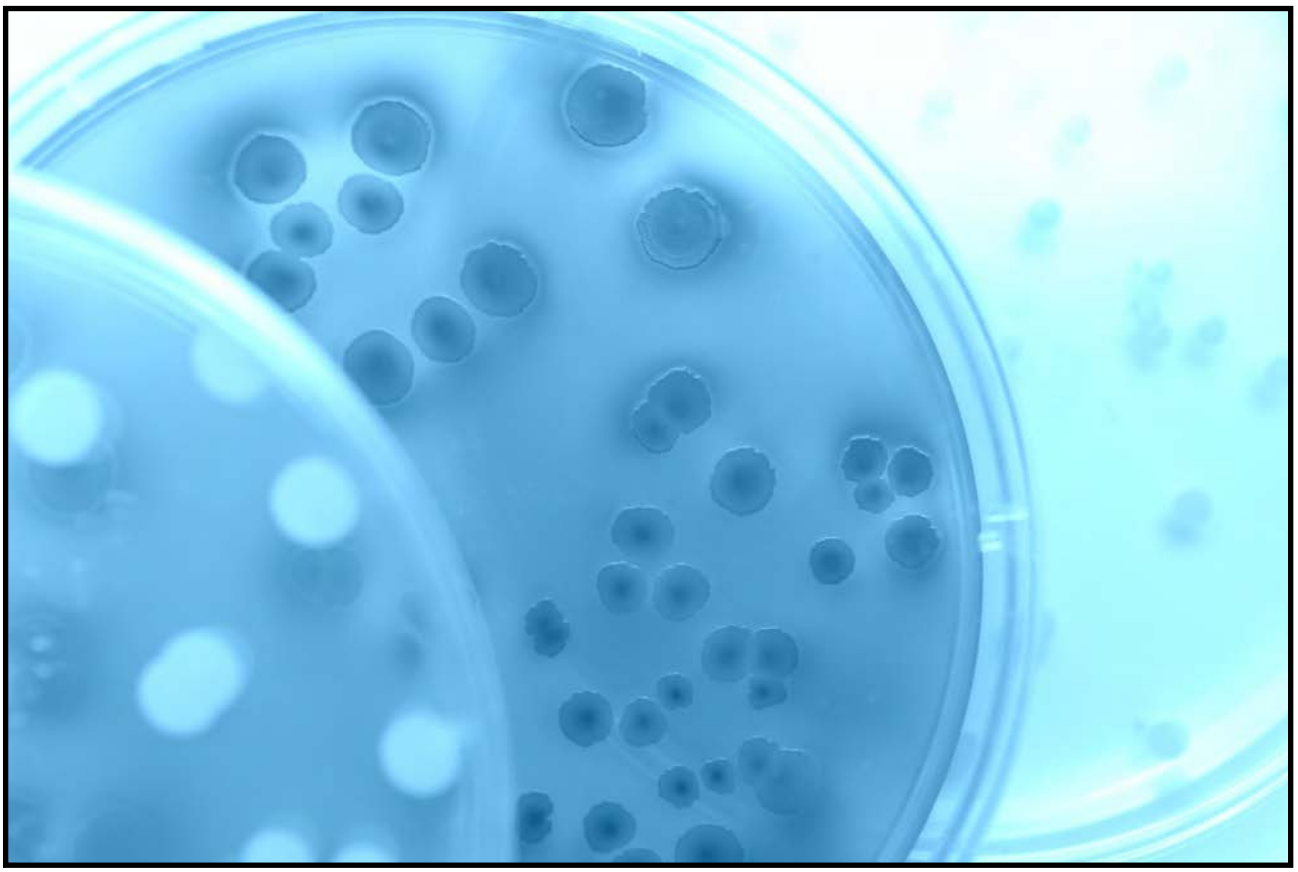
GWINNETT
ROCKDALE
NEWTON
COUNTY HEALTH DEPARTMENTS

Annual Report

Epidemiology & Infectious Disease

2017
2018



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GWINNETT, NEWTON, AND ROCKDALE COUNTIES EPIDEMIOLOGY & INFECTIOUS DISEASE 2017/2018 ANNUAL REPORT

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GWINNETT, NEWTON, AND ROCKDALE COUNTIES EPIDEMIOLOGY & INFECTIOUS DISEASE 2017/2018 ANNUAL REPORT

Executive Summary

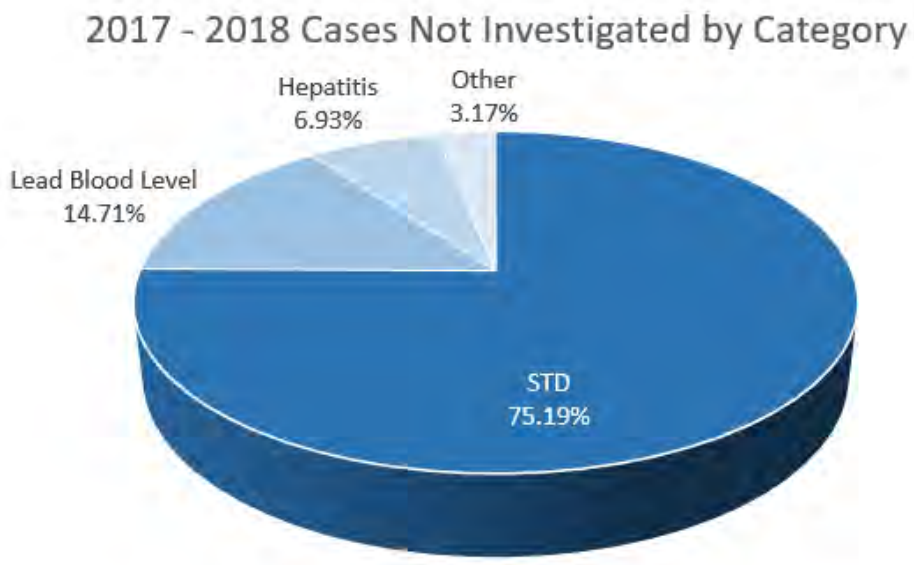
The Gwinnett, Newton, Rockdale County Health Departments (GNR), Division of Epidemiology and Infectious Disease serves the population of Gwinnett, Newton, and Rockdale Counties in metropolitan Atlanta, Georgia. The division is responsible for disease investigation and control for over one million residents. 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 three distinct programs: Epidemiology, Communicable Diseases and Tuberculosis. These programs operate as a team to meet local, state, and federal goals and deliverables.

In 2017 & 2018 a total of 27,905 notifiable conditions including 14,805 STD cases, 5,813 general notifiable disease cases, 7,196 animal bites, and 91 tuberculosis cases were reported in the three-county health district. Notifiable conditions have increased by 160% since the first two annual reports published in 2013 & 2014. This increase is due in large part to increased reporting of viral hepatitis, *Chlamydia*, Gonorrhea, animal bites, and lead blood level results. Of all non-STD, non-TB notifiable diseases that require an investigation by epidemiology or a public health intervention, 81.6% 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 2018 Notifiable Disease data as of November 11, 2021.

A total of 3,229 (15.6%) of all notifiable diseases were investigated, and this is due to several factors. 3,581 (61.6%) of non-STD, non-TB diseases that were reported in 2017 & 2018 did not require an investigation based on statewide disease protocols. *Chlamydia* and Gonorrhea make up the largest proportion of uninvestigated cases due to how the data is processed and reported at the state level. Reports for these STD's will only be made accessible to the local health district if they meet priority status, per the district's custom Partner Services Priority Grid, or if the individual was diagnosed at a public health center. Though all lead blood level test results are reportable to public health, Epidemiology is only required to investigate cases in children who meet the threshold for public health intervention (10 µg/dL or higher). In 2017, program staff investigated 95 foodborne illness complaints and 1 outbreak of illness; 100% of these instances were investigated. In 2018, program staff investigated 137 foodborne illness complaints and 6 outbreak of illness; 100% of these instances were investigated.

2017-2018 Cases Not Investigated		
Reportable Disease	Number of Cases	Percentage of Cases Reported
Campylobacteriosis	<5	0.02%
Cryptosporidiosis	<5	0.01%
Giardiasis	19	0.13%
Hepatitis B	<5	0.02%
Hepatitis C	997	6.91%
Salmonellosis	10	0.07%
Shiga Toxin producing E. Coli	<5	0.03%
Shigellosis	<5	0.01%
Yersinia	<5	0.01%
Chlamydia & Gonorrhea	10,854	75.19%
Haemophilus Influenzae	38	0.26%
Lead Blood Level	2123	14.71%
Steptococcal Disease, Group A (Invasive)	62	0.43%
Steptococcal Disease, Group B (Invasive)	182	1.26%
Steptococcal Toxic Shock Syndrome	5	0.03%
Steptococcus Pneumoniae (Invasive)	128	0.89%
Toxic Shock Syndrome	<5	0.01%
Total	14,435	100%



Program Descriptions

The GNR Division of Epidemiology and Infectious Disease is comprised of 3 distinct programs: Epidemiology, Communicable Disease, and Tuberculosis. The District serves over one million residents of Gwinnett (N=907,135), Newton (N=106,999) and Rockdale (N=89,355) counties in metropolitan Atlanta, GA. Funding for each of the programs is secured through county, state and federal grant-in-aid.

The program is managed by the Director of Epidemiology and Infectious Disease, and is supported by an Infectious Disease Nurse and an Administrative Operations staff member.

Epidemiology Program

Program Responsibilities: The Epidemiology program staff is responsible for investigation of cases, clusters, outbreaks and suspected cases of reported diseases including those which may not be captured in traditional surveillance systems such as syndromic surveillance triggers. Staff is also responsible for tracking and reporting nearly 70 notifiable diseases to the Georgia Division of Public Health Epidemiology Branch and implementing control measures to limit the spread of disease in the community. The Epidemiology program staff completes data requests and provides health advice and education to other public health staff, hospital staff, physicians and other health care providers, school and day care center staff, and other members of the community in addition to providing trainings and outreach. The Epidemiology staff is often responsible for publishing internal and external reports and participates in county and district public health programs as needed.

Communicable Diseases Unit

Program Responsibilities: The staff of the Communicable Diseases Unit investigates sexually-transmitted infections (STI), which include HIV/AIDS, syphilis, gonorrhea, and *chlamydia*. The Communicable Diseases Unit investigates, tracks, and reports to the Georgia Division of Public Health and provides community outreach and education. Unit staff is responsible for ensuring that cases are reported, diagnosed and treated, and partners are referred for testing and treatment as appropriate. The team also serves as a nonclinical consultation source for internal and external clinicians regarding CDC STD treatment guidance. These are the key components of STI control and prevention programs.

Tuberculosis Control Program

Program Responsibilities:

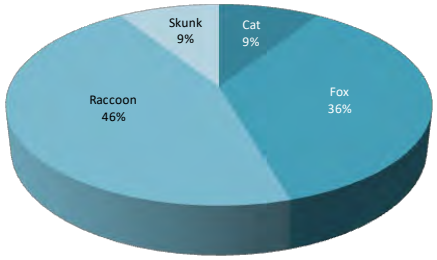
The tuberculosis program is responsible for investigating and managing all cases of active TB disease and certain latent tuberculosis infection in the District. Program staff provide source, case and contact investigations for the identification of active pulmonary and extrapulmonary tuberculosis. Timely identification of contacts provides the opportunity to limit the spread of disease and prevent future cases. Program staff provide case management of most cases and provide co-management of some cases with private health care providers. Case management services are designed to assure adequate treatment, diagnostic follow-up, monitoring for drug toxicity, and patient adherence to treatment. Services include monthly clinic visits, home-visits, family-centered case management, directly observed therapy (DOT), and appropriate use of incentives. In addition to direct services to patients, the TB program staff provide outreach, consultation, and education to other health care professionals, facilities, the local school systems, correctional facilities, and community members.

Animal Bites

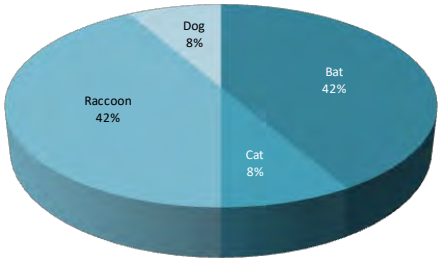
Rabies is a fatal viral infection transmitted through the saliva of infected mammals. Although all mammals are susceptible to rabies, only certain species act as reservoirs for rabies disease in the community. These species include raccoons, skunks, foxes, bats, and coyotes as well as domestic dogs, cats, and ferrets. Rabies in humans can be prevented by prohibiting exposure 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.)[1]

Animal bites/exposures 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.

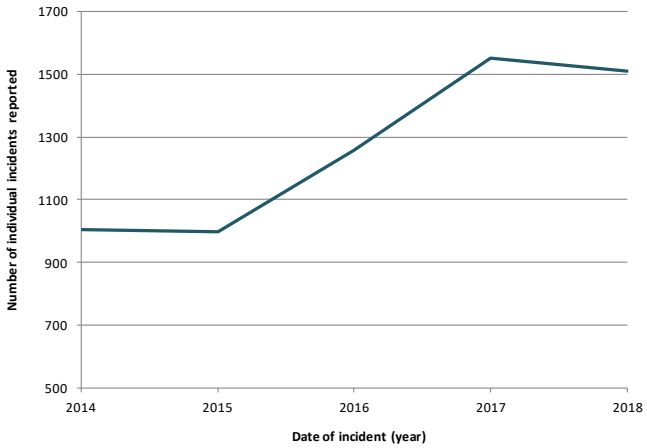
GNR 2017 Rabies Positive Animals by Type (N=11)



GNR 2018 Rabies Positive Animals by Type (N=12)



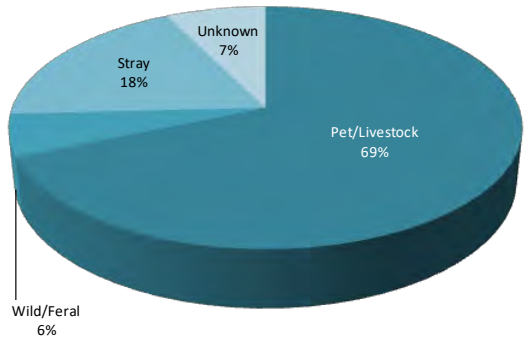
GNR Total Bite Incidents Reported, 2014 to 2018



In 2017, of the 1,551 de-duplicated individual reports of animal bites involving residents in Gwinnett (N=1,292), Newton (N=127), and Rockdale (N=132) counties, post-exposure prophylaxis (PEP) was recommended to 133 human victims following an animal exposure/bite. Of those, 46 (35%) of human victims recommended PEP completed the full course of treatment, and 5 victims (4%) refused PEP during the interview.

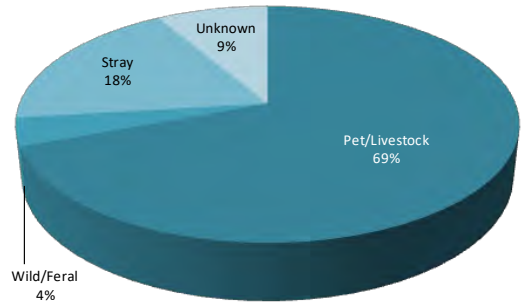
In 2018, of the 1,511 de-duplicated individual reports of animal bites involving residents in Gwinnett (N=1,286), Newton (N=113), and Rockdale (N=112) counties, post-exposure prophylaxis (PEP) was recommended to 117 human victims following an animal exposure/bite. Of those, (44%) of human victims recommended PEP completed the full course of treatment, and 4 victims (3%) refused PEP during the interview. In 2017, raccoons and foxes represented the majority of rabies-positive animals, and in 2018, raccoons and bats were the majority of rabies positive animals. In 2018, one unvaccinated pet dog also tested positive for rabies.

Gwinnett Animals* Assessed in 2017 by Classification (N=1,353)



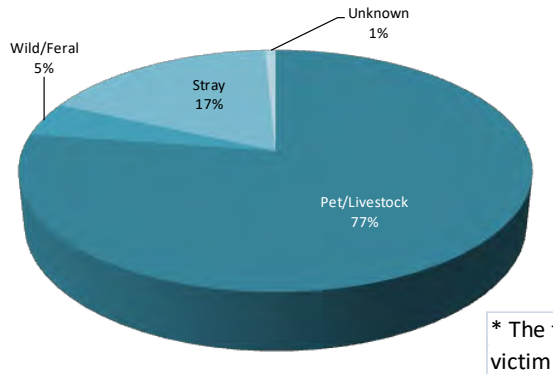
Gwinnett 2017	Animals reported	Animals assessed
Pet/Livestock	928	928
Wild/Feral	76	76
Stray	249	249
Unknown	100	100
Total	**1,353**	**1,353**

Newton Animals* Assessed in 2017 by Classification (N=130)



Newton 2017	Animals reported	Animals assessed
Pet/Livestock	90	90
Wild/Feral	5	5
Stray	24	24
Unknown	11	11
Total	**130**	**130**

Rockdale Animals* Assessed in 2017 by Classification (N=132)

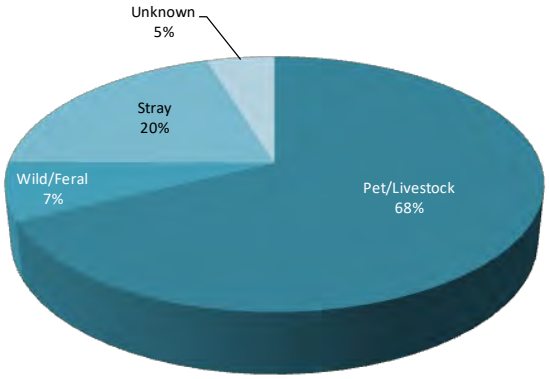


Rockdale 2017	Animals reported	Animals assessed
Pet/Livestock	102	102
Wild/Feral	6	6
Stray	23	23
Unknown	<5	<5
Total	**132**	**132**

* The total number of animals assessed includes both attacking animals and victim animals. Victim animals are usually pets that were also exposed to the attacking animal.

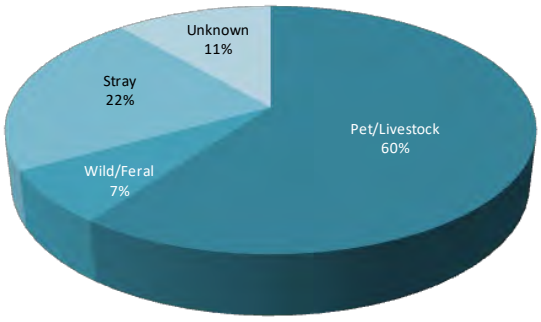
Nationally, wild animals also represent the majority (91%) of animal rabies cases. In 2017, bats, raccoons, skunks, and foxes were the most commonly reported rabies-positive animals. (2) From 2016 to 2017, Georgia reported a 11.5% increases in rabies cases in raccoons. Georgia also reported 6 rabid dogs during this time. Human rabies cases remain rare with only 2 confirmed human rabies cases in 2017. In 2018, from January to October, two cases of human rabies were reported. In 2018, the Advisory Committee on Immunization Practices formed a working group to update their 2008 and 2010 human rabies prevention recommendations. It is anticipated that new recommendations will be available as early as 2020. (3)

Gwinnett Animals* Assessed in 2018 by Classification (N=1,400)



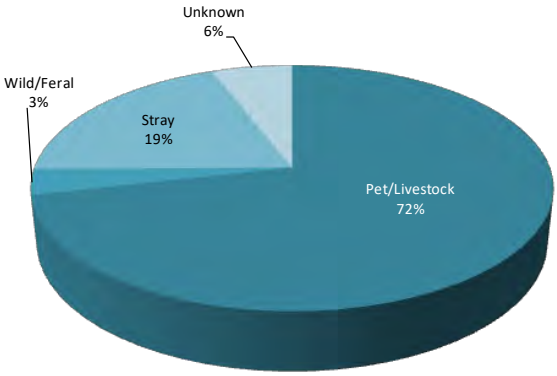
Gwinnett 2018	Animals reported	Animals assessed
Pet/Livestock	949	949
Wild/Feral	103	103
Stray	281	281
Unknown	67	67
Total	**1400**	**1400**

Newton Animals* Assessed in 2018 by Classification (N=115)



Newton 2018	Animals reported	Animals assessed
Pet/Livestock	69	69
Wild/Feral	8	8
Stray	25	25
Unknown	13	13
Total	**115**	**115**

Rockdale Animals* Assessed in 2018 by Classification (N=119)

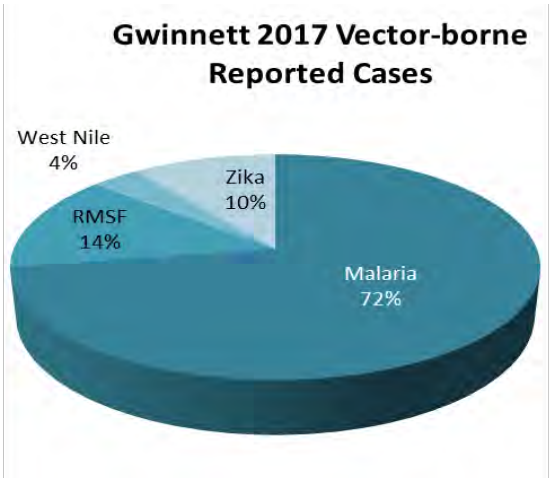


Rockdale 2018	Animals reported	Animals assessed
Pet/Livestock	85	85
Wild/Feral	<5	<5
Stray	23	23
Unknown	7	7
Total	**119**	**119**

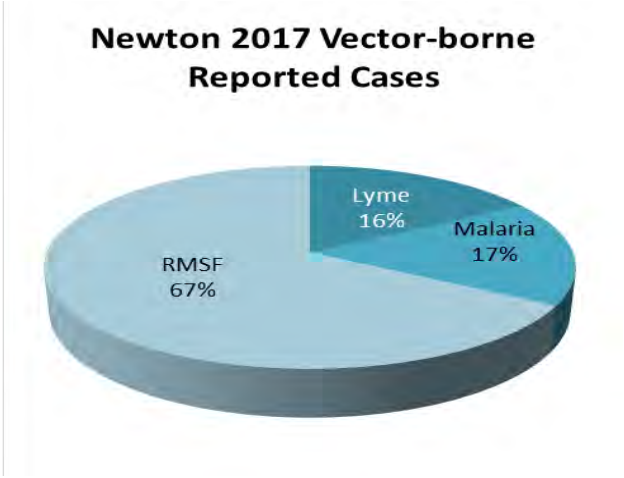
* The total number of animals assessed includes both attacking animals and victim animals. Victim animals are usually pets that were also exposed to the attacking animal.

Vector-borne and Zoonotic Diseases

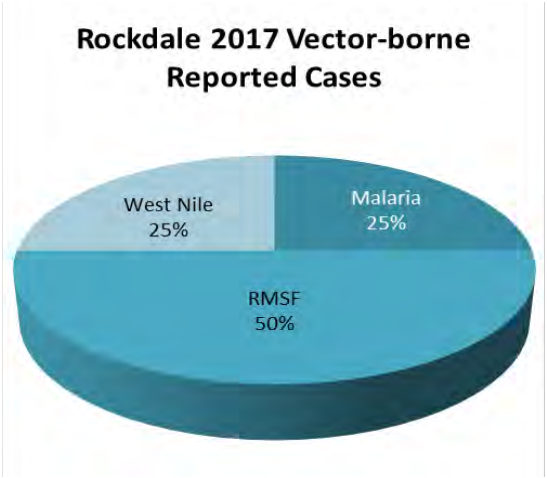
Vector-borne diseases are illnesses that are transmitted to humans or other animals by an insect or other arthropod such as mosquitoes and ticks. Many individuals infected with vector-borne diseases have no symptoms; however, a small percentage of people may develop serious illness such as encephalitis 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. (4)



Gwinnett 2017	Reported Cases	Investigated Cases
Malaria	21	21
RMSF	<5	<5
West Nile	<5	<5
Zika	<5	<5
Total	**21**	**29**



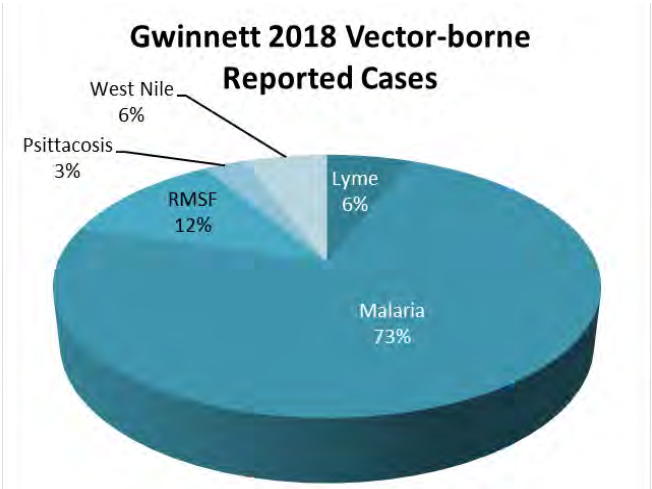
Newton 2017	Reported Cases	Investigated Cases
Lyme	<5	<5
Malaria	<5	<5
RMSF	<5	<5
Total	**6**	**6**



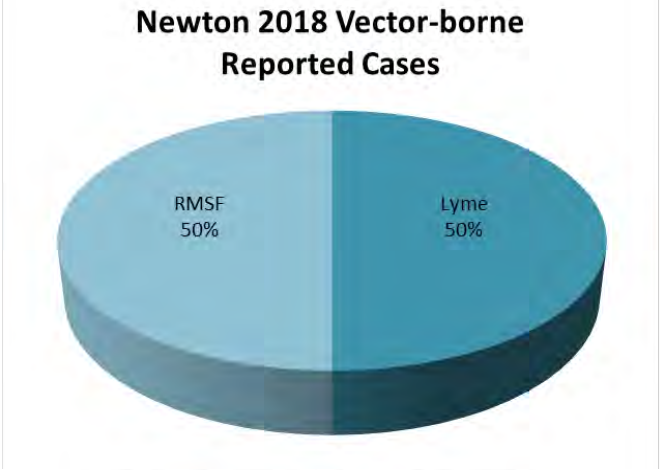
Rockdale 2017	Reported Cases	Investigated Cases
Malaria	<5	<5
RMSF	<5	<5
West Nile	<5	<5
Total	**<5**	**<5**

The Georgia Department of Public Health 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.

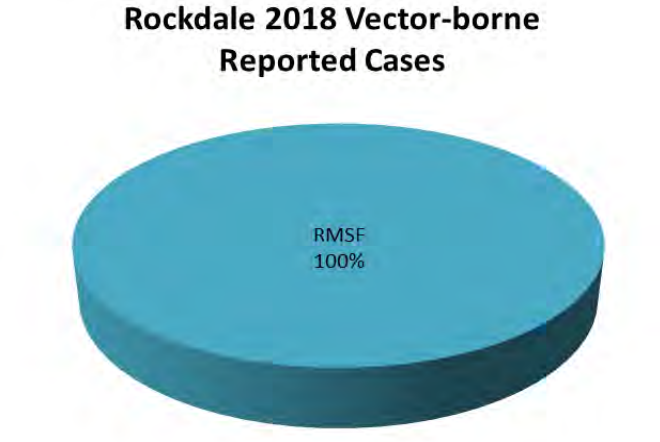
A zoonotic disease is an illness that can be passed from animals such as livestock, pets, and wild animals to humans. Brucellosis, Q fever, and tularemia are examples of zoonoses and must be reported immediately because they are classified as potential bioterrorism agents. Zoonotic diseases that require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



Gwinnett 2018	Reported Cases	Investigated Cases
Lyme	<5	<5
Malaria	25	25
RMSF	<5	<5
Psittacosis	<5	<5
West Nile	<5	<5
Zika	0	0
Total	**34**	**34**



Newton 2018	Reported Cases	Investigated Cases
Lyme	<5	<5
RMSF	<5	<5
Total	**<5**	**<5**

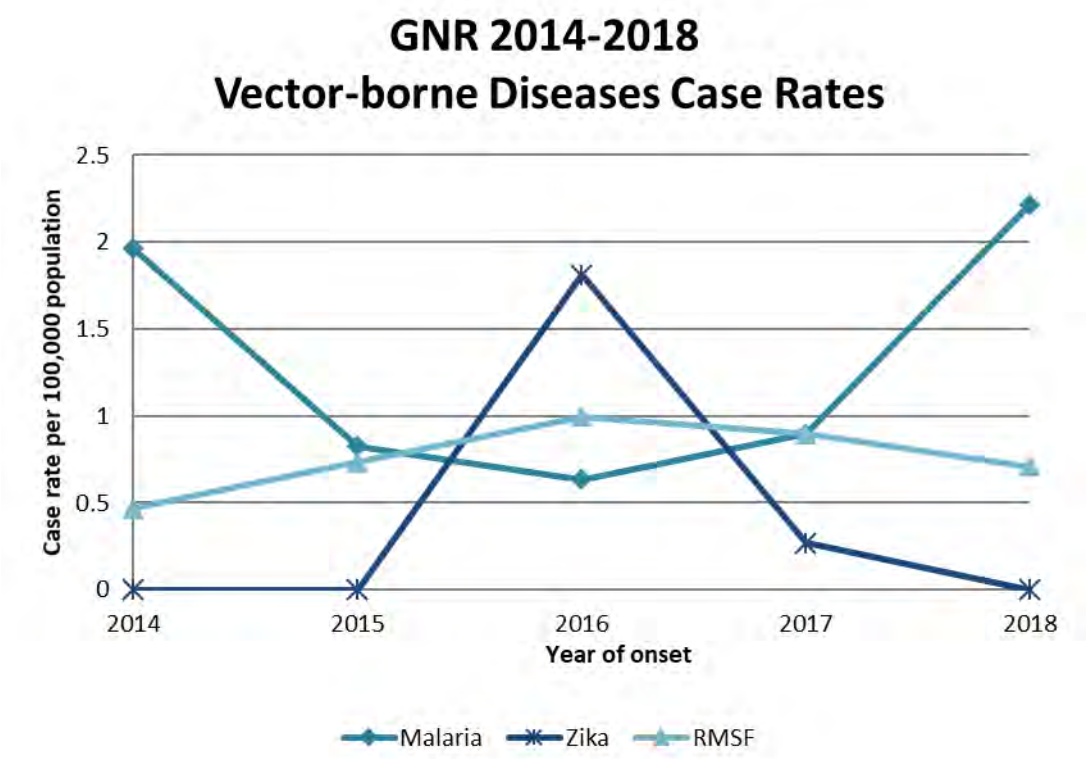


Rockdale 2018	Reported Cases	Investigated Cases
RMSF	<5	<5
Total	**<5**	**<5**

In 2017, a total of 39 vector-borne and zoonotic illnesses were reported to GNR. These illnesses consisted of Malaria, Rocky Mountain Spotted Fever (RMSF), Lyme Disease, West Nile Virus, and Zika. Malaria represented 59% of all vector-borne and zoonotic illness reported in 2017. In 2018, a total of 39 vector-borne and zoonotic illnesses were reported to GNR. These illnesses consisted of the diseases mentioned above as well as one case of Psittacosis. Malaria represented 64% of all vector-borne and zoonotic illness reported in 2018.

A 224% increase in Malaria cases was observed between 2016 and 2017, and an 85% decrease in Zika cases was also observed during this time period. Between 2017 and 2018 a 7.5% increase in Malaria cases was observed, there were no reported Zika cases in the district in 2018. Recent national surveillance data for Malaria is not available, but the CDC reports that Zika cases have declined beginning in 2017. In 2017, 452 Zika cases were reported in the United States and in 2018, only 74 cases were reported.

It should be noted that all GNR cases of Malaria, and Zika were travel-associated. In 2018, there were no reports of Zika transmission within the United States. (5) GNR Malaria patients most commonly reported recent travel to Africa where Malaria is endemic.



2017 GNR Malaria Cases by Country Visited			
Nigeria	9	Uganda/Guinea	1
Liberia	4	Unknown	2
Ghana	6	**Total**	**23**
Ethiopia	1		

2018 GNR Malaria Cases by Country Visited					
Nigeria	7	India	2	Ethiopia	1
Ghana	6	Ivory Coast	1	Guinea	1
Liberia	2	Tanzania	1	Nicaragua	1
Congo	2	Pakistan	1	**Total**	**25**

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.

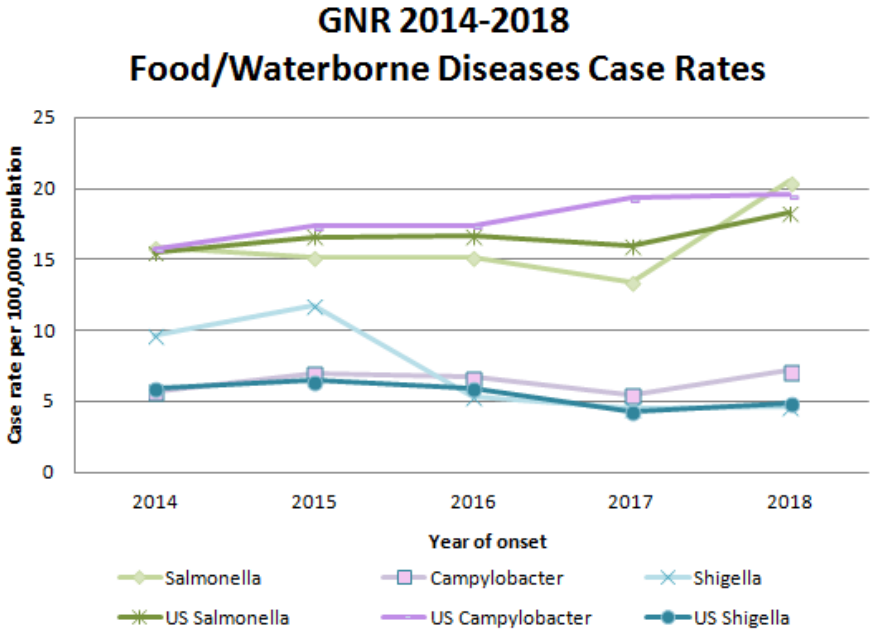
Food and Waterborne Diseases

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 week depending on the pathogen causing the illness.

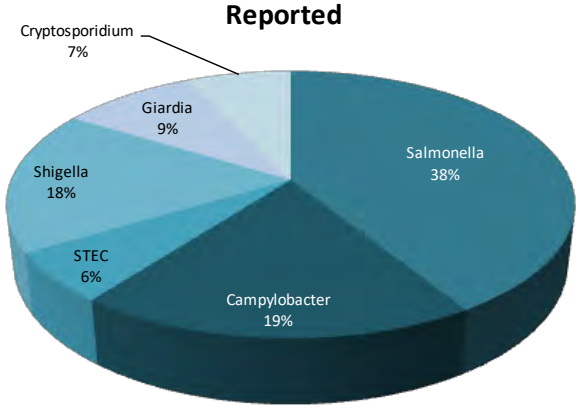
The Epidemiology program partnered with Environmental Health to investigate potential and reported outbreaks and prevent enteric diseases caused by contaminated food or water as well as those spread person -to-person. Epidemiology staff conducted surveillance activities, investigations and community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

Particular attention was given to outbreaks in facilities serving highly susceptible populations such as in-home and institutional day care centers and pre-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 dispense information on the appropriate measures to prevent transmission of enteric diseases.

Current guidelines from the Notifiable Disease Section of the Georgia State Epidemiology Unit recommend reporting for 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*. GNR.

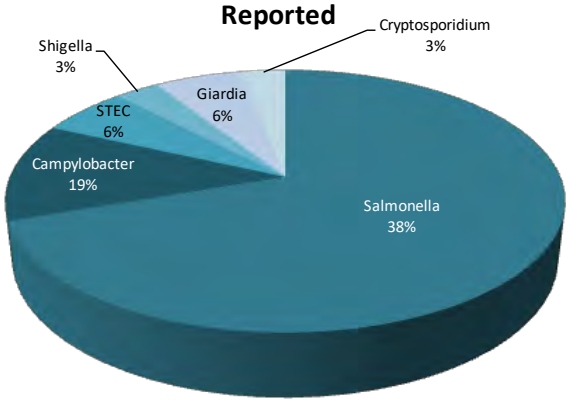


Gwinnett 2017
Common Food/Waterborne Diseases Reported



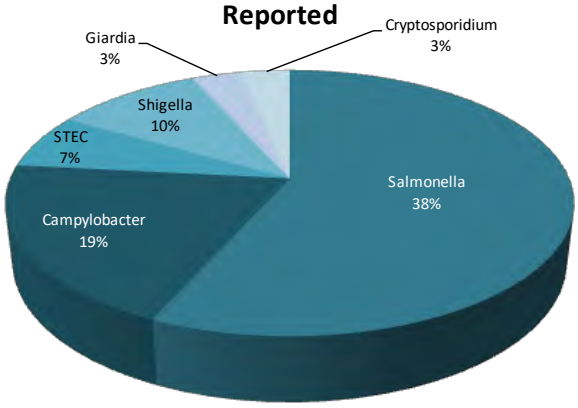
Gwinnett 2017	Reported Cases	Investigated Cases
Salmonella	109	108
Campylobacter	51	50
Shigella	46	46
STEC	16	16
Hep A	<5	<5
Giardia	24	22
Cryptosporidium	19	18
Cyclospora	<5	<5
Legionella	12	12
Listeria	<5	<5
Yersinia	<5	<5
Typhoid Fever	0	0
Botulism	0	0
Vibrio	<5	<5
Total	**291**	**286**

Newton 2017
Common Food/Waterborne Diseases Reported



Newton 2017	Reported Cases	Investigated Cases
Salmonella	23	23
Campylobacter	<5	<5
Shigella	<5	<5
STEC	<5	<5
Hep A	0	0
Giardia	<5	<5
Cryptosporidium	<5	<5
Cyclospora	0	0
Legionella	<5	<5
Listeria	0	0
Yersinia	0	0
Typhoid Fever	0	0
Botulism	<5	<5
Vibrio	0	0
Total	**36**	**35**

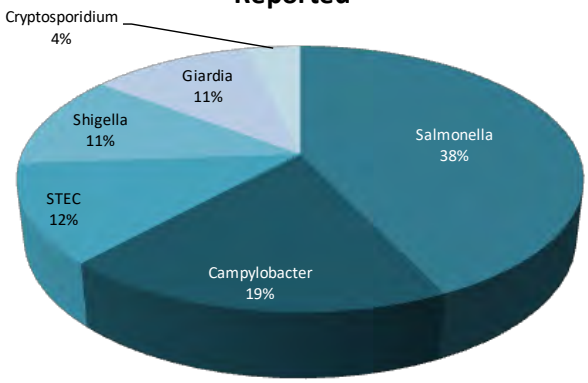
Rockdale 2017
Common Food/Waterborne Diseases Reported



Rockdale 2017	Reported Cases	Investigated Cases
Salmonella	17	17
Campylobacter	6	6
Shigella	<5	<5
STEC	<5	<5
Hep A	0	0
Giardia	<5	<5
Cryptosporidium	<5	<5
Cyclospora	0	0
Legionella	<5	<5
Listeria	<5	<5
Yersinia	0	0
Typhoid Fever	0	0
Botulism	0	0
Vibrio	0	0
Total	**32**	**32**

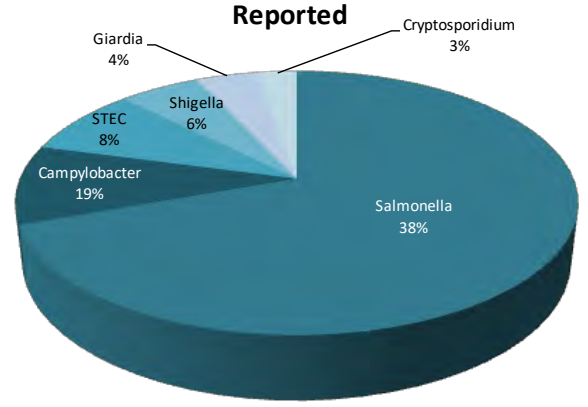
The most frequently reported enteric diseases in the GNR District were *Salmonella*, *Shigella*, and *Campylobacter* which together accounted for over 70% all reported enteric illnesses in 2017 and 2018. *Giardia* and *Cryptosporidium* and *Cyclospora* together accounted for 12-14% of the total number of reported cases in 2017 and 2018. Limitations in staff capacity required prioritization of case investigations of foodborne or enteric illness, and staff limitations at the state resulted in late reporting of certain enteric illnesses, primarily Giardiasis, which represented 48% of uninvestigated enteric illness cases. In 2017, the district received 459 reports of enteric illness of which staff were able to investigate 98.3%. In 2018, 95% of 591 cases were investigated.

Gwinnett 2018
Common Food/Waterborne Diseases Reported



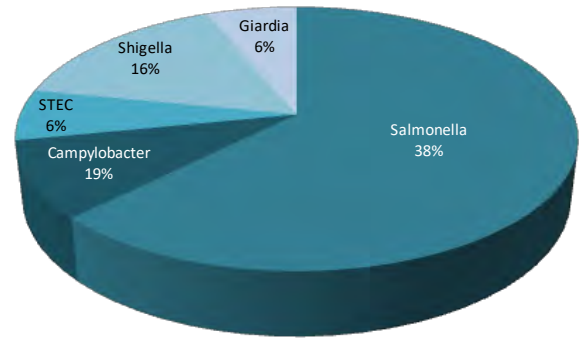
Gwinnett 2018	Reported Cases	Investigated Cases
Salmonella	161	155
Campylobacter	71	70
Shigella	43	41
STEC	45	42
Hep A	<5	<5
Giardia	41	28
Cryptosporidium	14	13
Cyclospora	<5	<5
Legionella	20	20
Listeria	<5	<5
Yersinia	0	0
Typhoid Fever	0	0
Botulism	0	0
Vibrio	<5	<5
Total	**405**	**379**

Newton 2018
Common Food/Waterborne Diseases Reported



Newton 2018	Reported Cases	Investigated Cases
Salmonella	50	50
Campylobacter	7	7
Shigella	<5	<5
STEC	6	6
Hep A	0	0
Giardia	<5	<5
Cryptosporidium	<5	<5
Cyclospora	0	0
Legionella	0	0
Listeria	<5	<5
Yersinia	0	0
Typhoid Fever	0	0
Botulism	0	0
Vibrio	0	0
Total	**73**	**73**

Rockdale 2018
Common Food/Waterborne Diseases Reported



Rockdale 2018	Reported Cases	Investigated Cases
Salmonella	20	20
Campylobacter	<5	<5
Shigella	5	5
STEC	<5	<5
Hep A	0	0
Giardia	<5	<5
Cryptosporidium	0	0
Cyclospora	0	0
Legionella	0	0
Listeria	0	0
Yersinia	<5	<5
Typhoid Fever	0	0
Botulism	0	0
Vibrio	0	0
Total	**34**	**34**

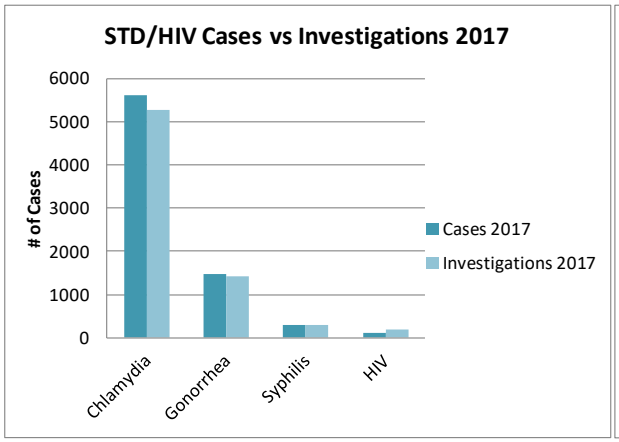
Salmonella reporting increased 55% from 2017 to 2018, which reflects national rates. In 2018, the district Salmonella rate surpassed the national rate for the first time in five years. Though not shown in the graph on page 14, there was also a 165% increase in Shiga-Toxin Producing E. coli cases (STEC) from 2017 to 2018. According to preliminary findings from CDC's FoodNet Data 2018, culture-independent testing (CIDT) continues to drive increases in Campylobacter, Salmonella, Cyclospora, Yersinia, and Shiga-Toxin Producing E.coli (STEC). (6)

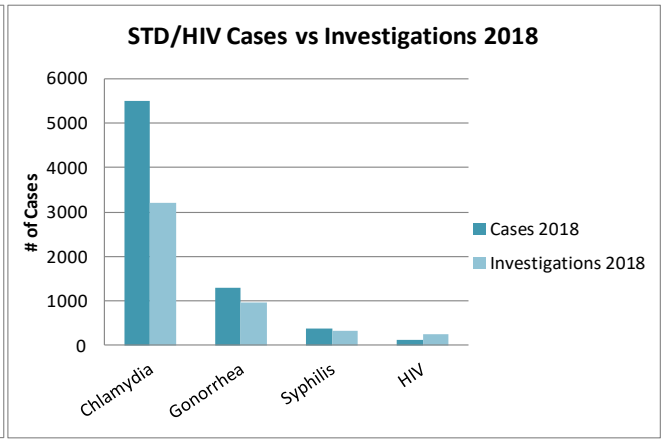
In addition, the CDC has identified drug resistant Campylobacter, Salmonella, and Shigella as serious threats to human health requiring immediate action. The percentage of Camplyobacter cases with limited susceptibility to Ciprofloxacin, a common antibiotic, has doubled since 1996. (7) In 2018, the Georgia Department of Public Health's Acute Disease Epidemiology Section added questions to the standard interview form for Campylobacter and Salmonella regarding surgical history, probiotic use, and most importantly, antibiotic use. Questions regarding sexual behaviors and practices were also added to the Shigella interview form in response to an increasing number of Shigella cases among the MSM population in metro Atlanta. Foodborne and waterborne disease investigations will continue to evolve to address these and other emerging disease trends.

Sexually Transmitted Infections (STIs)

The Communicable Disease Unit of the GNR District received 7,491 reports of sexually-transmitted infections in 2017 and 7,314 in 2018. Sexually-transmitted infections are a significant cause of morbidity and mortality in the GNR District and, generally, in the State of Georgia. Sexually-transmitted infections 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, clustering, and provider request; syphilis and HIV (when reported to GNR directly) are always investigated.

Chlamydia accounted for 75.0% of the total number of cases of sexually-transmitted infections reported in 2017 and 2018. The next most frequently reported sexually-transmitted infection was Gonorrhea, which accounted for 18-19.5% of total cases reported in 2017 and 2018. These two diseases represent a substantial percentage of the total burden of disease from STI in the GNR District.

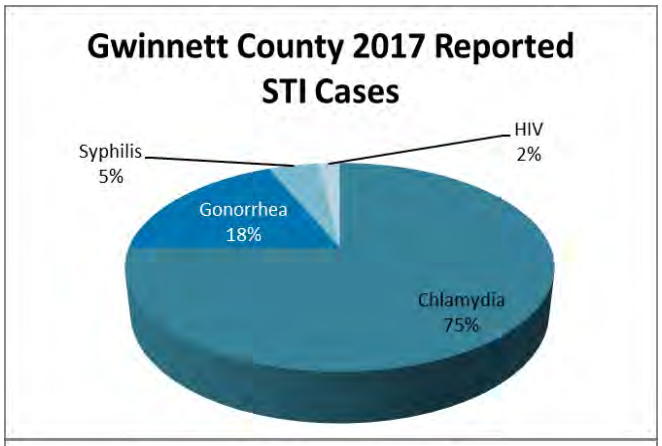


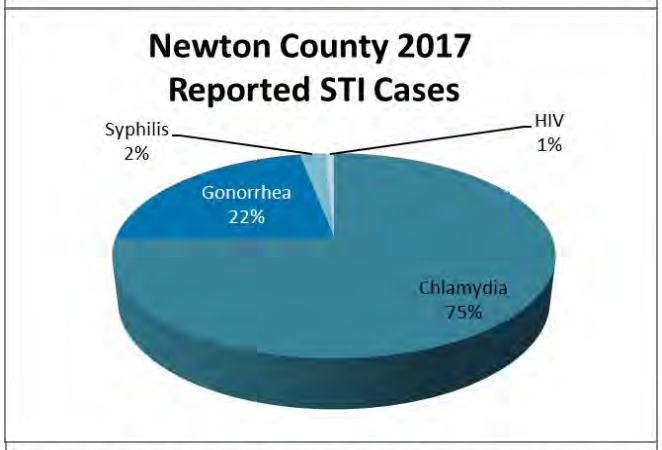


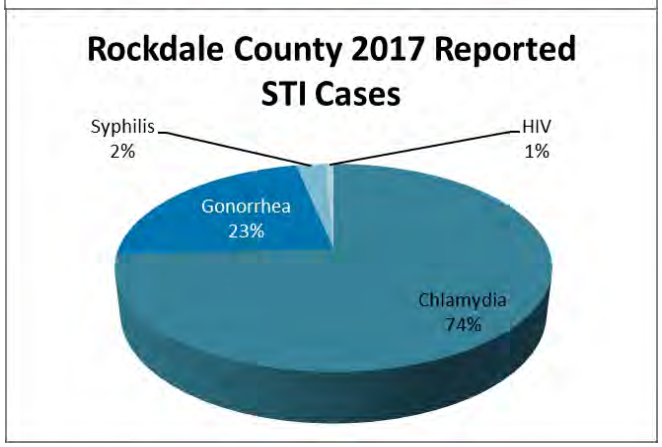
There are many challenges to reporting STD and HIV data as described in the Data Quality Report (page#), and there are a variety of limitations that result in differences between the total number of cases reported by state epidemiologists and the total number of investigations completed by GNR staff. 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 who assumes responsibility for the prenatal care of pregnant women to require a HIV and syphilis test, resulting in a larger number of partner investigations for these illnesses.

Untreated syphilis is infectious during the primary, secondary, and early latent stages. Persons with latent stage syphilis are at risk for irreversible multi-organ damage making early identification and treatment a priority for Communicable Disease staff. The cities of Norcross (n=49-50), Peachtree Corners (n=28-32), and Lawrenceville (n=19-35) reported the greatest number of new syphilis cases in 2017-2018. STD staff continue to face challenges in identifying syphilis in the primary or secondary stage as those infected during receptive sex have internal symptoms that are more likely to be missed during a physical examination.

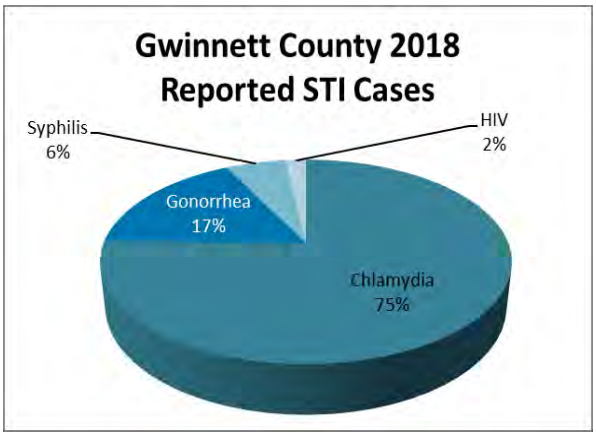
STI Investigations include provider record searches, patient follow up and/or interviews, and contact tracing. A provider record search is usually conducted when insufficient data is presented to the health department and additional information (i.e. demographics, signs/symptoms, labs, treatment, etc.) is required from the health provider. Positive chlamydia and gonorrhea cases warrant an investigation under certain circumstances. A field investigation is initiated on 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 STDs by offering testing and treatment to Syphilis and HIV contacts.

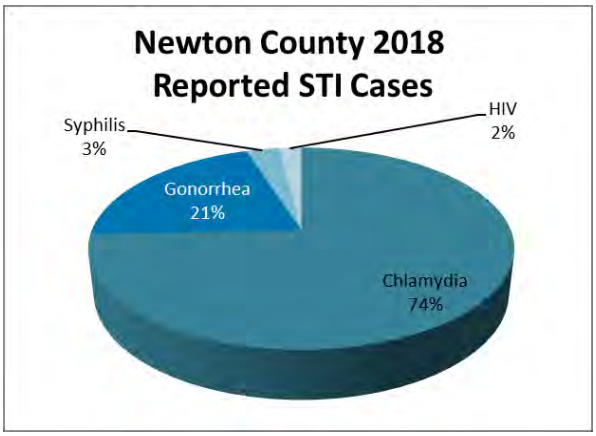


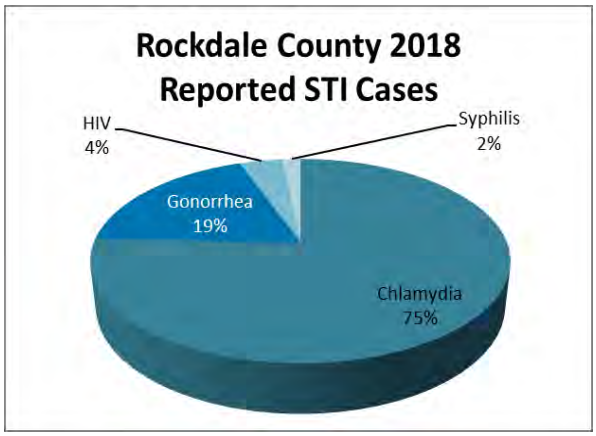


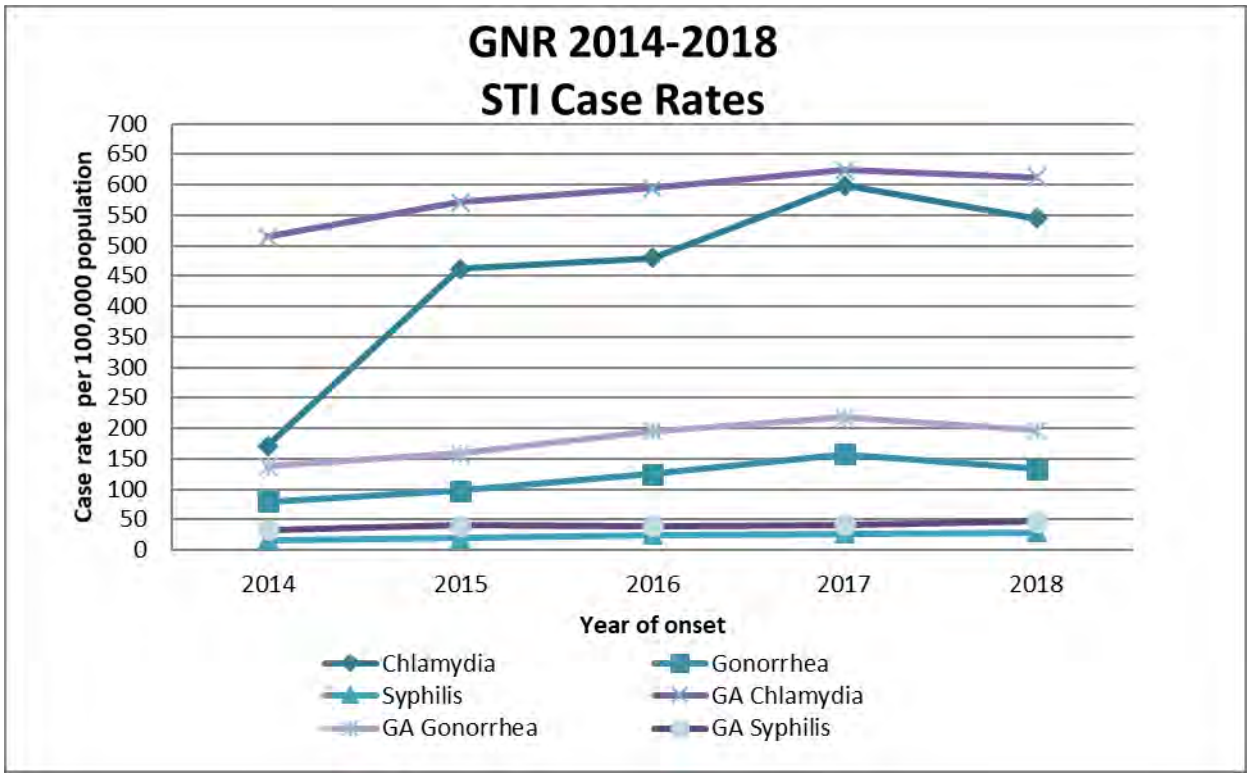


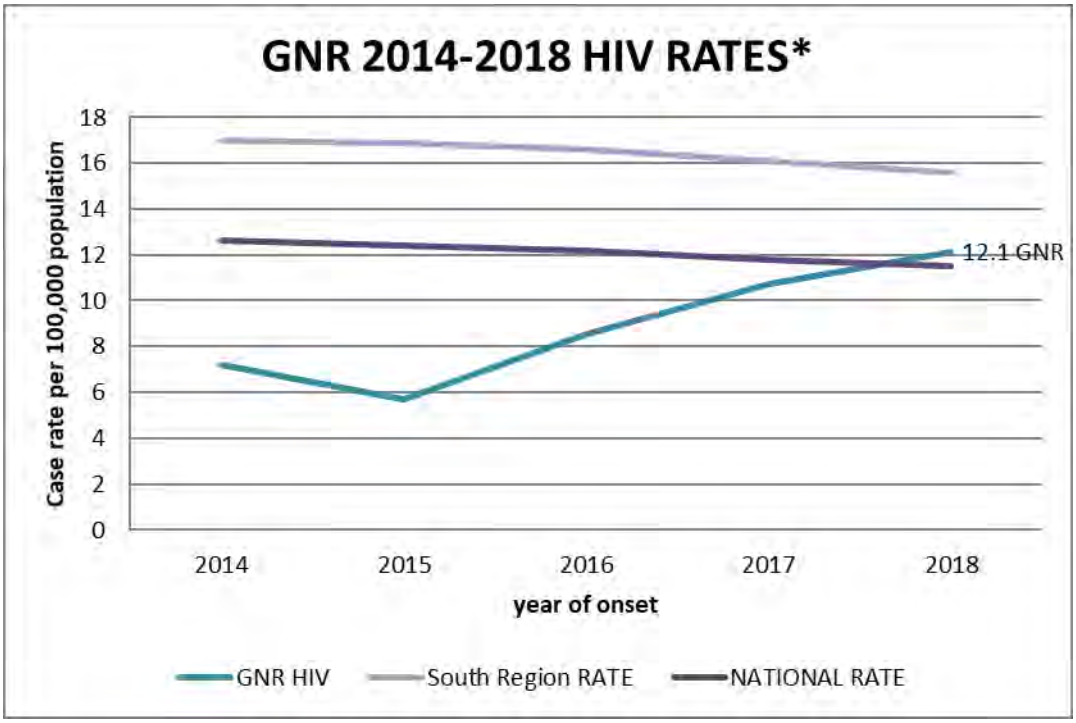
The state of Georgia ranks 7th in the rate of reported *Chlamydia* cases (632.2 cases/100,000 people) and 7th in the rate of reported Gonorrhea cases (158 cases/100,000 people).(8) The rates of *Chlamydia* and gonorrhea continue to increase, with the south region experiencing the highest rate of cases. (9) In 2018, Georgia ranked 4th in the nation for primary and secondary Syphilis. In 2018, 61.5% of primary and secondary syphilis cases reported occurred within 70 U.S. counties or independent cities. Out of those 70 counties or independent cities, Gwinnett county ranked 67th in the rate of reported cases, down from 56th in 2017, with a rate of 11.8 cases per 100,000. Newton and Rockdale Counties were not included in the ranking. The only Atlanta metro counties with higher rankings were Fulton county (11th), with a rate of 44.2 cases per 100,000 people and Dekalb county (31st), with a rate of 33.1 cases per 100,000 people. At the time of this report 2019 national data and rankings were unavailable.(10)


Gwinnett County 2018
Reported STI Cases
Syphilis 6%
HIV 2%
Gonorrhea 17%
Chlamydia 75%


Newton County 2018
Reported STI Cases
Syphilis 3%
HIV 2%
Gonorrhea 21%
Chlamydia 74%


Rockdale County 2018
Reported STI Cases
HIV 4%
Syphilis 2%
Gonorrhea 19%
Chlamydia 75%


GNR 2014-2018
STI Case Rates
Case rate per 100,000 population
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2014
2015
2016
2017
2018
Year of onset
Chlamydia
Gonorrhea
Syphilis
GA Chlamydia
GA Gonorrhea
GA Syphilis



In 2017, the HIV program was responsible for opt-out HIV testing within the health district. The HIV department did not have any outreach functionality. The department did not have to do outreach HIV testing. The department was responsible for disseminating 20,000 condoms throughout the district. The department did not have a PrEP clinic; however, literature regarding PrEP was giving out to individuals within the district.

Currently, the HIV program has a full staff of seven. There are two health educators, two communicable disease specialists, one linkage coordinator, one Prep Coordinator, and a program manager. The HIV department 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 responsible for having at least six HIV outreach events a year. The department is 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 has to do 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 the Lawrenceville clinic with plans to expand PrEP services through every health department within the district.

Gwinnett County is a part of the Ending the Epidemic initiative. With this initiative, the HIV department will increase in size to focus on meeting the demand to increase the number of individuals that will know their HIV status and enter care if necessary. The Ending the Epidemic initiative will allow for the district to focus those resources in Gwinnett County while also allowing more ability to do more activities in Rockdale and Newton County.

Tuberculosis

Tuberculosis continues to present a major threat to population health in GNR Health District. The goal of the Tuberculosis 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 future cases. The staff provided diagnostic, treatment, and case management services to all identified persons with active TB disease. The TB program staff also conducted 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. There were 37 reports of active TB disease; 75.6% 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 4 of the 37 active TB cases (compared to only one case in 2015). 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 additional 125 persons were evaluated as suspect tuberculosis cases in 2016. An average of 8-12 weeks is spent investigating suspect cases. All suspect cases 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 LTB clients at highest risk of conversion to active disease.

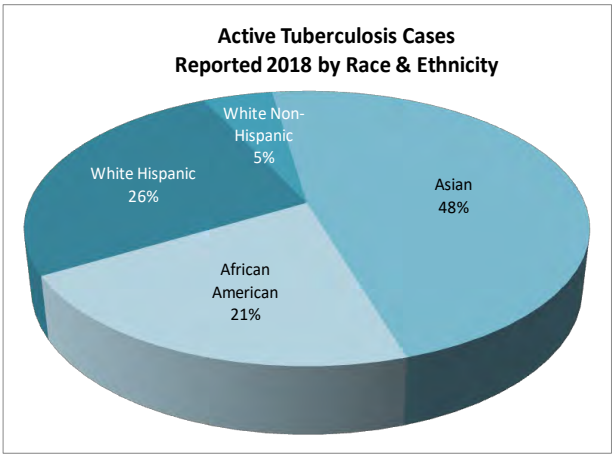
The TB program staff utilizes current CDC recommendations for a concentric circle approach to contact investigations in order to achieve the highest yield while conserving resources. As resources allow, TB program staff prioritize outreach, education, and screening efforts. Contact investigations are 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.

2017/2018 GNR TB Cases by Country of Birth					
BANGLADESH	3	North Korea	4	BOSNIA AND HERZEGOVINA	1
BURMA	3	South Korea	2	CHINA	1
CAMEROON	1	LIBERIA	4	COLOMBIA	1
EL SALVADOR	2	MEXICO	8	CONGO	2
ETHIOPIA	3	NIGERIA	1	ECUADOR	2
GHANA	2	PERU	1	GUATEMALA	1
GUYANA	2	UNITED STATES	23	UNKNOWN	1
HONDURAS	1	VIETNAM	14	MALAYSIA	1
INDIA	5	BHUTAN	1	**TOTAL**	90

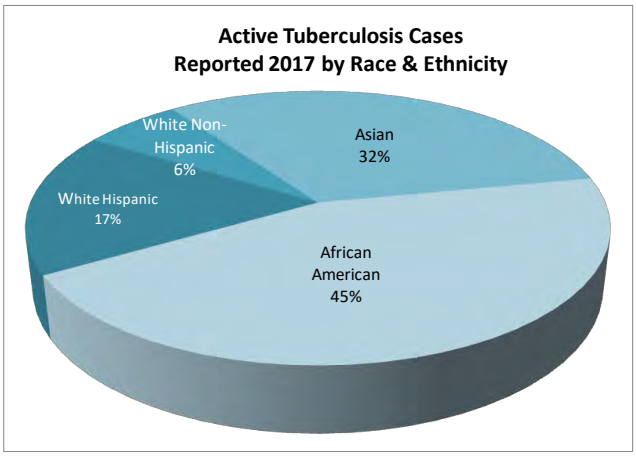
In 2017, TB program staff investigated 142 contacts of the 41 reported cases of active TB. We also investigated 36 contacts at work places of the Dekalb reported cases who worked in Gwinnett County. In addition, we found and screened 27 contacts from interjudictional transfer (District to District Transfer and Out of State Transfer). That brought the total number of investigated contacts to 205. In 2018, TB program staff investigated 414 contacts of the 43 reported cases of active TB. Also, 51 contacts at work places and correctional facilities of the 2 Dekalb reported cases. In addition, 88 contacts from interjudictional transfer (District to District Transfer and Out of State Transfer) were found and screened. That brought the total number of investigated contacts to 553

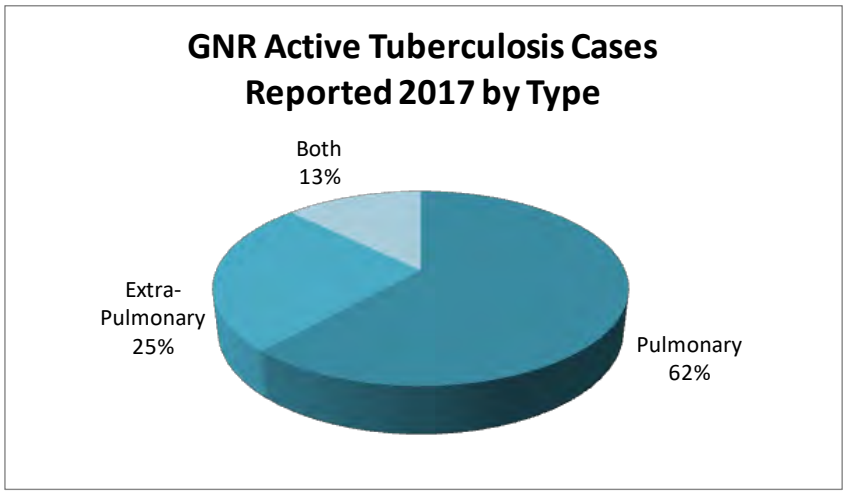
In general, contact investigations involve close contacts such as members of the case's household and close social contacts. Large scale investigations in the public school and work settings are often conducted due to the calculated exposure. The number of contacts investigated in 2017 was down from 2016, during which 34 cases and 213 contacts were investigated. This was on the contrary to 2018 which saw an increase of 41 cases and 205 contacts investigated.

Contact elicitation is a core objective in the National TB Program Objectives & Performance Targets for 2020. 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. In 2016, the GNR TB Control Program met the contact evaluation goal of 100%.



Case management services were provided to all active patients and to LTBI patients including directly observed therapy, monthly contact for monitoring adherence to treatment, efficacy of treatment, and signs of drug toxicity. Directly Observed Therapy (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. 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.



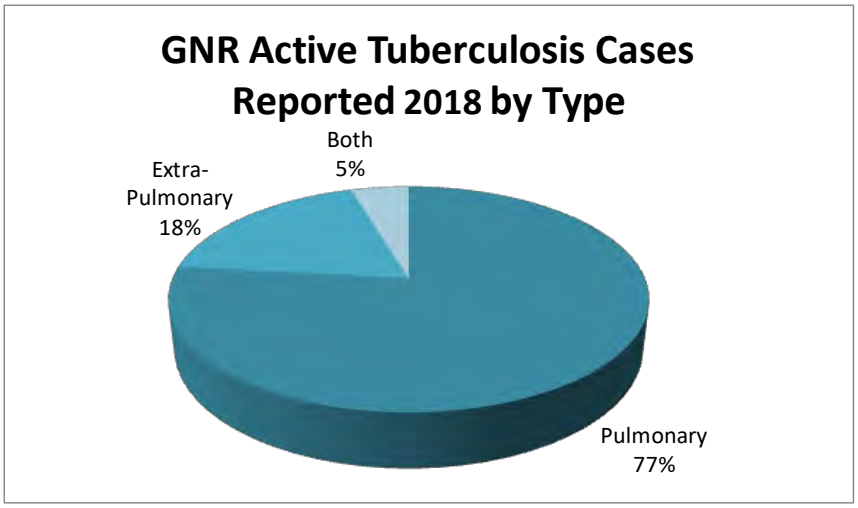


Gwinnett 2017	Cases Reported
PTB	29
EPTB	11
BOTH	<5
Total	**44**

Newton 2017	Cases Reported
PTB	0
EPTB	0
BOTH	<5
Total	<5

Rockdale 2017	Cases Reported
PTB	0
EPTB	<5
BOTH	<5
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



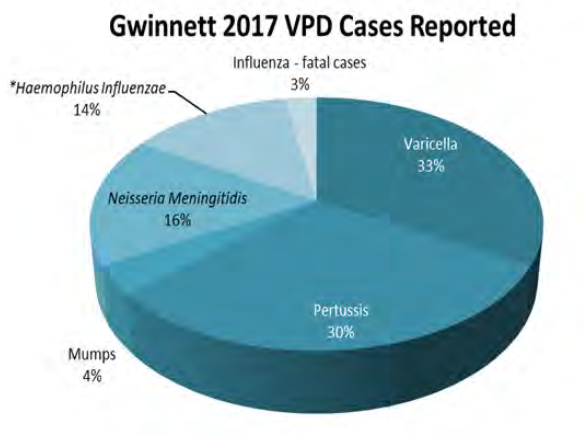
Gwinnett 2018	Cases Reported
PTB	30
EPTB	8
BOTH	<5
Total	**40**

Newton 2018	Cases Reported
PTB	<5
EPTB	0
BOTH	0
Total	<5

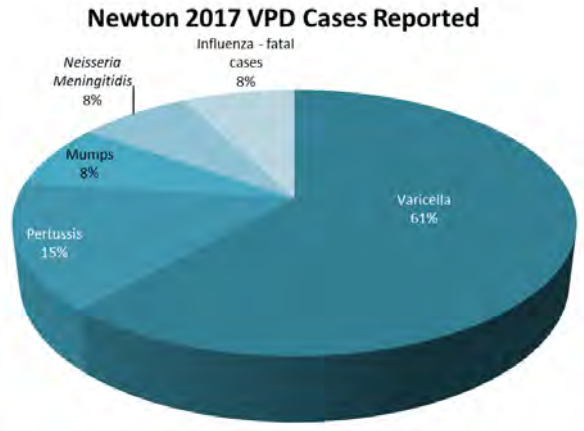
Rockdale 2018	Cases Reported
PTB	<5
EPTB	0
BOTH	0
Total	<5

Vaccine Preventable Diseases

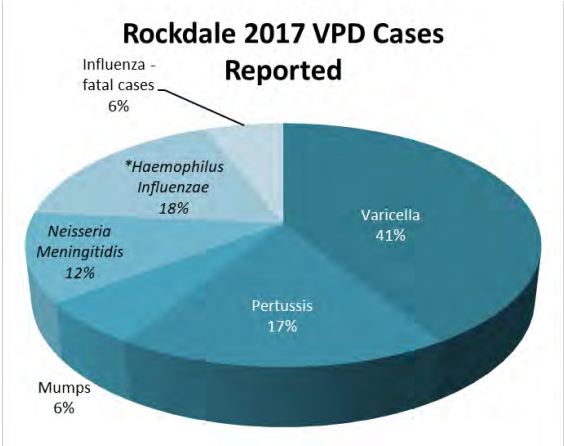
Vaccine preventable diseases are immediately notifiable in the state of Georgia. Just a decade ago vaccine preventable illnesses were declining in Georgia and in the GNR Health District. Pertussis cases were decreasing in conjunction with a 2005 innovation in adolescent and adult formulations of the Tdap vaccine. Over the past ten 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. Luckily, measles has not entered the GNR Health District, although epidemiology staff facilitate testing of suspect cases and participate in investigating contacts to cases in other districts. Another new addition to surveillance is *Varicella* (chickenpox), which became a notifiable disease in 2011.



Gwinnett 2017	Cases Reported	Cases Investigated
Varicella	36	36
Pertussis	33	33
Mumps	<5	<5
Neisseria Meningitidis	18	18
**Haemophilus Influenzae*	15	15
Influenza - fatal cases	<5	<5
Total	**109**	**109**



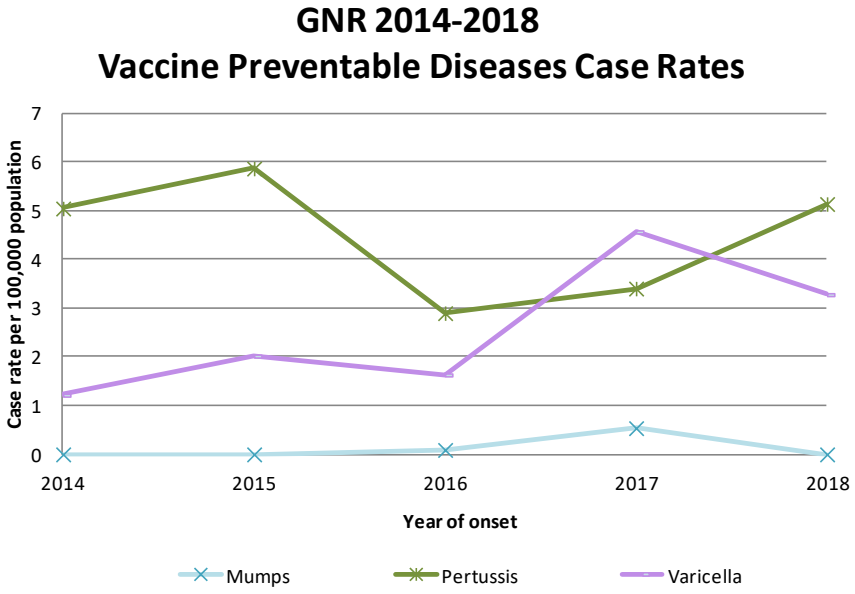
Newton 2017	Cases Reported	Cases Investigated
Varicella	8	8
Pertussis	<5	<5
Mumps	<5	<5
Neisseria Meningitidis	<5	<5
**Haemophilus Influenzae*	0	0
Influenza - fatal cases	<5	<5
Total	**13**	**13**

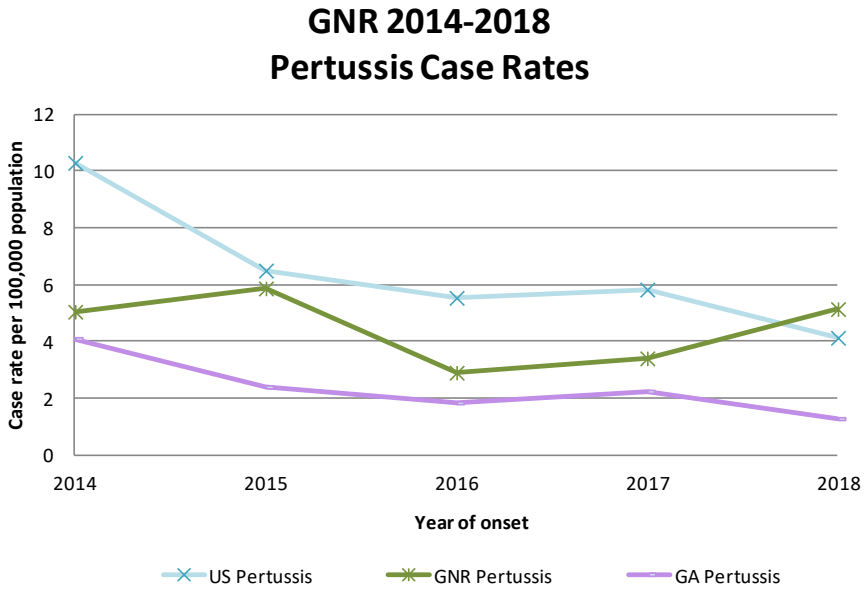


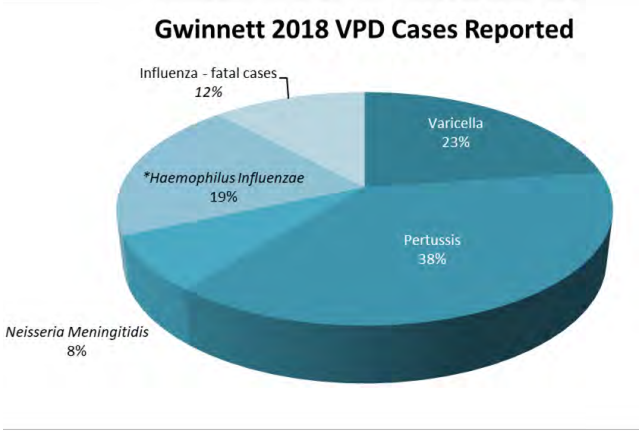
Rockdale 2017	Cases Reported	Cases Investigated
Varicella	7	7
Pertussis	<5	<5
Mumps	<5	<5
Neisseria Meningitidis	<5	<5
**Haemophilus Influenzae*	<5	<5
Influenza - fatal cases	<5	<5
Total	**17**	**17**

*Though all invasive *H.influenzae* cases are reviewed, only Type B requires public health intervention

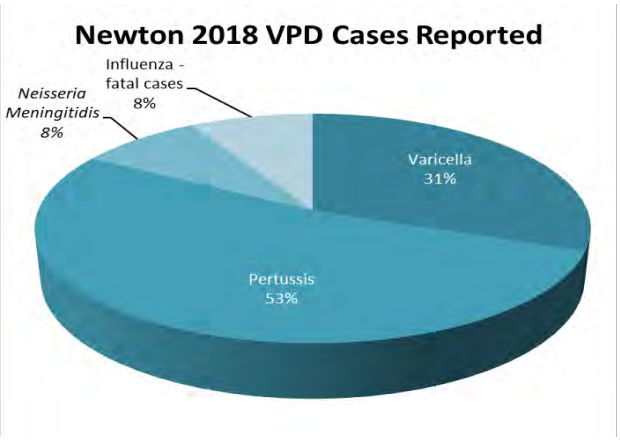
The graph below provides a comparison of GNR Pertussis case rates in comparison to Georgia and National Pertussis case rates. The GNR Pertussis case rates are trending above Georgia case rates, and up to 2017 were below the National case rates. From 2015 to 2016, Pertussis rates at all levels declined. From 2016 to 2017, Pertussis rates increased across all levels. From 2017 to 2018, Pertussis rates declined at the State and National level, but increased in the district. It should be noted that overall vaccination rates for children under 24 months have declined since 2013.[10]



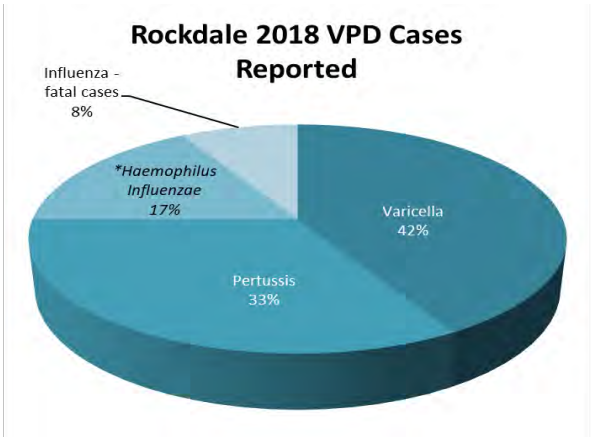




Gwinnett 2018	Cases Reported	Cases Investigated
Varicella	21	21
Pertussis	35	35
Mumps	0	0
Neisseria Meningitidis	7	7
**Haemophilus Influenzae*	18	18
Influenza - fatal cases	11	11
Total	**92**	**92**



Newton 2018	Cases Reported	Cases Investigated
Varicella	11	11
Pertussis	19	19
Mumps	0	0
Neisseria Meningitidis	<5	<5
**Haemophilus Influenzae*	0	0
Influenza - fatal cases	<5	<5
Total	**36**	**36**



Rockdale 2018	Cases Reported	Cases Investigated
Varicella	5	5
Pertussis	<5	<5
Mumps	0	0
Neisseria Meningitidis	0	0
**Haemophilus Influenzae*	<5	<5
Influenza - fatal cases	<5	<5
Total	**12**	**12**

*Though all invasive *H.influenzae* cases are reviewed, only Type B requires public health intervention

Viral Hepatitis

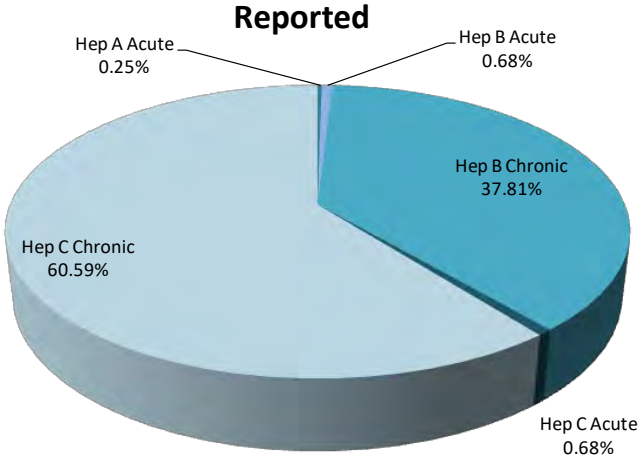
GNR staff in 2017 investigated 596 viral hepatitis cases; 22 (1.46%) of the reported cases were acute or probable acute and 1,530 (98.5%) were chronic. In 2018 GNR staff investigated 1,053 viral hepatitis cases; 50 (4.41%) of the reported cases were acute or probable acute and 1,108 (97.79%) were chronic. All reported viral hepatitis cases are evaluated for acute illness symptomology by GNR epidemiology staff. Preventative medication 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, a new trend that was identified in 2014 when previous years were predominantly Hepatitis B. Hepatitis A cases accounted for only 0.20% of the total number of viral hepatitis cases. Chronic Hepatitis B is found predominately in the Asian community. Asian and Pacific Islanders (APIs) make up less than 5% of the total population in the United States but account for more than 50% of Americans living with chronic Hepatitis B. While Newton and Rockdale do not have a significantly high Asian population, 12.4% (n= 114,724) of residents in Gwinnett County are Asian according to 2018 population statistics.

Hepatitis A is of significant concern to epidemiology staff despite its low prevalence 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. Hepatitis A is 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.

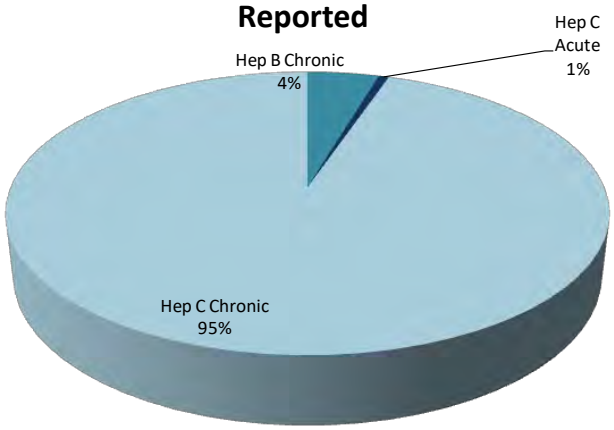
Testing guidance for Hepatitis C has changed dramatically in the past five years and this has impacted the number of cases reported to GNR. In 1998, guidance simply stated testing was recommended for asymptomatic persons with specific risk factors. In 2009 HIV infected persons were added and then in 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.[11] 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 reporting of Hepatitis C cases over the past 10 years, without an increase in funding or staffing. 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 2017 Viral Hepatitis Cases Reported



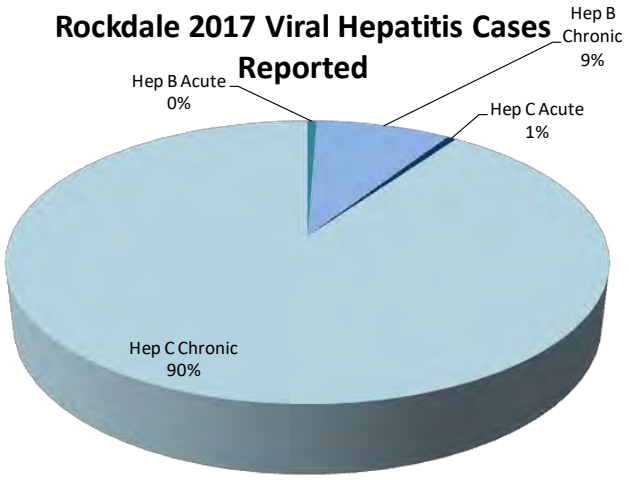
Gwinnett 2017	Cases Reported	Cases Investigated
Hep A Acute	<5	<5
Hep B Acute	8	8
Hep B Chronic	448	446
Hep C Acute	8	8
Hep C Chronic	718	79
Total	**1185**	**554**

Newton 2017 Viral Hepatitis Cases Reported



Newton 2017	Cases Reported	Cases Investigated
Hep A Acute	0	0
Hep B Acute	0	0
Hep B Chronic	7	7
Hep C Acute	<5	<5
Hep C Chronic	145	16
Total	**153**	**24**

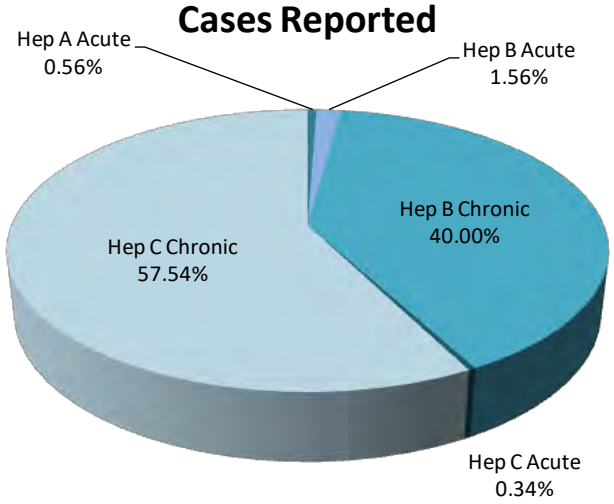
Rockdale 2017 Viral Hepatitis Cases Reported



Rockdale 2017	Cases Reported	Cases Investigated
Hep A Acute	0	0
Hep B Acute	<5	<5
Hep B Chronic	15	15
Hep C Acute	<5	<5
Hep C Chronic	157	11
Total	**174**	**28**

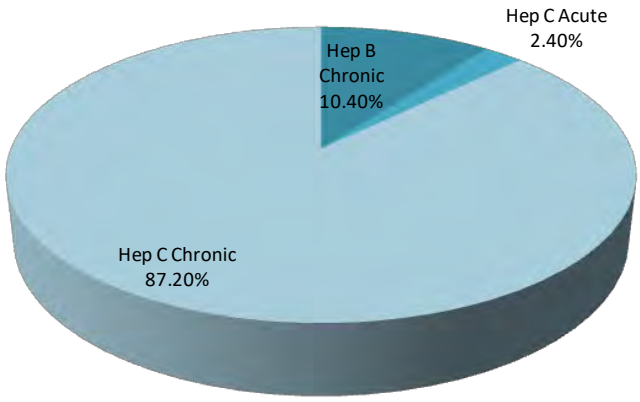
A risk of having an adult population with chronic Hepatitis B is the possibility with transmission of the virus to newborns through child birth. Regardless of the delivery method, babies are exposed to the virus when their mother is infected. Transmission of perinatal Hepatitis B infection can be prevented in approximately 95% of infants born to 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

Gwinnett 2018 Viral Hepatitis Cases Reported



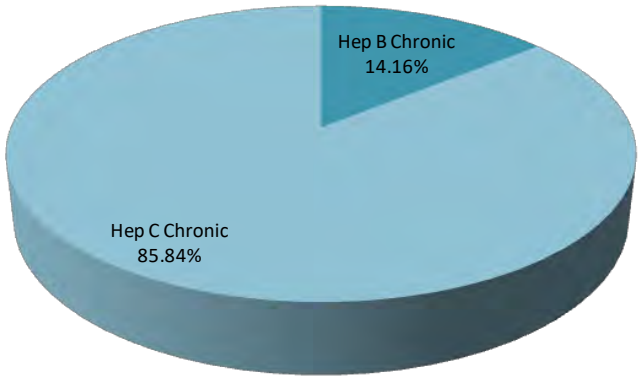
Gwinnett 2018	Cases Reported	Cases Investigated
Hep A Acute	5	5
Hep B Acute	14	14
Hep B Chronic	358	357
Hep C Acute	<5	<5
Hep C Chronic	515	455
Total	**895**	**834**

Newton 2018 Viral Hepatitis Cases Reported



Newton 2018	Cases Reported	Cases Investigated
Hep A Acute	0	0
Hep B Acute	0	0
Hep B Chronic	13	13
Hep C Acute	<5	<5
Hep C Chronic	109	98
Total	**125**	**114**

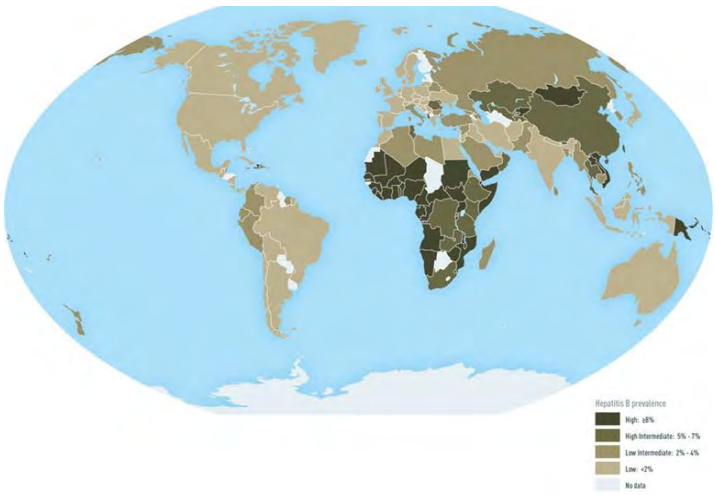
Rockdale 2018 Viral Hepatitis Cases Reported



Rockdale 2018	Cases Reported	Cases Investigated
Hep A Acute	0	0
Hep B Acute	0	0
Hep B Chronic	16	16
Hep C Acute	0	0
Hep C Chronic	97	89
Total	**113**	**105**

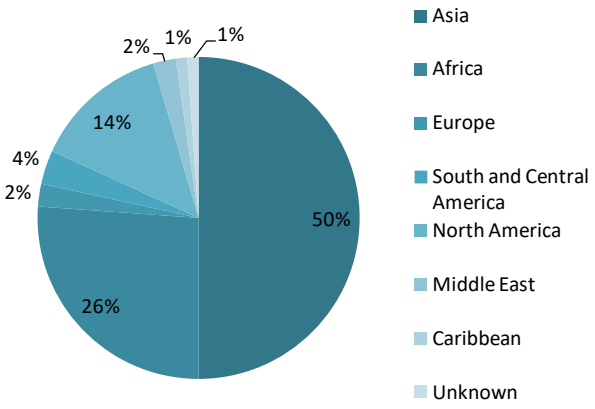
GNR Epidemiology staff work closely with hospitals and pediatricians to ensure babies born to Hepatitis B infected mothers receive needed preventative medication and scheduled vaccinations. Post vaccination testing is also conducted to ensure immunity. GNR has had the largest caseload of babies in the state of Georgia for the last seven years. In 2017-2018, there were 823 newborn babies in Georgia's PHBPP with 23% (189) from the GNR district. Of the PHBPP babies born in the GNR district where mother's country of birth is known (188), 81.9% 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.

Prevalence of Chronic Hepatitis B among adults worldwide

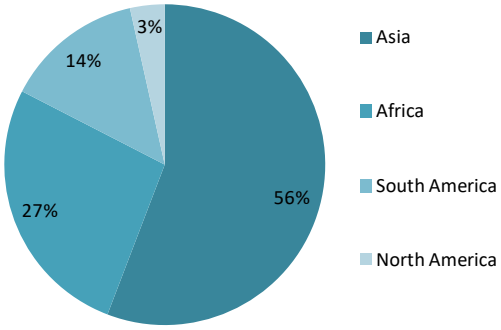


Source:https://wwwnc.cdc.gov/travel/yellowbook/2018/infectious-diseases-related-to-travel/hepatitis-c

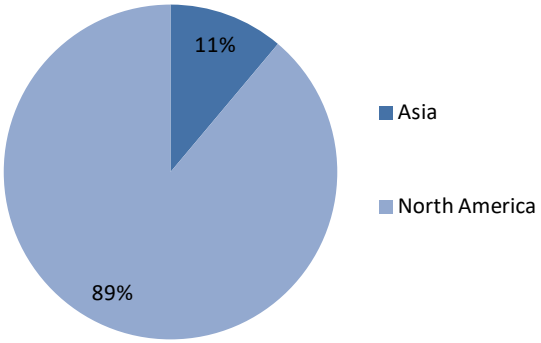
Gwinnett County 2017 Perinatal Hepatitis Cases by Mother's Region of Birth



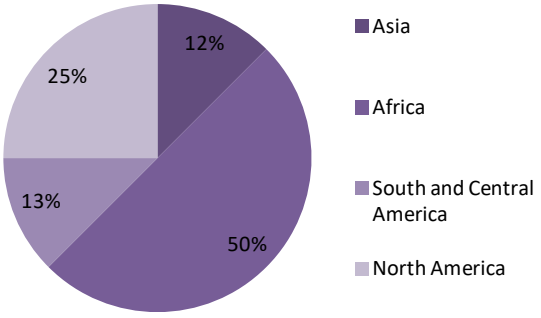
Gwinnett County 2018 Perinatal Hepatitis Cases by Mother's Region of Birth

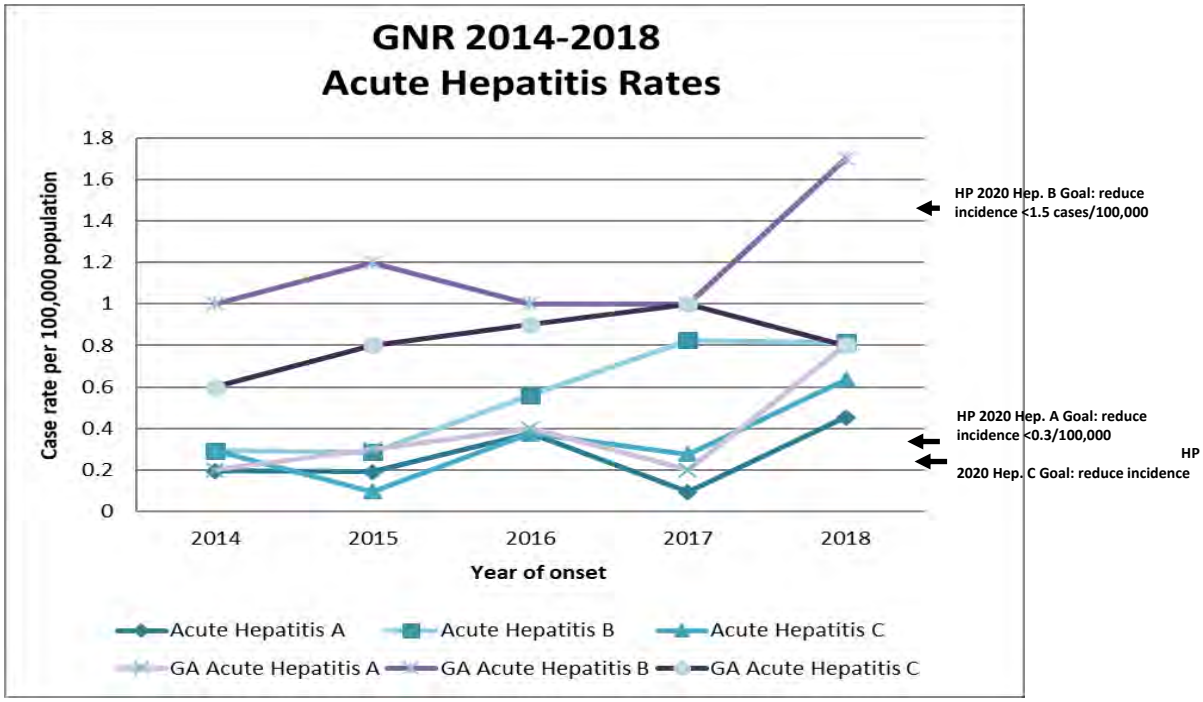


Newton 2017/2018 Perinatal Hepatitis Cases by Mother's Region of Birth

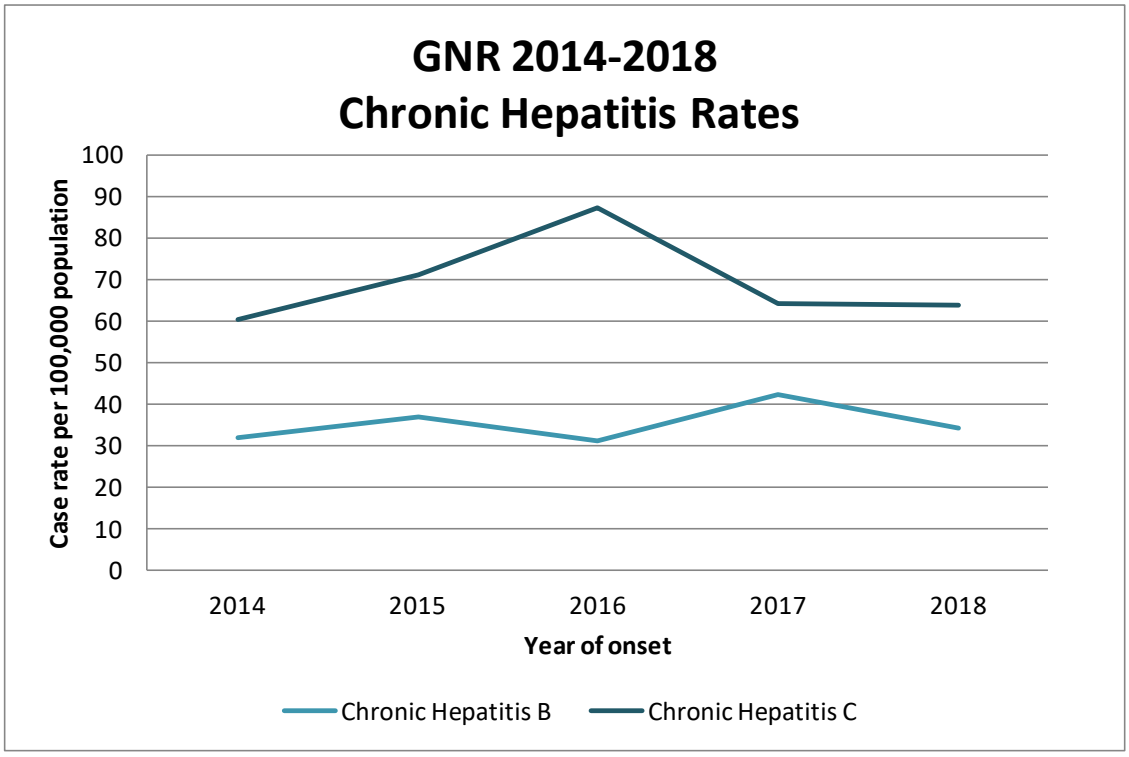


Rockdale 2017/2018 Perinatal Hepatitis Cases by Mother's Region of Birth





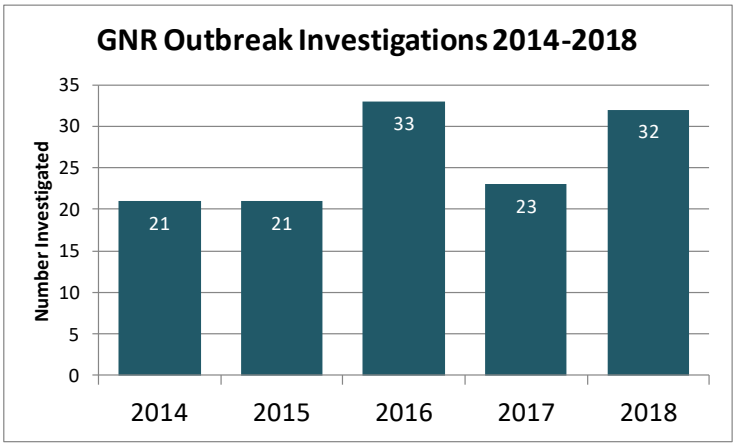
The above graph shows the GNR acute hepatitis case rates by hepatitis type. In addition, the graph compares GNR case rates to the Georgia case rates and Healthy People 2020 goals, a set of evidence-based 10-year national health benchmarks. Cases of Hepatitis C have been increasing in Georgia since 2013, with most new cases occurring in injection drug users associated with the nationwide opioid epidemic.[12,13,14]

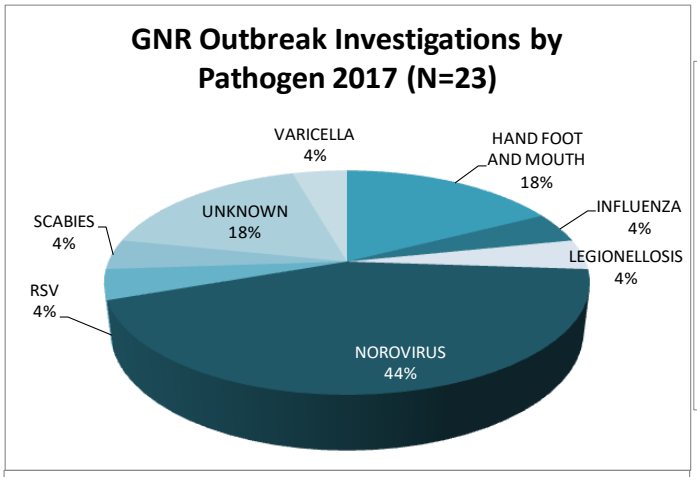


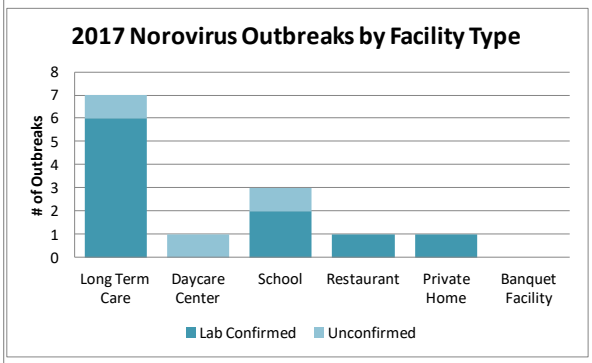
While Hepatitis B case rates have been relatively steady since 2012, chronic Hepatitis C infections have increased dramatically. According to the CDC, 6 out of 100 infants born to mothers with chronic Hepatitis C will also become infected, and state epidemiology is developing a prenatal Hepatitis C surveillance system similar to our existing prenatal Hepatitis B program.[15] Though methods for Hepatitis C treatment continue to improve, they remain cost-prohibitive for many infected individuals. [16]

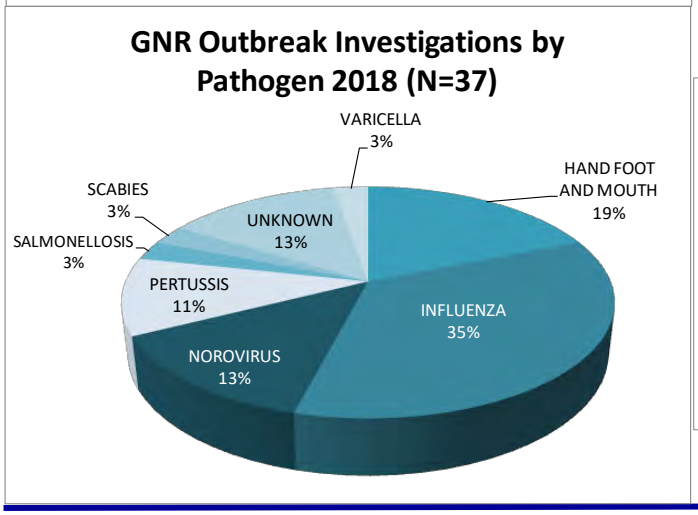
Outbreak Summary

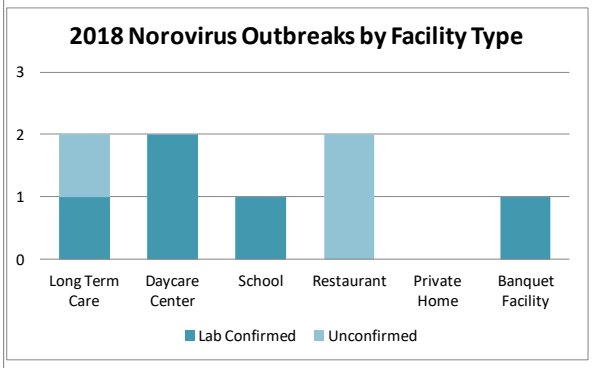
The number of notifiable disease case investigations did not include clusters or other non-notifiable disease investigations. Priority was given to investigation of 100% of reported outbreaks (N=21) of communicable diseases and diseases of interest not classified as notifiable and other activities of priority to the community. In 2017, norovirus or suspected norovirus was the predominate pathogen for illness causing 10 (44%) of the outbreaks investigated. In 2018, influenza or suspected influenza was the predominate pathogen for illness causing 13 (35%) of the outbreaks investigated.











Emerging Pathogens

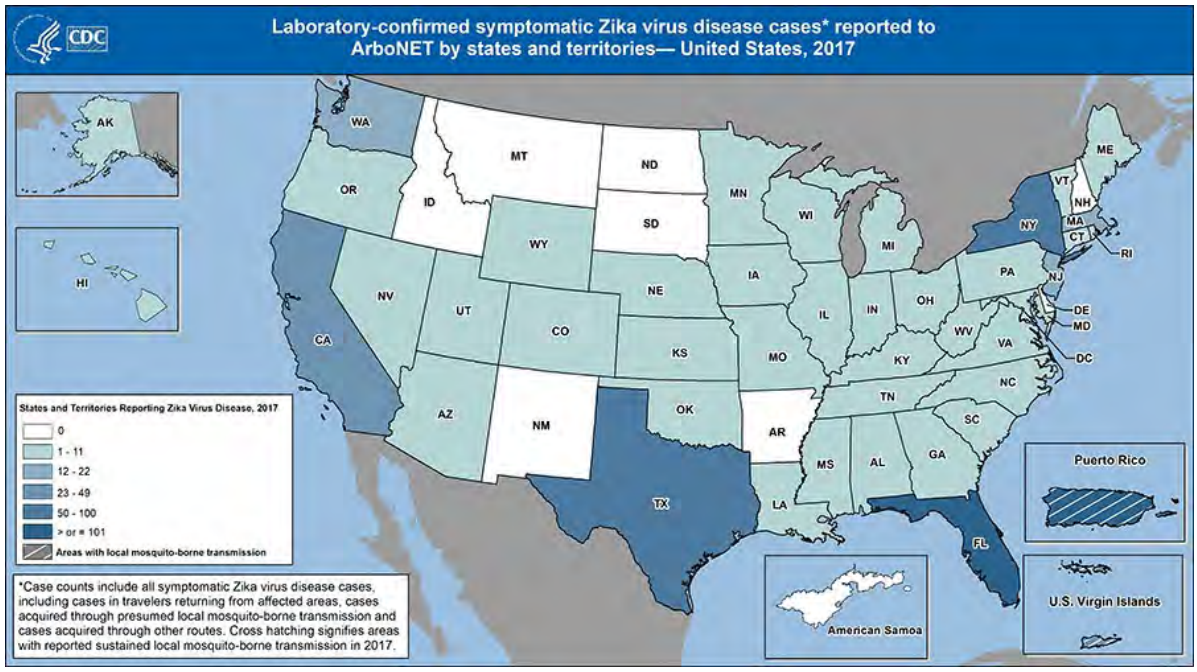
All emerging pathogen updates are as of June 9, 2017. Epidemiology works closely with emergency planners to prepare an evidence-based response to emerging pathogens. Epidemiology investigates all reported and suspect cases of emerging pathogens and utilizes surveillance data to inform GNR's public health actions. Epidemiology distributes pathogen-specific information on illness prevention to internal and external partners and works with these partners to implement control measures.

Zika Virus

Zika fever is a febrile illness caused by a mosquito-borne virus and is spread to people primarily through the bite of an infected *Aedes* mosquito species. Perinatal and sexual transmission have been documented. Zika virus was first identified in 1947 and is named after the Zika forest in Uganda where it was first discovered. Prior to 2015, Zika virus outbreaks had been reported in tropical Africa, Southeast Asia, and the Pacific islands. In May 2015, the Pan American Health Association (PAHO) issued an alert regarding the first confirmed Zika virus infection in Brazil, and on February 1, 2016, the World Health Organization (WHO) declared Zika virus a Public Health Emergency of International Concern (PHEIC). In 2016, Zika Virus Disease became a nationally notifiable condition. As of June 7, 2017, the U.S reported 5,283 symptomatic Zika virus cases. Ninety-five percent of cases occurred in travelers returning from affected areas and 4% cases were acquired through presumed local mosquito-borne transmission in Florida (N=218) and Texas (N=6). 48 cases were acquired through other routes, including sexual transmission (N=46), laboratory transmission (N=1) and person-to-person through an unknown route (N=1). In the U.S Territories, 36,587 symptomatic Zika virus cases were reported, 99% of which were acquired through presumed local mosquito-borne transmission. GNR investigated 153 suspect Zika cases in 2016 and of those, 20 were confirmed. The cases resided in Gwinnett (n=17) and Rockdale (n=3) counties, and all GNR cases were travel-associated.

Zika virus is the first known mosquito-borne virus to cause birth defects in humans. On April 13, 2016, the CDC concluded that Zika virus can cause microcephaly and other severe fetal brain defects. Additionally, a study released by the Journal of the America Medical Association or JAMA, concluded that Zika infection during pregnancy may also cause a wide spectrum of birth defects and developmental delays outside of microcephaly known as congenital Zika syndrome. In an effort to ensure thorough and accurate case reporting and facilitate public health response to the Zika virus outbreak, the CDC established the US Zika Pregnancy Registry (USZPR) to collect information on the impact of Zika virus infection during pregnancy on women and their infants. To date, there is no current local transmission of Zika virus in the continental United States where local transmission was reported in 2016-2017 in Florida and Texas. Also, there have been no confirmed Zika virus disease cases reported from the United States territories.

Laboratory-Confirmed Symptomatic Zika Cases in U.S 2017

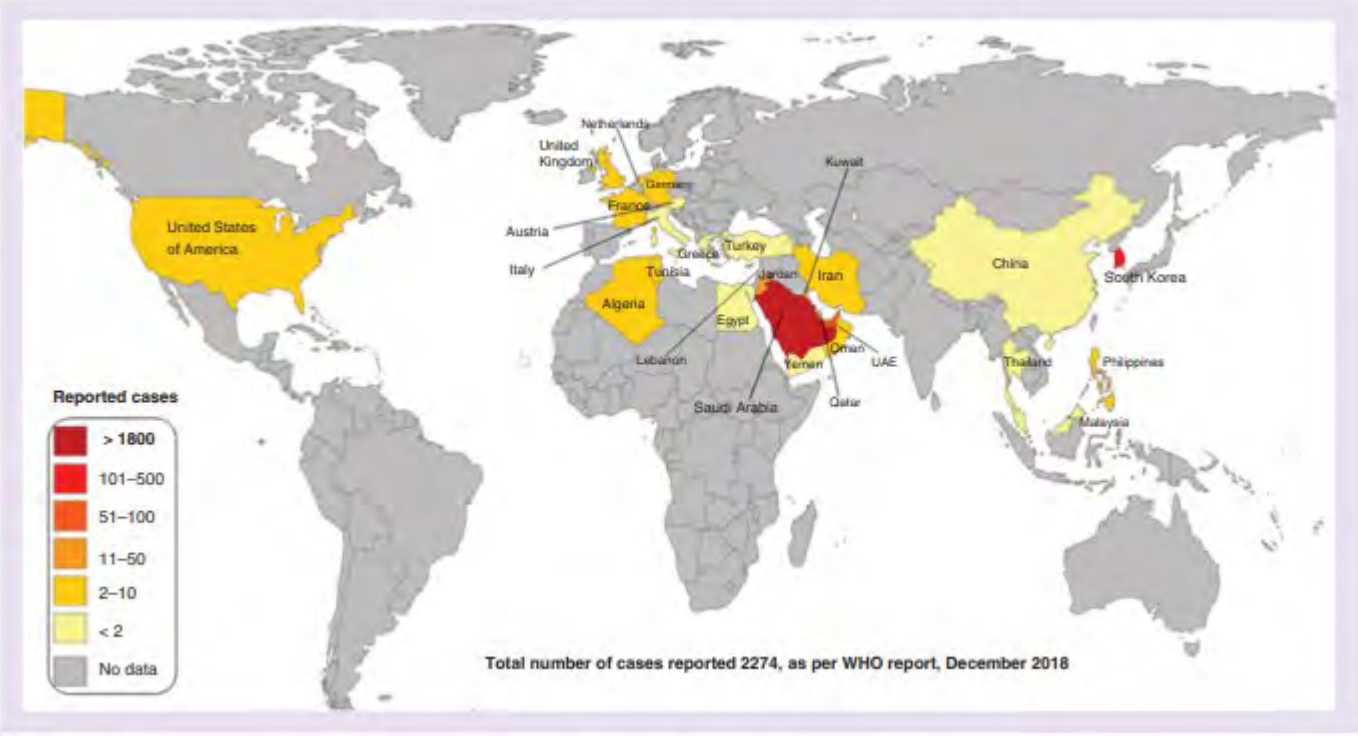


Middle Eastern Respiratory Syndrome (MERS)

Middle Eastern Respiratory Syndrome (MERS) is an illness caused by a coronavirus called MERS-CoV. Most infections developed severe respiratory illness with symptoms of fever, cough, and shortness of breath causing 3-4 of every 10 patients with MERS have died. Most people who died had an underlying medical condition while others had mild or no symptoms at all.

The first known cases of MERS occurred in Jordan in April 2012 but health officials first reported the disease in Saudi Arabia in September 2012. MERS has spread from infected individuals through close contact and can infect anyone of all age groups. All cases of MERS were linked through travel to or living in and near the Arabian Peninsula and the largest known outbreak of MERS outside the Arabian Peninsula was in the Republic of Korea from a traveler returning from the Arabian Peninsula.

In May 2014 the Centers of Disease Control and Prevention (CDC) confirmed two cases of MERS. Both patients had recently traveled from Saudi Arabia, were hospitalized in the U.S., and made full recoveries. CDC and other public health partners continued to look for people who may had MERS and tested 750 people in the U.S. that all tested negative.



Source: Choudhry H, Bakhrebah MA, Abdulaal WH, et al. Middle East respiratory syndrome: pathogenesis and therapeutic developments. Future Virology. 2019;14(4): 237–246

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 2017 associate working a two year assignment in Communicable Disease. For 2018 two additional associates were hosted by the GNR team, these additional associates were placed with GNR for two year assignments. 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. Then, shelter teams that included epidemiologists were sent to other locations in Georgia for hurricanes in 2017 and 2018. Epidemiology and Emergency Preparedness worked very closely together through the Incident Command System to coordinate the complex COVID-19 response from early 2020 into 2021. This extremely complex operation included setting up COVID-19 testing locations, resulting operations, contact tracing, case investigations, elevated levels of partner communications, preparation for and delivery of vaccine, media outreach, and much more. The fact that these teams had worked together for years smoothed the edges of a very challenging response.

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) on April 13-14, 2016. GNR Health is awaiting a final decision from the board regarding accreditation status in August 2016. 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 illnesses
- animal bites
- ▸anthrax
- all acute arboviral infections:
  - – Eastern Equine Encephalitis (EEE)
  - – LaCrosse Encephalitis (LAC)
  - – St. Louis Encephalitis (SLE)
  - – West Nile Virus (WNV)
- ▸botulism
- ▸brucellosis
- cholera
- diphtheria
- *E. coli O157*
- *Haemophilus influenzae (invasive)*⁺
- hantavirus pulmonary syndrome
- hemolytic uremic syndrome (HUS)
- hepatitis A (acute)
- measles (rubeola)
- meningitis (specify agent)
- meningococcal disease
- novel influenza A virus infections
- pertussis
- plague
- ▸poliomyelitis
- Q fever
- ▸rabies (human & animal)
- severe acute respiratory syndrome (SARS)
- shiga toxin positive tests
- *S. aureus with vancomycin MIC ≥ 4µg/ml*
- ▸smallpox
- 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#
- all acute arboviral infections*
- acute flaccid myelitis
- aseptic meningitis
- babesiosis
- blood lead level (all)
- campylobacteriosis
- carbapenem-resistant enterobacteriaceae (CRE): enterobacter species, escherichia coli, and klebsiella species (isolates within 7 days)
- chancroid
- Chlamydia trachomatis (genital infection)
- Creutzfeldt-Jakob Disease (CJD), suspected cases, under age 55
- cryptosporidiosis
- cyclosporiasis
- ehrlichiosis
- giardiasis
- gonorrhea
- HIV infection and Perinatal HIV exposure##
- hearing impairment (permanent under age 5)##
- hepatitis B
  - – acute hepatitis B
  - – chronic HBsAg(+) or HBV DNA detected infections
  - – HBsAg(+) pregnant women
  - – HBsAg(+) children ages <3 years
- hepatitis C (past or present)
  - – acute hepatitis C
  - – chronic hepatitis C
  - – 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)##
- melioidosis
- 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

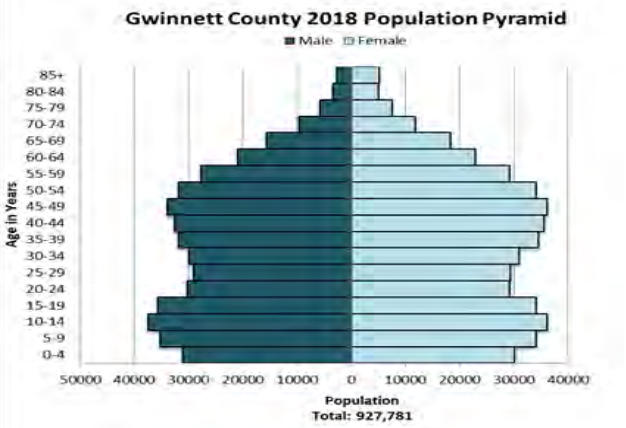
\#\# Report forms and reporting information for maternal deaths and hearing impairment (permanent, under age 5) available at **dph.georgia.gov/documents/forms-surveys-and-documents**.

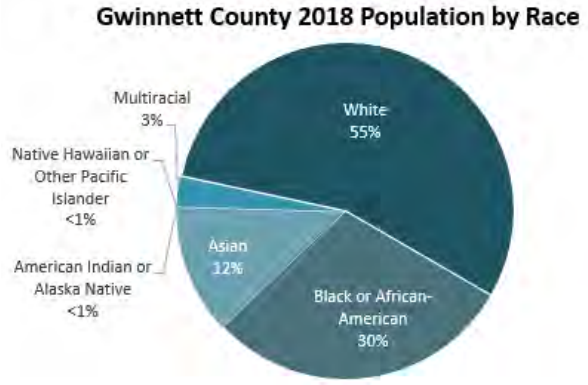
Please visit dph.ga.gov/disease-reporting or call 1-866-782-4584

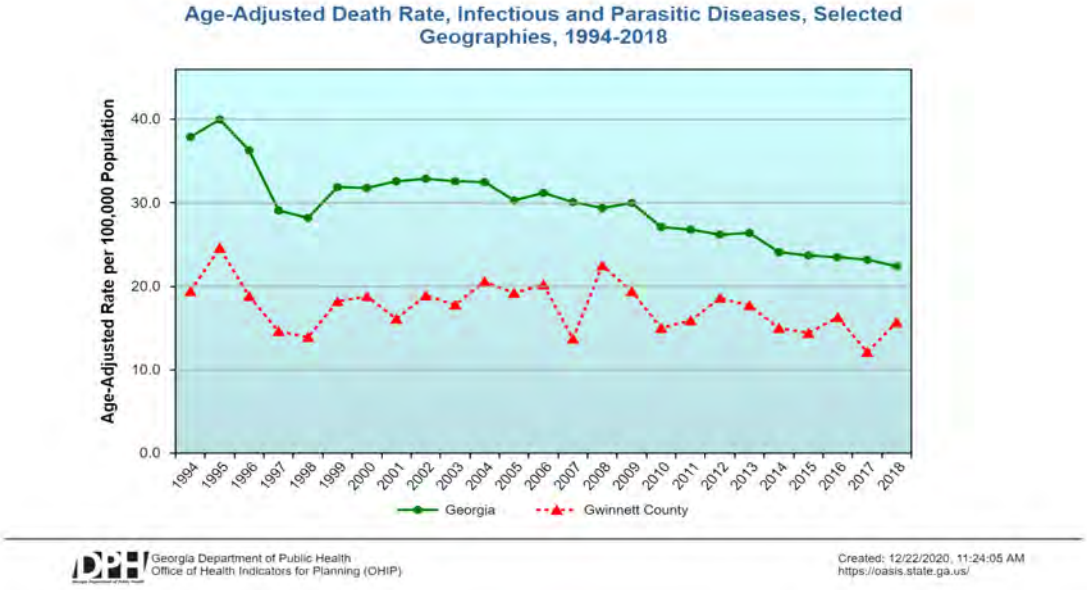
DPH Georgia Department of Public Health

Gwinnett County

Population at a Glance







Top 10 Causes of Hospitalizations in Gwinnett County for 2018 by Age-Adjusted Deduplicated Hospital Discharge Rate
Total Discharges: 70,782
(rates per 100,000 population)

1	Blood Poisoning	369.0
2	Bone & Muscle Diseases	356.7
3	Cardiovascular Disease	317.8
4	Pneumonia	208.3
5	Stroke	202.6
6	Mental and Behavioral Disorders	200.9
7	Kidney Disease	196.4
8	Falls	193.0
9	All Other Nervous System Diseases	189.5
10	Nutritional and Metabolic Diseases	184.4

Select Population Based Statistics:

2018 Pregnancy Rate: 74.5 per 1,000 females 15 – 44 years

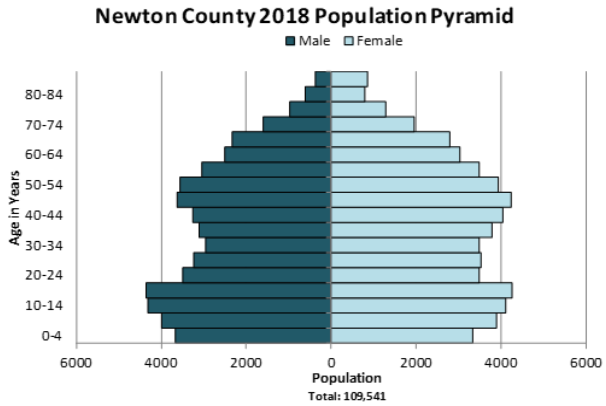
2018 Birth Rate: 36.4 per 1,000 females

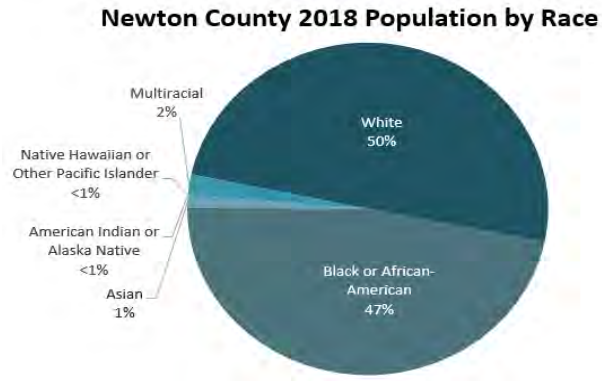
2018 Infant Mortality Rate: 5.4 per 1,000 births

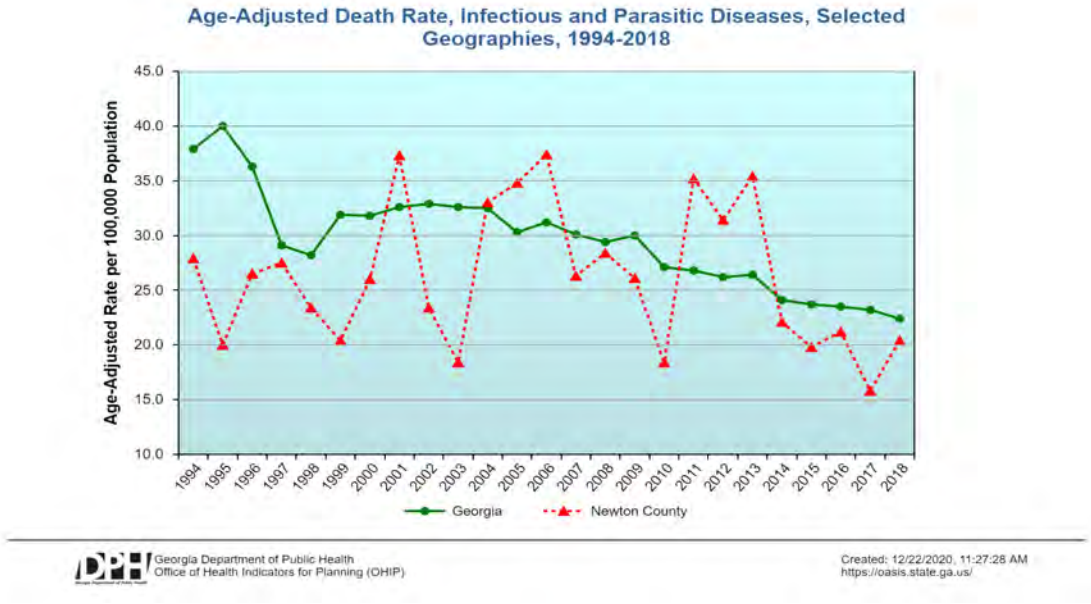
Source: www.oasis.state.ga.us

Newton County

Population at a Glance







Top 10 Causes of Hospitalizations in Newton County for 2018 by Age-Adjusted Deduplicated Hospital Discharge Rate
Total Discharges: 11,670
(rates per 100,000 population)

1	Blood Poisoning	513.1
2	Bone & Muscle Diseases	426.4
3	Cardiovascular Disease	384.2
4	Pneumonia	264.1
5	Stroke	233.9
6	Falls	205.9
7	Nutritional and Metabolic Diseases	192.8
8	Chronic Obstructive Pulmonary Disease	182.3
9	All Other Nervous System Diseases	176.7
10	Mental and Behavioral Issues	171.0

Select Population Based Statistics:

2018 Pregnancy Rate: 80.6 per 1,000 females 15 – 44 years

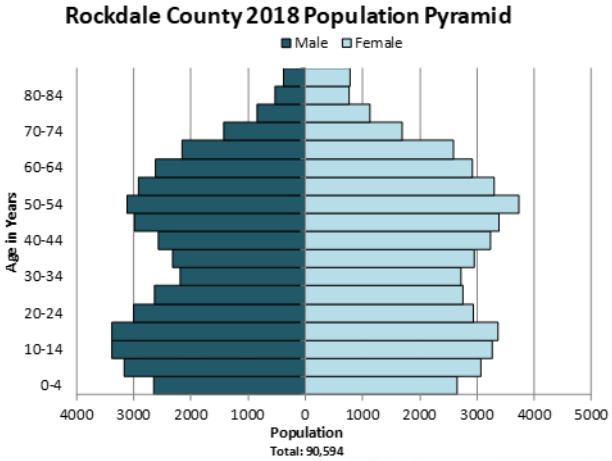
2018 Birth Rate: 37.3 per 1,000 females

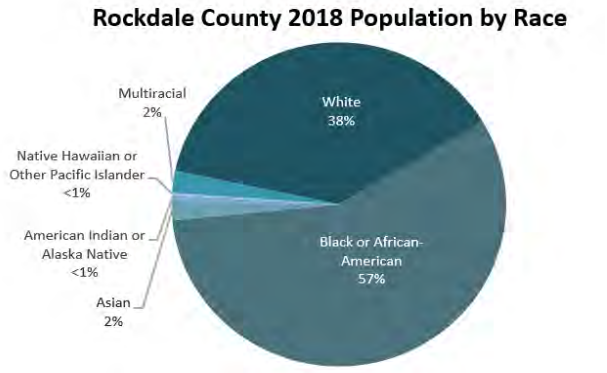
2018 Infant Mortality Rate: 12.5 per 1,000 births

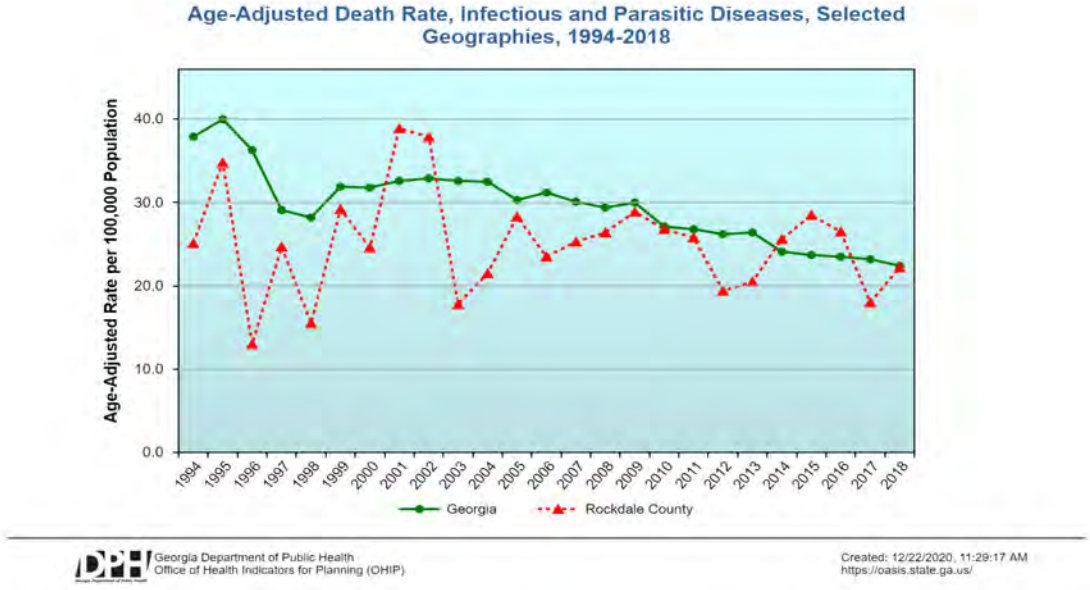
Source: www.oasis.state.ga.us

Rockdale County

Population at a Glance







Top 10 Causes of Hospitalizations in Rockdale County for 2018 by Age-Adjusted Deduplicated Hospital Discharge Rate
Total Discharges: 9,030
(rates per 100,000 population)

1	Blood Poisoning	369.0
2	Bone & Muscle Diseases	356.7
3	Cardiovascular Diseases	356.7
4	Pneumonia	208.3
5	Stroke	202.6
6	Mental and Behavioral Diseases	200.9
7	Kidney Disease	196.4
8	Nutritional and Metabolic Disorders	184.4
9	Diabetes Mellitus	174.4
10	Chronic Obstructive Pulmonary Disease	144.4

Select Population Based Statistics:

2018 Pregnancy Rate: 74.6 per 1,000 females 15 – 44 years

2018 Birth Rate: 32.4 per 1,000 females

2018 Infant Mortality Rate: 6.3 per 1,000 births

Source: www.oasis.state.ga.us

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