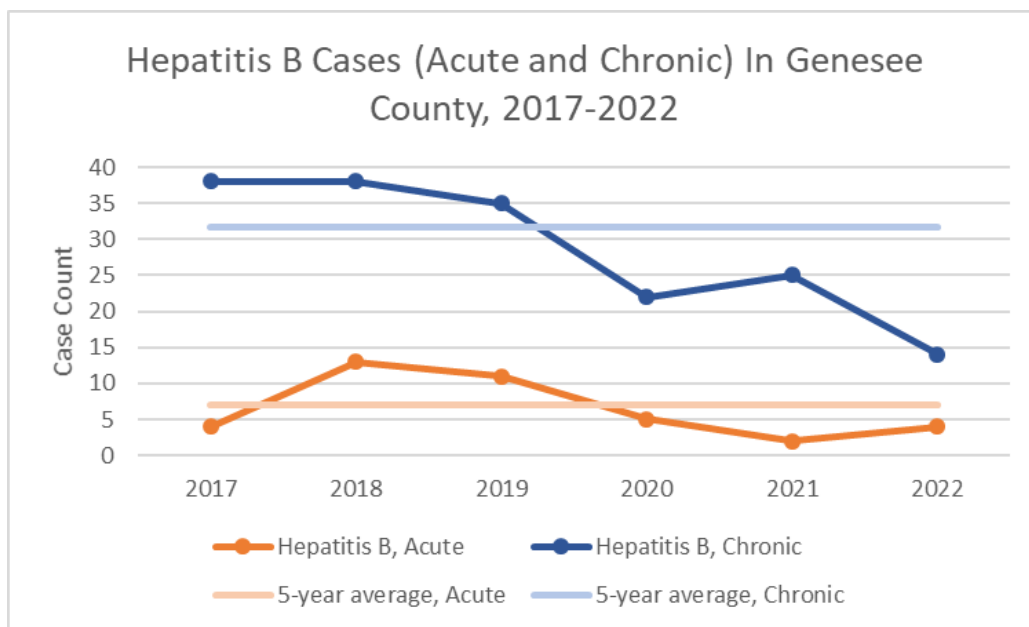


HEPATITIS A, B, AND C

Hepatitis is an inflammation of the liver that is sometimes caused by viral infection. Hepatitis A, B, and C are the most common of such viruses. Although they each cause hepatitis, these 3 viruses are distinct from one another.

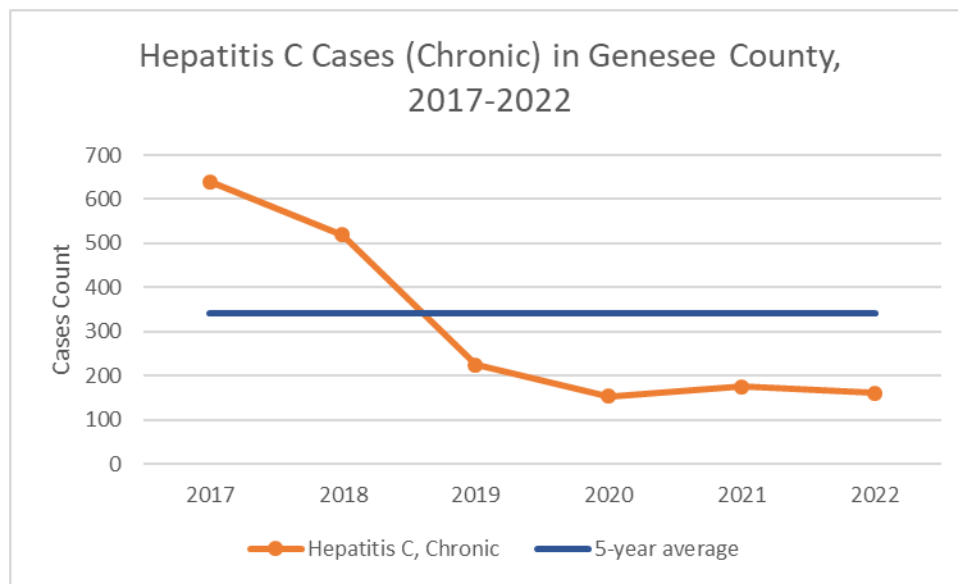
Hepatitis A is most commonly transmitted through the fecal-oral route – for example, eating food that has been contaminated by a person with Hepatitis A. The best way to prevent spread of Hepatitis A is to wash your hands thoroughly, and to get vaccinated. Hepatitis A cases are more likely to occur as part of an outbreak, instead of individually. There were fewer than 5 Hepatitis A cases in Genesee County from 2019 through 2022. In contrast, there were 37 cases in Genesee County from 2016 through 2018 – part of a statewide outbreak that lasted for several years.

Hepatitis B is spread through contact with the blood or other bodily fluids of an infected individual. Common forms of transmission include sexual contact and sharing needles/drug-injection equipment. Hepatitis B often causes short-term illness, but in some people it can develop into a serious chronic condition. Hepatitis B can be prevented by the Hepatitis B vaccine, practicing safe sex, or avoiding unsafe drug injection practices. There were 4 acute and 14 chronic cases of Hepatitis B in 2022 – each below the 5-year averages of 7.0 and 31.6, respectively.



Hepatitis C is spread through contact with the blood of an infected individual. Unlike Hepatitis A and B, there is no vaccine for Hepatitis C. Most new cases of Hepatitis C do not have symptoms immediately, which makes acute cases difficult to track. More than half of those infected with Hepatitis C develop a chronic infection, which can ultimately cause chronic liver disease. Hepatitis C is treated with antiviral medication. The best way to prevent Hepatitis C is to test regularly, and to avoid unsafe drug injection practices.

There were 8 acute and 151 chronic cases of Hepatitis C in 2022. Hepatitis C cases have decreased drastically in recent years – There were nearly 4 times as many cases in 2017 as there were in 2022.

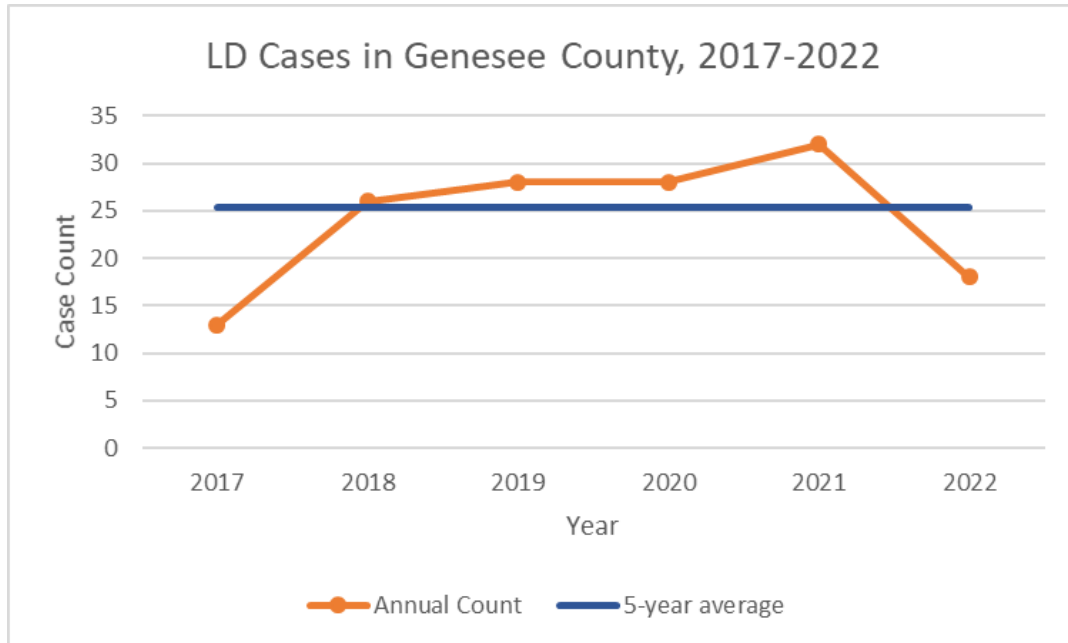


LEGIONNAIRES’ DISEASE

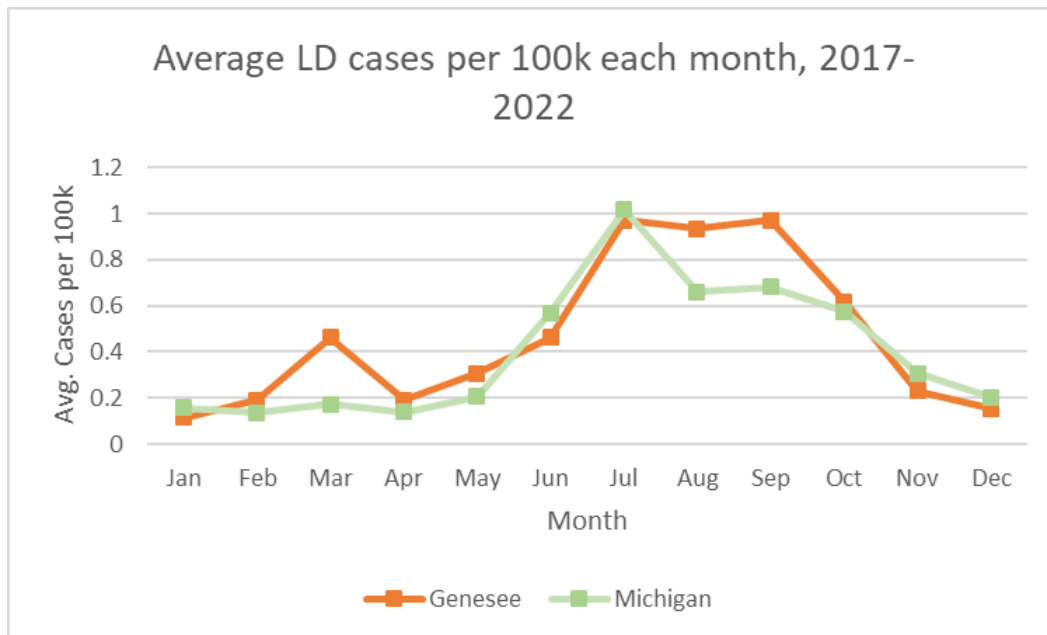
Legionnaires’ Disease (LD) occurs when the bacteria *Legionella* infects the lungs and causes pneumonia. This bacteria grows in water, and is known to colonize water systems in the built environment. Infection occurs when an individual inhales aerosolized water droplets that contain the bacteria. Common sources of exposure include hot tubs, faucets, showerheads, humidifiers, decorative fountains, cooling towers, and hot water tanks. Buildings in Genesee County are required to have a water management plan to prevent *Legionella* growth in building water systems. The best way to decrease *Legionella* exposure is to regularly clean common sources of exposure, such as those listed above; additionally, follow manufacturer’s guidance for maintaining hot tubs and other machinery where stagnant water might gather.

Signs and symptoms of LD include fever, cough, shortness of breath, headache, chills, nausea, vomiting, or diarrhea. Current or former tobacco smokers and those with compromised immune systems are at greater risk of contracting LD.

There were 18 cases of LD during 2022 in Genesee County. This is lower than the previous 5-year average of 25.4 cases per year.



From 2017-2022, the number of cases per 100,000 in Genesee County has been slightly higher than the case rate throughout the state of Michigan (5.7 cases per 100,000 per year in Genesee County vs. 4.8 in all of Michigan). Generally, LD cases are more common from June through October in both Genesee County and the state of Michigan.

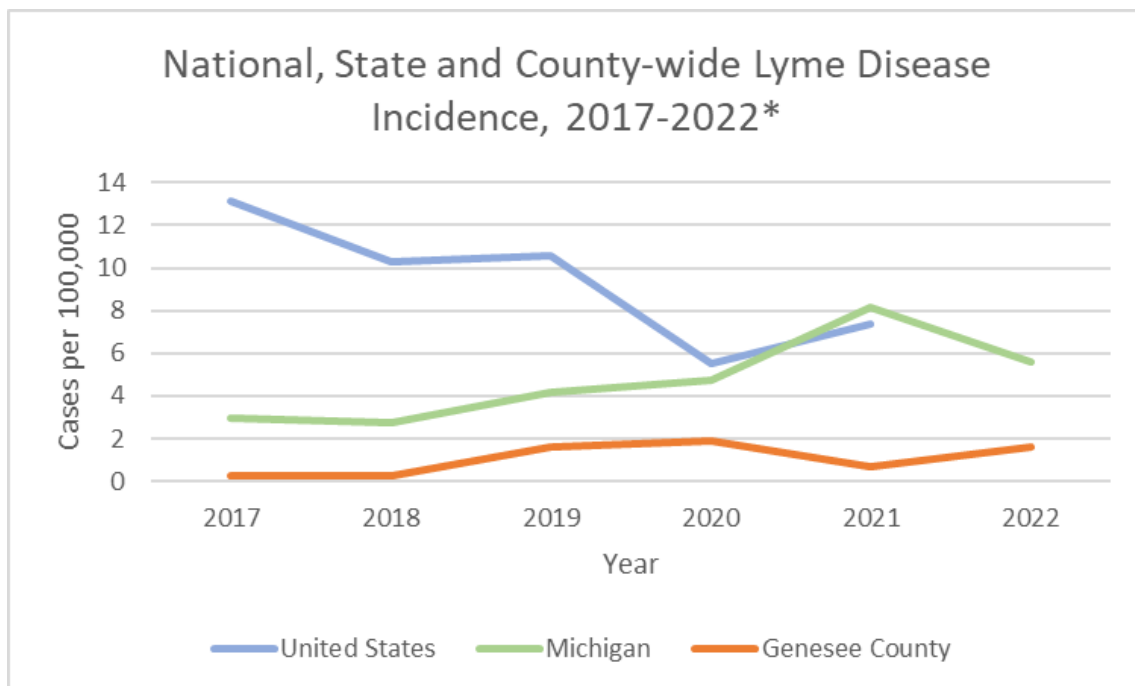


LYME DISEASE

Lyme disease is a condition caused by the bacterium *Borrelia burgdorferi*. Transmission occurs when someone is bitten by a tick that carries the bacteria. Antibiotics can treat Lyme disease, but untreated cases can eventually result in serious complications, including severe headaches and neck stiffness, facial palsy, arthritis with joint pain and swelling, chronic pain, and heart palpitations. Therefore, it is important to identify a possible infection as early as possible. If you find a tick embedded in your skin, remove it immediately with a pair of fine-tipped tweezers. Some (but not all) cases are accompanied by a skin rash several weeks after the bite – often in a bullseye-shaped pattern. If you develop a rash, fever, chills, headache, fatigue, muscle/joint pain, or swollen lymph nodes in the weeks after finding a tick, consult with your healthcare provider.

The best way to prevent Lyme Disease is to avoid tick bites. Avoid areas of high grass or heavy underbrush, and wear long sleeves and long pants when outdoors. Check your entire body after spending time outside – ticks will often crawl to difficult-to-reach places, such as armpits, scalp, behind the knees, between toes, and the groin. Tumble-drying clothing for 10 minutes at high heat will kill any ticks remaining on clothing.

Lyme disease case rates have decreased nationally in the past few years, but trends differ on a state-by-state basis. While Michigan is not considered a high-incidence state, Lyme disease cases have increased in the state recently: from 2.98 cases per 100,000 population in 2017 to 5.58 cases per 100,000 in 2022. Genesee County has followed Michigan in this increasing trend – there were 0.23 cases per 100,000 in 2017 and 1.64 cases per 100,000 in 2022.



*2022 data unavailable for the United States

NOVEL CORONAVIRUS COVID-19

COVID-19 is a respiratory illness caused by the SARS-CoV-2 virus. After first appearing in 2019, the virus had spread across the world by early 2020, resulting in one of the largest pandemics in modern history. From the beginning of the pandemic through the end of 2022, there were 5,747,063 hospitalizations and 1,092,666 deaths associated with COVID-19 in the United States. During the same period, Genesee County saw 123,282 cases and 1,923 deaths. The Federal COVID-19 Emergency ended in May 2023, but the virus continues to circulate in the United States.

In Genesee County, the COVID-19 pandemic was characterized by multiple distinct waves. A higher percentage of cases resulted in hospitalization and death during the beginning of the pandemic in 2020. Subsequent waves saw increases in total cases (particularly in late 2021/early 2022). However, the rates of hospitalization and death decreased over the course of the pandemic for a variety of reasons, including new diagnostic and treatment methods, vaccination, and the circulation of new variant strains with less severe clinical manifestations.

