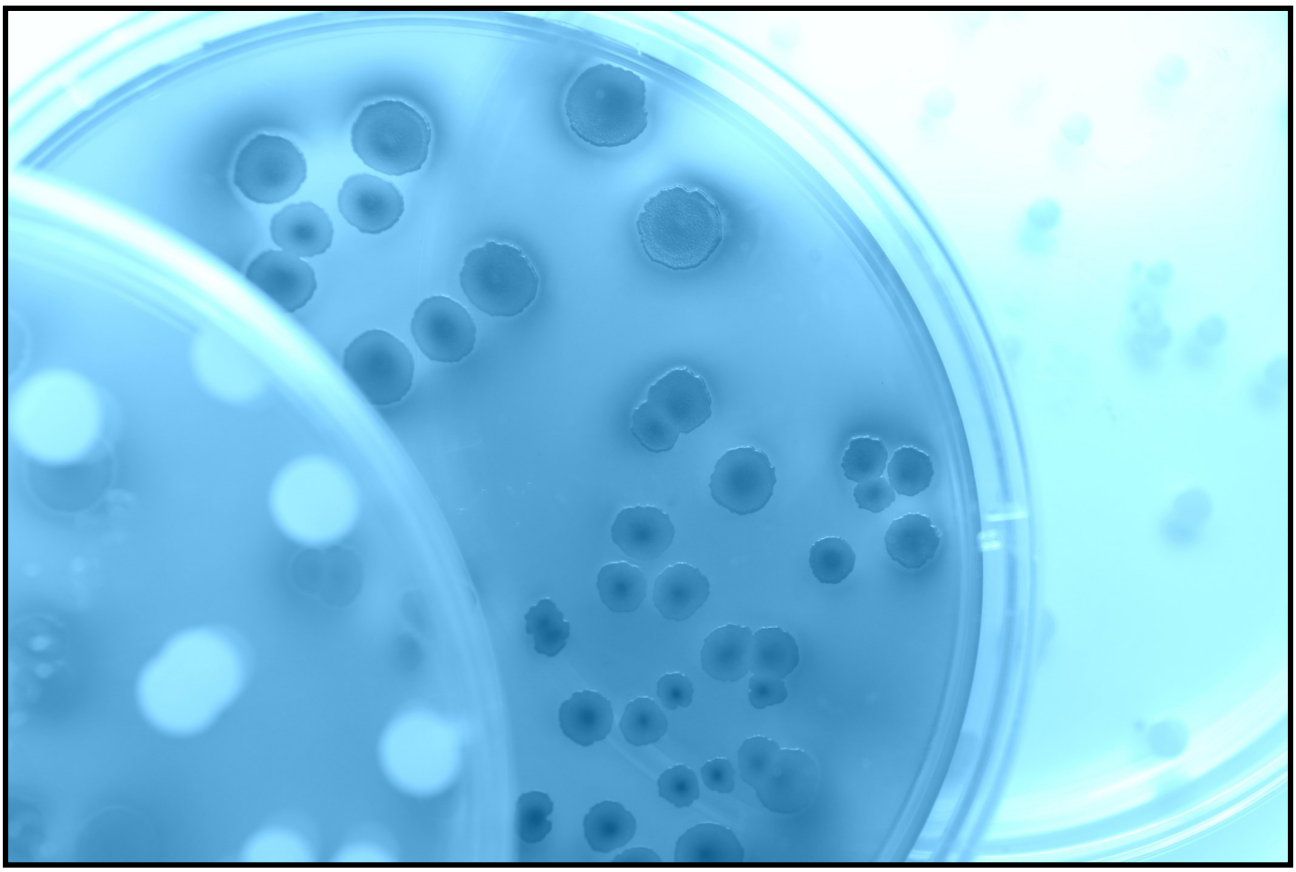
GNR PUBLIC HEALTH

Annual Report

Epidemiology & Infectious Disease

2022



CONTRIBUTORS

GWINNETT, NEWTON, AND ROCKDALE COUNTIES EPIDEMIOLOGY & INFECTIOUS DISEASE 2022 ANNUAL REPORT

Audrey Arona, MD, MPA
Chief Medical Officer/CEO

Alana Sulka, MPH, RN, CPH, CIC
Chief Clinical Officer

Dorian Freeman, MPH, MSN, ASN
Clinical Infectious Disease Program Director

Keisha Francis-Christian, MPH
Epidemiology Program Manager

Andrew Lewis, MPH
Epidemiologist

Curtis Sarkar
Environmental Epidemiologist

Suntana Ly, RN, BSN
TB Program Manager

Traci Thomas
EHE Coordinator

Phyllis Mwaura, MPH, MS, CPH
Comprehensive HIV Prevention Program Manager

Val Sanderfer, BS, DIS
STD Program Manager

April Garcia, BA
Lead TB Case Manager

TABLE OF CONTENS

GWINNETT, NEWTON, AND ROCKDALE COUNTIES EPIDEMIOLOGY & INFECTIOUS DISEASE 2022 ANNUAL REPORT

Executive Summary

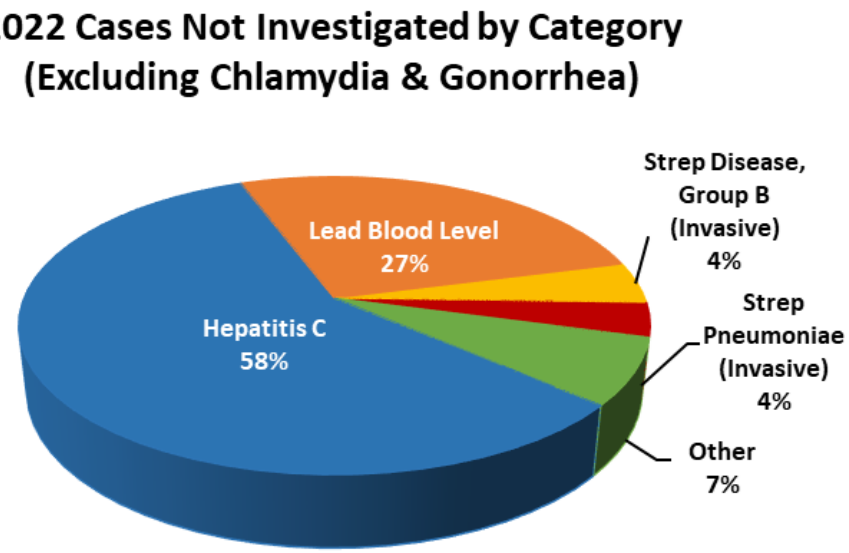
The GNR Public Health, Division of Epidemiology and Infectious Disease serves the population of Gwinnett, Newton, and Rockdale Counties in metropolitan Atlanta, Georgia. The division is responsible for disease investigation and control for over one million residents. The division also participates in emergency-preparedness activities. Funding for all activities is secured through county, state, and federal grant-in-aid. The division consists of four distinct programs: Epidemiology, STI, HIV, and Tuberculosis. These programs operate as a team to meet local, state, and federal goals and deliverables.

In 2022, a total of 4,610 notifiable conditions including 3,191 general notifiable disease cases, 1,419 animal bites, and 45 tuberculosis cases were reported in the three-county health district. At the time of publishing this report. Of all non-STD, non-TB notifiable diseases that require an investigation by epidemiology or a public health intervention, 79.6% were investigated.

This report encompasses data that is collected at the local and state level. All data is verified at the state level before confirmation. As such, a time delay exists allowing for verification of cases according to CDC case definitions and reporting requirements. The publication of this report encompasses all confirmed 2022 Notifiable Disease data as of May 12, 2023.

A total of 2,523 (54.7%) of all general notifiable diseases were investigated per district protocols, and this is due to several factors. 1,148 (25%) of non-STD, non-TB diseases that were reported in 2022 did not require an investigation based on statewide disease protocols, and an additional 872 (19%) diseases did not require an investigation based on district protocols. Some investigations were not investigated due to patient noncompliance with the investigation. Hepatitis C and elevated Lead Blood Level make up the largest proportion of uninvestigated cases due to how the data is processed and reported at the state level. Though all lead blood level test results are reportable to public health, per protocol, Epidemiology only investigates cases in children who meet the threshold for public health intervention (3.5 µg/dL or higher). In 2022, program staff investigated 117 foodborne illness complaints and 53 outbreaks of illness. Epidemiology staff also investigated 408 COVID-19 outbreaks. 100% of all outbreaks were investigated.

2022 Cases Not Investigated (Excluding Chlamydia & Gonorrhea)		
Reportable Disease	**Number of Cases**	**Percentage of Cases**
Campylobacteriosis	8	0.56%
CRE	17	1.20%
Cholera	<5	0.07%
Cryptosporidiosis	<5	0.14%
Giardiasis	<5	0.07%
Hepatitis C	820	57.87%
Salmonellosis	11	0.78%
STEC	<5	0.06%
Shigellosis	<5	0.14%
Yersinia	<5	0.21%
Haemophilus Influenzae (Invasive)	17	1.20%
Lead Blood Level	379	26.75%
Legionellosis	<5	0.07%
Streptococcal Disease, Group A (Invasive)	31	2.19%
Streptococcal Disease, Group B (Invasive)	63	4.45%
Streptococcal Toxic Shock Syndrome	<5	0.14%
Streptococcus Pneumoniae (Invasive)	53	3.74%
Vibrios	<5	0.21%
Typhoid	<5	0.02%
Total	**1417**	**100%**

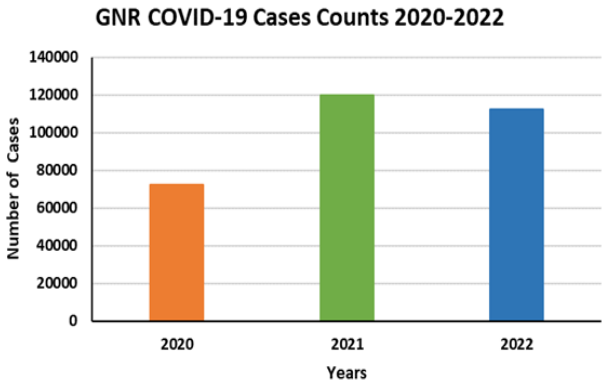


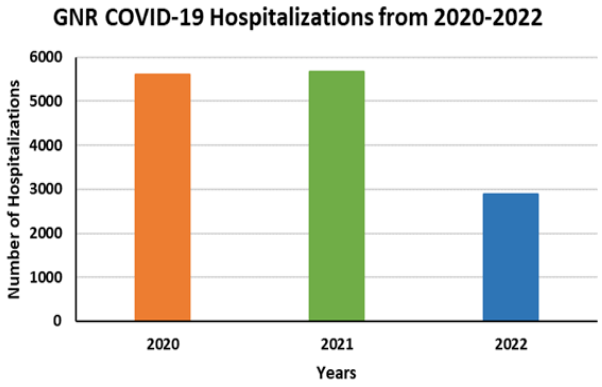
Emerging Pathogen: SARS-CoV-2 (Coronavirus)

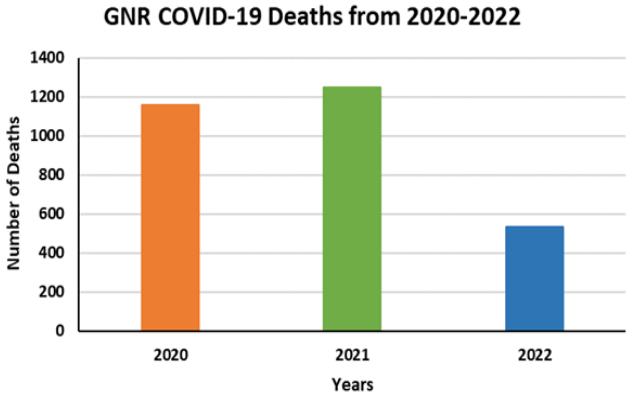
COVID-19 (Coronavirus Disease 2019) is a highly contagious respiratory disease caused by the virus, SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2). The virus typically causes respiratory symptoms that can resemble a cold, the flu, or pneumonia. Most people that are infected will develop mild to moderate respiratory illness (fever, fatigue, cough, runny nose) and can recover without special treatment. Other symptoms may included loss of taste or smell, shortness of breath, nausea, diarrhea, or other notable symptoms. Patients who are older, immunocompromised, or have underlying health conditions, could become severely ill and require immediate medical attention. COVID-19 can spread when an infected person releases small droplets and particles that contain the virus while they are breathing, coughing, sneezing, or speaking. Other people can be exposed to those droplets and particles by inhalation or through touching contaminated surfaces. One of the most prominent characteristics of COVID-19 is that it can spread whether or not an infected person exhibits symptoms. [1,2,3]

In 2022, COVID-19 illnesses were severe and generally caused less deaths compared to 2020 and 2021, but was still highly transmissible. The decline in hospitalizations and deaths the US were due to a many factors including vaccine uptake, availability of boosters, effective treatments, ease of testing including COVID-19 home test kits, and an increase in the overall population's natural immunity to the virus.[4]

When viruses circulate, variants are likely and expected to occur. The COVID-19 Omicron variant emerged late 2021 into early 2022. A surge of new or reinfected cases occurred which led to the highest weekly number of COVID-19 cases and deaths during the entire pandemic.[4] Omicron was considered more contagious than prior variants such as the Delta variant because it was transmissible even among vaccinated individuals. Those vaccinated, were less likely to be severely ill, however.[5] It remains best practice to wear a well-fitted mask, socially distance, and practice good hand hygiene to mitigate the spread of COVID-19 and other respiratory illnesses. The graphs below compares the case counts, number of hospitalizations and deaths from 2020 through 2022.



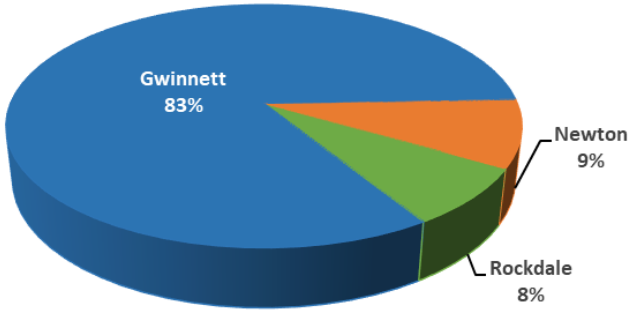




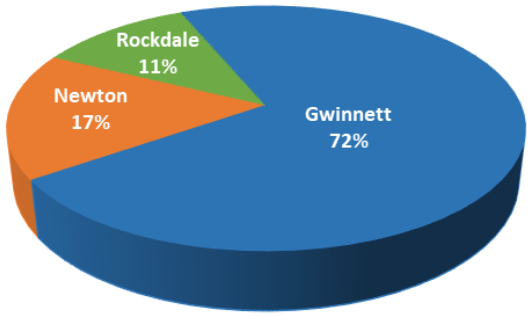
SARS-CoV-2 (Coronavirus) Continued

The total COVID-19 confirmed cases in the district in 2022 was 110,691 (Gwinnett = 92,272; Newton = 9,910; Rockdale = 8,509). Of those cases, 2,851 (2.6%) cases were hospitalized (Gwinnett = 1,148; Newton = 968; Rockdale = 735) and 485 (0.4%) cases died (Gwinnett = 348; Newton = 82; Rockdale = 55). Based on the Georgia Department of Public Health COVID-19 data, the highest number of confirmed cases in one day in Georgia was 21,212.[3]

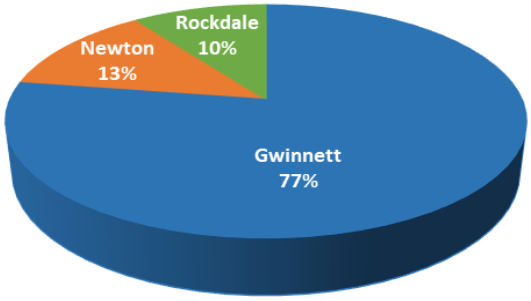
2022 COVID-19 Percentage of Cases by County (N=110,691)



2022 COVID-19 Percentage of Deaths by County (N=485)



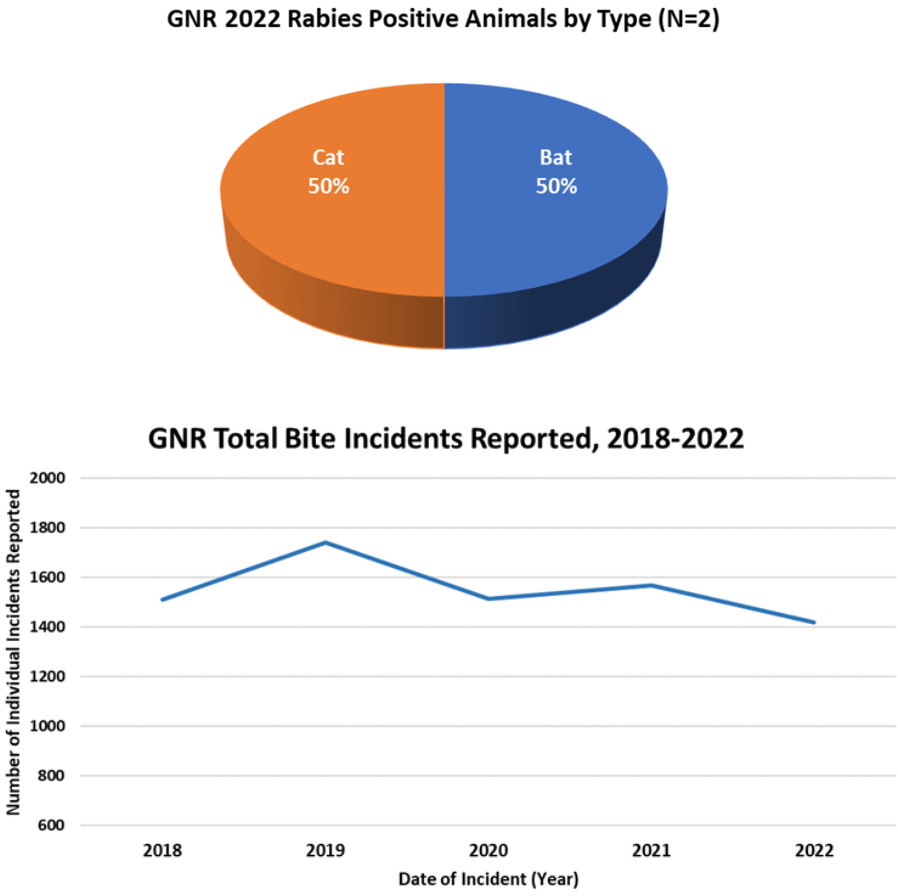
2022 COVID-19 Percentage of Hospitalizations by County (N=57,136)



Animal Bites

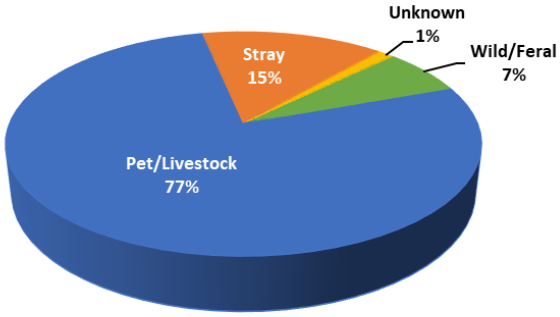
Rabies is a fatal viral infection transmitted through the saliva of infected mammals. Although all mammals are susceptible to rabies, only certain species act as reservoirs for rabies disease in the community. These species include raccoons, skunks, foxes, bats, and coyotes as well as domestic dogs, cats, and ferrets. Rabies in humans can be prevented by preventing exposures to rabid animals, by providing appropriate post-exposure prophylaxis, and by offering pre-exposure vaccinations to high-risk populations who might encounter rabid animals in their daily lives (veterinarians, animal control personnel, etc.).[6]

Animal bites/exposures are a notifiable condition and are reported to Epidemiology by animal control, medical facilities, and private citizens. All reports are investigated to determine the risk for rabies transmission and to make recommendations regarding the need for rabies prophylaxis.



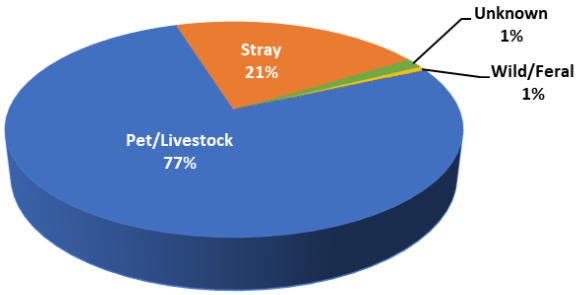
In 2022, of the 1,419 de-duplicated individual reports of animal bites involving residents in Gwinnett (N=1,181), Newton (N=143), and Rockdale (N=95) counties, post-exposure prophylaxis (PEP) was recommended to 152 human victims following an animal exposure/bite. Of those, 57 (37.5%) of human victims recommended PEP completed the full course of treatment, 58 victims (38.2%) did not complete the full treatment, and 37 (24.3%) were lost to follow-up. In 2022, two animals in Gwinnett County tested positive for rabies, one cat and one bat.

Gwinnett Animals* Assessed in 2022 by Classification (N=1,090)



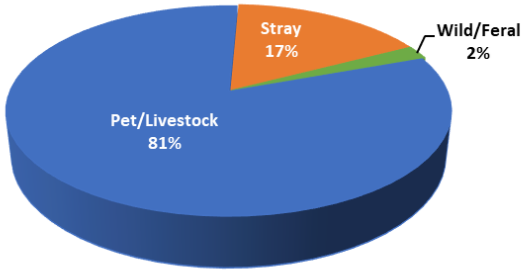
Gwinnett 2022	Animal Bites Reported	Animals Assessed
Pet/Livestock	845	842
Wild/Feral	160	73
Stray	162	161
Unknown	14	14
Total	**1,181**	**1090**

Newton Animals* Assessed in 2022 by Classification (N=138)



Newton 2022	Animal Bites Reported	Animals Assessed
Pet/Livestock	111	106
Wild/Feral	<5	<5
Stray	29	29
Unknown	14	<5
Total	**143**	**138**

Rockdale Animals* Assessed in 2022 by Classification (N=96)



Rockdale 2022	Animal Bites Reported	Animals Assessed
Pet/Livestock	78	78
Wild/Feral	5	<5
Stray	12	16
Total	**95**	**96**

*Animals assessed are the number of animals that actually bit or scratched a human. Animal bites reported are based on the number of humans bitten, which means the animals assessed could be higher than the animal bites reported due to multiple animals biting or scratching one human.

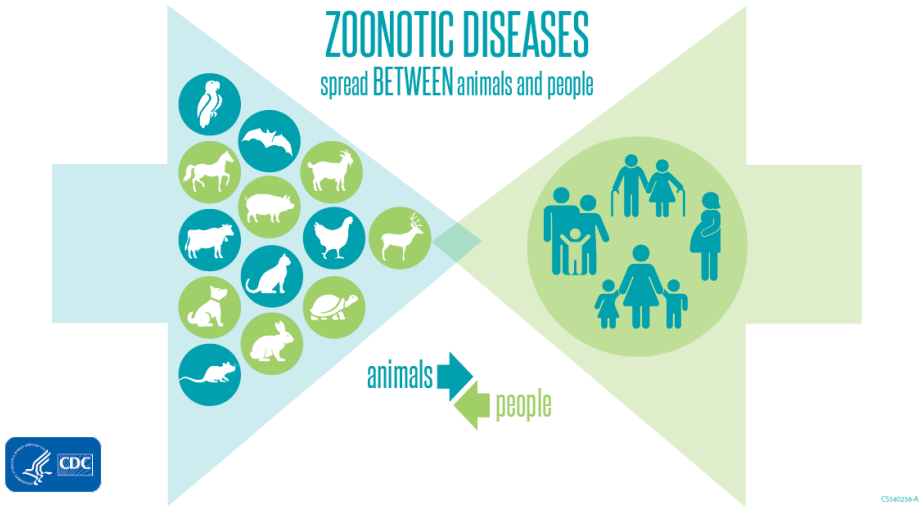
*The total number of animals assessed include attacking animals reported to GNR Public Health, Animal Control, Georgia Poison Control, and hospitals.

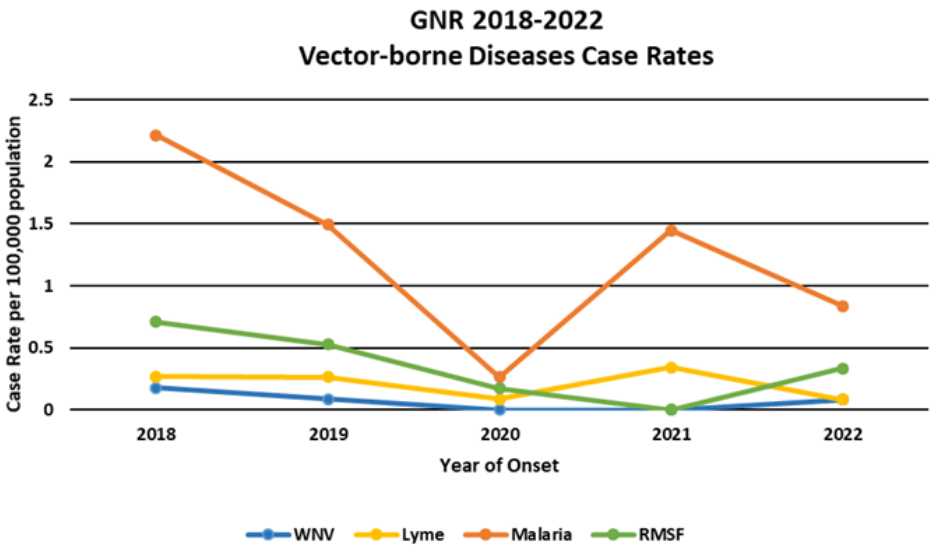
Nationally, wild animals represent the majority (92.7%) of all animal rabies cases.[7] Bats, raccoons, skunks, and foxes were the most commonly reported rabies-positive animals.[8] Although the common reservoir of rabies in Georgia is the raccoon, more than half (58%) of rabies virus in 2022 were associated with bats.[8] Human rabies cases remain rare; there were 0 confirmed human rabies cases in 2022. During September 2019 - November 2021, the Advisory Committee on Immunization Practices Rabies Work Group considered updates to their 2008 human rabies prevention recommendations such as redefining risk categories and modifying vaccine dosing schedule.[9]

Vector-borne and Zoonotic Diseases

A zoonotic disease is an illness that can be passed from animals such as livestock, pets, and wild animals to humans. Brucellosis, Q fever, and tularemia are examples of zoonoses and must be reported immediately because they are classified as potential bioterrorism agents. Zoonotic diseases that require reporting within 7 days include leptospirosis, Hansen's disease (Leprosy), psittacosis, and toxoplasmosis.

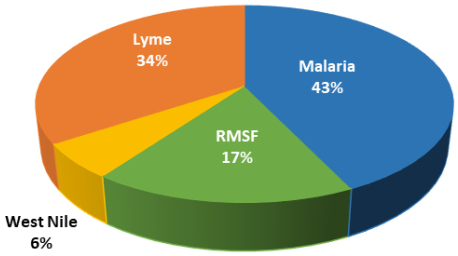
Vector-borne diseases are illnesses that are transmitted to humans or other animals by an insect or other arthropod such as mosquitoes and ticks. Many individuals infected with vector-borne diseases have no symptoms; however, a small percentage of people may develop serious illness such as encephalitis and meningitis that can result in irreversible neurological damage, paralysis, coma, or death. A combination of factors continues to define vector-borne disease epidemiology in the United States. These factors include the importation of pathogens and disease vectors from other countries, the evolution of pathogens currently impacting the U.S., and identification of novel pathogens already endemic to the U.S. but as yet uncharacterized.[10] In 2020, the decrease of vector-borne disease case rates were likely due to isolation and travel restrictions during the COVID-19 pandemic.





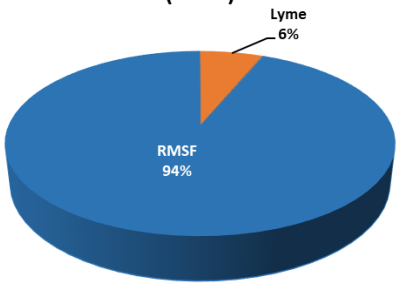
The Georgia Department of Public Health (GDPH) requires immediate reporting of all acute arboviral (arthropod-borne virus) infections. Vector-borne diseases that require reporting within 7 days include Malaria, Rocky Mountain Spotted Fever (RMSF), Ehrlichiosis, Anaplasmosis , and Lyme disease. The most common arboviral infections reported in Georgia include: Eastern Equine Encephalitis (EEE), LaCrosse Encephalitis, and West Nile Encephalitis (WNV). St. Louis Encephalitis (SLE) is less common but has also been reported in Georgia.

Gwinnett 2022 Vector-borne Reported Cases (N=35)



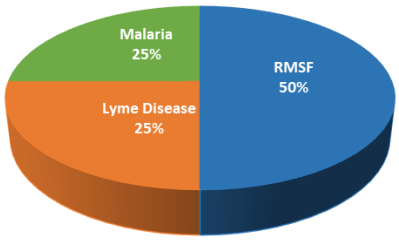
Gwinnett 2022	Reported Cases	Investigated Cases	Confirmed/ Probable Cases
Malaria	15	10	10
RMSF	6	<5	<5
West Nile	<5	<5	<5
Lyme	12	<5	<5
Total	**35**	**13**	**13**

Newton 2022 Vector-borne Reported Cases (N=16)



Newton 2022	Reported Cases	Investigated Cases	Confirmed/ Probable Cases
Lyme	<5	0	0
RMSF	15	<5	<5
Total	**16**	**<5**	**<5**

Rockdale 2022 Vector-borne Reported Cases (N=<5)



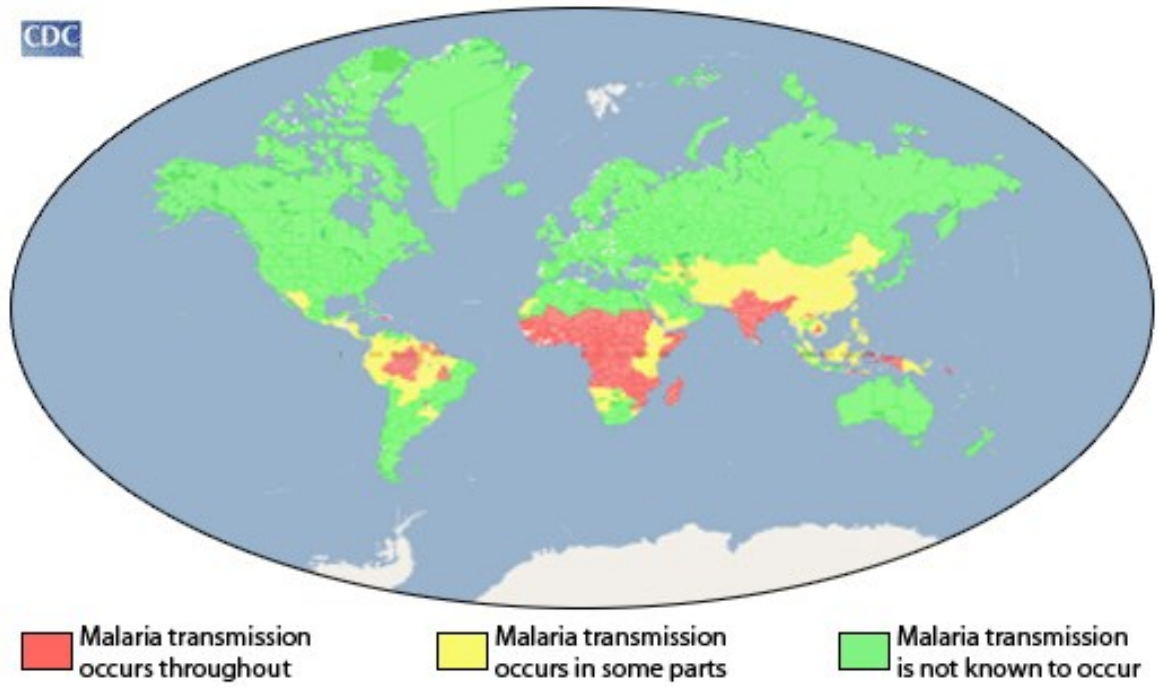
Rockdale 2022	Reported Cases	Investigat-ed Cases	Confirmed/ Probable Cases
Malaria	<5	0	0
RMSF	<5	0	0
Lyme	<5	0	0
Total	**<5**	**0**	**0**

In 2022, a total of 55 vector-borne and zoonotic illnesses were reported to GNR. These illnesses consisted of Malaria, Rocky Mountain Spotted Fever (RMSF), Lyme Disease, and West Nile Virus. RMSF represented 42% of all vector-borne and zoonotic illness reported in 2022. Case reported and investigated cases can be different due to the case definitions of specific vector-borne diseases.

A 41% decrease in investigated Malaria cases was observed between 2021 and 2022, and a 400% increase in RMSF. No Zika cases were reported in 2022. It should be noted that all GNR cases of Malaria were travel-associated. GNR Malaria patients most commonly reported recent travel to Africa where Malaria is endemic.

Epidemiology program staff attempted to investigate all cases of vector-borne disease; however, the interview process is complicated by language barriers, refusal to participate, and loss-to-follow-up. Confirmation of disease also requires extensive laboratory testing. As a result many likely cases are not confirmed due to refusal to follow up with requested laboratory testing.

Malaria's Impact Worldwide



Malaria occurs mostly in poor, tropical and subtropical areas of the world. Africa is the most affected due to a combination of factors.

Countries Visited by 2022 GNR Malaria Cases	
Nigeria	India
West Africa	Togo
Congo	Ghana

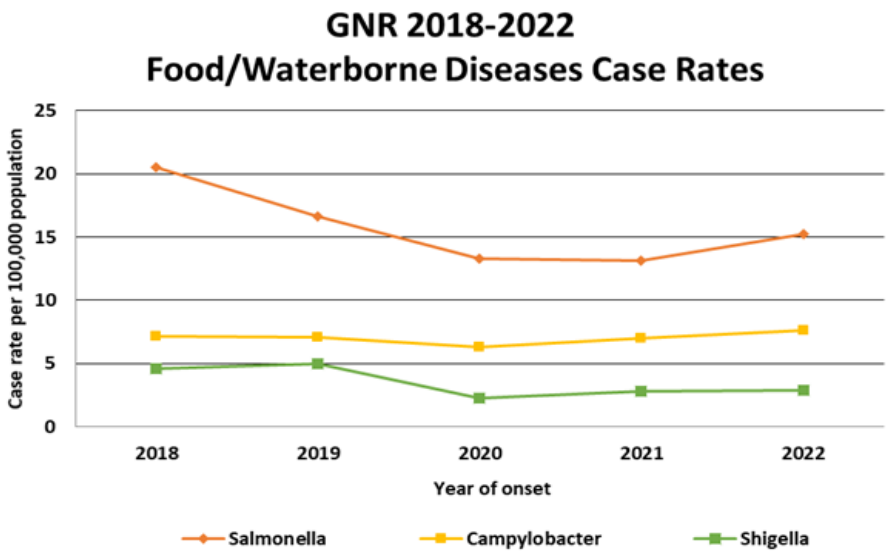
Food and Waterborne Diseases

Enteric Diseases are most commonly caused by bacteria, viruses, or parasites, which are transmitted through the fecal-oral route or, frequently, through contaminated food and water, and enter the body through the gastrointestinal system. These microbes can also be spread through animal or person-to-person contact. There are over 250 identified foodborne diseases. The most common are caused by *Campylobacter*, *Salmonella*, *Shigella*, and *Escherichia coli* O157:H7 or shiga toxin-producing *E. coli* (STEC), and the calicivirus group of viruses known as Norwalk or Norwalk-like viruses. Other less common culprits include Hepatitis A, *Giardia lamblia*, *Yersinia*, *Listeria monocytogenes*, and *Cryptosporidium*. The incubation period varies widely from hours up to one month depending on the pathogen causing the illness.

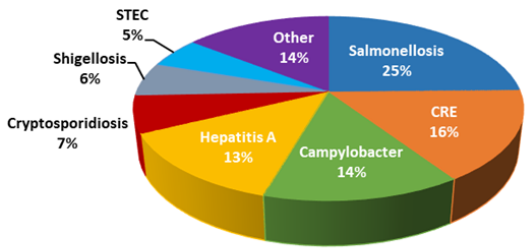
The Epidemiology program partnered with Environmental Health to investigate potential and reported outbreaks and prevent enteric diseases caused by contaminated food or water, as well as those spread person -to-person. Epidemiology staff conducted surveillance activities, investigations and community education to identify sources of infection and prevent further disease transmission.

Particular attention was given to outbreaks in facilities serving highly susceptible populations such as care centers, daycares and schools. These settings are of particular concern because of the high potential for transmission due to the frequency of diapering and toileting, as well as food preparation and feeding of young children in the classroom setting. In younger children, frequent hand-to-mouth activity also increases the potential for transmission. The Epidemiology staff worked closely with employees from these settings to provide information on the appropriate measures to prevent transmission of enteric diseases.

Georgia State Law (OCGA) currently requires reporting all cases of *Campylobacter*, *Cryptosporidium*, *Cyclospora*, *E. coli* O157:H7 or Shiga Toxin-producing *E. coli*, *Giardia*, Hemolytic Uremic Syndrome, *Listeria*, *Salmonella*, *Shigella*, *Yersinia* and *Vibrio*. Additional follow-up is required for any clusters in person, place, or time. Case investigation with possible special follow-up is recommended for cases of *C. botulinum*, *Cyclospora*, *E. coli* O157:H7 or *STEC*, Hemolytic Uremic Syndrome, *Listeria*, Typhoid fever, and *Vibrio*.

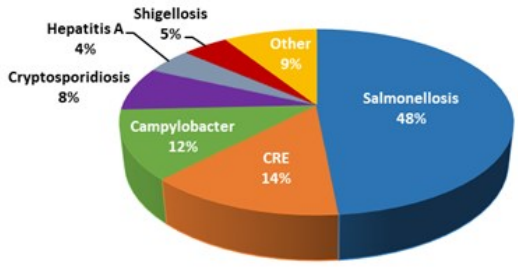


Gwinnett 2022 Common Food/Waterborne Disease Reported (N=534)



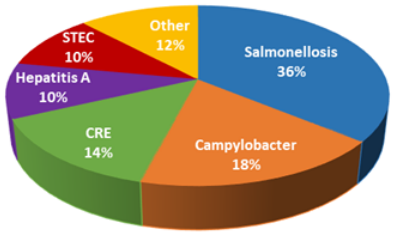
Gwinnett 2022	Reported Cases	Investigated Cases	Confirmed/ Probable Cases
Campylobacter	74	67	66
CRE	85	72	11
Cholera	<5	0	0
Cryptosporidiosis	35	34	33
Cyclosporiasis	14	12	12
Giardia	18	17	17
Hepatitis A	71	7	7
Legionellosis	21	20	19
Listeriosis	7	7	6
Salmonellosis	132	123	115
STEC	29	29	28
Shigellosis	31	30	28
Typhoid	<5	<5	<5
Vibrios	<5	<5	<5
Yersinia	10	8	0
Total	**534**	**493**	**345**

Newton 2022 Common Food/Waterborne Disease Reported (N=66)



Newton 2022	Reported Cases	Investigated Cases	Confirmed/ Probable Cases
Campylobacter	8	8	7
CRE	9	7	0
Cryptosporidiosis	5	<5	<5
Cyclosporiasis	<5	<5	<5
Giardia	<5	<5	<5
Hepatitis A	<5	<5	<5
Legionellosis	<5	<5	<5
Salmonellosis	32	31	30
STEC	<5	<5	<5
Shigellosis	<5	<5	<5
Yersinia	<5	<5	0
Total	**66**	**60**	**48**

Rockdale 2022 Common Food/Waterborne Disease Reported (N=50)



Rockdale 2022	Reported Cases	Investigated Cases	Confirmed/ Probable Cases
Campylobacter	9	8	7
CRE	7	5	<5
Giardia	<5	<5	<5
Hepatitis A	5	0	0
Legionellosis	<5	<5	<5
Listeriosis	<5	0	0
Salmonellosis	18	17	17
STEC	5	5	5
Total	**50**	**45**	**36**

The most frequently reported enteric diseases in GNR were *Salmonella*, *Carbapenem Resistant Enterobacteriaceae* (CRE), *Campylobacter,* and *Hepatitis A* which together accounted for about 70% all reported enteric illnesses reported in 2022. *Shigellosis, STEC, and Giardia* together accounted for about 14.5% of the total number of reported cases in 2022. Limitations in staff capacity required prioritization of case investigations of foodborne or enteric illness, and staff limitations at the state health department resulted in late reporting of certain enteric illnesses, primarily *Salmonella*, which represented 31% of uninvestigated enteric illness cases. In 2022, the district received 650 reports of enteric illness of which staff investigated 85.3%.

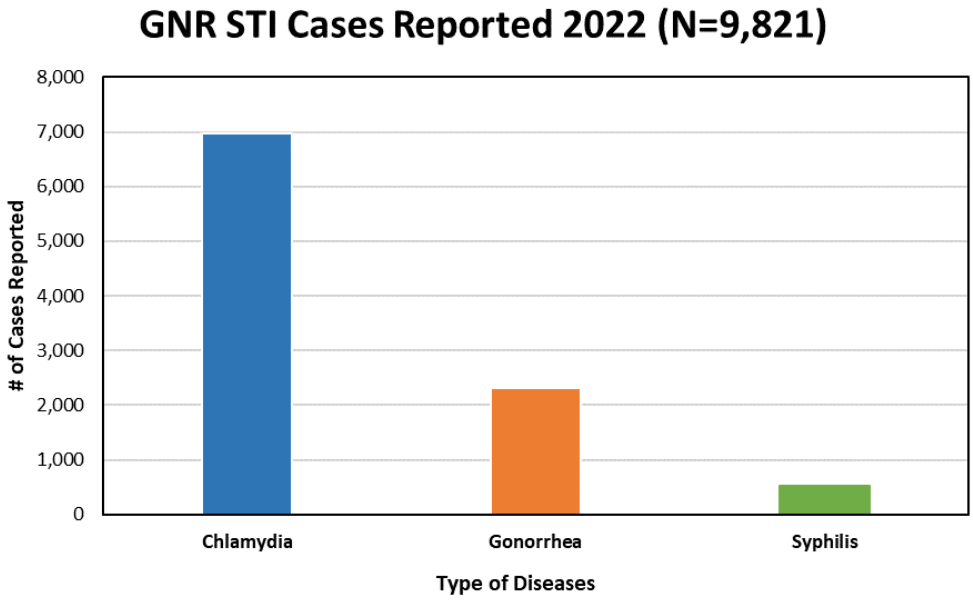
Salmonella reporting decreased by 19% from 2018 to 2019, which reflects national rates. In the graph on page 15, Campylobacter and Shigella case rates remained constant from 2021 to 2022, but Salmonella case rates increased during that same time period. According to preliminary findings from CDC's FoodNet Data 2019, culture-independent testing (CIDT) continues to drive increases in Campylobacter, Cyclospora, Yersinia, Vibrio, and Shiga-Toxin Producing E.coli (STEC), while Listeria, Salmonella, and Shigella remained unchanged.[11] There is progress to be made in developing prevention measures to reduce foodborne illnesses.

CIDTs help detect the presence of a specific antigen or genetic sequence of an organism, such as *Salmonella*. Since these tests do not require labs to grow living organisms, this type of testing helps produce quicker results than culturing an organism, but does not identify the specific variation of the organism.[12] E. Coli O157 appears to be decreasing, but the outbreaks associated to leafy greens continue.[13] It is important to note that widespread vaccination to chickens helped decline *Salmonella Typhimurium* infections, but targeting other variations of Salmonella through poultry vaccination can help reduce illness as well.[13]

Sexually Transmitted Infections (STIs)

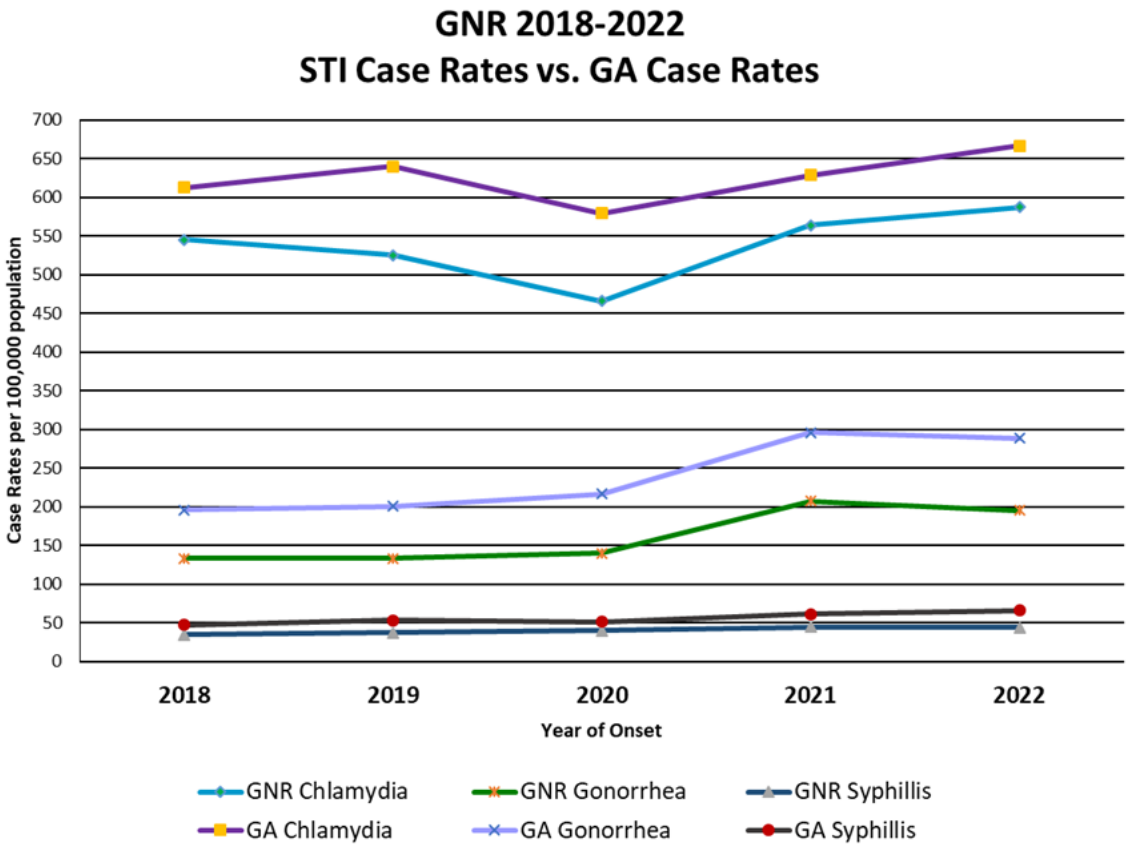
The GNR Public Health Sexually Transmitted Disease Unit received 9,821 reports of sexually transmitted infections (STIs) in 2022. STIs are a significant cause of morbidity and mortality in the GNR Health District and throughout the state of Georgia. STIs are both preventable and often curable with appropriate diagnosis and treatment. Without treatment, these infections can lead to sterility, dementia, and death. Investigations were prioritized based on factors such as age, pregnancy status, clustering, and provider request. Syphilis and HIV (when reported to GNR directly) are always investigated.

Chlamydia accounted for 71% of the total number of cases of STIs reported in 2022. The next most frequently reported STI was *Gonorrhea*, which accounted for 23.6% of total cases reported in 2022. These two diseases represent a substantial percentage of the total burden of disease from STI in GNR. In 2021, Georgia ranked 5th in the rate of reported *Chlamydia* cases (629.1 cases/100,000 people) and 6th in the rate of reported Gonorrhea cases (296.3 cases/100,000 people). Also, Georgia ranked 19th in the nation for primary and secondary Syphilis (17.4 cases/100,000 people).[14]

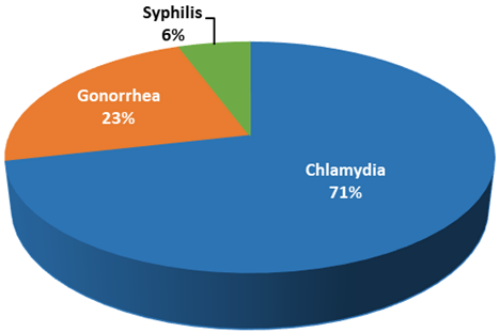


There are many challenges to reporting STD and HIV data, and there are a variety of limitations that result in differences between the total number of cases reported by the state health department and the total number of investigations completed by GNR staff. Testing and education of identified sexual partners of reported cases are also considered investigations. The Georgia HIV/ Syphilis Pregnancy Screening Act of 2015 requires every provider caring for pregnant women to test for syphilis, resulting in a larger number of partner investigations for these illnesses.

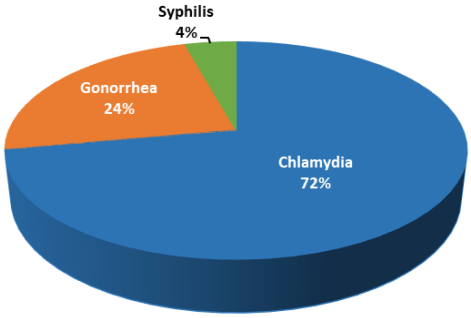
STI investigations include provider record searches, patient follow up and/or interviews, and contact tracing. A provider record search is usually conducted when insufficient data is presented to the health department and additional information (i.e. demographics, signs/symptoms, labs, treatment, etc.) is required from the health provider. Positive chlamydia and gonorrhea cases warrant an investigation. Under certain circumstances, a field investigation is initiated on all patients requiring treatment that are diagnosed at public health department clinics. Syphilis and HIV cases reported by private and public entities are investigated for epidemiologic data and to implement control measures. Individuals are educated about their infection, linked to care if necessary, and interviewed to identify their sexual and needle sharing partners. Contact tracing is also a very important public health function as STI staff are able to prevent the spread of STIs by offering testing and treatment to Syphilis and HIV contacts.



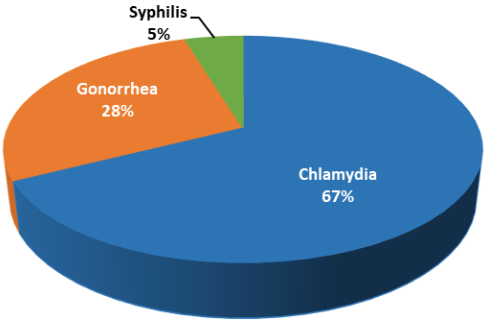
Gwinnett 2022 Reported STI Cases (N=7,384)

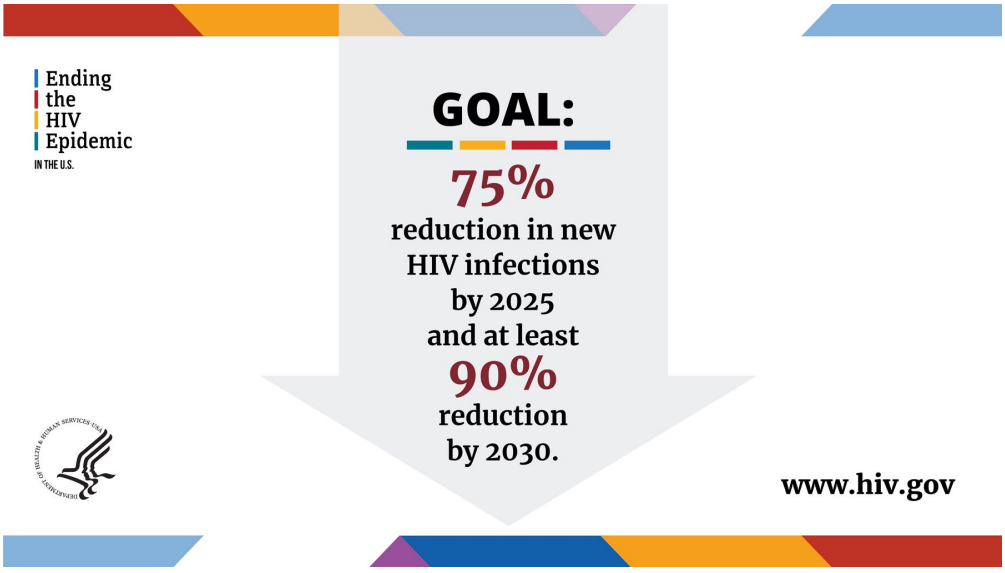


Newton 2022 Reported STI Cases (N=1,241)

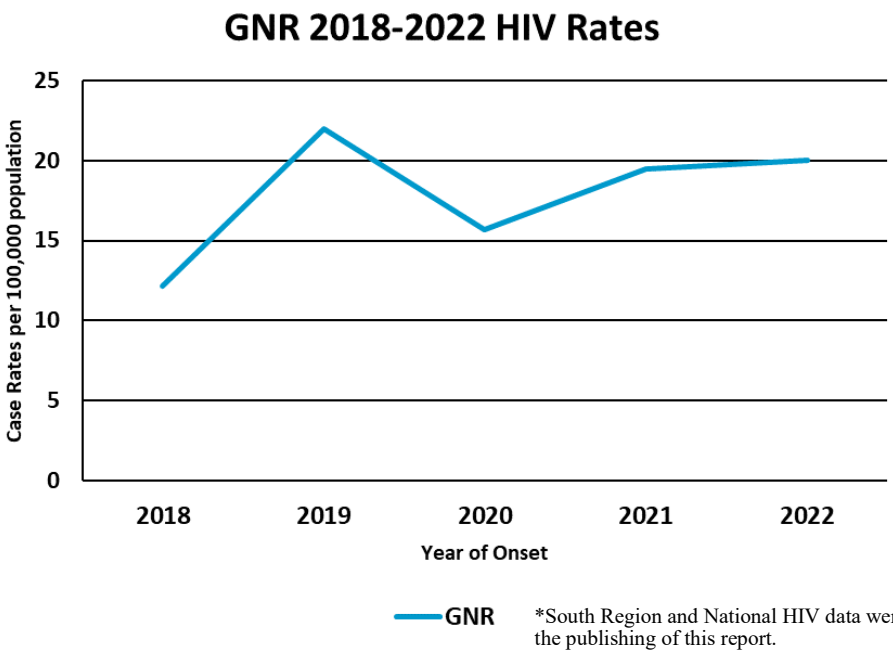


Rockdale 2022 Reported STI Cases (N=1,196)





Source: https://www.hiv.gov/federal-response/ending-the-hiv-epidemic/overview/



*South Region and National HIV data were unavailable at the publishing of this report.

In 2022, GNR had a total of 238 HIV cases. As shown in the draw above, the case rates slightly increased in 2022 compared to 2021 from 19.5 to 20.03.

Currently, the HIV program includes the Ending the HIV Epidemic (EHE) program staff and Comprehensive HIV program staff. The program is responsible for conducting partner notification and linkage service for all patients diagnosed with HIV that are reported directly to GNR. The HIV department is responsible for linking newly diagnosed patients to a Ryan White center for their HIV care. The department is also required to conduct outreach events each year. The department is also responsible for disseminating over 200,000 condoms to patients within Gwinnett, Newton, and Rockdale counties. This is accomplished through a condom subscription program and condom distribution to community partners. The department conducts outreach HIV testing through Gwinnett, Newton, and Rockdale counties. The department is also responsible for providing PrEP for individuals within the district. The department is currently administering PrEP through all open Health center clinics including Lawrenceville, Norcross, Newton and Rockdale.

Gwinnett County is one of the four jurisdictions in GA participating in the Ending the Epidemic initiative (EHE). With this initiative, the HIV department has increased in size and functionality in association with the EHE designation and the associated funding. The four EHE pillars are to:

- **Diagnose**: Diagnose people with HIV as early as possible by making HIV testing accessible, collaborating with partners to expand HIV testing, and distribution of self-testing kits to communities.
- **Treat**: Treat people with HIV rapidly and effectively to reach sustained viral suppression. The team has EHE linkage coordinator that works to ensure newly diagnosed and those out of care are successfully and rapidly linked to care.
- **Prevent**: Prevent new HIV transmissions by using proven interventions , including PrEP. We have a PrEP coordinator on board to help with patient navigation and follow-up.
- **Respond**: Respond quickly to potential HIV outbreaks to get vital prevention and treatment services to people who need them. Partnering with other EHE jurisdictions in GA, we participate in cluster detection response within our three counties and both CDS and linkage coordinators follow-up with these patients for partner services.

The HIV program also participates in quarterly Community Advisory Board meetings (CAB) to gain community feedback and buy-in on HIV prevention services and activities in the communities we serve.

Tuberculosis (TB)

Tuberculosis continues to present a major threat to population health in the GNR Health District. The goal of the Tuberculosis (TB) Program is to eliminate tuberculosis in the district. Until eradication can occur, the program staff strives to reduce the burden of disease, limit transmission, and prevent new cases. The staff provided diagnostic, treatment, and case management services to all identified persons with active TB disease. The TB program staff also conduct contact investigations for the identification of individuals with latent TB infection (LTBI) in order to prevent future cases of active disease and further transmission.

The TB program staff investigated all suspected and confirmed cases of tuberculosis disease in the district in 2022. There were 43 confirmed TB cases; 65.1% of these were pulmonary TB , characterized as TB disease occurring in the lungs. The remaining cases were reported as extra-pulmonary TB, or a combination of both tuberculosis presentations. Extra-pulmonary TB is TB disease occurring in any part of the body other than the lungs (CDC). Co-infection with HIV occurred in 5 of the 43 active TB cases. TB is one of the leading causes of death among people living with HIV and an individual who has both HIV infection and TB disease has an AIDS defining condition (CDC). An average of 8-12 weeks is spent investigating suspect cases. All suspect cases (N=110) are fully evaluated and investigated pending negative culture results which can take up to 12 weeks to complete.

Prompt diagnosis and treatment completion by individuals with active disease, timely investigation for identification of contacts with latent TB infection, and assurance of adherence to treatment are essential functions of TB control and prevention. Limited resources have required prioritization of services in order to assure the continuation of core TB activities that provide the highest yield. Directly Observed Therapy (DOT) is the gold standard for treatment of active tuberculosis and is used for all cases and LTBI clients at highest risk of conversion to active disease.

The TB program staff utilize current CDC recommendations for a concentric circle approach to contact investigations in order to achieve the highest yield while conserving resources. As resources allow, TB program staff prioritize outreach, education, and screening efforts. Contact investigations are the gold standard for secondary prevention in individuals exposed to cases of pulmonary and laryngeal tuberculosis and for preventing future cases of active disease from untreated latent tuberculosis infections. For these reasons, investigations are a critical component of the TB program, but one which requires an extensive commitment of human and financial resources.

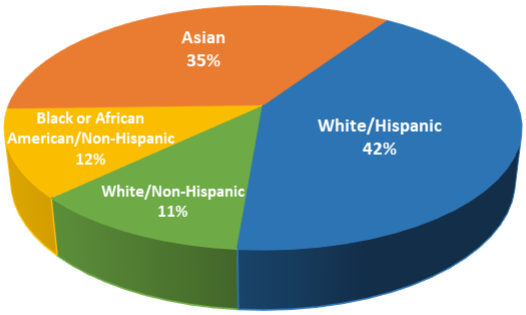
GNR TB Cases by Country of Birth, 2022		
MEXICO	GUATEMALA	BANGLADESH
US	HONDURAS	VENEZUELA
VIETNAM	ETHIOPIA	CAMBODIA
KOREA	PAKISTAN	BHUTAN
CHINA	EL SALVADO	INDIA

In 2022, TB program staff investigated 423 identified contacts of the 43 reported cases of active TB. Compared to contacts identified in 2021 (196), there was a 116% increase of the 2022 identified contacts. All of the 423 identified contacts were screened, which meets the GNR TB Control Program contact evaluation goal of 100%. Contact elicitation is a core objective in the National TB Program Objectives & Performance Targets for 2025. Performance against national standards is measured each year through a cohort review of investigation and management of TB cases and contacts in each Public Health district.

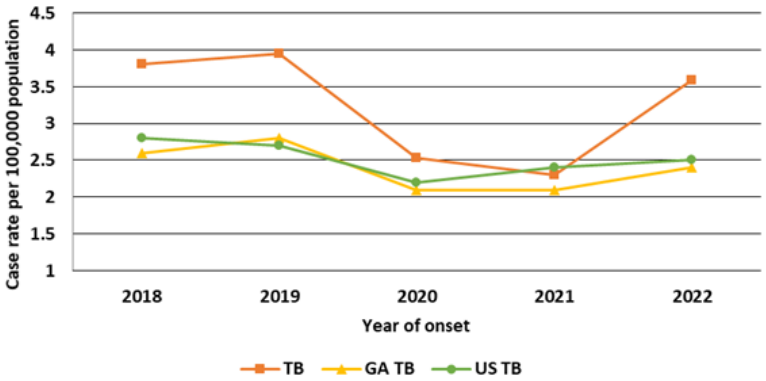
Although contact investigations typically involve close contacts such as members of the case's household and close social contacts, large scale investigations in the public school and work settings are often conducted due to the calculated exposure. The number of cases in 2022 (43) increased from 2021's 27 cases, which is a 59% increase. National case rates have increased slightly, while the district's case rates increased by 59%. State TB case rates for 2022 are 2.3 per 100,000 persons.[15]

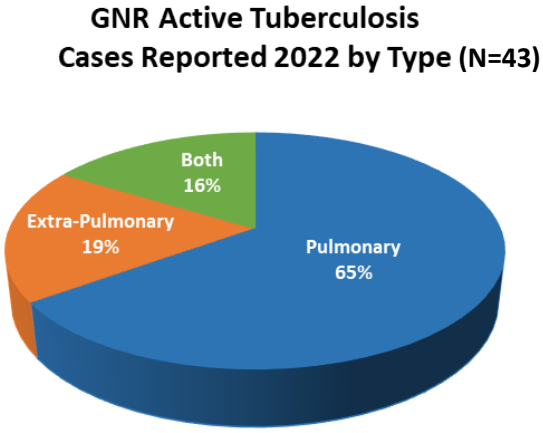
Case management services were provided to all patients with active TB disease and to select latent tuberculosis infection (LTBI) patients including Directly Observed Therapy (DOT), monthly contact for monitoring adherence to treatment, efficacy of treatment, and signs of drug toxicity. DOT is the preferred treatment method for cases of Tuberculosis as well as certain individuals with LTBI (HIV infected, children ≤5 years of age, etc.). DOT is provided in GNR clinic sites and at the homes/worksites of patients as necessary. Video DOT is also utilized only for qualified patients, and they must be in compliance with their treatment. Program staff also worked closely with staff at the public schools for DOT in the school setting whenever possible. The Program staff are closely monitoring this change for impact on adherence to treatment.

Active Tuberculosis Cases
Reported 2022 by Race & Ethnicity (N=43)



GNR 2018-2022
TB Rates





Gwinnett 2022	Cases Reported
PTB	27
EPTB	8
BOTH	7
Total	**42**

Newton 2022	Cases Reported
PTB	0
EPTB	0
BOTH	0
Total	**0**

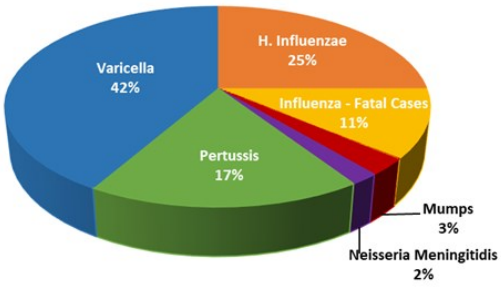
Rockdale 2022	Cases Reported
PTB	<5
EPTB	0
BOTH	0
Total	**<5**

PTB = Pulmonary TB
EPTB = Extra-Pulmonary TB
BOTH = Pulmonary and Extra-Pulmonary TB
Other sites include: Ovary, Lymph Node, Pancreas, Testicles, Eye, Psoas, Skin

Vaccine Preventable Diseases

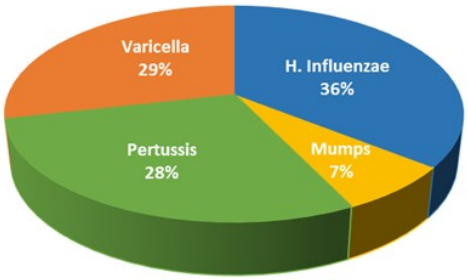
Vaccine preventable diseases are immediately notifiable in the state of Georgia. In the early 2000's, vaccine preventable illnesses were declining in Georgia and in the GNR Health District. Pertussis cases were decreasing in conjunction with a 2005 innovation in adolescent and adult formulations of the Tdap vaccine. Over the past 20 years, anti-vaccination movements have played a role in outbreaks across the country. Outbreaks of measles and pertussis are showing up across the United States. In 2020, GNR Public Health investigated the first case of measles in the district since 2001. The case had traveled to Pakistan. Despite no confirmed cases being reported in GNR since, epidemiology staff continue to facilitate testing of suspect cases and participate in investigating contacts to cases in other districts.

Gwinnett 2022 VPD Cases Reported (N=107)



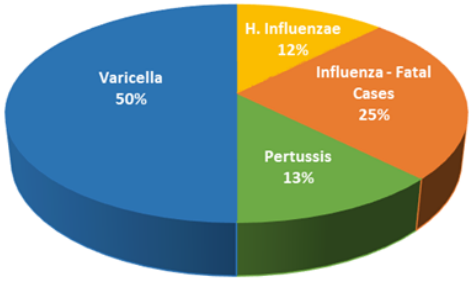
Gwinnett 2022	Reported Cases	Investigated Cases	Confirmed/ Probable Cases
H. *Influenzae* (Invasive)	27	0	0
Influenza - Fatal Cases	12	9	9
Mumps	<5	<5	0
Neisseria Meningitidis (Invasive)	<5	<5	<5
Pertussis	19	5	<5
Varicella	45	14	6
Total	**107**	**33**	**20**

Newton 2022 VPD Cases Reported (N=14)



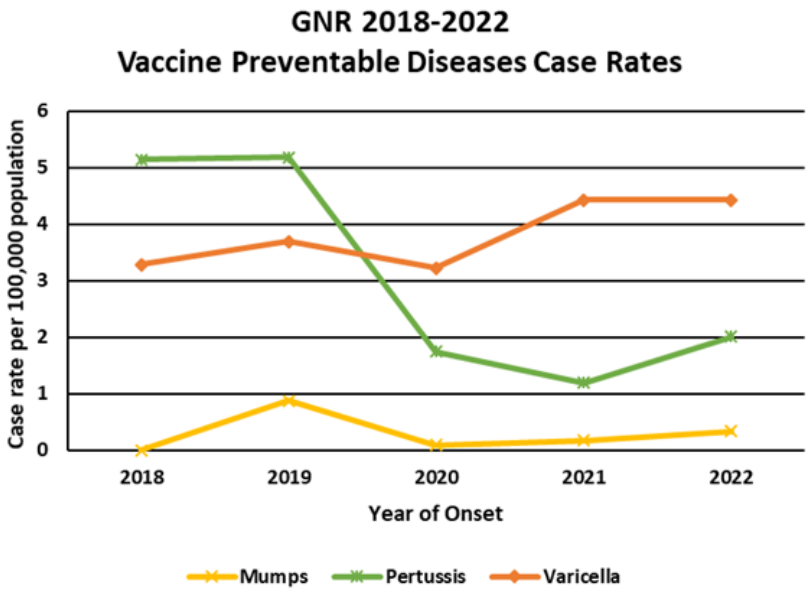
Newton 2022	Reported Cases	Investigated Cases	Confirmed/ Probable Cases
H. *Influenzae* (Invasive)	5	0	0
Mumps	<5	<5	0
Pertussis	<5	<5	<5
Varicella	<5	<5	0
Total	**14**	**5**	**<5**

Rockdale 2022 VPD Cases Reported (N=18)



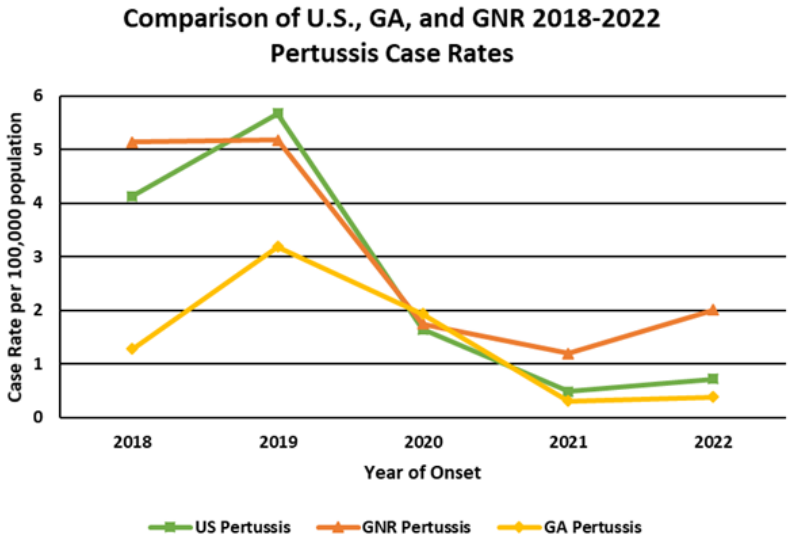
Rockdale 2022	Reported Cases	Investigated Cases	Confirmed/ Probable Cases
H. *Influenzae* (Invasive)	<5	0	0
Influenza—Fatal Cases	<5	0	0
Pertussis	<5	0	0
Varicella	<5	<5	<5
Total	**8**	**<5**	**<5**

*Though all invasive *H. influenzae* cases are reviewed, only Type B requires public health intervention. *H. influenzae* cases aren't required to be investigated per DPH protocol, but GNR will still investigate the case if it is reported.



The graph above shows a comparison with a Mumps, Pertussis, and Varicella in GNR. From 2019-2020, there was a decrease with all three diseases, with Pertussis case rates decreasing by 66.4%. From 2018 -2019, Varicella and Mumps increased, while Pertussis case rates decreased slightly. From 2021-2022, Mumps and Pertussis case rates slightly increased, while Varicella rates remained relatively constant.

The graph below provides a comparison of GNR Pertussis case rates to Georgia and National Pertussis case rates from 2018-2022. GNR Pertussis case rates are higher than national and state case rates from 2021-2022. From 2019-2021, national, state and district case rates decreased; likely due to the infection control measures in place because of the COVID-19 pandemic. Case reporting was also delayed in many instances, or cases went unidentified. Overall vaccination rates for children under 24 months have declined since 2013.[16] From the 2019–20 to the 2021–22 school year, national coverage with state-required vaccines among kindergartners declined from 95% to approximately 93%, ranging from 92.7% for diphtheria, tetanus, and acellular pertussis vaccine (DTaP) to 93.1% for polio.



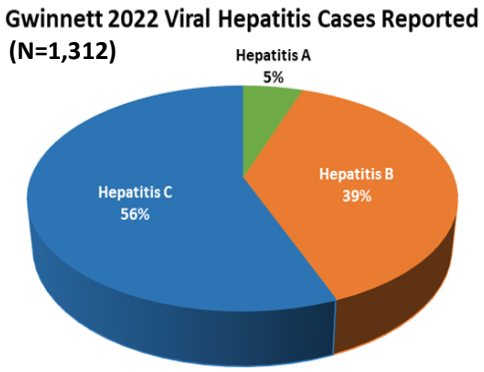
Viral Hepatitis

In 2022, GNR epidemiology investigated 771 viral hepatitis cases; 86 (11.2%) of the investigated cases were acute or probable acute, 251 (32.6%) were chronic or probable chronic and 423 (54.9%) were neither classified acute nor chronic. The large number of cases that are neither classified acute nor chronic is likely due to continuous data cleaning during the publishing of this report. All reported viral hepatitis cases are evaluated for acute illness symptomology by GNR epidemiology staff. Preventative treatment can be given to close contacts of Hepatitis A and B cases to prevent illness. There is no preventative medication for Hepatitis C.

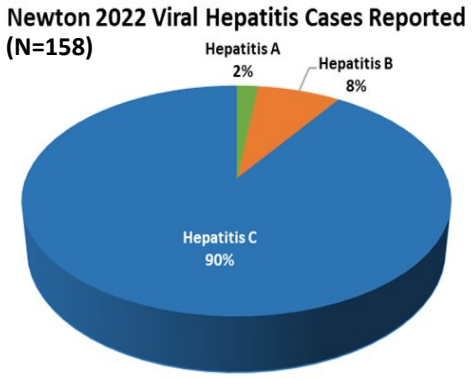
The majority of the viral hepatitis reports were Hepatitis C, and it has been a new trend that was identified in 2014 when previous years were predominantly Hepatitis B. Chronic Hepatitis B is found predominately in individuals from areas where hepatitis B is endemic, including much of Asia. In 2021, the most recent available data, Asian/Pacific Islander persons had an incidence case rate of 27.0 cases per 100,000 people with chronic Hepatitis B compared to the an incidence case rate of 1.9 per 100,000 non-Hispanic, White people.[17] 13.2% (n=128,746) of residents in Gwinnett County are Asian according to 2022 population statistics.

Hepatitis A is of significant concern to epidemiology staff due to the potential for outbreaks within the community. Unlike Hepatitis B and C that are spread through contact with blood and other bodily fluids, Hepatitis A is spread through the fecal-oral route, and can be easily transmitted person-to-person or through food or water that has been contaminated with the virus. Epidemiology staff members work closely with Environmental Health to ensure that the risk for exposure to Hepatitis A is minimized in all local food service establishments, and to quickly respond to any reports of Hepatitis A to prevent transmission from food or waterborne sources. In 2022, there was an increase in case rates of Hepatitis A compared to 2021 case rates from 5.4 to 6.6.

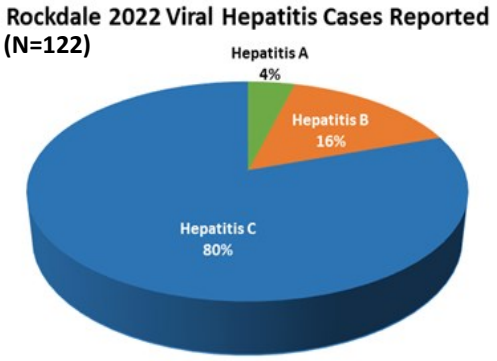
Testing guidance for Hepatitis C has changed in the past five years which has impacted the number of cases reported to GNR. In 1998, testing was recommended for asymptomatic persons with specific risk factors. In 2009, HIV infected persons were added to the recommended testing group, and in 2012 all adults born from 1945 to 1965 were included into the routine testing group. The US Centers for Disease Control and Prevention and US Preventive Services Task Force (USPSTF) recommend a one-time hepatitis C virus (HCV) screening for adults born between 1945 and 1965 (a birth cohort known as “baby boomers”). Approximately three-quarters of persons chronically infected with HCV are baby boomers, many of whom are unaware of their infection.[18] As of April 2020, the CDC recommends primary care providers screen all patients 18 years and older at least once in their lifetime for Hepatitis C and patients with recognized exposures (injecting drugs).[19] These recommendation were implemented in an effort to increase case identification and linkage to care. These changes in testing guidance resulted in an increase in reported Hepatitis C cases over the past 10 years, without an increase in funding or treatment capabilities. To ensure that high priority acute cases are being investigated promptly, epidemiology now investigates only cases thirty years old or younger, unless the patient is experiencing symptoms or elevated liver enzymes.



Gwinnett 2022	Reported Cases	Investigated Cases	Confirmed/ Probable Cases
Hep A Acute	71	71	7
Hep B	280	280	0
Hep B Acute	5	5	5
Hep B Chronic	222	222	220
Hep C	662	92	0
Hep C Acute	<5	0	0
Hep C Probable Acute	<5	<5	<5
Hep C Chronic	28	11	17
Hep C Probable Chronic	41	17	0
Total	**1312**	**699**	**250**



Newton 2022	Reported Cases	Investigated Cases	Confirmed/ Probable Cases
Hep A Acute	<5	<5	<5
Hep B	9	9	0
Hep B Acute	<5	<5	<5
Hep B Chronic	<5	<5	<5
Hep C	136	19	0
Hep C Chronic	<5	0	0
Hep C Proba-ble Chronic	6	<5	<5
Total	**158**	**35**	**5**

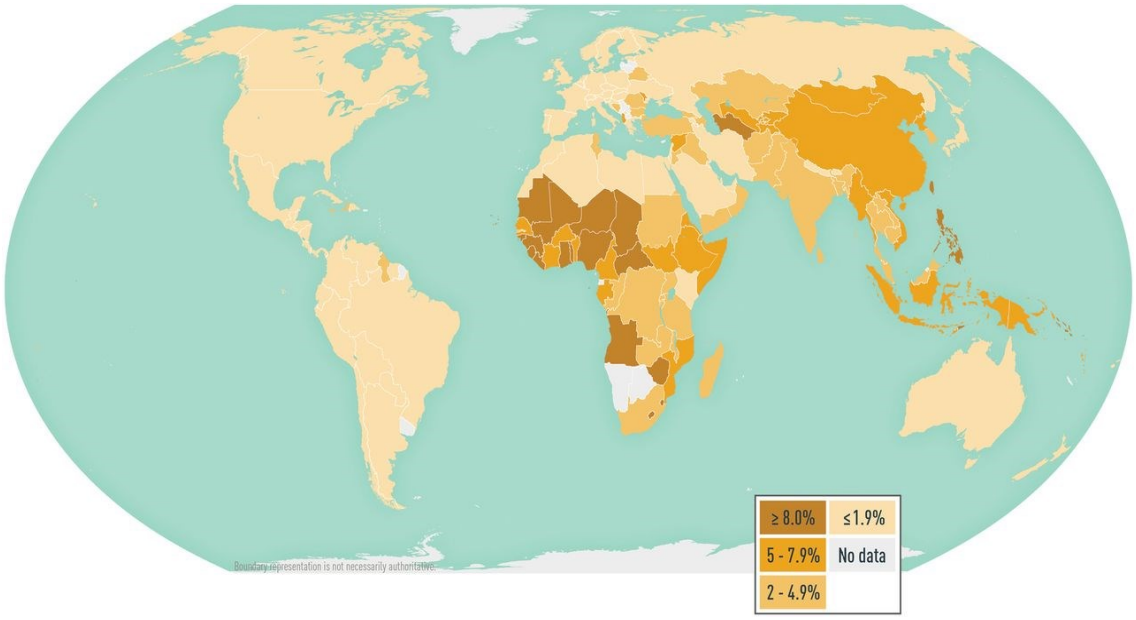


Rockdale 2022	Reported Cases	Investigated Cases	Confirmed/ Probable Cases
Hep A Acute	5	5	0
Hep B	14	14	0
Hep B Chronic	5	5	5
Hep C	86	9	0
Hep C Chronic	<5	<5	<5
Hep C Probable Chronic	9	<5	<5
Total	**122**	**37**	**9**

A risk of having an adult population with chronic Hepatitis B is the possibility with transmission of the virus to newborns through child birth. Regardless of the delivery method, babies are exposed to the virus when their mother is infected. Transmission of perinatal Hepatitis B infection can be prevented in approximately 95% of infants born to Hepatitis B positive mothers by early active immunoprophylaxis through immunoglobulin administration and vaccination. The Perinatal Hepatitis B Prevention Program (PHBPP) is funded through the CDC's National Center for Immunization and Respiratory Disease, Immunization Services Division, with technical support from CDC's National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention.

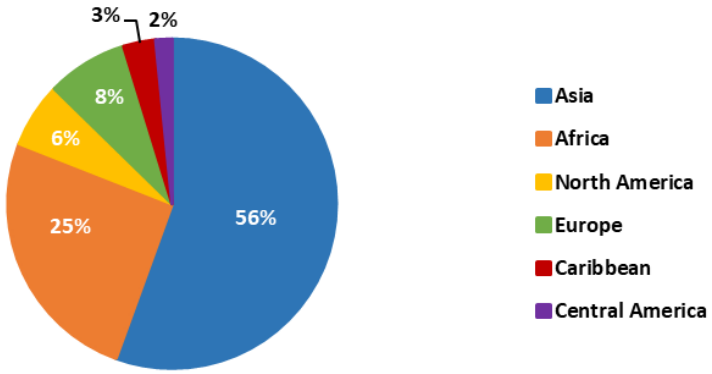
GNR Epidemiology staff work closely with hospitals and pediatricians to ensure babies born to Hepatitis B infected mothers receive needed preventative medication and scheduled vaccinations. Post vaccination testing is also conducted to ensure immunity. GNR has had the largest caseload of babies in the state of Georgia for the last seven years. In 2019, there were 230 case managed newborn babies in Georgia's PHBPP with 29% (66) from GNR. Of the PHBPP babies born in the GNR district where mother's country of birth is known, 94% (n=63) were born outside of the United States. The countries of birth for the majority of GNR PHBPP mothers are countries where there is a high prevalence of chronic Hepatitis B.

2021 Estimates of Worldwide Hepatitis B Disease Burden

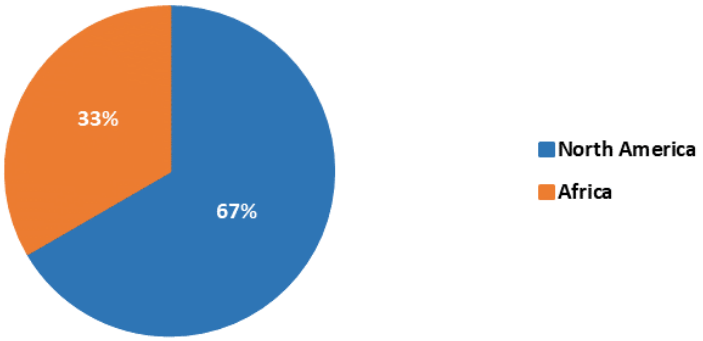


Source: https://wwwnc.cdc.gov/travel/yellowbook/2024/infections-diseases/hepatitis-b

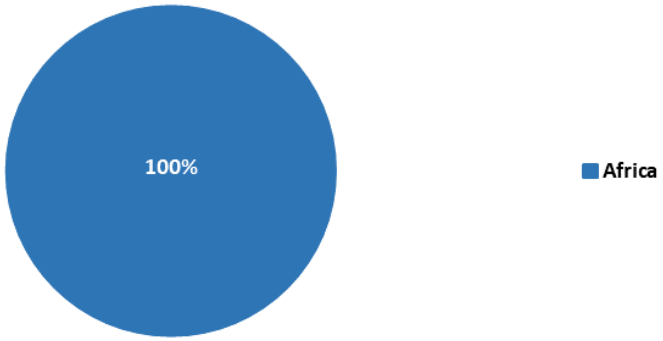
Gwinnett County 2022 Perinatal Hepatitis B Cases by Mother's Region of Birth (N=63)

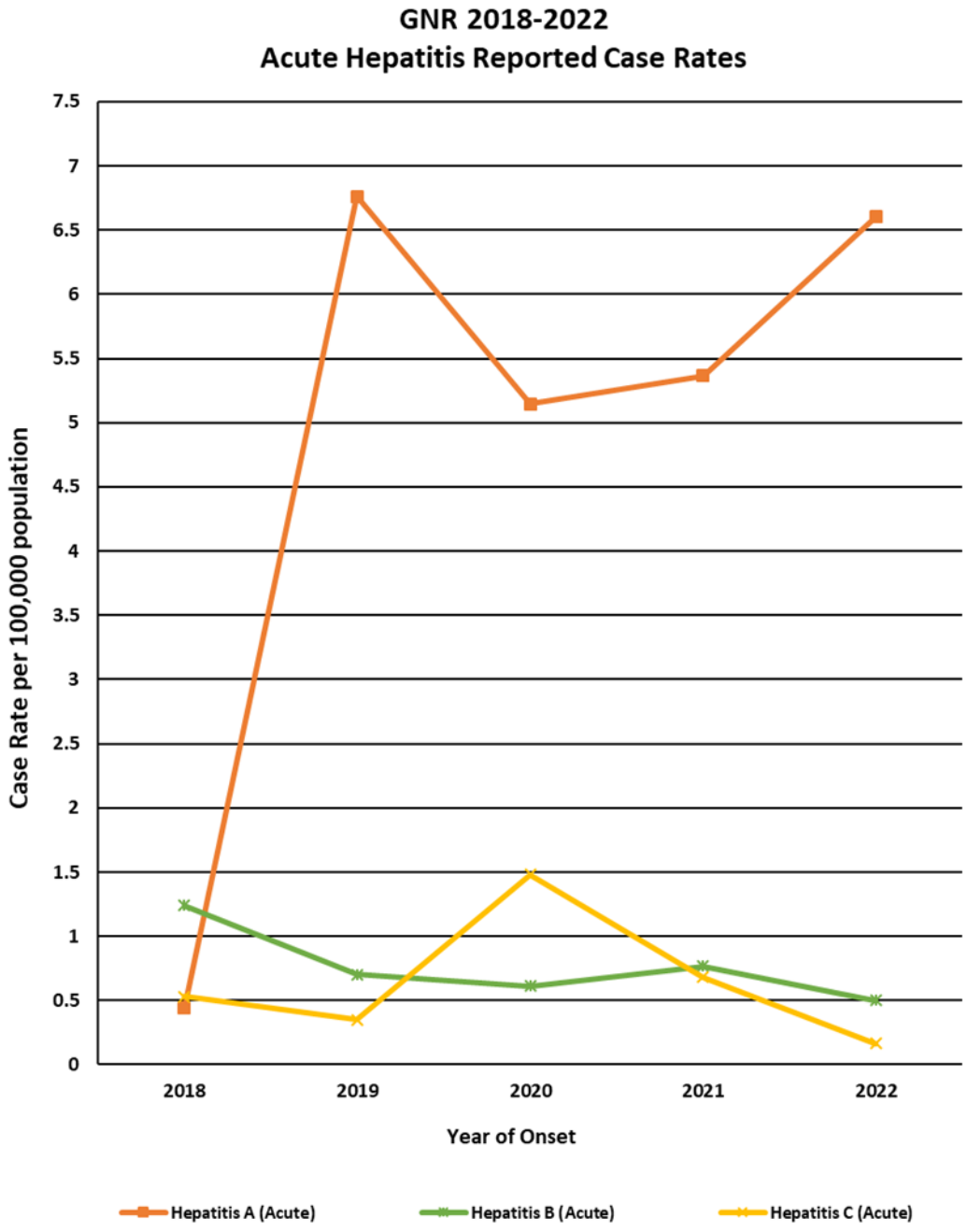


Newton County 2022 Perinatal Hepatitis B Cases by Mother's Region of Birth (N=<5)



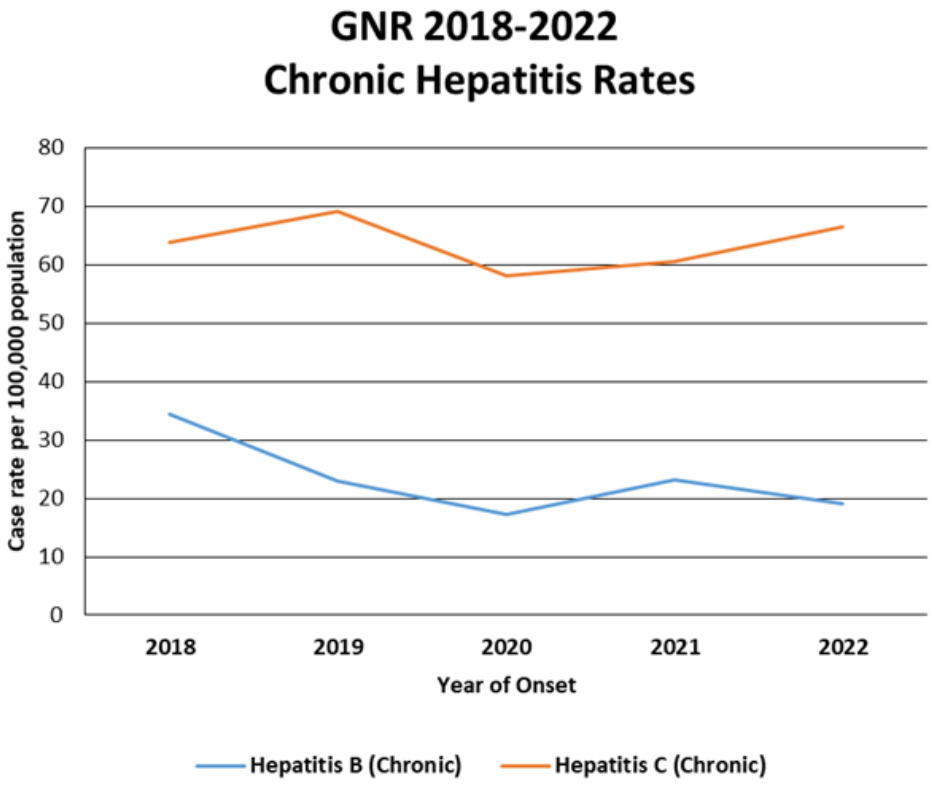
Rockdale County 2022 Perinatal Hepatitis B Cases by Mother's Region of Birth (N=<5)





The above graph shows the GNR acute hepatitis case rates by hepatitis type. In addition, the graph compares GNR case rates to the Georgia case rates and Healthy People (HP) 2030 goals, a set of evidence-based 10-year national health benchmarks. While Hepatitis B and C case rates decreased from 2021-2022, Hepatitis A increased during that same timespan. Healthy People 2030 aims to reach target case rates for each hepatitis types, and they are listed below:

- **Hepatitis A**: Reduce case rates to 0.4 cases per 100,000 people.
- **Hepatitis B**: Reduce case rates to 0.1 cases per 100,000 people.
- **Hepatitis C**: Reduce case rates to 0.1 cases per 100,000 people.



In the graph above, both chronic Hepatitis B and C cases include cases that are considered "Probable Chronic" and "Chronic." While more than half of people infected with Hepatitis C will develop a chronic infection, universal hepatitis C testing is recommended for woman who are pregnant and people who use injection drugs, especially since people can be infected with the virus more than once.[20] Nationally, as of 2020 cases have doubled since 2014, a 129% increase. Half of people infected with hepatitis C will develop a chronic infection. During 2021, 43 U.S. states reported a total of 107,300 newly identified chronic hepatitis C cases in 2021, corresponding to 39.8 chronic hepatitis C cases per 100,000 people.

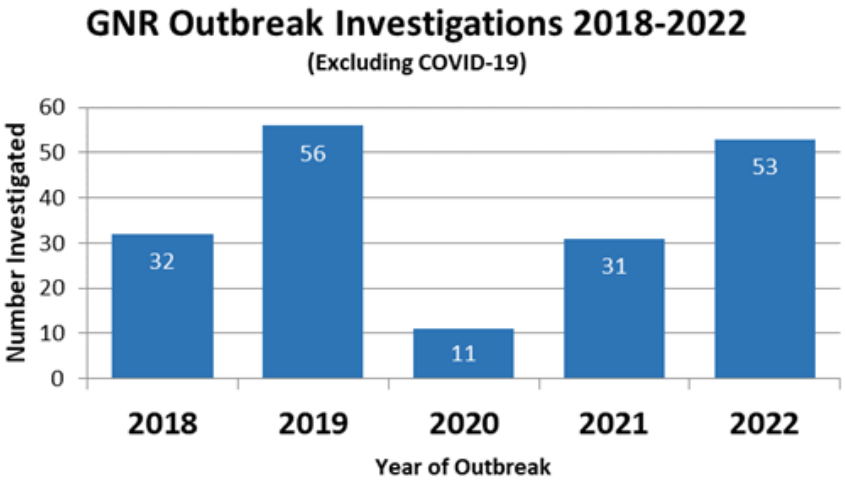
According to the CDC, 6 out of 100 infants born to mothers with chronic Hepatitis C will become infected. Universal hepatitis C testing is recommended for woman who are pregnant and people who use injection drugs, especially because people can be infected with the virus more than once.[21] Hepatitis C can be treated with the use of oral therapy, and can be administered to children starting at age 3.[21] The best way to prevent hepatitis C is by avoiding behaviors that can spread the disease, especially injecting drugs with non-sterile injection equipment. Since 2013, highly effective, well-tolerated curative treatments have been available for hepatitis C, but no vaccine for preventing hepatitis C is yet available.

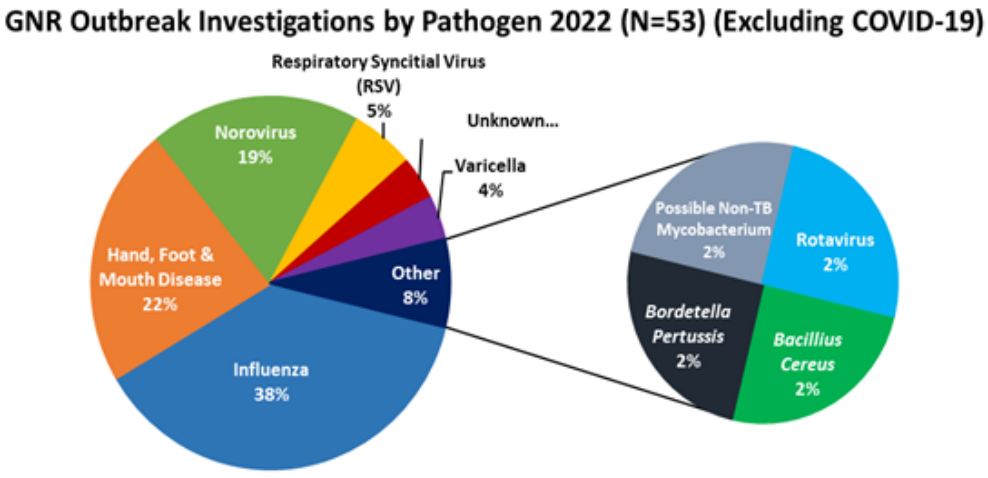
Outbreak Summary

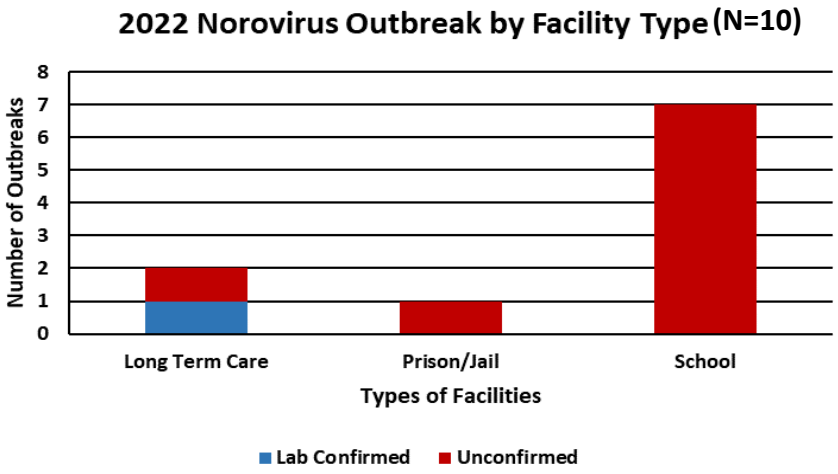
The number of notifiable disease case investigations did not include clusters or other non-notifiable disease investigations. In 2022, priority was given to the investigation of reported outbreaks (N=521), including those cause by SARS-Cov-2 (N=408). Fifty-three non-COVID-19 outbreaks were reported and 100% were investigated by epidemiology during this time. In 2022, SARS-Cov-2 was the predominate pathogen for illness, causing 408 (78.3%) of the outbreaks reported. Influenza or suspected influenza caused the second highest number of outbreaks (N=20, 38%).

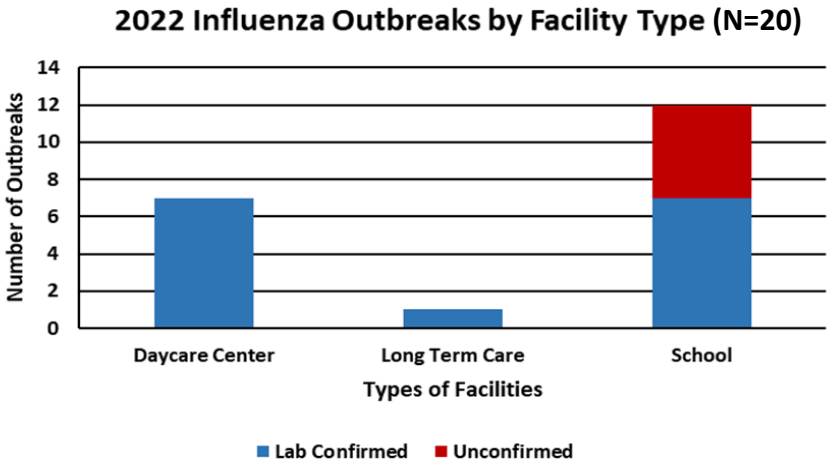
The bar graph below shows outbreaks reported and investigated from 2018-2022. Not all outbreaks were associated with lab-confirmed pathogens.

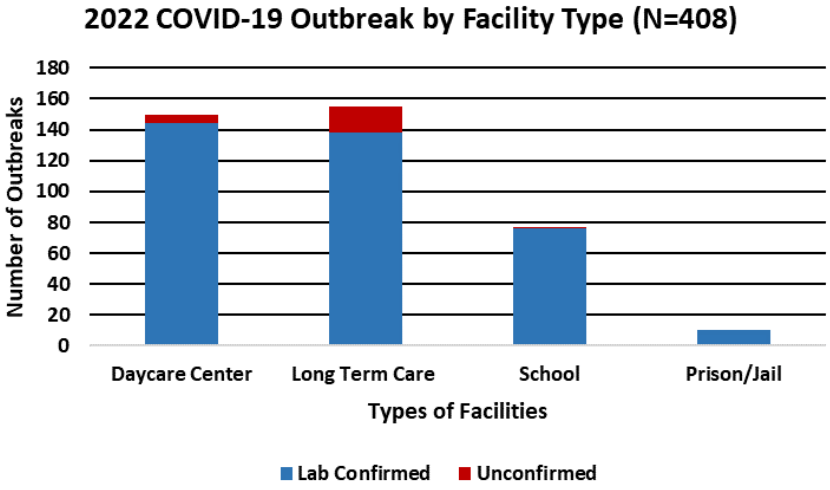
*Note—COVID-19 outbreaks are not included in this summary or the chart below, as this would largely skew the data.






2022 Norovirus Outbreak by Facility Type (N=10)
Number of Outbreaks
0
1
2
3
4
5
6
7
8
Long Term Care
Prison/Jail
School
Types of Facilities
Lab Confirmed
Unconfirmed


2022 Influenza Outbreaks by Facility Type (N=20)
Number of Outbreaks
0
2
4
6
8
10
12
14
Daycare Center
Long Term Care
School
Types of Facilities
Lab Confirmed
Unconfirmed


2022 COVID-19 Outbreak by Facility Type (N=408)
Number of Outbreaks
0
20
40
60
80
100
120
140
160
180
Daycare Center
Long Term Care
School
Prison/Jail
Types of Facilities
Lab Confirmed
Unconfirmed

New Emerging Pathogens

Epidemiology works closely with emergency planners to prepare an evidence-based response to emerging pathogens. Epidemiology investigates all reported and suspect/confirmed cases of emerging pathogens and utilizes surveillance data to inform GNR's public health actions. Epidemiology distributes pathogen-specific information on illness prevention to internal and external partners and works with these partners to implement control measures.

Polio

On July 21, 2022, the CDC was made aware of a case of polio in an unvaccinated person from Rockland County, New York. The New York State Department of Health and the CDC worked together to investigate, where and how the individual was infected. Polio is an incurable, disabling and life-threatening disease caused by the poliovirus, so immediate actions are necessary. Providing the proper protective measures, such as vaccination services to the community, is needed to prevent the spread of polio among unvaccinated individuals. Due to the history of the devastating impact polio has had, the nation needed to be in high alert.[22]

Mpox

On May 6, 2022, an outbreak of Mpox, formerly known as Monkeypox, occurred in the United Kingdom beginning with a resident that traveled to Nigeria. The Mpox virus can be transmitted to humans through contact with or by eating an infected animal or having direct contact with the host's blood, bodily fluids, lesions respiratory droplets, and contaminated objects.[23] The population of people that have been most, but not exclusively impacted, are among gay, bisexual, and men who have sex with men (MSM). In the US, there have been a total of 30,401 confirmed cases as of November 30, 2023, and Georgia had the 5th most cases at 2,034.[24] The primary way to test for Mpox is by gathering samples by swabbing any formed lesion that an infected individual has.

The JYNNEOS vaccine was proven to be effective in preventing Mpox among people that were at risk of the virus; approximately 1.2 million vaccine doses were administered throughout the US. Vaccine accessibility and awareness were major contributors to people receiving both doses of the JYNNEOS vaccine.[25] Supportive care was the typical way of treating Mpox, but an antiviral treatment called TPOXX (Tecovirimat) was also offered for those with infection; it is a smallpox treatment that was authorized by the Food and Drug Administration (FDA) to be used for Mpox. In GNR, there were a total of 142 confirmed or probable cases of Mpox.

Other Activities

Public Health Associate Program (PHAP)

GNR Epidemiology has been a host site for the Public Health Associate Program managed by CDC's Office for State, Tribal, Local and Territorial Support (OSTLTS) since August 2012. The program is designed for entry-level public health professionals with either a bachelor's or master's degree to obtain real world public health experience by working at a host site for two years. GNR is hosting two associates, working a two year assignment in Infectious Diseases. The current associates have been a great addition to our staff by providing education, routine surveillance and investigations, and linking patients to testing and treatment for STD's, HIV, TB disease, and latent TB infections.

Emergency Preparedness

GNR Emergency Preparedness is tasked under the Georgia Emergency Operations plan to lead efforts related to Emergency Support Function 8 (Health and Medical) and support Emergency Support Function 6 (Mass Care). GNR Epidemiology provides technical assistance and guidance as well as assists in emergencies as members of Public Health Action Support Team (PHAST). GNR Epidemiology works in conjunction with GNR Emergency Preparedness to plan, facilitate, and participate in public health emergency exercises, drills, and trainings. The Epidemiology staff also monitors surveillance data and reports any unusual activity or bioterrorism agents to Emergency Preparedness. GNR Epidemiology is a member of the shelter inspection team and provides pre-emergency inspections as well as opening inspections and daily surveillance and clinic checks during an emergency. GNR epidemiology coordinated Emergency Preparedness with a Gwinnett County hurricane evacuation shelter in 2016. Shelter teams that included epidemiologists were sent to other locations in Georgia for hurricanes in 2017 and 2018. Epidemiology and Emergency Preparedness worked closely together through the Incident Command System (ICS) to coordinate the complex COVID-19 response from early 2020 into 2021. This large operation included setting up COVID-19 testing locations, resulting operations, contact tracing, case investigations, enhanced partner communications, preparation for and delivery of vaccine, media outreach, and much more. In 2022, GNR Epidemiology and Emergency Preparedness again collaborated to vaccinate over 7,000 patients for Mpox.

Public Health Accreditation Board (PHAB)

GNR Health District completed a two day site visit as part of the national accreditation process through the Public Health Accreditation Board (PHAB) in April 2016 and earned accreditation. GNR was reaccredited in 2022. The accreditation process seeks to improve the standards of quality and performance within public health departments across the county. GNR Epidemiology has been a vital part of the district's accreditation application process. Epidemiology staff have been involved with the Community Health Assessment, Community Health Improvement Plan and the District's Strategic Plan as well as compiling the documentation for the Standards and Measures in the twelve domains of the application.

Attachment 1: Notifiable Disease Reporting Poster

All Georgia physicians, laboratories, and other health care providers are required by law to report patients with the following conditions.

Both lab-confirmed and clinical diagnoses are reportable within the time interval specified below.For the latest information from the Department of Public Health (DPH), visit our website at: **dph.georgia.gov**

REPORT IMMEDIATELY

To Report Immediately | **Call:** District Health Office or **1-866-PUB-HLTH (1-866-782-4584)**

- any cluster of illness
- animal bites
- ▸ anthrax
- all acute arboviral infections*
- ▸ botulism
- ▸ brucellosis
- cholera
- diphtheria
- *E. coli 0157*
- *Haemophilus influenzae* (invasive)+
- hantavirus pulmonary syndrome
- hemolytic uremic syndrome (HUS)
- hepatitis A (acute)
- measles (rubeola)
- ▸ melioidosis
- meningitis (specify agent)
- meningococcal disease (invasive)
- novel influenza A virus infections
- novel respiratory viruses (SARS, MERS, etc.) positive lab results
- ▸ orthopoxviruses (smallpox, monkeypox)
- pertussis
- ▸ plague
- poliomyelitis
- ▸ Q fever
- rabies (human + animal)
- SARS-CoV-2 (COVID-19) positive lab results from point of care (rapid) antigen or molecular tests positive + negative lab results nucleic acid amplification test (e.g., RT-PCR, etc.) results from laboratories certified under CLIA to perform moderate- or high-complexity tests
- shiga toxin positive test
- *S. aureus* with vancomycin MIC ≥ 4 mcg / mL
- syphilis (adult)
- syphilis during pregnancy
- tuberculosis
- latent TB infection in children < 5 years old
- ▸ tularemia
- ▸ viral hemorrhagic fevers

▸ *Potential agent of bioterrorism.*
* *Invasive = isolated from blood, bone, CSF, joint, pericardial, peritoneal, or pleural fluid.*

REPORT WITHIN 1 MONTH

Birth Defects, including fetal deaths of at least 20 weeks gestational age and children under age 6. Information for reporting birth defects is available at **dph.georgia.gov/birth-defects-reporting**.

Healthcare-associated Infections (HAIs) For facilities required to report HAI data to CMS via NHSN. Report in accordance with the NHSN protocol. Reporting requirements and information available at **dph.georgia.gov/notifiable-hai-reporting**.

Neonatal Abstinence Syndrome (NAS) Information for reporting NAS is available at **dph.georgia.gov/nas**.

REPORT WITHIN 6 MONTHS

Benign brain and central nervous system tumors

Cancer

Report forms and reporting information for tumors and cancer is available at **dph.georgia.gov/georgia-comprehensive-cancer-registry**.

REPORT WITHIN 7 DAYS

- AIDS#
- acute flaccid myelitis
- anaplasmosis
- aseptic meningitis
- babesiosis
- blood lead level (all)
- campylobacteriosis
- Carbapenem-resistant Enterobacteriaceae (CRE): Enterobacter species, Escherichia coli, and Klebsiella species
- chancroid
- Chlamydia trachomatis (genital infection)
- Creutzfeldt-Jakob Disease (CJD), suspected cases, under age 55
- cryptosporidiosis
- cyclosporiasis
- ehrlichiosis
- giardiasis
- gonorrhea
- HIV infection#
- Perinatal HIV exposure#
- hearing impairment (permanent under age 5)##
- hepatitis B
  - acute hepatitis B
  - chronic HBsAg(+) or HBV DNA detected infections
  - HBsAg(+) pregnant women
  - Perinatal HBV exposure
- hepatitis C (past or present)
  - anti-HCV(+)
  - HCV RNA detected
  - HCV genotype detected
  - anti-HCV(+) or HCV RNA detected pregnant women
  - anti-HCV(+) or HCV RNA detected children ages <3 years
- hepatitis D (Delta virus present with HBsAg): acute and chronic
- hepatitis E (acute)
- influenza-associated death (all ages)
- legionellosis
- leptospirosis
- listeriosis***
- leprosy or Hansen's disease (Mycobacterium leprae)
- Lyme disease
- lymphogranuloma venereum
- malaria
- maternal deaths (during pregnancy or within 1 year of end of pregnancy)##
- MIS-C (multi-system inflammatory syndrome in children)
- mumps
- psittacosis
- Rocky Mountain spotted fever
- rubella (including congenital)
- salmonellosis
- shigellosis
- streptococcal disease, Group A or B (invasive)**
- Streptococcus pneumoniae (invasive)**
  - report with antibiotic-resistance information
- tetanus
- toxic shock syndrome
- typhoid
- Varicella (Chickenpox)
- Vibrio infections
- yersiniosis

REPORT CASES ELECTRONICALLY THROUGH THE STATE ELECTRONIC NOTIFIABLE DISEASE SURVEILLANCE SYSTEM AT http://sendss.state.ga.us

* California serogroup virus diseases (including: California encephalitis, Jamestown Canyon, Keystone, La Crosse, Snowshoe hare, Trivittatus virus), Chikungunya Virus Disease, Eastern equine encephalitis virus disease, Powassan virus disease, St. Louis encephalitis virus disease, West Nile virus disease, Western equine encephalitis virus disease, Zika Virus Disease

** Invasive = isolated from blood, bone, CSF, joint, pericardial, peritoneal, or pleural fluid.

*** L. monocytogenes isolated from blood, bone, CSF, joint, pericardial, peritoneal, or pleural fluid, or other normally sterile site; or from placenta or products of conception in conjunction with fetal death or illness. Infant mortality is reportable to Vital Records.

REPORTING FOR OTHER CONDITIONS:

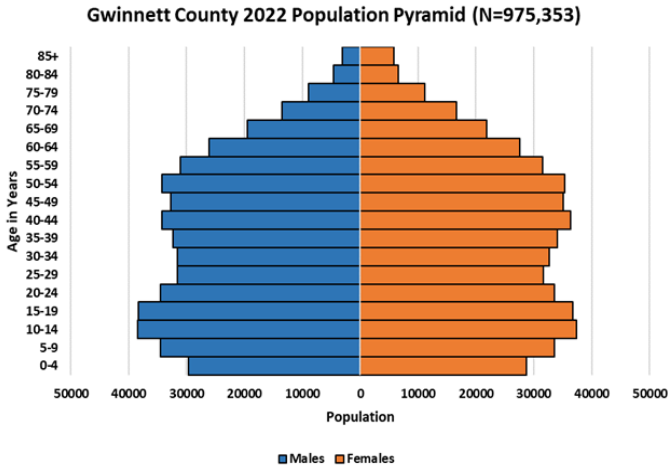
\# Report forms and reporting information for HIV/AIDS available by phone (**1-800-827-9769**) OR online (**dph.georgia.gov/georgias-hivaids-epidemiology-surveillance-section**).
For mailing HIV/AIDS reports, please use double envelopes marked "confidential", addressed to Georgia Department of Public Health Epidemiology Section, P.O. Box 2107, Atlanta, GA 30301

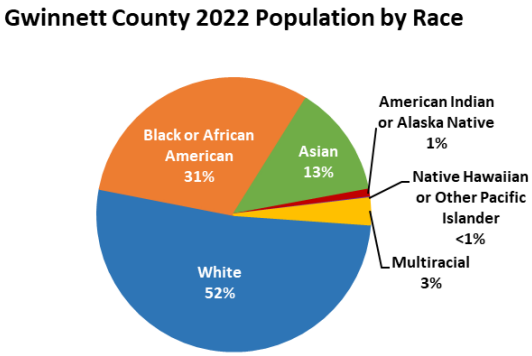
\## Report forms and reporting information for maternal deaths and hearing impairment (permanent, under age 5) available at **dph.georgia.gov/documents/forms-surveys-and-documents**.

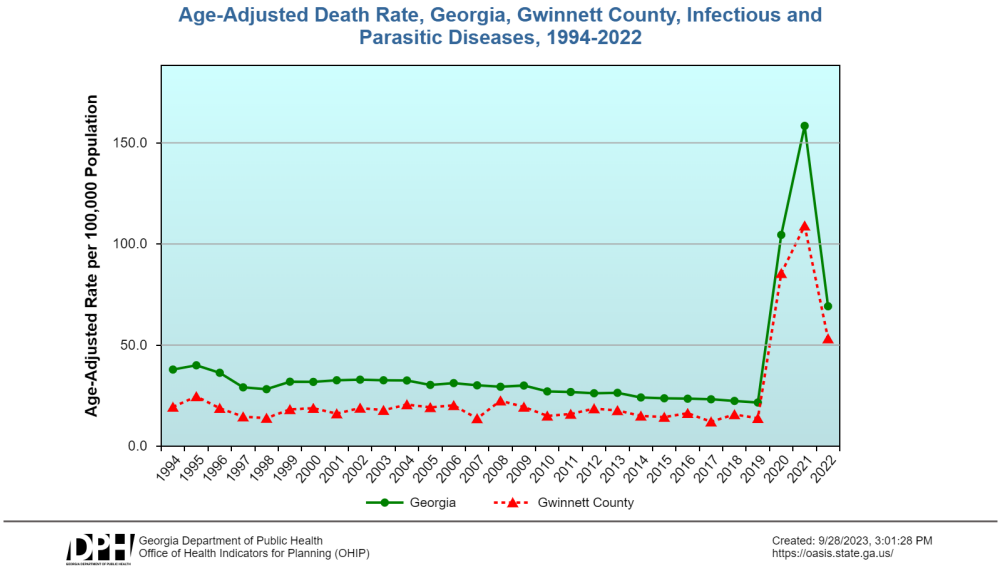
For more information:
www.dph.ga.gov/disease-reporting

DPH GEORGIA DEPARTMENT OF PUBLIC HEALTH

Gwinnett County Population at a Glance







Top 10 Causes of Hospitalizations in Gwinnett County for 2022 by Age-Adjusted De-duplicated Hospital Discharge Rate
Total Discharges: 71,968
(rates per 100,000 population)

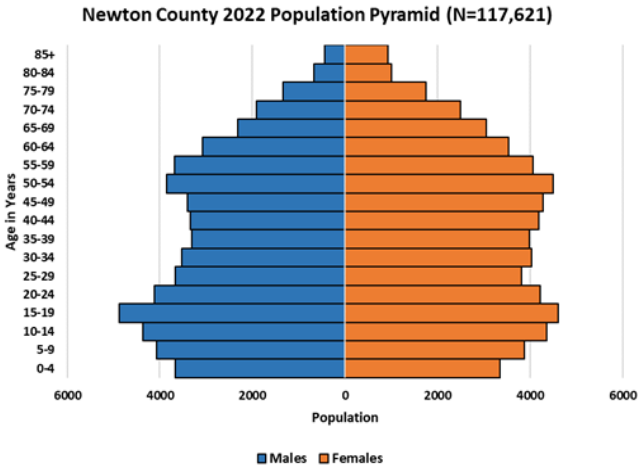
1	Septicemia	376.5
2	Cardiovascular Diseases	348.6
3	Mental and Behavioral Disorders	229
4	Bone & Muscle Diseases	184.8
5	Cerebrovascular Disease	162.4
6	Covid-19	159.5
7	Falls	157.5
8	Nervous System Diseases	137
9	Endocrine, Nutritional & Metabolic Diseases	122.8
10	Diabetes Mellitus	109.9

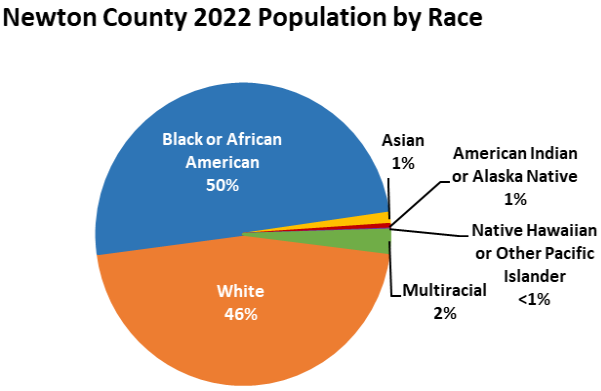
Select Population Based Statistics:

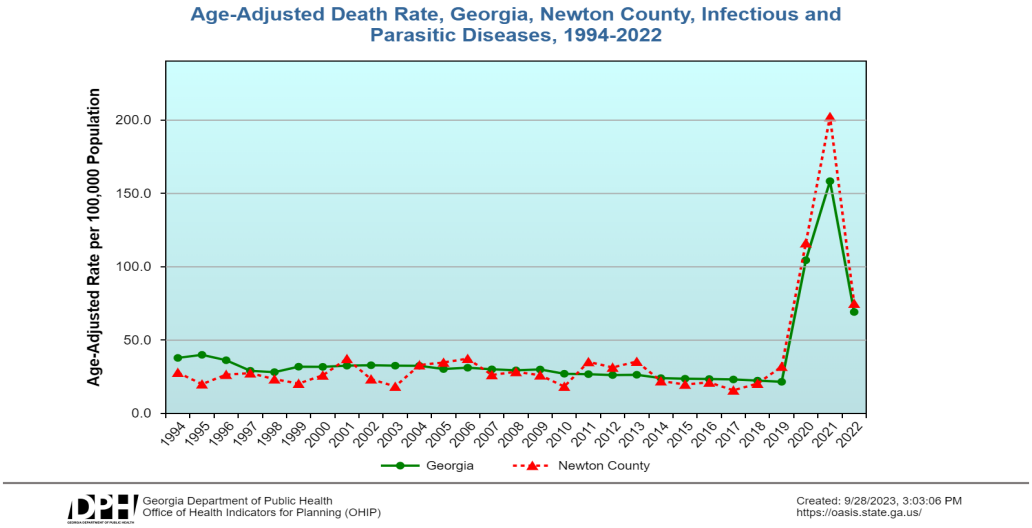
2022 Pregnancy Totals: 11,566 births among females 15 - 55 years
2022 Birth Rate: 36.1 per 1,000 females
2022: Infant Mortality Rate: 6.4 per 1,000 births

Source: www.oasis.state.ga.us

Newton County Population at a Glance







Top 10 Causes of Hospitalizations in Newton County for 2022 by Age-Adjusted De-duplicated Hospital Discharge Rate
Total Discharges: 11,966
(rates per 100,000 population)

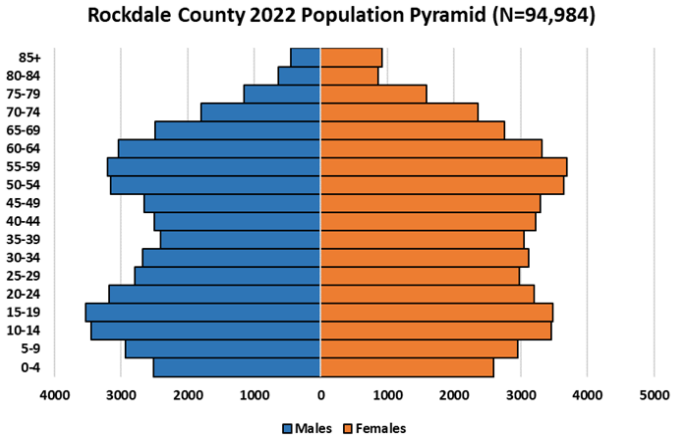
1	Septicemia	802.6
2	Cardiovascular Diseases	681
3	Cerebrovascular Disease	266.1
4	Bone & Muscle Diseases	255.1
5	Covid-19	239.8
6	Endocrine, Nutritional & Metabolic Diseases	222.7
7	Nervous System Diseases	219.3
8	Falls	216.8
9	Diabetes Mellitus	210
10	Mental and Behavioral Issues	204

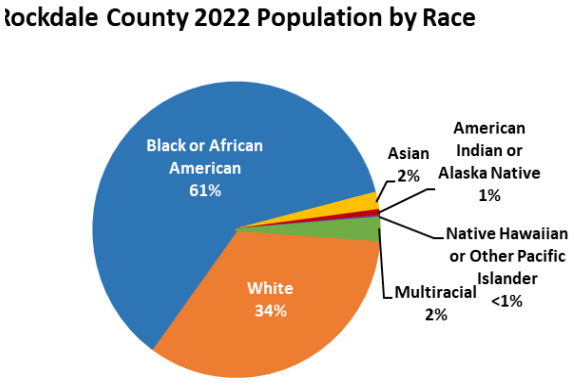
Select Population Based Statistics:

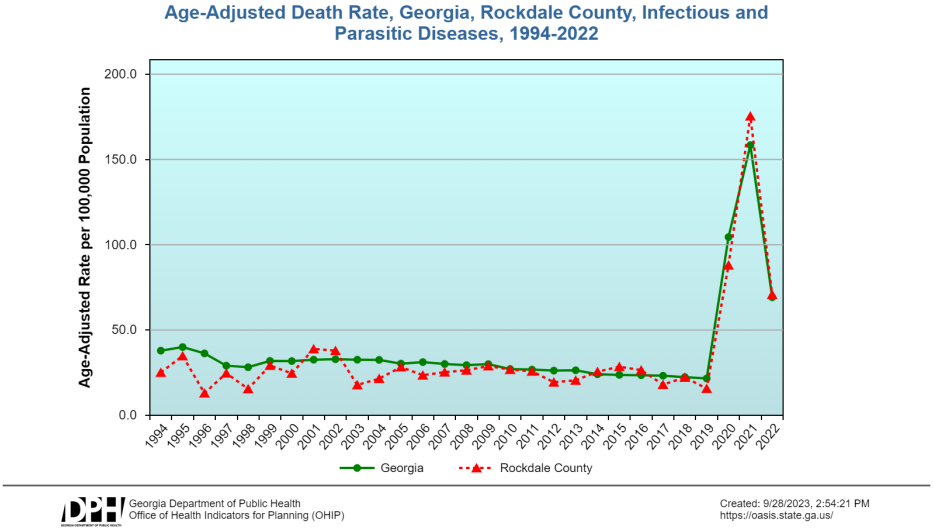
2022 Pregnancy Totals: 1,347 births among females 15-55 years
2022 Birth Rate: 34.7 per 1,000 females 15-55 years
2022 Infant Mortality Rate: 5.2 per 1,000 births

Source: www.oasis.state.ga.us

Rockdale County Population at a Glance







Top 10 Causes of Hospitalizations in Rockdale County for 2019 by Age-Adjusted De-duplicated Hospital Discharge Rate
Total Discharges: 9,417
(rates per 100,000 population)

1	Septicemia	1,069.7
2	Cardiovascular Diseases	634.8
3	Cerebrovascular Diseases	254.8
4	Nervous System Diseases	251.6
5	Endocrine, Nutritional & Metabolic Diseases	249.5
6	Bone & Muscle Diseases	233.7
7	Mental & Behavioral Diseases	219
8	Covid019	193.7
9	Diabetes Mellitus	192.7
10	Falls	185.3

Select Population Based Statistics:

2022 Pregnancy Totals: 976 births among females 15-55 years
2022 Birth Rate: 32.5 per 1,000 females 15-55 years
2022 Infant Mortality Rate: 2022 data is unavailable*

Source: www.oasis.state.ga.us

For additional copies of this report visit
www.gnrhealth.com
or call Epidemiology at
770-339-4260

References

1. Powder, J. (2022). COVID-19 in 2022: A Year-End Wrap-Up. Johns Hopkins Bloomberg School of Public Health. https://publichealth.jhu.edu/2022/covid-year-in-review.
2. Collins, S. (2020). Coronavirus incubation period. WebMD. https://www.webmd.com/covid/coronavirus-incubation-period.
3. Georgia Department of Public Health. https://dph.georgia.gov/covid-19-status-report.
4. Taylor L. (2022). Covid-19: Omicron drives weekly record high in global infections BMJ 2022; 376 :o66 doi:10.1136/bmj.o66.
5. Omicron fuels record weekly COVID-19 cases, but deaths 'stable'. (2022). UN News Global perspective Human stories. United Nations. https://news.un.org/en/story/2022/01/1109652.
6. Georgia Rabies Manual. (2018, Spring). Georgia Department of Community Health. https://dph.georgia.gov/document/publication/georgia-rabies-manual-updated-april-2018/download.
7. Wild animals. (2020). CDC. https://www.cdc.gov/rabies/location/usa/surveillance/wild_animals.html.
8. Rabies. (2023). National Foundation for Infectious Diseases. https://www.nfid.org/infectious-disease/rabies.
9. Rao AK, Briggs D, Moore SM, et al. Use of a Modified Preexposure Prophylaxis Vaccination Schedule to Prevent Human Rabies: Recommendations of the Advisory Committee on Immunization Practices — United States, 2022. MMWR Morb Mortal Wkly Rep 2022;71:619–627. DOI: http://dx.doi.org/10.15585/mmwr.mm7118a2.
10. Petersen, L. R., Nasci, R. S., Beard, C. B., & Massung, R. F. (2016). EMERGING VECTOR-BORNE DISEASES IN THE UNITED STATES: WHAT IS NEXT, AND ARE WE PREPARED? National Academies Press (US). https://www.ncbi.nlm.nih.gov/books/NBK390433/.
11. Marder, E. P. (2017). Incidence and Trends of Infections with Pathogens Transmitted Commonly Through Food and the Effect of Increasing Use of Culture-Independent Diagnostic Tests on Surveillance — Foodborne Diseases Active Surveillance Network, 10 U.S. Sites, 2013–2016. MMWR. Morbidity and Mortality Weekly Report, 66. https://doi.org/10.15585/mmwr.mm6615a1.
12. Tack DM, Ray L, Griffin PM, et al. Preliminary Incidence and Trends of Infections with Pathogens Transmitted Commonly Through Food — Foodborne Diseases Active Surveillance Network, 10 U.S. Sites, 2016–2019. MMWR Morb Mortal Wkly Rep 2020;69:509–514. DOI: http://dx.doi.org/10.15585/mmwr.mm6917a1.
13. FoodNet 2019 Preliminary Data. Foodborne Diseases Active Surveillance Network (FoodNet). CDC. https://www.cdc.gov/foodnet/reports/prelim-data-intro-2019.html.
14. Table 13. Primary and Secondary Syphilis — Reported Cases and Rates of Reported Cases by State, Ranked by Rates, United States, 2021. https://www.cdc.gov/std/statistics/2021/tables/13.htm.
15. 2022 Annual Tuberculosis Surveillance Report. Georgia Department of Public Health. https://dph.georgia.gov/health-topics/tuberculosis-tb-prevention-and-control.
16. Hill HA, Chen M, Elam-Evans LD, Yankey D, Singleton JA. Vaccination Coverage by Age 24 Months Among Children Born During 2018–2019 — National Immunization Survey–Child, United States, 2019–2021. MMWR Morb Mortal Wkly Rep 2023;72:33–38. DOI: http://dx.doi.org/10.15585/mmwr.mm7202a3.
17. National Profile of Viral Hepatitis 2021. Viral Hepatitis. CDC. https://www.cdc.gov/hepatitis/statistics/2021surveillance/introduction/national-profile.htm.
18. Schillie S, Wester C, Osborne M, Wesolowski L, Ryerson AB. CDC Recommendations for Hepatitis C Screening Among Adults — United States, 2020. MMWR Recomm Rep 2020;69(No. RR-2):1–17. DOI: http://dx.doi.org/10.15585/mmwr.rr6902a1.
19. Screen All Patients for Hepatitis C. Know More Hepatitis. CDC. https://www.cdc.gov/knowmorehepatitis/hcp/Screen-All-Patients-For-HepC.htm.
20. Chappell, CA. & Jonas, MM. (2020). Hepatitis C Virus in Pregnancy: Are We Ready for Test and Treat?. The Journal of Infectious Diseases. Volume 222. Issue Supplement_9. Pages S789–S793. https://doi.org/10.1093/infdis/jiaa181.
21. Hepatitis C Questions and Answers for the Public. Viral Hepatitis. CDC. https://www.cdc.gov/hepatitis/hcv/cfaq.htm.
22. Polio. New York State Department of Health. https://www.health.ny.gov/diseases/communicable/polio/.
23. Hraib M, Jouni S, Albitar MM, Alaidi S, Alshehabi Z. The outbreak of monkeypox 2022: An overview. Ann Med Surg (Lond). 2022 Jun 24;79:104069. doi: 10.1016/j.amsu.2022.104069. PMID: 35860140; PMCID: PMC9289401.
24. 2022-2023 U.S. Map & Case Count. Mpox. CDC. https://www.cdc.gov/poxvirus/mpox/response/2022/us-map.html.
25. JYNNEOS Vaccine Coverage by Jurisdiction. Mpox. CDC. https://www.cdc.gov/poxvirus/mpox/cases-data/mpx-jynneos-vaccine-coverage.html.