GWINNETT • ROCKDALE • NEWTON

COUNTY HEALTH DEPARTMENTS

Annual Report

Epidemiology & Community Health

2013

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Gwinnett, Newton, Rockdale Counties Epidemiology 2013 Annual Report

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Gwinnett, Newton, Rockdale Counties Epidemiology 2013 Annual Report

Executive Summary

The Gwinnett, Newton, Rockdale County Health Departments (GNR), Epidemiology Division serves the population of Gwinnett, Newton, and Rockdale Counties in metropolitan Atlanta, Georgia. The division is responsible for disease investigation and surveillance 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 Control. These programs operate as a team to meet local, state, and federal goals and deliverables.

The Epidemiology Division provides infectious and chronic disease investigation, management, education, and prevention services for the county population. Epidemiology staff perform routine surveillance for over 70 notifiable diseases and provide key disease prevention and mitigation activities protecting the health of the community. Notifiable Disease , Tuberculosis Control, Sexually Transmitted Infections, Hepatitis Control, Ryan White, and Refugee Health are the key programmatic areas in the Epidemiology Division. In addition to these, GNR Epidemiology staff: investigate reports of non-reportable diseases such as Norovirus, head lice, and community acquired MRSA; complete data requests from community partners and the general population; provide infection control guidance and trainings; and collaborate with the county school system to control the spread of infectious diseases in the school population. GNR Epidemiology also assists and provides field investigations as requested by GA DPH and CDC.

In 2013, a total of 4,773 notifiable conditions were reported in the three-county health district. A total of 1,573 (33.02%) of these notifiable diseases were investigated. 49.13% of uninvestigated morbidity was due to reported gonorrhea and chlamydia cases. Program staff investigated numerous complaints (n=99) and outbreaks of illness (n=42); 100% of these instances were investigated.

Program Descriptions

The GNR Epidemiology Division is comprised of 3 distinct programs: Epidemiology, Communicable Disease, and Tuberculosis Control. The District serves the nearly one million residents of Gwinnett, Newton and Rockdale counties in metropolitan Atlanta, GA. Funding for each of the programs is secured through county, state and federal grant-in-aid.

Epidemiology Program

Program Responsibilities: The Epidemiology program 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 over 70 notifiable diseases to the Georgia Department of Public Health, Acute Disease Section and implementing control measures to limit the spread of disease in the community. The Epidemiology program staff complete data requests and provide 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. Staff also provide trainings and outreach to the community. The Epidemiology staff are often responsible to publish internal and external reports and participate in county and district public health programs as needed.

Staff Capacity: The Epidemiology program staff consists of one epidemiology program manager with assistance from the Division Director, an epidemiology nurse specialist, an environmental epidemiologist, and a general epidemiologist.

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. In collaboration with the Epidemiology program, the Communicable Diseases Unit investigates, tracks, and reports to the Georgia Department of Public Health and provides community outreach and education. Unit staff are responsible for guaranteeing that cases are reported, diagnosed and treated, and partners are referred for testing and treatment as appropriate. These are the key components of STI control and prevention programs.

Staff Capacity: The Communicable Diseases Unit is staffed by a supervisor, two communicable disease specialists, and an operational analyst.

Tuberculosis Control Program

Program Responsibilities:

The Tuberculosis Control program is responsible for investigating and managing all cases of active TB disease and latent tuberculosis infection in the District. Program staff provide source, case and contact investigations for the identification of active pulmonary and extrapulmonary cases and latent tuberculosis infection. Timely identification of contacts provides the opportunity to limit 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.

Staff Capacity:

TB program staff includes a program manager, two Public Health nurses, four case managers, two of whom are LPNs, a laboratory technician, a radiology technician, and an operations analyst. Increases in number of cases and extent of contact investigations have severely taxed the capacity of the TB program and required prioritization of services such as DOT.

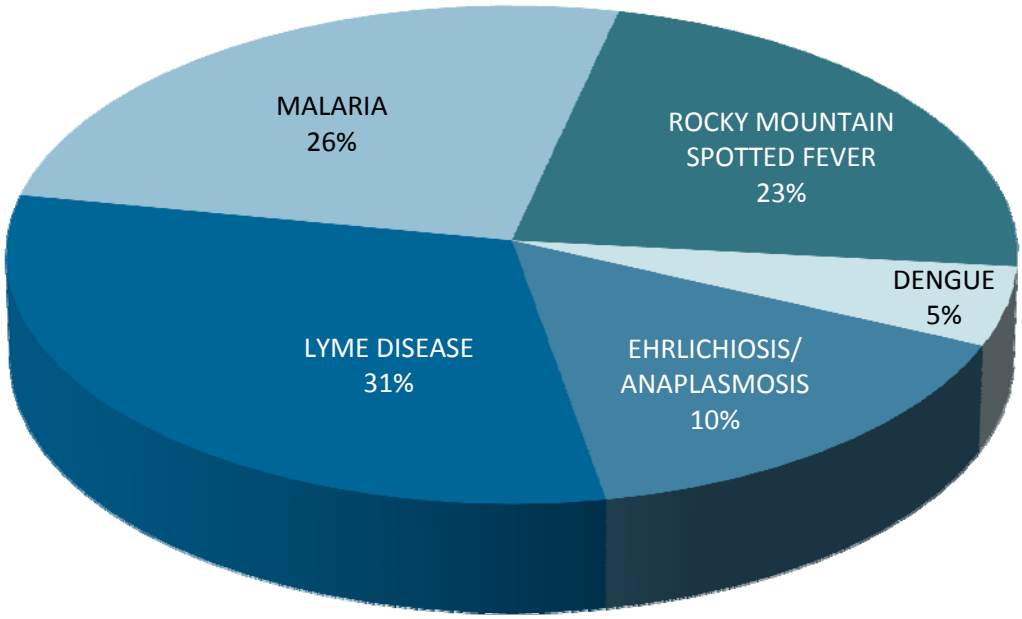
Arboviral Diseases and Other Vector-borne Diseases

Arboviral diseases are caused by a large group of viruses that are transmitted by arthropods, such as mosquitoes and ticks, to humans and animals. In the United States, the majority of arboviruses are transmitted by mosquitoes. Often, mosquitoes can transmit the virus from birds to humans and horses. Many individuals infected with arboviruses have mild or no symptoms; however, some may develop serious symptoms such as inflammation of the brain (encephalitis). The Georgia Department of Public Health requires immediate reporting of all acute arboviral infections. The most common arboviral infections reported in Georgia include: Eastern Equine Encephalitis, LaCrosse Encephalitis, and West Nile Encephalitis. St. Louis Encephalitis is less common but has also been reported in Georgia.

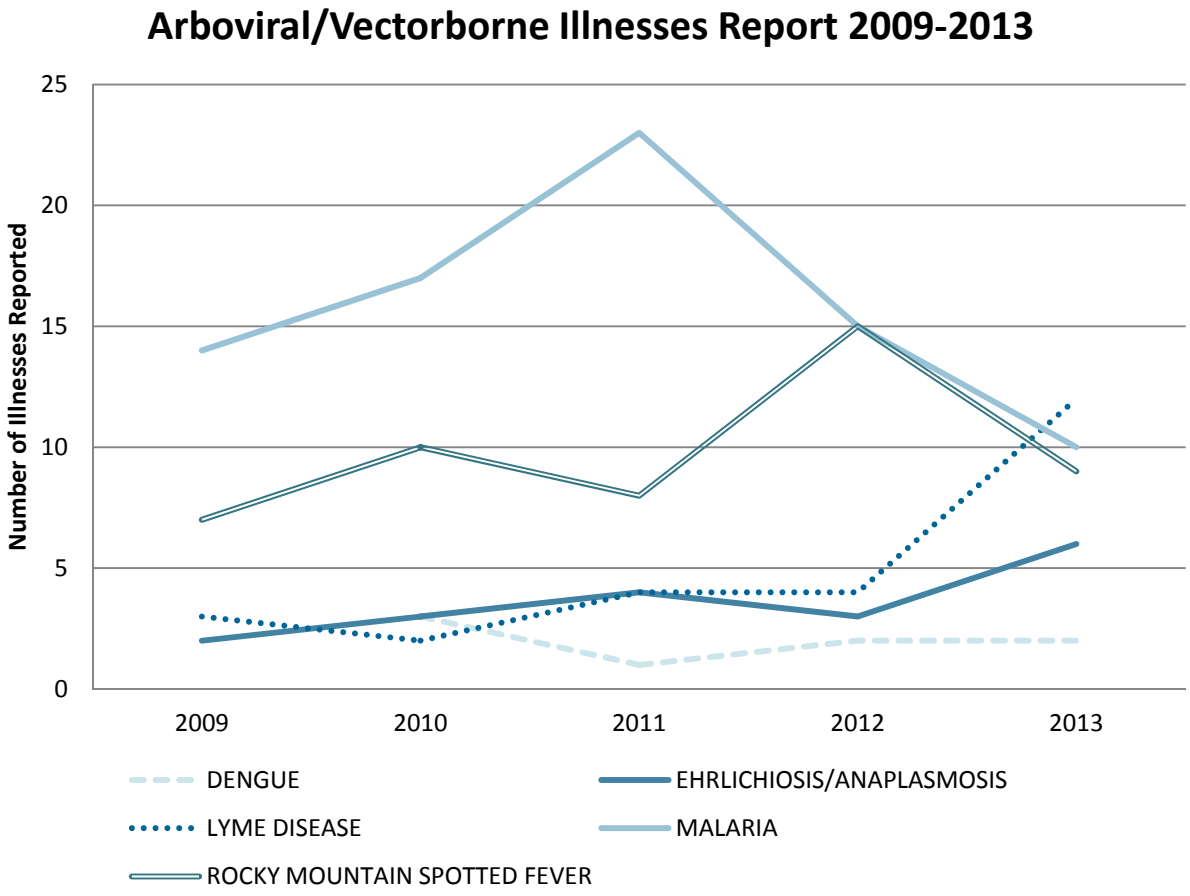
Other vector-borne diseases which are not classified as arboviruses but which are transmitted to humans by ticks and must be reported immediately include Q fever and tularemia. Vector-borne diseases that require reporting within 7 days include Malaria, Rocky Mountain Spotted Fever (RMSF), human monocytic ehrlichiosis (HME), human granulocytic anaplasmosis (HGA), and Lyme disease.

In 2013, a total of 59 arboviral/vector-borne illnesses were reported to GNR. These illnesses consisted primarily of Lyme Disease, Malaria, and Rocky Mountain Spotted Fever, there were still small amounts of Erlichiosis and Dengue. Both Dengue cases reported travel to the Dominican Republic.

Arboviral/Vectorborne Illness
Cases Reported 2013 N=39



The incidence of arboviral and other vector-borne diseases has remained somewhat variable since 2009. It should be noted that all cases of malaria and dengue were travel-related. There was an increase in Lyme Disease from 2012 (4 cases) to 2013 (12 cases) possibly due to increased awareness and testing. Epidemiology program staff attempted to investigate all cases of arboviral/vector-borne disease, however, the interview process is complicated by issues including language barriers, refusal to participate, and loss-to-follow-up. Also many more cases are reported and investigated by epidemiology staff that are then deemed not clinically compatible and not reflected in the table below.



When reviewing Malaria cases for the past 5 years (79) where travel information is available (76), the cases traveled to the countries noted in the below table.

2013 GNR Malaria Cases by Country Visited

Nigeria	23	Cameroon	2	Afghanistan	1	Mali	1
Ghana	14	Ethiopia	2	Bangladesh	1	Pakistan	1
India	9	Guinea	2	Congo	1	Senegal	1
Liberia	7	Haiti	2	Guyana	1	Unknown	3
Sierra Leone	5	Ivory Coast	2	Honduras	1	Total	76

Enteric Illness (Foodborne Illness)

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 calcivirus group of viruses known as Norwalk or Norwalk-like viruses. Other less common culprits include Hepatitis A, *Giardia lamblia, Yersinia, Listeria monocytogenes*, and *Cryptosporidia*. The incubation period varies widely from hours up to one week depending on the pathogen causing the illness.

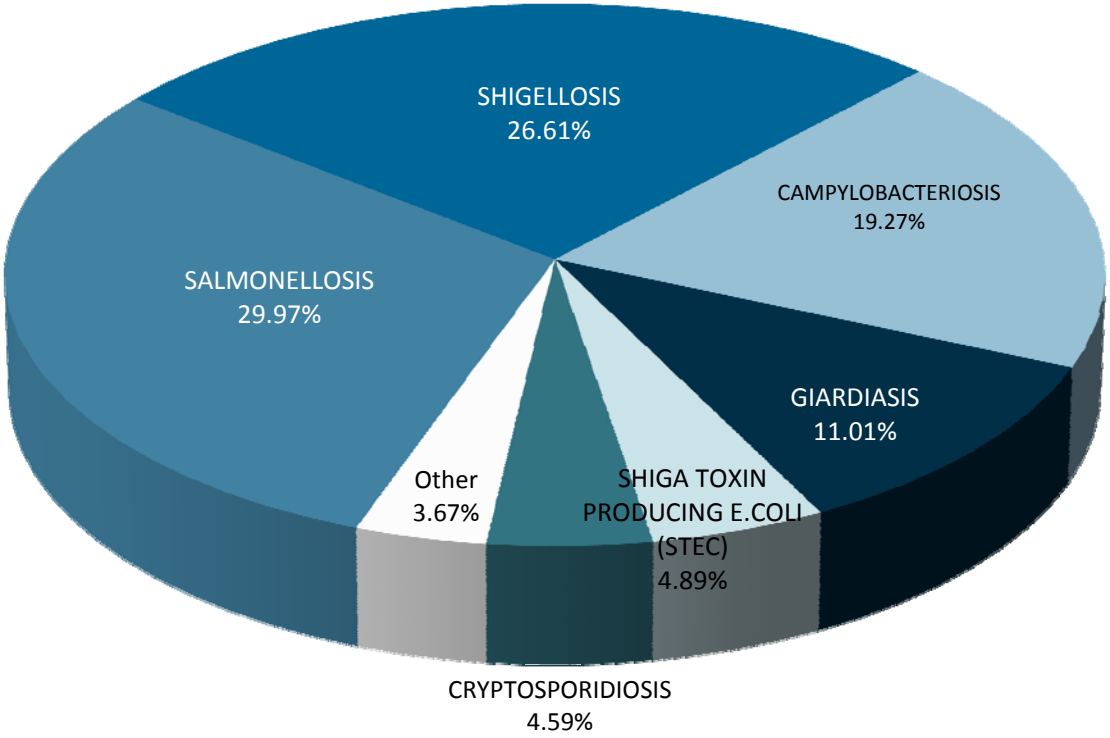
The Epidemiology program collaborated with Environmental Health in activities to investigate and prevent enteric diseases caused by contaminated food or water, and those spread person-to-person. Epidemiology staff conducted surveillance activities, investigations and community education to identify sources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

Particular attention was given to outbreaks in high-risk settings 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.

Shigellosis and STEC infection both require follow up testing in cases where the child is 4 years of age and younger. Negative tests results are required before the child returns to childcare. Typhoid cases also require additional testing of family members and extensive testing of persons involved in food service. This testing is coordinated many times by epidemiology staff and specimens are tested at the Georgia Public Health Laboratory (GPHL).

Current guidelines from the Notifiable Disease Section of the 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,* 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 *Cyclospora, E. coli* O157:H7 or STEC, Hemolytic Uremic Syndrome, *Listeria*, Typhoid fever, and *Vibrio*. GNR District epidemiology staff met or exceeded these recommendations in 2013.

Enteric Illness
Cases Reported 2013 N=328



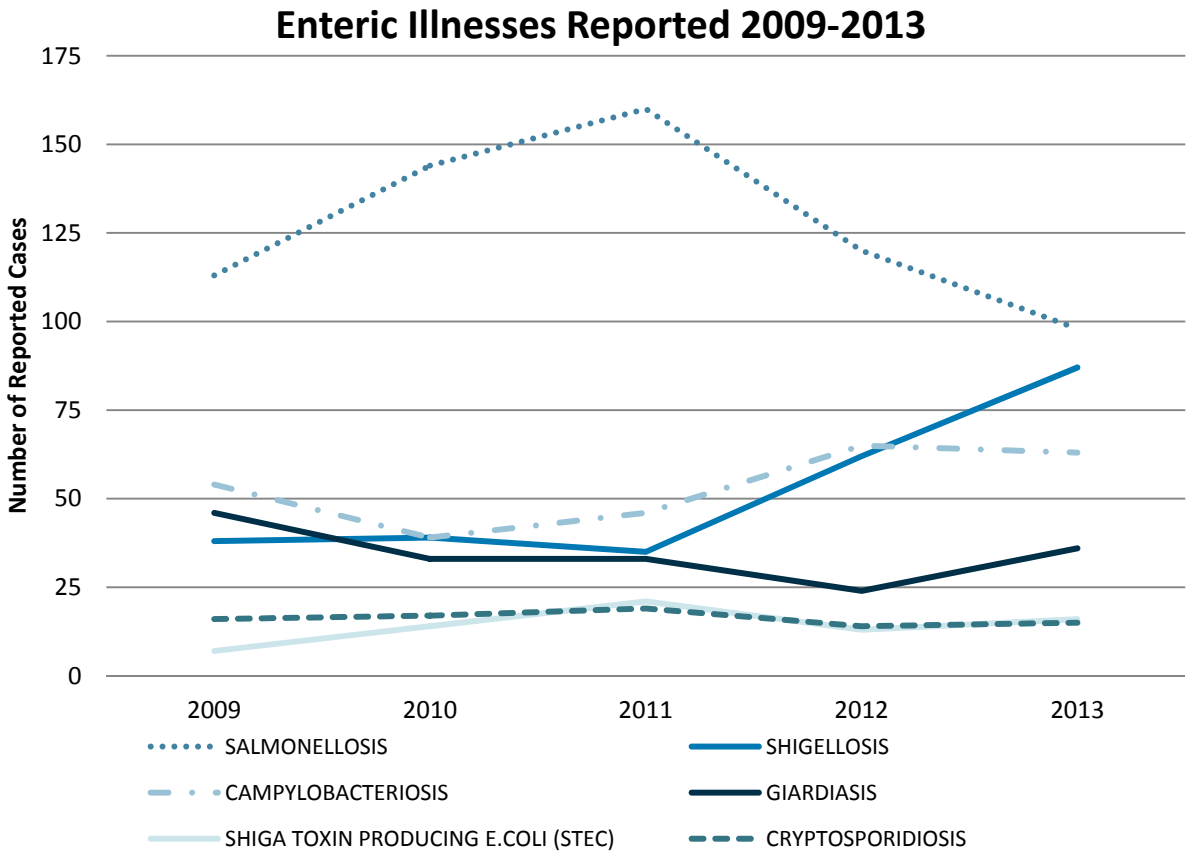
Other Illness Includes: Cyclosporiasis, Hepatitis A, Listeriosis, Vibriosis, and Yersiniosis

The most frequently reported enteric diseases in the GNR District in 2013 were salmonellosis and shigellosis, which together accounted for 53.7% of all reported enteric illness. Giardiasis, campylobacteriosis, and cryptosporidiosis together accounted for 30.1% of the total number of reported cases.

Limitations in staff capacity required prioritization of case investigations of foodborne or enteric illness. In 2013, the district received 328 reports of enteric illness of which staff was able to investigate 90.2% (296 cases). The cases not investigated were reported more than 30 days from laboratory date making an accurate food recall interview inaccurate.

One rare illness of significance in 2011 was a case of Botulism in Gwinnett County. A serious paralytic illness caused by a nerve toxin that is produced by the bacterium *Clostridium botulinum* is treated with antitoxin only available through the CDC. Epidemiology staff conducted an extensive food history investigation which included review of all purchases recorded on a shopper's rewards card. The investigation was linked to a commercially produced potato soup that was not stored properly, a similar case occurred in Ohio around the same time.[1]

[1] CDC. Notes from the Field: Botulism Caused by Consumption of Commercially Produced Potato Soups Stored Improperly-Ohio and Georgia, 2011. MMWR 2001/60(26);890.

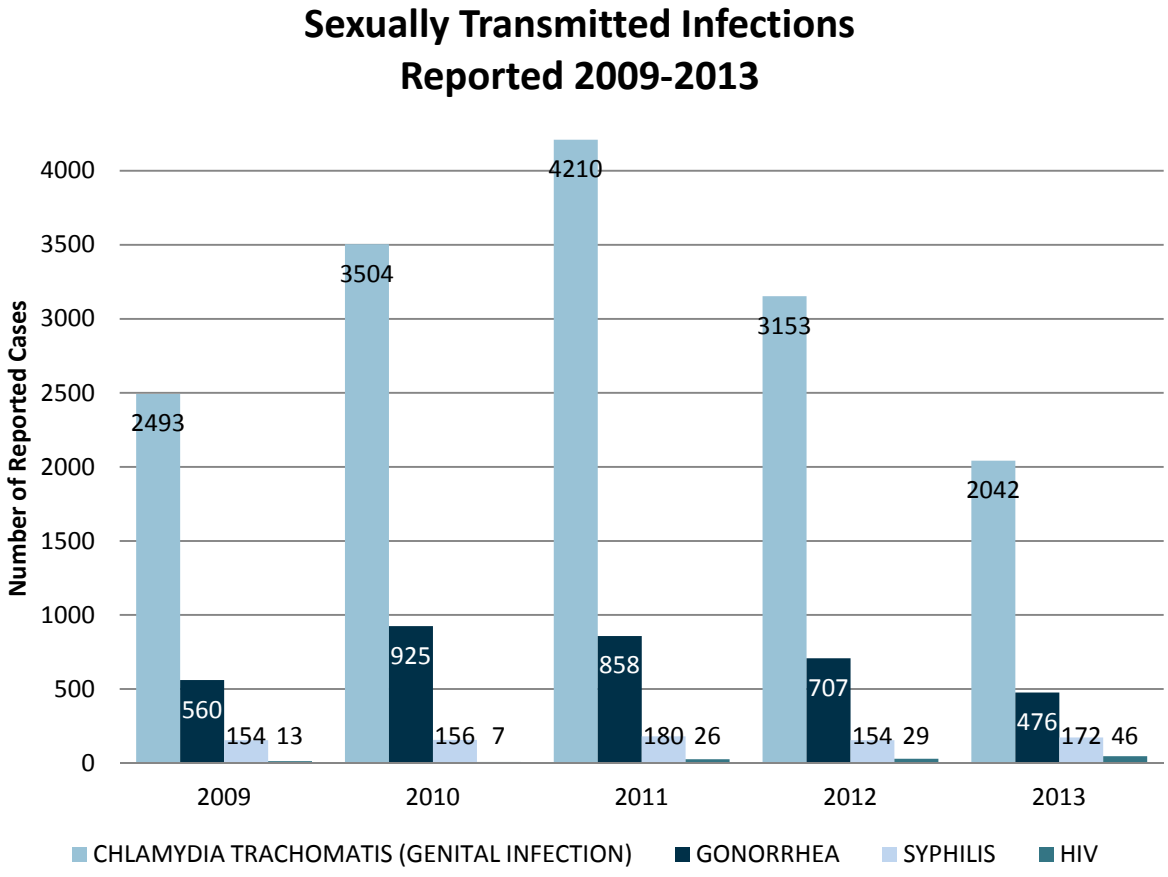


The disease rates of enteric illness remained relatively consistent with previous years with the exception of salmonellosis and shigellosis. Salmonellosis cases have decreased the past two years by 40.3% and shigellosis has increased the same two years by 49.0%. The decrease is salmonellosis has been reported nationally as noted in an April 2014 Morbidity and Mortality Weekly Report from the Center for Disease Control (CDC)[2]. 2013 was a high year for shigellosis across the metro Atlanta area which the number of reported cases reflects. Shigellosis outbreak investigations in schools occurred in 2010, 2012, and two in 2013 which contributed to higher incidence of the illness in those years. Overall, this decrease in salmonellosis was not significant enough to decrease the overall enteric illness incidence, which increased by 9.4% since 2009.

[2] CDC. Incidence and Trends of Infection with Pathogens Transmitted Commonly Through Food-Foodborne Diseases Active Surveillance Network, 10 U.S. Sites, 2006-2013 MMWR 2014;63 (15); 328-332.

Sexually Transmited Infections (STIs)

The Communicable Disease Unit of the GNR District received 2,736 reports of sexually-transmitted infections in 2013. 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, cancer, and death. Based on current capacity, 14.3% of these cases were investigated by Communicable Disease staff. 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.

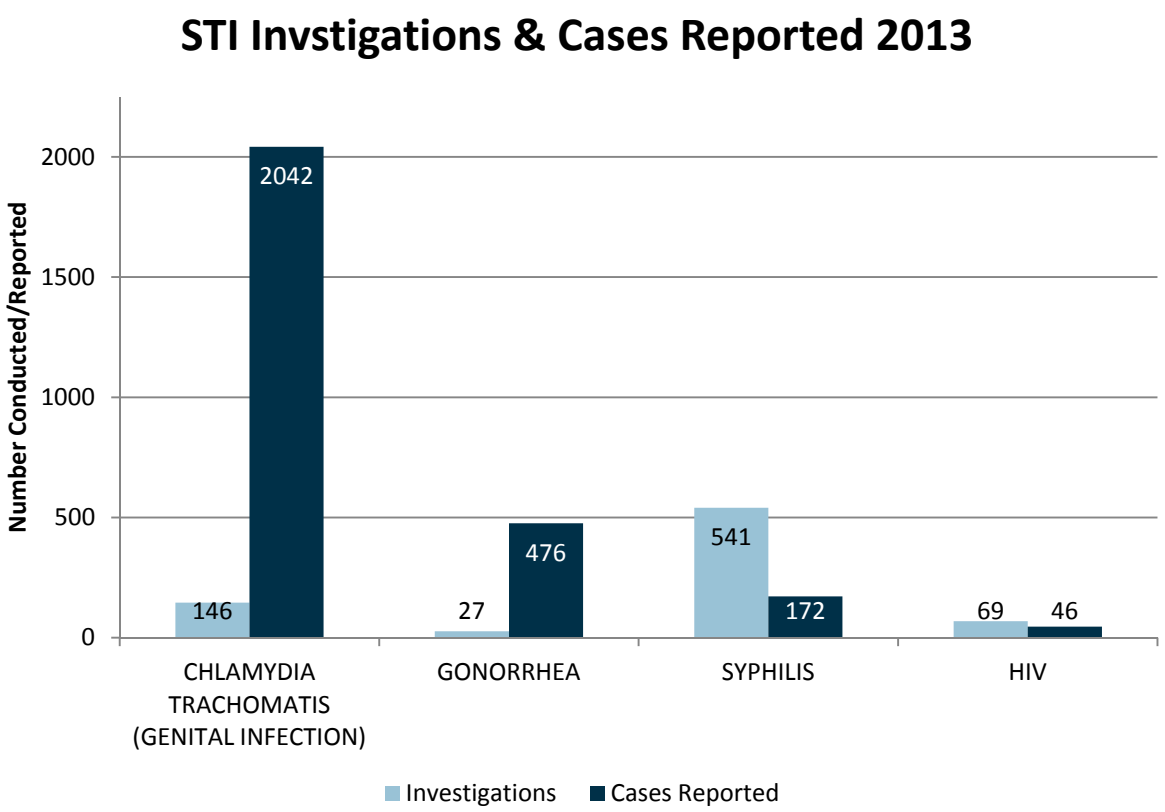


Chlamydia accounted for almost 74.6% of the total number of cases of sexually-transmitted infections reported. The next most frequently reported sexually-transmitted infection was gonorrhea, which accounted for 17.4% of total cases reported. These two diseases represent a substantial percentage of the total burden of disease from STI in the GNR District. Reported cases of Chlamydia and Gonorrhea have decreased significantly since 2011. This is not novel to the GNR District, but also seen throughout the state of Georgia[3]. While Georgia numbers were both down for the two illnesses in 2012, the state still held the ranking of 8th for Chlamydia and 5th for Gonorrhea. The nation as a whole and

[3] CDC. Sexually Transmitted Disease Surveillance 2012. January 2014.

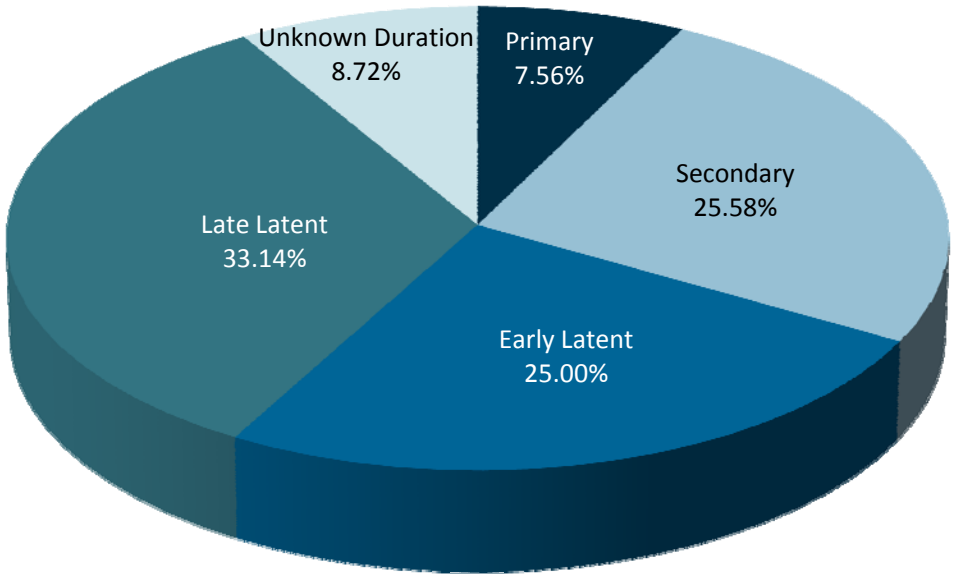
the south as a region still had an overall increase in cases. At the time of this report 2013 national data and rankings were unavailable.

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 diagnosed at public health departments requiring treatment. Syphilis and HIV cases reported by private and public entities are investigated for epi data. The 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 we are able to prevent the spread of STDs by offering testing and treatment to syphilis and HIV contacts. During 2013, 783 investigations were conducted for the 2,736 STI reports received. An average of 3 contacts are investigated for each syphilis case reported in 2013.



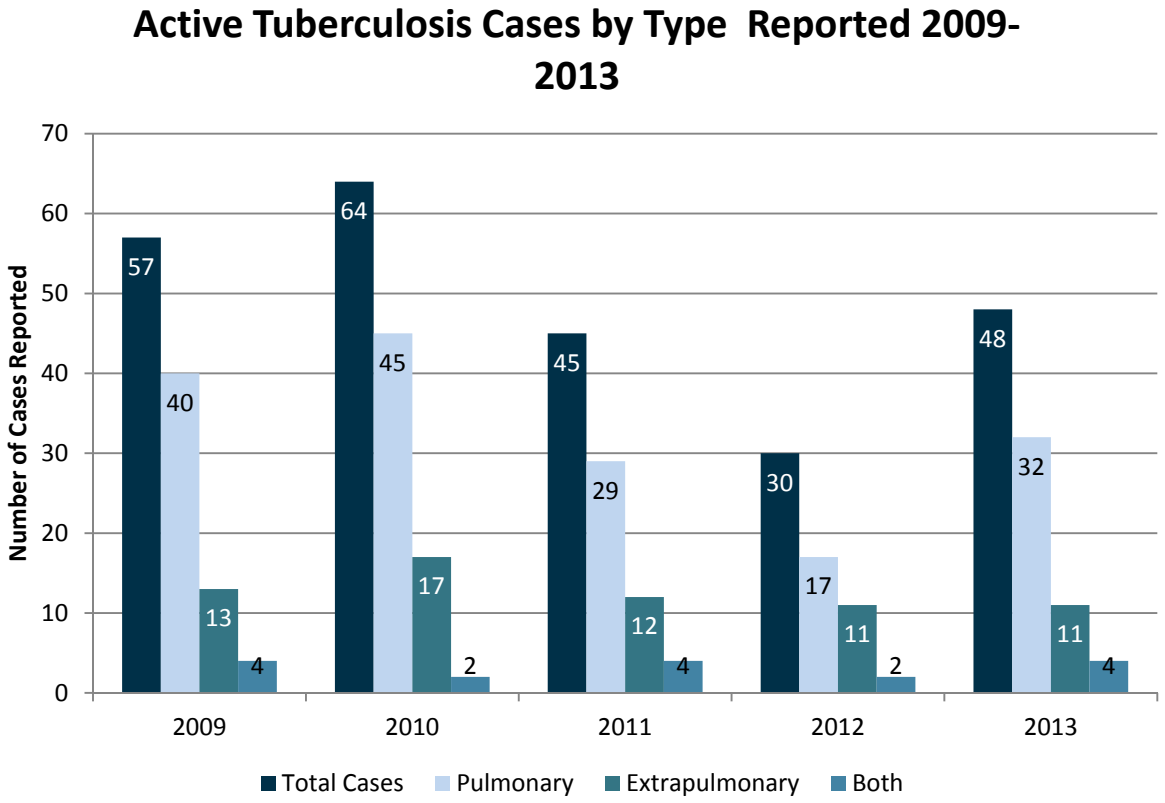
Untreated syphilis is infectious during the primary, secondary, and early latent stages. More than half, 58.1% of reported cases were diagnosed as late or late latent syphilis, which means that they are at risk for irreversible multi-organ damage making early identification and treatment a priority for Communicable Disease staff. The total distribution of syphilis cases by stage of primary, secondary, and early latent syphilis has remained relatively unchanged in 2013 when compared to previous years.

Syphilis Cases Reported by Stages 2013 N=172



Tuberculosis

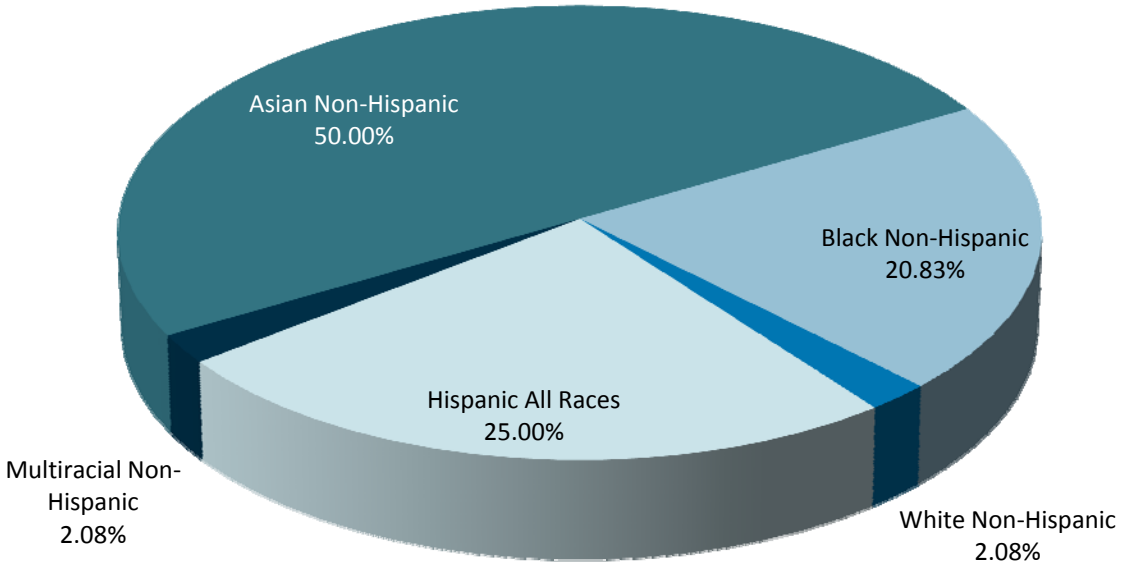
Tuberculosis continues to present a major threat to population health in GNR Health District. The goal of the Tuberculosis Program is to eliminate tuberculosis in the district. Until eradication can occur, the program staff strives to reduce the burden of disease, limit transmission, and prevent future 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 48 reports of active TB disease of which slightly over half were diagnosed as pulmonary TB. The remaining cases were reported as clinical TB and extra-pulmonary TB cases.

The TB program staff closely monitored the incidence of TB disease and noted that there was a disparate burden of disease in foreign-born persons, which accounted for 89.4% of all cases of active disease. Asian and African-American races, combined with Hispanic ethnicity, were also predominant for tuberculosis disease in the GNR Health District.

Active Tuberculosis Cases Reported 2013 by Race & Ethnicity



2013 GNR Tuberculosis Cases by Country of Birth

Vietnam	11	Burma	2	Bolivia	1	Guatemala	1
USA	6	Honduras	2	Congo	1	Iraq	1
Korea	5	Pakistan	2	Ecuador	1	Nicaragua	1
Mexico	4	Peru	2	Ethiopia	1	Philippines	1
India	3	Bhutan	1	Guam	1	Total	48

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. These functions are constrained by the increasing incidence of TB in the GNR Health District and current funding limitations. 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 clients at highest risk of morbidity, transmission, and non-adherence to treatment. 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.

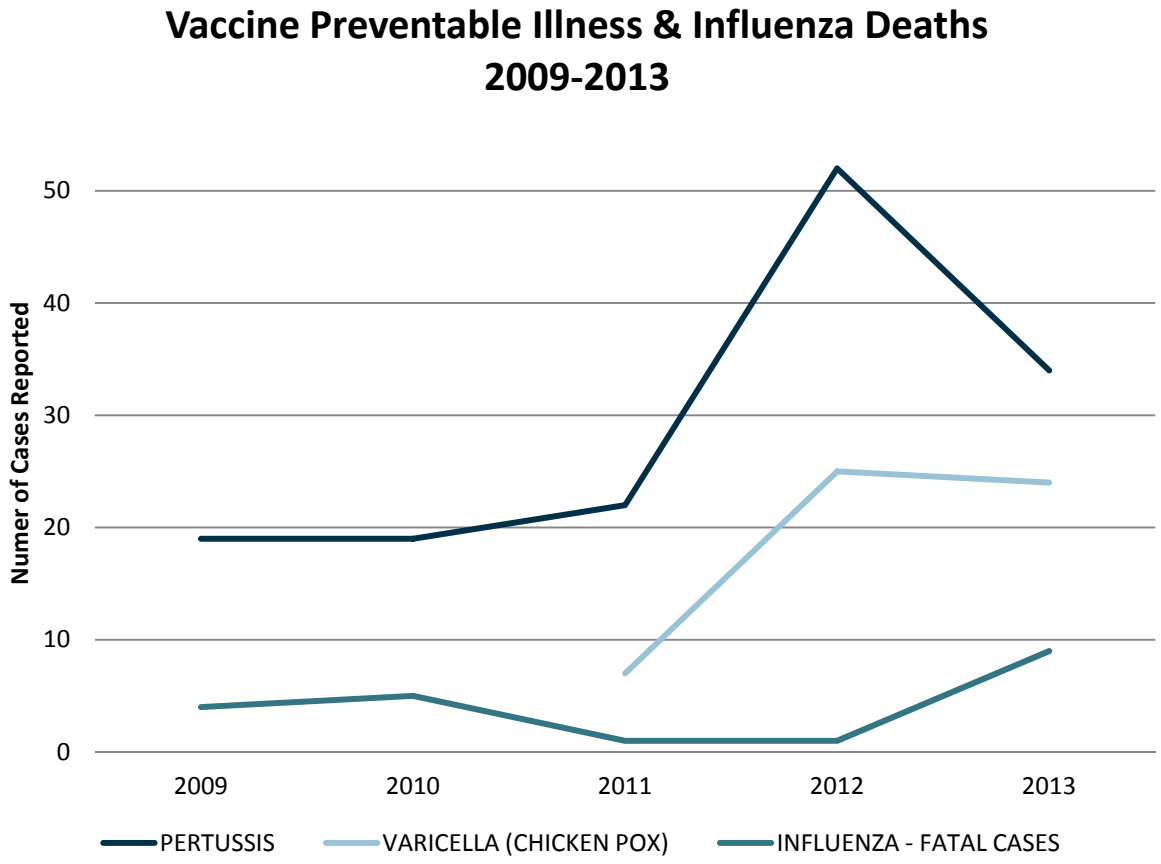
In 2013, TB program staff investigated 227 contacts of the 48 reported cases of active TB. Although some of these investigations involved close contacts such as members of the case's household and close social and work contacts, TB program staff conducted large scale investigations in the public school and work settings due to the calculated risk of exposure. In 2008, one high school investigation was conducted by TB program staff. Statewide TB case contacts are approximately 2.7 contacts per case, where district contacts per case was substantially greater with 7.5 contacts per case.

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.

The TB Program was required to adjust the service delivery model in an effort to contain costs. Directly observed therapy (DOT) was changed from service provision primarily in the home setting to service provision at the clinic for many TB patients. 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.

Vaccine Preventable Illnesses

Vaccine preventable diseases are immediately notifiable in the state of Georgia. Just a decade ago Vaccine Preventable Illnesses were declining every year 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 caused an increase in vaccine preventable illnesses across the county. Outbreaks of Measles and Pertussis are showing up on both coasts. Luckily, Measles has not entered the GNR Health District, although epidemiology staff facilitate testing of suspect cases. Another new addition to surveillance is Varicella (Chickenpox), which became a notifiable disease in 2011. Early reports of varicella were most likely sporadic in 2011 as providers were not accustomed to reporting it. Not listed on the below figure are two cases of Mumps that occurred in 2010.

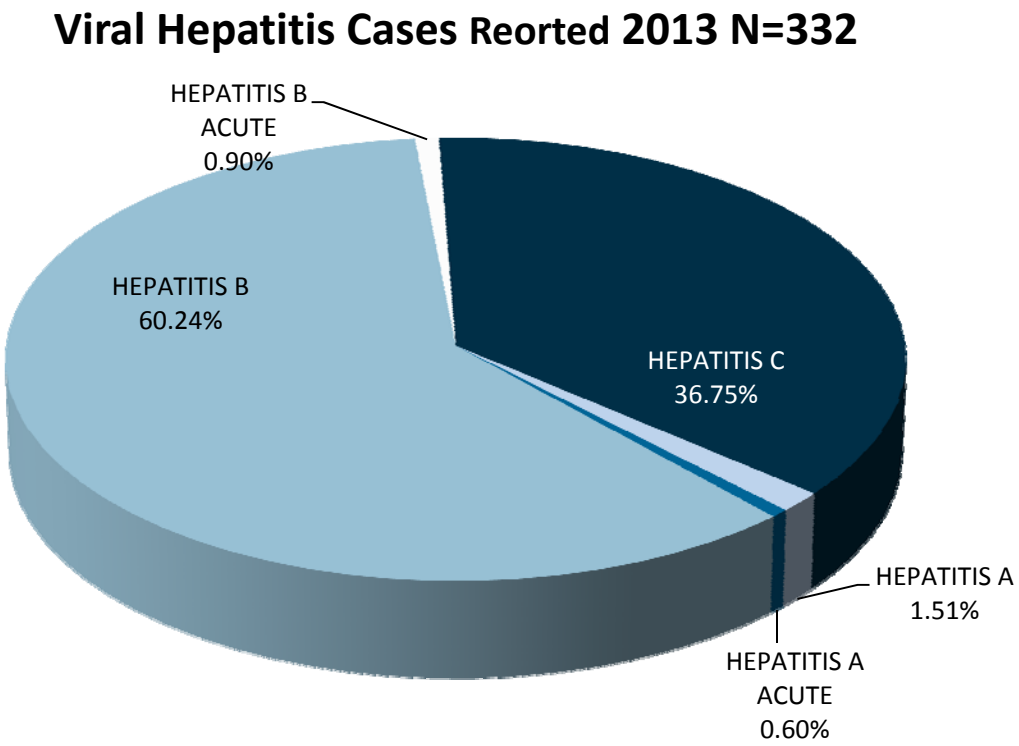


Pertussis is a respiratory illness resulting from local infection of the nasopharyngeal area by the bacteria *Bordatella pertussis*. Transmission occurs through contact with respiratory droplets from an infected person. In older children and adults, pertussis typically causes mild symptoms that resolve over the course of several weeks. Many adolescents and adults are susceptible to pertussis due to waning immunity 5-10 years after the initial series of pertussis vaccinations. In 2005, two new adolescent and adult formulations of Tdap vaccine were licensed for use in the United States. The greatest risk of pertussis in older children and adults is infection of young infants who are at greatest risk for complications of pertussis such as pneumonia, encephalopathy and death.

Viral Hepatitis

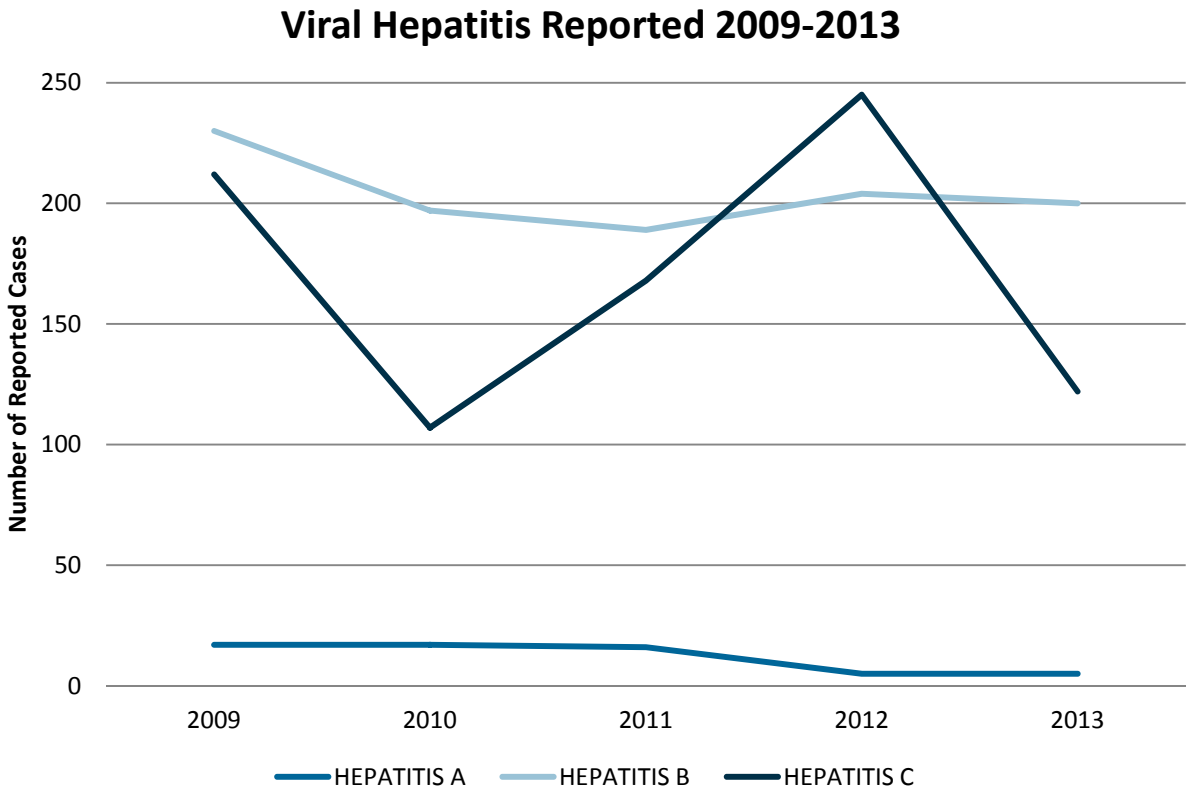
GNR staff investigated 332 viral hepatitis cases; only 5 (1.50%) of the reported cases were acute. All reported viral hepatitis cases are evaluated for acute symptoms of illness by GNR epidemiology staff. Preventative medication can be given to close contacts of hepatitis A and B cases to prevent illness. Unfortunately there is no preventative medication for hepatitis C.

The majority of the reports were hepatitis B cases followed by hepatitis C. Hepatitis A cases accounted for only 2.11% of the total number of viral hepatitis cases. Chronic hepatitis B is found predominately in the Asian community with Asian and Pacific Islanders (APIs) making up less than 5% of the total population in the United States, but accounting for more than 50% of Americans living with chronic Hepatitis B[4]. While Newton and Rockdale do not have a significant Asian population, 11%[5] or roughly 92,500 residents of Gwinnett County are Asian.



Hepatitis A is of significant concern to epidemiology staff, even with its low prevalence, due to the potential for outbreaks within the community. Unlike hepatitis B and C that are spread through contact to blood and other bodily fluids, hepatitis A is spread through the fecal-oral route and can occur either 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.

[4] CDC. Recommendations for Identification and Public Health Management of Persons with Chronic Hepatitis B Virus Infection. MMWR 2008;57(RR-8).
[5] www.oasis.state.ga.us Population Statistics.



Testing guidance for hepatitis C has changed dramatically in the past five years and this is noted in the number of cases reported to GNR. In 1998 guidance simply stated testing for asymptomatic persons with specific risk factors[6]. In 2009 HIV infected persons were added[7], and then in 2012 all adults born during 1945-1965 were included into the routine testing group[8]. The change in testing guidance is consistent with the two peaks in reported cases in the above figure. Hepatitis B has made a large decrease from 2009 when 230 cases were reported and has stabilized around 200 for the past 4 years.

A risk of having an adult population with chronic hepatitis B is the 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[9]. 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. Generally, GNR Health Districts track PHBPP babies for 15 months.

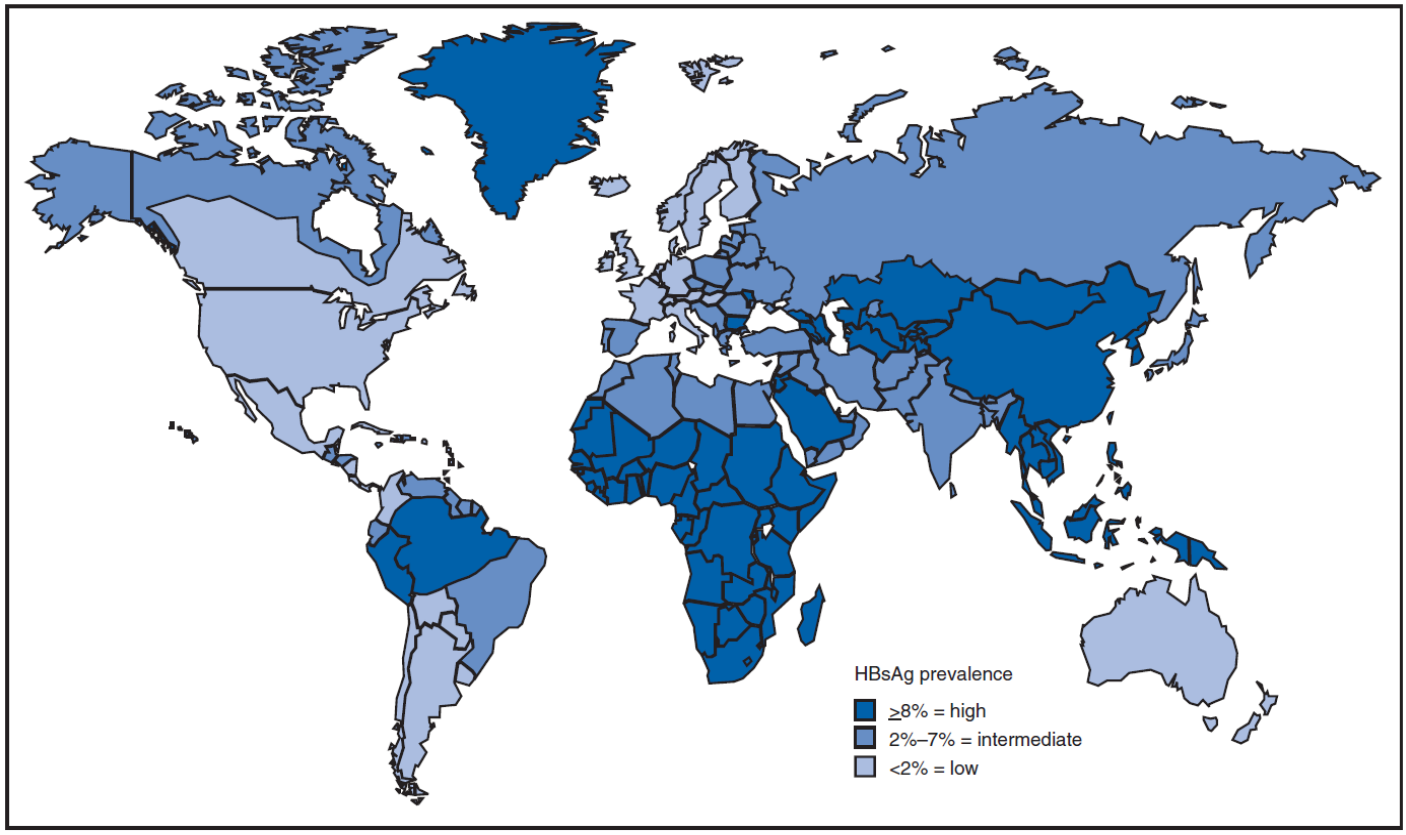
[6] CDC. Recommendations for prevention and control of hepatitis C virus (HCV) infection and HCV-related chronic disease. MMWR 1998;47(No. RR–19).
[7] CDC. Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. MMWR 2009; 58(RR04).
[8] CDC. Recommendations for the Identification of Chronic Hepatitis C Virus Infection Among Persons Born During 1945–1965. MMWR 2012;61(RR04);1-18.
[9] American Academy of Pediatrics. Hepatitis B. In: Pickering LK, Baker CJ, Kimberlin DW, Long SS, eds. *Red Book: 2009 Report of the Committee on Infectious Diseases.* 28th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2009: p. 352.

GNR Epidemiology staff work closely with hospitals and pediatricians to ensure babies born to hepatitis B infected mothers receive their needed preventative medication and scheduled vaccinations. Post vaccination testing is also conducted to ensure immunity. Due to the high Asian population in Gwinnett County, the PHBPP the GNR district is large as well. GNR has had the largest caseload of babies in the state of Georgia for the last five years and for babies born in 2013 there are 312 in Georgia's PHBPP with 26.2% (82) from the GNR district. Of the PHBPP babies born in the GNR district where mother's country of birth is known (76), 89.5% 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.

2013 GNR District PHBPP Births by Mother's Country of Birth

Vietnam	19	Ethiopia	3	Burma	1	Laos	1
China	10	Liberia	3	Cameroon	1	Mexico	1
USA	8	Taiwan	3	Congo	1	Moldova	1
Ghana	6	Korea	2	Gambia	1	Saint Kitts	1
Nigeria	6	Malaysia	2	Hong Kong	1	Unknown	6
Cambodia	3	Bulgaria	1	Honduras	1	Total	82

Geographic Distribution of chronic hepatitis B virus (HBV) Infection-worldwide, 2006*[10]



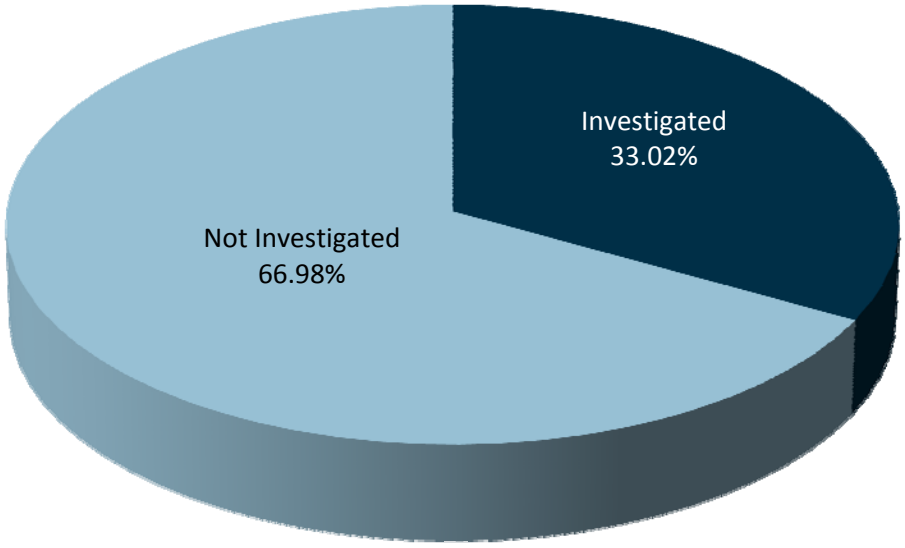
* For multiple countries, estimates of prevalence of hepatitis B surface antigen (HBsAg), a marker of chronic HBV infection, are based on limited data and might not reflect current prevalence in countries that have implemented childhood hepatitis B vaccination. In addition, HBsAg prevalence might vary within countries by subpopulation and locality.

[10] CDC. Travelers' health; yellow book. Atlanta, GA: US Department of Health and Human Services, CDC; 2008. Available at http://wwwn.cdc.gov/travel/yellowbookch4-HepB.aspx.

Notifiable Disease Summary

The Epidemiology and Community Health Division received a total of 4,773 reports of notifiable disease in 2013. Of these reports, a total of 33.02% of cases were investigated by program staff. There were also 392 STI investigations of contacts that are not reported in the below figure and table.

2013 Reported Cases by Investigation Status

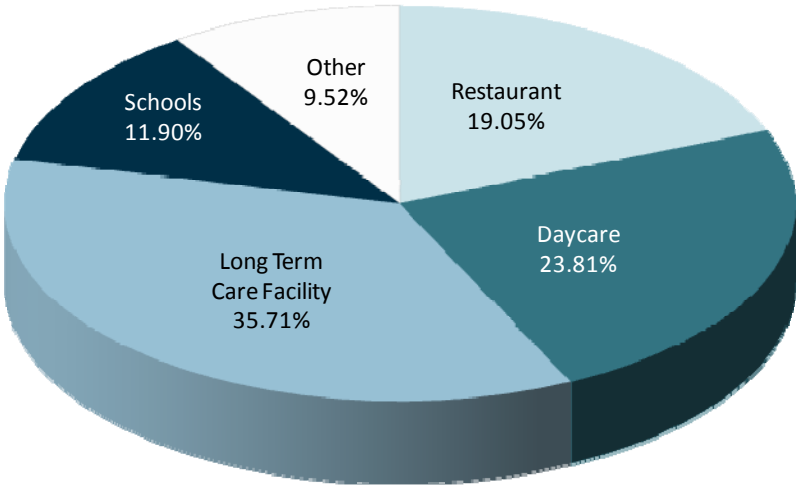


2013 Cases Reported Not Investigated

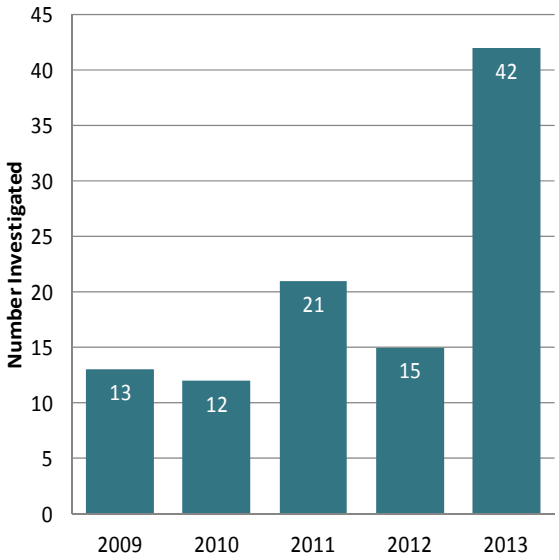
Reportable Disease	Number of cases	Percentage of Cases Reported
Campylobacteriosis > 30 days	5	0.10%
Chlamydia	1,896	39.72%
Cryptospordiosis > 30 days	1	0.02%
Gonorrhea	449	9.41%
Giardiasis > 30 days	17	0.36%
Haemophilus Influenzae (Invasive)	11	0.23%
Hepatitis B from blood donor	11	0.23%
Hepatitis C from blood donor	6	0.13%
Lead Blood Level < 10	623	13.05%
Sallmonellosis > 30 days	4	0.08%
Shigellosis > 30 days	3	0.06%
Streptococcal Disease, Group A	25	0.52%
Streptococcal Disease, Group B	70	1.47%
S. pneumoniae (Invasive)	74	1.55%
Yersinia > 30 days	2	0.04%
Total	3,197	66.98%

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=42) of communicable diseases and diseases of interest not classified as notifiable and other activities of priority to the community. In 2013, norovirus was the predominate pathogen for illness causing 23 (54.76%) of the outbreaks investigated.

2013 Outbreak Investigations by Location

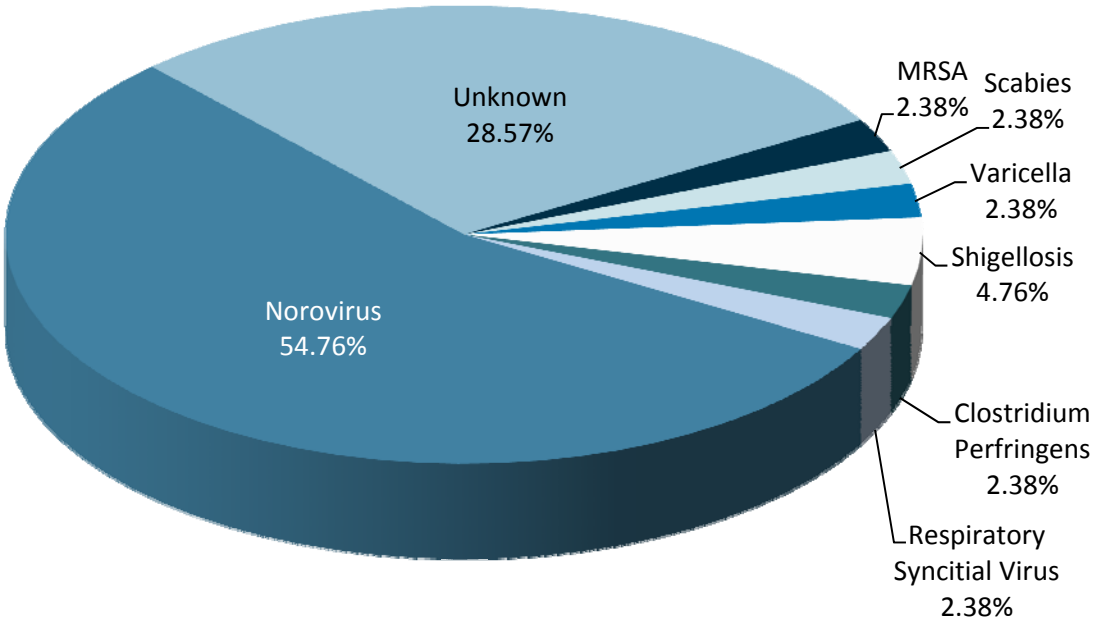


Outbreak Investigations 2009-2013



Other Investigations: Grocer, Medical Provider, Private Residence, and Subdivision Swimming Pool

2013 Outbreak Investigations by Pathogen



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. The program has associates working two different one year assignments. GNR was fortunate to be chosen as a host site both in 2012 and 2013. At GNR our associates have worked their first year in Tuberculosis Control and their second year in the Communicable Disease Unit. GNR has applied for a two 2014 associates as well and at the time of this reports has not received notification of our selection. The two associates GNR has received thus far have been great addition to our staff and provided much needed assistance in areas of low staffing and high need. Our 2012 associate will be attending graduate school at the University Of Georgia School Of Public Health after completion of her PHAP assignment.

Emergnacy Prepardness

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 table top exercises 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 clinic checks during an emergency.

Public Health Accreditation Board (PHAB)

GNR Health District is in the process of applying for national accreditation through the Public Health Acceditation Board (PHAB). 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. Epidemiolgy 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.

Georgia Department of Public Health

NOTIFIABLE DISEASE / CONDITION REPORTING

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.

Reporting enables appropriate public health follow-up for your patients, helps identify outbreaks, and provides a better understanding of disease trends in Georgia. For the latest information from the DPH, Department of Public Health, visit their web site at: www.health.state.ga.us

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 (congenital & adult)
- 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 7 DAYS

To Report Within 7 Days
Report cases electronically through the State Electronic Notifiable Disease Surveillance System at http://sendss.state.ga.us (SEE REPORTING FOOTNOTES BELOW.)

- AIDS#
- aseptic meningitis
- blood lead level (all)
- campylobacteriosis
- chancroid
- *Chlamydia trachomatis* (genital infection)
- Creutzfeldt-Jakob Disease (CJD), suspected cases, under age 55
- cryptosporidiosis
- cyclosporiasis
- ehrlichiosis
- giardiasis
- gonorrhea
- HIV#
- hearing impairment†
  (permanent, under age 5)
- hepatitis B
  - -acute hepatitis B
  - -newly identified HBsAg+ carriers**
  - -HBsAg+ pregnant women
- hepatitis C virus infection (past or present)
- influenza-associated death (all ages)
- legionellosis
- leptospirosis
- listeriosis***
- leprosy or Hansen's disease (*Mycobacterium leprae*)
- Lyme disease
- lymphogranuloma venereum
- malaria
- maternal death##
- 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
- toxoplasmosis
- typhoid
- Varicella (Chickenpox)
- *Vibrio* infections
- yersiniosis

* Invasive = isolated from blood, bone, CSF, joint, pericardial, peritoneal, or pleural fluid.
** HBsAg+ = hepatitis B surface antigen positive.
*** *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 HIV/AIDS:
Report forms and reporting information for HIV/AIDS available by telephone (1-800-827-9769) OR at http://health.state.ga.us/epi/hivaids/reportinginformation.asp. 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 **hearing impairment** available at http://health.state.ga.us/programs/unhs/reporting.asp

REPORT WITHIN 1 MONTH

birth defects (under age 6)
maternal deaths (during pregnancy or within 1 year of delivery)

Report forms and reporting information for **birth defects and maternal deaths** available at http://health.state.ga.us/epi/mch/publications.asp

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 http://health.state.ga.us/epi/hai/.

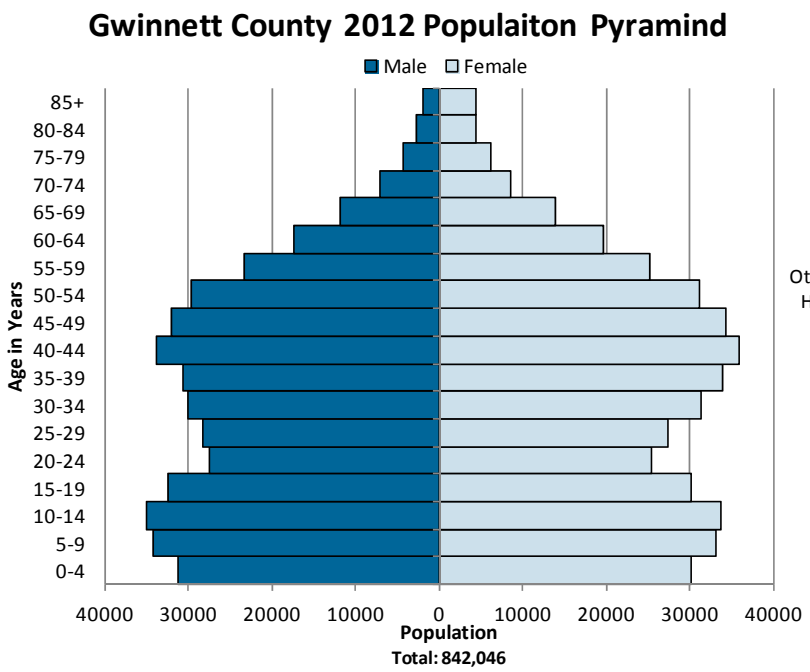
REPORT WITHIN 6 MONTHS

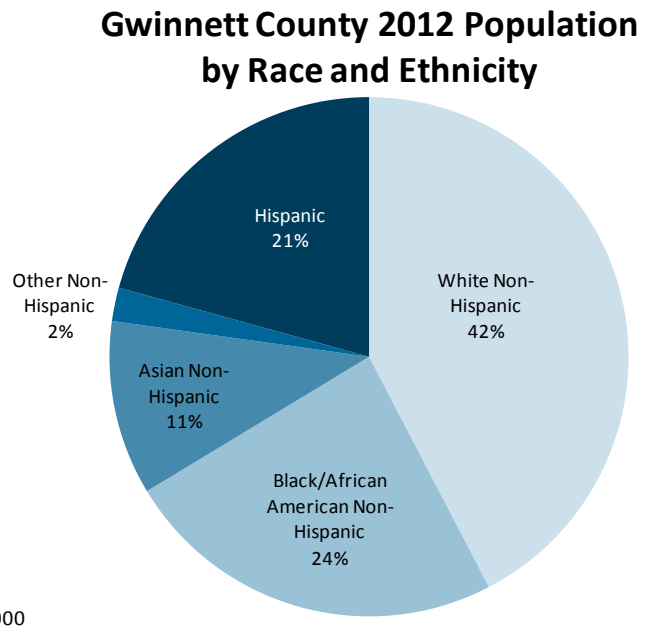
benign brain and central nervous system tumors
cancer

Report forms and reporting information for **tumors and cancer** found at http://health.state.ga.us/programs/gccr/reporting.asp

(Rev 05-02-13)

Gwinnett County Population at a Glance





Top 10 Causes of Hospitalizations in Gwinnett County for 2011 by Age-Adjusted Deduplicated Hospital Discharge Rate

Total: 45, 059

(per 100,000 population)

1	Bone & Muscle Diseases	405.0
2	Obstructive Heart Disease (Heart Attack)	242.8
3	Falls	213.7
4	Pneumonia	213.6
5	Blood Poisoning	208.7
6	Stroke	161.3
7	Kidney Diseases	119.9
8	Asthma	98.8
9	Bronchitis	89.7
10	Diabetes	87.4

Select Population Based Statistics:

2012 Pregnancy Rate: 53.3 per 1,000 females 15-44 years

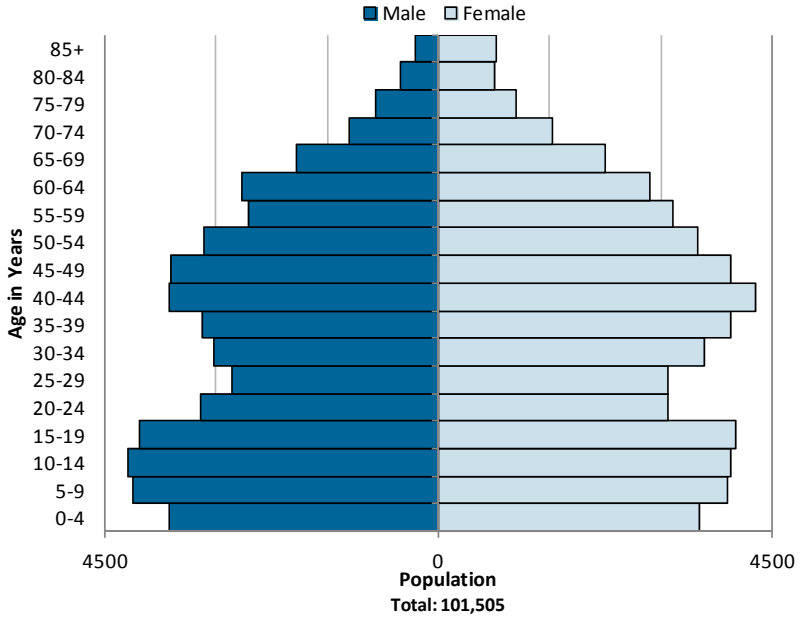
2012 Birth Rate: 38.8 per 1,000 females 15-44 years

2011 Infant Mortality Rate: 5.4 per 1,000 births

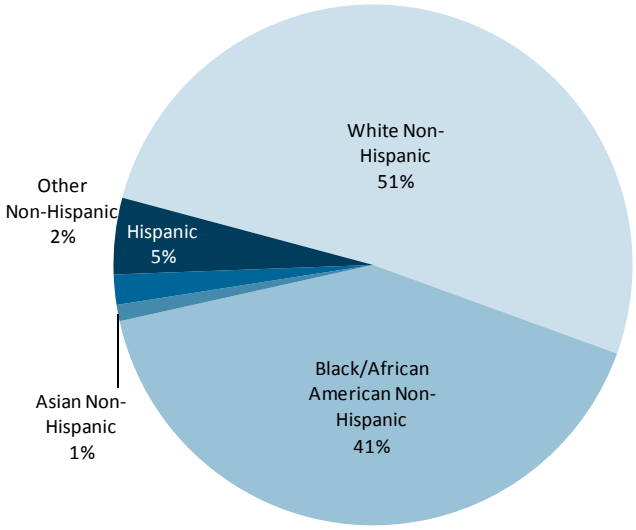
Source: www.oasis.state.ga.us

Newton County Population at a Glance

Newton County 2012 Populaiton Pyramind



Newton County 2012 Population by Race and Ethnicity



Top 10 Causes of Hospitalizations in Newton County for 2011 by Age-Adjusted Deduplicated Hospital Discharge Rate

Total: 7,811
(per 100,000 population)

1	Bone & Muscle Diseases	448.3
2	Obstructive Heart Disease (Heart Attack)	342.9
3	Pneumonia	273.7
4	Falls	244.0
5	Blood Poisoning	223.5
6	Stroke	192.2
7	Bronchitis	178.3
8	Kidney Diseases	157.7
9	Diabetes	118.9
10	Motor Vehicle Crashes	77.9

Select Population Based Statistics:

2012 Pregnancy Rate: 52.8 per 1,000 females 15-44 years

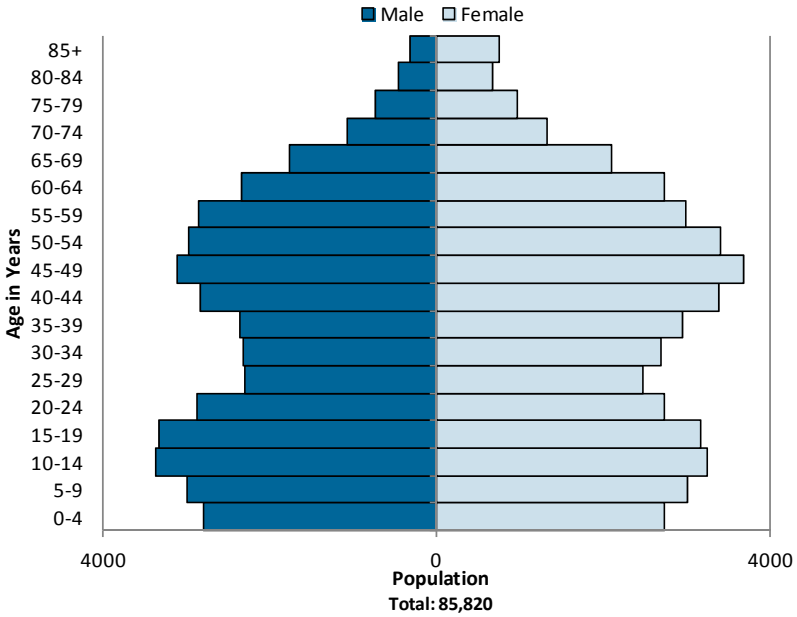
2012 Birth Rate: 36.5 per 1,000 females 15-44 years

2011 Infant Mortality Rate: 4.4 per 1,000 births

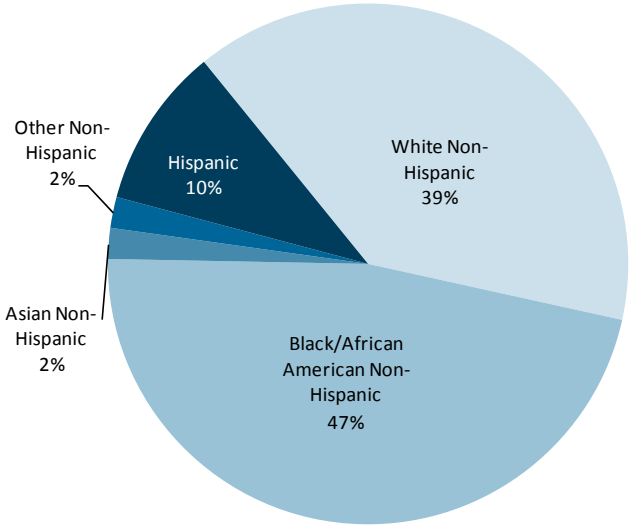
Source: www.oasis.state.ga.us

Rockdale County Population at a Glance

Rockdale County 2012 Populaiton Pyramind



Rockdale County 2012 Population by Race and Ethnicity



Top 10 Causes of Hospitalizations in Rockdale County for 2012 by Age-Adjusted Deduplicated Hospital Discharge Rate

Total: 6,820
(per 100,000 population)

1	Bone & Muscle Diseases	491.5
2	Obstructive Heart Disease (Heart Attack)	258.2
3	Stroke	244.2
4	Pneumonia	229.5
5	Falls	209.5
6	Blood Poisoning	184.5
7	Kidney Disease	171.3
8	Diabetes	143.3
9	Bronchitis	111.7
10	High Blood Pressure	88.9

Select Population Based Statistics:

2011 Pregnancy Rate: 51.2 per 1,000 females 15-44 years

2012 Birth Rate: 33.9 per 1,000 females 15-44 years

2011 Infant Mortality Rate: 8.1 per 1,000 births

Source: www.oasis.state.ga.us