

2014 Georgia Tuberculosis Report

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Tuberculosis Surveillance in Georgia

Tuberculosis (TB) is a reportable disease in Georgia. All Georgia physicians, laboratories and other health care providers are required by law to immediately report clinical and laboratory confirmed TB cases under their care to Georgia public health authorities. TB cases may be directly reported to a County Health Department, a District Health Office, or to the state TB Program and TB Epidemiology Section of the Georgia Department of Public Health (DPH), which is responsible for the systematic collection of all reported TB cases in the state. Immediate reporting of TB cases enables appropriate public health follow-up of patients, including administration of directly observed therapy, monitoring TB treatment until completion, evaluating and screening contacts exposed to a TB case, and outbreak investigation and control.

TB cases in Georgia can be reported electronically through the State Electronic Notifiable Disease Surveillance System (SendSS), a secure web-based surveillance software developed by DPH, or by calling, mailing or faxing a report to public health authorities. Hospital infection control preventionists as well as public health nurses, outreach staff, epidemiologists, and communicable disease specialists involved in disease surveillance are encouraged to report TB through SendSS and register to become a SendSS user by logging into the system's Web site at: <https://sendss.state.ga.us> then selecting TB from the list of reportable diseases.

Public health authorities collect data on reported TB cases that include demographic, clinical, risk factor, and contact information, which are analyzed to describe the distribution of the disease among Georgia's population, identify high risk groups and TB clusters, describe trends in morbidity, mortality, drug resistance patterns, treatment outcomes, and infection rates among contacts to TB cases. The data are used at state and local levels to guide policy and decision making, set priorities for program interventions, evaluate program performance for the prevention and control of TB in Georgia, and educate key stakeholders and the general public on TB. Georgia's TB surveillance data are transmitted electronically to the U.S. Centers for Disease Control and Prevention (CDC) and become part of the national TB surveillance database.

Current Epidemiology of Tuberculosis in Georgia

Georgia reported 335 new TB cases in 2014. This represents a 1.1% decrease from 339 TB cases reported in 2013. TB case numbers have decreased 63% since 1991 when the peak of a resurgent period of tuberculosis occurred in Georgia (Figure 1). The TB case rate in Georgia decreased from 3.4 cases per 100,000 population during 2013 to 3.3 cases per 100,000 in 2014, slightly higher than the U.S. TB case rate in 2014 of 3.0 cases per 100,000 (Figure 2). Georgia ranked fifth highest in the United States for the number of newly reported TB cases in 2014 and had the seventh highest TB case rate among the 50 reporting states.

Geographic Distribution

Among the 159 counties in Georgia, four counties in the metropolitan Atlanta area that reported the highest number of TB cases in 2014 accounted for 59% of TB cases in Georgia: Fulton (76 cases), DeKalb (60), Gwinnett (35), and Cobb (25) (Table 1).

Among Georgia's 18 Health Districts, which have oversight responsibility for public health in the state's 159 counties, DeKalb Health District had the highest TB case rate in 2014 (8.3 per 100,000), followed by Fulton (7.6 per 100,000) and Columbus (4.8 per 100,000) (Table 2).

Sex and Age Distribution

In 2014, TB in Georgia occurred predominantly among males (66%), compared to females (34%); while the highest proportion of TB cases by age group occurred among persons 25-44 years old (36%) (Figure 5). The highest TB case rate by age group occurred among persons 65 years old or older (4.5 per 100,000) while the lowest case rate was among children 5-14 years old (0.8 per 100,000) (Figure 6). The TB case rate for children younger than 5 years of age, an age group at high risk for developing deadly forms of TB, increased from 1.5 per 100,000 in 2013 to 2.3 per 100,000 in Georgia during 2014.

Race/Ethnicity Distribution and TB Disparities

TB disproportionately affects racial/ethnic minorities in Georgia. In 2014, non-Hispanic blacks, Asians and Hispanics, accounted for 47%, 22% and 17% of TB cases in Georgia respectively, but only represented 30.7%, 3.7% and 9.3% of Georgia's population respectively (Figure 7). Non-Hispanic whites constituted 14% of TB cases in 2014. The highest TB case rate among race/ethnic groups was among Asians (19.3 per 100,000), followed by Hispanics (6.2 per 100,000) and non-Hispanic blacks (5.1 per 100,000) (Figure 8). The black non-Hispanic TB case rate in 2014 represents an 83% decrease from the TB case rate in 1993 (30.6 per 100,000) in this population. The black non-Hispanic TB case rate, however, was still about six and a half times higher than the white non-Hispanic TB case rate (0.8 per 100,000) in Georgia during 2014 (Figure 9).

High-Risk Populations

Foreign-Born

TB cases among persons born outside of the United States accounted for 45% of TB cases in Georgia in 2014 compared to 51% in 2013. Most foreign-born cases reported in 2014 came from Mexico (19%), Vietnam (16%), and India (10%) - countries where TB is an endemic disease (Figures 10-11). Among 150 foreign-born cases, 43 (29%) were diagnosed in the first five years of their arrival in the U.S.

In 2014, four Health Districts reported 67% of the total number of foreign-born TB cases in Georgia: DeKalb (37 cases), East Metro Atlanta (31), Fulton (18) and Cobb-Douglas (15). Among these Health Districts, foreign-born TB cases accounted for more than half of the TB cases in East Metro Atlanta (82%), DeKalb (62%), and Cobb-Douglas (60%). Foreign-born TB cases in the Fulton Health District accounted for 23% of reported TB cases.

HIV Co-Infection

All TB patients need to be tested for HIV infection because TB treatment may change when antiretroviral therapy for HIV is given, and active TB often accelerates the natural progression of HIV infection. Among 311 TB cases in Georgia with known HIV status in 2014, 37 (12%) were HIV-positive compared to 13% in 2013 (Figure 12). Among 37 HIV co-infected TB cases in 2014, 76% were non-Hispanic blacks, 78% were male and 54% were 25-44 years old.

HIV status was reported in 93% of TB cases in Georgia in 2014 compared to 92% in 2013. In the high-risk age group of adults 25-44 years of age, 98% reporting of HIV was achieved in 2014. Among 24 TB cases whose HIV status was not reported in 2014, HIV testing was not offered to 14 cases, eight refused testing, and the HIV test result was unknown in two cases. Among the 14 TB cases who were not offered the HIV test, most were children 5 years old and younger (6 cases) and adults older than 70 years old (4 cases); two cases were 25-44 years old and two were in the 45-64 year old age group.

Congregate Settings and Substance Abuse

Persons residing in crowded congregate settings such as homeless shelters, prisons, and nursing homes are at risk for acquiring TB. From 2013-2014, the number of TB cases who were homeless in Georgia increased 140% from 26 to 62 cases due mainly to a TB outbreak among residents of homeless shelters in Atlanta. In 2014, 9 (3%) TB cases were residents of correctional facilities, and 8 (2%) were residents of long-term care facilities. Of the nine TB cases incarcerated in correctional facilities, three (33%) were inmates in state prisons, three (33%) in county jails, and two (22%) were detainees at the Immigration and Custom Enforcement (ICE) Detention Center in Stewart County.

Substance abuse is the most commonly reported behavioral risk factor among patients with TB in the United States. TB patients who abuse substances often experience treatment failure and remain infectious longer because treatment failure presumably extends periods of infectiousness. In Georgia, abuse of either illicit drugs or alcohol was reported in 54 (16%) of TB cases in 2014 (Table 3, Figure 13).

Pediatric TB

TB in children is considered a sentinel public health event because it often indicates recent transmission from an infectious adult case. Additionally, potentially lethal forms of TB such as TB meningitis or disseminated TB can develop in very young

children. In 2014, children younger than 15 years old comprised 8% of Georgia TB cases; 15 cases were reported in children younger than 5 years old, 12 cases were reported in children 5-14 years old. Two children in the 5-14 years old age group developed TB meningitis but completed TB treatment and survived.

Latent tuberculosis infection (LTBI) in children younger than five years old is also a reportable disease in Georgia. When LTBI in a child less than five years of age is reported, public health personnel will initiate contact investigations to identify the source of the infection, recommend treatment for latent TB infection, follow up with the child to ensure completion of treatment and monitor for development of active TB disease. Early identification of TB infection and treatment in children can prevent progression to active disease and identify a previously undiagnosed and untreated case of active TB.

In 2014, 42 children younger than five years old were reported to have LTBI in Georgia; Public health staff identified the source case of the child's infection in 14 (33%) of these children.

Drug Resistance

Among 244 culture-positive TB cases in Georgia during 2014, 100% were tested for initial drug susceptibility to the three first-line anti-TB medications: isoniazid (INH), rifampin (RIF), and ethambutol (EMB). Of 232 tested isolates from Georgia cases with no previous history of TB, 50 (22%) had primary resistance to INH, three (1%) to RIF, and one (0.4%) to EMB (Table 4). Three (0.9%) cases in 2014 had multidrug-resistant TB case (MDR-TB, i.e. TB resistant to at least INH and RIF). The percentage of cases with primary INH resistance (INH-R) ranged from 7% to 22% in the past five years while an average of two MDR-TB cases per year was reported in Georgia over that same time period (Figure 14).

Indicators of Infectiousness

Persons with pulmonary or laryngeal TB have the potential to infect others with TB, and infectiousness is especially higher if their sputum smears are positive for acid-fast bacilli (AFB) and their lungs have cavitory lesions as seen on chest radiography. In 2014, 83% of all Georgia TB cases had pulmonary TB, of who 45% were sputum AFB smear-positive and 25% showed cavitory lesions on chest radiography.

Initial Diagnosis, Health Provider Data, and Directly Observed Therapy

In Georgia, the majority of TB patients are initially diagnosed in a hospital and patients are followed up by county health departments after discharge to continue their TB treatment. In 2014, 184 (55%) of the 335 TB cases in Georgia were reported initially by a hospital. Six hospitals in Georgia reported five or more TB cases in 2014 in SendSS: Grady Memorial Hospital (39 cases), Emory Midtown (12 cases), Gwinnett Hospital (7 cases), Emory University Hospital (6 cases), and the Medical Center of Central GA and Medical College of Georgia Hospital and Clinic reported 5 cases each.

Among TB cases with available data on type of outpatient healthcare provider, county health departments provided case management for 85% of all Georgia TB cases, 8% of cases were treated by health department and private physician, correctional facilities treated 0.7%, 4% of cases were cared for solely by a private physician and only 2% were managed solely as in-patients. County health department staff provides directly observed therapy (DOT) to TB patients, which entails watching a patient swallow every dose of their TB medications for at least 6 months. Among 285 Georgia TB cases reported in 2014 with available case completion data, 88% received TB treatment entirely by DOT, 10% were treated by a combination of DOT and self-administered therapy, and 1% self-administered their medications for the entire duration of their treatment.

TB Mortality

Fourteen persons died of TB in Georgia in 2013, the most recent year with available mortality statistics. The age-adjusted TB mortality rate in 2013 was 0.1 per 100,000. From 2009 to 2013, an average of 15 people died of TB in Georgia each year, with the highest number of deaths from TB reported in 2012 with 20 deaths.

TB Treatment Completion

TB treatment completion was achieved in 296 (98%) of 302 TB cases reported in 2013 who did not die or leave the United States during TB treatment. Of those who did not complete treatment, four moved to another state and were lost to follow-up and two stopped treatment due to adverse reactions to TB medications. Among 280 TB cases in 2013 that were eligible to complete TB treatment within 12 months, 261 (93%) completed treatment within that time frame (Figure 15). Of the 13 TB cases who took more than 12 months to complete treatment, seven had information in the surveillance database on the reason for their longer treatment duration: four had clinical indications for extending treatment, two were non-adherent and one had adverse reactions to the TB medications causing treatment interruptions.

TB Contact Investigations and Latent TB Infection

Public health authorities routinely conduct a contact investigation among persons exposed to a TB case to identify secondary TB cases and contacts with latent TB infection (LTBI). Index TB cases with positive acid-fast bacillus (AFB) sputum-smear results or pulmonary cavities have the highest priority for investigation. During a contact investigation, public health staff evaluate recent contacts to a case for signs and symptoms suggestive of TB, administer a TB skin test (TST) or interferon gamma release assay (IGRA), repeat the TST or IGRA 8-10 weeks after the last exposure to the index case if the initial TST or IGRA is negative, and have a chest radiology exam performed if the TST or IGRA is positive. TB contacts are diagnosed with latent TB infection (LTBI) when they have a positive TST or IGRA but are asymptomatic and have a normal chest radiology exam. LTBI is not contagious but there is a 10% chance of developing TB disease later in life if LTBI is not treated.

Among 4,117 identified contacts of all Georgia TB cases reported in 2013 (the most recent year with completed contact investigation data), 3,156 (77%) were completely evaluated for TB. Of the contacts who completed their TB evaluation, 678 (22%) had LTBI and 12 (0.4%) had TB disease. Among the 678 contacts with LTBI, 452 (67%) started LTBI treatment. Among the 452 infected contacts who started LTBI treatment, 338 (75%) completed LTBI treatment (Figure 16), 48 (11%) chose to stop LTBI treatment, 32 (7%) were lost to follow-up, 13 (3%) had adverse side-effects, 6 (1%) stopped treatment due to a provider's decision, 2 (0.4%) moved, 1 (0.2%) developed active TB, and information on the reason for stopping treatment was missing in 12 (4%) contacts.

TB Genotyping

TB genotype clusters, which are comprised of two or more TB cases with identical genotypes, are routinely analyzed to identify recent TB transmission, to describe risk factors for recent transmission, to identify possible sources of transmission and to determine ways to stop transmission. From 2010-2014, 100 small (2-3 cases), 25 medium (4-9 cases), and two large (≥ 10 cases) genotype clusters were identified (Figure 17). During this period, over 60% of the clustered TB cases were part of small genotype clusters (Figures 18). A large genotype cluster in 2014 included 27 TB cases and represented a TB outbreak among residents of several homeless shelters in metropolitan Atlanta. Of these 27 cases, 100% were isoniazid-resistant (INH-R), 93% reported a history of homelessness, 41% had HIV infection and 37% reported a history of substance abuse. One other large genotype cluster that occurred in 2012 included 10 TB cases reported in 3 counties; of which 100% were INH-R, 50% had a history of illicit drug abuse, 40% had a history of alcohol abuse and 30% were homeless.

TB Outbreak among Homeless Persons

The state TB program, Fulton County and CDC are providing resources to control the aforementioned TB outbreak occurring among homeless persons in Atlanta. The Fulton County TB Program is conducting contact tracing, performing weekly screenings to find active cases and identify latent infection, and providing treatment to cases and infected contacts. The state TB program is providing temporary housing for the homeless TB cases through a contract with the American Lung Association and assisting with shelter screening through a contract with Mercy Care. A TB Task Force which includes homeless service providers, state and county TB program representatives and Emory University volunteers, developed guidelines and administrative practices to prevent and control TB in homeless shelters. A memorandum of agreement between Fulton County and shelter administrators was signed to implement the guidelines which include a requirement for TB clearance by a health clinic before admission for overnight stay at a homeless shelter and TB symptom screening of clients admitted to a shelter.

**Table 1. Number of TB Cases and TB Case Rates* per 100,000 population
by County, Georgia, 2013-2014**

COUNTY	2013		2014	
	Number of cases	Case Rate	Number of cases	Case Rate
Appling	< 5	--	0	0
Atkinson	< 5	--	0	0
Bacon	0	0	< 5	--
Baker	0	0	< 5	--
Baldwin	< 5	--	0	0
Banks	0	0	0	0
Barrow	< 5	--	<5	--
Bartow	< 5	--	3	2.9
Ben Hill	0	0	<5	--
Berrien	< 5	--	<5	--
Bibb	10	6.5	6	3.9
Bleckley	< 5	--	0	0
Brantley	0	0	0	0
Brooks	0	0	0	0
Bryan	0	0	0	0
Bulloch	< 5	--	0	0
Burke	< 5	--	0	0
Butts	0	0	0	0
Calhoun	0	0	0	0
Camden	0	0	0	0
Candler	< 5	--	0	0
Carroll	0	0	1	0.9
Catoosa	0	0	< 5	--
Charlton	0	0	0	0
Chatham	< 5	--	8	2.8
Chattahoochee	< 5	--	0	0
Chattooga	0	0	< 5	--
Cherokee	0	0	2	0.9
Clarke	< 5	--	0	0
Clay	0	0	0	0
Clayton	9	3.4	10	3.7
Clinch	< 5	--	0	0
Cobb	17	2.4	25	3.4
Coffee	0	0	0	0
Colquitt	0	0	< 5	--
Columbia excludes ASMP	<5	--	0	0
Augusta State Med Prison (ASMP)	<5	na	<5	na
Cook	< 5	--	0	0
Coweta	< 5	--	2	1.5
Crawford	0	0	0	0
Crisp	< 5	--	< 5	--

COUNTY	2013		2014	
	Number of cases	Case Rate	Number of cases	Case Rate
Dade	0	0	< 5	--
Dawson	< 5	--	0	0
Decatur	< 5	--	0	0
DeKalb	79	11.1	60	8.3
Dodge	< 5	--	0	0
Dooly	0	0	0	0
Dougherty	6	6.5	5	5.4
Douglas	< 5	--	0	0
Early	0	0	0	0
Echols	0	0	0	0
Effingham	< 5	--	< 5	--
Elbert	0	0	0	0
Emanuel	< 5	--	0	0
Evans	0	0	0	0
Fannin	0	0	0	0
Fayette	0	0	< 5	--
Floyd	< 5	--	0	0
Forsyth	< 5	--	3	1.5
Franklin	0	0	0	0
Fulton	49	5.0	76	7.6
Gilmer	< 5	--	< 5	--
Glascok	0	0	0	0
Glynn	< 5	--	< 5	0
Gordon	0	0	< 5	0
Grady	0	0	< 5	0
Greene	0	0	0	0
Gwinnett	45	5.2	35	4.0
Habersham	< 5	--	0	0
Hall	7	3.7	9	4.7
Hancock	0	0	< 5	--
Haralson	< 5	--	< 5	--
Harris	0	0	0	0
Hart	< 5	--	0	0
Heard	0	0	0	0
Henry	< 5	--	0	0
Houston	< 5	--	2	1.3
Irwin	0	0	0	0
Jackson	< 5	--	< 5	--
Jasper	0	0	< 5	--
Jeff Davis	0	0	0	0
Jefferson	0	0	0	0
Jenkins	0	0	0	0
Johnson	0	0	0	0

COUNTY	2013		2014	
	Number of cases	Case Rate	Number of cases	Case Rate
Jones	0	0	< 5	--
Lamar	0	0	0	0
Lanier	0	0	0	0
Laurens	< 5	--	< 5	--
Lee	< 5	--	0	0
Liberty	< 5	--	< 5	--
Lincoln	0	0	0	0
Long	0	0	< 5	--
Lowndes	6	5.3	0	0
Lumpkin	< 5	--	0	0
Macon	< 5	--	< 5	--
Madison	0	0	0	0
Marion	0	0	0	0
McDuffie	0	0	0	0
McIntosh	0	0	< 5	--
Meriwether	0	0	0	0
Miller	0	0	0	0
Mitchell	6	26.0	< 5	--
Monroe	0	0	0	0
Montgomery	0	0	0	0
Morgan	0	0	0	0
Murray	< 5	--	0	0
Muscogee	< 5	--	8	4.0
Newton	0	0	2	1.9
Oconee	0	0	0	0
Oglethorpe	0	0	0	0
Paulding	0	0	1	0.7
Peach	0	0	0	0
Pickens	0	0	0	0
Pierce	0	0	< 5	--
Pike	0	0	0	0
Polk	< 5	--	0	0
Pulaski	0	0	0	0
Putnam	0	0	0	0
Quitman	0	0	0	0
Rabun	0	0	0	0
Randolph	0	0	0	0
Richmond	10	5.0	7	3.5
Rockdale	< 5	--	< 5	--
Schley	0	0	< 5	--
Screven	0	0	0	0
Seminole	0	0	0	0
Spalding	< 5	--	0	0

COUNTY	2013		2014	
	Number of cases	Case Rate	Number of cases	Case Rate
Stephens	0	0	< 5	--
Stewart (excludes Immigration & Customs Enforcement (ICE) detainees)	0	0	<5	--
ICE detainees only	<5	na	<5	--
Sumter	0	0	< 5	--
Talbot	0	0	0	0
Taliaferro	0	0	0	0
Tattnall	< 5	--	0	0
Taylor	0	0	0	0
Telfair	0	0	0	0
Terrell	0	0	0	0
Thomas	< 5	--	0	0
Tift	< 5	--	< 5	--
Toombs	< 5	--	0	0
Towns	< 5	--	0	0
Treutlen	0	0	0	0
Troup	< 5	--	< 5	--
Turner	0	0	0	0
Twiggs	0	0	0	0
Union	< 5	--	0	0
Upson	0	0	0	0
Walker	< 5	--	0	0
Walton	0	0	0	0
Ware	< 5	--	< 5	--
Warren	< 5	--	0	0
Washington	0	0	0	0
Wayne	0	0	0	0
Webster	0	0	< 5	--
Wheeler	0	0	0	0
White	0	0	0	0
Whitfield	< 5	--	4	3.9
Wilcox	0	0	0	0
Wilkes	< 5	--	0	0
Wilkinson	0	0	0	0
Worth	< 5	--	0	0
GEORGIA	339	3.4	335	3.3

Note: In counties where one to four TB cases were reported, "< 5" is used to represent the number of reported cases, and the TB case rate is not calculated.

Table 2. Number of TB Cases and TB Case Rates* per 100,000 population by Health District, Georgia, 2013-2014

Health District	2013		2014	
	Number of Cases	Case rate	Number of Cases	Case rate
1.1 Rome	13	2.0	12	1.9
1.2 Dalton	4	0.9	7	1.5
2.0 Gainesville	17	2.6	13	2.0
3.1 Cobb	19	2.2	25	2.9
3.2 Fulton	49	5.0	76	7.6
3.3 Clayton	9	3.4	10	3.7
3.4 Lawrenceville	48	4.6	38	3.6
3.5 DeKalb	79	11.1	60	8.3
4.0 LaGrange	6	0.7	7	0.7
5.1 Dublin	3	2.0	1	0.7
5.2 Macon	13	2.5	11	2.1
6.0 Augusta (excludes ASMP)	20	4.2	7	1.5
7.0 Columbus (excludes ICE)	6	1.6	18	4.8
8.1 Valdosta	9	3.5	5	2.0
8.2 Albany	16	4.5	16	4.5
9.1 Coastal	9	1.5	18	3.0
9.2 Waycross	10	2.7	3	0.8
10 Athens	5	1.1	3	0.6
Total	339	3.4	335	3.3

Table 3. Percentage of TB Cases with Risk Factors for TB by Health District Georgia, 2014

HEALTH DISTRICT	Foreign-born %	HIV Infected %	Homeless %	Inmate %	Nursing Home %	Substance Abuse %
1.1 Rome	50	0	0	0	0	0
1.2 Dalton	29	14	29	0	0	57
2.0 Gainesville	31	0	0	0	0	15
3.1 Cobb	60	0	4	4	0	12
3.2 Fulton	24	28	57	1	3	30
3.3 Clayton	40	0	20	0	10	30
3.4 Lawrenceville	82	5	0	0	3	0
3.5 DeKalb	62	17	13	3	2	3
4.0 LaGrange	29	14	14	0	0	0
5.1 Dublin	0	100	0	0	0	0
5.2 Macon	27	0	0	0	0	0
6.0 Augusta	29	0	0	0	0	0
ASMP only	33	0	0	100	0	0
7.0 Columbus	44	0	6	0	11	28
ICE only	100	0	0	100	0	0
8.1 Valdosta	60	0	40	0	0	20
8.2 Albany	25	6	0	0	0	44
9.1 Coastal	28	0	11	0	6	11
9.2 Waycross	33	0	0	0	0	0
10 Athens	67	0	0	0	0	0
Georgia	45	12	19	3	2	16

**Table 4. Primary Resistance to First-line Anti-TB Medications by Health District
Georgia, 2014**

TB Drug	Isoniazid		Rifampin		Ethambutol	
HEALTH DISTRICT	No.	%	No.	%	No.	%
1.1 Rome	1	17	0	0	0	0
1.2 Dalton	0	0	0	0	0	0
2.0 Gainesville	0	0	0	0	0	0
3.1 Cobb	2	18	1	9	0	0
3.2 Fulton	29	52	0	0	0	0
3.3 Clayton	1	12	0	0	0	0
3.4 Lawrenceville	4	14	1	3	1	3
3.5 DeKalb	6	17	1	3	0	0
4.0 LaGrange	0	0	0	0	0	0
5.1 Dublin	0	0	0	0	0	0
5.2 Macon	1	17	0	0	0	0
6.0 Augusta & ASMP	4	67	0	0	0	0
7.0 Columbus & ICE	1	6	0	0	0	0
8.1 Valdosta	0	0	0	0	0	0
8.2 Albany	0	0	0	0	0	0
9.1 Coastal	1	6	0	0	0	0
9.2 Waycross	0	0	0	0	0	0
10 Athens	0	0	0	0	0	0
Georgia Total	50	22	3	1	1	0.4

Table 5. Completion of TB Treatment by Health District, Georgia, 2012-2013

HEALTH DISTRICT	2012		2013	
	No. Cases that Completed Tx/No. Cases Started Tx*	%	No. Cases that Completed Tx/No. Cases Started Tx*	%
1.1 Rome	10/10	100	10/10	100
1.2 Dalton	3/3	100	4/4	100
2.0 Gainesville	8/8	100	13/14	93
3.1 Cobb	13/14	93	17/17	100
3.2 Fulton	48/49	98	44/44	100
3.3 Clayton	10/12	83	9/9	100
3.4 Lawrenceville	24/25	96	40/41	98
3.5 DeKalb	72/72	100	71/72	99
4.0 LaGrange	11/11	100	6/6	100
5.1 Dublin	1/1	100	2/2	100
5.2 Macon	7/8	88	9/11	82
6.0 Augusta	13/13	100	20/20	100
ASMP only	6/6	100	2/2	100
7.0 Columbus (excludes ICE)	13/14	93	3/4	75
8.1 Valdosta	10/11	91	9/9	100
8.2 Albany	18/18	100	15/15	100
9.1 Coastal	15/15	100	8/8	100
9.2 Waycross	9/10	90	9/9	100
10 Athens	9/9	100	5/5	100
Georgia Total	300/309	97	296/302	98

*Cases who died or who left the U.S. during TB treatment are excluded

Table 6. Timely Completion of TB Treatment (Tx) among TB cases eligible for 12-month TB Treatment by Health District, Georgia, 2012-2013

HEALTH DISTRICT	2012		2013	
	No. Cases Completed Tx in 12 months/ No. Started Tx	%	No. Cases Completed Tx in 12 months/ No. Started Tx	%
1.1 Rome	9/9	100	8/8	100
1.2 Dalton	3/3	100	3/4	75
2.0 Gainesville	7/7	100	11/12	92
3.1 Cobb	10/12	83	13/14	93
3.2 Fulton	44/46	96	42/43	98
3.3 Clayton	8/11	73	8/8	100
3.4 Lawrenceville	20/21	95	37/38	97
3.5 DeKalb	71/72	99	67/69	97
4.0 LaGrange	11/11	100	5/6	67
5.1 Dublin	1/1	100	1/1	100
5.2 Macon	4/6	67	7/10	70
6.0 Augusta	13/13	100	14/17	82
ASMP only	5/5	100	2/2	100
7.0 Columbus only	12/13	92	2/4	50
8.1 Valdosta	10/11	91	9/9	100
8.2 Albany	17/17	100	14/14	100
9.1 Coastal	13/13	100	6/7	86
9.2 Waycross	9/10	90	8/8	100
10 Athens	8/9	89	5/5	100
Georgia Total	275/291	94	261/280	93

*Cases who died or who left the U.S. during TB treatment, rifampin-resistant cases, meningeal TB, TB of the bone, joint or central nervous system, and children < 15 with miliary TB are excluded

Table 7. Completely Evaluated Contacts of Sputum Smear Positive Cases by Health District, Georgia, 2012-2013

HEALTH DISTRICT	2012		2013	
	No. Contacts Evaluated/ No. Contacts Identified	%	No. Contacts Evaluated/ No. Contacts Identified	%
1.1 Rome	70/95	74	18/24	75
1.2 Dalton	42/51	82	18/22	81
2.0 Gainesville	48/97	50	120/145	83
3.1 Cobb	22/27	85	60/72	83
3.2 Fulton	217/257	84	226/447	51
3.3 Clayton	50/68	73	65/71	92
3.4 Lawrenceville	154/191	81	187/230	81
3.5 DeKalb	650/776	84	122/212	58
4.0 LaGrange	106/171	62	4/6	67
5.1 Dublin	15/17	88	14/14	100
5.2 Macon	172/224	77	37/60	62
6.0 Augusta	563/1002	56	164/180	91
7.0 Columbus	71/89	80	11/16	69
8.1 Valdosta	39/67	58	24/41	59
8.2 Albany	106/167	64	12/12	100
9.1 Coastal	65/95	68	38/42	90
9.2 Waycross	26/37	70	25/40	62
10 Athens	74/92	80	11/17	61
Georgia Total	2490/3523	71	1162/1662	70

Table 8. Infected Contacts exposed to Sputum Smear Positive Cases started on LTBI Treatment by Health District, Georgia, 2012-2013

HEALTH DISTRICT	2012		2013	
	No. Infected Contacts on LTBI Treatment / No. Infected Contacts	%	No. Infected Contacts on LTBI Treatment / No. Infected Contacts	%
1.1 Rome	9/10	90	5/7	71
1.2 Dalton	11/13	85	6/6	100
2.0 Gainesville	13/13	100	53/53	100
3.1 Cobb	1/ 2	50	11/16	69
3.2 Fulton	43/55	78	23/55	42
3.3 Clayton	3/17	18	10/15	67
3.4 Lawrenceville	22/45	49	46/72	64
3.5 DeKalb	79/143	55	37/59	63
4.0 LaGrange	26/39	67	2/2	100
5.1 Dublin	5/8	62	6/7	86
5.2 Macon	1/14	7	2/4	50
6.0 Augusta	135/197	68	9/17	53
7.0 Columbus	15/19	79	3/4	75
8.1 Valdosta	18/23	78	6/9	67
8.2 Albany	16/25	64	4/4	100
9.1 Coastal	21/30	70	6/6	100
9.2 Waycross	4/4	100	4/11	36
10 Athens	23/26	88	7/7	100
Georgia Total	445/683	65	240/354	68

Table 9. LTBI Treatment Completion of Infected Contacts exposed to Sputum Smear Positive Cases by Health District, Georgia, 2012-2013

HEALTH DISTRICT	2012		2013	
	No. Contacts that Completed LTBI Treatment / Contacts Treated	%	No. Contacts that Completed LTBI Treatment / Contacts Treated	%
1.1 Rome	3/9	33	2/5	40
1.2 Dalton	6/11	55	5/6	83
2.0 Gainesville	6/13	46	42/53	79
3.1 Cobb	1/1	100	8/11	72
3.2 Fulton	35/43	93	13/23	56
3.3 Clayton	2/3	67	9/10	90
3.4 Lawrenceville	19/22	86	39/46	85
3.5 DeKalb	56/79	71	27/37	73
4.0 LaGrange	18/26	69	1/2	50
5.1 Dublin	2/5	40	3/6	50
5.2 Macon	1/2	50	1/1	50
6.0 Augusta	66/135	49	5/9	56
7.0 Columbus	10/15	67	3/3	100
8.1 Valdosta	15/18	83	1/6	17
8.2 Albany	14/16	88	4/4	100
9.1 Coastal	19/21	91	5/6	83
9.2 Waycross	4/4	100	3/4	75
10 Athens	10/23	44	2/7	29
Georgia Total	287/445	64	173/240	72

Figure 1. TB Cases and Case Rates
Georgia, 1984-2014

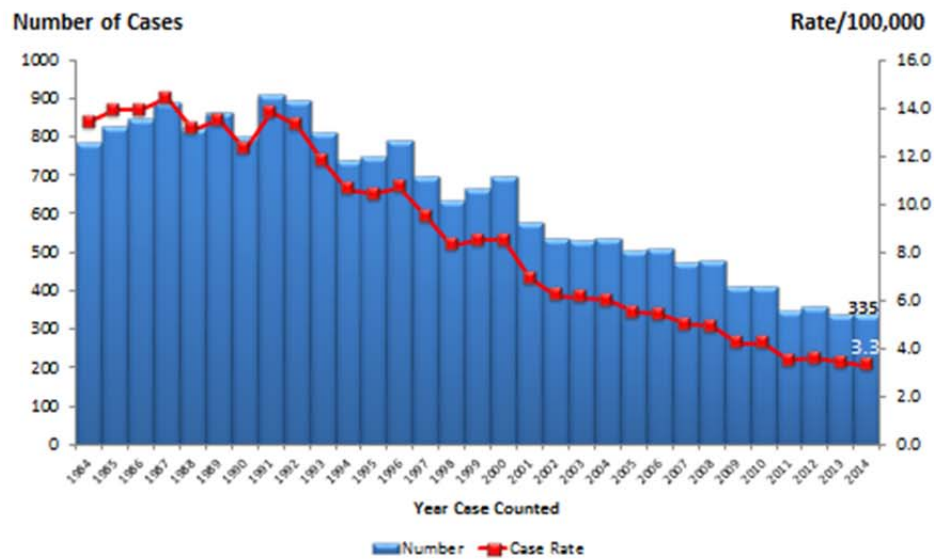


Figure 2. TB Case Rates
Georgia and U.S., 1984-2014

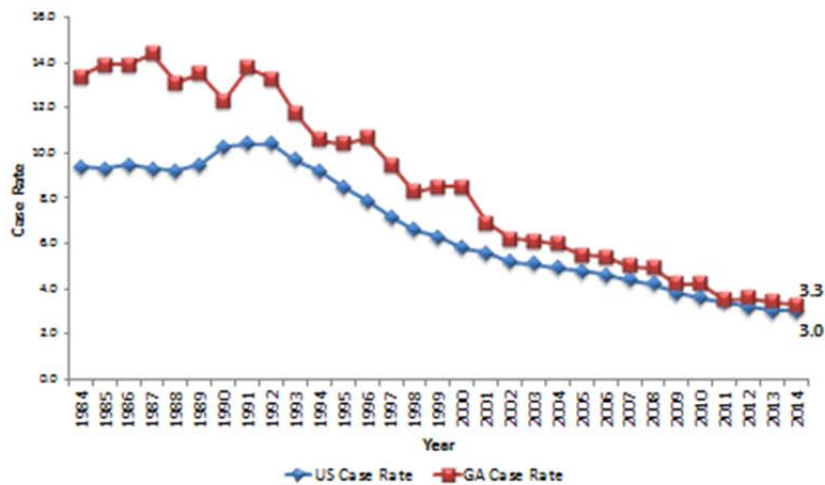


Figure 3. Number of TB Cases by Health Districts
Georgia, 2014

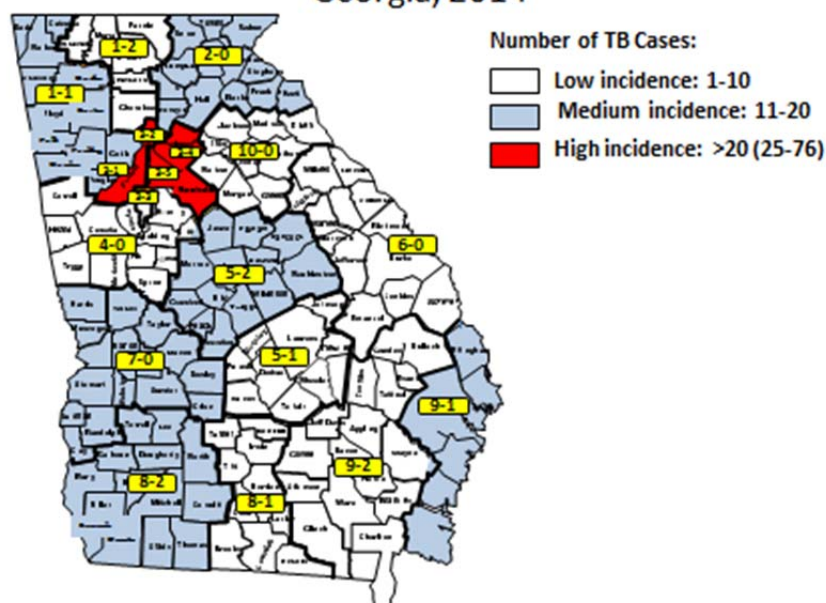


Figure 4. TB Case Rates by Health Districts
Georgia, 2014

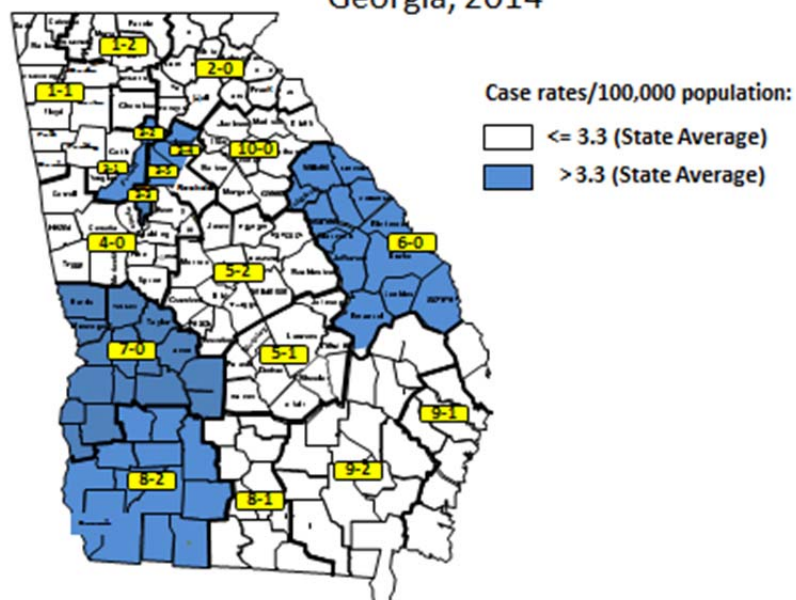


Figure 5. TB Cases by Age Group and Sex
Georgia, 2014

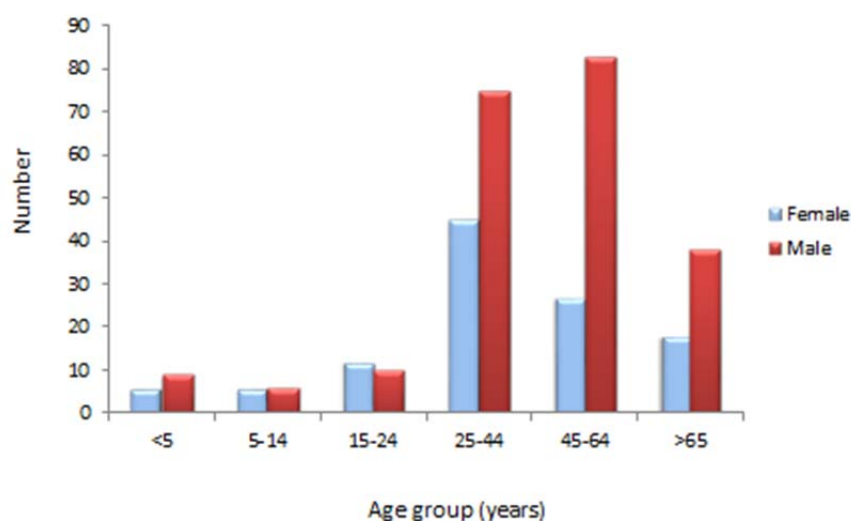
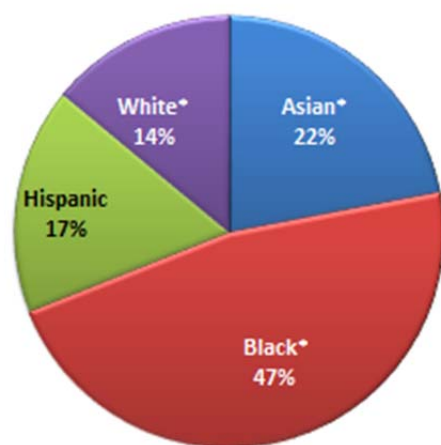


Figure 6. TB Case Rates* by Age Group
2010-2014, Georgia

Age Group	2010	2011	2012	2013	2014
< 5 yrs.	2	2.3	1.6	1.5	2.3
5-14 yrs.	0.9	0.7	0.9	1.2	0.8
15-24 yrs.	3.3	2.8	2.8	1.6	1.5
25-44 yrs.	5	4.4	4.3	4.5	4.4
45-64 yrs.	5.8	4.6	5.1	4.5	4.3
65+ yrs.	5.5	4.3	4.4	4.3	4.5

*Rates are per 100,000 population

Figure 7. Percentage of TB Cases by Race/Ethnicity
Georgia, 2014



*non-Hispanic

Figure 8. TB Case Rates* by Race/Ethnicity
Georgia, 2010-2014

Race/ Ethnicity	2010	2011	2012	2013	2014
Asian, non-Hispanic	24.1	16.8	19.8	19.5	19.3
Hispanic, All races	8.2	7.6	6.0	6.2	6.2
Black, non-Hispanic	7.1	5.3	6.1	5.5	5.1
White, non-Hispanic	1	0.9	0.9	0.7	0.8

*Rates are per 100,000 population

Figure 9. TB Case Rates in non-Hispanic Blacks and Whites, Georgia, 1993-2014

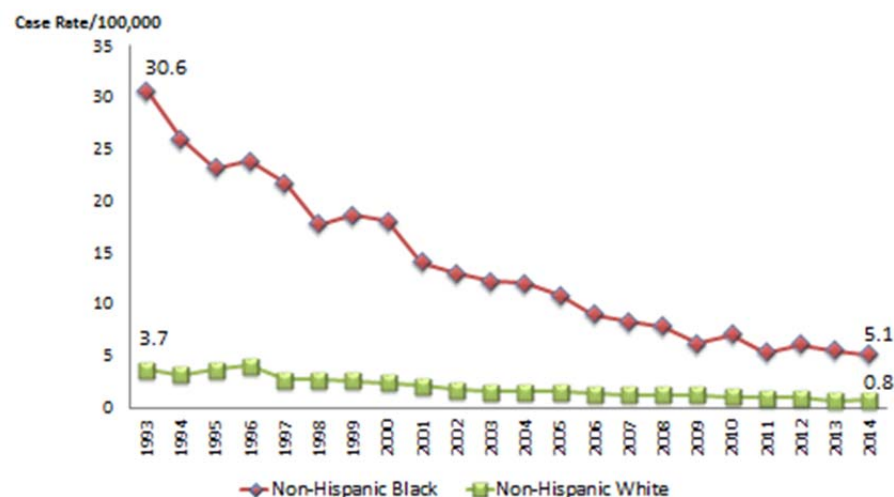


Figure 10. US-born and Foreign-born TB Cases Georgia, 1994-2014

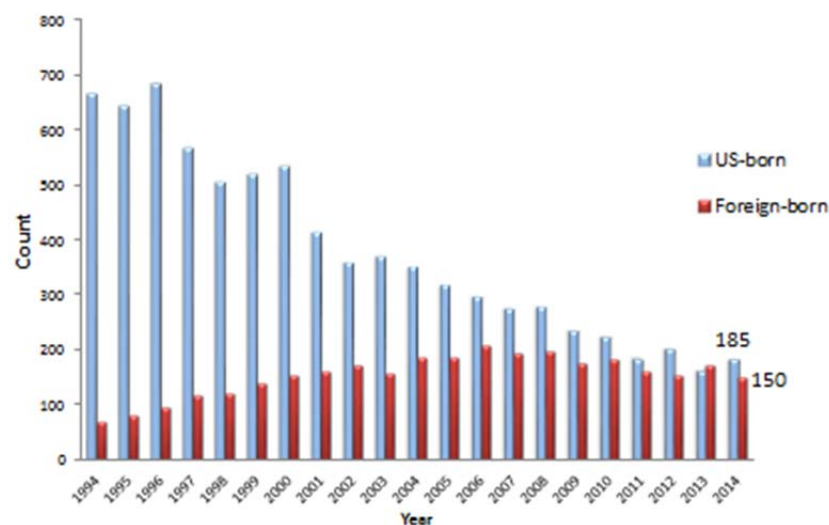


Figure 11. Percent of Foreign-born TB Cases (n=150)
by Country of Origin, Georgia, 2014

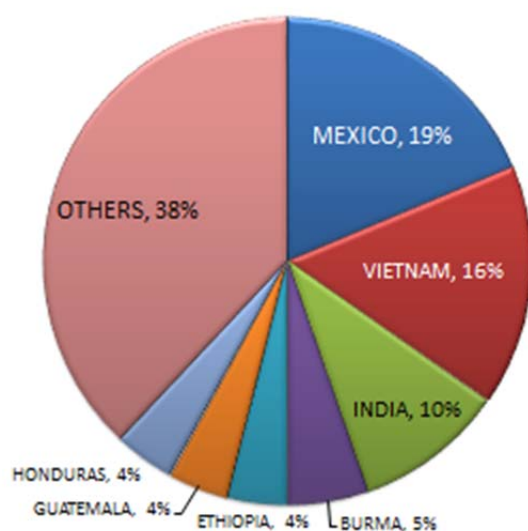


Figure 12. HIV Status of TB Cases
Georgia, 1993-2014

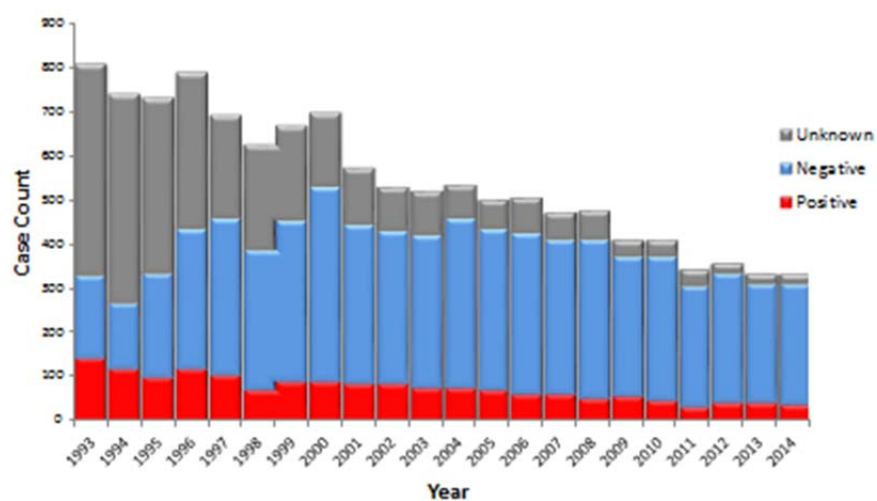


Figure 13. TB in Other High-Risk Populations
Georgia, 2010-2014

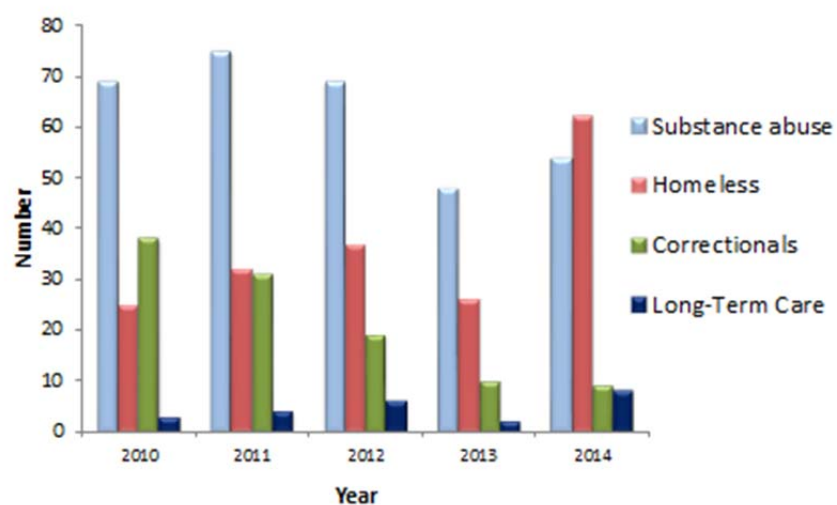


Figure 14. Primary Drug Resistance and MDR-TB
Georgia, 2010-2014

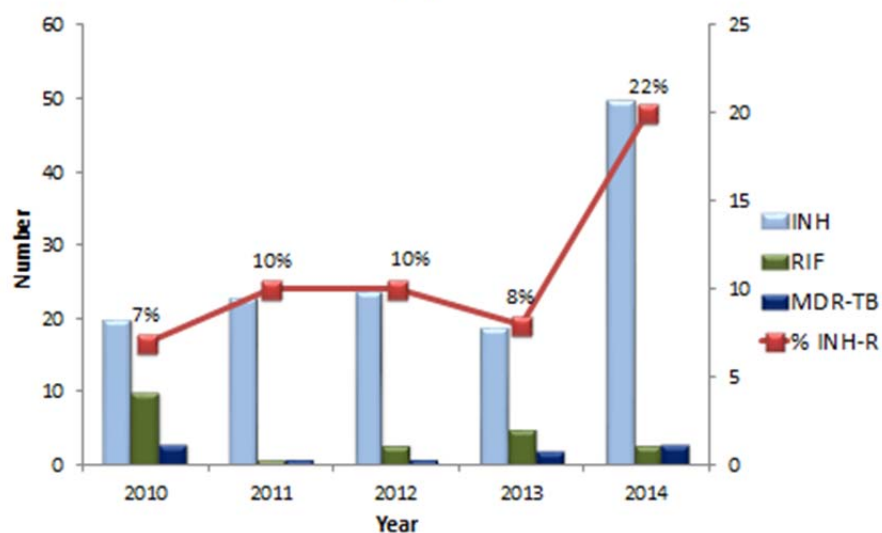


Figure 15. Timely TB Treatment Completion
and Directly Observed Therapy (DOT)
Georgia, 1993-2013

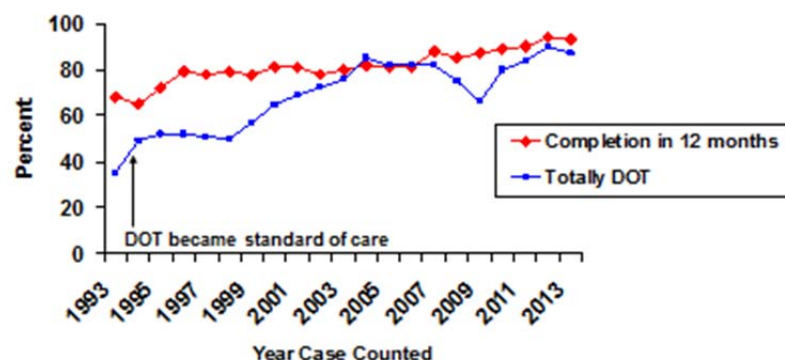


Figure 16. Completion of Latent TB Infection
(LTBI) Therapy, Georgia, 2004-2013

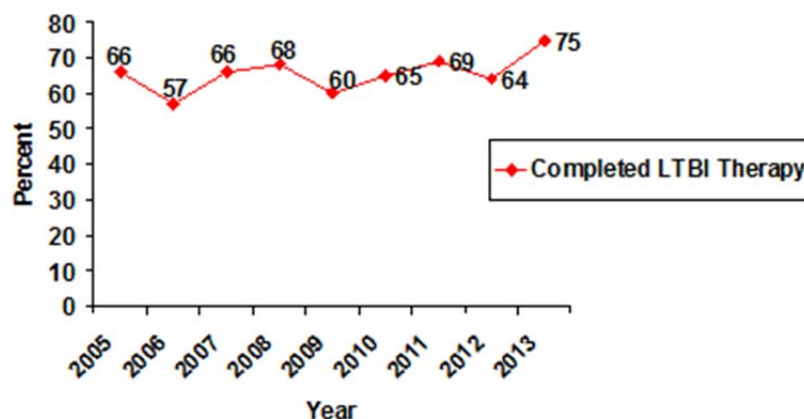
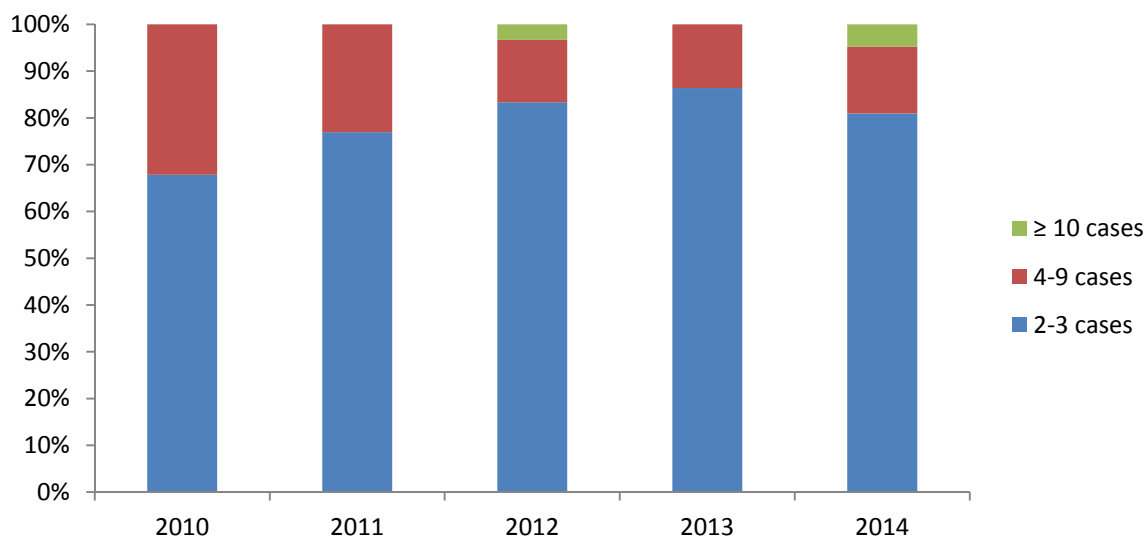


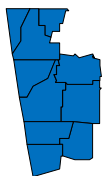
Figure 17. TB Genotype Clusters in Georgia, 2010-2014



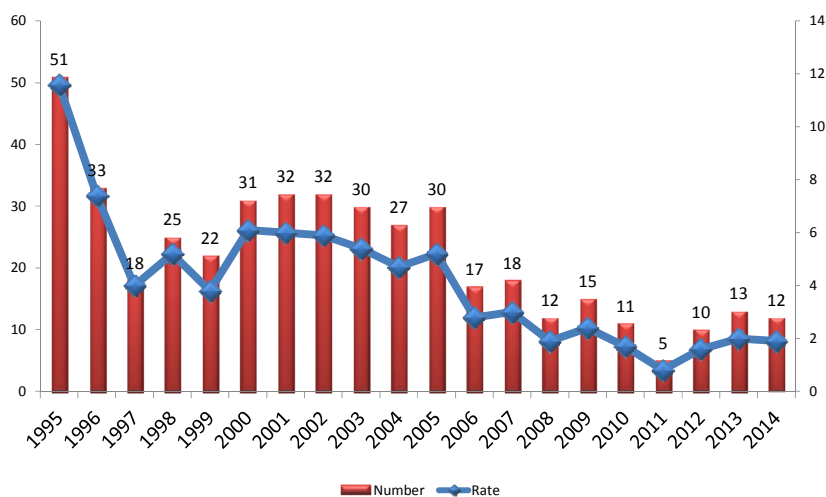
Figure 18. Proportion of Small, Medium, and Large TB Genotype Clusters, Georgia, 2010-2014



Tuberculosis Morbidity Trends by Health District
Georgia, 1995-2014



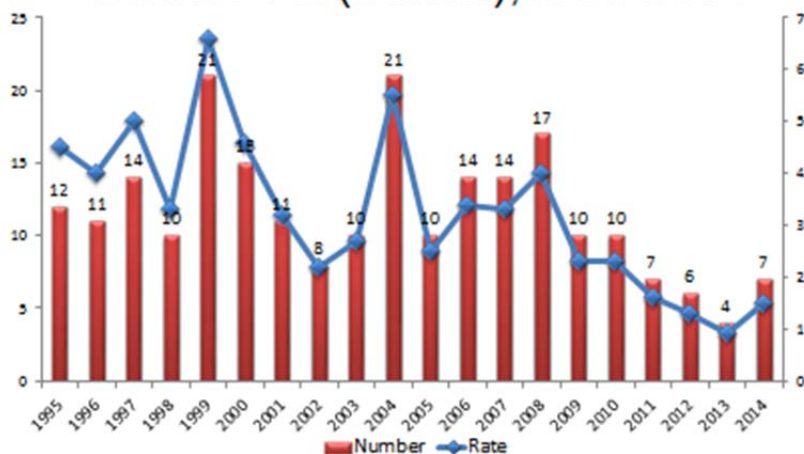
TB Case Numbers and Rates District 1-1 (Rome), 1995-2014



Rates are per 100,000 population
Source: GA TB surveillance database



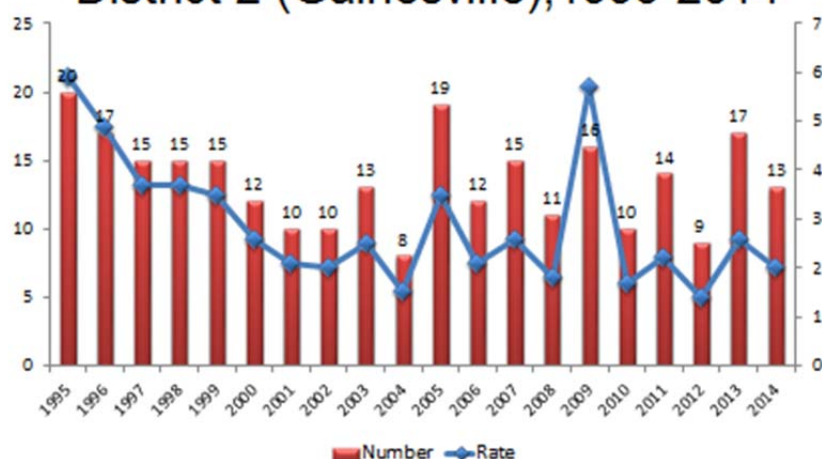
TB Case Numbers and Rates District 1-2 (Dalton), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database



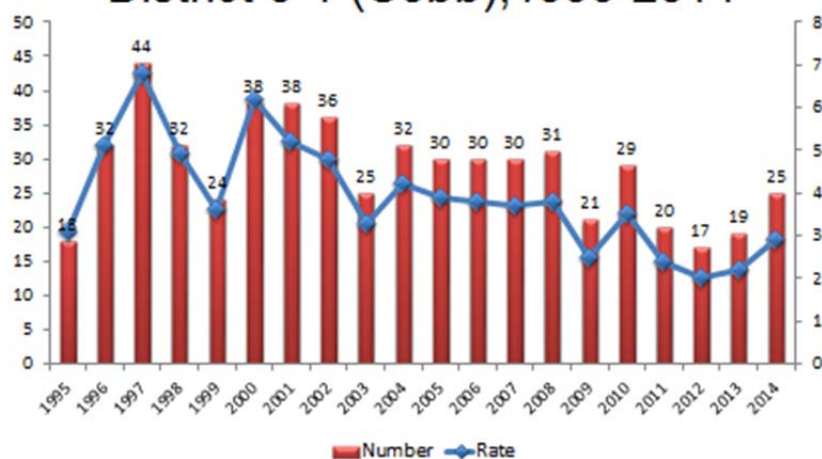
TB Case Numbers and Rates District 2 (Gainesville), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database



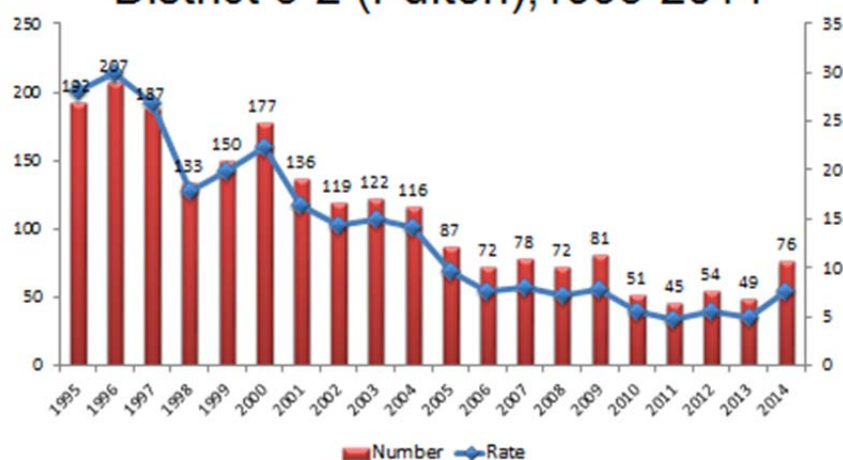
TB Case Numbers and Rates District 3-1 (Cobb), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database



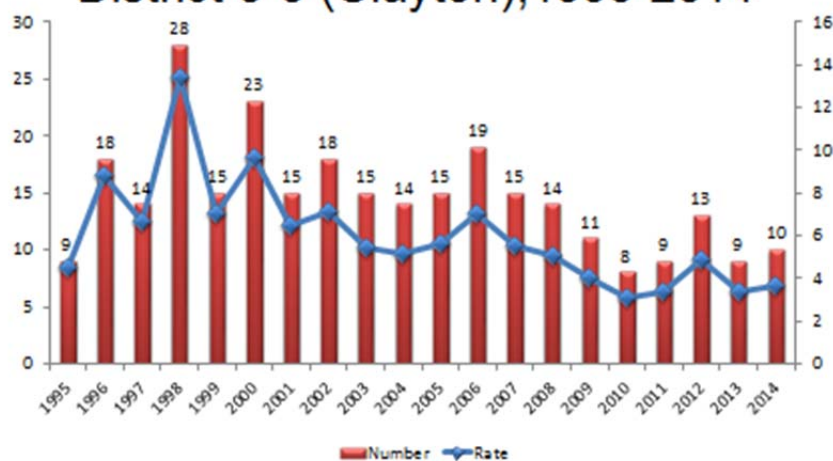
TB Case Numbers and Rates District 3-2 (Fulton), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database



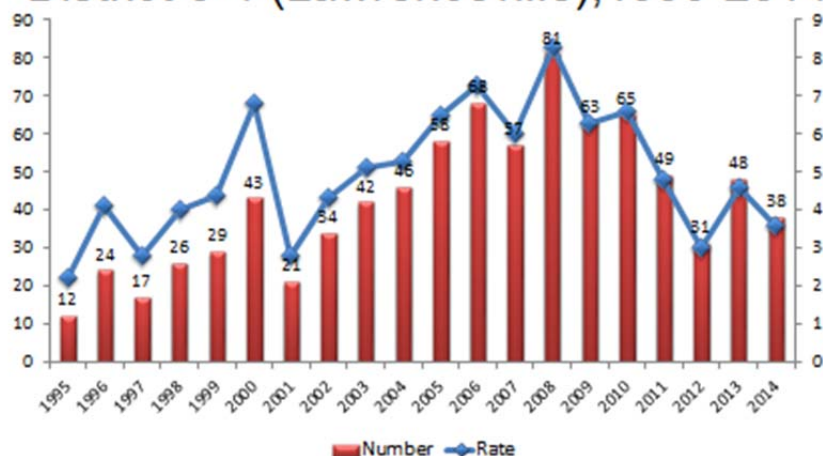
TB Case Numbers and Rates District 3-3 (Clayton), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database



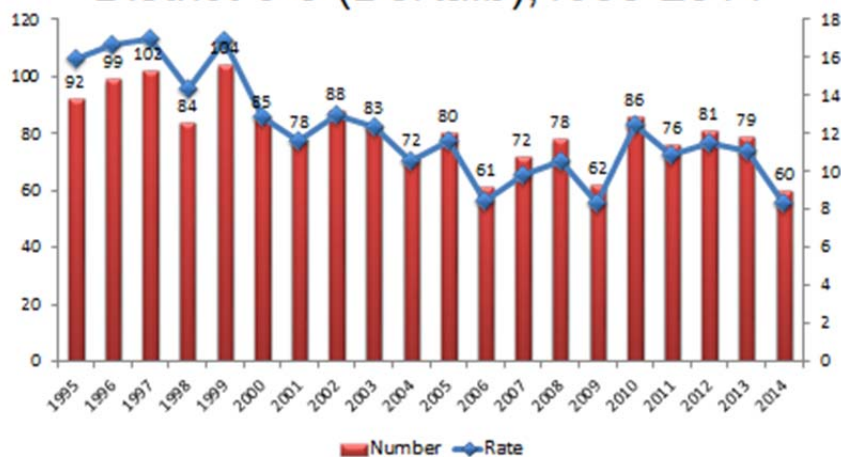
TB Case Numbers and Rates District 3-4 (Lawrenceville), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database



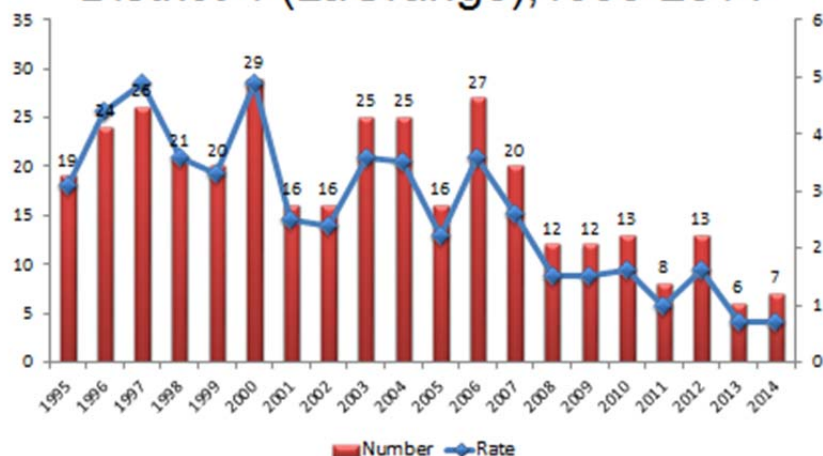
TB Case Numbers and Rates District 3-5 (DeKalb), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database



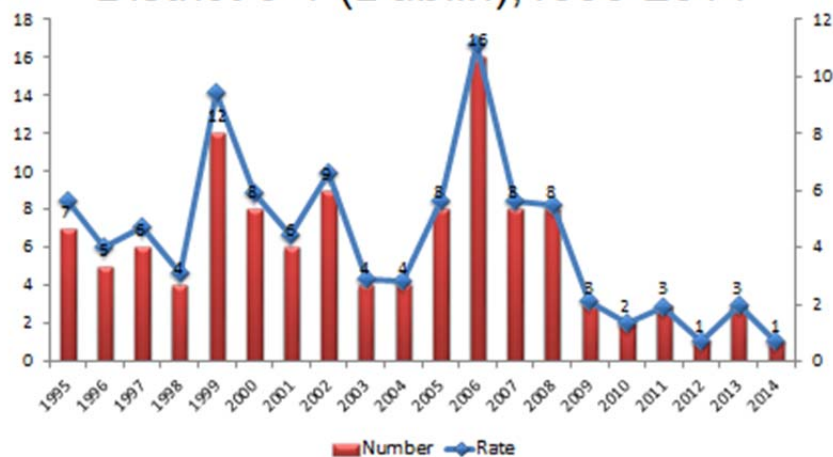
TB Case Numbers and Rates District 4 (LaGrange), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database



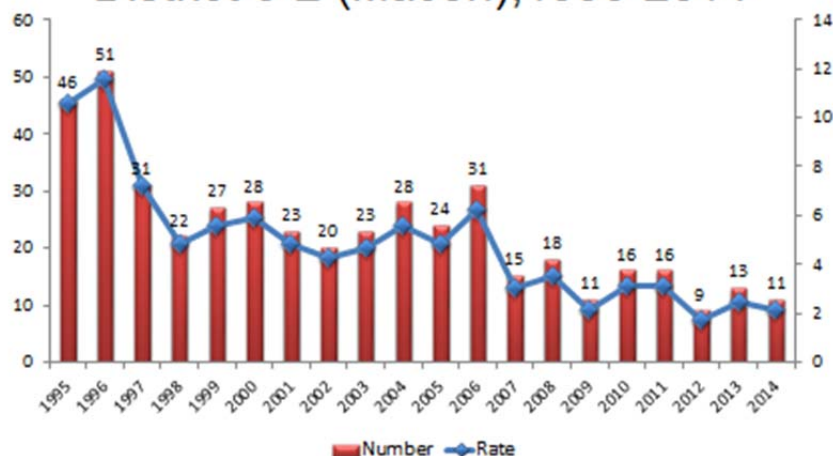
TB Case Numbers and Rates District 5-1 (Dublin), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database



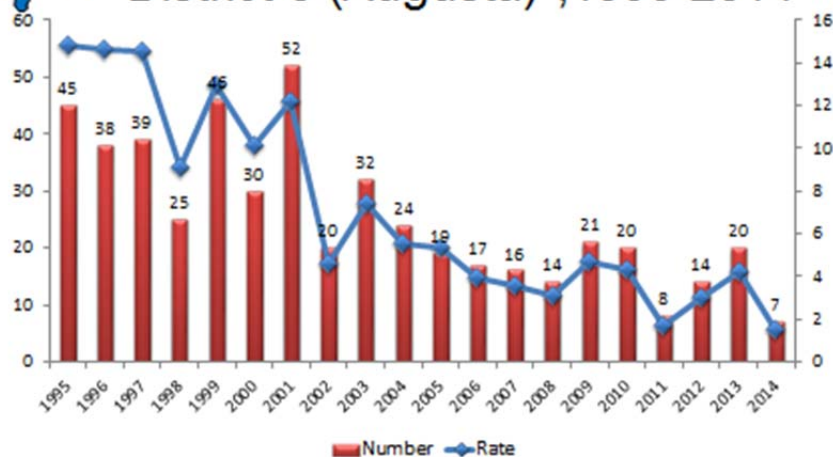
TB Case Numbers and Rates District 5-2 (Macon), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database



TB Case Numbers and Rates District 6 (Augusta)*, 1995-2014

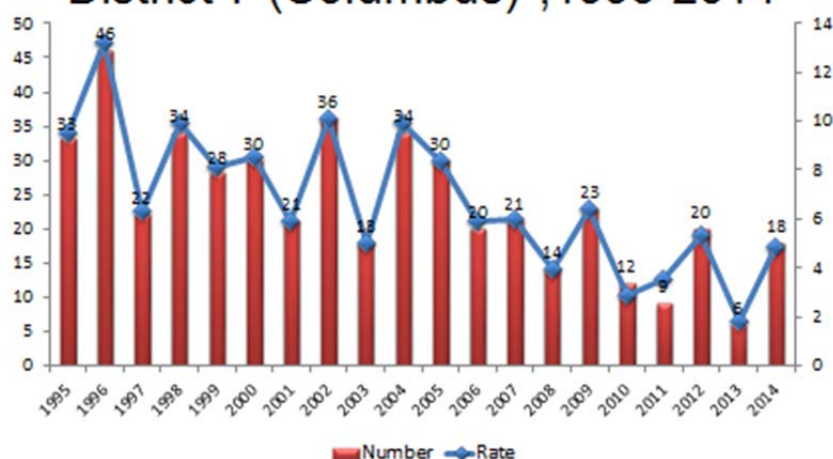


Rates are per 100,000 population
Source: GATB surveillance database

*Augusta State Medical Prison cases not included



TB Case Numbers and Rates District 7 (Columbus)*, 1995-2014

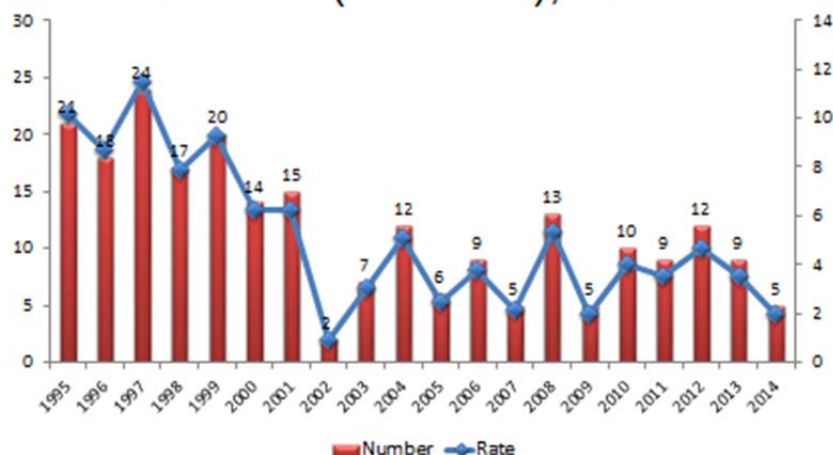


Rates are per 100,000 population
Source: GATB surveillance database

*ICE Detention Center cases not included



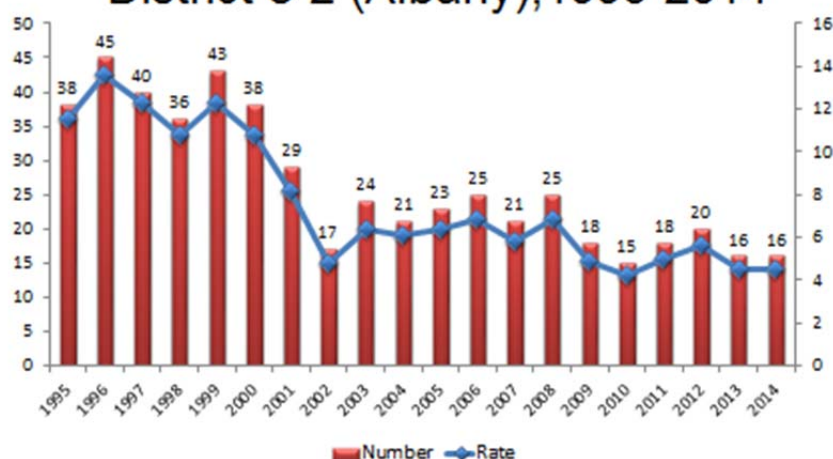
TB Case Numbers and Rates District 8-1 (Valdosta), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database



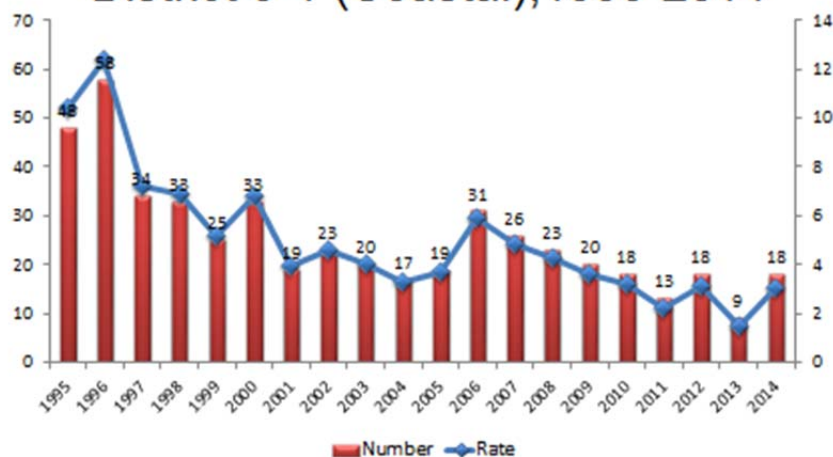
TB Case Numbers and Rates District 8-2 (Albany), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database



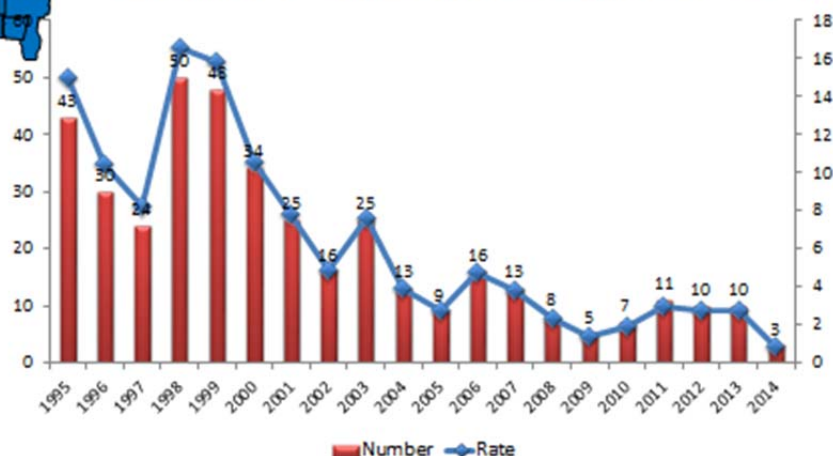
TB Case Numbers and Rates District 9-1 (Coastal), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database



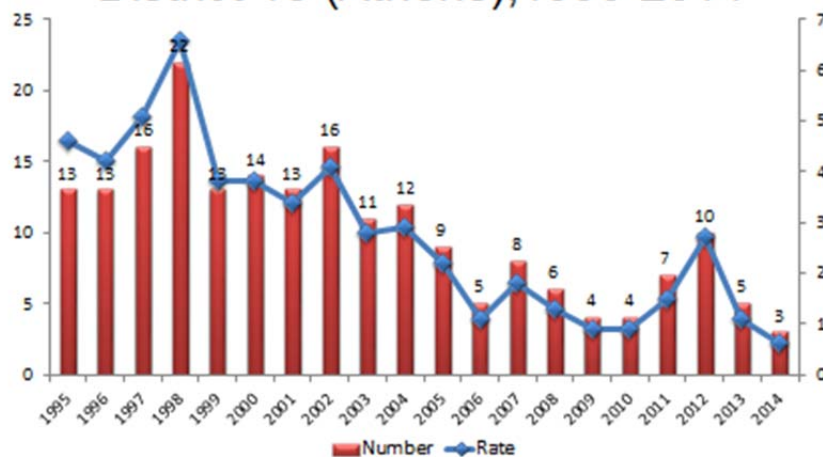
TB Case Numbers and Rates District 9-2 (Waycross), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database



TB Case Numbers and Rates District 10 (Athens), 1995-2014



Rates are per 100,000 population
Source: GATB surveillance database

