

Infectious Diseases



Infectious Diseases

Infectious diseases are caused by microorganisms, including bacteria, viruses and parasites. Some infectious diseases can spread easily through food or from person to person and can cause outbreaks that make a large number of people ill.

The Georgia Department of Public Health, under the legal authority of the Official Code of Georgia Annotated (section 31-12-2), requires that health care providers report cases of specific diseases to the local health department. This section covers some of these “notifiable diseases.” DeKalb County Board of Health monitors and investigates notifiable diseases to understand trends and to prevent and control outbreaks in the county.

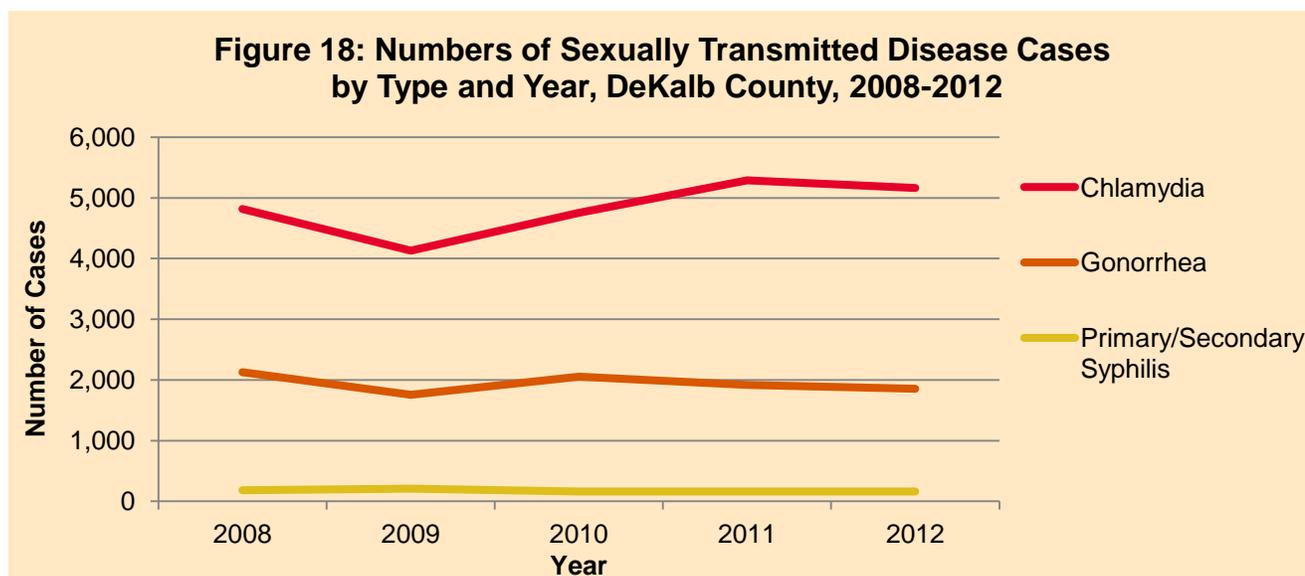
SEXUALLY TRANSMITTED DISEASES

Many infections are transmitted through sexual contact. These are commonly referred to as sexually transmitted diseases (STDs) or infections (STIs). Chlamydia, gonorrhea and syphilis are STDs that spread during unprotected vaginal, anal or oral sex. They can also pass from mother to baby in the womb or during vaginal childbirth.

In DeKalb County from 2008 through 2012, there were 24,147 cases of chlamydia, 9,709 cases of gonorrhea and 872 cases of primary and secondary syphilis. (An individual with primary syphilis has no or few symptoms, while an individual with secondary syphilis has more symptoms.)

As Figure 18 shows, in DeKalb County from 2008 through 2012:

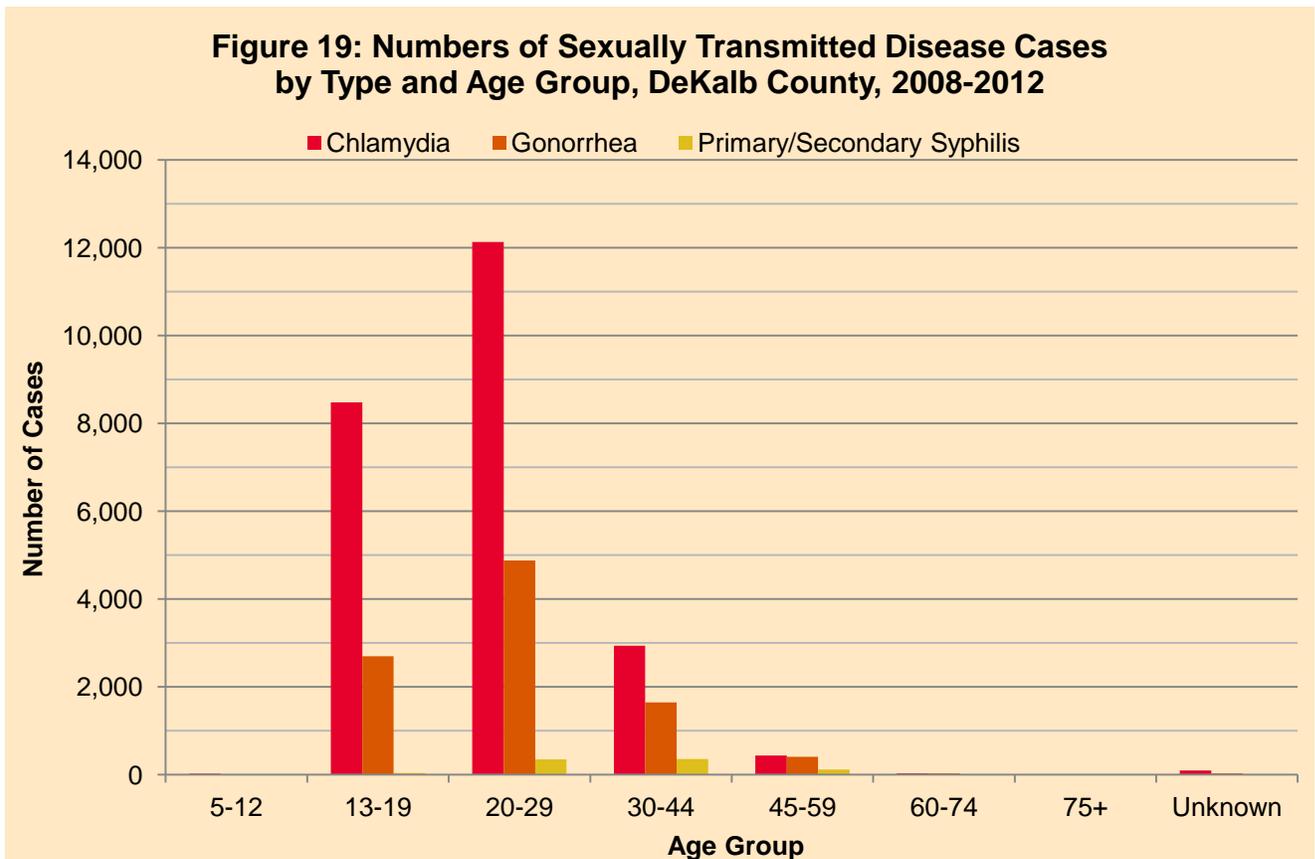
- There were at least twice as many chlamydia cases as gonorrhea cases.
- The number of cases of syphilis remained consistent.



Source: Sexually Transmitted Disease, Online Analytical Statistical Information System, Office of Health Indicators for Planning, Georgia Department of Public Health, 2014.

As shown in Figure 19:

- The highest number of both chlamydia and gonorrhea cases occurred among individuals in the 20- to 29-year-old range.
- Individuals between the ages of 30 and 44 experienced the highest number of primary and secondary syphilis cases.



Source: Sexually Transmitted Disease, Online Analytical Statistical Information System, Office of Health Indicators for Planning, Georgia Department of Public Health, 2014.

What can you do to prevent sexually transmitted diseases?

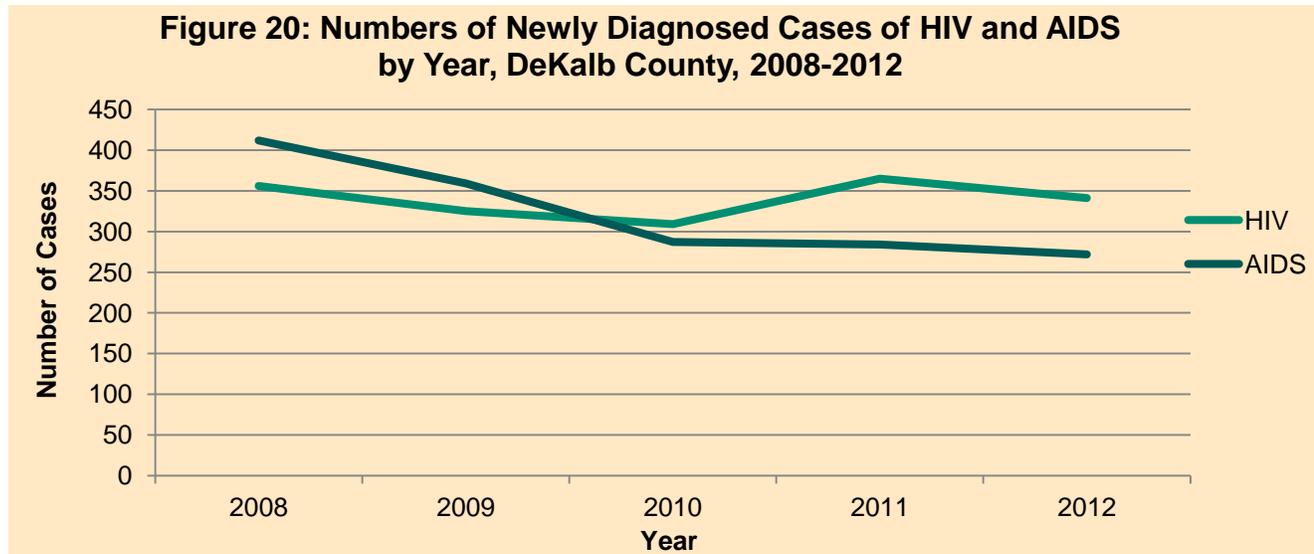
- Educate yourself about sexually transmitted diseases and what you can do to protect yourself.
- Avoid having vaginal, anal or oral sex (abstinence). Encourage teens who are not sexually active to continue to wait.
- Use condoms. Latex condoms help reduce the chance of getting an STD, but must be used correctly and every time you have vaginal, anal or oral sex.
- Vaccinate yourself against Hepatitis B and HPV.
- Know your status. Get tested for STDs (including HIV).
- Know the status of your sexual partner.
- Limit your number of sexual partners.
- Parents: Talk to your teens.
- Teens: Talk to your parents, especially if you're considering having sex for the first time.

HUMAN IMMUNODEFICIENCY VIRUS (HIV)

Human immunodeficiency virus is the virus that can lead to acquired immunodeficiency syndrome, known as AIDS. Once a person has HIV, they have it for life.

As shown in Figure 20, in DeKalb County from 2008 through 2012:

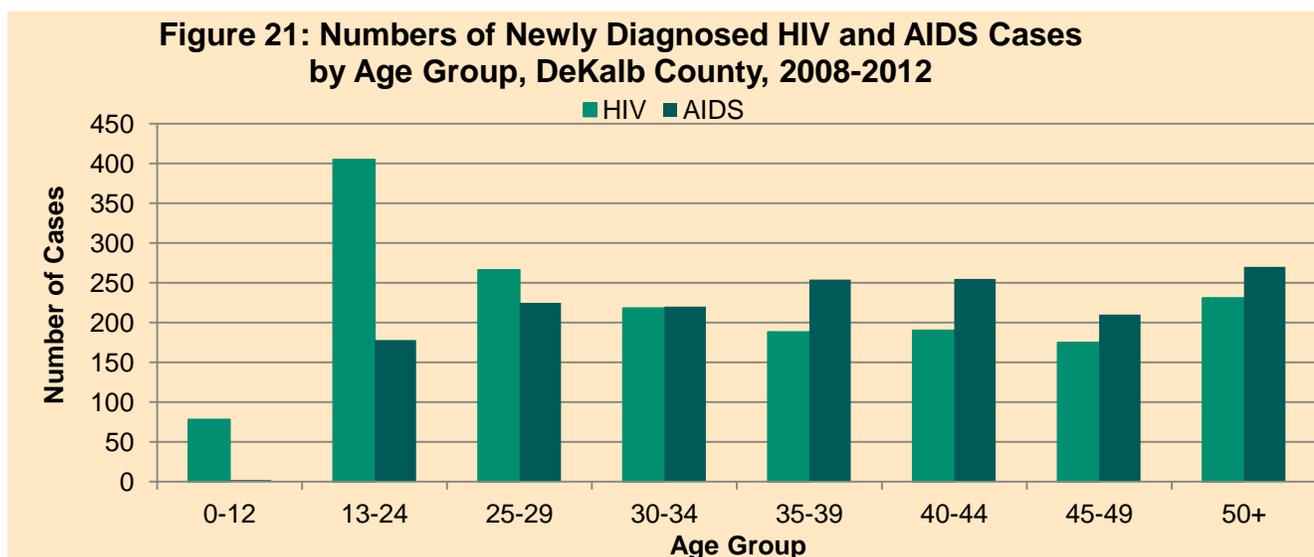
- The number of newly diagnosed HIV cases fluctuated.
- The number of newly diagnosed AIDS cases declined by 34 percent.



Source: HIV/AIDS Epidemiology Section, Georgia Department of Public Health, 2014.

In DeKalb County from 2008 through 2012, as Figure 21 shows:

- The number of newly diagnosed HIV cases was highest among those ages 13 through 24.
- The number of newly diagnosed AIDS cases was highest among those 50 years and older.



Source: HIV/AIDS Epidemiology Section, Georgia Department of Public Health, 2014.

In DeKalb County from 2008 through 2012, males and blacks accounted for the highest percentages of HIV and AIDS cases. Among newly diagnosed cases of HIV:

- 79.3 percent were males.
- 56.9 percent were blacks.

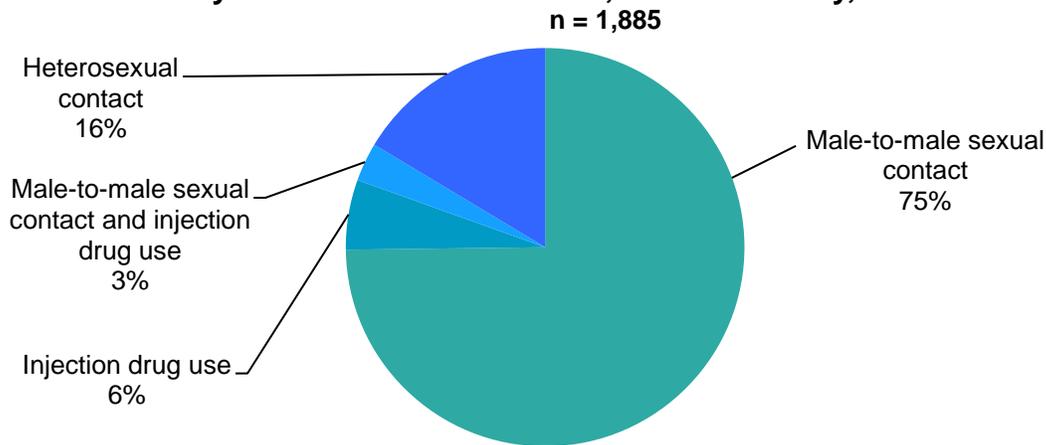
Among newly diagnosed cases of AIDS:

- 77.9 percent were males.
- 73.2 percent were blacks.

Figure 22 illustrates newly diagnosed HIV/AIDS cases by method of transmission.

- In DeKalb County from 2008 through 2012, the primary mode of transmission of the newly diagnosed HIV and AIDS cases was male-to-male sexual contact.

Figure 22: Percentages of Newly Diagnosed HIV and AIDS Cases by Method of Transmission, DeKalb County, 2008-2012



Source: HIV/AIDS Epidemiology Section, Georgia Department of Public Health, 2014.

What can you do to prevent HIV infection?

- Abstinence (not having vaginal, anal or oral sex) is the best way to avoid infection. Encourage teens who are not sexually active to continue to wait.
- Choose less risky sexual behaviors. Oral sex is much less risky for HIV transmission than vaginal or anal sex.
- Get tested and treated for other STDs. Encourage your partner to do the same.
- Limit the number of sexual partners. Be open and honest with your partner.
- Use condoms. Latex condoms help reduce the chance of getting an STD and HIV, but must be used correctly and every time you have vaginal, anal or oral sex.
- Avoid using drugs.
- Avoid sharing needles.
- If you suspect you have been exposed to HIV/AIDS, talk to your health care provider about post-exposure prophylaxis (PEP) as soon as possible.

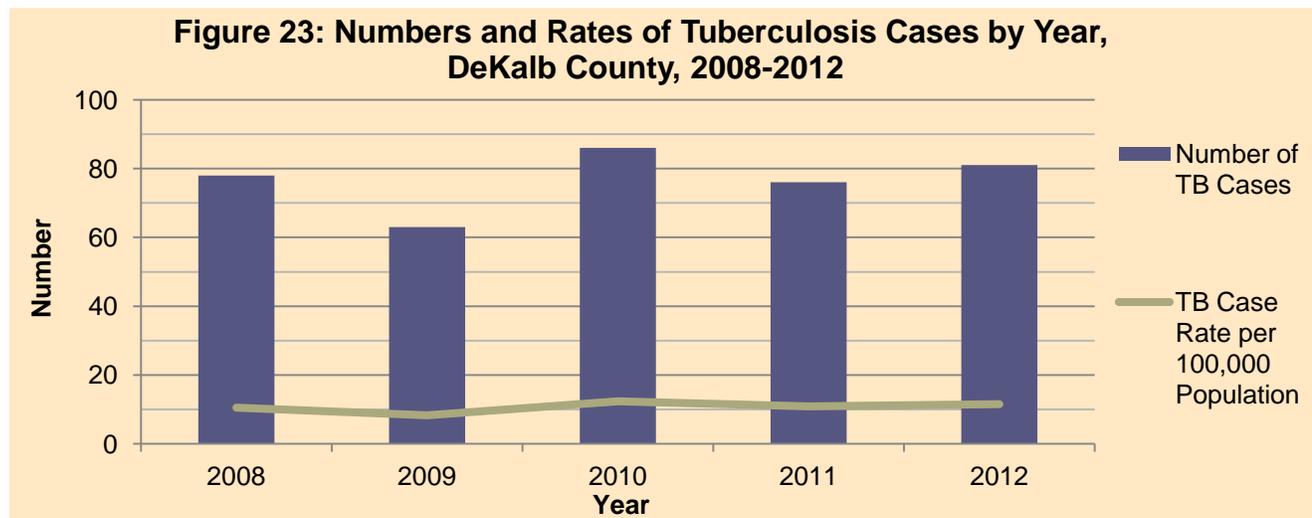
TUBERCULOSIS

Tuberculosis (TB) is an infection caused by the bacterium *Mycobacterium tuberculosis*. The most common site of infection is the lung (pulmonary TB), but any area of the body can become infected.

A person can have either latent TB infection or active TB disease. In a latent infection, the bacteria are alive but inactive in the body. There are no symptoms and individuals cannot spread the bacteria to others. However, they may develop active TB later in life if they do not receive appropriate treatment. In an active infection, the individual has symptoms and can spread the bacteria to others.

In DeKalb County from 2008 through 2012:

- There were a total of 384 cases of TB reported (Figure 23).



Source: Tuberculosis Prevention and Control, Georgia Department of Public Health, 2014.

Table 21 shows populations who have known risk factors for TB. From 2008 through 2012, the foreign-born population accounted for the highest average percentage of TB cases in DeKalb County.

Table 21: Percentages of Tuberculosis Cases by Known Risk Factor, DeKalb County, 2008-2012	
Risk Factor	Percentage
Foreign-born individuals	61
HIV-positive individuals	13
Individuals with a substance use disorder	12
Homeless individuals	8
Correctional inmates	2
Long-term care residents	1

Source: Tuberculosis Prevention and Control, Georgia Department of Public Health, 2014.

What can you do to prevent tuberculosis?

- If you work in a health care setting, follow the designated infection control plan set by the institution in order to minimize the risk for transmission of TB.
- Individuals should avoid close contact and prolonged time with known TB patients in crowded, enclosed places such as jails/prisons, hospitals/clinics or homeless shelters.
- Travelers who anticipate possible, prolonged exposure to individuals with TB should have a TB skin test or blood test before leaving the United States and upon returning to the United States.
- Take all medications prescribed by a health care provider if diagnosed with latent TB infection (bacteria live in the body without causing illness) to prevent TB disease from developing.

VACCINE-PREVENTABLE ILLNESSES

Vaccines are excellent tools to prevent certain infectious diseases. Many diseases that previously caused illness and even death are now largely preventable through vaccination. However, the viruses and bacteria that cause these diseases still exist in the environment, and these illnesses still occur in populations that are not fully immunized.

Pertussis, also called “whooping cough,” is a vaccine-preventable disease that is particularly dangerous for infants. Immunity to pertussis fades among adults who were vaccinated as children.



As shown in Table 22, in DeKalb County from 2008 through 2012:

- The number of pertussis cases increased each year.
- There were more cases of *Haemophilus influenzae* disease than other vaccine-preventable diseases.

Disease	2008	2009	2010	2011	2012
Measles	0	0	1	0	0
Mumps	0	0	0	1	0
Rubella	0	0	0	0	0
Pertussis	1	5	8	11	23
Varicella	0	0	0	1	0
<i>Haemophilus influenzae</i> disease	10	14	15	8	13
Meningococcal disease	0	4	1	0	1

Source: State Electronic Notifiable Disease Surveillance System, Georgia Department of Public Health, 2014.

What can you do to prevent vaccine-preventable diseases?

- Get vaccinations according to the recommended schedule.
- Wash your hands with soap and water or use an alcohol-based hand sanitizer.
- Cover your coughs and sneezes with your elbow or sleeve. Dispose of used tissue in a garbage container.
- Avoid direct contact with others who are sick (includes not sharing eating utensils or drinking glasses).
- Stay home if you are sick to avoid infecting others.
- Before traveling, visit a travel medical clinic to discuss vaccines that may be needed before leaving.

HEPATITIS

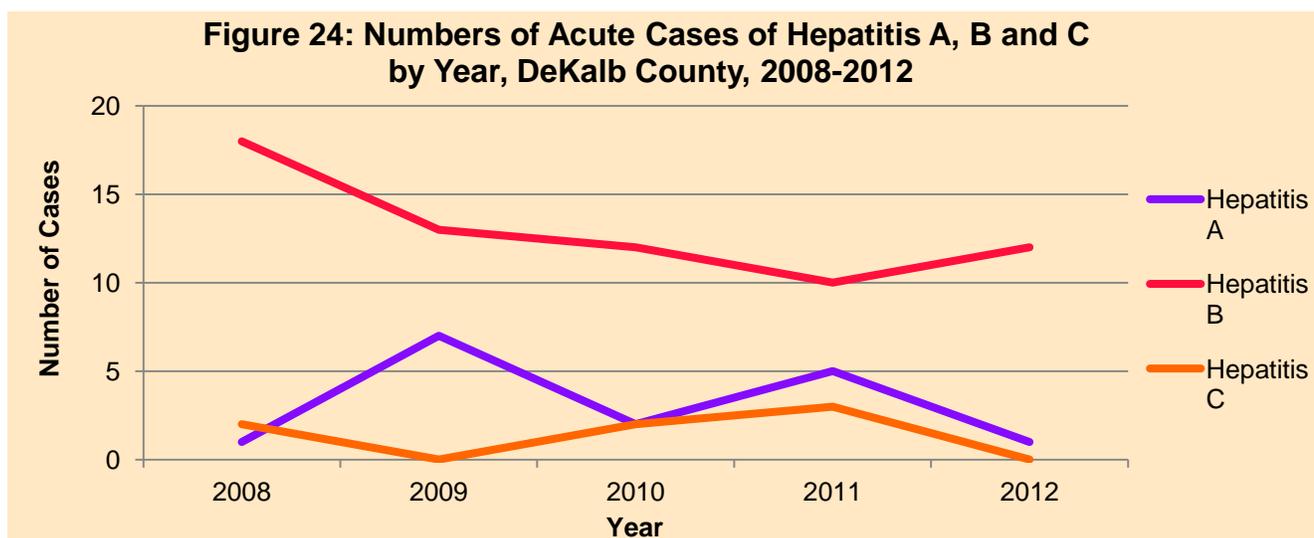
Hepatitis means inflammation of the liver. A group of viruses can cause hepatitis. The three most common types are hepatitis A, B and C. Vaccines are recommended during childhood to prevent hepatitis A and B. There is not a vaccine to prevent hepatitis C.

Hepatitis A is spread by ingesting fecal material through contact with either food or drinks contaminated by the feces of an infected person. Hepatitis B is spread through infected blood, semen or other bodily fluid that is transmitted through sexual contact, sharing needles or transmission from an infected mother to her baby. Hepatitis C is spread through the blood of an infected individual. Today, most people become infected with Hepatitis C through sharing infected needles and other equipment that is used to inject drugs.

An acute case of hepatitis is a short-term illness that occurs within the first six months of exposure to the virus. Acute hepatitis A infection does not develop into chronic infection. Hepatitis B and C infections can become chronic.

In DeKalb County from 2008 through 2012:

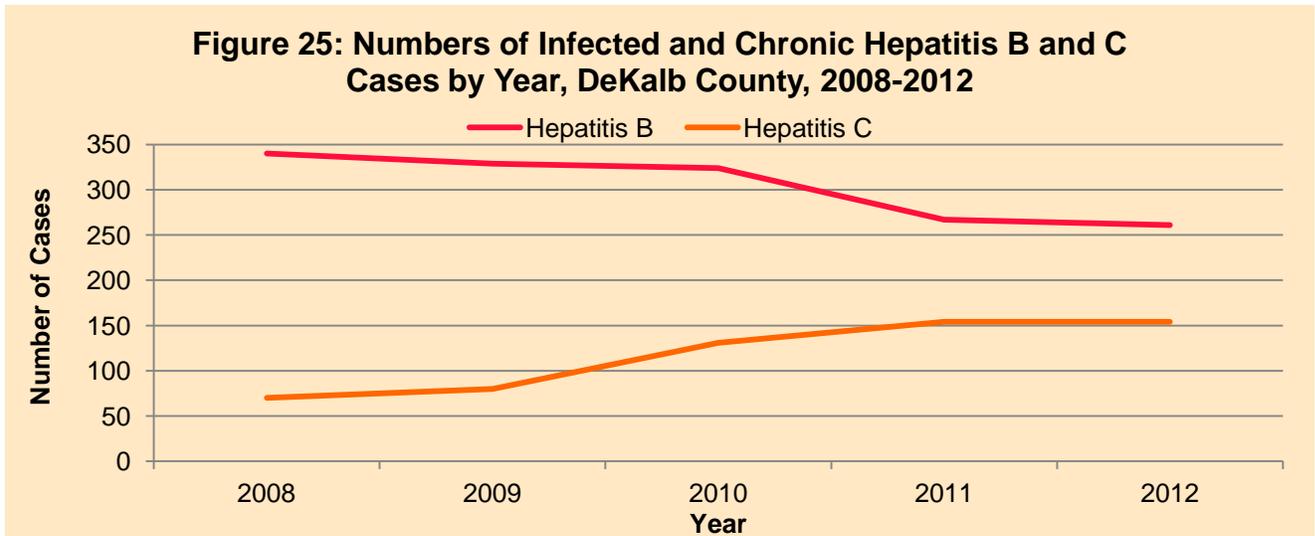
- There were 16 cases of acute hepatitis A, 65 cases of acute hepatitis B and 7 cases of acute hepatitis C (Figure 24).



Source: State Electronic Notifiable Disease Surveillance System, Georgia Department of Public Health, 2014.

Figure 25 shows the number of infected and chronic cases of hepatitis B and C in DeKalb County from 2008 through 2012 and reflects that:

- Hepatitis B cases decreased by 23 percent.
- Hepatitis C cases increased by 120 percent.



Note: Hepatitis B and C cases include cases that were considered infected. This means that there was not enough information to classify them as acute or chronic. Source: State Electronic Notifiable Disease Surveillance System, Georgia Department of Public Health, 2014.

What can you do to prevent hepatitis?

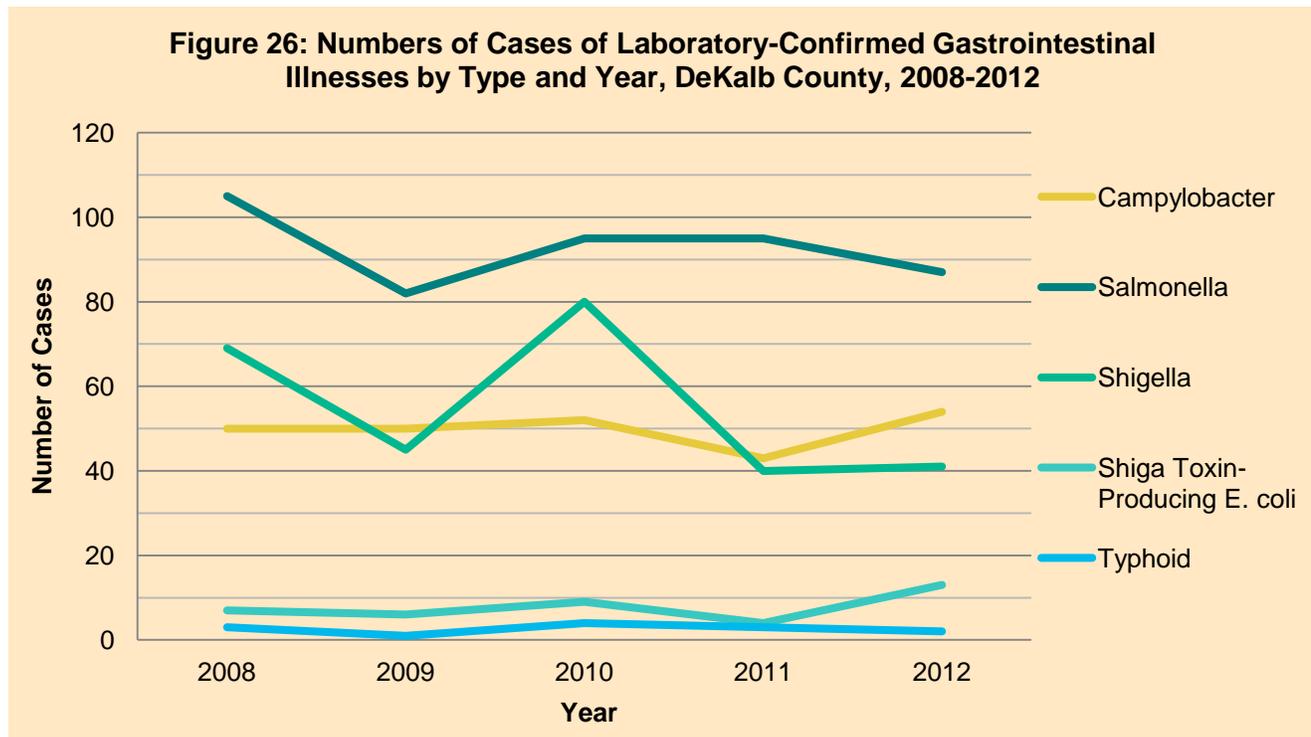
- Wash your hands with soap and water or use an alcohol-based hand sanitizer.
- Get vaccinations according to the recommended schedule.
- Correctly use latex condoms during vaginal, anal and oral sex.
- Avoid using personal items that may have come in contact with an infected person's blood such as nail clippers, toothbrushes, razors and glucose monitors.
- Avoid injecting drugs, cosmetic products and steroids.
- Avoid sharing needles, syringes and other injection equipment.
- If you are pregnant, get tested for viral hepatitis and work with your doctor to make sure that your baby is protected from getting viral hepatitis from you.

GASTROINTESTINAL ILLNESSES

Gastrointestinal illnesses are caused by organisms that enter the body through the mouth and intestinal tract. They are usually spread through contaminated food or water or by contact with an infected person's vomit or feces. In order for these illnesses to be confirmed and reported, a physician must collect a stool specimen to be laboratory tested. Since this is not done with every illness, many cases of gastrointestinal illness may go unreported.

Figure 26 shows the number of gastrointestinal illnesses in DeKalb County from 2008 through 2012:

- There were 464 cases of *Salmonella* infection, 275 cases of *Shigella* infection, 249 cases of *Campylobacter* infection, 39 cases of *Shiga Toxin-Producing Escherichia coli* (*E. coli*) infection and 13 cases of *Salmonella Typhi* infection (typhoid).



Source: State Electronic Notifiable Disease Surveillance System, Georgia Department of Public Health, 2014.

What can you do to prevent gastrointestinal diseases?

- Wash your hands with soap and water before and after preparing and eating food, swimming and caring for someone who is ill. Also, wash your hands after using the bathroom, changing diapers, handling animals and garbage, coughing, sneezing and blowing your nose.
- Shower and use the bathroom before swimming.
- Change soiled swim diapers as often as necessary.
- Avoid swallowing the water you swim in.
- Practice safe food preparation and avoid cross contamination.



INVASIVE BACTERIAL DISEASES

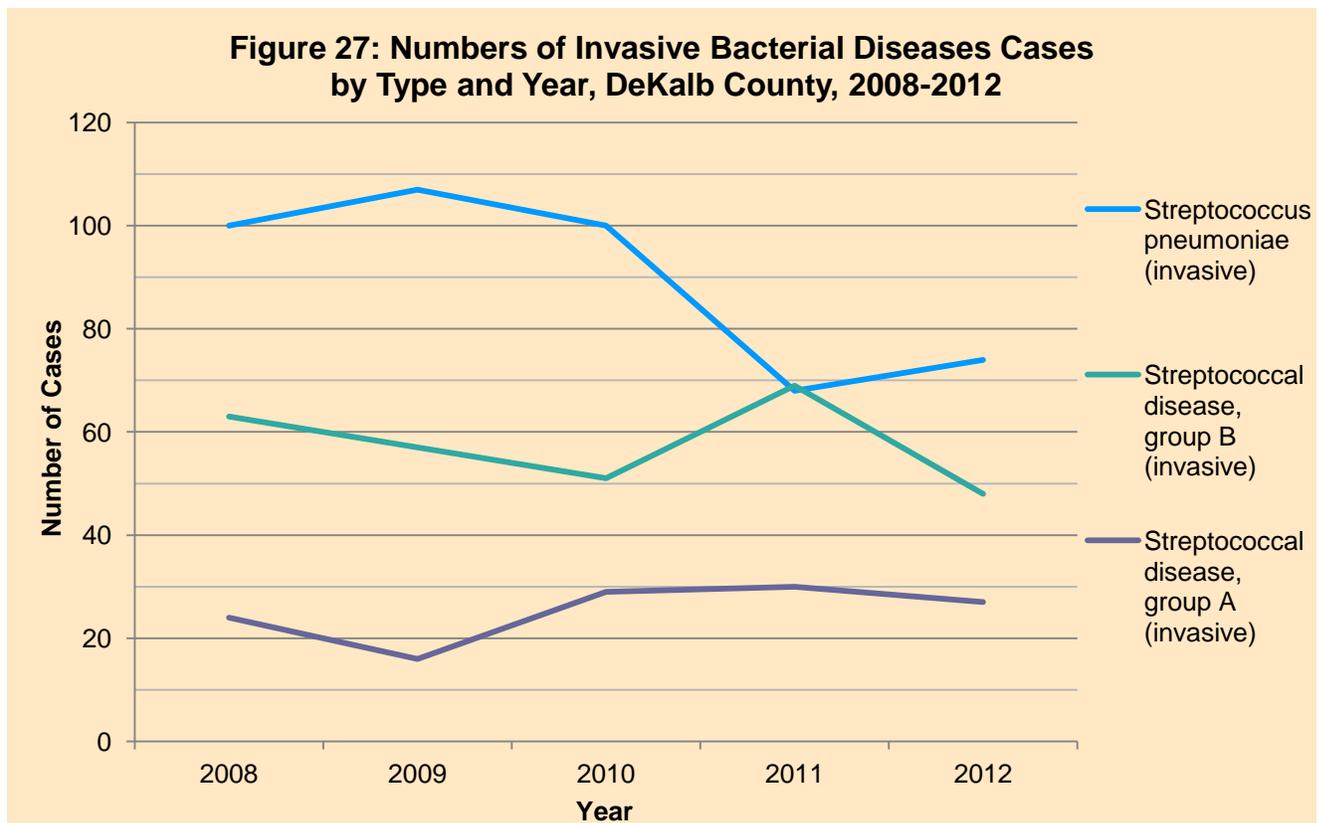
Invasive bacterial diseases can occur when bacteria get past a person's defenses. This may occur when an individual has a break in the skin that allows the bacteria to get into the tissue or when a person's ability to fight off infection is decreased because of an illness that affects the immune system.

Invasive bacterial diseases include:

- *Streptococcus pneumoniae* is a bacterium that causes pneumococcal disease. Pneumococcal disease can cause many types of illnesses, including ear infections and meningitis.
- Group B *Streptococcus* is a bacterium that causes illness in people of all ages. The most common symptoms among adults are bloodstream infections, pneumonia, skin and soft-tissue infections, and bone and joint infections.
- Group A *Streptococcus* is a bacterium that is spread through contact with droplets from an infected person's cough or sneeze. Most infections cause relatively mild illnesses such as strep throat, scarlet fever and impetigo (a skin infection).

Figure 27 shows the number of cases of invasive bacterial diseases in DeKalb County from 2008 through 2012:

- Pneumococcal disease was the most common throughout the years.
- Streptococcal disease, group A, was the least common.



Source: State Electronic Notifiable Disease Surveillance System, Georgia Department of Public Health, 2014.

What can you do to prevent invasive bacterial diseases?

- Wash your hands regularly with soap and water or hand sanitizer.
- Cover your coughs and sneezes with your elbow or sleeve.
- Get vaccinations according to the recommended schedule.
- Avoid direct contact with others who are sick, including not sharing eating utensils or drinking glasses.
- If you are caring for someone who is sick, avoid face-to-face contact and wash your hands frequently.
- Cover draining lesions until they are scabbed over.
- Avoid sharing personal items such as towels, razors, soap and athletic equipment.

WEST NILE VIRUS

West Nile virus (WNV) is a mosquito-borne virus that affects the central nervous system and can cause serious, life-altering or even fatal disease. WNV usually infects birds, but it can be spread to humans by mosquitoes that feed on infected birds and then bite humans.

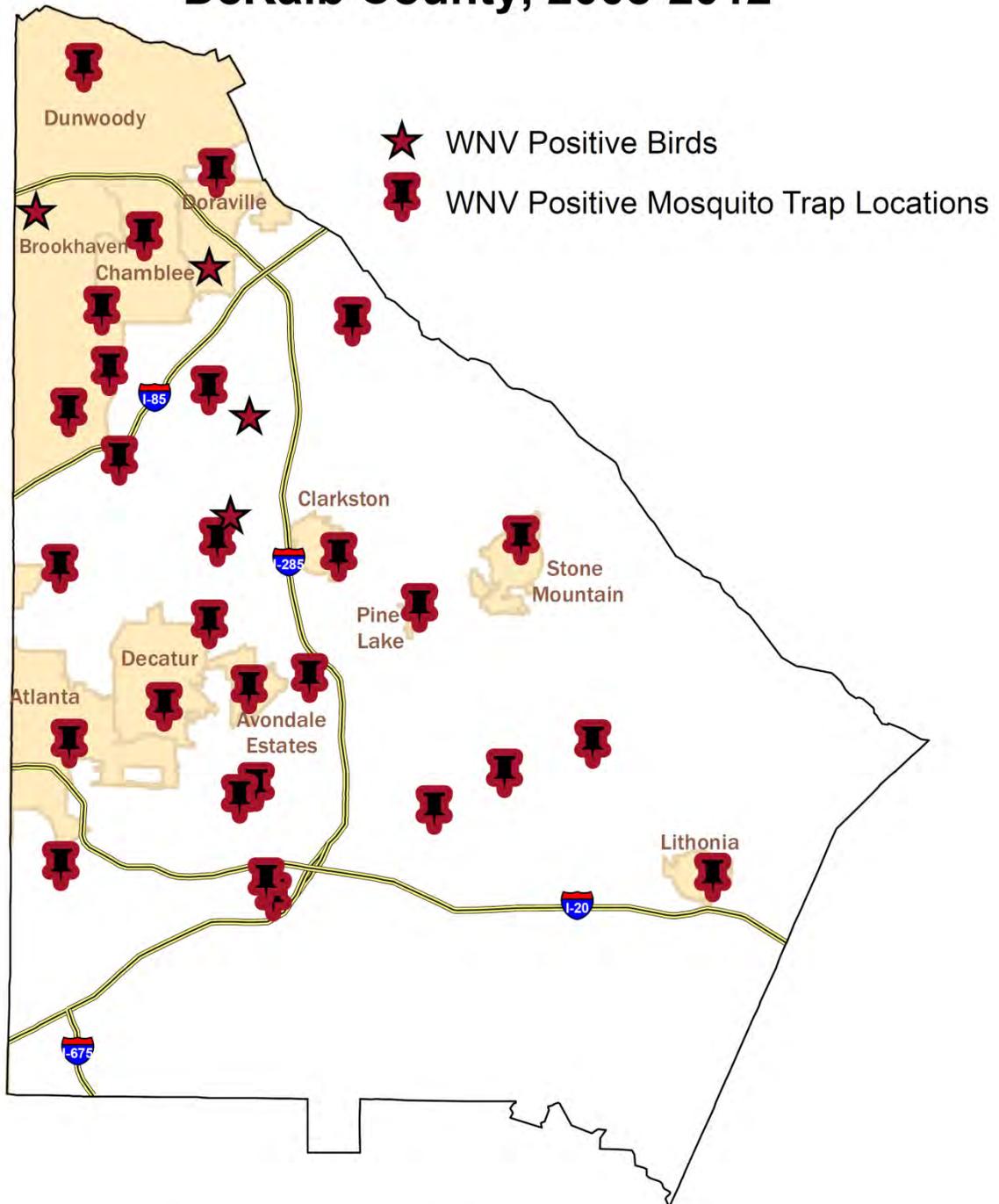
In DeKalb County from 2008 through 2012:

- There were no known human deaths due to WNV.
- There were 16 known human WNV cases, with 2012 being the worst year (seven cases).
- A total of 2,968 mosquito collections were tested, and 203 of them (6.8 percent) tested positive for WNV.

Figure 28 (next page) illustrates areas in DeKalb County that had WNV-positive birds and mosquitoes at least once between 2008 and 2012.



**Figure 28:
Locations of West Nile Virus (WNV) Positive
Birds and Mosquito Collections,
DeKalb County, 2008-2012**



Created by: Division of Environmental Health, DeKalb County Board of Health (2014)
Sources: Division of Environmental Health, DeKalb County Board of Health; Atlanta Regional Commission

What can you do to prevent West Nile virus infection?

- Use mosquito repellent. The most effective repellents contain DEET, picaridin or oil of lemon eucalyptus.
- Apply permethrin, an insect repellent, to clothing, shoes, bed nets and camping gear, but not to skin.
- Always follow the manufacturer's instructions when using any type of repellent.
- Avoid mosquitoes, especially at dawn and dusk.
- Remove standing water where mosquitoes can lay eggs.

OUTBREAKS

Outbreaks are when two or more cases of illness are linked to a common exposure (e.g., same place and time).

Figure 29 shows that the DeKalb County Board of Health investigated a total of 84 outbreaks from 2008 through 2012.

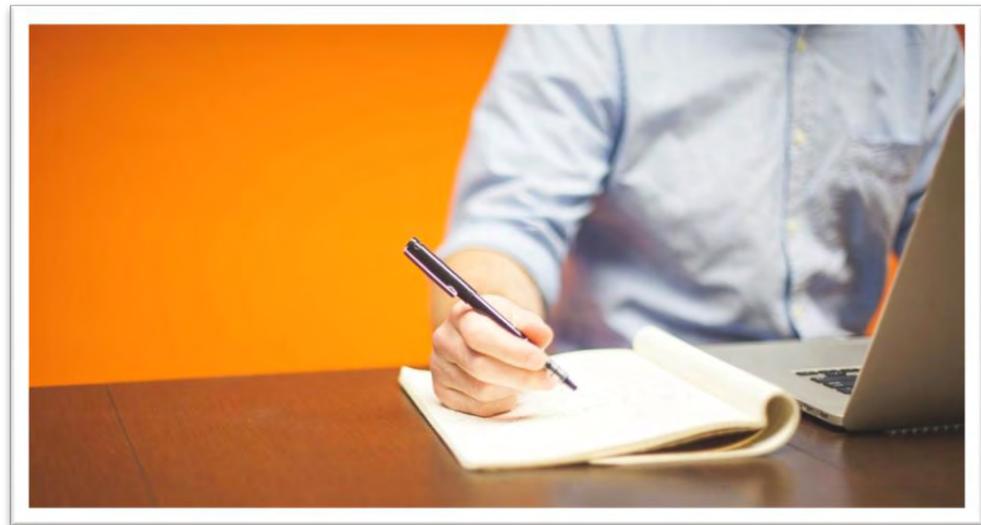
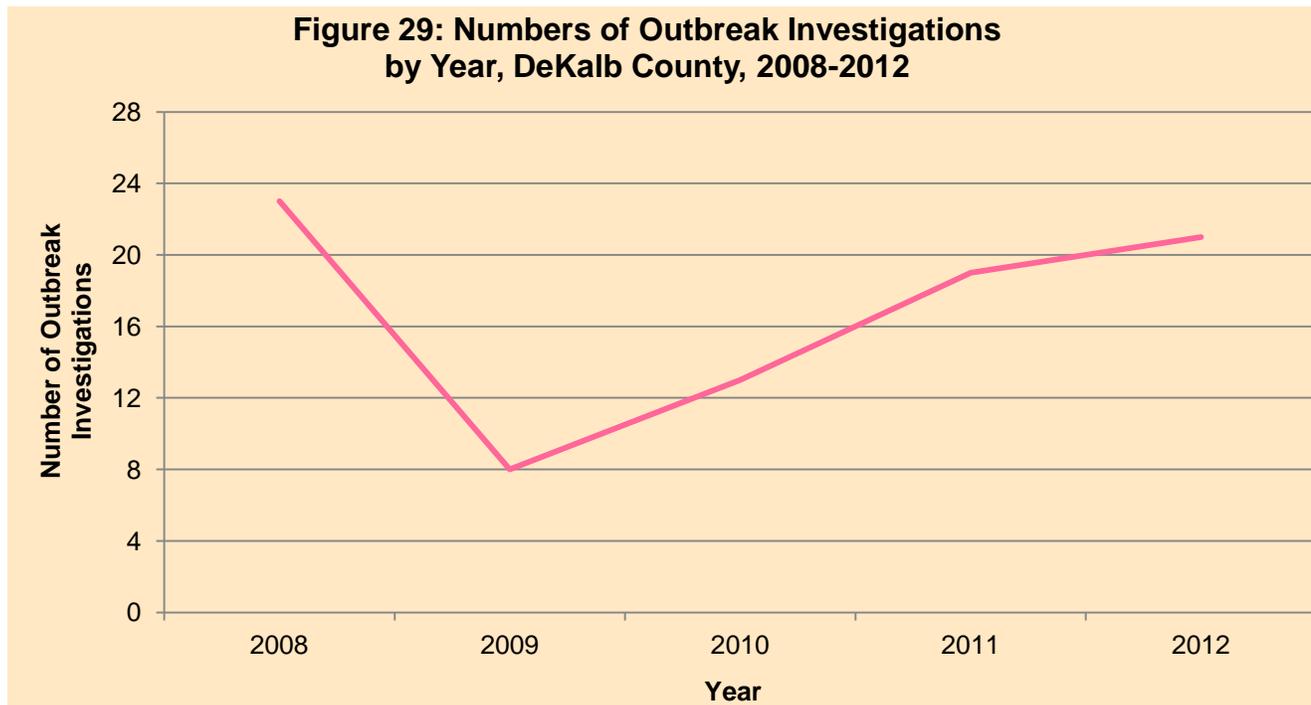


Figure 29: Numbers of Outbreak Investigations by Year, DeKalb County, 2008-2012



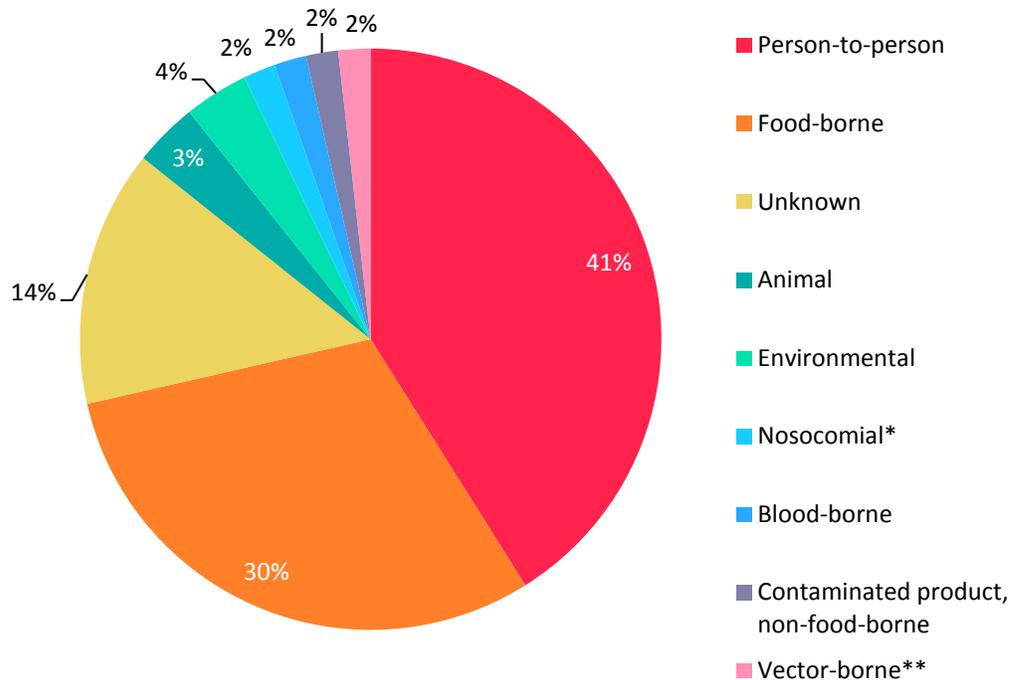
Source: State Electronic Notifiable Disease Surveillance System, Georgia Department of Public Health, 2014.

Figure 30 shows the percentage of outbreak investigations by mode of transmission. In DeKalb County from 2008 through 2012:

- Person-to-person transmission was responsible for 41 percent of outbreaks.
- Food-borne transmission was responsible for 30 percent of outbreaks.

Figure 30: Percentages of Outbreak Investigations by Mode of Transmission, DeKalb County, 2008-2012

n = 56



*Nosocomial infections are transmitted in a hospital.

**Vector-borne infections are transmitted by mosquitoes, ticks and fleas, known as “vectors.”

Source: State Electronic Notifiable Disease Surveillance System, Georgia Department of Public Health, 2014.



FOR MORE INFORMATION ABOUT INFECTIOUS DISEASES

	DeKalb County	Metropolitan Atlanta	Georgia and Beyond
Sexually Transmitted Diseases	DeKalb County Board of Health, Sexually Transmitted Diseases 404.294.3700 http://www.dekalbhealth.net/hs/std	Atlanta Harm Reduction Coalition 404.817.9994 http://www.atlantaharmreduction.org	Centers for Disease Control and Prevention, Division of STD Prevention 1.800.232.4636 http://www.cdc.gov/std/dstdp
		Evolution Project Atlanta 404.524.5441 http://evolutionatl.org	Georgia Department of Public Health, STD Epidemiology 404.657.2700 http://dph.georgia.gov/std-epidemiology
		Grady Health System's Teen Center 404.616.3513 http://www.gradyhealth.org/specialty/teen-center.html	Youth AIDS Coalition http://www.youthaidscoalition.org
HIV and AIDS	Center for Pan Asian Community Services 770.936.0969 https://www.icpacs.org	AIDAtlanta 404.870.7700 https://www.aidatlanta.org/home	AIDSinfo 1.800.HIV.0440 http://aidsinfo.nih.gov
	DeKalb County Board of Health, Ryan White Early Care Clinic 404.508.7866 http://www.dekalbhealth.net/hs/hivaids	Atlanta Harm Reduction Coalition 404.817.9994 http://www.atlantaharmreduction.org	Centers for Disease Control and Prevention, Division of HIV/AIDS Prevention 1.800.232.4636 http://www.cdc.gov/hiv
		Evolution Project Atlanta 404.524.5441 http://evolutionatl.org	Georgia AIDS Coalition http://www.georgiaaids.org
		Grady Health System's Ponce de Leon Center 404.616.2440 http://www.gradyhealth.org/specialty/ponce-de-leon-center.html/	Georgia AIDS/STD Information Line 1.800.551.2728 or 404.870.7775
		MISTER Center 678.365.4300 http://www.mistercenter.org	Georgia Department of Public Health, HIV Prevention 404.657.3100 http://dph.georgia.gov/hiv-prevention-program
		Positive Impact Atlanta 404.589.9040 http://www.positiveimpact-atl.org	Youth AIDS Coalition http://www.youthaidscoalition.org
		Standing to Achieve New Directions (STAND), Inc. 404.284.9878 http://www.standinc.com/substance-abuse-re-entry-hiv-aids-domestic-violence-hiv-aids.htm	

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FOR MORE INFORMATION ABOUT INFECTIOUS DISEASES (CONTINUED)

	DeKalb County	Metropolitan Atlanta	Georgia and Beyond
Tuberculosis	DeKalb County Board of Health, Tuberculosis Program 404.508.7857 http://www.dekalbhealth.net/hs/tb-program		American Lung Association, Tuberculosis 1.800.LUNGUSA http://www.lung.org/lung-health-and-diseases/lung-disease-lookup/tuberculosis/tuberculosis.html
			Georgia Department of Public Health, Health Protection, Tuberculosis Prevention and Control 404.657.3100 http://dph.georgia.gov/tuberculosis-tb-prevention-and-control
			Centers for Disease Control and Prevention, Division of Tuberculosis Elimination 1.800.232.4636 http://www.cdc.gov/tb/
			Stop TB USA http://stoptbusa.org
Vaccine-Preventable Diseases	DeKalb County Board of Health 404.294.3700 http://dekalbhealth.net/hs/immunizations	Children’s Healthcare of Atlanta Egleston: 404.785.6000 Hughes Spalding: 404.785.9500 Scottish Rite: 404.785.5252 http://www.choa.org/vaccines	American Academy of Pediatrics 1.800.433.9016 or 847.434.4000 http://www.aap.org/immunization
			Georgia Department of Public Health, Immunization Section 404.657.3100 http://dph.georgia.gov/immunization-section
			Georgia Immunize Coalition 678.923.4263 http://www.immunizeadultga.org
			Centers for Disease Control and Prevention 1.800.232.4636 http://www.cdc.gov/vaccines
			Every Child By Two 202.783.7034 http://www.ecbt.org/ http://www.vaccinateyourbaby.org
Invasive Bacterial Diseases	DeKalb County Board of Health, Division of Environmental Health 404.508.7900 http://www.dekalbhealth.net/envhealth		Centers for Disease Control and Prevention, National Center for Immunization and Respiratory Diseases 1.800.232.4636 http://www.cdc.gov/ncird
			Georgia Department of Public Health, Acute Disease Epidemiology 404.657.2588 http://dph.georgia.gov/invasive-bacterial-diseases

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FOR MORE INFORMATION ABOUT INFECTIOUS DISEASES (CONTINUED)

	DeKalb County	Metropolitan Atlanta	Georgia and Beyond
Hepatitis	DeKalb County Board of Health, Office of Epidemiology and Statistics 404.508.7851 http://www.dekalbhealth.net/hs/std/what-is-viral-hepatitis	Atlanta Harm Reduction Center 404.817.9994 http://www.atlantaharmreduction.org	American Liver Foundation 212.668.1000 http://www.liverfoundation.org
		Grady Health System’s Liver Clinic 404.616.9355 http://www.gradyhealth.org/specialty/primary-care-centers.html	Centers for Disease Control and Prevention, Division of Viral Hepatitis 1.800.232.4636 http://www.cdc.gov/hepatitis
			Georgia Department of Public Health, Acute Disease Epidemiology 404.657.2700 http://dph.georgia.gov/viral-hepatitis
			HBV Advocate http://hcvadvocate.org/hbv/
			HCV Advocate http://www.hcvadvocate.org
Gastrointestinal Illness	DeKalb County Board of Health 404.294.3700 http://www.dekalbhealth.net/envhealth/food-safety/	Children’s Healthcare of Atlanta http://www.choa.org/Child-Health-Glossary/F/FO/Food-Safety-for-Your-Family_KH_Parent	Centers for Disease Control and Prevention 1.800.232.4636 http://www.cdc.gov/zoonotic/gi/ http://www.cdc.gov/healthywater/swimming/rwi/ http://www.cdc.gov/foodsafety/facts.html
	University of Georgia Extension Service, DeKalb County 404.298.4080 (Main Office) or 404.244.4881 (South DeKalb Office) http://www.caes.uga.edu/extension/dekalb		Fightbac.org 202.220.0651 http://www.fightbac.org
			Foodsafety.gov http://www.foodsafety.gov
			Georgia Department of Public Health, Acute Disease Epidemiology 404.657.2588 http://dph.georgia.gov/acute-disease-epidemiology
		University of Georgia Extension Service 1.800.ASK.UGA1 http://extension.uga.edu/food/safety	

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FOR MORE INFORMATION ABOUT INFECTIOUS DISEASES (CONTINUED)

	DeKalb County	Metropolitan Atlanta	Georgia and Beyond
West Nile Virus	DeKalb County Board of Health, Division of Environmental Health 404.508.7900 http://www.dekalbhealth.net/envhealth/west-nile-virus	Children’s Healthcare of Atlanta http://www.choa.org/Child-Health-Glossary/W/WE/West-Nile-Virus_KH_Parent	Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases 1.800.232.4636 http://www.cdc.gov/westnile
	DeKalb County Cooperative Extension Service 404.298.4080 http://www.caes.uga.edu/extension/dekalb		Georgia Department of Agriculture 1.800.282.5852 or 404.656.3600 http://www.agr.georgia.gov/west-nile-virus-information-.aspx
			Georgia Department of Public Health, Acute Disease Epidemiology 404.657.2588 http://dph.georgia.gov/mosquito-borne-viral-diseases
			Georgia Mosquito Control Association 404.229.9889 http://www.gamosquito.org
			U.S. Environmental Protection Agency 1.800.241.1754 or 404.562.9900 http://www2.epa.gov/mosquitocontrol